

# An abbreviated history of recording

(with particular reference to the organ)

From at least the 16<sup>th</sup> century onwards some musical automata - mainly barrel organs - played mechanically-recorded performances to a point that they could be taken seriously as representing contemporary musical practices. In the 18<sup>th</sup> century Engramelle, Dom Bédos de Celles and others drove the initiative for turning mechanically-created performances into convincing music.

1820: Gustaf Andersson (in Sweden) built a positive, now in the Sibelius Museum (FIN:), with an automatic player system and some “recorded” pieces.

c1840 the development of ever more sophisticated barrel organs and, particularly, orchestrions began. The most notable included the Welte firm in Germany. Through the 19<sup>th</sup>c some of the people working in this arena pushed the work of Engramelle and Dom Bedos ever further towards excellence in the presentation of truly “musical” performances - including increasingly important 19<sup>th</sup> century paradigms such as crescendos, sforzati and the imitations of orchestral sounds including percussion.

## 1870s-1900: pioneers of acoustic recording; the cylinder

1877 American inventor Thomas A. Edison developed the “talking machine”. As commercially offered it could both record and reproduce sound using wax cylinders.

1887 Emile Berliner filed a US patent for a “Gramophone” (using discs instead of cylinders.) Edison’s phonograph became commercially available. For more detail on the Edison history see <http://homepages.bw.edu/~rdensmor/EdisonOrganArticle/>

1888-1894 cylinder recordings were made and sold e.g. with readings by Tennyson and Browning. Brahms recorded one of his Hungarian rhapsodies. Josef Hofmann and Hans von Bülow recorded piano music.

1890- magnetic (wire) recording was first explored by Danish engineer Valdemar Poulsen.

1892- the orchestrion reached a high point in its development when paper rolls became the new playing medium. Some of the people producing the performances on these rolls were veritable “musical artists in their own right”.

1894 Charles and Émile Pathé established a recording business near Paris. They issued cylinders. In the USA, Emile Berliner began manufacturing gramophones and founded the “Victor” firm. The recordings (many novelty items) became very popular, especially from coin-in-the-slot machines.

1897 the pianola was patented by E.S. Votey - originally a limited form of *Vorsetzer*.

around 1900: the zenith of orchestrion culture - and a curiosity

Mechanically-produced recordings had become increasingly convincing as the late 19<sup>th</sup> century and early 20<sup>th</sup> approached. The experience and technology of orchestrion culture paid its final dividends in such manifestations as Welte's *Philharmonie*. Those making paper-roll performances for orchestrions knew the resources and capabilities of their new technology and were able to make full use of them in creating "purely mechanical" performances. Some, like Franz Xaver Franz working for Welte in Freiburg, were also leading professional musicians and managed to minutely preserve the performance paradigms of their day in many "drawn" (punched or perforated) player-rolls. The *Philharmonie* era lasted from around 1910 to the 1930s. (CDs are now available with music from many of them - see e.g. <http://www.oehmsclassics.de/interpret.php?interpretid=338>).

And there was the *Telharmonium*, an early electronic instrument that served to provide entertainment to subscribers over a telephone line. It originated c1895 with the American inventor Thaddeus Cahill. In 1904 he further developed it using electric generators to construct large rotating electromagnetic tone-wheels (thus technologically the forerunner to the early Hammond organ). Played from a keyboard, it weighed 200 tons and was exhibited in Massachusetts and New York in 1906. Subscribers in New York city received "Telharmonic Music" through a distribution network using telephone receivers equipped with large horns to transduce the sounds. Although this was advanced for its day, amplifier and loudspeaker systems had not at the time been developed. This, together with the advent of World War I, halted development of the *Telharmonium*. It was, however, witness to a need for broadcast musical entertainment, something which also drove the recording industry.

### 1900-1910: "78" era; organ roll-recordings

1900- the era of the first acoustic "78" recordings (discs rotating at 78 revolutions per minute). The only known organ recordings were in another medium: player rolls possibly made by Albert Schweitzer for Walcker's Organola. The Casson Company of New York were also involved in similar activity at about this time.

From 1902 a marked rise in public interest occurred, particularly with recordings of Italian tenor, Enrico Caruso. The fortunes of the Victor company waxed.

1904 Welte's "Cabinet player", a reproducing piano without keyboard which bore the *Mignon* label, was first patented. The prototype was exhibited during late 1904 in Leipzig and became commercially available from early 1905.

1908 The Welte *Vorsetzer* came on the market. Mignon was first integrated into upright pianos in 1909, and grand pianos from 1913. This ran slightly later than, but parallel to developments paving the way for the *Philharmonie* and "live-artist" organ roll recordings. By 1904 Pathé's catalogue of cylinders ran to about 12,000 titles.

By 1910 possibly 85 percent of recorded music was classical. Nevertheless, there was much in common with other arenas - popular opera selections for example - and a marked difference between European and US musical tastes. In the US, emphasis was more on popular music

and light classics, and, for the organ, a preference for cinema organ repertoire.

## 1910-20: the acoustic recording boom and birth of organ roll recordings

With the phonograph, an early mass-media phenomenon was created: recorded music was now no longer just the province of the rich. The “78” recording fully replaced the earlier wax cylinders and became entrenched as standard. Originally made from shellac - later synthetic thermoplastic resins gave better results with less “surface noise” - they came in 10-inch and 12-inch sizes, the largest of which were capable of durations extending to about 4½ minutes.

1909-11: some very early organ roll recordings were made by Welte’s house organists e.g. Franz Philipp, Carl Hofner and Johannes Diebold. They were possibly trials but good enough to be offered later in the firm’s catalogues.



1910-1911 the first successful acoustic organ recordings were made (“78s”) by John J. McClellan in the USA around 30<sup>th</sup> August- 3<sup>rd</sup> September 1910 at the Mormon Tabernacle in Salt Lake City. This was done as an adjunct to a session with the Mormon Tabernacle Choir. The repertoire included J.S. Bach's Toccata and Fugue (abbreviated) in d minor (BWV 565), Nevin's “Gondoliers - Day in Venice” and other selections (see also the graphics boxes following). More detail can be found at:

- ☛ <http://sounds.bl.uk/related-content/TEXTS/029I-COLXX1916X17-0000A0.pdf> (page 16)
- ☛ <http://www.78discography.com/COLA500.htm>
- ☛ <https://www.lds.org/ensign/2010/09/the-first-mormon-tabernacle-choir-recordings-1910?lang=eng>

**ORGAN SOLOS. By J. J. McCLELLAN.**  
**10-inch RECORDS.**  
**1704** { Rubinstein's Melody in "F" (Rubinstein)  
Fugue in "D Minor"—Toccata and Finale (J. S. Bach)  
**2282** { Tannhäuser Overture (Wagner)  
Sextette, from "Lucia" (Donizetti)

1912 Some early gramophone recordings of organists were made in England and the first complete symphonies recorded in Germany. Solo instrumentalists and opera singers followed with excerpts and potpourris. In this year also the first “official” organ roll recording sessions were made by Welte in Germany for their *Philharmonie*. Marco Enrico Bossi was the first - many others followed: Gigout, Bonnet, the Goss-Custards, Dupré, Alfred Sittard (for more detail see [www.davidrumsey.ch/OVERVIEW2.pdf](http://www.davidrumsey.ch/OVERVIEW2.pdf)). The possession of these instruments was

mainly the province of the top echelons of an affluent society or institutions such as shipping companies, department stores and conservatoria.

1913 on 17<sup>th</sup> January, in England, organist-composer Easthope Martin recorded 17 items, of which 14 were issued on “78s”. For more details and related recordings see: <http://fluffontheneedle.blogspot.dk/2012/06/acoustic-organ-music-with-twist.html>

1914-1919 phonograph sales quintupled in spite of wartime conditions. Original composition also began for player piano using perforated paper rolls. This sometimes attracted leading composers (Stravinsky, *Étude* for Pianola 1917), later Hindemith (*Toccata* for mechanical piano 1926) and others. Most notably George Antheil (*Le Ballet mécanique*, 1926) and Conlon Nancarrow continued this genre of recorded music. Only two roll-composed works for mechanical organ are known:

- 1 ● the experimental stage piece, “Triadischen Ballett” by Oskar Schlemmers (1888-1943) - revised by Hindemith in 1927 as “Suite für mechanische Orgel”, it survives only in an early recording (available on CD)
- 2 ● “Studie” for mechanical organ by Ernst Toch (1887-1964). This appears to have been lost.

1917 The “Victor” label increased its sales with classical releases, especially popular from a collaboration with the Philadelphia Orchestra conducted by Leopold Stokowski.

All commercial recording to this point was achieved solely by acoustical means. During this epoch a number of other firms entered the marketplace of player organs with recorded performances of organ music. Aeolian, who had originally been mooted as providers of an organ for White Star Line’s *Britannic*, made landmark progress around 1917.

### Mid-1920s: Electrical recording, broadcasting; roll recordings

From the early 1920s the vacuum-tube (*valve*), invented by Lee De Forest, paved the way for applications such as the amplifier and the record-cutting lathe. Microphones, earphones and loudspeakers replaced the old needles and acoustical horns, while turntable drives shifted from the wind-up spring to the electric motor. Recordings of classical music increased greatly while popular music and Jazz retained and expanded their now more separate territories. There were shared fringe areas such as “light classics” and many opera and oratorio lollipops. American and German scientists developed Poulsen's earlier wire recording technology and researched the potential for magnetic tape as an alternative to wire.

1920 microphones were first used in a recording at Westminster Abbey (GB) of the burial service of the Unknown Warrior - the double-sided disc was on sale from 17<sup>th</sup> December.

1923 an optical system of sound recording was invented by De Forest - of special relevance to sound films.

1924 June 14<sup>th</sup> Frederick Kinsley became the first organist to record for the Edison label, one of the most notable of his era in the USA. This was one of the last, possibly the last, to be made “acoustically”. Organs for virtually all early US recordings were cinema (theater) instruments. The repertoire reflected this, although it is worth noting that some “classics” were also part of cinema organists’ repertoire.

1924 the Marsh Recording Company of Chicago was the first to put electrical recordings up for sale to the public. Chicago cinema organist, Jesse Crawford, made some of them.

1924-26 radio broadcasting began and music became far more freely available to all classes of society.

From 1925 electrical recording quickly predominated.

1926-30 the earliest “electrically recorded 78” organ discs of what can loosely be called “classical music” appeared (rather than cinema or light popular and novelty repertoire). They were made by British organists Alcock, Darke, Bullock, Palmer, Roper, Marchant, Thalben-Ball. The most prolific - also earlier, with roll-recordings - was Harry Goss-Custard.

1927 Edwin Lemare was contracted to record (“78s”) for the Victor Co. in the USA. The project was started, but abandoned on account of the organ’s condition. Only two discs were ever issued: on one *Aloha Oe* and Lemare’s own *Chant du Bonheur*, on the other his *Andantino* and Schumann’s *Träumerei* (this latter was re-issued later in England.)

1928 (November) Louis Vierne made “78s” at Paris, Notre Dame Cathedral.

1928-32 Alfred Sittard - who had recorded on Welte rolls released from 1913 onwards - made some “78” recordings in Berlin (Alte Garnisonkirche) and Hamburg (Michaeliskirche). Six of Sittard’s recording titles are duplicated on both roll and disk (2 Bach, 3 Handel, 1 work of his own).

1929 (26th February) German organist, Paul Mania, recorded a number of arias, including Bach, Schubert, Schumann and Brahms with soprano, Lotte Lehmann.

1929 the great economic depression threw the recording industry into serious decline. Dance music recordings played on jukeboxes helped sustain a contracted market throughout the 1930s. The vogue of the player piano and player organ began to decline with this and competition from an increasingly popular and more freely available radio and phonograph. Player piano culture survived to a remarkable degree through mid-20th century.

Around 1930 in Germany, Walter Fischer made “78s” of Rheinberger and Händel organ concertos from an unidentified location, but generally thought to be the Berliner Dom.

1930-1 Charles Tournemire made recordings at Paris, Saint Clôtilde.

1931 The Victor company attempted a long-playing 33<sup>1</sup>/<sub>3</sub> rpm product with grooves the same size as “78s” - the venture failed partly on account of its technology and partly because of the Great Depression.

1941 Joseph Bonnet recorded for Victor Records on “78s” - amongst the last of the significant organists before the long-playing microgroove record took over. For more detail about Bonnet’s recordings see <http://www.josephbonnet.org/>



## 1945-1970: microgroove recordings; tape

after World War II magnetic systems were brought to full technological acceptability (the “tape recorder” era began and the use of wire rapidly declined). Similarly, constant improvements in optical systems endowed motion pictures with ever higher quality sound.

1948 the long-playing microgroove record was now successfully introduced (LP 33 $\frac{1}{3}$  revolutions per minute, for some years also a 45 rpm format); discs made of “vinyl” took over and the “78” quickly disappeared from production. Available maximum playing times per side increased to 20-25 minutes (about the maximum capacity of some of the player rolls of 35 years earlier).

1958 provision of two separate channels of recorded information in the one groove ushered in the era of “binaural” (stereophonic) recording. This became standard.

The era of “hi-fi” particularly boosted sales of organ recordings - they had suffered from a merely “barely adequate” technology hitherto. This led to a notable increase in “complete” works (e.g. Walcha’s Bach series on *Arkiv*) and comprehensive anthologies of organ music and organs. The organ required sound recording and reproduction equipment that could handle its complex wave-forms and wide dynamic and frequency-ranges.

Tape also was used for video recordings and was adapted to the cassette recorder.

## 1970s the digital revolution

1970s digital recording technology displaced analogue and took over the industry (quadraphonic and similar experiments followed but were mostly unsuccessful except in cinemas).

In the late 20<sup>th</sup> century the player-piano concept was reinvented and applied e.g. to Yamaha's “Disklavier” which offered self-recording as well as selected performances by artists from Horowitz to Liberace.

1980s fully digital compact discs (CDs) were introduced; they dominated the market by the 1990s. Playing time increased to well over an hour. Digital editing and mixing techniques using dedicated computer software also evolved to produce a highly-packaged sound quality.

By early 21<sup>st</sup> century DVDs had also become a factor in sound and video recording as well as mass information storage. Their playing time could now cope with almost any extended musical form, including videos of complete operas.

The first decade of the 21<sup>st</sup> century saw upheavals in both the technology used and the hitherto traditional marketing and distribution approaches: CD and DVD production was quickly threatened by Internet Downloads or computer-copying on to CD-ROM or memory sticks. Home computer culture facilitated copying, but this caused a strangling of entrenched copyright systems and royalty payments, which further created sometimes serious financial

difficulties for artists, record companies and distributors.

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Recommended link: <http://ihorc.blogspot.ch/2009/02/welcome-to-international-historical.html>

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Gothenburg, Sweden.

Sources have included the Guinness Book of Recorded Sound, Enfield (GB) 1984 (Early electrical recordings entry).

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