

From Discs to Digital

STUDIO PRACTICE

Well, how did we get here?

- Regardless of their popularity today, every format we will research today played its part in the march towards digital domination.
- Discussion: Think of how people listened to music before the advent of sound recording. Try to put yourself in their place and make a list of the various ways in which you might hear music. Is there a common thread that you can discover about the experience?

You might have thought of the following:

- places of religious worship (singing hymns, listening to the organ, etc.)
- at school (nursery rhymes, group songs and dance)
- in the home (listening to a singer, or instrument, perhaps accompanied by the piano)
- live organised musical events (listening to the band in a local park, going to the music hall, a classical concert or a musical theatre performance, for example)
- dancing (to music from local bands).

Some basic questions...

- ① What do we think of as 'music technology'?
- ① What do we need to record music?
- ① What are the three steps of the music production process?

Research and Present

● 1948: The Record



Records, or discs, of varying speeds and materials have actually been around since the early 1900s—early versions rotated at 78 RPM and were made of shellac, which made them noisy and fragile.

In 1948, Columbia Records produced a 33 RPM 12-inch 'long play' format, which we know today as the LP.

1963: Compact Cassette



1964: 8-Track Tape



1972: Floppy Disk



1982: Compact Disc



1992: MP3



2002: Streaming



Answer the following

- ① History and details
- ① Why did this format succeed and fail?
- ① When was it popular (if at all)?
- ① How was music recorded and distributed on this format?
- ① Any notable releases on this format?

What now?

- If this list proves anything, it's that nothing is forever—especially in music.
- So what's next on the horizon? Maybe we'll all listen to music while our autonomous cars drive us around? Or is there a renaissance for video's role in music on the horizon?
- We can all do our part to help the music industry by paying for music—and the formats it's released on.
- Support independent musicians, support small labels and support your local record store!

Part 2 – from the recording perspective

- Read handout 1 – Glossary of terms
- This is your reference for the following questions...

Recording Before Magnetic Tape

- Before magnetic tape was invented, recordings were live performances etched into the grooves of records, and they couldn't be corrected if there were errors; musicians had to start from the beginning. With tape, musicians and producers had the ability to manipulate the recording by making corrections or even adding effects to make the record sound better. Although this made records sound less "life-like," magnetic tape made recording so much easier that it quickly became the standard method of recording.

- ① How is Duke Ellington's band arranged in this clip? What do you hear him saying to the band?
- ① What are the limitations to the method of recording you see in this clip?
- ① How do you think musicians prepared for these recording sessions?

Les Paul & Sound on Sound

- In this clip, Producer Don Was and musicians Eric Clapton and Jeff Beck discuss the revolutionary recording techniques of Les Paul. It includes a clip of Les Paul and Mary Ford demonstrating multitracking on a 1950s television program.

- ① What are the differences between the Duke Ellington recording session in the first clip and Les Paul and Mary Ford in the second?
- ① Considering the way you have seen recording presented in these two Soundbreaking clips, why do you think Jeff Beck's mother suggested that Paul and Ford's music was "fooling" people?

Handout 2: Magnetic Tape and Multitracking

- ① Who invented the phonograph? How did it capture sound?
- ① What is magnetic tape?
- ① Looking at the diagram of magnetic tape on the handout, how does the medium of tape make multitracking possible?

Pink Floyd & Dark Side of the Moon

- ◎ This clip demonstrates the approach Dave Gilmour and Roger Waters of Pink Floyd took while recording their iconic album, Dark Side of the Moon. They took advantage of the latest technology, such as sequencing machines and 16-track recording. Waters likens their process to painting, as though they were "painting with sound."

- ① How do the members of Pink Floyd suggest that multitracking allowed them create an album that expressed their feelings about "life, human emotion, and how the world impinges upon us"? What did it let them accomplish that they could not have by playing live?
- ① What does Roger Waters suggest he likes about multitrack recording in this clip? (
- ① What art form does Roger Waters liken multitrack recording to? In what ways do you think this analogy applies?
- ① In what ways does Roger Waters see multitracking as having potential pitfalls?

Eurythmics & the Home Studio

- In this clip, Annie Lennox and Dave Stewart describe their process of writing and recording early Eurythmics records. They preferred the intimacy of their small home studio, and Stewart experimented with early electronic drum machines, tape machines, and synthesizers to create their unique sound.

- What are the similarities between the recording processes described by Roger Waters and Dave Stewart and Annie Lennox?
- How are the studios you see in each clip different? Where is the Eurythmics studio located?
- How many people does Lennox suggest were involved in the Eurythmics sessions? In what ways do you think having so few outside people involved in recording influenced the Eurythmics' creative decisions?
- Do you think there was a cost difference in the two studios?
- How might the differences in size, location and cost change each group's approach to recording? Do you think it would be better to record in a professional setting, or at home?

Handout 3 –Analogue to Digital, a basic take on waves

- ⦿ In what ways does a microphone function like the human ear?
- ⦿ How does digital sound conversion differ from analogue?

ProTools & the Digital Audio Workstation

- In this clip, Justin Vernon demonstrates his use of ProTools at his Digital Audio Workstation. St. Vincent describes a generation of musicians who are able to make music alone, at their computers, rather than with other musicians.

- ① What language does Bon Iver use to express what he sees as the possibilities enabled by the Digital Audio Workstation?
- ① What is Pro Tools enabling Bon Iver to do as a composer that he wouldn't have been able to do in the era of tape? In what ways does the digital nature of Bon Iver's set up permit this?
- ① Thinking back to Roger Waters' comments in the previous clip, how might software such as Pro Tools increase the possibility of the "pitfalls" he mentioned?

Summary

- In Clip 1 we saw Duke Ellington in the 1940s with his 20+ piece orchestra around a single microphone that recorded directly to disc. What are some of the possible tools Ellington would be able to use if he recorded his large ensemble today?
- What are some of the differences between Bon Iver's layering of sounds with that of Les Paul and Mary Ford's layering?

Extensions: Experiencing the layers: The Les Paul sound-on-sound method

- Nearly all phones and tablets have a voice memo option. This is a simple, one-track recording device. The following steps replicate the earliest phases in which sound-on-sound recording was attempted.
- Step One: Using a voice memo feature, student one to record the statement, “1-2-3-4, Today is [date], we are recording.”
- Step Two: Student two open voice memo. Student two will now record him/herself reciting the same sentence along with the playback of the first recording.
- Step Three: Student three record a voice memo with the playback of student two’s recording. Continue this process as many times as you wish.
- Discuss with your students:
- How is their method like Les Paul’s early experiments with sound-on-sound? In what ways is it different?
- Using this method, what can you change about the recording after it has been made?

The Visual Multitrack

- ◉ Collectively decide on an image and then draw it as a group.
- ◉ Now, on a separate sheet, within each group, Student 1 draw a partial picture and then pass the image to Student 2 who draws a bit more. Continue this process until each student has added a track to the image.
- ◉ Then discuss the image, erase anything you'd like and then make changes.
- ◉ Finally, discuss the good and bad of this approach. How did having to work as a group to make an image collectively in one attempt feel? How does it compare to the ability to work individually and make changes? Is one way better than another? Having done this exercise, do you now agree with Roger Waters' analogy of multitracking as similar to painting? If not, how would you describe multitracking?