Composition Portfolio

by
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Submitted in partial fulfilment of the requirements for the degree of Master of Music in the Department of Music University of Natal Durban.

August 1994
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Ninja Roller Rink

1. Introduction

This portfolio of compositions attempts to illustrate the relationship between music and sound effects in scoring for film and will ideally be read in conjunction with my thesis, The Relationships between sound effects and music in post 1960 popular Hollywood film.

This work should be viewed as 'applied' music as my ability as a composer to emulate and apply various styles of composition, first and foremost demonstrated here, is more of an asset to filmic composition than my ability to conceive of original compositional ideas.

My role in this work though, is extended beyond providing musical composition. My input would fall under the relatively new concept of 'sound designer,' as I assumed responsibility for many more facets of the audio content. I recorded, edited, assembled, and performed all of the sound effects, as well as some of the Foley and was entirely responsible for the mixing and recording of the audio material.

2. The Production Reels

I obtained a copy of a number of production reels of a film called The Ninja from Panorama Sound in Halfway House. This film was produced by Cannon in South Africa and was released in 1992.

Production reels are a roughly edited version containing only the production sound which is recorded on set as the film is being shot. Music, sound effects and often parts of the dialogue are missing from the production reels.

I chose this particular sequence because it demonstrates a need for sound effects and music for a period of well over four minutes.
The uneven cutting and editing on these reels posed some problems which I attempted to overcome through the use of music and sound effects. For reference purposes I have provided a copy of the original production reel sequence at the end of the video accompanying tape (Appendix D).

3. Technical Set-up

At the outset of writing music for film is the understanding of how the music relates to the timing of visual events. On the music editor's timing sheets are listed the film events and their exact timings. The events which need to be synchronized must be marked and an appropriate tempo chosen so as to 'hit' as many of the marked events as possible on the beat. A sketch must then be prepared on blank music paper with the film events expressed in music notation above each barline at the relevant beats. The scene descriptions and event timings should also be written in.

For this portfolio, I had to assemble the timing sheets and carry out all of the necessary calculations a music editor would usually do. As film timing calculations are of a purely mathematical nature, there are certain aids available to make the task somewhat easier to perform. The most common traditional method is the 'click book' which enables one to calculate the music notation values of events at specific tempos. Each page lists a table of timings at a different tempo setting of a digital metronome or variable click generator.

More recently, computers are being used to aid the process of working out the timings using a timecode. SMPTE timecode is the standard method used to enable each frame to have a different absolute time which is represented by an eight digit number, for example 06:02:11:19. The first two numbers refer to hours, the next two to the minutes, then the seconds and then the frame number. There can be either 24(film), 25(PAL and EBU standard for European [and South African] television), 29.97(NTSC system) or 30 frames per second.

SMPTE can be 'burned in' where it appears visually in a small box on the screen as it is for The Ninja. This allows the composer to visually reference each frame and event. SMPTE recorded as an audio computer generated signal can be recorded as lateral time code (LTC) or vertical time code (VTC).
The audio SMPTE signal can then be used to synchronize various pieces of equipment to the film. SMPTE thus provides each and every frame with an absolute time so that all the elements of the film audio process may remain referenced in accurate synchronization.

The software I used to perform the timing calculations is called 'Cue' by Opcode. 'Cue' requires that the exact timings and descriptions of the events which the composer deems as important to the music be typed into the computer via the following dialogue box:

<table>
<thead>
<tr>
<th>Time</th>
<th>Key Hit</th>
<th>CAM</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>00:00:00:00</td>
<td></td>
<td></td>
<td>Start of Cue.</td>
</tr>
</tbody>
</table>

Stop Watch
Move
Default Streamer

The computer will then calculate at which tempos the highest percentage of events will fall on various stipulated beats of the bar. Once the composer has chosen the tempo, 'Cue' will print out a cue sheet (I have inserted cue sheets before each version) listing the events in order of occurrence and a five stave score page (on which the music for this portfolio is written) indicating the events in relation to the beats. Thus, the composer is continually aware of where and when the film events occur in relation to the music.

The computer sequencer I used is called 'Performer' by Mark of the Unicorn. Performer can record a musical performance via a MIDI controller (a keyboard or synthesizer for example) and allows the composer to store and process any aspect of the performance. It works much like a multi-track tape recorder.

---

1 On an Apple Macintosh computer, a dialogue box is a window in which information is to be entered by the user.
2 Musical Instrument Digital Interface allows instruments and computers to communicate the physics of a musical performance, i.e., the pitches, durations, volumes, dynamics, modulations, timbres etc.
except only the digitized instructions for the performance and not actual audio information is recorded by the sequencer. On play-back, the sequencer returns the instructions to a synthesizer, and in effect, 'plays' the synthesizer in much the same way that a piano roll would 'play' a player piano.

The hardware set-up is illustrated in the diagram 'Appendix A'. Recorded on the first audio channel of the production video tape is the production sound and on the second channel is the SMPTE timecode. The SMPTE synchronizer receives this signal and in turn 'locks' the computer sequencer to this signal. This ensures that the sequencer is in sync with the production copy. The computer transfers the data of the musical performances to the MIDI interface which then sends the information via MIDI cables to the relevant synthesizers or sampler.

The audio outputs from the synthesizers and sampler were fed into separate channels on the mixing desk at which point the volume and equalization parameters for each sound could be independently manipulated to achieve a well balanced mix. The effects processor was used to add a variable amount of reverberation to each channel. The mixed composite audio output signal was then fed into video machine 2 where it was recorded simultaneously with the picture from video machine 1.

4. The Composer as Sound Effects Editor

The sound effects heard in all of the six cues were assembled by recording, sampling and editing appropriate sound material. (Appendix B is a list of all the sound effects used and their original source). This process began with a recording of the source sound on a tape recorder which was then transferred\(^1\) into a sampler. In order to edit the samples, they were further transferred to the computer, and using 'Alchemy' by Passport, the samples could then be edited as graphic waveforms:

\(^1\)The sampling process analyses and digitizes an audio signal. Audio is thus stored as a series of digits in the digital domain.
Many editing functions could be graphically executed, such as pitch, amplitude and timbre manipulation. Once the desired sound effect had been achieved, it was transferred back to the sampler and could be controlled from the sequencer.

I attempted to achieve the greatest possible 'filmic realism' in the sound effects as opposed to absolute realism; a punch does not sound like that in real life but due to the conditioning of our entertainment environment, we have acquired many non-realistic expectations which are subconsciously perceived as realistic. The first four cues include all of the 'expected' sound effects in a fairly traditional web of interaction with the music. Here, the sound effects function on a separate audio level which may bear spatial relationships to the music. Out of necessity, I also performed some Foley for this portfolio. The footsteps heard as the Ninja is walking through the doorway is an example of this.

5. The Composer as Sound Designer

The audio contents of a film consists of several tracks of music, sound effects, ambiances, foley and dialogue which are traditionally created and supervised by different specialists. At the final mixing session however, decisions relating to the relative placement, volume and function of the component tracks are often made without the specialist's input. This method often leads to an inefficient
audio track where the components may unnecessarily mask or obscure one another's functions, rather than to compliment each other.

A sound designer in contemporary film production oversees all of the audio tracks, though he or she may not necessarily be the composer or sound effects editor. My function throughout this portfolio was that of sound designer.

The last two versions of the cue demonstrate an attempt to synthesize and musicalize the sound effects in order to embed them more in the musical context. I set out to achieve this by synthesizing original sounds with a view to them being able to function simultaneously as music and sound effects. In the discussions of the individual cues, I have attempted to be as graphically descriptive as possible in naming these synthesized sounds.

6. **Stylistic Considerations**

I composed six different pieces of music (Ninja Roller Rink Versions 1 through 6) for the same film scene in order to make stylistic comparisons possible. Although, as I stated earlier, these cues are more stylistic emulations than they are original compositions, they are still indicative of my compositional style and bear many of my 'trademarks' as a composer.

The first two cues are orchestral and would ideally be performed acoustically. As this was not possible for financial reasons, I was forced to synthesize the orchestral scores. I tried as far as possible to ignore the sound effects placement as I composed these two cues, in order to simulate the all too familiar situation where the composer is not in contact with the sound effects editor and is therefore not aware of the sound effects placement.

As a result of this, the sound effects and music obstructed one another in places and I administered the usual Hollywood remedy of altering their relative volumes during the mix down session. Stylistically, these two cues are of the 'golden age of Hollywood' style which favoured neo-romantic composition, large orchestras and 'wall to wall' music throughout the film. This style is still very much in vogue in contemporary scores such as _Jurassic Park_ by John Williams and Coppola's _Dracula_ by Woyczech Kilar and many others.
I set out to add an 'oriental flavour' to Version 1 by using the alto flute in its lowest octave. The harp is used in a koto-like manner by using acciaccatura notes an octave above. The addition of percussive instruments like the marimba, the woodblock, a small tom-tom and cymbal add to the 'oriental flavour'. The harmonic structures are based on the phrygian and locrian modes with no overall key centre.

Version 2 is at a tempo of 136.85 quarter notes per minute which is the tempo calculated by 'Cue' to hit the most possible cue points on the beat. The music for Version 2 tends to poke fun at the visuals in places and is fairly 'tounge-in-cheek' so the viewer is not easily able to take the drama of the cue seriously.

The next two cues are in a style which appeared in the 1960's utilizing popular music techniques and trends. Typically, this style would require a basic rhythm section (drums, bass and guitar) augmented by synthesizers and acoustic solo instruments such as flutes or saxophones. During the compositional process of these two cues, I took care to allow the music and sound effects to co-exist without competing for audio space. ie., I composed around the sound effects.

Both these cues are based on repeating percussion patterns to give them a contemporary rock flavour somewhat reminiscent of the current trend in television action dramas epitomized by the Miami Vice series. The Karate Kid trilogy scored by Bill Conti is another good example of this style.

The opening sixty three bars of Version 3 are in free tempo although the score is marked at 150.6 quarter notes per minute from beginning to end. The notation of this section is therefore a rough representation of the music in relation to the above-mentioned tempo and a 4/4 time signature. This cue is scored in the key of C minor (aeolian) with no key changes or tonal deviations. The harmonic and melodic simplicity is fundamental to the popular 'rock' sound of this cue.

The first 19 bars of Version 4 are recorded at a relatively low volume and with the higher and lower frequency contents filtered out by means of the equalizer on the mixing desk. This section may be heard as source music as it starts at
the point where the Ninja bends down, possibly turning the radio on. At bar 19 the sitar suddenly sounds at full volume and with all of its frequency content, and at the same point as the second cut to the painting. The rest of the ensemble follows suit in bar 22 at the cut to the passage, making it obvious that the music is underscoring and not source music.

The final two cues are completely synthesized and do not use simulations of acoustic instruments but rather original electronic sounds. The compositional emphasis here is on the textural elements rather than on melody, harmony or counterpoint. The rhythmic component of these cues is based on the rollerskating sound effect which is four beats in duration and is 'looped' so that the same bar of sound effect is repeated without any break.

This gives this sound effect an inherent beat, pulse or tempo from which I calculated the tempos of these two cues. It stands to reason that the higher the play-back pitch of this sound effect, the faster it's inherent tempo will be, and visa versa.

I did not use the 'Cue' programme to calculate tempo and hit points as the tempo was dictated by other considerations and the music was composed and played directly into the computer while I watched the video. Very little of these two cues was pre-orchestrated and a largely improvisation based form of composition was adopted.

This style is less frequently found in contemporary popular Hollywood film than the previously mentioned styles. *Forbidden Planet* (1956) was one of the first examples of a completely synthesized score in Hollywood and more recent examples are *Apocalypse Now, Blade Runner,* and many examples to be found in the science fiction and horror genres.

The first part of Version 5 has no sense of tempo but is loosely notated at 120 beats per minute. In bar 58 the tempo changes to 138 beats per minute and the looped roller skating sound effect begins. As a consequence of the loop, the sound effect sets up a distinct rhythm in 4/4 time which is subsequently expanded upon by the addition of other instruments.
Much of the melodic and harmonic material for Version 6 is based on the following twelve tone row:

![Twelve tone row diagram]

Throughout this cue I have purposely avoided the usual development of the twelve tone row found in 'serious' concert hall serial composition in order to make recognisable the fact that the same melodic material weaves this entire cue together into a coherent musical composition. This composition might be called a twelve-tone pasacaglia.
Ninja Roller Rink

Version 1
Production: **Ninja**

Cue: "**Roller Rink: Version 1**"

Starting Tempo: **93.00 (B.P.M.)**

Begins at **e6:00:49:05**

---

**ABS. SMPTE #25:**  
**REL. TIME:**  
**SMPTE #(25):**  
**REL. TIME:**  

---8 WARNING CLICKS BEGIN AT e6:00:44:01---

**METER:** \(\frac{4}{4}\)

**BAR-BEAT:**

- **1-1**
- **4-2+\(\frac{1}{4}\)**
- **6-1**
- **7-1+\(\frac{1}{4}\)**
- **10-1+\(\frac{3}{8}\)**
- **12-1**
- **14-3+\(\frac{3}{8}\)**
- **15-4+\(\frac{3}{8}\)**
- **21-2+\(\frac{3}{4}\)**
- **23-3+\(\frac{3}{4}\)**
- **27-2+\(\frac{3}{4}\)**
- **34-3+\(\frac{3}{4}\)**
- **34-4+\(\frac{3}{4}\)**
- **35-3+\(\frac{3}{4}\)**
- **37-1+\(\frac{3}{8}\)**
- **43-2+\(\frac{1}{4}\)**
- **45-2+\(\frac{1}{4}\)**
- **46-1+\(\frac{1}{4}\)**
- **47-1+\(\frac{3}{4}\)**
- **47-4+\(\frac{1}{4}\)**
- **64-1+\(\frac{1}{4}\)**
- **64-4+\(\frac{1}{4}\)**
- **65-3**
- **72-4+\(\frac{3}{4}\)**

---
e6:03:57:03  3:07.92  CUT  CU Roller knives
e6:04:03:00  3:13.80  Fight scene begins
e6:04:22:01  3:32.84  Draws sword
e6:04:39:20  3:50.60  Throws sword
e6:04:40:18  3:51.52  ✔  CUT  Sword hits trip
e6:04:44:00  3:54.80  Trip back on
e6:04:44:19  3:55.56  Center spot on
e6:04:47:10  3:58.20  Side spots on
e6:04:52:08  4:03.12  CUT  Outside Pan.
e6:05:13:15  4:24.40  Ninja behind bush
e6:05:15:00  4:25.80  End of cue

TOTAL TIME - 4:25.80

END CUE Roller Rink: Version 1
NOW THINGS ARE LOOK...

"I THINK WE SHOULD CH...

CU PAINTING #2

MS TO DARK PASSAGE
Ninja Roller Rink

Version 2
Production: Ninja
Cue: "Roller Rink: Version 2" Starting Tempo: 136.85 (B.P.M.)
Begins at e6:00:49:05

ABS. SMPTE #25: REL. TIME: --- 8 WARNING CLICKS BEGIN AT e6:00:45:17 --- BAR-BEAT:
e6:00:49:05 0.00 ✓ CUT Start of cue-Hotel room 1- 1
e6:00:58:03 8.92 Notices the letter 6- 1 +3
e6:01:02:02 12.88 Lifts note up 8- 2 +3
e6:01:05:00 15.80 "You are in terrible danger" 10- 1
e6:01:12:14 23.36 "Now things are looking up..." 14- 2 +8
e6:01:17:15 28.40 "I think we should check out that fort..." 17- 1 +4
e6:01:24:07 35.08 CUT Painting #2 21- 1
e6:01:27:20 38.60 ✓ CUT MS to dark passage 23- 1
e6:01:41:18 52.52 Neck break 30- 4 +3
e6:01:47:12 58.28 ✓ CUT LS Hall-Light fades in 34- 2
e6:01:57:09 1:08.16 CUT LS Ninja walking 39- 4 +4
e6:02:15:22 1:26.68 Door starts closing 50- 2 +4
e6:02:16:22 1:27.68 ✓ Door slams shut 51- 1
e6:02:18:13 1:29.32 Light goes on 51- 4 +4
e6:02:20:10 1:31.20 ✓ CUT CU Ninja looking up 53- 1
e6:02:22:08 1:33.12 CUT LS Rising shot-Light fades in 54- 1 +3
e6:02:38:10 1:49.20 CUT CU "Hoi!"-Fast head turn 63- 2
e6:02:41:03 1:51.92 CUT Shot through open legs 64- 4 +4
e6:02:42:24 1:53.76 CUT LS Hall 65- 4 +4
e6:02:43:19 1:54.56 CUT CU "Hey!"-Arms down 66- 2 +4
e6:02:45:11 1:56.24 CUT CU Roller knives 67- 2
e6:02:48:03 1:58.92 CUT CU Roller knives 68- 4 +4
e6:02:50:00 2:00.80 CUT LS "Sal"-Skaters move 69- 4 +4
e6:03:32:07 2:43.08 CUT MCU Man in white suit 94- 1
e6:03:34:00  2:44.80  "Hey you"
e6:03:35:15  2:46.40  "Identify yourself"
e6:03:54:15  3:05.40  "Get Him"
e6:03:56:11  3:07.24  CUT  Shot through legs-ninjas approaching
e6:03:57:03  3:07.92  CUT  CU Roller knives
e6:04:03:00  3:13.80  Fight scene begins
e6:04:11:00  3:21.80  ✔️  Last body fall
e6:04:22:01  3:32.84  Draws sword
e6:04:27:15  3:38.40  ✔️  CUT  MCU Sword reflection
e6:04:39:20  3:50.60  Throws sword
e6:04:40:18  3:51.52  ✔️  CUT  Sword hits trip
e6:04:44:00  3:54.80  Trip back on
e6:04:52:08  4:03.12  ✔️  CUT  Outside to Pan
e6:05:13:15  4:24.40  Ninja behind bush
e6:05:16:00  4:26.80  End of Cue.

TOTAL TIME - 4:26.80

END CUE Roller Rink: Version 2
"YOU ARE IN TERRIBLE...

"NOW THINGS ARE LOOK..."
"I THINK WE SOUND CH...

PAINTING #2

MS TO DARK PASSAGE
Production: **Ninja**  
Cue: **Roller Rink: Version 2**  
(Tempo Format: B.P.M)

Page 14  
15/7/94 03:17 PM

---


Notes:
- 3:02.38 417
- 3:04.14 421
- 3:05.89 425
- 3:07.65 429
- 3:09.40 433
- 3:11.15 437
- 3:12.91 441
- 3:14.66 445

Cues:
- B3.07
- B3.08
- B3.09
- B3.10

Actions:
- "GET HIM"
- SHOT THROUGH LEGS--M--
- FIGHT SCENE BEGINS

---

*Note: The image contains musical notation and annotations related to a cue for a production.*
Ninja Roller Rink

Version 3

Sound key:

1- Guito-Koto
2- Pan Flute
3- Silky Sitar
4- Talking Drum
5- Claves
6- Reversed Cymbal
7- The Drone
8- Light Drops
9- Shaker
10- Xylo-Flute
11- Plastic Drum
12- Hi Hat
13- Tent Poles
14- Log Drum
15- Marimba
16- Quick Voice
Production: **Ninja**  
Cue: "Roller Rink: Version 3"  
Starting Tempo: **150.60 (B.P.M.)**  
Begins at **e6:00:58:00**

<table>
<thead>
<tr>
<th>REL. TIME</th>
<th>BAR-BEAT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>---8 WARNING CLICKS BEGIN AT e6:00:54:20---</strong></td>
<td><strong>1-1</strong></td>
</tr>
<tr>
<td><strong>Meter:</strong> 4/4</td>
<td><strong>3-3+B</strong></td>
</tr>
<tr>
<td>e6:00:58:00 0.00</td>
<td>Start of cue-Notices the letter</td>
</tr>
<tr>
<td>e6:01:02:02 4.08</td>
<td>Lifts note up</td>
</tr>
<tr>
<td>e6:01:05:00 7.00</td>
<td>&quot;You are in terrible danger&quot;</td>
</tr>
<tr>
<td>e6:01:12:14 14.56</td>
<td>&quot;Now things are looking up...&quot;</td>
</tr>
<tr>
<td>e6:01:19:03 21.12</td>
<td>Cuts Painting #1-&quot;...fort first&quot;</td>
</tr>
<tr>
<td>e6:01:24:07 26.28</td>
<td>Cuts Painting #2</td>
</tr>
<tr>
<td>e6:01:27:20 29.80</td>
<td>MS to dark passage</td>
</tr>
<tr>
<td>e6:01:41:18 43.72</td>
<td>Neck break</td>
</tr>
<tr>
<td>e6:01:47:10 49.40</td>
<td>LS Hall-Light fades in</td>
</tr>
<tr>
<td>e6:01:57:09 59.36</td>
<td>LS Ninja walking</td>
</tr>
<tr>
<td>e6:02:15:22 1:17.88</td>
<td>Door starts closing</td>
</tr>
<tr>
<td>e6:02:16:22 1:18.88</td>
<td>Door slams shut</td>
</tr>
<tr>
<td>e6:02:18:13 1:20.52</td>
<td>Light goes on</td>
</tr>
<tr>
<td>e6:02:38:10 1:40.40</td>
<td>CU &quot;Ho!&quot;-Fast head turn</td>
</tr>
<tr>
<td>e6:02:42:24 1:44.96</td>
<td>LS Hall</td>
</tr>
<tr>
<td>e6:02:43:19 1:45.76</td>
<td>CU&quot;Hey!&quot;-Arms down</td>
</tr>
<tr>
<td>e6:02:45:11 1:47.44</td>
<td>CU Roller knives</td>
</tr>
<tr>
<td>e6:02:47:12 1:49.48</td>
<td>CU Ninja's face</td>
</tr>
<tr>
<td>Time</td>
<td>Duration</td>
</tr>
<tr>
<td>------------</td>
<td>----------</td>
</tr>
<tr>
<td>e6:02:48:03</td>
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<tr>
<td>e6:02:50:00</td>
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<tr>
<td>e6:03:32:07</td>
<td>2:34.28</td>
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<td>e6:03:34:00</td>
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<tr>
<td>e6:04:40:18</td>
<td>3:42.72</td>
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</table>

TOTAL TIME - 3:42.72

END CUE Roller Rink: Version 3
Production: Ninja  
Cue: Roller Rink: Version 3  
(Tempo Format: B.P.M)  
Page 1  15/7/94  03:00 PM  

150.60  

0.00  1.59  3.18  4.78  
150.60  

0.00  1.59  3.18  4.78  

START OF CUE-NOTICES...  

LIFTS NOTE UP  

YOU ARE IN TERRIBLE...  

...
12.75  
14.34  
15.93  
17.53  

"NOW THINGS ARE LOOK..."

B1.03

19.12  
21.11  
22.70  

PAINTING #1...FORT...

58
14
54
15
Production: Ninja  Cue: Roller Rink: Version 3 (Tempo Format: B.P.M)
Page 6  15/7/94  03:00 PM
Production: **Ninja**  
Cue: **Roller Rink: Version 3**  
(Tempo Format: B.P.M)
Ninja Roller Rink

Version 4

Sound Key:

1- Koto
2- Reed Piper
3- Sitar
4- Breathy Organ
5- Marimba
6- Conga Tones
7- Bass Harmonics
8- Filter Sweep
9- Low Pad
10- Choir
11- Koto Tremolo
12- Jail Drone
13- Metal Hits
14- Slap Bass
15- Dreamy Synthesizer
16- Soft Flute
17- Toms
Production: **Ninja**  
Cue: "**Roller Rink: Version 4**"  
Starting Tempo: **168.90 (B.P.M.)**  
Begins at **e6:00:58:00**

---8 WARNING CLICKS BEGIN AT e6:00:55:04---

**METER:** 4

**BAR-BEAT:**

<table>
<thead>
<tr>
<th>ABS. SMPTE #25</th>
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<th>ACTION</th>
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<td>Start cue-Notices the letter</td>
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<td>e6:01:02:02</td>
<td>4.08</td>
<td>Lifts note up</td>
</tr>
<tr>
<td>e6:01:05:00</td>
<td>7.00</td>
<td>&quot;You are in terrible danger&quot;</td>
</tr>
<tr>
<td>e6:01:12:14</td>
<td>14.56</td>
<td>&quot;Now things are looking up...&quot;</td>
</tr>
<tr>
<td>e6:01:17:15</td>
<td>19.60</td>
<td>&quot;I think we should check out that fort...&quot;</td>
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<td>CUT Painting #2</td>
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<td>29.80</td>
<td>CUT MS to dark passage</td>
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<tr>
<td>e6:01:41:18</td>
<td>43.72</td>
<td>Neck break</td>
</tr>
<tr>
<td>e6:01:47:10</td>
<td>49.40</td>
<td>CUT LS Hall-Light fades in</td>
</tr>
<tr>
<td>e6:01:57:09</td>
<td>59.36</td>
<td>CUT LS Ninja walking</td>
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<tr>
<td>e6:02:16:22</td>
<td>1:18.88</td>
<td>Door starts closing</td>
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<tr>
<td>e6:02:18:13</td>
<td>1:20.52</td>
<td>Door slams shut</td>
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<td>e6:02:28:08</td>
<td>1:24.32</td>
<td>Light goes on</td>
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<td>e6:02:27:19</td>
<td>1:29.76</td>
<td>CUT LS Rising shot-Light fades in</td>
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<tr>
<td>e6:02:29:15</td>
<td>1:31.60</td>
<td>CUT CU Ninja eyes</td>
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<tr>
<td>e6:02:34:19</td>
<td>1:36.76</td>
<td>CUT LS Hall-still rising</td>
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<td>e6:02:38:10</td>
<td>1:40.40</td>
<td>CUT CU &quot;Ho!&quot;-Fast head turn</td>
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<td>e6:02:43:00</td>
<td>1:45.00</td>
<td>LS Ninja encircled</td>
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<td>e6:02:43:19</td>
<td>1:45.76</td>
<td>CU &quot;Hey!&quot;-Arms down</td>
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<td>e6:02:45:11</td>
<td>1:47.44</td>
<td>CUT CU Roller knives</td>
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<td>e6:02:47:12</td>
<td>1:49.48</td>
<td>CUT CU Ninja's face</td>
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e6:02:48:03 1:50.12  CUT  CU Roller knives
METER CHANGE: 3/4

e6:02:50:00 1:52.00  ✔ CUT  LS Hall-Skaters move
METER CHANGE: 5/4
METER CHANGE: 6/4
METER CHANGE: 4/4

e6:03:32:07 2:34.28  CUT  MCU Man in white suit

e6:03:34:00 2:36.00  "Hey you"

e6:03:35:15 2:37.60  "Identify yourself"
METER CHANGE: 5/4

e6:03:54:15 2:56.60  "Get Him"

e6:03:55:07 2:57.28  ✔ CUT  CU Ninja

e6:03:57:03 2:59.12  CUT  CU Roller knives

e6:04:00:00 3:02.00  Fight scene begins

e6:04:03:00 3:05.00  Fist

e6:04:12:18 3:14.72  CUT  LS Hall-Fight scene ends
METER CHANGE: 4/4

e6:04:22:01 3:24.04  Draws sword

e6:04:39:20 3:41.80  Throws sword

e6:04:40:18 3:42.72  ✔ CUT  Sword hits trip-End of cue

TOTAL TIME - 3:42.72

END CUE Roller Rink: Version 4
Production: **Ninja** Cue: **Roller Rink: Version 4** (Tempo Format: B.P.M)

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---

"NOW THINGS ARE LOOK...

"I THINK WE SHOULD GO..."
Production: **Ninja**  
Cue: **Roller Rink: Version 4**  
(Tempo Format: B.P.M)  
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B4.66

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LS RISING SHOT

B2.67

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CU NINJA EYES
### Production: Ninja
#### Cue: Roller Rink: Version 4
(Tempo Format: B.P.M)

**Page 15 15/7/94 03:01 PM**

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<td>447</td>
<td>2:39.86</td>
<td>451</td>
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<td>105</td>
<td>&quot;HEY YOU&quot;</td>
<td>106</td>
<td>&quot;IDENTIFY YOURSELF&quot;</td>
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### Time Signature: 2:12

#### B.5

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### Time Signature: 8:63

#### B.5

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<td>2:44.12</td>
<td>463</td>
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<td>2:45.54</td>
<td>467</td>
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### Additional Information

- **Tempo Format:** B.P.M
- **Page 15:** 15/7/94 03:01 PM
- **Production:** Ninja
- **Cue:** Roller Rink: Version 4
- **Notes:** Various musical notations and time signatures are present, indicating different sections of the music track.
Production: Ninja  Cue: Roller Rink: Version 4  (Tempo Format: B.P.M)
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DRUMS

"GET HIM"

B4.12
production: ninja  cue: roller rink: version 4 (tempo format: b.p.m)
Ninja Roller Rink

Version 5

Sound Key:

1- Embered Tines
2- Space Guitar
3- Super Gong
4- Silky Cello
5- Filter Sweep
6- Future Cave
7- Lights On
8- Harmonic Bells
9- Falling Gong
10- Dreamy Strings
11- Koto-ish
12- Hissing Beast
13- Mongol Drum
14- Shaker
15- Bass Drum
16- Congas
17- Woodblock
18- Cowbell
19- Electric Harmonica
20- Crying Choir
21- Toms
22- Shimmering Lights
Production: **Ninja**
Cue: **"Roller Rink: Version 5"** Starting Tempo: **120.00 (B.P.M.)**
Begins at **e6:00:58:00**

---8 WARNING CLICKS BEGIN AT e6:00:54:00---

<table>
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<tr>
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<td>e6:01:02:02</td>
<td>4.08</td>
<td>3- 1 +\frac{1}{4}</td>
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<tr>
<td>e6:01:05:00</td>
<td>7.00</td>
<td>4- 3</td>
</tr>
<tr>
<td>e6:01:12:14</td>
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<td>8- 2</td>
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<tr>
<td>e6:01:17:15</td>
<td>19.60</td>
<td>10- 4 +\frac{3}{4}</td>
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<td>14- 1 +\frac{1}{4}</td>
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<td>22- 4 +\frac{1}{4}</td>
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<td>25- 3 +\frac{1}{4}</td>
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- METER CHANGE: **\frac{4}{4}**
- BAR-BEAT:

- Painted #2
- MS to dark passage
- Neck break
- LS Hall-Light fades in
- LS Ninja walking
- Door starts closing
- Door slams shut
- LS Rising shot-Light fades in
- LS Hall
- CU Ninja
- CU Fast head turn
- LS Arms down
- CU Arms down
- CU Roller knives
- METER CHANGE: **\frac{2}{4}**
- CU Roller knives
- CU Ninja's face
- LS Hall-Skaters move
<table>
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<td>( THE TEMPO CHANGES TO 138.00 ON THIS CLICK )</td>
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<tr>
<td>e6:03:32:07</td>
<td>2:34.28</td>
<td>CUT MCU Man in white suit</td>
</tr>
<tr>
<td>e6:03:34:00</td>
<td>2:36.00</td>
<td>&quot;Hey you&quot;</td>
</tr>
<tr>
<td>e6:03:35:15</td>
<td>2:37.60</td>
<td>&quot;Identify yourself&quot;</td>
</tr>
<tr>
<td>e6:03:54:15</td>
<td>2:56.60</td>
<td>&quot;Get Him&quot;</td>
</tr>
<tr>
<td>e6:03:55:07</td>
<td>2:57.28</td>
<td>✔ CUT CU Ninja</td>
</tr>
<tr>
<td>e6:03:56:11</td>
<td>2:58.44</td>
<td>CUT Shot through legs-ninjas approaching</td>
</tr>
<tr>
<td>e6:03:57:03</td>
<td>2:59.12</td>
<td>CUT CU Roller knives</td>
</tr>
<tr>
<td>e6:04:03:00</td>
<td>3:05.00</td>
<td>Fight scene begins</td>
</tr>
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<td>e6:04:12:18</td>
<td>3:14.72</td>
<td>✔ CUT LS hall-Fight scene ends</td>
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<td>Draws sword</td>
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<td>e6:04:27:15</td>
<td>3:29.60</td>
<td>CUT MCU Sword reflection</td>
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<td>3:41.80</td>
<td>Throws sword</td>
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<td>3:42.72</td>
<td>CUT Sword hits trip</td>
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<td>Trip back on</td>
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<td>Center spot on</td>
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<td>e6:04:47:10</td>
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<td>Side spots on</td>
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<td>CUT Outside to Pan</td>
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<td>e6:05:13:15</td>
<td>4:15.60</td>
<td>✔ Ninja behind bush</td>
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TOTAL TIME - 4:22.00

END CUE Roller Rink: Version 5
Production: **Ninja**  
Cue: **Roller Rink: Version 5** (Tempo Format: B.P.M)
"I think we should..."
Production: Ninja  Cue: Roller Rink: Version 5  (Tempo Format: B.P.M)

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3:00.95  3:02.69  3:04.43  3:06.17
97 98 99 100

FIGHT SCENE BEGINS

101 102 103 104

DRUMS
CONTINUE ➔
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**Notes:***
- 21(1)
- 13
- 12
- 16

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**Notes:**
- 22
- 17

**Action:** Draws sword

**Tempo Format:** S.P.M
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Ninja Roller Rink

Version 6

Sound Key:

1- Wine Glass
2- Water Choir
3- Hit 'n Drone
4- Electric Gate Drone
5- Cuica
6- Power Station
7- Dreamy Glock
8- Rising Filter
9- Cave bells
10- Underwater Gong
11- The Drone
12- Monster Drum
13- Metal Dropsz
14- Tribal Drums
15- Stringless Piano
16- Flanged Choir
17- Electric Mosquito
18- Graveyard Choir
19- Leather Vibes
Production: **Ninja**  
Cue: **"Roller Rink: Version 6"**  
Starting Tempo: **158.50 (B.P.M.)**  
Begins at e6:00:58:00

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<td>29.80</td>
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<td>e6:01:41:18</td>
<td>43.72</td>
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<tr>
<td>e6:01:47:10</td>
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<td>2:36.00</td>
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--- WARNING CLICKS BEGIN AT e6:00:54:24 ---

**METER:** 4

Notices the letter

Start of cue-Lifts note up

"You are in terrible danger"

"Now things are looking up"

CUT Painting #1-"...fort first"

CUT MS to dark passage

Neck break

CUT LS Hall-Light fades in

CUT LS Ninja walking

Door starts closing

Door slams shut

Light goes on

CUT LS Rising shot-Light fades in

CUT CU Fast head turn

CUT Shot through open legs

CUT LS Hall

CUT CU Arms down

CUT CU Roller knives

CUT CU Roller knives

CUT LS Hall-Skaters move

**METER CHANGE:** 2

**METER CHANGE:** 4

CUT MCU Man in white suit

"Hey you"

--- BAR-BEAT: ---

1- 1

3- 3 +

5- 3 +

10- 3 +

14- 4 +

20- 3 +

29- 4 +

33- 3 +

40- 1 +

52- 2 +

53- 1 +

54- 1 +

56- 3 +

67- 2 +

69- 1 +

70- 2 +

70- 4 +

71- 4 +

73- 3 +

74- 4 +

75- 1

76- 1

103- 2 +

104- 3
"Identify yourself"
Slams fist down

METER CHANGE: \( \frac{2}{4} \)

"Get Him"

METER CHANGE: \( \frac{4}{4} \)

CUT CU Ninja
Shot through legs-ninjas approaching
CU Roller knives
Fight scene begins
MCU Ninja-Fight scene ends
Draws sword
MCU Sword reflection
Throws sword
Sword hits trip
Trip back on
Center spot on
Side spots on
Outside to Pan
Ninja behind bush
End of Cue.

TOTAL TIME - 4:20.00

END CUE Roller Rink: Version 6
NOTICES THE LETTER

"YOU ARE IN TERRIBLE..."
Production: **Ninja**  
Cue: **Roller Rink: Version 6**  
(Tempo Format: B.P.M)
**Ninja** Cue: **Roller Rink: Version 6**  (Tempo Format: B.P.M)

<table>
<thead>
<tr>
<th>Time</th>
<th>Tempo</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>3:12.31</td>
<td>509</td>
<td>129</td>
</tr>
<tr>
<td>3:13.82</td>
<td>513</td>
<td>130</td>
</tr>
<tr>
<td>3:15.34</td>
<td>517</td>
<td>131</td>
</tr>
<tr>
<td>3:16.85</td>
<td>521</td>
<td>132</td>
</tr>
</tbody>
</table>

**MOU NINJA FIGHT SCEN...**

<table>
<thead>
<tr>
<th>Time</th>
<th>Tempo</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>3:18.37</td>
<td>525</td>
<td>133</td>
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<tr>
<td>3:19.88</td>
<td>529</td>
<td>134</td>
</tr>
<tr>
<td>3:21.39</td>
<td>533</td>
<td>135</td>
</tr>
<tr>
<td>3:22.91</td>
<td>537</td>
<td>136</td>
</tr>
</tbody>
</table>

**DRAWS**
Production: **Ninja**  Cue: **Roller Rink: Version 6**  (Tempo Format: B.P.M)

![Music notation diagram]

- **3:36.54**
- **3:38.05**
- **3:39.57**
- **3:41.08**
- **3:42.59**
- **3:44.11**
- **3:45.62**
- **3:47.14**

---

**THROWS SWORD**

---

**SWORD HITS TRIP**

---

**TRIP BACK ON CENTER SPOT ON**
Appendix B: Assembled Sound Effects

<table>
<thead>
<tr>
<th>Sound Effect</th>
<th>Source Sound</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Neck break</td>
<td>Breaking a dry branch</td>
</tr>
<tr>
<td>2) Footsteps</td>
<td>Walking on wooden floor</td>
</tr>
<tr>
<td>3) Doorslam</td>
<td>Metal garage door closing</td>
</tr>
<tr>
<td>4) Shouted karate commands</td>
<td>Karate classes</td>
</tr>
<tr>
<td>5) Flick knives from roller skates</td>
<td>Two large knives scraped together</td>
</tr>
<tr>
<td>6) Sound of moving roller skaters</td>
<td>Sliding shower door</td>
</tr>
<tr>
<td>7) Fist</td>
<td>Vocal imitation</td>
</tr>
<tr>
<td>8) Body falls</td>
<td>Body falling on wooden floor</td>
</tr>
<tr>
<td>9) Groans</td>
<td>Vocal imitation</td>
</tr>
<tr>
<td>10) Kicking sound</td>
<td>Patting my pet dog Max a little harder than usual.</td>
</tr>
<tr>
<td>11) Sword being drawn</td>
<td>Steel fence post scraped along concrete floor</td>
</tr>
<tr>
<td>12) Sword hits trip switch</td>
<td>Heavy knife dropped onto metal plate</td>
</tr>
<tr>
<td>13) Trip switch on</td>
<td>Angle grinder machine startup.</td>
</tr>
<tr>
<td>14) Additional fist and kicking sounds were sampled from the film, Die Hard.</td>
<td></td>
</tr>
</tbody>
</table>
Appendix C: Glossary

ECU-Extreme Close-up Shot
CU-Close-up Shot
MCU-Medium Close-up Shot
MS-Medium Shot
MLS-Medium Long Shot
LS-Long Shot
ELS-Extreme Long Shot
SMPTE-Society of Motion Pictures and Television Engineers