The Production Techniques of Two House Music Subgenres
Used in Theory and Practice

by
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Abstract

The soul of the dancefloor, ablaze in lockstep with the hypnotic thump of every kick drum, originates not in the busy club but often in the secluded atmosphere of a music producer's home studio. A genre born from disco, this creative thesis project unveils how house music is constructed. Through a study of the underlying history and production techniques, this creative thesis project presents advice for house music production, offers two original tracks in the genre, and reflects upon how each track is crafted. The standard production tools, techniques, and approaches of two house music subgenres (tech house and future house) are examined and then applied to the new works.

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CHAPTER I.
HOUSE MUSIC, A PERSONAL INTRODUCTION

House music can inform creative music production by guiding the artistic and
technical processes in ways that conform to the genre's stylistic properties. This project
presents the research and study of house music's history and modern house production
techniques, applying this knowledge to the production of two original musical works
(tracks) that can be played in nightclubs. The project attempts to better understand the
technical and musical sides of how the "house music" genre is created while serving as a
source of information for others wanting to learn more about what happens behind the
scenes. The results are two commercial-quality house music tracks, each about three to
six minutes in length, that have indeed already influenced my career as a music producer.
This process has required creativity, employment of technical skills, and contributes to
the worldwide house music catalog via the internet to a global audience.

It can be tricky to pinpoint an exact definition of house music and how it came to
be, but it undoubtedly owes some of its genesis to the solid grooves and "four-on-the-
floor" beats of the disco music that came before it. House music is a form of dance or
club music—music meant for dancing and getting people moving. Often credited with
selling the first house music record, DJ and producer Jesse Saunders described the genre
in a 2020 interview with The National: "House music is music that you dance to—it's not
anything else. It's the pure, unadulterated, the pound of the beat through your soul and it
makes you want to dance" (Dutton, 2020).

The name's origins trace back to the short-lived predominately LGBTQ nightclub
in Chicago called the "Warehouse," where DJ Frankie Knuckles spun disco and soul

tracks (Pq, 2019; Saunders & Cummins, 2007). Knuckles mixed this music with sounds from drum machines and played to crowds at the Warehouse and another Chicago nightclub named the Music Box (Gerrish, 2001). However, according to Jesse Saunders, the partiers at the Warehouse never actually heard the variety of music that people today call house music. Saunders claims that the genre that came to be known as house was inspired by the music played by DJ Knuckles at the Warehouse but morphed into something new as it reached an increasingly mainstream audience (Saunders & Cummins, 2007). While many point out the link between the name of the Warehouse and "house," some think the name comes from the fact that DJs could produce this music at home instead of in an elaborate and costly recording studio (Masterclass, 2021).

Growing up, my dad played a wide variety of dance music at home and on road trips, including the greatest hits of funk and disco. Through artists like ABBA, Kool & the Gang, and Earth, Wind & Fire, I began to develop a taste for the styles and rhythms of music that influenced the beginnings of electronic dance music and house music. I officially discovered the world of electronic music through one of my friends in elementary school, who introduced me to the artist Skrillex, best known for pioneering the electronic music subgenre called "brostep." From there, the door opened for me to all styles of electronic music, including house music and, by extension, audio production in general. My curiosity about how people created the electronic music that I heard on websites such as Soundcloud or the pop-electronic crossovers that dominated pop stations during my childhood led me to become an Audio Production major at Middle Tennessee State University.

Throughout my coursework and experiences at Middle Tennessee State University, I have become much more knowledgeable about electronic music creation. MIDI stands for Musical Instrument Digital Interface, a standard protocol that offers a common language between MIDI-capable instruments and computers. In addition to being in a leadership role in the Society of Electronic Music (SEM), an on-campus student organization centered around listening to and creating electronic music, I have taken courses in MIDI and Synthesis and MIDI-based Music Production. This technology forms the basis for using the virtual instrument software that electronic music producers utilize to create their tracks. In the audio field and my coursework, software called Digital Audio Workstations (DAWs) are used to combine audio recordings, MIDI instruments, and samples to compose digital electronic music.

These audio courses and related opportunities have helped me better understand how electronic music is constructed and consumed. Because I am already quite intimately familiar with house music from the standpoint of a casual listener, for this thesis project, I have chosen to dig deeper and learn the intricate details about how this music is created and then to create original tracks in these styles. For this thesis, I researched the production techniques behind two subgenres of house music and then produced two subgenres of house.

Electronic Dance Music

What is electronic dance music (EDM), and how does it relate to house music? In the simplest terms, EDM is music meant for dancing made with electronic elements. According to author Michaelangelo Matos (2016), EDM's defining characteristics are its

inorganic timbres produced with electronic gear frequently enhanced by live instrumentation or vocals, its emphasis on the beat, and its purpose to be played by DJs to a crowd. Senior Director of Dance Music at Columbia Records Dave Jurman stated in a 2001 interview that electronic music was getting bigger by the day and more frequently played on commercial radio stations (Gerrish, 2001, p. 101).

Electronic dance music encompasses many genres and subgenres, including house, acid house, techno, trance, hardcore, jungle, synthpop, drum and bass, garage, dubstep, and trap (Gerrish, 2001; Los Angeles Film School, 2017). Synthpop and house music were some of the first distinct subgenres within EDM to reach a global audience in the 1980s, following in disco's footsteps (Matos, 2016; Los Angeles Film School, 2017). Since then, nightclubs around the world regularly play these genres for their patrons. Many clubs on any given night play a blend of these genres and more. For my thesis project, I zero in on house music: a style of music born from the ashes of disco.

The House-Disco Connection

On Thursday, July 12, 1979, the popularity of the disco music genre came to a rather fiery close. Disco Demolition Night was an event organized by Chicago rock DJ Steve Dahl at Comiskey Park in Chicago, where, between baseball games, many disco records (and R&B records by Black artists) were blown up and burned in a show of extreme distaste toward the genre (Tannenbaum, 2020). This extreme distaste was known as the "Disco Sucks" movement and led to a decline in public opinion of the genre. However, the fall of disco helped birth house music (Myers, 2009). While the disco name dropped in popularity, its roots and dance scenes continued to live on through house

music. Though disco music never truly disappeared, house music is the medium that connects the disco of the past to modern-day dance music (Gerrish, 2001, p. 17; Rietveld, 1998). The disco scene passed on its genetic code to house music through its shared urban dance venues, DJ-audience interactions, and production techniques (Rietveld, 2011).

House music as a genre shares many musical qualities with disco, including its 4/4 meter with a bass drum generally on every beat and snares or claps on the second and fourth beats (Rietveld, 2011). They share this similarity because house music was born from the sampling, re-editing, and remixing of disco and funk records. DJ Jesse Saunders built his first house record upon a disco-funk mix by Mach entitled "On and On," which itself sampled parts of the disco and funk hits of Player One's "Space Invaders," Donna Summer's "Bad Girls," and Lipps, Inc.'s "Funkytown" (Mach, 1980; Player, 1979; Summer, 1979; Lipps, 1979; Matos, 2015). This practice of sampling audio and repurposing it is common in house music.

The Hallmarks of House Music

Like many musical genres, house music and what constitutes a house track are hard to define precisely. "Four-on-the-floor" kick drum pattern, off-beat open hi-hats, and backbeat snares, claps, or snaps characterize house music. Most tracks can be broken down into eight-bar chunks that separate the formal structure of the song. This structure of sections with lengths that are a multiple of eight bars aids DJs in transitioning from one track to another. The genre usually falls between a tempo of 120 and 130 beats per minute, which makes it very danceable and straightforward for DJs to blend seamlessly

between two songs in a mix (MasterClass, 2021). In recent decades, much of the production of this genre has shifted to the use of electronic or virtual instruments, classifying house music as a style of EDM. Though tracks vary widely, the use of synthesizers and drum samples is almost ubiquitous. These elements help to create a mechanical, unrelenting groove that keeps the dance floor going.

Song vs. Track

In electronic dance music, the term "track" is often used to refer to a song or composition (Butler, 2006, p. 9). This term comes from the notion that a recorded piece of music could be played back on the track of a vinyl record. Although most music is now digitally distributed, the name track has carried over. Because the songs and compositions of electronic dance music are colloquially referred to as tracks by DJs, producers, and fans alike, I conform to this terminology—tracks, not songs—throughout this thesis project. It is important to note that in music production, the individual lanes of audio within a Digital Audio Workstation (DAW) interface and mixer are often referred to as tracks as well.

Percussion

The single most crucial rhythm element in house music is the kick drum—also called the bass drum. This drum sets the basis for every other component of the track. A short, punchy kick often pairs well with a deep, rolling bassline. In contrast, a long, boomy kick—"boomy" meaning the kick has a longer duration than a normal kick, lasting close to a full quarter-note or longer—will complement a more staccato, higher-

register bassline (Adamo & Felton, 2009). Many house music producers create the percussion for their tracks using drum machines or sampling kicks from other records.

In the 1980s, a Japanese company named Roland released the TR-808 and the TR-909 drum machines. These drum machines allowed the user to program drum grooves that used samples to play back the rhythms. Instead of needing a large drum kit that was cumbersome and time-consuming to record, producers could program loops on these machines to quickly add drums to their records. The 909 was not very popular when it was first released because it did not sound like a genuine drum kit. However, as people began to value its utility, it became "the foundation of house music production" (Gerrish, 2001, pp. 53-54). Detroit-based house music DJ and producer Marc Kinchen (also known as MK) stated in an interview with Point Blank Music School (2016) that he uses TR-909 kits and drum samples in all his house productions. Percussion is a vital element of house music, and percussion's rhythmic and sonic importance to the genre must not be overlooked.

Instrumentation

Synthesizers, or synths, are instruments that make up much of the harmonic content heard in electronic music. A synthesizer combines basic sounds together to create new timbres. Beyond this, a synthesizer can be shaped through filters, sound envelopes, modulation, and processing to create an endless variety of sounds (Snowman, 2014). At one point, some house music artists performed renditions of their tracks with live instruments. In addition to DJing their edits and mixes in clubs, some would get on stage with their synthesizers, drum machines, and a microphone to put on a show for the live

audience. When Jesse Saunders performed live, he would occasionally have choreographed dancers to accompany his band (Saunders & Cummins, 2007, p. 62). Nowadays, Musical Instrument Digital Interface (MIDI)-capable instruments and software instruments dominate the production of records, and live performances usually do not consist of a band on stage. When it comes to the selection of musical elements, wide varieties of instruments are used in the genre. In 1986, Marshall Jefferson released a house track titled "Move Your Body" that featured an acoustic-sounding piano from a Prophet 2000 keyboard (Jefferson, 1986). When Trax Records owner Larry Sherman said house music did not feature pianos, Marshall nicknamed his song the "House Music Anthem," just to spite Sherman for trying to box in the genre (Matos, 2015; Caro C, 2021).

Another popular keyboard was the Korg M1 music workstation. This music workstation and keyboard that came out in 1988 was featured in many house records and even was used on the house-pop crossover hit "Vogue" by Madonna (Madonna, 1990). Like many synthesizers of the era, it allowed the user to select from a wide range of digital sample-based sounds such as pianos, strings, brass, synth pads, drum kits, percussion, and even organs. Its "Organ 2" preset was featured prominently on the 1990 house-pop hit by Robin S called "Show Me Love" (Keyboard Magazine, 2020; Robin S, 1990). Its piano sound has been used more recently in tracks such as MK's 2013 remix of "My Head is a Jungle" (Wankelmut & Louise, 2014). The instrumentation of a house music track gives it its harmonic and melodic musical qualities. Although the choices made by producers on what instrumentation to use are less critical than their choice of percussion, the instruments selected help determine the track's atmosphere.

Sampling

The sampler has had one of the most substantial impacts on music production since its debut in the 1980s. Instead of recording audio onto analog tape, a "sampler" is a hardware or software device that records audio digitally to be manipulated in many creative ways. These changes could be as simple as speeding up the sample to something more complicated, such as splicing together multiple parts of one sample into something new (Snoman, 2014). This technology opened the door to new kinds of music that would not have been feasible before its invention. A sampler can allow someone to chop up a vocal and play it back in a way utterly different from how someone sang it. Popular manufacturers of digital samplers include Akai, Em-u, Yamaha, and Roland (Gerrish, 2001, p. 74). Most modern digital audio workstations come built-in with this functionality.

House music was connected to the practice of sampling since its inception with tracks like "On and On," featuring samples from many different records (Matos, 2015; Saunders, 1984). Jax Jones, a house music DJ and producer from London, stated in a 2020 interview with Sound On Sound that he often prefers to sample other audio clips over recording live instruments. Jones said this about sampling: "It is so addictive to sample, it's like an instant vibe. You hear something you like just sample it! The beauty of sampling from records also is that if you don't cut your sample cleanly, the result can be very musical" (Tingen, 2020).

Taking pieces of another work's audio and using them within your composition brings up legal issues of copyright. Many producers work with their record labels to license the samples they use properly. For producers with fewer resources, websites such

as Splice.com have arisen. Splice is a subscription service that offers users, for a monthly fee, access to an extensive catalog of samples that can be used royalty-free in productions without the producers' need to license them from the creator individually. Before Splice came about, a common way that producers got samples was through sample CDs preloaded with drum loops and one-shots (Snoman, 2014). Splice has become so prominent that many records featuring Splice samples have made it on the radio and into nightclubs worldwide.

Modern House Music

House music has evolved quite a long way from where it was in the early 1980s. Producers now use computer software called digital audio workstations designed for audio and music production to bring their visions to life. Virtual instruments and samples continue to be the main features of the genre. In terms of structure, many house records now have a more traditional pop flavor, complete with full lyrics that include verses and choruses. I have not yet mentioned a common trait among house records: "the build." The build is usually between eight-sixteen bars in length and includes elements such as snare rolls or clap loops that continuously build in energy until the "drop." The drop is when the bass drum kicks in, and a solid house groove begins. The build helps increase tension and anticipation in the audience, preparing listeners for the beat to enter and the groove to begin.

The genre has since continued to grow in prominence and popularity since the 19080s. Early 2010s pop radio embraced house music through hits from artists such as Avicii, with his 2012 hit collaboration with Nicky Romero, "I Could Be The One," and

David Guetta, in his 2009 hit "When Love Takes Over" (Avicii & Romero, 2012; Guetta, 2009). As technology has improved and the genre has matured, more house music is on the market than ever before. In a podcast interview with Sound On Sound, Marshall Jefferson points out the current market situation. Today, there is much more competition for a listener's ears than when he started, with 100,000 dance records released each week (Caro C, 2021). While daunting for an aspiring producer, there has never been a better time in history for a house music lover. Many DJs produce their own radio shows that they release on YouTube and other places across the internet. Some of my favorites of these shows are Don Diablo's Hexagon Radio (Hexagon, 2022), Mike Williams' On Track (Williams, 2022), and Kream's Liquid:Lab (Kream, 2022).

In recent years, pop radio still hears house-pop crossovers. Disclosure's 2014 sleeper hit "Latch" with the previously obscure singer Sam Smith propelled Smith into stardom and reinforced house music as a force in pop music (Disclosure, 2012). It peaked at number 7 on the Billboard Hot 100 in August 2014 (Bain, 2020). Another collaboration between Silk City, Diplo, Dua Lipa, and Mark Ronson entitled "Electricity" was a piano house hit, peaking at number 16 on Billboard's U.S. Mainstream Top 40 in December 2018 (Pedrosa, 2018; Silk City & Lipa, 2018). This house-inspired pop song featured a groovy four-on-the-floor house rhythm accompanied by a Korg M1-style bright dance piano.

<div align="center">The Subgenres of House</div>

Since there are considerable numbers of subgenres under the umbrella term "house music," throughout my research, I have needed to narrow down my scope and

focus on specific subgenres. I have chosen to focus on producing "future house" and "tech house" tracks for this project. These are subgenres of house music that each refine the genre in their own way, with distinctive elements that differentiate these from other subgenres. Jesse Saunders believes many of these different subgenres arose to differentiate house music styles to help with the marketing and sale of records, but they all remain fundamentally house (Saunders & Cummins, 2007, p. 126). While I make distinctions between subgenres, it is all house music underneath.

Future House

       Future house is a relatively recently born subgenre that started as a misunderstanding. The term originates from a French DJ and producer named Tchami. In 2013, Tchami released songs on the distribution platform Soundcloud tagged with the genre label "future house" (Rodriguez, 2015). In a 2015 interview, Tchami stated that future house was not supposed to be a strictly defined genre but rather a term for "any kind of house music that hasn't been invented yet" (Khawaja, 2015). However, the genre quickly grew in popularity through the work of Dutch DJ and producer Oliver Heldens and his track entitled "Gecko (Overdrive)" (Heldens & Hill, 2014). In 2016, the club music distribution service Beatport officially added future house as a genre on its store (Hernandez, 2016).

       Future house varies widely in its stylistic signifiers. It generally falls between 125 and 128 beats per minute, usually with metallic or elastic-sounding basslines with complex timbres (Future, n.d.). Future house is typically louder and has more energy than other, more laid-back subgenres. It is common for producers to use FM (frequency-

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modulated) synths to create big basslines that span much of the frequency spectrum. The elastic sound is often achieved using an instrument's portamento function. Portamento tells the synthesizer to glide between notes. Blending from one note to another can create a slightly atonal yet groovy quality found in future house. The best way to understand the genre would be to listen to the music that falls into the category. Some notable producers of the genre are Tchami, Oliver Heldens, Curbi, Don Diablo, Mike Williams, and Mesto. Mesto, a young Dutch producer, began producing future house music after hearing Heldens' "Gecko (Overdrive)" and has gone on to collaborate with EDM superstars such as Martin Garrix (Muller, 2017; Heldens & Hill, 2014).

Future house music's prominence has dropped slightly since its peak popularity. In 2021, the music distribution platform Beatport combined the genres of big room, electro house, and future house into one genre called "mainstage." This mainstage genre supposedly refers to the styles of music played by DJs at large festivals (Branch, 2021). Since the genre's creation, many producers have created music in the future house style, and music labels that focus on the genre have cropped up. Future House Music is a music label that releases almost exclusively future house tracks. Another record label named Hexagon—a sublabel of Spinnin' Records—was started by Dutch DJ and producer Don Diablo. Hexagon continues to release future house tracks alongside other house subgenres.

Tech House

Tech house is a combination of house music and techno music. Techno music came from house music and began in Detroit. The genre still uses the four-on-the-floor

kick drum, but it strongly emphasizes percussive elements combined with solely

electronic instruments rather than live ones (Gerrish, 2001, p. 31). Tech house tends to be

more diatonic, tonal, and musically consonant than techno music, meaning that

musically, it has less tension and dissonance than its parent genre. In 2021, 44 of the top

100 tracks of the year on the distribution platform Beatport were labeled as tech house

(Mekinc, 2022). Tech house's mainstream popularity suggests its ease of listening and

ability to get people moving on the dance floor. Some prominent artists in the genre are

John Summit, Joel Corry, Diplo, Fisher, Acraze, CID, Mark Knight, Chapter & Verse,

and Kream.

Compared to future house, tech house does not have as much energy and tends to

have less of a pop feel with a minor emphasis on the lyrics. The main draw of tech house

is its incessant rhythm of the kick drum and percussion paired with a low rolling bassline.

The genre is not driven by the lead melody but rather by the bassline. The higher

frequencies are usually taken up by the percussion, a vocal, and occasional detuned saw

wave stabs or plucky staccato synths. One of my favorite tech house artists is the

Norwegian duo Kream. They remix pop songs into tech house music in addition to

producing their own tracks. Kream's music tends to have a more melodic feel, adding a

layer of personality to a genre that might otherwise risk sounding sterile. Kream's recent

unofficial remix of Swedish House Mafia and the Weeknd's "Moth to a Flame" is an

excellent example of this style (Swedish House Mafia & The Weeknd, 2022). Perhaps the

most iconic tech house track is Fisher's "Losing It" (Fisher, 2018). It's a simple track but

an infectious one. It features many of the genre's stylistic signifiers, including the

incessant bassline, electronic percussion, and big saw stabs. Overall, there is a lot of

variety in tech house, which is what has allowed it to become and stay so dominant in the charts.

CHAPTER II.
PREPARATION AND THE CREATIVE PROCESS

Preparation for the creative project has necessitated utilizing multiple sources of information, including books on the topic, academic journals, videos breaking down productions, interviews with producers, and critically listening to the music itself. This chapter details the value gained from these sources of information as well as the steps taken beyond research to carry out the task of producing two commercial-quality house music tracks. The research portion of this project not only guides me through the production of my tracks but also aids the reader in understanding the concepts and work that went into my productions.

Resources

Books

House music production's technical details and processes are equally as relevant as the extensive and complex history that brought the genre to where it is today. Fortunately, there is a decently wide array of literature on the topic. Books such as *House Music—The Real Story* (Saunders & Cummins, 2007) and *The Underground is Massive: How Electronic Dance Music Conquered America* (Matos, 2015) each break down much of the story and history behind electronic dance music and house music. Other books explain the technical and creative aspects of production. Guides such as the *Dance Music Manual* (Snoman, 2014) and *The Secrets of House Music Production* (Adamo, 2009) break down much of the music production process using screenshots from different DAWs and virtual instruments.

Journals

There already exists some academic literature within the field of dance music, specifically electronic dance music. *Dancecult* is a peer-reviewed journal that evaluates and documents the crossroads between human expression and technologies in electronic dance music culture. Another journal, the *Journal of Popular Music Studies*, deals with popular music in a broader sense. While not specifically electronic music focused, there are some articles on dance music and electronic dance music under which the house music genre falls. The world of dance music is underdeveloped in terms of scholarly writing, but some useful analyses are available for research.

Interviews

Many audio and electronic music-focused publications provide in-depth interviews with house music producers. While not peer-reviewed, these websites and publications release a lot of content about electronic music production that has helped me during my thesis project. These websites include SoundOnSound.com, Point Blank Music School, and Future Music Magazine.

YouTube Tutorials and Breakdowns

Many DJs and producers create YouTube videos showcasing their project files. In these videos, they record their computer's screen and audio output while going piece by piece through their track, explaining each element. Some YouTubers who create these detailed videos include Jonas Aden, Oliver Heldens, Mike Williams, Disclosure, Curbi, Westend, and Chris Lake. Though these names might not be widely familiar, the artists

are some of the most inspirational to me, and their music is quite popular. In addition to videos, some house artists have put on remix competitions for their tracks, where they release the stems (the individual groups of instruments that comprise the overall final mix) to the public. These stems can be studied to see what other producers have done to build their compositions. When figuring out what equipment a DJ or producer uses, the website Equipboard.com is uniquely valuable. The site has artist pages with crowdsourced information that lists the software plug-ins, virtual instruments, keyboards, headphones, DAWs, studio equipment, and DJ setups used by the artist. These lists of equipment are backed up with evidence from videos, interviews, or social media posts from the artist.

The Production Process

Because the term house music is so broad, I produced one future house track and one tech house track. The production of this music involves the use of a digital audio workstation to pull together and generate many elements into one final product. For this project, I used Apple's Logic Pro X (for production) and Avid's Pro Tools software (for recording vocals). These are the DAWs with which I am most familiar. The process of making electronic music often differs from classical styles. Because I produce electronic music that is primarily digital in nature, I write the music straight into the software as opposed to on any sheet music.

I began by composing melodies and chord progressions straight into my DAW using scratch drum grooves and synthesizer sounds. Once I got something I was satisfied with, I sought to sketch a formal arrangement (intro, verse, pre-chorus, chorus, etc.). My

research helped with this step, as there is generally a system followed within each genre. Once I had a rough composition and arrangement, I narrowed my focus to the sound selection. It is often too easy to get bogged down in selecting the sounds you want to use only for the track to get stuck because the melody and harmony are underdeveloped. I intentionally saved the sound selection process for after the first steps to avoid this pitfall. As I chose my sounds, I worked with my thesis director to refine the tracks.

I used royalty-free samples from Splice.com in my tracks in combination with parts I composed on virtual instruments. Some of the virtual instruments I used are Xfer Serum, LennarDigital Sylenth1, Native Instruments' Massive, Arturia's V Collection, and Spectrasonics' Keyscape. For one track, I found a vocalist and songwriter to add lyrics to my music. I coordinated with the Recording Industry department to record these vocals utilizing our on-campus recording studios.

Having compiled all the parts of the tracks, I produced high-quality final mixes to be mastered. These mixes achieve a pleasant balance between all the different musical elements. I then mastered the mixes. Mastering the music allowed the tracks to increase in loudness, tonal balance, polish, and cohesion (iZotope, n.d.). The goal was to have my tracks at a level that meshes well with other tracks in the genre.

<center>The Completed Project Package</center>

The completed project package contains a brief history of house music, my research to explain the concepts and techniques I discovered, two audio files hosted on a website that contain my produced music, and a reflection chapter in which I break down my experiences throughout the project. Included are visual representations (screenshots)

of my DAW that help break down the individual tracks that comprise my final musical works.

Evaluation

I have evaluated my completed project with the help of my thesis director to determine if the tracks meet a high standard of audio quality and that the information gained by my research is clear, complete, and organized. In this evaluation process, I compared my tracks with similar works by established artists within the subgenres I chose. Another aspect of this evaluation involved reviewing the thesis project's written portion. The information conveyed in the research must be accessible to a broad audience and well organized. In addition, the reflection chapter must be detailed and explain my choices in producing the tracks.

CHAPTER III.
THE HOUSE MUSIC COOKBOOK

In addition to creating music, a portion of this creative project involves my desire to compile some relevant information and ideas behind the process of producing house music. I provide context and insight regarding how I created my tracks, and I hope to serve as a resource for other producers wanting to learn some of these same techniques. It is essential to remember that with music, there is never a proper way to create it. If a producer were to follow each approach exactly, such rigor would severely stifle the song's variety, creativity, and intrigue, and listeners would go elsewhere. In this section I am naming "The House Music Cookbook," I will break down techniques involved in tech house and future house music production while also specifying the differences that distinguish between the tech house and future house subgenres.

Unfortunately, I cannot cover every aspect of music production, including the technical knowledge of utilizing a digital audio workstation. This guidebook is not an exhaustive list of techniques, but is rather a succinct taste of some thought processes that go into producing house music. Some musical and audio production background is certainly helpful for understanding this material. However, it is also my intention that everyone gets something out of this section if only just an idea of what goes on behind the scenes in producing this genre of music.

Composition

When producing any music, one must grapple with its composition. Composition includes the foundations such as chord progressions, melody, harmony, dissonance, and

consonance. As an aspect of the creative process, the composition is often one of the most difficult to overcome. Your composition will define your track's feel and mood and create bounds within which you must work, such as the key, tempo, and meter.

The art and skill of music composition are well beyond the scope of this creative thesis project and my qualifications to teach. Understanding composition involves understanding music theory, arrangement, melody, harmony, rhythm, phrasing, and more. While the composition stage of house music production may feel daunting, most avid listeners of the genre should already have some idea of how it is composed and what to expect.

House music tempo and meter are straightforward. Because a four-on-the-floor kick pattern is so characteristic of the genre, a producer should not stray from a regular 4/4 meter. Although the genre typically sits at a tempo somewhere between 120 and 130 beats per minute, where you choose to be within that range can have a substantial impact on the track's feel and energy level. The lower end of this range tends to be a bit more laid back, and increases with energy and drive as you approach 130.

On its most basic level, house music composition tends to include shorter repetitive sections that comprise an entire song. The melody and harmony of house music are based on the standard 12-tone scale of Western music. It is generally wise to avoid the dissonance of diminished chords. Most popular chord progressions should sound at home within the genre. Melody and rhythm should be kept simple and memorable, much like in pop music (Stearns, 2020). Since house music is so repetitive, be sure to include development and countermelody as your track progresses to keep the listener interested.

In addition to these tips, feel free to experiment with different chord inversions and voicings that convey your desired emotion.

Formal Track Structure

All music is generally quite fluid in making its way from one song section to another. House music is no different. Structural conventions within house music help a listener anticipate the song's flow, avoiding awkward pauses on the dance floor. Additionally, these conventions make life easier for a DJ trying to mix multiple house tracks. These sections generally comprise a house track: intro, verse, build/pre-chorus, chorus, breakdown, verse, build/pre-chorus, chorus, bridge, chorus, and outro (Vorobyev, 2012). Not all these sections will be used or even necessarily used in this order, but sticking to a structure like this helps your tracks work well in a DJ set and conform to audience expectations.

Future house music tends to model closer to traditional pop music in structure. Famous future house track "Gecko (Overdrive)" from Oliver Heldens and Becky Hill follows this structure: verse, chorus, verse, chorus. A simplified version, sure, but it includes the basics of what you might expect from a song you would hear on the radio. "Don't Wait" from Mesto and Dastic follows this structure: intro, verse, chorus, build, drop, verse, chorus, build, drop (Mesto & Dastic, 2021). In "Don't Wait," the producers opted not to have lyrics over the drop but instead earlier in the track.

Tech house track structure is a bit more nebulous. Fisher's "Losing It" follows this progression: intro, build, drop, build, drop, build, drop. This track lacks any real lyrics, so it cuts out the traditional structure of verses and choruses. Kream and Jake

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Terry's "Once Again" is a bit different: build, drop, breakdown, build, drop, breakdown (Kream & Terry, 2022). One more example is Westend and CID's "Let Me Take You" (Westend & CID, 2022). This track goes verse, build, drop, breakdown, verse, build, drop. As you can see, these structures diverge from pop music traditions and follow the most appropriate structure for the song.

Eight-at-a-Time

In general, house tracks (and most dance music in general) can be broken down into song sections divisible by four or, more commonly, eight bars. These chunks are called phrases. These phrases allow the song sections to change or repeat at regular intervals, often every 32 beats (J.M., 2011). When crafting a house track, you need to consider how long you want each of your sections to be and how this decision can impact the feel of your music. A song's radio edit might not include a 32-bar drop and, certainly, not a 32-bar intro, but these could be perfectly acceptable choices in a club setting.

The beginning of each phrase often has some signifier: this could be a repeated element, the introduction of a new element, or the departure of an element. Most often, the beginning of each phrase will have some combination of the two (Vorobyev, 2012). It is common in an intro to add a new percussive or groove element every eight bars. Crash cymbals and white noise sweeps can also keep time and distinguish between every eight bars. A simple drum fill at the end of every eight bars will help prepare the DJ and listener for something coming next.

Extended Mixes

An extended mix, DJ mix, or any version of a song meant to be played live by DJs usually includes a longer beginning (intro) and conclusion (outro). These song sections tend to be a stripped-down version of the drop, focusing mainly on percussion. For the intro, a new element or effect that hints at the upcoming song are brought in every eight bars, with the reverse being true for the outro, where the producer removes an element every eight bars.

According to tech house producer Westend, a 32-bar intro is "fairly standard" for tech house (Westend, 2021). At 126 bpm, 32 bars are about one minute. A minute-long opening offers plenty of flexibility for a DJ to blend into the next song slowly. Westend likes to make his outro (final song section) similar to his intro but in reverse, meaning that an element is stripped away every four to eight bars until the song returns to its most basic components at the end.

Though these extended mixes may seem lengthy and tedious, they offer a DJ a lot of flexibility when working the track into a live mix. It is a wise idea to make an extended or club mix if you want your track to have a better chance of getting playtime in a club or festival. Just because these sections are long does not mean they have to be boring. Do your best to hint at the upcoming song with a snippet of the vocal or melody. Doing this will help build excitement and anticipation for the listener—mute these sections in your project for the radio edit.

Sample Selection

While each sample you choose to use in your production may seem inconsequential, finding samples that adhere to the genre and mesh well with each other is essential. Things to consider when choosing your samples are the timbre, frequency spectrum, stereo width, and dynamics. Each attribute must be considered so that each sample meshes well with and compliments the others.

Tech House Drums

The kick sample you use can make or break the feel of your track. It must cut through the rest of the song, provide a nice character, and not fight with other low-end elements like the bass. You want the kick to have a defined initial transient and punch, an even volume across the envelope, and a length that compliments the bass, usually around an eighth note in length (Big, 2022). Since a deep bass is characteristic of tech house, you should avoid prolonged boomy kicks. The goal is to have the kick hit and then get out of the way of the bass.

Tech house drums come in all sorts of flavors. The drums sound distinctly electronic as opposed to acoustic in most cases. Tech house producer from Toolroom records Mark Knight has some great-sounding sample packs on Splice.com. In these packs, you can download individual drum hits known as one-shots that come preprocessed, edited, and are super easy to throw into a mix. You can also download top loops that can function as the basis of your percussive groove on top of your kick foundation. Another tech house producer named Noizu has multiple packs that contain great samples. With these as a starting point, you can build up a solid foundation for a track.

To make your drum samples sound cohesive, you can put them in a small amount of reverb. This reverb can make it sound like a live drummer is playing each part of the kit in a single room (Toolroom Academy, n.d.). You can also use heavy parallel compression to make your drums sound tougher. Setting up parallel compression involves sending a copy of your drums through a compressor that heavily reduces their dynamic range and then tastefully mixing this resulting signal back into your mix.

Future House Drums

Future house drums tend to be a bit brighter than tech house. The kick drum tends to have a more electronic, sharp transient (start). Many sample packs on the internet are marketed toward producers of future house music. Some of my favorite packs are from Spinnin' Records and Dropgun. Snaps and bright claps are popular in the genre, generally with a long reverb tail but not always. Future house drum loops may benefit from a swung, bouncy groove. In a swung groove, not every hit is precisely on the beat grid, with eighth or sixteenth notes slightly delayed. Many future house tracks employ a reverse clap that routinely sweeps into the clap. Reverse claps liven up the drum loop and break up some monotony.

Percussion beyond the hi-hat, while a large part of house music, is not something you want to leave out of your future house track. Producer Ellis suggests you add percussion that complements your bass groove (Ellis, 2020). Adding percussion can emphasize different parts of your loop and act as ear candy to keep listeners engaged with the beat and draw them in. Try adding a variety of one-shots and loops in places where it feels right, accenting the groove.

Virtual Instrument Sound Choice

Choosing the sounds for your tracks is usually an experiment in trial and error. To get the best sounds, you want a versatile synthesizer or sampler that you know how to use well or for which you have quality presets. Presets are files that store the state of a virtual instrument so that it can be recalled to the same settings it had when saved. Much like choosing samples, you need to consider the frequencies, timbres, and envelopes of the sounds you add to your track.

Some popular virtual instruments for house music production include Arturia's V Collection and Pigments, Xfer Records Serum, Native Instruments Kontakt, Korg M1, Spectrasonics Omnisphere, Vital Audio Vital, and U-he Diva (Wiebe, 2022). While many of these are paid instruments, there are plenty of free alternatives to get you started. The more popular a synth or virtual instrument is, the more likely you will find tutorials and presets for it on the web. Although there are many presets for these plug-ins, it is convenient to understand how you can tweak the parameters of a sound to fit your vision for the track better and shape your sound to what the track needs.

The bass sounds you choose can make or break your tracks. According to the *Dance Music Manual*, "Many bass sounds may become lost in the mix due to lack of a sharp transient" (Snoman, 2014). Bass timbres are low and often hard to hear on speakers that do not reproduce lower frequencies, like a phone or earbuds. For this reason, ensuring your bass includes frequencies between 250 Hz to 500 Hz is good practice. While technically defined as the midrange, these frequencies can allow room for your bass to have character and be heard on all different playback systems. You can

accomplish this bass technique by layering multiple bass patches together at different octaves and various cutoff levels.

While the bass is necessary for house music, the chord progression of your track comes from using chordal instruments that build harmony and fill out the track's spectrum. Dance pianos are often bright with a sharp attack with a larger-than-life sound. A defined attack helps the piano punch through the mix. Synthesizers can be used to add chordal information to your tracks as well. The envelope of the synth will determine its function in the mix. The instruments you use for chords will generally have more sustain or hold on the notes. However, a shorter, more percussive sound plays a more significant function in the rhythm and groove of the track.

Energy and Feel

As obvious as it sounds, it is important to remember that the primary goal of dance music is to get people dancing. Much of this drive throughout the song relies on the track's formal structure, tempo, and instruments, all functioning together to create a work that develops into a compelling song. Below are some suggestions to try on your tracks to improve upon these aspects and build a more mature-sounding production.

More With Less

One trick to make your beats hit harder and your emotion stand out is pulling back the layers and giving your listeners breaks. You could try resetting the energy during a long chorus section by including a bar or two of rest before jumping right back into a four-on-the-floor pattern. The contrast between the rest and the explosion back into

your beat can help excite your chorus. This same technique can apply to your track's verse or breakdown section. This shift in dynamics between sections can also help your audience know that the next section of the song has arrived. If it is the same energy throughout the chorus and verse, the listener will have trouble comprehending that the track has progressed to the next section.

Subliminal Modulation

The *Dance Music Manual* by Rick Snoman talks about a concept called subliminal modulation. Because genres such as tech house rely heavily on loops and repeating sections, it is wise to subtly modulate the most repetitive elements to allow for sustained listening. The goal is to slightly adjust the pitch or timbre of an element over time so that it is not consciously noticeable but gives an element movement. This slight adjustment allows an element that would otherwise be dull and static to receive more motion and keep the listener engaged (Snoman, 2014). It is important not to exceed an amount of modulation that is audibly noticeable to your listener and pulls them out of the music. Tech house often has more atmosphere in the breaks and becomes dryer during the drops. You can accomplish this by using slower, more legato elements with reverb during the calmer sections and then automating some of this reverb away during the drop.

Call and Response

Sometimes one melody or just one instrument can become tiresome or uninteresting to the listener. One might try using a songwriting technique known as "call and response" to remedy this. Call-and-response melodies usually manifest in two parts:

the first part making a statement and the other answering (Hahn, 2021). This technique adds personality and character to your melody in a way that can mimic a conversation. It works best when the first part feels incomplete because it leads the song into the response and keeps the listener engaged. The call and response can be accomplished within the same instrument but using a different sound for the call and the response can solidify the effect and keep things fresh.

Sidechain Pumping

Sidechain compression is a technique where the output of one signal drives a compressor on a different signal. In house music, this often involves the bass (and many other elements) being sidechained to the kick drum. The effect of this is a dip in the volume of the bass or other elements each time the kick drum plays. This rhythmic ducking of the volume is one of the hallmarks of dance music and ensures that the powerful, groove-driving kick stays front and center in the mix. Some plug-ins accomplish this pumping effect by repeatedly dipping the volume of the signal you apply it to in time with the beat, such as Nicky Romero Kickstart, Devious Machines Duck, Xfer Records LFO Tool, and Cableguys Volume Shaper. These plug-ins are generally not using a sidechain compressor but rather volume automation for a similar effect. This technique helps manage an issue known as masking, where certain elements can get covered spectrally from being heard behind a louder element in the same frequency range. Be sure to use this effect tastefully, as it is possible to overdo it and have it sound unpleasant or unnatural.

Additional Resources

There are multiple communities of producers on the internet where you can learn more about producing these genres and even receive feedback on your tracks. One resource is called Toolroom Academy. Run by the record label owned by DJ and producer Mark Knight, Toolroom Records' Toolroom Academy offers courses on house and tech house music production.

Future House Music, a popular record label in the house music industry, runs a discord server for DJs and producers to meet and discuss production, the industry, give feedback, and more. From time to time, this discord server will even run events such as remix competitions and live A&R demo listening sessions. Many famous artists create their own discord servers for fans to communicate. Kream has held informative discord Q&A sessions where they answer production and business-related questions.

Beyond internet sources, something that helps inspire me to create is listening to electronic music live. I feel more connected to and excited by music whenever I am at a concert or show. Something about the crowd reacting to the flow and energy of the music fuels my desire to create. If you want some ideas for your house music, go to a club and listen live. Listening in this fashion can help give context to what gets an audience to move. Hearing and seeing what works for a DJ to please the crowd will guide you in refining your tracks. Another way to do this is by watching live streams or recordings of DJ sets, paying particular attention to the crowd's mood.

For this creative thesis project, I produced two house music tracks. One track is in a style resembling tech house, and the other I would describe as future house or future bounce. This project was enjoyable because it required me to be creative within the bounds of what is expected of the genres. Each track came together over time, with each iteration and revision improving upon the last. I have split up my project reflection to consider each track individually.

I've created a website (owentadych.com) where you can stream the tracks and listen along.

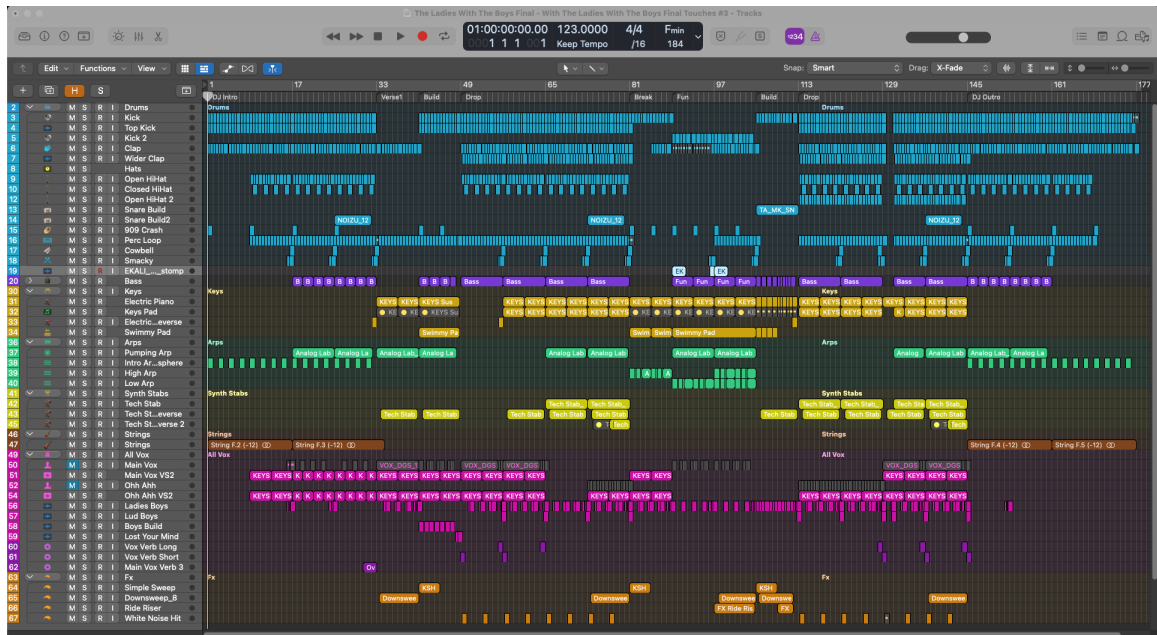## Tech House Track - The Ladies with The Boys

Project

Figure 1. The Ladies with The Boys Logic Pro X Project

The Layout

Multiple drum one-shots and loops, MIDI clips, audio prints, and vocal samples comprise "The Ladies with The Boys." I have color coded each instrument group to show the construction more clearly. From top to bottom, this project file screenshot shows drums, bass, keys, arpeggiators, synth stabs, strings, vocals, and effects.

The drums are combined with percussion in this project and are almost entirely comprised of individual samples or loops. Two layers: a base layer and a "top" kick, mix to create the entire kick drum sound. The bass kick is more electronic, while the top kick adds more of a papery, acoustic top-end click to the timbre. During the bridge, the kick is different because it is filtered to have less bass and treble. Filtering these frequencies helps the bridge sound distinct from the rest of the track and keeps the energy lower than the drop.

A few layers of a virtual instrument called Serum comprise the bass sound. In the intro, there are two bass layers. The first is the main drop bass layer, and the second is a white noise click to add more attack to the patch. The build features a separate bass layer that is filtered and has more reverb and space to contrast from the drop bass. The drop bass is four layers: the main bass layer, a parallel distortion layer, a white noise click layer, and a sub-bass layer. Together these layers help the bass reach lower frequencies but also the higher frequencies that are necessary for the bass to be heard on smaller speakers.

Below the bass, we reach the keys part of the project. The primary keys patch is the "MKS-20 E.Piano 1 Pop" preset from Keyscape. The MKS-20 preset emulates a vintage Roland digital electric piano from the 1980s and provides the basis for the entire

keys sound. However, certain sections of the song feature additional keys layers. I have a brighter keys pad layer that provides a more defined top-end click and a swimmy pad layer that sustains the chords behind the shorter sustain of the digital piano.

After the keys, follow the arpeggio layers. These arpeggios come from an Arturia Analog Lab preset but are further processed to provide a basis for the song's atmosphere. I've chopped up the audio to create a bit of a background melody throughout the song. While it is not particularly present in the mix, this layer is vital as it adds a new level of depth and complexity to the track. The arpeggios feature sidechain pumping to reinforce the groove.

Below the arpeggio layer comes the synth stabs layer. These synth stabs are heard solely in the drop of this track and sound like a foghorn. These are audio bounces of a Serum patch I created earlier in the project. The stabs were bounced to audio, so I could better automate the volume to a more natural volume envelope without any dips in energy. During the intro and outro, I have included a sustained string note to tie the different elements together and provide a tonal basis for the track before the bassline comes in.

Next, we reach the vocals section. I have two main vocals: a vocoded main vox and the "Ladies Boys" vox. A vocoder is a vocal effect that modulates a sustained synthesizer timbre with the vocal, creating a robotic, inorganic vocal tone (Snowman, 2014). Throughout the track, these vocals are chopped up, filtered, and played with varying effects to maintain interest and variety throughout the song. In addition to those two main layers, I have included a "lost your mind" vocal before the first drop and a "boys!" layer with the same interest and variety goal kept in mind.

Finally, we arrive at the effects. These effects are almost exclusively white noise up-lifters, down-lifters, or bursts. This section also includes a ride riser that is audible during the bridge. These effects serve as transition signifiers and guide the track's energy as it progresses. Without these elements, the track could feel lifeless and uninteresting as it abruptly shifts between song sections.

Structure

As seen at the top of figure 1, I have included label markers for each part of the structure of the song. In terms of formal structure, this track follows a predictable order. It goes intro, verse, build, drop, break, bridge, build, drop, outro. These builds are much like a pre-chorus, while the drops are synonymous with a chorus. Tech house structure is, however, distinct from an average pop song. Since this track lacks actual songwriting and lyrics, I tried to tell a story through the instrumentation and development of the beat.

I followed a 32-bar intro and outro for this tech house track because, as I mentioned in the "Extended Mixes" section of my cookbook, well-known tech house producer Westend stated the 32-bar intro was standard for the genre. The intro slowly brings in more elements every eight bars and hints at different aspects of the upcoming track. After the first eight bars, I add a percussion loop, the next added is a bass and vocal, and finally, in the last eight bars of the intro, I add a snare that builds up to the verse.

The eight-bar verse showcases the vocals and keys and lets the listener know what the track is all about. The sidechained keys generate a pumping effect that hints at the powerful groove and gets people moving without needing a kick drum. The verse leads

into an eight-bar build, with a different, more sustained feel than the drop. As mentioned in the cookbook, I wanted my tech house track to have a spacious, atmospheric sound in the breaks and then bring the sound back tighter for a dry sound in the drop.

The 32-bar drop of this track features a prominent bass over a compelling drum groove. Every eight bars introduce a new element to avoid stagnation. I wait to insert the keys until after the first eight bars, to give the impression that the energy is still growing throughout the drop. Halfway through the drop, you hear the foghorn stab. This synth sticks out on top of the other instruments and acts as a big burst of energy to provide a push that keeps the dancefloor moving.

Immediately following the drop is an eight-bar break. This section keeps a filtered kick drum underneath the swimmy chords of the first build. To not disorient the listener, I elected to continue a four-on-the-floor kick pattern before switching it up in the bridge. This break features a new arpeggio melody to give the listener's ears something new to perceive. The function of this short section is to grant the dancefloor some time to cool down after the high energy of the drop.

Following the break is the sixteen-bar bridge section. The bridge connects one drop to the next. It's a platform to reset the energy for the next section of the track. I decided to stray from the four-on-the-floor kick pattern to keep the track refreshing. The new beat discourages fatigue and, much as with the break, gives the audience some time to prepare for the next drop. I slowly build the energy level back up throughout the bridge using impact effects, risers, and percussion. Another element to note here is the return of a spacious atmosphere that will contrast with the next drop.

The second eight-bar build gets straight to the point and accomplishes its function of heightening the tension that the drop will release. I take out many elements so the listener can focus on the repeating snare drum. Using a snare riser like this is universal in house music. A snare roll that builds in energy tells the audience that a release of tension is on the way. Filters remove the low frequencies of the track so that they have extra weight when they return in the drop.

The second 32-bar drop is much like the first but with a slightly different structure. This drop begins with the repeated vocal chop and foghorn. Wanting this drop to have a forceful impact, I felt these elements had the most intensity. Halfway through this drop, everything but the whole, undivided vocoded vocal disappears. This abrupt change is called a fake-out and is another method of controlling tension and release.

The outro for this track is 32 bars and mirrors the intro but in reverse. When it begins, you are still hearing the full drum groove. The bassline, percussion, and vocals are stripped away as it progresses. Instrumentation is left intentionally sparse to not clash with the increasingly complex intro of the next track the DJ mixes.

Process

I began this track with a vocal sample from Splice. The sample, titled "02_DMT_Vox," is from a pack called Deep Minimal Tech. The complete vocal line says, "downtown, Indianapolis, having a good time with the ladies, with the boys." I just decided to use the phrase's end because I liked those words as a concept for the track. I put this vocal in the project and imported a top loop and claps to set a basis for the

groove. From there, I wrote the defining chord progression of the track on an electric piano Keyscape patch that I ended up keeping in the final version.

I then found the other vocal from the track in a Splice pack called Deep Grooves & Lofi Vocals. This second vocal worked well because it was more melodic and had pauses that I could fill with the first vocal. This back and forth between the two vocals creates a call and response that mimics a conversation keeping the listener more engaged. This use of call and response is a songwriting technique that I encountered in my research. Utilizing it in an element as prominent as the vocals helps bolster the track to sound more well rounded.

Once I had these vocals, I built up a drum pattern using samples from Splice. I knew I needed a four-on-the-floor kick pattern, backbeat clap, and off-beat hi-hats. I added interest and complexity by including a percussion loop that made it to the song's final version. After I added these drums, the track immediately began to feel like a house track. The next task was to create a bassline.

I chose a preset for Serum from a pack called Deceiver for my bass. Deceiver is a famous sample and preset pack created by Youtuber and producer Zen World and recommended by Norwegian DJ and producer duo Kream on their Discord server. This sample pack makes it easy to get tech house sounds instead of programming one from scratch. The first bassline I wrote was similar to the final product but less focused and more amateur sounding. Once I had built up more of the track, I revisited the bassline a few times to ensure it matched the chord progression and flowed nicely.

Along the way, I encountered a few issues with the bassline: mainly its place in the mix translating onto smaller speakers. With my bass being in such a low octave, I

needed some way for speakers that cannot reproduce bass frequencies to still represent

my bassline. I used distortion to deal with this issue, which adds harmonics to the

bassline. These harmonics make the bass sound brighter and crunchier. More treble in the

bass allows it to cut through the mix on smaller speakers where sub-frequencies are

inaudible.

Reflection

To reflect critically on my work, I need to consider what I did well and what I did

poorly. In this section, I cover aspects of the project done well and aspects with which I

struggled. I learned new skills from this project to take into future projects. Additionally,

there are some approaches that I would do differently if I were to attempt this creative

project again. In this reflection I evaluate my preparation, feelings and ideas about my

products, a more objective view of how the quality turned out, and what I will strive to

improve upon in the future.

Before this creative thesis project, I had not undertaken such a monumental

assignment. I was excited and eager but also nervous about producing these creative

works. I went into the project as a listener of tech house music, who had done some

research on house music production, and I came out the other side being able to say I

have created and can create these kinds of pieces in the future. The reading, researching,

and preparation I did for the project further strengthened my confidence. I now know

which elements to include, where to find them, and how to make them work for the track.

"The Ladies with the Boys" is one of my most creative and original tracks. I did

not rely on a reference track or have another song in mind when making it, but rather a

vision in my head that I worked toward methodically. Because this track sounded so original, it may have strayed from a strict tech house categorization. While I would still call the track tech house, it has viability in a more overall dance realm. I feel that this makes it an even stronger track, uncompromising for the genre's trends and appealing to a broader audience.

I am most proud of the vocals in this track. I think I did an exceptional job keeping two short and repetitive vocal samples interesting throughout a 5+ minute track. These vocals allow the song to be easily recognizable regardless of the instrumental surrounding them. In the future, I will utilize some of the techniques I employed here to keep the vocals interesting, such as adding filters, vocoders, delays, and chopping up the vocals. I have used similar techniques in the past but usually not to the extent and level of detail I have done with this track.

Doing my research into the genre, including production tips, helped guide some of my decision-making throughout producing this track. For example, while a bit busier than some tech house, the bassline follows a timbre commonly heard in the genre. Another example would be the use of laser blips. While producing the track, I knew I needed a transition to signify the track progressing from one section to the next. One familiar sound heard in tech house music is the "lasers." Laser sounds are created by quickly modulating the pitch of a synthesizer to produce rhythmic blips that sound sort of like a sci-fi laser gun. I used this sound in my track to reinforce the rhythm, keep it interesting, and conform somewhat to the genre. I included this sound in a way that I felt was successful.

While a lot of good came out of making the track, there are always aspects of a production that get second-guessed or that I could have done better. For me, completing a project is one of the most demanding tasks. There is almost always more you can do to "perfect" your art. However, constantly tweaking and changing a production can lead you to unintentionally make it worse. In addition, there is only limited time that one can devote to a project. I think it is important to do your best and move on once you have reached a point with which you are satisfied. Taking this into account, I do believe there are manners in which I could improve.

Something unique about this track is how much movement there is in the bassline. The movement leads it to have a bit of a funky vibe. The bassline, however, might be a bit hard to follow, with a listener struggling to find the groove. I think the movement works in this track, acting as a melodic line to follow. However, in the future, I may try to refine my next bassline to have less movement, sticking to each note for a bit longer.

Another aspect that feels a bit off to me is the formal structure of the track. I created the structure keeping in mind how it would sound live, which potentially led to a lot of repetition that may be unnecessary. In my next track, I plan to focus more on the reasoning behind making a section a particular length. For this track, I conformed the lengths of my sections to fit with the eight-bar standard, but it is possible that deviating from this convention could have better suited the track's needs. Concentrating on more variation across sections in the chord progression and sound design would also reduce monotony.

In the future, I plan to more frequently produce music. In this process, I will continue to cross-reference other tracks and to listen to my music in a live setting. This

semester at MTSU, I am taking a course in mixing. I feel that taking the mixing course before attempting this project could potentially have allowed me to reach a better balance in the mix. Considering that as I produced these tracks, I had no extensive formal training in mixing music, I believe I did a satisfactory job in crafting a pleasing total balance. Most DJs and electronic music listeners expect tracks to be loud; I made sure to have my final master hit high LUFS (Loudness Units Full Scale) values to meet these consumer expectations.

Throughout this creative project, I played my works in progress for friends and family. Time after time, my listeners praised "The Ladies with The Boys" as super catchy and danceable. Through a student organization on campus known as the Society of Electronic Music, of which I am the current president, I had the opportunity to play my house tracks to a live audience. I invited my friends who had heard my works in progress to watch me DJ, and they told me they could not wait for me to play the "ladies, boys song." When I played "The Ladies with The Boys," the crowd was excited to listen and dance to it. Playing this song live increased my confidence in my production capability and creativity, which will only inspire me to continue producing more music down the road.

Future House Track – Dimension
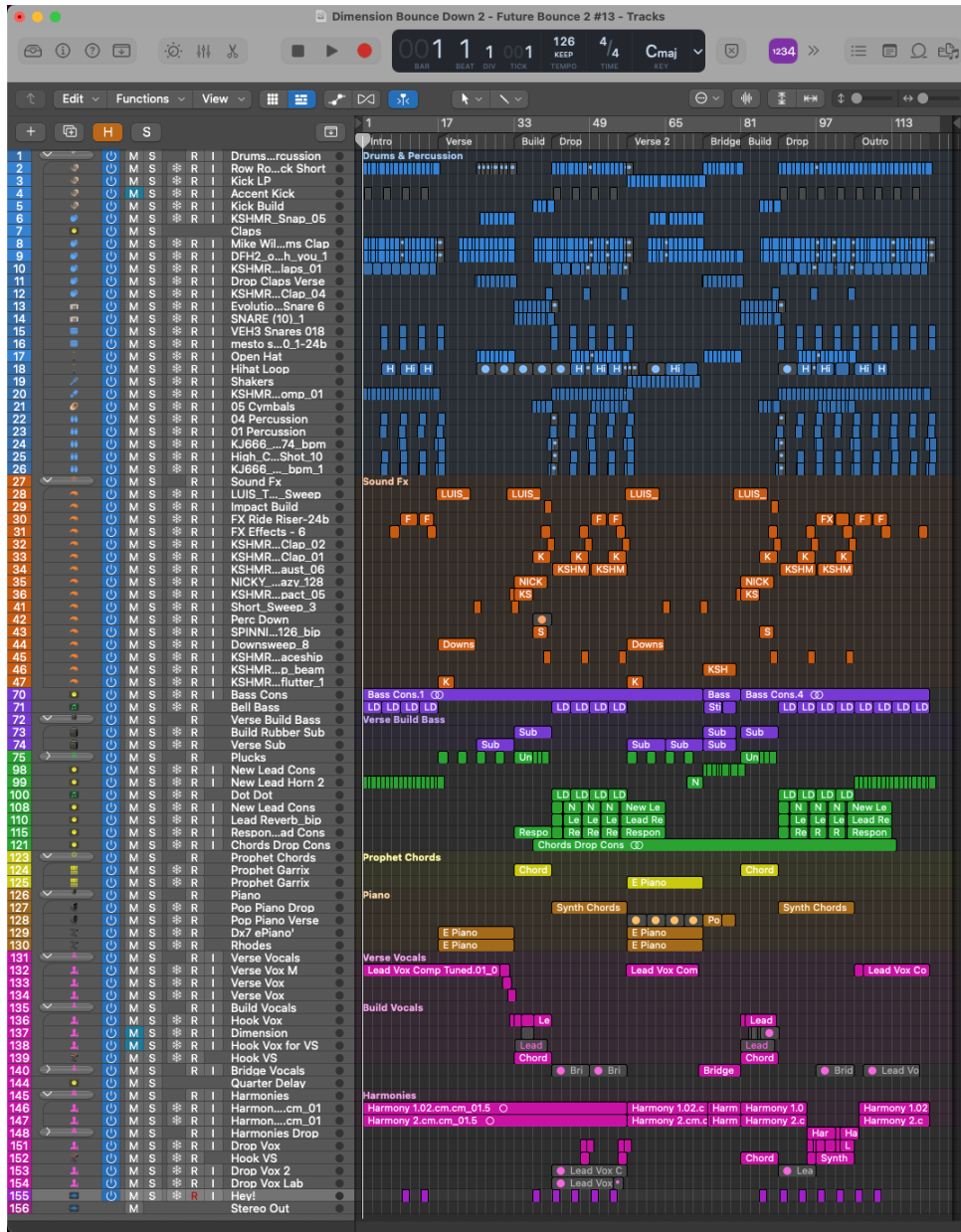
Project

Figure 2. Dimension Logic Pro X Project

The Layout

Dimension comprises a plethora of elements that I broke down into six groups: drums, effects, bass, leads, chords, and vocals. As seen in figure 2, I color-coded each section by instrument type. A project screenshot is an effective visual way to convey what elements are playing at certain times throughout a track. There are some tracks in this session, such as the vocal harmonies, where it looks like audio would be playing, but there is just silence in the audio file I exported from my Pro Tools session.

Starting at the top of the project are my drums. I have my drums colored blue. This group includes my kicks, claps, snares, hi-hats, and percussion hits. The first and second tracks with audio in my session are kick drums. The first is my main kick drum, and the second is a low-passed (without treble frequencies) kick drum used in the verses with less energy than the primary kick. The verses have fewer drums than the full-fledged groove that plays during the drops.

I composed my drums by individually placing audio one-shot samples and loops into audio tracks in my DAW. Some producers will load their samples into a drum sampler such as XLN Audio XO or Native Instruments Battery that they then trigger with MIDI clips. I prefer to load audio samples directly into the DAW because I find it easier to process. Keeping each sample on a track by itself allows me to add processing to a specific element without having to deal with routing multiple outs from a drum machine plug-in. For the most part, house music does not include a whole lot of dynamics and volume variation in the drums, making the velocity control of a MIDI drum machine obsolete.

The following section, in orange, is my effects. This section of elements came about over the entire course of creating this track. It consists of background elements such as white noise sweeps, often called "uplifters," and crashes and impacts, often called "downlifters." These effects help blend the different sections of the production and guide the listener, foreshadowing and explaining the changes in the song's energy level. These impacts do not solely help with transitions. I included bursts of white noise during the chorus to increase the energy level and excitement of the section.

Structure

As seen near the top of figure 2, I have included label markers for each part of the structure of the song. The project consists of an intro, verse, build, drop, a second verse, bridge, build, a second drop, and an outro. This structure is typical and mirrors pop music: the build acts as a pre-chorus and the drop as a chorus. As I mentioned, house music tends to work in chunks of eight bars. For this track, every section is either eight or sixteen bars. This eight-bar or sixteen-bar choice keeps the song rigidly in the form of house music, permitting DJs and listeners alike to anticipate when and how the track will develop as they listen. I had my vocalist friend write lyrics for this track. Because the song structure of Dimension follows a conventional pop-like layout, my lyricist/topliner had an easier time writing the melody and lyrics.

The track Dimension starts with an extended mix DJ intro. This intro consists of sixteen bars. These 64 beats would not be present in a radio edit of the track but greatly assist a DJ with including the track in a set. My intro aims to hint at the upcoming music and allow a DJ some flexibility in how to mix into the track. As previously mentioned,

the introduction section does not need to stay boring. As the sixteen bars progressed, I slowly brought in new elements that would appear later in the track.

My first sixteen-bar verse brings down the energy from the introduction. It features vocals, chords, and light percussion. The sparse arrangement in the verse allows for a nice contrast when the track reaches the build. The verse is not stagnant, however. Percussion is slowly introduced as it progresses. Cutoff automation in the chords adds a layer of subliminal modulation to push the track forward. A crash cymbal and a momentary pause in the beat that sweeps into the build punctuate the verse's exit. The crash acts as a drum fill, letting the listener know to expect a switch-up.

The eight-bar build starts with an impact leading to a rising snare pattern. The energy builds until there is a bar of relief before the track reaches its drop. The moment of rest helps the drop hit harder and is quite a common technique in future house music. The second half of the build hangs on the first chord of the progression to build tension until the release of the chorus arrives.

The sixteen-bar drop does not feature prominent vocals but instead a back-and-forth between a legato lead synthesizer and a shorter, more staccato pluck synthesizer. Together these two synths craft a call-and-response melody. Underneath these leads is a robust, bouncy, and bright bassline. Along with the kick drum, this bassline drives the groove of the drop. The function of this section of the song is to get people jumping. Downlifters accompany the release of energy. To augment the energy as the drop develops, hi-hats, effects, and vocals enter. Leading into the second verse, the absence of the kick drum and a low-pass filter on the lead synth signals the end of the drop.

The second sixteen-bar verse mimics the structure of the first but does not fall in energy as far. Coming out of the high point of the drop, I kept a quiet and filtered kick drum to maintain the drive. As with my tech house track, the function of this section is to give the dancefloor some time to cool off after jumping around during the first drop. Downlifters help smooth out this transition. The subliminal modulation of the cutoff frequency in the chords and new percussion every four bars keeps the track advancing. The end of this verse is similar to the first one, but the second verse does not include a crash on the last bar. I chose not to have the crash because it might disorient the listener, thinking the verse led into another build.

It seemed too soon to jump immediately into the next build after the second verse. An eight-bar bridge gives the listener more time to recover, elongates the song, and enhances variety in the production. This bridge features new lyrics that contribute to the story being told. Also in this section is a legato lead designed to add texture and intrigue without clashing with the vocal melody. The bass underneath alludes to the drop and emphasizes the bouncy feel without releasing much tension.

The second eight-bar build is almost identical to the first, apart from different lyrics. These lyrics depict a development in the relationship of the characters. I used the same tricks to build tension for the release in the final drop. The last drop is a repeat of the first save for the bridge's lyrics repeated over the second half. Lastly, a sixteen-bar outro gets us to the end of the track. The function of the outro is to allow the DJ to transition out of the track. This outro differentiates itself from the intro, with the vocal phrase "it's all we need" repeating to the end. My lyricist made this choice, and I liked it, so I kept it.

Process

Before the studio session to record the vocals, I produced a rough instrumental of the track. To create this instrumental, I started with the build. The build, while a bit of a peculiar place to start, gave me an idea of the energy level I needed in my drop. Blanee's remix of "We Can't Give Up" by EDX inspired the bass in my build (EDX, 2017). I wanted my bassline to slide around with a tape stop effect and then rise again into the drop. To pull off this effect, I automated the pitch of the bass. The outcome was an elastic feel familiar to the future house genre. For this build, I used a scratch vocal from Splice to ensure my mix had space for a recorded vocal added later.

Once I had my build, I tackled producing the drop. For my kick-drum sample, I used the same kick sample used by Dutch DJ and producer Mesto I pulled from a masterclass video he made with Jay Hardway breaking down one of his tracks (Hardway, 2019). It is a short, snappy, punchy kick that hits and makes room for the bass synth. I then added future house drum samples from my collection that I have built up. Of these drum samples, the hi-hat loop does the heaviest lifting. This swung hi-hat loop sample has been used in many other tracks and sets the groove for the song.

My original drop featured a bouncy bassline and a metallic lead. The original bassline followed a similar pattern to the final version but was not as bright in timbre. Repetitive and grating to the ear, I eventually grew tired of this drop and knew I would have to revisit it later. Nonetheless, the drop sounded like future house and was polished enough to send to a songwriter. Much to my dismay, I do not have any notable talent for writing lyrics. I began the search for a vocalist.

This song features original vocals and lyrics by a local Nashville artist named Pramuk. Before consulting Pramuk, I found a topliner on a website called SoundBetter.com. She quoted me a price that was out of budget for me as a student and, unfortunately, restricted my control of the writing and releasing process. I met Pramuk early in 2022 when I helped him work on a folk-pop track for my Studio Production class. I thought of him after learning the SoundBetter.com singer was too expensive. I sent him an early version of the instrumental for this future bounce track, and he returned to me a week later with some beautiful lyrics and vocal melodies. This process is called toplining and is a popular way EDM producers get vocals for their tracks. I am highly impressed by what he came up with, as it elevates the song to another level. With the help of the recording industry faculty, I booked time in MTSU's Studio B to track Pramuk's lead vocals and harmonies.

We tweaked the lyrics and vocal delivery during the studio session with Pramuk. During this session, I made sure to "comp" the vocal. Comping, short for compositing, is choosing the best parts of each vocal take and combining them into one final edited take, minimizing imperfections. Comping this vocal in the session guaranteed that I was happy with the recording before Pramuk left the studio. If I had not done this, comping the vocal at home may have led me to discover some issues and require Pramuk to come back for another vocal session.

After I had the final comped vocals in my project, I took on redoing the drop. I knew I wanted to change the sounds of the original drop to be less sharp and sound more like tracks from artists such as Mesto and Mike Williams. I purchased a Serum preset pack called Future Bounce 2 from Surge Sound on ADSRSounds.com. Making this

purchase allowed me to scan through quality presets quickly without the need to synthesize them on my own. I chopped and pitched a bass sample from Splice to layer with my synths. Producer Mike Williams used this technique of sampling a bass one-shot in his project for a future bounce remix that he showed off in his third episode of "In The Studio with Mike Williams" (Williams, 2020).

After finding new sounds, I decided to make a new, less repetitive melody. Writing a new melody was a bit challenging since I needed to adjust the rhythm of the bassline to match the new melody. I needed to make sure the lead matched the swung groove of the hi-hat loop I chose. This process was reiterative, and the track's final version only emerged slowly through trial and error. I breathed more life into the track by automating the lead's reverb level. Another trick that I learned from Mike Williams, reverb automation lets you play with the spaciousness of the lead. Modulating the spaciousness can allow one note to sweep into the following note.

I encountered some technical issues and challenges regarding the sidechain pumping of elements when making this track. The version of Logic I used for this project was Logic Pro 10.7.4. I learned that this version has a bug where the plug-in delay compensation of my sidechain plug-in made the ducking effect out of time with the project. This delay compensation issue meant that my harmonic elements felt out of time with the rhythm of the percussion, and the groove came apart. To remedy this issue, I had to combine or "bounce down" all of my lead synths into one track. I did the same thing with my bass track. Bouncing tracks lessened my computer's load from plug-ins and allowed for less extreme plug-in latency. One downside to this solution was that I had to

finalize my lead and bass sounds before fully knowing how they might sound and groove in the mix.

Reflection

Producing Dimension was neither extremely challenging nor straightforward to create. There were parts of the process that were frustrating and tedious, but there were also parts that I found very rewarding. This track differed from the previous one because I collaborated with another musician to arrive at the final product. In this reflection, I will consider where I was at when I began the production, my feelings on how it turned out, areas in which I struggled and could improve, and finally, takeaways that I will bring with me to my next production.

Making a future house song was not too far from something I have done in the past. I have been listening to and attempting to replicate future house music productions since I was in middle school. One way I have been unknowingly preparing for this thesis project is by recreating music from other artists. Referred to as remakes, this endeavor involved trying to replicate the drop production of a record about which I was curious. After picking a track I liked and wanted to learn more about, I listened closely to the recording and put together each layer I heard in my DAW. This hobby gave me insight into what layers span different genres of house production.

I felt prepared to take on production of new house music for the thesis project because I watched many walkthroughs from other producers breaking down their tracks, seeing how they made them. These videos not only look inside the DAW, revealing

which samples and plug-ins they used to create the final product but also offer the thought processes behind why the producers decided what they did.

I am not a singer, so working with a vocalist and lyricist for this project was an exhilarating experience that I would do again. Having an instrumental you have created come to life through lyrics takes the song to the next level. Working in the studio with my vocalist to make tweaks to the delivery or lyrics and then pulling all the takes together in post-production to a product that sounds professional is something I do not often get the chance to do.

Although I struggled with technical challenges in producing this track, I also faced writer's block and indecision when writing the melody. I knew that I wanted some form of call and response to keep the listener engaged throughout the drop, but I did not exactly know where I wanted to take the track. I rewrote the melody and bassline multiple times to keep them less busy and more confident. Another goal adjacent to this is that I would like to create better melodies and basslines that mesh well and do not fight for the listener's attention. This track can sometimes feel like the bassline is trying to do too much underneath the lead. Another mixing skill I would like to figure out is how to control the low end. On a system with a heavier sub, the low end sounds a bit messy and not as punchy as it could be.

I am proud of how the bridge turned out. It offers a refreshing respite from the intense drop production and gives the listener something to look forward to on repeated listens. The panning on the lead sound adds motion to the sonics and even fits with the lyrics. I visualize this sound defining the bounds of the dimension described in the lyrics

surrounding the characters. The bridge also features a bouncy bassline that meshes in with the other elements.

One critique of the second drop is that the vocals fight with the lead for the listener's attention. The vocals are here to make the second drop distinct from the first, but the overlap between the synth lead and vocal melody could distract a listener. I believe overlapping synth lead and vocals work because the listener has already heard these same lyrics in the bridge, but some listeners may object. Next time I produce a track with vocals in the drop, I may try to develop a better solution to this problem.

Summary

With this creative project, I hope to broaden house music's reach and appeal while contributing to the scholarship surrounding the genre. This creative project involved researching, writing about, and producing house music. A brief history of house music acquainted the reader with the genre and placed house music in context with disco and other pop music trends of recent decades. An explanation of the sources used, and the production process behind producing the music revealed common techniques that comprise tracks in the genre and how I created the music myself. The "House Music Cookbook" offers a brief selection of important considerations when producing the genre. Two high-quality house music tracks contribute to the global catalog of house music through distribution via the internet. The next time you hear kick, clap, and hi-hat patterns that signify house music, I hope you can better appreciate all the continually developing history, thriving community, and effortful talent necessary to bring this music to life.

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