# Before the COPYRIGHT ROYALTY JUDGES LIBRARY OF CONGRESS Washington, D.C.

CO Trial Ex. 420

In the Matter of

Mechanical and Digital Phonorecord Delivery Rate Adjustment Proceeding Docket No. 2006-3 CRB DPRA

## EXPERT REPORT OF JUDITH FINELL ON BEHALF OF NATIONAL MUSIC PUBLISHERS' ASSOCIATION, INC., THE SONGWRITERS GUILD OF AMERICA AND THE NASHVILLE SONGWRITERS ASSOCIATION INTERNATIONAL

1. I am Judith Finell, President of Judith Finell MusicServices Inc., and a professional musicologist. I submit this report on behalf of National Music Publishers' Association, Inc., the Songwriters Guild of America and the Nashville Songwriters Association International (the "Copyright Owners") to rebut the contention of the Recording Industry Association of America, Inc. (the "RIAA") that the creation of mastertones is "routine" and does not result in a complete musical work.

#### Background

2. I have an M.A. (1970) in Musicology from the University of California, Berkeley and a B.A. (1968) in Music Performance (Piano) from the University of California, Los Angeles (UCLA). I founded Judith Finell MusicServices Inc. in 1976 as a consulting service for classical composers, musicians, and arts organizations. Today, Judith Finell MusicServices Inc. also provides music consulting and expert services for record companies, music publishers, advertising firms, entertainment companies, and technology companies.

- 3. As President of Judith Finell MusicServices Inc. I consult on, and have served as expert witness with respect to, various disputes regarding intellectual property, including copyright infringement litigation involving the Beastie Boys, Julio Iglesias, Sony/CBS and Igor Stravinsky. Specifically, my work in this context involves analyzing and comparing sound recordings and musical works and evaluating those works according to the principles of musical composition to determine, among other findings, whether one work is substantially or strikingly similar to another for copyright infringement matters. In order to make such a determination, I analyze all elements of the musical compositions or recordings involved, including the melody, rhythm, harmony, text/lyrics, instrumentation, style, and arrangement, when applicable, under the principles and theories of musical composition that have existed in western music for centuries. I am also often asked by music industry members, as well as individual artists and their representatives, to opine on the originality and creativity involved in particular musical works and their creators, and have often guest lectured on this subject at universities and music conservatories.
- 4. I have served as a trustee of the Copyright Society of the U.S.A. and have appeared as a guest lecturer on music and intellectual property issues at law schools and universities including Columbia University, Vanderbilt University, UCLA, NYU, and George Washington University, as well as before the Michigan Patent Law Association, the Copyright Society of the U.S.A., the American Bar Association, the American Intellectual Property Law Association, the Beverly Hills Bar Association, the Los Angeles Copyright Society, and the Association of Independent Music Publishers.

Most recently, I was the co-chairperson of the Copyright Society of the U.S.A.'s annual mid-winter conference.

- My work has also included advising such clients as the Chamber Music Society of Lincoln Center, the Boston Symphony Orchestra, and MIT's Media Lab. I have consulted with individual concert artists such as Pinchas Zukerman, Itzhak Perlman, and artists of the Metropolitan Opera. I have taught workshops for conductors, composers, managers, and other musical artists and administrators on various subjects including career development and the music industry. I have also worked as a freelance music and book editor. As such, I have edited music in all performance categories, including instrumental, vocal, choral, band, orchestral, and electronic. In connection with my work, I am often asked to develop or opine on criteria and guidance documents for use in judging music for awards and contests, commissioning new musical works, and appraising the eligibility of musical works and composers for recognition. My curriculum vitae, which includes a list of my publications, is attached as Exhibit A.
- 6. Work on this project was done with the assistance of my colleagues at Judith Finell MusicServices Inc. I am being compensated at a rate of \$300-400 per hour, and my colleagues are being compensated at their standard rates. A list of the documents and material that I considered in connection with my report is attached as Exhibit B.

## Scope and Methodology of this Report

7. I have been asked by the Copyright Owners to submit this report to rebut certain of the positions taken by the RIAA in this proceeding concerning mastertones. Specifically, I reviewed the oral testimony of Sony BMG employee

J.J. Rosen (2/14/08 Tr. at 3506:11-3551:01); the Written Direct Testimony of J.J. Rosen, dated November 29, 2006; the decision of the Register of Copyrights in *In re Mechanical and Digital Phonorecord Delivery Rate Adjustment Proceeding*, 71 Fed.

Reg. 64303-01, 64312 (Nov. 1, 2006) (the "Ringtones Referral"), and the briefing submitted thereon; the Written Direct Statement of the RIAA as it relates to mastertones; and a document produced in discovery, which is entitled "Mobile Media Production" and which provides Sony BMG employees charged with creating mastertones guidance as to how to create them (the "Sony BMG Guidelines"). I understand that the RIAA contends that the creation of mastertones is "routine" and that creating a mastertone does not require creative judgment, or result in a complete musical work. *See* 2/14/08 Tr. at 3523:15-173, 3534:11-20 (Rosen); *see also id.* at 3516:3-3517:18; Introductory Memorandum to the Written Direct Statement of the Recording Industry Association of America, Inc., dated November 30, 2006 at 10 ("typical mastertones are nothing more than the excerpts of recordings that have been processed to meet various technical

I understand that portions of Mr. Rosen's written testimony have been stricken from the record of the proceeding.

The decision of the Register of Copyrights dated October 16, 2006, concluded among other things that mastertones that "simply copy a portion of the underlying musical work . . . do not contain any originality and are created with rote editing." Ringtones Referral, 71 Fed. Reg. at 64312. Because the Register confined her conclusion to mastertones that are excerpts of preexisting sound recordings and because the Register expressly stated that the question of whether a "ringtone[] that contain[s] a portion of the full-length musical work and additional spoken material . . . . or one that includes the addition of some new lyrics, results in a copyrightable derivative work . . . is beyond the scope of this proceeding," id. at 64313, I have confined my analysis in this report to mastertones that are excerpts of preexisting sound recordings without the addition of any additional material. Accordingly, my use of the term "mastertone" in this report refers solely to such mastertones.

specifications."); Reply Brief of the Recording Industry Association of America, Inc.

Addressing Novel Questions of Law on Referral to the Register of Copyrights, dated

September 13, 2006 ("Ringtones are . . . merely partial copies. . . . Mastertones . . . do

not 'stand on their own.'").

- 8. Specifically, I was asked to analyze the mastertones submitted as an exhibit to RIAA Trial Exhibit 63 (the "Sony BMG CD"), as well as certain mastertones presented to the Register of Copyrights at the oral argument on the Ringtones Referral. I was asked to compare those mastertones to the sound recordings<sup>3</sup> from which they were derived to determine (1) whether, from a musicologist's perspective, the creation of mastertones appears to involve the exercise of musical and creative judgment, and (2) whether mastertones, as a matter of musical composition, theory and principles, exhibit the characteristics of musical works.
- 9. In order to perform my analysis for this report, I listened to and prepared transcriptions of the mastertones on the Sony BMG CD. I also listened to the full-length sound recordings from which the mastertones were derived, and obtained and referred to the sheet music available for the works performed on the recordings.<sup>4</sup> For

Because the underlying musical work is embodied in the sound recording from which the mastertone is derived, in each instance in this report in which I refer to a sound recording as a point of comparison, I am also referring to the underlying musical work embodied in the particular sound recording.

The published sheet music that is often available to the public (and to which I referred in my analyses) is often not a precise representation of the musical work as arranged for the recording of the work. Typically, the sheet music is a simplification of the work as arranged for a performance. Where the sheet music differed from the recording, and, consequently the mastertone, I did not factor any such difference into my analysis or conclusions set forth in this report.

those works for which sheet music was not readily available, I prepared transcriptions of the relevant passages of the works as heard on the recordings.<sup>5</sup> I transcribed only the lead vocal lines and lyrics in each mastertone and corresponding song (when sheet music was not available) and not the underlying instrumental accompaniment, harmonies, nor secondary vocal parts (back-up singers) because these were not essential (in transcribed form) to formulating my opinion.

10. Once I transcribed the mastertones and obtained sheet music or prepared transcriptions, when necessary, of the underlying works, I next compared each mastertone to the underlying recording from which it was derived to make a number of determinations. Specifically, I first determined which particular segment of the underlying recording was used as the basis for the mastertone, including identifying the particular location at which the mastertone begins and concludes. I next analyzed each mastertone in order to identify where else in the underlying recording the related segments appeared and why, from a musical perspective, the particular segment chosen functioned well as a mastertone. For example, where a mastertone was the primary "hook" of the original song, I compared all of the variants of the primary hook in the

I obtained published sheet music for all of the recordings that I analyzed except for "Hollaback Girl," performed by Gwen Stefani. Thus, I purchased sheet music for "Irreplaceable," performed by Beyoncé, "... Baby One More Time," performed by Britney Spears, "Girls Just Want to Have Fun," performed by Cyndi Lauper, "That's All Right," performed by Elvis Presley, "My Love" and "SexyBack," performed by Justin Timberlake, "Over My Head," performed by The Fray, and "Gimme Shelter," performed by The Rolling Stones. In each case, where multiple versions or arrangements of the song were available, I chose the version or arrangement that was most similar to the recorded version from which the mastertone was derived. The transcriptions and sheet music for the above recordings and the mastertones derived therefrom are attached as Exhibits C-1 through C-9.

original song to determine why I believed a particular version of the hook was chosen. I then analyzed — from a musical perspective — how a particular mastertone was edited or "cut" by examining the beginning and concluding points and the musical material surrounding each. Further, for certain mastertones that appeared (whether because of length or structure) to be designed to "loop," that is, to repeat as a mobile phone continues to ring, I examined the relationship from a melodic, harmonic, and structural perspective of the end of the mastertone to its beginning. I then conducted a musical analysis of each mastertone and reviewed each full-length sound recording. To that end, I made assessments (relevant to my analysis here) about the structure of the works, their melody, rhythm, and harmony.

## **Summary of Conclusions**

- 11. As I explain in more detail below and in the attached exhibits, as a result of my analysis undertaken in connection with this report, my knowledge of musical composition, and my experience as a musicologist, I reached a number of conclusions concerning the creation of mastertones and the characteristics of mastertones as musical works.
- 12. The creation of mastertones is not a "rote" editing process, but rather involves the exercise of several creative and musical judgments. First, the creator must choose the appropriate segment from the sound recording to be used as a mastertone. Usually, several segments of a recording are viable candidates for the mastertone, while many are not. The choice of one over the other is a creative one informed by the artistic goal of the creator and the desire to use a passage recognizable to consumers and evocative of the underlying work. Second, recognizable passages repeat

throughout a work numerous times, often in varying iterations. Thus, a creator must decide which of the varying iterations of the segment to use as the mastertone. Again, that decision involves a creative choice and musical judgment about whether the mastertone should be musically unadorned or embellished, among other considerations. Finally, the creator must decide how to edit the mastertone, meaning on which note, chord, or other musical material to begin and on which note to conclude — a determination that also involves creative choice as to how the mastertone will present in a sonically pleasing manner.

13. The result of the creative process involved in mastertone creation is that mastertones are not mere excerpts or fragments of sound recordings, but rather stand on their own as complete musical works. While they may begin with an excerpt from a full recording, in the end, they become independent musical works with their own identities. Each mastertone that I analyzed in connection with this report is musically balanced, contains the technical elements of full-scale musical works and possesses aesthetic integrity.

## **Analysis**

14. In accordance with the methodology described above, I undertook to analyze the mastertones on the Sony BMG CD and two additional mastertones that were presented to the Register of Copyrights at the oral argument on the Ringtones Referral.<sup>6</sup> As set forth in my conclusions, based on my analysis, I arrived at several

The two additional mastertones are "Hollaback Girl," performed by Gwen Stefani and "Gimme Shelter," performed by The Rolling Stones. Attached as Exhibit D to this report is a CD which contains these two mastertones and the sound recordings from which they are

determinations concerning how each mastertone appears to have been created, the musical judgments made in that process, and the characteristics of each of the mastertones as musical works. In this section, I illustrate the basis for my conclusions through several mastertones derived from the full-length work "Irreplaceable," performed by Beyoncé, one of which mastertones I understand was played for the Court during the oral testimony of J.J. Rosen.

15. I begin my analysis with a discussion of basic musical composition terms and principles, which I use throughout my discussion and which warrant explanation at the outset. I then provide an in-depth discussion of three "Irreplaceable" mastertones and the sound recording from which they were derived. I then briefly describe the musical criteria contained in the Sony BMG Guidelines, and discuss whether the mastertones on the Sony BMG CD embody the principles and criteria set forth in the Sony BMG Guidelines.

## **Musical Terms**

- 16. Music is composed of several fundamental elements that a musicologist, in analyzing a piece of music, examines, both in isolation and combination.

  Theses elements are:
- (a) Melody is defined as pitch plus rhythm. A pitch is a tone, such as aC, D, or E. Each pitch in a melody has a time value, meaning the duration for which the

derived. It appears that the mastertone derived from "Hollaback Girl" was derived from the radio version of the sound recording, rather than the version released on CD, which version includes explicit lyrics. In addition, I understand that the mastertones on Exhibit D were recorded from a mobile phone, and therefore repeat as the mobile phone continues to ring.

pitch sounds before the next pitch is heard. A melody is a single line of music. For example, the melody of the song "Happy Birthday" is the tune that one sings to the lyrics "Happy birthday to you."

- (b) *Note* refers to either a musical sound within a melody or the written symbol representing such a sound.
- (c) Rhythm and Meter refer to the way in which music is organized in time. Each individual pitch in a melody has a duration. This duration is referred to as the rhythm or "value" of the pitch. Entire musical works are divided into groups of beats which constitute the ongoing pulse of the music. Beats are subdivided into small groups, such as groups of two, three, four, or six beats. These groups define the "meter" of the work, referred to as duple (meters based on two and four), triple (based on three) and so on. Each group of beats is referred to as a "bar" or "measure." Within each bar, the beats are also subdivided into alternating strong beats (accented) and weak beats (unaccented). In a four-beat bar, for example, beats one and three are considered to be strong beats (with beat one being the stronger) and beats two and four weak ones. When a musical phrase or section begins on the first beat of a bar, it is referred to as beginning on the "downbeat," and when it begins just before the downbeat, it is referred to as the "upbeat."
- (d) Harmony refers to the use and organization of chords. The chords one hears on the guitar or piano, for example, when singing "Happy Birthday," form the harmony of the song. A chord is a combination of pitches, usually three or more, sounded simultaneously. A sequence of chords is referred to as a chord or harmonic progression. In traditional music, including the popular music embodied by the mastertones discussed in this report, chords are organized in a sequence according to

established harmonic principles and formulae. Chords are referred to with Roman numerals by their function and the scale step upon which they are based. For example, the most important chord of the key that forms its tonal center is referred to as the I or "tonic" home chord. In the key of C major, this would be a C major chord. The second most important chord in traditional harmony is the chord based on the fifth step (note) of the scale, and is called the "dominant" or V chord. In the key of C major, for example, a G major chord is referred to as a V or "dominant" chord. The chord progression in which chords I and V alternate is the most common one in traditional music, and the V chord is followed by a I chord traditionally.

- harmonic movement in music, which is generated by motion toward a goal or resolution.

  This striving for resolution is the dynamic force that shapes forward movement and direction in music. Movement in music receives its impetus from dissonance, a combination of tones that sounds discordant, unstable, and in need of resolution.

  Dissonance introduces the necessary tension into music. The resolution of dissonance results in consonance, a concordant or agreeable combination of tones that provides a sense of relaxation and fulfillment in music. At their extremes, dissonance can be harsh sounding while consonance is more pleasing to the ear. Each complements the other; and both are necessary parts of the artistic whole.
- (f) Scale Degree describes the position within a musical scale of a particular tone or note. In a traditional seven-tone C-major scale, for example, the first tone, C, is scale degree one, D is scale degree two, E is scale degree three, and so on. If

two melodies contain a significant series of the same or similar scale degrees, as well as rhythms, they sound alike.

- popular song or instrumental work, usually the main melodic theme associated with the work, *i.e.*, its "signature" melody. In popular vocal music, the hook is most often the melody and lyrics affiliated with the title lyrics. Usually, a hook is a single phrase that recurs periodically and often throughout the song. Hooks are most often located in the chorus section of the song. In addition to the primary hook of a song, some songs also contain distinctive secondary hooks that are also identifiable, and often repeated.
- 17. In addition to analyzing the elements of a piece of music, musicologists also analyze its *structure and form*, which refer to the organization of a musical composition into smaller units or sections. Musical works are divided into smaller sections, much as books are divided into chapters. In popular songs, these sections are often alternating "choruses" and "verses," as well as transitional sections such as "bridges" and "interludes," and ending sections called "codas." Traditionally, chorus sections contain repeated words and melodies, and are often referred to as "refrains," while verses use changing lyrics to advance the song's story, but contain the same verse melody. For example, in the song "Jingle Bells," the chorus section begins with the lyrics "jingle bells," and the first verse begins with the lyrics "dashing through the snow."
- 18. The material within each section of a musical work begins with the smallest musical unit (called a theme or motive) and moves into larger groups called phrases. A phrase is similar to a sentence within a paragraph or a line within a poem. In

vocal music, phrases are often determined by the pauses between lyric lines as a singer takes a breath. To understand the musical architecture of a work, music analysts study and discus musical works in terms of their form, and do so by comparing phrases and sections to one another to discover the basic building blocks of a musical composition. Just as one would describe the structure of a building by comparing its various subdivisions and internal geometric shapes, a musicologist compares the phrases of a musical work to determine its form. Phrases, when compared to one another, fall into one of three categories: (A) same (B) different (C) variation of an earlier phrase. A musicologist customarily assigns letters to the various phrases or sections that represent whether they are the same, different, or a variation, and the outcome of this analysis results in the form defined. An example of a three-part form may be found in "Twinkle, Twinkle Little Star" below:

Phrase	Category	Lyrics		
A	First phrase melody and	Twinkle, twinkle little star,		
	lyrics	how I wonder what you are		
В	Different melody and lyrics	Up above the world so high,		
	from Phrase A	like a diamond in the sky		
A	Repeat (return) to Phrase A	Twinkle, twinkle little star,		
	melody and lyrics	how I wonder what you are		

## Analysis of "Irreplaceable"

- 19. The first several mastertones on the Sony BMG CD are mastertones derived from the 3 minute, 48 second sound recording "Irreplaceable" performed by Beyoncé. To provide context for my analysis of the mastertones, I first describe the musical structure relevant to my analysis of the full-length work.
- 20. "Irreplaceable" (see track 1 of the Sony BMG CD) is composed of alternating choruses and verses, as well as several additional musical sections. The

chorus of "Irreplaceable" is repeated four times throughout the song. The chart below shows the structure of "Irreplaceable," including how many bars of music are included in each section of the song. In the analysis of the mastertones derived from "Irreplaceable," I will refer to the different choruses of "Irreplaceable" as Chorus 1, Chorus 2, Chorus 3, and Chorus 4.

## "Irreplaceable"

## **Sections**

Introduction	Verse 1	Chorus 1	Verse 2	Chorus 2	Bridge	Interlude	Chorus 3	Chorus 4
	STANDARD BY MARKET BY A STANDARD							
1-4	5-16	17-26	26-37	38-47	48-55	56-64	65-73	73-83

### Bars

## 21. Like virtually all songs in the genre of popular music,

"Irreplaceable" contains a hook, which, as discussed above, is the song's most distinctive and memorable musical element. The lyrics of the primary hook are "you must not know 'bout me," appearing in the song sixteen times. The title lyrics — "you're irreplaceable" — constitute a "secondary hook" and are located in a secondary phrase at the end of the song's chorus. This secondary hook repeats four times. There are two additional iterations of the lyric "irreplaceable" that are not preceded by "you're" (these occur in the back-up vocal material, at the end of Chorus 2 and the beginning of the bridge section).

Another prominent secondary phrase — with the lyrics "to the left" — opens the song

and serves as a connecting phrase throughout the song. This phrase repeats sixteen times (two of which are in the verse section, preceded by the lyrics "in a box").<sup>7</sup>

Irreplaceable Mastertone One

22. The first "Irreplaceable" mastertone (see track 2 of the Sony BMG CD ("Irreplaceable Mastertone One")), is derived from bars 17-18 of "Irreplaceable" and constitutes seconds 44 through 48 of the sound recording. In total, Irreplaceable Mastertone One is four seconds long and is comprised of two iterations of the song's primary hook "you must not know 'bout me." The two primary hooks used in Irreplaceable Mastertone One appear contiguous to one another and constitute the first and second versions of the hook in the full-length work. Because of its length and harmonic structure, described in detail below, Irreplaceable Mastertone One appears to be designed to loop — that is, it is designed to be repeated over and over as a mobile telephone rings. The mastertone's melody is comprised of two nearly identical phrases. Harmonically, the chord sequence of Irreplaceable Mastertone One is a B-flat chord (which is a I chord), followed by an F-major chord (which is a V chord). As explained above, the most common chord progression in traditional music is the alternation of chords I and V, and the V chord traditionally is followed by a I chord. This is significant here because Mastertone One ends on a V chord and begins on a I chord, so when it

In Exhibit C-1, I demonstrate these features of Irreplaceable Mastertone One, including where it appears in the original song. The music and lyrics of "Irreplaceable" are also set forth at Exhibit C-1.

repeats (loops), it sounds musically correct and the transition from the end of the rendition of the mastertone to the beginning of the next is seamless.

- 23. Based on my comparison of Irreplaceable Mastertone One and the full-length version of "Irreplaceable," I came to a number of conclusions about (1) how Irreplaceable Mastertone One appears to have been created and (2) its characteristics as a free-standing musical composition.
- 24. First, in creating Irreplaceable Mastertone One, the creator needed to select an appropriate and attractive hook or other passage of the original song that could be used as a mastertone. The creator here chose to use two contiguous iterations of the primary hook as opposed to another segment of the work. Second, having chosen to use two iterations of the primary hook, the creator then chose among the sixteen versions of the primary hook contained in the full-length recording. This determination is musically significant because the various versions of the hook combined with their accompanimental material differ in important respects. Thus, some versions of the hook are simple and unadorned, and, consequently, more accessible to the listener. The version of the hook beginning at bar 17, second 44 of "Irreplaceable" is an example of a simple version of the primary hook. Other versions include embellishment. For example, at 3 minutes, 16 seconds (where Choruses 3 and 4 meet), there is a version of the primary hook in which another vocal melody overlaps with the hook lyrics. The versions of the hook that the creator chose for Irreplaceable Mastertone One are simple and pure versions of the hook, meaning that they do not include musical distractions, such as simultaneous vocal melodies, and thus are the most easily recognizable version of the hook to a listener.

- 25. Third, the creator of Irreplaceable Mastertone One chose the particular beginning and ending points for the mastertone. The creator cut the mastertone at the precise melodic notes B-flat and D where the two contiguous hooks begin and end and did not, as he or she could have, include additional melodic notes preceding or following the iterations of the hook. For this specific cut, the creator chose the second half of the first beat of the bar as the beginning note, rather than the downbeat, which is the very beginning of the bar. The downbeat contains material from the previous musical phrase. The creator chose to end the cut on beat 3 of the bar, rather than at the end of the bar, which would have been beat 4, where a new phrase begins with the lyrics "I could have an-."
- 26. I further note that the particular beginning and end points that the creator chose for Irreplaceable Mastertone One are well-balanced from a musical harmony perspective for a mastertone that loops because two loops together create a traditional chord progression from one loop to the next. As discussed above, accepted harmonic principles dictate that a V chord is traditionally followed by a I chord. In Irreplaceable Mastertone One, the second musical phrase of the mastertone, which encompasses the second version of the hook, ends on a V chord. The first section of the mastertone, which encompasses the first version of the hook, begins with a I chord. Thus, if Irreplaceable Mastertone One loops as a telephone rings, the V chord will be followed by the I chord in a musically correct transition.
- 27. Based on my musical analysis of Irreplaceable Mastertone One, I further conclude that it stands on its own as a musically-balanced composition for a number of reasons. First, it includes all the elements of a complete musical

composition — structure, harmony, melody, and lyrical phrasing. The work is musically balanced because it contains two symmetrical phrases. Second, it includes a beginning, which is composed of the "statement" phrase ("you must not know 'bout me," with the I chord as the harmony) and an end, composed of the "response" phrase ("you must not know 'bout me," with the V chord as the harmony). Third, it is free of musical distractions such as counter melodies from back-up singers that appear in other parts of the underlying work and that, if included in the mastertone would detract from its sonic attractiveness by making it sound fragmentary. This would occur, for example, where a previous vocal phrase directly preceding the "statement" phrase is embellished and extended to overlap with the beginning of the "statement" phrase (such as at 3 minutes, 16 seconds of the full recording). In this case, the presence of a simultaneous countermelody would distract from the dominance and clarity of the statement and response phrases when occurring simultaneously.

## Irreplaceable Mastertone Two

28. The second Irreplaceable mastertone (*see* track 3 of the Sony BMG CD ("Irreplaceable Mastertone Two")) is derived from bars 17-21 of "Irreplaceable," or seconds 44 through 54 of the song. Irreplaceable Mastertone Two is 10 seconds long and is an extension of Irreplaceable Mastertone One.<sup>8</sup> Thus, the principal difference between Irreplaceable Mastertones One and Two is that the duration of Irreplaceable Mastertone Two is longer. The mastertone creator included the two phrases following the second

The music and lyrics of Irreplaceable Mastertone Two are attached in Exhibit C-1.

version of the hook — "I could have another you in a minute" / "matter of fact he'll be here in a minute." This determination is musically appropriate because it contains a symmetrically balanced structure of two phrases closely related to each other, followed by two separate phrases also closely related to each other (analytically, the form is: A-A'-B-B').

29. The mastertone creator extended the mastertone further to include the phrase "baby," a decision that demonstrates musical intelligence and sophistication. To understand why this decision is significant, it is necessary to discuss briefly the concept of a "scale degree," which as explained above, describes the position within a musical scale of a particular tone or note. Under traditional principles of musical composition and melodic construction, some sequences of scale degrees are considered more musically logical than others. This is because, in any given note sequence, the scale degrees in that particular context create tension and release, as experienced by the listener. Other combinations that do not provide such tension and (most importantly) release would not be considered sonically pleasing. Had Irreplaceable Mastertone Two ended after the phrase "matter of fact he'll be here in a minute," it would have closed on a scale degree of six, with the IV chord in the harmony, which would not have provided a release and would therefore have violated general principles of music composition, rather sounding incomplete or unresolved. By including only the phrase "baby," the mastertone creator ensured that the mastertone ended on a scale degree of five, and that the harmony changed to a I Chord, providing the musical "release." Moreover, in the event that the mastertone were to loop as a result of the telephone continuing to ring, the final scale degree of the last phrase — "baby" — and the beginning scale degree of the first phrase

of the mastertone — "you don't know 'bout me" — would create a "resolving" sequence, from scale degree five to one.

- 30. In the event of looping, the phrase "baby" would, under the above principles, act as a melodic bridge between the first and second repetitions of the song. Further, the inclusion of the phrase "baby" provides a seamless loop rhythmically, as this phrase ends on the first half of beat 1, and the phrase "you must not know 'bout me" begins on the second half of beat 1. Musical intelligence and sophistication are demonstrated in this choice to include a fifth phrase in Irreplaceable Mastertone Two, rather than including the first four phrases of Irreplaceable Mastertone One.
- is a self-contained musical work. It includes a beginning section, which is composed of the two closely related "A" phrases: (A) "you must not know 'bout me" with the I chord in the harmony, and (A') "you must not know 'bout me" with the V chord in the harmony. Following this is the middle section, composed of the two closely related "B" phrases: (B) "I could have another you in a minute," and (B') matter of fact, he'll be here in a minute," as the harmony progresses through the II and IV chords, respectively. Finally, the ending section comprises the phrase "baby," which brings the previous "B" phrase to a melodic and harmonic resolution, ending the work on the I chord on the downbeat. It does not sound fragmentary and includes elements that would be found in a full-length work, such as two symmetrical pairs of phrases the two versions of the hook and the two phrases that follow plus a closing phrase, and within a traditional harmonic progression.

## Irreplaceable Mastertone Three

- 32. The third "Irreplaceable" mastertone (*see* track 4 of the Sony BMG CD ("Irreplaceable Mastertone Three")) is derived from bars 17-26 of "Irreplaceable," or second 44 through 1 minute, 8 seconds of the song. It is 24 seconds long and contains the full Chorus 1 of the full-length work, which is comprised of Irreplaceable Mastertone Two and additional material containing two more iterations of the primary hook "you must not know 'bout me," followed by "I can have another you by tomorrow" / "so don't you ever for a second get to thinkin" / "you're irreplaceable."
- chorus within the full-length work represents the artistic decision to include the purest, most distilled form of the chorus in the mastertone. Chorus 1 has no distracting secondary melodic lines and other variations that occur in subsequent choruses. By way of comparison, in Chorus 2, vocal material at the end of the section spills into the following section. For example, at 2 minutes, 6 seconds, the final lyric "irreplaceable" sung in the main vocal melody of Chorus 2 extends into the first bar of the following bridge section, and overlaps with a secondary vocal melody that begins at the end of Chorus 2 (with the lyric "irreplaceable") and also continues into the bridge section. The effect of this overlapping of sections is that Chorus 2 is not self-contained. Similarly, Choruses 3 and 4 include embellishments that interfere with the clarity and purity of the main vocal melody and the structural independence of the material, and would sound like unbalanced, incomplete excerpts if they stood alone. For example, at 3 minutes, 26

The music and lyrics of Irreplaceable Mastertone Three are attached in Exhibit C-1.

seconds, the lyrics, "you can pack all your bags, we're finished" overlap with "you must not know 'bout me," which is audibly much more complex than Mastertone Three.

musically balanced work that includes a beginning, middle, and an end. The beginning section is composed of five musically balanced phrases ("you must not know 'bout me," / "you must not know 'bout me" / "I could have another you in a minute" / "matter of fact, he'll be here in a minute," / "baby"). The middle section begins by repeating the material from the beginning ("you must not know 'bout me," / "you must not know 'bout me"), and continues by varying the following phrase ("I can have another you by tomorrow"). Then, rather than mirroring this phrase as in the beginning, the ending section takes over, with the phrase "so don't you ever for a second get to thinkin' your irreplaceable." This phrase provides finality to the work, with a melody that builds to a climax of tension on the lyric "thinkin'" (on scale degrees three-two), then resolves with the very stable and conclusive series of scale degrees, five-five-seven-one-one, sung to the title lyrics "you're irreplaceable." This closing section brings the work "home" both melodically and harmonically.

## Sony BMG Guidelines

- 35. In addition to performing the analysis I described above, I also reviewed the Sony BMG Guidelines to analyze the musical composition criteria contained therein and to consider whether the mastertones on the Sony BMG CD are consistent with those criteria.
- 36. The Sony BMG Guidelines, attached as Exhibit E, provide mastertone creators at Sony BMG with certain guidance concerning how to create a

mastertone and set forth certain judgments made by Sony BMG as to the musical and creative characteristics that a mastertone should embody. <sup>10</sup> Thus, the Sony BMG Guidelines discuss (1) how to choose the relevant passages of a recording for a mastertone; (2) how to choose between different versions or iterations of the segment chosen; (3) how to "frame" the segment so that the mastertone is sonically pleasing, and (4) how to create mastertones that are intended to loop. <sup>11</sup> As expressly stated in the Sony BMG Guidelines, the goal of the creator should be to create a mastertone that is an "indivisible musical unit" and, where possible, "musically balanced" and "hermetically sealed," and that does not sound like a "fragment[]" of something else. *Id.* at 10316-17.

The Sony BMG Guidelines are dated August 21, 2007 and were authored by Tim Nilson, Vice President, Mobile Technology, Sony BMG Music Entertainment and are "intended to be used by internal staff and to give [Sony BMG] partners a better understanding of how mobile media [including ringtones] [are] produced at Sony BMG." See Sony BMG Guidelines, Exhibit E at RIAA 10313. Based on the content contained herein, it is clear that the author of the Sony BMG Guidelines has musical training and knowledge of musical composition.

I note that the Sony BMG Guidelines state that to the extent that the mastertone needs to be lengthened or shortened to fit a particular phone manufacturer's specifications, the end-point of the mastertone may ultimately be determined by a computer software program, called the transcoder. I further understand from the Sony BMG Guidelines that the transcoder would do so after the mastertone creator has input the edit points and "target data" that he or she selected in accordance with the criteria of the Sony BMG Guidelines. *Id.* at 10316.

37. To that end, the Sony BMG Guidelines first provide that the creator choose the appropriate segment of the sound recording as the base of the mastertone according to whether or not it contains a "quintessential element of the composition." Thus:

## Section 4.1 Relevant Excerpts

The first and most important criteria of digital audio ringers, or what we refer to as "Mastertones," is that they contain the quintessential element of the composition. In pop terminology this is often referred to as the "hook," called this because it functions to be the theme that hooks you into the structure of the composition. The hook is repeated from one to several times throughout the composition, and in this way creates a framework for musical development and embellishment. . . .

See id. at RIAA 10314.

38. Next, the Sony BMG Guidelines discuss the musical characteristics to consider when determining which iteration of the segment to use, namely that the chosen segment clearly illustrates the theme of the composition. Thus:

## Section 4.2 Choosing the Right Iteration:

Although you may find the hook peppered throughout the composition, all iterations are not equal . . . . For ringtones, we want the distilled version of the theme in its most recognizable form. This is almost always either the 1<sup>st</sup> or 2<sup>nd</sup> iteration. In the case of many songs, such as with many contemporary R&B tracks, the second iteration is already too embellished to clearly illustrate the theme. In other tracks it takes until the second iteration for the dynamic or orchestration to develop enough to present a full exposition of the theme. . . .

See id. at RIAA 10314-15.

39. The Sony BMG Guidelines provide further guidance on how to choose when to begin and conclude the mastertones, again focusing on Sony BMG's

desire to create mastertones with a clear presentation of theme, *i.e.*, those that are not musically embellished or complex. Thus:

## Section 4.3 Framing:

Once an area of the recording has been chosen, it is then necessary to begin choosing individual in and out points for each edit. . . . [A] clean entry of the theme is sought whenever possible, without any preceding material such as lines from the previous hook, or pre-chorus, or developmental instrumentation such as drum fills. These things tend to confuse the presentation of the theme without the context of the entire song being there. . . .

## See id. at RIAA 10315.

40. With respect to creating mastertones that are "perfect loops," the Sony BMG Guidelines express Sony BMG's desire for the loop to have a musically smooth transition from back to front, requiring the creator to edit the loop in such a way to achieve this goal. Thus:

## Section 4.7 Sample Surgery:

The most time consuming aspect of the edits is the perfect loop[s] We are looking to meet the same general criteria as listed above, but with a few additional parameters: Loops should match the meter grouping of the phrase systems. 2 measure phrases should have a loop that is 2 measures. . . . In order to make loops consisting of whole measure lengths, the position of the outpoint in the meter must be matched to the position of the in point in its respective meter. . . . The transition from the back to the front of the loop should be as smooth as possible. . . .

### See id. at RIAA 10317-18.

41. Each of the criteria described above represents musical and creative judgments by Sony BMG as to how best to achieve its goal to create "musically

balanced" and "hermetically sealed" mastertones — a goal achieved by Sony BMG with respect to the mastertones on the Sony BMG CD, as I discuss below.

## **Conclusions**

42. As the above analysis illustrates and my review of the remaining mastertones on the Sony BMG CD confirms, the creation of mastertones involves several steps requiring musical judgment and creativity. The end product — the mastertone itself — is not simply a fragment of the recording from which it was derived, but instead represents a complete, musically balanced composition, a result that could not be achieved by a mere mechanical excising of an excerpt of a sound recording.

The Creation of Mastertones Involves Creativity

43. The creation of mastertones is not a rote process. Rather, it involves a combination of many of the same creative decisions used to create any other musical work that is musically balanced and complete.

Although I have only discussed in detail my analysis of three of the mastertones on the Sony BMG CD, I have performed substantially the same analysis for all of the mastertones contained on that CD, and have also performed such analysis on the mastertones from the recordings, "Hollaback Girl," performed by Gwen Stefani and "Gimme Shelter," performed by The Rolling Stones. Of course, each mastertone is different — for example, some mastertones are created using a passage that is not the hook of the song. Consequently, although the creative steps I discuss below were involved in the creation of all of the mastertones studied, the specific creative steps may differ for each mastertone — for example, where the hook of the original song is not used for the mastertone, the mastertone creator would not necessarily have needed to identify the particular iteration of the hook. The charts attached as Exhibits F-1 through F-9 set forth the principal bases for my conclusions with respect to one mastertone for each sound recording analyzed in connection with this report.

- recording to use for the mastertone in order to distill the essence of a song of typically four minutes' duration into a mastertone of a length varying between approximately 4-45 seconds. This is no easy feat. It requires musical insight, creativity, and acute aural sensitivity. A creator has many musical candidates from which to choose. As I illustrated above with respect to the full-length recording discussed in detail in my analysis section, many songs have a primary "hook" meaning the signature phrase usually (but not always) associated with the song's title lyrics and also contain secondary hooks and other recognizable passages. Because these segments of the work are by definition recognizable and thus will on their own evoke to the consumer the underlying work, the decision as to which segment to use for a mastertone represents a creative judgment made by its creator. This point is further supported by the fact that in the market today, there may be multiple mastertones created from the same underlying recording, as was the case with the song analyzed in detail above, "Irreplaceable."
- 45. Second, once the creator determines whether to use the primary hook, the secondary hook or another recognizable segment of the work, the creator must next choose which version or versions of that particular segment to use for the mastertone. The very nature of a hook or recognizable passage requires that it be used repeatedly in a song, sometimes as many as sixteen times as in the case of "Irreplaceable." Although some of these iterations may be identical to one another, more often they include variations such as instrumental coloring, back-up secondary melodies and lyrics, and changed rhythmic positions and harmonic support. A songwriter typically varies the hooks and recognizable passages in order to create interest and avoid

monotony. In summary, the hook can range in character from its purest form to a complex version of its former self, complete with competing counter-melodies sung by back-up singers. Again, the decision by the mastertone creator as to which iteration to use is a creative one requiring musical judgment as to which will best achieve the goal of the creator. In the case of Sony BMG, as described in the Sony BMG Guidelines, it sought mastertones that most clearly present the truest essence of the underlying work—a goal best achieved by choosing the hook that is most musically pure.

46. Third, the creator chooses how to edit the mastertone. By this I mean that the creator decides precisely where to begin and end the mastertone, in terms of exactly which material to include, whether or not to include silences that may occur at the beginning or end of the passage in the source recordings, and whether or not to include introductory material, such as instrumental playing that is a prelude to the hook iteration, as well as other elements. As I have analyzed in detail above, there is no simple formula for editing the work. Rather, in order to make such determinations, the creator must exercise several musical judgments from a constellation of possibilities as to what composition will result in a pleasing listening experience. Indeed, illustrative of the creative choices made is the fact that numerous other segments of recordings would not make musically balanced mastertones that are sonically pleasing to the listener. In addition, because mastertones may ring on a mobile device more than once a creator must also compose those mastertones in such a way that the endpoint of the mastertone and the beginning point of the mastertone blend harmonically, rhythmically, and structurally so that there is musical flow as the mastertone loops.

## Mastertones are Musically Balanced Musical Compositions

- 47. Each of the mastertones that I have analyzed in connection with this report (as more specifically identified above and in the attached exhibits) is musically balanced, independent, and contains many of the same fundamental technical elements that constitute full-scale musical works. While they derive from longer musical works, they have been transformed into independent musical compositions possessing their own aesthetic integrity, and are compositions that, as free-standing units, differ substantially from their source recordings. In certain circumstances, in mastertones that loop, the end result of the looping is that the mastertone structure is transformed to a new structure different from that of the underlying recording. By this, I mean that the mastertone, when looping, creates musical phrases that follow each other in a manner unintended by the songwriter of the underlying composition. Moreover, the mastertones encompass many of the attributes contained within longer compositions. By this, I mean that the mastertones contain melodies, harmony, structure, lyrics, tension and resolution, musical style, and character. Further, they maintain the basic principles of music composition, such as adhering to established chord progressions and form. Significantly, mastertones also contain one of the most fundamental design tenets of musical composition: a beginning, middle, and an end.
- 48. It is important to note that brevity does not negate musical completeness or substance. Many composers who ordinarily wrote works of average length, sometimes chose to write extremely brief works for particular purposes, including Beethoven, Mozart, and Chopin. Despite their brevity, these works are nonetheless considered master works. In addition, there is a long history of composers writing

variations and suites based on other works by themselves and their colleagues. This practice extends back to the use of Gregorian chants and other ancient music. Modern luminaries, including Leonard Bernstein ("West Side Story Suite") and Aaron Copland ("Billy the Kid Suite"), have used fragments of their own and others' works, crafting them into fully independent, separate musical compositions. In the end, these works, despite their derivation from prior works, stand on their own as complete and creative musical compositions.

49. In sum, mastertones are not mere "excerpts" of sound recordings created through a rote or mechanical editing process. On the contrary, mastertones contain the very characteristics considered by musicologists in determining whether or not a work is a complete musical composition. As a result, they do not sound like simple fragments, or incomplete phrases, ripped from lengthier ones. Despite their actual ancestry, they have become independent "emancipated" works through a creation process involving musical skill, originality, and creativity.

## Declaration

I declare under penalty of perjury that the foregoing is true and correct.

Executed on: April 3, 2008

kidith Finell

## Errata to the Expert Report of Judith Finell

On page 19, paragraph 29, the text reads: "By including only the phrase 'baby,' the mastertone creator ensured that the mastertone ended on a scale degree of five, and that the harmony changed to a l Chord, providing the musical 'release." The text should read: "By including the phrase 'baby,' the mastertone creator ensured that the mastertone ended on a scale degree of five, and that the harmony changed to a l Chord, providing the musical 'release."

Exhibit C-5: Pages 5-9 of the sheet music of "My Love" were inadvertently omitted. The omitted pages are attached hereto.

Exhibit C-7: The bar number for the beginning of the mastertones reads "19." The bar number should read "48."

Exhibit C-9: Two pages of Exhibit C-9, attached hereto, have been corrected to (1) accurately show the melodic line of a portion of the original sound recording of "Gimme Shelter" and (2) accurately show the melodic line of the mastertone derived from "Gimme Shelter."

## JUDITH FINELL MUSICSERVICES INC.

Consulting • Research • Music Copyright Matters • Music Industry Support

## Judith Greenberg Finell

c/o Judith Finell MusicServices Inc. 81 Pondfield Rd • Suite 246 • Bronxville, NY 10708 Phone: (914) 779-8881• Fax: (914) 779-8883• E-mail: Judi@jfmusicservices.com

#### Education

M.A. Musicology, University of California, Berkeley. Specialization: 20th Century Music. Also research on 17th and 18th century French opera.

B.A. Music Performance (Piano). University of California, Los Angeles (UCLA).

## **Professional Experience**

President, Judith Finell MusicServices Inc. (New York City): 1976 - Present

Present concentration is in the copyright infringement field, providing consulting, trial preparation, and expert testimony for attorneys, recording and publishing companies, advertising firms, entertainment, and computer companies. Services include musical analysis and comparisons, research into prior art, consulting with advertising agencies on the use of music in their campaigns, and with computer companies when they are preparing music education software. In addition, law firms representing parties in personal injury claims involving the loss of a musician's career consult on career evaluations, and often ask Judith to testify on this.

Judith Finell MusicServices Inc. was founded in 1976 as a consultation and project development service, initially for classical composers, musicians, and arts organizations requiring a wide variety of career and business advice. Areas covered included promotion, audience development, organizing concert tours and festivals, fund raising, repertoire, publishing, and recording. In addition, writing and design services were available in the preparation of publicity and brochures, arts publications, program and liner notes, proposals, and arts reports. Services soon expanded to the concert production field, including concerts held in major New York halls, including Carnegie Hall and Lincoln Center.

Clients have included Itzhak Perlman, Pinchas Zukerman, Boston Symphony Orchestra, New York New Music Ensemble, artists of the Metropolitan Opera, as well as Michael Jackson, Julio Iglesias, Sony/CBS, and major advertising agencies and law firms. Ms. Finell often appears on Court T.V. regarding music copyright lawsuits, and has been featured in a television documentary hosted by Maria Shriver discussing musical education for children. Ms. Finell was also the musical advisor for a video production promoting ethics entitled *Kids for Character*. This received international recognition and awards, including a humanitarian award from B'nai B'rith. From 1993-present, Ms. Finell has been the musical advisor to the television series *Barney and* 

Friends, which has included consultations on the PBS series, musical publications, recordings, movies, and live shows at Radio City Music Hall.

In March, 1999, NYU presented Ms. Finell in a graduate workshop on intellectual property concerning the future of music copyright in the electronic era where she discussed copyright challenges posed by the electronic age.

#### Prior Work

Director of Publications and Information Center, American Music Center (New York City): 1975 - 76

Responsibilities included supervising the compilation, editing, publication, promotion, and distribution of all American Music Center books. This position also included advising composers, performers, and musicologists on publishing, repertoire, fund raising, and recordings. Established and organized a musical manuscript lending library, compiled and published 11,000-title music catalog.

Program Director of Directory Project, American Music Center: 1974 - 75

Responsibilities included compiling and supervising the research and publication of *The Contemporary Music Performance Directory* - a 200 page resource for composers and performers. Responsibilities also included raising \$40,000 in order to publish and promote the book.

Music Career and Management workshops (New York City): 1984 - 90

Taught workshops for conductors, composers, managers, and other musical artists and administrators on various subjects including "Career Development," "Fund Raising," "Publicizing a Concert," "Marketing Yourself," and "The Business of Music." Students included emerging and established artists as well as recent graduates of Juilliard School of Music and Manhattan School of Music.

Director of Research, Joseph Boonin Music Publications (New Jersey): 1971 - 73

Responsibilities included designing and editing advertising for professional musicians, musicologists, and librarians, creating access to the college music textbook market, recommending textbooks and new music editions to college professors and music librarians, and copy editing and rewriting musicology textbooks.

Freelance Music and Book Editor: 1972 - 79

Edited music and music textbooks for various publishers, including G. Schirmer Inc., Theodore Presser Co., Editions Salabert, and Alexander Broude, Inc. Edited music in all performance categories: instrumental, vocal, choral, band, orchestral, and electronic, working with both traditional and new notation.

Teacher: Pittsburg Senior High School (Pittsburg, California): 1970 - 71

Subjects taught: chorus, guitar, drama.

#### **Publications**

Interview of Judith Finell published in New York Times, August 1995.

"Musicologist Takes a Look at Recent Court Rulings," New York Law Journal, May 1992. Published in a 3-part series, this article discussed approaches to digital sampling, sound-alike, and advertising cases.

"Using an Expert Witness in a Music Copyright Case," Entertainment Law Reporter, September 1990. Lead article.

"Using an Expert Witness in a Music Copyright Case," New York Law Journal, May 1990. Published in a 3-part series, this article outlined the ways in which a music expert can assist an attorney through all stages of a lawsuit.

The Contemporary Music Performance Directory. New York: American Music Center, 1975. 250 pages. A descriptive listing of 550 performing ensembles, 660 sponsoring organizations, 350 performing facilities, and 200 concert series and festivals of contemporary music. Emphasis is on chamber music, jazz, and experimental music. Included are detailed descriptions of the activities of performing ensembles, exact budgetary and grant information on sponsors, and fund raising recommendations. Funded by the New York State Council on the Arts and the National Endowment for the Arts.

The Works of Lukas Foss: Biography and Catalog. New York: Editions Salabert, 1976. 20 pages.

The Works of Erik Satie: Biography and Catalog. New York: Editions Salabert, 1976. 20 pages.

The American Music Center Library Catalog of Choral and Vocal Works. New York: American Music Center, 1975. 200 pages.

The Works of Arthur Honeger: Biography and Catalog. New York: Editions Salabert, 1974. 20 pages.

Twentieth Century Piano Music by American Composers. Hackensack, New Jersey: Joseph Boonin, Inc., 1973. 25 pages.

## Speaking Engagements

Guest Speaker, Association of Independent Music Publishers (AIMP), N.Y.: 1996, 1993.

Guest Lecturer, Fordham Law School.

Guest Speaker, Copyright Law Department, Davis & Gilbert, NY: 1989. Presentation included explanation of musical terminology, definition and illustration of key musical elements for musical comparisons in copyright infringement actions, demonstration of my methodology for analyzing and comparing pieces of music.

Guest Speaker, Copyright Society of the U.S.A., NY: 1996, 1987. Presentation to an audience of copyright lawyers on musical comparisons and analysis techniques, digital sampling, and drawing conclusions of possible infringement.

Panelist, National Music Publishers' Assn., NY: 1995, 1987. Panel for copyright administrators at music publishing companies and record companies. Topic involved the way in which a music expert analyzes and concludes whether music might have been copied.

Speaker, American Institute of Music Studies: 1981 - 84. Subjects addressed to young opera singers included: "Selling Yourself," "Marketing a New Artist," "The Business of Music," and "How to Have a Career in Europe."

Lecturer, National Congress of Women in Music, New York University: 1981. Panel discussion on alternative career opportunities in the music field.

Lecturer, American Music Center: 1980. Discussion on promotion and fundraising for performing ensembles, composers, and administrators.

Moderator, Panel at Music Library Association Convention (Boston, MA): 1979. Panel discussion on alternative publishing and recording possibilities in contemporary concert music.

#### Memberships

Copyright Society of the USA Presently on FA(C)E Music Committee - dealing with music copyright issues in electronic media Trustee, 1994 - 96 Co-Chairman, 1993 Annual Conference

American Music Center.

Association of Independent Music Publishers Member of nominating committee for Board of Directors, 1993

Entertainment Law Circle

B'nai B'rith section on music and performing arts

Women in Music, New York chapter

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#### Publications by Judith Finell on Intellectual Property Topics

New York State Bar Association Entertainment, Arts and Sports Law Section Journal, "Scandalous Notes: A Musicologist Discusses New Developments in Music Technology That Challenge Copyright Attorneys and Expert Witnesses," Special Edition 2008, Vol. 19, No. 1.

New York State Bar Association Entertainment, Arts and Sports Law Section Journal, "The Outer Reaches of Copyright Protection: Creative Arts, Style and the Law," Fall/Winter 2002, Vol. 13, No. 3.

Thomson & Thomson's Client Times, "Using an Expert Witness in a Music Copyright Case," Volumes.1 and 2, 2001.

The New York Times, "Westchester Q&A: Judith Greenberg Finell. Name That Tune, and Prevent a Rip-Off," August 27, 1995.

New York Law Journal, "Musicologist Takes Look At Recent Court Rulings," Part One of Three, May 15, 1992.

New York Law Journal, "How A Musicologist Views Digital Sampling Issues," Part Two of Three, May 22, 1992.

New York Law Journal, "A Musicologist Discusses Disguised Infringement," Part Three of Three, May 29, 1992.

New York Law Journal, "Using an Expert Witness in a Music Copyright Case," May 4, 11 and 18, 1990.

#### In preparing the attached report, I considered the following materials:

Published sheet music and transcriptions that I prepared, attached as Exhibits C-1 through C-9

Sound recordings and mastertones contained on the CD attached as Exhibit D

Sony BMG CD (CD Exhibit to RIAA Trial Exhibit 63)

Sony BMG Guidelines (RIAA 10311-10320)

Oral testimony of J.J. Rosen (2/14/08 Tr. at 3506:11-3551:01)

Written Direct Testimony of J. J. Rosen, dated November 29, 2006

Introductory Memorandum to the Written Direct Statement of the Recording Industry Association of America, Inc., dated November 30, 2006

In re Mechanical and Digital Phonorecord Delivery Rate Adjustment Proceeding, Docket No. RF 2006-1, dated October 16, 2006

Initial Brief of National Music Publishers' Association Inc., Songwriters Guild of America, and Nashville Songwriters Association International in Response to Referral to the Register of Copyrights of Questions of Law Regarding Ringtones, dated September 6, 2006

Brief of Recording Industry Association of America, Inc. Addressing Novel Questions of Law on Referral to the Register of Copyrights, dated September 6, 2006

Reply Brief of National Music Publishers' Association Inc., Songwriters Guild of America, and Nashville Songwriters Association International in Response to Referral to the Register of Copyrights of Questions of Law Regarding Ringtones, dated September 13, 2006

Reply Brief of Recording Industry Association of America, Inc. Addressing Novel Questions of Law on Referral to the Register of Copyrights, dated September 13, 2006 c

#### <u>Notes</u>

#### Transcription Exhibits

The timings shown at the top, right corner indicate the timing locations within the full source recording from which the mastertone has been derived. CD 1 refers to the Sony BMG CD. CD 2 refers to the CD submitted as Exhibit D to my statement.

The number directly above the musical staff (for example "17" in CD 1, Track 2) indicates the bar number in the source song from which this mastertone has been derived.

Small noteheads accompanied by lyrics in parentheses (for example in CD 1, Tracks 19-21) indicate secondary vocal material.

An "x" notehead (for example in CD 1, Track 23) indicates that this material is spoken rather than sung.

#### CD 2, Tracks 1-2:

The downward and upward pointing stems of notes indicate two different voices performing this material.

#### CD 2, Track 2:

The source recording from which this mastertone was derived contains a quarter note rhythm on beat 1 of bars 67 and 69, spoken to the lyric "sh\*t." This is not found on the mastertone. It appears that the mastertone was derived from a radio version of the song, rather than the version released on CD, which includes explicit lyrics.

#### CD 2. Track 2:

This mastertone is repeated consecutively, with a slight pause between each repeat. The fourth and final repeat is incomplete, ending on beat 1 of bar 68 (lyric "A") at 30 seconds. I understand that this mastertone was recorded from a mobile phone, and therefore repeats as the mobile phone continues to ring.

#### CD 2, Tracks 3-4:

The pitches indicated in the main vocal melody are sung somewhat imprecisely on the recording.

#### CD 2, Track 4:

This mastertone is repeated twice consecutively, followed by a brief pause, then repeated twice consecutively again. The fourth and final repeat is incomplete, ending on beat 3 of bar 35 (lyric "shot") at seconds :30. I understand that this mastertone was recorded from a mobile phone, and therefore repeats as the mobile phone continues to ring.

#### Sheet Music Exhibits

The brackets indicate the location in the full source song from which the mastertone has been derived.

The timings indicated within the brackets indicate the timing locations within the full source recording from which the mastertone has been derived.

The corrections indicated by hand written markings indicate the discrepancies between the recording and the sheet music in the portion corresponding to the mastertone.

#### CD 1, Tracks 22-24:

The singer of the recording of "SexyBack" (Justin Timberlake, CD 1, Track 22) has a vocal style in which the pitches are imprecise and implied. Therefore, there are pitch discrepancies between the published sheet music and the transcriptions for the mastertones (CD 1, Tracks 23 and 24) associated with the source song (CD 1, Track 22).

#### CD 2, Track 1

As there was no published sheet music available for the full recording of "Hollaback Girl," this transcription of bars 66-74 was prepared, which sufficed for the purposes of analysis of the corresponding mastertone.

#### CD 2, Tracks 3-4:

The pitches indicated in the main vocal melody are sung somewhat imprecisely on the recording.

# **IRREPLACEABLE**



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C.DI. TRACKI, P 5/8



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# "Irreplaceable" (Mastertone) Performed by Beyoncé

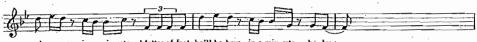




Authorized for use by Jine

# "Trreplaceable" (Mastertone) Performed by Beyoncé





oth-er you in a min-ute. Matter of fact, he'll be here in a min-ute, ba-by.\_\_\_

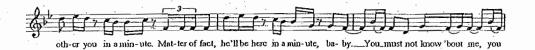


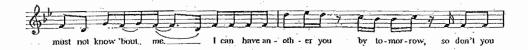
Authorized for the by Jac

## "Irreplaceable" (Mastertone)

Performed by Beyoncé











CD 1, TRACK 4
P113
Authorized for their by Juc



### **IRREPLACEABLE**



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Al English ber Sayar English Andersyah Yanker, Hatelying (Hill M.)

Al English ber Sayar English Counted and Andersyah Sayar Sayar Bayes

Al English Sayar Doby Phatidish of Counted and Andersyah Angel José Par,

Al English Sayar Calle Nation English Sayar Sayar Sayar Counted and Angels Anderskop (Hill Angel Sayar Sa

CD 1, TRACK 4

P 3/3

Authorized for use by Judith Final

# Baby One More Time Words & Music by Max Martin











Verse 2:
Oh baby, baby
The reason I breathe is you
Boy you got me blinded.
Oh pretty baby
There's nothing that I wouldn't do
It's not the way I planned it.

Showers don't use von build before

CD 1, Track 8 0:42-0:53

## "...Baby One More Time" (Mastertone)

Performed by Britney Spears







# "...Baby One More Time" (Mastertone)

Performed by Britney Spears







## ...Baby One More Time



### GIRLS JUST WANT TO HAVE FUN

Words and Music by ROBERT HAZARD



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CDLITRACK 10, PZ/4



CD1, TRACK 10, p3/4
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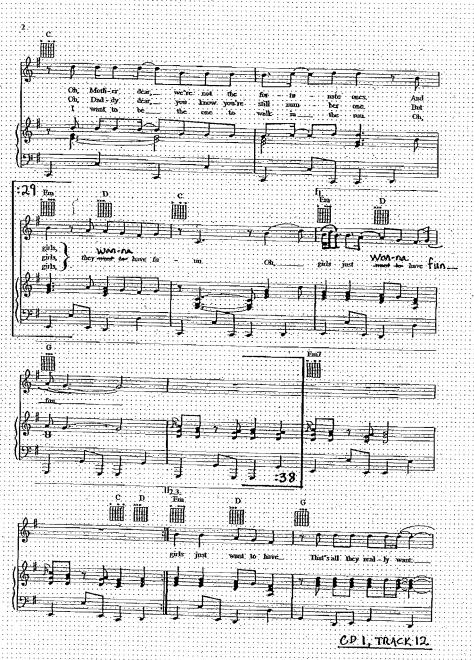




CD 1, Track 12 0:29-0:38

## "Girls Just Want To Have Fun" (Mastertone) Performed by Cyndi Lauper





#### GIRLS JUST WANT TO HAVE FUN



CD 1, TRACK 13

P1/2

Authorized for use by Marianne Csizmadia



from Elvis Presley - Elvis' Golden Records

## That's All Right

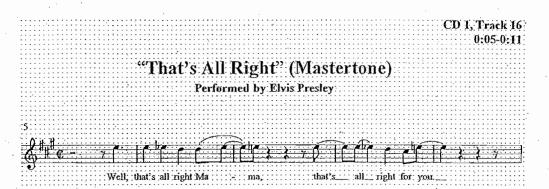
Words and Music by Arthur Crudup







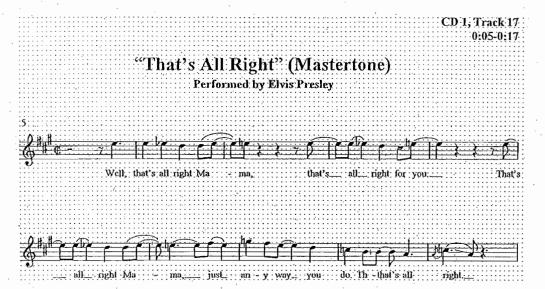




# from Ebis Preeley - Ebits Column Records That's All Right Words and Rusic by Anthur Crump



CD I, TRACK 16





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CD 1, TRACK 17 P1/2



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CZ I, TRACK 17 P2/2

## My Love

Words & Music by Justin Timberlake, Tim Mosley, Clifford Harris & Nathaniel Hills





CD1, TRACK 18, P2/4





CD 1, Track 19
1:04-1:08

"My Love" (Mastertone)

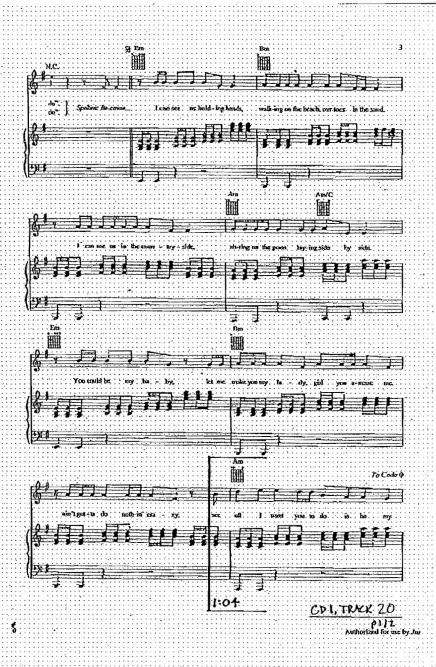
Performed by Justin Timberlake

3

See, all 1 want you; to do is, be, my, love... (So don't give a, way.) My love.









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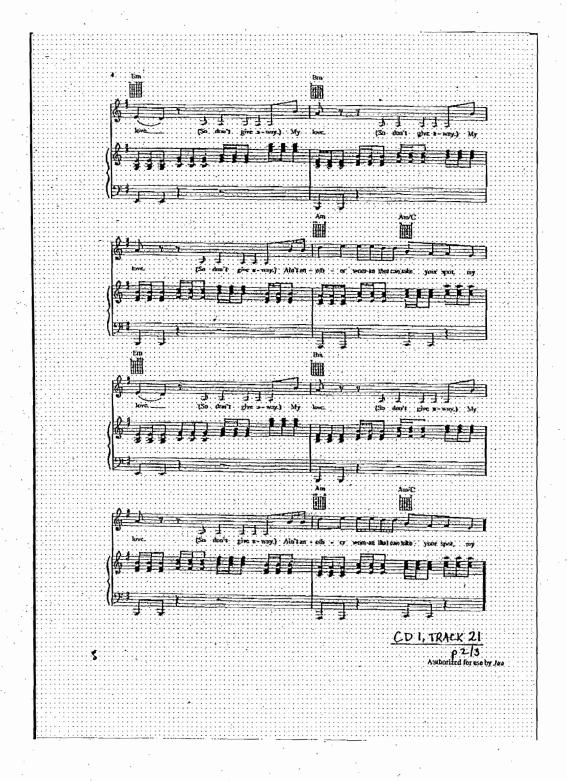
CD 1, TRACK 20

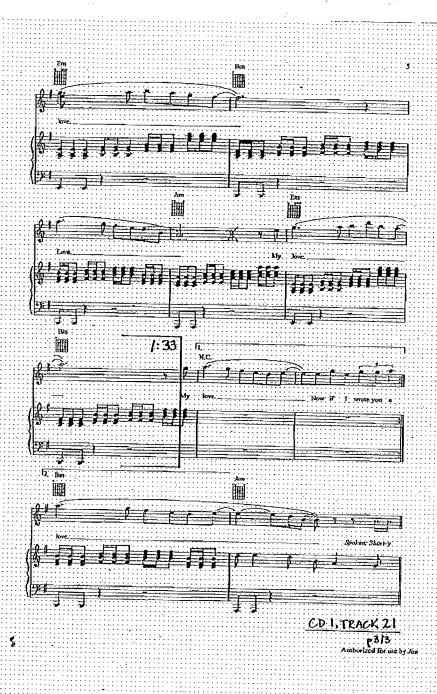
#### "My Love" (Mastertone)

Performed by Justin Timberlake



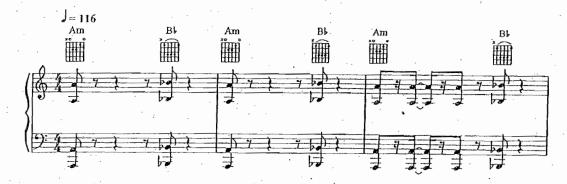




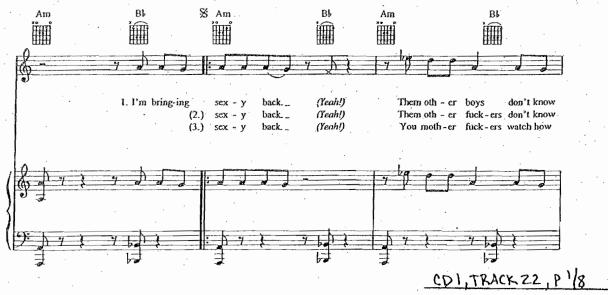


## SexyBack

Words & Music by Timothy Mosley, Justin Timberlake & N. Hill







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CD 1, TRACK 22, P4/8



CD1, TRACK 22, p 5/8



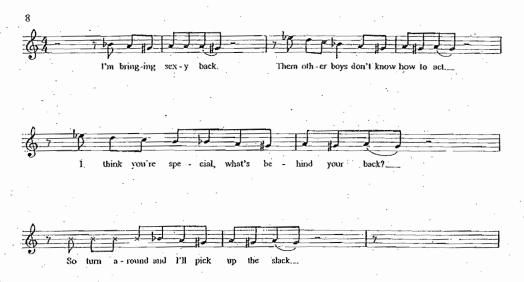


CDI, TRACK ZZ, P7/8



#### "SexyBack" (Mastertone)

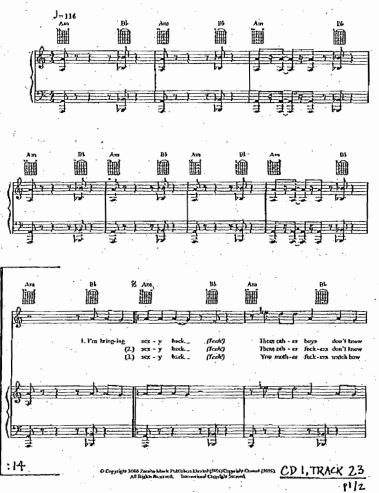
Performed by Justin Timberlake



Note: The pitches here are approximated, due to the imprecise vocal style of the performer.

#### SexyBack

Words & Music by Timothy Mosley, hydla Timbertaka & N. 1511



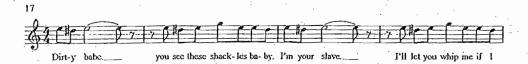
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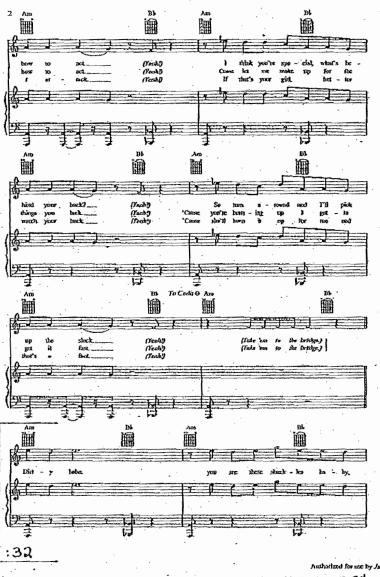
### "SexyBack" (Mastertone)

Performed by Justin Timberlake

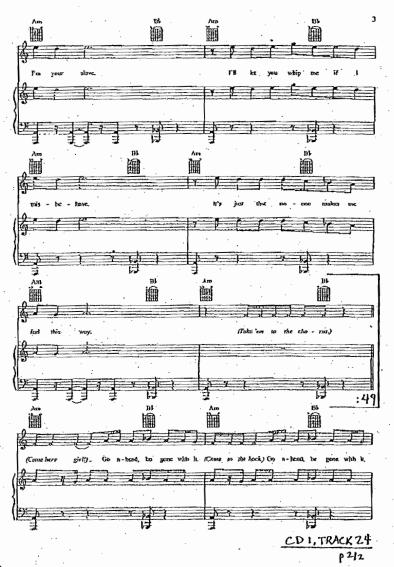




Note: The pitches here are approximated, due to the imprecise vocal style of the performer.



CDI, TRACK 24
pil2



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RECYCL

#### OVER MY HEAD

(Cable Car)





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CD1, TRACK 25, p3/7





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CDI, TRACK 25, P6/7



CD1, TRACK 25, P7/7

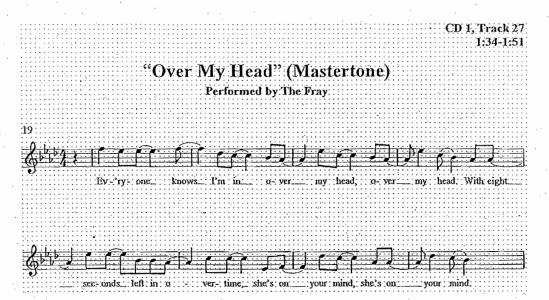
"Over My Head" (Mastertone)

Performed by The Fray.

9.

Fy='ry= one | knows Pm in | o= ver | my | head | o= ver |





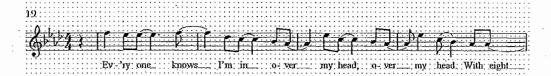




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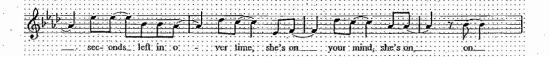
Authorized for use by Marianne Caizmadia

# "Over My Head" (Mastertone) Performed by The Fray

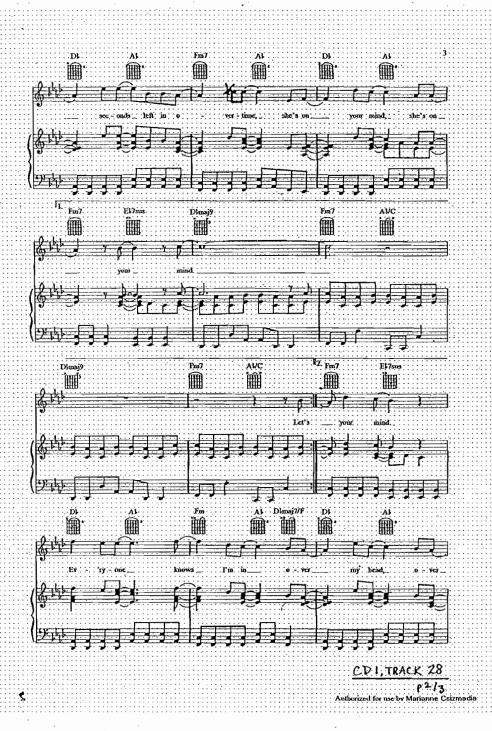




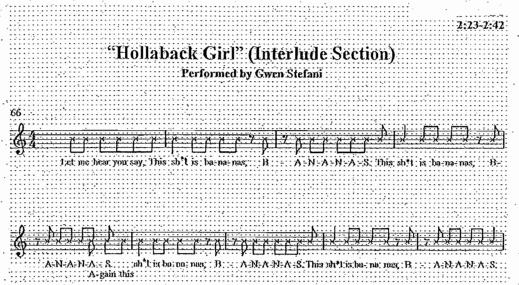


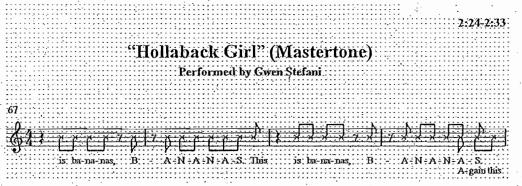












## "Hollaback Girl" (Interlude Section) Performed by Gwes Stelani

Let use hear year may. This shi's because may. B. A.N.A.N.A.S. This shi's is because may. D.

2:24

A.N.A.N.A.S. This shi's is because may. D.

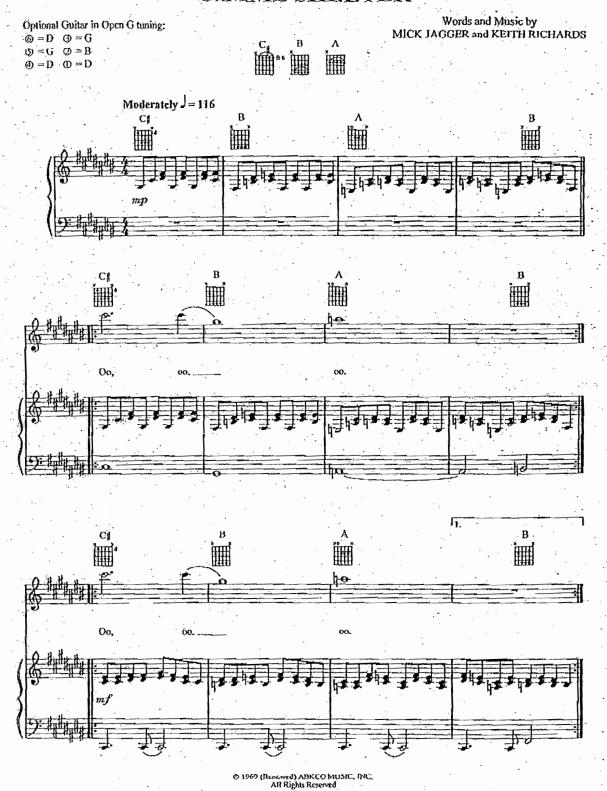
A.N.A.N.A.

CD2, TRACKA

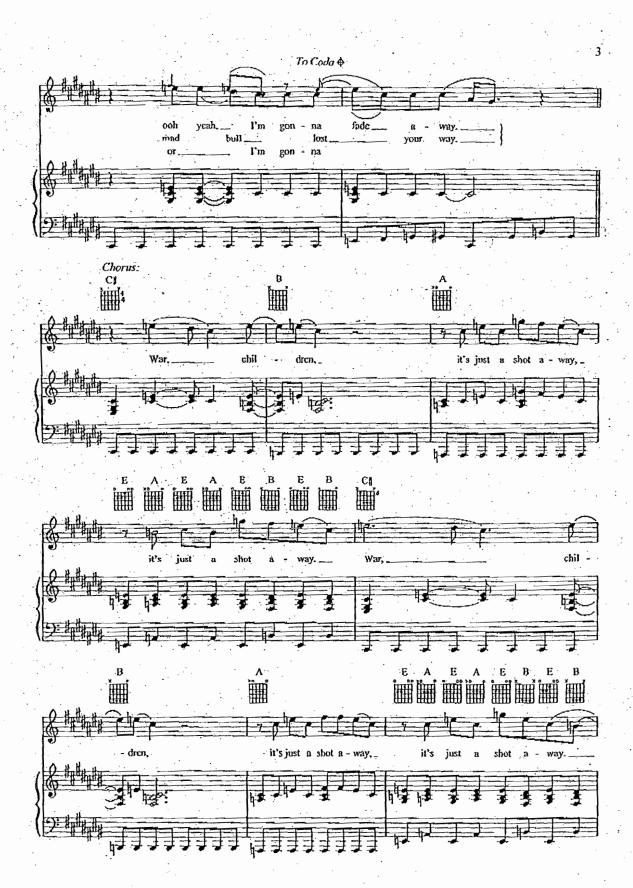
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9

## GIMME SHELTER



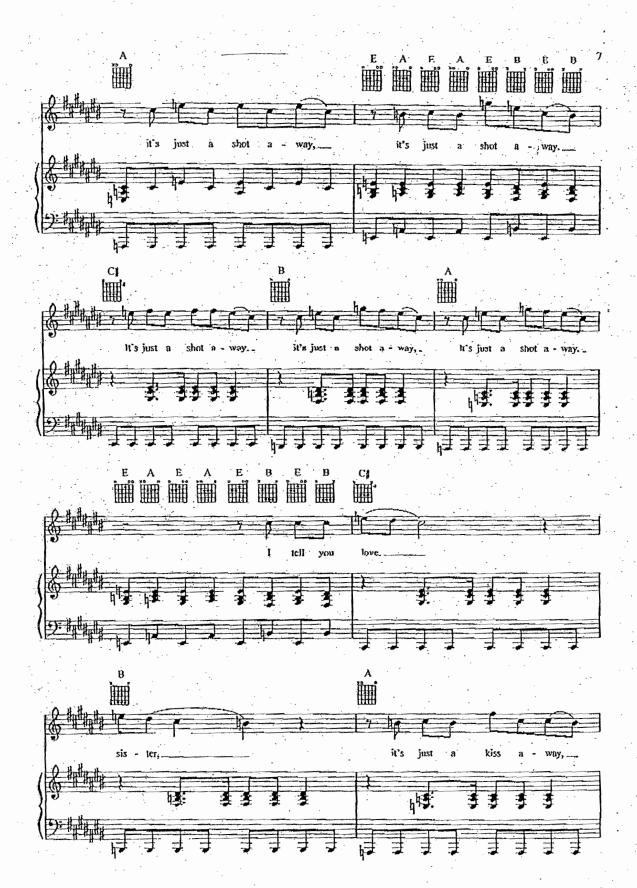


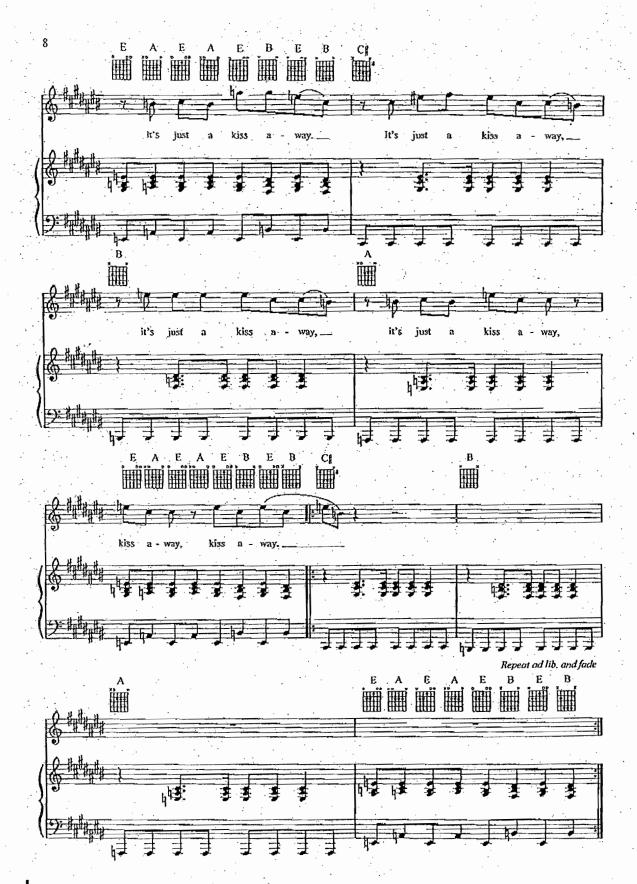












it's just a shot a - way.

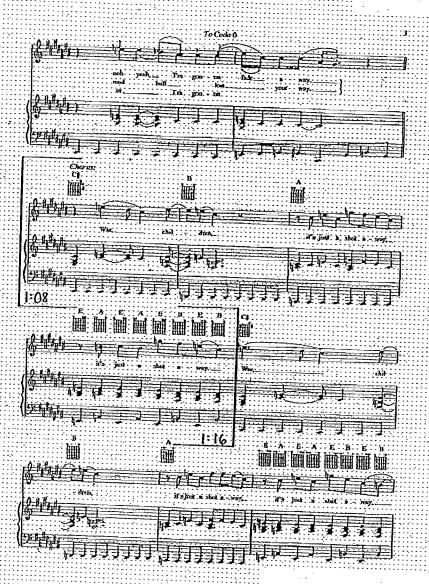
Gimme Shelter" (Mastertone)

Performed by The Rolling Stones

it's just; a; shot; a-: yeay,

Note: These pitches are sung somewhat imprecisely on the recording:

chil - dren,



Authorized for me by Judich Fin

# Exhibit D to the Witness Statement of Judith Finell Submitted with the Copyright Owners Disk Exhibits

	Track List
Track 1	HollaBack Girl
Track 2	HollaBack Girl Mastertone
Track 3	Gimme Shelter
Track 4	Gimme Shelter Mastertone

Ε



## Mobile Media Production

<u>Version</u> 1.1 <u>Date</u> 08/21/2007

Tim Nilson
Vice President, Mobile Technology
tim\_nilson@sonymusic.com
212.833.7050

Sony BMG Music Entertainment Confidential



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	5.7	The "3 by 4" and "4 by 3" Derivative Masters	Error!	Bookmark no	t defined.
	5.8	Examples of acceptable derivative masters	Error!	Bookmark no	t defined.
	5.9	Identifying derivative masters in the MMDS	Error!	Bookmark no	t defined.
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	5.11	Tools to use for graphic production	Error!	Bookmark no	t defined.



## 1 Document purpose

This document is intended to be used by internal staff and to give our partners a better understanding of how a mobile media is produced at Sony BMG. The following pages outline the production process in detail and will explain how master files are produced. These masters are organized in the MMDS (Mobile Media Data Store). They are used to create ringtones and images for various handsets that can be distributed to content licensing partners (such as Vodafone) or be distributed via the Company's own, direct to consumer offerings via the "Sony Music Box" web and wap application.

## 2 Mobile Content and Delivery

All files delivered by Sony BMG are ready to be used and do not require any postproduction. We provide our partners with all requested file formats. The following is list of all currently supported file formats: mp3, smaf, qcelp, aac, amr-nb, amr-wb, adpcm, rmf, wma and wav for audio, Jpeg, gif, bmp and png for graphics. These formats are created using our transcoder. All files are delivered with the appropriate DRM setting (for example a SMAF – "no transfer flag"). If a client chooses to wrap a file with DRM protection, it needs to be referenced in the contract.

## 2.1 The Transcoder

The transcoder is an application that can process multiple uncompressed master wave files (usually in form of a set of songs) and create all desired file formats for each master. The resulting set of files is then packed into a zip file and delivered to the partner. A manifest with a list of all files (song titles) and formats is also generated and included with the zip file. This manifest includes the song title, artist name, album, genre and file format information.

## 2.2 A Note On High Quality Master Files

Sony BMG does not deliver high quality digital audio files to our partners for further processing. All processing is done by Sony BMG to the specifications of the partner which have been communicated via the PartnerWeb.



## 3 Getting Mobile Media from Sony BMG

### 3.1 The PartnerWeb

The PartnerWeb is a web interface that allows our partners to specify a set of file formats for their handsets. The partners can choose from a list of file formats. They can also specify file size. For audio files, EQ and compression settings can be chosen. Once the partner is finished with the selection, the account is locked and our engineers will create the appropriate definitions for the transcoder. Before there is any content delivered, our engineers usually create a test package with just a few files to make sure all the settings are correct and our partners are satisfied with the result.

## 3.2 Device Approval

Each device a partner wants to send content to needs to be approved by Sony BMG in writing. In general, a device that does not provide for a secure file delivery and forward locking mechanism will not be approved.

## 4 Digital Audio Ringers

## 4.1 Relevant Excerpts

The first and most important criteria of digital audio ringers, or what we refer to as "Mastertones," is that they contain the quintessential element of the composition. In pop terminology, this is often referred to as the "hook," called this because it functions to be a theme that hooks you into the structure of the composition. The hook is repeated from one to several times throughout the composition, and in this way creates a framework for musical development and embellishment. It can take several forms. In many cases it is a complete chorus, consisting of multiple phrases, which may comprise a B section of an ABABCB song form. Other times it is a brief refrain that rounds out each verse. Other times it is an instrumental melody that punctuates the musical turnarounds. It is a theme that is colored at each iteration by its musical context, and all other parts of the composition function to create that context.

## 4.2 Choosing The Right Iteration

Although you may find the hook often peppered throughout the composition, all iterations are not equal. The final iterations, which are referred to as the recapitulation, are often embellished to create a greater dynamic and intensity with respect to the earlier iterations. For this reason, they are often more complex, and less accessible than the simpler and purer early iterations of the theme. For ringtones, we want the distilled version of the theme in its most recognizable form. This is almost always either the 1st or 2nd iteration. In the case of many songs, such as with many contemporary R&B tracks, the second iteration is



already too embellished to clearly illustrate the theme. In other tracks it takes until the 2<sup>nd</sup> iteration for the dynamic or orchestration to develop enough to present a full exposition of the theme. Other than intuition, the decision about which of these two iterations should be chosen must be based on the goal of achieving a clarity of presentation. In any case, you are almost always choosing between a couple of segments that fall within the first 50% of the recording.

## 4.3 Framing

Once an area of the recording has been chosen, it is then necessary to begin choosing individual in and out points for each edit. Since ringtones are short excerpts that can be truncated at any time by the answering of the phone, the likelihood that a particular second of audio is going to be heard by the surrounding audience steadily diminishes from front to back. This, combined with the abrupt and unwarranted initiation of phones ringing, shifts the weight of importance greatly towards the head of each edit. That is why a clean entry of the theme is sought whenever possible, without any preceding material such as lines from the prehook, or pre-chorus, or developmental instrumentation such as drum fills. These things tend to confuse the presentation of the theme without the context of the entire song being there.

For songs that have a chorus-hook where the first line is the most important, this emphasis on the head of the edit is not a problem, and in fact it is very synergistic. In a refrain song structure, or a chorus-hook wherein the last line is the most important, these forces act in opposition. (Proper songwriting technique dictates that almost never are the middle lines in a chorus-hook the most important, even though they may even contain the words from which song title was derived.) Dealing with this opposition is done on an edit by edit basis, as a function of the length and type of edit.

## 4.4 The Transcoder – More than meets the Eye

In order to have a meaningful discussion of the different types and lengths of edits, we must talk about the transcoder and what it is meant to do.

The transcoder takes edit points that are supplied by the sound engineers and uses them to decide on an edit. It takes this edit and fades it, loops it, or merely extracts it. Subsequently it encodes it and/or compresses it to a mobile or preview audio format spec, and may or not enclose this result in one of various "wrapper" file formats. The number of possible permutations of this procedure has no upper bound. Each handset in the marketplace corresponds to one or a few of these permutations.

An obvious advantage of the transcoder is to expedite workflow. It takes the signal processing component and file encoding processes out of the equation for ringtone makers.

The main reason why the transcoder came about, however, is for the purpose of keeping up with erratically changing client specifications that are part and parcel of an evolving media space. In particular, it is the SIZE of the resulting media file that must be able to conform to an arbitrary specification on the fly. This



represents a distinct change in the paradigm of production for ringtone engineers. Now instead of firm cuts in the media that result in predictable output with albeit little device specificity, the ringtone engineer puts in edit points so that the transcoder is able to make a more informed decision as to where to cut the file, incorporating target data.

## 4.5 Edits And Their Classes

## 4.5.1 Non Looping Edits

At the time of this writing, the policy of the transcoder is to accept the largest edit that fits between fifty and a hundred percent of the maximum length possible for the spec. This works nicely with the majority of songs because most are conceived in balanced phrases that work well in quantities that are some power of 2. With this policy, a musically framed edit will usually satisfy the requirement of the transcoder **Example**: If the required maximum file length is 18 sec for a particular handset and there is a 12 second and a 19 sec edit, the transcoder will choose the 12 second edit to create the file. This produces a ringtone that is more musical. This method is much preferred to extending the 12 sec edit to 18 sec.

If the required file length is exactly 18 sec, the transcoder will use the next smaller edit, in this case 12 sec and extend it to 18 sec. The start of point will not be changed only the end point. The resulting ringtone will not be as musical but will have at least have a musical beginning. In general we try to generate only musical ringtones for our partners. This way our content is presented in the best possible way.

## 4.5.2 Perfect Loops

Perfect loops are treated differently. These are an entirely separate class of edits with separate policies. Perfect loops are not resized. In general, perfect loops will not be used as non looping edits, and vice versa. However, in cases where a perfect loop is sought that is too distant from any existing available perfect loop edits, a non-looping edit will be selected and faded with a brief pause at the end, in order to create an acceptable non-looping behavior on a device that only supports perfectly looping files.

## 4.6 Finding The Right Edit

A general method for finding all the useful edits for the hook area is outlined as follows:

### 4.6.1 The Smallest Edit

Find the smallest indivisible musical unit, encapsulating the meat of the hook, that exceeds 4 seconds. Often times here we are talking about 1 vocal phrase. The first edit should consist of this unit plus whatever additional audio can be added to the back end before entering another indivisible musical region or vocal phrase. On the back end, cutting right before the transient of a downbeat is desirable



when possible. Generally this would be done if the subsequent indivisible region enters on or after the down beat. The beginning of the edit should in most cases be the first word or note of the musical phrase, which may be before, on, or after the down beat. Any more material prior to that is considered clutter, (except for a subset of the cases wherein the down beat can be included in the clip prior to a phrase that begins a little later, for when metric context defines a theme—this is of course only possible when the down beat isn't covered by a prior phrase).

## 4.6.2 The Next Edits

The next largest edit should be musically balanced. In systems where powers of 2 are used for balance, this would generally mean doubling the prior number of phrases. If the number of phrases in the edit from step 1 is 2, then use a 4 phrase system that telescopes out from the meat of the hook, to enclose a greater part of the same area. For instance, if the first edit came from 2 phrases at the back of a 4 phrase chorus, the full 4 phrases of the chorus would be used for the next edit. You wouldn't generally use the same 2 phrases as the first edit plus 2 subsequent phrases from the next musical section. What we are seeking is a hermetically sealed musical unit that stands well on its own. As much as possible, we want to avoid creating edits that sound like fragments of something else. Repeat step 2 until you have reached the largest edit using this method that is under 25 seconds.

In some of the more interesting songs you will find things like a balanced quad of phrases, followed by another tag phrase afterwards which belongs to the same song component. In those cases, you can put an edit in for both the quad and the quad plus extra phrase. (In the case of something like an ABAXB five line rhyme scheme, the quad may not make sense, musically or semantically, without the last phrase.)

Using this technique you will find that you will usually end up with a maximum of 2 or 3 non-looping edits. This is owed to the fact that 4 times the minimum length of 4 seconds is 16 seconds, and twice that is over our maximum. In a song with a set tempo and form, there are only a few permutations of edits of the hook that are balanced and make musical sense to stand on their own.

## 4.7 Sample Surgery

The most time consuming aspect of the edits is the perfect loop(s). We are looking to meet the same general criteria as listed above, but with a few additional parameters:

• Loops should match the meter grouping of the phrase systems. 2 measure phrases should have a loop that is 2 measures. 2 x 2 measure phrases should have a loop that is 4 measures, etc. In some cases there are odd metric phrases, such as three measures of 4/4 in the chorus. In yet other cases, there may be random metric changes such as a measure of 2/4 in a 4/4 context that is an integral part of the phrase. These are rare cases. A loop should never contrive a 2/4 measure out of a 4/4 measure in order to make a loop work. Anything that sounds metrically awkward is not convincing as a perfect loop



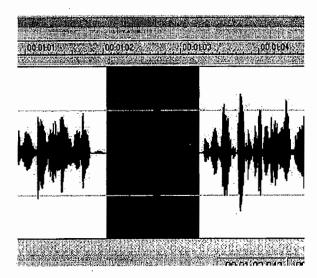
- In order to make loops consisting of whole measure lengths, the position of the out point in the meter must be matched to the position of the in point in its respective meter. Since this isn't always on a rational subdivision of the meter, absolute time must often be the scale of measurement. Since tempo is subject to change within a song, particularly in recordings not made "to a click," care must be taken to reduce the likelihood of time scale discrepancy. This means that edit points should be measured to the nearest distinct (and in time) transient in the waveform. Since errors of scale manifest themselves in proportion to the absolute length in question, this procedure minimizes the margin of absolute error. Measure by selecting the area from the in point sample to the crest of the nearest said transient. Put the out point in the same relative position. If the in point is 126ms ahead of the upbeat of beat 3, put the out point in the same position with respect to the appropriate measure.
- Often times the out point must be the point of reference, because of a subsequent phrase entering
  earlier than the 1st phrase of the edit. Simply match the entry point to the back as described above.
- The transition from the back to the front of a loop should be as smooth as possible. If both happen to be on a down beat, the task is easy. Just cut right on the "zero crossing" right before the transient of each down beat. (I say "zero crossing" because there is really no such thing as a zero crossing in a truly stereo wave, due to the remote likelihood of the two channels both crossing "zero" at the same time. Cutting at some approximation of the latter helps the engineer to test the loops within Soundforge and listen for any disturbing behaviour of the loop. A "pop" or "click" resulting from the back and front being misaligned can confuse the listener's perspective regarding the timing of the loop. The transcoding process will fade the first and last few samples to create a smooth transition on final output, but the engineer should be able listen critically to the smoothness of the loop before shipping it to the datastore). Accurate measurements, such as those described in the previous paragraph, help to ensure a smooth musical timing. Sometimes, however, entering in the middle of the decay of a cymbal, for instance, can make an entry point sound rough. In these cases, try moving the entry point to the attack of the cymbal, and moving the back end to the same musical position in the meter.
- Warning! Although words that begin with a vowel or a plosive consonant will enter right on a musical subdivision of the measure, such as on a down beat, other words will not. When sung properly, words that begin with non-plosive consonants anticipate the beat, and it is the subsequent vowel sound that demarcates the beat. Vowels ring out more, with greater SPL, and act as an attack for the note. Fricatives like f,v,s,j, etc. are softer and go in front. This means that you must compensate using the measurement technique described above to include the beginning of the word. Don't just indiscriminately cut on beats!
- If the phrases change position in the meter from one phrase to the next in such a way that it is
  impossible to create a loop consisting of complete measures that represent the musical systems of
  the song, then omit the loop for this length range. Try to find a loop in a different range of length.
- If 2 acceptable loops fall between 4 and 15 seconds, the more the merrier. Loops longer than this
  add little to the pot. There are no known devices that support perfect loops longer than 15
  seconds. If there were, however, they would have an effect not much different than fading a non-



looping edit for the task, due to the fact that the ringtone wouldn't ever be able to complete a full repeat. (Also, perfect loops lose their looping "wow factor" if the loops are too long to appreciate the transition and repetitive nature of the phrase. Loop music as it is known in dance music almost never consists of loops longer than 4 measures. In most cases it sounds better for the transcoder to choose a medium to short sized loop.) Extra long loops won't hurt the final product, but they will cost a lot of extra production and quality control time for very little return.

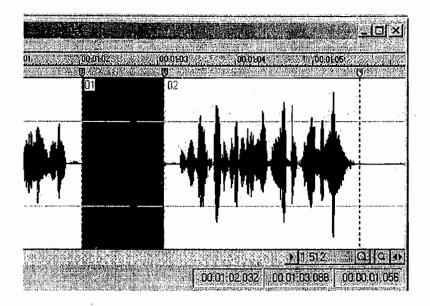
## 4.8 Tools To Use For Digital Audio Production

The tool that we us for digital audio production is **Soundforge**. The original audio file (the full length song) should not be changed with this application. All edits for one piece of audio are saved in a single **SFL** file that is saved separately. The **SFL** file contains all the regions (edits) that have been applied to the wave file. There are two ways of selecting a region. The first is to select the desired region in the wave window and then clicking "r". Then you can name and save the region.

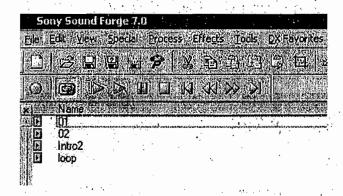


The other way is to drop markers ( keyboard shortcut "m") at the in and out point of the region and then save it





All created regions will be displayed in the region list. It is important to name any looping region with the name "loop". The names for the other regions is not important (as long as they are not called "loop"). The transcoder will treat all regions with the name loop as looping content. All the other regions are treated as non-looping edits.



When all the edits are created the "SFL" file has to be saved. Go to the "Special" – menu, choose "Region List" and "Save As...". It is best to keep the file in the same folder with the wave file.

The filenames of both SFL and the Wav file will must contain the Gridnumber surrounded by the carat signs. Example:

Beyonce\_Alami ^G0100009531343^ wav Beyonce\_Alami ^G0100009531343^ sfl

You will then download and install the Ingester Application from MMDS and ingest these 2 files.



"IRREPLACEABLE"

# Sound Recording (Sony BMG CD Track 1)

PRIMARY HOOK	<ul> <li>"You must not know 'bout me"</li> </ul>	<ul> <li>First iteration at second 44</li> </ul>	Occurs sixteen times
STRUCTURE	Introduction/ Verse 1/ Chorus 1/ Verse 2/	Chorus 2/ Bridge/ Interlude/ Chorus 3/	ר מה הסוד)
DURATION1	3 minutes, 48 seconds		

# Mastertone (Sony BMG CD Track 2)

DURATION	SEGMENT USED	ITERATION USED	BEGINNING POINT	ITERATION USED BEGINNING POINT CONCLUSION POINT	COMMENTS
• 4 seconds	• "You must not	First and second	Second 44	Second 48	Simple iterations
	know 'bout me,	iterations of	• • • • • • • • • • • • • • • • • • • •		without musica
	you must not know	primary hook			distractions
	'bout me,'				<ul> <li>Loop creates</li> </ul>
	Beginning of		-		traditional harmonic
	Chorus 1	-			progression
	Primary hook				<ul> <li>Contains two</li> </ul>
	Two contiguous				symmetrical purases
	iterations				

Duration and timing indications are according to Windows Media Player timer, which approximates to the whole second.

# "...BABY ONE MORE TIME"

## Sound Recording (Sony BMG CD Track 7)

Incin aire	n citation	YOOH VA MIAA
DOKATION	SIROCIONE	TANISTA TO SEE THE SEE
• 3 minutes, 29 seconds	<ul> <li>Intro/ Verse 1/ Chorus 1/ Verse 2/ Chorus 2/</li> </ul>	· "Hit me baby one more time"
	Interlude/ Bridge/ Chorus 3/ Chorus 4	• First iteration minute 1, second 00

# (Sony BMG CD Track 8)

COMMENTS	Simple iteration without musical distractions     Cut so that loop creates traditional harmonic progression and smooth rhythmic transition     Musically balanced contains 4 bars
BEGINNING POINT CONCLUSION POINT	• Second 53
BEGINNING POINT	Second 42
ITERATION USED	• First iteration
SEGMENT USED	"My loneliness is killin" me and I, I must confess I still believe, (I still believe)"     Beginning of Chorus I     Not hook
DURATION	• 11 seconds

Duration and timing indications are according to Windows Media Player timer, which approximates to the whole second.

# "GIRLS JUST WANT TO HAVE FUN"

## Sound Recording (Sony BMG CD Track 10)

"Oh, girls just wanna have fun"	First iteration at second 32	Occurs fourteen times, always varied after	first iteration
•	•	•	
<ul> <li>Intro/ Verse 1/ Chorus 1/ Verse 2/ Chorus 2/</li> </ul>	Bridge 1/ Chorus 3/ Instrumental interlude/	Verse 3/ Chorus 4/ Bridge 2/ Chorus 5/ Coda	
minutes, 55 seconds			
	•	• Intro/ Verse 1/ Chorus 1/ Verse 2/ Chorus 2/ Bridge 1/ Chorus 3/ Instrumental interlude/ •	Intro/ Verse 1/ Chorus 1/ Verse 2/ Chorus 2/     Bridge 1/ Chorus 3/ Instrumental interlude/     Verse 3/ Chorus 4/ Bridge 2/ Chorus 5/ Coda     Oda

## Mastertone (Sony BMG CD Track 11)

	/ith lies	.er	nclude	,	
COMMENTS	No overlapping with other vocal melodies	Additional bar after	primary hook to include	instrumental hook	
	·	•			
CONCLUSION POINT	• Second 38				
BEGINNING POINT	• Second 32			-	
ITERATION USED BEGINNING POINT	First iteration				
DURATION SEGMENT USED	"Oh, girls just     wanna have fun"	<ul> <li>End of Chorus 1</li> </ul>	• Primary hook		
DURATION	• 6 seconds				

Duration and timing indications are according to Windows Media Player timer, which approximates to the whole second.

4

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# "THAT'S ALL RIGHT"

## Sound Recording (Sony BMG CD Track 15)

DURATION.	STRUCTURE	PRIMARY HOOK
• 1 minute, 55 seconds	Intro/ Verse 1/ Chorus 1/ Verse 2/ Chorus 2/	• "That's all right"
	Instrumental interlude/ Verse 3/ Chorus 3/	First iteration at second 15
	Interlude/ Chorus 4/ Coda	<ul> <li>Primary hook and variations occur eleven times</li> </ul>

## Mastertone (Sony BMG CD Track 16)

COMMENTS	Question and response structure, in which the "statement" (first phrase) has an "unresolved" quality, and the "response" (second phrase) provides the resolution
ED ITERATION USED BEGINNING POINT CONCLUSION POINT COMMENTS	Second 11
BEGINNING POINT	• Second 05
ITERATION USED	Only iteration of Second 05 title lyrics within a verse section
URATION SEGMENT USED	Well, that's all right Mama / that's all right for you." Beginning of Verse I Not hook
DURATION	• 6 seconds

Duration and timing indications are according to Windows Media Player timer, which approximates to the whole second.

5

## "MY LOVE"

## Sound Recording (Sony BMG CD Track 18)

rion'  Intro/ Verse 1/ Chorus A-1/ Chorus B-1/ Verse 2/ Chorus A-2/ Chorus B-2/ Rap/ Chorus A-3/ Chorus B-3			
rion¹	PRIMARY HOOK	<ul> <li>"See all I want you to do is be my love"</li> <li>First :teration at minute 1, second 04</li> <li>Occurs fines fines outs ourse with nearly</li> </ul>	identical melody: "Ain't another woman that can take your spot, my love" that occurs six times (first iteration at minute 1, second 11)
rion'		-1/ p/	
INON!	STRUCTURE	o/ Verse 1/ Chorus A-1/ Chorus B. se 2/ Chorus A-2/ Chorus B-2/ Ra rus A-3/ Chorus B-3	
DURATION¹ utes, 36 seconds		• Infro	
DURATION¹ utes, 36 seconds			
DURATION <sup>1</sup> utes, 36 seconds			
4 min	DURATION1	4 minutes, 36 seconds	

## Mastertone (Sony BMG CD Track 19)

COMMENTS	Pure and recognizable, without musical distractions or variations     Contains beginning phrase (primary hook), linking phrase, plus subsequent phrase (secondary brook), which creates talance
CONCLUSION POINT	• Minute 1, second 08
BEGINNING POINT	• Minute 1, second 04
ITERATION USED	First iteration of primary hook     First iteration of primary motive     First iteration of secondary hook
SEGMENT USED	Beginning of Chorus B-1     Primary hook:     See all I want you to do is be my love.     Primary motive (or linking phrase): "So don't give away.     Secondary hook:     "My love."
DURATION	• 4 seconds

<sup>1</sup> Duration and timing indications are according to Windows Media Player timer, which approximates to the whole second.

6

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## "SEXYBACK"

## Sound Recording (Sony BMG CD Track 22)

DURATION1	STRUCTURE	PRIMARY HOOK
• 4 minutes, 01 seconds	• Intro/ Verse 1/ Bridge 1/ Chorus 1/ Verse 2/	"Go ahead, be gone with it"
	Bridge 2/ Chorus 2/ Interlude 1/ Verse 3/ Chorus 3/ Coda	First iteration at second 50

## Mastertone One (Sony BMG CD Track 23)

COMMENTS	<ul> <li>Contains beginning, middle, and end</li> </ul>	Four complete vocal     phrases						
CONCLUSION POINT	Second 31							
BEGINNING POINT	Second 14							
ITERATION USED	First iteration of three							
SEGMENT USED	"I'm bringing sexy back.	Them other boys don't know how	you're special, what's behind	your back? So	turn around and I'll pick up the slack."	• Verse 1, except final 5 beats	<ul> <li>Identifying theme</li> </ul>	Not primary hook
DURATION	• 16 seconds							

Duration and timing indications are according to Windows Media Player timer, which approximates to the whole second.

## "OVER MY HEAD"

## Sound Recording (Sony BMG CD Track 25)

PRIMARY HOOK	<ul> <li>"Everyone knows I'm in over my head, over my head"</li> </ul>	<ul> <li>First iteration at second 37</li> <li>Occurs four times</li> </ul>
STRUCTURE	• Intro/ Verse 1/ Chorus 1/ Verse 2/ Chorus 2/ Chorus 3/ Bridge/ Interlude/ Chorus 4/ Coda	
DURATION <sup>1</sup>	minutes, 55 seconds	

## Mastertone (Sony BMG CD Track 26)

	•	
COMMENTS	<ul> <li>Contains beginning, middle, and end</li> <li>Rythmically balanced, beginning with upbeat on beat four and ending on beat three</li> </ul>	
T		
BEGINNING POINT CONCLUSION POINT	• Minute 1, second 43	
INI		
ING PO	d 34	
EGINN	Minute 1, second 34	
T O	•	
ITERATION USED	Second iteration of chorus	
ATIOI	Second its of chorus	
ITER	•	
SED	mows ny ny narv	,
SEGMENT USED	'Everyone knows I'm in over my head, over my head'' Chorus 2 Includes primary	•
EGM	"Everyon" I'm in ovinead, overhead" Chorus 2 Includes 1	hook
S		
LION	spuc	
DURATION	7 seconds	

Duration and timing indications are according to Windows Media Player timer, which approximates to the whole second.



# "HOLLABACK GIRL"

## Sound Recording (Exhibit D, Track 1)

	PRIMARY HOOK	<ul> <li>Hook I (spoken) "T ain't no hollaback girl"</li> </ul>	<ul> <li>First iteration at second 09</li> </ul>	<ul> <li>Hook 2 (sung) "co, this my sh*t, this my</li> </ul>	sh*t''	<ul> <li>First iteration at second 24</li> </ul>	
Ì							
	STRUCTURE	Intro/ Chorus 1/ Verse 1/ Chorus 2/ Verse 2/	Chorus 3/ Interlude/ Chorus 4				
							;
	ر. د						
	DURATION	is					
	URA	econc					
		minutes, 17 seconds					
		ninute					
		3.0					
		•					

## Mastertone (Exhibit D, Track 2)

COMMENTS	Four rhythmically     balanced phrases	Mastertone segment includes one call	phrase and one	response phrase in immediate	succession	
CONCLUSION POINT	Minute 2, second 41				-	
BEGINNING POINT	Minute 2, second 24					
 ITERATION USED	First iteration of identifying theme.				-	
SEGMENT USED	"is bananas,     B-A-N-A-N-A-S.	This is bananas, B-A-N-A-N-A-S.	Again this"	<ul> <li>Beginning of Interlude</li> </ul>	<ul> <li>Identifying theme.</li> </ul>	<ul> <li>Not hook</li> </ul>
DURATION	• 30 seconds <sup>2</sup>		٠			

Duration and timing indications are according to Windows Media Player timer, which approximates to the whole second.

This mastertone is repeated consecutively, with a slight pause between each repeat. The fourth and final repeat is incomplete, ending on beat 1 of bar 68 (lyric, "A") at second 30.

## "GIMME SHELTER"

## Sound Recording (Exhibit D, Track 3)

_		_			
WOOD VG AMTGG	INDON INDON	<ul> <li>"It's just a shot away"</li> </ul>	<ul> <li>First iteration at minute 1, second 12</li> </ul>	Occurs 19 times	
		75			_
a di kana i kanan	SIRUCIORE	<ul> <li>Intro/ Verse 1/ Chorus 1/ Verse 2/ Chorus 2/</li> </ul>	Instrumental interlude/ Chorus 3/ Verse 3/	Chorus 4/ Coda	
INOTE , CITYO	NOT I SYOU	4 minutes, 31 seconds			

## Mastertone (Exhibit D, Track 4)

	SEGMENT USED	ITERATION USED	BEGINNING POINT	BEGINNING POINT CONCLUSION POINT	COMMENTS
30 seconds <sup>2</sup>	"War, children, it's just a shot away,	First and second     iterations of the	• Minute 1, second 08	• Minute 1, second 16	Iteration containing simplest
	it's just a shot	hook			accompanimental material
•	Beginning of Chorus 1				
	Includes two iterations of the				

Duration and timing indications are according to Windows Media Player timer, which approximates to the whole second.

This mastertone is repeated twice consecutively, followed by a brief pause, then repeated twice consecutively again. The fourth and final repeat is incomplete, ending on beat 3 of bar 35 (lyric, "shot") at second 30.