

## Chapter 16. Meeting 16, Interfaces: Turntables

### 16.1. Announcements

- Due Thursday, 12 November: Sonic System project Draft

Bring prototypes, sketches, ideas to class for discussion

### 16.2. The Turntable as an Interface

- Foundations of hip-hop
- Modern turntables and DJ mixers
- Early and modern turntable innovators
- The abstraction of the turntable

### 16.3. People Who Still Live in the Folklore

- People Under the Stairs: hip hop group from Los Angeles consisting of Thes One and Double K
- Folklore as this historical in the foundations of hip-hop
- "... forty days in the studio, struck water from ADATs, on top of a mountain made of milk crates, throwing the tablet down, on top of breaks and dub it to black plates for for the chosen, people who still live in the folklore, of DJ Cool Herc, Bam and Grand Wizard Theodore, before any punk with a keyboard could do it, yo Apache was the @#\$, and every b-boy new it..."  
  
"... and so we do it, cause we follow original rules, when only microphones and old records were tools, flash forward twenty years later, they calling us haters, yo popular rappers call it progress they ain't no greater than late seventies disco..."
- "... yo its number one rap; I'd rather hear an 808 hand clap than that ... .. paying homage to crates ... paying dues "

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- Audio: People Under the Stairs: "Stay Home," Question in the Form of an Answer 2000

## 16.4. The Turntable: A Disc- and Momentum-Based Playback Controller

- 1877: Phonograph
- 1887: Gramophone
- 1948: Columbia releases 33.1/3 RPM LP
- 1969: Technics releases SP-10, first direct drive turntable

Attaches platter directly to the drive without belts

- 1969: Technics releases SP-1100 for larger audience
- 1972: Technics SL-1200

Features variable playback speed slider



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- Using a turntable with a slipmat, easily adjusting playback speed with the hand is possible



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The Baby Scratch: YouTube (<http://www.youtube.com/watch?v=m2SzUmGdCOc>)

The Phazers: YouTube (<http://www.youtube.com/watch?v=2CGnM4OEBdo>)

The Waves: YouTube (<http://www.youtube.com/watch?v=S9bKaqbWtj4>)

## 16.5. The DJ Mixer

- Quickly switch between two sources (two turntables) with a crossfader
- Include toggle switches to mute sources in and out
- Ability to listen to a record before playing it to the audience: cue or phones output
- May include filters, effects, and samplers
- Mackie D2

Features optical cross fader



YouTube ([http://www.youtube.com/watch?v=-XpIvCa\\_U10](http://www.youtube.com/watch?v=-XpIvCa_U10))

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- Numark DXM 09

Features beat-synchronized effects



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- Numark 5000FX

Features integrated sampler



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- Vestax QFO integrates mixer cross fader into turntable



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- Using a turntable with a crossfader (DJ mixer), a wide range of musical gestures are possible  
 The Transformer: YouTube (<http://www.youtube.com/watch?v=m2SzUmGdCOc>)  
 The Chirp (1:05) YouTube (<http://www.youtube.com/watch?v=r928CTdI22A>)  
 The Crab (:48) YouTube (<http://www.youtube.com/watch?v=w5OeaC3rI-A>)

## 16.6. Jamaican Sound Systems

- 1950s: Turntables were very expensive
- People would gather at “community record players” to dance and listen to music
- Clement Dodd (Coxsone) (1932-2004): credited with invention sound-system concept  
 1950s: established the Downbeat Sound System  
 1963: opened Studio One in Kingston, where he later met Bob Marley

- 1960s: Instrumental B-side versions on 45 RPM EPs released by Jamaican record labels
  - DJs such as King Tubby (Osborne Ruddock) (1941-1989) began re-recording (dubbing) and remixing B-sides with creative use of filters, reverb, and other effects
- Musicians and producers such as Augustus Pablo produced albums based on this sound
- Audio: Augustus Pablo: "555 Dub Street," King Tubby Meets Rockers Uptown, 1976
  - DJs such as Ewart Beckford (U-Roy) began to toast over dub instrumentals
  - Jamaican DJs may have been influenced by black American radio DJs who would introduce songs with rhymes

### **16.7. DJ Kool Herc (Clive Campbell)**

- ... people who still live in the folklore, of DJ Cool Herc, Bam and Grand Wizard Theodore...
- 1967: Moves from Jamaica to the Bronx
- Transplanted Jamaican sound-system concepts to Bronx parties
- With MC Coke La Rock, toasted over American funk and disco
- Began experimenting with two turntables, each with the same record

### **16.8. DJ Kool Herc (Clive Campbell): Two Turntables**

- the Merry-Go-Round: cutting back and forth to extend popular beats
- later called break beats
- Audio: Gross, T. 2005b. "Interview on 30 March 2005: Kool Herc: A Founding Father of Hip Hop." National Public Radio. Internet: <http://www.npr.org/templates/story/story.php?storyId=4567450>.



## 16.9. Breakbeats: Apache

- ... yo Apache was the @#\$, and every b-boy new it...
- Matos, M. 2005. "All Roads Lead to Apache." Internet: <http://soul-sides.com/2005/04/all-roads-lead-to-apache.html>.
- 1960: Bert Weedon, song composed by Burt Lancaster
- 1960: Cliff Richard and the Shadows
- 1973: Michael Viner's Incredible Bongo Band, *Bongo Rock*
- 1973: Sugar Hill Gang
- 1996: Future Sound of London, *We Have Explosives*
- 2002: Roots, Thought @ Work

## 16.10. Breakbeats: The Amen Break

- 4-bar drum solo from "Amen Brother," The Winans, B-side, released in 1969
- Harrison, N. 2004. "Can I Get An Amen." Internet: [http://nkhstudio.com/pages/popup\\_amen.html](http://nkhstudio.com/pages/popup_amen.html).

- Original context: The Winstons, “Amen Brother,” B-side, released in 1969
- Used in rap, hip-hop, (ragga) jungle, drum and bass
  - N.W.A: Straight Outta Compton (1989) (3:55-)
  - Mantronix, “King of the Beats” (1990)
  - Shy FX, “Original Nattah” (1994)
  - L Double & Younghead, “New Style” (1996)
- Jeep Commercial from California (2004)

## 16.11. Grand Wizard Theodore

- ... people who still live in the folklore, of DJ Cool Herc, Bam and Grand Wizard Theodore...
- 1970s: pulled a record back to keep its position as his Mom complained about his music (Katz 2004); often credited with inventing the scratch
- Rapid alterations of playback speed: called rubbing, cutting, or scratching
- Added rhythmic emphasis to the rub

## 16.12. Grandmaster Flash (Joseph Saddler)

- Known for rapid mixing and cutting, use of drum machines, and innovating components of the DJ mixer
- Credited for inventing the cross-fader
- the Quick Mix Theory (backspin technique): extending beats as with the Merry-Go-Round
- Developed and extended techniques: punch-phase (clock theory), rub, cut, and scratch
- Grandmaster Flash: The Adventures Of Grandmaster Flash On The Wheels Of Steel (1981)
- Gross, T. 2005a. "Interview on 26 December 2002: DJ and hip-hop forefather Grandmaster Flash." National Public Radio. Internet: <http://www.npr.org/templates/story/story.php?storyId=889654>.

Specifically:

Narration of techniques used in "The Adventures Of Grandmaster Flash On The Wheels Of Steel"

## 16.13. The the DJ as Soloist

- Grandmixer DST
- Audio: Herbie Hancock, "Rock It," 1983
- The song, along with the MTV video, did much to popularize turntablism  
YouTube (<http://www.youtube.com/watch?v=nK0Pi4wC8Hk>)

## 16.14. The Turntablist Transcription Method

- Turntablist LLC. 2005. “TTM: Turntablist Transcription Method.” Internet: <http://ttmethod.com/>.
- Audio samples are shown on the left, as instrument names, or attached to scratch lines
- Time on the x axis with grids for beat divisions
- Blue lines are used to show speed of scratch, where slower scratches are more horizontal
- Transcriptions: Grand Master Flash on the Wheels of Steel  
Transcriptions: Rock It

## 16.15. The Scratch as Rhythm Section

- Audio: Erik B and Rakim: “I Ain't No Joke”, Paid in Full 1987
- Scratching used to alternate with lyrics and percussion

## 16.16. Modern Techniques and the Economy of Resources

- Audio: D-Styles and featuring DJs Melo-D, Babu, and DJ Qbert: “Felonius Funk” 2002
- Use of short spoken passages as motives for extended solos

## 16.17. The Abstraction of the Turntable

- Records are expensive and fragile
- New interfaces attempt to isolate essential features
- New interfaces control digital audio buffers on CDs or computers

## 16.18. The Abstraction of the Turntable: Example

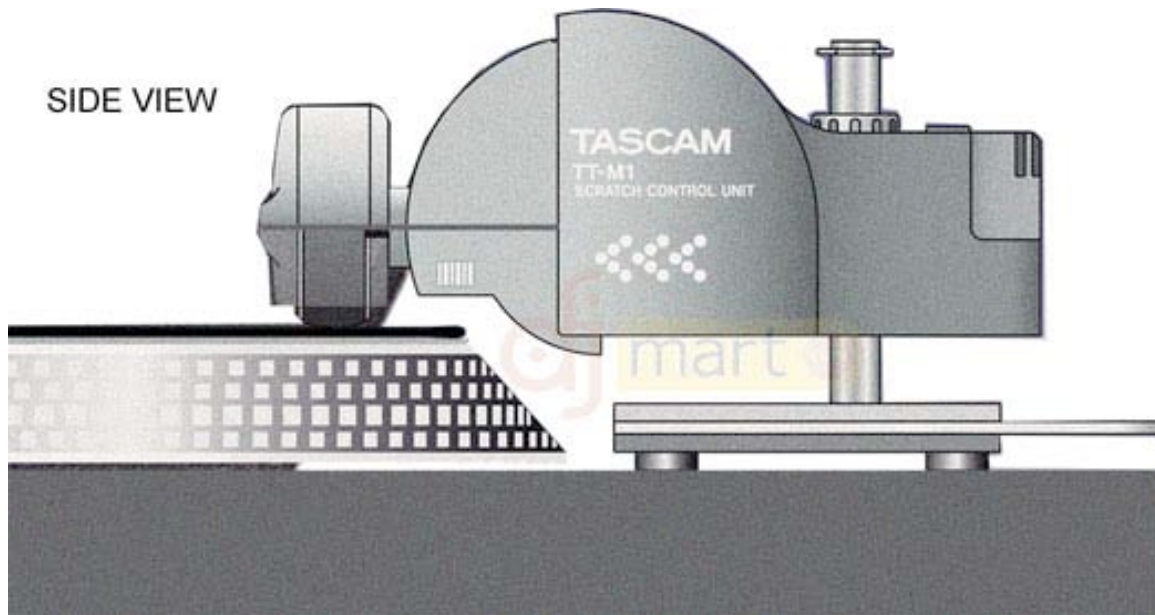
- Technics SL-DZ1200



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## 16.19. The Abstraction of the Turntable: Example

- Tascam TT-M1



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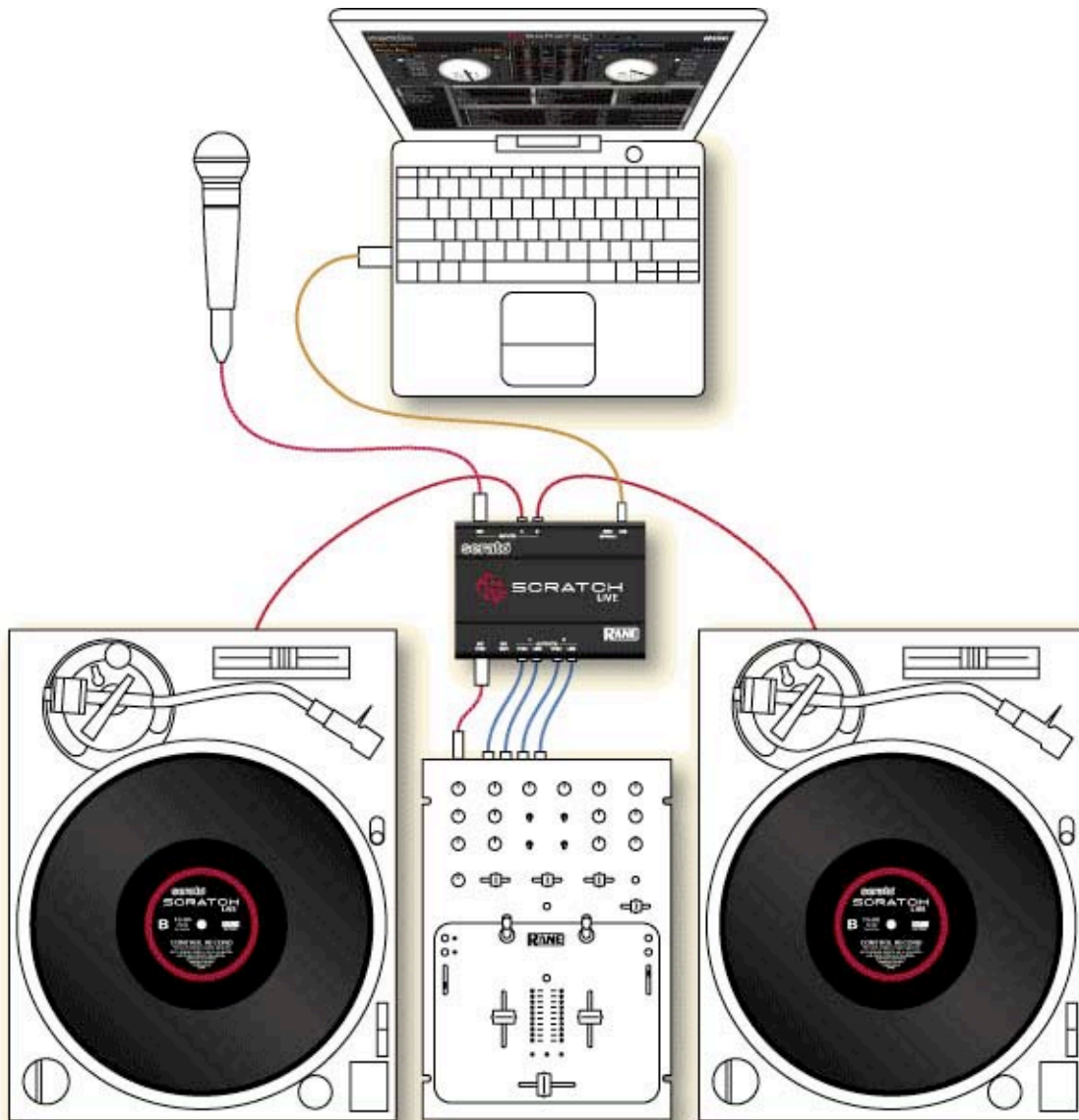
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## 16.20. The Abstraction of the Turntable: Example

- Rane Serato Scratch LIVE system with Control Vinyl



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## 16.21. The Abstraction of the Turntable: Example

- Numark NS7 Turntable Controller (\$1,299)



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## 16.22. From Coercion to Abstraction

- A trajectory of technological change

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