SCRATCHING THE DIGITAL ITCH: A POLITICAL ECONOMY OF THE HIP HOP

DJ AND THE RELATIONSHIP BETWEEN CULTURE, INDUSTRY, AND

TECHNOLOGY

by

ANDRÉ G. SIROIS

A DISSERTATION

Presented to the School of Journalism and Communication
and the Graduate School of the University of Oregon
in partial fulfillment of the requirements
for the degree of
Doctor of Philosophy

June 2011

DISSERTATION APPROVAL PAGE

Student: André G. Sirois

Title: Scratching the Digital Itch: A Political Economy of the Hip Hop DJ and the Relationship Between Culture, Industry, and Technology

This dissertation has been accepted and approved in partial fulfillment of the requirements for the Doctor of Philosophy degree in the School of Journalism and Communication by:

Dr. Janet Wasko   Chairperson
Dr. Julianne Newton   Member
Dr. Biswarup Sen   Member
Dr. Daniel Wojcik   Outside Member

and

Richard Linton   Vice President for Research and Graduate Studies/Dean of
                          the Graduate School

Original approval signatures are on file with the University of Oregon Graduate School.

Degree awarded June 2011

DISSERTATION ABSTRACT

André G. Sirois

Doctor of Philosophy

School of Journalism and Communication

June 2011

Title: Scratching the Digital Itch: A Political Economy of the Hip Hop DJ and the
    Relationship Between Culture, Industry, and Technology

Approved: _____
                      Dr. Janet Wasko

        This study analyzes the culture, history, and technology of the hip hop DJ in order
to tease out the relationships between industrial and cultural practices. The following
research questions structured the investigation: 1) What historical developments in
intellectual property rights and music playback and delivery formats contribute to a
political economy of the hip hop DJ; 2) what has been the role of intellectual property
exchange and standardization in the DJ product industry relevant to hip hop DJs; 3) how
are the meanings involved in the consumption of and production with analog and digital
technologies related; and 4) does hip hop DJ culture represent convergence and collective
intelligence?

        Employing various qualitative methods, the research includes interviews with
influential hip hop DJs, executives at record labels, distributors, retailers, and DJ
technology manufacturers. The study also reviews the histories of music playback
technologies and standardization in relation to intellectual property laws. With political
economic, cultural Marxism and new media theories as its framework, this study analyzes
hip hop DJs as the intersection of corporate culture and youth culture. The research

broadly addresses the hip hop DJ's role in building the industries that cater to hip hop DJing.

Specifically, the study analyzes the politics of how hip hop DJs' intellectual properties and subcultural capital have been harnessed by companies in various industries as a way to authenticate, improve, and sell product. The study also examines consumption as production, collective intelligence, and how digital technologies are negotiated within this culture.

The research suggests that hip hop DJ culture and the DJ technology and recording industries are not necessarily discrete entities that exert force upon one another. Rather, they are involved in a cultural economy governed by technocultural synergism, which is a complex interplay between agency and determinism guided by both corporate and cultural priorities. The study also offers a networked theory of innovation and creation over the individual genius emphasized in U.S. intellectual property laws to suggest that hip hop DJ culture is an open source culture.

CURRICULUM VITAE

NAME OF AUTHOR: André G. Sirois

GRADUATE AND UNDERGRADUATE SCHOOLS ATTENDED:

    University of Oregon, Eugene
    University of Maine, Orono
    Central Connecticut State University, New Britain

DEGREES AWARDED:

    Doctor of Philosophy, Communication and Society, 2011, University of Oregon
    Master of Arts, Communication, 2005, University of Maine
    Bachelor of Arts, Communication and Journalism, 2002, Central Connecticut
      State University

AREAS OF SPECIAL INTEREST:

    Political Economy of Media and Music Industry Studies
    New Media and Cultural Studies

PROFESSIONAL EXPERIENCE:

    Lab Coordinator GTF, Cinema Studies Program, University of Oregon, Eugene,
      2010- 2011

    Teacher, Summer Enrichment Program, University of Oregon, Eugene, 2010

    Instructor of Record, School of Journalism and Communication, University of
      Oregon, Eugene, 2009-2010

    Teaching assistant, Department of Communication and Journalism, University of
      Maine, Orono, 2003-2005

GRANTS, AWARDS, AND HONORS:

Graduate Teaching Fellowship, School of Journalism and Communication,
University of Oregon, Eugene, 2006 to present

Lorry I. Lokey Journalism Scholarship Award, School of Journalism and
Communication, University of Oregon, Eugene, 2009

Columbia Scholarship, School of Journalism and Communication, University
of Oregon, Eugene, 2009

Graduate School Research Award, School of Journalism and Communication,
University of Oregon, Eugene, 2009

Passed doctoral comprehensive examinations with distinction, School of
Journalism and Communication, University of Oregon, Eugene, 2008

PUBLICATIONS:

Sirois, André, and Janet Wasko. 2011. The Political Economy of
Recorded Music. In *The Handbook of Political Economy of Communications*,
eds. Janet Wasko, Graham Murdock, and Helena Sousa, 331-357. Walden, MA:
Blackwell Publishing.

Sirois, André, and Shannon Martin. 2006. United States Copyright Law &
Digital Sampling: Adding Color to a Grey Area, Information and Communication
Technology Law 15, no. 1: 1-32.

ACKNOWLEDGMENTS

who you are!). Big ups to all my family over at UGHH.com, and thank you eternally Quest for giving me a shot on the mixtape tip!

Many thanks to my unbelievable committee during the course of my doctoral studies: Janet Wasko, Julianne Newton, Bish Sen, and Daniel Wojcik. I want to thank you all for mentoring me and this study, and for believing in me. You four made this a great experience for me! Also, special thanks to other professors who have stood by me over the years: Leslie Steeves, Shannon Martin, Karen Ritzenhoff, and Vivian Martin. Mad love to everybody who is cool (you know who you are) at the School of Journalism and Communication and the Cinema Studies program at UO.

Special thanks to all my friends who have supported me and been awesome over the years. There are too many to list, but I want to give props to Bob "The C" Winn, The Lord, and Palmp for being special homies. Also, big ups to all the graduate students at UMaine and UOregon who have proven to be actual friends and not just "peers." Word!

Mad love to Jo and Wilf, my parents. Thank you guys for always believing, supporting, and never giving up on your problem child. To my bro and sis, thanks for taking my beatings without telling! Props to the Gibson and Shields clans as well.

Lastly, so much love to my wife, Lindsey "The Kagan" Shields, for supporting me through this process; you have been with me from beginning to end of this whole Ph.D. thing. I can't thank you enough for your patience and encouragement, and just dealing with me. You are truly an amazing woman. I love you Queen!

Shouts to all the fans and supporters of DJ food stamp; thanks for the love! If I had 50 pages, I could probably include all the people who deserve to be acknowledged in my life. With that said: "food stamp is on the mix, c'mon kick it!!!"

This is dedicated to everybody who has been told they "can't," to everybody who did, and to those who said that I can. This is also dedicated to Santa (R.I.P.).

TABLE OF CONTENTS

LIST OF FIGURES

CHAPTER I

INTRODUCTION

"I mean, the DJ is the backbone of everything because that's where it started. It started there in the beginning, and to be honest with you, it is going to end there. The DJ is what this was created around, everything else is just an arm or a leg. But the soul of this, the heart of this, is the DJ" ~DJ Skeme Richards[1]

I'm Awesome! No You're Not Dude Don't Lie

In September 2009 I got a phone call from a friend of mine. His moniker is Spose, a rapper from my small hometown in Maine. Earlier that summer I played a few shows with him, so I was not surprised when he called to talk to me about producing a mixtape of original music that he and another hometown rapper, Cam Groves, had recorded: *We Smoked It All*. Because of constraints related to manufacturing the CD in time for its release date, I could not do it for him. So, he asked if I could put some scratches on three of the songs.

Being that my brother grew up with him and I really was impressed with Spose's music and live performances, I agreed to put scratches down for him. Spose, who had one previous release that he maybe sold 500 copies of out his trunk, was a newcomer to the Southern Maine hip hop scene at the time, although he was building a solid rep. In our phone conversation he said that he wanted to pay me, but could not because he was expecting a child and his work at a local seafood restaurant was about to slow to a halt as the tourist season was ending. For me, that was not a problem. I was happy to help the kid out and I knew he was excited to have me onboard. My only request from him was

---

[1]   DJ Skeme Richards (2010) on the hip hop DJ.

that I got credit, that my name appeared with the song, and that people knew that I had contributed creative labor to the project.

When I listened to one of the songs I was going to perform on, "I'm Awesome," I thought it was a simple yet funny critique of pop culture. The chorus, "I'm awesome! No you're not dude don't lie," stuck in my head after I laid the cuts down. I put scratches on two of the choruses and at the end of the song, with the first two choruses being lines recorded by Spose and the last was rapper Kanye West saying "awesome." I mixed down the song, sent it off, and he was excited with the final product.

We Smoked It All came out on Halloween 2009. A few weeks later Spose was pushing "I'm Awesome" on the Internet. Through some connections, he was able to get the song in rotation at 94.3 WCYY, a Portland, Maine, commercial modern rock station. Within weeks, the song was being pushed for inclusion in WCYY's *Top 5 at 5*, the station's daily countdown of the top five songs as voted on by listeners. Spose used Facebook and pushed for *Top 5 at 5* votes from his network, and within a few weeks "I'm Awesome" was the top song in the countdown. And, it stayed there for months.

In winter 2010, the success of "I'm Awesome" in the Portland radio market caught the ears of executives at Universal Republic, a subsidiary of the world's largest recording company, Universal Music Group. At the beginning of February 2010, an A&R from Universal Republic offered Spose a single deal for "I'm Awesome," which meant that they would offer him cash upfront and future royalties in exchange for owning the copyright for the song. Furthermore, if the song was a success, Universal Republic would sign him to an album deal, which it did.[2] Spose called me to tell me about the

---

[2]   Spose signed a 360 contract, which means that instead of Universal Republic collecting money from song sales, it gets a piece of his touring and merchandise income, as well as any other money he makes

offer, but my excitement was mixed with skepticism. Because I had contributed to the

song, I wanted to see the contract and know more about the deal. In a hurry to get a

properly engineered version out to national radio, Spose asked me to re-do the part of the

song where I scratched Kanye West's voice. Instead, I used Spose saying "awesome" to

avoid having to deal with licensing and paying for the Kanye sample. I added the new

scratches and the song was sent off to a big-time engineer to have it mixed properly.

Because the deal was signed, in essence I labored for Universal Republic for free.

Eventually, without credit.

In the beginning of March 2010, Spose announced that he had signed the deal,

which was major news for Maine media. I never saw the contract and we never talked

about my role in the project. It was all new business for Spose, a true independent artist,

and the deal happened so fast that we never got to work out the details. In the meantime,

Universal Republic had been using its network to get "I'm Awesome" commercial radio

play in markets all over the U.S., and I began watching the YouTube view-count jump by

thousands every day. One night, when I was driving home at 3AM after a DJ gig, I heard

the song on KDUK, a Top 40 station in Eugene, Oregon. The song was blowing up on

national radio and the Web, and nowhere did I see any credit for DJ food stamp.

I began getting agitated; excited for the success of my friend, but embittered by

the fact that I was not getting any credit. With the buzz, Universal Republics started

selling "I'm Awesome" on iTunes. Every day I watched the song climb the iTunes sales

chart. On a Monday the song was working its way into the top 100, and by Friday it was

headed into the top 30, next to names like Taylor Swift and the Black Eyed Peas. Again,

_____

from music-related business.

my name was nowhere to be found, not even in the iTunes MP3 information. My agitation grew. I started posting on the YouTube video 5-10 times every day, trying to associate myself with "I'm Awesome." Millions of people were hearing this song, hearing the scratching that was the expression of my ideas, but nobody would know that.

In mid-March of 2010, Spose shot a music video for the song in our hometown. Universal Republic gave him a $25,000 budget, flew in a filmmaker from Los Angeles, and I could not afford the $1000 plane ticket to fly home on short notice to be in it. My aggravation had moved to the next level. I began to feel exploited. I did not care about the money from iTunes sales or publishing royalties Spose would be collecting for radio play, but just wanted to be acknowledged for my part. My feeling was that if the song credit read "Spose featuring DJ food stamp" or "I'm Awesome featuring DJ food stamp," then it would lead to other opportunities for me. If nothing else, people would know my name.

I was fighting my happiness for Spose's success with my own feeling that huge corporations (Universal Republic, iTunes, and Sony/ATV) were making money off of my creative labor. And, it is not like my contributions to "I'm Awesome" were small. My scratches accounted for about 9% of the overall song and 30% of the choruses, which are the most important part of any song. The unique sounds I made with Spose's voice were a significant part of "I'm Awesome," and in all of the press, still no consideration for DJ food stamp's role. Because Spose made the instrumental and wrote the lyrics, he was getting all of the publishing money, minus the cut he paid to his publishing company, Sony/ATV Music Publishing LLC (normally 25%). I knew that in the past, DJs who performed scratches on songs got paid a one-time studio session fee, and therefore would

never see sales or publishing royalties. Typically, song credits involving a DJ would list the DJ as a performer (i.e. "Cuts by DJ food stamp"). However, if a DJ scratched a sample from a rap song, the sampled rapper would see royalties. Therefore, DJs were not authors, or at least not authors in the eyes of industry.

After Spose was done shooting the music video, and the tornado of success calmed down, I called him. I aired out some of my feelings about not getting credit, and asked him to speak with the people at Universal Republic about just giving me credit on the song. I also pitched him the idea of giving me a small writing credit on the song and I offered to give him the publishing royalties back, just so that I could get authorial credit. I did not want the money, but I wanted for us to set a new paradigm in the industry where DJs would be authors. He spoke with the people at Universal Republic and he told me that they basically said that "I could go fuck myself."

Still, I decided to transcribe my scratches using the Turntablist Transcription Methodology (TTM) (described in Chapter VIII of this study) and publish the notation of my scratches under a Creative Commons license. Although I am an advocate of Creative Commons and believe that intellectual property laws need to be reformed, I began researching how I could sue Universal Republic for *credit*. In my research, I found that laborers who worked on Hollywood films had successfully sued studios that left them out of film credits, and my situation was similar to that of a cameraman who did not receive credit for his work. Complicating the matter was the fact that I knew that recording artists are responsible for taking care of all expenses and securing rights on the front side of the record being produced. I would probably have to sue my friend, and no lawyer

would be interested in a lawsuit where the plaintiff was seeking damages in the form of credit.

While all of this is happening, I am conducting interviews for this study and talking to DJs about them not receiving credit for their contributions on DJ products. I began understanding some of their frustrations with how they had been treated. Still, I continued to post my name on the YouTube video, on Spose interviews and articles, and on his Facebook fan page. In April 2010, I heard Spose's interview on the nationally syndicated radio program, *American Top 40 With Ryan Seacrest*, and within a short time "I'm Awesome" peaked at #37 on the *Billboard* Hot 100 chart. My frustration was mounting. A few months later, the CD single was released, again without my name anywhere. On August 18, 2010, "I'm Awesome" was named a RIAA-certified gold record, which means that it had sold over 500,000 copies at $1.29 per download. While I was flattered by the fact that I, of all people, was one of the few hip hop DJs to make a significant contribution to a gold-selling song in the last 15 years, it was a bittersweet feeling.

For a hip hop DJ who believes in free culture and preaches it, but was having his labor exploited by multinational corporations, "I'm Awesome" was not a success story for me. In fact, it was a complete failure. I began to feel like the contradiction in the chorus line was becoming my reality: "I'm awesome! No you're not dude don't lie."

Overview

This study investigates the relationship between hip hop DJ culture, the DJ product industry, and the recording industry. The study uses hip hop DJs as a case for understanding the complex interaction between cultural industries and culture. It

6

addresses how hip hop DJs and industry are related, and investigates social conditions that create innovations within a political economy of the hip hop DJ. To understand a current political economy of the hip hop DJ, the research explores the historical material circumstances behind the recording and DJ product industries.

A main theme that runs throughout this study is standardization, and how this process is structured by cultural uses and the negotiation of technology, as well as corporate prioritization of intellectual property rights and exchange. Using political economy of communication, cultural/subcultural theory, and new media theories as its framework, this study is concerned with the ways that creative networks produce innovations, and specifically examines how hip hop DJs are used in product research and development (R&D) and branding. By utilizing a sense-making methodology comprised of qualitative interviews, participant observation, and document analysis, this study critically examines a political economy of the hip hop DJ. The research features interviews with legendary hip hop DJs who have helped build the DJ product industry, people at manufacturers, independent inventors, and people who work in the music business.

This study was designed as a way of discovering how hip hop DJs have negotiated technology and cultural commercialization. The project also explores the meanings that hip hop DJs have given to the commodities they use, as well as whether consumption and production are interdependent. The goal of this study was to evaluate the power dynamics between hip hop DJs and industries, as well as to look at the politics of authorship within this political economy.

This study began as an inquiry into how new digital DJ technologies were impacting the culture, art, and economics of the hip hop DJ, as well as how changing patterns of DJ consumption were reflected in production by the recording industry. After traveling to Rane Corporation (a DJ product manufacturer discussed in Chapter VI) and interviewing its National Sales Manager for Retail & DJ Products, Mike May, the focus of the research shifted. May explained how Rane was approached in the late 1990s by four DJs with concepts for a mixer that could accommodate hip hop DJ technique. Rane listened to their ideas, worked with them on design of the product, and shortly thereafter released it first 2-channel mixer for hip hop DJs, the TTM 54. Before the TTM 54, Rane had never made product for the hip hop DJ market. However, at the time of my visit in 2009, Rane's 2-channel mixers were the industry standard.

It is common knowledge that hip hop DJs were involved with manufacturers, but most of those opportunities seemed to be related to branding and endorsing product. It was a lesser known fact, especially among DJs who are not involved in the DJ product industry, that DJs were giving manufacturers ideas for products. That information was available on Web forums, but a lot of those stories were yet to be told, by manufacturers and by the DJs themselves. Surely there had to be other important DJ products whose concepts came from DJs. After the visit to Rane, exploring standardization and its relationship to intellectual property manipulation, exchange, and rights became the focus of the study. Central questions of the research became: how are DJs recognized as authors under capitalism?; how are they refused authorship?; and, how does this play out in the relationship between hip hop DJ culture and industry?

<u>Defining the Hip Hop DJ</u>

Over the years, the term "DJ" has been contested, at least in respect to what is and what is not a DJ. In the 1990s, the term became problematic in hip hop culture because DJs who played rap records were calling themselves "hip hop DJs." However, the hip hop DJ does not just play music, but manipulates it. This became such an issue that some hip hop DJs in the mid-1990s began calling themselves "turntablists," as a way of differentiating themselves from "hip hop DJs" who just played records. Therefore, for the purposes of this research, the following definition, which comes from the research for the study and is grounded in tradition and aesthetics, is used:

> The hip hop DJ uses two turntables and a mixer to manipulate music (a break) on 12" or 7" discs. The hip hop DJ does not just play rap music, but takes music from all genres and makes it hip hop by manipulating it and adding their own style to it. The hip hop DJ must be able to take a small drum break of a song and using two copies of it, manipulate it on-time to produce new music. The hip hop DJ is interested in collecting and archiving music, as well as sharing these collections with an audience.

With this definition in mind, DJs who play music other than rap may adhere to the hip hop DJ aesthetic as long as they are manipulating a break (or music based on breaks) using 12" or 7" discs, turntables, and a mixer. Remediation of these technical innovations, such as CD turntables or digital controllers, fit the definition as well, but only if the DJ uses those technologies in a manner that adheres to the hip hop DJ aesthetic.

<u>Research Questions</u>

Considering the overview and goals of this study, the following research questions guided the investigation:

1) *What historical developments in intellectual property rights and music playback*

9

and delivery formats contribute to a political economy of the hip hop DJ?

2) *What has been the role of intellectual property exchange and standardization in the DJ product industry relevant to hip hop DJs?*

3) *How are the meanings involved in the consumption of and production with analog and digital technologies related?*

4) *Does hip hop DJ culture represent convergence and collective intelligence?*

Organization of the Study

To reveal the relationship between hip hop DJ culture, the DJ product industry, and the recording industry, this study reviews the historical role of intellectual property rights and standardization in the recording industry, which helps in the review of the some of the major corporate players in the DJ product industry. This study uses the exploration of industrial practices and history to help contextualize the hip hop DJ's negotiation of technology, as well as frame the exchange of intellectual properties between DJs and industries.

The next chapter provides background information for the study, and primarily focuses on the historical relationship between hip hop DJ culture and technology. Chapter III discusses the theoretical framework, which is an amalgamation of critical political economy, cultural/subcultural, and new media theories. The fourth chapter describes the research questions in more detail and provides a thorough review of the study's methodology.

Chapter V is the first of four findings chapters and presents the history of the recording industry as it relates to the standardization of music playback hardware/software, the current conditions of the recording industry relevant to the hip

hop DJ, and the evolution of U.S. intellectual property laws. The following chapter reviews five major corporate players in the DJ product industry and their technologies and practices that have become industry standards. Both of these chapters focus on *how* technologies were developed and *how* they became standards.

After having outlined a political economy of the hip hop DJ, Chapter VII looks at how hip hop DJs attach meanings to turntables and vinyl records, as well as their negotiation of new digital technologies. Chapter VIII provides a series of cases studies that demonstrate the exchange of intellectual properties through R&D and branding practices. The chapter broadly examines DJs' perceptions of the culture's commercialization and assesses the politics of authorship. Finally, Chapter IX summarizes the study's findings and implications of the findings, as well as reviews the study's contributions and limitations. Suggestions for future work and policy change are also offered.

<u>Significance of Study</u>

Many people experience music in social settings through DJs. Thus, the DJ has become an important influence on popular culture. As major cultural icons, some can earn the annual middle class income for a few hours of DJing (upwards of $60,000). The hip hop DJ has contributed significantly to building the rap music industry and DJ product industry, although seldom recognized for these contributions. And, DJs have become cultural forces mostly because of the art, aesthetics, and innovations of hip hop DJs.

This project uses hip hop DJ culture as a case study for exploring the dialectical relationship between culture and industry. Because it is a case study, the findings

presented here should not be generalized to other topics/phenomena and should be considered only in relation to the people in the study's sample. However, findings of the study, especially in regards to the exchange of intellectual properties in R&D and branding, likely occur in other industries. For instance, the ways that hip hop DJs are commodified by companies as brand ambassadors are similar to how celebrities are used in other larger industries. Also, findings presented here illuminate how the Internet (as a cultural commons) has been rich grounds for the corporate collection and commodification of ideas, which also occurs in other industries.

The current study is an example of a collection of technocultural histories, which help to tell the stories of the creative labor that goes into the design, production, marketing, and cultural acceptance and uses of innovations. Some of the discussions of these technical innovations may seem long and include too much detail, but one of the project's goals is to document and preserve these stories for future generations.

This study contributes to the "transfield" of critical information studies (Vaidhyanathan 2006), political economy of communication, subcultural studies, and the fields of hip hop and DJ studies. It also demonstrates how qualitative interviewing, participant observation, and document analysis can be used together to produce rich data. Lastly, while there have been many books written about DJ culture (most of them being how-to books), as well some academic scholarship, this project is the first comprehensive and critical study of hip hop DJ culture and its political economy. Furthermore, this study is the first to be conducted and written by somebody who comes from the culture and is a hip hop DJ.

I first came across hip hop culture through rap music around 1985. Older kids in my rural Maine neighborhood would play cassettes by Run DMC and the Fat Boys and try to "breakdance." I, too, picked up on b-boy[3] moves and became obsessed by the rhythmic base of the music. In the mid-1980s, b-boys and "breakdancing" were in the media (movies and television), and I would consume as much as possible because it was sparsely produced and distributed at the time. By the late 1980s, I was watching and taping *Yo! MTV Raps* on a daily basis. The programming became an institution for me, and I would buy or borrow the music that I would hear on the show. It was around this time that I saw Eric B. & Rakim on a re-run of *Soul Train*—it was the first time I saw a DJ in action. I then began to pick up on the DJ's presence in rap music videos as well. In 1988, for a school talent show, a friend of mine beatboxed[4] while I scratched[5] a *Star Wars* record on my Fisher Price turntable.

Throughout my teenage years, I continued to be a consumer of rap music and hip hop culture through the media. In 1992, I watched the movie *Juice*, and was exposed to the idea of a DJ battle. This really made me want to DJ. But this was difficult in Maine where there was not a healthy hip hop scene. In addition, I had little access to DJ technology or even records, so I never pursued my interests. I would still study ads for DJ technology in the back pages of *The Source* magazine, a publication devoted to the rap music industry. But, due to a lack of resources (financial and access to information),

---

[3] B-boy is the culture's term for "breakdancing," a term devised by the media.

[4] Making a beat or rhythm using one's mouth.

[5] Moving a record back and forth on beat.

DJing would only remain a dream in the back of my head. However, I continued to be an avid consumer of rap music throughout the 1990s.

Before my sophomore year of college I suffered two injuries that ruined my NCAA Division 1 running career, so I decided to get active in the college newspaper and radio station. At the radio station, I had access to two turntables and a mixer. I began, for the first time, buying rap music on vinyl 12", and also started writing about music. I found that I not only loved DJing, but loved buying records. The learning curve for me was steep, but that changed the day I met a DJ at the university: DJ Cue Two. While I was into rap music, I knew very little about hip hop DJ culture and technique, and Cue Two schooled me. A year after meeting him, he won a DMC Regional title.

Meanwhile, I volunteered to write singles reviews for www.Undergroundhiphop.com (UGHH.com), a growing online retailer of independent rap music. As editor of reviews, I also began interviewing artists and writing for other publications on a freelance basis. As I continued to develop my DJ skills on radio, mixtapes, and parties, UGHH.com rewarded me with the opportunity of a mixing monthly promotional mixtape[6] for the company. Although it started as a small operation, UGHH.com grew quickly and the small monthly DIY mixtape grew into a professionally produced product distributed globally. I am currently UGHH.com's longest-running volunteer (12 years).

By 2004, I was playing paid gigs on a regular basis, and along the way was influenced by a lot of DJs who I played with. I continued to hustle mixtapes, do scratches for other recording artists, play with bands and rappers, and work with record

---

[6]   A collection of songs arranged by a DJ.

promoters and labels. I have professionally released approximately 60 mixtapes, and

serve as the hip hop music format director at 88.1 KWVA in Eugene, Oregon. Please

read this study with my positionally in mind.

CHAPTER II

HISTORICAL FOUNDATIONS OF THE STUDY

In order to understand the modern hip hop DJ scene and the industry that serves it, this chapter explores the socio-historical lineage of the hip hop DJ as it relates to technology and innovation in order to place the research in context. This chapter begins by outlining the general aesthetics of DJ culture and then looks at how practices from avant-garde artists, Jamaican sound system culture, and disco DJs have influenced hip hop DJ culture. Upon establishing this base, the chapter then describes hip hop as a culture, as well as the DJ's role in that culture, in order to illustrate how modern hip hop DJs utilize similar modes of production and technologies. After considering the techniques and technologies of the hip hop DJ, the chapter then looks at the relationships between hip hop DJs and the recording industry, rap records, and digital sampling technologies. The chapter concludes by outlining turntablism as a movement to put the DJ back at the center of hip hop, as well as looking at the implementation of digital DJ technologies into the market for, and culture of, the hip hop DJ.

This background information underpins the ideologies, tastes, politics, aesthetics, and practices of modern hip hop DJ culture, and is the foundation of the information presented in the four findings chapters. The documentation of hip hop history should be considered carefully as Grandmaster Flash, a pioneering DJ who will be discussed in subsequent pages, suggests:

> There are those out there that made a great attempt to accuracy. Then
> there are those who are just doing it to make a dollar. I think to this point
> it hasn't been really told.... I think the only ones that can really tell you the

story are Herc, Bam, Breakout, and myself. Either you can hear his-story or history, and the only way you gonna hear the real historical views on it is by the people who were actually there— who actually took it from nothing and built it into whatever it became to be. Some people don't dig deep enough to find out what happened back then. They just fix it so it's comfortable for the reader, which is really dangerous. (quoted in George 2004, 54)

Thus, I have done my best to find histories that interview these pioneering DJs, emcees, writers, and dancers. Books such as Fricke and Ahearn's *Yes Yes Ya'll* (2002), Chang's *Can't Stop Won't Stop* (2005), Ogg and Upshal's *The Hip Hop Years: A History of Rap* (1999), and Brewster and Broughton's *Last Night a DJ Saved My Life* (2000), as well as films and magazine articles, contributed to this chapter. Like a DJ, I have just collected these samples and wove them into a new text with new meanings. So, please read accordingly.

Understanding some of the historical precedents that led to modern DJ practices and technologies will allow us to appreciate why a DJ like Grandmaster Flash would be featured as a playable character in the video game *DJ Hero 1* in 2009 or have his own signature mixer made by Rane Corporation in the mid-2000s. Further, I want to highlight how historically DJs have innovated and created using corporate texts and technologies, as well as how industries have used these innovations as the basis for establishing markets. By linking the modern hip hop DJ's methods of production to the pioneering hip hop DJs (who were the first to produce hip hop music in the 1970s, therefore hip hop's "original" sources of music production), this study aims to further theorize ideas about the relationship between culture, industry and technology.

17

DJ Culture

The central themes of DJ culture are that recorded texts "become the raw material for the DJ's art" (Cox and Warner 2004, 329) and "creativity rests in how you recontextualize the previous expression of others" (Miller 2004, 33). Souvignier discusses this mode of production as "derivative composition" (2003, 297), while Hebdige describes this compositional methodology as a "cut 'n' mix attitude…that no one owns a rhythm or sound. You just borrow it, use it and give it back to the people in a slightly different form" (1987, 140).

Poschardt, in his book *DJ Culture*, writes, "DJ composition is the interpretation and reconstruction of something that has been deconstructed at the turntable" (1998, 163). DJ culture is signified by the "cut" (removing the sample from its original context) and the "mix" (where the sample is "placed into a new chain of signification" (Cox et al. 2004, 320)). It is through this transmogrification that DJs carve out a new cultural space and in the process, new meanings and identities are formulated (Hebdige 1987; Katz 2004).

The only reason that DJ culture exists is because a DJ "recodes modern technology" by using the turntable (a mode of reproduction) as a means of production. Although initially considered "the violation of technology" (Poschardt 1998, 358), the transformation of the turntable from a consumer device into an "analog sampler" should be considered a unique event in musical history (Souvignier 2003, 297).

Avant-Gardes, Sound Systems and Disco

In order to understand the development of hip hop DJ culture, it is important to detail some of the artistic, musical, and cultural movements that informed its origins. I

am suggesting the main influences of hip hop DJs are Jamaican sound system culture and disco DJs, as well as the *idea* from avant-garde composers that turntables could do more than merely reproduce music.

Using the turntable and record as means of production was first conceptualized by avant-garde composers in the 1920s. It is important to note that the pioneering hip hop DJs were not directly influenced by the avant-gardes and these experimental sound artists certainly cannot be considered hip hop DJs. They did, however, try to use the turntable as an instrument and show its potentialities, albeit to a rather limited audience. Kodwo Eshun says, "The difference between John Cage and Grandmaster Flash is like before and after electricity. What Grandmaster Flash did went around the whole world. What John Cage did was restricted to a few people in New York, a few people in London, a few people in Berlin, etc." (quoted in Toop 2000, 102).

Regardless, the turntable's productive potential was noted by László Moholy-Nagy as early as 1922 when he argued that we must turn "apparatuses (instruments) used so far only for reproductive purposes into ones that can be used for productive purposes as well" (1922/2004, 331). Composers such as Edgar Varèse, Darius Milhaud, Paul Hindemith, Ernst Toch, Pierre Schaeffer, and John Cage all notably experimented with records and turntables. The central theme of much of the work that arose out of avant-garde composition was that music was made using pre-existing sonic elements. But it would have been a challenge to dance to John Cage while he rubbed household products on amplified gramophone cartridges. Thus, it was the Jamaican sound system culture that probably had the most direct influence on hip hop.

Hip hop's deep roots can be traced to the Jamaican "sound system" and "toasting" traditions, which were later employed and adapted in the South Bronx by DJ Kool Herc, largely noted as the "father" of hip hop (Hebdige 1987; Rose 1994; Poschardt 1998; Mao 1999; Toop 2000; Chang 2005; Watkins 2005). Sound systems, according to Hebdige, were "mobile discotheques" that were owned and operated by "larger-than-life characters…the all-important disc-jockey" (1987, 62-63). Jamaican toasting involved improvised lyrics over the records as they played, vocal accompaniment that "was added live by the djs themselves" (65). According to Toop, one of the main similarities between hip hop and reggae is that they "share a partial reliance on previously recorded rhythms" (2000, 104). Herc, an immigrant from Kingston, Jamaica, says, "Hip hop, the whole chemistry of that came from Jamaica…. When I came over here I just had to put it in the American style" (D 1989).

As early as the 1950s in Jamaica, DJs such as King Edwards, Sir Coxsone,[7] Prince Buster, and Duke Reid would set up their systems and compete in "sound clashes" against other DJs' systems, competitions based on taste in music and loudness in volume of the sound. In Jamaica, though, the DJ was known as the "sound system operator" or "selector" and the emcee was actually called the "deejay."[8] Much of the music that the selectors would play was American soul that had made its way to the island because of the U.S. naval presence there (Hebdige 1987). What eventually became dub and reggae music "grew largely from local interpretations of this [American soul] music" (Brewster

---

[7]   A pioneer in the sound system culture, Coxsone is credited with being the first Jamaican selector to scratch the label off his records so the competition couldn't read what he was playing, a practice employed by pioneering hip hop DJs.

[8]   Today, in related music cultures, such as dancehall ragamuffin, the vocalist is still called the "deejay."

and Broughton 2000, 111). Selectors would also travel to America to buy music, again because the selector's credibility was also judged by the exclusivity of their selections.

In Kingston, Jamaica, sound systems began replacing bands as the way that people socially experienced music. At some point in the early 1960s, selectors started pressing native Jamaican music to vinyl records for use in these sound clashes. Eventually, because the music gained popularity at clashes, selectors would press and sell these recordings to fans. The selectors became music producers as well, manipulators and controllers of sound in the recording studio, in a reggae music culture that privileged the "invisible music men, the sonic architects" (Chang 2005, 28).

One of the most revered selectors/producers to emerge from this culture was Lee "Scratch" Perry, who came up through Six Coxsone's Downbeat Sound System. Perry built the home of dub music, Black Ark Studio, where he experimented with other recordings and use his mixing console to create something new. He is largely credited with making studio technology an instrument, and the stripped down dub mixes he created helped popularize the practice of "versioning."

It is the stylistic paradigm of versioning that is at the heart of Jamaican music and became the "diagram for hip hop music" (Chang 2005, 30). Versioning is the practice of remixing or sampling an "original" sound or idea, where the "original version takes on new life and meaning in a fresh context…. Everybody has a chance to make a contribution. And no one's version is treated as Holy Writ" (Hebdige 1987, 14). Toop considers dub and versioning a way of treating sound like clay and not as intellectual property:

> Dub music is like a long echo delay, looping through time...dub unpicks
> music in the commercial sphere...dub creates new maps of time, intangible
> sound sculptures...When you double, or dub, you replicate, reinvent, make
> one of many versions. There is no such thing as an original mix, since
> music stored on multi-track tape, floppy or hard disk, is just a collection of
> bits. The composition has been decomposed, already, by the technology.
> Dubbing, at its very best, takes each bit and imbues it with a new life.
> (1995, 115)

For Rose, versioning in dub and sampling in hip hop are about paying homage through the "invocation of another's voice to help you to say what you want to say" (1994, 79). And, by using copyrighted material for new cultural expression, they both subvert "legal and capital market authority" (90). DJ Kool Herc would eventually bring the sound system culture to the South Bronx and flip it to appeal to Black and Puerto Rican youth; however, years before Herc was in the parks, there were other New York City DJs in the clubs.

Although pioneering hip hop DJ Afrika Bambaataa states that hip hop originated as an "anti-disco movement" (quoted in Toop 2004, 238), it is probably more appropriate to consider hip hop a response to the commercialized disco music genre and culture because hip hop DJs were influenced by the practices of some of the original disco DJs. Shusterman (2004) writes that as hip hop "appropriated disco sounds and techniques, it undermined and transformed them…" (460), and Brewster and Broughton (2000) argue that the two are inextricably linked. Disco and underground dance culture in New York City in the late 1960s and early 1970s started with DJs such as David Mancuso and Francis Grasso, who would mix rock, funk and soul music on 7" 45rpm vinyl records at underground clubs. Eventually, as disco clubs grew more commercial, the recording industry latched on to the culture and began mass producing recordings that were

intended to be played at clubs. Hip hop can be considered a reaction to the co-opted

elements of disco culture, but the DJ ideas and innovations of Mancuso and Grasso were

eventually embedded into what the pioneering hip hop DJs would do.

Grasso probably had more of an impact on DJ technique than Mancuso, and

according to Poschardt (1998), Grasso "invented disco music before it was produced by

the record industry" (108). Grasso is largely credited with popularizing the art of DJ

mixing, that is, bringing in songs on beat and also weaving songs into some sort of

narrative that was based on a feedback loop with the crowd. Before him, most clubs

either had jukeboxes or collections of records that a DJ would simply play. While Grasso

pioneered mixing between two records, which was called a "change" at the time, he also

is credited with developing the "slip-cueing" technique. Grasso was one of the first DJs

who required headphones to be part of the system so that he could preview one record in

the headphones before he mixed it in with the record playing over the speakers. He

would then hold the record and let the turntable platter rotate beneath (slip-cue) and then

drop the record on time.

Mancuso is known for opening The Loft in 1970, an after-hours invite-only party

in his home, which became the blueprint for the commercial disco clubs in the city.

Mancuso also proved that the DJ could be a tastemaker and could popularize records

through the club. For instance, "Soul Makossa," an obscure 1972 recording by Manu

Dibango, was popularized by Mancuso at The Loft; the record eventually landed on the

Billboard Top 40, became the foundation of the disco music genre, and proved that the

club and DJ could promote records. He also started the first record pool for DJs before

the recording industry was catering to the market for dance music. Eventually "Soul

Makossa" became a popular song amongst hip hop DJs, b-boys and g-girls.

After some of the innovations popularized by Mancuso and Grasso, the next wave of

disco DJs/remixers, such as Walter Gibbons and Tom Moulton, pioneered the art of

remixing and pressing records for the clubs, essentially employing the aesthetics of dub

versioning. At the time, most popular records were not intended for dance clubs, so these

remixers would add breakdowns, intro breaks, add effects, and then press these records

for exclusive DJ use. Some of their innovations in remixing further led to the recording

industry jumping on the bandwagon because audiences attending disco parties wanted to

be able to buy the extended remixes at retail.

Toop (1995) states that these disco DJs/remixers created a "biofeedback system...

Songs became liquid. They became vehicles for improvisation, or source materials, field

recordings almost, that could be reconfigured or remixed to suit the future..." (45). Also,

by accident, Moulton pressed the first disco single to a 12" record,[9] which would later

become a standard format adopted by the recording industry (discussed fully in Chapter

V), and the way that hip hop DJs would consume and produce their own musical culture.

The 12" vinyl single allowed for wider and deeper grooves, which gave the records more

bass and a higher volume than 7" versions; essentially, the record became a tool. Most

importantly, though, these DJs showed that they were more than disc jockeys, but were

authors, artists, and performers.

---

[9]   Most singles prior to the mid-1970s were pressed onto 7" 45rpm records, which were a popular format
       with young Americans and also intended for social consumption via jukeboxes.

<u>Hip Hop Culture and the DJ</u>

Hip hop culture is defined by four elements: graffiti,[10] breakdancing, MCing,[11] and DJing, while beat-boxing[12] and street fashion[13] are also considered elements. The culture developed in the South Bronx in the early 1970s as a response to gang violence, social inequity, marginalization and the need for urban youth to develop identity, community, and a voice (Hebdige 1987; Rose 1994). Neal writes that hip hop music and culture "emerged as a narrative and stylistic distillation of African American youth sensibilities in the late 1970s" (2004, 370-371), and is what Chang calls an "idea machine" (2005, 409). While hip hop culture developed as an African American and Latino movement born out social antagonisms, it also began as a youth movement as most pioneers were only teenagers when it began. Hip hop culture is also discussed or framed as an art form or a collection of art forms, rather than as a culture with a unified set of values, beliefs, and practices. Although Lovebug Starski popularized the phrase "hip hop" at block parties in the 1970s, it was not until 1981 that Afrika Bambaataa began using the term to describe the culture itself.

Much of hip hop's early development has been credited to DJs Kool Herc, Afrika Bambaataa, and Grandmaster Flash, who George (2005) calls "hip-hop's Holy Trinity," as

---

[10] Although graffiti style can be traced to the late 1960s, it was the hip hop culture that truly gave rise to the art form and the two are now synonymous (Austin 1998).

[11] An MC is what we now call a rapper, and is an acronym for "master of ceremonies" or "microphone controller."

[12] Beat-boxing is the art of making rhythmic musical patterns using the mouth and sometimes a microphone to amplify the sound.

[13] Street fashion refers to the style of dress associated with hip hop culture, which has been adapted and exploited by sneaker and clothing companies.

well as other DJs.[14] Protégés of Bambaataa and Flash, such as Jazzy Jay, Grandmixer

DXT (formerly known as D.ST), and GrandWizzard Theodore[15] were also very important

in the early development of DJ style and technique. The early hip hop DJs set up their

massive sounds systems in public spaces to play records, a sonic magnet that was seminal

in cultivating the hip hop styles of the emcees, b-boys, and graffiti artists (Poschardt

1998, 167). Toop writes, "It was the DJ style which helped to create the lifestyle which

came to be known as hip hop" (2000, 21). Watkins believes the story of the hip hop DJ is

very much "the story of hip hop" (2005, 28), while others call the DJ the "foundation" of

hip hop (Souvignier 2003). The burgeoning culture and its music began as live

performances in parks and community centers in the Bronx (1973-1979) and were

fostered by these DJs, hip hop's "biggest stars" (Mao 1999).

DJ Kool Herc (born Clive Campbell)—dubbed "The Father of Hip-Hop" because

it was his style, selection, and technique that would later become the foundation of hip

hop culture and the rap music industry—immigrated to the United States from Kingston,

Jamaica, in 1967 with his family. Much like Jamaica, the South Bronx in the 1960s and

1970s was tainted by economic hardship and violence. There was also infrastructural

dilapidation, largely due to the construction of the Cross Bronx Expressway and the city

being bankrupt. The construction destroyed communities, lowered property values, and

led to white flight from the area in the 1960s. Property owners burned down apartment

buildings to collect insurance money (Rose 1994; Chang 2005). This infrastructural

breakdown and lack of municipal support led to a general state of lawlessness in the

---

[14] DJs such as Pete DJ Jones, DJ Breakout, DJ Baron, Grandmaster Flowers, Disco Wiz, Disco King
Mario, DJ Afrika Islam, DJ Hollywood and Lovebug Starski were influential at the time as well.

[15] A DJ who has been credited with inventing and perfecting what the hip hop DJ/turntablist is most
known for: the scratch.

South Bronx, as young people turned to gangs for support and to find a community. With

more gang-related violence and turf wars, hip hop parties became a way to quell the

violence and to bring gang-affiliated youth into the same space.

Herc threw his first party or "jam"[16] at the Sedgwick Avenue Community Center

in the towers of 1520 Sedgwick Ave.[17] on August 11, 1973 in order to raise money for

new school clothes for his sister (see *Figure 1*). As Herc's parties grew in popularity, he
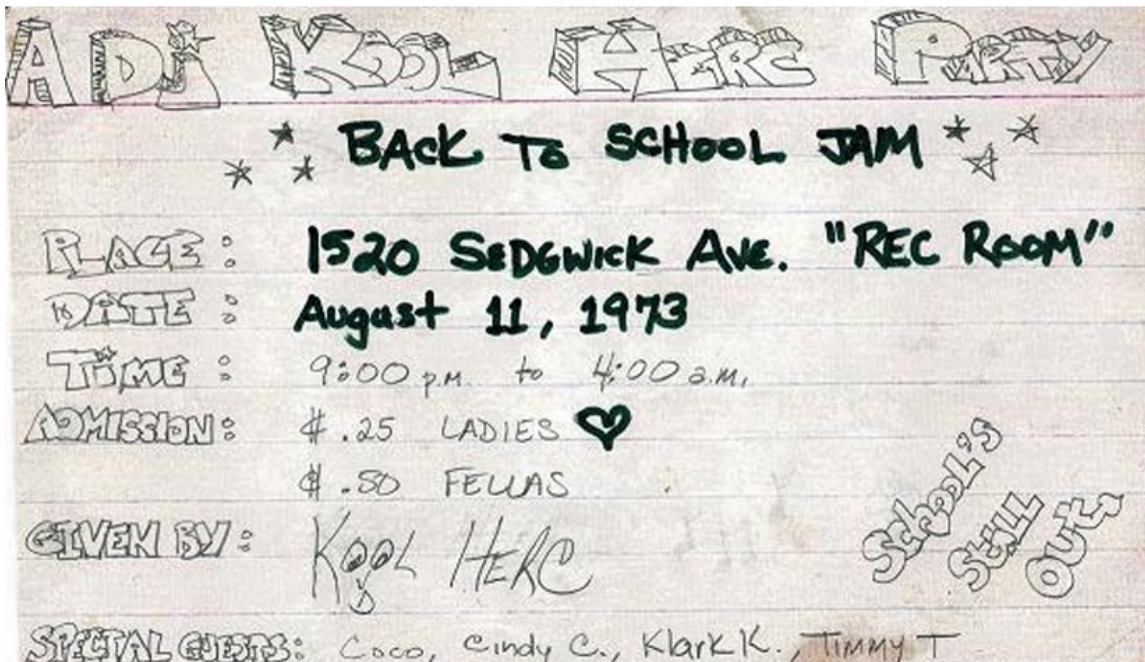
Figure 1: This is an image of a flyer from the first party that DJ Kool Herc gave on
August 11, 1973. Image courtesy of the Joe Conzo Archive.

eventually moved outside and into Cedar Park and tapped city lampposts to power his

sound system. Herc employed the D.I.Y. ethos to gain this popularity, as he explains, "I

was the guy who got the flyers made. I was the guy who went out there in the streets and

promoted it. You know? I'm just a person who bring people together, like an instrument,

---

[16]   "Jam" is short for "park jam," which is a party thrown in the parks and in playgrounds in the city.

[17]   Often cited as the "birthplace of hip hop," the building at 1520 Sedgwick is now recognized by New
      York State as an official historical site.

an agent who bring people together and let 'em have fun" (quoted in Fricke and Ahearn 2002, 28).

At the time, DJs in the Bronx were catering to older crowds of hustlers and numbers runners at discotheques; commercial radio was following playing mostly disco hits (Charnas 2010). For teenagers, though, there were few venues to party at and release some of the negative energies built up through social conditions. Herc became known for playing edgy, non-mainstream music at his parties; everything from James Brown's "Give it Up or Turnit Loose" to Michael Viner's "Apache" to Babe Ruth's "The Mexican." After noticing people's reaction to the break[18] section of these songs, Herc would just cue up and plays these short rhythmic sections repetitiously—a technique he coined the "merry-go-round"—isolating and prolonging the break. Herc says, "As long as I kept the beat going with the best parts of those records, everybody would keep dancing, and the culture just evolved from that" (quoted in McLeod 2005, 70).

According to Poschardt, "Simply by being so bold as to make previous musical history the material of his own creation, Herc made the DJ an author, the originator…he freed music from its old context and integrated it within the 'process of composition'" (1998, 163). It is important to note that Herc's merry-go-round was primarily about music selection, not the skill/technique of piecing the breaks together fluidly (that would come years later with DJs he influenced). By manipulating the break, Herc and other DJs demonstrated that "it was possible to isolate parts of a complete work and to use these in the creation of an original piece of music" (Smith 2000, 76) and "release the music on the record form linear and temporal constraints" (Chang 2005, 112).

---

[18]   The raw drum section of a song, which was also considered the most danceable part of the song or the "get down" part.

Herc is also credited as being the first DJ to buy two copies of the same record in order to manually loop the breaks (Hebdige 1987), most of which he bought at Downstairs Records or the Rhythm Den. He has been cited as one of the first DJs to obscure the labels of his records so that other DJs would not know what he was playing at his parties, something he learned from his father: "My father said, 'Hide the name of your records because that's how you get your rep. That's how you get your clientele'" (quoted in Chang 2005, 79). Other youth in the South Bronx who went to Herc's parties began to recognize some of the records he was playing. "All of them was sitting in your house—they were all your mom's old and pop's old records," says pioneering DJ Jazzy Jay, "Soon as Kool Herc started playing, every motherfucker started robbing his mother and father for records" (quoted in Brewster and Broughton 2000, 213)

Herc also developed a reputation for having the most powerful sound system in the South Bronx, called the "Herculoids," as well as for throwing the best parties in the South Bronx during the early 1970s with his crew, the "Herculords."[19] In 1974, Herc started putting Coke La Rock (who is regarded as the first MC or what we would now refer to as a "rapper") on the microphone to hold down the party and keep the crowd into it. At the time, Herc was the main DJ in the South Bronx scene and Coke La Rock would play to the crowd and throw out improvised rhymes over Herc's merry-go-round. It wasn't until 1975 that Herc began getting club gigs, his first at the Hevalo Club in the Bronx. At the time, though, most jams were still taking place in community centers, school gymnasiums, and in parks.

---

[19]   The Herculords consisted of Coke La Rock, DJ Timmy Tim with Little Tiny Feet, DJ Clark Kent the Rock Machine, Imperial JC, Blackjack, LeBrew, Pebblee Poo, Sweet and Sour, Prince, and Whiz Kid.

In the mid-1970s, DJs were still the center of the party and emcees were just a component of the event; DJs were the "orchestra" for the emcees to rhyme over (Snapper 2004, 10).[20] According to Grandmaster DXT (formerly known as D.ST), the "DJ is the source of energy…the DJ had to give the MC rites of passage to his set" (quoted in Pray 2001). However, other early hip hop DJs took notice of Herc and began to give parties in their own neighborhoods, and, eventually, in other NYC boroughs. Two of the most influential of the time were Grandmaster Flash and Afrika Bambaataa.

Herc brought the break to the fore, and in the process set off the hip hop DJ's mentality about finding vinyl recordings of different music that could then be translated to an audience. Afrika Bambaataa, then, picked up on Herc's taste-making and pushed the boundaries of what it meant to be a crate diggin'[21] DJ in the 1970s. Known as "Bam," the "Godfather of Hip Hop," and the "Master of Records," Bambaataa also made the DJ an activist as he "transformed his environment in sonic and social structure" (Chang 2005, 92). As a former warlord in the Black Spades gang, Bam was able to use his eclectic tastes, street credibility, and network to throw parties that would eventually help to break down the violent walls that had been built up around South Bronx street gangs. Under the veil of Bambaataa's parties at the Bronx River Community Center, the energy that had once powered gang culture was harnessed through breakin', writing graffiti, emceeing, and DJing—what would eventually become the elements of hip hop culture. As a teenager Bam turned his party activities into the Universal Zulu Nation, an awareness group of socially conscious hip hoppers who organized youth events to spread

[20]   This method of instrumentation would later be supplanted by digital sampling.

[21]   "Diggin' in the crates" is term that refers to the ritualistic search, purchase, and addition of vinyl records to a DJ's archive.

the positive messages of hip hop—mainly that of youth solidarity using the motto "Peace, Love, Unity, and Having Fun."

While Bambaataa would play the foundational breaks that Herc had unearthed at his parties, he was willing to dig deep into the archive of recorded music to open up the minds of his audience and turn "looking for and buying records into regal disciplines" (Poschardt 1998, 180). Bam is credited with introducing songs such as "Dance to the Drummer's Beat," "Jam on the Groove," and "The Champ" into the collective hip hop consciousness, and made his obscure selections standard plays for other DJs:

> I was one of the persons who had so much of the music that went onto influence hip hop and my crowd was just like "progressive" y'now they were just as crazy as myself, so whatever I played a lot of other dj's would be scared to touch other forms of music, but when they saw the Zulu Nation dropping this they became OK on this. So if they got into a heavy metal record you had on and saw the crowd react well to it then these other dj's would start playing it at their parties. (quoted in Dave the Ruf 1996)

Bambaataa also exposed hip hop to "Trans-Europe Express" by the German group Kraftwerk, a song that would eventually be seminal in Bam's career as a recording artist as he interpolated it into his 1982 hit "Planet Rock," a track that gave birth to the electro-funk genre of music.

Afrika Bambaataa is also considered seminal in establishing the importance of competition through DJ battles in hip hop culture, a practice which has led to almost three decades of sanctioned DJ competitions. While modern DJ battles are primarily focused on technical skill, the battles of the 1970s were based on the loudness of a DJ's mobile system and their selection; essentially a DJ would try to drown out the sound of the other DJ's system in order to win. Bam's first official battle was in 1976 against one of his influences, Disco King Mario, a Bronxdale Projects DJ known for his powerful system.

31

He lost this battle to Mario at the infamous Junior High School 123 (dubbed "Funky 3"), but competitions like this between DJs would gain importance within the culture and gave young people a way to exercise their creativity and to compete. Toop writes, "Competition was at the heart of hip hop. Not only did it help displaced violence in the refuge of destructive drugs like heroin, but it also fostered an attitude of creating from limited materials" (2000, 15). Although Bambaataa had the cultural presence and the records, he was not known as the most technical DJ, and therefore would have other skilled DJs, such as Jazzy Jay, DXT, and Red Alert, cut up his records at parties.

Grandmaster Flash (Joseph Saddler) was another DJ who got his start going to Herc's parties and was the one who brought the technical aspects to hip hop DJing. Flash was born in Barbados and at a young age developed a fascination with electronics and his father's record collection. Recognizing his propensity for working with electronics, his mother enrolled him at the Samuel Gompers Vocational High School. Flash took what he learned in school and figured out how to—like many DJs of the era—open up the faceplate of a light pole and power his sound system in the parks. Pete DJ Jones, a popular disco DJ in the city, first inspired Flash on a personal level. Although he went to Herc's parties, Flash felt that Herc's merry-go-round was sloppy and made it his mission to tighten up this technique and extend a drum break infinitely. He thought that a DJ could be scientific with his style and considered himself a "scientist looking for something" (quoted in Chang 2005, 112).

Grandmaster Flash made many important contributions to the early hip hop and DJ culture, and was one of the first to really theorize DJ practices, name his techniques, and retrofit technologies. DJ mixers that were used in the clubs and by disco DJs of the

era were high-end and had many functions, but for teenagers such as Flash, those technologies were unaffordable. Flash had the idea that if he could cue up records in his headphones, he could play the breaks on time. One day Pete DJ Jones let Flash on his system, one that had a headphone cue function, and Flash realized that his dream of a continual drum loop orchestrated by the DJ was possible. After this realization, Flash went into his laboratory and used his electrical expertise to retrofit a Sony MX8 microphone mixer using some preamps and Krazy Glue. He was now able to hear the record he was cueing up while the other played over the loudspeakers. Flash says:

> I couldn't afford a mixer with a built-in cue system where you could hear turntable one or two in advance. I had to actually get a single pole-double throw switch, crazy glue it to the top of my mixer, build an external mix on the outside just strong enough to drive a headphone, so when you clicked it over you would hear the other turntable in advance. But this whole idea of hearing the cut ahead of time took three years to come into being. (quoted in George 2004, 49)

Flash began experimenting playing his songs on time around the fall of 1974 and with his modified mixer, he developed his "quick mix theory," a technique he did not expose at jams until he had perfected it. Flash describes his quick mix theory as "taking a section of music and cutting it on time, back-to-back, in thirty seconds or less. It was basically to take a particular passage of music and rearrange the arrangement by way of rubbing the record back and forth or cutting the record, or back-spinning the record" (quoted in Brewster and Broughton 2000, 216). Basically, Flash's quick mix theory was a way to piece together different breaks, or take the same break and loop it using two copies of the same record, but to do it seamlessly and on beat. Taking two copies of the same record and extending the break into a breakbeat was first called the "zugga zugga," then "cutting," which was another technique Flash popularized.

The quick mix theory was comprised of a series of other techniques that Flash named, perfected, and popularized. Flash also developed the "clock theory," which was a way of marking a record and using the mark like the hand of a clock. By implementing this technique, Flash was able to count how many full revolutions he would need to spin back the record he was cueing up in his headphones in order to bring the record back to the beginning of the break—essentially adding a visual element to early turntable technique. Once Flash developed this method, he says that he "figured out a way to control time" (in nodfactordotcom 2010). To this day, hip hop DJs mark their records with stickers and digital DJ software allows for digital marks (cue points) within the programs.

Flash is also credited with developing a series of other important techniques still used by today's hip hop DJs: the "punch phrase," which is essentially punching in a guitar lick or horn stab over another record; the "dog paddle," which is spinning a record back at the edge of the disc; the "phone dial theory," which is spinning the record back from the inner part of the records. Flash is also known as one of the first DJs to incorporate acrobatic body tricks into his performances. He is also largely credited in hip hop culture for taking a piece of felt, cutting it to the size of a record, ironing it with starch until it was wafer-like, and then using it as a "slipmat" between his records and the turntable platter. Slipmats are now a standard technology used in all DJ setups.

In order to perform these techniques, Flash had to put his greasy fingertips on the record, something that was considered "blasphemous" at the time (Saddler and Ritz 2008, 79). After perfecting his quick mix, Flash brought it out to a jam, but because it was so different from what the audience was accustomed to, the crowd did not really get what he

34

was doing. Eventually, the audience and other DJs caught on, and these techniques became standard DJ practices. After Flash's theories were put to use and people got over him being the DJ who ruined records, he says that "all the DJs had to change their style" (quoted in Chang 2005, 114).

Flash was a major influence on hip hop culture and would eventually battle the recording industry, but he also had an important mentoring role for Theodore Livingston, better known as GrandWizzard Theodore. While Flash is largely considered the first to come up with the idea of scratching a record rhythmically (what he called the "rub"), it was Theodore who is credited with perfecting and introducing it to audiences—some say "invented" scratching. Flash says that "what Theodore would do with the scratch was make it more rhythmical. He had a way of rhythmically taking a scratch and making that shit sound musical. He just took it to another level" (quoted in George 2004, 49). It was the scratch that hip hop DJing would most commonly be associated with, and Theodore accidentally stumbled across it one day when he was practicing with Ralph McDonald's "Jam on the Groove" in the summer of 1975. At the time he was only 13-years old, and Theodore best describes the moment of discovery himself:

> I used to come home from school every day and play records. This one particular day, my mother banged on the door yelling at me because the music was too loud. When she walked in, I still had my hand on the record that was playing and I kind of moved it back and forth. When she left, I was like "Yo! That sounded kind of cool. I better experiment with that." (quoted in oldschoolhiphop.com)

Theodore regularly practiced this scratch (or rubbing the record against the needle) before he showcased his new creation to the public. Scratching was different than Flash's cutting, because instead of moving back and forth between two records, Theodore would

play an instrumental record on one turntable and then scratch another record rhythmically over it.

Theodore also perfected the art of "needle dropping" and is largely credited with this innovation. Instead of spinning a record back utilizing the clock theory, he would pick up the needle and move it back to the beginning of the break, often moving the needle back a mere two grooves. While Herc had employed the needle drop as part of his merry-go-round years before, it was by chance that he would be able to drop it on beat; Theodore, being a student of Flash, was able to do it scientifically and soulfully. "Without opening his mouth, he was articulate," DXT explains. "The way he would physically move—it was an expression" (quoted in Brewster and Broughton 2000, 259).

The DJ was the king of the early hip hop scene in the Bronx, and the styles set forth by Herc, Bam, and Flash would soon spread to other boroughs in New York City, and, eventually, the world. Although Coke La Rock grabbed the microphone at Herc's parties beginning in 1974, other DJs began forming their own crews with emcees that would rock their parties. This was, in many ways, a division of labor because the DJ at first was a mic controller as well, but having emcees allowed the DJ to focus on the music.[22] If the DJ's cuts and timing were off, it would kill the emcees' flow, and thus these emcees were reliant upon the DJ, for not only his system and records but for his skills. These groups began by putting on much-hyped battles and then eventually performances that were complete with choreography and costumes. It was this

---

[22] For instance, it was Grandmaster Flash and the Furious Five, Afrika Bambaataa and the Soul Sonic Force, GrandWizzard Theodore & the Fantastic 5, Funky Four Plus One (DJs Breakout and Baron), Cold Crush Brothers (DJs Charlie Chase and Tony Tone), all groups who used the DJ as the instrument, the producer, and the backbone of their rhymes.

movement towards performance and away from improvisation that set the stage for hip hop's encounter with the recording industry.

According to Chang (2005), Herc remained on top of the Bronx scene because of his system, records, and loyal crowd until about 1977 when the power started shifting over to DJs such as Flash, who were putting together tight performances. Until this point DJs represented oligopolies in their sections of the Bronx[23] because sound systems and DJ equipment were expensive. However, the New York Blackout on July 13, 1977, changed that. Although most of the city lost power, the Bronx was the borough most affected by looting and arson. Electronics stores and even clubs were looted for their systems, mixers, and turntables, and in the coming months, all sorts of new DJ/MC crews popped up all over the city. Essentially through this event, DJing became democratized and hip hop, which had been primarily in the Bronx, spread to Brooklyn, Queens, Harlem, and Manhattan (Charnas 2010).

It was around 1978 when the DJ moved into the background and the MC moved into the electric fore (Poschardt 1998; Brewster et al. 2000; Souvignier 2003; Watkins 2005), a shift that led to the commodification of hip hop culture into rap music.[24] Hip hop's role as a commodity, or a "capitalist tool" (George 1998, 154), began in summer 1979 with the release of Sugarhill Gang's "Rapper's Delight."[25] McLeod believes that this record "forever changed hip hop music's (and hip hop culture's) relationship with the

---

[23]   Kool Herc controlled the West Bronx; Flash the South Bronx; DJ Baron the North Bronx and Bambaataa ran the West Bronx (Charnas 2010, 20).

[24]   The DJ's move to the background was furthered by the implementation of digital sampling technologies and the use of live musicians for recordings, techniques popularized by "Rapper's Delight."

[25]   This song was hip-hop's first *successful* release, although the Fatback Band is credited with releasing the first rap single "King Tim III (Personality Jock)."

music industry" (2001, 79-80). According to Poschardt, "The MCs put the DJs in the shade...breakbeat music turned into rap" (1998, 361). Grandmixer DXT says that rap records "tore everything apart…That's what killed hip hop….As far as the culture, it was over" (quoted in Mao 1999, 74).

Rap and Records

The movement away from breakbeat or "wildstyle" music with the DJ as central instrument and towards the rap music industry seemed inevitable. After "Rapper's Delight" was released, the industry called it "rap" (Toop 2000, 72). GrandWizzard Theodore thinks that the rapper was easier to endorse by corporate America because he could be turned into a writer.[26] While emcees were "onstage at the discretion of the DJ, the king of the party..." (Chang 2005, 132), for the first six years in hip hop culture it was the DJ who set up the parties, owned the technologies, and provided the music for the emcees (Dye 2007). Many of the antagonisms between rappers, the recording industry and DJs are highlighted in Grandmaster Flash's autobiography, *The Adventures of Grandmaster Flash* (Saddler and Ritz 2008). Flash details how Sugar Hill Records and Melle Mel, the lead emcee of Grandmaster Flash & the Furious Five, used Flash's name and popularity to help sell records but took all the publishing credit and royalties. With this new stress on legal authorship, the DJ was also replaced by studio musicians who would try to recreate what Herc, Flash, and Bam were doing in the park.

Rap music was hip hop's "most commodifiable component" (Basu 2005, 258) and it was the DJ suffered when it became commercial (Brewster & Broughton 2000, 72). Flash had been approached about making records as early as 1977, but most DJs never

---

[26]   While a DJ used other people's recordings to create with, a rapper could write lyrics to a song and therefore hold songwriting copyrights.

38

thought that anybody would buy a record of other people's records, especially since hip hop was consumed as a live performance. Although "Rapper's Delight" wasn't the first recording to feature rapping,[27] it was the first commercially successful rap song as it went RIAA gold and sold at a rate of approximately 75,000 copies per week. The song is considered the best-selling extended 12" vinyl single of all-time.

With the success of "Rapper's Delight," copyright law and authorship began to impact hip hop culture. The song interpolated[28] the bassline from Chic's 1979 hit "Good Times" without negotiating a proper publishing license, which resulted in a lawsuit and settlement that gave Chic's songwriters, Niles Rodgers and Bernard Edwards, writing credit/publishing. Also, some of the rhymes used in the song were apparently lifted from Grandmaster Caz of the Cold Crush Brothers, who never saw any writing or publishing credit. From the moment hip hop became rap and thus a commodity, it began its relationship with intellectual property laws.

Although Sugarhill Gang ran into legal troubles for "stealing" beats and rhymes, the most egregious crime was that this was not a group that had come up through the South Bronx scene. Instead, it was a group concocted by the "Queen" of Sugar Hill Records, Sylvia Robinson. With years of record company experience behind her, she saw a lucrative market with rap. With most of the DJs and emcees turning down any recording offers, Robinson recruited the emcees in Sugarhill Gang, who ended up getting this smash hit on the backs of the pioneers. People in the Bronx scene were upset. "I was mad when Sugar Hill came first and did their thing," says Kool Herc (quoted in

---

[27] "King Tim III (Personality Jock) came out a month earlier.

[28] In most music genres interpolation refers to musicians replaying a composition and creating a cover version; in rap interpolation is the act of using musicians to replay a melody and that recording being sampled and used in production.

39

George 2004, 53) because the group that considered "three lucky pretenders" (Toop

2000, 95). Sugarhill Gang jumped on the opportunity that others had rejected and it

made the true pioneers anxious. "Everyone was nervous. It took the excitement away,"

says Bambaataa, "We didn't have the parties. Everyone would go out and buy the record"

(quoted in George 2004, 54).

The rap record, then, threatened the art, power, economics and culture of the hip

hop DJ in two ways: 1) as hip hop moved to studio-based rap music, the DJ was initially

replaced by session bands and songwriters (Toop 2000); and 2) people who were part of

the live hip hop culture bought rap on record and consumed it at their leisure, giving them

little incentive to go to the clubs and park jams. The hip hop scene went stale as every

crew tried to make a record, and fewer people were attending parties.

On the flip side, "Rapper's Delight" exposed the world to rap music, and, as time

went on, other elements of hip hop got commercial attention. According to Poschardt,

hip hop's "isolation from the rest of the world had been broken, the shield of marginality

was lost and the future in the confusion of interest in the music industry was uncertain"

(1998, 195). "Rapper's Delight" seemed to change everything (Rose 1994), but in return

for financial gain, a heavy price was levied upon the culture and the DJ (Toop 2000). The

music of hip hop culture was rationalized and fit within the standards of the recording

industry. As Chang observes, hip hop "was refined like sugar....The tension between

culture and commerce would become one of the main storylines of the hip-hop

generation" (2005, 134). Moving into the 1980s, the hip hop DJ continued to fade into

the background as digital sampling technology became the dominant method of

producing the music.

We have already seen that hip hop DJs historically had a close relationship with vinyl records and turntables, but, before we can comprehend how DJs are currently negotiating digital DJ technologies, it will be helpful to look at how digital technologies were introduced into the culture. Furthermore, many of the characteristics of these technologies and associated techniques are used in new digital DJ software/hardware. Thus, they deserve some attention. For Schloss, the story of hip hop DJs and digital sampling is one of dialectical influence: "Innovations are accepted only if they conform to a preexisting aesthetic, but once accepted, they subtly change it. Sampling was initially embraced because it allowed DJs to realize their turntable ideas with less work" (2004, 42).

Although Herc never made a recording, both Bam and Flash had some success in the industry. However, for a lot of DJs the only option was to use their record collections to produce music in the studio as recordings supplanted live performance. Technology aided in this progression. Nevertheless, as more DJs became producers or financiers of record production, respect for the DJ by rappers would slowly fade (Poschardt 1998, 361).

Most of the studio sampling technology in the early 1980s was extremely expensive and therefore not accessible to hip hop DJs. However, the costs soon dropped. Grandmaster Flash is largely credited as the first to implement a drum machine—what he called a "beatbox"—into his live performance with the Furious Five, billing it as "Music with no turntables." By introducing the beatbox, George (2004, 45-46) asserts that, by the late 1970s, the DJ began morphing from a mix artist to a beat maker.

41

Brewster and Broughton (2000, 245) contend that sampling is a case where technology caught up to the DJ and that the manual sampling of early DJs prefigured the cut and paste techniques used in digital sampling. Essentially, session musicians and then sampling technology remediated DJ technique in a way that specifically suited the recording industry. However, as the DJ became a producer, he could potentially get writing credit and publishing royalties from rap songs that he produced, although on most of the early hip hop records, the labels robbed the artists of publishing and seldom paid royalties (George 2004; Charnas 2010).

The Fairlight Computer Musical Instrument (Fairlight CMI), manufactured in Sydney, Australia, was released on the market in 1979. By the early 1980s this state-of-the art computer-based sampling instrument gained popularity in the record production business. While it shipped with a library of samples, users of the machine began sampling their own sounds with the instrument, effectively adding to the library of samples that future models would have built-in. The company had a futuristic viewpoint, their slogan was "Tomorrow's Music Today," which was considered problematic by traditional musicians. The company issued four series of the machine, but with a retail cost between $25,000-$100,000, the machine was not an option for those in the early days of the rap industry. However, the machine laid the groundwork for similar types of instruments, which eventually became accessible.

In 1980, the Linn LM-1 Drum Computer, which was the first programmable drum machine, hit the market, complete with digital samples of analog drums. It retailed for approximately $5,000, and, along with the Roland TR-808 Rhythm Composer, helped to legitimize the use of drum machines in music production. The TR-808 retailed for

$1,000 and would become one of the first drum machines to really impact rap music production. These machines, however, did not allow for sampling like the CMI, but only programming of their built-in drum sounds.

In 1982, E-mu Systems released the Emulator, a machine much like the CMI, which allowed for sampling and the playback of samples as notes. At the time the Emulator retailed well below the CMI, at approximately $8,000, and by accident the machine would make hip hop history. While interning at Unique Recording Studios under the tutelage of Arthur Baker (who helped produce Afrika Bambaataa's single "Planet Rock") in 1982, Marley Marl watched his mentor struggle to make beats on sampling technology. Marl, who eventually became a very important DJ and hip hop record producer, was working on a remix, trying to sample a voice, and a drum snare accidentally got sampled as well:

> At first I was like, "That's the wrong thing," but the snare was soundin'
> good. I kept running the track back and hitting the Emulator. Then I
> looked at the engineer and said, "You know what that means?! I could take
> any drum sound from any old record, put it in here and get the old
> drummer sound on some shit. No more of that dull DMX shit." That day I
> went out and bought a sampler. (quoted in Rose 1994, 79)

Marl's 1985 track with MC Shan, "Marley's Scratch," is regarded as the first record to use sampled drums, although his drum sampling technique was first recognized by other hip hop producers in MC Shan's "The Bridge," released in 1986. While Marley Marl laid the foundation for sampling technique, it was around that same time that hip hop producer Paul C was using an E-mu SP-12, an iconic E-mu Systems's sampler, to do more than sample, loop, stab and layer from vinyl records (Tompkins 2004).[29] Paul C is largely

---

[29] Loops, stabs, and layering were early sampling techniques, which refer to looping digital samples and then layering them over one another. Stabbing is triggering samples, similar to the "punch phrasing" DJ technique made popular by Grandmaster Flash.

credited as the first to perfect and popularize drum chopping and panning techniques,[30]

practices that would become standard for producers in hip hop music's "golden era"

(roughly 1987-1994).

Other notable digital sampling technologies that impacted rap music production in

the early days were the E-mu SP-12 (in 1985) and SP-1200 (in 1987), and the Akai S950

and MPC60[31] (both in 1988). While Roland and Akai are standard manufacturers in the

market for digital samplers in 2011, E-mu Systems, Inc. is still in the business, but was

only able to produce the SP-1200 until 1998 when the company ran out of filter chips

(vintage synth explorer n.d.).

Musical Instrument Digital Interface (MIDI) is another digital innovation that has

been used and negotiated within DJ culture. Introduced in 1982, MIDI was adapted in

1984 as an industry standard protocol that essentially allowed drum machines, samplers,

computers, sequencers and synthesizers to speak to one another. This protocol was

designed as a way for information messages to be transferred through a network of

machines with a central MIDI controller. Unlike digital samplers or drum machines that

produce an audio signal, MIDI controls allow changes in sound parameters such as pitch

bend, note and timing events, and volume between machines that produce sound.

This electronic language developed primarily as a way for a keyboardist to control

the sounds of multiple keyboards using one master keyboard to trigger those sounds;

essentially a way for different hardware made by different manufacturers to be able to

---

[30] Chopping refers to taking a loop, such as a drum loop, and breaking it into fragments and then using those drum sounds to program a new drum pattern. Panning refers to altering the stereo balance of a sample between left and right channels so you hear it differently in the left and right speakers.

[31] Roger Linn, the famed designer of the LM-1, was brought in by Akai to design and support its MPC line.

interact with one another. While other sampling technologies allow you to record and

manipulate sound, when MIDI files are recorded, they produce a set of instructions on

how to manipulate information. Currently, Serato Scratch Live and other DJ-related

software such as Abelton Live are completely MIDI assignable. MIDI control

hardware/software are considered to be one of the fastest growing product markets in the

pro audio and DJ industry in 2011.

Although drum machines, samplers, and MIDI controls are embedded into the

present cultural economy of the hip hop DJ, it was actually an audio format that is largely

considered to have had a profoundly negative impact on hip hop DJ culture in the late

1980s: Digital Audio Tape (DAT). While other digital technologies remediated what the

DJ did, DAT allowed for an exact clone (in terms of sound quality) of digital files,

recording/reproducing sound digitally; thus, rappers/emcees no longer even needed DJs

to play their instrumental records or scratch for them at concerts as the sound man could

just play the emcees' DAT tape through the PA system.[32] DAT tape was a mistake-proof

format that "all but replaced the DJs in live hip hop gigs" (Brewster and Broughton 2000,

256). After its introduction by Sony in 1987, the DJ began to fade deeper into the

background of the rap industry and hip hop culture.

The recording industry mounted a battle against DAT for fear of piracy of its

content. After years of lobbying by the Recording Industry Association of America

(RIAA) and a great deal of pressure from CBS Records (fueling Sony's 1988 acquisition

of CBS Records), the Audio Home Recording Act passed in 1992. This act set the stage

---

[32]   This is noted in both *Scratch* (2001) and *Skratchcon 2000* (2001).

for the passage of the 1998 Digital Millennium Copyright Act (DMCA), as well as a tax on blank DAT tapes and hardware.

After a decade or so of challenges from the recording industry, rappers, and technologies, hip hop DJs went back into the underground and produced their own movement: turntablism. In the next section turntablism will be discussed as a movement within hip hop DJ culture and a phase in its history.

<u>Towards Turntablism</u>

"Turntablism" is a neologism for distinguishing a DJ who merely plays records from one who manipulates records to create an entirely new composition (Souvignier 2003; Katz 2004; Cox and Warner 2004). Turntablism is, in some ways, a "political" and empowering movement that brings the hip hop DJ to the forefront and gets back to the framework established by the pioneering hip hop DJs. It does not discredit, but de-emphasizes the role of the emcee/rapper. As previously mentioned in Chapter I, this does not distinguish between DJs and turntablists. A hip hop DJ is not someone who simply plays rap music, but someone who can musically manipulate a break using 12" or 7" discs. Flash, Jazzy Jay, GrandWizzard Theodore, DXT, etc. were all engaging in turntablism. According to Brewster and Broughton, as hip hop moved into the mainstream, the turntablist preserved the roots of hip hop DJing (2000, 257).

DJ Babu is generally credited for coining "turntablism" around 1995 (White and Crisell 2009). However, the origins of the term have been contested as both DJ Supreme and Turntablist Disk have laid claims to originating the term, as well. The contestation of the nomenclature within hip hop DJ culture will be addressed in Chapter VIII to highlight the importance of credit for origination/innovation/invention within the hip hop DJ

46

culture and industry, which is a major theme of this project. Babu considers a turntablist someone who uses the turntable in the spirit of a musical instrument (DJ Babu 2009). For Disk, the turntablist is a musician who uses one turntable, one mixer, and one sound to make music. "If you can grab a plain sound and make it musical and make people like it or love it in your own style or way, flip it, you are turntablist," says Disk, "You make your own music" (Turntablist Disk 2009).

Most hip hop DJs have turntablist skills and employ the turntable as a musical instrument to manipulate recordings, making something that is new and fresh. Babu and Disk, as well as many other DJs who started DJing in the 1980s, credit Grand Mixer DXT as the first to demonstrate using the turntable as an instrument. DXT recorded on Herbie Hancock's Grammy award-winning album *Future Shock* (1983), and his rhythmic scratching using the infamous "fresh" sample can be heard throughout the album's hit single, "Rockit." Not only was this one of the first times that musical scratching was used on a major recording, but DXT also performed with Hancock's band on the 1983 Grammy Awards show and a 1984 episode of *Saturday Night Live*.[33] Before the televised broadcasts, scratching was only on records, only available audibly. So, for the first time, fans of rap music were able to visualize what they were hearing on rap records through DXT's performance. This national television exposure inspired a whole new generation of hip hop DJs. "If you want to just play a record, just play a record," says DXT, "But if you want to play the turntable, you have to learn how to do it. You have to train, just like any other instrument" (quoted in Toop 2000, 88).

---

[33]   DXT, Grandmaster Flash, and GrandWizzard Theodore were also shown DJing in the 1983 film *Wild Style*.

Hip hop DJ turntablist techniques, technologies, and culture, as well as the industry that served these DJs, all developed during the latter half of the 1980s; but, importantly, the hip hop DJ culture remained relatively underground. With DJs such as Jam-Master Jay (the DJ in Run DMC) putting DJ techniques onto recordings and remaining at the core of the group's live act, hip hop DJ culture maintained some presence in popular culture. Although the hip hop DJ was sliding deeper into the background, it would be up to the culture itself to produce its own events and commodities.

Competitions such as the New Music Seminar DJ Battle, which started in 1981, helped to inspire and expand on battle DJ culture, as well as help to network DJ culture with the recording industry.[34] Legendary hip hop DJs who won NMS titles going into the 1990s included DJs Jazzy Jeff, Cash Money, Scratch, Miz, and Steve Dee. Scratching was then introduced to the DMC World DJ Championships, a competition that lives on after 25-years, in 1986 by DJ Cheese. The International Turntablist Federation (I.T.F.)—an organization formed by prominent turntablist crews as a way to increase public awareness about DJ/turntablist culture, which is now the International DJ Association (IDA)—began holding its world DJ championships in 1996. Other battle circuits grew in popularity in the 2000s, such as the Vestax World Extravaganza, organized by the Japanese DJ product company Vestax, and DJ Roc Raida's Gong DJ Battle.

These competitions were all about DJ art, culture and industry, as well as for showcasing new skills and elevating DJ styles. Also, before the Internet could stream video, the videos for these battles, which were circulated through hip hop DJ networks,

---

[34] The New Music Seminar was co-founded by Tom Silverman, founder of Tommy Boy Records. Also, DMC used to feature performances from celebrity recording artists and sell special vinyl DJ remixes.

were seminal to other DJs as they learned and adapted techniques. The distribution of battle video tapes also played a role in hip hop DJ practices spreading to suburban/rural areas, and served as a source of discovery for those not in cities where turntablism thrived.

During the early 1990s, DJs Qbert, Mix Master Mike and Apollo are credited with popularizing the concept of turntablists playing as a band. In fact, the trio, performing as the Rocksteady DJs, won the 1992 World DMC title; the 1993 and 1994 DMC World titles went to the Dreamteam (Qbert and Mix Master Mike). Although the band concept was pushed further by groups like the Beat Junkies, the X-ecutioners, Gunkhole, Ned Hoddings and F.A.M.E. outside of competition, by 1999 DMC created a separate team championship category.

Turntablism is characterized by skills in needle dropping, scratching and beat juggling[35]—techniques that have been vastly expanded upon since the early days of the hip hop DJ (Hansen 2001). Much of the development in turntablist DJ style is largely due to those who pushed the boundaries of the technology. "We developed our own decks, mixers, tone arms, needles, everything we needed to facilitate experimentation," says DJ Z-Trip, "We took the baton from the early hip hop and house DJs and ran with it. Pushing the craft of DJing to new levels was the main thing for us—the only thing. DJs now are so worried about getting to the big paychecks, but we were just focused on the music" (quoted in White and Crisell 2009, 141). Some of the expansion of turntablist technique coincided with technological advancements, especially important

---

[35] This is where a turntablist isolates sounds fragments from two different records and mixes between those sources to create an entirely new rhythm (Hansen 2001).

improvements in crossfaders,[36] mixers, and stylus technologies. A-Trak's notation

system, as well as the Turntablist Transcription Methodology (TTM), also played a part

in advancing the art form and legitimizing the turntable as an instrument. Also, Scratch

DJ Academies have been established in New York, Los Angeles, and Miami, universities

are now offering DJ and turntablist curriculum,[37] and online DJ schools such as

TurntableU.com and the Qbert Skratch University are also offering classes.

The turntablist and DJ battle movement has gone through waves of popularity,

with the high-points being the early parts of the 1990s and 2000s. In 2011, turntablism

was at one of its lower points as the cultural interest in the battle circuit had dwindled

significantly, and DJ product companies were focusing on the markets for digital DJ

software and controllers. Only 5 years earlier, turntablist hip hop DJs were being

featured in commercials for Gap, McDonald's, and Apple, but interest from corporations

outside of the pro audio and DJ industry also waned. While some traditional turntablists

and vinyl purist DJs have tried to fight it, the latter half of the 2000s gave rise to the mass

market for digital DJs and "controllerists."[38]

Digital Technologies and Serato Scratch Live

For its first 25 years, the hip hop DJ scene relied solely on analog technology

because vinyl records, turntables, and a mixer allowed for hands-on manipulation of

recorded music. Vinyl records have been characterized as "hip hop's original and,

---

[36] A crossfader is the mechanism on the DJ mixer that allows for the cutting of sound between two turntables or sources of audio.

[37] It should also be noted that Boston's Berklee School of Music's most popular class was turntablism, and classes were also being offered at other universities such as University of California at Berkeley.

[38] Controllerism is the art of manipulating sounds and creating music live using computer controllers and software, a term coined by Moldover and made popular by Ean Golden.

therefore, most authentic medium" (Harrison 2006, 287) and have been described as one

of the hip hop DJ's most prized possessions (Watkins 2005). With the 12" vinyl disc

being a standard tool, Katz (2004) suggests that throughout the earlier half of the 2000s

hip hop DJs and turntablists remained "resolutely analog in a digital age" (120).

In the mid-1990s Pioneer Electronics put their CDJ-500 on the market, a DJ CD

player that had functions such as pitch adjustment and looping capabilities. One thing the

CDJ-500 did not allow for was hands-on manipulation of CD media, and thus had little

acceptance with hip hop DJs. A major leap came in 2001 when Pioneer released the

CDJ-1000, a CD player that emulated vinyl and allowed for scratching. However, with

the platter size of CDJs at being under six inches, very few hip hop DJs adopted the

technology or would only use it only as a complement to their analog setup. Michael

Endelman summed up this negotiation nicely in an article about CDJs in the *New York*

Times:

> Hip hop D.J.'s are a stubborn and purist bunch, dedicated to the pairing of
> vinyl and turntables for reasons romantic as well as rational. In a genre
> that is obsessed with notions of authenticity, vinyl signifies a connection to
> hip hop's historical lineage, which starts with those South Bronx pioneers
> who began a global movement with little more than two turntables and a
> microphone. (2002, E4)

Not only would the Pioneer CDJ product-line become the standard for electronic music

DJs and in clubs around the world, but the term "CDJ" has become the commonly

accepted way of describing any CD player that emulates vinyl, regardless of

manufacturer.

During the same time when CDJs were becoming standard DJ tools in the

electronic dance music scene, the MP3 was growing into the standard consumer format

for audio storage, although by 2002 the MP3 had not overtaken other physical distribution formats in the market for recorded music. With the small platters of CDJs hindering acceptance amongst hip hop DJs whose focus is on disc manipulation, software developers were the first to develop technology that would allow for the manipulation of MP3s using traditional vinyl records and turntables. The basic idea behind most digital vinyl systems (DVS)[39] is to press encoded timecode to a vinyl record; the timecode is then decoded and provides information based upon the needle's position on the record, which then reflects changes in audio that was selected from a laptop. Some DVS use different technology than timecode encoded vinyl, such as Serato's proprietary NoiseMap™ technology used in the SSL control vinyl.[40]

The first DVS to be commercially released was FinalScratch in January 2002, although the "idea" was in the public domain years earlier (this is discussed in detail in Chapter VI). The Dutch company N2IT developed the software for the system, while Stanton Magnetics, a private American corporation that was new in the DJ product industry, manufactured the ScratchAmp, the audio interface that connects to the DJ mixer.[41] N2IT had been showing off working prototypes as early as 1998 (Werde 2001), and eventually the intellectual properties for the software were bought or licensed by Stanton, which was able to use its experience and connections in the DJ product industry

---

[39] DVS are systems that emulate traditional vinyl technologies. While there are many other digital DJ tools available, most of them do not use 12" control records.

[40] Serato describes NoiseMap as "a unique and proprietary method of tracking the control record's motion based on the mathematical concept of a maximum-length pseudo random bit sequence, which guarantees uniqueness for the shorted possible section. It is a continuously varying signal rather than a sequence of discrete consecutive location labels as is the case with time code schemes."

[41] Prior to FinalScratch, Stanton was most known for being Vestax's American distributor.

to distribute FinalScratch as a package complete with the software, ScratchAmp, and vinyl control records used to manipulate MP3s.

Because of FinalScratch's initial $3,000 price, stability glitches and issues pertaining to latency,[42] it was slow to catch on with hip hop DJs. (Never mind that at the time of its release, the MP3 format was still being fought by the recording industry.) To help authenticate its product, Stanton brought in the three-time World DMC champion, DJ Craze, and the The 5th Platoon DJ crew as FinalScratch product endorsees. The endorsements helped and the system slowly gained some credibility among hip hop DJs, but there were too many horror stories of DJs having to reboot their computers during the middle of their sets that loomed over FinalScratch's reputation.

Around 2003, Stanton began working with the German music software/hardware company, Native Instruments (NI), and it was NI's Traktor FinalScratch software that began pushing DVS into the mainstream (Kirn 2008). The partnership gave Stanton a Win/Mac version of the software, while NI was able to use the FinalScratch timecode system in their own line of Traktor products. The companies had several successful years as the Traktor product gained respect amongst DJs, but in 2006 Stanton and NI ended their partnership. Shortly thereafter NI released a competing product, Traktor Scratch Pro DVS with the Audio 8 DJ audio interface—a product billed as having a "Digital Heart. Vinyl Soul." Stanton has since stopped manufacturing and developing the ScratchAmp audio interface and any DVS product, instead focusing on the DJ controller market.

---

[42] Latency refers to a time gap between the action of a DJ with his hand and the reaction of the sound through the software.

Stanton FinalScratch is important for two reasons: 1) it laid the groundwork for all DVS that would follow; and 2) it demonstrates the struggles for technological standardization and cultural acceptance of new products in this industry. The remainder of this chapter, and much of the rest of this research project, focuses on Serato Scratch Live —undeniably the industry standard for vinyl emulation.

Serato Scratch Live (SSL) was introduced in May 2004 by Serato Audio Research (a New Zealand software development company that writes code for and supports Serato.com) in an exclusive licensing agreement with Rane Corporation (an American pro audio equipment manufacturer in the DJ product market that produces, distributes, and supports the hardware for SSL). The full DVS system first retailed for $500-$600, which is roughly the current cost of a SSL package. From the beginning, SSL was a stable product with a strong customer support service, and Rane already had a great reputation in the industry for not only making quality products but also supporting them. And, with hip hop DJs such as DJ Jazzy Jeff and A-Trak backing the product, within a few short years SSL became the industry standard—and this was without Rane/Serato really having to push SSL in the market through advertising.

In 2011, the product was so strongly standardized that the Scratch Live software itself was mistakenly referred to as "Serato" by most DJs (although Serato is the software company), while many non-DJs also refer to any DVS system on the market as "Serato." Much of the success of Serato and Rane in recent years were largely due to SSL's standardization in the market, to the point that Rane/Serato are the major sponsors of the 2011 DMC World DJ Championships, and, accordingly, SSL and other DVS were allowed for the first time in the 6-minute individual finals category.

54

When SSL hit the market in 2004, it had several advantages over its predecessors. First, by that time laptop computers themselves could process lots of information rapidly. Second, the MP3 was not only a more common format for music distribution and consumption, but the recording industry was also starting to see some revenues from digital distribution and were adopting the format (although somewhat reluctantly). Third, the fact that world-renowned and pioneering hip hop DJs (e.g. Afrika Bambaataa and Jazzy Jay) were not only endorsing the product but actually using at their gigs, both authenticated and proved that SSL worked for DJs. SSL was able to capture the interest of hip hop DJs, mostly through word of mouth, although some resistance was (and is still) put up by vinyl record purists (addressed in Chapter VII). CDJs and FinalScratch could not capture the hip hop DJ market, but SSL won them over as most working hip hop DJs stopped carrying crates of records in favor of a laptop and some control records.

SSL was initially billed as the "ultimate solution for bridging the analog world of vinyl and the digital world of computer audio files....Scratch Live is the complete digital solution for the vinyl junkie—take your entire collection wherever you go and leave your precious vinyl at home!" (Rane n.d.). Like FinalScratch, SSL is a technology that allows DJs to control MP3s from their laptop using 12" vinyl "control records" or a control CD in CDJs to manipulate those audio files. The control records are real vinyl and have Serato's copyrighted control tone pressed into their grooves (basically an algorithm), which allows the software to track the motion of the record, simulating the same movement with the digital audio files. The hardware is a "hub" that both the laptop computer and turntables wire into and then the hub wires out to the DJ mixer (see *Figure 2*). Rane initially manufactured the SL 1 audio interface (see *Figure 3*), then the SL 3,
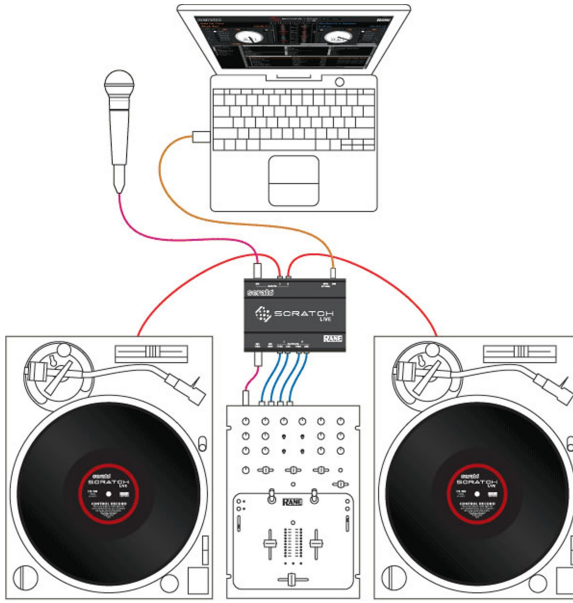
Figure 2: This is a typical DJ setup using the SL 1 audio interface. Image courtesy of Rane Corporation.

and has made three mixers with the audio interface built in: the MP4, the TTM 57SL Performance Mixer, and the Rane Sixty-Eight Mixer. At NAMM 2011, Rane showcased its new SL 4 audio interface, which shipped in April 2011.

Scratch Live allows a DJ to locate digital audio files off of a hard drive and then load them into the software. The software (see *Figure 4*) works directly off of the DJ's iTunes library or from an external drive where the DJ is able to sort and create "digital crates." In order for a DJ to select a song for playback in SSL, the song is highlighted, and then *ctrl* or *command* click the arrow button (left or right) to assign the MP3 to the desired turntable. The same MP3 can be assigned to both turntables giving the DJ two copies for manipulation. The Scratch Live software has gone through many iterations and is currently on version 2.1.1., with Serato constantly updating, working out bugs, and making SSL compatible with other non-DVS software.[43]

The world famous DJ Jazzy Jeff said, "This [SSL], to me, saved two turntables and a mixer" (Jazzy Jeff 2006). Jazzy Jeff's sentiments are shared

Figure 3: Serato Scratch Live audio interface, released in 2004. Image courtesy of Rane Corporation.

---

[43] In spring 2010 Serato/Rane announced "The Bridge," essentially software that bridges SSL with the popular live composition/sequencing software, Ableton Live.

by many and contested by some, but SSL may have helped to create a bit of a digital

divide in the hip hop DJ scene. Since 2004, DVS systems have advanced far beyond any

point that most DJs could have imagined, to the extent that there is now a new generation

of digital DJs who use controllers; and, to the chagrin of older generations, this new

breed may never touch or own a vinyl record. With the success of SSL, as well as other

Figure 4: A screen shot of the SSL software interface version 1.9.0.

DVS products that have been trying to catch up in the marketplace, the hip hop DJ's

relationships with vinyl records, the recording industry, the DJ product industry, and even

amongst one another, have been altered. Priorities for the hip hop DJ have shifted, and in

the last five years hip hop DJs have experienced a great deal technocultural and economic

change. This research project analyzes how hip hop DJs have negotiated this digitization

and also contributed to it, as well as examining the network of innovation/invention that

has brought hip hop DJ culture to its current state in 2011. The next chapter outlines the theoretical framework that structures this analysis.

Anatomy of a DJ's Setup

Headshell

Pitch Fader

Cartridge

Stylus

Turntable 1

Turntable 2

Tonearm

Mixer

Platter   On/Off Switch   Slipmat   Start/Stop
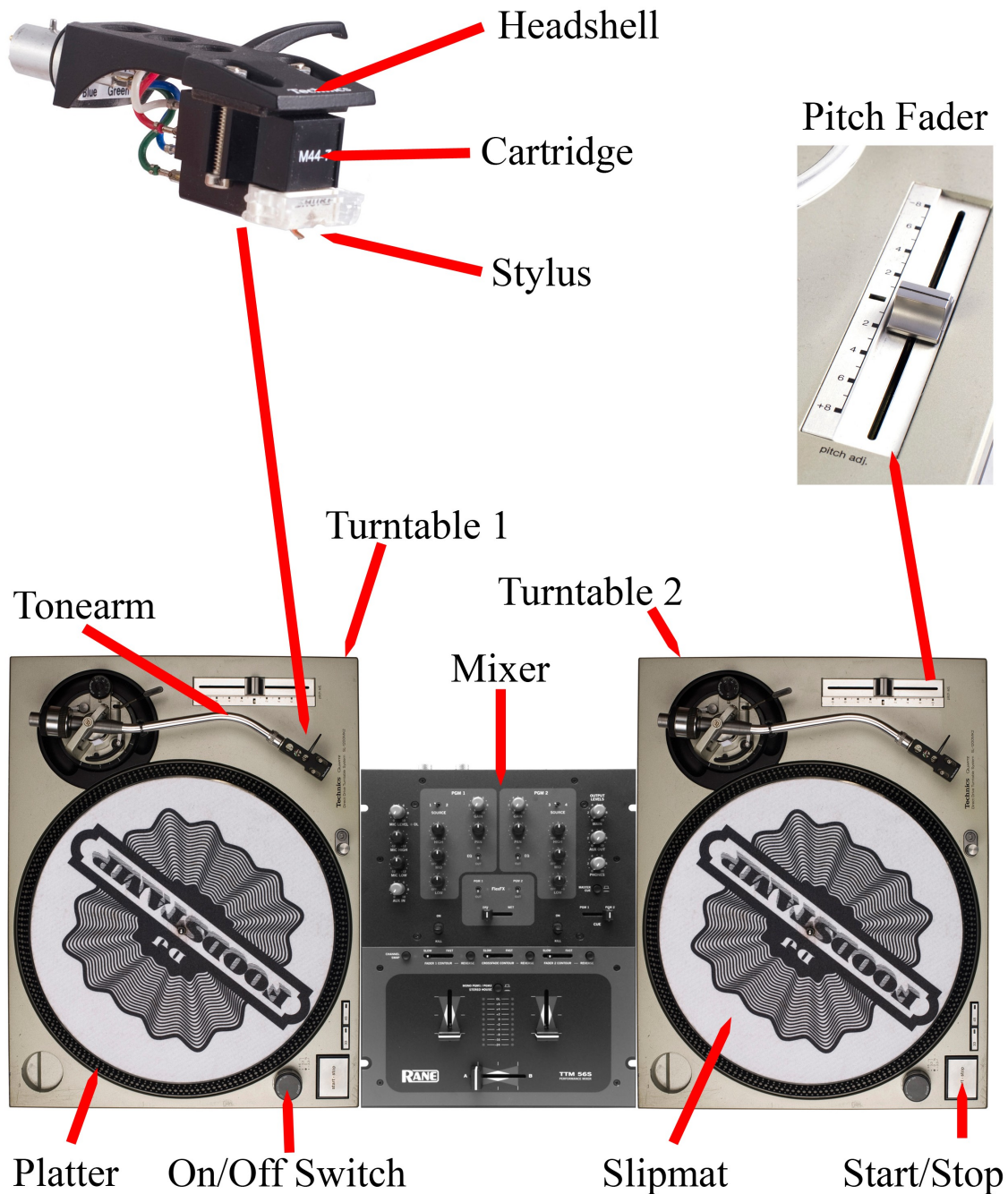
Figure 5: Overhead view of a DJ's setup up, with a mixer placed in-between turntables that are placed in "Philly" or "battle" style, which is how most hip hop DJs position their turntables. Turntable photo by Zane Ritt. Rane TTM 56s image courtesy of Rane Corporation.

Program 1 Gain

Program 2 EQs

Program 1 Pan

Crossfader
Curve

Headphone
Cue Fader

Program 1
Fader Curve

Program 2
Fader Curve

Program 1
Volume Fader

Program 2
Volume Fader

Crossfader
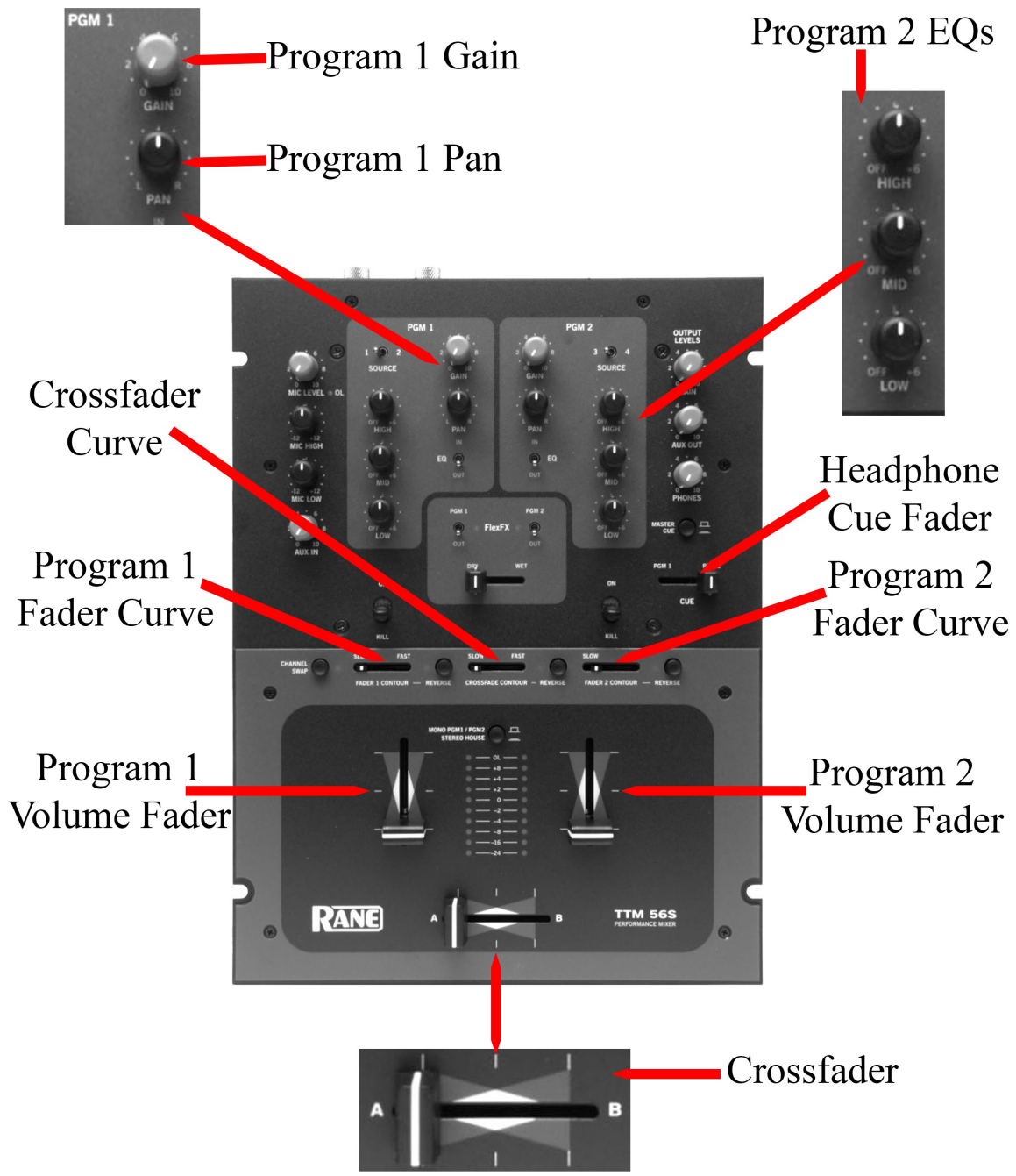
Anatomy of a DJ's Mixer

Figure 6: Overhead image of the Rane TTM 56s mixer, a standard 2-channel mixer popular among hip hop DJs. Image courtesy of Rane Corporation.

60

Glossary

Cartridge: The cartridge houses the stylus (aka "needle") and connects to the headshell. The main component of the needle where vibrations from the stylus are converted into an electrical impulse.

Crossfader: This is a main component of a hip hop DJ's mixer. When the fader is slid to "A" you will only hear the sound signal coming from program 1; when slid to "B," only program 2; when in positioned in the middle you hear both signals. For DJ scratching, the crossfader is essentially an on/off switch for a sound signal and it is how hip hop DJs create moments of silence when manipulating a record. The crossfader allows you to mix between programs 1 and 2.

Crossfader Curve: The crossfader curve allows you to adjust how quickly the crossfader will move between signals. For scratching, you want a "fast" curve with very little cut-in time between signals; for mixing or transitioning smoothly between signals, you want a "slow" curve. Basically, with a fast curve the crossfader only has to be moved a few millimeters before the signal is heard. Before this feature was built into mixers, there was no way for DJs to adjust cut-in time.

Headshell: The cartridge is bolted to the headshell, which is the main connection to the tonearm.

Headphone Cue Fader: Like the crossfader, when sliding this fader you can either hear program 1 or program 2, and when placed in the middle, you hear both programs. This is so that you can cue a record in the headphones as another plays through the loudspeakers.

Mixer: The mixer is the main sound control unit of a DJ's setup, the brain. The mixer offers controls for volume (gain), panning, EQing, headphones/cueing, microphone, and a range of other options. The mixer amplifies the phono-signals from the turntables and sends those signals to a sound system. The mixer also houses the crossfader and program faders, the primary controls for hip hop DJing and scratching.

On/Off Switch: This switch turns the power on and off, and can also be implemented into mixing technique.

Pitch Fader: Sliding this fader will either increase or decrease the speed of a records as pitch (not tempo).

Platter: In a direct-drive system, the platter attaches directly to the motor, which gives the motor more torque and is intended to reproduce sound more accurately. The slipmat goes on top of the platter.

Program EQ: This allows you to adjust the high, mid-range, and low frequencies of a sound, or more commonly what we refer to as treble, mids, and bass.

Program Fader Curve: Like the crossfader curve, this adjusts the slope/curve of the program volume fader.

Program Gain: Gain is what we commonly consider to be volume. However, gain actually refers to changing the level of the signal, which we hear as volume.

Program Pan: Allows you to change from a balanced signal to an unbalanced signal. Typically, you want the signal to be balanced between the left and right speakers, but this allows you to adjust how much of a signal will be heard through the left and right speakers.

Program Volume Fader: This is another control for signal gain or "volume." Like the crossfader, the volume fader (aka up-fader or channel fader) allows for scratching and mixing techniques.

Slipmat: The slipmat goes between the turntable platter and the record and allows the platter to spin while a DJ holds, scratches or cues the record. It is supposed to reduce friction in manipulation.

Start/Stop: This is starts and stops the turntable platter from spinning.

Stylus: This is the "needle" that follows the bumps encoded into the grooves of a vinyl record.

Tonearm: The main connection between the cartridge system and the turntables. As the cartridge picks up sound, the sound travels through cables in the tonearm directly to the DJ's mixer.

CHAPTER III

REVIEW OF LITERATURE

"A gramophone record, the musical idea, the written notes, and the sound-waves, all stand to one another in the same internal relation of depicting that holds between language and the world" ~Ludwig Wittgenstein[44]

Developing a theoretical framework to guide this research was a challenge primarily due to a lack of hip hop DJ studies, as well as a dearth of balanced accounts on the relationship between culture and industry with respect to the DJ. There was strong writing out there—both academic and journalistic—that I felt either privileged the power of meaning as dictated by use or the ways in which industrial structure determined the uses. But, there were a few that toed this line in a way that made sense to me (e.g. Rose 1994; Théberge 1997; Negus 1999: McLeod 2005; and Chang 2005). Furthermore, there was no theory that covered (or uncovered) the topic of this dissertation, but rather a peppering of ideas that I thought may work. When my DJ-intuition kicked in I realized that a theoretical framework would have to be a bunch of different sounds that I just sampled, cut, and weaved into a different yet cohesive whole. I was going to make a theoretical mixtape.

In September 2010, after I had put writing this literature review on hold, I serendipitously came across a journal article written by one of my favorite authors, Siva Vaidhyanathan (2006). After digging through crates upon crates of ideas to put to use on this theoretical mixtape, Vaidhyanathan's bibliographic manifesto on a "transfield" he calls "critical information studies" (CIS) came off as a powerful mix. He uses some of

---

[44] In *Tractatus logico-philosophicus* (1921, 4.014). Music is communication.

the records I had been using, citing many of the academic works that I had already built into this literature review.[45] CIS gave a name to my style; it defined my style; and furthermore, Vaidhyanathan's outline of CIS was published in *Cultural Studie*s, which gave my style some sort of academic credibility.

Vaidhyanathan considers the transfield of critical information studies to be praxis-based and underpinned by both Frankfurt School Critical Theory and Information Theory (Shannon and Weaver 1949). CIS analyzes how "culture and information are regulated, and thus the relationships among regulations and commerce, creativity, science, technology, politics, and other human affairs" (2006, 293). According to Vaidhyanathan, studies concerned with CIS investigate four dynamic fields: 1) the abilities of people to use, revise, criticize and manipulate cultural texts and information; 2) the abilities of users to alter the means by which these texts are displayed and distributed; 3) the relationship among information control, property rights, technologies, and social norms; and 4) the cultural, political, social, and economic ramifications of global flows of culture and information (2006, 293). CIS asks questions about access, structures, costs, practices and conventions in respect to information flows. Borrowing a term from Fiske (1987), a central concern of CIS is what Vaidhyanathan calls "semiotic democracy," which is the ability of citizens to utilize the signs/symbols that exist in their direct environments in ways that they see fit.

I knew that addressing music as it relates to culture and to political economics could also be a challenge. Thus, Vaidhyanathan conceives CIS as a way of reconciling some of the differences between the political economy of communications and cultural

---

[45] For example: Mosco and Wasko (1988), Jenkins (1992), Rose (1994), Bettig (1996), Coombe (1998), Lessig (1999 and 2001), McLeod (2001), and Katz (2004).

studies approaches, as well as the divide between qualitative and quantitative methodologies.

Regardless, popular music has often been neglected by academic research in general (Burnett 1995, 3), and, within the field of mass communication, music has been given little attention in research and theory (McQuail 2005, 36). Why has music generally been left out of studies in the field of communication? For Gronow (1983), the problem is the message: "The message of records is usually music, and communication research does not know how to deal with music" (Gronow 1983, 53). Musicologists know how to deal with the musical aspect, but fail to study the part concerned with mass communication. Thus, Gronow argues that recorded music should be handled like film or newspapers.

A political economy of the hip hop DJ is interesting because, as we saw in Chapter II, early hip hop and DJ culture arose largely as a response to commercial mass culture and power inequities in the 1970s. The hip hop DJ was slowly filtered out of the rap music industry. Again as a response, DJs forged their own cultural economy centered on battling and the turntablist movement. This movement, in the eyes of industry, was also a market and corporate interest in this market grew through the late 1980s into the early 2000s. Out of this marketization, many important corporate-cultural synergies arose that were implicitly or explicitly linked via intellectual property. Some hip hop DJs profited from their contributions to the cultural and the industrial sides, but some did not.

Thus, the literature review that follows draws from ideas and findings from the political economy of communications, cultural and subcultural studies, hip hop studies, and new media and technology theory. The study of copyright and patent is also

addressed here, as intellectual property is the thread that binds this theoretical framework. Because of the unique characteristics of hip hop DJ culture, a diverse and malleable theoretical framework seemed to be the best way to analyze this study's findings.

Political Economy of Communication

The study of political economy is succinctly described by Mosco "as the study of social relations, particularly power relations, that mutually constitute the production, distribution, and consumption of resources" (1996, 25). Political economy focuses on survival (the economics of production and reproduction) and control (the political) within social life (Meehan, Mosco, and Wasko 1993; Mosco 1996; Wasko 2004). Considering capitalism as a system of social production, in general the political economy of communication approach (hereinafter PE/C) assesses the institutional circuit of communication products. Furthermore, for Mosco (1996), PE/C is a dialectical approach because of its mutual constitution between theory and observed behavior. Bettig (1996) also positions political economists as dialectically situated between abstract theory and empiricism, where empirical data is considered a "surface manifestation of the structural forces that lie below" (6).

PE/C, then, takes a broad neo-Marxist view of society (Golding and Murdock 2000) that positions information and entertainment as commodities that are inextricably linked to power, thus leading to socio-economic inequalities (Mosco 1988; Mattelart and Mattelart 1995). PE/C incorporates Marx and Engels's (1970) method of historical materialism, utilizing historical analysis as a way of uncovering the past to illuminate present conditions. Smythe (1977) suggests that historical materialists must ask what economic function for capitalism does mass communications serve in order to see the

66

media's role in the reproduction of capitalist relations of production. Also, in line with Marx's conceptualization of "commodity fetishism," political economists of communication consider how media commodification glosses over the network of production (labor) and how the audience fetishizes those commodities.

However, this study is framed as political economy of culture, which, according to Golding and Murdock (2000) "sets out to show how different ways of financing and organizing cultural production have traceable consequences for the range of discourse and representations in the public domain and for audiences' access to them" (70). Also, this dissertation utilizes micro-level analysis of industrial and cultural practices, and therefore borrows from the ideas outlined in the "critical media industry studies" research approach (Havens, Lotz, and Tinic 2009). The authors suggest taking a "helicopter" view of cultural and industrial operations using Gramscian power analysis, as well as incorporating ethnography and discursive analyses of industry documents into research methodologies.

PE/C research demonstrates how the control of communication systems is in the hands of the dominant class, thus "significantly augmenting the ideological power of this class…" while allowing this class "to organize its hegemony within the political system" (Bettig 1996, 2). Ideology, for the most part, remains at the of core study of political economy (Smythe 1981, Schiller 1985). Based on the market model, the media have a "pervasive ideological character" (Schiller 1989, 33). Because the media "serve the ends of the dominant elite…" and "inculcate individuals with the values, beliefs, and codes of behavior…" Herman and Chomsky argue that a propaganda model is useful for analyzing the media (1988, 1).

Wasko (2004) notes political economists study media industries and corporations while assessing processes of vertical and horizontal integration, diversification, and globalization. These processes, according to Hesmondhalgh (2007), lead to increased consolidation (from production to consumption), and, in combination with the concentrated control of copyrights and technologies of reproduction, help create artificial scarcity for cultural goods. Murdock (1982) suggests that political economists must ask who controls media corporations and whose interests they serve, and, in the process, evaluate corporate allocative control (i.e. policy, strategy, and profit distribution) and operational control (how resources gained at allocative level are put to use in day-to-day operations).

Although media commodities (what Murdock (1982) also calls "peculiar commodities") are commonly analyzed within the political economy of communication, both the audience (Smythe 1977; Smythe 1981; Beller 2006) and symbols (Baudrillard 1981; Jhally 1990) can also be understood as commodities. Smythe (1977) argues that the mass media (the "consciousness industry") mainly produced audiences who are sold to advertisers; media content is the "free lunch" that lures audience members. The labor of the audience, then, is their decision to buy. Adapting Veblen's (1899) theory of conspicuous consumption, Baudrillard (1981) argues that commodities are produced as signs and signs are produced as commodities, thus the inherent sign value of a commodity is an expression of the style, power, and prestige of a given commodity.

For the purposes of this study it is important to understand the process of commodification in communication as a form of cultural capitalism. Mosco writes "commodification in communication involves transforming messages, ranging from bits

68

of data to systems of meaningful thought, into marketable products" (1996, 146). Under this definition, anything from a cultural practice to a belief system can be turned into a good (in this case a media product) with use and exchange values. Smythe (1977) states that media commodities (texts) embodying the dominant ideology naturalize themselves with average audience members; thus, media artifacts can be decoded to uncover the conscious-producing ideology (Meehan 2002). Mosco further believes that commodification should be regarded as a social process producing the commodity, and, in turn, reproduces the dominant ideology through hegemony as the "natural order, common-sense, taken-for-granted, reality of social life" (1996, 154). While it is important to understand media industries through political economic analysis, scholars have also conceptualized the media as cultural industries.

Cultural Industries

The "culture industry" concept was articulated by Horkheimer and Adorno (1944; 2001), and is a theory for understanding how cultural production is filtered through industrial practice. According to the authors, the culture industry harnesses cultural production and subjects it to the logic of capital, effectively rationalizing expression and turning it into "a species of commodity" (2001, 95). For Horkheimer and Adorno, "Under monopoly all mass culture is identical..." while the "man with leisure has to accept what the culture manufacturers offer him" (74). Although art has the potential for its own style and political critique, even art is "obedience to the social hierarchy" (78). While Horkheimer and Adorno help illustrate the political economists' interest in concentration and thus the "homogenization of the content in cultural industries" (Wasko 2004, 317), scholars have adapted and diversified Horkheimer and Adorno's construct.

69

The "cultural industries" model became popular in the political economy of communication in the 1980s (Mattelart and Mattelart 1995; Wasko 2004; Hesmondhalgh 2007). Miège (1987; 1989) believes that each of these industries (film, music, etc.) have their own governing rules and economic tactics rather than being subject to a monolithic logic. Furthermore, Miège acknowledges that while cultural production has been increasingly commodified, paradoxically such industrialization could lead us in new directions. His earlier work (1979) considers how cultural commodities (e.g. concerts, plays, etc.) accumulate capital in the act of maintaining social order within a given culture. Miège's perspectives allow room for the consideration of subcultural production of media, as well as industries that arise out of opposition to dominant media, from a political economic perspective.

Hesmondhalgh (2007) suggests that the products of the cultural industries are more than a way of passing time or simple diversion, thus scholars should analyze and historicize symbolic creativity. Borrowing from Raymond Williams's cultural materialism, a position that views culture as a "signifying system" through which social order is reproduced and experienced, Hesmondhalgh believes that the cultural industries are involved in the production of social meaning as well. According to Hesmondhalgh, the cultural industries "deal primarily with the industrial production and circulation of texts" (2007, 12), which lie at the heart of economic, cultural and social life. Further, within the matrix of the cultural industries, production and consumption are not seen as separate entities, but rather as different points within a single process.

Although Hesmondhalgh tends to confine the cultural industries to those concerned with producing industrial texts (from broadcasting to music), Mato (2009)

argues that in fact all industries are cultural—from food and pharmaceuticals to cars and toys. Thus, all industries may be considered cultural because "they all produce products that besides having functional applications are also socio-symbolically significant…. consumers acquire and use products not only to satisfy a need…but also to produce meanings according to their specific values and interpretations of the world" (Mato 2009, 73). The cultural industries within a political economy of communications have a very important relationship with intellectual property law, specifically copyrights and patent, whose study is outlined in the next subsection.

Intellectual Property Studies

While Wasko (2004) suggests it is important that political economists understand the relationship between media power and state power, intellectual property rights have received less analysis within PE/C than other institutional policy-making. Hesmondhalgh (2007) argues that intellectual property rights, primarily copyright, are often neglected in scholarship but should be considered "fundamental" to understanding the cultural industries. As one of the political economists of communication who has addressed intellectual property law, Bettig (1992) outlines the historical and philosophical ideas that have guided copyright as a cultural industry, addressing the body of law as a function of capitalism (71). By tracing the rise of copyright as it relates to the coinciding rise of printing technology, capitalism, and the Church, Bettig deconstructs the ways in which the mind's labor became a commodity. This process, for Bettig, is strongly linked to the notion of the "individual genius," which comes at the expense of the collective genius.

Corporate intellectual property rights ownership has also been examined as a means of controlling content and owning culture (e.g. Noble 1977; Slack 1984; Bettig

71

1996; Vaidhyanathan 2001; McLeod 2001; Perelman 2002; Lessig 2005; and Demers 2006), where intellectual properties have become tradable commodities (McChesney, Newman and Scott 2005). For Bettig (1996), the concentrated ownership of copyrights allow for oligopolistic control, thus perpetuating a capitalist class: "...it is the members of this class who own and control the means of communication and the messages that flow through them" (42).

Lessig (2005) argues that the copyright system completely favors the cultural industries. This development is therefore advancing a "permission culture" as opposed to a "free culture," with the latter being the original intention of the U.S. Constitution. For Lessig, the danger of media concentration that makes "bigness bad" is because a few powerful companies can utilize a "bloated range of rights" to control markets and uses. Thus, in no other time in our history has culture been as privately owned as it is in the present (2005, 269). Because intellectual property rights developed as a reflection of corporate interests at the expense of people, Perelman (2000, 2) suggests that this power shift allowed for one of the largest redistributions of wealth in history.

Vaidhyanathan (2001) writes that the cultural industries have turned themselves into a "copyright cartel" and are perpetuating a "pay per thought" society. In his study of patent, trademark, and copyright laws, McLeod (2001) demonstrates how intellectual property right laws are used ideologically in order to suppress cultural uses. McLeod writes, "Intellectual property law, like any other property law, handicaps those who have few material resources and no access to the means of production, and it works to maintain unequal power relations" (2001, 226). Accordingly, copyright law typically protects the rights of corporations as "authors" of expressions as opposed to the rights of creative

individuals who actually created the work (McLeod 2001; Vaidhyanathan 2001). The "authors" of creative works, as recognized by U.S. copyright law, tend to be those who obtained the rights to an expression or financed its creation, which, for most expressions considered valuable in the marketplace, are media corporations. Because copyright protects both record labels and recording artists, we should read authors as "producers" (Vaidhyanathan 2001, 10).

Scholars have also analyzed the digital sampling practices of hip hop producers and how these artists are "self-censoring" their production from fear of these copyright giants (McLeod 2001; Vaidhyanathan 2001; McLeod 2001; Demers 2006), thus arguing for reform of copyright protection that realigns with the original framing of the Constitution. In respect to the cultural industries, Coombe (1998) suggests that intellectual property rights are both generative and prohibitive because they allow for appropriation of industrial texts, but, paradoxically, allow corporations to shut down these cultural uses and thus monopolize meaning.

In his ethnographic study of underground hip hop producers, Schloss (2004, 117) finds that most producers feel that copyright law is not so much about creativity and artists' rights but a matter of corporate control, money and power. While Schur (2009) suggests that hip hop aesthetics have challenged but not transformed intellectual property law, Schumacher (1995, 265) notes that sampling does appropriate corporate property and by doing so, subverts the proprietary status of music. Cohen (2007) conceptualizes sampling artists as "situated users," where uses are based upon the situatedness of the cultural context. Furthermore, because creators begin with situatedness and work through culture, Cohen suggests that scholars interested in copyright law should be

concerned with all aspect of this process because it "furnishes the means for creative expression to come into being" (2007, 1183). Lastly, Frith (1993) notes that a paradox is created as the corporate technologies (i.e. home tape recording and digital sampling) that influence culture also encourage new forms of democratic cultural production. While such technologies allow for certain unauthorized uses, these technical developments are heavily steeped in corporate interests through patent rights.

Noble (1977), in his study of the rise of corporations from 1880-1930, looks at how the patent system in the United States came to reward science-based corporations by granting them monopoly rights at the expense of natural individuals. Corporate control of patents ultimately allowed large companies to circumvent the then recently enacted Sherman Antitrust Act of 1890. As patent law evolved, it disadvantaged small corporations and independent inventors, and in the end negatively impacted those who intellectual property rights were intended to serve: consumers, citizens, society, and culture (Perelman 2002, 195).

Since patent rights are awarded to an individual, they fail to recognize technical invention as the result of collective effort; and how inventions are given authorship allows only those with enough capital and a specialized labor force to participate in the process. For Slack (1984), the act of invention "consists of a conglomeration of individual inventive contributions" (107) that are embedded into a technology. But within the current system, innovation is subsumed within capitalist relations of property and production. Thus, "only those with control of the means of production can be considered authors and, therefore, owners" (McLeod 2001, 182). Patent law, then, allows established firms to use their economic power in managing technical innovation.

According to Wurtzler (2007), patent rights have been a linchpin in the consolidation of economic power. For the purposes of this study, it is important to note how the association of an invention protected by patent rights with known trademarks allows for the extension of consumer loyalty after the expiration of the patent (Slack 1984, 111). In the next subsection of this chapter, the study of industrial organization, behavior, and the prioritization of intellectual property rights within the recording industry will be outlined.

The Political Economy of Music and Recording Industry Studies

Now that we have reviewed PE/C theory as related to intellectual properties and cultural industries, it is important to understand the ways in which music has been studied in this regard. Specifically, Chanan (1995, ix) notes that there is a dearth of serious academic writing about the recording industry, while Malm and Wallis (1992) also point out that until the late 1970s "remarkably few studies of the socio-economic aspects of the industrial processing of music" have been done by communication scholars (15). Breen argues that institutional economics should be considered a valuable tool in analyzing the corporate development of popular music (1995, 501). While electronic companies that have direct interests in the recording industry (e.g. RCA, Sony, and Phillips) have been subject to critical analysis, there has been less attention to industries that produce musical instruments (Théberge 1997, 7).

Before musical labor was incorporated into a tangible thing, it was consumed as representation without a distinct form, a peculiarity of which Marx wrote: "the service a singer performs for me satisfies my aesthetic needs, but what I enjoy exists only in an action inseparable from the singer himself, and once his work, singing, has come to an end, my enjoyment is also at an end; I enjoy the activity itself—its reverberation in my

ear" (1863, XXI-1323). Classic works by Weber (1958) and Adorno (e.g. 1976; 1984)

suggest the ways in which capitalist institutions rationalized and standardized musical

practice. Weber delineates how the social development of occidental institutions

produced modern notation and instruments, highlighting how seemingly "irrational"

cultural production could become rationalized. Adorno (1976) especially condemned

popular music for being a product characterized by standardization; thus, it receives very

standard reactions. In his famed essay, "On Popular Music" (1941/1990), Adorno looked

at how "mechanical schemata" is ideologically applied to musical production as a way to

maximize profits by making consumers malleable, which turns music into a reified and

fetishized commodity. He also believed that records are "an artistic product of decline,

the first mode of representation that can be possessed as a thing" (1984, 531).

Furthermore, Adorno condemned popular and improvised music, such as jazz, for being

"as standardized as the standards" (1967, 122). It's important to note that Adorno was

classically trained in Western notation, which may explain his disdain for improvisational

forms of expression.

However, Frith (1988) warns us that industrialization doesn't happen *to* music—a

problematic contention that "fuses (and confuses) capital, technical, and musical

arguments" (12). Instead, recorded music is the final product of that process. Music,

which is intangible, is given "flesh and permanence" through recording processes (Toop

1995,127), and thus part of an ongoing social process (Toynbee 2006).

To date, probably one of the most classic studies of musical industrialization is

Jacques Attali's *Noise: The Political Economy of Music* (1985). In this historical

treatment of Western classical music as a prophet of social change, Attali traces music's

transmogrification from social experience as representation (spectacle) to its repetitive

function (the individualized act of commodity stockpiling). For him, once music became

an industry "*its consumption ceased to be collective*" (88; original italics).

Because the music commodity is less concrete than other art forms, Attali believes

it deserves an alternative political economic schema, which he explores in four stages: 1)

sacrificing; 2) representing; 3) repeating; and 4) composing. In the *sacrificing* stage,

music is created for the needs of the community and is not stored as a commodity. In the

second stage, *representing*, music becomes a spectacle (i.e. concert) whose use value is

determined by its paying audience (exchange). Representation, then, is "making people

believe by shaping what they hear" (1985, 61).

With the advent of new technologies, the third stage of *repeating* prevails in the

political economy of music. With recordings becoming the dominant form of musical

experience (85), the once social act of consuming music turns into an individual act of

stockpiling music commodities. Once live music transmogrifies into commodity, Attali

contends that it becomes background noise and "a factor in centralization, cultural

normalization, and the disappearance of distinctive cultures" (111).

After the pernicious stage of repeating, Attali offers a utopian solution in the final

stage: *composition*. Here the musician makes music for pleasure and not profit, "not a

new music, but a new way a making music" (1985, 134). The producer of music is

caught between "doing and destroying" (135) and makes music within (and for) a small

community. There is little distinction between consumption and production.

While Attali's theoretical model is useful for this study, other recent studies with

Marxist frameworks have analyzed the recording industry (e.g. Qureshi 2002; Callahan

2005; Eisenberg 2005). "Within the capitalist market system," writes Callahan, "the productivity of his labor [the musician] is not in the artistic creation, per se, but in the profit it generates for the record company or publisher through mass production, promotion and sales" (2005, 199). Chapple and Garofalo (1977) apply instrumental analysis to rock 'n' roll to highlight how the capitalist corporations who control the means of production determine the actual music (as commodity and content) that consumers get. Some years later, though, Garofalo (1986) rejects this deterministic assertion by stating that there is not necessarily a point-to-point correlation between ownership concentration and music's content and form.

Others have conducted political economic analyses of specific music genres within the recording industry, specifically looking the ties between race and capital inequities (e.g. Hobart's (1981) essay on bop and Kofsky's (1998) analysis of jazz). Also, some scholars have looked at the hip hop/rap industry: George (1988) analyses the white music industry's transformation of Black culture into commodity; Kelley (2005) explores how white-owned entertainment conglomerates' have profited from a "structure of stealing" from Black culture; and Basu (2005) looks at the exploitive and racist labor practices in respect to Black rap moguls operating in a white-owned industry.

There has also been a considerable amount of sociological research on the recording industry focusing on power relations. Frith (1981) makes the Benjaminian argument that the recording industry has little control over the market and that is why major recording companies develop strategies for controlling the market. One such strategy was to develop genre-based markets, which has been addressed in some studies (e.g. Negus 1992; Negus 1996; Negus 1999). Negus suggests that there is a corporate

78

"machine," but also we should consider the "human beings who inhabit the machine" (1996, 36). He discusses the recording industry as an example where "*an industry produces culture* and *culture produces an industry*" (1999, 14; original italics). Other sociologically-grounded studies have looked at tensions between underground music and the mainstream industry (e.g. Lee 1995; Hesmondhalgh 1998; and Hesmondhalgh 1998b), or the "empirical" relationship between market concentration and content diversity (e.g. Peterson and Berger 1975; Peterson 1976; Lopes 1992).

The recording industry has also been studied in respect to copyright law and contract. Although many analyses focus on American law, notable international perspectives include Frith's (1993) edited volume and Cvetkovski's book (2007). Fabbri believes that researchers studying the recording industry "must explore" copyright because a "considerable part of the overall turnover of the music industry is based on the exchange of immaterial items…" in the form of the reproduction or performance of musical "works" (1993, 159). Sanjek (1998) contends that music produced by the industry is no more than a "rights package" and thus we should examine the recording industry on two interrelated levels: 1) the "corporate regime" of mergers and influence in production and consumption; and 2) the "legal-legislative regime" of ownership deregulation and the increased scope and duration of intellectual property rights. "Copyright should be considered as the common thread that binds the entire industry," suggests Cvetkovski, "without it, there is no music business (as it is known today)" (2007, 27).

While most studies on the recording industry have focused on the American market for recorded music, most likely because it is the largest market globally, some

studies have addressed other international markets and technological impacts (e.g. Gronow 1983; Manuel 1993; Taylor 1997), as well as how the hegemony of American industrialized music has affected music produced outside of the U.S. (Robinson, Buck, and Cuthbert 1991). Burnett (1996) addresses how the Internet is helping the record business to create a globalized cultural economy. And, by assessing the interplay between music in the mass media within the larger musical activities in society, specifically in the context of the Caribbean, Africa, and Europe, Malm and Wallis claim that the record industry has been at the forefront of the "global standardization of cultural products" (1992, 7).

In Chapter VI this study delineates a political economy of the hip hop DJ as it relates to the historical development of hardware, software, and intellectual property in the recording industry. This entails analyzing the recording industry through its history, which Frith (1988) suggests should focus on three specific issues: 1) the effects of technological change; 2) the economics of popular music; and 3) a new musical culture. The last issue is of particular interest to this study as Frith notes that recorded music and advances in technology transform musical experience, thus leading to "the rise of new sorts of musical consumption and use" (13). While industrial structure and corporate behavior are a significant element of this study, it is also concerned with the way that cultural uses inform political economic behaviors, and therefore the dialectical relationship between culture and industry in the case of the hip hop DJ.

Now that the scholarship that focuses on the production and distribution of media commodities has been outlined, the next section of this chapter reviews cultural and subcultural theories.

Cultural and (Post) Subcultural Studies

> *"Every reading modifies its object"* ~Michel de Certeau[46]

The last section of this chapter reviews how media could be studied as commodity; this section looks at how media—both hardware and software—have been studied (as texts) where meanings are partly determined by active audience members. For this study, I argue that DJ technologies, vinyl records, and recorded music are produced simultaneously as commodities and as texts—a dialectical relationship threaded by intellectual property rights. I am interested in hip hop DJ culture as a case of what happens when Marx's base and superstructure come together, where industry and culture intermingle to produce new markets and new culture—essentially, a network. Also, for the purpose of this study, it is assumed that not only is the musical content encoded into the grooves of vinyl records polysemic, but also that records (as objects) and the turntable (as object) also have contested meanings partly determined by use. In Chapter VI, we will see the specific socio-historical ideologies encoded into vinyl records and turntables; in Chapter VII, we will see how the ideologies are manipulated by the cultural uses of hip hop DJs. This subsection will review theory relevant to active users and audiences, meaning as dictated by consumption, and power inequalities that exist beyond political economics.

Over the last few decades there has been a rift between scholars interested in the cultural studies and PE/C approaches, but I think that some of the ideas put forth by Vaidhyanathan (2006) in his delineation of the CIS transfield gets us past some of these distinctions. However, Wasko writes "both approaches would seem needed for a

---

[46] In *The Practice of Everyday Life* (1984, 169).

complete critical analysis of culture and media" (2004, 323). And, despite fueling the debate, Golding and Murdock concede that the merit in cultural studies is that it "views audience members as active subjects…rather than passive objects of a dominant production system" (2000, 71). Some cultural studies scholars (e.g. Fiske 1987; Storey 1996) note that while consumption is an active process of meaning-production, cultural commodities are part of both the economy of use and the economy of exchange: "We do not understand one by only interrogating the other" (Storey 1996, 98).

While most cultural studies' scholarship focuses on power and the ways in which power is contested and negotiated within culture, much of the early work within this approach was fueled by the theories of Marx. Thus, we begin by looking at some of the earlier materialist cultural studies before moving into subcultural and post-subcultural studies.

Cultural Studies

Cultural studies is often associated with the work of the Centre for Contemporary Cultural Studies (the CCCS or Birmingham School), which was founded in 1964. The founding fathers of cultural studies and the CCCS are, most notably, Richard Hoggart, E.P Thompson, Raymond Williams, and Stuart Hall. These scholars, mostly teaching at Open University, were very interested in articulating the struggles and politics of the working class (a class of which they were from). Furthermore, cultural studies theorists attempted to subvert the high/low cultural distinction, and in many instances were interested in the importance of popular culture (or the culture of the people).

Much of the CCCS scholarship used Antonio Gramsci's (1971/2001) concept of hegemony as a theoretical point of departure. Gramsci used the term as an indication of

one's social class dominating over others, a state in which the worldview (intellectual and moral) of the dominant class became "natural" or "common sense" to subaltern classes (1971). Gramsci's concept stems from Marx's dictum: "The ideas of the ruling class are in every epoch the ruling ideas" (Marx and Engels 1970, 64). Gramsci theorizes about how the dominant ideology (the "science of ideas") essentially becomes taken for granted, but could be resisted by the formation of a counter-hegemony. Furthermore, Gramsci understood that power is not necessarily held by those who control the economic: "The press is the most dynamic part of this ideological structure" (2001, 46).

More efforts to theorize the active role of meaning-creation gained popularity in the 1970s and 1980s (e.g. Williams 1977; Hall 1980; Williams 1981; Fiske 1987). These authors, for the most part, rejected textual determinism and thus believed that consumers of texts use them to suit their needs.

Williams (1977 and 1981) was against the Marxian explanation of culture as a byproduct of the mode of production and a simply a reflection of the material base, but uses cultural materialism as way of analyzing how culture takes place in the ideological superstructure and the economic base. He suggests that by deconstructing specific historical artifacts, scholars can then analyze the zeitgeist of a historical moment. Cultural materialists analyze historical texts as a way of revealing the dominant hegemonic position, and then identify possible subversions or rejections of that position. Williams defines culture as a signifying system and a whole way of life for a group of people. Thus, culture is where "social order is communicated, reproduced, experienced and explored" (1981, 13).

For Hall, the construction of meaning lies in both the encoder (producer) and the decoder (consumer), and such a text may be read from a "dominant hegemonic position," a "negotiated code," or an "oppositional code" (1993, 101-103). Fiske (1987 and 1989) finds value in how audience members develop alternative interpretations of media texts, which in turn subvert the dominant ideology. He argues that texts are not closed and notes, "Hegemony is a constant struggle against a multitude of resistances to ideological domination…. The dominant ideology, working through the form of the text, can be resisted" (1987, 41). Although the consumer does not have total control, Fiske urges readers to play with meaning as a form of emancipation from hegemony.

Williams (1977) believes that the dominant hegemony will try to control or transform oppositional readings, and, in some instances, even try to incorporate them. It is Hall's oppositional code that explains these subversive readings when the reader uses the text's intended messages and recontextualizes them "within some alternative framework of reference" (Hall 1993, 103). Fiske argues that a text "is the site of struggles for meaning that reproduce the conflicts of interest between the producers and consumers of the cultural commodity" (1987, 14). Fiske extols the power of those subordinated by media when he writes, "There is power in resisting power, there is power in maintaining one's social identity in opposition to that proposed by the dominant ideology, there is a power in asserting one's own subcultural values against the dominant ones. There is, in short, power in being different" (1987, 19).

The ideas of Fiske are expanded in the context of fan culture by Jenkins (1992). Using de Certeau's (1984) notions of "poaching" and "nomadic reading," Jenkins writes about the ways in which fans of particular media programs use those mass mediated

materials for their own purposes. While Jenkins notes that fandom "originates in response to specific historical conditions…and remains in constant flux" (1992, 3), he contributes to scholarship that looks at how some audience members are active consumers who "become active participants in the construction and circulations of textual meanings" (23-24). Although Jenkins may romanticize the power exchange between active consumers and corporate producers, I believe he is correct when he writes, "Fans possess not simply borrowed remnants snatched from mass culture, but their own culture built from the semiotic raw materials the media provides" (49).

Although theorizing the hip hop DJ culture as a particular type of fan culture may be useful for this study, it is also relevant to look at how the hip hop DJ community may be discussed as a subculture. Thus, the next subsection will look at subcultural theory and its genealogy, as well as the movement towards post-subcultural theory to further develop ways to analyze the hip hop DJ community.

Subcultural Theory

According to Gelder and Thornton, "social groups investigated in the name of 'subcultures' are subordinate, subaltern or subterranean" (1997, 4). Youth subcultures have been described as symbolic or ritualistic attempts to resist the power of hegemony by consciously adopting behavior considered deviant by dominant culture (Hall and Jefferson 1976). While some subcultures are oppositional, others are not; however, subcultures exist as "meaning systems, modes of expression of lifestyles developed by groups in subordinate structural positions in response to dominant meaning systems" (Brake 1985, 8). In order to be a subculture, a group must at least "exhibit a distinctive enough shape and structure to make them identifiably different from their 'parent

85

culture'…there must also be significant things which bind and articulate them" (Clarke, Hall, Jefferson, and Roberts 1997, 100).

Much of the early CCCS subcultural theory, epitomized in *Resistance Through Rituals* (Hall et al. 1976), views subcultural deviance as action against hegemonic power. Generally speaking, the CCCS saw this symbolic resistance as an articulation of class inequality and was considered a working class challenge of bourgeois culture. Thus, for Hall, et al. subcultures demonstrated a "double articulation" with their "parent culture" (working class culture) and with dominant society. Subcultures, then, articulate and are bound by the needs of their parent culture, but are in some ways distinctively different. Hall, et al. studied style as a material expression of one's social position, where subcultural style only alters class-based society in an "imaginary way" and does so by adopting the commodities of mass culture as symbolic and ritualistic ways of challenging power structures. Broadly speaking, much of the CCCS work on subcultures judged what an "authentic" subculture against mainstream or "mass culture." And, it is important to note, that most of the CCCS research semiotically reads subcultural style as a text rather than engaging in ethnographic research.

In his seminal book, *Subculture: The Meaning of Style* (1979), Dick Hebdige describes subcultures as subordinated groups whose challenge to dominant culture's hegemony is indirect and done "obliquely, in style" (17) by using dominant texts to "erase and subvert their original straight meanings" (104). In his study, primarily of Britain's punk subculture, Hebdige builds upon the semiological reading of style as a challenge to the hegemonic system and argues that style happens on four levels: 1) intentional communication; 2) bricolage; 3) homology; and 4) signifying practice.

First, style is the intentional use of signs to disrupt a meaning system, what

Hebdige called "semiotic guerrilla warfare" (Hebdige 1971, 101). Second, subcultural

style is built upon the appropriation of everyday objects (bricolage) in order to subvert

their "straight world" meanings and resist the hegemonic worldview. Third, homology

shows unity and sameness in subcultural style and illustrates collective ideas about these

values and ideologies. It is important to note that both the concepts of bricolage and

homology were adopted from the anthropologist Claude Levi-Strauss (1966). For Levi-

Strauss, homology operates through bricolage, conceptualized as a way for cultural

members to adopt existing signifieds as new signifiers ("speaking through the medium of

things"). Lastly, subcultural style is a signifying practice that involves polysemy as the

constant changing of meaning.

Hebdige writes, "By repositioning and recontextualizing commodities, by

subverting their conventional uses and inventing new ones..." subcultures give new and

oppositional meanings to those commodities (1979, 102). Fiske describes this as "using

their products for *our* purposes …" to create meaning in everyday life (1989, 36;

emphasis added).

Hebdige illustrates the ways in which subcultural styles are commodified, or

incorporated into dominant culture; in a process he labels "recuperation" (1979, 94).

These oppositional and subversive behaviors—generally with media assistance—are

reworked into a dominant framework of meanings on two levels. The first form is the

"conversion of subcultural signs…into mass-produced objects" (94), which is the

"commodity form." Hebdige believes that "as soon as original innovations which signify

'subculture' [music, dance, etc.] are translated into commodities and made generally

87

available, they become 'frozen'" (96). Incorporation also works in the "ideological form" (96) where the "deviant" behaviors of the subculture are normalized within dominant society. However, in recent years there has been a movement away from the CCCS class-based model and towards post-subcultural theory, which focuses on the fluidity of identity and the numerous motives for subcultural consumption (beyond resistance, that is).

Post-subcultural Studies

These conceptualizations of subcultures are important as they mark a shift from subcultural studies to post-subcultural studies. Generally, post-subculturalists build upon the work of the CCCS, stressing the fact that fleeting and fluctuating identities are dissolving structural divisions. But they critique the initial scholarship on three primary levels: 1) the use of semiotic method; 2) consumption considered exclusively as resistance; and 3) limiting subcultures to the working class. Currently, post-subcultural scholarship (e.g. Bennett 1999; Bennett and Kahn-Harris 2004; Hodkinson 2002) argues that due to fluid and mobile identities (mainly as consumers), subcultures should be understood as "neo-tribes," a concept adapted from Maffesoli (1996). Maffesoli thinks that because of new consumer-based identity fluctuations, we are retribalizing (a reference to McLuhan's (1964) "global village") as utopian ideals are spread through communication and the media. Most importantly, Maffesoli contends that neo-tribes are not class-based.

McRobbie (1994) argues that subcultural studies should move past rigid CCCS class-based models to account for the "style mixing" of today's youth. Thornton (1996) writes about subcultures as "taste cultures" since members share similar tastes in music

and style, and there is a "fantasy of classlessness." Also, Bennett et al. (2004) note that, due to fluctuating identities, subcultures may be conceived of as "lifestyles." Taylor (2001), in his study of electronic music subcultures, notes that these may be "little cultures," since they are relatively whole.

In order to account for subcultural activity that transpires beyond geographical locations, Straw (1991) discusses subcultures as "scenes," or music scenes, where there are "relations between various populations" that tend to be bound by music. A scene is a "cultural space in which a range of musical practices coexist, interacting with each other within a variety of processes of differentiation, and according to widely varying trajectories of change and cross-fertilization" (Straw 1991, 373). Scenes interact with industries on multiple levels and presumably such interaction benefits the subcultural economy as a whole. Thus, scenes are not necessarily oppositional; however, race, class, and gender can create social divisions within the scene. Noting these definitional subtleties, Muggleton (1997) suggests that in postmodernity the concept of a subculture is becoming less applicable because "it only maintains its specificity with something to define it against" (181).

Post-subculturalists argue that the primary semiotic method of the CCCS work was flawed in that it read style as a text or as homology. Through such a method, style was understood as synchronic (frozen in time) rather than as a process (diachronic) and the CCCS subculturalists could only understand action as symbolic. Thus, post-subculturalists generally employ ethnographic methods (e.g. Muggleton 2000; Redhead 1997; Macdonald 2003; Maxwell 2003; Hodkinson 2002; and Thornton 1996) to ask those within a subculture about their motives and values rather than using semiotic

deconstruction. Post-subculturalists reject the Marxist and textual model, arguing that subcultural members can articulate meaning and have not been totally swept away by false consciousness.

CCCS subcultural theory posits consumption as resistance and does not take into account any other reasons for subcultural consumption. Thus, some post-subculturalists argue that subcultures celebrate consumption and media rather than resist it (e.g. Hodkinson 2002; Bennett et al. 2004). Bennett (1999) argues that consumption can be a form of creativity where subcultural members choose style as a reflection of identity and where music is central to this formation. Acts of consumption also create a community and "music provides a *sense* of community" for subcultural members (Storey 1996, 102). Sanjek (2000) notes that consumers customize their commodities and "command their use and meaning before they are commanded by them" (243). For musicians, consumption of new technologies is at the center of music-making and implicates "musical practices at the most fundamental level" (Théberge 1997, 200).

Most importantly, post-subculturalists critique the work of the CCCS for its explanation of subcultures as a working-class phenomenon—what Muggleton (2000) refers to as "merely conjecture." Furthermore, the work of the CCCS only looked at subcultures within the British, white, male, and youth contexts. Post-subculturalists, therefore, consider the impact of subcultures in relation to gender, race, sexuality, and age, as well as how some subcultures are just for "fun" (Bennett et al. 2004). According to Redhead (1997), authentic subcultures were produced by the subcultural theories of the CCCS and not the other way around. Redhead adapts Baudrillard's notion of

simulation/simulacra to describe subcultures as a "surface phenomenon" rather than having deep roots in social structures.

Thus, post-subculturalists in some ways reject even the notion of an authentic subculture because they rely on totalizing theory and essentialism. Furthermore, post-subculturalists argue against the CCCS "authentic vs. hegemonic" model because of problems with the definition of hegemony and what constitutes the "norm" that these subcultures are resisting. "Post-subculturalists no longer have any sense of subcultural 'authenticity', where inception is rooted in particular sociotemporal contexts and tied to underlying structural relations," writes Muggleton (1997, 180). It is interesting to note that even Hebdige (1997) has challenged the CCCS model. He is now taking the stance, using a Foucauldian micropower analysis, that the alternative styles of a subculture are a form of power whereby members play with that power rather than merely resisting dominant structures.

Hodkinson (2002) writes that there are four primary indicators of subcultural substance: 1) consistent distinctiveness; 2) identification with that subculture; 3) commitment to the subculture; and 4) autonomy from mass culture. However, these formulations are leading to new ways of conceptualizing subcultures—moving away from class-based analysis and towards postmodern conditions of fluid and fragmented identities.

Thornton (1996) argues that in the scholarship of the CCCS, the media only appeared after the subculture had been incorporated and commodified. Whereas CCCS subcultural theory understood the relationship with the media as negative, post-subculturalists look at the relationship as not wholly negative and sometimes as symbiotic

91

(McRobbie 1994). Scholarship by Redhead (1997), Hodkinson (2002), and Muggleton (2000) argue that subcultures/neo-tribes celebrate media, fashion and consumption, while Thornton (1996) notes that subcultural audiences are diverse and linked by media. Furthermore, Thornton suggests that media (mass and subcultural) are central to the formation, circulation, and legitimization of subcultures. In this relationship, there are two sources of cultural production (subcultural and mass media) that depend on one another (Blair 2004, 501).

Thornton (1996) writes that subcultural media takes place on three levels: 1) micro (flyers, fanzines, etc.); 2) niche (the music or magazines); and 3) mass (newspapers, news, etc.). Subcultures, in terms of media, are relatively autonomous from the mass media in that the subculture primarily is in control of its own media production and circulation. Maxwell (2003) writes that the mass media and subcultures have a complex, dynamic, and dialectical relationship where "feedback loops" are created.

Given Thornton's stress on the centrality of media in subcultures, she develops the concept of "subcultural capital" (1996; 2004) in her ethnographic study of club cultures. She posits subcultural capital as a way in which subcultures distinguish themselves from the mainstream media (i.e. commercial music versus underground music) in the development of subcultural hierarchy. Subcultural capital may take the form of knowledge (for instance, of the subculture's music) or in objects (for instance, collection of records), where subcultural members display hip-ness or the degree to which they are in the know. Within club cultures, she finds a "subcultural authenticity of records" (Thornton 1996, 54) and that "the status of DJs was partly the status of an exclusive owner with discerning taste" (61). "In knowing, owning and playing the

92

music," Thornton writes, "DJs, in particular, are sometimes positioned as the masters of the scene" (2005, 187).

Thornton's concept is a remix of Bourdieu's notion of "cultural capital" (1984), by which aesthetic dispositions display status and where position in the social hierarchy depends on how one presents their social space. Within the subcultural capital concept, these distinctions are not about equal difference, rather "they usually entail some claim to authority and presume the inferiority of *others*" (Thornton 2005, 185; original emphasis). Bourdieu argues that the "social world is accumulated history" (1986/2001, 96) where status is based on people's shared aesthetic dispositions. This allows "tastes to function as markers of 'class'" (1984, 2). Through the accumulation of cultural capital in its objectified form (for this study, let's say records and turntables) and embodied form (the knowledge of how to manipulate records and turntables, etc.), people are able to set themselves apart from others. Although this differentiation is not based solely on economic capital, the acquisition of cultural capital is usually linked to leisure time and education, which Bourdieu acknowledges as being directly related to class.

The embodied state of cultural capital is "in the form of long-lasting dispositions of the mind and body…" (1986/2001, 98). In this state, time must be invested into acquiring capital as it is primarily gained through the accumulation of knowledge. The *embodied* form of cultural capital cannot be bought or obtained, nor is it directly exchangeable into economic capital. "The work of acquisition," Bourdieu writes, "is work on one-self (self-improvement), an effort that presupposes a personal cost…" (99). In other words, it cannot be procured second-hand. This state is characterized as a person's way of thinking, and therefore having knowledge of things cultural; or, merely

93

knowledge in general. This embodied wealth is incorporated into a person's state of

being, embodiment that is generally on an unconscious level and "it declines and dies

with its bearer" (99). Bourdieu further explains: "To possess machines, he only needs

economic capital; to use them…he must have access to embodied cultural capital"

(1986/2001, 101).

The properties of objectified cultural capital, however, are best defined in relation

to their embodied form. Without knowledge or competence of a cultural commodity,

Bourdieu argues that the commodity will have relatively low amounts of cultural capital

attached to it:

> It is appropriated by agents and implemented and invested as a weapon
> and a stake in the struggles that go on in the fields of cultural production
> (the artistic field, the scientific field, etc.) and, beyond them, in the field of
> social classes—struggles in which the agents wield strengths and obtain
> profits proportionate to their mastery of this objectified capital, and
> therefore to the extent of their embodied capital. (1986/2001, 102)

Bourdieu also writes "nothing more clearly affirms one's 'class,' nothing more

infallibly classifies, than tastes in music" (1984, 18).

Thornton (1994) also builds on the CCCS idea of moral panics as they relate to

subcultures and media. She asserts that the media both frames and disassembles

subcultures and has the ability to turn ephemeral fads into long lasting developments

(which we saw in Chapter II with the beginning of rap music and Sugarhill Gang, which

was initially considered a fad). Again, these deviant behaviors are normalized in

"dominant" society by painting subcultural members as "folk devils" who threaten social

order (for example, consider how the news media framed not only African Americans but

rap music in the 1980s and early 1990s). Here, again writes Thornton, we see the mass media's role in legitimizing subcultural activity.

Music-based youth subgroups have been the focus of much subcultural and post-subcultural scholarship, and accordingly, hip hop culture and DJ culture have been studied within this work. Studies that are relevant to this research project are reviewed in the next subsection.

<u>Hip Hop and DJ Studies</u>

This dissertation, while drawing from theories and research related to the field of communication, also draws upon and seeks to contribute to hip hop studies and scholarship on DJs. The following section outlines studies on hip hop culture that have informed this study, as well research on DJ culture and hip hop DJs.

Over the last two decades, there has been growing academic interest in hip hop both in pedagogy and publication, yet there has been less interest by hip hop culture in the scholarship (see Vincent in Harmanci (2007) for example). *That's the Joint: The Hip-Hop Studies Reader* (2004), a volume edited by Murray Forman and Mark Anthony Neal, is probably the most comprehensive and varied academic analysis of hip hop culture, although the blog, *Davey D's Hip Hop Corner,*[47] adds hip hop flavor and activism to the academic mix. Forman (2004) suggests that journalistic and academic writing is part of hip hop culture as they are "forms of cultural labor and should accordingly be regarded as consequential facets of hip-hop" (3). I agree that this type of writing and research *can* and *should* be a facet of hip hop, but I am not always sure if hip hop writing makes its way into the hands of hip hop heads.

---

[47] http://hiphopandpolitics.wordpress.com/

Hip hop culture has been studied, and primarily defined, by its music: rap (Chang 2006). While the bulk of publications focus on rap, Schloss suggests that there are two reasons why the non-vocal elements of hip hop have received little academic attention: 1) there are complex aesthetic values that guide hip hop's cultural production and compositional strategies, and most academics are distanced from that culture; and 2) most scholars who have studied hip hop come from disciplines that privilege social phenomena or texts over musical structures (2004, 20). Schloss encourages scholarship that comes from within hip hop culture, or at the very least for scholars to reach out to the communities they are studying.

In general, though, studies of the history and practices of the DJ have been sparse (noted in Chanan 1995, 108; Poschardt 1998, 117). Allen (2006, 8) contends that only a few academic questions have been asked about scratch and hip hop DJs. However, Brewster and Broughton's *Last Night a DJ Saved My Life* (2000) is a strong example of a popular press publication that exhibits voluminous research and careful construction. While Forman and Neal (2004), as well as other scholars, cover break dancing, emceeing, and graffiti, the focus of this subsection of the literature is the production of music.

Hip Hop Studies

Scholarship on hip hop ranges from understanding its cultural and socio-economic history (Chang 2005) and cultural lineage (Hebdige 1987; Szwed 1999; Toop 2000) to its relationship with technology (Rose 1994). Efforts have also been made to document hip hop's oral history (Fricke and Ahearn 2002). Others have studied the commodification of hip hop culture and its ties to concentrated media ownership (George 1998; Watkins 2005), while Kelley (2005) places hip hop within the larger political economy of black

96

music. Because the main features of rap music are often borrowed from other works,

Blair (2004, 498) suggests that rap music is the ultimate commercial product. For Negus,

rap is simultaneously cultural practice and a musical genre, while Basu (2005) considers

it the sound of present-day technocultures.

In the context of intellectual property rights, Schur suggests that there are four

central characteristics of "hip hop aesthetics": 1) sampling; 2) layering; 3) rhythmic flow

and asymmetry; and 4) parody or irony (2009, 43). Some scholarship has addressed hip

hop aesthetics more broadly (e.g. Chang 2006; Cobb 2007), methods of musical and

cultural production (Schloss 2004; Harrison 2006), and the curtailment of production due

to U.S. intellectual property laws (e.g. McLeod 2001; Vaidhyanathan 2001; McLeod

2005; Demers 2006). Krims (2000) understands how rap music is composed, and

discusses its production in relation to critical, musicological, and cultural theory, while

Potter (1995) looks at hip hop subcultures in terms of postmodern theory and resistance.

Others have done in-depth ethnographies on hip hop subcultures, both at the domestic

and global levels (Maxwell 2002; Macdonald 2003; Schloss 2004; Arthur 2006).

By interviewing hip hop artists and analyzing media (song lyrics, magazine

articles, etc.), McLeod (1999) studied how claims of authenticity are used discursively

within hip hop culture as a way of maintaining a pure identity in the face of increasing

commercialism. "Authenticity claims are a way of establishing in-group/out-group

distinctions," writes McLeod, "Hip-hop can balance large sales and mainstream success

with a carefully constructed self...identity talk can be understood as structured,

meaningful, and a way of comprehending central elements of hip-hop culture from a

native's point of view" (1999, 146). By locating six discursive dimensions, such as

"underground vs. commercial" or "old school vs. mainstream," McLeod concludes that hip hop community members distinguish authentic expressions from the inauthentic as a mechanism for protecting their culture. Also, Arthur (2006) uses ethnography to examine consumption as it relates to authenticity in Australian hip hop culture. In the context of hip hop's glocalization in Australia, he finds that consumption occurs symbolically as subcultural capital and that subcultural members express authenticity as a reaction to American commercial rap music. While reviewing some hip hop studies literature relevant to this study is helpful, it is also important to delineate how the DJ has been studied.

DJ Studies

While there is a noted lack of scholarship on hip hop DJs, a considerable amount of research on DJs in the context of electronic dance music has been conducted (e.g. Klasco and Michael 1992; Langlois 1992; Thornton 1996; Muggleton 1997; Redhead, Steve, Derek Wynne, and Justin O'Connor 1997; Fikentscher 2000; Farrugia and Swiss 2005; Herman 2006; Montano 2009). In this context, Fikentscher (2000, 12) positions the DJ as a "cultural gatekeeper" or "cultural broker" who presides over music cultures. Montano (2009) looks at the commercial DJ scene in Sydney, Australia, and demonstrates how DJs' self-understanding in respect to musical choices is guided by the imperatives of entertainment and education. He suggests that commercial pressures from promoters, club owners, and the audiences allows the entertainment element to trump education, or DJs presenting new and different music at clubs (education).

Suggesting that electronic dance music is a genre "deeply invested in technology" yet resistive to new technology, Farrugia and Swiss (2005) look at how DJs negotiate the

use of new digital technologies that remediate vinyl records (specifically digital vinyl systems). They particularly address the introduction of Stanton FinalScratch into the market and how its use is negotiated discursively on Web forums. The authors argue that resistance to adopting new DJ technologies "often stem from the fact that advances in digital music technology threaten the existing order" of DJ culture, a hierarchy upheld through numerous gatekeeping practices, which include the "ideological enforcement of standards for discerning the value and authenticity of certain DJ practices" (2005, 31). Farrugia and Swiss find that DJs consider record collecting to be a claim of expertise, that the pops and hisses of records function as a sign of authenticity, and that gatekeeping practices help build and maintain levels of cultural capital.

Another study on DJs that is particularly relevant to this dissertation is Herman's (2006) analysis of the ways in which technology manufacturers and promoters harness the authorship of the DJ discursively for commercial purposes. While the dance music DJ problematizes the concept of authorship, today's DJ emerges as a "brand-name author-god" (2006, 22) whose authorship comes not only from the art produced, but through the ways in which those practices get represented within a capitalist system.

Herman examined 15 artifacts (flyers, mix CDs, trade magazines, etc.) and found six discursive themes, two of which are useful for this study: 1) the DJ is presented as the culmination of rapid technological development; and 2) "the DJ becomes the crown jewel of brand names in a culture that thrives on branding….A vast majority of this self-promotion relies very heavily on the auras of specific DJs" (2006, 30). Thus, DJ technology manufacturers have endorsement deals with top-caliber DJs and, in some cases, put a DJ's name on the actual product (Herman uses the example of the Stanton

SA-12 DJ Craze Signature Mixer). For Herman, this is a way of using the name, which is a function of the DJ's authorship, to sell the product.

Herman also notes that the ways in which the DJ is represented within a capitalist system also constructs this authorship, helping to establish a DJ's brand name. "In a culture filled with brand names," writes Herman, "the DJ is the ultimate brand name, the moniker under which almost everything is sold" (2006, 31). A company's investment in a DJ's authorship helps to sell products by allowing consumers to make informed purchases based upon a DJ's endorsement. He concludes that the discursive creation of the DJ's authorship is part of the larger system of the exchange of symbolic and financial capital where the "social capital of authorship becomes a tool for generating financial capital from the sale of artworks" (2006, 33).

Hip Hop DJs

While there has been quite a few how-to books that combine theory, practice and DJ interviews (e.g. Webber 2000; Broughton and Brewster 2002; Souvignier 2003; White and Crisell 2009), Poschardt's *DJ Culture* (1998) has probably the most theoretically comprehensive discussion of hip hop DJ culture. Some academics have studied the hip hop DJ scene and its performance practices (White 1996; Hansen 2001; Hansen 2002), compositional strategies (Smith 2000; Smith 2007) notation systems (Miyakawa 2007), and role in identity formation (Snapper 2004). In Miles White's (1996) study, which is often considered the first to look at turntablism, he argues that the turntable must be considered a legitimate electronic musical instrument because the hip hop DJ must possess skills similar to trained musicians in order to manipulate it. Snapper finds that

100

"turntablists reappropriate popular music and rework it outside the corporate economy. In the process…the musical texts can be reclaimed and recontextualized" (2004, 23).

DJ battles have been studied in relation to musicology and technology (Katz 2004), as well as a form of ritualistic practice that has a religious significance attached to it (Clay 2009). By transforming the turntable from a consumptive device to one of production, Katz suggests that turntablism denies technological determinism by demonstrating how "users may shape recording as much as the technology influences them" (2004, 115). In another study, Katz (2006) looks at women in hip hop DJ battles and suggests that very few are competitive DJs because battles demonstrate masculinity, which is historically attached to the phonograph as a medium. In her study of three different notational systems for turntablists, Miyakawa (2007) argues that the development of DJ notation is a matter of legitimacy because there is a "power of notation to legitimize the instrument and reach out to new audiences" (101).

Some of this scholarship has also considered how analog culture interacts with and negotiates digital technology. For instance, White concludes that digital DJ technologies could repress the art form: "The precision, control and nuance…especially in the live situations, cannot be duplicated with a CD without a great sacrifice of creativity and individuality" (1996, 6). Snapper finds that the hip hop DJ scene forms around the manipulation of analog records and is marked by "resistance to digital technology" (2004, 10). Lastly, Katz (2004) documents the effects that digital technology has on the hip hop DJ scene and concludes that "many feel that the art is diminished when the craft is made easier. Others lament the loss of a strong sense of authenticity surrounding turntables and pre-recorded discs" (121).

The hip hop DJ has been reviewed in other music studies as well. For instance, Toop (2004) refers to hip hop DJs as librarians of arcane sounds, while Shusterman calls these DJs "cannibals of the urban jungle" (2004, 460). Miller (2004) refers to DJs as "rhythm scientists" who act as archivists. Both McLeod (2005) and Théberge (2001) assert that DJs transfer consumer knowledge into production knowledge where technology is reimagined and repurposed. It has also been suggested that the practices and traditions of hip hop DJs have become values held dear by members of hip hop culture in general:

> Many aspects of hip-hop deejaying practice, such as digging in the crates, have become central to the ideology of hip-hop generally, even for those who are not DJs themselves. On some level, most hip-hoppers hold some deejay-oriented philosophical positions, not only because they love deejaying for its own sake, but also because deejaying positions itself as traditional, and they are committed, on a more abstract level, to the *idea* of tradition. (Schloss 2004, 110; original italics).

Also, because hip hop DJs are presenting a program of completed musical works to an audience, Schloss positions them as simultaneously anthologist and artist.

Reviewing existing bodies of literature and theories relating to the role of power, control, and agency in respect to PE/C and cultural/subcultural theory, as well as how hip hop culture and hip hop DJs have been studied in general, leads us to the study of technology and new media theory. The following section, then, will review new media theory so we can better comprehend the new media characteristics of the hip hop DJ scene, as well as the tools for evaluating the related network of invention and innovation that guide its open source mentality.

New Media Theory and Technology

> *"It's always been possible for people who are not professional musicians or are not wealthy to make music...There's an interaction between art and technology: That has always been true. It's not that one dictates the other, but when a technological development comes out that musicians can use, musicians use it in a new way. That in turn inspires further technological development."* ~Bob Moog[48]

> "*The digital world is closer to the world of ideas than to the world of things."* ~Lawrence Lessig[49]

Because an underlying motivation of this study is to address the new media logic guiding hip hop DJs and hip hop culture and to position DJ culture as an open source culture, theories of new media and technology are relevant. From Vaidhyanathan's (2006) outline of the CIS transfield, it seems possible for cultural theory, political economic analysis, and new media theory to walk side by side. But in order to interpret theories of new media we must start by reviewing theories of technology and society, as well as look at how technologies of reproduction, specifically sound reproduction, have been theorized. Furthermore, by looking at theories of mechanical reproduction and technology as they lead into the digital world, we will also be able to consider the potential relationships of technology to human modes of perception within networks of innovation.

Although new media theory is broadly reviewed, the theories most relevant to this study are Bolter and Grusin's (1999) "remediation," Henry Jenkins's (2006) notions of "convergence culture" and "participatory culture," and Manovich's (2001) thesis on the

---

[48]   Robert Moog, the inventor of the Moog synthesizer (quoted in Berk 2000, 208).

[49]   In *The Future of Ideas: The Fate of the Commons in a Connected World* (2001, 116).

logic and language of new media. The discussion of new media also covers ideas central to remix culture, sampling, and network theory.

Broadly, new media theory looks at digital and computer technologies, or processes of digitization, and their cultural, historical, and economic relationship with society. Flew (2002) argues that the study of new media must be interdisciplinary, therefore, broadly incorporating aspects of media and cultural studies, sociology, and political economy of communications, etc. Also important to new media theory is the idea of democracy, not in terms of process and voting, but in terms of access to means of production (Lessig 2008). Generally, theories of new media suppose that the lines between producers and consumers are blurring, while the mass (old) media model of one-to-many is being supplanted by the logic of many-to-many. Arguably, this is producing feedback loops between "corporate convergence" and "grassroots convergence," where both a top-down push and a bottom-up pull collide (Jenkins 2006).

Digital media is generally thought of as remaking or "remediating" (Bolter and Grusin 1999) old media. According to Flew, new media are different from mass media in five different ways, as they are: 1) manipulable; 2) networkable; 3) dense; 4) compressable; and 5) impartial (2002, 10-11). New media are manipulable in that they are changeable and adaptable at all stages of use, while information is shared and exchanged across distances (networkable). Because new media can store large amounts of information in small spaces, they are dense, but this information can be compressed and decompressed when needed. Lastly, new media are impartial, as they tend to be indifferent to what form they represent; that is, although new media represent something "analog," the digital media environment is in fact made up of discrete sequences of 0s

104

and 1s (binary code). Before further reviewing new media theory, it is important to delineate some theories about technology, media, and society.

Studying Media and Technology

In Benjamin's essay, "The Work of Art in the Age of Mechanical Reproduction," the Frankfurt School theorist takes a technological approach to the arts and to modes of human perception. Benjamin looks at how our perception of a work of art changes once processes of industrialization makes art the product of mechanical or "technical" production, thus substituting "a plurality of copies for a unique existence" (1936, 4). For Benjamin, there are four effects of technical production on works of art: 1) many copies can be made; 2) copies are not dependent on the original; rather they accent it; 3) the artwork becomes transportable; and 4) the copies destroy the "aura" of the original.

Furthermore, mass production destroys the social control produced by the aura (the overwhelming awe experienced in the presence of an original work) and the authority of original artworks; however, this aura is not in the object itself, but in its "cult value." Thus, Benjamin's notion of "aura" is referring to a unique phenomenon of distance, a dialectical tension between distance and closeness. Further, he believes that mechanical reproduction smashes the artwork's aura because the art loses its place in ritual when it is subjected to the gaze of a mass audience. However, unlike others from the Frankfurt School (e.g. Adorno or Marcuse), Benjamin was concerned with consumption and ambivalent about the rationalizing effects of technology. In his "Artwork" essay, he also notes how the historical development of mechanical reproduction could democratize access to, and critical thinking towards, cultural objects. Suggesting a producer/consumer dialectic, he writes, "At any moment the reader is ready

to turn into a writer" (1936, 12), which is a core characteristic of most new media theories.

Although Benjamin's essay is often discussed by new media theorists when considering art in the age of digital reproduction (Gumbrecht and Marrinan 2003), his ideas relate to some of Flew's (2002) new media characteristics (in terms of manipulation, networking, and impartiality). Furthermore, like Marx, who thought industrial production would both alienate and elevate the consciousness of workers, Benjamin's claims that technical reproduction destroys the aura of art, but, dialectically, these same technologies can be used as vehicles for new forms of expression. This is an especially important concept for this study. In terms of new media theory, this alludes to the key concept of democracy to access of the means of production that are usually held by the corporate cultural industries.

McLuhan, much like Benjamin, was concerned with the effects of increased specialization and isolation of perception induced by technical evolution on human senses. For McLuhan (1964), a medium is "any extension of ourselves," or, generally any new technology (23). These effects came from form rather than content as the structures of a medium affect how we perceive and understand the world around us. Here, technologies affect how the human senses are organized by creating a "sensory balance." McLuhan also believed that the content of a medium is always another medium. For instance, vinyl records and tapes are the content of radio, and radio, along with other interrelated media, provide content for the Web. McLuhan argued that in the epoch of electronic communication, a medium such as television would retribalize society and aid in the formation of a "global village." McLuhan's position is often

considered to be technologically deterministic because he stressed that the dominant medium of a given epoch dominates the people. However, his statement, "We shape our tools and they in turn shape us" (quoted in Griffin 1991, 294) suggests more of a dialectical influence. In terms of new media theory, McLuhan's concepts of the network ("global village") and content impartiality are influential.

Other theorists who have informed new media and technology theory, are Innis (1951) and Ong (1982) because of their interest in communication technology specifically. Innis was concerned with the ways in which communication technology affects social organization and thought, as well as the role of institutions. For Innis, the means of communication are related to social formation, thus monopolies of knowledge can be created by communications because the medium itself is biased. Ong traces the fundamental shift from oral to print culture, which constitutes a shift from communication to communication technologies, what he calls "secondary orality."

Other arguments have been made asserting how the uses of a technology are part of the larger processes of social construction, rather than merely being determined by the structure of the technology itself. In his essay, "The Question Concerning Technology," Martin Heidegger asserts that "technology's essence is nothing technological" (1977, 4). For Heidegger, the essence of technology is a system, what he refers to as *Gestell* or "enframing," where media is an intermediate thing between tool and machine. Thus, he conceives the essence of modern technology as means of revealing what remains concealed to man and a way of bringing forth. For Heidegger, technology is a mode of human existence and process, but not a means to an end. His main concern, then, is the process by which technology alters human existence.

Raymond Williams (1974) especially takes the theses of McLuhan to task when he argues that we must look at how technologies are "used by" society rather than their "effect on" society. Thus, Williams analyzes television as a "symptomatic technology" where "technical developments" become technology through social uses. Williams argues that we must understand the emergence of new technologies, and in particular new communication systems, as a result of complex interaction among technological, social, cultural, political, legal and economic forces. He writes, "Determination is a real social process…" that never functions "as wholly controlling, wholly predicting set of causes" (130). In arguing that the impact of new media is evolutionary rather than revolutionary, Williams urges scholars to analyze the social development and history of a technology, as well as to situate its uses within this social history.

Others have also theorized about technology as a product of social forces. For Deleuze, "Technology is social before it is technical" (1988, 40), and Kenney also stresses that what "people choose to do with machines is just as important as what the machines do to them" (1999, 24). Winner (1986, 20) suggests that the technology being studied is not as important as the economic and social systems in which it is embedded because those systems give rise to uses and meanings associated with a given technology. And, for Frankfurt School scholar Herbert Marcuse, technology is both a mode of production characterized by the totality of instruments and "a mode of organizing and perpetuating (or changing) social relationships, a manifestation of prevalent thought and behavior patterns, an instrument of control and domination" (1941/2004, 63).

While trying to navigate the technological binary of McLuhan's "determinism" and the "voluntarism" suggested by Williams, Taylor (2001) offers "practice theory" as a

balance between structure and agency. In the specific context of music-making and music technologies, Taylor believes practice theory recognizes that neither user or the structuring technology are central: "Any music technology, then, both acts on its users and is continually acted on by them…any software or hardware...have designed into them specific uses, which are followed by listeners, but at the same time, listeners through their practices undermine, add to, and modify those uses in a never-ending process" (2001, 38). Practice theory, then, considers "subjects-as-agents" and the structures as equally important in analysis; it offers a model of dialectical influence where structure and agency act upon one another cyclically.

Théberge's (2001) analysis of technology and popular music considers technology an "environment" in which we think about music, a set of practices in producing and consuming music, and a discursive element in defining what music can be. Also, technology must be understood as an "enabling and constraining factor that acts in complex and contradictory ways" in the production, distribution, and consumption of music; and, in many cases, technology blurs the distinction between these stages (2001, 24).

In their edited volume, *Music and Technoculture* (2003), Lysloff and Gay suggest studying music and technology as an ethnomusicology of technoculture—a method for analyzing how technology implicates practices involving music. Because technologies are sites of continuous political and social struggle, studying technoculture means "we must examine technologies not just as things—autonomous or neutral 'devices'—but as material culture that people use and experience in ways meaningful to their particular needs and circumstances" (Lysloff and Gay 2003, 7). The authors contend that

technologies are embedded in social institutions and cultural systems, and are thus related through dialectical influence (8). While "many technologies were developed in the interests of industry and corporate profit, and for the purposes of domination and exploitation," the authors argue that "their accessibility and availability provide people with more means to cope with and even resist or subvert those same forces" (18).

Katz (2004), in his study of how technology has impacted music production, distribution and consumption—what he calls "phonograph effects"—also argues that technology affects the practices of its users as much as uses affect the technology. He contends that these phonograph effects also come from a technology's cultural, economic, and aesthetic contexts (14), and presents several cases studies to demonstrate these effects (one example is hip hop DJ and turntablist battles). In some ways Shapiro (2000, 2) agrees, stating that uses and misuses of the phonograph illuminate the ways that "human-tech interface is not all one-way traffic."

By looking at sound technologies archeologically, Sterne (2003) addresses how social relations, music technology, and music techniques all compose a network. Sterne rejects impact narratives that cast technologies as "divine actors," and thus stresses how different socio-cultural processes, which are connected to human practice, are crystallized into technologies to produce this network. Sounds are reproduced by this network through the medium (i.e. the phonograph), and, "Any medium of sound reproduction is an apparatus, a network—a whole set of relations, practices, people, and technologies" (2003, 225). Frith also notes that popular music culture is a major communication network and that branding tactics used by companies involved in the music industry demonstrate a network in action.

In order to assess control after decentralization, Galloway (2004) advocates for a material understanding of technology by questioning how a technology works and for whom. The author looks at how protocol is agreed to, implemented, and used by people as a structure for governing technology. Galloway stresses that networks, which are "materialized and materializing media" (2004, xv), are constituted by protocol and are comprised by the connection between dots (humans or corporations) and lines (practices or actions). Networks can be distributed (a structural form without a center), centralized (a central power point), or decentralized (multiple central hosts).

Galloway also argues that intellectual property rights are protocol reified and contends that the enemy of protocol is proprietary technologies that are allowed to monopolize markets (121). The author, then, advances an open source mentality by noting that "protological behavior (giving out your technology broadly even if it means giving it to your competitors) often wins out over propriety behavior" (126). Benkler (2006) also looks at technology as it relates to creation in the digital age, what he calls "commons-based peer production," and suggests, like Galloway, that the loose enforcement of intellectual property rights to negate monopoly control best suits this networked economy.

Kittler (1999), in many ways, disagrees with McLuhan's "extensions of man" hypothesis and suggests some sort of human autonomy in technology. Kittler makes an important analogy between vinyl records and the brain, noting their similarities as memory devices that inscribe. He describes the gramophone as a mode of perception and the ways in which early media technologies "centered on links between flesh and machine" (74). Kittler also notes how the phonograph was the first machine to record

111

noises regardless of meaning, making sound the possession of science, and, thus, science is the connection between society and music. Kittler also contends that the gramophone essentially transferred sheet music into noise, thus the content is not important, but instead the circuit and "the very schematism of perceptibility" is what impacts us the most (xli). For Kittler, the invention of the gramophone meant that consumers were no longer allowed to make their own recordings,[50] which is the prerequisite for the market for mass-recorded music (94).

However, as early as the 1920s, László Moholy-Nagy, a Hungarian artist and Bauhaus school professor, began advocating that the gramophone, a means of reproduction, was an instrument in its own right. Moholy-Nagy (1922/2004) argues that art serves to train man's sensory and other apparatuses for the reception of the new, thus people should explore the unknown rather than simply reproduce the familiar. He suggests exploring the grooves of the record to learn what graphic forms correspond to acoustic phenomena. Through such exploration, argues Moholy-Nagy, technology will produce new, previously unheard sounds specific to its capacities.

Similar to Kittler, Gitelman (1999) looks at inscription as integral to the climate of representation that emerged at the turn of the 20th century. Gitelman reviews 20,000 "idea letters" that were sent to Thomas Edison with the hopes of improving the phonograph or expanding its uses. The author finds that each writer was "a consumer, a receptor for the notion that modern technology solves problems, yet none of them consumed technology uncritically.... They consumed but not without producing their own

---

[50] Whereas Edison's phonograph was a dictation device allowing consumers to record and then play back the recording on the wax cylinder, the Berliner gramophone was merely a playback device (see Chapter V).

meanings" (Gitelman 1999, 95). In this study Gitelman concludes that there is a powerful dialectic between culture and technology and delineates how each engages the other.

Theories of New Media

Borrowing from Williams, Flew (2002) conceives new media as cultural technologies that must be understood "not simply as material forms that impact upon culture, but rather as cultural forms" (30). Similar to the ideas of Marx, Freud, and McLuhan, Veltman (2006) argues that digital technologies should be thought of as "multi-sensory devices" as they are machines that serve as extensions of man. Noting the forceful interplay between society and its technologies, Morriset (2003) illustrates this dialectical tension when he writes, "Societies create technology, but society is also created by technology" (22).

Schmidt (2003), who draws on the ideas of Benjamin, points out that there is a significant paradox that marks digital worlds as "they strive, on one hand, for the most complete reproduction possible and, on the other hand, for a complete liquidation of the real" (81). From a similar perspective, Nakamura (2006) believes that with digitization, nothing has "aura"; rather, "*everything* is a copy" (320; original italics). Furthermore, Nakumura contends that digital technologies have an emancipatory quality in that they "eradicate the notion of physical distance and firm boundaries" between users and their bodies (geographically), but also in terms of identity (322). Feinstein (2003) writes, "Digital technology allows the imagination and spirit to run riot. The constraints of physical existence lose all relevance," thus the electronic universe displaces the direct sensation of the "real" world (278).

Using Marx's dialectical materialism to highlight the contradictions of economic and historical development of digital technologies, Lunenfeld (1999) describes a "digital dialectic." He attempts to link the real to the ideal and he argues that new media theory is dialectical in respect to a relationship between theory and practice. Furthermore, borrowing from Adorno, Lunenfeld believes the digital dialectic is strongly tied to the impartiality of digital representation and the dualism of thesis and antithesis through the use of binary code (0s and 1s, or "on" and "off"). He writes, "Digital systems do not use continuously variable representational relationships. Instead, they translate all input into binary structures of 0s and 1s, which then can be stored, transferred, or manipulated at the level of numbers, or 'digits'" (1999, xv).

However, Krapp (2006) argues that maybe scholars are too eager to characterize the transition of analog to digital media as a "shift from continuity to fragmentation, from narration to archeology" (359). For Krapp, it is not merely a transition of continuous waves to "digits" as binary code, but, in fact, this shift is a process of translation "since what is completely untranslatable into new media will disappear as fast as what is utterly translatable" (359).

Flew (2002) writes that in order to appreciate the socio-cultural impact of new media technologies, those technologies should be understood on three interconnected levels. First, technologies (hardware) have no social use or value without software (content), thus technologies "are the tools and artifacts used by humans to transform nature, enable social interaction or external human capacities" (36). Second, technology may be looked at as content or software defined by the context in which use occurs. Third, technologies are "systems of knowledge and social meaning that accompany their

114

development and use," thus Flew advocates that they be understood as communicative or structural systems (36). Flew, through such a definition, attempts to move past the English definition of technology and towards that of Ancient Greece (a la Heidegger) where technology is a combination of *techne* (practical application of skills) and *logos* (systematic reason and knowledge).

In their book, *Remediation: Understanding New Media* (1999), Bolter and Grusin lay out their theory of remediation. The authors write, "What is new about new media comes from the particular ways in which they refashion older media and the ways in which older media refashion themselves to answer the challenges of new media" (15). Thus, remediation is the process by which "old" (mass) media are transformed (remediated) into new media. Remediation may be likened to the convergence that Jenkins (2006) describes; however, for Bolter and Grusin, there is a dialectical relationship between old and new media: "Creators of other electronic remediations seem to want to emphasize the difference rather than erase it. In these new cases, the electronic version is offered as an improvement…" (1999, 46).

With remediation, however, new media will also try to remain faithful to the character of the old, while they may also absorb the old media entirely by minimizing the discontinuities between the two. Conversely, "older media can also remediate newer ones" (55) (for instance, television programs whose content entirely or partly originated on the Web). The authors suggest that, especially with the inception of a new medium, there will be both economic and aesthetic competition between media. "Each new medium has to find its economic place by replacing or supplementing what is already

available, and popular acceptance, and therefore economic success, can come only by convincing consumers that the new medium improves on the experience of the old" (68).

The authors argue that new media can tear down the hierarchy prominent with old media, alluding to the democracy of access notion that is prominent within this theoretical strand. Bolter and Grusin note that a medium in our culture cannot operate in isolation, thus they propose, in an attempt to steer away from technological determinism, that new media are "agents" within culture. "New digital media are not external agents that come to disrupt an unsuspecting culture. They emerge from within cultural contexts, and they refashion other media, which are embedded in the same or similar contexts" (19). Furthermore, the authors suggest that new digital technologies must be explored as "hybrids of technical, material, social, and economic facets" (77).

Straw (2001) also looks at remediation in the context of recorded music formats and suggests that while new innovations are usually embraced by producers of music, a new format's popular acceptance—especially with older consumers—generally relies on "its capacity to keep alive the past" (58). However, Peters (2004) notes that new media have the potential to alter the past, or at least our past experiences derived from old media (he uses the phonograph as a case in point). Peters suggests "new media as vehicles that carry our senses and bodies across the space-time continuum, introduce us to old modes of experience that we never recognized before and therefore seem new" (195). Although remediation looks at how old and new technologies are converging, other theories analyze the outcomes of convergence between other entities as mediated by technology.

Henry Jenkins (2006; 2006a), building on some of the ideas of Bolter and Grusin, argues that the "convergence culture" occurs within digital capitalism. Favoring

consumption as a collective process, Jenkins argues, "Old media are not being displaced. Rather, their function and status are shifted by the introduction of new technologies" (2006, 14)—interaction causing the complex relationship of convergence culture. For Jenkins, the paradigmatic shift created by new media—one marked by interactive media and active users—is as much cultural as it is technological. Convergence is a process occurring within individuals' brains and with social interactions between people (what he calls "collective intelligence"), but also "it is an ongoing process occurring at various intersections between media technologies, industries, content, and audiences" (2006a, 154).

In respect to Jenkins's thesis on collective intelligence, Terranova (2004) warns us about some of the ways in which the Internet materializes collective intelligence and argues that, because we live in a postmodern cultural economy where knowledge is inherently collective, music and information are "all produced collectively but are selectively compensated" (84). So, while more and more cultural commodities are being produced through a collective effort, compensation typically comes to those who are able to establish intellectual property rights over those creations. Lévy (2001) also suggests that the major struggle in cyberspace lies between commercial interests and social movements who are centered on the exchange of free knowledge.

For Jenkins, this convergence is changing the relationship between producers (corporations) and consumers; however, convergence's impetus is that of new patterns for consumption but not production. This is not to say that production is not a part of this process, but for Jenkins it is not the sole cause for this paradigm shift; rather, convergence involves changes in the ways in which media is both consumed and

117

produced (what he calls "participatory culture"). He writes, "Digitization sets the conditions for convergence; corporate conglomerates created its imperatives" (2006, 11).

Jenkins delineates how media corporations are acknowledging these new patterns in consumption, but, through such recognition, convergence culture produces a paradox in the U.S. While the ascension of new media technologies into the marketplace have empowered the consumer, thus lowering production and distribution costs, paradoxically and simultaneously this empowerment has occurred as the ownership of the mainstream media has concentrated at an alarming rate (18). Thus, Jenkins believes that two types of convergence are occurring. First, convergence is corporate because concentrated media ownership allows multinational conglomerates who "have a vested interest in insuring the flow of media content across different platforms and national borders" to strengthen their control on the media market (2006a, 115). Second, convergence is also happening at the grassroots level where "digitally empowered consumers" shape the production, distribution, and reception of the media content bombarding them from the corporate level.

Convergence has also been considered in the context of music by Jones (2000), who cites the convergences between companies outside of the entertainment industry, such as those between hardware manufacturers and software/content providers, as the most interesting relationships between once discrete entities (221). For Jones, this "golden convergence" between technology and content is exemplified by networked technologies, and thus scholars should "attend to the ways in which technologies, and technical processes, cause them to overlap and fold back on one another...." by assessing "the means by which music making, music consuming and music distributing are

intertwined, and have become more so over time" (221). In the context of the digital

games industry, Ip (2008) writes about convergence that occurs on three levels: 1)

technological convergence (the fusion of telecommunication and computer technologies);

2) content convergence (media coming together to form multimedia); and 3) market

convergence. Ip argues that market convergence brings together previously unrelated

entities and is the "major driving force being the need to expand the user base beyond

those confined by traditional market boundaries..." and ultimately leads to "a greater

commercialization of the virtual space" (218).

It seems cliché to suggest that all media were once "new" media; however, Lev

Manovich (2001) analyzes, and maybe even provides an ontological assessment, of new

media objects in relation to old media objects. He writes, "New media does not radically

break with the past; rather, it distributes weight differently between the categories that

hold culture together…" (229). He advances the idea that new media both rely and break

from old media on lingual and cultural levels.

Manovich also argues that, through processes of digitization and computerization,

new media objects have five general tendencies (not absolute laws): 1) numerical

representation; 2) modularity; 3) automation; 4) variability; and 5) transcoding. First, for

Manovich, all new media objects are "composed of digital code; they are numerical

representation" and are thus subject to algorithmic manipulation (27). Digitization, he

writes, puts analog objects through a two-step process of sampling (turning continuous

analog data into discrete data) and quantifying (assigning a numerical value to these

objects). Second, new media objects are modular in that media elements (sounds and

images represented by discrete samples) can be assembled into larger objects (i.e.

119

combining digital sounds and digital images into a digital movie). Yet, he maintains, these elements still "continue to maintain their separate identities" (30).

Third, and because of these first two principles, Manovich writes that the numerous operations involved in the creation of new media objects are thus automated. Fourth, Manovich discusses the tendency for a new media object to be variable because it "is not something fixed once and for all, but something that can exist in different, potentially infinite versions," which is made possible through the new media's digital coding. Furthermore, he argues that variability illustrates how historically "changes in media technologies are correlated with social change" (41). Finally, what Manovich believes is the most significant aspect of media digitization is transcoding. With this tendency, the logic of the computer significantly influences the conventional cultural logic of media (and vice versa), where the ontology of the computer projects itself upon culture. He contends that while the cultural layer is analogous to content (i.e. story, plot, and point of view), the computer layer is more closely related to machine-based forms which structure the computer environment (i.e. computer language and data structure). And, when they blend, objects such as the MP3 are created.

According to Manovich, all this digitization in the creation of new media objects, in lieu of the cultural/computer composite enacted through transcoding, paves the way for an emergent logic: the database logic. Whereas with old media, there were beginning and end points, Manovich argues that new media objects do not share these qualities because they are collections of discrete items "with every item possessing the same significance as any other" (218). The database—the structured collection of data—is thus the "natural enemy" of narrative, as the latter is the "cause-and-effect" that puts the items in a

120

database into some sort of order. Regardless of lingual form, the items in the database are samples that are put into narrative through remix practices.

Sampling and Remixing

Before discussing the research questions for this study, it is helpful to consider ideas surrounding the remix cultures enabled by new media technologies (Manovich 2006; Lessig 2008). In the digital era, Manovich suggests that practices considered "appropriation" or "pastiche" no longer need a special name; rather, the basic logic of cultural production has become the loop or sample (2006, 210). Thus, he believes that artists/producers should concern themselves with the production of samples rather than an entire work because of this emerging loop-sample logic. In agreement with some of Jenkins's ideas, Manovich writes, "The media artist is a parasite who lives at the expense of the commercial media" (211) and someone who samples and loops from the media produced by corporate culture.

Manovich believes that music is an artistic field that has been ahead of other cultural industries in terms of using computers to "enable new aesthetic paradigms" (2006, 217). Manovich continues, "The field of electronic sound…with its multitude voices and real bottom-up, 'emergent' logic, is a powerful alternative to the 'top-down' cultural composites sold by global media conglomerates around the world" (218). Jenkins (2006), however, makes an important differentiation between sound delivery technologies and media. For him, CDs and MP3s are the delivery technologies while recorded sound is the medium; thus, he writes, "Delivery systems are simply and only technologies; media are also cultural systems" (14).

For much of the 20th century, argues Lessig (2008), technologies and media were read only (RO), thus the general cultural practice was read only. With the advance of new media hardware/software, the natural constraints of the "analog world were abolished," thus ushering in the read-write (RW) era where code allows for digital copying and manipulation of elements from RO culture (38). Whereas RO culture was decidedly "professional" or corporate, RW culture has enabled consumers to be producers where sounds can be used "like paint on a palette" (2008, 71). Lessig argues that remix culture creates two primary goods: 1) community and 2) education. While remixing is done by a community of remixers (and he uses "remix" very loosely to describe video, photo, sound, etc.), Lessig believes that young and old are also learning by combining and manipulating analog "tokens" of RO culture and that remixing may be the dominant way of learning in the future.

Using examples such as YouTube and craigslist as economic models, Lessig contends that digital technologies and new media are producing a "hybrid economy," where commercial and sharing economies collide. Whereas the commercial economic logic underpins the current U.S. copyright and patent systems, the Creative Commons is structured by a sharing economy rationale, which he believes should be the future intellectual property rights model since it fosters the remix culture rather than criminalizes it.

While sampling does seem to be a common logic within late capitalism, in respect to hip hop and music it has represented a kind of a "generational schism" (George 2004, 438). As a creative framework, sampling is a bridge between consumption and production, an act that "requires cultural workers to rearrange the symbols, phrases,

122

rhythms, and melodies circulating within American culture into something completely new. Sampling is part active listening and part production" (Schur 2009, 46). Sampling is also considered an example where music absorbs the sound found in the sonic environment and is neither a "technically nor an ideologically homogenous process" (Toop 1995, 262). Vaidhyanathan (2001, 245) argues that samples add value to original works, produces new meanings that are different from the originals, and that the new song with the samples does not replace the old one in the market for recorded music. "Sampling is like sending a fax to yourself from the sonic debris of the future," says Paul Miller aka DJ Spooky, "To me, the sampler is a kind of time machine. It's a way of manipulating and reconfiguring pieces of the past into the present and allowing permutations of the present to really reflect where music could be going. So you're playing with past, present, future and the imperfect tense of language itself" (quoted in Shapiro 2000, 34).

By reviewing new media and technology theory, this review of literature has come full circle, at least in respect to the CIS transfield. Now that the theoretical framework for this study has been fully delineated, research questions and methodology will be discussed.

CHAPTER IV

RESEARCH QUESTIONS AND METHODOLOGY

The background information, literature, and theory relevant to this study suggests

that the hip hop DJ scene has a dialectical relationship with the political economy of

music hardware/software and is driven by new media logic centered on networked

innovation. Thus, the following four questions have guided this research.

<u>Research Questions</u>

RQ1: What historical developments in intellectual property rights and music playback

and delivery formats contribute to a political economy of the hip hop DJ?

In order to properly address this question, an outline of the current music market

and industrial practices, primarily in relation to vinyl records, is presented. This

discussion draws on industrial statistics and interviews with people working in the

recording industry (from record labels to retail), as well as explaining how recorded

music is currently monetized. Furthermore, American intellectual property laws as they

relate to a political economy of the hip hop DJ are also outlined.

This question historically addresses the political economy of recorded music and

technology as it relates to the construction of a political economy of the hip hop DJ.

Answering this question required looking at the history of technical developments in

recorded sound and playback technology—specifically beginning with Berliner's

gramophone—and thus the role of intellectual property as it relates to control over

innovation. Furthermore, addressing this question entailed looking at how certain

hardware and delivery formats became standard technologies. A main goal of this

chapter is to delineate the history and laws that hip hop DJs manipulate and bend when they make their art, and thus sets up the second research question.

RQ2: What has been the role of intellectual property exchange and standardization in the DJ product industry relevant to hip hop DJs?

In order to answer this question, some of the major corporate players and important technical innovations in the DJ product industry are discussed. These specific companies are explored because they have implemented standard technologies and practices for the research and development (R&D) and branding of DJ products. Answering RQ2 also entailed looking at the histories of the relevant companies, as well as addressing the development and branding of technologies. In addition, this study considers the multitudinous ways in which intellectual property rights, as well as the exchange of those rights in R&D and branding between companies and DJs, have played a part in a political economy of the hip hop DJ.

RQ3: How are the meanings involved in the consumption of and production with analog and digital technologies related?

The focus of this question primarily deals with how hip hop DJs make culture through the production of turntable music beginning with the ritualistic consumption of vinyl records. This involves reviewing the personal meanings of record collections, as well as understanding the various processes/rituals for consuming those objects. Thus, an underlying question is: how do commodities become more than just things through ritualistic modes of consumption and uses? Further, what does a collection mean and is the collection of vinyl records an archive of cultural memory? How do vinyl records and their manipulation represent forms of cultural capital or subcultural capital?

Once the nuanced behaviors of consumption are fleshed out, focus will be on how these sonic artifacts are then used in the production of music. The initial hypothesis is that the vinyl record as object acquires new meanings through its use in musical production rather than merely reproduction, especially within this community. Whereas many vinyl collectors and audiophiles consume records for purposes of reproduction, the hip hop DJ arguably consumes for productive purposes; thus, a record's value comes from its content (music) and its function as a tool.

So, how do hip hop DJs consume and use vinyl records? Does their use of these objects in musical production decommodify the record or emancipate the sound on the record? And, how does this type of musical production lead to cultural/subcultural production? Are consumption and production forms of resistance? Do these types of production reinforce or reject specific structures? Furthermore, does this form of musical production challenge a medium's or technology's cyclical ideology of reproduction? If the hip hop DJ breaks this cycle, do they create a new ideology of production?

This question deals primarily with the ways in which a community uses technologies and media. Again, it's possible to argue that these uses are affected by the technology/medium, but also that the user dialectically affects the technology. The chapter ends by analyzing how the DJs in this study's sample have accepted, negotiated, or resisted digital vinyl systems and SSL and why. Also, answering this question entailed looking at what the disappearance of analog tools means for the DJs included in the sample. Finally, the discussion focuses on how new tools create new practices and new meanings, and thus sets up the fourth research question.

RQ4: Does hip hop DJ culture represent convergence and collective intelligence?

After outlining a political economy of the hip hop DJ, as well as the uses and meanings of analog and digital technologies therein, this study looks at the new media aspects and issues pertinent to hip hop DJ culture beyond DVS. Using document analysis and qualitative interview data from both DJs and those who work in the industries, makes possible the discussion of the politics and practices of product R&D, as well as antagonisms in how credit is given. The study then specifically looks at how intellectual properties have been exchanged for specific products to help highlight innovation as a networked phenomenon. Furthermore, answering this question entailed looking at how hip hop DJs' brands and authorship have been harnessed to sell products. Specific products and services are discussed, such as the DJ Hero video game franchise and DJ schools/curriculum, etc. that demonstrate industrial-cultural convergences. This chapter also looks at new technologies that are a product of networked innovation and remediation, such as the Vestax Controller One, Scratchophone and the innoFADER.

Methodology

In his ethnographic study of hip hop producers and the aesthetics of sampling, Schloss (2004, 20) notes that a major problem with most academic writing on hip hop is that researchers have not "sought or have not gained access to that community." Taylor (2001), in his study of the appropriation of sound technologies, promotes ethnography because most studies of consumption have not been ethnographic, instead opting for textual analyses of what the consumption may mean in a given context.

Thus, to address these and other critiques, this study employed numerous qualitative and ethnographic techniques, as well as historical, legal and document

analyses. Once the data had been collected, the discourse analytic method was used to analyze qualitative data (Talja 1999) and the data was triangulated in order to discover convergences of meaning between these multiple methods.

The goal was to build "grounded theory" rather than to test specific hypotheses or theories, and my many years of participation in the hip hop DJ's cultural economy helped to formulate research questions. Much of the impetus behind this study's mode of inquiry stems from everyday conversations with my peers—in both the analog and digital worlds —and many of the topics addressed in this dissertation are also part of the everyday conversations among hip hop DJs globally.

Following observations by Schloss (2004, 9) it is likely that this research ultimately will become a part the hip hop DJ's social world, and therefore, the methods were chosen with that in mind. One of the motivations of this study is to eventually communicate the findings to the participants, as well as inspiring collaborative research projects (Lassiter 2005) with those invested in hip hop DJ culture.

Sample

After proposals for this research methodology were approved by the Office for Protection of Human Subjects at the University of Oregon in March 2009, the sample for this study began to take shape. Since this research aims to understand the hip hop DJ's cultural economy, a purposive sampling schema was used. Although DJs who specialize in other music genres or privilege different skill-sets utilize the technologies discussed in this study, interviewees included only those who adhere to the hip hop DJ aesthetic. DJs included in the interview sample were those who are innovators, have industry recognition and are known in the larger DJ culture, and possess cultural or subcultural

capital. Specific DJs who have been involved in the research and development or endorsement of specific technologies were highlighted. A link to the quantitative analytic survey was placed on DJ-related Web forums in an attempt to broaden the sample of DJs, and to gather the thoughts of DJs who may not necessarily be in the spotlight.

Industry people were included in the sample because of their roles at companies connected to the hip hop DJ's cultural economy. I spoke with people at large and small companies in the DJ product industry, as well as people at record labels, distributors, music promotion, and retail music stores (both brick and mortar and online). Also included were people from companies involved in video game publishing and distribution.

Both age and race varied throughout the DJ sample, although most participants were in the 18-49 year-old male demographic. All the DJs in the interview sample were male, and the only female interviewed worked in promotion and licensing for independent record labels. Several influential female hip hop DJs were contacted, but for various reasons, the interviews never happened. In order to ensure a degree of variance, the interview sample included 51 hip hop DJs and 16 industry professionals, although many of the DJs interviewed are involved in the industry side, as well. Additionally, 49 DJs responded to the online survey. The majority of the people in the interview sample live in the United States, although DJs representing nine different countries completed the online survey.

Most participants in this study were contacted through their Myspace or Facebook pages; in some instances, I already had connections to participants through experience in

129

the industry. This study's sample was not limited by geography, although I have spent

time with DJs in the Boston, Hartford (Connecticut), Portland (Maine), and Eugene

(Oregon) areas.

Ethnographic Techniques and Fieldwork

Ethnographic techniques were employed to "collect and tell these multiple

versions of truth" (Denzin 1997, xv). While ethnography "is the method of choice" for

cultural studies (Hermes 2004, 258), Wasko also notes that it may be useful for political

economists in assessing the impact of media technology on small communities (2004,

324). In the field of hip hop studies, both fieldwork and interviewing seem to be popular

methods. Maxwell (2002) spent two years in Sydney, Australia's hip hop subculture for

his study, while McDonald (2001) spent several years in the field observing parts of the

London and New York City graffiti subcultures. Also, others have used fieldwork and

interviews to investigate hip hop practices (e.g. Hebdige 1987; Rose 1994; Toop 2000;

Keyes 2002; Katz 2004; Schloss 2004; and Chang 2005). The "field" in these studies

includes concerts, recording studios, band practices, radio show performances, art shows,

etc., as well as song lyrics, recorded music and music videos.   Fiske writes, "The object

of ethnographic study is the way that people live their culture," which is the primary

reason why this study utilizes ethnographic techniques (1987, 63).

Both participant observation and passive observation were used to document how

the hip hop DJ produces art by interacting with media. This included watching other DJs

play live gigs and even observing myself at my own DJ gigs, as well as interacting with

other DJs at record stores. Participant observation also took place at scratch DJ

"sessions" or practices, DJ competitions, and clubs or bars where hip hop DJs play. Also,

interacting with consumers and employees at pro audio retailers such as Guitar Center

and at Rane Corporation headquarters, were valuable moments of participant observation.

At Rane, I took a full tour of the the headquarters and saw the factory floor, the service

department, and spent the day with Mike May. Ethnographic techniques were

particularly useful in documenting the hip hop DJ's modes of consumption and

production and observing how DJs interacted with digital and analog DJ technologies, as

well as how these DJs engaged with the crowd.

Observation in the field helped to illuminate how the hip hop DJ produces and

consumes sound. I also utilized what Lindlof and Taylor call an "*informal

conversational interview*," which "is the most informal, spontaneous form of interview"

(2002, 176; original emphasis). Since I engage with hip hop DJs on a daily basis, as well

as participate in subcultural events and rituals, there were random opportunities for

ethnographic interviewing. These informal interviews helped formulate semi-structured

interview questions. Because I have been consuming and participating in hip hop

music/culture since the mid-1980s, and have been an avid collector of vinyl records and a

hip hop DJ since 1999, I already had many years of participating in the field before this

study. As the study progressed and new data were generated from the field, the questions

for the semi-structured interviews would be revised and rearticulated.

Interviews

Because this research is concerned with hip hop DJs shared experiences,

understandings, opinions, and behaviors, many of the findings emerged from qualitative

interviewing. According to Lindlof et al., "Interviews are particularly well suited to

understand the social actor's experience and perspective" and "allow us to hear people's

131

stories of their experiences" (2002, 171; original emphasis). Much like McLeod's study

(1999) on claims of authenticity in hip hop or Rose's (1994) study of rap, open-ended

questions with follow-ups were used. Participants were initially contacted by email or

through social networking sites. Most interviews took place over the phone and were

recorded for transcription purposes, although in several cases Skype was used to conduct

interviews. Participants could also request to receive questions by email.

The majority of interviews for this study were conducted from September 2009

through June 2010. Interviews with hip hop DJs were ended when "theoretical

saturation" (Dey 2004) became apparent; however, many additional DJs and industry

professionals would have been included if time permitted. Each interview involved a set

of questions drawn from a core list of semi-structured questions (see Appendix A). All

interviews were transcribed and totaled approximately 1500 pages of transcriptions.

Virtual Ethnography

Because there is a considerable amount of hip hop DJ discussion that takes place

on Web forums and on Facebook, another method employed was "virtual ethnography"

(Hine 2000; Dicks, Mason, and Coffey 2005; Kozinets 2006), which involved reading

and participating in posts on some of the most active online DJ communities centered on

DJ technology, such as the Skratchworx website and its forum (www.skratchlounge.com),

DJ Tech Tools (http://www.djtechtools.com/), and the forum on the Serato site (formerly

www.scratchlive.net). I was already involved with these digital communities, and have

been "friends" with many pioneering and legendary hip hop DJs on Facebook.

Virtual ethnography, or "netnography," is generally used for marketing and

consumer research (Kozinets 1997), but can be applied to the investigation of behavior of

online cultures and communities. Although this method has been applied in order to observe how communities develop through computer-mediated communications (CMC), it was used to gather more data relevant to the study, as well as looking at how digital communities organized around DJ technology and culture interact. Virtual ethnography was used to provide a "thick description" (Geertz 1973) of behavior/culture through the immersion of the researcher in the lives of the participants. According to Kozinets, netnography is "based primarily on the observation of textual discourse" (2002, 64).

Netnography data in this study came from the relevant CMC websites and also from data produced by the researcher (a form of participant observation). Also, Chrichton and Kinash (2003) believe that connections made through CMC may lead to ethnographic interviews that can be highly beneficial to the overall research project, which happened in several instances in this study. Kozinets (1998) suggests that netnography is useful for looking at "pure cybercultures and virtual communities" that do not exist offline, derived cybercultures from the real world, and also as a tool for general exploration. Hip hop DJ culture and community, like other music-based scenes, exists both online and offline. Data gleaned from this method were used in triangulation and to help write the semi-structured interview questions.

Document Analysis

While data gathered from interviews, observation, and netnography eventually became documents (through transcription), and thus were subjected to some form of discourse analysis, this study also used document analysis (Scott 1990) as a way deconstruct corporate documents. Because a major goal of this study is to explore industrial structures and their effects (what Meehan et al. (1993) call "institutional

133

analysis"), as well as personal and business networks within institutions ("instrumental

analysis"), document analysis was particularly helpful in teasing out corporate ideologies

and practices. Document analysis was also used to critically engage with other the

documents, such as legislative histories and case law, patent documents, advertisements,

and flyers.

According to Scott (1990), document analysis is a useful method for social

research since human-produced documents can help explain and describe the "actions of

agents and the structures that they produce and reproduce in the course of their lives" (2).

Documents may be corporate disclosures, trade journals, statistics, photographs,

promotional materials, government papers, etc.; however, Scott acknowledges that these

sorts of documents are never neutral and must be analyzed as such. For Scott, analyzing

documents is a method similar to other forms of textual analysis, and thus documents are

both produced and consumed with biases:

> Textual analysis involves *mediation* between the frame of reference of the
> researcher and those who produced the text. The aim of this *dialogue* is to
> move within the "hermeneutic circle" in which we comprehend a text by
> understanding that frame of reference from which it was produced, and
> appreciate that frame of reference by understanding the text. The
> researcher's frame of reference becomes the springboard from which the
> circle is entered, and so the circle reaches back to encompass the dialogue
> between the researcher and the text. (31; original italics)

Accordingly, documents were reviewed in this study by considering four variables: 1)

authenticity; 2) credibility; 3) representativeness; and 4) meaning. In other words, it was

important to question a document's origin, ask if the evidence was in error or distortion

free, decide whether it was "representative of the totality of relevant documents" (Scott

1990, 24), and assess whether the evidence in the document was clear and

comprehensible. These variables, for Scott, do not exist in a vacuum; rather, all four are interdependent. Thus, document analysis, much like the other methods, entails understanding that all documents are not "truth" in themselves, but instead "truths" that are discursively constructed.

Quantitative Analytical Survey

A quantitative survey was used as a way to broaden the scope of this study's sample (see Appendix B). The survey served as a way to gather the thoughts of DJs who could not be interviewed or were outside of the United States, but also as a way to generate relevant data. The quantitative analytical survey was employed, as Wimmer and Dominick (2006, 179) suggest, to help explain *why* a situation exists, while the qualitative methods were used to actually describe the existing conditions. The survey was not developed to stand up to scientific rigor, but to provide complementary data to that generated through ethnographic techniques and interviewing. The survey was created from a form in Google Docs, and consisted of open-ended and multiple choice questions, Likert scales, grids, checkboxes, and lists. None of the questions on the survey was mandatory and providing a name or contact information was optional.

Although analytical surveys are generally used to test hypotheses, this method was also used to help "examine the interrelationships among variables and to develop explanatory inferences" (Wimmer et al. 2006, 179). Berger (2000) argues that these types of surveys are useful in determining "whether there are causal relationships between certain kinds of behavior and various social and demographic characteristics of people" (188-189). The survey was distributed electronically through email or posted on related Web forums, such as UGHH.com, Skratchworx.com, and Serato.com. The survey

135

addressed a range of issues, from music and technology consumption to brand

identification, digitization, and copyright law.

Analysis

A sizable amount of data were generated by using these methods and I would like

to be clear on how this data was organized and analyzed. This study used what Denzin

(1978) calls methodological and theory triangulation. I also utilized triangulation,

especially as a way to account for personal biases as a hip hop DJ doing an academic

study on the art and commerce of the hip hop DJ. According to Denzin (1978),

triangulation allows the researcher to understand the subject under investigation from

multitudinous viewpoints of empirical reality. Theoretical triangulation involves

interpreting phenomena using different theoretical perspectives to illuminate how

findings can be affected by assumptions that the researcher brings to the study. The

findings of this study were interpreted using theories described in Chapter III in order to

illuminate how seemingly divergent theoretical perspectives can be used in combination

with data to build new theory or strengthen existing bodies of thought.

As outlined above, this study used various methods to collect data. To achieve

methodological triangulation, the results from the semi-structured interviews were

compared with published interviews or documents, particularly looking for any variations

or similarities between face to face or private conversations and "public" communication

spaces (e.g. Facebook, Web forums, documentaries, promo videos, magazine interviews,

etc.). Also, data were triangulated from different points of view. For instance, hip hop

DJs were asked about a product and its development, as well as manufacturers, retailers,

and consumers.

Furthermore, interview data about corporate ideologies of intellectual property were cross-referenced with historical or other corporate documents. Data gleaned from observation notes, court opinions, press releases, survey results, interview transcripts, newspaper articles, Web forum posts, advertisements, songs, flyers, and patent applications were also used in triangulation as means of bolstering confidence in the final results of this study.

One of the major assumptions of this study is that ideas about technology, intellectual properties, what hip hop DJing is (and is not), and so forth are primarily constructed discursively. For the purposes of this study, hip hop DJ techniques, practices, tastes, aesthetics, histories and even technologies are considered socially constructed through discourse rather than solely as discrete objects that exist in the world. With this in mind, much of the textual data gathered for this study were analyzed using the discourse analytic approach outlined by Talja (1999). This approach regards interview data as social texts that are, by nature, collective cultural phenomenon. The discourse analytic approach's basic analytic unit is an "interpretative repertoire," which is a cluster of flexible and dynamic terms that represent ways of giving meaning. Talja argues that during interviews, participants create "versions" of the objects of the interview talk (for this study, an object could be a turntable, mixer, or digital software) and that these versions are full of bias and evaluation.

Therefore, in this approach the researcher must abandon "the assumption that there is only one truly accurate version of participant's action and belief. Interview talk is, by nature, *interpretation work* concerning the topic in question. It is *reflexive, theoretical, contextual, and textual...*" (Talja 1999, 464; original italics). Talja likens the

137

identification of interpretative repertoires to putting together a jigsaw puzzle and suggests that researchers must look for patterns (consistent or inconsistent) in interview transcripts. Researchers should: 1) analyze consistencies and contradictions in one participant's answers; 2) look for regular patterns of variability, which are repeatedly occurring descriptions, explanations, and arguments in different people's talk; and 3) identify assumptions that underlie a particular way of talking about a phenomenon (466). Talja contends that interview transcripts are not descriptions of the object of research, but *are* the object of research (472), and that reliability is increased through methodological triangulation.

While the discourse analytic approach provided a general tool by which I could explore interview transcripts and other documents used in this study, one of the major challenges was to develop a coding schema that would identify interpretative repertoires. Codes, themes, and categories for this study were largely developed by reading and re-reading interview transcripts and were then applied to other data. The first step in the coding process involved the careful reading and initial coding of a subset of transcripts. This subset included a transcript from DJ JS-1, DJ Wicked (one of the few DJs I spoke with who does not use a digital vinyl system), and one of my interviews with Mike May from Rane in order to include an industry professional in the subset and give it variance (Boyatzis 1998). Each interview was read up to five times look for key terms, meanings, and patterns that would lead to initial codes. Although I went into the subset with a some sense of codes based on my experience in the field, the majority of codes and categories emerged inductively (in both the subset and later in the full-range of transcripts).

138

After coding, an initial subset of thematic categories emerged; including: 1) authenticity 2) subcultural/cultural capital; 3) corporate/cultural convergence; 4) intellectual property, creation, and credit; 5) archivism and vinyl records; 5) cultural/industrial relationships with digitization; and 6) authorial uses. Other categories emerged through the full coding process. Coming up with initial codes and categories involved first looking for labels that described the underlying meaning of chunks of text within the subset. These codes were then lumped together categorically as themes and then worked into somewhat of a hierarchy, from general to specific.

Before going into the full coding process I made a chart that defined categories, outlined the codes that fit under a given category, and then gave categories a color code which was applied as I coded transcripts; this chart was updated as categories, codes, and definitions emerged. After each transcript was read and color-coded, chunks of text that fit within a category were cut and pasted into word processing documents for each category—an adaptation of the cutting and sorting method. Once categorical documents containing coded text from interviews were organized, I then structured them according to patterns and overlaps, and then restructured the document into narratives that emerged. These categorical documents then served as a general outline for the discussion of findings. After the coding scheme was applied to other documents used in the study (e.g. magazine articles and corporate documents), new coded data were worked into these frameworks.

Positionality

As previously noted in Chapter I, this research has been influenced by my role as a long-time consumer of hip hop/rap music and a hip hop DJ for 12-years. The results

and analysis might have been significantly different if conducted by someone who was not a fan of the music or a DJ. I have a tendency as a DJ to emphasize the art and the art form. In addition, many of the hip hop DJs interviewed for this study have been personal idols. While this gave me a deep knowledge of a specific DJ, it also put me in the position of a fan interviewing his hero. Thus, triangulation analysis was especially important for the study.

However, being a hip hop DJ and a hip hop/rap music fan also provided advantages for conducting and analyzing this research. First, by being involved in this cultural field I may, have had a stronger sense of who was a credible authority on certain topics. Second, my credibility and authority as a DJ may have given me more access to some interviewees. Third, by having a deep knowledge of hip hop music and DJ technology, I may have been able to have more free-flowing conversations during the semi-structured interviews. Fourth, some of the practices and aesthetics of the hip hop DJ have been misunderstood in other studies (e.g. Katz 2004), which (hopefully) was avoided in this study.

The previous discussion have reviewed the relevant background information, theoretical framework, research questions and methodology for this study. The following chapters present the study's findings. These chapters are based on the theme of the hip hop DJ as manipulator of intellectual property, as well as an intellectual property that is manipulated—a dialectic that drives and binds the development of DJ culture and industry. The threads that hold each chapter together are the different ways in which standardization and intellectual property exchange/rights have interacted within such a political economy. The next chapter is a discussion of the history of the recording

industry as it relates to standardization, intellectual property rights, and the hip hop DJ's

medium: the turntable and vinyl records.

CHAPTER V

STANDARDIZATION AND INTELLECTUAL PROPERTY RIGHTS IN THE RECORDING INDUSTRY

"Back in the days when I was a teenager/ Before I had status and before I had a pager/ You could find the Abstract listening to hip hop/ My pops used to say it reminded him of be-bop/ I said, 'Well daddy, don't you know that things go in cycles'" ~Q-Tip[51]

On August 18, 2010 I woke up and went through my regular morning computer routine, and, upon arriving at the Facebook portion, I started seeing all sorts of "Fat Beats R.I.P." messages on people's walls. My initial thought was that of disbelief. But, it was true, Fat Beats Records had officially announced that it was going to shut down both its Manhattan, New York and Los Angeles retail locations because of the impact of digital downloading and the rising cost of rent. After a series of blowout sales and tribute shows, the NYC location was shut down on September 4 while the LA store shut its doors on the 18th. Although it had closed its retail operations, Fat Beats kept its label, distribution, and online retail units open.

The company—founded by Joseph Abajian in 1994 as a basement retailer of strictly hip hop music—was not only a proponent of vinyl records but Fat Beats Distribution (now renamed FB Distribution) is one of the primary physical distributors of hip hop music on vinyl. Fat Beats Distribution is especially known for handling the manufacturing and distribution of vinyl for other independent hip hop record labels (it still handles this, but the vinyl record part of its business has dwarfed). Fat Beats was

---

[51] In "Excursions," from the A Tribe Called Quest album, *The Low End Theory* (Jive Records 1993).

fully vertically integrated as it owned had presence in all stages—from production to distribution to retail.

Branded as "The Last Stop for Hip Hop," the NYC store had become an iconic location that was synonymous with the great boon in independent hip hop in the mid-1990s, and was the launch-pad for a lot of groups who got their start by buying records there. Fat Beats is a global brand as well, as it once had retail locations in Atlanta and Amsterdam, and it also licensed its name for a Japan location. Its NYC and LA stores have been managed by DJs in this study (DJ Eclipse and DJ Babu), and numerous DJs who participated in this study have been employees at Fat Beats.

As the production of vinyl 12" hip hop singles was phased out by most record labels (major and independent) by 2008, the Fat Beats retail locations were selling everything from posters to hip hop belt buckles just so that it had inventory on the shelves. Two months after Fat Beats announced closing its retail locations, Panasonic confirmed that it was ceasing production of its SL-1200 turntables—both palpable and symbolic losses for hip hop DJ culture. The closure of Fat Beats also represents recent struggles within the recording industry to turn a profit, especially in respect to monetizing vinyl and physical product.

This chapter begins with a historical analysis of the recording industry, paying close attention to the themes of standardization and intellectual property manipulation, exchange, and rights. This analysis is broken into five eras that are represented by different music formats and playback hardware. Once the historical foundation has been establish, the chapter then looks at the current market for recorded music and industry structure. It concludes by reviewing the development of U.S. intellectual property laws.

143

<u>Historical Analysis</u>

This analysis is divided into five epochs marked by advances in playback technology, each followed by a review of developments and antagonisms in intellectual property rights during those eras: 1) the acoustic era (1877-1923); the electrical era (1924-1944); 3) the magnetic tape and LP era (1945-1970); 4) the cassette era (1970-1982); and 5) the tangible digital era (roughly 1983-2000).

While format standardization is emphasized in this chapter, the discussion also highlights how playback hardwares and software have had different dependencies on one another within culture and the market, and how these technical developments are the product of vast networks of innovation rather than an individual or corporate genius.

This historical analysis of music technology will help to further illuminate current conditions within a hip hop DJ's political economy. Thus, technologies must be understood as social artifacts that evolve through a complicated network of relations, and critical historiography will help to demonstrate the meanings encoded into vinyl records and turntables (in Chapter VII we will look at some of the ways in which hip hop DJs deconstruct these codes). This analysis looks at different historical epochs to highlight evolving industrial prioritization of IP rights as a reflection of the shifts in the market for recorded music and playback technologies. This history, then, will hopefully demonstrate the "important ways in which economic and cultural forces have shaped technological inventions" (Kenney 1999, 44), as well as how such a story is one driven by the "constant disruption of innovation" (Millard 2005, 5).

The Acoustic Era: 1877-1923

Thomas Edison applied for a U.S. patent for "An Improvement in Phonograph or Speaking Machine" on December 15, 1877, and was awarded patent protection (#200, 521) on February 19, 1878. The first phonograph prototype was built by Edison's top machinist, John Kruesi, and Charles Batchelor, and was based upon a crude sketch drawn by Edison in the weeks prior to the patent filing. The phonograph was a development based upon experimentation with the telephone and telegraph at Edison's research laboratory in Menlo Park, New Jersey. The process of mechanical/acoustic recording entailed dual diaphragms as a microphone/speaker (eventually replaced by one bell horn) that used needle units to transcribe sound waves onto tinfoil that was wrapped around a metal cylinder, using the vertical ("hill and dale") motion of the stylus (the needle). Essentially, it was a "voice writer" that harnessed acoustic energy without any reliance on electricity. The phonograph would also playback recordings and was initially intended as a business device for transcription and message delivery. Edison had ten proposed uses for the device, which would allow consumers to write (produce) and read (consume) sound.

According to Read and Welch (1976, 4), all of the parts used in the 1877 phonograph were were based on prior art: 1) the trumpet, sketched by da Vinci and used in communication systems for the Duke of Milan; 2) the diaphragm, articulated by Hippocrates of Greece and used in drums; 3) the stylus, used in pictographs by Egyptians and Assyrians; 4) moving cylinders, used in lathes; 5) the feed screw, an innovation of Archimedes; and, 6) the wheel.

There were also a series of sound recording devices that were either conceptualized, developed, patented prior to Edison's phonograph. Although not intended for sound reproduction, Édouard-Léon Scott de Martinville received a patent for his phonautograph in 1857, a device that transcribed sound waves onto a rotating cylinder wrapped in paper. F.B. Fenby applied for a patent for his Electro-Magnetic Phonograph in 1863, a device that was never actually built, but is often regarded as the idea behind the player piano. Another sound recording device conceived prior to Edison, noted primarily for its influence on Berliner's gramophone, was poet Charles Cros's paleophone introduced in October 1877. Cros, who came up with the idea of using a disc, never patented his idea nor built a prototype. He made his device public domain, but eventually sought credit when he heard about developments by Edison and others.

Although granted patent protection in 1878, Edison did not develop his machine for commercial use until Charles Sumner Tainter approached him in 1885. Tainter had developed a method for recording onto a wax cylinder instead of tin (Edison's patented method) and sought the valuable Edison brand for his innovation. Shortly thereafter, Edison's research team began working on a commercial model of the phonograph.

Meanwhile, in 1886 Tainter and the research team at Bell Labs introduced the graphophone, marketed by the American Graphophone Company (later to become Columbia Records). The graphophone, much like the phonograph, was a read/write mechanism also intended mainly for business use. In 1888, Jesse Lippincott bought both the patents for the phonograph and graphophone and formed the North American Phonograph Company, a corporation that licensed the business use of machines and

cylinders in territories in the U.S. where those patent rights could be exploited (this, in essence, gave the company a monopoly). Lippincott's enterprise was dissolved by 1894.

But meanwhile, inventors such as Edison were developing different technologies (Edison received 36 patents on phonograph devices from 1888-1889). In the 1890s most cylinders were produced and sold as blank slates for recording. Columbia Records was one of the first companies to sell pre-recorded music. Also during this time period, music was primarily consumed as sheet music, much of it coming from Tin Pan Alley. During the 1890s sales of sheet music tripled

Emile Berliner developed the gramophone, which used a lateral recording method and a disc instead a cylinder to avoid infringing on other patents. The gramophone, patented November 8, 1887 (#372,786), was geared towards entertainment rather than business use and was first exhibited by Berliner on May 16, 1888 in Philadelphia. Initially manufactured as a toy, Berliner began releasing musical disc records as Berliner Gramophone, and licensed rights and set up gramophone companies internationally.

Berliner also developed a metal master record from a wax recording, which allowed for the mass production of discs. However, at no point during this process of innovation were consumers able to produce their own recordings. Thus, in many ways, the enterprise and technical innovations developed by Berliner established the basis for the mass production of playback-only discs, which is the underlying structure of the modern recording industry. According to Frith (2001, 31), the gramophone made it possible to "'play' a musical instrument without having any musical skills. Music could be made at home as a matter of consumption rather than technique."

In the mid-1890s, the business involved manufacturing discs and cylinders and the hardware to play them back—the actual music was somewhat of an afterthought (Chanan 1995, 55). Before the gramophone, recording involved many takes recorded onto individual phonographs. However, Berliner's innovation allowed for one take to be pressed numerous times from the master disc. In the early days of the business, recording artists released recordings exclusively for one manufacturer, so in order to hear a specific recording artist consumers had to own the playback technology from the company where the artist worked. During the mid-1890s, Berliner hired the Gaisberg brothers to round up talent for recording in Europe (literally, the first A&Rs),[52] which is partly the reason why the gramophone became the cultural medium in Europe. The Gaisberg brothers also sought investors to help start the U.S. Gramophone Company (the company that held the patents).

The brothers also wound up at the machine shop of Eldridge R. Johnson because they thought that the gramophone would benefit from a spring-driven motor. Berliner was not known as a great mechanic and was having patent issues, so the incorporation of Johnson's spring-driven motor would settle many of those problems. Berliner was also not known for marketing and sales savvy, so he employed Frank Seaman to market and sell gramophone products. Seaman later produced the Zonophone, a rip-off of the gramophone, and eventually lost a patent court battle with Berliner and Johnson. Due to monopolies granted by patents, entrance into the talking machine market was extremely difficult, and often times independent inventors who showed their innovations to other manufacturers would either be forced to sell or, more commonly, their innovation was

---

[52] Artists and repertoire (A&R) are divisions of recording companies in charge of talent scouting and linking up recording artists with producers and songwriters.

stolen by the larger corporation. The industry could be called the "wild, wild west" of intellectual property rights where technical innovation was trumped by patent rights and "ongoing espionage" (Welch and Brodbeck Stenzel Burt 1994, 72).

Johnson eventually merged his Consolidated Talking Machine Company with the Berliner Gramophone Company, creating the Victor Talking Machine Company in 1901 ("Victor" is presumed to refer its court victory against the Zonophone), and gained majority ownership of the company and its patents. A few years prior to Victor's incorporation, the Nipper trademark (the picture of a dog listening to a gramophone) was acquired; however, Johnson only began exploiting the trademarked dog after the court ruled that Victor did not have the exclusive right to the word "gramophone." Thus, in combination with Nipper, Johnson branded his product as "Victor" or the "Victor Talking Machine." Shortly thereafter, terms such as "phonograph" and "gramophone" would not distinguish inventors' machines, but became generic descriptive words for playback hardware.

During this time, three dominant companies emerged in the U.S.: 1) Edison's National Phonograph Company; 2) the Columbia Phonograph Company; and 3) the Victor Talking Machine Company. These three companies dominated the early industry because they were large enough to manufacture efficiently, support research laboratories, market their products on a large scale, and control almost every important patent for talking machines and records (Chanan 1995; Morton 2000; Coleman 2003; Millard 2005). In the early 1900s, there was also an ongoing format war between the discs and cylinders of Edison and Columbia. There were also patent issues between Columbia and Victor because Columbia was developing discs and Victor was pressing its discs on wax.

149

Instead of taking the issue to court, on December 8, 1903, Columbia and Victor pooled its patents in a cross-licensing agreement that would leave Edison's cylinder format in the dust. With an array of proprietary formats and playback devices on the market, there was a good deal of confusion with no standardized hardware/software; however, the patent pool forced the cylinder business to adapt and gave discs the advantages.

1903 was also the year that one of the most important technical developments was introduced: the tonearm. In earlier instruments, the narrow end of the bell horn was connected directly to the sound box, but the tonearm meant that the horn could now be independent of the sound box. This would allow Johnson, who realized that the talking machines of the early 1900s were, like most developments of modernity, aesthetically industrial, to hide the machine's mechanics. Thus, by 1906 the Victor/gramophone had morphed into the Victrola, the first mass-market record player—in essence, the first home stereo. This new playback device acted as "Victorian camouflage for the industrial machine" (Kenney 1999, 51) as it hid the mechanics in a wooden cabinet and provided space for record storage. Johnson's advertising of the device as "a standard musical instrument" contributed to the Victrola becoming seminal in fostering the industry ideology that "phonographs should look as little like phonographs as possible" (Gelatt 1977, 192). Edison followed suit the same year, offering the Amberola as a competing cylinder product with internal horns.

Also in 1906, Victor began releasing operatic songs on its highbrow Red Seal imprint, which helped make collecting recorded music an elitist activity. Thus, the launch of the Victrola and the Red Seal collection in 1906, might be called the "moment at which one might pinpoint the reification of music" (Eisenberg 2005, 13). Johnson

150

encouraged recording artists to sign long-term contracts, and then devoted large advertising budgets to exploit the artists' names. While early recordings were used to sell playback hardware by displaying its technical virtues and the inventor's genius, by 1907 the inventor had been replaced by the opera star as selling points of the record (Millard 2005, 61).

1906 was a major year for technical developments and movement towards standardization; it was also the time when these developments "naturally whetted the interest of other entrepreneurs" (Welch et al. 1994, 119). The Victrola fared extremely well in the market during the next years, as the "Victrola" replaced "phonograph" or "talking machine" in common discourse, which aided the disc's standardization. By 1909 Columbia had stopped manufacturing cylinders, and by 1913 Edison had adapted the disc format as well. Edison Diamond Discs did poorly in the market, and also did carry the recording artists' name (Edison believed that inventors were the selling-points for hardware/software, and did not allow artists' credit until 1915). By 1910, a mass market for recorded music flourished as Victor sold 94,557 machines (compared to 7,570 sold in 1901).

In 1914 ASCAP (American Society of Composers, Authors and Publishers) formed to protect the copyrights of Tin Pan Alley's composers, whose works were performed on mechanical recordings (discs). Early recording companies recorded of popular music, which was mainly consumed as sheet music. The talking machine industry actually expanded the market for sheet music because it acted as a form of advertising for compositions (Read and Welch 1976, 391). However, publishers cut the retail costs of sheet music, which ultimately meant that composers' royalties were also

sliced. ASCAP was only giving composers and publishers one third of the royalties collected, which did not encourage publishers to join the fledgling performance rights organization. By 1918, one half of the income that ASCAP collected went to publishers and one quarter to authors and composers. (Interestingly, much of the income at the time came from the motion picture industry.)

Efforts to standardize playback devices and formats, according to Chanan (1995, 31), give rise to a specific kind of commodity, called "technical linkage." This means that the commodity takes on a "double form" where the market for the turntable is interdependent with the market for vinyl records, or, more generally, an interdependence develops between recorded music playback hardwares and software. Therefore, any manufacturer of a new hardware must consider the production of new software (i.e. MP3, cassette, Serato Scratch Live) or at least how current standard software can work with the new hardware.

Without compatibility with acceptable software, or the development of software that will lead to standardization, there will be no market for the hardware. Millard (2005, 213) calls standardization an "invisible technology" while Morton (2000, 6) considers it a "two-way process of negotiation between the designers and the users of a technology." For the recording industry—that has historically been in control of the development of new hardwares and software—the implementation and acceptance of new playback hardware/software has led to the profitable practice of "compulsory repurchasing," which is when consumers must repurchase new software to keep up with hardware upgrades (Wurtzler 2007, 301).

The Big Three still controlled much of the talking machine market through 1917, a dominance bolstered by the exploitation of patent rights as a method for keeping independent inventors/companies out of the market. These limited monopolies illustrate the "technical linkage" mentioned previously, but what was even more important was that both the playback technologies and the formats for recorded music were proprietary. Therefore, an independent recording company could not record onto a disc that would play on the Victrola because of the technology's proprietary status; thus, for companies to enter the market, they would either have to invent and develop competing products or license rights from intellectual property holders.

However, the market changed in 1917 because most of the basic patents protecting the phonograph and gramophone had expired. By 1918 there were 166 companies competing in this market, compared to 18 companies four years earlier. As Chanan notes, "The economics of record production during this period are easy to comprehend. The low cost of entry into the business stimulated new labels, catering to relatively small markets, thus a distinction appeared between independent companies and the majors" (1995, 54). While the initial period of the acoustic era (1877-1914) was marked by competition over hardware sales, the latter part of this era saw patents expiring as well as a diminished focus on securing such rights in favor of selling recordings in mass quantity.

The recording industry continued to be successful into the 1920s as a by-product of post-war consumption. However, falling sales and overproduction, as well as the introduction of broadcast radio that provided recorded music to consumers for free, meant problems for the music industry. Nevertheless, moving into the electrical era, the

phonograph industry had a clear advantage over the emerging radio medium because it "supplied a preexisting market for electrical-acoustic technology–that is to say, an identity for the medium did not have to be engineered and developed" (Wurtzler 2007, 43).

Electrical Era: 1924-1944

The electrical era is represented by the 78rpm shellac disc and electrical methods for recording and playback, as well as increased emphasis on copyrights. The big companies that emerged from this era were those involved in the production and sale of recorded music and diversification of their interests in all stages of the production and distribution. This era also included increased consolidation, as well as innovations pertaining to the length of recording time on discs.

Although 1924 was marked by low record sales, it was the year that Western Electric received patent protection for a method of capturing sound with microphones and the use of vacuum tubes to amplify the signal to an electromagnetic recording head. These innovations made it possible for electrical methods for recording and playback to develop. The electric recording process (then known as Orthophonic recording) was able to capture the musical energy lost through the inefficient acoustic process, in which bell horns were used as microphones. During the same year radio and talking machines converged, as Victrolas and Brunswick machines allowed space for radios. Thus, the innovation of electrical acoustics, instead of increasing competition, actually helped to increase media concentration in the U.S. (Wurtzler 2007, 63).

Victor also began marketing its Orthophonic Victrola, which was a playback device that made electrically recorded discs with the sonic qualities of radio broadcasts,

as well as boosting bass and treble frequencies. This development came after Victor signed a licensing agreement with Western Electric, which forced Victor to convert its studios and create new recording techniques. Furthermore, Victor had to drastically mark down its existing stock of acoustic devices and discs, as well as putting a good deal of capital into marketing its new Victrola. The Orthophonic Victrola not only allowed for the playback of new electrically recorded discs, but also reproduced acoustic discs, which arguably "facilitated technical change by maintaining consumers' confidence in the value of their existing record collections…" (Wurtzler 2007, 44). This reduced consumer confusion about the new medium and contributed to standardization.

With radio providing consumers with free, music the recording industry went into a "schizophrenic frenzy" (Chanan 1995, 61). Faced with increased pressure to reduce profit margins to compete with radio, Johnson sold Victor to two New York banking houses in 1926. In his tenure with the company, Johnson helped sell nearly 8 million instruments and 500,000 records (Isom 1977). Shortly thereafter in 1929, Victor was absorbed into by RCA, which turned the Camden, New Jersey manufacturing plant into a factory for producing radios. RCA had been looking for an "extensive plant and a well-organized system of distributors and dealers" (Gelatt 1977, 247). After the formation of RCA Victor, Edison quit the music business. Two years prior, Columbia, sensing the RCA/Victor merger, invested in United Independent Broadcasters as a way to get airtime to promote its records. It was at this point—with record sales suffering because of the Great Depression and consumer acceptance of radio—that firms interested in the sale of recorded music were either bought by out or bought into broadcasting companies.

155

Although recording companies initially considered radio's use of its content to be a form of piracy, eventually they reconciled and acknowledged broadcasting as promotion of its products. Because publishers, authors and composers would still receive royalties from music played on radio broadcasts, recording companies started buying song publishers in order to stockpile catalogs of copyrighted material. For recording companies, priorities had shifted to securing and exploiting copyrighted works and creating synergies with other products. The combination of market conditions with technical innovations led to the emergence of large diversified sound empires that controlled everything from song publishing to recording to broadcasting.

The 1930s, noted as the most "doleful phase" for the recording industry (Gelatt 1977, 255), was a decade that saw an increase in ownership concentration and the practice of recording companies buying copyright catalogs from bankrupt firms. Millard writes, "They were now empires of sound: huge, integrated business organizations based on the reproduction and transmission of sound" (2005, 175). In this phase of recorded music's history, the inventor was replaced by the business-oriented CEO as the head of these new sonic empires.

Even with synergy between a large corporation's recording, radio, and film units increasing the market potential for music, the sale of records dwindled throughout the earlier part of the decade. What would keep the recording industry viable, however, would be record sales destined for jukeboxes. After the prohibition of alcohol was repealed, jukeboxes became a prominent method by which people consumed musical socially, and, in 1936 alone, 60% of record sales went to jukeboxes. And, this was not the first time that jukeboxes had kept the recording industry afloat; during the depression

of the 1890s, coin-operated machines were a major source of revenues for recording companies.

At this point radio was king, and, in an effort to promote regional music ("hillbilly" and "race" records) while serving the local stations that ASCAP had largely ignored, radio broadcasters formed a rival performance rights organization (PRO) in 1939, Broadcast Music, Incorporated (BMI). The distinction between these PROs would prove to be important as BMI would eventually become the primary PRO representing the lucrative rock 'n' roll genre. While recording companies and radio stations had paid royalties to ASCAP and its members in the 1930s for recordings of operas or marches, "authors" of country and blues music were not compensated or recognized by the industry because those genres were largely based on improvisation as their creative starting points.

By the end of the 1930s recorded sound was no longer a distinct product, but existed only as part of the integrated entertainment industry, and a new Big Three had emerged: RCA Victor, Decca, and Columbia/ARC. Both RCA Victor and Columbia Records, (bought by CBS), were directly connected to the powerful marketing of radio broadcasting. These companies, unlike the Big Three from the acoustic era, were mostly concerned with marketing star recording artists, selling records, and exploiting copyrights. While technical innovations in recording and playback occurred in this era, it was not necessarily by firms interested in the sale of recorded music. Whereas in the earlier days of the business, "classic" recordings were made and remade, the music industry began to shift its focus towards instant success in the form of the pop record.

157

While some of the technology transformed and converged during this period, the disc record was the standard format for the consumption of recorded music.

Magnetic Tape and LP Era: 1945-1970

After a couple decades of format standardization, the recording industry experienced numerous technical innovations and new formats, and, in many ways, returned to the format battles of the acoustic era. A major change occurred on September 11, 1944, when U.S. military forces took over Radio Luxemburg and its magnetic taping technology (Gelatt 1977, 286; Day 2000, 20). Magnetic tape changed recording and broadcasting because it allowed multiple takes and edits instead of the one-take recording method. For broadcasting, radio programs could be recorded ahead of time. Jack Mullin, an American soldier who was stationed in Germany, brought the technology back to the U.S., developed the technology and pitched it to Hollywood studios. Due to his interest in pre-recording his radio broadcasts, Bing Cosby invested $50,000 into the commercial development of the product with Mullin and the Ampex company. In 1948, Ampex released its model 200 professional recorder aimed at studio recording. Products aimed at the consumer market were eventually created, leading to the reel-to-reel and Compact Cassette formats.

The recording industry had initially battled against, but then joined, radio broadcasting. In 1948, it faced a new technological competitor: television.[53] The industry's answer was the development of new music distribution formats such as the LP and 45rpm single. In order to capitalize on these new formats, recording companies

---

[53] It is important to note that the competition was more perceived than it was real as the large entertainment conglomerate that owned recording companies were also involved in the development of television. It was more of a concern that consumers would choose television over records.

again began focusing on the development of hardware. In the late 1940s the recording

industry was relatively healthy, as it focused on ephemeral pop hits and singles. There

was also an upsurge of labels independent from the Big Four[54] at the end of the decade,

when 32 American record pressing plants were producing out nearly 350 million records.

The first format used to compete with television was the 33⅓rpm long-playing

microgroove record (LP) developed by CBS Laboratories, which was headed by Dr. Peter

Goldmark. Because of time limitations of the 78rpm disc, the market was entirely

comprised of singles; the concept of an album did not exist. The LP, however, allowed

for approximately 23 minutes of content on each side of the disc. CBS developed the LP

as a complete system: to play 33⅓ recordings, a CBS record player was necessary, and,

because of new materials used in record pressing, consumers would also have to purchase

new cartridges and needles. This technical linkage was a major strategy employed by

CBS. Furthermore, CBS knew that if the system was successful, they would be able to

re-release titles from their back catalog in the new format.[55] CBS intended the system to

be cheap and reliable for consumers; however, it was so anxious to bring the format to

market that it did so before their record player was ready for commercial sale. Thus, the

music retailer Sam Goody gave away a special adapter with the purchase of more than

$25 in LPs. CBS released its catalog of classical recordings on 12-inch discs and popular

music on 10-inch discs (the 10-inch LP format was abandoned a decade later). The LP

soon supplanted the 78rpm disc, and did attracted $3 million in sales during its first year,

the absence of an adequate player. Aside from longer playing time, the LP format

---

[54]   Columbia, Decca, RCA Victor, and Capitol.

[55]   The first pop record issued on the LP format was a reissue of Frank Sinatra's *The Voice of Frank Sinatra*.

provided longer record life, lighter needle pressure, improved dynamic range and frequency response, and was less prone to scratching and surface noise.

The sonic properties were improved mostly because CBS pressed its LPs onto a propriety plastic, called Vinylite, a polymer more commonly known as PVC (polyvinyl chloride). PVC is still the standard product used in the manufacture of vinyl records today. The LP was one of the earliest uses for industrial plastics and was the first in a series for formats that represented cooperation between the plastic and recording industries. Until 1948, records had been made out of numerous compounds, but the standard product was shellac. Vinyl enabled the groove size on records to be drastically reduced, which allowed for more music to be stored on an LP. Also, playing at 33⅓ rpm, which was more than half the speed of the 78rpm format, also allowed the LP to better reproduce sound.

In 1948, the Imperial Paper Box Company also started making folded chipboard jackets, using paper sleeves on the inside. This was a vast improvement—in terms of protecting, shipping and storing records—over the previous method of storing brittle shellac discs in paper sleeves. The LPs use of these jackets would eventually usher in the concept of album art and design, a factor that became an important consideration in marketing records. Because of the LP's technical superiority, nearly 100% of recording companies at the time accepted the format.

But the format war heated up in 1949. Unwilling to implement and license the LP system from CBS, one of its main competitors in the market for recorded music, RCA Victor, introduced the 7" 45rpm vinyl single. This format battle would yet again place two of the original Big Three back into competition over sales related to technical linkage

between hardware and software. The 45 system used a 7" disc with a similar groove size as the LP, however, the size of the disc limited the length of the recording. Therefore, 45s became the standard delivery format for pop singles, rock n' roll, and soul music.

In its first year, RCA spent $5 million to promote the 45s. Paper sleeves were multi-colored, which helped the format to stand out retail outlets. Interestingly, in 1930 RCA Victor had launched its Program Transcription format, which was a long-playing 12" record that played at 33⅓rpm. However, with the economic climate at the time of its commercial release, the format was largely a failure (Gelatt 1977).

Other recording companies started releasing their music on the LP, 45, and 78 formats. With all these choices, both retailers and consumers tried to make sense of the new formats because of the dominance of the shellac 78rpm disc (Read and Welch 1976, 342). Within a few years, both RCA Victor and Columbia Records adopted the competitors' formats and develop record players that could play both speeds. The 45 format became the standard delivery method for singles, while albums were typically released on LP. By the 1990s, the 7" 45rpm records were destined for jukeboxes as the vinyl 12" single replaced them in the consumer market.

Meanwhile, each company had its own standards for recording. Thus, in 1952 the RIAA (Recording Industry Association of America) formed to set a standard equalization level for recording and playback on vinyl records and to lobby in Washington on behalf of the its members. Also, with the implementation of new technology used in pressing records, old machines were often bought to press bootleg copies. Thus, the RIAA also was charged with combatting the new wave of piracy (Morton 2004). The technical advances in sound delivery and reproduction ushered in during this format war gave way

to the mass-market phenomenon of hi-fidelity. Also in the early 1950s top 40 rotations were implemented at radio stations. At the time, however, there were enough independent radio stations and record labels to push independent music as well as to realize the value of the radio disc jockeys.

In the 1950s record companies were considered majors "when they owned their own manufacturing plants and directly controlled their distribution outlets in addition to simply producing records" (Chapple and Garofalo 1977, 15). In 1955, the Big Four controlled 75% of the market, but, by 1959, that market share had dwindled to 34%. Because of the success of independent record labels that were run by music people and not business people, majors started offering distribution to indies and then eventually buying them and their catalogs. It is important to note that this rise of the indies was closely linked to those labels' ties to DJs on radio.

The 1960s was a decade marked by a series of mergers, and more emphasis on copyright exploitation and distribution network power over hardware development. Although there seemed to be a great number of independents, this was an "illusion" because behind all these companies were a small number of integrated entertainment corporations (Millard 2005, 333). Furthermore, by the end of the 1960s the American market caught the eyes of foreign companies as EMI took over Capitol, and the PolyGram group bought MGM and Verve, and United Artists distribution. Competition for the acquisition of independent record labels intensified, and, as firms became further horizontally integrated, by forming "label federations" (what we now refer to as "music groups")—loosely affiliated labels with divisions (usually genre-based) that allowed relative autonomy and distinctiveness. This strategy offered the majors a way to cope

with market uncertainty by spreading their risks, as well as for parent companies to reap synergistic benefits by creating company-wide manufacturing in order to exploit economies of scale.

These new highly diversified corporations' power was in promoting and distributing products. Equipped with music publishing arms and distribution networks, the Big Six (CBS, Warner Bros., RCA, Capitol-EMI, PolyGram and MCA), as well as a half dozen "minors," dominated the market. Meanwhile, the 45 and 33⅓ formats had achieved industrial and cultural standardization, although the introduction of the Compact Cassette would upset this equilibrium.

Cassette Era: 1970-1982

Although Philips, a Dutch electronics company, began manufacturing and selling cassette tapes in 1963 (releasing them in the U.S. in 1964 under the Norelco brand name), the format was not adopted by the recording industry until the 1970s. Initially, cassettes were bought by consumers to make copies of their LPs—reflecting the fact that record labels "did not satisfy the demands of consumers" (Morton 2000, 137). According to Chanan, the mass consumption of blank cassettes "began to rupture the economic laws that the record companies exploited because it promoted the circulation of recorded music outside the market – although in doing so it expanded the market for virgin tape and introduced a new element of competition between the record companies and the tape manufacturers" (1995, 154). Much like Columbia's graphophone or Edison's phonograph, the compact cassette was originally developed as a format for dictation.

However, cassette tapes did not make major consumer waves until the oil crisis of the 1970s caused a shortage in the PVC used to manufacture LPs. Major record labels

163

started using recycled vinyl or pressed music onto thinner discs—both cost-cutting

methods that would affect the sonic qualities and durability of the records. Interestingly,

Philips also owned one of the Big Six recording companies at the time (PolyGram), but

did not release its music commercially on cassettes until much later. As Japanese

manufacturers (Sony and Matsushita) incorporated cassette players into home stereos that

could rival the reel-to-reel format, the sale of blank cassette tapes soared to 125 million in

1970. By 1973, the sales of cassette players eclipsed record players. The format became

so popular so quickly that Philips, under pressure from other hardware manufacturers,

licensed its technology for free.

After lobbying by the RIAA against cassette piracy, Congress enacted the Sound

Recording Amendment of 1971, which finally gave federal copyright protection to

recordings. Prior to its enactment, federal copyright protection was only awarded to

publishers, composers, and songwriters. A 1977 report by the International Federation of

the Phonographic Industry (IFPI) suggested that if piracy was not defeated that the

industry would be gone within five years. An IFPI spokesperson called for industry-wide

solidarity in the battle:

> Unity of all branches of the industry, be it hardware production, disc
> pressing, cassette manufacturing, or wholesale or retail outlets, is the only
> way to stop the trend....But the pirates are greedy fly boys who don't give
> a damn if they kill the goose that lays the golden eggs. They are here today
> and gone tomorrow, but we in the industry cannot afford to be. (quoted in
> Jones 1977, 791)

By the end of the decade, the Philips subsidiary PolyGram became the first

recording company to earn over $1 billion in annual revenues. The constant market

growth in the 1970s made the major record companies attractive investments to large

multinationals, an interest signaled when Thorn, a retail, electronics, and defense conglomerate, merged with EMI to form Thorn-EMI in 1979. However, 1979 was the first year in which the recording industry saw a decline in sales since WWII (Dannen 1990). Although full-length albums garnered the majority of market share throughout the 1970s, 40% of sales were singles (Garlick 1977).

In the early1980s cassette sales were almost equal to LPs, and Sony's popularization of the Walkman brand of portable cassette players helped to push commercial sales of the format. Although the Walkman was based on the portability concept made popular by transistor radios in the 1950s, its acceptance and popularity set the stage for portable MP3 players years later. However, the sale of blank cassettes still had the recording industry concerned with piracy in 1980. With most home stereos equipped with two cassette decks, a CBS study showed $700-800 million in losses to piracy, while the RIAA claimed billions. Radio and film had been the main conduit for music promotion for nearly 60 years, but the introduction of MTV and the music video format in 1981 proved a far more effective marketing tool. By decade's end, MTV reached over 56 million homes. MTV also attracted to the valuable 18-34-year-old demographic, which also helped boost vinyl and cassette sales. By 1986 the sale of pre-recorded cassettes superseded LPs, a format "advantage" enhanced by the industry-wide acceptance of new CD technology.

Rap music also grew during this era, distributed mostly on 12" vinyl singles, LPs, and cassettes. Initially considered a fad by major record labels, rap music would eventually grow into a $5 billion dollar industry (Basu 2005). While Sugar Hill Records was the first rap label, other important labels to release rap records were Enjoy Records,

Winley Records, Tommy Boy Records, and Def Jam. With several of its singles doing extremely well, Def Jam, a label started on a $5000 dollar investment, signed a $1 million dollar distribution deal with CBS Records in 1985, starting a trend that many labels would follow. Another important development for rap music in 1988 was MTV's *Yo! MTV Raps* program, a 2-hour show devoted to rap music videos that would help push the genre on a global level. In 1988, rap records represented 2% of the market, in 1992, it was 5%, and by 1995 rap music accounted for over 8% of overall sales.

The Tangible Digital Era: 1983-2000

While record sales and corporate revenues soared into the 1980s, piracy remained a major concern for the industry as sales of blank cassettes equaled that of commercial cassette and LP releases. The CD format was introduced in 1982, first as a way to curb piracy, and, second, as a way to get consumers to re-purchase all their favorite cassettes or records on CD, which reinforces record companies' continued exploitation of their back catalogues. The fact that consumers were willing to re-purchase music in the new format suggests that many of the mergers in the 1980s were partly motivated by the potential of extensive vaults. Not only were these conglomerates interested in owning the rights to sound recordings, but they also purchased publishing companies so that they could fully exploit music for television, radio, and film, as well as license those rights to their competitors.

Philips (owned by PolyGram) developed and promoting the Compact Disc (CD) along with Sony, the company that developed the first CD player (Sony CDP-101) in the late 1970s. While CBS and RCA battled over formats in the late 1940s, Philips and Sony were able to use piracy as a motivation for the Big Six record companies to swiftly accept

166

the CD format. If the cylinder was the "victim" of the format wars of the acoustic era and the 78rpm record was the victim of the 45/LP war, the ultimate loser in the introduction of the CD was the vinyl LP. As indicated in *Figure 7*, LP sales fell 80% from 1978-1988. In addition to copyright exploitation and protection, the CD also offered record labels a format that was far cheaper to distribute and store than vinyl records and allowed for 74 minutes of storage (at the time LPs offered about 20-25 minutes per side). While tape and vinyl records lost sound quality from the original master recordings, CDs were near perfect reproductions of the master recording.

The industry was also able to standardize the CD format and make the costly LP disappear by force. In the early 1980s most labels and their distributors adopted a policy of refusing to buy back unsold copies of vinyl LPs from retailers, which proved to be a great incentive for retailers to carry commercial releases on cassette or CD. However, vinyl

Units Shipped - in Millions of Units
(1982 to 1992)

This content is proprietary, any reference to or reproduction of this data must be attributed to the Recording Industry Association of America.

Current View	All Data by Units			All Data by Value						
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
CD		0.8	5.8	22.6	53.0	102.1	149.7	207.2	286.5	333.3	407.5
Cassette	183.2	236.8	332.0	339.1	344.5	410.0	450.1	446.2	442.2	360.1	366.4
LP/EP	243.9	209.6	204.6	167.0	125.2	107.0	72.4	34.6	11.7	4.8	2.3
Totals	427.1	447.2	542.4	528.7	522.7	619.1	672.2	688.0	740.4	698.2	776.2

Figure 7: RIAA data for sales of vinyl LP/EP, cassettes, and CDs from 1982-1992.

12" singles, used mainly as a format for label promotion and marketing with radio

167

stations and DJs, as well as 7" 45s used in jukeboxes, kept vinyl records alive throughout the 1980s and into the 1990s. The 12" single was also a popular commercial format among music aficionados in those decades, as the format typically offered alternative versions such as a remix, instrumental, or a cappellas. Although there was still a demand for LPs, which the industry supplied, most labels severely limited the number of LPs they pressed.

Even with all these industrial measures in place to standardize the CD, the format was slow to catch on at first because of technical linkage: the Sony CD players were initially very expensive. The CD may have also gained cultural acceptance because it was a disc and consumers had become comfortable with discs since the days of Berliner (Steffen 2005, 30). Although the cassette represented a format that allowed consumers to make their own mixes and play with commercial music, thus liberating them from the structure of the LP, the CD suggested a return to the "one-way, monopolistic, homogenizing tendencies" of the LP format (Manuel 1993, 15). Another major difference between the 1970s and the 1980s is that labels began cutting down on the number of albums produced and marketed, thus opting to sell larger quantities of fewer titles. This trend would continue until the present time as a way for major labels to reduce the risk of breaking new titles and artists in the market, in the end giving consumers less choice.

With an increasing number of new releases available only on CD or cassette tape, record stores dropped LPs and 45s from the shelves entirely. In 1989, vinyl sales dropped to a lowly 6% of the recorded music market, while CD sales rose to 200 million and cassettes up to 450 million units shipped. There were nearly 20 million CD players

in use by 1990, when the recording industry saw a steep rise in sales of prerecorded CDs —an increase that coincided with the rapid sale of blank cassettes. By 1991, vinyl records had almost been completely removed from stores. Both the price of CD players and the manufacturing costs of CDs dropped in the 1990s; however, the retail price of CDs remained relatively the same through the early 2000s. The profit margins on CDs contributed to the industry's steep growth during the decade.

Recording companies represented major cash cows for large diversified corporations in the 1980s. In 1985, General Electrics bought the RCA Corporation and then sold its 50% interest in RCA Records and its subsidiaries to Bertelsmann (soon renamed BMG Music). Then in 1988, Sony bought CBS Records for $2 billion, an acquisition which gave the electronics company a roster of artists and a back catalog to exploit through vertical integration. Consumers bought its commercial releases on CD and played them back on Sony CD players. Matsushita (the parent company of the Technics brand) bought MCA Inc. in 1990, later, in 1995, Seagram would buy MCA and Universal film from Matsushita for $5.7 billion. Thus, by 1995, Sony, Matsushita, and Philips became the modern equivalent to the original Big Three, as these companies not only developed hardware, but also delivery formats and recordings. The ability for these large electronics companies to buy these recording companies largely grew out their involvement with the implementation and then market success of CD hardware/software.

In 1998, Seagram bought PolyGram, in what was then the largest merger in the industry's history. Two years later, Vivendi bought all of Seagram's entertainment assets for $34 billion; the PolyGram and MCA family of labels later became the Universal Music Group (UMG). As the new millennium approached, the U.S recording industry

was worth an impressive $13.7 billion, while globally it was valued at $38.1 billion, selling a total of 4.4 billion units (2.2 billion CDs, 1.4 billion cassettes, and 200 million vinyl LPs). By 2000, the Big Six of the 80s had morphed into the Big Five (UMG, BMG, EMI, WMG, and Sony), an oligopoly accounting for about 95% of the records sold globally in 2000.

Although the CD distribution model aided in the consolidation and profitability of the industry, once consumers gained access to CD writing technologies towards the end of the 1990s ,they began realizing how cheap it was to manufacture CDs. The retail price point of approximately $18 had been stable since the inception of the CD, although due to economies of scale granted by standardization, CD manufacturing costs had dropped significantly. In 2002, the Federal Trade Commission (FTC) ordered the major recording companies to pay $143 million to 30 states for violating anti-trust laws by forcing retailers to adhere to their CD pricing systems. This price-gouging had never been a problem for the music industry before, but once consumers were able to buy blank CD-Rs and duplication hardware, their eyes were opened. Blank CDs allowed for the perfect replication of prerecorded discs without a loss in sound, and with the growth of the personal computers, the recording industry found itself in a format war that it could not control. This time the war was not waged between RCA Victor and CBS, but instead between the industry and a delivery format that represented the computer industry and consumers: the MP3. In the next section of this chapter, the industrial negotiation of the MP3 and digital distribution will be discussed.

Current Music Market and Industrial Structure

Using qualitative data gleaned from interviews and quantitative data produced by trade associations such as the RIAA and IFPI, this section looks specifically at the challenges and strategies of the production, distribution, promotion and retail sales of hip hop music. After reviewing the current market conditions, which are represented by the MP3 format, the vinyl 12" maxi single and some of its history will be discussed.

The MP3 format was originally designed to compress video files in the early 1990s. Unlike many of its predecessors—from the disc record to the CD—MP3 technologies were not introduced by the recording industry. Rather, the software and hardware used in the playback of digital music were developed and marketed by huge computer technology corporations (e.g. Apple and Microsoft)—companies with little interest in the production or marketing of recorded music. As computer and Internet connectivity technologies improved, MP3s allowed the unauthorized distribution and consumption of recorded music. This new form of piracy was brought to light in *A&M Records, Inc. v. Napster, Inc* (2001). Napster had provided MP3 recordings for free download and the court ruled that this was an infringement on copyrights held by recording companies. After this case, the RIAA began suing select music consumers who downloaded MP3 music files without authorization.

Recording companies were slow to offer commercial downloads of MP3s but began exploiting the digital market in 2004. By 2007, the RIAA had curtailed its lawsuit binge as the recording industry was profiting from MP3 sales. Although MP3 files are nonrivalrous goods, in that the consumption of an MP3 file does not prevent another person from having that file, the recording industry has viewed an unauthorized

171

download as the equivalent of someone walking into a record store and physically

stealing a record. Record labels coveted their physical model of distribution, and failed

to realize that an MP3 cost no money to manufacture or distribute. By the time recording

companies realized this, iTunes had become the world's largest retailer of recorded music

and the iPod the primary playback hardware. For the first time in its history, the

recording industry had lost control of the market by losing control of the methods by

which music was consumed.

By failing to adapt, the recording industry's revenues dwindled significantly in the

2000s. In 2000, the U.S. recorded music market was valued at $14.3 billion and the

global market at $36.9 billion. Global revenues fell to approximately $17 billion in 2010.

According to SoundScan data, in the first decade of the new millennium, sales of digital

music, accounted for 64% of the total number of recordings sold. After a series of

mergers and acquisitions earlier in the decade, by 2010 there were four large recording

companies that controlled the market: 1) Universal Music Group (UMG, 30.84%); 2)

Sony Music Entertainment (Sony Music, 27.95%); 3) Warner Music Group (WMG,

20.01%); and 4) EMI (10.18%). Independent record labels represented 11.02% of the

market for recorded music (Nielsen SoundScan 2010). While UMG and Sony Music are

subsidiaries of multinational entertainment conglomerates, WMG and EMI are owned by

private investors and are no longer a part of large media corporations.

According to 2010 SoundScan data, album sales fell 12.7% and CDs sales were

down 20%. Although digital singles sales reached 1.17 billion units (up from 1.16 billion

in 2009), overall sales of recorded music were down 2.4%. 2010 SoundScan data also

shows that vinyl LPs were up 14% at 2.8 million units, and accounted for 1% of album

sales, which is a SoundScan record. However, RIAA data shows that 3.2 million vinyl LP/EPs were shipped in 2009, but SoundScan data showed that only 2.5 million of those units sold. 2010 SoundScan also reports that 71% of vinyl LPs were bought at independent record stores, with most of the sales representing reissues of classic rock albums (the Beatles's *Abbey Road* sold 36,000 units), as well as some new indie rock artists (i.e. Black Keys and Arcade Fire).

In general, the majority (72.4%) of 2010 rock sales were reissues of back catalog titles, while rap music, which is a more hit-driven market, had very few back catalog releases (33.9%) but was the only genre to see a rise in sales, up 3% from the year prior. Since back catalog titles have already been marketed, they are low-risk sources of revenue and, therefore, typically represent profit (especially if distributed digitally). One estimate (Singh 2001) states that back catalogs can make up more than 40% of sales and 70% of profits for a typical major label. Jeremy Lascelles, a chief executive at Chrysalis, says that back catalogs become "an easy fall-back for a music company which owns lots of old rights to exploit them. They are dealing with the tried and tested as opposed to the brand new and speculative" (quoted in Allen 2009). Revenues generated from music publishing were up 1.4% overall in 2009, but because many recording artists own their own publishing companies, this market is less concentrated.

In 2009, UMG's publishing arm (UMPG) had a 17.25% market share, followed by EMI (16.72%), Sony ATV (16.26%), and Warner/Chappell (11.22%), while other publishers controlled the remaining 38.5%. Record labels are increasingly exploring licensing deals with other media, as well as developing other models such as the "multiple rights" or "360" contract. These 360 deals focus less on the sale of recorded

music and the need to quickly recoup label investments in advances and promotion, and more on how record companies can capitalize on a recording artist as a whole. From concert tickets and merchandise to fragrance and clothing lines, labels get a cut of everything (usually about 10%). Rio Caraeff, an executive at UMG, says, "We look at the total consolidated revenue from dozens of revenue lines behind a given artist or project, which include digital sales, the physical business, mobile sales and licensing income" (quoted in Sisario 2008).

The structure of the recording industry had remained the same throughout much of the physical era, although digital distribution methods are changing this structure. In exchange for ownership of copyrights, record labels finance the production of recorded music. Record labels are responsible for marketing and promotion, essentially building buzz about the product. Distribution involves manufacturing, and getting products into the hands of retailers, who ultimately have access to consumers. Labels may use distributors for physical product and digital product, as well as for vinyl and CDs. Most major recording companies own distribution networks that have existed for decades, as well as subsidiaries that only deal with independent music. Other players in the industry include radio promoters, publicists, and publishing companies.

Vinyl 12" Maxi Single

From the previous discussion, it is clear that the recording industry is currently struggling. Of special interest for this study is the status of vinyl 12" maxi single. Although it has been claimed that vinyl LP sales have skyrocketed over the last few years, the data suggests that this is only relative (see *Figure 8*). While total vinyl sales have increased in the last three years, sales have yet to reach the 2004 totals (4.9 million

174

shipped). However, while fewer units have shipped, vinyl has generated more revenues: $62.7 million in 2009 compared to $39.2 million in 2004. According to RIAA data, the last time total vinyl revenues were this high was in 1997, when $68.9 million came from vinyl sales.

At first glance, it would seem that vinyl sales are producing profit for the industry, as the only physical format generating sales. However, the vinyl 12" maxi single basically

Current View	All Data by Units				All Data by Value					
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
LP/EP	27.7	27.4	20.5	21.7	19.3	14.2	15.7	22.9	56.7	60.2	˙
Vinyl Single	26.3	31.4	24.9	21.5	19.9	13.2	9.9	4.0	2.9	2.5	˙
Totals	54.0	58.8	45.4	43.2	39.2	27.4	25.6	26.9	59.6	62.7	

Figure 8: RIAA data on units sold of vinyl LP/EPs in comparison to the sale of 12" vinyl singles.

disappeared during the 2000s. In 2001, 5.5 million were shipped, but by 2009, only 300,000 vinyl singles hit the market.

In 1973, when the RIAA began tracking these figures, 228 million vinyl singles shipped. This number is high because vinyl singles included 12" maxi singles and 7" 45rpm singles, and during the 1970s, most singles sold as 45s. By the beginning of the 1990s, vinyl singles shipments dipped to 27.6 million units, and by the end of that decade, was down to 5.3 million units. This drop could be due to the fact that most labels stopped producing 45s as commercial singles, as the format became designated for jukeboxes. What is interesting is that in 1989 both vinyl LP and single sales were about even (34.6 million for LPs and 36.6 for singles); however, by the mid-1990s vinyl singles

175

were out-shipping LP/EPs at a 15:1 ratio. From 1989 until 2006 vinyl singles outsold LPs, and did so at at least a 2:1 ratio. 2007 was the first year that LPs out-shipped vinyl singles since 1988. By 2009, LPs were out-shipping vinyl singles tenfold.[56]

Since most of the vinyl singles in the 1990s were 12" maxi singles—the format used by DJs—these numbers suggest that DJs were partly responsible for keeping vinyl records alive through the 1990s and into the new millennium (recall that vinyl LP sales dropped over 80% in the 1980s, largely because of the CD). But, there is an argument to be made that it is the DJs' consumption of 12" singles that kept vinyl alive from the 1980s until the new millennium. This is because the 12" is literally a format created by DJs for DJs.

By the 1970s, vinyl singles were typically pressed onto 7" 45rpm discs. The demands of disco DJs and remixers for longer and louder tools, together with a little bit of circumstances, led to the commercialization of the vinyl 12" maxi single. However, as opposed to most of the history of recorded music, the 12" single was "'introduced' as a result of consumer demand rather than record company marketing guile" (Brewster and Broughton 2000, 180).

This development involved Tom Moulton, a successful disco music remixer in the 1970s, who would change commercially released disco songs, essentially changing their structure, maybe add a drum break, and then press those mixes onto 7" 45s for DJs to use in the clubs. However, at the time the typical destinations for 7" 45rpms were radio and jukeboxes, which forced recording artists to product 3-3.5 minute versions. Not only did

---

[56] The RIAA measures units shipped, not units sold.

this limit the length, but the quality. Furthermore, 12" discs offered more space for the DJ's hand to manipulate and back-cue records than did 7" discs.

In the early 1970s, Moulton went to have one of his remixes cut and the vinyl press had run out of 7" blanks. Moulton, then in a rush to get his remix to DJs, adjusted the gain and EQ for the song and cut it on a 10" disc. "Oh, when I heard it I almost died," says Moulton, who had more copies of the 10" pressed, "So it was by accident...But for the next song we cut, we went for the 12" format instead of the 10" and the song was 'So much for love' by Moment of Truth. That was the birth of the 12" single" (quoted in Discoguy n.d.).

Moulton gave out DJ promo copies and tried to get feedback from DJs on the reaction of the audience to his remixes. His remixes were popular in the club scene; however, partygoers could only purchase the original mix and not the remixes heard in the clubs. In 1976, Salsoul Records decided to meet the demand and produced the first commercial vinyl 12" maxi single, "Ten Per Cent" by Double Exposure. The 12" single quickly became a commercial format, made popular by DJs and club-goers. Thus, dance clubs and DJs became valuable promotional tools for recording companies (Discoguy n.d.1), as they produced 12" singles of their releases once the market was established. When rap records first came out in 1979, the 12" single was the primary delivery format. In fact, in the United States "Rapper's Delight" was only released in the U.S. as a 12" maxi single. The 12" would become a very important tool for most DJs during the 1990s, and, for hip hop DJs who were engaged in heavy-duty manipulation, it became the standard format.

Earlier in this chapter, we saw how Fat Beats, a store whose revenues had come from 12" vinyl sales, negotiated the lack of both supply and demand of the format by closing its physical stores and maintaining its online retail. Since digital vinyl systems became popular around 2005, shipment of 12" singles have decreased 1,167% to 300,000 in 2009. Therefore, it is worth exploring the economics of the 12" during the 1990s-2000s.

During the late 1990s, unless a label was doing a lot of 12" presses, maybe 5,000 more, there was not really a great deal of profit made. First, a label had master plates pressed, which cost about $300. For a 5,000-10,000 press in the early 2000s, it cost about $1-$2 per record pressed. Additional costs were incurred for the picture cover. Labels would then sell 12" discs to distributors for about $3.50/unit, distributors would sell them to retailers for about $5/unit, and costumers paid $6-$7. An LP, however, was potentially more profitable because involved one disc and one sleeve, but would retail for $15-$18. Even though it cost more to manufacture a double LP, there was more money to be made than with a 12" single. The cost of manufacturing color picture jackets also had to a lot to do with overall price. Because the whole system operated on an economies of scale model, many labels/distributors ordered more covers than needed with the hopes that there would be more pressings.

In other cases, independent hip hop record labels received cash advances from distributors to deliver singles and then the distributor picked up the production costs. DJ Mighty Mi, who owned and operated the now inactive label, Eastern Conference Records, an imprint that sold 30,000 copies of some 12" single titles, had an advance deal with Rawkus. Might Mi says that they delivered an artist's song to Rawkus, and that they

gave them a cash advance; the label/recording artist received royalties only when Rawkus recouped its investment. "They [Rawkus] would withhold 20% for months in case other record stores returned the vinyl and then they would get peanuts for that. So that would always be your profit margin. And then you have to explain it to the artist. It is just a huge shit show" (Mighty Mi 2010).

Double J, who is a co-owner of the promotion company, Foundation Media, and released six 12" singles through his label Trilogy Records, explains: "So it wasn't so much about making money off of the 12", it was more about making our money back off of the 12" and using the 12" to create other opportunities..." (Double J 2010). Adam Walder, aka Quest, the CEO of www.UGHH.com, one of the world's largest retailers of hip hop recordings says: "Back in the day people would walk out of a store with 15 or 20 12" singles and not even think about it...Now it would be like people really needed something to be super special for them to buy the 12 inch up" (Quest 2010). Quest notes that his company is selling far more LPs than in the past because there is a market of non-DJs who want vinyl records. And, because 12" singles are not being manufactured, the only option for consumers who want a copy on vinyl is to purchase the LP.

While a lot of independent hip hop record labels do not necessarily lament the disappearance of the 12" because of profit margins, the 12" single was bread and butter for some label. Papa D, who works for Traffic Entertainment Group and is a co-owner of Brick Records, a Boston-based hip hop label, relied on vinyl 12" sales:

> Our entire business was based on singles and vinyl, but we would put out a single with no cover, a die cut jacket, no picture cover, the crappiest looking labels you could ever come up with, and we could sell 2,000. Day one, we would be able to ship 2,000 without doing any kind of promotion whatsoever. And this is like '96 where there weren't too many indie labels

179

and there were a lot of people doing what we are doing so people were hungry for product. So we could sell 2,000 without doing anything, literally without doing anything. And 2,000 we would consider a failure back then. If we sold 10,000 records, anywhere from 5,000 to 10,000, we would consider it a success. (Papa D 2010)

Up until 2007, most of Brick's releases were only on 12" vinyl, although they released vinyl LPs and cassettes, as well. Brick's post-2007 releases have all been or CD on MP3.

Papa D says that it was around 2006 when Brick realized that vinyl was "pretty dead," signaled by the closure of numerous pressing plants. As pressing plants shut down it also meant that independent labels, who pressed far fewer units than majors, kept seeing the manufacture dates of their products being postponed as the larger orders by majors received priority. These delays exacerbated the problem in 2008. DJ Nikoless, who does retail marketing for Rhymesayers Entertainment, an underground hip hop label based in Minneapolis, says that they stopped pressing 12" singles because they stopped selling. "The same people that were buying records eight or nine years ago, I am sure that a good percentage of them are still DJs. Maybe 70% of them still DJ. But how many of them are still buying vinyl? Are we [DJs] the problem?" (DJ Nikoless 2010).

While Nikoless suggests that DJs stopped buying 12" singles, Papa D contends that DVS technology is 90% the problem and downloading in general is the other 10%: "there is no reason for them [DJs] to buy 12"s anymore, none, zero. I don't blame them...That technology [DVS] has made the need for singles completely meaningless" (Papa D 2010). However, Papa D admits that in the end it is everybody's fault: DJs started using digital vinyl and stopped buying 12" singles and record labels stopped producing them.

DJ Eclipse, who started working at the New York City Fat Beats store in 1994, says that digital distribution and downloading really hurt the store, and this was compounded by DJs going digital. At Fat Beats Distribution, a company that handles the manufacturing and shipment of vinyl for a large portion of independent hip hop labels (including Rhymesayers), and has shipped 20,000+ units on some titles, both labels and distributors have become more cautious about what and how much they press. Whereas 10 years ago, they would start by pressing 3000 copies, in 2010 Eclipse says it is more like 500. "You just have to cut back a lot on the titles that you take in and can't take any chances. You have to look for more name value stuff, names that still mean something in the buyer's market" (DJ Eclipse 2010).

The 12" single format was costly to manufacture/distribute and retail was limited to the DJ market. Double J suggests that for labels looking to cut costs, the first thing dropped was the 12" single, which was for many labels, a marketing tool for radio and club play. Most third party music promoters and record labels are now digitally promoting their music to DJs and radio, which has its drawbacks. Interviewees for this study suggested that not only have labels shed the manufacturing costs of producing 12" singles, but they no longer have to pay for shipping and handling. Instead, they "blast off" emails to radio and club DJs. However, this has leveled the playing field as start-up labels or artists no longer have to promote their music via 12" singles.

Jessica Weber, who now owns co-sign collective but was Vice President of SPECTRE Entertainment Group for almost a decade (both radio promotion, licensing and distribution companies), thinks that the absence of vinyl has also devalued the music. Weber explains: "It's helped and it's hurt...but sending someone an MP3 and getting them

excited about that is not as easy as sending them a piece of vinyl because people love products, especially the people that we are sending records to because they are music lovers, they are collectors, they are heads, they are diggers. So an MP3 just doesn't have the same meaning really" (Weber 2009).

Havana Joe, who does promotion and marketing for Stones Throw Records, suggests that sending DJs physical copies of music "means a lot more than me sending an e-mail..." (Havana Joe 2010). When vinyl 12" singles were the prominent promotional format, DJs had more incentive to play and chart certain records. Double J jokes that "vinyl was a carrot that we had to dangle in front of DJs' faces..." (Double J 2010). Double J also likens the promo 12" single to a "gift" given to DJs, sort of symbolic of their working together to make a record a success, but "now we really don't have that gift because getting an MP3 is not the same as getting a piece of vinyl." Papa D, who now promotes Brick Records releases to DJs/radio, thinks that what is missing in the digital age are the personal relationships with DJs; email communication feels cold in comparison to phone or in-person communication.

Nevertheless, the overseas market is still strong for vinyl LPs and even CDs. Quest says that UGHH.com is now selling more vinyl LPs than they had in the past and surprisingly their CD sales are up as well. Digitization, though, has in some ways made it tougher for consumers since there is no quality filter for what gets distributed. But this also has its pros and cons. In the 1990s and 2000s, Double J and Papa D both note that having a vinyl 12" single is what made you (as a label or artist) official and separated you from the rest of the pack, and now that threshold is not really there for consumers. While digital distribution and promotion has reduced manufacturing and shipping costs, the

MP3 also erases costs associated with storing and hiring workers to maintain physical product. Further, MP3s prevent the government from taxing distributors or retailers for existing inventory.[57]

Papa D, though, says that Brick, while moving into digital distribution, is still producing physical product because "we are old school and we want to be able to go into a CD store and see our CD there" (Papa D 2010). Labels and distributors are committed to making physical product, but selling LPs/CDs requires catering to a collector's market (see *Figure 9* and *Figure 10* for example). Furthermore, many labels and distributors have found it more profitable to reissue old titles, which already have a built in market, but do so with inventive packaging. DJ Eclipse says that in order to sell physical product in 2011, "One, the music has to be worth buying and the second thing is that you have to do something else extra with the packaging...It might cost a little bit more but it's kind of like the only way that you are guaranteed that you are going to run through it" (DJ Eclipse 2010).

Figure 9: Image of Marley Marl *In Control Vol.1* reissue with blue vinyl (top) and slipmat set (bottom). Images courtesy of Cold Chillin' Records and Traffic Entertainment Group, Inc.

---

[57] Taxes are why, not only music retailers but others, have major blowout sales leading up to the new year.

Figure 10: Pete Rock and C.L. *Smooth Mecca and the Soul Brother* reissue box set (left). Image courtesy of Warner/Elektra/Atlantic Recording Group and Traffic Entertainment Group, Inc. Peanut Butter Wolf *45 Live: The Box Set*, hip hop songs reissued on 7" 45rpm discs (right). Image courtesy of Five Day Weekend & Traffic Entertainment Group, Inc.

Labels and distributors have gone all out in this respect by releasing special box sets that include related products, from lunch pails and trading cards to slipmats and tee-shirts.

Papa D says that the physical market is now more of a niche market, and while the music is still important, that "it's how you sell them, how unique they are, how limited they are that makes them unique, that's going to sell" (Papa D 2010). While these sorts of sales gimmicks have been prevalent in other genres (i.e. rock) for several decades, it is newer territory for hip hop and rap records. DJ Nikoless says Rhymesayers realizes that in order to get physical sales,they have to make special products that give fans reasons to make a purchase beyond the digital release. Stones Throw Records has been at the vanguard of making limited products that cater to music fans that collect, such as limited edition 45s or special box sets. Quest thinks that collecting is what has kept UGHH.com in business and will continue to keep the retail company's sales up.

While labels such as Stones Throw have sought corporate sponsorships to help with touring and promotion, and many of these labels are going after music licensing opportunities in other media (television, film, advertising, video games, etc.). According to Double J, whose company also does licensing for its artists, the era of the 12" licensing was the cream on the top, but in 2011 "a lot of folks are relying on the extra income as a way to keep the lights on, it's definitely become a more sought after form of revenue, and because of that there are a lot more people trying to get that money. There is a lot of competition for those licenses" (Double J 2010). Weber has seen a lot more of her attention go towards licensing and it now helps "keep the wheels turning at a lot of these labels" (Weber 2009).

One of the problems, however, is if music licensed for, let's say, *Madden 2011*, all of the samples used in the song must be cleared. If an artist/label is getting a good deal from *Madden 2011* and a content holder notices an uncleared sample, chances are the artist/label may be challenged. Most independent labels have had problems with sample clearance because those rights are often not cleared by the artists. Although using an uncleared sample is still considered an unauthorized use, many independent record labels fly under the radar because their records are not generating enough sales to warrant the attention of major copyright holders. It is somewhat ironic that most of the claims brought against independent hip hop labels about sampling seem to be from rappers whose voices have been scratched by DJs in songs. However, Papa D suggests that this is changing because major record labels are also struggling and looking for revenue streams, even if the money comes through a court settlement. So, "now that these other

artists are making money they are actively trying to chase down sample money more than they used to" (Papa D 2010)

This brief overview of the current music market, and, more specifically, the vinyl market, provides more insight as to how the recording industry's priorities have changed along with the development of DJ technology. Now that this chapter has reviewed a history of the recording industry, as well as current issues, the next section addresses the evolution of U.S. intellectual property laws.

U.S. Intellectual Property Law

Throughout the development of the U.S. entertainment industry, from the early days of the printing press to the MP3, intellectual property laws have been a source of conflict between industry, authors, and the public. Who should these rights protect? For how long? And, what should these laws protect? With these questions in mind, this subsection looks at the development of U.S. intellectual property law as it relates to recorded music and the hip hop DJ.

Typically, "intellectual property" (IP) is a blanket term that refers to the protection of the mind's creations by granting exclusive rights to the "author" of those creations. While IP refers to copyright, patent, and trademark laws, trade secrets and industrial design rights are also covered. While all these forms of IP are relevant to this study, copyright and patent are most applicable to a political economy of the hip hop DJ. Regardless, the rights granted by IP laws are intended as creative incentive for "authors" to innovate by giving them the exclusive opportunity to control those rights. The thought is that the financial incentive will lead to further innovation and creation that somehow

186

benefits society (Lessig 2005). In the end, the public and consumers are supposed to be the ultimate beneficiaries of IP laws.

While intellectual property has a much longer history, both copyright and patent laws are built into the U.S. Constitution. The clause commonly referred to as the "Patent and Copyright Clause," grants Congress the power to "promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries" (U.S. Constitution, art. 1, sec. 8, cl. 8).

While both patents and copyrights are based on economic incentives, an anti-monopoly ("limited times") framework structures those incentives. By protecting and rewarding creators, patent and copyright are supposed to encourage healthy competition that benefits society. After the original rights expire, properties are then under the collective ownership of the public (public domain). This clause suggests how the framers of the Constitution felt about the important dialectic between the public and "authors," and the need for socially beneficial innovations.

Currently, the U.S. copyright term lasts for the life of the author plus 70 years, or 95 years for corporate authored works. The law protects any idea that is fixed into a tangible medium. It is important to note that most commercially recorded music is "authored" by a corporation and thus has 95 years protection. For music, copyright protects the sound recording as well as the underlying compositions and lyrics.   All transformative uses (i.e. sampling or collage), derivative uses (e.g. a film based on a book), copying and distribution of creative works, whether for personal use or commercial gain, are usually considered an infringement on the copyright holder's rights.

The U.S. system has grown to recognize the moral rights of both natural and juristic authors. Copyright protection is granted once an idea is expressed in a tangible medium, and while registration with the U.S. Copyright Office helps prove originality, the right is granted upon the moment of fixation. While copyright protection is granted the moment the idea is fixed, gaining patent protection entails a considerable amount of labor before monopoly rights are awarded.

Patents are granted on any new or useful process, machine, composition of matter, manufacturing processes, etc. for a limited time of 20 years in which the patentee has the exclusive right to exploit the idea in a market or license/sell to others. In the U.S., inventors gain patents from the moment of conception and practice, while in all other countries, invention is granted to the first to file. U.S. patent law supposes that innovation is cumulative and is based on prior art, therefore those seeking patent bear the burden of proving that the idea seeking protection is novel,[58] utilitarian,[59] and non-obvious.[60]

Upon receiving patent protection, the patentee must make the information public so that it can spur further innovation; however, any direct use of that idea requires a licensing agreement and payment of royalties to the patentee during the term of the patent. After 20 years, the term of the patent expires and becomes public domain. Parties seeking patent protection must file their idea with the U.S. Patent and Trademark Office; patent protection is granted on a country to country basis. In other words, if an

---

[58] The idea was not put in the public domain, published, or implemented before. Essentially, show that you came up with the idea first.

[59] There are identifiable uses and society could benefit from such uses.

[60] Meaning your idea shows an inventive leap.

inventor is granted a U.S. patent, they will only have limited monopoly rights in the U.S. and will have to apply for rights in other countries.

The motivation behind the clause in the Constitution can be traced to the monopolies granted to "authors" in Great Britain, which were still in the minds of the framers. Referring to copyright specifically, 18th century literary authors in Britain were forced to license their works through the Stationers' Company, which had monopoly printing and ownership privileges. The 1709 Statute of Anne changed that by making creative authors the owners of the copyright and allowed them to license those rights to publishers, as well as limiting market protection. Eventually authors were granted a "moral right" to their works, which would allow them paternity over how others used their works by giving them full control. Most European countries would adopt this "moral" ideology, which helped to rationalize the expansion of scope and duration in those countries.

In the U.S., however, the Constitutional framing of these rights actually suggests that allowing more creative control for authors by expanding the scope and duration actually stifles creativity. Copyright was codified into federal law in 1790 (U.S. Copyright Act of 1790), limiting duration to 14 years that could be, upon minimal labor by the author, renewed for another 14 years; the scope of protection was limited to books, maps, and charts. While the 1790 Act protects rights holders against unauthorized commercial publishing, it allowed for both commercial and non-commercial transformative uses. Despite the on-going modernization of American society, this body of law was not overhauled until 1897 (U.S. Copyright Act of 1897), which granted 28 years duration that was renewable for 14 years. Also, built into the 1897 Act is a

provision that required venues with musicians who performed in public to pay the

publishers and authors of musical works. In 1897, though, non-commercial publishing

and transformative uses were still allowed.

With an array of technical innovation in the early 20th century, U.S. copyright

moved towards the regulation of copies and away from publishing with the enactment of

the 1909 Act (U.S. Copyright Act of 1909). The 1909 Act, for the first time, was tied to

technology because technical innovations of the time allowed for "copies" to be made; it

also granted 28 years duration of protection (renewable for 28 years). With the

implementation of the 1909 Act, publishers and authors of musical compositions were

granted the right of mechanical reproduction. This meant that rolls made for player

pianos and cylinder/disc recordings had to license the underlying composition in order to

fix it into a mechanical reproduction of the work; the 1897 Act only regulated the human

reproduction of works.

Also codified into the 1909 Act was compulsory licensing, which, in respect to

music, allowed a recording company to produce a cover version of a composition as long

as they provided notice to the publisher, paid a flat-fee royalty and maintained the basic

character of the work. By making the fee subject to statutory regulation, publishers were

prevented from setting high rates for or haggling with recording companies. Thus, if

Columbia Records produced a hit song in 1910, Victor or Edison could obtain a

compulsory license to the composition and produce their own version to compete with

Columbia. The 1909 Act also gave corporate authors the right of protection for "works

for hire." Before 1909, only individual authors were recognized. However, the

recognition of corporate authorship, in some ways, conflated authorship with production

and finance rather than rewarding actual creators (hence the selective use of "author" in this study).

While publishers and authors of musical works enjoyed protection, it was not until the Sound Recording Amendment of 1971 that recorded music was granted federal copyright protection. This amendment was largely in response to cassette tape piracy, and, while granting rights holders' exclusive reproduction and distribution rights, Congress did not grant the right to control public performance. Congress considered the exclusive right to reproduce and distribute sound recordings enough to curb piracy, and presumably denied performance rights because jukebox operators and radio and television broadcasters objected to paying more royalties (they were already paying publishers). However, public performance was granted to sound recordings in the largest overhaul of U.S. copyright law: the U.S. Copyright Act of 1976.

It was the first facelift the body of law had seen since the 1909 Act, despite all the technical innovations during those 67 years. Indeed, the 1976 Act was so grand that it did not go into effect until 1978. The 1976 Act extended duration of rights to life of the author plus 50 years and granted 75 years to corporate "authors." Also, built into the 1976 Act was the "fair use" clause, which allowed for unauthorized uses of protected works for the purposes of commentary, criticism, teaching, and news reporting; however, this ambiguous clause has been highly contested in the courts.

A fair use tends to, if not directly critique (or parody), build upon a protected work in a way that adds to the original. The general idea is that when the interests of the public and the author do not coincide, then ultimately the public should prevail. In the courts, a transformative use is analyzed in respect to four non-exclusive factors in

191

determining whether it is a fair use: 1) purpose and character (commercial, nonprofit); 2) the nature of the copyrighted work (is the original work factual or creative?); 3) the amount used and substantiality taken from the original (the amount of and importance to the original of the portion used in the transformative use); and 4) potential market effect (the potential for the new use to negatively affect the market of the original work).

Two other major amendments to U.S. copyright law appeared in 1998. First, after congressional lobbying on behalf of the Walt Disney Company, and the Dr. Seuss, Robert Frost, and George Gershwin estates,[61] Congress passed the Copyright Term Extension Act (CTEA), which increased copyright duration by an additional 20 years for both authors (life plus 70 years) and for corporate "authors" (95 years). CTEA essentially granted copyright holders 20-years extension to their market monopolies, a significant difference from the original term of 14 years. CTEA, in many ways, signals how copyright law, starting with the 1909 Act, have developed to reflect the interests of corporate "authors" first, individual authors second, and culture/society last. The other important act introduced in 1998, as another measure to discourage piracy, was the Digital Millennium Copyright Act (DMCA). The DMCA was introduced to curb peer-to-peer file sharing by making illegal technologies that allow for the circumvention of copyright.

Under the current law, all uses of music samples, no matter how qualitatively or quantitatively significant to the original whole, require clearance. With the success of rap music in the late 1980s, and the dominant form of sampling being looping melodic samples over rhythmic samples, owners of copyrighted works being sampled sought to

---

[61]   The RIAA and MPAA were estimated to have spent over $1.5 million lobbying Congress.

cash in as well as protect their moral rights. The first case was in 1991 with *Grand Upright Music, Ltd v. Warner Bros. Records Inc* (see Sirois and Martin 2006). Rapper Biz Markie used and sought clearance for the melody from Gilbert O'Sullivan's "Alone Again" in Biz's song "Alone Again (Naturally)." After receiving no response from the copyright holder, Biz and his label, Cold Chillin' Records (with a 5-year distribution deal with Warner Brothers Records) proceeded to release the song on Biz's album, *I Need a Haircut* (1991).

O'Sullivan and his label sent Biz a cease and desist order, halting commercial sales, and, unlike prior sampling suits, Biz decided to fight it in court. Despite the defendants claimed that they tried to get permission and that "everybody else is doing it," the judge began his decision with "Thou shall not steal" and threatened Biz with criminal punishment. After this ruling, rap record labels, producers, and DJs were forced to adapt. Ironically, Biz Markie's next album in 1993 was titled *All Samples Cleared!* (see *Figure 11*).

This ruling gave rise to a cottage industry within the recording industry, that of sample clearance, which has earned the industry as much as $150-$200 million annually. When a sampling artist wants to sample a recording they must first get permission from the owner, negotiate an up-front ad hoc fee, and pay royalties based on

Figure 11: Cassettes for Biz Markie's albums *I Need a Haircut* (left) and *All Samples Cleared* (right). Image courtesy of the DJpedia Archives.

units sold. Further, sampling artists must also negotiate with publishers and songwriters for the underlying composition of the sample; in some instances, sampling artists must give up 100% of their publishing royalties to the owners of the sample's publishing as well as an up-front fee. This is an arduous and expensive process for sampling artists, and most times they will suppress the expression using the sample or release it and hope they do not get caught. This has forced sampling artists to hide samples in their creations, and brought about the practice of interpolation, which is when session musicians reproduce a composition and the sampling artist samples that sound recording. This allows sampling artists to obtain a compulsory license from publishers, without negotiating with record labels and recording artists.

Although case law has evolved, but it has done so ambiguously, *Westbound Records and Bridgeport Music v. No Limit Films* (2004) ruled that any use of a sample required clearance and a license, otherwise it was an infringing use. The case centered on N.W.A.'s 1990 song "100 Miles and Runnin'," which sampled, looped, and altered the pitch of a two-second guitar lick from Funkadelic's "Get Off Your Ass and Jam." In 2001, Bridgeport Music sued for this unauthorized use, along with claims that more than 800 artists and labels had committed 500 counts of copyright infringement for sampling its catalog without license. Bridgeport Music is a catalog company basically operated by one person, former music producer Armen Boladian. The company existed primarily to license its catalog for television, film, and advertising uses. However, with Funkadelic and George Clinton's music being prime sample material in 1990s rap music, Boladian took notice and sought damages. George Clinton, who owned most of the rights to his songs, reportedly sold those rights to Boladian in 1983 to pay back a $1 million advance

(later, Boladian admitted to forging some of those signatures). Because of its legal actions, Bridgeport Music was called a "sample troll" because it was waiting for the opportunity to sue sue than create original products (Wu 2006). Nevertheless, this case has established that any uncleared use of a sample is an illegal use.

Within the recording industry, music is typically made "for hire," a relationship in which a recording artist performs a song and a record label owns the copyright. Artists receive royalties for every recording sold; however, they do not see any money until their advance from the label, as well as any other associated costs with producing the record, have been paid back by royalties received. If a recording artist wrote the music and lyrics, they will own the copyrights to the composition and lyrics and will be paid royalties for any compulsory licensing of their copyrights, as well as for every time the recording of the composition gets played on television, radio, or Web radio. Unless an artist/author owns a publishing company, they will find a publisher, who will, then, release their composition and attract licensing revenues. Publishing royalties are collected by ASCAP and BMI and then distributed to publishers. Publishers usually take 25% and then the remaining royalties are distributed to the songwriters. For a rap record, let's say, this 75% would be split 50/50 between the rapper (songwriter) and producer (composer).

How does copyright law apply to hip hop DJs? These DJs sample in several ways that would technically violate copyrights. First, many hip hop DJs are music producers who incorporate samples from other recordings into their productions using digital technology. Second, hip hop DJs may scratch samples on other artists' songs using samples. Third, many hip hop DJs will make scratch compositions where they create and

195

layer rhythms and melodies in their own new compositions. Fourth, some hip hop DJs make mixtapes for "promotional" purposes, some of which are sanctioned by the recording industry while others are not.

Fifth, some hip hop DJs produce vinyl records that are scratch tool or break records that other DJs use for practice and performance; these break records contain sampled fragments from numerous sonic sources. Sixth, hip hop DJs who play music in clubs and bars also are using recordings for profit (for DJs and the venue). All of these uses may violate copyright law in some way. While some of these unlicensed uses are clearly infringements, others (e.g. mixtapes and playing at venues) exist in a gray area. Ultimately, hip hop DJs are always manipulating copyrighted music recordings and works.

Unlike U.S. copyright law, the basic structure of patent law in the U.S. has remained the same since 1836. First passed into law in 1790 (U.S. Patent Act of 1790), it gave authors of inventions 14 years of market monopoly in which they could exploit their patent rights. The Patent Act of 1836 created professional patent examiners to examine applications before issuing patents, established a library of prior art, as well as adding seven years of protection in certain circumstances.

Prior to the 1870s, most large firms were actually consumers rather than producers of new technology as they relied on the work of independent inventors and paid them as little money as possible. An amendment to the U.S. Patent Act of 1952 established that an idea should be new and represents an "inventive leap" from existing ideas (non-obviousness). While the duration of a patent has fluctuated, it is currently 20

years and has always been between 14 and 21 years. Furthermore, patents protect computer software as a means to an end (a process).

The cost of challenging a patent's validity in a court of law can cost $1.2-$1.5 million dollars for each side, thus most suits end in an out-of-court settlements, licensing, or cross-licensing agreements (Lessig 1999; Perelman 2002). For cases involving copyright and sampling, unless the defendant has corporate power and a law team, these cases will also usually be settled out of court. These out-of-court settlements are not only due to high costs, but also because of the ambiguity of the laws.

Trademark laws are also relevant to this study, and are usually employed to differentiate branded goods and services and to reduce consumer confusion in respect to the origin of those goods. Unlike copyright and patent, which stem from the U.S. Constitution, trademark derives from common law (developed through court opinions) and are outlined in the Lanham Trademark Act. By registering a trademark with the U.S. Patent and Trademark Office, the holder of the trademark is granted the right to contest infringement at a federal level. However, unregistered trademarks are valid within the regions in which they are used. Trademark protection is granted to logos, catchphrases, sound marks, etc., that help to distinguish a brand from another brand. Trademark protection lasts as long as the goods or services are offered. Registered trademarks must be renewed after five years, at the tenth year, and then in 10-year increments in which the trademark is used.

As previously discussed, a utility patents are granted to processes or inventions, but industrial designs can also receive 14 years of protection. This protection safeguards the visual appearance, design and style of industrial objects. For instance, the design of

the Technics SL-1200 turntable, the characteristics that make this utilitarian device stylistically unique, may be granted design rights so that no other turntable manufacturer can make its turntables look like the 1200.

Also relevant to this study are trade secrets, which, through a series of non-competition and non-disclosure agreements, allow for a perpetual monopoly over secret information that gives an inventor an advantage over its competition. The holder of a trade secret is not necessarily guaranteed protection by federal law like a patent. It is the holder's responsibility to share a secret with trusted parties. However, if another party discovers a trade secret through reverse engineering or other means and as long as they do not sign any disclosures, there are no laws barring them from entering into competition. Many companies in the DJ product industry use trade secrets and pitch and/or develop technologies with parties they trust. However, it has been a common practice in the industry for manufacturers to figure out trade secrets, sometimes by nefarious means, and then incorporate those features into products.

Conclusion

This chapter began with the story of the Fat Beats record stores' closure as an example of a consequence of the changes in the recorded music market since 1995. Fat Beats's closure was followed by a historical analysis of innovations in recorded music software formats and hardware, an examination that paid particular attention to the themes of standardization and intellectual property manipulation, exchange, and rights. After historically grounding format standardization, the chapter outlines the current recorded music market and industrial structure, which is followed by the exploration of the vinyl 12" single and how that format's disappearance has been negotiated by people

198

working in the recording industry. Finally, the chapter ends with a review of the evolution of U.S. intellectual property law.

Findings show that the industrial emphasis on intellectual property rights has shifted from the risky investment in hardware development and patenting to the low-risk practice of exploiting copyrights (i.e. licensing and reissuing back catalog). While U.S. patent law has been relatively stable since the 1800s, findings also reveal that the U.S. government has, since the early 20th century, responded to pressure by media corporations by extending copyright protection in scope and duration. However, in many instances, the way that this system functions fails to increase competition in a way that benefits consumers.

The findings also show that there is a powerful dialectic between consumption and production that leads to format standardization, a process linked to branding practices and patent rights. This historical analysis also reveals how technical innovations are the product of creative networks,[62] although their "invention" and authorship is usually credited to an individual and/or brand. Data presented here reveals, despite industrial and media claims, that vinyl record sales have dwindled since 2000, which is due to a significant decrease in production. While this chapter has explored the themes of intellectual property rights and standardization in the recording industry, Chapter VI reviews these themes within the DJ product industry.

---

[62]   For example, the research laboratories and teams or the relationship between record producers, A&Rs, songwriters and recording artists in producing recorded music.

CHAPTER VI

THE DJ PRODUCT INDUSTRY

"A good musical instrument can be used in a lot of ways that aren't discovered right away" ~Bob Moog[63]

In the autumn of 2010, a major death knell was sounded for DJs who had any interest in using turntables. After years of rumors on the Web causing a stir—usually attempts by retailers to boost sales—the Panasonic Corporation announced that it was discontinuing its line of Technics analog turntables due to a decline in global demand during the last decade. Sales of Technics SL-1200[64] series turntables had dipped 95% since 2000. It had also grown increasingly onerous and expensive for Panasonic to obtain key components used to manufacture analog turntables (Quick 2010).

The Technics SL-1200 series turntable has been and still is the standard for most DJs, clubs, and radio stations worldwide. Chances are, if you were a DJ of any type of music in the pre-digital era, you owned a pair of Technics SL-1200 series turntables at some point, wanted to own a pair, or had played on a pair at a club, radio station, or on another DJ's setup. Technics originally became a popular brand among the pioneering hip hop DJs in the 1970s, and became the major global sponsor of the World DMC DJ Championships in 1989 (a primary sponsor relationship that lasted through the 2009 competition series). The SL-1200 became the exclusive turntable used in the competition, and Technics 1200s have become a symbol of DJ culture.

---

[63]   Quoted in Berk (2000, 209).

[64]   The S in "SL" stands for "Stereo"; the L for "Player."

I was initially skeptical about Panasonic's 2010 announcement, even with letters from Panasonic floating around the Web. Then, I went to Guitar Center in Eugene, Oregon, and saw their two remaining new 1200s with $949 price-tags, which is $549 more than the previous price. At that moment, I realized that this was no rumor. It was only a decade ago (which felt like it was just yesterday to me, that the DJ product industry was boasting how turntables were outselling guitars 2:1) Technics announced they had sold over three million units of the SL-1200, and 12" vinyl singles were the format of choice for most hip hop DJs. This more-than-symbolic "death" of the 1200 in autumn 2010, for many DJs including myself, encapsulated the zeitgeist of the analog-to-digital transition for hip hop DJs. Panasonic had apparently exhausted its stock of SL-1200s, but claimed it would continue to support warranties and supply spare parts for the brand.

Some people say that the reason why Technics failed is because the 1200s are extremely durable, and thus DJs never had to replace them. (I have heard of DJs having the same pair for 30 years; my first pair has lasted 12 years.) Others have suggested that, other than a few minor upgrades, 1200s have remained relatively the same since the late 1970s and failed to keep up with the needs of new DJ techniques. Still, other DJs fault CDJs or digital vinyl systems (DVS) such as Serato Scratch Live, both of which helped standardize digital DJ technologies that do not require turntables to deejay (i.e. MIDI controllers). Lastly, I have heard many DJs over the years suggest that Technics did not care about DJ culture and never gave back to the culture, that it only sponsored the DMC battles to market its product-line, and that it never officially endorsed any DJs (except for the World DMC Champion, DJ Cash Money, back in the late 1980s). Thus, DJs were

looking for other brand turntables that could live up to the rigors of heavy-duty manipulation. My guess, though, with a company as large as Panasonic, is that the DJ market/culture probably had more interest in Technics than Panasonic had in DJs. It is an $80 billion dollar multinational corporation, that by luck or fate, produced a line of turntables that happened to work very well for hip hop DJing.

While this example reads like a eulogy for the brand, it brings up numerous issues relevant to this study. For instance, the question is not only why the production ceased but how did Technics become the standard in the first place? The ways that technical innovations become industry standards are rarely deconstructed in the DJ product industry, and often standardization is a process that is taken for granted as one that occurs naturally. As we will see, there are quite a few factors that play into standardization, most of which are related to intellectual property exchange.

This example, which will be discussed further, anecdotally binds this chapter by highlighting the relationship between cultural uses, intellectual property rights, and format standardization in the formation of a political economy of the hip hop DJ. This chapter, then, is a discussion of the major players in the DJ product industry, as well some technical innovations that helped establish those firms in the marketplace.

This discussion first highlights how intellectual property exchange and standardization, themes that pertain to company profiles, have functioned within a political economy of the hip hop DJ. After discussing these themes, a review of five companies whose products and corporate practices (i.e. product endorsements and research and development with DJs) have achieved industry standardization will be outlined. Profiles of companies in this chapter will focus on specific technical

202

innovations that have become industry standards, as well as how intellectual property

rights have been manipulated in the process of standardization. Another theme that

continues in this chapter is that technical innovations that achieve standardization are the

product of vast creative networks—composed of DJs, brands, engineers, and companies

—and not the inventions of an individual genius. This chapter will begin showing how

convergence and collective intelligence occurs in the DJ product industry, but fully

addressed in Chapter VIII.

Standardization and the DJ Product Industry

The DJ product industry is part of the larger musical instrument industry, which,

like the recording industry, is highly concentrated. However, while the market for

recorded music shrank considerably in the last decade, the instrument market grew during

the same period. According to a report by *The Music Trades* magazine, this $17 billion

industry saw a 3.8% increase in sales in 2010. And, from 2006-2010, there was an

annual 3.5% to 4% rise in the number of employees within this industry as well. The

largest company in musical instrument industry is Yamaha Corporation, a highly

diversified Japanese manufacturer of musical instruments. According to its annual

report, Yamaha's 2010 revenue was $4.458 billion and the company spent $233 million

on R&D. Similar to other companies in this industry, Yamaha is both horizontally and

vertically integrated, as it manufactures and distributes its instruments globally.

The musical instrument industry is also structured like the recording industry.

Manufacturers produce equipment and are involved in the marketing of new products to

consumers. These products are distributed by a manufacturer itself or it hires another

party for distribution. Some manufactures will handle domestic distribution, use

regionally-based sales firms, and/or use distributors located in other countries to reach international markets. Distributors are typically in charge of promoting products to retailers (both online and brick and mortar), educating retailers on these new technologies, and getting products they distribute favorable placement within retail spaces. While some firms are fully vertically integrated from production to retail (i.e. Vestax Corporation), smaller companies sell directly to retailers or even to consumers.

Various musical instrument manufacturers and pro audio/electronics manufacturers produce equipment for the DJ product industry, which is comprised of multinational corporations, as well as smaller independent companies. For instance, Pioneer, a diversified Japanese consumer electronics company, also has a pro DJ equipment unit, Pioneer Pro DJ, and notably sells its CDJ CD turntables and DJM mixer series. Pioneer's 2010 revenues were over $4.27 billion and it invested $386 million into R&D; however, Pioneer is the exception and not the rule in the DJ product industry. For the most part, DJ products are developed and manufactured by micro-companies, or within the smaller units of large musical instrument and pro audio manufacturers.

In the DJ product industry it is not always the large manufactures whose products, backed by large R&D and marketing budgets, achieve industry standardization, but smaller independent companies who are in closer contact with the market/culture. Many times it is how hip hop DJs have used and adapted a manufacturer's product that will lead to its standardization. Before moving onto profiles of major companies in the DJ product industry, the story of the Shure M44-7 cartridge provides a case-in-point of how DJs' uses of a technical innovation can lead to industry-wide standardization.

Shure Inc. is a privately held American manufacturer, recognized in the pro audio industry for the production of microphones and monitors. However, in the mid-to-late 1990s, Shure's M44-7 phono cartridge (see *Figure 12*) became the standard needle setup for most scratch and hip hop DJs.

This standardization happened almost accidentally and not because of marketing or endorsement on the front end, it was cultural use that led to the M44-7's standardization. Shure manufactured phono cartridges from 1958, but because of mass acceptance of the CD format in the 1990s, the phonograph section of the company was struggling. DJ Shortkut, who was one of the first Shure DJ endorsees, was introduced to the M44-7 via D-Styles. When they went to Japan on tour with the Invisibl Skratch Piklz (ISP), they found out DJs were using the cartridge as well. At the time, ISP was the biggest DJ crew in the world and was beginning to work with companies in designing technologies and then endorsing them. When Shortkut returned from Japan, he
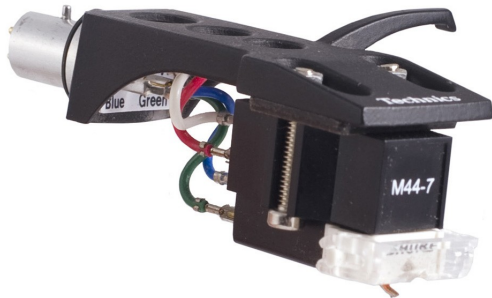
Figure 12: This is a Shure M44-7 phono cartridge mounted to a Technics headshell. This unit retails for $70-$115. Photo by Zane Ritt. Courtesy of the DJpedia Archive.

and his crew members contacted the Chicago-based company. Shortkut says, "We were the first ones to actually get them to realize that 'hey, your needles are dope. We'd like to work with you guys and really like you guys to put more emphasis on your product because it is dope'" (DJ Shortkut 2010).

Representatives from Shure flew out to the Bay Area to meet with Shortkut and D-Styles in order to figure out how DJs were setting up their cartridges to work for heavy

duty manipulation. Interestingly, the specs were completely different from how Shure expected their product would work. With a marketing campaign that included famous DJ crews such as ISP, the Beat Junkies, and the X-ecutioners, as well as some DMC battle sponsorship, the M44-7 phono cartridge quickly became the standard scratch product in global markets. And, "It pretty much revived the phonograph section of their company" (DJ Shortkut 2010). By and large, this is the phono-cartridge and stylus combination used by most hip hop DJs and turntablists.

While units of companies such as Pioneer and Shure are diversified in other industries, the primary interest of most of the corporate players in the DJ product industry is pro audio and DJ products. This chapter will profile five companies/brands that are integral to a political economy of the hip hop DJ: 1) Technics; 2) Rane Corporation; 3) Serato Audio Research; 4) Vestax Corporation; and 5) Thud Rumble, Ltd.

These five companies were chosen because their products are either the current standards or former standards within the DJ product industry. Thus, Technics is still largely considered the standard DJ analog turntable; Rane's mixers have grown to become the standard in that category; Serato and Rane's Serato Scratch Live is largely noted as being the standard DVS used by DJs (at least in the U.S.); and Vestax, for many years was producing the standard mixers used by hip hop DJs. Furthermore, Vestax is included because it is the company that is largely regarded as the first to listen to hip hop DJs, include DJs in R&D, and to build their ideas into their products (a process explored in detail in Chapter VIII). The DMC World DJ Championships is discussed in this section because of the role that the DJ battle organization has had, through sponsorship deals, in standardizing technology. Finally, the Thud Rumble, the brand company that represents

DJ Qbert, who is probably one of the most popular scratch DJs in the world, will be outlined.

Of course, other hardware manufacturers, such as Stanton, Gemini, and Numark (who make mixers, turntables, controllers and other accessories), as well as software manufacturers such as Native Instruments or Ableton AG, are integral to a political economy of the hip hop DJ. Although products manufactured by these companies offer choice to consumers and thus competition to the featured companies , they are not considered the standard within their respective segments of the market and in many ways, are not as relevant to a political economy of the hip hop DJ. Therefore, this discussion should be read as a version of a hip hop DJ's political economy and not *the* political economy. Each subsection focuses on a company, its technical innovations, and synergies with other corporations, and, when possible, the role of intellectual property exchange—especially in establishing market dominance and standardization. Throughout this chapter, one of the main themes is how hip hop DJs have helped to build the industry and how some DJs do not merely represent the market.

Technics

Technics® is a brand of the Panasonic Corporation (formerly Matsushita) that specializes in the production of high fidelity analog and digital turntables, as well as headphones, mixers, and keyboards. Technics debuted in 1965 to show off Panasonic's high-end audio products; its first product was a hi-fi audio speaker. The Technics brand today is most known in the both the DJ and hi-fi industries for its line of SL-1200 turntables, which became the standard amongst DJs in the years after its release in 1972

(Chanan 1995; Coleman 2003, 118; Charnas 2010, 136). Technics estimates that since 1972 it has sold over 3.5 million of its SL-1200 series turntables.

Panasonic®, much like Technics, began as brand name that belonged to Matsushita Electric Industrial Co., Ltd. in the 1950s. Now known as the Panasonic Corporation, the Panasonic brand is presently used for a range of consumer electronics, from digital cameras to microwave ovens. This highly diversified multinational corporation, includes over 680 companies, distributes its products globally, and to the United States through Panasonic Corporation of North America. Its most notable acquisition in recent years came when it became majority owner of the consumer electronics corporation Sanyo in 2008, a brand that Panasonic is currently phasing out. According to its annual report, Panasonic Corp. received $79.9 billion in revenues and employed nearly 350,000 people in 2010. Although it was ranked as the 59th largest company on the *Forbes* Global 500 in 2008 ($86.2 billion in revenue), by 2010 Panasonic Corp. was ranked 65th. The $6.3 billion loss in revenue in 2010, according to the company, was due to waning sales and retail costs for plasma televisions, a market in which it is the worldwide sales leader (4th overall in television sales).

At the peak of the hi-fi home audio craze in the 1960s/70s, Technics began releasing a range of high quality turntables. In 1970, the company released its first turntable with a direct drive system (DDS), the SP-10. At the time, direct-drive turntables, which are powered by a motor system, competed in the market with belt-driven models. Instead of using gears, belts, and wheels as a drive train, DDS couples the turntable platter with the motor so that the platter will turn at the same rate as the record. Although Technics popularized DDS, it was the Swiss high-end audio manufacturer,

208

Thorens, that developed and then applied for a French patent on a direct drive turntable in 1929. Thorens, however, did not bring the turntable to market then, although it did make its own line of DDS turntables in the early 1950s and then again in the 1970s to compete with Technics.

The original SL-1200 (see *Figure 13*) was introduced in 1972 as an evolution of the SL-1100A model turntable. Designed with audiophiles and radio stations in mind, the SL-1200 competed in the market with the Kenwood KD-500 and Thorens TD 125, as well as against its predecessor, the SL-1100A, which was the preference of DJ Kool Herc at the time. "So between Technic[s] and Thoren[s], they was fighting for the money

Figure 13: Original SL-1200 turntable, dubbed "The Middle Class Player System." Photo by Zane Ritt. Courtesy of the DJpedia Archive.

market," says Kool Herc. "So I went Technic[s]. I went 1100A. But that turntable, people couldn't afford it. Too expensive. So they [Technics] pulled it off and put something more durable, and inexpensive with the 1200 shit. I don't fuck with the 1200s. I wouldn't" (quoted in djhistory.com 1998). Herc's great influence and dominance of the early hip hop scene in the South Bronx is often regarded as one of the ways in which the Technics brand became popular amongst early hip hop DJs; in essence, he was one of the first endorsees.

While pioneering hip hop DJs were negotiating turntable brands and trying to obtain equipment by any means necessary, it was not until 1979 that Technics released

the SL-1200MK2 (see *Figure 14*) turntable, which became the industry standard and DJ

iconography. The MK2 soon became the turntable of choice among DJs, clubs, and radio

stations because it dampened vibration and eliminated feedback in loud environments.

Panasonic was able to make a series of improvements in the MK2 by adding a ground

wire, a variable pitch fader instead of the dial that the SL-1200 had, and added its then-

recently patented quartz DDS motor that vastly improved platter torque. This model still

served as the base for the SL-1200 series and was Technics's oldest turntable in

production. After the release of the MK2, Technics introduced four more models (MK3,

MK4, MK5, and MK6), two special models (SL-1200LTD and SL-1200GLD), as well as

a CD turntable (SL-DZ1200). Other than some minor changes in color and added

options, the SL-1200 series remained essentially true to the MK2 and thus very little

R&D went into this product line.

Technics was able to harness the cultural/industrial acceptance of the MK2, Technics's brand recognition, and a 17-year market monopoly granted by patent (see *Figure 15*) for the DDS technology. This synergism between branding, consumer acceptance, subcultural capital (attached the DJs actually using the turntable for an audience) and patent rights, was a powerful

Figure 14: The SL-1200MK2 (aka the "Mark2" or "The Middle Class Quartz Direct Drive"). Photo by Zane Ritt. Courtesy of the DJpedia Archive.

mechanism for the standardization of the Technics SL-1200 series. However, arguably it

was also the 17-years of market monopoly for its quartz DDS granted under patent law

that allowed the SL-1200 series to become the standard. Essentially, if another manufacturer wanted to use DDS instead of the sometimes clumsy belt-driven system, they would have to license the rights from Panasonic or put heavy R&D capital into developing improvements. In the case of the SL-1200, the only competition in the market for analog DJ turntables in the 1980s and into the 1990s were primarily belt-driven models. These turntables had very little torque and the needle, unless heavily weighted (this would wear records quickly), would skip all over the place. Hip hop DJs, clubs, and radio stations, then, did not really have many other professional options other than Technics.

Although Technics began releasing entry-level consumer electronics in the 1980s, the company also stopped manufacturing and providing parts for other professional turntable models that had adequate tonearms and DDS appropriate for DJs (e.g. the SL-1100A or 1500 MKIIs[65]). This manufacturing choice further helped to push the SL-1200 in the market, which worked in coincidence with its patent on DDS that effectively limited competition. If you were a DJ or a club, your options were either the SL-1200 or a belt-driven turntable, and with the 1200's feedback dampening and durability in

FIG. 3

FIG. 4

Figure 15: U.S. Patent No. 4,072,315 assigned to Matsushita Electrical Industrial Co., Ltd., granted on February 7, 1978.

---

[65] Grandmaster Flash developed many of the DJ techniques that are used by all DJs today on Technics SL-20, a belt-driven turntable.

manipulation, the 1200 quickly became the standard. The 1200 was not cheap either, and from the 1980s consistently was in the $300-$500 price range.

As hip hop DJ technique developed in the 1980s/1990s, the SL-1200 essentially stayed the same and did not adapt to the needs of the DJ culture. Thus, Technics was able to sell 1200s at a high price without putting money into marketing and R&D, essentially allowing Panasonic to exploit its intellectual property rights in the market without innovating. Over the years, pioneering DJs such as Grandmaster Flash and Jazzy Jay claimed (in interviews) to have approached Technics with ideas and were completely ignored by Panasonic. Technics was publicly critiqued by many DJs for ignoring the market and not endorsing DJs, and it only started offering new models of the 1200 in the 1990s when the popularity of scratch and hip hop DJing was peaking.

However, once the DDS patent expired around 1996, a flood of manufacturers entered the market for DJ turntables. Led by Vestax's release of a straight tonearm PDX series turntable in the same year, other manufacturers such as Numark, Stanton, and Gemini began developing similar products with DDS and straight tonearms.[66] New features included reverse platter rotation, expanded pitch range, BPM counters, and key lock, as well as numerous other additions that were the by-products of heavy R&D with industry-leading hip hop DJs. However, Vestax introduced its PDX series first, and competed with the SL-1200 in both performance and price. While these other brands chipped away at the market, the 1200 still outsold the new options, proving how deep its roots had grown within the collective consciousness and practices of DJ culture.

---

[66] Technics is known for its S-shaped tonearm, which the company believes allows the needle to track properly towards the center of the record, although it has been suggested that straight tonearms do not naturally move towards the center and thus wear records faster.

By the early 2000s, Technics's SL-1200 had become an icon of the larger hip hop culture through some media exposure, which was symbolic of the role pioneering hip hop DJs played in the culture's formation. For instance, starting as early as 1984, an outline of the iconic Technics SL-1200 S-shaped tonearm (see *Figure 16*) was on the sleeves of all the early records released by Def Jam, one of the earliest and most successful hip hop and rap record labels (Charnas 2010, 135-136). To complement the tonearm tracing was an enlarged "D" and "J," the Def Jam logo that suggested the label's authenticity and credibility by associating itself with DJs.[67]

Figure 16: A 7" 45rpm Def Jam sleeve with SL-1200 tonearm tracing (left), overhead view of actual SL-1200 tonearm (center), and Def Jam logo that looks like "DJ" (right). Courtesy of the DJpedia Archive.

Another example of the media promotion of the standardization of the 1200s is their inclusion in media content. Although the turntable brand was an industry standard, in order to reproduce authenticity in film, pairs of SL-1200MK2s and Gemini MX-2200

---

[67] Interestingly, this tracing also shows the tonearm weight on backwards, which is a popular method amongst hip hop DJs for weighting down the Technics's tonearm for battling and heavy duty manipulation.

mixers[68] were used in the infamous DJ battle scene in the 1992 film, *Juice*.[69] SL-1200s were also shown being used on the set of MTV's first rap program, *Yo! MTV Raps*. *Yo!*'s co-host and DJ, Dr. Dré, used the 1200s along with the Gemini MX-2200 mixer on many episodes. Also, when DJs actually appeared in some of the early rap music videos shown on *Yo!*, it was almost always with a pair of 1200s. More recently, SL-1200s paired with mixers made by Rane have been shown on the NBC programs *Community* and *Law & Order: Special Victims Unit*, as well as on MTV's *Jersey Shore*.

However, when watching *Yo!* as a child I can remember that the DJ setup, while foregrounding the Technics and Gemini products, typically had Disco Mix Club (DMC) brand slipmats on the turntable platters,[70] another element in the standardization of Technics. Importantly, with the dissemination of DMC U.S. and World DJ Championships battle video tapes to hip hop DJs featuring SL-1200s and ubiquitous Technics® branding, a powerful form of product placement and synergy was established. Technics SL-1200s are also featured on the New Music Seminar Battle for World Supremacy battle footage (although I have never seen videotapes sold commercially), as well as being used in the majority of the International Turntablist Federation (ITF) DJ Battles tapes.

In cases where footage from battles were sold commercially, typically audience members were barred from using camcorders and thus the only way to see this footage was either to buy a commercial copy or dub a copy. Commercially available tapes also

---

[68] At the time, the faux-wood grained Gemini MX-2200 was the standard 2-channel battle mixer used by hip hop DJs. You see this mixer used in many of the late 1980s New Music Seminar and DMC battles.

[69] Although fictional, this is actually the first time that I had been exposed to a DJ battle.

[70] See Micelotta (1988) for an example of this setup displaying the DMC slipmats.

increasingly featured more product demonstrations and placements, as well as increased branding of event co-sponsors. Footage made available to the home video market provided vital residual income for some battle organizations; however, there were a large number of bootlegs and unauthorized copies that changed hands in the 1990s. Notably, the DMC and Technics synergy—as lived experience, on tape, and within a range of other cross-market promotions and commodities—was a major factor in increasing consumer awareness of the Technics® brand.

Although DMC DJ competitions began in 1985, the UK-based organization did not begin its sponsorship deal with Technics for its DMC World DJ Championships until the late 1980s. In 1989, winners of DMC Worlds began receiving a golden pair of SL-1200 turntables, and Technics became the main global sponsor of the competition (eventually the battle series was referred to as "DMC Technics World DJ Championships"). Technics were the only turntables allowed in DMC competition, even though other options were available in the late 1990s, and for the competitions in the mid-to-late 1990s entrants were also required to use the Technics SH-DX1200 mixer.[71] DMC has had other sponsor-based technology restrictions in its competitions, which will be discussed in more detail throughout this chapter. Gold Technics were awarded to the World Champ up until the 2010 World Championships, although DJ Shiftee, who won the 2009 World Championships, told me that because Technics was not an official sponsor of the battle that DMC actually had to buy the turntables and then have them gold-plated (DJ Shiftee 2009).

---

[71] In bold red letters, the mixer has "The Official World DJ Championship Mixer" written on its faceplate. DMC, before this (from 1990-1996), used the Melos PMX-2, also bearing the DMC logo.

Technics is still listed as a sponsor of the battle series on the DMC website. Although its role was downplayed for the 2011 DMC Worlds, Technics is prominently featured in the promotional materials for the 2011 DMC American Battleground DJ battles (see *Figure 17*). Sponsorship of the DMC battle circuits were integral to the success of the SL-1200 because the events gave the Japanese manufacturer direct access to its market, and, seems to have been the primary marketing conduit for SL-1200 turntables during the 1990s and early 2000s. Not only was the Technics® logo ubiquitous at battles in the DMC circuit, but it was also included in all the videos that DMC produced and sold, videos that were important in disseminating hip hop DJ styles.

Furthermore, Technics and DMC also worked together to produce numerous DJ commodities bearing the Technics® logo, including record bags and boxes, slipmats, key chains, hats, hooded sweatshirts, and wallets.[72] Recently, in an interesting synergy between DMC, Technics, Marvel Comics and Urban Species, DMC has been selling tee-shirts bearing the likeness of numerous Marvel superheroes using Technics turntables. The access to its users/market granted through sponsorship and corporate partnership with DMC provided Technics with unprecedented access to its consumers. This synergy, coupled with Technics's market monopoly as granted by patent rights, also helped in the standardization of the SL-1200s.

This chapter started with the story of the end of production of these standardized turntables. A statement from Panasonic finalizing the "death" of the 1200s was posted on the DMC website in November 2010: "After more than 35 years as a leading manufacturer of analogue turntables, Panasonic has regretfully taken the decision to leave

---

[72]   I imagine that DMC actually licenses the Technics® logo from Panasonic for these goods.

Figure 17: Sponsors' gear converge into a super DJ technology robot for the 2011 DMC American Battleground DJ battle circuit poster. Image courtesy of DMC USA. Flyer design by Haks 180.

this market.... We are sure that retailers and consumers will understand that our product range has to reflect the accelerating transformation of the entire audio market from analogue to digital."

As previously noted, the announcement prompted retailers to nearly double the retail prices of their remaining stock of new 1200s. Used 1200s started selling like mad on eBay (although they sold well before) and at much higher final prices than in the previous months. Recall that there were more than 3.5 million SL-1200s manufactured. In terms of sales, even in its heyday, retailers were never very fond of carrying Technics SL-1200s because there was little profit to be made on them. For instance, in the late 1990s, Guitar Center, the largest music instrument retailer in America used to have caches of 1200s and sell them as loss leaders. Because they retailed for $399.99, with a $400.01[73] wholesale price, Guitar Center relied on the sales of DJ accessories such as cables, headphones, and needles to turn a profit. Smaller pro audio and musical instrument retailers had a hard time keeping up with retail prices at Guitar Center and would have to sell one SL-1200 for approximately $500-$625 to make a profit.

Profit margins are the reason that, when other manufacturers entered the market for DDS turntables by the early 2000s, retailers began pushing Numark and Stanton turntables. However, there was turnover with these other brands as some of them could not live up to Technics's durability and would need to be replaced—often, with a 1200. From a retail perspective, 1200s were an incentive to get DJs into the store to buy other products, and created long-time customers, as well. The iconic turntable also brought a sense of authenticity to a retailer.

---

[73] This number was the per-unit cost, and does not include the costly shipping and tariffs.

While Technics no longer produces its DJ line of turntables, it will still produce its DJ headphones under the brand name. And, what will live on beyond the highly durable SL-1200s is the Technics® brand itself, which is iconography relevant to hip hop DJs, will live and breathe even if the turntables find their final resting places—the brand/trademark is what will live on and continue to exploited in the marketplace. Any aspiring hip hop DJ who watches old DMC tapes, *Yo! MTV Raps* episodes or music videos, *Juice* and so forth, will be exposed indirectly to the brand.

Although most of the interviews for this study took place before Panasonic made its final announcement in autumn 2010, interviewees were asked what it would mean to them if Technics were to stop making its iconic SL-1200s. Their responses will be addressed in Chapter VII.

The method that Technics used to gain market dominance was different from the companies and technical innovations that will be discussed in the following subsections. While Technics stepped down from its major global sponsorship of the DMC battles in 2009, the 2011 DMC World DJ Championship's main sponsors are Rane Corporation and Serato, companies that will be highlighted in the next subsections.

I came across my first Rane mixer in 2000 when I met DJ Cue Two in college (he was a 2001 USA Regional DMC Champion) who had a Rane TTM 52. Before that all I had used or saw in person were models by Gemini, Vestax, and Numark. When he let me get on the Rane mixer, it just felt right to me: large rounded knobs on the crossfader and channel faders, simple and smooth layout, nice EQs, and a "buttery" crossfader. I wanted a Rane bad, and the 52 felt like a tank. Also, at the time, most DJ mixers had crossfaders that would wear out rather quickly and cause the signals to bleed through. This created a

huge market for replacement crossfaders, and major DJ manufacturers such as Numark and Vestax saw a lot of revenue from this market—essentially building planned obsolescence into their crossfaders, which cost $50-$100 to replace. Cue Two told me that when the Rane crossfader would begin bleeding you could switch it out with one of the channel faders, which gave you three crossfaders for the price of one. Other manufacturers did not have this type of fader interchangeability.

I bought my first Rane, a TTM 52, at a Guitar Center in Connecticut in the spring of 2001. Compared to the Gemini mixer that came in my "DJ-in-a-Box" starter package and the nicer Numark Pro SM-1 I bought to replace that, the Rane blew my mind. It just felt right for my clumsy fingers. Upon purchasing this mixer, I was especially excited to find out that it had a 2-year warranty that could be extended the 3-years in exchange for demographic data submitted via mail-in card. Since 2001, I have bought, broke, and sold five Rane mixers and currently own a TTM 57SL and a TTM 56s. Thirteen years ago when Rane released its first 2-channel battle mixers, it was a relatively unknown company amongst hip hop DJs; however, today its products are largely considered the standard within the DJ product industry.

On September 24, 2009 I spent a day at Rane with its National Sales Manager for Retail & DJ Products, Mike May. While he has done a little bit of everything for Rane in his 17 years there, May primarily deals with DJ products, and, in his own words, "Now I get to drive the DJ bus" (May 2010). When I walked in, just standing in the front desk area I was distracted by the walls as they bore framed artwork celebrating some of Rane's work: a signed poster from the 2006 Guitar Center Spinoff, a Jazzy Jay limited edition

Rane faceplate poster, and an homage to the all-white Nike Air Force 1 25th anniversary

SSL package (see *Figure 18*). And, that is just what initially caught my eye.

Figure 18: Image of Nike Air Force 1 25th anniversary Serato Scratch Live package, given to select DJs. Image courtesy of Rane Corporation.

I spent most of the day shadowing, asking questions of, and touring with May, but I also got to meet most management and staff. Rane allowed me to see almost everything, including the service department and the assembly floor where it manufacturers most of its products. There were no nondisclosure agreements, and they actually made me feel welcome. Although they were remodeling at the time, the office and cubicle office areas were rather plain. I was expecting something a bit more corporate and flashy, but was surprised by how casual it was.

Rane Corporation

Rane Corporation started as a small operation that geared its products towards live music and pro audio. Incorporated in 1981 in Mukilteo, Washington, the company got its reputation for high quality electronics when it began producing amplifiers and live sound mixers for small bands (see *Figure 19*). The company was initially founded by middle managers at a high-end consumer electronics company, Phase Linear Corporation. Based upon their expertise, each owner became a separate department head. According to the company, "This organization created an unusually strong structure, since all department heads had a unique owner's perspective in making it succeed."[74] In its first two years,

---

[74]   See "The Rane Story: Rane Corporation History & Philosophy" (Rane n.d.2).

Rane engineered a total of eight products, five of which are still manufactured. The

quality and performance of its products exceeded some higher-end brands, but was priced

lower. Thus, Rane claimed that it produced a "new middle ground" for price point in the

market.[75]

Headed by CEO George Sheppard, Rane is still based in Mukilteo and is a privately held corporation. Therefore, financial data is not public information. For Rane, being a privately held corporation means that there are fewer "layers" and a direct conduit exists between decision-makers and other employees. Rane also has full control over the manufacturing process, as its products are assembled on-site (literally right through a door in the back of the office area). "If there is something that goes wrong with the product, and we get

Figure 19: The outside of Rane Corporation's headquarters in Mukilteo, Washington. Photo courtesy of the DJpedia Archive.

feedback on it, all it is is stepping into the next room, looking at the parts specifically and

testing them" (May 2009). Rane products are also serviced at the Mukilteo headquarters.

In comparison to larger corporations, this gives Rane a great deal of control over

production and the exchange between producer and consumer, which Rane can "leverage

---

[75]   See "The Rane Story: Rane Corporation History & Philosophy" **(**Rane n.d.2).

for additional sales and building a good reputation" (May 2010). Because it imports

audio components from other countries, Rane cannot brand its products as "Made in the

USA."

Rane Corporation sees itself as being committed to its clients as well as to the

music culture in general, thus placing "knowledge, integrity, pride and common sense" at

the core of its corporate philosophy.[76] Rane's core corporate value is profitability, while

its product values are: 1) integrity; 2) quality & durability; 3) innovation; and 4) design or

production problems.[77] Rane distributes its products domestically from its headquarters

and uses sales representatives within regional territories to get its gear into the hands of

retailers. Rane uses a number of international distributors to reach global markets.

According to the *Music Trade Magazine*'s 2007 "Top 125 U.S. Music & Audio

Suppliers" list, Rane Corporation was the 109th largest company in the pro audio industry

with $13.5 million in revenue. In 2007, Rane employed approximately 80 people.

Although its DJ product division has grown in the last five years, only a portion of Rane's

revenue comes from DJ hardware. Rane is also in the markets for live sound and

commercial installation.

Rane's first DJ mixer—the MP 24, a 19" mixer intended for club use—shipped on

September 8, 1986, and remained in production for nearly 20 years. Into the late 1990s

the company continued to produce 19" mixers that were oriented towards electronic

music DJs and club use. In 1997, Rane introduced what would become its popular series

of mobile and club mixers, the Mojo Series, which was a cheaper product line than most

---

[76]   See "The Rane Story: Rane Corporation History & Philosophy" (Rane n.d.2).

[77]   See "The Rane Factory" (Rane n.d.3).

of Rane's other signature gear (i.e. MP 22). Because of its durable and high performance

products, Rane began garnering a strong reputation in the club industry and among club

DJs, but the design of these 19" wide mixers naturally excluded a growing and valuable

market: hip hop DJs.

While at an American Engineering Society (AES) trade show in the mid-1990s

demoing its club mixers, the Rane booth was approached by four hip hop and scratch

DJs: Big Wiz, Sugarcuts, Marz1, and Peter Parker. All four of the DJs recognized the

quality of Rane products, but stressed that their overall layout and 19" width were not

practical for hip hop DJing and that Rane should make a product catering to hip hop DJs

since the turntablist movement was peaking. A few weeks later, Sugarcuts and friends

faxed Rane a drawing of some of their ideas; several weeks later, Senior Analog Engineer

Rick Jeffs and another Rane salesman flew to New York City to sit down with the four

DJs and members of the 5th Platoon DJ crew; several months later, in 1998, Rane's first 2-

channel battle mixer was born, the TTM 54 (see *Figure 20*; the TTM 54's R&D is

extrapolated on in Chapter VIII).

May suggests that Rane was "invited to the DJ party" and that those involved in

the R&D process also helped to market the TTM 54 via word of mouth:

> And from that, the DJs who had given us information about the mixer and
> wanted to see this built, when we built it, were excited about it, and
> basically started a movement for us in the turntablist world because they
> went out and basically said, "Hey, Rane has come up with a really great
> product, you know about this company, you know about their reputation,
> you should try it." And from that we caught fire. I believe that's when we
> started to catch fire in the DJ world. (May 2009)

Shortly after the release of the TTM 54, Rane put out a cheaper 2-channel battle mixer as

one of its Mojo family of products, the TTM 52. Both the 52 and the 54 are no longer in

224

production at Rane. However, Sugarcuts said that the TTM 56 mixer that Rane made is actually more in line with their original vision than the 54/52 (Sugarcuts 2010).

Figure 20: The Rane TTM 54 (left) and the cheaper TTM 52 (right) Performance Mixers. The mixers were branded by the phrase "this ain't no toy!" Rane would later update and release these models as the TTM 54i and TTM 52i. Images courtesy of Rane Corporation.

In 2001, Rane applied for a patent on its non-contact magnetic fader, which it eventually was awarded in 2004 (see *Figure 21*). However, May admits that the magnetic fader idea was not unique to Rane, but the way it was "implemented and executed is unique in its design and we were granted a worldwide patent for it" (May 2009). The crossfader uses nickel-plated neodymium-iron-boron magnets, space age plastic with embedded Teflon, stainless steel bearing rods and a stainless steel handle (Jeffs 1999), and, according to Rane, if the fader is maintained it should never have to be replaced. This magnetic fader was initially released in the TTM 56 in 2001, and became

225
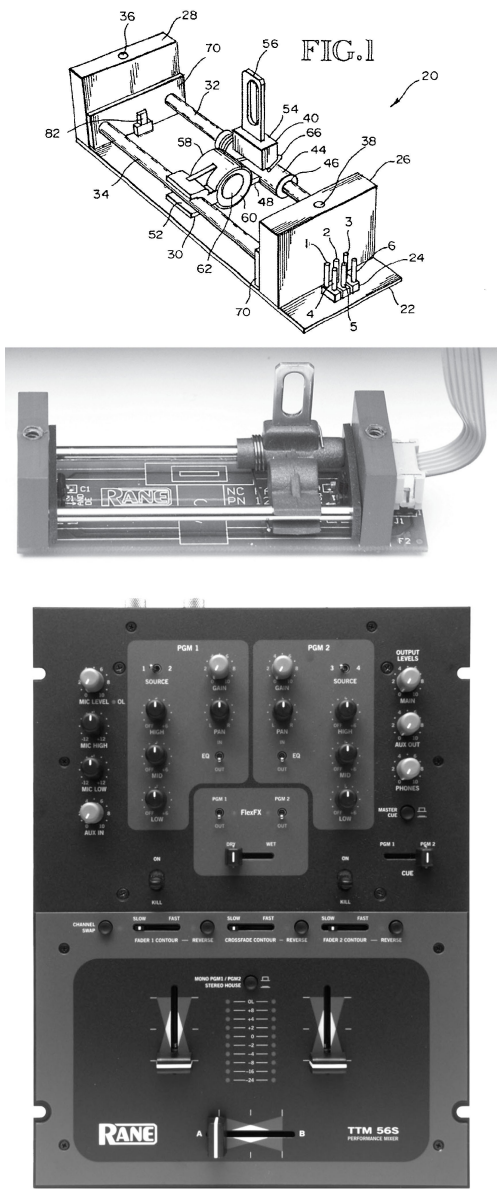
Figure 21: U.S. Patent No. 6,813,361 assigned to Rane Corp. in 2004 (top) and Rane patented magnetic fader (center). The TTM 56s (bottom) was released as an improvement of the TTM 56, the original mixer to feature the fader. Images courtesy of Rane Corporation.

the standard fader for most of Rane's products (i.e. TTM 56s, TTM 57SL and Sixty-Eight mixers). At the time that this crossfader was introduced, many mixer manufacturers were still relying on income from the sale of replacement faders: so in some ways, Rane changed the market to benefit DJs by setting a new standard for fader performance.

The United States Patent and Trademark database shows that Rane Corporation holds 10 patents (some granted in the U.S. and in other countries), although the magnetic fader patent is that most relevant to hip hop DJs. May calls patents the "audio medals" of the industry—a sign of strong engineering and the ability to come up with ideas of use to consumers—and suggests that Rane is protective of its rights because within the audio industry there are companies that will copy an idea without giving credit. "There are some audio companies in the world today who have made a fair amount of money by doing some of that. They can remain

226

nameless but they know who they are, and I don't have much credence for those folks"
(May 2010).

In 2002, after a surprise phone call from pioneering hip hop DJ Grandmaster
Flash and a considerable amount of development, Rane introduced the Empath mixer (the
Empath is discussed further in Chapter VIII). This touring/club mixer combines the ideas
of Grandmaster Flash, one of hip hop DJing's first technical innovators, with Rane's
technology. The Empath puts the options of a 3-channel 19" club mixer into a 10" mixer
(the standard size for most 2-channel battle mixers), and is meant to be a flexible mixer
for DJs in various settings. Despite all its features and the relationship with Grandmaster
Flash, the mixer has not done well in the market and is often criticized as a product that
was made to the specifications of Flash, and what he wanted did not necessarily appeal
the market at large.

Although Rane made technologies that were durable and had a great reputation for
performance, other brands, such as Vestax, were still controlling the market for 2-channel
battle mixers that were geared towards hip hop DJs. In the six years after it released the
TTM 54, Rane grew to be less of a fringe company in the market for hip hop DJ products.
As other manufacturers started moving production to countries like China in order to
reduce costs, the lower quality of their products became noticeable among hip hop DJs
and Rane's reputation attracted new customers in the U.S. While Rane's technical
innovations, patents, work with credible DJs in R&D, and use of DJs to market and
endorse its product helped to make its mixers the standard in 2011, arguably it was its
2004 partnership with the New Zealand-based software company, Serato Audio Research,
and the eventual success of their Serato Scratch Live (SSL) product that helped push

Rane mixers toward industry and cultural standardization. In 2011, Serato Scratch Live

is the standard digital vinyl system in the industry (at least in the U.S.).

The Rane is the sole licensee and distributor of Scratch Live products, which includes

all hardware (audio interfaces, control records) and Whitelabel.net (a music distribution

service that Rane and Serato provide to numerous record labels). Rane also services all

Scratch Live products, although people at Serato handle customer service duties as well.

Serato, though, is in charge of updating and adding code to the Scratch Live software.

The Rane/Serato relationship began at a NAMM[78] show in 2002. One of Serato's

DJs was demoing Studio Scratch Edition, the software that would become SSL. The DJ

who was demoing the product was not happy with the mixer at the booth and wanted a

Rane mixer. The Serato guys went to the Rane booth and talked to Rick Jeffs, who was

heavily involved in the engineering of the TTM 56. Jeffs let Serato borrow a 56, and

word got out at the show about the Serato product. Many notable DJs came by to

experience a digital product that felt just like vinyl. According to Sam Gribben, General

Manager of Serato, "The rest is history" (quoted in Gizmo 2007).

Serato, a software developer, needed to find a hardware manufacturer to design

and produce the audio interface for the DVS product it was developing, and Rane

responded in a positive way. After signing a nondisclosure agreement, the two

companies began sharing intellectual properties. As May explained, "When people

exchange their intellectual properties you have to find out, first of all, if you can trust

someone, that they are not going to take advantage of you and that you can be like-

minded in the approach that you take towards the industry" (May 2009). Rane engineers

---

[78]   National Association of Music Merchants, which is one of the world's largest music product trade
        shows.

then improved upon Serato's prototype, which impressed Serato. Aside from Rane's reputation for quality and durability, the hardware manufacturer was also able to leverage its 20-year old international distribution network in the pro audio business. For Serato, distribution would be one of the key elements in the eventual standardization of SSL.

The Scratch Live product (see *Figure 22*) came to market in 2004, retailing for $500-$600 for the package. With the help of endorsements from DJs such as DJ Jazzy Jeff and A-Trak, who were both early proponents of the product, word of mouth quickly spread about Scratch Live and its reliability. Further helping to spread acceptance of SSL among DJs was the fact that laptop computers were stable and could handle more information processing than in the previous years.

Figure 22: Contents of the original Serato Scratch Live retail package, which includes control records and the SL 1 audio interface. Image courtesy of Rane Corporation.

Also, by the mid-2000s, the MP3 format was becoming an accepted format for recorded music—by consumers and, begrudgingly, by the recording industry. This is not to say that SSL was fully embraced by all hip hop DJs at first, but as the MP3/laptop achieved standardization so did SSL. The popularity of SSL is in 2011 is revealed in this study's analytic survey, where 80% of the DJs who use DVS use SSL. Out of 51 hip hop DJs interviewed, only four did not use any DVS, three used Traktor (all three were endorsed by Traktor's producer, Native Instruments), and the remaining 44 used Scratch Live. Also, like other audio blanket terms such as "gramophone" or "CDJ," most people

mistakenly refer to SSL as "Serato," which is the name of the software developer not the product.

May explained that "The Scratch Live business and our relationship with Serato has been outstanding and is a great benefit to our company, and we are proud to be associated with them...Our business got more vital and stronger as a result" (May 2009). Since forging their relationship in 2004, the two companies have manufactured numerous SSL products, although Serato has relationships and synergies with other companies in the DJ product industry. Any product released as a Serato Scratch Live product is through the Rane/Serato partnership. However, Serato owns the copyright for the control tone that is used on the control records/CDs, which is licensed to Rane and pressed to vinyl record at Record Technology, Inc. The control tone is downloadable for backup, although Rane has had issues with people having the tone pressed to vinyl and bootlegged, essentially violating Serato's copyright.

Some of Rane's major technical innovations include the TTM 57SL mixer ($1499 MAP price),[79] which, among other SSL compatible features, comes with the SSL audio interface built-in. In 2010, Rane introduced the Sixty-Eight to the market, retailing for a pricey $2599. However, the Sixty-Eight, winner of *DJ Mag*'s 2010 Tech Award for the "Ultimate Club DJ Mixer," is a 4-channel mixer that features two USB ports (so multiple laptops can be used or switched out), built-in effects and numerous SSL controls. Since the release of the original audio interface, the SL 1, the SL 3 and SL 4 interfaces have also been developed. Announced at NAMM 2011, the SL 4 features 2 USB ports for seamless laptop transitions and will hit retail in April 2011 for $899 (see *Figure 23*).

---

[79] Minimum advertised price (MAP) is different from manufacturers suggested retail price (MSRP), and May claims that MAP is the new retail price.

Figure 23: The Rane TTM 57SL with built in Scratch Live interface (left), the SL 4 audio interface (center), and the Sixty-Eight club mixer (right). Images courtesy of Rane Corporation.

May recognizes that the success and standardization of the Scratch Live product has increased the company's exposure. "I mean we are cross-pollinating with both of our companies' legacies and sharing the benefits of that," says May. "They were a smaller, I believe less well-known company. Not any longer, and that's because of the acceptance.... There is a success factor and that is based on the guys who use the gear" (May 2009). May alludes here to how the cultural acceptance of SSL by DJs has helped its success, and therefore the standardization of both Rane and SSL products within the industry. Unlike Technics, who harnessed patent rights to curtail its competition and help standardize its SL-1200 turntables, Rane and Serato used acceptance, reliability, credibility, and brand reputation to make their products the industry-standard (although proprietary values and behaviors surely played a role as well).

One thing that Rane and Serato now have in common with Technics is a strong tie with DMC. Although both Rane and Serato have been co-sponsors of the World DMC DJ Championships since about 2008, it was announced that both companies would be the main sponsors for the 2011 DMC competitions. This means that both companies will have increased visibility at the battles and will provide the bulk of the prizes and

monetary support. And, maybe most importantly, for the first time in DMC's 26-year history, it will allow the use of Scratch Live and other DVS in the 6-minute individual battle—its main and longest tenured event. However, DMC has allowed DVS in its World Team Championships category for several years since 2007 or 2008 in order to expand creative ability in the team category.

"DMC is responsible for fostering the culture of competitive turntablism and Serato are honoured to become a major sponsor of this iconic and prestigious event," said Sam Gribben, General Manager of Serato Audio Research, in a press release published on the DMC website. "Preserving the art of vinyl DJing, whilst introducing new technologies for future world champions is a key Serato philosophy. We look forward to a long relationship with DMC, ensuring that competitive DJing continues to move forward into new realms." The only DMC category that will remain vinyl-only after 2010 is the head-to-head battle, the DMC Battle for World Supremacy.

Allowing DVS in DMC's most traditional battle category has been subject to praise, critique, and concern. Considering Rane and Serato's accession into industry standardization without main sponsor visibility and product use, it will be interesting to see how, like with Technics, the DMC synergy and increased market exposure will impact Rane/Serato's business in the years to come. Since products from other companies in the DVS market will be allowed in competition, it will also be interesting to see how this sponsorship relationship will develop and what types of restrictions, if any, will be put on the use of technology (both hardware and software).

While thus far this chapter has reviewed Serato Audio Research primarily within the context of its relationships to Rane and DMC, the next subsection will outline the

company, its history, and its synergies within and beyond the DJ product industry, as well as the debate over DVS patenting.

Serato Audio Research

Serato Audio Research was founded in 1998 as a pure research company in New Zealand by two computer science students, Stephen West and AJ Bertenshaw, to sell Pitch 'n Time, a pro-audio algorithm product. Co-founder West had developed the algorithm in 1994 to lengthen music notes without losing the correct pitch. Four years later, "Pitch" was being marketed and sold as a plug-in for Pro Tools, an industry standard in software for audio recording and editing, after Bertenshaw suggested commercializing it. Initially the algorithm was offered for licensing, but the two New Zealanders decided that the best way to increase sales would be to release the product itself. After selling the Pitch product primarily to the film industry, and reinvesting the revenues into R&D, the company made a commercial splash by teaming with Rane Corporation in 2004 to release Serato Scratch Live.[80]

After SSL's commercial release in April 2004, Serato Audio Research went from a company known for producing a boutique studio product to an internationally recognized brand within the DJ community. "Now people know the brand who aren't even customers of ours," says Sam Gribben, Serato's General Manager, "People know Serato - especially in the US." (quoted in Thorne 2008). As noted in Chapter II, SSL was not the first digital vinyl system on the market, and currently it is just one of many DVS choices. However, Scratch Live is largely recognized as the standard DVS in the industry. Gribben says, "I think that Scratch LIVE has proven that there is a real market

---

[80] However, the first incarnation of the SSL was Scratch Studio edition, a Pro Tools plug-in, which was the initial product that got the attention of DJs and Rane at NAMM 2002.

for digital. There are many products out there that do similar things, but (for whatever reasons) it seems that Scratch LIVE has been a driving force in changing the attitude of the market – digital is really here, and here to stay." (quoted in Gizmo 2007).

In a 2008 interview, Scott Bulloch, the Marketing Manager at Serato, said, "The growth of the digital DJ market is huge. In the last year our volume has gone crazy" (quoted in The Dominion Post 2008), and with the market growth Serato as a corporation has expanded as well. From 2007-2009, Serato tripled the staff at its Auckland base to about 27 employees, most of which were involved in technology research and development. Although financial information on Serato is sparse because the company is privately held, in 2005-2006 the company's revenues were reported to be roughly $4.1 million, with 99% of its products exported to the U.S., Japan, and Europe (TBG Performance Information 2006). Although West and Bertenshaw retain full ownership of Serato, Bertenshaw is no longer actively involved in the company's business operations.

Serato has, for the most part, done very little advertising of its Scratch Live product, but has instead relied on word of mouth within the DJ community and endorsement by sponsored DJs. Very early on credible hip hop DJs such as DJ Jazzy Jeff and A-Trak were lauding SSL, a product that included A-Trak in the R&D process. Gribben suggests that, like Rane, Serato has mainly relied on its reputation in product performance and customer service:

> We didn't spend huge amounts of money on advertising or promotion, but have been more about having direct communication with our customers. We've had a (website) forum for a long time and anyone can come to us with problems or suggestions and we are very open with them. We admit mistakes and respond quickly and I think users feel they are dealing with real people. You can get on and talk to the engineer that built a feature. A

lot of our competitors have heavily censored boards and don't allow
criticism of their products to go up. (quoted in Thorne 2007)

This has freed up capital to use in product development and to facilitate upgrades of

Serato's software.

Since the first version of the Scratch LIVE software debuted, Serato has made

numerous upgrades and released a considerable number of updated versions (by 2011,

Scratch Live 2.2). All software updates are posted in the Serato online forums

(www.serato.com) and are free to download by registered users. Not only are these

updates posted in the forums, but Serato also heavily monitors these same forums for

feedback and complaints by DJs. Gribben suggests that customers who bought the

product during earlier iterations actually now cost Serato because the software updates

are free. "But in a way they have become part of the sales force and created a snowball

effect. Instead of marketing it we have put effort into making the people who own it like

it so much they want to talk about it," says Gribben (quoted in Thorne 2007).

Gribben contends that the free updates, product stability, and customer service

have created loyal customers who can directly interact with SSL's development. With

more than 50,000 registered users on the Serato Web forums, Serato actually gets

software update ideas from the forum itself, (for instance, the sample player upgrade or a

feature where flipping the control records on the turntable triggers the next song in a

playlist). With customer feedback shared on its Web forums and with customer service

representatives, Serato is able to harness the ideas of its customers to give them better

functioning tools with each upgrade.

Although initially hesitant to move into the video field, Serato premiered their video scratch technology, Video-SL, at the NAMM show in 2007, and eventually offered it for retail in January 2008. Video-SL allows DJs to mix video with effects and transitions from a laptop using their control records. Thus, instead of controlling MP3s, DJs can project and then manipulate music videos, news reports, speeches, cartoons, etc. This video plug-in retails for $199. It is important to note that initially it could only be used with the Rane TTM 57 mixer. But in early 2009, Serato offered a software plug-in, Video-SL 1.1, to make video manipulation also compatible with the Rane SL 1 hardware. "By opening it up to the TTM 57SL first, we were able to work with a smaller number of power users to create a stable, reliable foundation, which is the most important aspect of any software we develop," says Gribben (quoted in Serato 2009).

Serato Audio Research's list of "creative partnerships" with hardware and software companies has continued to grow since it first partnered with Rane in 2004. After three years of planning and development, Serato announced an integrated software and hardware solution for digital music selectors and DJs called ITCH in 2008. Working together with select hardware partners (Vestax, Allen & Heath, Denon, Numark, and Pioneer), the ITCH software allows for the manipulation of audio files without using analog or CD turntables. The system uses the ITCH software, similar to the Scratch Live software, located on the DJ's laptop, but connects directly into the ITCH controller for audio file manipulation. The main difference between ITCH and SSL is that all the DJ's mixing is done inside the software with ITCH, instead of through a mixer. Although Serato/Rane's Scratch Live is based on DJs using a mixer and promotes Rane's lines of DJ mixers, Serato is interested in developing software geared towards controller

application. "I think the future lies in hardware and software companies working together to engineer a product that best meets the need of the DJ," says Gribben. "I think that once DJs get used to the idea that they can get solid performance out of a software-and-controller combination, we'll start to see some interesting ideas come out of R&D labs around the world. We certainly have our fair share of ideas that we'd like to see make it to the market" (quoted in Numark n.d.).

Hardware manufacturers, who are ITCH partners, such as Vestax and Numark, have also been reaching for the controller market and moving away from developing and marketing professional lines of mixers and turntables. With fading analog DJ product and CDJ markets, and a somewhat stabilized DVS market, the controller market represents a new breed of DJs and a new group of potential customers for companies. However, in this study's sample, which consists of vinyl and DVS users, none of the DJs had exclusively moved to controller. DJs who had exclusively used CDJs, however, are in fact making the transition to controller products, which is presumably because controllers are a more approximate remediation of the form and function of CDJs. For hip hop DJs accustomed to manipulating 12" discs, transitioning to the 3"-6" jog wheel-styled discs of controllers has not really happened because the small surfaces compromise and affect manipulation capabilities. Furthermore, since manufacturers are developing controllers that can fit in a laptop bag, controllers are usually compressed versions of the two turntable/mixer setup, thus all control features are squeezed into a significantly smaller workspace.

Serato continues to push software development geared towards music production, and has diversified its interests through corporate partnerships with other software

developers. In 2008, Serato announced its partnership with Ableton AG, a German software developer that has experienced market growth and cultural acceptance in recent years because of the success of its Ableton Live software, which is a live remixing and music production tool. Two years later the companies announced The Bridge, free software that allows DJs to control Ableton Live within the SSL interface. According to Ableton CEO, Gerhard Behles, "Ableton has never had an answer for the DJ who wants vinyl control, and rather than try to emulate what Serato do so well, we simply make sure that our products work well together" (quoted in Ableton n.d.).

Aside from the development of DJ computer software and hardware partnerships, Serato has diversified into the digital distribution of music with Serato Whitelabel Delivery Network (Whitelabel.net), which is especially significant for this study. Launched in fall 2008, Whitelabel.net is a system that allows record labels to deliver promotional releases directly to DJs, and, according to Gribben, allows DJs to influence the music industry: "DJs know which records work and which don't. Whitelabel.net provides a way for them to get this information directly to the record labels..." (quoted in Serato 2008). This system is made accessible to those who have registered their software with Serato and is similar to other digital DJ record pools where music is made available for free download.[81]

However, Whitelabel.net downloaded MP3s have a built-in security mechanism as files play as high quality 320kbps MP3 format through ITCH or Scratch Live, but as low quality 32kbps files in other playback software (e.g. iTunes). Inside an MP3 file's ID3 tag, which contains information such as artist and song title, is an audio tag that only

---

[81]   For instance, www.digiwaxx.com, www.djcity.com, etc.

Scratch Live or ITCH can read as a 320kbps file; essentially this is Serato's form of digital rights management (DRM).[82] Thus, these files are basically restricted from any use (e.g. P2P file exchange) other than those permitted in SSL or ITCH, and therefore still encourage music purchases by DJs.

Apparently, Whitelabel.net gives record labels statistics about what DJs are downloading what song, but not information about how many plays, etc. And, of course, Serato and Rane, through DJs' submission of warranty information on their products, have collected valuable demographic data on their customers. Serato has directly partnered with the world's two largest recording companies in this venture (Universal Music Group (UMG) and Sony Music Entertainment), which represents the first collaboration between major recording companies and a DJ technology company (UMG 2009). While developing the service, UMG gave Serato input about distribution and how to make the service appeal to record labels.

Currently, Whitelabel.net distributes music for all of UMG's and Sony's subsidiary labels, and for a total of 382 major/independent labels. "Using their Whitelabel.net service, we can reach the DJ directly and quickly with new music. Whitelabel.net is more efficient than sending vinyl records and more secure than delivering conventional audio files over the internet," says Vincent Freda, Executive Vice President of Digital Logistics for UMG (quoted in UMG 2009). Serato has a per-track charge for record labels to be able to use their service. Dave George, Serato's Plug-In Development Manager, suggests that Whitelabel.net is used differently by different customers: "Majors may want to use it

---

[82]   DRM is any technology that restricts use to digital content.

in a carefully targeted way while independents may want tracks to have as wide exposure as possible" (quoted in Thorne 2007).

Another Serato business related to the recording industry is Serato Pressings, which produces vinyl records that have the copyrighted Serato Control Tone on one side and an actual song on the other. Unlike Whitelabel.net, Rane is not involved in the Serato Pressings business. Instead, Serato works selectively with record labels in this venture. The record labels officially license the Control Tone from Serato, and then pay royalties to Serato based on units sold. According to Product Manager for Serato Pressings, Bill Mitsakos, "Serato is genuinely interested in preserving vinyl culture… Serato Pressings allows us to work with record labels and the few remaining pressing plants to cut a collectible series of records that have original music on Side A and the ability to control our software on Side B" (quoted in Serato 2008a). The records are usually manufactured in limited pressings and are intended as collector's items, sometimes fetching big money on eBay. Interestingly, according to Serato, citing "industry sources," the control record used for SSL is the highest selling 12" vinyl record in the last 14 years.

Thus far we have seen how Serato has formed a series of creative partnerships in which it licenses its technologies to other companies, or provides services that distribute another company's intellectual properties. However, unlike some of the other companies discussed in this section, Serato has rarely been involved in patents, but instead licenses its intellectual properties to other companies that manufacture and distribute them. Serato's only U.S. patent application has been for the process for Whitelabel.net, which has yet to be granted. Apparently, Serato has adopted more of an open source mentality,

and welcomes competition. Gribben says, "Competition is a good thing. It's good for the consumer, good for the industry, and ultimately good for us. We don't want to compete on price - quality is always going to be what separates us from the competition" (quoted in Gizmo 2007). Thus, Scratch Live has achieved market dominance and standardization without using patents, although Serato is active in licensing its intellectual properties to other companies. Despite Serato's claim of being open source, the invention and ownership of the idea behind DVS is highly contested.

The Contested Invention of DVS

In 2007, amidst countless blog and forum posts, hip hop fans and DJs alike were talking about rumors surrounding the leader and main producer for the rap group Wu-Tang Clan, The RZA. The source of the frenzy had nothing to do with the typical absurdities surrounding the rap artist, but instead came from a video interview between KOTORIMAG.COM and The RZA, in which he claims to have "invented" Serato Scratch Live (kotorimag 2007).

"1997, I'm in Switzerland, a rainbow leads me to this Switzerland guy's house," said The RZA (kotorimag 2007). The Swiss man had a technical system that allowed him to scratch digital sound in real-time; a device The RZA claims the man called "The Replicator." The RZA said that he then talked business with the man and told him "I want to bring this to the world." The RZA claimed to have founded a company called Wu-Electronics and invested $2 million into the development of 50 prototypes of The Replicator, which he said were then brought to an AES trade show without him. He claimed The Replicator had been showcased at the AES show, and several months later Stanton's FinalScratch, the first commercial DVS, was being displayed at trade shows.

241

In the interview, the RZA went on to discuss both global and domestic patent rights, a process he claimed to have spent $50,000 on. He further claimed that a one-year lawsuit ensued, but that the legal battle would have been too costly. Then Numark approached him with a deal for The Replicator, one that he calls "fucked up," and Wu-Electronics dissolved shortly thereafter. The RZA suggested that The Replicator was different from FinalScratch and SSL. "That's another thing that I did to help hip hop out that hip hop might not know," he said. "I invested into that technology. The big companies took it and made it available to the world, but that was me who put the first $2 million into that technology. Nobody would have invested into that technology, nobody even believed that there was a market for it." The RZA suggested that if he had $10 million to put into R&D, marketing, and especially into a legal battle, then The Replicator would now be the standard technology.

The RZA's claims were met with some skepticism, however, there was some proof of The Replicator on the Ghostface Killah *Supreme Clientele* (2000) album, produced from 1997-1999, which featured an instrumental by The RZA that sounds like it used a technology similar to The Replicator. The RZA's claims demonstrate the contestation of invention and antagonisms over intellectual property rights in the market for digital vinyl systems.

In Chapter II, the development and marketization of Stanton's FinalScratch product was briefly detailed. FinalScratch was originally developed by N2IT and then made commercially available by Stanton. In 2003, Stanton began working with the software developer Native Instruments (NI), and released the Traktor FinalScratch DVS (apparently licensing the technology from N2IT). Stanton and NI ended their partnership

242

in 2006, and after the two companies parted ways, NI released a competing DVS product, Traktor Scratch Pro. The fallout between these two companies caused a series of legal actions, ultimately bringing FinalScratch's original developer, N2IT, out of the woodwork to lay proprietary claim idea behind DVS.

Instead of finding an exclusive software developer to replace NI, Stanton released FinalScratch Open in 2007 as way of using the ScratchAmp 2 with other DVS software.[83] According to Stanton, this would allow big and small software companies to take advantage of the FinalScratch hardware system for the control of their software. Because Stanton no longer had an exclusive software, it suggested that Open would benefit customers who already had a ScratchAmp: "We believe that by providing this technology free of charge to developers, as well as linking its use with the ScratchAmp, FinalScratch users will now enjoy an unbelievable new realm of possibility. FinalScratch OPEN now has the potential to become a cross software standard for vinyl control" (Stanton n.d.). The company claimed that this would allow DJs that owned the ScratchAmp to choose the software that best-suited their style as long the hardware/software combinations were compatible. With exclusive licensing agreements or partnerships between software developers and hardware manufacturers being the standard practice, moving forward, it will be interesting to see how these open source ideas/practices play out in the highly competitive DVS market.

Eventually the NI/Stanton fallout set off a number of patent disputes between N2IT and Native Instruments. In 2000 and 2002, N2IT filed for a patent for playing digital music using timecode encoded records, a technology used by all DVS, and then

---

[83] Software such as MixVibes, Deckadance, Ableton Live, Virtual DJ, PCDJ, Traktor DJ Studio, etc. are supposed to work with the ScratchAmp 2.

developed it with Stanton and NI. In 2007, N2IT claimed that NI infringed on its patented timecode technology, and a year later the parties settled out of court. The end result is that NI agreed to pay a per-use license to N2IT for its patented idea in Traktor Scratch. In this case, the validity of N2IT's patent was upheld, thus there is a chance that N2IT may start going after other DVS manufacturers, which would likely result in a lawsuit against the companies that produce the industry standard DVS, Serato and Rane.

N2IT Holding B.V., based out of Amsterdam, has applied for and been rewarded several U.S. patents[84] for disc mechanisms used in signal processing for DVS systems. N2IT, naming Mark-Jan Bastian as inventor, also applied for patents that protect an "apparatus for controlling a digital audio signal" and a "method for signal processing and an apparatus therefore." N2IT got patent protection, first in the Netherlands in 2000, on the *idea* of using timecode encoded vinyl for DJing. This patent award in the Netherlands may be why Serato Scratch Live is not commercially available there, although DJs there can order SSL from retailers in other countries.

After the settlement, on April 17, 2009 N2IT Holding B.V. filed a complaint against M-Audio LLC,[85] claiming that M-Audio's Torq Conectiv Vinyl/CD infringed on its patent. "We filed this lawsuit for one simple reason," says Jeff Boggs, N2IT's legal representation, "N2IT's property is being knowingly and unfairly exploited. Our system of rewarding inventors for their innovative ideas is jeopardized when intellectual property rights are ignored" (quoted in Gizmo 2009a). By November 2009, the case had been dismissed, either because N2IT and M-Audio decided to settle out of court or because M-

---

[84] US 7012184 B2 and US 7238874 B2 have been awarded to N2IT.

[85] N2IT Holding B.V. v. M-Audio LLC.

Audio's corporate parent, the $630 million Avid Technology, Inc., was ready to push back. One of the problems in this suit is that M-Audio does not own the Torq DVS technology, but in fact licenses it from Ms. Pinky, a small developer of low-cost DVS products. The general thought within the industry is that N2IT was going after some of the smaller DVS companies that use its patented technology in order to have some precedence to go after Serato and Rane.

However, in a recent article by Steven Carroll (2010), an engineer and designer behind the now defunct Intimidation DJ mixer company, there is reason to believe that N2IT's patents are invalid because the *idea* of using timecode encoded vinyl was already in the public domain as early as 1996. Therefore, N2IT may have had the first commercial product using timecode encoded vinyl with FinalScratch and received a Dutch patent on the idea in 2000 (filing a U.S. application in 2002 and a European Union application in 2004), but a major flaw in its applications is that it failed to mention prior art.

As mentioned in Chapter V, in patent law, prior art is any information relevant to an idea/invention's claims of originality published before the patent application. Prior art can be published in any form, such as a research paper or a product demonstration, and must be cited in the patent application. To assess the validity of a patent application, the invention/idea seeking patent must not be described in prior art, even if the prior art has not received patent protection (although if prior art is patented, it significantly reduces the originality of the invention/idea being reviewed). Rules vary on a country-to-country basis, and, as an entity seeking patent protection, you must apply in each country in which you would like to have patent rights.

Carroll, who was active at the NAMM and Musikmesse[86] trade shows in the 1990s, lays out some of the inventors and ideas relevant to N2IT's claims of originality in an article (2010). Carroll cites an invention by a Swiss man, André Rickli, which was demonstrated at the 1996 Musikmesse, as some of the original prior art to timecode encoded vinyl, although Rickli's prototype did not use timecode vinyl. The device (see *Figure 24*) had a rotating disc on a large arm that was lowered onto the center of the turntable and replicated the movement of the disc. When the disc was moved, it manipulated sound stored on the computer. Carroll suggests that Rickli was trying to find a manufacturer to help bring the product to market and that he may have gone into business with someone: The RZA.

Figure 24: Image of Rickli's drawing from his patent application, WO 97/01168, granted on January 9, 1997.

It also looks like James Russell, who was a peer of Steve West (one of the founders of Serato) at the University of Auckland, also experimented with using turntables for digital audio playback as early as 1996. According to Sam Gribben, some of Russell's ideas made it into Serato's prototype for SSL, Scratch Studio Edition. "He [Russell] was exploring all kinds of optical, mechanical and even magnetic methods of

---

86   This is the world's largest pro audio and musical instrument trade show.

tracking record movement," says Gribben. "Steve suggested that he could press a control tone onto the record. James incorporated the suggested method into his research paper, which was published at the end of 1996. It wasn't until 2001 that Serato commercialized the method" (quoted in Gizmo 2007). However, Carroll (2010) challenges West's claims in some senses, mainly questioning why West/Russell did not try to patent their idea or challenge the validity of N2IT's patent.

Also, Chris Bauer's 1998 thesis paper at Middlesex University described the DVS concept, which he publicly demonstrated in autumn 1998 as the Spacedeck project (see *Figure 25*). Bauer's innovation used SMPTE timecode, a relatively standard format in video, pressed to vinyl, and the Spacedeck system used a computer to read the timecode signal and then that information would be replicated in the manipulation of a digital audio file. Bauer claims to have reached out to N2IT in 2001 to see if it had planned to patent the idea of timecode encoded vinyl, which it did, but was unwilling to discuss the matter any further with him. As FinalScratch gained market presence by 2003, Bauer hired a lawyer:

> i decide it is time to do something. N2IT's patent is not yet granted. i contact a patent lawyer, who writes to N2IT and tells them that unless they wish to start a conversation with me regarding their patent application and my project, i will make objections/observations to the EU patent office, citing my project and MA thesis. N2IT do not respond, so objections/observations are made, to the effect of the patent should not be granted as the invention is not novel. (Bauer 2009)

Prior to N2IT being granted patent rights, Bauer could not find any evidence that the company had built or exhibited DVS technology before he had. In January 2009, shortly after N2IT settled with Native Instruments and before its suit against M-Audio, Bauer was contacted by Serato's Steve West and Ms. Pinky's Scott Wardle about his thesis in

order to add his research to their collections of prior art (presumably in anticipation of

N2IT claiming that their DVS systems infringe upon its patented idea). From May until

November 2009, Bauer was in discussion with M-Audio's lawyers about the Spacedeck,

apparently in its preparation for the suit brought upon them by N2IT.
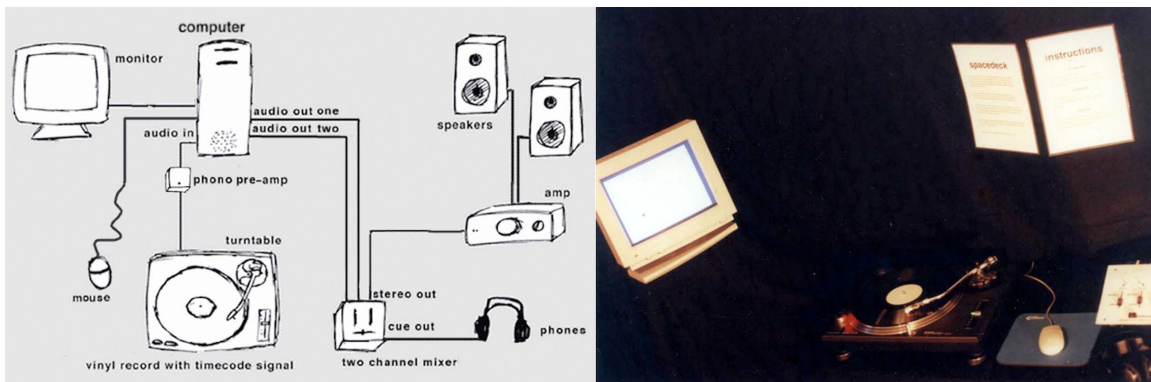
Figure 25: Concept drawing of the Spacedeck (left) and the Spacedeck exhibit in
London, September 18-22, 1998 (right). Images courtesy of Chris Bauer.

Carroll (2010) also discusses his role in the concept behind DVS and using

timecode encoded vinyl to control digital music, an idea that he began developing in

autumn 1997. Carroll filed for patent in the United Kingdom in February 1998 (see

Figure 26). Although he never really developed the idea or made any prototypes, he

spoke with third party companies about trying to develop it for commercial use.

With market conditions and the fact that MP3s were not a standard music

playback format in 1998, Carroll was unable to find another company to invest and

develop the idea, and therefore stopped pursuing patent protection. Shortly thereafter,

Carroll left the industry altogether, only to find out years later that the DVS idea had been

developed and that there was debate over who had conceived the idea. Carroll admits

that he is unaware of N2IT's history in the market, but says, "It appeared to me to that

they came from nowhere but somehow had managed to team up with Stanton to bring this to market, after-which they appear to have vanished" (Carroll 2010).

In respect to N2IT's case against M-Audio, on September 4, 2009, a judge in the United States District Court of Virginia dismissed the case due to "inequitable conduct" on behalf of the plaintiff, N2IT. Most likely this is due to the fact that N2IT failed to cite prior art in its patent application, which would have ultimately led to its patent application being denied. The interesting thing about the series of lawsuits brought on by N2IT is that it seems to be spearheaded by John Acquaviva, one of the first DJs, along

Figure 26: Steven Carroll's patent drawing (#9804037.1) for his DVS concept, filed in the United Kingdom on February 25, 1998.

with Richie Hawtin, to do R&D and demo FinalScratch in the early 2000s. Mark-Jan Bastian (named as inventor on N2IT's patents) and Timothy Self, who incorporated N2IT, have not really been present in these suits. In a press release published on *Skratchworx*, Acquaviva is named as the CEO of N2IT, and he says, "Final Scratch is noted as an industry leader...The unauthorized use of this technology is irreparably harming our existing business" (quoted in Gizmo 2009a).

Apparently, N2IT is no longer a business, instead it is what most would consider a "patent troll." N2IT is suing but not researching and developing DVS products, nor does it have any products on the market; thus, other DVS are not harming N2IT's business. What also makes N2IT seem like a patent troll is that Acquaviva, not the original founder/inventor, is leading the lawsuit charge. It is likely, then, that Acquaviva bought the patent rights from the original founders in order to bring suit upon successful commercial products in the DVS market rather than to further develop the product.

The important thing to note in all of this controversy regarding N2IT is that courts have recognized the patent on the idea of using timecode encoded vinyl, to the extent that Native Instruments pays a licensing fee to N2IT. This could still lead to future lawsuits. It still is unclear as to what happened in its suit against M-Audio, and what may happen in the future, but surely if N2IT's patents are recognized by the courts, it will not only change the industry, but also affect who intellectual property laws are ultimately in place to protect: consumers. Although N2IT has been quiet in 2011, it is something for DVS manufacturers and DJs to keep their eyes on.

So far, this chapter has reviewed three companies that have represented industry standardization. The next section looks at Vestax, a Japanese manufacturer that set the standard for hip hop DJ mixers in the 1990s by using the intellectual properties of DJs in two ways: 1) it is largely regarded as the first company to listen to DJs' ideas and use DJs in product R&D; and 2) it is one of the first companies to use the brands of superstar DJs to endorse its products. While Vestax is putting more focus on the controller market, these practices of using DJs in R&D and branding have become standard practices for companies in the DJ product industry.

Vestax Corporation

For many years DJ mixers were not made for hip hop DJs, but catered to club mixing and radio station uses. Although not commercially available, the first mixer made with hip hop DJ styles in mind was the one that Grandmaster Flash retrofitted for himself (discussed in Chapter II). For DJs interested in scratching, juggling, and battling, a 2-channel mixer with the crossfader placed in the center was the bare minimum, yet most manufacturers in the 1990s were still developing 19" mixers with rotary knobs or off-centered crossfader placement, stiff crossfaders that would bleed and were not replaceable, and complex layouts of controls. While the 10" "battle" style mixers (mainly the Gemini MX-2200) had gained popularity among hip hop DJs moving into the 1990s, many of those mixers had poor-performing crossfader-systems.

In the early-to-mid 1990s, the Japanese manufacturer, Vestax, actually began listening to hip hop DJs and using their ideas in the design of its mixers. Furthermore, the company was introduced to the world's most popular crew of hip hop DJs, the Invisibl Skratch Piklz, who would be important not only in R&D, but in promoting Vestax products globally. From this feedback loop came the PMC-05Pro models of mixers, made with hip hop and scratch DJs in mind, and the introduction of an improved crossfader-system (in respect cut-in control,[87] smoothness, and durability).

The smooth design of PMC-05Pro coupled with the new crossfader-system are why for so many years, Vestax was the standard brand of 2-channel mixers used by hip hop DJs. As noted previously, the company is no longer the standard, but is important

---

[87] Cut-in control refers to having control over the taper or how fast the crossfader moves between the audio signals from turntables. For mixing, long crossfader taper is preferred; for scratching, a very short cut-in/taper is desirable.

because Vestax were one of the earliest to work with DJs as means of developing better performing, and thus better selling, technologies and then bringing these products to the market through endorsement and marketing a lineup of popular hip hop DJs. Not only is Vestax often cited as one of the first manufacturers to open their ears to DJs and include them in the R&D process (now a standard practice), but the design of the PMC-05Pro is regarded as the blueprint for most 2-channel mixers (including the Rane products).

Several interviews were conducted with Chuck Ono, Vestax's Executive Vice President since 2003. He is also a director and board member at STOKYO Corporation, a company that specializes in the distribution of scratch DJ tool records and scratch music products to retailers. STOKYO also manufactures and distributes the SOUNDWAGON, the world's smallest turntable that comes in the shape of a Volkswagen bus (officially licensed from VW), and *Shibuya Breaks*, which is half analog scratch tool and half Serato Scratch Live tone record produced by Serato Pressings. Ono was hired by Vestax to enhance their products, and has since been involved in the development of Vestax controllers.

While Vestax Corporation is a privately held company whose world headquarters are based in Shibuya, Tokyo, they also have a European office, Vestax Europe Ltd., located in Hampshire, England. Although financial data is scarce, the Vestax Corporation totaled $8.4 million in revenues in 2008. According to current data, the company employs 22-25 people and earned $12.77 million in revenues in 2010 (Hoovers n.d.). Although many DJs think that Vestax is a large Japanese corporation, Ono says that it is in many ways a "grassroots" company that prefers working with its pro-artists than with other major corporations. In its company philosophy, Vestax compares corporate size to

252

animal evolution: "Vestax believes that the history of animals shows that the ones that are too big become extinct, while insects who have downsized and diversified themselves are survivors. This is also true of companies: bigger is not always best" (Vestax n.d.3).

Vestax distributes its DJ technologies outside of Japan to valuable markets in America (through American Music & Sound located in California) and Europe (through Leisuretec located in the England). In 2002, after its founder, Hidesato Shiino, stepped down as Vestax President and was named Honorary Chairman of Vestax, Toshihide Nakama became the new President of the company. Vestax credits Nakama (aka "Toshi") as the "inventor of the legendary 'PMC-05 Pro' battle mixer" (quoted in dj for Mac n.d.), although throughout this chapter the networked innovation behind the PMC-05 line of performance mixers will be discussed.

At the time of its incorporation in 1977, Vestax founders thought that musical instrument manufacturers were not designing innovative and functional products, thus the company thought it could "light the way for progress, quality and innovation" while satisfying its customers (Spin n.d.). Part of Vestax's corporate philosophy is to stick to those core values, which Vestax considers to be the heart and soul of its business. The company refers to quality as time/capital invested in R&D and components, while innovation/creativity is said to be the main driving force behind the R&D of its new products. Customer satisfaction, according to Vestax, is increased by the company's support of music culture. "This might be demonstrated by providing instruments that are highly innovative, or by expanding the features of a product to allow new and creative styles to develop. The end result however, is that music culture benefits in a positive way, always" (Spin n.d.).

Vestax began in the fall of 1977 when Shiino started Shiino Musical Instruments

Corporation (SMIC) in Shibuya, Tokyo, as a musical electronics company producing

mini guitars that were full-scale replicas of the Les Paul and Fender Stratocasters.

Shiino, a master luthier who had worked for musical instrument companies such as

Yamaha and Fujigen, had considerable expertise in product development and marketing

of musical instruments. By the end of 1977, SMIC diversified its interests by opening a

string instrument store, PACO, that would also distribute SMIC-manufactured guitar

parts. This vertical integration gave the new company a presence in production,

distribution, and retail. In 1978, it began producing its own line of regular sized high-end

guitars, but realized that it was more advantageous to focus on the guitar parts market.

In 1982, Vestax became an original equipment manufacturer (OEM)[88] for the

TEAC Corporation. Through such collaboration and capital from these already

established manufacturers, Vestax studied the modification of digital sound waves

developed extensions on delay and reverb. This innovation gave Vestax a 60% market

share on the delay and reverb sound effects patches, which would be patented and then

licensed to other manufacturers. Furthermore, the same study resulted the world's first

stereo chorus—proprietary information that would eventually help Vestax join with JVC

to create the first stereo keyboard.[89]

In 1982, the company was known as Shiino Vesta FIRE Corporation, but was

later trademarked as Vestax Corporation in 1987 (Vestax n.d.). In 1984, Vestax began

producing analog portable recording studios (called "portastudios" or multi-tracks),

---

[88]   OEM refers to a company that manufactures components/products under the brand name of another
        company who purchases the products from the OEM company.

[89]   Victor Company of Japan, Ltd. was founded in 1927 as a subsidiary of Victor.

254

challenging the dominance of Yamaha, Tascam, and Fostex. Eventually, other Japanese

electronics manufacturers in the musical instruments industry, such as Akai, TEAC, and

Yamaha, approached Vestax about incorporating some of the company's patented parts

into their instruments.

Vestax's interest in the market for DJ products began in the 1980s when the

company used its patents, capital, and components to make DJ mixers—an extension of

its other sound-mixing devices.[90] Vestax's official foray into the DJ market, though, came

in 1987 when it organized an all-Japan DJ battle; one year later it opened DJ PACO, a DJ

equipment store in Tokyo (Vestax n.d.). Vestax continued to explore and exploit products

in the DJ market by debuting its PMC models with the PMC-30 and PMC-05 around

1989, the latter being a 7" mixer and one of the earliest to have a replaceable crossfader.

After winning the DMC Technics European DJ Championships in 1989, the

United Kingdom's DJ Trix approached Vestax about sponsoring him and Trix began

doing demos at trade shows for the company. At the time, Trix was using the Vestax

PMC-05mkII mixer, a product whose features he liked, but he thought that its layout

design was all wrong. Trix thought he had a better design, he explains: "I drew a design

using the components of the PMC-05mkII but laid the mixer out as I wished, I also

included the Vestax logo and my sig[nature]..." (DJ Trix 2011).

Thinking that nothing would come of his design, Trix submitted it to Vestax.

Around 1990, Vestax released the PMC-05 TRIX battle mixer (see *Figure 27*), a product

that Trix says is a "carbon copy" of his initial concept. Aside from its design concepts,

---

[90] Interestingly, within the industry it has been said that Mr. Shiino was partly responsible for, after
recognizing the market demand, helping to get Technics SL-1200s increased distribution to the U.S. in
the late 1970s.

the mixer is notable because it made Trix the first DJ to have an endorsed mixer, which included his signature on the faceplate, and it began the important trend of manufacturers listening to DJs and implementing their ideas into products. Today, DJ Trix runs Vestax Europe and still keeps one of his signature mixers in his office there. Looking back, Trix thinks that the mixer represents the turn when hip hop and DJ culture were taken seriously, and he says, "I am very proud of what I did still to this day, and to see every Vestax 05 layout has been born of my design is amazing" (2011).

Figure 27: Overhead shot of the Vestax PMC-05 Trix (top) and DJ Trix posing with his signature mixer in the early 1990s (bottom). Top image courtesy of the DJpedia Archive. Bottom picture courtesy of DJ Trix.

Shortly thereafter Vestax introduced its PMC-05FX Funkmaster Flex signature model mixer, a product that featured a logo bearing the likeness of Flex, who was then the biggest hip hop DJ in the radio and recording industries. At the time of the PMC-05 TRIX's release, the only way manufacturers could get a sharper cut-in time was to use smaller crossfaders (the TRIX had a 20mm fader), which was awkward for DJs. The solution would come after Vestax collected intellectual property from DJs and implemented crossfader curve control in the PMC-05Pro.

The PMC-05 TRIX, in many ways one of the first symmetrical 2-channel mixers,

came about because DJ Trix brought the idea to Vestax and they developed his concept.

Thus began the Vestax catchphrase, "We give DJs what they want." For Ono, "I think

that's his [Shiino's] main concept and that was definitely one of the key elements of

having Vestax such a successful company in the DJ market as we were definitely one of

the companies that listened to as many DJs as possible out there. I guess you could call

him a pioneer in regards to that sense" (Ono 2010). Vestax started listening to DJs who

were winning battles and working at trade shows about product development. The

practice of listening to DJs' ideas about the products has since become standard practice

in the DJ product industry, as well as the use of popular DJs to endorse to those products.

DJs were interested and excited to have manufacturers listen because they wanted better

tools; manufacturers were interested in building these tools to expand their market.

It was around 1994 when
Vestax began developing the
PMC-05Pro—a game-changing
mixer that became the standard
for hip hop DJs who were
involved in scratching and
battling because of its layout,
loose crossfader, and control
over the crossfader's cut-in

Figure 28: The Vestax PMC-05Pro in the classic gold (left) and the limited series grey (right). Images courtesy of Vestax Corporation.

curve (see *Figure 28*).   Although Vestax cites its current President, Toshihide Nakama, as

the "inventor" of this mixer, it turns out that the PMC-05Pro is the byproduct of a network of innovation.

Around 1993—when the standard battle mixer was the Melos PMX-2, which was also the official and exclusive mixer of DMC World DJ Championships—the 18-year-old DJ Shortkut was working the trade-show circuit for Numark. At the time, Numark and Vestax, according to Shortkut, were the only companies with DJs in their booths demoing gear. Shortkut liked the PMX-2, but did not think the crossfader was as loose as it should be and that it needed to have EQs.[91] At one trade show, Shortkut was eating lunch with a Numark representative and suggested that Numark would sell a ton of mixers to hip hop DJs like himself if they would simplify the layout and make a smooth crossfader. Shortkut drew a sketch on a napkin,[92] but the Numark rep blew him off. Shortkut tells me:

> Numark wasn't really feeling me. You know, I was just a little kid. I was working one of these trade shows and Vestax had a booth in the next hall. So during my breaks I'd go to Vestax and see their stuff, and I would feel their equipment and it was real nice. They actually had the loosest fader possible that I had seen so far. I started talking to them. And then I did a tour with Qbert in Japan, and I saw the Vestax people there and I started talking to them. Then we just developed a relationship and they kept asking for some ideas. Basically, the 05 pretty much went to them. (Shortkut 2009)

This was the beginning of the relationship between Vestax and Shortkut, who would later introduce other members of his crew, the Invisibl Skratch Piklz (ISP), to the Japanese electronics manufacturer. It would be one of the most important partnerships between DJs and a corporation, one that would revolutionize the market for scratch DJ products

---

[91] EQ controls refer to a DJ's ability to adjust the low, mid, and high frequencies (what we typically adjust as "bass" and "treble" on a home or car stereo).

[92] Although I talked to Shortkut about finding this and publishing it here, when he had found the napkin in storage it had been ruined by condensation.

during the mid-to-late 1990s. To this day, ISP DJs such as D-Styles, Mix Master Mike, and Qbert, still work with Vestax.

According to Ono, Vestax also got more feedback specifically from Mix Master Mike and Qbert, as well as Japanese DJs Takada and GM Yoshi, before the PMC-05Pro was released to market. "And I think 05 kind of set a standard," says Ono, "any two channel mixer out there kind of resembles the image that the 05 created" (Ono 2010). "At first when we made it," says Qbert, "they were like 'oh, this mixer is not going to sell, no I don't think anyone is going to buy it, it's too expensive,' and then they made it. They only made a few hundred pieces or whatever just to test it out, and all of a sudden, they sold thousands....These guys just gotta freakin' listen to us!" (Qbert 2010).

As important as Shortkut and other ISP DJs were in the R&D of PMC-05, Vestax was also able to harness ISP's global appeal and stardom (what some may call a brand), as well as their credibility,[93] to help push the Vestax brand in the marketplace. In the eyes of hip hop DJ culture, both ISP and Vestax really made a splash in the years to come, which was the time period when the turntablist movement, and thus the DJ product industry, experienced rapid growth. Qbert had at least three Vestax 05PRO Qbert Limited Edition mixers made. Later, ISP DJs were also detrimental in the development of Vestax's PMC-07Pro, although the UK's DJ Go often goes uncredited for the 07's design. Vestax has released numerous 05Pro and 07Pro series of mixers, as well as the PMC-08Pro, utilizing similar networks.

Returning to the PMC-05Pro, Shortkut never got any royalties or even credit for his role in the mixer's development, but he humbly says that "to me, it was for the better

---

[93] Mix Master Mike and Qbert were a part of the teams that won the '92, '93, and '94 DMC World Championships.

good of the DJ" (Shortkut 2010). And, it was. Because of the control that its crossfader-system allowed, coupled with the fader's looseness, the PMC-05Pro made it possible for DJs to realize their potential and make the ideas that existed in their heads come to fruition. In part, the 05Pro allowed hip hop DJs to come up with new scratch techniques, patterns, and styles. Shortly thereafter, other manufacturers followed suit and began catering to the market for this type of DJ. Again, it is important to consider the role of DJs in the 05Pro's design and note that Vestax actually implemented, produced and marketed DJs' ideas. So, while the 05 did have a major impact on hip hop DJ culture, hip hop DJ culture also deeply influenced the 05.

Of course, Ono and Vestax know that working with DJs is "extremely valuable" in product development: "Well, these guys are definitely people who made the industry as well. Without your ISPs, without your Beat Junkies and your X-ecutioners...without these guys there wouldn't have been a DJ industry" (Ono 2010). Again, what happened first with the PMC-05 TRIX mixer and listening to DJ Trix would serve as the foundation of Vestax's DJ product development. And, in the case of the PMC-05, we begin to see how there is a dialectical relationship between the industry and the culture. Before this, DJs just made due with the products that were made commercially available and would modify or use a mixer's built-in functions in ways unintended by the manufacturers. "Yeah man, it took a while, but Vestax was really the first company to listen to a DJ. And that is why I was with them for a long time" (DJ Shortkut 2009).

Vestax and ISP, as a result of their relationship, gained increased exposure from the release of the 05Pro, as well as from subsequent collaborative technologies. However, it is important to note here, how the 05Pro was the product of feedback from

numerous DJs, many who were not known or popular, and that Vestax pushed the

association of ISP with its products because they were the most marketable DJs at the

time. This does not discredit the intellectual properties that Shortkut and other ISP

members gave to Vestax, but to suggests that the 05Pro, which was an important

technical innovation for hip hop DJ culture, came about through a network of innovation.

It was not necessarily "invented" by Toshihide Nakama, Vestax, or ISP, but rather, those

entities became associated with its invention, mainly through branding. Furthermore,

some DJs' role in this development has been overlooked. This is not unique to Vestax, as

we will see in the historical analysis of music hardware/software in Chapter V. In other

words, innovation networks have largely been overshadowed by the credit given to

brands and patent assignees.

  After the PMC-05Pro, Vestax continued to listen and to develop new

technologies. Their early 05Pro models, though, were very expensive compared to other

2-channel products on the market, but most DJs were willing to spend the money to have

the crossfader control and a product that used quality components manufactured in Japan.

However, in 1995 Vestax began manufacturing its products in Huizhou and Shenzhen,

China. This outsourcing eventually proved to be problematic, exemplified in 1997 when

new 05Pros hit the market with faulty crossfader systems.

  Problematically for consumers, lowering manufacturing costs while price points

stayed relatively stable, meant that they were paying the same amount for lower quality

products. In addition, Vestax had to rely on other companies to distribute its products in

the U.S. Over the years, Vestax used Numark, Stanton, and Korg, and currently uses

American Music & Sound. This has made customer service and repair an arduous

process for consumers as repairs are made at authorized repair shops and not the company itself.[94] Regardless, DJs still loved the brand and its innovative products and many continued as loyal customers.

Around 1998 Vestax began diversifying its business within the DJ market. Presumably because Technics was the major sponsor of the DMC World DJ Championships and were restricting turntable and mixer use to its products, Vestax launched its own battle: Vestax Extravaganza World Finals. Starting in the late 1990s, these battles were another way for brand expansion and product introduction, as well as increased exposure for competing DJs. The competitions restricted product use to Vestax technologies, and also served as a way for Vestax pro artists (often, DJs from ISP) and other celebrity hip hop DJs to showcase the capabilities of new Vestax products. The footage from Vestax Extravaganza battles, reveals only Vestax brands. The company further diversified its businesses and vertically integrated by opening Vestax TO THE CORE, a "complete DJ and street culture lifestyle store" located in Shibuya in 2001 (Vestax. n.d.).

Vestax developed and marketed its own lines of turntables in the late-90s, with the notable model being the PDT-5000. However, moving into the new millennium Vestax released the PDX-2000 mk1 direct drive turntable, another product of networked innovation, which was aimed at the scratch and hip hop DJs and competed in both price and function with the Technics SL-1200. The PDX line featured numerous advancements to accommodate the needs of the scratch DJ: an expanded +/- 50% ultra

---

[94] I experienced this firsthand with a faulty Vestax PMC-08Pro. I mailed it to an authorized repair shop and they could not fix it. I then mailed it to American Music & Sound and they mailed me the last one in stock, which was also a faulty unit. I ended up getting the distributor to credit the retailer and got a Rane 56s to replace it. The process took almost 6 months.

pitch range (the 1200s are only +/- 8%), reverse playback, and a straight tonearm. The Anti Skipping Tonearm System (A.S.T.S.) is probably the most notable innovation, and other manufacturers began replicating this feature. Although a straight tonearm is nothing new to turntables, Vestax's system allowed for greater tracking force and prevented skipping during heavy DJ manipulation, sometimes at the cost of increased record wear.

Although it was before his time at Vestax, Ono revealed that the story of the PDX, which was a product developed with DJs who were working with Vestax from 1995-1998, is often passed around the corporate office. Because the PDX-2000 was introduced at one of the great peaks of the turntablist and hip hop DJ scene, around the time when the films *Scratch* and *Skratchcon 2000* were released, the model sold well for Vestax and is what Ono calls a "turning point" for the company. "That whole thing just sparked up and DJing was just such a strong piece in this whole urban subculture that suddenly popped out to the mass public....It was just perfect timing to release the PDX 2000 for that specific market, you know turntablism, and that's probably what brought the whole PDX concept into that

Figure 29: Some of Vestax's professional lines of turntables. The Vestax PDX-2000 mk2 (top), the PDX-3000mk2 (center), and the VRX-2000 vinyl record cutter. Images courtesy of Vestax Corporation.

263

whole market" (Ono 2010). Vestax has since released numerous PDX models over the

years, and its most recent model, the PDX-3000mk2, is MIDI compatible.[95] In 2000,

Vestax introduced its VRX-2000 vinyl record cutting machine that would allow people to

make their own records; however, at $10,000 retail, the product did not get much

distribution.

During the 2000s, Vestax developed two turntables with its pro artists that were

geared towards DJs interested in scratching and making music: 1) the QFO; and 2) the

Controller One. Both these products went through years of R&D between Vestax and its

pro artists, with the QFO, a turntable/mixer hybrid developed with and branded by Qbert,

being the product that got marketed to the public. The Controller One ("C1"), developed

primarily with Ricci Rucker and D-Styles, is a turntable that can hit notes and keys like a

piano or guitar. It is also important to note that while the these two products were being

developed, marketed, and produced, Vestax was

also developing a very different instrument, the

S-1 Premium Stage Controller, which is a

guitar-shaped CD/MP3 digital turntable. The

S-1, however, retailed for approximately $3000

and Vestax made only 20 units (see *Figure 30*).

It is rumored that a fair amount of R&D dollars

went into the S-1 project.

Figure 30: The Vestax S-1 Premium Stage Controller. Image courtesy of Vestax Corporation.

These products, as bizarre as they may sound, were developed for a niche market

that existed within an already niche DJ market. However, this has always been a core

---

[95]   This means that you could hook up a keyboard and, using a record with a single note tone, play musical scales.

ideal for Shiino. "Sure we are not going to make a lot of profit, I will be honest with you....Did the Controller One do millions of dollars? No, not at all, we are in the red on that one still. Did the QFO sell thousands? It didn't, but we made product that these DJs wanted" (Ono 2010). This is a defining factor for Vestax because other manufacturers, such as Rane and Numark, have not really innovated in this manner. "We take a lot of concepts and actually make something out of it....We definitely do a little more interesting products," Ono says (Ono 2010).

Together with DJ Qbert and his branding company, Thud Rumble (discussed in the next subsection), Vestax launched the QFO Qbert Signature Pro Turntable in 2004 (see *Figure 31*). The idea was a portable scratch instrument enabling you to scratch anywhere. Initially, guitar-style straps and a battery pack were available. Vestax produced hand-made prototypes in four generations and Qbert spent almost two years testing the device before it hit the market. Qbert explains: "So I just drew it, and then I gave it to Vestax. They designed it, and they were like, 'oh ok, let's make this thing'" (Qbert

Figure 31: My Vestax QFO Qbert Signature Pro Turntable. Photo by Zane Ritt. Courtesy of the DJpedia Archive.

2010). "When I was a kid I learned that you're supposed to draw it out, put your ideas on a piece of paper, and whatever that thing is on the paper pretty much comes to life after a while....So I just drew the thing and showed it to them and they took it from there" (Qbert 2010). The QFO notably featured the Dynamic Balance Straight Arm, 2-band EQ, and

+/-60% pitch, as well as Qbert's Thud Rumble logo. Although there were many QFOs that were released with technical issues, the hype behind Qbert and the QFO allowed it to do fairly well in the market, even with an MSRP[96] of $1999 (although the average retail price was $1399).

Shortly after releasing the Qbert signature model, Vestax released the QFO LE, which was a technically stripped down version, also adorned with the Thud Rumble brand. Given the high price point of the original QFO, Vestax removed some of the features from the QFO LE, which allowed a retail price of $600-$900. Vestax notably replaced the cutting-edge Dynamic Balance Straight Arm system with the standard A.S.T.S. tonearm, which, in some ways, defeated the QFO's purpose of being portable and being able to be used when tilted completely sideways. Also missing on the QFO LE were the EQs, 3-position pitch mode switch; plus all the knobs had been replaced with plastic rotary dials. The simplification of the QFO was considered a way for it to be affordable to a larger audience, but also a sign that the original Qbert QFO did not live up to its market expectations.

While some DJs were praising the QFO, others were decrying it as nothing more than a gimmick; there was also a growing number of proponents of the Controller One turntable (see *Figure 32*). Ricci Rucker introduced the idea for a turntable that could play notes like any other instrument to Vestax around 2003. Rucker had actually been writing about the idea for a few years on Web forums and on his site, www.asisphonics.net, initially calling it "The Melody." Rucker and D-Styles (who had developed a relationship

---

[96] Manufacturer's Suggested Retail Price.

with Vestax from his days with ISP) began developing the instrument (the development of the C1 is fully discussed in Chapter VIII).

The Controller One, however, did not reach the market until 2008, and was sold exclusively through DJDeals.com in the United States, retailing for about $1999. Because distributors and retailers of DJ products were uneducated about or disinterested in the C1, Rucker and D-Styles distributed the product themselves at a lower price; other DJs ordered it through Ishibashi Music Corporation, Japan's largest pro audio and musical instrument retailer.

Figure 32: The Vestax Controller One turntable, a custom made instrument whose body is hand-carved out of wood block. Image courtesy of Vestax Corporation.

Although approximately 300-500 Controller One turntables were manufactured and the item is out of stock and discontinued, it is still featured on the Vestax website. The C1 is largely considered a market failure because so much money was spent on its R&D (which exhausted the marketing budget for the product and ultimately raised the price point) and because it was competing with the budding digital DJ market. As Ono states, the risk that Vestax took in developing this product means that the Controller One experiment is still in the red.

Ricci Rucker often describes the C1 as the "Rolls Royce of turntables," not only because of all the creative opportunities it opened, but also because of how it was made. Rucker says, "The Controller One is like the Moog of the 2000's: barely anyone knows how to use it, it's mad expensive, and it's original as hell. It's called the Controller one,

cause you can control one record in any manner you want....the imagination is the limit"
(Rucker 2009). The C1 has a very powerful and unique motor, and a hand-cut wooden
body for optimal acoustics. The high-quality rubber feet of the turntable were made by
Toyota to completely reduce feedback noise due to vibration. Although it never was
released, Vestax was also supposed to produce a foot pedal so that notes could be
changed by foot; however, JohnBeez, a scratch DJ and now independent inventor, has
produced a prototype for the Fretless Fader (detailed in Chapter VIII), a pitch controller
that allows for octave changes using a crossfader. Despite its quality manufacturing and
potential as a melodic instrument, the Controller One truly flew under the radar or was
simply misunderstood.

But, with the Controller One, Vestax started a new product category that it called
Musical Instruments for DJs (MIDJ). The Vestax C1 press release said, "As we reach for
the industry of MIDJ, we also need to educate the children that the turntable is an
instrument, and that this can be a new culture and instrument added into the world of
instruments. We want achieve this, and bring new life in the turntable" (Vestax n.d.3).
The development of products such as the QFO, Controller One, and S-1 Premium Stage
Controller are primary examples of Vestax's willingness to listen to world class musicians
and try to deliver marketable products.

Aside from listening to DJs/musicians, Vestax also collects ideas from its global
distributors at its annual "International Product Meeting." At the meeting, brainstorming
sessions are followed by drafting a product's vision. Then, "a project team is organized
and engineers from various countries gather for the same goal; realizing the 'Vestax
product' with advanced technologies" (Vestax n.d. 4). Vestax also claims that it attempts

268

to develop better technologies than bigger corporations and attempts to "exchange ideas of technologies and marketing with other companies in the industry that agree with Vestax's approaches" (Vestax n.d. 5).

While Vestax has done little to develop the MIDJ category since the C1, and it is no longer mentioned in the company's media, the company is still developing DJ mixers —notably the rarely seen PMC-05Pro IV, a model Ono says is selling well for Vestax. However, by and large, Vestax is mostly out of the game when it comes to products geared towards vinyl-based scratch and hip hop DJs because it is focusing on the fastest growing product-market in the industry: the controller market.

Even though this study does not address DJ controllers and controllerism, the case of Vestax and the controller market represents how corporations follow cultural trends to expand markets and profits. To clarify, controller DJs do not use vinyl, digital vinyl, turntables, mixers or CDJs to control sound, but instead use a controller with buttons, knobs, faders, 3"-7" jog wheels that remediate vinyl, and joysticks. Controllers operate as MIDI devices that manipulate MP3s on a laptop, typically using bundled software (see *Figure 33*).

Figure 33: The Vestax VCI-300MKII controller (top) that controls the Serato ITCH software and the Vestax Spin (below). Images courtesy of Vestax Corporation.

Vestax began focusing on this market around 2004, and by 2011 had several notable models on the market that work exclusively with bundled software: 1) VCI-100 (Traktor LE software); 2) VCI-300 (Serato ITCH software); and 3) Typhoon (Traktor LE and Virtual DJ Limited

Edition software); and 4) Spin (djay software). While the former three models are part of Vestax's professional line, Spin is part of its brand aimed at the general consumer, Vestax For the People™. Vestax was initially able to enter the market with a stable product because of its manufacturing experience and the relationships it could leverage.

While other controllers retail for under $100, the professional line of Vestax controllers sell for anywhere from $299 to $800. Ono admits that the company cannot hit the lower price points all the time because "a lot of our products tend to be more expensive or are considered more of a premium brand, but I would definitely say the controller market has expanded incredibly in the last five years..." (Ono 2010).

For the People™ is a brand that Ono and Shiino crafted in 2010 to attract people who had never heard of Vestax or had not considered DJing; a product line that, in comparison to its professional products, was "a little bit outside the box." "Not a DJ, let's say a guy just walked into the mall, it could be a girl as well, and from that connection he [Shiino] was hoping that one day that person could experience DJing and later on experience what Vestax was about" (Ono 2010). For the People™ includes products such as a home stereo system, headphones, playback turntables, and the bundled all-in-one digital DJ hardware and software, Spin.

Spin is exclusively available at the Apple Store for $249 and only works with Mac computers. Ono says that it is Vestax's biggest commercial business. "What you are earning from buying a Spin is straight out of the box experience...you open it up, plug it in, bam, you are DJing" (Ono 2010). The target consumer for Spin is the average person and not a DJ, and Vestax regards it as a gateway to other Vestax branded products if the regular customer decides to take a leap into professional DJing. According to Vestax's

270

Spin product page, "Whether for the beginner or seasoned pros alike, plug Spin into your Mac and you become a DJ...mix any playlist automatically with seamless, professional transitions" (Vestax n.d.6). The hardware for Spin is a simplified version of the VCI-100 controller, and the software, djay, was developed by the German company algoriddim. Spin works with iTunes and—as promoted—has you "ready to rock your next party with unprecedented ease."[97] algoriddim has also developed djay for the iPad, as a $20 iPad application that allows users to mix music directly off of an iPad. Unlike other digital DJ solutions, such as Serato Scratch Live or Traktor, the djay software can do most of the DJ's labor by mixing automatically.

While Vestax—based on its current emphasis on the consumer and controller markets—seems to be moving away from products aimed at hip hop/scratch DJs, it still endorses numerous hip hop style DJs. DJ Qbert is one of those artists, and after winning the DMC World DJ Championships three straight years and helping to form the Invisibl Skratch Piklz, he began providing Vestax with input, endorsing Vestax products, and having his own signature series of mixers (starting with the first series of PMC-05Pro mixers). Qbert is a scratch innovator, an ambassador between the hip hop and scratch DJ culture and the rest of the world, and one of those DJs who really helped push the industry. Qbert is also a brand, but funnels his authorship through his business, Thud Rumble, which is the subject of the next subsection.

Thud Rumble

Qbert and his business partner, Yogafrog, who was a member of ISP, founded Thud Rumble, Ltd in 1996. Yogafrog had arrived on the scratch hip hop DJ scene in the

---

[97] This is a catchphrase found on www.algoriddim.com.

1990s with his video camera, which he would use to tape most of the episodes of *Turntable TV*, a home video show that focused on scratch culture and on the antics of Qbert and other ISP members. *Turntable TV* was first produced in 1997 and coincided with the ascension of ISP in both the culture and the market. It was a collection of home videos of Qbert and other scratch DJs filmed mainly by Yogafrog.

Thud Rumble™ as a brand did not really appear until 2000; prior to that time, the brand was actually ISP, also denoted by the Beedle logo.[98] Yogafrog explains: "Back then the name of the company was Invisibl Skratch Piklz.... There was no crew that was formed together. That's why for Q and me we always called it Thud Rumble because it was always us creating all the commerce and business back in '96" (quoted in Maniaci 2006). There have been rumors that Yogafrog is a main reason why ISP split up because it is suggested he wanted to push the Qbert to the next level in the industry, which came at the expense of the rest of the crew. Regardless, Thud Rumble was established as a way to allow Qbert to focus on the art, while Yogafrog worked on the business.

Thud Rumble describes itself as a "diversified media management company committed to showcasing and expanding the world of the skratch DJ." It was built from a "shared determination to push the envelope of skratching as a science, an art and an international culture" (Thud Rumble n.d.). The brand creates synergies in numerous areas, such as global manufacturing and distributing film and music, Internet properties, licensing, and investments. Since its inception, Thud Rumble has released a series of branded accessories and has stamped its brand on numerous manufacturers' technologies. Yogafrog insists that the company is a lifestyle and says, "We're not trying to be

---

[98] "Beedle" is a portmanteau of beetle and needle, and the logo is a an image of a headshell crossed with a beetle.

mainstream or blow this stuff up. It's been part of our lives for decades now. It's routine. During this time [when Thud Rumble first formed] we wanted to control everything. We created our own distribution. We created our own manufacturing arena to build from textiles to vinyl to whatever we wanted to do. We wanted all control" (quoted in Maniaci 2006).

Thud Rumble produces numerous commodities bearing its name and/or the "Beedle" image, which is its most recognizable trademark. Products include iPhone and MacBook cases, handbags, clothing, key chains, stickers, etc. Qbert and Thud Rumble have produced and distributed 31 scratch tool records (sold as vinyl record and MP3), as well as numerous films and scratch instructional videos. Thud Rumble also has numerous creative partnerships with larger corporations, which involves Thud Rumble product input in R&D, applying Thud Rumble™ logos to products and their packaging, and Qbert endorsing those products. Examples of this include the Vestax QFO turntable/mixer hybrid, Monster Prolink DJ Cables, and the two Qbert signature cartridges/needles with Danish manufacturer Ortofon (the Qbert OM and Qbert Concorde).[99] In other instances, Qbert is simply a brand ambassador. For example, he was featured in Apple Inc.'s 2002 "Switch" advertising campaign, as well as representing a playable character in *DJ Hero 2* (his avatar wears a shirt bearing the Beedle logo).

Another major Thud Rumble corporate partnership is with ArtistWorks, Inc. in the creation of the online DJ school, Qbert Skratch University® (QSU). Launched in 2009, QSU is an online community of scratch DJs for students, who pay $60 for a three month

---

[99] This is the first time since Ortofon—founded in 1918 and the world's largest manufacturer of turntable cartridges—has offered a signature model cartridge. Notably, DJ cartridges account for approximately 75% of its sales.

subscription, get access to Qbert scratch video lessons, can submit their own videos to Qbert, and receive personalized video feedback from him. Currently there are more than 1500 registered students globally. The entire community then has access to all of these feedback videos.

These "video exchanges" are part of ArtistWorks's proprietary music pedagogy platform. ArtistWorks's CEO, David Butler, who was upper-management for AOL during the 1990s, applied for a patent on this Video Management System in 2008. Other world-recognized musicians also have online schools through ArtistWorks. But Butler's vision was to give students access to these musicians and to foster some sort of community around them. Since ArtistWorks not only has a patent pending on its Video Management System for Interactive Online Instruction, but also owns the copyright on the QSU website, it seems like another example of how Qbert's brand value is being harnessed by a company to help sell its services/products.

Conclusion

This chapter has reviewed several companies and technical innovations that relate to a political economy of the hip hop DJ, as well as beginning to address convergence and collective intelligence. This is not the whole picture, as the focus is on companies that have achieved standardization of their products in the DJ product industry. Other companies also have contributed (i.e. Numark turntables and Stanton mixers have not achieved anything near industry-wide standardization, not to mention brand acceptance amongst hip hop DJs, but are a part of this political economy). It might be noted that the majority of the DJs in this study's sample used Technics SL-1200s (although some used Vestax models), either Rane or Vestax mixers, and Serato Scratch Live.

274

This chapter first looked at how the Technics SL-1200 achieved industrial standardization, which was first through cultural uses and acceptance of the brand and then by a 17-year monopoly granted by patent rights, as well as placement in various media. Second, this chapter detailed Rane Corporation, and reviewed how the standardization of its 2-channel mixers came from a collaboration with hip hop DJs and its partnership with Serato. Third, Serato Audio Research and its various partnerships were detailed, and looked at how its Serato Scratch Live product became the industry standard digital vinyl system (DVS). Furthermore, the contestation over the invention and ownership of the idea behind DVS is also reviewed. Fourth, because it set the standard industry practices of listening to DJs and working with them in product R&D, as well as heavily using DJs in branding, Vestax Corporation was described. Last, this chapter described Thud Rumble as a branding company, as well as its numerous corporate sponsorships, as one of the few companies in the DJ product industry that is owned and operated by hip hop DJs.

This chapter has also shown the various ways in which intellectual property manipulation, exchange, and rights play a role in technological standardization. Some of the information presented in this chapter suggests that the exchange of intellectual properties, credit, and compensation may be inequitably distributed, and will be given thorough review in Chapter VIII. This chapter has also pointed out the issue of credit for innovation, as the R&D process involves many people (many of whom receive little credit for their intellectual contributions). While this chapter has focused specifically on the DJ product industry and hip hop DJ culture, the next chapter will use interview data to analyze the cultural meanings, uses, and negotiation of DJ technology.

Classic DJ Mixers
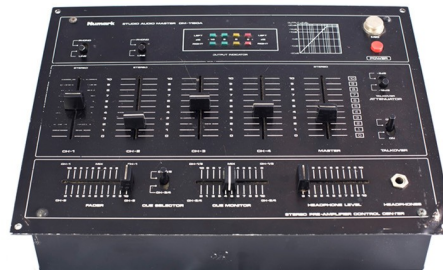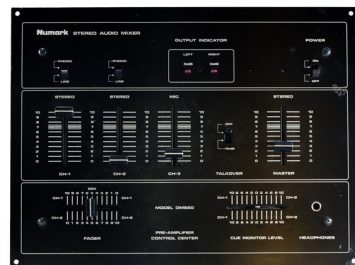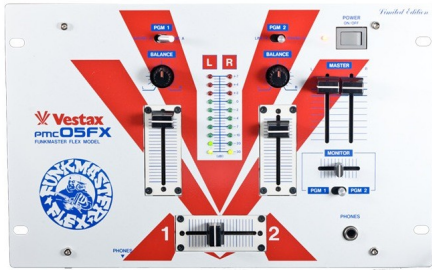
All photos by Joshua Lee/Sunyata Studios and Zane Ritt. Courtesy of the DJpedia Archive.

CHAPTER VII

MEANINGS, USES, AND THE NEGOTIATION OF TECHNOLOGY

> *"For the true collector, every single thing in this system [(the collection)]*
> *becomes an encyclopedia of all knowledge of the epoch, the landscape, the industry, and*
> *the owner from which it comes…. Collecting is a form of practical memory..."*
> ~Walter Benjamin[100]

"It's the most beautiful ugly sound in the world" are the words that, layered under the distinct surface noise of a vinyl record, set the tone for D-Styles's album, *Phantazmagorea* (2002). The deep booming voice—the "beautiful ugly sound" itself, which is seemingly divine in its own right—pierces the ears and soul of the listeners, ghoulishly teasing those who dare to listen to the macabre music. *Phantazmagorea* represents a genre D-Styles labels "Horrorphonic," and on the album he pulls fragments of sound from Jello Biafra of the punk band Dead Kennedys, *Pac-Man*, Bruce Lee, Chris Rock, Hervé Villechaize lamenting on life on Fantasy Island, and a sadistic rant by Charles Manson. *Phantazmagorea* is organic, and represents an amalgam of man and machine, an orchestration by a grave-digging maestro who collects and shows us the refuse of consumer culture. Essentially, he shows us ourselves and what we have become.

For its time, *Phantazmagorea* represented a new type of DJ album and music. After *Phantazmagorea*, a wave of more musically-oriented scratch DJ albums came out,[101] which represented a departure from a lot of the DJ music that preceded it. The

---

[100] In *The Arcades Project* (1999, 205 [H1a, 2]).

[101] For instance, Mike Boo and Ricci Rucker's *Sketchbook* (2002), Ricci Rucker's *Fuga* (2005), and Teeko's *My SoundStation* (2006).

album inspired DJs interested in scratch composition, and a lot of hip hop DJs responded by trying to be more melodic in their own productions. This movement ultimately led to the design and manufacture of the Controller One turntable.

D-Styles's method is reminiscent of critical theorist Walter Benjamin, who metaphorically used "phantasmagoria" in *The Arcades Project* (1999) to describe the spectacle of modern consumer society and commodity fetishism. In the late 19th century the phantasmagoria was a light show that used a magic lantern to project horrific images of ghosts and demons for an audience—in many ways the precursor to horror films. After perusing the Parisian arcades for over a decade, Benjamin suggested that capitalism had turned consumers into spectacle and lulled them into a historical dream state where freedom is equated with the ability to consume. Benjamin's phantasmagoria spoke of the dialectics of truth/illusion, subjectivity/objectivity, and life/death during modernity, thus taking to task the many contradictions of capitalism. Benjamin thought that if the historical energies of the present could be freed, then people could be liberated from the phantasmagoria.

Maybe more important than the similarities in name and subject matter is the fact that both D-Styles and Benjamin shared a method: sampling. Benjamin described his method as "literary montage": "I needn't *say* anything. Merely show. I shall purloin no valuables, appropriate no ingenious formulations. But the rags, the refuse—these I will not inventory but allow, in the only way possible, to come into their own: by making use of them" (Benjamin 1999, 460 [N1a, 8]). In the liner notes of *Phantazmagorea*, D-Styles writes, "If at times you happen to forget that I created these songs solely from scratching, then I've succeeded." Both men cull and present fragments of culture, but attempt to

279

mask their role in the process as a way of bringing to the fore the perversions within consumer society. Their method, then, serves to awaken the audience from the comfortable dream of consumer spectacle.

This chapter began with this phantasmagoric comparison as a way of introducing the ideas of sampling and collection, or more precisely, how a collection can be used in sampling to produce a new and unique whole. By using ethnographic and interview data, this chapter focuses on the meanings that hip hop DJs who collaborated in this study associate with the tools and technologies that they use to make their art and culture. Thus far, this study has looked at standardization as it relates to the industry, intellectual property rights, and history, but has largely overlooked how standardization is achieved through the lens of culture. Therefore, this chapter focuses on the meanings given to commodities through use, as well as how new digital tools are being negotiated and how the analog and digital relate.

This chapter begins by discussing the perception of important technical innovations for hip hop DJs, and then discusses the turntable as a musical instrument. Then, some of the meanings given to records and collecting, the negotiation of digital vinyl, and the changing economics of DJing in the digital world are outlined. The chapter concludes by reviewing the cultural standardization of the Technics 1200 and what its "passing" means to DJs in this study. The prevalent theme in this chapter is the the uses and manipulations of intellectual properties.

Using Turntables and Vinyl Records

Since hip hop's beginnings in the early 1970s, some of the technologies employed have stayed the same, and, in most cases, those technologies are humans. For instance,

280

the technology for emcees is the voice and then a microphone to amplify it; for graffiti, it is aerosol paint and caps; and for b-boys and b-girls, the technology is simply their bodies. However, since the beginning, the hip hop DJ has had a symbiotic relationship with technology. To be a DJ, one had to be able to get the gear and the records, and then be able to manipulate and command that technology for a crowd. Other elements fed off of the DJ's musicality and technicality. No other element of hip hop required this sort of investment in the acquisition, maintenance, and use of technology beyond the human body. This is much of the reason why there is a large technology industry centered on DJ products, and one that is not controlled by DJs. While other elements of hip hop culture have fed into various cultural industries, especially the media industry, and smaller fashion or lifestyle based industries, there is nothing quite like the dialectic between hip hop DJs, technology, and the DJ product and recording industries.

The hip hop DJ, then, is an archivist and a technologist who ascribes meanings to tools. Through this process of ascription, technology is enfolded into the art form and thus bears meaning beyond the commodity nature of those tools. DJs in this study noted that innovations such as the concept of mixing, turntables, Technics 1200s, loose crossfaders like those on the Vestax PMC-05Pro, and, for most, Serato Scratch Live, were the most important technical innovations within hip hop DJ culture. However, to use those technical innovations it takes human innovation to manipulate them.

"But the biggest technological advance has been the DJ technique and then scratching, I guess," says DJ Quest of the Bullet Proof Scratch Hamsters. "The thing that has advanced the most is that DJs have been practicing and just fuckin' scratch techniques have evolved beyond what a lot of people can comprehend...but the thing that has

281

advanced the most, and I'm proud to say, has been the hand" (DJ Quest 2009). As much

as there have been advances on the technical side, if you watch old DJ footage from the

1980s through the present, you will see an amazing amount of hand development that has

taken place—essentially, body manipulation. For Quest, it is the abilities of the hand that

has led to technical innovations and not the other way around.

Like Quest, many others suggest that the relationship is two-way, and that

"progress" is driven by the interdependence between man and machine. For instance, 5th

Platoon's DJ Daddy Dog thinks: "Our trade gets advanced along with the equipment we

do it with, and advances, too, so it goes hand-in-hand I think..." (2010). What Daddy

Dog is mainly referring to is the Technics SL-1200 turntable, which has basically

remained the same since 1979, even while other technology and techniques have changed

drastically. The basic tool of the hip hop DJ, then, is an old technology that is fit into

modern practice.

Both DJ Nu-Mark and Qbert think that it is the network that advances the art and

technology of hip hop DJs. "You need all the parts, everything together," says Qbert, "it's

all one energy, put it that way" (2010). While suggesting the turntable and records as the

likely starting points of DJ culture, Nu-Mark claims, "Without music there is nothing. It's

all so interwoven; the whole thing is really connected. The mixer was a big thing, but all

the stuff is connected..." (Nu-Mark 2009). As machines have evolved, some feel that

some DJs have restricted themselves to the set boundaries of the machine, which counters

the arguments of pioneering hip hop DJs in respect to pushing the capabilities of

technical innovations. For Ricci Rucker, one of those involved in the development of the

Controller One: "technology should work for you, not vice versa" (2009).

282

Part of hip hop DJing, then, is taking elements from the past and reinventing them in a new context, a core concept from the early days in the South Bronx. But, unlike other elements of hip hop, the art of the DJ is also about keeping up with new technical innovations. DJ Babu thinks that the hip hop DJ culture is a "hand-me-down" culture:

> I just think that's another part of what we do as DJs and turntablists is just a bit of being technically savvy, being up on technology and trying to think out-of-the-box. Trying to think of and do things that the technology wasn't intended to do. Everything in our culture is hand-me-down. We take whatever our big brothers left us and we try to make the most out of it and put our own little twist on it and make it dope. (2009)

Babu is alluding to how there are certain skills and values that have been historically handed down within hip hop DJ culture, as well as how each generation takes the innovations of the previous generation, and, through use, somehow makes it their own thing. Furthermore, Babu is describing how, in essence, hip hop DJs are manipulators of history.

Nearly all of the hip hop and scratch DJs who were interviewed consider the turntable an instrument, although some note that it is a limited instrument because it is mainly used rhythmically and not melodically. While it can be used for melodies, a typical turntable with +/-8% pitch does not provide that much melodic range. While hip hop DJs in this study made constant comparisons to more traditional instruments, DJ Platurn (2009) and Turntablist Disk (2009) liken the turntable to a guitar with records as its strings and the hip hop DJ plucks those strings. DJ Steve Dee, a founding member of the X-Men DJ crew, considers the turntable the "ultimate instrument because it plays all instruments" (2009). Like Steve Dee, Nu-Mark believes the turntable is an "infinite" instrument because it can be any instrument that the DJ wants it to be. He explains that it

is the "most powerful instrument out there period, end of story. The turntable can not

only reproduce any sound, but can do it in any tone at any tempo and at any time.... there

are no limits to the turntable, that's the thing about it" (DJ Nu-Mark 2009).

For many, the turntable becomes an instrument when it is put to use as one: "It's

all what's in the mind and the hands of the person using it" (Mr. Len 2009). While in the

early cultural context, gramophones were marketed and "played" as instruments, and

then, for much of the 20th century, were considered reproduction devices. But Rob Swift

of the X-Men/X-ecutioners thinks that DJs engage in a further redefinition of its intended

uses. "You don't just have to let a record play from beginning to end, you can do stuff

with the record that's playing, you can manipulate the vinyl and coax sound out of

it...And in that sense it's an instrument" (DJ Rob Swift 2009). Stephen Webber, who

started teaching turntablism classes at the Berklee College of Music, suggests that

instruments have always come from the redefinition of uses, but so it is not a far leap for

the turntable to be used as an instrument. "Every musical instrument that we have started

out as something else. The string section, cello and violins, came from the bow and

arrow...so the turntable started out as something that played music and already is easier to

think of as a musical instrument than something like a bow and arrow would be" (Webber

2009).

The definition of an instrument for DJs Kico and Babu is anything that allows you

to manipulate sound, a contention held by most of the DJs interviewed for the study. But

Babu says that the musicality of the turntable is dictated by whatever sounds are encoded

into the record's grooves on its platter, which makes it a very distinct instrument. For

example, a drum cannot play guitar sounds. For Babu, it is about how those sounds are

applied that help in defining what type of instrument the turntable is going to be at that moment. "In a nutshell, that's how I always look to the turntable and how I've always looked at the sampler: like these are tools that give us the ability to touch sound" (DJ Babu 2009)

2009 DMC World Champ, DJ Shiftee, thinks that it is a matter of having control over sound, and with the popularization of DVS, you can control any sound that can be recorded. "So if you can control a record and control a mixer and control the way that sound comes from a turntable...not only is that an instrument but you are every instrument ever if you want to be" (DJ Shiftee 2009). Steve Dee continues with the time manipulation theme, and suggests that hip hop DJs manipulate historical time and musical time concurrently. For instance, DJs can play older music, sample it, or flip it in a way that makes it new using old technology (the turntable): "We are manipulating time because when you do 'the Funk,' or what people call 'beat juggling,' you are manipulating that piece of time...you are taking a portion of time and manipulating that time using time" (DJ Steve Dee 2009).[102]

The turntable, for Mike Boo, is also a way to control and manipulate vibrations and make both "beautiful" and "terrifying" noises. "The turntable is vibrations. The needle is running along a groove cut into wax, that groove is a like a little road and when you pull it back and forth, or if you just let them play, it's all just vibration; manipulated vibrations" (Mike Boo 2009). According to JohnBeez, the turntable is an important instrument for hip hop culture because "that's *the* instrument, the maestro of hip-hop,

---

[102] "The Funk" is the name that Steve Dee gave to his style of manipulating drum patterns using two records, a style he popularized. In its modern manifestation, most DJs refer to the technique as "beat juggling."

285

that's where the foundation was built" (JohnBeez 2009; emphasis added). Even on a symbolic level, the turntable is hip hop's instrument, but it is also the instrument that hip hop DJs communicate with.

Before the standardization and the accepted use of DVS, the collection and use of vinyl record was required for the DJ and turntable to act as a holistic instrument. Similar to findings pertaining to the turntable, the meanings of vinyl records are defined both by users and uses. DJ Shame notes that like the turntable, vinyl records are important to hip hop culture in general—in fact, they lie at the core of hip hop. "That's what hip-hop is, it's old records...It doesn't matter what kind of music it is, the hip hop DJ is going to take something and make it hip hop" (DJ Shame 2010).

Hip hop DJs interviewed in this study collect and value vinyl records for many different reasons. It has been interesting to address the meanings attached to collections and the 12" format in 2009-2010 because many DJs have, after half a decade of technological and cultural negotiation, rationalized the use of digital vinyl. Records and collections, as well as prioritization of what is kept in or added to a collection, have taken on different meanings than they would have had, let's say, in the year 2000. For some, this has made their collection more valuable; for others, the utility value of DVS has allowed them to "trim the fat" from their collections. Although not represented in this study, some DJs are now selling their entire collections, either because they are out of the DJ profession/culture or have found other technical solutions.

Personally, DVS has helped allow my collection to simultaneously expand and condense as quality has overtaken quantity. Club music, which I would have bought on vinyl a decade ago because I had to for the audience, only takes up hard drive space now.

Also, I do not have to spend nearly as much money on those types of records, which then frees up capital so that I can invest in vinyl recordings of songs that I love and want to keep in my collection.

My collection has also grown considerably while working on this dissertation research (maybe by 1000-1500 pieces)—lots of songs that I do not necessarily play out for people, but share on my radio show and on mixtapes/podcasts. But, economically speaking, no longer do I have to buy ephemeral pop hits on vinyl and store them. With most Top 40 commercial music from five years ago already collecting dust (not only in collections but in the popular consciousness of club-goers), they also have very little value in the used market. Maybe if DJs were restricted to the physical model, those records would have use value and market value, but I probably buy as many used records now as I bought new records in 2005.

DJs in this study note that records are valued for how they sound as an analog medium, as well as how they feel. Teeko considers records to be an organic sound medium that helps to create a powerful connection between the DJ and the molecular matter of the vinyl record:

> We are dealing with elements; we are dealing with molecular structures....
> We're connecting directly with bumps on a groove, which create
> vibrations that pass through our fingers that also pass through a diamond
> needle to play the song. You're directly connected to the sound.... And
> when you listen to records as a listener, the analog frequencies are
> penetrating your system and your body on an organic, natural level, as
> opposed to digital representation for vibrations through MP3s, which are
> just zeros and ones that replicate these frequencies. (Teeko 2009)

Also, while he can connect to the actual songs that he plays through a DVS, Teeko says that he lacks any connection to the medium because DVS control records have a

consistent tone and thus little-to-no variation in how the sound feels through his hand. Turntablist Disk (2009) and Shiftee (2009) both stress the importance of the tactility of the recorded sound on vinyl, while Ricci Rucker (2009) says that it is "music you touch to create." The tactile nature of vinyl records and the connection through the human hand, according to Qbert, gives the fingers ears. "Your fingers also hear sound, too. Blind people can hear sound through their skin. You can feel that sound in your hand...You can hear it in your hand" (DJ Qbert 2010).

Most of the DJs in this study describe their collections as a part of their identity. For some, like DJ Eclipse (2010), who has approximately 30,000 records in his collection, part of his connection to his records deals with the work that goes into maintaining such a large archive. Some DJs also describe how the labor involved in collecting can be an educational process, which they claim is severely truncated with the MP3 and Internet (e.g. DJ Quest 2009; DJ Eclipse 2010; DJ Shame 2010; Skeme Richards 2010). Digging for records—actually flipping through, touching, and seeing all the information on a vinyl record—also provides DJs with information that may not be available online.

This information, then, allows DJs to seek out other music that a funk producer worked on or a soul drummer played on; vinyl records represent starting points for further musical exploration. "Being able to sit there and listen to a record, read all the liner notes, that's part of the whole rush of finding some new dope shit," says DJ Shame, who has 20,000 in his collection. "You're going to find that record with the great break on it by going out and getting your hands dirty" (DJ Shame 2010). The process of

hunting for a record and finding it (not at a collector's price) is an "aww yes" moment for Shame that gives him a sense of accomplishment.

Kico describes the time and financial sacrifices that went into amassing his collection: "I remember the sacrifice that I made, like I didn't eat for a week because I wanted to buy those records.... so for me they are more sentimental value if anything" (DJ Kico 2009). For Babu, sacrifice symbolized in a collection encourages respect between DJs and collectors. Babu says, "Just to know that this cat went through that generation of having to run records down and be about records and losing sleep about getting a fuckin' record. I really cherish those days of having to do that" (DJ Babu 2009).

For other DJs, vinyl records are also about preserving memory and personal archivism. Jared Boxx, who is one of the owners of Big City Records, a boutique record store in New York City, suggests that vinyl records last longer than other media, and therefore is a preservation medium: "they hold the picture in sound for people" (Boxx 2010). For DJ Shortkut (2010), because of the visual nature and tangibility of vinyl records, his collection is a "photo album" that he can show his daughter so she can better understand his past. Vinyl records, then, represent nostalgia based upon the actual music and other meanings that get associated with an actual piece in the collection. "It's like memory lane...I would sit down and go through a crate and find shit and be like 'Oh shit, I remember when I got this.' I just love having them" (DJ JayCeeOh 2009). For three-time DMC World Champ DJ Craze, his records are also a collection of memories, and "every time you take one out it just brings you back to that time in your life. Like the feeling" (DJ Craze 2009). Kutmasta Kurt (2010) suggests these memories get associated with the records and they become representations of those times.

The element of memory preservation can help to structure a collection. DJ Nikoless, who has about 16,000 records, structures his collection alphabetically and chronologically. He has studied the information on his records and says, "I can look at a record and tell you stories about so many records. Whether it's how I found it, whether it is where I was when I first heard it, yeah, those records all have stories to me" (DJ Nikoless 2010). Therefore, records are history, and a collection is a personal archive of music and memory, or maybe music *as* memory. Roli Rho (2010) and J.Period (2010) both consider record collections, especially in the digital age, as archival projects. "If anything, what they are to me is almost like archival originals of some document that is so valuable that I may need to refer to it...There are things on those records that are infinitely valuable. When I take those things off the records and put them onto the computer, I'll still want to keep those records in case something happens to the digital thing" (J.Period 2010).

However, while record collections take on multiple meanings for hip hop DJs, much of the value associated with collections come from how they are put to use. For working and professional DJs, records are (or were) tools that gain meaning through their use value, although this has waned in the age of digital reproduction. For many hip hop DJs, records were or are part of the productive forces used in the creation of the art and culture. DJ Quest compares his records to "tools in my shed" because they help him to "knock a job out." And, for him, having those tools in the digital age has gained importance. "At the end of the day I could drop my laptop, god forbid, and fuckin' lose everything in there, but my bread-and-butter is my records. Those are the tools" (DJ Quest 2009). As an extension of this, DJ Nu-Mark's 35,000 records "mean the world" to

him, but also represent an investment of time and capital that he puts to use in DJing and production. Through such investment and uses "the joy that they produce when I play them is unparalleled" (DJ Nu-Mark 2009).

Most of DJs interviewed for this study explained that the records in their collections are based on use, or the potentiality of use. In the digital age, the records that have little use value or sentimental value are the first to be thinned out of a collection. Both DJ JS-1 (2009) and DJ Nikoless (2010) stress the utility value of the pieces in their collection, and, similar to others in this study, view themselves not as "collectors" of fine art but as record *users*. Nikoless extrapolates on the difference in collector types:

> I have a very strong bond with my record collection. And I don't consider myself a record collector, I consider myself a record user. For me personally, I am from a time and I am the kind of person who always bought the records to hear them and to use them, and I still regularly go through my records and use them. I don't have them in plastic; I don't take care of them in that kind of way. (DJ Nikoless 2010)

DJs often compared themselves to other craftsmen (i.e.), who have, for example, "collections" of power tools that they use in their trade and to earn a living. Some of those craftsmen, however, may turn into collectors who collect vintage hand tools that represent the history of their trade. Hip hop DJs also move back and forth between collection for use and for the preservation of antiques. Some hip hop DJs, although not represented in this study's sample, amass records as sellers who reintroduce them into the secondhand marketplace.

Vinyl records—because of their size, sound, and the information that they contain—have value based in utility, and such use value can be based in emotion, as well. Mike Boo (2009) also considers vinyl records tools that are an "extension" of himself, as well

291

as the energy and emotion in the music captured on those records. Expanding on this

notion he says:

> With every fuckin' record, people's hopes and dreams went into that
> record.... And for me to use that in my music it gives it a certain feel, not
> just sonically but it gives me a feeling of like "Wow, I'm giving new life to
> the sound." These guys put their heart and soul into this shit, I am putting
> my heart and soul into this, and it is an extension of that energy. That's
> why I use wax, that's why I sample.... My hopes and dreams are extensions
> of their hopes and dreams. That's why I sample. (Mike Boo 2009)

Again, we see how the emotion of music gets bound up in the use of those records and in

the cultural production.

Through the use of turntables and records as instruments, common forms of

communication have arisen within hip hop DJ culture, which was expressed by DJs who

participated in this study. First, the techniques used by hip hop DJs have been

linguistically rationalized; what used to be described as a "wiki wiki" or "zugga zugga"

have been given names like the "crab" or "beat juggle." This nomenclature and "natural

language" allows DJs to verbally communicate hand technique and skills, which has

given way to a "pretty standard way of learning" (DJ Babu 2009).

Second, using the turntable and performing techniques allows those who cannot

communicate verbally to engage in a type of conversation. DJ JS-1 thinks that this sonic

communication can occur between lingual differences, but is only understood within the

scene: "I could go somewhere and I could do certain cuts and a kid will bug out and

know that it's difficult. So in a sense it is a language, there's people where you don't

really have to say anything and people understand and know what it is, but that is only a

specific group of people" (DJ JS-1 2009). Turntablist Disk (2009) says that this "is a

form of communication in the form of connection" where DJs speak with their hands.

Third, communication occurs between the DJ and the technology: "Learning Pro Tools is a language, learning MIDI is a language" (DJ Babu 2009). Thus, manipulating hardware, software, vinyl records, etc. is communicative interaction between flesh and machine. Fourth, by manipulating recorded music the hip hop DJ engages in a conversation with those songs, an opportunity not possible for average consumers of music. DJ Daddy Dog says that the turntable allows a DJ to take a song and "add your own spice to it and really manipulate the shit out of the song." He adds, "Instead of playing along with the song you could sort of break little pieces off in the song and use it to make something for yourself" (DJ Daddy Dog 2010). Lastly, these layers of communication establish a dialog or a feedback loop with an audience, whom the performing DJ should always be in communication with.

While this section has reviewed some of the attachments DJs have to vinyl records and turntables, the next section examines the negotiation processes involved in the standardization of SSL and other DVS.

<u>Digital Negotiation</u>

When Stanton's FinalScratch reached the market, I never got to experience it myself or other DJs using it because it was rarely used. My experience was secondhand and came through Web forums or conversations with DJs who maybe knew other DJs who used it. It was not an accepted innovation at the time, plus laptops were bulky and unstable, and MP3s were not commercially distributed. So, when I first saw and used Serato Scratch Live in autumn 2005, I was very apprehensive. I had been a participating DJ at an open mic/turntable night for a couple of years, and DJ Jon (who participated in this study) hooked up his SSL unit and was letting all of us get a try. Once I got over the

skepticism and approached this new tool, I found that it was easy to use and actually felt similar to vinyl. The feel of SSL was far better than that of the Denon CDJ turntable that I had made part of my toolset. I was convinced that SSL could be a valuable tool because a lot of the old vinyl that I wanted to own was not readily available or affordable at the time. SSL would give me more access to music.

Shortly thereafter, I saw Mix Master Mike perform with Scratch Live and it was amazing. A few weeks later I emptied my savings on a laptop and Serato Scratch Live package. I had never owned a laptop and I had zero gigabytes of digital music, and, because I did not start buying CDs until the new millennium (I was a cassette person), I had a limited collection of music to rip. After a few weeks of ripping some CDs and going through my crates of party records and downloading those songs from unauthorized download sites, I began messing with SSL at my house. By December 2005 I felt comfortable using it out at gigs, although for about six months I still would bring records just in case something went wrong. In general, I never really have had any issues with SSL or a laptop while DJing, and the majority of issues have been related to connection and grounding.

At first, in most club and bar situations, I felt good about using it, but when I was around a "real" hip hop crowd I used vinyl because it seemed more authentic. I will admit that at first using SSL seemed fake, maybe like cheating. After a few years, people stopped coming up to me and inquiring about why I was using a computer. In 2011, I only get those inquires or perplexed looks when I am using vinyl records. Audiences are now more accustomed to seeing a DJ working a laptop.

By 2007, SSL sort of seemed "normal" and I could definitely see how the market for recorded music was changing. Not as many songs were being pressed on vinyl records and I had definitely stopped purchasing new songs on vinyl. And, for me personally, I stopped buying new music on record because of the quality of the music itself; I was happy to have most of it digitally rather than buying it and storing it in my collection. And, SSL has been a great tool. My process of negotiation, though, is an experience shared by others because all of the DJs in this study have come from the era where a DJ's options were two turntables, a mixer, and a collection of vinyl. This section looks at this negotiation process for others and examines the cultural side of the standardization of DVS (specifically SSL).

Figure 34: Pioneering hip hop DJs Afrika Bambaataa (left), DJ Red Alert (center), and Jazzy Jay (right) switching out laptops at a Tools of War park jam in 2007. Photo courtesy of Joe Conzo.

From the practical side of things, the introduction of stable DVS products such as SSL provided many benefits to a working DJ. Most of the DJs interviewed for this study were not only working DJs, but also touring ones, so the ability to travel with a laptop instead of record boxes is a major money-saver. Furthermore, there are plenty stories about DJs who have had record boxes stolen or damaged at an airport; many would check their records and worry about them during the flight. So, DVS has made travel easier for working DJs (especially international travel, which is more expensive with record boxes). Also, DJs playing at large venues that may not be configured for playing records, no longer have to fight feedback issues related to vinyl records.

There are the other benefits that Rane and Serato have touted from the beginning: 1) you do not have to play your valuable records; 2) you can have access to all the music on your computer at a gig instead of being limited to what you brought on vinyl; 3) you can manipulate two copies of the same song; 4) you can play your own music if you are a producer or remixer; 5) you can manipulate any recorded sound without having to press it on vinyl; and maybe most importantly 6) you are still manipulating music using 12" vinyl discs. There are also plenty of other bells and whistles within the software that give DJs increased options (e.g. looping, digital cue points, sampler player, etc.). For most of the DJs interviewed in this study, once it was accepted, DVS proved to be a great tool, lessening the work or more labor-based activities of DJs and allowing them to better perform their craft by refocusing that energy into their performances.

For many of the DJs in this study, DVS technology has simply allowed them to accomplish their ideas easier, which is primarily due to the fact that a song or sound does not need to be pressed on vinyl in order for a DJ to use and manipulate it. DJ Nu-Mark

(2009) says that even the purists, the guys who play funk 45s, have gone to DVS because there are too many reasons to "transform into the computer generation" of DJing, which he believes has made him a better DJ (2009). DJ JS-1, who does a good amount of international touring, says, "I am excited to DJ now, I don't have to carry nothing with me. It's fuckin' great!" (DJ JS-1 2009).

Also, because pressing records is expensive, DJ Platurn fully embraced DVS once he realized he could play his own remixes at his gigs. "I have always wanted to be able to do that but I've never had the means...I could treat the program like my own personal record press. I could play my shit, play the homies' shit, all that. I thought that was really dope" (DJ Platurn 2009). Since many of the DJs who collaborated in this study are also producers, having the ability to play their own music on a system that remediates vinyl records has vastly increased their creative abilities.

Of the 51 hip hop DJs that I interviewed there were only four who were not using any DVS. For DJ Wicked, the reason is because he has been DJing with his records since 1992 and that medium has served him well. He considers it an "if it ain't broke don't fix it type thing" (DJ Wicked 2009). While DJ Shame has not made the move to DVS yet, he uses CDJs for many of the same reasons that others use DVS: "But the CDJs, it's another tool that made it more convenient for DJs, in my opinion. It's a lot easier to carry a book of CDs than it is carrying crates of records" (DJ Shame 2010).

Bobbito Garcia does not object to DVS and acknowledges its utility for hip hop DJs, but he says, "I just spent a whole lot of years getting my fingers dusty and dirty and digging for records and I don't feel like neglecting what I worked so hard to compile" (Bobbito 2009). But as less music is released on vinyl and more record stores and

297

pressing plants have shut down, Bobbito stresses that it is "a very difficult time for people like myself who only play vinyl or prefer to play vinyl" (2009). For scratch DJs like Qbert[103] or Turntablist Disk who are more interested in scratching and not mixing, DVS programs cannot keep up with their speed: "Me personally, it doesn't move fast enough. I'm way too fast for the program.... it just doesn't give me the real feeling. I need real vinyl. I need the sound to be there" (Turntablist Disk 2009). None of the DJs I spoke with fully rejected DVS, but some merely preferred using vinyl records. We now will turn to the processes involved in negotiating DVS and some of the cultural changes that emerged.

Collaborators in this study's sample note that DVS systems, and even new technical innovations more broadly, are double-edged swords. Steve Dee, who stresses that the most important technology is the DJ, says, "I think that is what technology does, it will cheapen and at the same time broaden the very things that we are doing. The technology is already in us" (2009). Shortkut calls it a "give-and-take" in order for something new to come in and be helpful, "some shit has got to suffer." What suffered for him was in the loss of vinyl records (DJ Shortkut 2010). Kutmasta Kurt (2010) views the negotiation process as an evolutionary one, while Neil Armstrong, one of Jay-Z's tour DJs and part of the 5th Platoon crew, says, "If you're not able to adapt to the game, you're going to be done sooner or later anyway.... I don't mind the technology, I'd rather have it than not have it" (2009).

DJ Babu specifically refers to DVS as a "double-edged sword" because, even though some experienced DJs are getting paid more money and traveling to gigs is easier,

---

[103] Qbert told me that he has SSL at his studio to experiment with, but prefers to use vinyl for his performances and practices.

DVS is also allowing any celebrity or rapper with some sort of brand value to buy the program and instantly become DJs. Babu calls it "a bit of an insult to people who have been into it 10-plus years...." and have invested into the art and culture. Babu says, "Now everything is really easy and you're able to skip a lot rungs on the ladder to get to the point that usually took us 10 years to get to" (2009). DJ JS-1 also notes the good and bad of this technology: DVS has made his job much easier and simultaneously made it easy for everybody to become a DJ, but says, "I would say go with technology, fuck it, at this point you can't fight it" (DJ JS-1 2009). Skeme Richards suggests that the need for DJs to buy/collect vinyl records, in some ways, was a gatekeeper to the culture: "If there was no technology going on and you had to buy records there would be 99% less people calling themselves DJs" (Skeme Richards 2010). The issues of the ease of access to DJing enabled by digital technology will be addressed in more detail in the next section, but it's important here to note that the element of "democracy" of access has been a major point in the cultural negotiation of DVS.

One of the key elements in the negotiation of DVS and ultimately the standardization of SSL is the remediation of vinyl records. While many of the DJs in this study noted that there are differences in the feel and sound of DVS, in general those differences are minimal. J.Period, who consider DVS the "greatest development in DJ technology," thinks that it ultimately takes the user back to a time of using records to scratch and mix on, thus DVS still uses the "same mechanism as the origin of it": turntables and vinyl records (J.Period 2009). While claiming that without vinyl records the cultural element is missing, Teeko suggests that hip hop DJ culture can be based on DVS because it is a "replication" of the foundation as vinyl is still used (2009). Thus, in

a way, DVS is taking the old school or origin of hip hop culture and bringing it to the new school of computers.

As part of the negotiation process, vinyl control records have become infinite sound controllers because that "one piece of vinyl could contain 1 million songs if you really wanted it to" (DJ Daddy Dog 2010). And, although a control record is in fact a real vinyl record with a tone pressed in its grooves, the "realness" of those records are a matter of perception. "Serato is vinyl to me," says DJ JS-1, "I am using vinyl when I am cutting it up" (2009). JohnBeez considers DVS a "halfway" point between digital and analog "because you have an analog feel with the digital medium" (2009).

Because those systems still require DJs to use turntables, a mixer, and control records, DVS keeps the idea of the original art form intact. Many of the DJs who participated in this study agree that this is a very important point, especially in the face of the popularity of MIDI controllers that entirely displace both turntables and records from DJ practice. Dr. Butcher, one of the original members of the X-Men, thinks that DVS has helped keep vinyl alive in some ways: "the essence of the turntable and the real DJs are still there, but brought into the modern world of electronics" (2009).

Similarly, both DJ Platurn and DJ Nu-Mark (2009) have come to accept and embrace SSL, specifically because it keeps the essence of turntables and vinyl in play. In light of other out-of-the-box DJ software[104] that do all the mixing for the user (i.e. the Vestax Spin discussed in Chapter VI), with SSL "you still do have to know how to mix, you have to know how to use pitch control, you have to understand very basic elements of DJing in order to do that.... You know you still have to use the turntables, you still

---

[104] "Out-of-the-box" is referring to systems that require no DJ ability; essentially, you plug the hardware into your computer, the software will mix for you, and you are DJing right out of the box.

have to know how to do that shit" (DJ Platurn 2009). Platurn, like many of the other DJs in this study, calls SSL a great "tool" and "a program for making good DJs better."

At first, Nu-Mark thought SSL was "terrible" and a "tough pill to swallow" because "people can just steal each other's record collections and it takes the art away of diggin'" (2009). However, after negotiating its use, Nu-Mark now calls himself a "huge fan of it," but also stresses that a major part of being a DJ is manipulating turntables. Skeme Richards also says that while he loves DVS, he thinks there is something important lost when DJs do not get to experience real vinyl: "those people that have never touched a record is like saying that 'I never had a girlfriend, I have a blowup doll.' Like, you've never actually touched a warm body" (2010).

While the remediation of vinyl in DVS still encourages the use of the authentic instrument of hip hop DJ culture (the turntable), many DJs who had come from the traditions of vinyl records simply did not feel like "real" DJs when they first began using the digital technology. Because his DJ sets feature funk and soul records, Nu-Mark says, "I was resistant because I felt like I wasn't going to be considered a real turntablist, or a real DJ.... So it would just feel weird to play original soul and funk on computer. It felt cold to me" (2009). What mitigated the lack of inauthenticity for many of the DJs in this study was how they applied the new technology; essentially, how it was used. "Technology, you just have to embrace it, it's the way that you use it. It adds on to how you DJ" (DJ Shortkut 2010).

Not having to travel with or carry vinyl records, coupled with the ability to apply the hip hop DJ aesthetic to new digital media, helped overcome feelings that DVS was not true to the art form. While there are vinyl purists who completely reject the use of

301

DVS in place of vinyl records and consider it a "fake" way to DJ, no one interviewed for

this study outright rejected it or challenged the authenticity of those who use DVS. DJ

Marz, who says that he only uses DVS in his studio, prefers to see DJs who play out in

public actually using vinyl records. He gives credit to those who use real vinyl, and says,

"I would rather see a really shitty DJ who has a good selection of records and can't mix or

scratch.... it's more real to me than Serato" (Marz 2010). He explained that plenty of DJs

are playing out using DVS but cannot mix or scratch, so he has more respect for poorly

skilled DJs who at least try to use vinyl.

In general, DVS has lessened the demand for the more labor-intensive elements of

hip hop DJ practice, mainly by eliminating the need to transport, organize and maintain

vinyl records. The potential "burden" of vinyl records, as we will see later in this

chapter, also has made it easier for others to be DJs. DJ Kico (2009) suggests that aside

from eliminating the physical stress of carrying vinyl to gigs, DVS has also changed the

labor involved in obtaining music. He says that the "physical aspect, the labor that's

involved" in digging for records "is much more difficult physically to do than it is just to

sit on your computer and research" (DJ Kico 2009). For Kico, this both makes his job

easier but takes away from the fun of diggin'.   JayCeeOh (2009) says that the concept of

"e-diggin'"[105] is similar to physical digging, but is a "whole different beast" because it

entails online research and hunting blogs. "Diggin' used to be a physical thing, like you'd

go digging and after you'd be passed out tired...I would say that what is accomplished is

extremely similar but the means to do it is just way different."

---

[105] "E-diggin'" refers to the practice of searching for and downloading music from the Internet and is a play
on the term "diggin' in the crates."

302

Many DJs in this study say that "e-diggin'" has devalued music (i.e. DJ Nu-Mark 2009), and therefore, the collection. DJ Daddy Dog (2010) talks about the time and money that he put into his vinyl collection, which gave him a closer connection to the collection. "Nowadays music comes and goes...You download it, you delete it if you don't like it, but back then it definitely meant a whole lot more to give shit up.... You download with no regrets" (DJ Daddy Dog 2010). In other words, the ritual of physically diggin' for records gave those pieces of music increased value to the user.

An interesting analogy is made by DJ Daddy Dog, who compare DVS to the abacus:

> The way that I look at Serato, which I don't know if it is good or bad to look at it like this, but back when they had the abacus everyone was using it, when that was the standard. But when the fuckin' calculator came out nobody was going back to the abacus because there are more efficient ways and easier ways to do math. So the same with the DJing, I feel like our standard was vinyl, then Serato or digital shit like CDs came and everyone shifted over to the digital side because it makes life so much easier. (DJ Daddy Dog 2010)

While Daddy Dog appreciates how DVS has made his life easier, like others interviewed, he is not necessarily fond of how digital technology makes DJing accessible to anybody with a computer.

Much like others in this sample, DJ Platurn suggests the work that hip hop DJs from the vinyl era put into the craft in order to become a DJ made them value the culture/art form more than those who have just become DJs. When DJing was not as readily available and people had to put in work to be able to DJ, Platurn thinks that it made the craft much more valuable to the user. "These are things that you have to make some sacrifices for and I think that the end of the day it just becomes that much more

303

valuable to you and just to the art form as a whole...but there's certain things that by doing those things you learn rules” (Platurn 2009). These rules, both spoken and unspoken, were of way of keeping up-and-coming DJs in check, and in the age of digital DJing, many new DJs simply do not know these “rules.”

For many of the DJs interviewed, DVS should be considered a right of passage where DJs pay dues and “graduate” to DVS. DJ Babu (2009) says DVS is a “privilege” he has earned because he has put in the work, but DVS is a more practical way for him to do his job. Babu claims that DVS has not changed what he does, but is an “incredible extension and inspiration” in his craftsmanship. He adds, “Anything that enables me to do that better I'm going to fuck with it” (DJ Babu 2009). But those who come from the vinyl era, made sacrifices to obtain vinyl, and lugged records to gigs, feel they have earned the right to use DVS.

Roli Rho (2010) admits that because other DJs were e-diggin' and more and more music was only being distributed digitally, he was falling behind other DJs by only using the music available on vinyl. Thus, he made the switch because he was losing out to the competition. In a different situation, DJ Nikoless made the transition to DVS after he actually found himself in the minority of hip hop DJs using vinyl, and it was problematic. At a show with other DJs, Nikoless realized it was time to change:

> But like year ago I went to do a show, and I didn't know anything about
> Serato at the time, I mean I knew it existed and I knew what it was, but I
> went to show and they had set up Serato wrong some kind of way. I was
> the only DJ there with vinyl and they set it up so vinyl couldn't play. So
> there was a mistake and I ended up not being able to DJ. And I was like
> “wow, I'm the guy with vinyl, I'm the guy with the problem.” I was like “I
> am the problem right now?” Being in my own realm is one thing but when
> it comes to a point where I can't even do my thing because I'm behind on

304

the times, maybe I should think about having to evolve. So I went and got
Serato out of what I call "necessity." (DJ Nikoless 2010)

Thus, as DVS and SSL became increasingly standardized, DJs like Nikoless and Roli

Rho found themselves unable to perform their art as well with vinyl records and, out of

necessity, made the digital transition.

One of the central considerations in negotiating DVS, then, goes back to the

meanings that hip hop DJs attach to vinyl records. Initially, upon the introduction of

FinalScratch and later SSL, there were cries that it would kill vinyl, and, as we have seen

in Chapter V, the vinyl 12" maxi single has suffered in the marketplace. However, Rob

Swift and others suggest that it was not necessarily DVS that killed vinyl, but, in fact,

there was a larger network at work. "I think people are killing the whole record shop

culture...I don't see where on the Serato software or packaging where it says 'you

shouldn't buy vinyl after you purchase this item'" (DJ Rob Swift 2009). He thinks that

DJs simply got lazy, and when given an easier option, one that gave them the option to

not buy vinyl, DJs decided to stop buying vinyl records.

DJ Kico also takes some responsibility for some of vinyl's woes and says that the

"digital game kind of killed vinyl, but we did too, like we didn't support it enough"

(2009). With music more accessible and more people owning laptops, Kico thinks that

the popularization of DVS shut down vinyl culture: "And it was easy, and it didn't take

long." After a few years of not buying vinyl, DJ Daddy Dog feels terrible about

contributing to the decline of the vinyl market, and says, "This is why it's dying, and it's

because of assholes like me who are not picking shit up" (2010). DJ Craze, who was

demoing and using FinalScratch in its initial days, says that he would catch a lot of flak,

305

as audience members would scream at him that he was killing vinyl. "Just like the Internet killed record sales and CD sales...Serato deaded vinyl because ain't no DJ in his right mind going to carry records nowadays" (DJ Craze 2009).

However, J.Period suggests that DVS did not kill vinyl, but "killed the usefulness of vinyl" (J.Period 2010). This is an important point because much of the meaning and attachment to vinyl records comes from their use value in DJ practice. DVS, as we have seen, remediates vinyl records so closely that many hip hop DJs in this study no longer need to use vinyl as a tool. As DJs negotiated DVS's use and accepted the technical innovation, the recording industry responded by pressing less current music onto 12" singles. Of course, hip hop and rap music on vinyl was then not readily available to retailers and thus, unavailable to DJs. Although DJ Eclipse is pleased that SSL keeps the idea of vinyl alive and makes his job easier, he says, "From a retail perspective it's bad, from retail perspective it killed the 12". You know there is no reason to really put anything out anymore because you can have everything as if it is on vinyl through Serato" (2010). Most of the DJs interviewed in this study also note that hip hop and rap music in general has taken more of a financial hit than other genres in the digital age.

DVS, then, has also made record labels and recording artists rethink what they press. When the vinyl 12" was used promotionally, major record labels would send out 2-8 copies of the same commercial 12" singles to DJs and radio stations, and, as we saw in Chapter VI, independent record labels used it both for promotion and as a retail format. DJ Babu, who used to manage the Fat Beats Los Angeles retail location, explains: "Now it's like you put out your project and the wax comes out three months later...Five or 10

years ago it was like wax comes out and your album comes out three months later; so now the priorities have just shifted" (2009).

Mr. Len, a DJ/producer for the group Company Flow and founder of Smacks Records, an independent record label that was one of the first to become all-digital after numerous vinyl releases, thinks that DVS has hurt vinyl "but it also forced people now to really reevaluate what you are pressing" (Mr. Len 2009). Mr. Len also stresses that "if hip hop can claim anything it is that it kept vinyl around maybe 20 or 25 years longer than it was expected to." The data presented in Chapter VI, suggests that as other genres (except dance music) moved away from the vinyl 12" maxi single as a commercial format (it existed in smaller numbers for other genres as radio promotion) and towards CDs, rap music was one of the few genres that was pressed on vinyl from 1979 through the early 2000s, the years when the LP virtually disappeared.

Throughout this chapter some meanings that hip hop DJs assign to turntables and vinyl records have been detailed, as well as some of the issues surrounding the standardization of DVS, specifically Serato Scratch Live. The next section further explores one of the most contentious elements in the negotiation process among the DJs in this study: that anybody can be a DJ.

Microwaving Democracy

"Microwave DJ" is a pejorative term that refers to DJs who, by purchasing digital DJ technology and an MP3 library, instantly "become" DJs. The term first appeared on the Serato Scratch Live Web forum around 2006:

> A "microwave" DJ is a DJ that became one (or thinks he is one) just
> because he's got Serato or any other digital software/hardware that lets
> them manipulate digital media. They think they can become DJ's just like

that (microwave fast) and many don't realize they're lacking lots of knowledge that's learned (or earned) from years of experience using conventional dj tools.... Do not confuse the term "microwave" with technology. The term "microwave" refers to "fast" and nothing more. There's a misconception that DJ's who dislike "microwave" dj's hate technology. We actually embrace it as well. We just use technology to our advantage instead of depending completely on it. (SSL Wiki n.d.)

It is important to remember that this term derives from DJs who also use DVS. The main issue revolves around DJs who have not "paid dues" and have gone into the market for DJs and undercut veterans. In a tough economy where most promoters realize that drunken people do not necessarily care about the DJ's skills, they will book the microwave DJ instead of a veteran, if it is cheaper. In general, DJs wages have declined, unless they are big name DJs who play in casinos or festivals and have large followings. For DJs who were professional pre-DVS and are in the lower-paying stratum, which is the majority, democracy of access presents both financial and artistic challenges.

In the field of recorded music, this is nothing new as musicians thought that the player piano and talking machines would have a negative effect on musicianship. These sorts of issues have also been connected to pianos and keyboards/synthesizers, acoustic and electric guitars, drums and drum machines, and turntables and CDJs, as well as between recorded music and radio, or film and television. With the expansion of access to music and music manipulation, new technology threatens old orders. Furthermore, similar rifts and antagonisms have occurred in other media between bloggers and print writers, film and digital video artists, and film and digital photographers.

The majority of the DJs in this research study did not respond positively to the fact that digital technology allows anybody with a computer to call themselves a "DJ." As mentioned previously, despite all the benefits of DVS that most of these hip hop DJs

308

and turntablists enjoy, many collaborators thought that there were valuable rules, standards, and skills learned by putting in work to become a DJ—elements that this new breed of microwave DJs totally miss out on. J.Period sums up the general sentiment: "Because really, this is only made for a few people. This is made for everybody to enjoy but only a few people to do" (J.Period 2010).

However, some DJs thought that the democracy of access granted by digital DJ technology could be a benefit to hip hop DJ culture. While acknowledging that the overall talent level is being diluted because "anyone and their mother can be a DJ," DJ Shiftee thinks that this access is changing what it means to be a good DJ. Before digital DJ solutions, a great deal of a DJ's credibility and value were based upon his collection of records, but now everyone has access to the same music. Shiftee says, "So what separates one DJ from another now isn't based so much on what records they were able to find but it's more based on personal artistry and style and how they put things together" (2009). Sugarcuts thinks that what killed the turntablism movement of the late 1990s was that it was an "exclusive club" that did not make sense to the average person. He explains that this new democracy can be positive: "Again, lowering the barrier of entry you potentially have a greater value of and a greater number of young talented people to enter into the market " (DJ Sugarcuts 2010).

Both Sugarcuts and Shiftee, though, seem to be in the minority of those interviewed for this study. DJ Nikoless suggests that digital technology is great when it "comes to those who are true to the culture" and that it advances culture. "I don't think technology should be held back to avoid people from being suckers...I just think that we should point out who the suckers are once it happens" (DJ Nikoless 2010). In other

309

words, the filter or standards that were implicitly imposed in the days of vinyl have dissolved and there is less and less quality control. (Granted, there were sucker DJs in the vinyl era as well.)

DJs interviewed also felt that there is a sense of entitlement among the new breed of microwave DJs, while becoming a professional or working DJ is about paying dues and doing footwork (DJ Shame 2010) or a rite of passage where you earn your rank (DJ Eclipse 2010). JohnBeez thinks that microwave DJs skip the fundamental skills that came from learning with vinyl records and now just stare into the screen of their laptops. "If you handed them a crate of records they would be clueless," he says, "kids that are used to spinning on a laptop who look at waves and instead now they have to use headphones, it will fuck them up" (JohnBeez 2009). What JohnBeez is referring to is DVS software that visually depicts sound waves so that you can visually mix songs. Many microwave DJs cannot mix without the crutch of visual representation.

DJ Platurn considers the actions of microwaves DJs to be "disrespectful to the art form": "There are these DJs that came along before a lot of these guys—you know the blog DJs an the laptop DJs—who really had to put a lot of work in man, really come up with your own style and your own personality. And that was everything; your personality is what drove you as an individual artist when it comes to the DJ thing. Nobody does that anymore" (DJ Platurn 2009). Others note that because everybody has access to the same music, and because DVS can arrange playlists according to tempo, DJ sets are starting to sound the same. It is argued that if you cannot put your own style into the music because you lack the technical skills and crowd reading ability, the product tends to become homogenous.

310

For the DJs involved in this study, DJing began as a love, first, and was a job second. They got into the culture because it was their passion, and, as DJing became more popular and there was more demand for DJ performances, money was eventually available. DJ JayCeeOh (2009) claims there is a difference between "DJs who DJ because they want to be cool and DJs who DJ because they want to DJ." Interviewees suggest that the new breed of DJs got into it to get girls, to feel like rock stars, or to get free drinks. For hip hop DJs who hear these new digital DJs, the differences are noticeable. DJ Mighty Mi says, "I feel that you can still tell a Serato generation DJ from a DJ who did vinyl before, it's just something in the way they play and you can kind of tell that the vinyl DJs still kind of know their records better and they know when to bring in records" (2010).

Digital DJ technologies have also given rise to the celebrity DJ, who is not a celebrity because of DJ ability (i.e. A-Trak or Z-Trip), but because they are already famous. (For instance, Tommy Lee, Lindsay Lohan, Pete Wentz, as well as famous rappers Lil Jon and Talib Kweli.) Numerous socialites and b-list or reality television celebrities have been able to become DJs because of the access provided by digital technologies. Both celebrity and microwave DJs are taking gigs from or undercutting DJs who have made it a life-time craft. Since most of the DJs interviewed for this study survive financially on DJ-related endeavors, this has become an increasingly sensitive topic in the negotiation of DVS.

There is now growing competition in the market for DJs that has threatened some of the old order. Obviously, club and bar owners/promoters have more booking options because of this competition. Many times veterans who have worked their way up to a

311

certain pay level are having to take a cuts because they are, in the eyes of a promoter, easily replaced. Again, it is important to note that this competition is primarily for the mid-to-lower level paying gigs, however, DJ wages are down across the board (unless you are a top notch casino club or festival DJ). While digital DJ technologies have allowed aspiring DJs to enter the market, the overall sentiment from the interviewees who mix in clubs is that this has not been a great thing for DJ culture.

In many instances, microwave DJs will get booked at clubs because they promote their events or can bring in a wealthy crowd that will buy expensive bottles of liquor. DJ Kico, a 2005 USA DMC Champ who does more work in the clubs than in the battle scene nowadays, thinks that most microwave DJs are in it to look cool and give clubs too much cheap promotion:

> Now here's the thing that pisses me off about microwave DJs. Microwave DJs will come in and they will say, "Yeah man, I can pretty much do the same thing that he did, but I could do it for 50 bucks. But on top of that I can guarantee you a crowd. I can guarantee that I will bring in people." They will promote themselves, they will get on MySpace, they will get a Facebook, they will get on Twitter and they will promote the hell out of themselves for $50. That's the problem because they are giving away too much and giving away what the promoter wants for too cheap.... For the most part they are not in my situation, like I have to eat off of that, I have to be on point or else I am not going to eat. Then, they might already have a job or be in school or be rich and just do it just for the hell of it and put DJs like me, who actually do it for the means, out of business. So that's who I have a problem with, those DJs. (Kico 2009)

Traditionally, it has been the job of the venue to promote an event and get heads in the door; the DJ is there to make those who come through the door have fun and dance. According to Kico, this may allow promoters/venues to exploit the labor of microwaves. However, there is increasing pressure on non-microwave DJs to promote events online, design flyers, hang flyers, etc. and to do so at a low rate.

312

"Well, if you have a laptop you can essentially call yourself a DJ, which has fucked up the whole game of DJing" (DJ JayCeeOh 2009). JayCeeOh also explains how the economics of microwaves undercut experienced DJs: "Like in New York City, for instance, clubs that you used to get $800-$1000 for, you are lucky to get $400 for because some little dickwad will do it for 200 bucks. And they don't care as long as mother fuckers are coming in. The general crowd doesn't care, I mean they do, but the majority of them are just dumb." One of the points that kept coming up in interviews was that the audience does not seem to care about a DJ's skills. As more microwave DJs have moved into the market, the audience has actually been groomed to accept the lack of skills in mixing and selection. This has been exacerbated by many promoters/venues who hire microwaves. Generally it is felt that he audience does not know or care about the difference in DJs because they just want to drink and hear the songs on their iTunes playlist.

However, DJ Eclipse suggests that the phenomenon of lesser experienced DJs undercutting bigger ones was going on before digital technology, but that digital DJ technologies have exacerbated the problem. "So it's just one of those battles that has always been around and is always going to be around, and unfortunately with new technology it just makes it easier for anyone...it just opens up the playing field so more people can jump on the bandwagon and do it" (DJ Eclipse 2010).

And, more and more, DJs are also being replaced by models that wear lingerie and play pre-mixed "mega-mixes" (15-30 minute mixes) from iPods. Even club bouncers are being promoted to the DJ booth, as long as it saves the venue money. DJ JS-1 thinks that if DVS and other digital DJ technologies were taken out of the picture there would fewer

313

DJs because it is much harder to build up a record collection and get a foot in the door at paying gigs. According to DJ JS-1, this "means a lot of older DJs would still be having more jobs and be making more money," while younger kids would be working to get to that level (2009). He thinks that if it were harder to get access to the music and thus the ability to DJ, that a lot of microwaves would not be DJing.

Another major change attributable to microwaves relates to the DJ's selection. There is an unspoken rule among DJs about requests: you accept them and try to work them into your set if the music is something that is in your repertoire. However, DJs who did not learn some of these rules will play any request at any point of the night and many audience members now expect this from all DJs, an expectation also shared by many venues/promoters. Thus, more promoters are challenging the DJ's creative control and, in larger clubs, even giving some DJs playlists. Not many of the pre-digital DJs are happy with this trend, which is helping to squeeze them out. As DJ JS-1 explains: "To tell you the truth, most guys either quit or they give in because what are you going to do?" (2009). When DJing is your livelihood, has been your job for the last 25 years, and is all your know how to do, you conform or quit. Dr. Butcher says, "If guys need to make a living then they are going to conform and do what they have to do to keep the crowd happy...That kind of sucks" (2009).

"I'm not a jukebox," says DJ Quest, who views the DJ as both an entertainer and an educator that takes audiences on sonic adventures. "You know, a DJ should be able to play some shit and educate the audience...out of 100 people in the room and if you're the DJ, who do you think is the most educated about music? Probably not that drunk ass bitch who came up asking you to play fuckin' David Guetta or whatever" (DJ Quest

314

2009).[106] It is getting harder and harder for some DJs to get gigs where they are able to play music they love and want to share. They admit that even experienced DJs are caving into the requests of promoters the audiences.

Much of the reason why promoters and the audience feel more entitled to impose their tastes upon DJs' sets is because they now have an understanding of what the DJ is doing. DJ Nikoless comments:

> They realize it's a laptop, they realize it's a CD player, and that it's things that are accessible to even them. Not everybody had a pair of turntables back in the day.... Now the audience is so equal to the DJ because in the mass perception the DJ is the guy who pushes a button and even the audience goes "Hey I'm going to give you an iPod, can you plug it in and play a song real quick?". (DJ Nikoless 2010)

The notion that everybody can be a DJ has also accelerated because DJs are using technologies that are not only familiar to but also used every day by audience members, who sometimes try to give DJs smart phones, CDs, or ask them if they can stream a song off of YouTube or download and play it. Making and imposing requests has become much easier in the digital age; audience members at pre-digital venues did not bring vinyl records with them.

Thus far this chapter has analyzed the meanings ascribed to DJ technologies, their uses, and the negotiation of new digital technologies. Furthermore, it has reviewed some of the ways in which the economics of DJing have changed in the digital age. Democracy of access to DJing as granted by new technology has both its pros and its cons, but all of these factors have figured into the standardization of DVS. The final

---

[106] David Guetta is a French electronic dance music producer who is also a celebrity DJ who gets paid up to $40,000 or more for a gig. He was referenced many times by the DJs interviewed as an example of what they viewed as a bad pop music producer and a fake DJ.

section of this chapter will focus on how DJs responded to the end of production of Technics SL-1200 turntables.

The Death of a Standard

As described in Chapter VI, in the autumn of 2009, a rumor circulated on the Web about Panasonic ceasing production of its Technics SL-1200 turntables. The rumor spread very quickly; a year later, it became reality. Hip hop DJs in this study were interviewed shortly after the rumor spread and it was suggested that it was started by a retailer who wanted to ramp up sales of 1200s. Thus, interviewees were asked what it would mean for them if the iconic and standard line of turntables were actually discontinued.

Hip hop DJs had heard rumors about the SL-1200's "death" for many years, yet Technics continued to sponsor DMC battles and new stock showed up in retail outlets; thus, it was relatively easy for the 2009 gossip to be brushed off as nonsense. However, one of the problems in clearing up the rumors was that (as previously noted in Chapter VI) Technics is a brand owned by Panasonic, a corporation that does not always communicate very well. Many of the official statements came from DMC, not the company itself (the Technics website was last updated in 2005).

(When reading the responses in this subsection, please note that DJs were interviewed in the year before Panasonic made this official announcement. The interviews took place, however, shortly after the 2009 rumor. So, it was definitely a popular topic in DJ culture at the time when most of these interviews took place.)

Whether DJs preferred the brand or not, there is little denying that 1200s are the standard in clubs worldwide. DJ JS-1 (2009), who also likes his Vestax turntables for

scratching, mainly practices on his 1200s because anywhere that he goes in the world, he will be playing on 1200s. However, it is important to note that, while the 1200s are the standard for DJing, and noted in Chapter VI, other models with additional options have gained preference among DJs who are scratch artists or turntablists trying to make music. "The 1200s are just the standard of DJing; there's no better turntables...I don't think it's a perfect instrument but I know it's the perfect thing to rock with when you're DJing" (DJ Craze 2009).

Technics SL-1200s became the standard partly because of their durability, with many of the original SL-1200MK2s released in the late 1970s still working today. Mr. Len (2009) calls them "Tonka Trucks" for DJs: "These things will get beat up, they'll get dropped, all kinds of stuff will spill on them, and they manage to keep working. It's because they have been through the trials and people say, 'Well, we rely on these'...The Technics have always just been there." While collaborators in this study say that they have had technical issues with other brands of turntables, 1200s have worked reliably and the aura of performance that surrounds them has helped to maintain market share despite competition.

Roli Rho thinks that 1200s are the foundation of hip hop DJ culture; they are also a sign of achievement as DJs gained more experience and a product that hip hop DJs rely on. "I don't think people would ever live without Technics 1200s because that is the base of the DJing right there, you got to get your 12s" (Roli Rho 2010). Because of their high retail costs, 1200s were usually purchased used or one by one; in some ways, having a pair gave a DJ authenticity and credibility among peers. With 1200s so omnipresent, many DJs just felt comfortable using them in live performances. Skeme Richards thinks

that 1200s became the standard almost accidentally: "It just so happens that Technics became the industry standard for the first person to pick them up and said that 'these were hot'... So everybody looked at it like, 'Oh, so if this person is using it, it must be official'" (2010).

Nu-Mark considers the 1200 "a perfect piece of machinery" and anything that would replace it, whether CDJ or controller, are merely "trying to mimic the turntable." (2009). Thus, replacing a perfect instrument makes no sense to him. "I look at it as a piece of art...Why reinvent the wheel?". DJ Mighty Mi says that he would be "devastated" if 1200s went away because of the series' historical significance: "It is such a staple in the history of equipment that if they discontinued it I don't know why they would" (2010).

For DJ Neil Armstrong discontinuing the 1200s means the "tool of the trade would be gone, which would be horrible," but he thinks that there are enough used units in the world that it will never truly disappear from DJ culture. "It won't die...But who knows, that just might signal another company to pick up the reigns" (Neil Armstrong 2009). However, fewer companies are interested in the turntable market and seem to be more concerned with the expanding controller market (as previously noted in Chapter VI). DJ Daddy Dog, who calls the 1200s the "bread and butter" of hip hop DJ culture, thinks that because hip hop vinyl is dying and the format goes "hand-in-hand" with turntables, we may be witnessing "the death of the turntable" (2010). Although there are other options, for Daddy Dog "a true record head will not fuckin' go without his 1200s."

While DJ JayCeeOh would lament the death of 1200s, and turntables more generally, he thinks that because new DJs will not be able to obtain turntables "they will

318

never be able to say that they are real DJ...I think the method and everything is going to change, like it already has, but the percentage who appreciate the real shit will be smaller but I think more respected in the long run" (2009). "Like in 10 years from now for dudes who are still on Technics 1200s, mother fuckers will be like, 'Alright, that dude is true to DJing'" (DJ JayCeeOh 2009). Although DJ Eclipse would hate to see a day when 1200s are gone, he thinks that there are enough around; however, he says, "I don't really see them going anywhere, but if and when that actually happens, yeah it would definitely be a sad day because the original art form wouldn't be around" (2010).

However, DJs were negotiating with the potential passing of 1200s and suggest that Panasonic's lack of connection with the culture doomed the Technics brand. DJ Steve Dee says, "I'm like, 'Good riddance, I hope they go and burn' because they never looked out for what any of the people that made that one particular thing popular" (2009). He further explains:

> And I think that is kind of a shame that you have a whole thing [Technics's standardization] that is based upon the reality of someone else and they don't support that reality, they haven't done that. Like I said, Technics haven't embraced the people that have actually been selling their turntables without actually working for Technics. It's safe to say that I sold more turntables than Technics sold turntables. (Steve Dee 2009)

DJ Nu-Mark (2009) thinks because Panasonic had something "perfect" and accepted by DJs that it was able to disconnect from the culture.

Although DJ Quest has been a long-time user of Technics 1200s, he says, "I kind of wish that Technics would've been a little bit more connected to the DJs because they made a fuckin' killing off of us and I don't really feel like they have given a whole lot back" (2009). While he suggests that most hip hop DJs use the 1200s because they

319

became the industry standard, "It's unfortunate that we kind of became dependent on their shit...if it is the case that they are not going to make any more turntables, that really just kind of sucks because it's like they took the money and ran" (DJ Quest 2009).

However, John Carluccio, a filmmaker who has produced numerous hip hop DJ related films and is one of originators of the Turntablist Transcription Method (discussed in Chapter VIII), thinks that the brand will live beyond turntables. "I think someone big enough and smart enough with the money is going to buy the brand and buy the intellectual property rights, or at least the branding and the logo and all that" to produce DJ-related merchandise. "I don't see it ever really dying...it may not be run by the same people, but it's too valuable" (Carluccio 2009)

Vinroc says that the death of 1200s would be a "real sign that the industry is really changing and the delivery methods for the music are changing" (2009). He thinks that the surge in the use of controllers or other hardware that does not use turntables, as well as a new breed of DJs who do not want to use turntables, will eventually take over the working DJ culture, especially as older DJs drop out. "The true key is once you start not seeing them [Technics turntables] in clubs installments anymore, then they're done.... And as soon as DJs don't demand it anymore, then it's done. And that day will come" (Vinroc 2009).

JohnBeez (2009) sees DVS as a "stepping stone" between turntables and controllers, a bridge to full digitization, and he, amongs others, is not happy about this. He says:

> What I'm not feeling is the next shit that DJ companies are putting out. But I guess it's supply and demand with consumers is just to be able to pull some shit out of a backpack, a little toy with wheels on it, and plug that in

320

with the USB and then have that be a DJ set up. You are losing everything there is to being a DJ at that point; at that point you are just controlling a computer. You can say the same thing about Serato, but you still have a turntable there, something that is tangible. How impressed would you be just seeing a dude up there twiddling some little wheels in front of a laptop? It's not fresh. (JohnBeez 2009)

DJ Platurn (2009) calls these types of DJ "jokes," while DJ Nu-Mark (2009) thinks that this takes away from the physicality of manipulation. "Now the guy is staring at his laptop and there's less and less movement...so I am afraid that the movement, the action, the motion, the physicality of it all is going to be stripped away. It becomes too nerdy and in a box if you take away the rotating platters" (2009).

Conclusion

This chapter began by reviewing hip hop DJs' perceptions of important technical innovations, as well as looking at how they use the turntable as a musical instrument and what those uses mean. After that, the meanings attributed to vinyl records and collecting, the negotiation of digital vinyl, and the changing economics brought about by digital DJing were reviewed. The chapter concluded with a discussion of hip hop DJs' feelings about the Technics 1200s and what it means to the culture that their production has ceased.

Findings presented in this chapter describes some of the ways that hip hop DJs have manipulated the history and intellectual properties described in Chapters V and VI. Here, data reveals that hip hop DJs believe that human innovations in technique have influenced the industrial production of technical innovations, as DJs' needs have been encoded into the design of technical innovations. Findings also suggest that the meanings given to DJs' tools (vinyl records, turntables, and DVS specifically) are

grounded in use. Vinyl record collections are valued for their uses in education, communication, archivism, sharing, fandom, and the accumulation of subcultural capital.

As findings have shown, the introduction of DVS and other digital DJ technologies has reduced the barrier of entry into DJing, which has had an effect on the economics of DJing. While vinyl record collections were once a gatekeeper to hip hop DJ culture and as DVS has devalued the usefulness of vinyl records, a new generation of microwave DJs/celebrity DJs has emerged. DJs represented in this study embrace digital DJing as long as these tools are used in a manner that is true to the art form.

For the most part, DJs in this study think that when vinyl records and turntables were the standard tools of the trade, there was more labor that went into DJing. This labor was a rite of passage and a form of paying dues, and this increased labor helped DJs develop a respect for the unspoken rules of the craft, as well as the art form and culture. While this chapter has looked at some of the ways culture interprets and negotiates analog and digital technologies, Chapter VIII looks at the culture's role in the industry through R&D and branding practices, as well presenting case studies on on technical innovations based on creative networks.

CHAPTER VIII

DJS & THE DJ PRODUCT INDUSTRY: CONVERGENCE AND COLLECTIVE

INTELLIGENCE

"I would say there's a binary that runs throughout our existence, a duality of the universe, and scratching represents that really well. Backwards, forwards. On, off" ~DJ Abilities[107]

"DJing is writing, writing is DJing" ~Paul Miller aka DJ Spooky[108]

DJ Kool Herc was new media. Afrika Bambaataa was new media. Grandmaster Flash was new media. Hip hop culture began as new media. The past tense is used here because hip hop culture, which began with the DJ, employed the ideology and aesthetics of new media (which are discussed in Chapter III) years before the digital revolution and personal computers were commonplace. Hip hop DJs were some of the first remixers of popular culture to make new popular culture, were "mash-up" artists long before that term existed, and were using both corporate texts and technologies to produce their own unique culture and art. Not to say that new media was *the* ethos of hip hop, but it was certainly a part of it, and, for those who stay true to values laid down by hip hop's pioneering DJs, the ideas of new media are still alive today.

Hip hop DJs are extraordinary consumers of music, which then turns their consumption, knowledge, and collection of music into productive forces. While appropriation art certainly existed before DJs in the South Bronx, pioneering hip hop DJs were the first to really make such appropriation popular on a mass level. Not only that,

---

[107] Quoted in Scholtes (2009).

[108] In *Rhythm Science* (2004, 57).

but pioneering DJs made their appropriation art danceable. Hip hop DJs initially turned down chances to make records, instead opting to make money from live performances in their communities. At these performances, DJs would share found content, and in the creative process with emcees, they would help to create new content, as well. The performances of DJs and emcees were recorded on boom-boxes and those cassettes would circulate freely. This is not to say that there were not proprietary measures taken (i.e. wiping record labels off records so that other DJs could not "bite" your sounds, described in Chapter II), but in general the hip hop DJ has been about unearthing music and sharing it with people.

Hip hop DJs are open source and some are empowered consumers. The open source nature of the hip hop DJ is a characteristic that has grown stronger within the culture over the generations. For instance, there are all sorts of free scratch and DJ technique tutorial videos on YouTube, endless resources for original breaks and samples used in hip hop songs, and DJs share technology modifications ("mods") on Web forums so that others can get better performance out their gear. All of these things are done for the good of hip hop DJ culture, or at least that seems to be the intention. Also, some DJs freely share their hard drives of music with other DJs, or DJs offer their remixes of songs available for free download.

This is not to say that hip hop DJs do not engage in proprietary behavior as well, but in general hip hop DJs share and collaborate. And, they are particularly open source when it comes to sharing to advance the culture. However, this gets back to issues of authorship and credit, which have been themes throughout this research study. This chapter reviews some of the ways that hip hop DJs' authorship has been recognized by

324

the DJ product industry, as well as general conflicts over credit for such authorship. This is done by examining issues related to research and development (R&D) and the exchange of intellectual properties in general, as well some case studies of DJ innovations and how credit is given. Then, the focus turns to analysis of branding and endorsement of products and how hip hop DJs' subcultural capital and credibility are applied to products as a way of expanding markets. Using qualitative data, the perceptions of the industry's role in hip hop DJ culture will be discussed. The chapter will conclude with a section detailing cases studies of new technical innovations relevant to hip hop DJs that demonstrate creative networks in action.

The main goal of this chapter, then, is to look more at how important innovations are the product of larger creative networks rather than divine technologies invented by individual geniuses. Also, the contention is that the creative authorship of the hip hop DJ is seldom recognized by industry as intellectual property because few DJs have received patents, copyrights, or even credit for their ideas. Because of the way that DJs use the copyrighted works of others for their art, they generally do not receive copyright or writing credit for their music. Thus, hip hop DJs are rarely given the status of "inventor" or "author." However, the one way that the hip hop DJ's intellectual property has been recognized is as a brand, a form of authorship that is highly valuable to industries. Therefore, R&D and branding demonstrate how corporations and culture are converging and how technical innovations are the product of collective intelligence.

R&D and Exchanging Intellectual Properties

Most of the products used by early hip hop DJs were tools made for radio stations and live sound performances. Essentially, technologies were not made specifically for DJ

use, and definitely were not made for scratching and cutting. DJs made due with what was available on the market and retrofitted what was commercially available to suit their needs. However, as the demand for DJs in venues rose in the 1980s, more and more products were made with the DJ in mind. Disco DJs were the first to really get attention from technology manufacturers, in terms of having products developed for their use. However, it was the stepchild of the disco DJ, the house and electronic dance music DJ, who would make the DJ a cultural icon. In response to the popularity of house DJs and rave parties, technology manufacturers designed products that catered to that style of DJing, while the needs of hip hop DJs went largely ignored. Hip hop DJs, however, were able to ride the wave built by electronic dance music DJs, and by the early 1990s, scratch and hip hop DJs attracted the industry's attention.

In Chapter VI, the R&D process behind the Vestax PMC-05Pro was detailed, which was one of the earliest instances of manufacturers listening to input from hip hop DJs. By listening to the technological desires of DJs, who were ultimately the end-users of its products, Vestax was able to develop commodities for that market. Shortkut says, "They were trying to spearhead that whole vision of 'well, we are directly working with DJs...So they set the standard now. What company now doesn't want to get the new DMC Champion endorsing their shit? Back then that was unheard of" (2010). Since Vestax established this policy of listening to DJs, most companies in the industry have adopted it.

As Shortkut says, "I'm glad to see that companies are now listening to the DJs and getting input from the DJs, I mean why wouldn't they?... And now they are listening so that's good, but mind you back in the '90s, like '90 to '93 when I was doing these kinds of

things, they had no idea" (DJ Shortkut 2010). But what Vestax did and what the

company laid the groundwork for in terms of R&D was getting feedback from as many

credible and talented DJs as they could. There were numerous DJs whose ideas went into

the first 05Pro, and Vestax consulted other DJs from the ISP and Beat Junkies crews as

well (both crews Shortkut has been a part of). Disk, one of the original members of ISP

who also gave Vestax some feedback on the 05Pro, says, "The only thing I can say is for

them [Vestax] taking the idea first and making it real because we wanted a fader that

would be smooth and something that was comfortable for us...They took an idea from us

and they did it..." (Turntablist Disk 2009). "We had a relationship with Vestax," says DJ

DJ Babu, "and actually Shortkut and Rhettmatic both really had a lot to do with that first

Vestax 05 mixer that came out, but they are not really officially credited with it" (2009).

But, both Disk and Babu give Vestax a lot of credit for making the 05Pro and being open

to the ideas of DJs.

Babu, Shortkut, and the rest of the Beat Junkies crew went on to forge

relationships with other companies, such as Shure and Rane, and were not only seminal

in R&D but have been used to endorse products made by those companies. DJ Nu-Mark,

who is sponsored by both Rane and Serato, thinks that in the digital age that the

companies who have the best products are those working with DJs because most

manufacturers do not understand the workflow. "It's the companies that don't consult

musicians that are having a tough time right now, and there are a lot of these companies

out there that think they know all the answers because they got a computer geek in the

back that really understands ones and zeros...You need to talk to the musicians first and

foremost. And a lot of these people don't think they need to" (DJ Nu-Mark 2009).

327

Vinroc has recently begun an endorsement deal with Native Instruments, and has been giving them feedback on its Traktor Scratch DVS product: "They respect my opinion and I get back to them and tell them 'It would be better if you did this and that.'… I had a meeting with them, they're like 'Yeah, just tell us what you think,' and I pointed out some things... And I think that's overall, that's just research, y'know? They just want to know what the users think. How they can make it better" (DJ Vinroc 2009). DJ Rob Swift, who is also sponsored by Rane and Serato, says that he has had "reps from companies visit me at home in my studio and ask me questions about how I record, what kind of equipment would I need to use in order to achieve certain ideas or goals as a musician, as a recording artist, DJing, and scratching. And I'll give them my opinions on stuff" (2009). And, Rob Swift is pleased to know that these companies respect his opinions "to where they feel that your ideas will help them in the invention of this new piece of equipment or this new software" (DJ Rob Swift 2009).

While Vestax set the standard of listening, other manufacturers adopted more aggressive approaches to acquiring intellectual properties. Siya Fakher, a DJ and Director at EBSel, the company that developed the Pro X Fade crossfader, has seen this first hand:

> Regarding the intellectual property side of things, it's a lot subtler now than it used to be but it still goes on today and much of it is as much the DJ not knowing how to conduct themselves in the environment they find themselves in. I've been to trade shows around the world and whereas when I first started the manufacturer would listen to your ideas and dismiss you straight away yet miraculously those ideas would still find themselves onto a new product in the next few years, albeit a badly interpreted one...today they like to wine and dine you, get you to relax and get comfortable before they penetrate!... Like I said, most of the problems are the DJs' own doing because of their lack of business know-how. (Fakher 2009)

Fakher and his partners at EBSel, in light of some of the ways that intellectual property

exchanges have favored manufacturers or have led to commercial failures, offer

consultation services, which include working with both DJs and manufacturers on all

aspects of design, testing, endorsements, and promotion. Fakher suggests that the

consultation services can help to create more beneficial outcomes for both DJs and

manufacturers, and, in the end, consumers.

Although manufacturers are listening to or soliciting feedback directly from DJs,

in the digital age the Web has proven to be a great R&D laboratory. For instance, forums

on the Serato website or at *Skratchworx* publish plenty of customer feedback and are

great places for manufacturing representatives to gather intellectual properties and get

feedback on their products. Mike May of Rane Corporation says, "And those things,

when we hear somebody that we think is passionate and really has some good thoughts,

those are things that we keep...those are recorded and stored" (May 2009). Rane then

uses those ideas in its products. "So that can translate because ultimately the end-users

are, hey, they are your best source, and DJs have provided us with some great input. We

have outreach all the time from people who have come up with ideas..." (May 2009).

This is not a process unique to Rane either, as many reps from other

manufacturers participate in forums. May suggests that there is a constant exchange of

ideas on the Serato Web forums:

> People are usually on the forum because they have questions and you want
> to build a real good database of answers. So the forum is an exchange
> about people who either have problems, or it's the tips and tricks area in
> the forum where people jot information down for DJs to go and read.
> Anybody who is interested can go and check it out, it is an exchange of
> ideas and you can use the forum for another one of those resources to

capture ideas, or get back to somebody and say, "You touched on this and it's interesting about your approach here, do you want to tell me more about it?" (May 2009)

Some of the DJs posting in the forums are happy to share their ideas; some are more guarded about what they share. And, sometimes technically savvy DJs will come up with ways to use features in Serato Scratch Live that will impact future versions of the software:

There are DJs who will discover in the software that things can be done in the software that maybe in the original application it wasn't designed that way, but they come up with something that is rather unique. And it could create a thought process where the engineers at Serato might say, "This is cool, we should tweak this control system a little bit and get this as a result because this person touched on something that we think a lot of people will be interested in". (May 2009)

May says that in some cases, if a person has an idea that is unique that they want to protect because "it is their intellectual property, they want to get paid for it," most of the time they are "glad to give you the ideas because they want to see those ideas actually executed in a piece of gear" (May 2009).

DJs post their opinions on products all over the Internet. Sometimes they air grievances on products they dislike, or they tout the positive aspects of products they use. "I mean some people like helping out," says Roli Rho about DJs posting in Web forums. "There is a good amount of DJs that are humble and they put their two cents in and they don't want anything out of it, they just want the product to be good. And doing that stuff it does help other DJs, it helps us" (Roli Rho 2010). Roli Rho suggests that it is up to DJs who use DVS and other gear to make the technologies "perfect" and it is their suggestions that help software developers design better functioning software applications. He says:

330

It takes DJs to perfect Serato because the forum and your comments, and the R&D and everything, it's really up to us. The thing is that Serato is not going to pay all of us, they can just look at the blogs and look at the comments and they try to straighten it out from that. That is the way that I see it. And then it happens, and then when the new version happens I'm like, "Oh shoot, these guys fixed it." And I'm happy, you know, with the DJs and the turntablists out there that put their two cents in, but also wish that we could all get something out of it. But the best thing that we can get out of it is a perfect program.... They are listening to us to make something perfect with all the test runs and everything, they will keep listening to us because we are the consumers that will buy their product. (Roli Rho 2010)

Roli Rho suggests that DJs are compensated with better tools; from the feedback and ideas of some DJs, all DJs who use that technology will benefit. DJs, for the most part, seem to freely give their input, again, to the benefit of the larger cultural whole, but also, the manufacturer/developer.

Having access to the opinions and feedback of end-users ultimately leads to the creation of better tools; however, in some instances, such listening is done to improve tools to expand markets rather than with the greater good of DJs in mind. The motivations behind each hardware manufacturer or software developer vary in different situations, but ultimately, having a good reputation and a solid product that end-users will advertise for free seems to be a common strategy. Thierry Alari, an independent inventor who designed the Scratchophone, a portable custom scratching instrument (discussed later in this chapter) considers customers his most valuable asset. "I'm asking customers to think about new features for their own Scratchophone, I have a never-ending flow of good ideas...I'm open to all crazy ideas. I'm just listening to users" (Alari 2010).

DJs' ideas are encoded into new innovations. This process has evolved from manufacturers completely ignoring DJs, to listening to a select few of them, and now to the point where the Internet has allowed companies to collect and use feedback that is

bandied about on the Web. Some manufacturers have developed products that do not fare well in the market because they only collected ideas from one DJ. But, most often, if DJs are willing to contribute ideas, then the ears of companies are open. However, you will not see some DJ's name that posted ideas in a Web forum on a mixer, or they will not be receiving royalties because these ideas are coming from multitudinous sources.

Credit for DJs

Getting credit for one's ideas has always been controversial within hip hop culture. There are, to this day, arguments amongst hip hop's pioneers about who was the first to coin a term, perform a dance move, or "invent" a particular style or technique. In some ways, this has become a tradition within hip hop. Arguments over who was the "first" have been particularly contentious, and, in some instances, the first person to come up with a technique or style rarely gets credit. Instead, the first to popularize or perfect an innovation are the ones who usually get credit, upsetting others who contributed to the innovation. In addition, various writers and media perpetuate some of the claims. Clearly, the politics of credit in hip hop is a highly contested area.

Hip hop culture and hip hop DJs often choose to use the word "invent" to describe cultural innovations. For instance, claims that Kool Herc "invented" hip hop, GrandWizzard Theodore "invented" scratching, DJ Jazzy Jeff "invented" the transform scratch technique, DJ Steve Dee "invented" "The Funk," DJ Qbert "invented" the crab scratch, or DJ Babu "invented" the term "turntablism." There is some some substance behind all these claims, however, none of these DJs own a patent on their innovations, which is the way that "invention" is recognized by capital. Furthermore, hip hop culture gets caught up in the discourse of invention, although hip hop seems to be part of a larger

creative network. However, these claims are very important to people who may have

been influential to a particular style or technique.

It may be more appropriate to say that DJ Kool Herc popularized the style of

breakbeat DJing and hip hop culture formed around that style, or they evolved together.

Also, it may be better to suggest that GrandWizzard Theodore perfected the art of

scratching and then popularized it, but it is hard to imagine that someone—never mind a

DJ in the South Bronx—had not scratched a record before Theodore, if only by accident.

While DJs had scratched records before, Theodore made it rhythmic (and made people

love his scratching, and he is still sharing that element of hip hop DJing). But imagine if

Herc and Theodore were able to get a patent, trademark, or a copyright on their

innovations?

Although DJ Jazzy Jeff has never claimed to "invent" the transform scratch

technique, he was the first to record it on "The Magnificent Jazzy Jeff" off of DJ Jazzy

Jeff and the Fresh Prince's album, *Rock the House* (Jive/RCA Records 1986). Jazzy Jeff

has always said that the city of Philadelphia invented the transform, with DJs such as the

original Spinbad, Cash Money, Lightning Rich, Cosmic "Strictly Skillz" Kev, Tat Money,

and Miz all contributing to a technique that would have a major impact on hip hop DJing

in the 1980s. Jazzy Jeff recognizes the network of innovation behind the transform;

however, because he was the first to put it on record on "The Magnificent Jazzy Jeff,"

which was on a gold-selling album, he has often been called the "inventor." Maybe it is

best to consider him the one who popularized the technique, which may also be a healthy

way to think about Qbert and the crab scratch. Again, the crab scratch is a technique that

Qbert gave a name to and made popular, but is also the product of a network of

innovation that included other DJs and techniques. And, it is not these DJs who are necessarily out there claiming that they invented these elements, but instead those who are writing about them and documenting it.

Although patenting DJ techniques seems possible because in essence those techniques are processes, essentially a means to an end, which are eligible for patent protection. However, proving prior art for DJ techniques would be nearly impossible and then highly contentious, and then who knows if a DJ holding a patent would then have a monopoly over the technique and prevent other DJs using it.

In the late 1980s DJ Steve Dee introduced a technique or style to hip hop DJing that he dubbed "The Funk." This was Steve Dee's take on cutting records by manipulating individual drum beats to make new patterns—essentially a live composition. "The Funk" style that he popularized, represented when Steve Dee won the New Music Seminar Battle for World Supremacy in 1990, eventually became known as "beat juggling," which is now a standard hip hop and battle DJ technique. Steve Dee thinks that if DJs held patents to techniques then they would be able to get royalties from the industries that profit off of hip hop DJ culture and practice. Or, it would give DJs some say as to what sort of products are introduced into the market. Currently, Steve Dee says he is in the process of having "The Funk" patented "and once you do that it will allow you to do these things before these companies take these intellectual properties and turn it into their own.... and I'm trying to talk with Theodore and Flash about doing these things because we could actually live comfortably off of just that alone because now the technology is gearing towards it" (DJ Steve Dee 2009).

334

Steve Dee thinks that because, and he uses the DJ Hero video game franchise as an example, new technologies use the ideas and techniques laid out, perfected, and popularized by hip hop DJs and something like DJ Hero would not exist without the intellectual properties that DJs have more or less made open source. He feels like certain manufacturers have made a lot of money off of the ideas of DJs but have not given much back to the culture. For Steve Dee, if innovators became "inventors" this would give them more power:

> But the more that we have stock in our own craft, you know the intellectual properties, will we be able to come back at these companies who just take what is not theirs. And again, we have to get into the patents because once you do that you now put yourself in another realm—you are in another realm now.... We the users need to start looking at it as a business and our whole mindset has to change now and we have to start looking for and to the future to control these kinds of things so that it won't happen again.… It's a shame that we don't have this kind of power when we have a market that we should be cornering and we don't even have a corner... (Steve Dee 2009)

Steve Dee, though, thinks that patenting techniques would be the first step for DJs to get into the process of manufacturing, or at least allow DJs more control over how companies profit off of DJs' ideas.

Proving that you "invented" a certain scratch or DJ technique could be a problematic burden on behalf of the DJ seeking patent protection. Thus far in hip hop DJ history, invention has been attributed to the party who gave a technique a name and then popularized the technique under that name. DJ Skeme Richards says that he can remember DJs "beat juggling" or doing "The Funk" in Philadelphia in the early 1980s, and, "They [Philly DJs] were doing exactly what the West Coast guys were when they

335

named it 'beat juggling,' we were doing that in Philly in the early 80s, but we didn't make up names for scratches, we never made up names" (DJ Skeme Richards 2010).

Skeme thinks that once all the techniques came about is when DJing really became "corporate," in the sense that once techniques had names they became commodities or rational expressions that could be sold in DJ instructional videos or in DJ classes. However, Skeme thinks that if someone were to go back to early 1980s video footage or audio cassettes of Philadelphia park jams and battles, you would see beat juggling. "Not to take anything away from everybody else, but it didn't start any one particular place," says Skeme Richards (2010).

Skeme brings up a major point in respect to patent protection: prior art and point of origin. Techniques, arguably, are built upon one another and are then met with a DJ's personal take on them (style), so it would be tough to point out individual divisions. DJ technique, and some would argue against this, comes from a network of ideas, technologies, and DJs. Kool Herc could not have made breakbeat DJing popular without records that had breaks recorded on them or without influences from Jamaican sound system culture. Thus, his ideas did not occur in isolation or a vacuum. This is not to say that the many innovations that came from Herc and the many hip hop DJs since him are not spectacular, creative, and beautiful, but "invention" may be a problematic term to apply to these innovations. You get paid royalties and licenses when you really "invent" something and have rights to exploit that invention in a market.

Although it will be interesting to see the results of Steve Dee's attempt to patent "The Funk," there are other practical instances where DJs would have benefitted from patent protection, or at least some knowledge of intellectual property laws. For instance,

336

DJ Shortkut and the drawing he did on a napkin that he claims is the design of the Vestax PMC-05Pro mixer (described in Chapter VI).[109] "Yeah if I did learn how to put a fuckin' patent down on a mixer then sure I'd be fuckin' well-off right now," says Shortkut (2010). "At the same time it's like it's cool, as long as those guys know in their heart, you know where you really got that idea, right?" (DJ Shortkut 2010).

Shortkut admits that he did not even think about patenting his ideas but was so happy to have a manufacturer listening to him, which, at the time, was not commonplace. Although extremely humble, the experience made Shortkut a bit more apprehensive when giving his input on products, but he thinks that the ideas he did give to Vestax ultimately benefitted the hip hop DJ, which is most important to him. A DJ protecting his ideas seemed to be an afterthought for most, but it does seem that the ideology has been to get the idea out and get it made so that it can benefit all DJs. When asked about all of the ideas he has contributed to manufacturers, Qbert says: "When I was a kid, I learned about Mercedes-Benz. They invented the seat belt, and they [said], 'We're not going to patent it. Everyone should have a seat belt in their car.' I thought that was nice. People should be like that. It's beyond money, it's about karma" (quoted in Hartlaub 2010).

It is highly unlikely that Shortkut could have gotten a patent on a napkin sketch because designing a technology does not necessarily generate an innovation that is technologically new and thus patentable. As we have seen in other chapters, there is a great deal of product development and financial investment into prototyping. Furthermore, applying for a patent will cost anywhere from $5,000-$12,000 (including

---

[109] Please note that I use "claims" here because there is no proof that his drawing became the mixer, other than what Shortkut says. Not that I doubt his claims, but I do not want to say that his napkin drawing definitively became the 05Pro. Part of the problem is that Vestax credits its President as the 05's inventor.

patentability search, application preparation, filing fee, drawings, issue and publication fees, and a "prosecution" fee if an attorney has to argue the case at the U.S. Patent and Trademark Office). Shortkut's drawing of a 2-channel mixer design most likely would not be considered unique enough to be granted patent protection, and, unlike copyright protection, there is a great deal of risk and a burden that goes into attempting to receive such rights. It does seem problematic that there were no resources for Shortkut at the time, and still that there is no system in place for DJs to protect their ideas; in fact, if you cannot afford an attorney it will be nearly impossible to apply for patent protection. It is also important that those seeking a patent can afford to have the drawings done properly.

Elliot Marx, the owner of Audio Innovate (AI), a company whose innoFADER is one of the leading aftermarket upgrade crossfaders on the market, says, "Actually I think patents in the DJ market are worthless to be honest" (Marx 2010). For Marx, investing money into patent protection, which is ultimately reflected in the retail price for consumers, is a way of "sinking money" into something that has no benefit to end-users. "The market is small enough that I think DJs will get much better variety and quality of products if companies work more on a trade secret basis to protect technology rather than with patents...The best thing to do is develop relationships with people you trust. You can license ideas without patenting" (Marx 2010). Trade secrets, which are discussed in Chapter V, may have been a potential route for Shortkut and others to go in respect to protecting their ideas. But using trade secrets requires that you carefully pick who you share your ideas with and procure appropriate legalese (i.e. nondisclosure agreements).

Marx further explains: "Well look, if you scribble a picture on paper for an hour or so a manufacturer, for good reason, would probably laugh at you if you asked for

338

royalties" (2010). But he also thinks that if a DJ has spent months testing and consulting

on a project, they should be compensated. His advice to DJs with ideas is to prove that

they are serious:

> Seriously, if you have a great idea make a prototype of it, get lists of
> materials, drawings, etc. everything so a manufacturer knows you are
> serious and will take the product to a competitor if they don't move on it.
> The closer you are to a product that can hit the streets, the more likely a
> manufacturer will take on a project and give you money as long as it's a
> marketable idea. (Marx 2010)

Marx thinks that the problem is that while DJs may have some great ideas, they typically

only have an idea with no research or development beyond it. And, with just an idea and

no nothing tangible, it basically becomes public domain when you release it to the public.

Manufacturers deal with the exchange of intellectual property with hip hop DJs in

different ways, and thus handle credit and compensation on a case-to-case basis. Mike

May explains: "I think that many times that's all about someone's business savvy and

what they think they really are providing, and then that stuff has to be negotiated on the

front side" (2009). May acknowledges that some DJs get skipped over in respect to

credit and compensation, but claims that happens in other industries, as well. He further

notes "And if someone has been forthcoming and there are people who supply us with the

information, we know how to treat those people reasonably. We're not somebody who is

out trying to steal ideas" (May 2009).

Ono, Vestax's Vice President, says that the exchange of intellectual property

between Vestax and its endorsed DJs is about benefits beyond cash compensation. He

says, "It's also been a concept in Vestax that there has never been any monetary capital

passed back and forth with a DJ or Vestax at all...Where some companies, and definitely

339

in different industries, when you sign, you are signing with a huge bonus with that company to carry that brand. At Vestax it is all 100% voluntary" (Ono 2010). So, DJs who endorse Vestax products and ultimately became involved in R&D and feedback do it so that they will be included at Vestax events and in the company's promotional materials. In other words, Vestax receives the credibility of DJs and DJs get the credibility of Vestax's brand. This benefits DJs because promotional opportunities can lead to revenue in other ways.

Marx says that product feedback is a critical part of the R&D process at Audio Innovate. "Most DJs are just happy we listen to their contributions and give them outstanding service," says Marx (2010). He notes that some DJs have unrealistic expectations about how they will be compensated. Because the market is so small and "hyper-competitive," DJs must make meaningful contributions in order to be compensated.   Marx says, "Our philosophy is to reward DJs who make significant contributions to Audio Innovate, whether it's by helping out at trade shows, doing website design, helping with product testing and specification.... Compensation can be in the form of product, free advertising, cash, depending on the situation" (2010).

DJ Babu says of his DJ crew, The Beat Junkies, "But over the years we've definitely given our, how would you say, 'tech advice' to all the companies that we've worked with" (2009). He says that this has been part of endorsement deals, but that they have not been paid. "We get free gear and they put ads out for us, and stuff like that, and they definitely ask us about the stuff they are making" (DJ Babu 2009). Babu says that he and his crew members have made contributions, but have never designed a technology from the "ground up." He also feels that he has been fairly compensated for his ideas.

340

Turntablist Disk says, "You give them a little idea, they give you a bunch of free mixers and kind of just say, 'Oh whatever,' and that's enough ideas" (2009).

Again, one of the problems with credit and compensation is that product feedback comes from hundreds of sources. Roli Rho says many DJs do not get credit for contributions made to technical innovations, even though they were the individual who originally came up with the idea. For DJs who lack a brand name but still give their input to companies, Roli Rho says that some DJs can be "blacklisted" by other DJs when the technology comes out and they try to take credit for heir contributions. "I feel bad for the people who do invent stuff for us and do not get recognized for it, that's the only thing that is sad. I wish people did get recognized for it" (Roli Rho 2010). He claims that DJs who have ideas can get "shitted on" by companies and other DJs, but trying to claim your contribution after the fact is a major faux pas. Roli Rho thinks that if DJs had better resources to protect their ideas and if the system was geared to help them, then much of the conflict over credit would disappear. "I don't know exactly how it [patent] works because I never created something to actually sell to a company, but if I ever did I probably would get suckered out, too" (Roli Rho 2010).

Thus far, this chapter has highlighted some of the challenges, issues, and struggles in hip hop DJ culture and the DJ product industry in respect to the exchange of intellectual properties, as well as how DJs are credited and compensated for their ideas. The goal has been to look at this rather generally. The next subsections look specifically at the R&D of a few technical innovations relevant to hip hop DJ culture, including the Rane 54 mixer, the Hamster switch, the Controller One turntable, and the Fretless Fader.

This discussion is from the viewpoint of the DJs involved, and, again, considers the stories behind these innovations.

Rane TTM 54

Chapter VI briefly examined the development of Rane's TTM 54 performance mixer in the context of the standardization of Rane's 2-channel mixers within the hip hop DJ market. This subsection further explores how this mixer line went from idea to an actual product, especially from the perspective of the DJs involved in the process.

DJs Big Wiz, Sugarcuts, Marz 1, and Peter Parker were at an AES convention in the 1990s to sell advertising space to manufacturers for a Tableturns magazine that they wanted to start. At the time, Tableturns was an open turntable event in New York City founded by Sugarcuts, an event that would became a major element of hip hop and scratch DJ culture in the late 1990s and, ultimately, the first place where many DJs were able to try out the Rane TTM 54.

The four DJs approached the Rane booth, where Rane tried to sell them on its 19" mixer, a design for club mixing and useless for hip hop DJs. Big Wiz says, "I had always loved and hated Rane at the same time for making such a great product but one I couldn't use...while the companies that made performance mixers basically made a inferior product" (quoted in Gizmo 2007a). "A Rane mixer (pre TTM) to me was like someone giving you the hottest car in the world but locking the doors and not giving you the keys... yeah it's a great car but you can't do anything with it" (Big Wiz quoted in Gizmo 2007a). After the DJs listened to Rane's sales pitch, they suggested that they had ideas for a product that would appeal to the growing market for 2-channel battle styled mixers. Sugarcuts (2010) says that Rane was open to their ideas and they began discussing

342

detailed design ideas. After some brainstorming sessions, Marz 1, who was also a

graphic designer, drew up a design of their ideas, as Big Wiz explains:

> We had a very clear idea of how it would look...So, after we decided what
> we wanted, he [Marz 1] laid it all out...size and everything...even the color
> scheme. We knew exactly what we wanted and where it needed to be and
> how it should look etc...even down to the placement of the EQ knobs and
> the how the knobs for the faders should be... no one made fader knobs like
> we wanted so Rane had them made especially for the TTM mixers. I still
> have all the original info we sent to Rane. (quoted in Gizmo 2007a)

While the DJs were able to agree on the design, Sugarcuts says that everybody involved

had different ideas on how to protect their ideas:

> I remember when we were designing the mixer we had a big argument
> about whether we should be getting royalties for the design, and for me I
> just don't think like that. Obviously money is really nice, but at the same
> time I thought that contributing to this mixer would impact our careers
> more than the money that we made from the mixer. I would probably
> stand by that, but had we gotten in on the 56 and then maybe 57, maybe it
> would have been different. But I think that they [Rane] did a really good
> job of treating me well. (Sugarcuts 2010)

Rane and Big Wiz still work together closely, as Wiz is one of the DJs who showcases

and informs people about Rane products at trade shows as an endorsee.

Sugarcuts, though, did not think that the four DJs deserved royalties based upon

units sold. "At that moment I was the one who said, 'We shouldn't ask for royalties'

because I thought there was a bigger picture there and I agreed with that and I agree with

that now," says Sugarcuts (2010). Again, he thinks that the ideas that they contributed

were for the greater good of hip hop DJ culture. "And I am all for technology and I'm all

for the tools of the trade becoming better because then DJing becomes better and I don't

think you can spend time looking back and hoping for something that wasn't there"

(Sugarcuts 2010). Sugarcuts also says:

343

I think what we did definitely changed Rane's financial future, but again, if all we got was royalties off of the 54, it wouldn't have changed my financial future. So I can't really spend that much time thinking about that. So to get some 54 royalties and then end up having to get a lawyer to make sure that ideas that we gave them turned into the 54 and into the 56 and into the 57...would we have made a good amount of money? Yeah, but again if we didn't do it, would they have had trouble finding another DJ to help them out to do it? No. Should our name be on the front of the mixer? I would say no. (Sugarcuts 2010)

Although Sugarcuts would not get into the details of the argument over protecting their ideas, the group decided that having better tools and more options for hip hop DJs was more important to them than royalties.

The DJs faxed Rane their design concepts, and Rane thought it could build the instrument and sent them some of its sketches and, eventually, some prototypes. The exchange of ideas continued between Rane and the four DJs. Mike May says, "It is the exchange of ideas and getting things on the money...Regardless of what business you are in you say you are listening to the people who want products designed, well sometimes that really happens and in many cases you use that as a marketing line but it isn't really true. In this case, I believe that we really did listen and were more respectful and tried to build a product that could be useful to that community, and the result was the TTM 54" (Mike May 2009). May insists that the feedback that Rane received from Big Wiz and Sugarcuts was integral to the execution and ultimate success of its 2-channel mixers. Both Big Wiz and Sugarcuts, however, suggest that the Rane TTM 56 is actually closer to their ideas than the 54. Big Wiz explains that "at the time, there were things that weren't yet cost effective or able to be done in the time frame they wanted to get the mixer out by or things that couldn't be done within the size of the mixer" (quoted in Gizmo 2007a).

In 1998, when the TTM 54 hit the market, the standard mixers were the Vestax brand and the Invisibl Skratch Piklz were heavily endorsing Vestax products. Without a major advertisement push, Rane was able to work its way into the market. Sugarcuts admits that the four DJs were really surprised that Rane listened and then actually made the product, especially since "we were probably the least renowned as DJs" (Sugarcuts 2010). Rane did not use the DJs in marketing campaigns, but did supply them with mixers and the TTM 54 gained popularity through word of mouth within the culture. Sugarcuts released Tableturns videos, which included some of the world's greatest scratch hip hop DJs using Rane product. Sugarcuts says, "I think that it's easy in hindsight to forget the impact that Tableturns had on the mixer because so many DJs were all about Vestax, and the Tableturns video was the first time we saw any of these great DJs on our Rane.... And all these great DJs tried Rane. It's clear that without the turntablist community that Rane would have never taken off in the 2-channel mixer community anyway" (Sugarcuts 2010). The Rane TTM 54 was used at all the Tableturns events and DJs were able to try the product at the open turntable event.

It is clear that Big Wiz, Sugarcuts, Marz 1, and Peter Parker helped to lay the groundwork for what is today's industry standard for 2-channel mixers. Big Wiz says, "Now it's like my ideas are validated. I have confirmation that what I thought would be so great really is! Everybody has an opinion on things and think they know what would be good... some of them are right but most of them are wrong. I now know mine are right on the money and that feels good" (quoted in Gizmo 2007). Sugarcuts believes that the ideas that the four DJs gave Rane helped the company to move into the market for hip hop DJs and was integral to the future success of the company. "And that [the 54]

345

obviously led them to really being able to connect with the younger DJ market and I believe probably impacted them greatly in going into the deal with Serato, and from there everything changed, as they say" (Sugarcuts 2010).

Hamster Style

I remember being a bit perplexed by the three "Hamster" buttons on the first Rane TTM 52 that I bought: "What the hell is a hamster?" It did not take to long for me to figure out that when the Hamster button was selected it reversed the direction of the crossfader. Essentially, when the crossfader was set all the way onto PGM 2, the crossfader played the audio signal from PGM 1, and vice versa. At the time, this was useless to me, so I did not really mess with the crossfader in Hamster mode until I figured out that it was the only way that I could keep my crossfader hand (right) on the crossfader and my other hand on the record. Although I was utilizing the option, I was not scratching "Hamster style."

Hamster style scratching is when a DJ always scratches and mixes with the crossfader Hamster (or crossfader reverse) switch on. The Rane TTM 54 seems to have been the first mixer to bear a "Hamster" switch, but a crossfader reverse switch was first put on the Vestax PMC-06Pro (see *Figure 35*). The term, however, comes from DJ Quest of the Bullet Proof Space Travelers, formerly known as the Bullet Proof Scratch Hamsters crew. DJ Quest says that the first type of Hamster switch did not come from a manufacturer, but from the hip hop
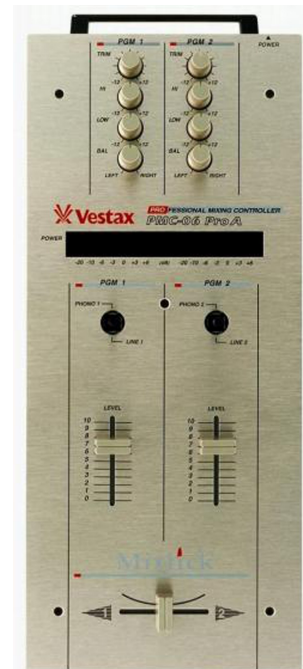
Figure 35: The PMC-06Pro, a slim mixer with a simple design that allowed the turntables to be placed closer together, which was supposed to make it easier to scratch and juggle. Image courtesy of Vestax Corporation.

DJ/independent inventor, DJ Focus (discussed later in this chapter). Prior to DJ Focus's

technical innovation, which may have not been the first, DJs had to plug in their

turntables backwards into the mixer. This created a problem when multiple DJs were

using the same set up.   Quest says that Focus "designed this little box where you plug the

turntables into it and it had two outputs and those outputs went to the mixer and the

switch that was on this box was your Hamster switch. So he was the first to make a

hamster switch before all these companies put it in their mixers" (DJ Quest 2009). Rane

and Vestax were among the first manufacturers to include this feature on their mixers.

Although he did not invent the style, DJ Quest was the one who popularized

"Hamster style" accidentally after plugging

his turntables backwards into his first mixer,

a Pyramid PR-4700 (see *Figure 36*). DJ

Quest, because he did not have any direct

influences who knew how to hook up the

gear properly when he began DJing in 1986,

learned how to scratch backwards. It was

not until about five years later that Quest

Figure 36: Picture of a Pyramid PR-4700, a mixer with a stiff crossfader that was many DJs' first mixer in the 1980s. Photo by Zane Ritt. Courtesy of the DJpedia Archive.

realized that he was DJing backwards. Quest says that "Hamster style" did not come

necessarily from his crew's names at the time, the Bullet Proof Scratch Hamsters.

Hamster style was popularized in 1992 as DJ Quest explains:

> However, what it was is that during a TV show shoot for *Home Turf*, and
> we were doing all these demos and I was asked to bring my turntables
> down and there were all these DJs that were involved with that, there was
> a lot of names that had come down and it was sort of like getting into the
> history of scratching and DJing and I was one of the DJs that had come up

to do a demo. Actually my demo was a battle, which was with Positively Red. So when the battle is done they had Kevvy Kev, who is pretty old school here in the Bay Area and has a radio show, *The Drum*, which has been going on for years, and so he is real knowledgeable about the art. So they had him come out to do a quick tutorial about how to DJ and as he got on the decks he couldn't figure out why he couldn't get the sound to play out because nobody used the shit like that, so he was like "I don't know what's going on, I don't hear anything." Then I was sitting in the back and had to say it real loud, I said, "It's Hamster style."   So basically from that moment on that was used to describe the backwards set up of the tables into the mixer, therefore the fader being reversed. (DJ Quest 2009)

After that day, the people who scratched backwards had a name for their style, and

"Hamster style" quickly spread.

DJ Quest says that Rane approached him in the late 1990s about calling their

fader reverse switches "Hamster" switches. At that time, Hamster style was largely the

accepted term for scratching the backwards style. Although neither Quest nor other

members in the crew hold a trademark on "Hamster style," both Rane and Vestax reached

out to them:

But yeah, Rane actually approached me back in '98 when the first 54 came out and they took care of me. They were like "Yeah, whatever, we want to use the name..." It is what it is and they hooked me up and I have a real good relationship with them. On the other hand there was a Vestax back then that was using it as well and I had a meeting with them about it and they were like "Yeah we're going to take care of you..." but there was a little bit of funny style move on their part back then because they never really stepped up. It's not as if it is something that we had a copyright on necessarily, but still acknowledging... for instance, Rane actually on their catalog wrote out a paragraph where they credited us for using that name. So I think that's kind of more or less what we were trying to get out of that if anything at all, just some recognition. So Rane had done that, Vestax hadn't done that, they talked about doing it. Whatever, I have a good relationship with Vestax as well now too, but it was just something that wasn't really meant to be... (DJ Quest 2009)

Vestax supposedly began including a Hamster switch upon the request of DJ Qbert, who

scratches Hamster style, and included the feature on some models of the PMC-05Pro,

348

06Pro, and 07Pro mixers. DJ Marz, who was a later addition to Quest's crew and part of the reason why they changed the name to Bullet Proof Space Travelers, says that because Rane used the name, the company formed a relationship with the crew and provided them with free gear and other opportunities. Marz says that most of the uses for "Hamster" popped up without permission: "I think it was Qbert that was putting that stuff on and calling it the Hamster switch, I think he was actually the first person because I think Vestax put it on for Qbert actually" (Marz 2010).

DJ Quest and the Bullet Proof Scratch Hamsters were seeking credit for a style that they had helped to popularize, and Rane delivered. However, after reviewing a number of Rane mixer manuals, the only one to include the Hamster story is the Rane TTM 52i manual. The image of a hamster in an exercise wheel is included with the text "The origin of *Hamster*":

> A few years back, there was a crew of turntablists who called themselves *The BulletProof Scratch Hamsters*. They approached several mixer manufacturers with an idea for "reversing" the crossfader program material. In other words, they wanted to have Program A appear where Program B was, and vice versa. This idea was intriguing enough to make one manufacturer comply and they began offering this feature on a popular model (internally). In turntablist circles the reversal feature is referred to as *Hamster* in homage to the idea originators. This capability has evolved to a point where the performer wants (maybe needs) to *Hamster* on the fly instead of opening the mixer up and selecting one way or the other. Rane has obliged to this growing request by allowing the artist to reverse on the fly with the crossfader and, uniquely, with the up and down faders as well. (Rane TTM 52i manual)

Without a trademark, DJ Quest and his crew could not stop manufacturers from using "Hamster" on their products and therefore could not collect royalties; Rane gave them some credit in their manual and established working relationships as a way of rewarding the crew for their intellectual properties.

349

DJ Quest says he did not worry about companies using a term that he helped to popularize, but that receiving credit for those contributions is what was most important for him. With recognition, he says, will come other opportunities and help to put he and his crew in the mind and consciousness of the public. DJ Quest says: "If you start out young doing things and you start out doing them with the business mind, then you know you can cash in on those things later; however, if that was my goal then I probably wouldn't have developed my skills on the turntables.... Business is something that just kind of goes with it. But that was never the point, trying to get money off of people for using this or that."

However, DJ Quest™ owns an unregistered trademark on his name because he has used it on recordings, break records, videos, and in performances. Having an unregistered or common law trademark gives the owner the right to exploit the mark within a geographical area. DJ Quest and his crew may have been able to lay claim to an unregistered trademark on Hamster style™, which may have been one of the reasons why manufacturers reached out to them about using Hamster on products, assuming the crew owned the trademark.

Exploring the R&D of specific technologies helps to illuminate the end products as fetishized commodities in which the creative and intellectual labor is encoded. In the process, the problem of credit and compensation arises, a problem that most manufacturers handle by giving contributing DJs free gear or endorsement deals. However, credit for ideas seems to be less of a concern for manufacturers than for the DJs. The next subsection continues to look at R&D, examining the creative process behind the Vestax Controller One turntable.

Controller One

The Controller One was briefly discussed in Chapter VI but this subsection describes how it went from an idea to an instrument. It took approximately five years (maybe more) for the Vestax Controller One turntable to develop from an idea to a reality, and by the time the C1 hit the market at $2000, the interest in being a scratch musician had waned considerably. The second great boom in the turntablist movement was ending and the interest in product development and marketing of products had turned to the digital DJ market. 2008 was not necessarily the greatest year to launch a $2000 turntable, plus this complex and nuanced turntable came out with little marketing or preparation. According to Chuck Ono, Vestax is still in the red on the Controller One and

Figure 37: Top view of the Vestax Controller One turntable. Image courtesy of Vestax Corporation.

always will be. With an estimated 300 to 500 manufactured, and with a factory that manufactured important parts for the C1 being destroyed in the 2011 earthquake/tsunami, we will probably not be seeing any more soon. The remainder of this subsection will look at the development of this product and then focus on the perceptions of the DJs involved in its R&D.

Ricci Rucker began talking about an idea for a turntable that could play notes in the early 2000s. Ideas for the turntable further developed on Rucker's radio show, *Transmissions Radio*, on 90.5 FM KSJS (San Jose State University's student radio station). This was a radio show devoted to scratch music created by DJs, and also

featured live turntable sessions. Teeko was also a frequent guest on the show and says

that many of the ideas for the C1 came when they would take smoke breaks. Teeko

explains: "We'd be like, 'Yo, what is your dream turntable? How would your shit be?

How would you control the pitch?'...Then Ricci was talking about the foot pedal that

would spin the platter faster. That was the first part of the Controller One. And then we

got into other ideas about buttons for keys."

Ricci Rucker and D-Styles pitched the idea to Vestax and when the two DJs were

in Japan, they brought the idea to the attention of Vestax's Vice President, Chuck Ono,

who has been heavily involved in product development at Vestax since about 2004. Ono

(2011) says, "So the scratch game obviously was wanting a new instrument, more than a

turntable obviously." For Ono, making product is not about making it for one artist:

"When we [Vestax] make product we want to focus on not just one artist but we want to

focus on as many artists as possible. We also focus on what the market demand is. And

obviously knowing that Controller One and the scratch market being a very niche market,

we knew that this product was not going to be selling like a regular PDX" (Ono 2011).

After the initial meeting, Vestax started reaching out to other DJs who might have been

interested in the development of a melodic turntable.

Mike Boo says that when Rucker returned from his trip to Japan, he said, "Hey

man, you got any ideas on what you want in a turntable, now is the time" (Mike Boo

2009). A few months later Mike Boo and his crew, Ned Hoddings (Ricci Rucker, DJ

Excess, and Toadstyle) flew to Japan for the Vestax World Finals. Mike Boo explains:

> The day after the competition we all had a meeting at the Vestax
> headquarters just brainstorming on the turntable. And Woody, which he
> doesn't get a lot of credit for this, but I will tell you right now that he had a

huge huge huge impact on the layout of the turntable. He did a little
AutoCAD design of how the turntable looks right now. That's all Woody.
Like the buttons on the side, the buttons on the side, that was his idea.
And we were just brainstorming and I had always envisioned a turntable
with MIDI capabilities... (Mike Boo 2009)

One of Mike Boo's major contributions was the MIDI capabilities built into the C1.

The UK's DJ Woody, who began his working relationship with Vestax in 2002

after he was crowned World Vestax Champion, was also flown to the 2003 Vestax World

Finals. Woody had been telling people at Vestax Europe that he was interested in product

design and working on a turntable for the turntablist. Woody says, "Once Vestax

intended to make this more than just a 'pipe dream' I was informed of the initial meeting

and was subsequently sent the initial designs to give my opinion on...From there I was

booked to perform at the World Vestax Finals in Tokyo (this was 2003), which

conveniently doubled as a meeting to discuss the C1 design at Vestax headquarters"

(2010).

At the meeting, design and concept ideas were discussed; Woody also submitted

his illustrations: "My contact was directly with Vestax on any design ideas...Further

designs were passed back to me for my opinions and once the prototype was ready I was

invited to test and critique this at the next UK trade show" (Woody 2010). After this

second meeting at the World Vestax Finals, Mike Boo went back to California and was

talking with Teeko about the ideas for the turntable, and Teeko had some ideas to

contribute as well. A few months later Boo was flown back to Japan because of an

equipment distributor that he was working with at the time. He told Teeko he was going

to meet with the people at Vestax again to further discuss the C1, and, says Boo, "Teeko

paid his own money, he paid $900 just to go out to Vestax and give them his idea of the

memory button on the turntable" (Mike Boo 2009). Teeko paid for his own ticket so that

he could submit his intellectual properties: "That's how much he believed in this turntable

and that's why he is out there holding the flag right now for that turntable...He believed in

it so much that he went out there, got his own ticket and gave them his idea so he could

create his own scales, not to stay with regular musical scales. That was a great feature

that he added" (Mike Boo 2009). Ono (2011) notes that both Teeko and DJ Woody

displayed "great passion" when it came to bringing the C1 to market.

At this meeting, Teeko was able to see the prototype of the instrument for the first

time. He says, "But yeah, we sat down and they showed us the Controller One and we

had a whole bunch of ideas, and we were definitely convincing them to make a

product...I remember at the time I couldn't wait to get my hands on it; I was never

guaranteed one and it took me such a long time to get one" (Teeko 2009). In fact, it took

Teeko over a year to actually get his own C1 as reward for his memory button and other

contributions to the turntable's development, and felt like his "input wasn't appreciated"

(Teeko 2009).

In the meantime, DJ Woody was still working on designs for the C1's layout.

Initially, Ricci Rucker envisioned changes in notes on the C1 being accomplished with a

special foot pedal, an accessory that Vestax began developing, but that never was

released. DJ Woody saw problems in controlling notes with the foot pedal:

> I passed on various ideas for the Controller One but the main design
> change, which was actually implemented, was putting the note buttons
> around the side of the platter. The initial idea was for this turntable was
> that it should primarily be controlled via foot pedal. My problem with this
> idea was that in order to achieve any particular note you would have to
> pass through every other note in the scale to get there. Even if you could
> train your foot to be so precise in a live environment you would still only

FADER CONTROL

● FADER
○ BUTTON

FADER CONTROL, that automatically splits 100mm fader
strokes into 16 to playback musical notes with maximum
2 octaves and enables you to play glissando like
traditional fretless string instruments.

Single note "C" record

Strings,Sine wave,Voice...etc

ONE NOTE

C

BUTTON CONTROL

○ FADER
● BUTTON

BUTTON CONTROL, that automaticaly program and
playback one octave musical notes by assigining
the standard musical notes to one of the 8 controll
key positions. It plays up to 2 octaves by using
Octave KEY.

PEDAL CONTROL

● PEDAL

PEDAL CONTROL, that enables you to
change notes from external foot pedal with
maximum 2 octaves music notes.
It also enables you to change pitch with
its standard pitch range of ±8, 10, or
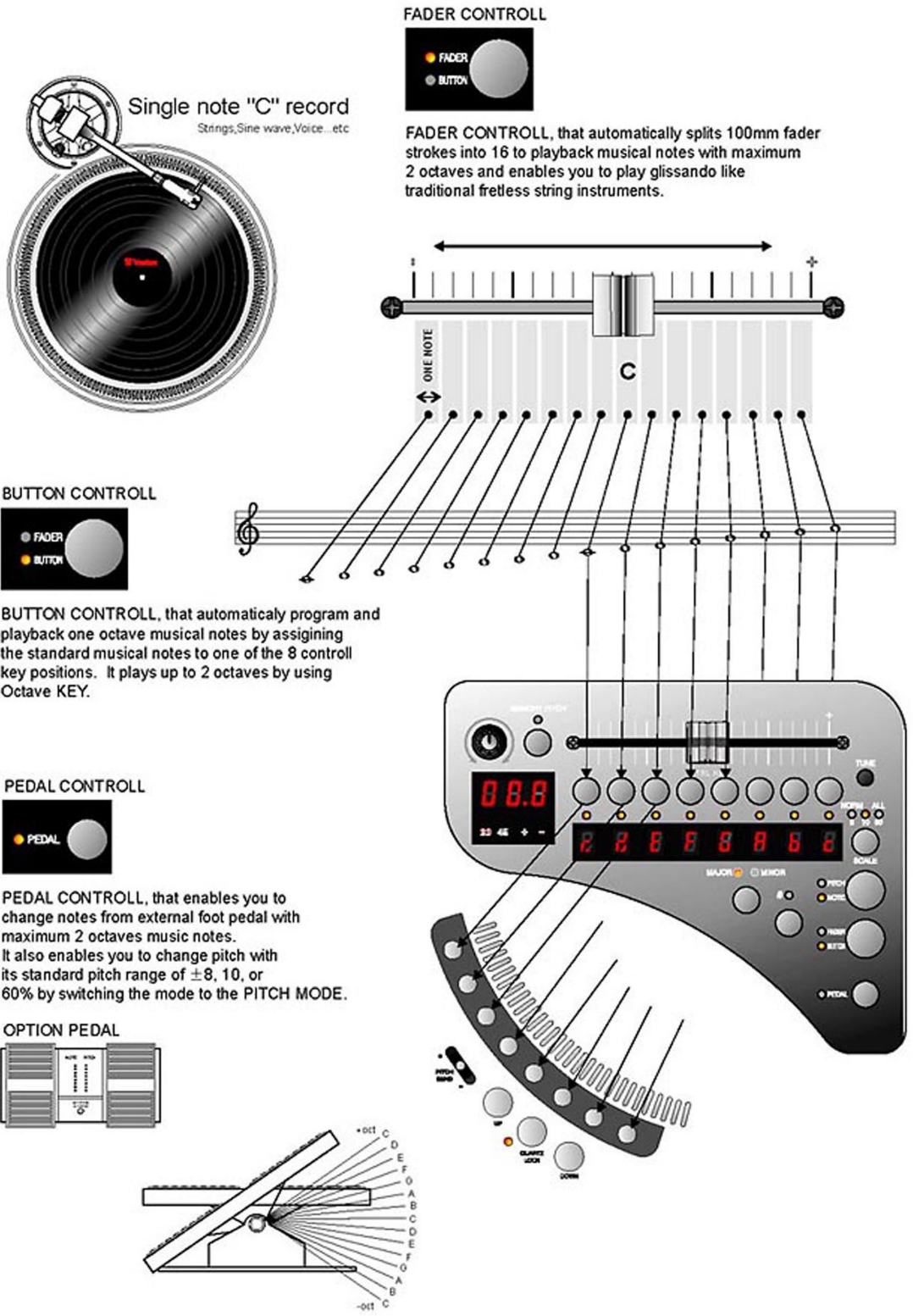60% by switching the mode to the PITCH MODE.

OPTION PEDAL

Figure 38: This is the Controller One diagram explaining how some of the functions
of the turntable work, and also depicts the never-released foot pedal. Image courtesy
of Vestax Corporation.

355

be pitch bending. For this reason I saw complex and precise melodies an impossibility on this system, and so recommended placement of note buttons in the "active area" of the turntable, close to the natural scratching hand position. (DJ Woody 2010)

Based upon the interview data, as well as Web forum postings from the time of its development, not all of the DJs involved with the C1's R&D agreed with moving from foot control to hand control for note changes. Woody says, "Part of the problem perhaps is that you had different contributors that had different ideas on how they would use this thing, Vestax didn't offer much as a mediator on the process, which in hindsight was probably needed for the end design. I always enjoyed going crazy with buttons so that style suited my style" (DJ Woody 2010).

When the Controller One came to market in 2008, there was already a considerable amount of hype behind it that had been building on the Internet and on Web forums during its five years of development. However, when the C1 came out it had limited marketing. To the chagrin of some of the DJs involved in the R&D, Vestax posted a video of DJ Loomy—a four-time DMC Spain Champ—doing a routine on the C1, that got a poor response on YouTube. Although Ricci Rucker and the rest of the Ned Hoddings crew wanted Vestax to put out a tutorial DVD that would showcase and explain the new instrument, most of the budget had been spent on R&D. In the end, there just was not enough money to market the instrument.

Ricci Rucker says that there were numerous reasons why the C1 failed, but stresses that there needed to be more education on the instrument because it was not just another product but a new idea in the form of a product. "It was the financial climate, digital DJing took over," says Rucker of the C1's market struggles (2009). However, he

considers the experience with the C1 to be a valuable one. Rucker says, "Most importantly, this experience allowed me to see the process of an idea to manifestation...I thought about it, wrote it down, talked about it with people, and now it's here in my hands. Sometimes you gotta put something crazy into existence just to remind yourself that you are a creator" (2009). He suggests, though, that Vestax failed to market the C1 properly and urges creators to "put AT LEAST 3 times the amount into a marketing budget that you spent in developing" (Rucker 2009).

When the C1 was in development there were a lot of people suggesting that it was the future of turntablism and DJing, and that having melodic control was the next step for the art form. "It's the first musical instrument that really doesn't take the form or shape of any other traditional instrument...I get the Controller One and find an enormous amount of range and expression and tangibility that I never found in any other instrument, any other turntable" (Teeko 2009). JohnBeez, a C1 player and the inventor of the Fretless Fader (discussed in the next subsection), says that the C1 creates a whole new level of artistry for DJs because it "combines all the techniques developed over time for scratching and puts that back with traditional music" (2009).

Regardless of C1 players such as Teeko, Max Kane, and JohnBeez, who are discovering the potential of the instrument, at the end of the day there are a limited number of the Controller One turntables in the world. DJ Woody explains: "Firstly, it's a niche product. Everybody who would ever be interested in buying this turntable already knew about it virally several years even before its release...It failed commercially, of course, but realistically this was never going to be a big seller. Creatively I think there's a lot more to be achieved with it" (2010).

357

Mike Boo understands the commercial failure and the reluctance of Vestax to continue making the C1. He suggests, "They [Vestax] are in the business of making money, and staying in business so they can make more product" (2009). He feels that Vestax put the responsibility of promoting the instrument on the DJs who helped to develop it: "They put all this money into making the product and they dropped the ball on it by not spreading the word about it.... It's a complicated instrument and three people can't spread the word. They [the DJs] needed some corporate backing and Vestax to help expose so many more heads to it" (Mike Boo 2009). JohnBeez suggests that Vestax put out a press release and then "kind of called it a day after that" (2009).

Although DJs may find it easy to blame Vestax for not marketing the instrument properly, most likely it did not promote the C1 because in 2008 the turntablist and scratch DJ scene had diminished. A huge marketing budget may not have been able to save it. And, because the market was limited, so was the production of the C1, which is one of the reasons why the retail cost was so high. Essentially, a combination of factors led to the C1's demise, but many of the DJs felt that the final price point was the ultimate problem. Ono says, "It is always going to be in the red...it is one of those things that I don't think we are going to be able to recoup because of the numbers that have sold on this piece" (Ono 2011).

The C1 is basically a custom-made instrument with a body that is hand-carved out of wood blocks and made with expensive components. Ono explains: "With the Controller One a lot of the components and parts, just engineers time and money spent into the R&D of this product, is something that we obviously can't recoup at such a low-

margin.... I think for this product it just comes down to price and size of market. It is a

niche market..." (Ono 2011).

DJ Quest, who owns a C1 but admits he has not used it to its potential, thinks that

despite what it offered to the art form, the C1 was too expensive for most DJs. With such

a limited market at the time of its release, Quest thinks that maybe at half the price

(anywhere from $750-$1000) it could have been more successful:

> But it doesn't even have a light on it, not that that can make you play
> better, but for 2G's you better put a microwave in that thing. That shit
> better come with a fuckin' wine bottle opener or something else...but I
> think the Controller One was going more towards the advancement of the
> scratch DJ. So I'm kind of bummed that it fell short because they went
> through all the trouble of making them. It had good intentions, but maybe
> it was the price that kept cats from buying. (DJ Quest 2009)

While Vestax still has the Controller One on its Website, it does seem that the company is

developing products for the digital DJ controller market. Devoted DJs continue to use

the C1; many think somebody will pick up where Vestax left off. One possible candidate

is JohnBeez.

Fretless Fader

In the history of hip hop DJing, there have been many DJs who have had ideas for

technical innovations. Few have had the resources, know-how, and drive to actually

build or develop these tools. Instead, they pitch their ideas to manufacturers and

participate in the R&D and branding processes. The most notable DJ-as-inventors are

Grandmaster Flash and DJ Focus, who will be discussed later in this chapter. But the

devoted Controller One player, JohnBeez, is one of the few hip hop DJs/scratch

musicians who has taken an idea and made it a reality. Vestax developed a foot pedal to

control note changes, but it never reached the market. Although one can change notes on

the C1 using the record hand, JohnBeez thought that better music was possible if the

record hand was freed up to actually manipulate the record. With that idea in mind,

JohnBeez invented the Fretless Fader.

JohnBeez says, "They [Vestax] had all the intentions and they wanted to make the

pedal and put it out the way it needed to be put it out, but then it just didn't happen"

(2009). JohnBeez bought his C1 as soon as it was commercially available from Ishibashi

Music Corporation, and soon thereafter began experimenting:

> And then I got thinking about it and I was like "You know, we could just
> move the fader." And the more I thought about it, the more I thought
> about how that would actually be better. I thought about how I'm
> supposed to feel using this pedal that they had designed. That could have
> been really difficult to use if you think about angling your foot for
> different notes while you are scratching. It would be a lot to do that
> accurately, like trying to go back and forth between notes with your foot
> and with some precision. It would be very hard. The funny thing is that
> the fader control on the C1, nobody actually shows it in a video or actually
> talks about it, but the way that my Fretless Fader works is the exact
> duplication of the fader that is on the turntable itself. (JohnBeez 2009)

The C1 has a fader that allows a player to change notes, as well. Also, the C1 has a

MIDI input, which means that any MIDI device can control sounds on the C1. Because

of these two features on the C1, JohnBeez was able to come up with an idea for the

Fretless Fader and then build a prototype, a real challenge because he had no engineering

experience. With the concept of designing a MIDI control that would change notes via

the fader, he began a long experimentation process:

> And literally I had no idea how to build it, I had no idea how I was going
> to do this. I had no clue. It was just kind of sitting in the back of my head
> and I would wait weeks, months at a time for the next light bulb to come
> on in the process of building it. I built a sliding crossfader with a
> cardboard crossfader plate. And that's how it started. "I have the
> crossfader sliding, now what?" That's how it went, that is the way that it
> went over and over. "Okay, I can do this, but I can't do that, I have to

move this and move that." That was a long process, it took me about a year because I would just sit there for weeks without knowing what to do next or how to make it work. And eventually once I had the idea and I could find a place to get the parts that I needed to do it, that's how it came together. (JohnBeez 2009)

After approximately one year of development, JohnBeez premiered his invention on a YouTube video in February 2009. What he did was retrofit the Fretless Fader into a Vestax PMC-06Pro mixer (see *Figure 39*). One year later he released a follow-up video explaining the Fretless Fader in more detail, which revealed that it can change notes through two octaves.

Figure 39: Fretless Fader fitted into a Vestax 06Pro next to a Controller One turntable. Image courtesy of JohnBeez.

The February 2009 video stated that JohnBeez has a patent pending on the Fretless Fader, which means he had a year of protected production without having full patent rights. He wants to market and sell it as a stand-alone MIDI control device and not just a tool to be used with the Controller One. In fact, the Vestax PDX-3000mk2 turntable also has a MIDI input, which means that you can manipulate sounds on that turntable using a MIDI control device such as the Fretless Fader or a synthesizer. As an independent inventor, JohnBeez is hoping to be able to sell his idea to a manufacturer who can develop and market it. He says, "I'm not worried about people stealing the idea...As far as DJ manufacturers go, it's not on their level, they'd rather put out a MIDI controller that they can sell millions of than this thing that will sell a couple, the way they

see it" (2009). With some manufacturers seeking control over the mass controller

market, the now extremely niche scratch DJ market is not one that many manufacturers

are developing products for.

Although he continues to pitch his idea to manufacturers, JohnBeez is willing to

push his invention on his own. "I don't really know where it is going to go from here, but

I definitely still want to do whatever I can to make this thing happen" (JohnBeez 2009).

The few DJs interviewed who actually play the C1, were all excited about the Fretless

Fader and that JohnBeez is continuing to push the envelope. Mike Boo explains: "I don't

think it's up to Vestax anymore, it is up to these engineers, these bedroom engineers that

are doing it for the love...The technology is there now and all you have to do is reverse

engineer the turntable and make something better (hopefully) and another manufacturer

will pick it up...that is hip-hop for you" (2009).

DJ Focus

Over the years, hip hop DJs have had many design ideas for DJ products. Most of

these ideas have been brought to companies, who have the means (engineers, intellectual

property law knowledge, and production relationships and facilities, etc.) to make those

ideas into an actual product. Very few DJs have developed new technical innovations,

but DJ Focus is probably the most recognizable DJ-as-inventor.[110]

DJ Focus was a retrofitter of technology par excellence who had simple ideas that

were both revolutionary and genius. While Focus designed and produced products on his

own, he is most known for his relationship with Stanton, an American pro audio and DJ

---

[110] I tried to interview DJ Focus for this study, in an attempt to learn more about him, about his ideas and
concepts, and his perceptions on the process of transitioning from a grassroots DJ/inventor to designing
products for a larger manufacturer. We communicated for a while, but after years of designing product
he had become disillusioned by the DJ product industry and was moving on. While DJ Focus did not
want to be interviewed, he agreed to allow me to publish some photos of his designs.

product manufacturer. Focus had designed a contact-less crossfader from two computer mouse sensors, which meant that the crossfader would theoretically never wear out. Stanton interpreted and implemented his idea and came out with the Focus Fader V1.0, which operated differently from Focus's original idea. However, the Focus Fader V1.0 was a revolutionary product that Stanton put in many of its mixers and sold as an aftermarket replacement crossfader for other brands. Focus also designed special fader knobs for these that were taller, thicker, and wider and had indentations for finger placement and roll-off wedges.

This relationship resulted in several product collaborations that Stanton branded as "From the mind of Focus." The two parties collaborated on the Stanton SA-8 DJ Focus Signature Mixer, a product that features many of Focus's original concepts for a product geared towards DJs that scratch. DJ Focus also co-designed the Stanton SA-12 DJ Craze Signature Mixer, the Focus Fader V2.0, as well as the Stanton DSM9F Aerodynamic Slipmat by DJ Focus. Focus and Stanton also designed the Stanton ISM-3, which is an audio interface that up to six DJs can plug into and play as a team. Focus is also said to have been involved in Stanton's FinalScratch DVS, and also gave early input on Serato Scratch Live.

DJ Focus has designed numerous other products and has retrofitted and reverse engineered many products since his relationship with Stanton. Focus is still designing, manufacturing, and selling his own products on eBay. Over the years, he has released other products, including the P7 Portable Scratch Practice Pad, Slider slipmats that have holes cut into them to reduce friction, 7" gripping slipmats (Gripmats), vinyl beat counting system, *The Formula* battle break record, and P*recision Incisions Scratch*

Training, volumes one and two with Turntablist Disk, which was the first 7" battle break record. Focus had many other concepts that were later implemented by manufacturers. He also designed straight tonearms for Technics SL-1200 turntables and retrofitted controls on the front of mixers years before that was a standard for manufacturers.

This section has reviewed the exchange of intellectual properties both broadly and in several case studies. Although DJs have been used in R&D and are seminal in that process, the authorship of hip hop DJs is most recognized by manufacturers as a brand. While DJs' ideas are vital to product development, hip hop DJs realize that corporate recognition of their authorship/creativity is in branding and endorsing products. However, only a select few DJs are able to get signature series products or engage in other promotional activities. The next section of this chapter explores this branding process in more detail.
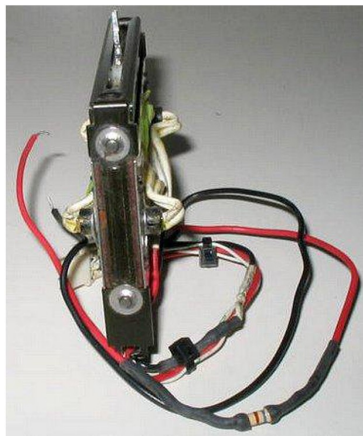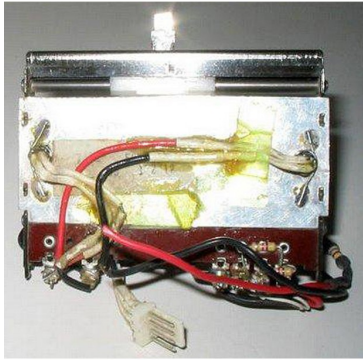
Figure 40: Views of the first prototype Focus Fader. Images courtesy of DJ Focus.
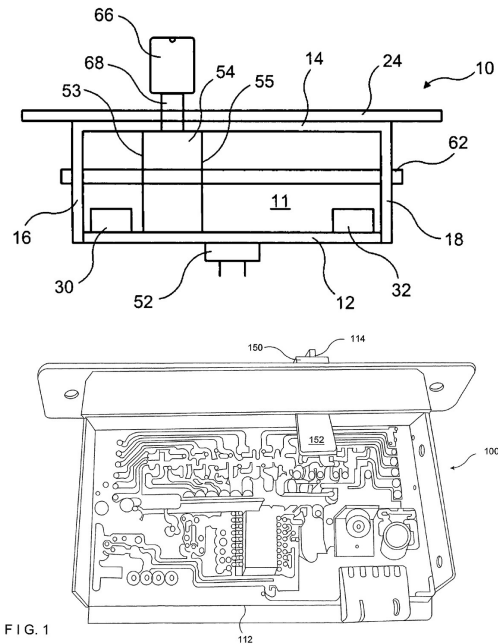

Figure 41: Focus Fader with Dual Optocouplers patent (6,987,857 B1) filed on 8/9/2000 and granted on 1/17/2006 (top). Image from patent application for Focus Fader with a Plurality of Optocouplers, a continuation of first patent that has yet to be granted (bottom). Both applications name Focus as inventor with Stanton Magnetics LLC as assignee for the awarded patent.

Figure 42: A DJ Focus designed straight tonearm to replace the s-shaped tonearm on the Technics SL-1200 turntable. Image courtesy of DJ Focus.

365

Figure 43: An original
Focus design, the
Pocket Scratch Practice
Pad. Image courtesy of
DJ Focus.

Figure 44: DJ Focus
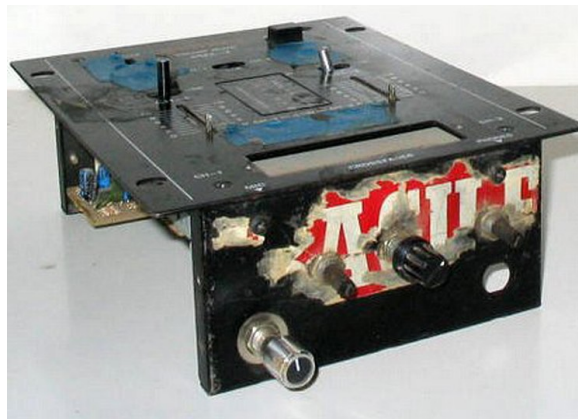designed Sliders slipmats.
Image courtesy of DJ
Focus.

Figure 45: A Gemini PMX-7 that DJ Focus
retrofitted to have controls on the front of the
mixer. Image courtesy of DJ Focus.

Figure 46: The P7 Portable Scratch Practice Pad being used (left), a prototype of the P7
(center), and a top view of the final version of the P7 (right). Images courtesy of DJ
Focus.

This section specifically addresses how hip hop DJs have been used to authenticate and sell products by attaching their names, subcultural/cultural capital, and credibility to products.

A DJ's name is one of his/her most valuable assets. The name-as-brand is what gets a DJ gigs, what helps bring people through the doors, and what helps to open other doors of opportunity. Sometimes the brand name is just hype, such as the celebrity DJs, mentioned previously. However, for professional DJs, skills, selection, and reputation make up the brand. DJ Quest™ owns a non-registered trademark on his name, a right he can use to keep other people from using his name for business purposes; other DJ Quests cannot use the name or exploit its brand value.

Historically, there have been conflicts over names and name-as-brand. For instance, Jazzy Jay, a pioneering South Bronx hip hop DJ who got his start in the Zulu Nation, commonly goes by The Original Jazzy Jay because of all the DJs who have gone by Jazzy Jay. The same can be said of the Original Spinbad from Philadelphia, with the "original" used as a way to differentiate him from DJ Spinbad from New York City. Another example would be Jazzy Jeff, an old school emcee of Funky 4 + 1 fame, suing his label, Jive Records, in the mid-1980s because the label had also signed DJ Jazzy Jeff & the Fresh Prince. Jazzy Jeff won the suit and the right to use the name; however, winning the lawsuit to use his name did not prevent DJ Jazzy Jeff from using his.

Another interesting case of names and intellectual property rights is that of the X-ecutioners DJ crew, originally known as the X-Men. The X-Men—founded by DJs Roc Raida, Steve Dee, Sean C, Johnny Cash, and Dr. Butcher—was a crew of DJs that formed

in the late 1980s to challenge DJ Clark Kent and his Supermen DJ Crew.[111] The X-Men

continued to be the name of the crew as new members Rob Swift, Mista Sinista, and

Total Eclipse joined Roc Raida to make it one of the most recognized crews of the mid-

1990s. The problem was, in fact, their name as the X-Men grew in popularly and began

releasing actual albums,[112] which was technically infringing on the X-Men trademark held

by Marvel Entertainment (now a Walt Disney Company subsidiary). Although the use of

the name was never an issue when the X-Men were well-known within the battle scene,

entering into the recording industry made such usage problematic.

The X-Men changed their name to the X-ecutioners before releasing their album

X-Pressions on the independent label, Asphodel Records, in 1997. In fact, their first 12"

single with Asphodel, "Musica Negra" b/w "Word Play," was released as the X-Men.

Rob Swift recalls the situation in which the name change took place:

> Shortly after the release, our label informed us that their lawyers were
> concerned the attention the group was getting would eventually raise
> issues because of the connection between the X-Men brand and Marvel
> Comics. So to avoid an imminent lawsuit, the group decided to change
> our name to The X-ecutioners. We never got an actual cease and desist
> from Marvel. Asphodel's lawyers wanted to avoid it even reaching that
> point. (DJ Rob Swift 2010)

Changing the crew's name was not an easy process for the group, especially changing the

name only in fear of a potential trademark lawsuit. However, crew members eventually

embraced the new name and considered the change symbolic:

> At first we were all bothered by the idea we had to change the group name.
> It's like asking someone to change their real name. But I think the name
> change to X-ecutioners also symbolized a change within the group. It's
> like we were reinventing ourselves. We went from battle DJs as The X-

---

[111] The Supermen consisted of other hip hop DJs such as Daddy Rich, Scratch, Miz, Aladdin, and
Supreme.

[112] They would eventually release *Built from Scratch* (2002) on the then-Sony subsidiary, Loud Records.

368

Men to recording artist as The X-ecutioners and it didn't take long before
we embraced the new name. (DJ Rob Swift 2010)

With the rise of interest (cultural and corporate) in scratch and hip hop DJing in the late

1990s, it would be interesting to see if Marvel caught on (they did not), as usually such

large corporations are detached from the activities of the smaller music scenes.[113]

A DJ's name, as we can see in Rob Swift's statement, is more than just a name.

While it serves as an identity for an artist, where it is most

valuable is as a brand. When the X-Men resurrected as the

X-ecutioners it took a significant amount of labor to create

awareness of who the X-ecutioners are. They essentially

had to figure out how to re-brand themselves under the

new moniker, which they did as recording artists. While

changing a crew name is a complicated process, in terms

of negotiating the new identity and then making the

audience aware of the new brand, this may be more of a

complicated matter for an individual DJ's name. What if

Asphodel had asked Mista Sinista (a DJ in the X-men/X-

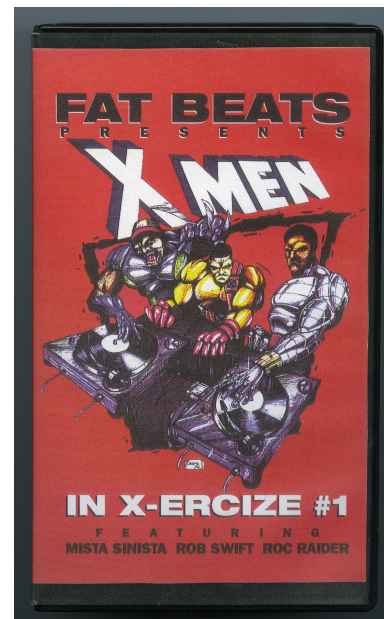ecutioners DJ crew) to also change his name because it

Figure 47: Image of the X-Men's *In X-ercize #1* video released in 1996 and distributed by Fat Beats. Courtesy of the DJpedia Archive.

could possibly infringe on another Marvel/X-Men character, Mister Sinister? What if the

DJ product manufacturer Numark sent DJ Nu-Mark a cease and desist letter for

trademark infringement? This will now be explored within the context of manufacturers

using DJs' brands for signature products.

---

[113] For instance, MC/producer MF DOOM used the image of Dr. Doom from Marvel Comics' *Fantastic Four* comic book series on numerous albums/singles before Marvel caught on and sent him a cease and desist order. This came after DOOM became quite popular and Stan Lee and Marvel noticed him.

Adventures of Grandmaster Flash™ on the Wheels of Steel

When hip hop was still only performed live in the parks, recreation centers, and school gyms, the DJ was the name brand that brought people to the parties. DJ Kool Herc, Afrika Bambaataa, and Grandmaster Flash had big reputations and credibility to their names because of their skills, selections, and sound systems. Branding, in other words, proved to be important even in hip hop's infancy in respect to building an audience and a reputation. In the late 1970s, before hip hop became a commodity, Grandmaster Flash and his group of emcees, the Furious Five, were the biggest hip hop draw in New York City. Grandmaster Flash was a celebrity whose name was used as a draw for local venues, as well.

In 1980, following the success of "Rapper's Delight," Grandmaster Flash and the Furious Five signed with Sugar Hill Records. The group put out several hits on the label, including "Freedom" and "The Message." But these singles did not include the DJ skills of Flash, but instead used session musicians to recreate what Flash did on the turntables. Although the recordings were sold as "Grandmaster Flash and the Furious Five," Flash did not perform on the records or get any song writing credit. Instead, Sugar Hill Records used Grandmaster Flash as a brand to authenticate and sell records, but did not use him in the studio or pay him any royalties on recordings sold. In fact, all the writing credit and publishing on their early hits were assigned to the label's owner, Sylvia Robinson, or emcees in the Furious Five. Flash's name was used as a brand because he was the most popular DJ at the time and his name was credible.

Flash's only chance at making a record, and in fact replicating what "real" hip hop was at the time (a DJ cutting breaks), came in 1981 with "Adventures of Grandmaster

370

Flash on the Wheels of Steel." It was the first record to be made solely from other records as Flash demonstrated his quick mix theory. Recorded in 10-15 takes, Flash used three turntables and mixed and cut in nine different songs (ironically, both "Rapper's Delight" and "Good Times" by Chic were used). Even on the "Adventures" record, Flash received no authorial credit, but instead had a "special thanks" to all the recordings that Flash used and gave the publishers of those records authorial credit.

Because Flash was basically brushed aside by Sugar Hill Records and mainly used in live performances, he left the label around 1983 and sued the label for using his name to sell records without paying him any royalties. Grandmaster Flash and his attorney, Morton Berger, sought $5 million in damages from Sugar Hill Records; in turn, Sugar Hill Records claimed that it owned the rights to Grandmaster Flash™ and that Flash could not use that name (Flash had signed to Elektra Records around 1984). The lead emcee of the Furious Five, Melle Mel, changed his name to Grandmaster Melle Mel and Sugar Hill Records released titles under Grandmaster Melle Mel and the Furious Five hoping consumers would think that Grandmaster Flash was still with the group. Grandmaster Flash says, "Sugar Hill also claimed to own the words 'Grandmaster' and 'Flash' and said that I couldn't use them together for any reason...The case was pending, but the long and short of it was that I was fighting for my own name" (quoted in Saddler and Ritz 2008, 200). Judge Brient, who presided over the case, ruled in favor of Flash in that there was no clear evidence that Sugar Hill owned Grandmaster Flash™ or that Flash owned a trademark on his name. The judge explained that Flash had put considerable effort into building his brand and that he should be able to exploit that name.

But having the rights to Grandmaster Flash™ would prove to be of importance to Flash's future. While he could exploit the name in the recording industry, Grandmaster Flash did not produce any other hits, and, to this day, his most memorable recordings only bear the Grandmaster Flash™ brand. Being able to use Grandmaster Flash™, however, would prove to be valuable for Flash in the DJ product industry.

In the late 1980s, the most popular scratch technique was the transform scratch, "invented" by the hip hop DJs in Philadelphia. Flash, however, because of legal and drug problems that kept him away from DJing in the early 1980s, could not perform the transform scratch well. Thus, in 1988 Grandmaster Flash and the American DJ product manufacturer, Gemini, teamed up to produce the Gemini FF-1 Flashformer (see *Figure 48*). The device hooks up between a turntable and mixer and allows a DJ to perform what sounds like a transform scratch, although most would call it "cheating." Since the Flashformer, other manufacturers have released products that allow for cheats (i.e. the Vestax Samurai mixer series). Gemini describes the Flashformer as follows:

> The only signal transforming device that lets rock, rap, hip-hop and mainstream amateur or professional disc jockeys create a clean, high-quality *scratch* effect, even with one hand tied behind their back.

> *The complicated technique of moving a record back and forth with the needle in the groove to create a rhythmic "scratching" effect to popular in the current music scene.

> "I thought I heard you say, you want to be a D.J. Rock it with my FLASHFORMER, Because it's the only way!"

<div align="center">

DESIGNED BY:
---Grandmaster Flash---

</div>

<div align="right">

(from the Flashformer manual)

</div>

Gemini also claimed that the Flashformer would allow DJs to save on the wear and tear on their mixers, which, at the time, was a valid claim because manufacturers did not have mixers with replaceable crossfaders. This meant that once a crossfader began to bleed signals, the DJ would have to buy a new mixer. The Flashformer also works with other home stereo devices, which Gemini

Figure 48: Image of the Gemini FF-1 Flashformer. Although it is faded, the piece bears the signature of Grandmaster Flash. Picture by Joshua Lee/Sunyata Studios. Courtesy of the DJpedia Archive.

boasted as allowing anybody to make "ultra-hot party tapes."

The Flashformer was probably the first DJ product to bear a DJ's name and, of course, the signature of Grandmaster Flash™. Although the Flashformer was ultimately a failure since most DJs at the time saw it as inauthentic, it was in fact the first endorsed product, essentially adding the Grandmaster Flash™ signature to it as a way of authenticating the device. This is not too different from the same tactics employed by Sugar Hill Records, in terms of using Grandmaster Flash™ as a branding tactic. Thus, we see how Flash winning the rights to use Grandmaster Flash™ was important, not only for him, but for corporations seeking to use his name as a brand. And, the right to use the name continued to be fruitful for Flash.

The people at Rane Corporation admit that when Grandmaster Flash called its offices and they had no idea who he was; they, however, quickly learned. After being dissatisfied with products on the market, as well as products that had been designed for him, Grandmaster Flash decided to call Rane and pitch some of his ideas for a mixer.

After a few phone calls, Flash flew out to Mukilteo, Washington, to share his ideas with

Rane. Flash is known to be a challenge to work with, but Rane and him managed to

develop a working relationship. The result of the exchanges was the Rane Empath in

2002, a 3-channel club mixer that combines the vision of Grandmaster Flash and the

engineering of Rane. Mike May, Rane's National Sales Manager for Retail & DJ

Products, says, "At first we had to push back a little bit and go 'no no, we can't do this,'

but we ended up doing a lot of the things that he wanted in the mixer and we made the

Empath mixer as a result of his input...It wasn't all his design ideas, but he brought a lot

of creative things to the mixer" (2009).

Rane has released several versions of the Empath, including the Grandmaster

Flash Gold Signature Edition (see *Figure 49*). While incorporating Flash's ideas into the

Empath and building the product specifically to his wants and desires, Rane was also able

to say that it made a product with Grandmaster Flash, one of hip hop's pioneering DJs.

The credibility and authenticity gleaned from this connection helped solidify Rane's place

in the market, since at the time they had only been making product geared at hip hop DJs

for four years. However, the Empath has not done that well in the market. Nevertheless,

Mike May thinks that out of the relationship with Flash came a great product:

> And he's a great DJ, and he's a great personality in the DJ world, and hey,
> he deserves the credit that is due. He is one of the guys who made it
> through tough times and has stayed in the business, and is a very credible
> personality in this business. We were fortunate to have a relationship with
> him and to build a product that he believes in and uses...And that
> relationship just came from his interest in the quality of products that we
> build. (2009)
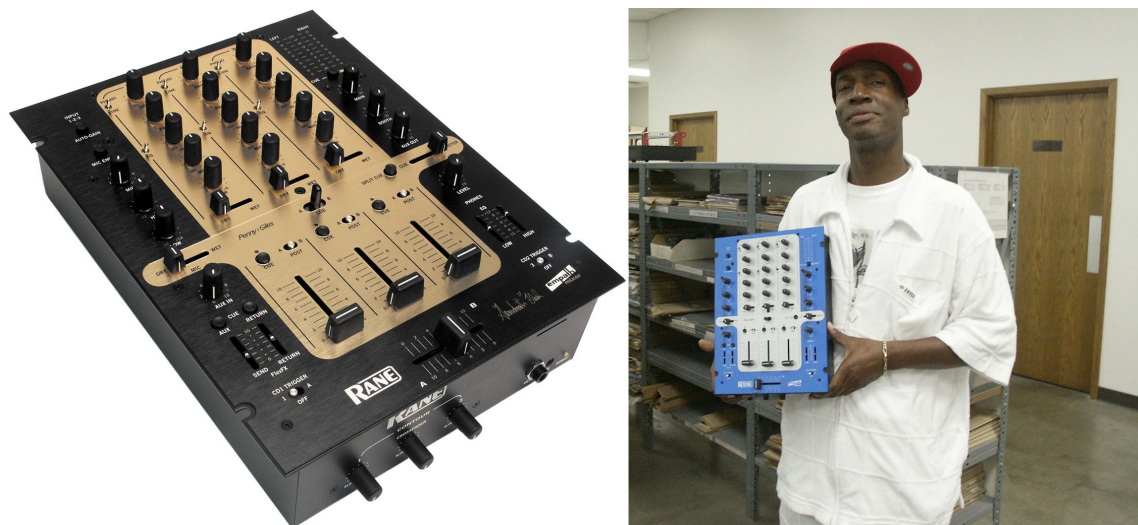
Figure 49: The Grandmaster Flash Gold Signature Edition Empath (left) and Grandmaster Flash at the Rane headquarters holding the Blue Empath (right). Images courtesy of Rane Corporation.

However, Rane seems to have failed to consult other DJs on the Empath. Moving forward, Rane, like other manufacturers, now includes numerous DJs in the R&D process. However, being able to use the subcultural/cultural capital of Grandmaster Flash to not only authenticate the Empath mixer, but the Rane brand itself, compensates for low sales. Grandmaster Flash™ also contributed to Activision's 2009 video game, *DJ Hero 1*, which will be discussed later in this chapter.

Branding and Endorsing Products

Thus far, we have seen the value of hip hop DJs to manufacturers in respect to R&D of new products. While the use of hip hop DJs in R&D is an important element in manufacturers delivering products that other hip hop DJs will want and buy, they have also been seminal in the branding and endorsing of products. Grandmaster Flash was the first to have a signature product (the Flashformer), while DJ Trix designed and endorsed the Vestax PMC-05 Trix mixer, which was the first mixer to feature a DJ's signature as

endorsement. This trend continued with other manufacturers, who reached out to the

most popular and credible DJs to make products bearing their name as a sign of

authenticity. DJs such as Jazzy Jeff, Qbert and ISP, DJ Craze, and DJ Focus have all had

signature mixers made with their names attached (for example, see *Figure 50*).

DJ crews such as the Beat Junkies, Invisibl Skratch Piklz, and the X-ecutioners have had prominent endorsement deals, as well. Typically, this means that individual DJs and their crews are featured in advertisements, they use these products at their performances, and sometimes they showcase new gear made by their sponsors at trade shows. The benefits for DJs sometimes includes cash, free gear, and equipment servicing. Being featured in a company's promotional materials also helps to further build a DJ's brand. Some companies support DJs on tour or in producing and manufacturing recordings. Manufacturers are

Figure 50: The Gemini PMX-2200 DJ Jazzy Jeff Signature Series mixer, a revamp of its famed MX-2200 released in the mid-1990s, which featured the signature of DJ Jazzy Jeff. Photos by Zane Ritt. Courtesy of the DJpedia Archive.

able to attach the brand value of the DJs to products, have DJs with skills who can

actually showcase products, and get the benefit of an audience watching these DJs use

the products in performances, which all helps to sell products.   Sometimes, DJs who

have signature products—whether it be mixers, turntables, or needles—receives royalties

based upon units sold. The deals vary between companies and there is no standard deal in the DJ product industry.

DJ Shortkut, who has had numerous endorsement deals and has seen the DJ product industry increasingly reach out to big name DJs, thinks that these sorts of deals benefit all the parties involved. DJ Shortkut says, "Over time they started getting the heavyweights in there and made it more credible...It's good for the company, it's good for the product, and it's especially good for the DJ because the DJ can shine" (2010). DJ Marz, who has worked with Rane and Numark, says that at the time when companies started seeking out DJs in the mid-1990s, most were surprised because nobody ever thought that corporations would take the art form seriously. "I mean, at that time for people it was like 'Wow, really, I went from being just some DJ to now there is people calling me to do this corporate stuff,' and it was just so new to everybody" (DJ Marz 2010). Many of the DJs that companies were reaching for were just out of high school, and it forced them to have to figure out the business side of the industry.

Chuck Ono, VP at Vestax, says, "Having these people backing up your product and using your product definitely shows an importance to the brand, and not only that, it does show that there is a strong bond and an understanding between the brand and the DJ and why he is using it" (Ono 2010). Mike May from Rane suggests that having DJs endorsing products adds credibility:

> Although manufacturers are going to pick their group of stars and
> performers who, because of the work ethic they have and because of their
> star power and their recognition in the industry, you want them to have
> your gear and you want them to use your gear...without them you don't
> have the genuine aspect of the products that you are trying to get in their
> [consumers] hands. (May 2010)

While manufacturers sometimes reach out to DJs, many times DJs are reaching out to companies with the hopes of establishing an endorsement deal. While Rane has a group of full-time endorsing artists who give them advice and product feedback, May suggests that all of the thousands of Rane users "mentor" the product.

Endorsed Rane DJs include pioneering DJs such as Afrika Bambaataa and the Original Jazzy Jay, prominent and touring hip hop DJs such as Rob Swift, Nu-Mark, and Z-Trip, and now it has an endorsement deal with DJ Pauly D, who was made famous in MTV's reality television show, *Jersey Shore*. Rane's corporate partner, Serato, sponsors many of the same DJs as Rane (see *Figure 51*). May says that having these relationships are a "blessing for us because we do have really good DJs who believe in what we're doing and have been supporting us and we try to do the same thing right back. And that helps because they are the guys who supply a great number of the ideas" (Mike May 2010).

Thierry Alari, the independent inventor of the Scratchophone, says, "Artists as product ambassadors is a must" (2010). Alari proposed that Qbert have his own custom Scratchophone, what Alari calls his "best move ever." Qbert and Thud Rumble made a video of Qbert using the custom Scratchophone, which is now featured in the Thud Rumble art gallery. Alari says that this exposure and the connection to Qbert adds credibility to the Scratchophone, as well as instant sales. This sort of branding is integral to the success of a fledgling product like the Scratchophone.

Ono says that Vestax uses big name DJs just like other companies in other industries. "Where Nike has their Jordans or their LeBron James or whomever, we have our Qberts, Mix Master Mikes, and Paul Van Dykes, but obviously on a different level of

378

Figure 51: Scratch Live magazine advertisement featuring endorsed DJs: "THE TOOL REAL DJS TRUST." Image courtesy of Rane Corporation.

dollars and markets as well" (2010). Ono stresses the importance of keeping these DJs

on board and satisfied, as the brands of the company and the DJs are interrelated. Vestax

is another one of the companies that really pushes endorsements with DJs. Although

product feedback comes from many DJs, Vestax picked a few stars to become the face of

their products, essentially asking DJs to act as marketing tools. DJ JS-1 recalls how vital

the Vestax endorsement deal with ISP was in the mid-1990s: "Qbert and Mike basically

said, 'Go get a Vestax and we are using those' and everybody and their mother was like 'I

need a Vestax.' Immediately, everybody was all over that" (DJ JS-1 2009).

      Because Qbert has put out so much product, from scratch records to DVDs, DJ

Kico thinks that he has been turned into a brand. "Qbert is a brand now. You have to

have Qbert's now. You have to have Qbert slip mats or Qbert needles.... He is a prime

example, the epitome of what DJ should do" (DJ Kico 2009). Shortkut says that what

Qbert and Yogafrog have done with the Thud Rumble company "changed the game" in

respect to DJs being involved in the business. "It made it so that you had to get your

business up and get your business straight for a lot of these companies to start messing

with you and take you seriously" (DJ Shortkut 2010).

      One of the problems with a lot of these endorsement deals is that while

manufacturers are trying to get market recognition and looking for DJs to help with this,

sometimes DJs will endorse a product that they do not believe in. Elliot Marx of Audio

Innovate says, "The problem is often DJs end up embracing products that they'd never

want to use just to get in with manufacturers because manufacturers are pushing the

product on them...From our point of view, we only want to work with DJs if the product

we have will enhance their abilities as DJs" (Marx 2010). DJ Craze, who won the World

DMC DJ Championships for three consecutive years, was approached by numerous

manufacturers in the late-1990s during his title runs and says that he would endorse

anything because he was broke at the time. "So for me being sponsored back then was

just all about the loot. About the loot and just trying to get my face on a DJ box. But

like now I'm a little bit more picky because I want to use the product that has my name

on it" (DJ Craze 2009).

The Stanton company approached Craze after he won one of his world titles, and

he put out a signature series needle/cartridge (Stanton 520 SK) and the SA-12 DJ Craze

Signature Mixer. Craze explains the situation:

> The first thing that they approached me with was having the needles.
> Back then I was really using Stanton 500s. And that's why they
> approached me because they had seen me in battles using the 500s. So
> they were like "yeah, we'll make a 500 with your name on it, make a
> signature series. It is going to be the same thing, you just pick the colors
> or whatever you want, and then you put your name on it." And I was like
> "alright cool." And then they asked me to do the SA-12, and it was kind of
> like on the same deal. I was using Stanton needles and I was like "shit,
> why don't I try using one of your mixers?". (DJ Craze 2009)

Because Craze had so many opportunities from his DMC winning streak, he never got to

fully test and work out the kinks on the SA-12, a mixer co-designed by DJ Focus. Craze

was so busy touring, he could not get enough time on the SA-12:

> And I really didn't get down to specifications, and what I needed in the
> fader, and all this stuff. I really didn't get to play with it and get hands-
> on... I couldn't make it how I wanted to make it. So I just ended up
> okaying the second thing that they showed me. And I was like "yeah let's
> roll with this, let's put my name on it. Let's do it." So I wish I could have
> designed that one better, but the needles were just 500s. (Craze 2009)

Craze's relationship with Stanton is a great example of the DJ used mostly as a brand.

With most products DJs are used in R&D, but for these two Stanton products the goal

was to use Craze's signature to sell units. (Craze says that he did get a small royalty for this.)

DJs who win championships such as the DMC Worlds definitely become commodities within the industry. Roli Rho (2010) suggests that manufacturers seek out these types of DJs so that consumers can see them on new equipment, which creates a buzz around the gear. Often consumers then assume that the endorsing DJs contributed to the R&D process. DJ Neil Armstrong, who DJs for Jay-Z, has an endorsing deal with Rane and considers DJs marketing tools for manufacturers. "You see me on stage with Jay using a Rane 57, an impressionable youth might be like 'oh wow, that's the mixer to use right there'" (DJ Neil Armstrong 2009).

DJ Babu, who has had numerous endorsements with Rane, Vestax, and Shure, says, "As far as endorsements go I've always looked at that as a relationship and never expected to get paid" (2009). While Babu says that manufacturers "break bread" when he has done trade show demonstrations for them, the real bonus comes through the exposure gained by working with these companies. "It really means more for me to have that official relationship and have them recognize who they included on the roster.... It's a visibility and perception angle of it is how we get paid..." (DJ Babu 2009). Babu, though, suggests that playing for "suits" at trade shows is more on the "working end of our hobby," but the true benefit of endorsements comes through media exposure.

This chapter has looked deeper into the relationship between culture and industry by highlighting some of the ways that hip hop DJ culture is new media (beyond the obvious of sampling practices). The goal has been to highlight how collective intelligence manifests in product R&D, and to demonstrate convergence through

intellectual property exchange in both R&D and branding practices. While this chapter suggests that the relationship between hip hop DJ culture and industry is a dialectical one, it is imperative to further explore the perceptions of this relationship held by DJs and also people in the DJ product industry. The next subsection will use qualitative interview data to help deconstruct this relationship and elucidate how it is perceived by those involved.

DJs and the DJ Product Industry

Looking at collective intelligence and convergence in the case of hip hop DJs helps to illuminate a two-way flow of information between industry and culture— sometimes considered discrete entities. By looking at R&D and branding exchanges, we see a powerful way that culture influences industry, and simultaneously, how industry influences the culture. A result of this exchange is that DJs get better tools, while companies hope to see profit margins. Because hip hop DJs manipulate corporate texts and technologies, we see a powerful dialectic beyond that of fandom and remix culture. Hip hop DJs' fandom and remix practices involving corporate commodities have helped build the DJ product industry; in return technical innovations have come from the industry that sometimes expand the creative possibilities of DJs. Many of the collaborators interviewed in this study suggest that there is a strong feedback loop between culture and industry; however, most DJs feel that DJ culture has the stronger influence.

Siya Fakher, a DJ and Director at EBSel, thinks that culture and industry "feed off each other" and DJ culture is a large part of industrial behavior. For DJ Quest, both DJs and industry take a piece from the pie, and says, "I guess we need them just as much as they need us" (2009). Although there is an interdependence, DJ Marz says, "We like to

know each other, but it's always an awkward situation..." (2010). He suggests that the awkwardness comes from the fact that you have hip hop DJs trying to be more business-like while industry representatives try to be more hip hop. However, this awkwardness exists on a case-to-case basis because some companies employ DJs to do work other than R&D and showcasing (although this is quite rare).

Chuck Ono thinks "hip hop culture kind of made Vestax" (2011) because the product the company made was what hip hop DJs wanted and needed. "They [DJs] really built Vestax in regards to some of the products that you saw heavily used by the hip hop community" (Ono 2011). Ono suggests it was the ability of Vestax's founder, Shiino, to listen to the ideas of DJs and then to make products that seemed needed. By having such an ear for hip hop DJs, Ono suggests that DJs made the PMC-05Pro possible, a mixer Ono says is "one of the most historic mixers in the hip hop community" (2011).

Mike May feels that Rane is a part of DJ culture, but only by invitation. "I think that we developed with the culture, we learned, and it's an ongoing process where we're learning every day about what DJs need and what they want to use" (Mike May 2009). May says that Rane wants to be part of DJ culture and be recognized for building standard tools used by DJs. He claims:

> I believe that we are involved in the culture and I believe that we have influenced the culture, but the DJs decide, they are the culture. So look to them.... It's about the fair exchange with people who are musicians and fortunately for us a lot of those people are DJs. And that's a two-way street... Those guys do things and are involved in the world that we are glad to be a part of, but we are not living and breathing that in our day-to-day. (Mike May 2010)

May states that Rane acknowledges the contributions from DJs—from R&D ideas to promotion—and how that exchange has helped the company to succeed. However, he

384

thinks that the tools Rane makes are a part of DJ culture because DJs have accepted the brand.

Smaller manufacturers also see the dialectical nature of this relationship and respect the DJ's role in building the industry. Elliot Marx says that his company is "heavily involved" in hip hop DJ and turntablist culture. While admitting that he is not a DJ or involved in the culture in that way, Marx tries to learn from his customers and works directly with DJs in R&D. He says, "I think a manufacturer's main task is to make products that can be embraced by the DJs they're intended for...If the product is good and what DJs want, the DJs will come and embrace it automatically.... I wouldn't have any sales if it wasn't for turntablists who are constantly promoting our product because they like it" (Elliot Marx 2010). Marx thinks that listening to DJ feedback and delivering a product that benefits the culture is the main way in which manufacturers are involved with DJs.

Some hip hop DJs also think that companies play a large role in the culture. While Mike Boo (2009) thinks that even though manufacturers have not necessarily compensated DJs properly for intellectual contributions, they have taken DJs' input and made some standard products. He says, "I think they play a huge part, a huge part...I don't think they play all of it, it's up to the users as well but for them to create that and have it available to the masses for other creative people to use, they played a major role" (Mike Boo 2009). DJ Woody also considers companies that made the standard products, such as Vestax, Rane, and Serato, as "completely part of the culture" (2010). Woody says it is in "everybody's interest" that these companies succeed and that they "have changed

and affected the development of our culture, from the PMC-05Pro to Serato, these products have shaped the way we as DJs/turntablists create" (DJ Woody 2010).

While he admits that these companies are a presently part of the culture, DJ JayCeeOh thinks that "no corporate mother fucker...had anything to do with Grandmaster Flash doing what he did" and that DJs ultimately push the industry forward (2009). John Carluccio suggests the most important thing companies bring to the culture is responding to the audience, although they are not a part of that audience. Carluccio uses a restaurant metaphor to describe the relationship: "They're kind of like just cooking the food but they have not necessarily bought the restaurant" (2009).

DJs have played a significant role in the formation of the DJ product industry and some believe that it reacts to and is primarily influenced by the culture. "It's never about the gear, it is what you do with the gear," says DJ Steve Dee (2009). He thinks hip hop DJs are more responsible for selling equipment than are manufacturers: "They put out the device, but it's what we do with these devices that make the devices sell." Because DJs do amazing things with technical innovations that inspire others, and with their involvement in R&D and branding, DJ Steve Dee thinks "it's not just *their* device, it's *our* device" (2009; emphasis added). Both DJ Craze (2009) and DJ Babu (2009) agree that companies just make the tools that DJs use, and while this is important, it is about how DJs put those technical innovations to use. Babu explains:

> At the end of the day man, they are just tools until someone gets on and starts using these tools. For them [manufacturers] to get gassed at any point or feel that they are in the position of totally changing the culture, they got another thing coming. They have definitely made a lot of contributions but it all depends if the right artist gets on their tools and find out that their tools make their job better. (2009)

386

DJ Kico (2009) sees the industry as an amalgam of companies that "caters to our culture," while DJ Vinroc says that "we're the ones who are driving innovation...They're the ones who are creating the tools that we want" (2009). Vinroc also suggests that as long as DJs are buying a particular type of product then manufacturers cater to the demand, at least until DJs have moved on to other types of tools.

In many ways, DJs in this study see the manufacturers as followers rather than leaders, which is a unique characteristic not usually present in other markets for electronics where companies lead the way for innovation. DJ Quest (2009) feels like DJs have invested far more time into elevating styles and developing techniques than companies have put into making equipment, and that DJs are the driving force. Quest says, "I'm really happy to be part of that man because it shows that the thing that kicked off hip hop [the DJ] is still kind of in the lead so to speak" (2009). Quest and other DJs look to Grandmaster Flash as a great example of how, from the beginning, it has been the DJ who manipulates the culture. At the end of the day, manufacturers see profits from sales and some DJs earn money by using those tools; however, many of the DJs in this study suggest that some companies do not give much back to the culture.

Largely, what is considered giving back to the culture varies. For most companies, giving back is perceived as listening to DJs, endorsing them, sponsoring events, and creating better tools. But, some think this is not enough. Hip hop DJs interviewed for this study acknowledge that this is a business and these companies are in it for the money. Siya Fakher asks, "Of course it's a business but is it sustainable to have the soul ripped out of the culture strictly for profits and no resources being put back into

387

the culture?" (2009). Fakher says that the company he helps run, EBSel, has always had the philosophy of supporting the grassroots.

With the high cost of performance mixers and other DJ technologies, Turntablist Disk does not consider companies a large part of the community. He says, "If you're going to be part of the community then throw a party for the community and give back...That's giving back. Not creating a new mixer and charging $1 billion. That's not helping us dude!" (Turntablist Disk 2009). Many of the DJs interviewed state that they do not necessarily feel exploited, but still acknowledge that companies are in the DJ market to make money, first and foremost.

While manufacturers produce tools that make DJs' jobs easier or allow them to make better art, hip hop DJs understand that the drive to develop these technologies is to make a profit and expand markets. Dr. Butcher thinks this has been an ongoing trend between hip hop culture and industry, as "everybody's profited off of hip hop except for hip hop" (Dr. Butcher 2009)—a thought expressed by other DJs as well. While companies support some DJs in various ways, Dr. Butcher believes that it "is only to attach the name to the culture, not that they are really part of the culture but they are trying to attach their name to the culture because they know who is the backbone of their business." He suggests that while this support helps some DJs, it is disingenuous in nature because the motivation is sales and is only extended to a very small percentage of DJs. Although it may trickle down in different ways, most DJs are strictly consumers of these manufacturers' goods.

Because hip hop DJs have been so heavily steeped in the industrial side of this political economy, DJ Steve Dee, as well as others, wish that there could be more

manufacturers that are "For DJs, By DJs." Although DJs may work for manufacturers in various capacities, allocative and operational control of these corporations are not in the hands of DJs. Steve Dee claims that DJs could just use all the ideas that they have given to companies: "We can get the same parts from their makers and distributors and then go get a distribution deal with somebody and they will push your product...So it can be done, but how many people are going to do it?" (2009).

Dr. Butcher (2009) thinks that it could be done if a group of DJs found venture capitalists to invest in a company and then place the DJs who have given input to manufacturers over the years on the board of directors. He suggests that other manufacturers would go out of business because DJs would flock to a company run by actual DJs. Christie Z-Pabon, a woman who has organized numerous DMC USA battles and runs the promotion company Tools of War, stands behind the idea of a "For DJs, By DJs" company, but thinks the problem is that "not everyone who's a DJ is going to be an expert engineer at building new technology or knows how to set up a company or has the passion to pursue a worthwhile invention through to the end" (Z-Pabon 2011).

Hip hop DJs included in this study think that the distribution of wealth between culture and industry could be fairer, but do not necessarily feel suppressed by industry. They also see the value in what manufacturers do, in terms of how industrial developments help open creative doors, but do not always see corporate support as being altruistic. Mike Boo, who has worked for and with companies in the DJ product industry, says, "They are corporations, they are in it for the money and they are all about the market...But at the same time the culture defines that market" (2009). In other words, the

389

DJ product industry was built on the backs of pioneering DJs (from hip hop, house music, dub, etc.) and the art forms they helped make popular.

DJs in the this study typically see the culture as creating the market; manufacturers cater to it and develop product to meet DJs' demands. Commercialization of hip hop and hip hop DJs, and maybe culture broadly speaking, is in some ways taken for granted. Hip hop culture has given birth to many marketable commodities and has opened itself up to corporate exploitation. "Everything that is cool gets exploited...then it gets corny, and you move onto the next thing" (DJ Craze 2009).

DJ Shiftee, however, has a particularly positive outlook on DJ culture's relationship with industry. He says that the temptation is to say that commercialization is "bad and it is diluting the culture, but my opinion is that it is all good and that it's good that it is expanding and it is making it more accessible and also expanding what a DJ can do" (DJ Shiftee 2009). Shiftee thinks that companies such as Native Instruments (a manufacturer he is endorsed by) and its competitors are working with the best interest of DJs in mind. With his experiences teaching at Dubspot, an electronic music production and DJ school in New York City, and in the DMC battle circuit, Shiftee knows the importance of corporate sponsorship and thinks it makes for a more vibrant culture:

> I'd like to see more commercialization because that means we are all making more money and that the battles can put on better events.... but as far as commercialization goes, you need money to put on these events, in order to have good events you need to budget to do that and the budget comes from a company, and it might as well be a DJ company. I don't know, I don't have any problems with an element of commercialization being involved in DJing, you know there are probably negatives that go along with that but in the end it just means that you have a more well-funded, and probably as a result, I would say healthy scene. (DJ Shiftee 2009)

At this point, DJs seem to need corporate support, especially when it comes to putting on events. While multinational brands like Red Bull and Scion have sponsored DJ events, it is mainly pro audio and DJ manufacturers that put money and product into them. However, this type of giving through sponsorship also is a branding and advertising opportunity that commodifies the audience.

This section has looked at some of the ways in which culture and industry have interacted and presented specific cases of how intellectual properties have been exchanged. The purpose has been to show some of the ways that convergence and collective intelligence have manifested within this relationship. Furthermore, this section has addressed some hip hop DJs' and manufacturers' perceptions on this convergence and also reviewed some meanings associated with the commercialization of this culture. Examining intellectual property exchanges and commodification provides some examples hip hop DJs' open source motivations, a different way of understanding hip hop DJs as being guided by a new media logic.

In the next section of this chapter, a few technical innovations will be discussed to explore how some of the ideas expressed thus far relate to different types of DJ-related products. Case studies will include the DJ Hero® video game franchise, third party crossfaders, the Scratchophone, and the Turntablist Transcription Methodology. These examples illustrate how new tools and methods of production and development are part of strong creative networks, and move away from looking at turntables, mixers, and DVS.

This section looks at innovations that demonstrate convergence and collective intelligence, as well as an open source mentality. These innovations also have been chosen because they expand upon DJ culture, related markets, and the creative potential of DJs.

DJ Hero®

Chapter V outlined the changing landscape of the recording industry and its struggles to monetize recorded music in the digital age, as well as the industry's historical prioritization of copyright protection and exploitation. As recording industry sales dwindled through the 2000s, reaching a low of $17 billion globally in 2010, the video game industry grew at an amazingly fast pace, with the U.S. market alone valued at $18.5 billion in 2010.[114] During the same time period, both industries profited from music rhythm games, which accounted for 15% of the U.S. video game market. The Guitar Hero and Rock Band franchises have earned a combined $3 billion, licensed deep catalogs of music, and together have sold 130 million songs as downloadable content (DLC).

While recording companies receive revenues from content licensing, rhythm games are also valuable marketing tools that generate sales of recorded music. Greg Turner, creative licensing manager for Universal Music UK, says, "Games are an increasingly popular way for new acts to reach new audiences...The possibilities are endless" (quoted in IFPI 2009). Activision, the publisher of the Guitar Hero franchise, boasts that songs included in Guitar Hero increase worldwide sales by 200-300% (Ellison

---

[114] The video game market actually reached its highest point in 2008 at $22 billion, and has decreased every year since due to global economic conditions.

2008). Activision also claims that Guitar Hero was partly responsible for the 27%

increase in guitar sales in 2007 at Guitar Center (NG 2009). While the Guitar Hero and

Rock Band franchises have monetized rock and roll music, these games neglect the

valuable markets for rap and electronic dance music. In lieu of this, Activision's *DJ Hero*

1 was released in fall 2009 as a potential way to market hip hop and dance music to

gamers, make new gamers out of hip hop heads, and quite possibly transform both into

actual DJs. Despite moderate sales of the first game, Activision released *DJ Hero 2* in

October 2010.

     The UK-based FreeStyleGames, a software developer purchased by Activision in

2008, developed DJ Hero. Activision is a third-party publisher[115] that reported $4.28

billion in revenues in 2009, thus making it the highest grossing third-party publisher in

the industry. The French media conglomerate Vivendi SA, which earned $41.68 billion

in revenues in 2010, wholly owns Activision and is the holding company for the world's

largest recording company, Universal Music Group (UMG). The following discussion of

DJ Hero includes the production of the game in relation to music licensing and

marketing, convergence with those industries related to hip hop DJs, and the politics of

the franchise's branding techniques.

     While DJ Hero may seem like a new product, the idea of a DJ-based video game

is not new. The first DJ game franchise, Beatmania, came out in 1997 through Konami's

Games & Music Division (G.M.D.), which released *Dance Dance Revolution* one year

later. Due to *Beatmania*'s success, G.M.D. would later rename the division Bemani in

honor of the DJ game. *Beatmania* was popular for about five years and was made

---

[115] Third party publishers are those who only publish and distribute games for other companies' hardware.
First party game publishers, such as Sony and Nintendo, both publish games and manufacture hardware.

available on consoles, handheld devices, and in arcades. The game used a controller similar to DJ Hero's and featured music from Japanese DJs and video game music composers. Building off of the success of *Beatmania* was Sega's 2001 arcade game franchise, Crackin' DJ, which had two iterations and was only released in Japan. Unlike most DJ rhythm games, *Crackin' DJ V1* and *V2* were simulators that used replica 12" turntables and a crossfader, but only featured music made for the game.

While both of these franchises set the stage for DJ Hero in terms of concept and gameplay, they lacked the music licensing capabilities of Activision through its ties to UMG. When *DJ Hero 1* was released in 2009, it was supposed to go head-to-head in the market against another DJ game, *Scratch: The Ultimate DJ*, in what one writer at *Wired* called the "great DJ Rhythm Game Battle of 2009" (Ralph 2009). However, the battle never happened.

The video game industry is highly volatile, and, much like the recording industry, corporate mergers occur as a ways of acquiring another company's intellectual properties. After $6 million and 18 months of development, DJ hardware manufacturer Numark (who made the controller) and the game's publisher, Genius Products, sued Activision after it bought *Scratch*'s developer, 7 Studios. Because game publishers finance game development, they generally own all the intellectual properties (IP) associated with the game, thus Numark and Genius alleged that Activision engaged in "intentional interference" with contracts, misappropriated trade secrets, and withheld *Scratch*'s IP to delay the debut of the game when it bought 7 Studios.

Genius Products President/CEO Trevor Drinkwater in a statement said, "We believe that Activision realizes the tremendous opportunity that our game, *Scratch*,

represents to the video game industry, the retail market, and the consumer" (quoted in Staff 2009). After some time in court and a reversal of the original decision, on April 20, 2009, Activision was forced to hand back all the *Scratch* IP to Genius and Numark and they eventually found a new developer, Bedlam Games. However, as of 2011, *Scratch* has yet to be released.

Scratch: The Ultimate DJ is also an interesting case of convergence. First, consider the involvement of the DJ manufacturer Numark in the game's controller, the "Scratch Deck," which also features drum pads made by another notable manufacturer, Akai, making for a "more authentic" DJ experience. The technology used is similar to Numark's NS7 professional DJ controller, which is a laptop sized device that controls Serato ITCH (digital DJ software). Thus, the transition from gamer to DJ is potentiality easier as *Scratch* is a simulator not simply a rhythm game (although early on it was billed as an "urban version" of Guitar Hero). The game licensed multiple tracks (i.e. the drums, vocals, bass, samples) from underground hip hop songs and allowed users to manipulate those tracks within the game space, earning points by adding their own flare and creativity. Because of the technology involved in the Scratch Deck gamers can perform actual DJ techniques; DJ Hero does not allow for this because it lacks simulation capabilities.

Furthermore, *Scratch* was developed with and endorsed by QD3 (hip hop and film producer, Quincy Jones III, whose material is also distributed by Genius) and Mix Master Mike, the Beastie Boys's DJ and a member of the legendary DJ crew, the Invisibl Skratch Piklz. Mike Rubinelli, Genius Products senior VP of game development, says, "I think the desire for us to get involved stems from the fact we thought that the hip hop and R&B

category was huge musically...Here's a huge underserved market; there's a tremendous amount of potential there. This audience—we think they're video gamers, and we think this is an outlet for them to interact with hip hop music in a way even more interesting than what's currently available" (quoted in Alexander 2009).

Despite the battle over intellectual property, Activision was able to use its backing from a large multinational corporation to bring *DJ Hero 1* to market. *DJ Hero 1* is described as a "party in a box" and features 100 contemporary songs in 93 exclusive mixes. According to Activision, the game shipped 1.8 million units, although sales were not that impressive (selling 123,000 units in October 2009, its debut month). The retail price was $120 or $200 for the Eminem and Jay-Z *Renegade Edition* (both rappers were ironically the brand ambassadors for a DJ game). FreeStyleGames spent approximately 2-3 years to develop *DJ Hero 1* and the controller peripheral went through 6-plus iterations. Activision brought in DJ Shadow, a notable hip hop producer and DJ (also a Universal Records's artist), for consultation on the game in 2008. Eventually DJ Z-Trip, DJ Jazzy Jeff, DJ AM, Grandmaster Flash, and Daft Punk, became playable characters in the game and were used in its marketing. Exclusive mixes by hip hop DJs, such as Cut Chemist, Scratch Perverts, DJ Yoda, and J.Period, were also contributed to *DJ Hero 1*.

Sixty of the mixes in *DJ Hero 1* came from FreeStyleGames's mix team, which is made up of 15-30 UK-based DJs. These in-house DJs used Ableton Live—a music sequencing software for live composing and remixing used by many pro DJs—to make mixes for the game. Many of the celebrity DJs involved said that they had to change their mixes to translate into gameplay. DJs were given a list of songs and asked to make a mashup that worked as a piece of music. DJ Shadow says that "you have to take it and

completely mess it up and make it the gameplay version... So that kind of adds a layer of technical complexity to the mix that took me a while to get my head around" (quoted in urbmagazine 2009).

According to FreeStyleGames, DJ Hero is not about simulation but about having fun and feeling like you're "controlling the party." Thus, the developer sought to the keep the game accessible to a mass audience by simplifying DJing practices in gameplay. While the game includes some freestyle scratch modes, there is no point where gamers can fully explore the creative options they would have with a simulation game. Jaime Jackson, Creative Director of *DJ Hero 1*, says "what we wanted to do was give people something they could DJ to where they have that element of customization, it's an extension of customization... If we did something where it was too open and you could suck, we'd have failed" (quoted in Game Trailers 2010).

DJ Hero 2 was released October 2010 and prominently featured music from Dr. Dre, Kanye West, Lady Gaga, and Rihanna—artists who have deep catalogs at UMG-affiliated labels. New avatars in the game included Qbert, electronic music producers Tiësto and Deadmau5, and hip hop producer/MC The RZA.[116] While a lot of the music in *DJ Hero 1* was original hip hop samples and breaks mixed with some current popular music, the sequel features music that appeals to a mass market. Jeremy Volk, a Music Supervisor at Activision, who worked on all aspects of DJ Hero (from licensing to talent negotiations with DJs), says he faced pressure from Activision's marketing department to license Top 40 music at the time of the game's release.

---

[116] The RZA is discussed in Chapter VI as the investor in The Replicator, which he claims to be the original DVS invention.

Volk further explains that Activision works closely with UMG and is kept up-to-date on new artists and releases that UMG plans to put big marketing dollars behind. Volk sees benefits to this convergence:

> I have access to counterparts at the labels who want to make sure that we are working in tandem. I want the new Eminem song and they want me to have the new Eminem song, so it just makes it a little bit easier that we happen to have the same overall holding company. At the end of the day, though, they [UMG] still have their bottom line to meet, they have their budgets and they're still going to charge what they feel is the appropriate rates for their art. And we still have to go request permission to use their stuff. (Volk 2010)

So while the lines of communication between Activision and UMG may be open, DJ Hero also benefits largely from something else: access to UMG's massive catalog of music.

Analysis of the *DJ Hero 1* track-list of 118 licensed songs (including downloadable content) reveals that 45% of the master recordings are owned by UMG, much higher than its recorded music market share of 30.84% in 2010. Also, EMI master recordings made up 26% of the track-list, also ahead of its market share of 10.18%, while Sony (5%) and WMG (4%) barely came close to their shares.[117] However, 20% of the track-list is independent music. Independent music promoters in the recording industry say that it is a marketing dream for an indie artist to get this level of exposure. Thus, for Activision as a licensee, it is easier to leverage this exposure when negotiating licenses with indies than it is with Sony or Warner. Therefore, music content in *DJ Hero 1* is based upon copyright licensing and the ability for UMG to market its own music and not market the music of its competitors.

---

[117] In the market for recorded music, in 2010 Sony had a 27.95% market share and WMG controls 20.02%.

To include a song in *DJ Hero 1*, Activision must obtain a master recording license (usually a flat fee for the use of a sound recording) from the record label and a synch license (for the underlying composition and song lyrics) from the song's publisher. Synchs are used in film, television, and advertising and allow the licensee to synch the song with a visual element; however, synchs typically mean that the music is in the background rather than driving the visual element. Music rhythm games also typically require that the game publisher pay a mechanical royalty to song publishers based upon units sold. The tracks in the *DJ Hero 1* track-list for which publishing information could be found included 23% licensed through UMPG, 20% through EMI, and other companies representing the remaining 57%. For DJ Hero, music publishers earn the bulk of licensing income, while labels benefit primarily through marketing opportunities and master recording license fees.

Licensing songs for a franchise like Guitar Hero is much easier than DJ Hero, a franchise that Volk says creates a "licensing nightmare" because hip hop songs that use samples require more licenses to be negotiated with publishers and labels. Volk says he requested 400 songs for *DJ Hero 1* and cleared 200 for a game that includes 100 tracks. Because the game uses "mashups," Activision also needed to get consent from all the recording artists due to the remixing and editing clauses that have been built into recording contracts. DJ Hero also uses a most favored nations (MFN) license, which means that licenses are evenly split between both recording companies, as well as between publisher and label. Volk says, "*DJ Hero 1* was a crapshoot, we didn't know what we were going to get because we're doing something completely new...You didn't want to use the word 'mashups'...around labels because they get all skittish when you say

that word" (Volk 2010). Volk says that Activision cannot release the game mixes anywhere else because of licensing issues: "What's great about our game is it's a place where those kind of *ideas* exist legally..." (Volk 2010; emphasis added).

FreeStyleGames's Jaime Jackson admits that licensing was the "biggest hurdle" when they were initially developing the game and the only way to clear songs was by working closely with the music license team inside Activision (in djhero 2009). Volk says that FreeStyleGames couldn't get the game off the ground because they were not able figure out how to license the music: "And that's when they brought it over to us. As Guitar Hero, obviously we had some relationships in the industry to leverage" (Volk 2010). Licensing, then, presents a major struggle in the cultural industries as those with capital and access to music catalogues are the ones able to license content that has cultural resonance and value instead of more obscure titles. Convergence and corporate synergy in DJ Hero helped mitigate licensing costs while expanding markets.

At E3 2009,[118] Chris Lee, Commercial Director of FreeStyleGames, talked about how DJ Hero brings different genres of music into a music rhythm space giving "people the opportunity to listen to music and experience music in a way that they may have never done before" (quoted in Gamespot 2009). While this "opportunity" is intended for consumers of the game, it has also created an opportunity for recording companies, and game publishers know this. Steve Schnur, a music/marketing executive at Electronic Arts (EA), who has years of experience in the recording industry, says, "I don't believe that some people in the record business want to be in the record business anymore" (quoted in Artists House 2008). Schnur talks about video games as "valuable musical

---

[118] E3 is the Electronic Entertainment Expo, one of the world's largest trade shows for video and computer games.

real estate," where the majority of benefits for labels come through exposure and marketing. Schnur also says that because games are played socially and songs are replayed often, songs are sometimes heard more than top-ranked records. Alex Rigopulos, founder and CEO of Harmonix, the developer of Rock Band, boldly suggests that music rhythm games will be "the new music industry" (quoted in Radosh 2009).

Although Volk is not as boastful about DJ Hero, he considers rhythm games a new distribution model, what he calls a "new frontier," and an extension of the ring tone and digital download markets. Because gamers are online often, Volk suggests that many of them are also probably illegally downloading music, thus licensing in DJ Hero is a "way for them [labels] to get their music out to those people and still monetize it" (Volk 2010). Schnur and Volk both seem to agree that the market for video games—typified by core target demographic of 12-34-year-old consumers with disposable income—translates into recording company profits. While the convergence of the video game and recorded music industries is most apparent, there is also a powerful relationship between the franchise and other music hardware manufacturers. As mutual marketing partnerships develop and industries realize the value of the DJ market, corporations have jumped on the DJ bandwagon.

The DJ Hero franchise introduces people to the idea of DJ culture, celebrity DJs, and DJ technology. This may be a major factor for DJ Hero moving forward, as Jackson says that what they learned from *DJ Hero 1* was that "people bought DJ Hero because they wanted to be a DJ. It wasn't necessarily because they were into music games..." (quoted in Game Trailers 2010).

Volk thinks Activision is introducing DJing to a "young culture and trying to give them the feeling of what it's like to be a DJ so that maybe they do take that leap of faith. It's funny, there's a lot of kids who got in real guitar lessons because of Guitar Hero, and we are hoping that this does the same thing for the DJ culture" (Volk 2010). Even DJ Shadow says in an interview, "I definitely think it will be a great gateway for people" (in dailymirror 2009), while DJ Jazzy Jeff challenged those who get really good at *DJ Hero 1* to "run to the music store and buy a turntable and a mixer because you definitely may have a career" (in djhero 2009a). DJ Qbert, who is a playable character in *DJ Hero 2*, says, "I like that they [DJ games] inspire kids to want to get to become a DJ...it's a great introduction to the real art form. It's a gateway drug" (2010).

Whether it is in-game product integration or the game's controller that is similar to actual DJ controllers, DJ Hero represents a major marketing opportunity for DJ manufacturers who also hope that gamers "take that leap of faith." Vestax's VP Chuck Ono also notes the ways these game publishers are "pushing the DJ, at least the image, and the DJ concept to the general public" (Ono 2010), which could help expand the market for DJ products.

According to a 2005 study by Nielsen and Activision among 1,350 gamers, two-thirds said that in-game advertising (IGA) makes games more realistic and 40% said it influenced their purchasing decisions (Careless 2005). *DJ Hero 1* featured IGA from Puma, Sprite, Twix, Red Bull, and Godaddy.com. Even some of the playable characters have branded wardrobe. While you may begin to see DJ manufactures show more interest in developing game controllers, it is more likely that convergence will occur through product integration into gameplay. For instance, while *DJ Hero 2* features

blatant IGA from Puma and Coca-Cola, it also incorporates the Novation Launchpad (a tool that many people on the FreeStyleGames's mix team used to make the game's mixes (see NovationTV 2010)), Pioneer CDJ-350 turntables, KRK Rockit speaker monitors, and turntables bearing the Rane logo (even though Rane does not manufacture turntables). But it is *DJ Hero 1*'s product integration and mutual marketing partnership with Beats® by Dre® headphones that truly highlights the corporate benefits of convergence between industries.

The Beats by Dre headphones are integrated into *DJ Hero 1*'s gameplay as every avatar wears them. Beats by Dre is a high-quality headphone brand manufactured and distributed by Monster Cable in partnership with rapper/producer Dr. Dre and Jimmy Iovine, the Chairman of Interscope-Geffen-A&M. Beats epitomize the convergence between recording companies, pro audio hardware manufacturers, video games, and DJ culture. Interscope-Geffen-A&M is a record label group owned by UMG and notably owns labels with products that frequently are included in *DJ Hero 1* and *2*, as well as in other games published by Activision. Furthermore, Beats by Dre headphones appear in countless music videos by Interscope-Geffen-A&M artists, as well as in numerous ads, television shows, mediated sporting events and in films. Iovine and Dr. Dre also gave Interscope recording artist Lady Gaga her own line of Beats called Heartbeats®. After Interscope became the distributor for Sean "Diddy" Combs's Bad Boy Records (and UMG its holding company), Diddy came out with his own line, Diddybeats®.

Volk says Activision partnered with Beats by Dre because the brand added authenticity and credibility to the game, but he does not think that the product integration

is solely due to the fact that Beats and DJ Hero share ties to Vivendi. Nevertheless, DJ

Hero is looking to do more product integration:

> We have talked with numerous DJ technology companies about branding
> along the similar lines of Beats by Dre, and I think there will be some that
> are involved.... And then there has been plenty of companies that have
> reached out to us about it.... But what I think is that from more of a
> marketing/sponsorship level, those relationships make more sense now. I
> think we could grow towards a more integrated relationship as the
> gameplay kind of matures. (Volk 2010)

Recently Beats by Dre also partnered with Hewlett-Packard to release the HP Envy 15

Beats laptop, with all brands involved interested in fostering a "digital music ecosystem."

Beats by Dre headphones, HP Envy laptops, Monster Cable products, Interscope-

Geffen-A&M music CDs, and DJ Hero games can all be purchased at Best Buy. And,

because Best Buy saw the growing interest in DJing signaled by the release of *DJ Hero 1*,

the retailer developed its store-in-store concept with the establishment of the Club Beats

DJ equipment section in fall 2009. Club Beats features varying degrees of lower-end

digital DJ controllers, digital DJ software, lights, and, of course, products from

companies involved in the DJ Hero synergism. Wendy Fritz, an executive at Best Buy,

says that DJs in the clubs are the new rock stars and that Club Beats makes DJ

technology accessible to the average consumer: "What we're trying to say is 'hey you can

do this,' and when they come into the store our Blue Shirts can say 'these are the three or

four products you need to get started'" (quoted in Palmer 2009).

For the DJ Hero franchise, Activision used the DJs in the game as endorsees to

harness their subcultural capital and endow the game with a sense of authenticity. Volk

explains:

> I think that is where they [DJs] were the most important, which was authenticating the game....You want credibility, you wanted to be authentic, we did not want to be a cheesed out version of this, we wanted to do it right.... Obviously it helps working with guys who have a built in fan bases.... And, I think if you'd ask any of them they were flattered and they really appreciated the fact that DJing was finally getting it's time to shine, and we were trying to take this to kind of a more mainstream culture...we really want to make this accessible to people. (Volk 2010)

While the six DJ avatars in *DJ Hero 1* were used in other marketing devices, it seems they were mainly used for R&D of the game and to authenticate it by "signing off" on it —essentially attaching their branded subcultural capital to the franchise.

Jackson says it was a major goal to be "authentic to DJ culture, but at the same time make a game" (quoted in djhero 2009). This was also a major concern to some of the DJs in the game, primarily those with more subcultural capital involved (i.e. DJ Shadow, Jazzy Jeff, and Z-Trip). DJ Jazzy Jeff says, "Actually playing the DJ Hero game is great...I thought it was extremely authentic...It's incredible, it's very authentic..." (quoted in djhero 2009a). And, through Activision's initial investment in DJ Shadow, more authentic DJs saw it as credible and contributed their subcultural capital, as well. Z-Trip says:

> They [Activision] reached out to me and asked me to come down and check out the game...at the time, Shadow was the only guy that I'd known that was involved....So the fact that he was involved in it made me ease back a little bit. Then I started doing my own research on the game...and I started to realize that they actually gave a shit about the culture enough to not just bang out a game that didn't have any sort of real roots in what we do. (quoted in djhero 2009b)

According to Volk, "The core essence of the DJ and DJ culture is very important to our franchise...we recognize that DJs are gatekeepers to the culture and we really wanted to

treat it with respect and care. To go in and just monetize that, and some might even argue

bastardize that, is not wise or good business for starters" (Volk 2010).

Many of the DJs involved in *DJ Hero 1* were pleased that the hip hop DJ was

finally being recognized. DJ Jazzy Jeff, who was part of the first rap group to receive a

Grammy in 1989, says, "I am excited that finally the DJ culture is getting its due...to be a

character that someone will be able to pick up a controller and select you and play is

probably the biggest thing that has ever happened to me in my career" (quoted in djhero

2009a). Also, J.Period, a contributing mix artist in *DJ Hero 1*, says:

> The part of it that I really like is that it makes the DJ the center of attention
> in a way that hasn't really been true. In hip hop, the MC has always been
> the one with the light shining on them and he gets the most attention and
> the DJs kind of get put in the background as a prop....So it is dope to me to
> kind of see that respect and that significance bestowed upon the DJ to say
> that the DJ is a center now. (J.Period 2010)

While the game franchise exposes the masses to the idea of the DJ, Activision's use of

rappers Jay-Z and Eminem as *DJ Hero 1* consultants and primary brand ambassadors

diffuses the power that the franchise gave to the DJ. DJs were barely utilized in the

marketing of *DJ Hero 1*, which included two 30-second television commercials that

briefly featured the Daft Punk and Z-Trip avatars. But the main television spot featured

the rappers Jay-Z and Eminem performing a mashup from the game. Although the ad

included a DJ in the background, it was not one of the main DJs from the game but a

gamer using the peripheral to manipulate both of the rappers. Interestingly, and maybe

ironically, Brad Jakeman, Chief Creative Officer of Activision, says the ad attempted to

capture "the emotional experience of the power of the DJ.... Specifically, we see our hero

controlling both the performance of the music and the physics of two of the world's

biggest artists. It is the ultimate metaphor for the power of the DJ" (quoted in Parpis 2009).

Volk says, "DJs were a very important part of our marketing tool as well, but they are not guys who necessarily have the overall reach that a Jay-Z or an Eminem will— these guys are global brands" (Volk 2010). The rappers' cultural capital was important because "you need to make a big splash in the public arena." None of the DJs involved had the ability to give the game the same kind of mass market exposure.

This subsection has reviewed the DJ Hero franchise as more than a music rhythm game, but also as a method for monetizing music catalogues, marketing music, and promoting the idea of DJ culture and DJ products though a powerful convergence. We also see how antagonisms over copyright licensing play into gaming content, and how such hassles can be mitigated through corporate nepotism. Furthermore, DJ Hero demonstrates how branding tactics are used by a large game publisher like Activision, as well as how the franchise, uses a powerful convergence between various industries with DJ culture in order to expand the markets for recorded music and hardware. Although the franchise represents a way of exposing DJ culture to the masses, *DJ Hero 1*'s use of rappers as brand ambassadors and *DJ Hero 2*'s use of more Top 40 music and producers detracts from the authentic DJ culture that was intended to be at the heart of the franchise.

While DJ Hero is a highly commercialized and proprietary gaming franchise that is part of a global conglomerate, the next subsections specifically look at technical innovations made by much smaller companies. These products represent an open source ideology because they are made to benefit hip hop DJs, fit in and enhance other

407

manufacturers' products, and sometimes incorporate other manufacturers' products to create a new technology.

*Aftermarket Upgrade Crossfaders: Pro X Fade and the innoFADER*

In the 1980s and early 1990s, DJ mixers had non-replaceable crossfaders. This meant that once a crossfader began to bleed signals, the entire mixer was essentially worthless. Because disco and electronic music DJs use the crossfader to slowly fade between songs, they would seldom cause it to bleed. But for hip hop DJs, who cut and scratch records, heavily abusing the crossfader, mixers that allowed for crossfaders to be replaced was a major technical innovation. While the replaceable crossfader allowed DJs to keep their mixers, it also created a new market for manufacturers. So, the replaceable crossfader helped both hip hop DJs and manufacturers.

Some of the early Vestax 05 mixers and the Gemini PMX-2200 were among the first to have mixers with replaceable crossfaders. Manufacturers were able to see a great deal of profit from the replacement crossfader market, as these faders retailed for $40-$115, and some cost as little as $5 to produce. Some mixer manufacturers made their own replacement crossfaders, while others used those made by other manufacturers (i.e. Stanton, Vestax and Rane have used faders made by Penny & Giles). The first major technical leap in crossfader technology came when DJ Focus reversed engineered an Alps crossfader made for the Vestax PMC-05Pro, and invented the Focus Fader (discussed earlier in this chapter), the first optical digital crossfader. Manufactured by Stanton in the early 2000s and made to be compatible with other brands of mixers, the Focus Fader was the first contact-less fader, which means that there are no contacts inside the fader and the audio will never degrade due to wear. It originally had a lifetime warranty. Another

major step in crossfader design came with the Rane magnetic crossfader (discussed in Chapter VI).

Despite some of these innovations produced by larger manufacturers, smaller companies have advanced crossfader technology to the point where they are compatible with most mixer brands, are cleanable and serviceable, and have exceptional performance, durability, and adjustability. While the aftermarket upgrade replacement market was limited (mainly to Penny & Giles product), both EBSel's Pro X Fade and Audio Innovate's innoFADER are two aftermarket replaceable crossfaders brands that have impacted the market and culture recently. Acknowledging that the most important component of a mixer for a hip hop and scratch DJ is the crossfader, both grassroots companies have used an open source ideology to create products that fit into most mixer models to give DJs a crossfader that will now outlast the mixer.

EBSel, which is the fusion of two small companies, Eclectic Breaks and Seltron Components, released the Pro X Fade in 2005 after two years of R&D, design and production (see *Figure 52*). They have since released the Pro X Fade II, similar to the
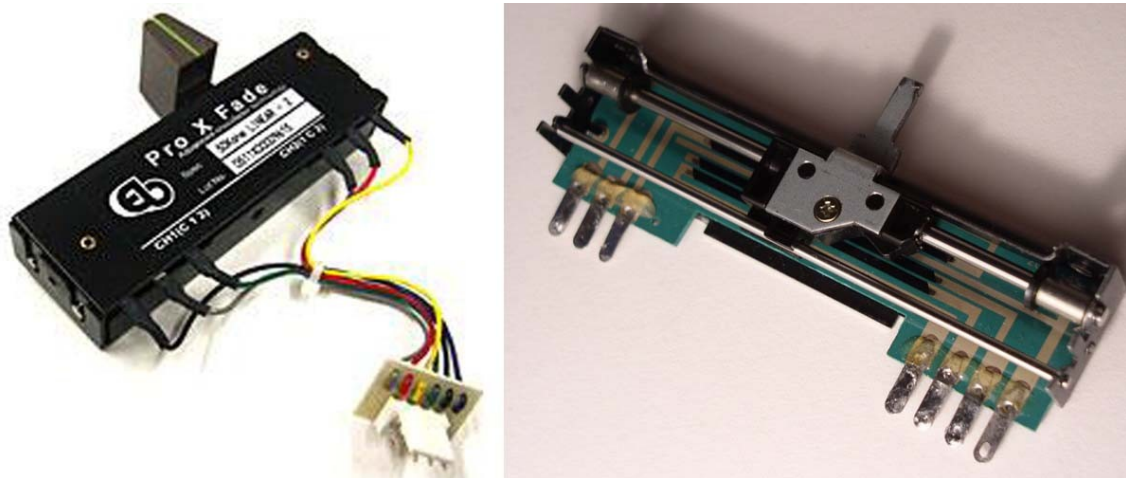
Figure 52: First commercial version of the Pro X Fade (left) and the first prototype of the fader (right). Images courtesy of EBSel.

409

original design but made to fit into different mixer models. Siya Fakher, a director of the five person company, says, "EBSel was developed as a direct reaction to the lack of creativity, practicality and innovation within the marketing, design, promotions and manufacture of DJ components and products" (2009). Because it is based in the UK, EBSel used Sugarcuts, the DJ who contributed to the Rane TTM 54, as a representative for the product in the United States. With Eclectic Breaks, Fakher, a long-time UK DJ, developed one of the world's first fully accredited DJ scratch courses for Point Blank DJ School in London. While EBSel also does consultation for manufacturers and other promotion, Fakher considers it a "For DJs, By DJs" company.

Whereas other manufacturers were designing products they *thought* DJs needed, Fakher says that EBSel is based on the idea of developing products that DJs truly want and need. The Pro X Fade is a crossfader that fits into numerous mixers made by other manufacturers, and is unique because it uses 100% conductive plastic materials rather than carbon based materials that wear easily. Also, the Pro X Fade allows DJs to fully adjust the cut-in time and tension, and is easy to take apart and clean. Prior to the Pro X Fade, some crossfaders were not intended to be cleaned, so after a while they would break. The Pro X Fade package comes with a toolkit and lube; Fakher says that a major goal of the company was to educate DJs on how to maintain the equipment. The Pro X Fade retailed for $99 in the U.S. and £90 in the UK, which was approximately the cost of some manufacturers' replacement crossfaders.

After years of promoting events, attending trade shows, DJing, and doing research, Fakher was alarmed to find that some companies had very high yearly turnovers of replacement parts, with one manufacturer doing $3 million in annual sales on only

replacement parts. Eclectic Breaks began working on the Pro X Fade, and also began talking with other manufacturers about the viability of such a product. Fakher says that because companies were making so much money off of replacement parts, that few would listen to him about the concept behind the Pro X Fade. Fakher says, "I got the distinct impression that many companies...were more interested in making the most money from selling spare parts rather than providing real solutions to the users" (2009). The ethos of EBSel, Fakher claims, is about changing the DJ industry by empowering DJs.

"As a company, we want to bring out products that makes the users' life easier by taking a practical approach to design" (Fakher 2009). Fakher also thinks that many other manufacturers rush products to the market without proper testing, making the end-users the beta tester of the final product. While some crossfaders, such as the Rane magnetic fader, are tested for how many passes they can make on a sewing machine without bleeding signals, the Pro X Fade was tested for several years by actual DJs.

Aside from producing the Pro X Fade, Fakher states that the goal of EBSel is to promote a healthier DJ scene:

> We also want to develop the DJ scene, in particular the turntablist scene to be better organised and hopefully self sufficient, so that it is as viable as some of the other aspects of youth culture like skating or breaking, both of those scenes are huge and have developed so well especially under the guidance of the "real" people behind them, whilst my love, DJing, I feel could do a lot more to be self organised and well supported and sponsored, whilst not having to be dependent on people who don't have the best interest of the scene but the best interest of their own pockets in mind. (Fakher 2009)

Fakher also says that some manufacturers had poor relationships with DJs, and often would dismiss DJs "but at the same time use some DJs' ideas and concepts without so much as a credit for those concepts" (Fakher 2009).

Fakher stresses that what sets EBSel apart from other manufacturers is that the company cares. Because it is such a small company, Fakher handles much of the customer service himself. Fakher says, "If there's a problem, I take that shit personally and I personally try to make things right" (2009). EBSel stays relevant by being proactive and being available for grassroots activities for DJs and Fakher also personally helps customers create mods (modifications) so that the Pro X Fade can fit into more and more mixer models.

Pro X Fade's main competition in the replacement crossfader market is the innoFADER, released in 2008. Elliot Marx, an engineer whose first company, Advanced Audio Concepts, got bought out by Numark, started Audio Innovate (AI) in 2005. Marx says, "I started my own company because I was frustrated with being isolated from customers and I thought I could do better...The biggest challenge is trying to establish a good reputation for a new brand and get to the point where people recognize the brand" (Marx 2010). After realizing the problems of a small start-up company trying to enter the market for 2-channel mixers, Marx developed the innoFADER in 2007 (see *Figure 53*). His concept was to make a durable fader with reliable technology and a product that could fit into a variety of mixers at a low cost.
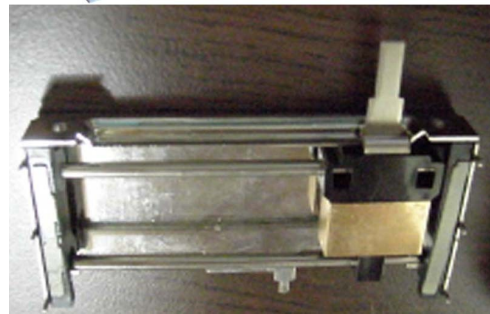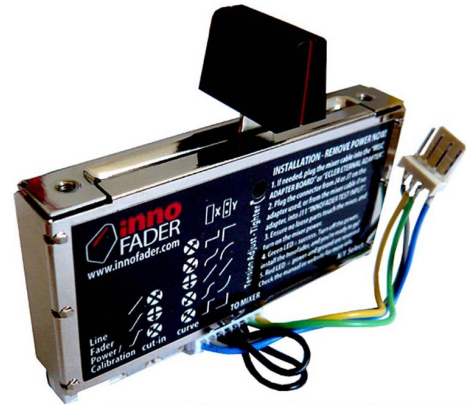
The innoFADER is unique because of its high quality rails (which means it rarely (if ever) has to be cleaned/lubed), and use of variable capacitance position sensor that never wears out and is immune to dust/humidity. Furthermore, the innoFADER comes

with all the wires, connections, and circuitry to make it compatible with most mixers. AI has also release the innoFADER Pro and several other products that are engineered to fit other mixers. The innoFADER retails for anywhere from $115-$160 and AI typically sells the fader directly to retail.

Figure 53: Commercial version of the innoFADER (top) and an early prototype of the crossfader (bottom). Images courtesy of Audio Innovate.

In winter 2010, Marx initiated "The Innofader Project" as a collaboration between AI, manufacturers, DJs, and technicians to help figure out how to make the innoFADER fit all types of mixers. AI sends users test innoFADERs to fit into sometimes obsolete mixer models with the hopes that these users will share their ideas and experiences with AI and other DJs. By expanding the list of mixers that this crossfader fits into allows DJs who can only afford low-end product to make an important upgrade. Marx thinks that AI's goal of making the innoFADER compatible with all mixers has given the relatively new company a great deal of brand awareness. He also attributes the success of the innoFADER to the fact he personally answers every call or email from customers, as well as contributes to DJ Web forums related to technology.

Hip hop and scratch DJs rave about the innoFADER and this word of mouth promotion has helped AI to expand its business. Marx states that most companies are pleased that the innoFADER can work as a replacement fader for their brands because

413

many of those products are mixer-specific. However, Marx imagines that because EBSel

and Vestax both make aftermarket crossfaders that those companies have been most

affected by the innoFADER. Marx suggests, "Most others making replacement faders are

just doing it for after service and aren't looking at this as a significant source of revenue"

(2010).

Earlier in this chapter, Marx was quoted as advocating for the use of trade secrets

instead of patents for small companies entering the DJ product industry. While he has

two patents and has used them as a way of getting started, he says that he could have kept

the information confidential as a way of protecting the technology. Marx says, "I agree it

is somewhat difficult to enter a market without many patents but not impossible...I had to

develop the innoFADER technology from scratch and make sure not to duplicate existing

patented technology from Rane or Pioneer. I don't

think you will see anyone copying the innoFADER

any time soon because it's a real bitch to make it

work right" (Marx 2010).

Figure 54: Because the innoFADER has so many adjustments that can be made on it that require taking out the crossfader, the innoJUSTER is a unit that allows users to make those adjustments externally. Image courtesy of Audio Innovate.

AI has started releasing other products relevant to its

crossfader, for instance, the innoJUSTER, a product

that allows the user to manipulate the inner controls

of the innoFADER from the outside of the mixer

(see *Figure 54*). Once AI has broadened its base

with the faders, Marx is hoping to expand into other products that "help DJs as musicians

and performers" (2010). Although the innoFADER has yet to become a standard

crossfader in other brands of mixers, it is available as an upgrade for the newest and most innovative instrument for DJs: the Scratchophone.

Scratchophone

In Chapter VI, the Vestax QFO turntable, a hybrid mixer/turntable that was the brainchild of Qbert, was briefly outlined. Qbert's idea was to have a compact and portable scratch instrument that DJs could use anywhere. Qbert and his company, Thud Rumble, shot lots of videos of him using the QFO at the beach and other locations. However, the QFO never really lived up to its potential of portability, although Qbert has used a portable solar panel to power the QFO and a set of speakers. The guitar-like straps that Vestax made for the QFO were never commercially available. Even though the QFO is not portable in any sense, it represented the concept of a hybrid turntable/mixer.

With no experience in the DJ product industry, Thierry Alari, from Quebec, Canada, designed an instrument called the Scratchophone for a business school project. In 2009, he started making Scratchophones for commercial release, doing all the conception, manufacture, and sales from his home. Alari also handled all customer service and distribution for the Scratchophone.

While Alari is not a DJ himself, he has turned his concept into a highly functional custom instrument. Alari initially made ten prototypes and learned the concept and design process as he went along (see *Figure 55*). "I reached a point where the Scratchophone was commercially acceptable (version 1.0), then with input from customers, I've upgraded it to version 1.5" (Alari 2010). Along the way, Alari also received consultation advice from Siya Fakher and Elliot Marx.

Figure 55: The first functional Scratchophone v0.1. Image courtesy of Thierry Alari.

The Scratchophone's drum is made out of fiberglass and is hand-shaped by Alari. The audio components for the Scratchophone consist of a Numark TT200 turntable motor/platter and parts from a Vestax PMC-06Pro mixer. The instrument comes with built-in speakers and a custom harness. A rechargeable battery can be used to get three hours of chord-less scratching. The Scratchophone is also compatible with numerous DVS products.

Because the Scratchophone v1.5 is a custom instrument, Alari sells it for $2,347, including a harness and a custom carrying bag. In the first year of production, Alari made 13 Scratchophones. After making one for Qbert, Thud Rumble posted a video of him using it and Alari got sales instantly. Alari is open to ideas on this product, and has very close relationships with his customers:

> I have a unique and direct relationship with the customer: for few weeks, I send emails of their instrument in progress. We can change on the fly almost anything, buttons location, new features, logo, colors etc. The real value comes from here, as you are literally living the birth of your own custom instrument. This quasi-instantaneous reaction time is just possible in micro economy, not for a normal manufacturer. (Alari 2010)

Because the Scratchophone is a niche product in an already niche market, Alari can work directly with his customers and incorporate their ideas into their instrument. He says, "It is a unique piece of gear, handmade and co-designed by you, the customer" (Alari 2010).

416

Alari suggests that the $2,347 price tag is relative because the Scratchophone is not mass produced and that musicians spend far more on other types of instruments. "It is often an hard sale but the customer is really motivated and he understands he's not just buying an instrument but personal lifetime service as well," says Alari (2010). Alari has actually been able to keep the retail cost for the Scratchophone down because he has not used traditional marketing to promote the new instrument. Instead, Alari relies on word of mouth and the Internet, which he describes as "a gold mine for promoting niche product." He uses the Web to reach his target market directly. However, he would like to spend the majority of his promotional budget on endorsing DJs in the future.

While he realizes the market for the Scratchophone is very limited, Alari thinks that if he can sell 20,000 units during his lifetime that it would be a huge success. Furthermore, he feels like the scratch DJ market has been left behind by most of the larger manufacturers because of the poor economy. This creates a perfect opportunity for an independent

Figure 56: 3D drawing of Scratchophone (top), drum mold and molded drums (center), and Qbert's Scratchophone getting wired. Images courtesy of Thierry Alari.

417

inventor like Alari to enter the market and fill the void left by the Vestax QFO. Alari

says, "DJ market big brands and me are not playing in the same courtyard...They

produce, stock and sell stuff for maximum profit, as any enterprise. In a micro economy,

where I am, the goal is to exist, to build a superb product then later a brand based on

excellent reputation. Not getting rich next year and run" (Alari 2010).

Alari has not sought patent protection for the Scratchophone because there is no

new technology involved; he calls it just "an idea without a utility patent." Alari says

that even the tonearm on the Scratchophone is a technological regression compared to

Figure 57: Qbert's Scratchophone in the Thud Rumble Gallery next to the Vestax QFO
(left) and two views of Qbert's Scratchophone (right). Images courtesy of Thierry Alari.

other tonearms on the market. By not seeking patent protection, Alari suggests that he

also does not need to look for investors and therefore has complete control over the

product and the company's operations. Although Alari uses components from other

manufacturers' products, he pays for them and uses a first sale doctrine to his advantage,

which means that once you buy a technology you can modify it and sell it. He has not

had any problems with manufacturers, and says, "I would say it is a surprise for them as

I'm promoting their brand and buying their products" (Alari 2010). The next step for

him, though, is to begin using open source hardware instead of purchasing products from other manufacturers just to use the parts in the Scratchophone.

In the future, Alari would like to continue as a small company that produces niche product for a niche market, but he has other scratch related product ideas. "I prefer to be a big exotic fish in a river than a small one in the ocean," he says. Alari understands how much the art form has evolved and thinks that having an instrument like the Scratchophone will help the art to be accepted, and, in some ways, further legitimize scratch DJs as musicians.

While the legitimization of the turntable as a musical instrument gained momentum in the turntablist movement of the early 1990s, one of the main factors in taking hip hop and scratch DJs seriously related to teaching technique and notating scratches in a rational manner. Although a prominent element of hip hop DJ pedagogy was naming technique, teaching and explaining those skills in a way that made sense musically became the next step in that evolutionary process. In the next subsection, methods of teaching and notating technique will be outlined, with specific attention given to the Turntablist Transcription Methodology.

DJ Pedagogy and Turntablist Transcription Methodology

Earlier in this chapter the naming of DJ techniques was discussed in respect to credit, innovation, and invention. While DJs in different geographical areas had their own names for scratch technique in the 1980s and 1990s, by the mid-1990s terms became rationalized and universally accepted. By having culturally accepted names for techniques, not only could DJs communicate with one another, but it also paved the way for DJ curriculum and pedagogy. Learning about DJing and the terms to describe

technique was largely disseminated and rationalized through the distribution of VHS

tapes that featured DJs crews, such as the Invisibl Skratch Piklz, the Allies, the Beat

Junkies, and the X-ecutioners (see *Figure 58*). These videos were also sponsored by

manufacturers, and were great ways to market and promote their products directly to their

target audience. And, these how-to videos were always sold for profit, and in many

ways, attempted to make knowledge scarce in order to sell it. The trend of selling

knowledge about DJing continues to this day.

Ricci Rucker, (using the monikers Aliosity
and Nicks) published *The Ever: The Most
Comprehensive Scratch Tutorial Ever* in the early
2000s. *The Ever* was posted on Rucker's site,
asisphonics.net, and featured a conceptual
breakdown and audio for over 70 techniques. At
the time, Qbert and Thud Rumble had released *DJ
Qbert's Complete Do-It-Yourself: Vol. 1
Skratching* (2002), a highly popular how-to DVD,
and Rucker was known to have issues with how
Qbert/Thud Rumble was capitalizing on the DJ
scene. Therefore, Rucker made *The Ever* to be
free for users.

Rucker thought that by giving people the
core concepts of the techniques that they would be

Figure 58: The *Turntable Mechanic Workshop* VHS circa 1995, put out by Vestax and featuring the Invisibl Skratch Piklz (top). A pile of scratch DJ how-to VHS tapes (bottom). Photos by Zane Ritt. Courtesy of the DJpedia Archive.

able to develop their own style, instead of students sounding just like their teachers. In

the introduction to *The Ever*, Rucker writes:

> We give this info out free, and I honestly believe that there is some shit
> that shouldn't be sold.... It's about taking that knowledge, the general
> CONCEPT, which is the foundation, and adding your own style to it. I
> warn people to be careful about what you study, because before you know
> it, you might sound like qbert practicing all the time to the videos, then
> wonder why people are calling you a "biter".
>
> (…) Furthermore, if you do make a how to, make it an exclusive on a site,
> make the information available for free if you plan on spreading the
> knowledge. It's the only way people will get better, which will allow
> people to create more bands, which will allow for more musical
> advancement, which ironically (to the people into the money), will create
> a bunch more financial avenues since there will be more skilled musicians,
> which will cause more manufacturers to make more ish, and more shows
> will come.
>
> This doesn't happen by trying to monopolize the scene, it only comes
> when more people are qualified to rock the spot. Revenue is generated
> with interest and skill in a field, if not many people can do it well, not
> much money can be made, it's simple mathematics. If you are trying to
> sell the information which can be the foundations of scratching, does only
> people with money and dvd players have the access to learn to play the
> instrument? I'm not trying to pump *The Ever*, I don't use it, I don't even
> view it, and I'd take it off the site if there wasn't a demand for it. The
> point I'm making is from a perspective of a kid coming up and had a
> choice with the 2.
>
> I'd view *The Ever* simply because it's free, detailed, and to the point. Plus
> since there is no video, it allows you to use your own imagination and
> energy to build your own style. If you have a dvd player, and 30 dollars,
> get the video too, use both, and use them both with an open mind, but
> again, be careful, you'll be amazed on how quick practicing someone elses
> styles starts to become your own. The kid who enters the scene with a
> lazy mind, and no ambition to go beyond what's out there, will end up
> exactly where all the other wack kids end up. If you notice, there aren't a
> bunch of Aliosity sounding cats out there, coincidence? (*The Ever*,
> Introduction)

Prior to the how-to VHS and tutorials like *The Ever*, there were three primary

methods that DJs used to learn scratch techniques. First, hip hop DJs in the 1980s would

learn by listening to and studying rap songs that featured DJs and then tried to replicate

those scratches on their own. Second, if DJs could get their hands on VHS tapes of battle

footage, they would study those and then try to replicate what they saw.[119] Lastly, hip

hop DJs would learn from one another, whether it was watching or playing together. The

DJs who participated in this study who came from this era all talked in-depth about

developing their own style by trying to imitate what they were hearing and seeing. There

was nobody telling them how to do a particular technique, so there was a great deal of

room for creative exploration during the learning process.

In 2011, however, learning how to DJ has become a very rational experience. Not

only are there free tutorial videos on YouTube, but plenty of online and brick and mortar

schools where people can pay to learn how to DJ. There was a rush of DJ schools in the

early 2000s, although most of them are now gone. In Chapter VI, the Qbert Skratch

University was briefly outlined in the context of Thud Rumble as a new model for

interactive online DJ pedagogy.

Aside from QSU, there are other DJ education institutions that have proprietary

foundations: 1) Scratch DJ Academy; and 2) the curriculum at Berklee College of Music.

The idea for the Scratch DJ Academy came after its founder and CEO, Rob Principe,

went to an event where Kid Capri was DJing. Principe, who was not a DJ, realized that

he wanted to do what Kid Capri was doing, but there were no resources beyond video

tutorials. He then began searching for help from DJs and investors to get his idea for a

DJ school off the ground. Principe was able to connect with investors Reg E. Gaines and

Jam Master Jay (R.I.P.), the DJ of Run DMC fame, who became a founder and dean of

---

[119] In the early days, Qbert was known as the guy in the San Francisco area who had VHS tapes of all the
battles and would make copies and sell them to other DJs in the city.

the Academy. Jam Master Jay began working on curriculum, but, unfortunately, was

murdered the same year as the Academy opened, in 2002. Having involved Jam Master

Jay, a very influential and legendary hip hop DJ, helped to bring a great deal of

credibility and authenticity to the Academy.

The goal of the Academy was "lowering the barrier of entry to the art form of the

DJ," with the premise that everyone is a DJ (White et al. 2009, 1). Principe and his

business partners were able to pitch their idea to Vestax, which supplied the Academy

with 40 turntables, 20 mixers, speakers, needles, and slipmats: "They realized that along

with our success could come the next wave of consumers for them" (White et al. 2009,

xv). The Academy also partnered with other companies.

In 2004, a Scratch DJ Academy opened in Los Angeles, and a year later, in

Miami. They have graduated over 20,000 students, and in 2009 published *On the*

Record: The Scratch DJ Academy Guide (White, Crisell, and Principe 2009), a book that

briefly highlights the art and culture of DJs. Students can also get private lessons for

$80-$150/hour. It also provides workshop event services at its NYC headquarters for

birthdays, companies, schools, and non-profits. The Academy also diversified its

business with Scratch Events, a national booking service for professional DJs for

everything from cruises to fashion shows to weddings.

Aside from DJing and scratching, the Academy offers courses in music

production and recording, as well as shorter workshops, including a "Mash Up"

workshop. Students can also take digital DJing courses, and a special course on how to

use Serato Scratch Live. The Academy features numerous hip hop DJs as its regular

faculty, including GrandWizzard Theodore, Rob Swift, DJ Daddy Dog, and Total Eclipse.

It has had numerous guest instructors, and even DJ Kool Herc instructed there. The faculty teaches the Academy's copyrighted curriculum, and faculty not only teach students hardware and software, but to help them develop as DJs/producers with their own styles.

The Scratch DJ Academy provides income for DJs outside of club and mobile DJ gigs, and allows them to work directly with students, who benefit by learning directly from pioneering, legendary, and talented DJs. For manufacturers that donate gear or have a presence at any of the three locations, it is another way for potential consumers to experience their products. Since most of the gear is not necessarily entry-level product, students get to learn on professional equipment.

While there are other professional DJ and production schools, such as Dubspot in New York City, universities and colleges have also taken an interest in DJing by offering hands-on classes. An example is Boston's Berklee College of Music, where Professor Stephen Webber aka Needlejuice, began pushing for turntablist and DJ classes in the early 2000s. Webber, a classically trained guitarist and engineer, had a student bring in a DMC DJ battle tape to one of his remix classes in the late 1990s. Webber says, "That's really what started making me think 'oh man, this really is an instrument that has got a lot of potential to it.' That's kind of what really gave me the buzz in terms of turntablism" (2009). By 2004, he was teaching his "Turntable Technique" class at the behest of some of Berklee's more traditional musicians.

He bought some gear, tried to find as many VHS DJ tapes as he could, and interviewed world champion hip hop DJs, such as Qbert, A-Trak, and Craze. Webber then wrote a book based upon his research and practice, *Turntable Technique: The Art of*

the DJ (2000), which came with a 2-record practice set. He has since published another

book, *DJ Skills: The Essential Guide to Mixing &* Scratching (2007), as well as several

DJ tools records. The DJ product manufacturer, Numark, distributed the first book,

which features pictures of Numark mixers and turntables. Weber explains his motivation

in writing the book:

> The thing is, at the time, there wasn't really a lot available in terms of
> pedagogy, in terms of teaching stuff, so I basically set out to learn and I
> wrote down all the questions I had, everything from technical things or
> just technique things: how hard should you press down on the record, what
> kind of needles should you use? Just a real obvious stuff to a lot more
> complicated things. And I just went about trying to answer those
> questions. (Webber 2009)

Webber learned and then documented the process. He says there were plenty of great

scratch DJs out there, but "there was a shortage of really good teachers." While Webber

learned from some of the how-to videos**,** he thinks that "most of them don't really break it

down the way, pedagogically, you would if you had an education background" (Webber

2009).

Although Webber released his first book in 2000, largely noted as being the first

DJ textbook, he fought Berklee to have the Turntable Technique class taught there, a

battle he won in 2003. Webber was able to get the Turntable Lab, Berklee's hands-on DJ

lab, outfitted with Vestax mixers and turntables, although currently the Lab features all

Numark product. "The Turntable Lab is 100% Numark, and Numark has been an

amazing supporter of our program at Berklee" (Webber 2009). Since establishing the

curriculum, Webber has also brought influential hip hop DJs to Berklee to present and

guest lecture, such as Grandmaster Flash, GrandWizzard Theodore, Grand Mixer DXT,

the Original Jazzy Jay, DJ Premier, Roc Raida (R.I.P.), and DJ Shadow.

In Webber's books and classes he puts DJ techniques into the language and practice of classically trained musicians and uses Western staff notation to translate DJ skills into a form that other musicians are familiar with. Webber says, "As a musician I think it's a good idea to learn how to do standard notations...that opens up more to you in terms of being able to communicate with other musicians" (2009). Although Webber's use of Western notation allows for communication between musicians, it is mostly useless to most hip hop and scratch DJs who are not musically trained. In lieu of this, more intuitive and visual DJ notation methods have been developed. One such method is the Turntablist Transcription Methodology (TTM).

The idea for TTM was started by filmmaker John Carluccio, who filmed and produced *Battle Sounds* (1997), an ethnographic film on the major hip hop DJs in the mid-1990s turntablist scene. Carluccio explains:

> It came about because through *Battle Sounds* I was talking to a lot of DJs and they'd say, "Hey, wouldn't it be great if we had a notation system?" And it was Babu, DJ Apollo, Rob Swift and a couple other guys, but I remember Babu especially when we were talking about this. So it really sat in my head and I think it was in '97 I was with X-ecutioners in the studio and they were working on the *X-Pressions* album and I saw them really struggling to communicate with each other when certain scratches would be laid on top of other scratches, and where it laid in the whole song... (Carluccio 2009)

Carluccio connected with industrial engineer Ethan "catfish" Imboden and DJ Raydawn, an experienced turntablist, and the three worked on a notation method that would work for DJs and turntablists with no classical music training. In 2000, they released a 20-page booklet that described the system and then crafted a multimedia website further demonstrating the notational system and its logic. The founders of TTM saw it as a way of expanding the potential of the art form, allowing DJs to make

426

compositions that could be published and distributed like other sheet music. TTM uses

gridded staff sheets on which forward and backwards movements of the record are

represented by up and down lines where the angle of the slope represents speed (see

Figure 59). Breaks in the lines represents turning the crossfader on and off (a "click").
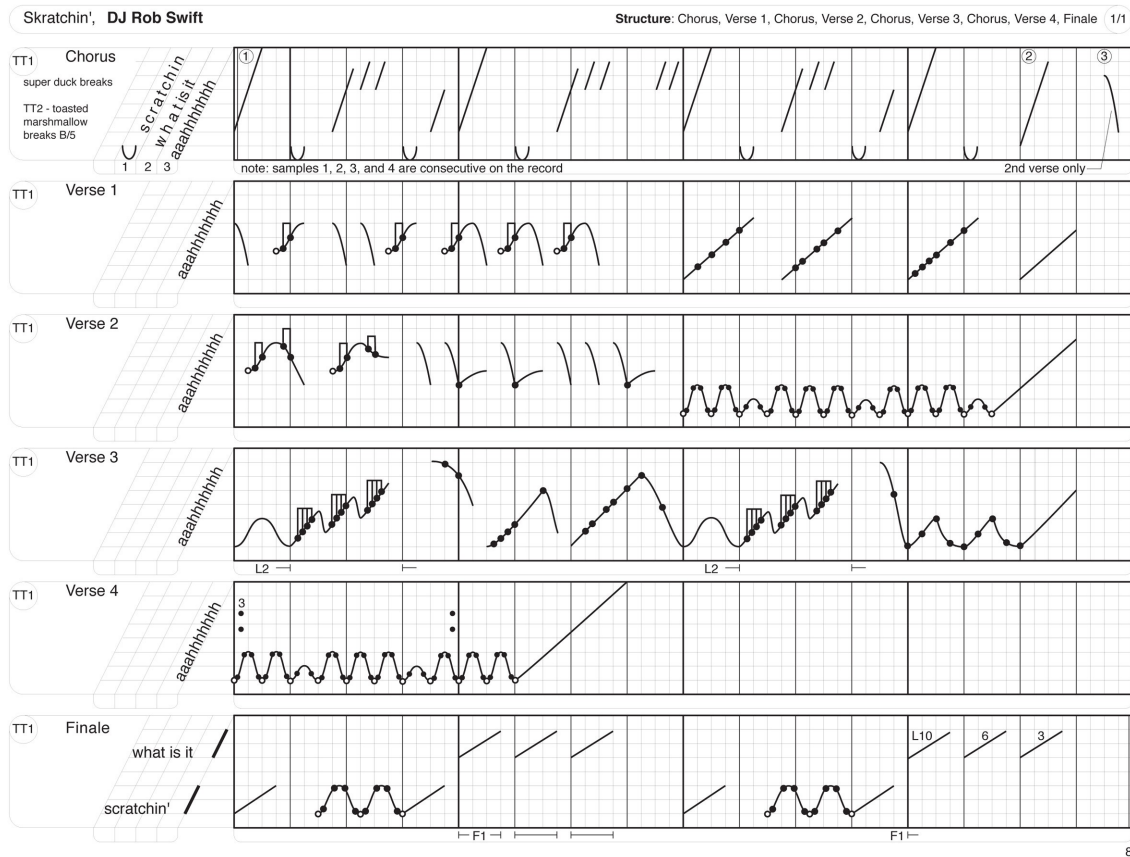
Figure 59: This is a TTM transcription for DJ Rob Swift's "Skratchin'" composition. Image courtesy of TTM.

The TTM guide is available in English, Spanish, and Italian, and DJ Skar has

made a website in French. Blank TTM staffs can still be downloaded for free from

www.ttmethod.com. All TTM materials are distributed for free. Carluccio wants to keep

TTM open source and recently found out that two designers have figured out how to use

Ms. Pinky (a DVS) and a MIDI controller to transcribe directly onto a computer instead

427

of doing it by hand. Carluccio says, "So my attitude is that I wanted to get it out there as freely as possible and get it used." He explains:

> I want to get it out there in a cheap way where it is almost like a free or open software, or open source kind of effort.... If it was used in a commercial way and it was being exploited, that would be it, that would be the only thing where I'd ask for money, but in a Creative Commons sense where it is not being used to exploit for commercial means and it's not paying someone else's bills, then yeah, I'm okay with that. (Carluccio 2009)

Carluccio is interested in inspiring people to make new music, and lauds the efforts of independent inventors who are trying to incorporate TTM with other technology.

Carluccio is hoping to collaborate with software developers and design a software that records a DJ's manipulation of a record directly into TTM to produce a transcription. He also wants to create software that will draw transcriptions that DJs can then pass around or make arrangements out of. Carluccio also thinks that if TTM transcriptions can be done with software, then you could import a composition from DJ Qbert (for instance) into Serato Scratch Live and try to match the lines, almost like DJ Hero. He believes that TTM can be used educationally and with other media, even something like a video game, to help people learn DJ technique. "Ideally, the goal is just to hear good music...I think this is something I can do to help keep the people interested in making good music. Good or bad, but just make music in new ways" (Carluccio 2009).

Conclusion

This chapter has reviewed the exchange of intellectual properties through R&D and branding in the DJ product industry to show how commodities are produced by networks. Using a series of case studies, this study has explored the politics of authorship within a political economy of the hip hop DJ. Lastly, new technologies and

428

learning tools have been reviewed to further explore intellectual property manipulation, exchange, and rights.

Findings have shown examples of convergence and collective intelligence within a political economy of the hip hop DJ. While manufacturers are able to produce better tools for hip hop DJs, these companies are the primary beneficiaries of this exchange. DJs have also adopted the rhetoric of "invention," which is contested in the culture because most DJ innovations are produced by networks. While industries acknowledge the DJ's authorship as brand because it authenticates and sells products, DJs are rarely recognized as inventors or copyright authors. Findings have revealed DJs' perceptions of the industry that caters to the culture, as well as how various industries profit off of the intellectual properties of hip hop DJ culture. Case studies have illustrated corporate and cultural convergence, and suggest that while proprietary behavior and rationalization primarily benefit corporations, open source behaviors serve the needs the culture.

Collectively, these four findings chapters have looked at the relationships between hip hop DJs and the recording and DJ product industries. This relationship is complex and the findings presented here are likely only the tip of the iceberg. The next chapter of this study will look at how those findings relate to theory, the ways that this study builds towards a theory of technocultural synergism, as well as how it contributes the fields of communication studies and hip hop studies.

CHAPTER IX

CONCLUSION

"So I think that bedroom DJ mentality definitely has taken over the masses and it's really just incredible" ~DJ Babu[120]

DJing is now mainstream. DJs are in television programs and advertisements, music videos, movies, and video games. DJs are brand ambassadors for multinational corporations, and help to sell everything from vodka to headphones. With this increased media representation, DJs are no longer marginalized characters that perform in dirty basement bars. In fact, some DJs wield the same amount of cultural capital as rock stars and Hollywood actors. Young people are also influenced by DJs' media exposure. Those who would normally want to learn how to play guitar or drums are instead saving their allowances for DJ gear. DJing is now a veritable professional career, and some DJs earn a college professor's annual salary for performing a two-hour DJ set.

Currently, anybody can be a DJ. People with access to digital music and computers can become DJs overnight. DJ manufacturers, video game publishers, universities/academies, record labels, television networks, bars and clubs, and large retailers, as well as DJs themselves, are exploiting the idea that anybody can DJ. This has helped push DJing further into mainstream culture and consciousness.

However, DJ culture was not always on a pedestal. Since the early 1970s when DJ culture (as we now know it) began to take shape, DJ technique and technology have

---

[120] DJ Babu (2009).

grown by leaps and bounds each decade. In lieu of this, there is increased interest by industries that cater to and capitalize from of the DJ market.

This study investigated the relationship between hip hop DJ culture, the DJ product industry, and the recording industry, specifically since the early 1990s. The study used hip hop DJs as a case study for understanding the complex interaction between cultural industries and culture. The research revealed how hip hop DJs and the industry come together through intellectual property manipulation, exchange, and rights.

One of the purposes of the study was to explore how hip hop DJs have negotiated technology and commercialization. The project was also designed to evaluate the meanings that hip hop DJs give to the commodities they use, and to further explore how consumption and production can interrelate. The aim, then, was to evaluate the power dynamics between hip hop DJs and industries, as well as to look at the politics of authorship for creative innovations and inventions within a political economy of the hip hop DJ.

Findings and Implications

Intellectual Property Manipulation

For hip hop DJs, the manipulation of intellectual properties begins as the act of consuming corporate texts and technologies, which are encoded with meanings and intended uses (see Chapter V). Hip hop DJs use the commodities they consume as productive forces to create new culture and generate income (for both DJs and industries). Findings in Chapter VII suggest how hip hop DJs are "situated users" (Cohen 2007) whose manipulation of corporate texts/technologies is grounded within the cultural and historical context of the practices established by pioneering DJs in the 1970s.

431

Using turntables and records, interview data from Chapter VII also has shown some of the ways that hip hop DJs consider their manipulation as multi-leveled communication with the music and technology.

Historically, hip hop DJs have used commodities that are imbued with meaning and exist in their mediated environment in a way that allows them to express themselves, or what Vaidhyanathan (2006) calls "semiotic democracy." By grabbing the raw semiotic materials from their environment, in the form of vinyl records and turntables, the pioneering hip hop DJs of the 1970s were bricoleurs in Hebdige's sense (1979). Hip hop DJs use bricolage to patch together sounds owned by recording companies, and in the process undermine the intended meanings and also intellectual property laws that protect those texts. The rest of hip hop culture, then, formed around the "semiotic guerrilla warfare" (Hebdige 1971, 101) of hip hop DJs. However, in the process, as Hebdige (1979) suggests, bricolage allows hip hop DJs to invent new meanings and uses, which is demonstrated throughout this study.

As this study has shown, hip hop DJs push the technical boundaries of technical innovations. And in some instances, as we saw with Grandmaster Flash, JohnBeez (Fretless Fader), and DJ Focus, once those boundaries confine expression, then DJs learn to technically manipulate and retrofit hardware, which in turn manipulates the intellectual properties encoded into these technical innovations. Technology manufacturers and recording companies react to DJs' uses by introducing new innovations; in turn, DJs create new uses in a never-ending process of innovation. One of the more significant findings to emerge from this study is that many times the intellectual properties of hip

hop DJs (both in R&D and DJ technique) are actually encoded into many DJ products (highlighted in Chapter VI and VIII).

Hip hop DJs are dialectically situated as consumers and producers, where both stages in the chain of production, typically considered to be discrete, are in fact interrelated. The findings present a case that challenges Marx's description of the economic base determining the ideological superstructure, and suggests, like Williams (1977 and 1981), that culture takes place in the base and superstructure. The starting point for hip hop DJs is as consumers of commodities pushed upon culture from the material base; however, hip hop DJs are not passive consumers. Therefore, this study finds that a political economy of the hip hop DJ is a case where "*an industry produces culture* and *culture produces an industry*" (Negus 1999, 14; original italics).

In the cases of product R&D specifically detailed in Chapters VI and VIII, we see how the dialectic between industry and culture drives this political economy forward towards "progress," although hip hop DJs are primarily motivated by producing art while companies are driven by profits margins. Because hip hop DJs believe that it has been human innovation that has driven the development of technical innovations (Chapter VII), and because the industry has responded to these human innovations with new technology, this study has shown how consumption and production can be mutually constituted.

The hip hop DJ's manipulation of corporate commodities demonstrates how the meanings and importance of these commodities are grounded in utility (Chapter VII). While cultural industries are often defined as those involved in the "industrial production and circulation of texts" (Hesmondhalgh 2007), the findings in this study give credence

433

to Mato's (2009) notion that all industries are cultural because of how hardware is negotiated. For instance, the cultural meanings associated with Technics SL-1200 turntable or vinyl records has less to do with content (Chapter VII), but rather, uses grounded in history and tradition. While historical analysis in Chapter V suggests that the turntable's forefather, the gramophone, was initially conceived and considered (by industry and consumers) as a musical instrument, decades of innovations, marketing, and corporate rhetoric repositioned it as a playback-only device. The uses and associated meanings presented in Chapter VII show how hip hop DJs bring the turntable full circle by using it as a musical instrument, in fact, the "ultimate" or "infinite" musical instrument.

Historical analysis in Chapter V revealed that the phonograph and graphophone both began as a read/write media, which allowed consumers to make, preserve, and share their own recordings. Thus, the recording industry's foundation is based as a read-write medium where consumption enabled production. With the introduction of Berliner's gramophone, recording became a mass medium and consumers were not offered the opportunity to produce media but consume it passively. Hip hop DJs, however, by using the medium as a musical instrument and for communicative purposes (not just read only), brought back the turntable and vinyl records to their new media origins as a read-write medium (Lessig 2008). In fact, hip hop DJs have taken the gramophone, the technology that made possible the mass consumption of music and, therefore, the foundation of the recording industry, and subverted the ideology of reproduction that structures it.

In the case of hip hop DJs, this research has shown how vinyl records, turntables, and mixers are, in the sense of Williams (1974), symptomatic technologies. By

434

combining DJ innovations in hand technique with technical innovations (what Williams calls "technical developments"), "technology" is created. Technology, as presented in this study, is a system, or what Sterne (2003) calls a network, which is composed of technology, technique, and social relations. Because this study has shown that the hip hop DJ is an intellectual property manipulator, we begin to see a balance between structure and agency. Hip hop DJs use technologies that have intended uses built into them in different ways, thus demonstrating what Taylor (2001) calls a practice theory of technology. While Chapter V described the historical meanings embedded into vinyl records and turntables, the practices of hip hop DJs "undermine, add to, and modify those [intended] uses in a never-ending process" (Taylor 2001, 38).

Thus, the findings suggest that hip hop DJs are guided by a new media logic (a logic described in Chapter III), but are new media and have been since DJ Kool Herc began breakbeat DJing in 1972. The hip hop DJ began as a "remix culture" and made "mashups" decades before those terms existed or were popular (and accepted) cultural practices. Hip hop DJs use the logic of the sample and loop that Manovich (2006) describes because the logic of hip hop's cultural production is based on treating every whole as a sample that can be looped. This logic began with the pioneering hip hop DJs who sought out songs with breaks on them, a tradition that has carried over to today's generation. While this has been the logic behind hip hop music for decades, only recently has sampling/looping become prevalent in mass culture.

Following Jenkins (1992), hip hop DJs engage in fandom practices with music by repurposing it. While the fandom that Jenkins describes entails fans borrowing from mass culture and incorporating that "semiotic raw material" into something only other

435

fans will find meaning in, this study reveals that hip hop DJs, who begin as fans of music, have been able to take the same concept and turn it into a culture and a multi-billion dollar industry. Instead of drawing from mass culture for only subcultural enjoyment, hip hop DJs take bits from pop culture and make new pop culture with those pieces. And multinational corporations have figured out how to exploit this creativity.

This research has shown some of the logic behind hip hop DJs as collectors of vinyl records, which is the starting point for manipulation. Data presented in Chapter VII suggests that vinyl records are collected and used because it is an organic medium that, by the hip hop DJ's use with a turntable, becomes, in a McLuhanesque sense, an extension of man. However, while the medium is literally the physical extension of the DJ, there is equal importance placed on the emotional characteristics of the content encoded into a record's grooves, which hip hop DJs use as extensions of their own emotions and feelings. Findings presented in this study demonstrate how record collections are historical archives that, because they contain valuable information, are tools used for musical education. Walter Benjamin once said, "Collecting is a form of practical memory" (1999, 205 [H1a, 2]), and findings shown in Chapter VII demonstrate how DJs' collections become similar to photo albums of their lives. By archiving musical history in the form of records and manipulating them, as DJ Steve Dee said, DJs are "taking a portion of time and manipulating that time using time" (2009).

While vinyl collections are archives of history that are protected by intellectual property law, evidence presented in this study suggests that DJs collect vinyl records mostly because of how they can be used by the DJ in different forms of production.

436

Chapter VII has shown that one of the main reasons why hip hop DJs collect records is for use, as they are the tools of the trade.

However, findings related to the hip hop DJ's stockpiling of records for use in musical, cultural, and economic production problematizes Attali's (1985) theory on the discrete stages of repeating and composition within a political economy of music. Attali considered the stage of repeating, where people become individualized consumers of music that stockpile commodities, to be especially alienating. He thought that musicians would be liberated in the stage of composition, where the producer of music is caught between "doing and destroying" (1985, 135) and there is little distinction between consumption and production. Attali's theory, however, is based on Western classical music. As this study has shown, hip hop DJs primarily operate within the stage of composition, but are completely reliant on the stage of repeating in order to have the tools to compose with. Again, the hip hop DJ provides a case where there is mutual constitution between forces that have often been regarded as distinct.

While evidence presented in Chapter VII suggests that vinyl records add to a hip hop DJ's subcultural capital (Thornton 1996), the importance of this has declined in the digital age. Chapter V discusses the decline in the production of vinyl 12" singles, which hip hop DJs blame on digital vinyl systems (DVS). However, there is subcultural capital related to collections for DJs who are record collectors and understand the commitment and passion that goes into that medium. The findings generally suggest that skill in manipulation also makes up a DJ's subcultural capital. Within hip hop DJ culture, value is dialectically related to the objectified form of subcultural capital (a collection of records or hardware, usually related to economic capital) and the embodied form of

subcultural capital (skill, style, and music knowledge, which are based on time investment). Without the embodiment of subcultural capital, the objectified form is just a collection of commodities. As Bourdieu explains: "To possess machines, he only needs economic capital; to use them…he must have access to embodied cultural capital" (1986/2001, 101).

While this study has shown some of the ways that hip hop DJs manipulate intellectual properties, one of the more significant findings is that hip hop DJs are also intellectual properties that are manipulated, which occurs through the exchange of intellectual properties.

Intellectual Property Exchange

The second major finding of this study is that when DJs' concepts and ideas are executed in a product, or their brand name is used in association with a product, DJs are intellectual properties that are manipulated by industries. Findings presented throughout this study suggest that the exchange of DJs' intellectual properties creates contradictions and inequities in respect to credit and compensation from industry. While these antagonisms are not unique to a political economy of the hip hop DJ and arise within many cultural industries, this study presents an interesting case of convergence culture and the exchange of ideas.

In the case of a political economy of the hip hop DJ, we see convergence between grassroots culture and corporations. This type of convergence goes beyond technological convergence (numerous media converging into one medium) and content convergence. The findings in Chapter VI and VIII have demonstrated, following Jenkins (2006), how

438

through R&D and branding practices, the industry and the culture work together in a more direct manner.

While Jenkins's convergence is based on content, consumption, and fandom, the convergence presented here centers on the desires of hip hop DJs and manufacturers to produces better tools. Hip hop DJs want these tools so that they can better express their ideas; manufacturers try and make these tools in order to accumulate capital. Examples of this exchange were presented in Chapters VI and VIII, and include the Vestax PMC-05Pro and Controller One turntable, and Rane TTM 54 mixer. This convergence is grounded by DJs' consumption of products and, in turn, corporations' consumption of the intellectual properties of DJs. Thus, the convergence in a political economy of the hip hop DJ is based on intellectual property exchange, and in a manner that benefits corporations. The R&D process may be the same in other media and technology industries where the ideas of experts are harnessed, or intellectual properties are extracted from the Web to be used in concept development.

The hip hop DJ is a cultural and industrial laborer who produces culture and is used to sell a range of commodities, thus, DJs are commodified and their labor exploited. While DJing is perceived to be a glamorous career, DJs labor like any other worker. Similar to other workers in the production of media, capitalists profit off of the DJs' manipulation of intellectual properties. For instance, DJs create surplus value for bars, clubs, and venues by exchanging their skills in music selection and manipulation. But also, through branding and R&D practices, hip hop DJs are consumed as intellectual properties that produce surplus value. This is not unique to the DJ product industry. For instance, DJ Hero is a powerful example of how DJ culture/ideas are leveraged to help

439

sell recorded music, pro audio products, Coke, and Twix bars, as well as numerous other commodities and services. Other instances include the use of hip hop DJs in advertisements for McDonald's, Gap, and Apple. Therefore, DJs are used like famous athletes, movie stars, and recording artists who endorse products and are themselves commodities. The main difference is that famous people are applying cultural capital that appeals to a mass market, while celebrity DJs generally attach their subcultural capital to sell to a small niche market.

The findings in Chapter VIII suggest that DJs believe in open source, and are willing to participate in product R&D to help bring better tools to the culture. For DJs endorsed by manufacturers, this exchange has other perks (free gear, tour support, etc.); for other DJs who give companies feedback (i.e. posting on web forums), the rewards are only better tools that they must pay for. Sometimes manufacturers will make poor technologies based on bad interpretations of DJ ideas, but will market them if the profit margins are high. However, the example of the Controller One turntable presented in Chapter VIII demonstrates an instance where Vestax, despite very limited market potential, made a superior product, but were unable to make a profit. The case of the Controller One has shown how some manufacturers have taken a financial risk on a product that is intended to further the hip hop DJ art form rather than cash in on a trend.

Generally speaking, in the exchange of intellectual property in R&D, manufacturers are the "winners" as their technical innovations fair better in the marketplace because of how they have integrated DJs' concepts. This study has shown that, beginning with DJ Trix and the Vestax PMC-05 Trix mixer (Chapter VI), DJ culture also "wins" through this process by having tools that allow them to express their creative

440

ideas. However, new innovations come at a price, and the prices for mixers, turntables, and controllers continue to be high. Thus, DJs must labor in order to buy new gear and keep up with developments in technology.

At the same time, this study has demonstrated how a technical innovation, when combined with branding (of the manufacturer and superstar DJs), is a fetishized commodity because the labor of DJs who gave ideas and engineers who interpret them is typically overlooked. With the Internet being used as free research laboratories for companies in various industries, gathering valuable intellectual properties from the cultural commons has gotten easier. And, by consuming these products (from consumer electronics to pharmaceuticals), there is reason to believe that in some instances we are buying back *our* ideas in the form of a commodity.

The DJ product industry is built off of the exchange of intellectual properties of hip hop DJs, beginning with pioneering DJs such as Kool Herc, Afrika Bambaataa, Grandmaster Flash and GrandWizzard Theodore (Chapter II). For instance, Grandmaster Flash popularized numerous techniques, GrandWizzard Theodore popularized the scratch, and DJ Steve Dee popularized "The Funk." By popularizing these techniques, other people wanted to become DJs, and in order to be a DJ, they had to buy all of the equipment. Therefore, hip hop DJs have had an important role in building the market for DJ products that cater to these techniques.

The study has highlighted how DJ products reflect the needs of DJ technique, and are based on their intellectual properties. And, because of the use of brands like Technics in public performances, many DJs are brand ambassadors for companies without that being the intention. In case of the Technics SL-1200 turntable described in Chapter VI,

441

DJs using the product helped make it the standard turntable. As DJ Steve Dee said in Chapter VII, "It's safe to say that I sold more turntables than Technics sold turntables" (2009). However, patent protection on DJ techniques is problematic because the art form is so heavily steeped in prior art. Hip hop is based on a creative network and is derivative, or what DJ Babu called in Chapter VII a "hand-me-down" culture. So, if Kool Herc were to get patent protection and collect royalties from the multibillion dollar rap industry, how would Jamaican sound sound system DJs or the recording artists/record labels whose breaks Herc used be compensated? Is credit enough or are royalties due? Kool Herc, Afrika Bambaataa, and Grandmaster Flash get a lot of credit, but that does not always equate to income.

One of the more significant findings to emerge from this study is how DJs' intellectual properties are exchanged for branding purposes. While the research in Chapters VI and VIII shows how many DJs are involved in the R&D process, in some cases the DJ who brands a product is credited as being its "inventor." For instance, although DJ Qbert provided some input on the Vestax 05Pro and 07Pro mixers, he was used heavily in the branding and marketing of those products. Meanwhile, the DJs who contributed more to design concepts (i.e. DJ Shortkut (05Pro) and DJ Go (07Pro)) were not featured in the branding of the products. Qbert and his company, Thud Rumble, provide another excellent case study of how a DJ's brand is an extremely valuable commodity, as corporations such as Vestax, Monster Cable, ArtistWorks, and Ortofon have been able to attach the Qbert™ and Thud Rumble™ brands to numerous commodities and services.

While the exchange of intellectual property in R&D is certainly a factor in making better products, this study suggests that harnessing the brand value of a DJ is extremely important in authenticating and selling products. The case study of Grandmaster Flash™ presented in Chapter VIII illustrates this point. Sugar Hill Records, while denying Flash the opportunity to perform on recordings, applied the subcultural capital (Thornton 1996) that he had built up in the South Bronx to recordings that he was not a part of, thus exploiting his brand to sell records. When Grandmaster Flash won the right to use Grandmaster Flash™, not only did he win the right to use his own name/brand, but the right to attach it to numerous other products in order to authenticate and sell them.

Because of the way that the DJ's authorship is recognized by the industry as a brand, but denied as inventor or author (patent and copyright), the findings of this study suggest that DJs emerge as "brand-name author-god" (Herman 2006, 22). The findings in Chapter VIII demonstrate how a DJ's name, which is a function of authorship, is used to sell products. As DJs' brands help to authenticate a manufacturer's product, the manufacturer's brand also helps to authenticate the DJs by including them in promotional materials and putting them in the public eye. Although this mutual marketing opportunity increases the brand value of a DJ, corporations are the primary beneficiaries of exploiting DJs' brands.

By including DJs in promotional materials (videos, print ads, trade shows), using their brands on signature products, and especially sponsoring DJ events (i.e. DMC DJ battles), manufacturers produce an audience commodity. Smythe's (1977) notion of the "audience commodity" argues that this is produced for media whose main income is generated by attracting an audience and then selling it to advertisers.

443

DJ battles have proven useful for sponsors who only allow their technology to be used in competition. For instance, because Technics was the main sponsor of the DMC World DJ Championships, only its SL-1200 turntables were allowed in competition (there was also a period when only its mixers were allowed in competition, as well). Another controversial example of equipment restriction was in 2006, when Ortofon offered a $10,000 prize for the winners of the three battle categories, and in exchange, all DJs had to use its needles. Many hip hop DJs in the DMC battles when the "Ortofon rule" was in place were not happy because they were using other needles. Ultimately this rule allowed for sponsorship to supersede and dictate the art. While manufacturers sponsoring events is important to the vitality of battles because they provide cash and prizes, events like the DMC not only follow through with equipment restrictions, but subject its audience to ubiquitous branding materials at their battles and in videos. Thus, the audience is bought by corporations that co-sponsor.

Another example of the audience commodity concept was shown in Chapter VIII, where manufacturers give equipment to DJ schools or distribute how-to videos with only their products being used, which is another way of producing new consumers and a demographic that can be bought by companies. Another case was presented in Chapter VI when Vestax, presumably in part because DMC only allowed Technics turntables/mixers, started its Vestax Extravaganza World Finals as an event for DJs and branding moment. While many manufacturers cite sponsorship of events as one of the ways that they give back to hip hop DJ culture, the barrage of branding, as well as the obligations forced upon event organizers by sponsors, exposes the real motivations of sponsors.

444

Another example of audience commodification was discussed in Chapter VIII. The DJ Hero video game franchise, which not only markets recorded music, but DJ products (through in-game product placement from Novation, Rane, Pioneer, KRK, and Beats® by Dre® headphones), also commodifies those that play the game. Again, credible hip hop DJs, such as DJs Jazzy Jeff, Shadow, Z-Trip, and AM, were included in *DJ Hero 1* as a way of attaching their branded subcultural capital to a game franchise. While DJ Hero was initially touted as a way of highlighting authentic DJ culture, its use of rappers Jay-Z and Eminem as the primary brand ambassadors for a gaming franchise about DJs, as well as aiming for the mass market with electronic dance music DJs and producers in *DJ Hero 2*, deflated the power it was supposed to give to the DJ.

Intellectual Property Rights

The last major area of findings of this study is that through the manipulation and exchange of intellectual properties, the system of intellectual property rights has evolved to favor the interests of corporations and some individuals at the expense of culture and creative networks. Data presented in Chapter V specifically demonstrates how rights are granted and how the intellectual property system can dissuade independent inventors, companies, and creators. The research suggests that because intellectual property rights favor those with the most economic resources, hip hop DJs have often been disadvantaged by this system.

Intellectual property rights have been presented as the ability of those who are granted these limited monopoly rights to exclude others from using their properties. Data in Chapter VI illustrated how intellectual property rights have functioned within a political economy of the hip hop DJ. For instance, combined with cultural uses of its

products and placement in other media (film and DJ battle sponsorship), Technics was able to use its patent monopoly to help standardize its SL-1200 in the market for DJ turntables. Another example was the contestation over the ownership of the idea behind digital vinyl systems and the right to exploit that idea highlighted by N2IT's lawsuits in Chapter VI. Historical analysis in Chapter V also revealed how intellectual property rights have related to the standardization of music playback devices and formats. With the risk and high cost of patenting technology, industry prioritization has shifted to buying back catalogs of music and exploiting those rights through licensing and reissue.

The findings presented in Chapter VIII look at some of the antagonisms surrounding credit for innovation within a political economy of the hip hop DJ. The problem is that authorship is another "right" typically granted by law, and because the research has shown that hip hop DJs do not own the rights to their innovations, credit becomes highly problematic within the culture. Some examples of this include the contested etymology of the term "turntablism," Hamster style and the naming of DJ techniques, as well as the difference between the first to "invent" a DJ technique and the first to perfect and popularize a technique. As DJ Steve Dee discussed in Chapter VIII, hip hop DJs do not own patents on their techniques, but could potentially get patent protection because technique is a process or a means to an end. Steve Dee's contention is that by DJs having patent monopolies, they would then be able to have some control over the industries that capitalize from DJs' intellectual properties without credit or compensation.

Because DJs rarely control the rights to their intellectual properties, the research in this study has presented hip hop DJs as innovators not inventors. DJs have used the

446

discourse of invention as a way of laying claims to innovations, however, this authorship

is highly contested because, as this study has shown, human and technical innovations are

the product of networks and not individuals. The case of the Vestax 05Pro mixer

discussed in Chapter VI illustrated how many DJs, manufacturers, and branding

techniques come together to produce a technical innovation. Although some Vestax

promotional materials have cited its President as "inventor," because many DJs were

involved in its R&D, it is arguable that the Vestax 05Pro mixer was produced by a

network.

This suggests a major flaw in our current intellectual property system, in that it

only recognizes individuals as inventors. In other words, the U.S. system fails to

recognize networks as creators (although most innovation is the product of cultural

collectivity). Technical and human innovations within a political economy of a hip hop

DJ are produced through collective intelligence (Jenkins 2006). As Terranova (2004)

suggests, products coming from networks are "all produced collectively but are

selectively compensated" (84). Case studies on the development of the Rane TTM 54

and Controller One turntable presented in Chapter VIII demonstrate how hip hop DJ

networks help produce technical innovations.

The research has also shown that the industry only gives hip hop DJs authorial

credit as brands, while authorship rights are rarely granted as copyrights or patents.

Findings suggest that because of inequities in the capitalist system, hip hop DJs generally

lack the resources to produce their ideas as products. Therefore, they give up their

intellectual properties in order to see useful technologies produced. As McLeod said,

"Intellectual property law, like any other property law, handicaps those who have few

447

material resources and no access to the means of production, and it works to maintain unequal power relations" (2001, 226).

Hip hop DJ culture is an open source culture that must deal with the proprietary worlds of the recording and DJ product industries. This contradiction, as research findings reveal, produces various antagonisms. However, Galloway wrote that "protological behavior (giving out your technology broadly even if it means giving it to your competitors) often wins out over propriety behavior" (2004, 126). Protological behavior was shown in examples such as Pro X Fade and innoFADER, the Scratchophone, Turntablist Transcription Methodology (TTM), and JohnBeez's Fretless Fader presented in Chapter VIII. Hip hop DJs are denied copyright authorship because of how they use sounds owned by others, thus the case study on TTM notation in Chapter VIII highlights a tool that could help to make DJs "authors" recognized by capitalism.

This is also demonstrated in product R&D and the uses of ideas published on Web forums. Some smaller companies and independent inventors in the DJ product industry are even skipping patent protect all together, instead opting for trade secret rights and sharing with parties they can trust. These case studies have shown that open source behaviors in this industry can be profitable, but ultimately, DJs are the beneficiaries. Historical analysis in Chapter V has shown that in moments when barriers of entry into the market are lowered, culture, art, and consumers benefit from this access (i.e. when most of the original gramophone and phonograph patents expired, in 1917 the market was flooded by independent companies).

Collectively, through intellectual property manipulation, exchange, and rights, this study has shown a powerful dialectic between industry and hip hop DJ culture. Although

448

this is a case study and the findings should be considered only within the context of this study and its sample, issues presented here may relate to other situations. For instance, the discussion of "microwave DJs" and the changing economics of professional DJs in the digital age presented in Chapter VII, is similar to the antagonisms between song composers and talking machine companies, as well as talking machine companies and radio in the early 20th century. Modern examples are numerous, including professional newspaper journalists versus bloggers. Thus, the microwave DJ is an example of how digital technology enables democracy of access, which is impacting professionals as new "prosumers" enter the market.

This study has broadly looked at standardization processes as they relate to the hip hop DJ's political economy, and suggests that it is not a one-way process where corporations introduce technologies as "divine actors" (Sterne 2003) that are accepted by culture. Indeed, standardization is a cultural process, as well. Examples of this process include DJ concepts that are encoded into technologies that became standards, such as the Rane TTM 54 and Vestax PMC-05Pro described in Chapters VI and VIII. Furthermore, the case study on the Technics SL-1200s outlined in Chapter VI has shown how the hip hop DJs' use of that innovation in a way unintended (it was aimed at audiophiles), combined with patent protection and corporate partnerships (i.e. the DMC World DJ Championships), led to that product's standardization.

This study suggests, then, that standardization comes from the network of intellectual property manipulation, exchange, and rights. The transition to the CD format outlined in Chapter V is a powerful example, as well. Because consumers were making unauthorized copies of LPs on cassette (manipulation), Philips and Sony developed the

CD format/player and entered into a cross-licensing agreement for the patents (exchange/rights). Philips and Sony were able to convince the major recording companies to accept it by pitching the CD as an anti-piracy format that would also allow labels to exploit back catalogs. Again, we again see how cultural uses or misuses contributes to the standardization process.

The findings of this study suggest that, in general, the relationship between industry and culture, consumption and production, and format standardization, are governed by intellectual property manipulation, exchange, and rights.

Significance of the Findings and Contributions

This study contributes to our understanding of how industry and culture may converge, as well as the implications of the cultural and economic inequities that emerge from this convergence. This study has also responded to some of the calls for communication scholars to analyze music and the music industries (Gronow 1983; Burnett 1995; McQuail 2005), as well Théberge's (1997) critique that few scholars have paid attention to the industries that produce musical instruments.

The current findings contribute to a growing body of literature within the "transfield" of critical information studies (CIS), which Vaidhyanathan (2006) defines as the investigation of how "culture and information are regulated, and thus the relationships among regulations and commerce, creativity, science, technology, politics, and other human affairs" (293). While most studies of the hip hop DJ and intellectual property rights have focused on sampling practices and copyright law, this study has added analysis of trademarks (brand) and patents (invention), and therefore adds to intellectual property studies.

450

The study also contributes to the field of communication studies, specifically the political economy of communication (PE/C) and the analysis of the cultural industries, by looking at the profits involved in the relationship between hip hop DJs, the media, and other cultural industries. The study has also demonstrated how the methods used in studying political economy can be combined with other qualitative methods, such as interviewing and participant observation. Furthermore, these findings add to the political economic literature on intellectual property rights (i.e. Bettig 1996), as well as suggesting how a micro-industry/culture can be studied from the perspective of political economy.

By revealing how hip hop DJs and companies have worked together to produce technical innovations that allow for new forms of cultural production, this study also contributes to the analysis of the relationship between industry and culture. While political economy of media has sometimes been critiqued for being deterministic, and cultural studies for not looking at how industrial production impacts cultural uses and meaning-making processes, findings in this study provide a new understanding of how culture and industry may be co-determining. More specifically, the study supports Taylor's (2001) practice theory of technology, where music technology acts upon its users and at the same time, users contribute to and modify the structure of these technologies in a never-ending process. Furthermore, by examining a political economy of the hip hop DJ, this study has not only explored the "corporate machine," but has, as Negus (1996) calls for, provided insight on the "human beings who inhabit the machine" (36).

Contributions have also been made to the current literature on subcultural theory, especially ideas discussed by post-subcultural theorists. By employing ethnographic and interview techniques, instead of reading subcultural members semiotically as texts, the

451

study adds to subcultural literature that encourages scholars to reach out to the subcultures they are researching. Because hip hop DJs were asked about their consumption habits, it also builds on subcultural research that considers consumption beyond resistance. In addition, the research adds to Thornton's (1996) concept of subcultural capital, specifically by looking at how it is harnessed by corporations to authenticate and sell products to other subcultural members.

Lastly, findings in this study show how hip hop DJs may not even be part a subculture at all, but what Straw (1991) calls a "scene" (discussed in Chapter III). Because some hip hop DJs specifically consider themselves turntablists, club DJs, mixtape DJs, or producer DJs, and because they interact beyond the confines of geographical space and often on the Web, "scene" may be more of an appropriate term. While subcultures are usually conceptualized as being antithetical to mass culture/industry, scenes interact with industries as a way of strengthening the economy of the scene, which is evidenced throughout this study.

The discussion also demonstrated how the ideology of hip hop DJs was an early example of the current practices of new media, such as sampling, remixing, and sharing. By providing case studies and looking at creative networks, the study contributes to literature on convergence culture and collective intelligence, specifically by examining R&D and branding.

While Jenkins's (2006) notions of convergence culture and collective intelligence focus on how fans use media texts and how corporations engage with that fandom, the research presented here actually looks at how a grassroots culture (hip hop DJs) has worked together with corporations to produce various technical innovations and media.

However, the convergence and collective intelligence presented in this study has been shown to produce cultural and economic inequities because industry typically treats the culture as a market, and therefore have put the needs of accumulating capital over needs of the culture. This study also contributes to the growing body of literature on the cultural negotiation of digital technology, as well as how professionals have negotiated the democracy of access.

Importantly, the study makes a significant contribution to the literature in the growing field of hip hop studies because there is very little research on hip hop DJs. For example, *That's the Joint!: The Hip-Hop Studies Reader* (Forman and Neal 2004), the most comprehensive academic volume devoted to hip hop studies, does not include a chapter devoted to DJing.[121] While rappers, b-boys/b-girls, graffiti artists, and digital sampling artists have received a considerable amount of academic attention, the hip hop DJ has gone largely untouched. While other research has looked at hip hop culture's historical development (i.e. Fricke and Ahearn 2002; Chang 2005), and therefore addresses pioneering hip hop DJs, other than a handful of journal articles, the hip hop DJ culture of the last 15-20 years has not received comprehensive critical analysis and documentation. Also, DJ studies, which have typically looked at electronic dance music DJ culture and club DJs, have largely ignore hip hop DJs. Finally, this study answers Schloss's (2004) call for scholarship from within hip hop culture, as well as the need for scholars to reach out to the communities they are studying.

While discussion may have presented DVS in a negative light because of its effect on vinyl DJ culture and the recording industry, it might be suggested that we have entered

---

[121] One article, entitled "Hip-Hop's Founding Fathers Speak the Truth," is an interview with Grandmaster Flash, Afrika Bambaataa, and Kool Herc, which was originally published in *The Source*.

the age of the *Green DJ*. As data in Chapter V have shown, despite rhetoric from the recording industry and media, vinyl production has declined, mainly due to DJs using DVS. Whereas recording companies used to carelessly press promotional records and commercial 12" singles, nowadays they are more cautious. Given the amount of toxins that go into producing vinyl records—from the fuel used to process the polyvinyl chloride (PVC), the PVC itself, and making cardboard jackets, to the fuel used to ship vinyl and for consumers to drive to the record store—DVS and the MP3 may be doing the environment a great service. Also, because many of the 12" singles being pressed before DVS were commercial pop hits with short shelf-lives, and therefore very little value in the secondhand market, many of those records easily found their way into landfills (a very toxic medium to dispose of). DVS has allowed DJs to consume pop music digitally and dispose of that music digitally, which has helped free the environment from the burden of vinyl-related pollution. For the vinyl records left in the world that retain value, record stores and eBay serve as recycling centers. It may be beneficial for DJs and scholars alike to begin considering some digital technologies as green media.

Lastly, given the theoretical framework of this study and the findings, the research builds towards a theory of technocultural synergism, which has been demonstrated throughout this project. Technocultural synergism is the process where culture and technology industries interact and combine to produce a total effect that is far greater than the sum of the individual parts. Technology manufacturers have benefitted greatly from hip hop DJs' intellectual properties, and conversely hip hop DJ culture has benefitted from the use of these innovations. While industry and culture are sometimes considered to be antithetical to one another, this research has shown how technocultural synergism

454

brings those entities together to create a powerful force. This synergy, however, is governed by intellectual property manipulation, exchange and rights, and through such a dialectical force, inequities in economic, cultural, subcultural capital arise. The inequities, however, generally favor corporations.

Limitations and Further Work

A number of important limitations to this study need to be considered. First, the research was limited because it only analyzed hip hop DJs in relationship to technology and industry. Future research could study hip hop DJs in respect to issues such as race, gender, and class. For instance, many female DJs that play in clubs are doing so because of their physical attributes or brand value, although there is a growing number of talented and devoted female hip hop and scratch DJs. A comparative study using ethnography would possibly yield rich data.

Also, there has been number of Filipino DJs who have had an enormous impact on hip hop DJ culture and industry; in fact, many of them are represented in this study (i.e. DJs Qbert, Shortkut, and Babu). This could be a very interesting subject for scholars interested race and identity politics. Although the race of the DJs included in this study's sample was highly diverse, race and identity was not addressed. While this study acknowledges that issues of race and gender are important to research on hip hop DJs, because of time constraints and because those issues are not my theoretical strongpoints, they were not attended to in this project. I simply do not have the appropriate analytical tools to give these issues proper attention. However, collaboration with scholars whose focus is on those larger identity constructs would be a potential way for the findings presented here to be analyzed through the lenses of race or gender.

455

Another, a major limitation of this study was the sample. The DJs interviewed were limited to those who began DJing before 2000, so they obviously value vinyl records and turntables. Although many of the hip hop DJs were included because of their influence on the culture and the industry, the research may have benefitted by interviewing bedroom DJs, microwave DJs, celebrity DJs, controller DJs, or other styles of DJing. The study purposefully did not address digital controllers or "controllerism," which would be a great topic for future research. Furthermore, although some DJs and industry people from outside of the United States were included the in the sample, the study may be critiqued as being American-centric. Analysis of globalization in relation to some of the ideas presented here could also be an interesting direction for future research.

Another limitation was lack of attention to audiences and content. It may have benefitted the research if people who consume DJ performances at clubs and festivals were included, or if textual or semiotic analyses of DJ media were conducted.

Lastly, my position as a hip hop DJ could also have been major weakness in this study. While some would argue that a hip hop DJ conducting an academic study about hip hop DJs would be a positive attribute, others may consider it a flaw. Because I am a hip hop DJ and I am a consumer of the many commodities discussed in this study, the tendency would be for me to side with the culture, which I do throughout this study. Some scholars would suggest that I bring too many biases to the research and that I cannot evaluate the data objectively. It would be interesting to see the outcome of a similar study conducted by a non-DJ, and if that research and analysis would differ from this project.

456

<u>Recommendations for Future Practice and Policy</u>

The findings of this study have a number of important implications for future practice. First, it is important to note that the DJ product industry is not a huge industry that stomps on DJs. While companies involved in manufacturing DJ products are in it to accumulate capital, they have proven to be more in touch with their market than larger corporations (i.e. Technics/Panasonic, which is completely divorced from the culture). Probably most manufacturers would admit in some of these R&D, branding deals, and partnerships, that a lot of contributors have been left out of the picture. Many manufacturers listen to DJs, work directly with them, support DJs on tours or with putting out albums, etc., but these DJs are usually endorsees. The rest of us are usually treated as consumers in a market. The story of DJ Trix shows how these relationships might be beneficial to DJs in the long run. As described in Chapter VI, DJ Trix was the first DJ with an endorsed mixer, as Vestax listened to him and used his design. He now runs Vestax's European office. There are other cases where DJs have gone on to be employees for these companies, as well.

It might be argued that hip hop DJs, or maybe DJs more generally, would benefit from having a trade union that could offer legal and business advice, advocate for fair wages from venues/promoters and enforce them, and maybe provide DJs with resources for healthcare and retirement. When you have some DJs getting paid $10,000-$70,000 for a night's work, it still might be argued that employers (i.e. clubs and manufacturers) should help to pay into health insurance and other necessary benefits that would help all DJs. Those who make the big money obviously have clout with

457

venues/promoters/manufacturers and could help advocate for better treatment of DJs across the board.

For professional and working DJs, there are no organizations that look out for the rights and well-being of DJs in the long run. It is important to note that the industries that have profited off of hip hop culture (especially the rap industry and superstar rappers) have been exceptionally slow at giving back to the culture or supporting its pioneers. For instance, in January 2011, DJ Kool Herc, the "father" of hip hop and largely considered the first hip hip DJ, had to have kidney stones removed but had no health insurance. After the story was spread on the Web, people started donating money to Herc's sister to help pay for the surgery. This should not happen, especially when the intellectual properties of these pioneers have helped to create a multi-billion dollar industry, and, as we have seen, they have never received any royalties on.

This study has shown that hip hop DJ culture would benefit by more grassroots companies that have the interests of DJs in mind. Because most of the important design concepts and product ideas have come from hip hop DJs themselves, and because DJs have also branded these products, there could be more "For DJs, By DJs" companies. Or, more manufacturers should employ DJs for work other than showcasing new gear at trade shows. Why can't a DJ be a receptionist, handle customer service, or work in shipping, sales, or manufacturing? Like b-boys/b-girls or skateboarders, who, for the most part, control the industries that profit from these subcultures, why can't hip hop DJs do the same? What if DJ battles were all about the art form, rather than advertising product and branding? While the findings in this study show that hip hop DJs have had a great impact

458

on the DJ product and recording industries, they have little control of or involvement in the businesses that cater to the culture and profit from it.

Taken together, these findings show that there is a strong need for resources that enable DJs to protect and implement their ideas. Not only should a resource like this be provided for hip hop DJs, but also for independent inventors, more generally. Protecting and implementing ideas is an activity only for those with capital and vast legal resources. Intellectual property rights were originally framed in the U.S. Constitution as anti-monopoly laws that were intended to protect and increase healthy competition. These laws were drafted to benefit consumers and independent authors, but not corporate authors. It is problematic that it takes little labor to gain copyright protection and those rights granted last 95 years for corporations, while there is a great deal of labor and financial risk involved in receiving patent protection, which only lasts 20 years. Many agree that these laws need to be reformed so that they favor human authors/inventors and not just corporate ones.

Although this has been demonstrated in other research in respect to sampling (i.e. McLeod 2001; Vaidhyanathan 2001), this study has shown the need for patent law reform, or maybe a completely different system that favors non-corporate creators. Beyond protection, a resource for DJs to actually implement their ideas into prototypes or maybe even commercial manufacturing, would be another solution to some of the issues addressed here.

Finally, there is a definite need for more technocultural histories. The goal of a technocultural histories is to tell versions of the history behind a technology that does not focus entirely on the individual genius or great corporation that produced it. The goal of

such storytelling should be to document how culture and laborers, not just brands and inventors, contribute to innovations, as a ways of revealing the everyday people who labor below the surface of a brand.

Bearing this in mind, the research presented here will serve as the foundation for *DJpedia*, which will begin as a non-profit wiki-source that will provide historical and cultural information, as well as technocultural and oral histories, on DJ culture for free. The goal will be to make information accessible. Also, *DJpedia* will also seek to

Figure 60: A rough and early version of the *DJpedia* logo.

employ DJs as DJpedians, as well as devise ways of generating revenues or grants that could be dedicated to education and other media that benefit the culture. *DJpedia* would also try to organize events for DJs without subjecting the audience to advertising. Also, a long-term goal would be to offer legal advice and options for healthcare and retirement. The crux of *DJpedia*, however, will be to harness the DJ's collective intelligence in a way that benefits the culture and empowers future generations of DJs.

I'm Awesome

This study began with the story of "I'm Awesome," my role in its production, and how my creative labor was exploited for profit by Universal Republic, Sony ATV, and iTunes. I ended up letting the situation go, although it has haunted me. Embroiling myself in a lawsuit over credit with a friend was an option I was not willing to pursue.

The problem is that I would have had to seek monetary damages, when in fact the only payment I wanted was in the form of artist credit.

I had my reasons for wanting credit for my contribution to "I'm Awesome." First, it was important to me that the DJ to be recognized as an author and composer and to establish a new paradigm in the recording industry. Second, the potential recognition from the song could have led to other business opportunities. Third, because I have so many free mixtapes and podcasts all over the Internet that have "real" hip hop music on them, maybe the young kid who listens to commercial rap music would find the "real" stuff because I was credited for "I'm Awesome." And last, maybe that same kid would stumble across this research project, or *DJpedia*, and get educated on hip hop culture and the hip hop DJ.

But, do not get me wrong here, the success of this song and Spose as an artist is a great thing for Maine and Maine musicians. It has brought a great deal of attention to the state and even other musicians from my small hometown. Although Spose's major debut, *The Audacity*, has yet to be released (and it does not look like Universal Republic will release it since the date keeps getting pushed back, a clear indication the label may "shelve" the project), he has built an independent empire in the state with his label, Pdank Entertainment. He has released two free albums in the last year and is continuing to grind independently, and I have a lot of respect for that. In summer 2010, I played a show with Spose when I was home on vacation and we got to perform "I'm Awesome" together live. That felt good, and we are looking to collaborate in the future. At no point in this whole situation did I blame Spose for this because he was so new to the industry

side of things. I do, however, still blame Universal Republic for not crediting me despite my contributions.

I have since moved on from this situation, although the entire time I kept thinking about how Grandmaster Flash got screwed over by rappers and record labels in the early 1980s (Chapter VIII), and that once hip hop became rap music—once it became a commodity—that the DJ, the backbone of the culture, had been displaced. From the very beginning, industry failed to recognized the DJ's authorship, and this has been the standard practice in the recording industry for over 30 years. As this study has shown, this has also happened in the DJ product industry. Although Flash had his brand exploited and was not given the chance to create with Sugar Hill Records, I was able to create but my brand was not exploited.

I will never forget this experience. At the time, I wish I had my business straight and that I had someone to go to for advice. If I could do it over, I would have done it differently. But, I guess you learn from your mistakes. However, every time that I forget about "I'm Awesome," something reminds me. At the end of January 2011, I got home at 3AM after a DJ gig. I watched an episode of *Law & Order: SVU* that I had recorded on my DVR. During a commercial break I was in the kitchen and I heard "I'm Awesome." Confused, I ran in and saw that the song was used in a nationally syndicated promotional spot for NBC's new Monday night line-up. This meant a nice synch deal for Universal Republic and publishing royalties every time it aired. Sigh.

As of April 2011, "I'm Awesome" has sold approximately 700,000 copies, collectively earning Universal Republic, iTunes, and Spose nearly $1 million, and that is just from sales. However, what I may have lost in money and credit I actually gained in

credibility: not only am I an academic who is critiquing the corporate exploitation of intellectual property, but a hip hop DJ who has had his intellectual properties exploited. This situation also gave me motivation to try and prevent this from happening to others in the future. I came away from this learning many valuable lessons (and all the DJs in this study should consider this too), but mainly that no matter what corporations tried to take away from me, I would be fine as long as I kept reminding myself of one thing: "I'm Awesome."

APPENDIX A

SEMI-STRUCTURED INTERVIEW QUESTIONS

General Information:
Can you tell me about your DJ/turntablist name and how long you've been DJing for.

Please describe how you got into DJing and Turntablism.

In your own words, can you define turntablism?

Is this something that you do for a living, hobby, identity?

In your opinion, what does the DJ as turntablist mean to hip hop culture? What role do DJs play in culture in general?

DJs know the history?

In any ways do you considering DJing a form of communication?

Can you tell me about how you learned how to DJ? What was the process like then? In your opinion, what are the similarities and difference between how you learned and how people are learning to DJ now?

<u>Technology:</u>
So, please tell me about the types of turntables and mixers you use and why do you use those brands.

Can you remember what your first set up was like and how you felt?

Do you see the turntable as a musical instrument? If not, why? If so, why?

What is your opinion on the recent rumors about the Technics 1200 being discontinued?

Please describe how you've seen the technology change since you began DJing.

Please talk about the influence of technology on the art you make as DJ/turntablist?

Please describe your opinions on video games such as DJ Hero or Scratch: The Ultimate DJ.

In your opinion, what is the single most important technological development in DJ culture and why?

Has the Internet changed DJ/turntablist culture in any ways?

What are your thoughts on the commercialization of hip hop DJ culture?

SSL and Vinyl Emulation:
Please talk about how and why you use DVS. If you do not use DVS, please explain why.

In your opinion, why have DVS become so popular in recent years?

Have DVS changed your DJing/Turntablism practices?

Are there any differences are between a kid who came up on records and one who comes up on DVS?

There has been a lot of debate about DVS and vinyl. If someone said that vinyl emulation systems were killing vinyl records, how would you respond?

Technology Companies:
Do you have any current endorsements or sponsorships--by any DJ companies or other companies?

Do you or have you worked with DJ technology companies in terms of developing technology with them? Please describe your experiences.

Do you think that there is a good/healthy relationship between these technology companies and DJs?

How much of a part of DJ/turntablist culture are these technology companies? How much of a part of the industry are DJs?

Music Collection:
So, please tell me about your record collection.

What does your record collection mean to you? What does it say about you?

How important are vinyl records to hip hop culture in general? What about crate diggin?

As a DJ, what makes your record collection valuable to you?

Do you still dig for records? Can you talk about your process for diggin?

Sampling/Law:
When you start making records, even in the conceptual phase, how much thought do you give to copyright law?

Do you think that copyright laws have influenced sampling practices and hip hop?

QUANTITATIVE ANALYTIC SURVEY

Skratching The Digital Itch Survey[122]

General Information

What is your DJ/Turntablist name?

What city, town, state, or country do you represent?

How long have you been a DJ/Turntablist?

How would you best define yourself as a DJ?
You may choose more than one option.

            Turntablist
            Club/Bar/Lounge DJ
            Performance DJ
            Radio DJ
            Battle DJ
            Mixtape DJ
            Producer
            Digital DJ
            House Party DJ
            Veejay
            Crate Digger
            Other:

What music genre most defines you or influences you and why?

Please describe how you got into DJing and Turntablism.

Please explain the role DJing/Turntablism plays in your life.

---

[122] The live Web form for this survey can be viewed at http://tinyurl.com/42aocw6.

In what ways to you see DJing/Turntablism as a form of communication?
It can be interpersonal, mass, etc.

Do you make money from DJing/Turntablism?

No Comment Always Sometimes Never

If so, how do you make money from DJing/Turntablism?

                    DJ at Club/Bar
                    Mixtape Sales
                    Performance/Showcase
                    Battling
                    Private Parties
                    Scratching on Other Artists' Projects
                    Sales of Turntable-Music CDs
                    Scratch/Break Record Production and Sales
                    Beat Sales
                    Other:

Please describe your opinions on video games such as DJ Hero or Scratch: The Ultimate DJ.
What do you think? Have you played these games? How do these games advance DJ/Turntablist culture? Etc.

DJ/Turntablist Technology
This section focuses on the technologies you use and how you use them.

What brand of TURNTABLES do you use and why that brand?

How familiar are you with the company that manufactures your brand of turntables?

	1	2	3	4	5	6	7	8	9	10	
Not Familiar											Very Familiar

In what ways do you see the turntable as a musical instrument?
In what ways do you not?

What MIXER brand do you use and why that brand?

How familiar are you with the company that manufactures your brand of mixer?

	1	2	3	4	5	6	7	8	9	10	
Not Familiar											Very Familiar

How loyal are you to the company that manufactures your brand of mixer?

	1	2	3	4	5	6	7	8	9	10	
Not Loyal											Very Loyal

If you use multiple mixer brands, why?

What other types of technologies do you use?
You may elaborate on these technologies in the following question.

> CD Turntables
> Looping Pedal
> Effects Processor/Pedal
> Traktor Pro
> Serato Scratch Live
> Other Vinyl Emulation Programs
> MIDI Device
> Vestax Controller One
> Vestax QFO
> Synths
> Talkbox
> Other:

Please describe why you incorporate these other technologies?

If you use a Vestax QFO or Controller One, please discuss how and why you use those technologies.
Or, if you do not have either of these turntables, why would you maybe like to have them?

How important is the technology you use in making your art?

	1	2	3	4	5	6	7	8	9	10	
Not Important											Very Important

How strong of an influence does the technology you use have on the art you make?

	1	2	3	4	5	6	7	8	9	10	
Weak											Very Strong

In what ways does your technology define who you are as an artist? Or, do you define the technology?
So, how do you push your technologies to do what you want them to do?

Please explain the ways in which you've seen DJ/turntablist technology develop since you first entered the culture. And, how has this technological evolution affected you as a DJ/Turntablist?

Can you describe how DJs/Turntablists have impacted how DJ technologies are designed and manufactured?

Any other thoughts on DJ/Turntablist technology?

Music Consumption
These questions focus on ways in which you consume and use your music collection.

How many years have you been buying music?

Think about your entire music collection and which of the following formats comprise the most and the least of it.
Please approximate.

	1 (The Most)	2	3	4	5 (Don't Have)
Vinyl Records					
CDs					
MP3s					
Cassettes					

470

Feel free to elaborate on your music collection and formats.

How many years have you been buying vinyl records?

Please approximate the size of your vinyl record collection.

No Comment less than 100 pieces 100- 500 500-1000 1000-3000 3000-5000 5000-7000 7000-10,000 10,000 pieces or more

What type of vinyl record makes up the majority of your collection?

No Comment 12" Single LP/EP 7" 45rpm 78rpm

How do you buy your vinyl records?

> Internet Retailers
> Independent Record Store
> Major Chain Store
> eBay
> Record Pools
> Second Hand or Thrift Store
> Concerts/Shows
> Record Conventions/Shows
> I DON'T Buy Records
> Other:

Where do you buy the majority of your vinyl records and why?

Please talk about why you buy and collect vinyl records.

Please explain the ways in which you use vinyl records.

Please describe what your vinyl record collection says about you.

471

As a DJ and/or Turntablist, what makes your record collection valuable to you?

Hypothetically speaking, describe how you would feel if you were to somehow "lose" your record collection.
For instance, if they were stolen, burned in a house fire, lost to flood, etc.

Any other thoughts on Crate Diggin'?

If you used to collect records and have since stopped, please explain why.

Do you download digital music?

No Comment Always Sometimes Never

Do you pay to download music?

No comment Always Sometimes Never

Approximate the percentage of your MP3 collection was obtained legally?

No Comment None 1-10% 20% 30% 40% 50% 60% 70% 80% 90% 95-100%

Do you use digital record pools?
For instance, White Label or DigiWaxx.
No Comment Yes No Sometimes

What are your thoughts on illegal downloading?

What are your thoughts on the condition of the recording industry?

Please explain your relationship to the recording industry.
For instance, do you work at a label, record store, etc.? Or, you could also be a consumer or fan, etc.

In your own words, please describe hip hop music's relationship to vinyl records.

Any other thoughts on digital music, records, and the recording industry?

Uses of Vinyl Emulation Software/Hardware
These questions focus on your uses and ideas surrounding vinyl emulation softwares/hardwares, such as Final Scratch and Serato Scratch Live.

Do you use digital vinyl emulation software/hardware?
For instance, Final Scratch or Scratch Live.
No Comment Always Most of the time Sometimes Rarely Never

If you do NOT use vinyl emulation systems, please elaborate on your reasoning.

Do you use CD Turntables?

No Comment Always Most of the time Sometimes Rarely Never

How often do you use other digital devices for music playback for DJing/Turntablism?
For example, an iPod/iDJ, Serato ITCH, etc.
No Comment Always Most of the time Sometimes Rarely Never

Feel free to list out and discuss your uses of other digital devices.

Please select any of the vinyl emulation softwares that you use.

> Final Scratch
> Serato Scratch Live
> Traktor Scratch
> Deckadance
> VirtualDJ
> Numark CUE
> MixVibes DVS
> MS Pinky
> Torq
> Touch DVS
> Other:

Please explain why you use vinyl emulation systems.

In your opinion, why have vinyl emulation systems become so popular in recent years?

Can you remember when you first started using vinyl emulation systems and explain how you felt at the time?

In your opinion, how are vinyl emulation systems the SAME as vinyl records?

Can you discuss the ways in which vinyl emulation systems are DIFFERENT than vinyl records?

Please describe the ways in which vinyl emulation systems have changed your DJing/Turntablism practices.
For instance, have such systems improved your performances, changed you music consumption habits, or allowed you to get new gigs, saved your back,etc.?

In your opinion, how have vinyl emulation systems changed the art and culture of the hip hop DJ/Turntablist?

Please rate the impact of such technologies on DJ Culture.

	1	2	3	4	5	6	7	8	9	10	
No Impact											Very Strong Impact

Do you use a Rane TTM 57SL mixer for Scratch Live? If so, please talk about your reasons for using the 57.

Do you use the Web forums related to your vinyl emulation system? If so, how do you use these forums and why?

If someone said that vinyl emulation systems were killing vinyl records, how would you respond?

Please elaborate on any of your other thoughts regarding vinyl emulation systems.

Sampling and Copyright Law

These questions focus on how you sample and your views on copyright law.

Please discuss how you use DJ/Turntablist technologies to sample music.

Please describe the creative processes of your sampling practices.
From diggin' to making music.

In your opinion, what constitutes creative sampling?

In what ways do you see DJing and Turntablism as sampling?

In your opinion, is sampling stealing?

How familiar are you with American copyright laws?

	1	2	3	4	5	6	7	8	9	10	
Not Familiar											I'm a Lawyer

When you are making your music, how much consideration do you give to copyright law.

	1	2	3	4	5	6	7	8	9	10	
None											I License the samples I use

Please describe how copyright law influences your creative decisions.

Do you believe that copyright laws encourage creativity?

No Comment Always Sometimes Never

Please discuss any other thoughts you have on sampling, copyright law, and DJ/Turntablist technologies.

APPENDIX C

INTERVIEWEES

Alari, Thierri. 2010. Interview by author. May 21.

Boo, Mike. 2009. Interview by author. November 19.

Boxx, Jared. 2010. Interview by author. March 30.

Carluccio, John. 2009. Interview by author. December 20.

D, Papa. 2010. Interview by author. January 19.

DJ Babu. 2009. Interview by author. November 24.

DJ Billy. 2007. Interview by author. October 16.

DJ Calibur. 2009. Interview by author. November 7.

DJ Celsius. 2007. Interview by author. November 2.

DJ Craze. 2009. Interview by author. December 29.

DJ Daddy Dog. 2010. Interview by author. January 6.

DJ Eclipse. 2010. Interview by author. April 7.

DJ Free. 2007. Interview by author. October 16.

DJ JayCeeOh. 2009. Interview by author. December 3.

DJ Jon. 2009. Interview by author. November 12.

DJ Jon Doe. 2005. Interview by author. March 17.

DJ JS-1. 2009. Interview by author. November 24.

DJ JS-1. 2005. Interview by author. February 28.

DJ Kico. 2009. Interview by author. December 6.

DJ KRE8. 2007. Interview by author. October 26.

DJ Marz. 2010. Interview by author. January 28.

DJ Mighty Mi. 2010. Interview by author. January 11.

DJ Mr. Len. 2009. Interview by author. November 17.

DJ Neil Armstrong. 2009. Interview by author. December 30.

DJ Nikoless Scratch. 2009. Interview by author. January 2010.

DJ Nu-Mark. 2009. Interview by author. December 1.

DJ Platurn. 2009. Interview by author. December 2.

DJ Qbert. 2010. Interview by author. January 7.

DJ Quest. 2009. Interview by author. December 26.

DJ Rob Swift. 2009. Interview by author. November 17.

DJ Rob Swift. 2010. Interview by author. October 28.

DJ Roli Rho. 2010. Interview by author. April 12.

DJ Shame. 2010. Interview by author. February 6.

DJ Shiftee. 2009. Interview by author. December 13.

DJ Shortkut. 2010. Interview by author. January 11.

DJ Steve Dee. 2009. Interview by author. December 6.

DJ Sugarcuts. 2010. Interview by author. April 11.

DJ Trix. 2011. Interview by author. April 20.

DJ Vinroc. 2009. Interview by author. December 29.

DJ Wicked. 2009. Interview by author. December 25.

DJ Woody. 2010. Interview by author. April 8.

Dr. Butcher. 2009. Interview by author. December 21.

dub-L. 2005. Interview by author. March 10.

Fakher, Siya. 2009. Interview by author. November 23.

Garcia, Bobbito. 2009. Interview by author. December 30.

Havana Joe. 2010. Interview by author. February 2010.

J-Zone. 2005. Interview by author. March 6.

Jank, Jeff. 2005. Interview by author. March 12.

Jay, Connah. 2007. Interview by author. October 19.

Jensen, J.J. 2010. Interview by author. January 15.

J.Period. 2010. Interview by author. January 12.

JohnBeez. 2009. Interview by author. November 10.

Kutmasta Kurt. 2010. Interview by author. January 8.

Leanrock. 2010. Interview by author. May 12.

Marx, Elliot. 2010. Interview by author. March 11.

May, Mike. 2009. Interview by author. September 23.

May, Mike. 2010. Interview by author. April 9.

Ono, Charles. 2010. Interview by author. April 19.

Ono, Charles. 2011. Interview by author. April 1.

Q-Unique. 2005. Interview by author. February 25.

Richards, Skeme. Interview by author. January 20.

Rucker, Ricci. 2009. Interview by author. November 17.

Teeko. 2009. Interview by author. November 9.

Turntablist Disk. 2009. Interview by author. November 24.

Volk, Jeremy. 2010. Interview by author. May 15.

Walder, Adam. 2010. Interview by author. February 6.

Weber, Jessica. 2009. Interview by author. November 14.

Webber, Steven. 2009. Interview by author. November 26.

Wray1. 2010. Interview by author. May 14.

Z-Pabon, Christie. 2011. Interview by author. February 7.

REFERENCES CITED

Abelton. n.d. Serato and Abelton announce creative partnership. http://www.ableton.com/serato-partnership (accessed April 20, 2008).

Adorno, Theodor. 1967. *Prisms*. Trans. Samuel and Shierry Weber. Cambridge: The MIT Press.

Adorno, Theodor. 1976. *Introduction to the sociology of music*. Trans. E.B. Ashton. New York: Seabury.

Adorno, Theodor. 1984. *Musikalische schriften VI*. Frankfurt: Suhrkamp Verlag.

Agar, Michael H. 1980. *The professional stranger: An informed introduction to ethnography*. New York: Academic Press.

Alexander, Leigh. 2009. Interview: Getting funky with *Scratch: The Ultimate DJ*. *Gamasutra*, February 19. http://www.gamasutra.com/php-bin/news_index.php?story=22128 (accessed January 5, 2010).

Allen, Harry. 2006. Dreams of a final theory. In *Total chaos: The art and aesthetics of hip-hop*, ed. Jeff Chang, 7-9. New York: Basic Civitas.

Allen, Katie. 2009. Back catalogs spin a new generation of profits for record labels. *The Observer*. September 20. http://www.guardian.co.uk/business/2009/sep/20/beatles-emi-back-catalogue-reissues (accessed December 20, 2009).

Arthur, Damien. 2006. Authenticity and consumption in the Australian hip hop culture. *Qualitative Market Research: An International Journal* 9, no. 2: 140-156.

Attali, Jacques. 1985. *Noise: The political economy of music*. Trans. Brian Massumi. Minneapolis: University of Minnesota Press.

Attali, Jacques. n.d. Potlatch digital: A perspective on the future economy of music. http://www.springerin.at/dyn/heft_text.php?textid=740&lang=en (accessed October 8, 2007).

Austin, Joe. 1998. Knowing their place: Local knowledge, social prestige, and the writing formation of New York City. In *Generations of youth: Youth cultures and history in 20th century America*, eds. Joe Austin and Michael N. Willard, 240-252. New York: New York University Press.

Babbie, Earl. 1986. *Observing ourselves: Essays in social research*. Florence, KY: Wadsworth Publishing Company.

Bal, Mieke. 1999. *The practice of cultural analysis: Exposing interdisciplinary interpretations*. Stanford, CA: Stanford University Press.

Barlow, John Perry. n.d. The economy of ideas: Selling wine without bottles on the global net. http://homes.eff.org/~barlow/EconomyOfIdeas.html (accessed May 22, 2007).

Barman, Sandra. 2004. Technology. In *The Sage Handbook of Media Studies*, eds. John D. H. Downing, Denis McQuail, Philip Schlesinger, and Ellen A. Wartella, 123-144. London: Sage Publications.

Basu, Dipannita. 2005. A critical examination of the political economy of the hip-hop industry. In *African-Americans in the U.S. economy*, eds. Cecilia A. Conrad, John Whitehead, Patrick Mason, and James Stewart, 258-270. Oxford: Rowan & Littlefield Publishers, Inc.

Baudrillard, Jean. 1981. *For a critique of the political economy of a sign*. St. Louis: Telos Press.

Bauer, Chris. 2009. the spacedeck project. http://bauerindustries.com/projects/?p=229 (accessed February 17, 2011).

Beller, Jonathan. 2006. Introduction: The political economy of the postmodern. In *The cinematic mode of production: Attention economy and the society of the spectacle*, 1-33. Lebanon, NH: Dartmouth College Press.

Benjamin, Walter. 1936. The work of art in the age of mechanical reproduction. http://www.marxists.org/reference/subject/philosophy/works/ge/benjamin.htm (accessed May 17, 2007).

Benjamin, Walter. 1999. *The arcades project*. Ed. Rolf Tiedemann, trans. Howard Eiland and Kevin McLaughlin. Cambridge: Harvard University Press.

Benkler, Yochai. 2006. *The wealth of networks*. New Haven, CT: Yale University Press.

Bennett, Andy. 1999. Subcultures or neo-tribes? Rethinking the relationship between youth, style and musical taste. *Sociology* 33, no. 3: 599-617.

Bennett, Andy, and Kahn-Harris, Keith. 2004. *After subculture: Critical studies in contemporary youth culture*. Hampshire, UK: Palgrave Macmillan.

Bennet, Andy, Barry Shank, and Jason Toynbee. 2006. *The popular music studies reader*. London & New York: Routledge.

Berger, Arthur Asa. *Media and communication research methods: An introduction to qualitative and quantitative approaches*. London: Sage.

Berk, Mike. 2000. Technology: Analog fetishes and digital futures. n *Modulations—a history of electronic music: Throbbing words on sound*, ed. Peter Shapiro, 188-209. New York: Caipirinha Productions.

Bettig, Ronald V. 1992. Critical perspectives on the history and philosophy of copyright. *Critical Studies in Mass Communication* 9, no. 2: 131-155.

Bettig, Ronald V. 1996. *Copyrighting culture: The political economy of intellectual property*. Boulder, CO: Westview Press.

Blair, M. Elizabeth. 2004. Commercialization of the rap music youth subculture. In *That's the joint!: The hip-hop studies reader*, eds. Murray Forman and Mark Anthony Neal, 497-504. New York and London: Routledge.

Block, Ursula, and Michael Glasmeier . 1989. *Broken music: Artists' recordworks*. Berlin: Daadgalerie Berlin.

Boller, David. 2005. *Brand name bullies: The quest to own and control culture*. Hoboken, NJ: John Wiley & Sons, Inc.

Bolter, Jay David, and Bolter Grusin. 1999. *Remediation: Understanding new media*. Cambridge: The MIT Press.

Bourdieu, Pierre. 1984. *Distinction: A social critique of the judgment of taste.* Trans. Richard Nice. Cambridge: Harvard University Press.

Bourdieu, Pierre. 1986/2001. The forms of capital. In *The sociology of economic life*, eds. Mark S. Granovetter and Richard Swedberg, 96-111. Boulder, CO: Westview Press.

Bourdieu, Pierre. 1993. *The field of cultural production*. Irvington, NY: Columbia University Press.

Boyatzis, Richarch E. 1998. *Transforming qualitative information: Thematic analysis and code development*. Thousand Oaks, CA: Sage Publications.

Brewster, Bill, and Frank Broughton. 2000. *Last night a DJ saved my life: The history of the disc jockey*. New York: Grove Press.

Brake, Michael. 1985. *Comparative youth cultures: The sociology of youth cultures and youth subcultures in America, Britain, and Canada*. New York and London: Routledge.

Brathwaite, Fred (Fab 5 Freddy) .1992. *Fresh fly flavor: Word & phrases of the hip-hop generation*. Stamford, CT: Longmeadow Press.

Breen, Marcus. 1995. The end of the world as we know it: Popular music's cultural mobility. *Cultural Studies* 9, no. 3: 486-504.

Broughton, Frank, and Bill Brewster. 2002. *How to DJ properly: The art and science of playing records*. New York: Bantam Press.

Burnett, Robert. 1996. *The global jukebox: The international music industry.* New York & London: Routledge.

Butters, Steve. 1976. The logic of enquiry of participant observation. In *Resistance through rituals: Youth subcultures in post-war Britain*, eds. Stuart Hall and Tony Jefferson, 253-273. London: Hutchinson.

Calabrese, Andrew, and Colin Sparks. 2004. *Toward a political economy of culture: Capitalism in the twenty-first century.* Oxford: Rowman & Littlefield.

Callahan, Matt. 2005. *The trouble with music*. Oakland, CA: AK Press.

Careless, Simon. 2005. Nielsen, Activision release in-game ad report. *Gamasutra*, December 5. http://www.gamasutra.com/php-bin/news_index.php?story=7393 (accessed June 1, 2010).

Carey, James W. 1975. A cultural approach to communication. *Communication* 2, 1-22.

Carroll, Steven. 2010. Who invented digital vinyl? http://www.who-invented-digital-vinyl.co.uk/ (accessed December 26, 2010).

Chanan, Michael. 1995. *Repeated takes: A short history of recording and its effects on music*. London & New York: Verso.

Chang, Jeff. 2005. *Can't stop won't stop: A history of the hip-hop generation*. New York: St. Martin's Press.

Chang, Jeff. 2006. *Total chaos: The art and aesthetics of hip-hop.* New York: Basic Civitas.

Charnas, Dan. 2010. *The big payback: The history of the business of hip hip*. New York: New American Library.

Chapple, Steve, and Reebee Garofalo. 1977. *Rock 'n' roll is here to pay: The history and politics of the music industry*. Chicago: Nelson Hall.

Chrichton, Susan and Shelly Kinash. 2003. Virtual ethnography: Interactive interviewing online as method. *Canadian Journal of Learning and Technology* 29, no. 2. http://www.cjlt.ca/index.php/cjlt/article/view/40/37   (accessed October 15, 2008).

Chun, Wendy Hui Kyong, and Keenan, Thomas. 2006. *New media, old media: A history and theory reader.* New York: Routledge.

Clarke, John, Stuart Hall, Tony Jefferson, and Brian Roberts. 1997. Subculture, cultures, and class. In *The subcultures reader*, eds. Ken Gelder and Sarah Thorton, 100-111. London and New York: Routledge.

Clay, Elonda. 2009. Two turntables and a microphone: Turntablism, ritual and implicit religion. *Culture & Religion* 10, no. 1: 23-38.

Clifford, James, and George E. Marcus. 1986. *Writing culture: The poetics and politics of ethnography.* Berkeley: University of California Press.

Coleman, Mark. 2003. *Playback: From the Victrola to MP3, 100 years of music, machines, and money.* Cambridge, MA: Da Capo Press.

Cobb, William Jelani. 2007. *To the break of dawn: A freestyle on the hip hop aesthetic.* New York: New York University Press.

Cohen, Julie E. 2007. Creativity and culture in copyright theory. *University of Cal Davis Law Review* 40: 1151-1205.

Coombe, Rosemary. 1998. *The cultural life of intellectual properties: Authorship, appropriation, and the law.* Durham, NC: Duke University Press.

Cox, Christopher, and Daniel Warner. 2004. *Audio culture: Readings in modern music.* New York: The Continuum International Publishing Group Inc.

Croteau, David R., and William Hoynes. 2006. *The business of media: Corporate media and the public interest* 2nd ed. Thousand Oaks, CA: Pine Forge Press.

Cvetkovski, Trajce. (2007) *The political economy of the music industry: technological change, consumer disorientation and market disorganisation in popular music.* VDM Verlag Dr. Müller, Saarbrücken, Germany.

D, Davey. 1989. Interview w/ DJ Kool Herc. 1989 New Music Seminar. http://www.daveyd.com/interviewkoolherc89.html (accessed May 19, 2007).

dailymirror. (2009). DJ Hero starring DJ Shadow [Video] Retrieved May 22, 2010, from http://www.youtube.com/watch?v=CDbCxL2Nroo.

Dave the Ruf. 1996. Knowledge of Godfather – A conversation with Afrika Bambaataa. http://www.mrkd.co.uk/rufmouth/rufsays/bam_interview.html (accessed December 16, 2010).

de Certeau, Michel. 1984. *The practice of everyday life*. Berkeley, CA: University of California Press.

Deleuze, Gilles. 1988. *Foucault*. Minneapolis: University of Minnesota Press.

Demers, Joanna. 2006. *Steal this music: How intellectual property law affects musical creativity*. Athens: The University of Georgia Press.

Denzin, Norman K. 1978. *The research act: A theoretical introduction to sociological* methods 2nd ed. New York: McGraw-Hill.

Denzin, Norman K. 1997. *Interpretive ethnography: Ethnographic practices for the 21st Century*. Thousand Oaks: Sage Publications.

Dervin, Brenda, and Kathleen D Clark. 1999. Exemplars of the use of the sense-making methodology (meta-theory and method): In-depth introduction to the sense-making issues of the *Electronic Journal of Communication*. *Electronic Journal of Communication* 9, no. 2-4. http://www.cios.org/getfile/Dervin1_V9N23499 (accessed November 14, 2007).

Dervin, Brenda. 2003. Audience as listener and learner, teacher and confidante: The sense-making approach. In *Sense-making methodology reader: Selected writings of Brenda Dervin*, eds. Brenda Dervin, Lois Foreman-Wernet, and Eric Launterbach, 215-231. Cresskill, NJ: Hampton Press, Inc.

Dey, Ian. 2004. Grounded theory. In *Qualitative research practice*, eds. Clive Seale, Giampietro Gobo, Jaber F. Gubrium, and David Silverman, 80-93. London: Sage.

Dicks, Bella, Bruce Mason, and Amanda Coffey. 2005. *Qualitative research and hypermedia: Ethnography for the digital age*. London: Sage.

Discoguy. n.d. Tom Moulton. http://www.disco-disco.com/tributes/tom.shtml (accessed March 4, 2011).

Discoguy. n.d.1. Salsoul Records. http://www.disco-disco.com/labels/salsoul.shtml (accessed March 4, 2011).

djay for Mac. n.d. Artists. http://www.algoriddim.com/djay-mac/reviews/artists (February 15, 2011).

djhero. (2009). DJ Hero developer Jaime Jackson Interview [Video] Retrieved March 15, 2010, from http://www.youtube.com/watch?v=N-LNFRJH_9E&feature=player_embedded.

djhero. (2009a). DJ Hero: DJ Jazzy Jeff behind the scenes [Video] Retrieved May 6, 2010, from http://www.youtube.com/watch?v=lSCWShhox3M&feature=player_embedded.

djhero. (2009b). DJHero Z-Trip interview [Video] Retrieved May 6, 2010, from http://www.youtube.com/watch?v=yeXhicBH_Ro&feature=player_embedded

djhero. (2010). DJ Hero 2 – Sparfunk & D-Code 'Apocalypse' – Remix by FSG [Video] Retrieved October 1, 2010, from http://www.youtube.com/watch?v=iM7YlgcmKBg.

djhistory.com. 1998. Interviews: Kool Herc. http://www.djhistory.com/interviews/kool-herc (accessed January 21, 2011).

DJ Mag. 2007. DJ Mag Tech Awards 2007. Accessed November 16, 2007 http://djmag.com/index.phpop=story&story_op=display&story_id=959&status=Live&word=&page=

Dowd, Timothy Jon. 2004. Concentration and diversity revisited: Production logics and the U.S. mainstream recording market, 1940-1990. *Social Forces* 82, no. 4: 1411-1455.

Dye, David. 2007. The birth of rap: A look back. http://www.npr.org/templates/story/story.php?storyId=7550286 (accessed December 17, 2010).

Dyer-Witherford, Nick, and Greig de Peuter. 2009. *Games of empire: Global capitalism and video games*. Minneapolis: University of Minnesota Press.

Eisenberg, Evan. 2005. *The recording angel : Music, records and culture from Aristotle to Zappa*. New Haven, CT: Yale University Press.

Emerson, Robert M., Rachel I. Fretz, and Linda L. Shaw. 1995. *Writing ethnographic fieldnotes*. Chicago & London: The University of Chicago Press.

Endelman, Michael. 2002. Scratching without vinyl: a hip-hop revolution. *The New York Times*. December 3. http://query.nytimes.com/gst/fullpage.html?res=9500E0DD1F38F930A35751C1A9649C8B63 (accessed October 6, 2007).

Ellison, Blake. 2008. Activision: *Guitar Hero* boosts music sales 200-300%. http://www.shacknews.com/laryn.x?story=54744 (accessed May 15, 2010).

Ellul, Jacques. 1964. *The technological society*. Trans. John Wilkinson. New York: Vintage.

Fabbri, Franco. 1993. Copyright: The dark side of the music business. In *Music and copyright*, ed. Simon Frith, 159-163. Edinburgh: Edinburgh University Press.

Farrugia, Rebekah, and Thomas Swiss. 2005. Tracking the DJs: Vinyl records, work, and the debate over new technologies. *Journal of Popular Music Studies* 17, no. 1: 30-44.

Feinstein, Joshua. 2003. If it were only real. In *Mapping Benjamin: The work of art in the digital age*, eds. Hans Ulrich Gumbrecht and Michael Marrinan, 274-284. Stanford, CA: Stanford University Press.

Fikentscher, Kai. 2000. *"You better work!": Underground dance music in New York City*. Hanover: Wesleyan University Press.

Fiske, John, and John Hartley. 1978. *Reading television*. London and New York: Routledge.

Fiske, John. 1987. *Television culture*. London: Methuen.

Fiske, John. 1989. *Understanding popular culture*. London and New York: Routledge.

Flew, Terry. 2002. *New media: An introduction*. Oxford & New York: Oxford University Press.

Forman, Murray, and Mark Anthony Neal (eds). 2004. *That's the joint!: The hip-hop studies reader*. New York and London: Routledge.

Fricke, Jim, and Charlie Ahearn. 2002. *Yes yes ya'll: The Experience Music Project oral history of hip-hop's first decade*. New York: Da Capo.

Frith, Simon. 1987. Copyright and the music business. *Popular Music* 7, no. 1: 57-75.

Frith, Simon. 1988. *Music for pleasure: Essays in the sociology of pop*. New York: Routledge.

Frith, Simon. 1988. The industrialization of music. In *Music for pleasure: Essays in the sociology of pop*, Simon Frith, 11-23. New York: Routledge.

Frith, Simon. 1993. *Music and copyright*. Edinburgh: Edinburgh University Press.

Frith, Simon. 1996. *Performing rites: On the value of popular music*. Cambridge, MA: Harvard University Press.

Frith, Simon. 2001. The popular music industry. In *The Cambridge companion to pop and rock*, eds. Simon Frith, Will Straw, and John Street, 26-52. Cambridge, UK: Cambridge University Press.

Frith, Simon, Will Straw, and John Street. 2001. *The Cambridge companion to pop and rock*. Cambridge, UK: Cambridge University Press.

Galloway, Alexander R. 2004. *Protocol: How control exists after decentralization*. London: MIT Press.

Garnham, Nicholas. 1979. Contribution to a political economy of mass communication. *Media, Culture and Society* 1: 123-146.

Garlick, Lewis. 1977. The graphic arts and the record industry. Special Issue, *Journal of the Audio Engineering Society: Audio/Acoustics/Applications* 25, no. 10/11: 779-784.

Garofalo, Reebee. 1986. How autonomous is relative: Popular music, the social formation, and cultural struggle. *Popular Music* 6, no. 1: 77-92.

Geertz, Clifford. 1973. Thick description: Toward an interpretative theory of culture. In *The interpretations of cultures: Selected essays*, 37-59. New York: Basic Books, Inc.

Geertz, Clifford. 1988. *Social knowledge: further essays in interpretative anthropology*.

Gelatt, Roland. 1977. *The fabulous phonograph: 1877-1977* 2nd ed. New York: Macmillan Publishing.

Gelder, Ken, and Sarah Thornton. 1997. *The subcultures reader*. London and New York: Routledge.

George, Nelson. 1998. *Hip hop America*. New York: Viking Penguin.

George, Nelson. 2004. Hip-hop's founding fathers speak to the truth. In That's the joint!: The hip-hop studies reader, eds. Murray Forman and Mark Anthony Neal, 45-60. New York and London: Routledge.

Gitelman, Lisa. 1999. *Scripts, grooves, and writing machines: Representing technology in the Edison era*. Stanford, CA: Stanford University Press.

Gizmo. 2007. Serato interview – Sam Gribben – November 2006. http://www.skratchworx.com/rf_serato_interview.php (accessed January 15, 2009).

Gizmo. 2007a. Interview with Big Wiz - November 2006. http://www.skratchworx.com/rf_bigwiz.php (accessed January 22, 2011).

Gizmo. 2008. Interview: Serato and Numark talk NS7 and ITCH.
http://www.skratchworx.com/news3/comments.php?id=925 (accessed January 15, 2009).

Gizmo. 2009. 10 years deep - N2IT and NI. April 29.
http://www.skratchworx.com/news3/comments.php?id=949 (accessed December 15, 2010).

Gizmo. 2009a. N2IT sues the DJ scene, and will probably win. May 8.
http://www.skratchworx.com/news3/comments.php?id=1218 (accessed December 15, 2010).

Golding, Peter, and Graham Murdock. 1991. Culture, communication and political economy. In *Mass media and society*, eds. James Curran and Michael Gurevitch, 15-32. London: Edward Arnold.

Golding, Peter, and Graham Murdock. 2000. Culture, communication and political economy. In *Mass media and society.* 3rd ed, eds. James Curran and Michael Gurevitch, 70-92. London: Edward Arnold.

Gomery, Douglas. 2000. Interpreting media ownership. In *Who owns media? Competition and concentration in the mass media industry.* 3rd ed, eds. Benjamin M. Compaine and Douglas Gomery, 507-535. Mahwah, NJ: Lawrence Erlbaum.

Gramsci, Antonio. 1971. *Selections from the Prison Notebooks,* ed. and trans. Quintin Hoare and Geoffery Nowell-Smith, 3-23. New York: International Publishers.

Gramsci, Antonio. 2001. (i) History of the subaltern classes; (ii) The concept of "ideology"; (iii) Cultural themes: Ideological material. In *Media and Cultural Studies: A Reader,*eds. Meenakasi Gigi Durham and Douglas M. Kellner, 43-47. Malden, MA: Blackwell.

GrandWizzard Theodore. http://www.rane.com/dj/gwtheo.html (accessed May 22,2007).

Griffin, Em. 1991. *A first look at communication theory.* New York: McGraw-Hill.

Gronow, Pekka. 1983. The record industry: The growth of a mass medium. *Popular Music* 3: 53-75.

Gumbrecht, Hans Ulrich, and Marrinan, Michael. 2003. *Mapping Benjamin: The work of art in the digital age*. Stanford, CA: Stanford University Press.

Hall, Stuart, and Tony Jefferson. 1976. *Resistance through rituals: Youth subcultures in post-war Britain*. London: Hutchinson.

489

Hall, Stuart. 1980. Encoding/decoding. In *Culture, media, language: Working papers in cultural studies, 1972-1979*, ed. Stuart Hall, 128-138. London and New York: Routledge.

Hall, Stuart. 1982. The rediscovery of ideology: Return of the repressed in media studies. In *Culture, Society and the Media*, ed. Michael Gurevitch, 56-90. New York: Methuen.

Hall, Stuart. 1993. Encoding, decoding. In *The cultural studies reader*, ed. Simon During, 90-103.

Hall, Stuart, and Tony Jefferson. 1993. *Resistance through rituals: Youth subcultures in post-war Britain*. London and New York: Routledge.

Hall, Stuart. 1995. Cultural studies: Two paradigms. In *Approaches to Media: A Reader*, eds. Oliver Boyd-Barret and Chris Newbold. London: Arnold.

Hansen, Kjetil F. 2001. Playing the turntable: An introduction to scratching. *TMH-QPSR* 42, no. 1: 69-79.

Hansen, Kjetil F. 2002. The basics of scratching. *Journal of New Music Research* 31, no. 4: 357-365.

Haram, Graham. 2009. *Prince of networks: Bruno Latour and metaphysics*. Melbourne: re.press.

Harmanci, Reyha. 2007. Academic hip-hop? Yes, yes, ya'll. *San Francisco Chronicle*. March 5. http://articles.sfgate.com/2007-03-05/entertainment/17235353_1_hip-hop-studies-working-group-hip-hop-generation-uc-berkeley/4 (accessed January 12, 2011).

Harrington, C. Lee, and Denise D. Bielby. 2001. *Popular Culture: Production and Consumption*. Malden, MA: Blackwell Publishers Inc.

Harrison, Anthony. 2006. 'Cheaper than a CD, plus we really mean it': Bay Area underground hip hop tapes as subcultural artefacts. *Popular Music* 25, no. 2: 283-301.

Hartlaub, Peter. 2010. Turntable star Qbert talks about *DJ Hero 2*. *San Francisco Chronicle*. October 6. http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2010/10/06/DD2I1FKCQ2.DTL (accessed October 15, 2010).

Havens, Timothy, Amanda D. Lotz, and Serra Tinic. 2009. Critical media industry studies: A research approach. *Communication, Culture & Critique* 2, 234-253.

Hebdige, Dick. 1979. *Subculture: The meaning of style*. London & New York: Routledge.

Hebdige, Dick. 1987. *Cut 'n' mix: Culture, identity, and Caribbean music*. London & New York: Routledge.

Hebdige, Dick. 1997. Posing…threats, striking…poses: Youth, surveillance, and display. In *The subcultures reader*, ed. Ken Gelder, 393-405. New York: Routledge

Heidegger, Martin. 1977. *The question concerning technology and other essays*. Trans. William Lovitt. New York: Harper & Row.

Herman, Bill D. 2006. Scratching out authorship: Representations of the electronic music DJ at the turn of the 21st century. *Popular Communication* 4, no. 1: 21-38.

Herman, Edward S., and Chomsky, Noam. 1988. *Manufacturing consent: The political economy of the mass media*. New York: Pantheon.

Hermes, Joke. 2004. A concise history of media and cultural studies in three scripts: Advocacy, autobiography, and the chronicle. In *The Sage handbook of media studies*, ed. John D. H. Downing, 251-268. London: Sage Publications.

Hesmondhalgh, David. 2006. Digital sampling and cultural inequality. *Social & Legal Studies* 15, no. 1: 53-75.

Hesmondhalgh, David. 2007. *The cultural industries* 2nd ed. London: Sage Publications.

Hine, Christine M. 2000. *Virtual ethnography*. London: Sage.

Hobart, Mike. 1981. The political economy of bop. *Media, Culture, and Society* 3, no. 3: 261-279.

Hodkinson, Paul. 2002. *Goth, identity, style, and subculture*. Oxford: Berg Publishers.

Hoovers. n.d. Vestax Corporation. http://www.hoovers.com/company/VESTAX_CORPORATION/jsfjscjth-1.html (accessed February 13, 2011).

Horkheimer, Max, and Theodor W. Adorno. 1944. *Dialectic of enlightenment*. New York: Continuum.

Horkheimer, Max, and Adorno, Theodor W. 2001. The culture industry: Enlightenment as mass deception. In *Media and cultural studies: Key works*, eds. Meenakasi Gigi Durham and Douglas M. Kellner, 71-101. Malden, MA: Blackwell.

Horkheimer, Max. 1974. *Eclipse of reason*. London: Continuum International Publishing Group.

Howe, Jeff. 2009. Why the music industry hates *Guitar Hero*. *Wired*, February 23. http://www.wired.com/culture/culturereviews/magazine/17-03/st_essay#ixzz0q6mMrAjS (accessed May 17, 2009).

IFPI. 2009. Digital music report 2009-quotes. www.ifpi.org/content/library/DMR2009-quotes.pdf (accessed May 17, 2009).

IFPI. 2009a. IFPI publishes digital music report 2009. http://www.ifpi.org/content/section_resources/dmr2009.html (accessed June 24, 2009).

Innis, Harold. 1951. *The bias of communication*. Toronto: University of Toronto Press.

Ip, Barry. 2008. Technological, content, and market convergence in the games industry. *Games and Culture* 3, no. 2: 199-224.

Isom, Rex Warren. 1977. Introduction: A wonderful invention but not a breakthrough. Special Issue, *Journal of the Audio Engineering Society: Audio/Acoustics/Applications* 25, no. 10/11: 657-659.

Israel. 2002. *The freshest kids: A history of the b-boy*. DVD. Directed by Israel. Chatsworth, CA: Image Entertainment.

Jazzy Jeff. 2006. Jazzy Jeff on Serato. Youtube interview. http://www.youtube.com/watch?v=VR8McH5pe64 (accessed October 12, 2007)

Jeffs, Rick. 1999. The evolution of the DJ mixer crossfader. *RaneNote*. http://www.rane.com/pdf/ranenotes/Evolution_of_the_DJ_Mixer_Crossfader.pdf (accessed July 1, 2010).

Jenkins, Henry, and David Thorburn. 2003. *Democracy and new media*. Cambridge: The MIT Press.

Jenkins, Henry. 2006. *Convergence culture: Where old and new media collide*. New York: New York University Press.

Jenkins, Henry. 2006a. *Fans, bloggers, and gamers: Exploring participatory culture*. New York & London: New York University Press.

Jennings, John. 2004. Gangsta by design: An exploration into the visual communications in hip-hop. http://futurehistory.aiga.org/resources/content/2/2/6/8/documents/j_jennings.pdf (accessed May 12, 2007).

Jhally, Sut. 1990. *The codes of adverting: Fetishism and the political economy of meaning in the consumer society*. New York: Routledge.

Jones, Peter. 1977. The record industry in Europe. Special Issue, *Journal of the Audio Engineering Society: Audio/Acoustics/Applications* 25, no. 10/11: 789-794.

Jones, Steve. 2000. Music and the Internet. *Popular Music* 19, no. 2: 217-230.

Katz, Mark. 2004. *Capturing sound: How technology has changed music*. Berkeley and Los Angeles, CA: University of California Press.

Katz, Mark. 2006. Men, women, and turntables: Gender and the DJ battle. *Musical Quarterly* 89, no. 4: 580-599.

Keller, Daphne. 2008. The musician as Steve: Digital culture and copyright law. In *Sound unbound: Sampling digital music and culture*, ed. Paul D. Miller, 135-150. Cambridge, MA: The MIT Press.

Kelley, Norman. 2005. *R&B Rhythm and business: The political economy of Black music*. New York: Akashic Books.

Keller, Daphne. 2008. The musician as Steve: Digital culture and copyright law. In *Sound unbound: Sampling digital music and culture*, ed. Paul D. Miller, 135-150. Cambridge, MA: The MIT Press.

Kellner, Douglas. 1995. *Media culture: Cultural studies, identity and politics between the modern and postmodern*. London & New York: Routledge.

Kenney, William Howland. 1999. *Recorded music in American life: The phonograph and popular memory, 1890-1945*. New York and Oxford: Oxford University Press.

Keyes, Cheryl L. 2002. *Rap music and street consciousness*. Urbana and Chicago, IL: University of Illinois Press.

Kirn, Peter. 2008. NI end legal dispute over Traktor Scratch; Digital vinyl's twisty, turny history. http://createdigitalmusic.com/2008/04/ni-ends-legal-dispute-over-traktor-scratch-digital-vinyls-twisty-turny-history/ (accessed September 15, 2010).

Kittler, Friedrich A. 1999. *Gramophone, film, typewriter*. Trans. Geoffrey Winthrop-Young and Michael Wutz. Stanford, CA: Stanford University Press.

Kitwana, Baraki. 2002. *The hip hop generation: Young blacks and the crisis in African-American culture*. New York: Basic Books.

Klasco, Mike and Pamela Michael. 1992. Crushing grooves: The art of deejay mixing. *Electronic Musician* 8, no. 10: 58-65.

Koeppel, David. 2007. Mix, scratch and spin: You, too, can become a D.J.. *The New York Times*. June 3. http://www.nytimes.com/2007/06/03/business/yourmoney/03dj.html. (accessed October 6, 2007).

Kofsky, Frank. 1998. *Black music, white business: Illuminating the history and the political economy of jazz*. New York: Pathfinder.

kotorimag. 2007. RZA talks to Kotori about inventing Final Scratch technology. October 31. http://www.youtube.com/watch?v=TXsYXMqw4Zc&feature=player_embedded (accessed November 20, 2008).

Kozinets, Robert V. 1997. "I want to believe": A netnography of the X-Philes' subculture of consumption. In *Advances in Consumer Research* 24, eds. Merrie Brucks and Deborah J. MacInnis, 470-475. Provo, UT: Association   for Consumer Research. http://www.acrwebsite.org/volumes/display.asp?id=8088 (accessed October 17, 2008).

Kozinets, Robert V. 1998. On netnography. Initial reflections on consumer investigations of cyberculture. In *Advances in Consumer Research* 25, eds. Joseph Alba and Wesley Hutchinson, 366-371. Provo, UT: Association for Consumer Research,.

Kozinets, Robert V. 2002. The field behind the screen: Using netnography for marketing research in online communities. *Journal of Marketing Research*   39: 61-72.

Kozinets, Robert V. 2006. Netnography. In *The Sage dictionary of social research*, ed. Victor Jupp, 193-195. London: Sage.

Kozinn, Allan. 1988. CD's: Too much of a good thing. *The New York Times*. December 28. http://query.nytimes.com/gst/fullpage.html? res=940DEEDF1630F93BA15751C1A96E948260&sec=&spon=&pagewanted=3 (accessed October 21, 2007).

Krapp, Peter. 2006. Hypertext avant la lettre. In *New media, old media: A history and theory reader*, eds. Wendy Hui Kyong Chun and Thomas Keenan, 359-373. New York: Routledge

Krims, Adam. 2000. *Rap music and the poetics of identity*. Cambridge, UK: Cambridge University Press.

Kugelberg, Johan (ed). 2007. Born in the Bronx: A visual record of the early days of hip hop. New York: Rizzoli International Publications, Inc.

Langlois, Tony. 1992. Can you feel it? DJs and house music culture in the UK. *Popular Music* 11, no. 2: 229-238.

Lassiter, Luke Eric. 2005. *The Chicago guide to collaborative ethnography*. Chicago: The University of Chicago Press.

Laughey, Dan. 2006. *Music and youth culture*. Edinburgh: Edinburgh University Press Ltd.

Laurent. 2005. Likwit Junkies side b, the Junkie side. *Spin Science: Online Turntable Music Resource*. http://www.spinscience.org.uk/index.phpoption=com_content&task=view&id=169&Itemid=50 (accessed May 22, 2005).

Lee, Stephen. 1995. Re-examining the concept of the 'independent' record company: The case of Wax Trax! Records." *Popular Music* 14:13-31.

Lessig, Lawrence. 1999. The problem with patents. *The Industry Standard*. April 23. http://www.lessig.org/content/standard/0,1902,4296,00.html (February 10, 2010).

Lessig, Lawrence. 2001. *The future of ideas: The fate of the commons in a connected world*. New York: Vintage.

Lessig, Lawrence. 2005. *Free culture: The nature and future of creativity*. New York, Penguin.

Lessig, Lawrence. 2008. *Remix: Making art and commerce thrive in the hybrid economy.* New York: The Penguin Press.

Lévi-Strauss, Claude. 1966. *The savage mind*. Chicago: University of Chicago Press.

Lévy, Pierre. 2001. *Cyberculture*. Trans. Robert Bononno. Minneapolis: University of Minnesota Press.

Lindlof, Thomas R. and Brian C. Taylor. 2002. *Qualitative research methods*. 2nd ed. London: Sage Publications.

Lopes, Paul D. 1992. Innovation and diversity in the popular music industry, 1969-1990. *American Sociological Review* 57, no. 1: 56-71.

Lunenfeld, Peter. 1999. *The digital dialectic: New essays on new media*. Cambridge: The MIT Press.

Lysloff, René T. A., Leslie C. Gay. 2003. *Music and Technoculture*. Middletown, CT: Wesleyan University Press.

Macdonald, Nancy. 2003. *The graffiti subculture: Youth, masculinity and identity in London and New York*. Hampshire, UK: Palgrave Macmillan.

Maffesoli, Michel. 1996. *The time of the tribes: The decline of individualism in mass society*. London: Sage.

Markstrom, Serena. 2008. Digital backlash drives vinyl revival. *The Register-Guard*. February 8. http://www.registerguard.com/csp/cms/sites/dt.cms.support.viewStory.cls?cid=60156&sid=42&fid=1 (accessed February 12, 2008).

Maniaci, Paul. 2006. Yogafrog. *Career Cookbook*. July 27. http://www.thecareercookbook.com/article.php?article_id=31 (accessed January 11, 2010).

Manovich, Lev. 2001. *The language of new media*. Cambridge: The MIT Press.

Manovich, Lev. 2006. *Generation flash*. In *New media, old media: A history and theory reader*, eds. Wendy Hui Kyong Chun and Thomas Keenan, 209-218. New York: Routledge

Manuel, Peter. 1993. *Cassette culture: Popular music and technology in North India*. Chicago: University of Chicago Press.

Mao, Chairman. 1999. You spin me round (like a record baby): Last night a DJ saved hip-hop. In *The Vibe history of hip-hop*, ed. Alan Light, 68-79. New York: Three Rivers Press.

Marcuse, Herbert. 1941/2004. Social implications of modern technology. In *Readings in the philosophy of technology*, ed. David M. Kaplan, 63-80. Lantham, Maryland: Roman & Littlefield Publishers, Inc.

Marcuse, Herbert. 1964. *One-dimensional man: Studies in the ideology of advance industrial society*. Boston: Beacon Press.

Marx, Karl. 1863. The productivity of capital. Productive and unproductive labour. Translated by B. Fowkes. *MECW* 34, 121-146. http://www.marxists.org/archive/marx/works/1861/economic/ch38.htm (accessed March 10, 2009).

Marx, Karl. 1973. *Grundisse.* Trans. Martin Nicolaus. New York: Penguin.

Marx, Karl, and Friedrich Engels. 1970. *The German ideology*, 3rd rev. ed. Moscow: Progress Publishers.

Mato, Daniel. 2009. All industries are cultural. *Cultural Studies* 23, no. 1: 70-87.

Mattelart, Armand, and Michele Mattelart. 1995. *Theories of communication: A short introduction*. Trans. Susan Gruenheck Taponier and James A. Cohen. London: Sage.

Maxwell, Richard. 2001. *Culture works: The political economy of culture*. Minneapolis: University of Minnesota Press.

Maxwell, Ian. 2003. *Phat beats, dope rhymes: Hip hop down under comin' upper.* Middletown, CT: Wesleyan University Press.

McChesney, Robert. 1993. Critical communication research at the crossroads. *Journal of Communication* 43, no. 4: 98-104.

McChesney, Robert. 2000. The political economy of communication and the future of the field. *Media Culture & Society* 22: 109-116.

McChesney, Robert, Russel Newman, and Ben Scott. 2005. *The future of media: Resistance and reform in the 21st century*. New York: Seven Stories Press.

McLeod, Kembrew. 1999. Authenticity within hip-hop and other cultures threatened with assimilation. *Journal of Communication* 49, no. 3: 134-150.

McLeod, Kembrew. 2001. *Owning culture: Authorship, ownership & intellectual property law.* New York: Peter Lang Publishing.

McLeod, Kembrew. 2005. *Freedom of expression: Overzealous copyright bozos and other enemies of creativity.* New York: Doubleday.

McLuhan, Marshall. 1964. *Understanding media: The extensions of man*. New York: McGraw Hill.

McLuhan, Marshal, and Lewis Lapham. 1994. *Understanding media: The extensions of man*. Cambridge: The MIT Press.

McQuail, Denis. 2005. *McQuail's mass communication theory*. 5th ed. London: Sage Publications.

McRobbie, Angela. 1994. *Postmodernism and popular culture*. London: Routledge.

Meehan, Eileen R. 2002. Gendering the commodity audience: Critical media research, feminism, and political economy. In *Sex & money: Feminism and political economy in the media*, eds. Eileen R. Meehan and Ellen Riordan, 209-222. Minneapolis: University of Minnesota Press.

Meehan, Eileen R., Vincent Mosco, and Janet Wasko. 1993. Rethinking political economy: Change and continuity. *Journal of Communication* 43, no. 4: 105-116.

Micelotta, Frank. 1988. *Yo! MTV Raps*. http://www.mtv.com/photos/yo-mtv-raps/1582960/2812305/photo.jhtml (accessed February 7, 2011).

Miège, Bernard. 1979. The cultural commodity. *Media, Culture, and Society* 1, no. 3: 297-311.

Miège, Bernard. 1987. The logics at work in the new cultural industries. *Media, Culture, and Society* 9: 273-289.

Miège, Bernard. 1989. *The capitalization of cultural production*. New York: International General.

Millard, Andre. 2005. *America on record: A history of recorded sound* 2nd ed. New York: Cambridge University Press.

Miller, Paul D. 2004. *Rhythm Science*. Cambridge: The MIT Press.

Miller, Paul D. 2008. *Sound unbound: Sampling digital music and culture*. Cambridge, MA: The MIT Press.

Miyakawa, Felicia M. 2007. Turntablature: Notation, legitimization, and the art of the hip-hop DJ. *American Music* 25, no. 1: 81-105.

Moholy-Nagy, László. 1922/2004. Production-reproduction: Potentialities of the phonograph. In *Audio culture: Readings in modern music*, eds. Christopher Cox and Daniel Warner, 331-333. New York: The Continuum International Publishing Group Inc.

Montano, Ed. 2009. DJ culture in the commercial Sydney dance music scene. *Dancecult: Journal of Electronic Dance Music Culture* 1, no. 1.

Moorefield, Virgil. 2005. *The producer as composer: Shaping the sounds of popular music*. Cambridge, MA: The MIT Press.

Morriset, Lloyd. 2003. Technologies of freedom. In *Democracy and new media*, ed. Henry Jenkins, 21-31. Cambridge: The MIT Press.

Morton, David. 2000. *Off the record: The technology and culture of sound recording in America*. New Brunswick, NJ: Rutgers University Press.

Mosco, Vincent. 1988. Introduction: Information in the pay-per society. In *The political economy of information*, eds. Vincent Mosco and Janet Wasko, 3-26. Madison: The University of Wisconsin Press.

Mosco, Vincent, and Janet Wasko. 1988. *The political economy of information*. Madison, WI: The University of Wisconsin Press.

Mosco, Vincent. 1996. *The political economy of communication: Rethinking and renewal*. London: Sage Publications.

Muggleton, David. 1997. The post-subculturalist. In *The clubcultures reader: Readings in popular cultural studies*, ed. Steve Redhead, 167-185. Oxford: Blackwell.

Muggleton, David. 2000. *Inside subculture: The postmodern meaning of style*. Oxford: Berg.

Murdock, Graham. 1982. Large corporations and the control of the communication industries. In *Culture, media & society*, eds. Michael Gurevitch, Tony Bennett, James Curran and Janet Woollacott, 119-150. London: Methuen.

Murdock, Graham, and Peter Golding. 1995. For a political economy of mass communication. In *Approaches to Media: A Reader*, eds. Oliver Boyd-Barret and Chris Newbold. London: Arnold.

Murdock, Graham, and Peter Golding. 2004. Dismantling the digital divide: Rethinking the dynamics of participation and exclusion. In *Toward a political economy of culture: Capitalism and communication in the twenty-first century*, eds. Andrew Calabrese and Colin Sparks, 244-260. Oxford: Rowan & Littlefield Publishers, Inc.

Nakamura, Lisa. 2006. Cybertyping and the work of race in the age of digital reproduction. In *New media, old media: A history and theory reader*, eds. Wendy Hui Kyong Chun and Thomas Keenan, 317-333. New York: Routledge

Neal, Mark Anthony. 2004. Postindustrial soul: Black popular music at the crossroads. In *That's the joint!: The hip-hop studies reader*, eds. Murray Forman and Mark Anthony Neal, 363-387. New York and London: Routledge.

Negus, Keith. 1996. *Popular music in theory: An introduction*. Hanover, NH: Wesleyan University Press.

Negus, Keith. 1999. *Music genres and corporate cultures*. London: Routledge.

Newman, Mark. 2003. Pedestrian: History of turntablism. http://pedestrian.info/media/pedestrian/files/PedestrianHistoryofTurntablism.pdf (accessed May 17, 2007).

NG, Keane. 2009. *Guitar Hero* boosts real guitar sales. *The Escapist*, January 12. http://www.escapistmagazine.com/profiles/view/Keane%20Ng (accessed May 1, 2010).

Noble, David F. 1977. *America by design: Science, technology, and the rise of corporate capitalism*. Oxford, UK: Oxford University Press.

nodfactordotcom. 2010. GrandMaster Flash At Master Of The Mix. http://www.youtube.com/watch?v=X8-0M-jSOE4 (accessed December 27, 2010).

NovationTV. 2010. *Novation Launchpad & DJ Hero 2* [Video] Retrieved October 12, 2010 http://www.youtube.com/watch?v=Cv9jlA9oFdY&feature=player_embedded

Numark. n.d. Exclusive interview – Sam Gribben of Serato. http://www.numark.com/interviewsam (accessed February 20, 2011).

oldschoolhiphop.com. n.d. GrandWizzard Theodore & the Fantastic Five. http://www.oldschoolhiphop.com/artists/emcees/fantastic5.htm (accessed May 17, 2007).

Ogg, Alex, and David Upshal. 1999. *The hip hop years: A history of rap*. London: Macmillan.

Ong, Walter J. 1982. *Orality and literacy: The technologizing of the word*. London: Routledge.

Palmer, Alex. 2009. Best Buy spins 'Club Beats'. *Adweek*, November 10. http://www.adweek.com/aw/content_display/news/client/e3i1239cf1a1e13f62360e5c762eb0c70a8 (accessed December 16, 2009).

Parpis, Eleftheria. 2009. DJ Hero pust Jay-Z, Eminem in spotlight. *Adweek*, October 29. http://www.adweek.com/aw/content_display/esearch/e3ib2e664ce05ad759c3d10c9502922af2f (accessed January 5, 2010).

Perelman, Michael. 2002. *Steal this idea: Intellectual property rights and the corporate confiscation of creativity*. New York: Palgrave Macmillan.

Peters, John Durham. 2004. Helmholtz, Edison, and sound history. In *Memory bytes: History, technology, and digital culture*, eds. Lauren Raninovitz and Abraham Geil, 177-198. Durham and London: Duke University Press.

Peterson, Richard A., and David G. Berger. 1975. Cycles in symbol production: The case of popular music. *American Sociological Review* 40, no. 2: 158-173.

Peterson, Richard A. 1976. The production of culture: A prolegomenon. *American Behavioral Scientist* 19, no. 6: 669-684.

Peterson, Richard A., and David G. Berger. 1996. Measuring industry concentration, diversity, and innovation in popular music. *American Sociological Review* 61, no. 1: 175-178.
Poschardt, Ulf. 1998. *DJ Culture*. Trans. Shaun Whiteside. London: Quartet Books.

Postman, Neil. 1993. *Technopoly: The surrender of culture to technology*. New York: Vintage.

Potter, Russell A. 1995. *Spectacular vernaculars: Hip-hop and the politics of postmodernism*. Albany, NY: SUNY Press.

Pray, Doug. 2001. *Scratch*. DVD. Directed by Doug Pray. New York: Palm Pictures.

Quick, David. 2010. Panasonic ceases production of iconic Technics analog turntables. November 4. *gizmag*. http://www.gizmag.com/panasonic-ceases-production-of-technics-turntables/16840/ (accessed January 30, 2011).

Qureshi, Regula Burckhardt. 2002. *Music and Marx: Ideas, practice, politics*. London: Routledge.

Rabinovitz, Lauren, and Abraham Geil. 2004. *Memory bytes: History, technology, and digital culture*. Durham and London: Duke University Press.

Radosh, Daniel. 2009. While my guitar gently beeps. *The New York Times Magazine*. August 11. http://www.nytimes.com/2009/08/16/magazine/16beatles-t.html (accessed April 13, 2010).

Ralph, Nate. 2009. First look at *Scratch: The Ultimate DJ*'s Controller. *Wired*, May 27. http://www.wired.com/gamelife/2009/05/scratch-deck-first-look/#ixzz0nOEcTP64 (accessed January 29, 2010).

Rane. n.d. Rane SL 1 for Scratch Live. http://www.rane.com/scratch.html (accessed May 18, 2007).

Rane. n.d.2. The Rane story: Rane Corporation history & philosophy. http://www.rane.com/ranebio.html (Accessed May 20, 2010).

Rane. n.d.3. The Rane factory. http://www.rane.com/upclose.html (Accessed May 25, 2010).

Read, Oliver, and Walter T. Welch. 1976. *From tin foil to stereo: Evolution of the phonograph*. New York: Howard W. Sams.

Real, Michael R. 1986. Demythologizing media: Recent writings in critical and institutional theory. In *Critical Studies in Mass Communication* 3: 458-496.

Redhead, Steve. 1997. *The clubcultures reader: Readings in popular cultural studies*. Oxford: Blackwell.

Redhead, Steve, Derek Wynne, and Justin O'Connor. 1997. *The clubcultures reader: Readings in popular cultural studies*. Oxford: Blackwell.

Roberts, Brian. 1976. Naturalistic research into subcultures and deviance: An account of a sociological tendency. In *Resistance through rituals: Youth subcultures in post-war Britain*, eds. Stuart Hall and Tony Jefferson, 243-252. London: Hutchinson.

Rose, Tricia. 1994. A style nobody can deal with: Politics, style, and the postindustrial city in hip hop. In *Popular culture: A reader*, eds. Raiford Guins and Omayra Cruz, 71-88. Thousand Oaks, CA: Sage Publications Ltd.

Rose, Tricia. 1994. *Black noise: Rap music and black culture in contemporary America*. Hanover, NH: University Press of New England.

Ross, Andrew and Tricia Rose. 1994. *Microphone fiends: Youth music & youth culture*. London & New York: Routledge.

Saddler, Joseph, and David Ritz. 2008. *The adventures of Grandmaster Flash: My life, my beats*. New York: Broadway Books.

Sanjek, Russel, and Sanjek, David. 1991. *American popular music business in the 20th century*. New York: Oxford University Press.

Sanjek, David. 1998. Popular music and the synergy of corporate culture. In *Mapping the beat: Popular music and contemporary theory*, eds. Thomas Swiss, John Sloop, and Andrew Herman, 171-186. Malden, MA: Blackwell Publishers.

Sanjek, David. 2001. "Don't have to DJ no more": Sampling and the "autonomous" creator. In *Popular culture: Production and consumption*, eds. Lee Harrington and Denise Bielby, 243-256. Malden, MA: Blackwell Publishers Inc.

Schumacher, Thomas G. 1995. 'This is a sampling sport': Digital sampling, rap music, and the law in cultural production. *Media, Culture, and Society* 17: 253-273.

Scott, AJ. 1999. The US recorded music industry: On the relations between organization, location, and creativity in the cultural economy. *Environment and Planning A* 31, no. 11: 1965–1984.

Scott, John. 1990. *A matter of record: Documentary sources in social research*. Cambridge, UK: Polity Press.

Schensul, Stephen, Jean Schensul, and Margaret LeCompte. 1999. *Essential ethnographic methods: Observations, interviews, and questionnaires (ethnographer's toolkit vol 2)*. Walnut Creek, CA: AltaMira Press.

Schiller, Dan. 1993. Back to the future: Prospects for study of communication as a social force. *Journal of Communication* 43, no. 4: 117-124.

Schiller, Herbert. 1985. *Information and the crisis economy.* Norwood, NJ: Ablex.

Schiller, Herbert. 1989. Culture, Inc.: *The corporate takeover of public expression*. New York: Oxford University Press.

Schloss, Joseph G. 2004. *Making beats: The art of sample-based hip-hop*. Middletown, CT: Wesleyan University Press.

Schmidt, Siegfried J. 2003. From aura-loss to cyberspace: Further thoughts on Walter Benjamin. In *Mapping Benjamin: The work of art in the digital age*, eds. Hans Ulrich Gumbrecht and Michael Marrinan, 79-82. Stanford, CA: Stanford University Press.

Scholtes, Peter S. 2009. Abilities talks turntablism's bright future. *A.V. Club*. September 7. http://www.avclub.com/twincities/articles/abilities-talks-turntablisms-bright-future,32023/ (accessed October 1, 2009).

Schumacher, Thomas G. 1995. 'This is a sampling sport': Digital sampling, rap music, and the law in cultural production. *Media, Culture, and Society* 17: 253-273.

Schur, Richard L. 2009. *Parodies of ownership: Hip-hop aesthetics and intellectual property law.* Ann Arbor: The University of Michigan Press and The University of Michigan Library.

Schwartz, David. 1997. *Culture & power: The sociology of Pierre Bourdieu.* Chicago & London: The University of Chicago Press.

Scott, John. 1990. *A matter of record: Documentary sources in social research.* Cambridge, UK: Polity Press.

Sekula, Alan. 1986. The body and the archive. *October* 39: 3-64.

Serato is killing vinyl!!!!!! http://www.scratchlive.net/forum/discussion/?discussion_id=24672#new (Posted November 29, 2006).

Serato. 2008. WHITELABEL.NET LAUNCHES. October 6. http://serato.com/news/2206/whitelabelnet-launches (accessed May 22, 2008).

Serato. 2008a. Serato Pressings - Music and control tone on limited edition records. December 1. http://serato.com/news/2517/serato-pressings-music-and-control-tone-on-limited-edition-records (accessed April 20, 2008).

Serato. 2009. Serato announce Video SL-1.1. January 17. http://serato.com/news/2697/serato-announce-video-sl-11 (accessed April 20, 2008).

Shannon, Claude E., and Warren Weaver. 1949. *The mathematical theory of communication*. Urbana: University of Illinois Press. (*transmission model)

Shapiro, Peter (ed). 2000. *Modulation—a history of electronic music: Throbbing words on sound*. New York: Caipirinha Productions.

Shiga, John. 2007. Copy-and-persist: The logic of mash-up culture. *Critical studies in media communication* 24, no. 2, June 2007: 93-114.

Shusterman, Richard. 2004. Challenging conventions in the fine art of rap. In *That's the joint!: The hip-hop studies reader*, eds. Murray Forman and Mark Anthony Neal, 459-479. New York and London: Routledge.

Singh, Ashish. 2001. *Cutting through the digital fog: Music industry's rare chance to reposition for greater profit*. Boston: Bain & Company, Inc.

Sirois, André, and Shannon Martin. 2006. United States copyright law & digital sampling: Adding color to a grey area. *Information and Communication Technology Law* 15, no. 1: 1-32.

Sisaro, Ben. 2008. Music sales fell in 2008, but climbed on the Web. *New York Times*. December 31. http://www.nytimes.com/2009/01/01/arts/music/01indu.html (accessed January 5, 2009).

Slack, Jennifer Daryl. 1984. *Communication technologies & society: Conceptions of causality & the politics of technological intervention*. Norwood, NJ: ABLEX Publishing Corporation.

Smith, Linda Tuhiwai. 1999. *Decolonizing methodologies: Research and indigenous peoples*. Dunedin, New Zealand: University of Otago Press.

Smith, Sophie. 2000. Compositional strategies of the hip-hop turntablist. *Organised Sound* 5, no. 2: 75-79.

Smith, Sophie. 2007. The process of "collective creation" in the composition of UK hip-hop turntable team routines. *Organised Sound* 12, no. 1: 79-87.

Smythe, Dallas. 1960. On the political economy of communication. *Journalism Quarterly*, Autumn: 563-572.

Smythe, Dallas. 1977. Communications: Blindspot of Western Marxism. *Canadian Journal of Political and Social Theory* 1, no. 3: 1-27.
Smythe, Dallas. 1981. *Dependency road: Communications, capitalism, consciousness, and Canada*. Norwood, NJ: Albex.

Snapper, Juliana. 2004. Scratching the surface: Spinning time and identity in hip-hop turntablism. *European Journal of Cultural Studies* 7, no. 1: 9-25.

Spin. n.d. Company. http://vestaxspin.com/vestax/ (accessed February 12, 2011).

Sousa, John Phillips. 1906. The menace of mechanical music. *Appleton's Magazine* 8. http://explorepahistory.com/odocument.php?docId=418 (accessed 12 April 2009).

Souvignier, Todd. 2003. *The world of DJs and the turntable culture*. Milwaukee, WI: Hal Leonard Corporation.

SSL Wiki. n.d. Microwave DJ. http://ssl-wiki.help.bootlegs.de/index.php?title=Microwave_DJ (accessed March 19, 2011).

Staff. 2009. Genius Products, Numark sue 7 Studios, Activision over *Scratch* "witholding." *Gamasutra*, April 15. http://www.gamasutra.com/php-bin/news_index.php?story=23205 (accessed January 4, 2010).

stanton. n.d. Stanton legacy products. http://www.stantondj.com/stanton-legacy-products.html (accessed December 22, 2010).

Sterne, Jonathan. 2003. *The audible past: Cultural origins of sound reproduction*. Durham, NC: Duke University Press.

Storey, John. 1996. *Cultural studies and the study of popular culture: Theories and methods*. Athens: The University of Georgia Press.

Straw, Will. 1991. Systems of articulation, logics of change: Communities and scenes in popular music. *Cultural Studies* 5, no. 3: 368-388.

Straw, Will. 1997. 'Organized disorder': The changing space of the record shop. In *The clubcultures reader: Readings in popular cultural studies*, ed. Steve Redhead, 39-47. Oxford: Blackwell.

Straw, Will. 2001. Consumption. In *The Cambridge companion to pop and rock*, eds. Simon Frith, Will Straw, and John Street, 53-73. Cambridge, UK: Cambridge University Press.

Swiss, Thomas, John Sloop, and Andrew Herman. 1998. *Mapping the beat: Popular music and contemporary theory*. Malden, MA: Blackwell Publishers.

Szwed, John F. 1999. The real old school. In *The Vibe history of hip-hop*, ed. Alan Light, 3-11. New York: Three Rivers Press.

Talja, Sanna. 1999. Analyzing qualitative interview data: The discourse analytic method. *Library & Information Science Research* 21, no. 4: 459-477.

Taylor, Timothy D. 2001. *Strange sounds: Music, technology & culture*. New York: Routledge.

Terranova, Tiziana. 2004. *Network culture: Politics for the information age*. Ann Arbor, MI: Pluto Press.

TGB Performance Information. 2006. TGB performance report 2005/06. www.frst.govt.nz/files/TBG%20Performance%20Report.pdf (Accessed May 20, 2008).

The Dominion Post. 2008. Digital DJs mix and scratch. June 7. http://www.stuff.co.nz/business/540976 (accessed May 8, 2008).

The History of Turntablism. Jam2dis.com. http://www.jam2dis.com/j2ddjhistory1.htm (accessed April 30, 2007).

The History of the Edison Cylinder Phonograph http://memory.loc.gov/ammem/edhtml/edcyldr.html (accessed June 3, 2007).

Théberge, Paul. 1997. *Any sound you can imagine: Making music/consuming technology.* Hanover, NH: Wesleyan University Press.

Théberge, Paul. 2001. 'Plugged in': Technology and popular music. In *The Cambridge companion to pop and rock*, eds. Simon Frith, Will Straw, and John Street, 3-25. Cambridge, UK: Cambridge University Press.

Thorne, Richard. 2007. Serato Audio Research – TURN IT UP, software genius at work. *NZ Musician* 13, no. 8. http://www.nzmusician.co.nz/index.php/pi_pageid/8/pi_articleid/1222/pi_page/1 (Accessed February 19, 2011).

Thornton, Sarah. 1994. Moral panic, the media and British rave culture. In *Microphone fiends: Youth music & youth culture*, eds. Andrew Ross and Tricia Rose, 176-192. London and New York: Routledge.

Thornton, Sarah. 1996. *Club cultures: Music, media, and subcultural capital*. Hanover, NH: University Press of New England.

Thornton, Sarah. 2005. The social logic of subcultural capital [1995]. In *The subcultures reader*, 2nd ed., ed. Ken Gelder, 184-192. New York: Routledge.
Thud Rumble. n.d. About Thud Rumble. http://www.thudrumble.com/about/about_us (accessed January 17, 2010).

Tompkins, Dave. 2004. Return to the world of though. (Originally prininted in 2001? in *Big Daddy*). http://crunkster.abstractdynamics.org/archives/003807.html (accessed September 20, 2010).

Toop, David. 1995. *Ocean of sound: Aether talk, ambient sound and imaginary worlds*. London: Serpent's Tail.

Toop, David. 2000. *Rap attack #3: African rap to global hip hop*. London: Serpent's Tail.

Toynbee, Jason. 2006. Copyright, the work and phonographic orality in music. *Social & Legal Studies* 15, no. 1: 77-99.

UMG. 2009. UMG AND SERATO ANNOUNCE INNOVATIVE SECURE DIGITAL DELIVERY SERVICE FOR DJs WORLDWIDE. November 4. http://www.universalmusic.com/corporate/news35701 (accessed May 22, 2008).

urbmagazine. (2009). DJ Shadow talks about DJ Hero @ E3 [Video] Retrieved April 17, 2010, from http://www.youtube.com/watch?v=g9j5tFjMOS8&feature=player_embedded.

Vapors magazine claims Serato is committing violence against hip hop (http://www.scratchlive.net/forum/discussion/?discussion_id=37655#411641) (Posted May 21, 2007)

Vaidhyanathan, Siva. 2001. *Copyrights and copywrongs: The rise of intellectual property and how it threatens creativity*. New York: New York University Press.

Vaidhyanathan, Siva. 2006. Afterword: Critical Information Studies: A bibliographic manifesto. *Cultural Studies* 20, nos. 2-3: 292-315.

Veblen, Thorstein. 1899. *Theory of the leisure class: An economic study in the evolution of institutions*. New York: Macmillan.

Veltman, Kim H. 2006. *Understanding new media: Augmented knowledge & culture*. Alberta, Canada: University of Calgary Press.

Vestax. n.d. Concept: History. http://www.vestax.com/v/concept/v_history.php (accessed February 15, 2011).

Vestax. n.d1. Concept: Vestax philosophy. http://www.vestax.com/v/concept/v_philosophy.php (accessed February 15, 2011).

Vestax. n.d.2. Concept: The Vestax people. http://www.vestax.com/v/concept/v_people.php (accessed February 15, 2011).

Vestax. n.d.3. Controller One. http://www.vestax.com/v/products/detail.php?cate_id=42&parent_id=7 (accessed February 19, 2011).

Vestax. n.d.4. Concept: Vestax products. http://www.vestax.com/v/concept/v_products.php (accessed February 17, 2011).

Vestax. n.d.5. Concept: The Vestax people. http://www.vestax.com/v/concept/v_people.php (accessed February 10, 2011).

Vestax. n.d.6. Spin. http://www.vestax.com/v/products/detail.php?cate_id=80&parent_id=8 (accessed February 12, 2011).

vintage synth explorer. n.d. E-mu SP-1200. http://www.vintagesynth.com/emu/sp1200.php (accessed December 20, 2010).
Malm, Krister, and Wallis, Roger. 1992. *Media policy and music activity*. London: Routledge.

Wasko, Janet. 2004. The political economy of communications. In *The Sage handbook of media studies*, eds. John D. H. Downing, Denis McQuail, Philip Schlesinger, and Ellen A. Wartella, 309-329. London: Sage Publications.

Watkins, S. Craig. 2005. *Hip hop matters: Politics, pop culture, and the struggle for the soul of a movement*. Boston: Beacon Press.

Weber, Max. 1958. *The rational and social foundations of music*. Trans. by eds. Don Martindale, Johannes Riedel and Gertrude Neuwirth. Carbondale: Southern.

Webber, Stephen. 2000. *Turntable technique: The art of the DJ*. Boston: Berklee Press.

Weiss, Robert S. 1994. *Learning from strangers: The art method of qualitative interview studies*. New York: The Free Press.

Welch, Walter L., and Leah Brodbeck Stenzel Burt. 1994. *From tinfoil to stereo: The acoustic years of the recording industry 1877-1929*. Gainesville, FL: University of Florida Press.

Werde, Bill. 2001. The D.J.'s new mix: Digital files and a turntable. *The New York Times*. October 25. http://tech2.nytimes.com/mem/technology/techreview.html?_r=1&res=9B04E1DA1531F936A15753C1A9679C8B63&oref=slogin (accessed October 12, 2007).

Westbrook, Logan. 2010. *Call of Duty: Black Ops* soundtrack to feature Eminem. *The Escapist*, June 14. http://www.escapistmagazine.com/news/view/101313-Call-of-Duty-Black-Ops-Soundtrack-to-Feature-Eminem (accessed June 15, 2010).

White, Miles. 1996. The phonograph turntable and the performance practice in hip hop music. *EOL* vol. 2. http://www.research.umbc.edu/eol/2/white/ (accessed May 17, 2007).

White, Phil, and Luke Crisell, with Rob Principe. 2009. *On the record: The Scratch DJ Academy guide*. New York: St. Martin's Griffin.

Wiener, Norbert. 1948. Information, language, and society. From *Cybernetics: Control and Communication in the Animal and the Machine*. In *Mass communication and American social thought: Key texts 1919-1968*, eds. John Durham Peters, and Peter Simonson, 243-248. Lanham, MD: Rowman & Littlefield Publishers.

Wimmer, Roger D., and Joseph R. Dominick. 2006. *Mass media research: An introduction* 8th ed. Belmont, CA: Thomson Wadsworth.

Winner, Langdon. 1986. *The whale and the reactor: A search for limits in an age of high technology*. Chicago: University of Chicago Press.

Williams, Linda. 1999. Prehistory: The "frenzy of the visible." In *Hardcore: Power, pleasure, and the frenzy of the visible*, 34-57. Berkeley and Los Angeles: University of California Press.

Williams, Raymond. 1974. *Television: Technology and cultural form*. New York: Shocken Books.

Williams, Raymond. 1977. *Marxism and literature*. New York: Oxford University Press.

Williams, Raymond. 1981. *Culture*. London: Fontana.

Williams, Glibert A. 1986. The black disc jockey as a cultural hero. *Popular Music & Society* 10, no. 3: 79-90.

Wittgenstein, Ludwig. 1921. *Tractatus logico-philosophicus*. http://www.voidspace.org.uk/psychology/wittgenstein/tractatus.shtml (accessed February 2, 2009).

Would The Real DJ's Please Stand Up!!!! http://www.scratchlive.net/forum/discussion/?discussion_id=35571#386139 (April 24, 2007)

Wu, Tim. 2006. Jay-Z versus the sample troll: The shady one-man corporation that's destroying hip hop. *Slate*. November 16. http://www.slate.com/id/2153961/.%3C/p%3E (accessed March 8, 2011).

Wurtzler, Steve J. 2007. *Electric sounds: Technological change and the rise of corporate mass media*. New York: Columbia University Press.

XXLMAG.COM. 2007. Wu-Electronics? RZA claims he invented vinyl-emulation technology. November 1. http://www.xxlmag.com/bloggers/2007/11/wu-electronics/ (accessed November 20, 2008).