

A person with short brown hair, wearing large black headphones and a blue denim jacket, is seen from the back, sitting at a desk in a recording studio. The desk is equipped with a computer monitor displaying colorful waveforms, a keyboard, and various audio equipment. Two large black studio monitors are visible on either side of the desk. The background shows a wooden wall with acoustic panels.

History Of Music Recording

The history of sound recording can be divided into four main periods:

- The "**Acoustic**" era, 1877 to 1925
- The "**Electrical**" era, 1925 to 1945
- The "**Magnetic**" era, 1945 to 1975
- The "**Digital**" era, 1975 to the present day.

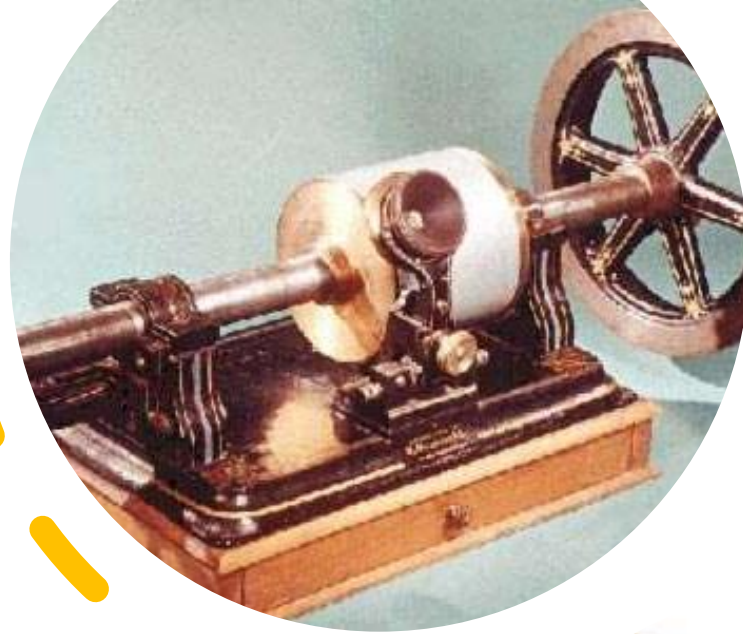


The Acoustic Era (1877 to 1925)

- The technology of the acoustic age consisted of **mechanical devices that used to have a large horn to capture sound waves**. These recorders used a large conical horn to collect and focus the physical pressure of the air from the sound waves produced by the human voice or musical instruments.
- The two main devices were the phonograph invented in 1877 by Thomas Edison and the gramophone invented by Emile Berliner in 1887.
- These early recordings were necessarily low fidelity and low volume and captured only a narrow segment of the audible sound spectrum.

Phonograph

- A phonograph, in its later forms also called a gramophone or since the 1940s called a record player, **is an instrument for reproducing sounds by means of the vibration of a pencil, or needle, following a slot in a rotating record.**
- A phonograph record stores a replica of the sound waves as a series of ripples in a sinuous slot inscribed on its rotating surface by the stylus. When the disc is played, another pen responds to the ripples, and its movements are converted into sound.





Historical Context During The Acoustic Era

- **World War I** also known as the First World War or the Great War, was a global war that lasted from 28 July 1914 to 11 November 1918.
- **Women's suffrage** refers to the right to vote and be elected to public office exercised by women, as well as to the historic feminist struggle for its recognition as a political and constitutional right, also known as suffrage.



The Electrical Era (1925 to 1945)

- The most important milestone in the history of sound recording was what was then called electrical recording, in which a **microphone was used to convert sound into an electrical signal** that was amplified and used to drive the recording pen.
- This innovation eliminated the "horn sound" resonances characteristic of the acoustic process, producing clearer and fuller recordings by greatly expanding the useful range of audio frequencies, and made it possible to capture distant and weak sounds that could not be recorded before.



Historical Context During The Electrical Era

- The **Great Depression** was a major global financial crisis that lasted through the 1930s, in the years leading up to World War II.
- **World War II** was a global military conflict that took place between 1939 and 1945. Most nations of the world were involved in it, grouped in two opposing military alliances: the Allies and the Axis powers.
- The **Holocaust** is the genocide that took place in Europe during World War II under the regime of Germany
- The **atomic bombings** of Hiroshima and Nagasaki were nuclear attacks ordered by Harry S. Truman, President of the United States, against the Empire of Japan.



The Magnetic Era (1945 to 1975)

- The next stage in the history of sound recording occurred in the 1940s with the use of magnetic tape, a tape you will remember as the 8-track tape of the 1960s, and the cassette tape of the 1970s and 1980s. It is known as the third wave in the history of audio re-encoding.
- In recording, **the magnetic tape allowed audio engineers to record multiple audio segments and keep them perfectly synchronized.** As multitrack analog recordings became the best, the analog console became the best and most widely used in the recording studio.
- Bands like The Beatles and The Beach Boys came to use the available technology that led to the multitrack in their recordings.

The Magnetic Era

- Multi-tracking has also led to the use of "stereoscopic imaging". It has been the most used image for about 30 years, until the mid-75s, when the digital era arrived.
- Although the magnetic age is still used today. The magnetic age brought new things. New formats and consumer audio devices, on disk and on tape. The introduction of portable recorders for home and business.



The Magnetic Tape

- The tape is nothing more than a plastic layer on which we deposit magnetic metal particles. We know that magnets have two poles and that if we place another magnet near it, both move. The vibrations that we emit when we speak are transformed into electricity through a transducer such as the microphone. This electricity, then applied to a speaker, repeats the same sound.
- By speaking into the microphone, we generate an electricity that we apply to a head. The head is nothing more than a coil wrapped around a metal. The metal, by the action of the electricity induced by the coil, is magnetized and generates a magnetic field that acts on the metal particles in the plastic tape. These particles can retain that magnetism.





Cassette

- Cassette, cassette, or cassette was a widely used magnetic tape sound and/or video recording format.
- The cassettes work by running a tape through a head. Cassette tapes have magnetic zones with codes for the sounds recorded on them. The head converts these magnetic codes into electrical signals in an amplifier that reinforces these signals and then sends them to a speaker that converts the signals into sounds.



Walkman

- A Sony brand that gives the name to portable audio player, especially cassettes and radio always used with headphones.
- It was released in 1979 as a portable cassette player that allowed people to listen to music while they were moving. The first Walkman was sold for about \$150 the same year as it was released.
- By means of an electromagnetic coil, allows only the reading of the content of the audio cassette, transmits the signal to a 3.5 mm. female audio output jack and this in turn to the headphones.





CD

- A CD is a small plastic disc on which different types of sounds can be recorded. A CD can also be used to have information that can be read by a computer. The abbreviation CD means Compact Disc.
- The CD was invented in 1979 but it was released for the first time in public in the year 1982. It is estimated that 200 billion CD's had been sold through the world.
- The information on a CD is in the polycarbonate layer that we can obtain by means of the laser of the CD player. The laser illuminates each point of the CD and checks if there is a slit or a plain. When the sequence is flat the laser is reflected and reaches the sensor, or when there is a slit there is a variation and the light does not return to the sensor because the reflection angle changes. This results in a binary representation.

A photograph of an astronaut in a white spacesuit walking on the moon's surface. The astronaut is wearing a helmet and has an American flag patch on the shoulder. The lunar surface is covered in dust and small rocks, with a shadow cast by the astronaut. A large, semi-transparent white circle is overlaid on the left side of the image, containing text.

Historical Context During The Magnetic Era

- The **Vietnam War** was a war fought between 1955 and 1975 to prevent the reunification of Vietnam under a communist government.
- The **U.S. Civil Rights Act** of 1964 is a landmark civil and labor law for the United States that was instrumental in prohibiting racial discrimination and segregation.
- **Apollo 11** was a U.S. manned space mission whose goal was to get a human being to walk on the surface of the moon.
- John Fitzgerald **Kennedy was assassinated** on Friday, November 22, 1963 in Dallas, Texas, while driving a presidential motorcade through Dealey Plaza.



The Digital Era (1975 to present)

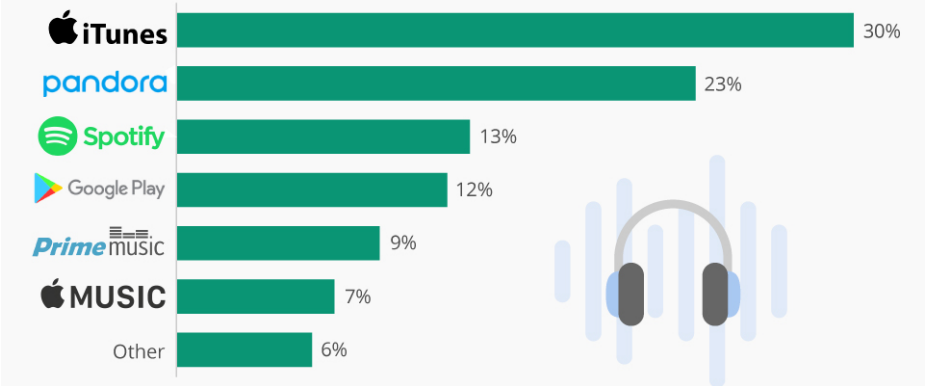
- Digital sound recording is the recording of sound in which digital audio is obtained. To do this, a previous process of A/D conversion (analog-digital) takes place and, once the digital signal is obtained, it is recorded on a support or medium.
1. **Sampling:** Consists of making periodic measurements of the amplitude (voltage) of a signal; for example, the one coming from a microphone if it is (hold) by a hold circuit, enough time to allow evaluating its level (quantification).
 2. **Quantification:** It consists of assigning a value range of an analyzed signal to a single output level. Even in its ideal version, it adds as a result an unwanted distortion to the input signal: the quantification noise.
 3. **Encoding:** Coding consists of translating the values obtained during quantification into binary code. It should be noted that the binary code is the most used, but there are other types of codes that are also used.

Streaming

- The streaming is the digital distribution of multimedia content through a red computer, so that the user uses the product at the time it is downloaded.
- The word streaming refers to a continuous stream that flows without interruption, usually to the transmission of audio or video.
- In this type of streaming you or the person performing the transmission sends the audio/video signal to a broadcast server and the server stores the information in a temporary buffer.
- Listeners connect to the streaming server through a unique link, which usually consists of a port on the streaming server so that they can access the stream generated by the station and thus listen to the live audio signal or watch the video transmission.

iTunes Still Popular Among U.S. Music Lovers

Music platforms preferred by U.S. music consumers (as of September 2016)



Historical Context During The Digital Era

- The breakup of the Soviet Union in the early 1990s
- **The attacks of September 11, 2001** were a series of four suicide terrorist attacks committed on the morning of Tuesday, September 11, 2001 in the United States.
- Beginning of the first stage of the **Iraq war in 2003**.
- **Financial crisis of 2007–08**, also called subprime mortgage crisis, severe contraction of liquidity in global financial markets that originated in the United States as a result of the collapse of the U.S. housing market.



Wrap-Up



short
history
of music
listening

Bibliography

- *A Brief History of Recording to ca. 1950*. Charm.rhul.ac.uk. (2020). Retrieved 15 September 2020, from http://www.charm.rhul.ac.uk/history/p20_4_1.html.
- *Acoustical Recording | National Jukebox LOC.gov*. Loc.gov. (2020). Retrieved 15 September 2020, from <http://www.loc.gov/jukebox/about/acoustical-recording>.
- *AES Historical Committee*. Aes.org. (2020). Retrieved 15 September 2020, from <http://www.aes.org/aeshc/docs/recording.technology.history/notes.html#origins>.
- *Breaking News, Analysis, Politics, Blogs, News Photos, Video, Tech Reviews - TIME.com*. TIME.com. (2020). Retrieved 15 September 2020, from <http://content.time.com/time/nation/article/0,8599,1907884,00.html>.
- *The history of the CD - The beginning - Research | Philips*. Philips. (2020). Retrieved 15 September 2020, from <https://www.philips.com/a-w/research/technologies/cd/beginning.html>.
- *The Spotify Paradox: How the Creation of a Compulsory License Scheme for St...: EBSCOhost*. Retrieved 15 September 2020, from web.a.ebscohost.com