History of the Jukebox

Not less than 120 years have now passed since the ‘pay to play’ concept was born in the history of cylinder and disc playing phonographs and gramophones. The new and soon to be profitable concept was introduced, when Louis T. Glass, manager of the Pacific Phonograph Co., and his business partner William S. Arnold demonstrated an Edison phonograph with coin attachment to the public in the Palais Royal saloon on 303 Sutter Street in San Francisco. During the first year of the jukebox, from autumn 1889 until summer 1890, quite a few coin-op music machines with cylinder or disc mechanisms were produced in San Francisco. Louis T. Glass told other operators and manufacturers during the “First Annual Convention of Local Phonograph Companies of the United States” held at the Auditorium Hotel in Chicago on the 28th and 29th May, 1890, that the first 15 machines had brought in a little more than $4,000 from December 1889 until May 1890. That was quite a lot of money those days.

It is important to mention today, that the first really successful and reliable coin-op phonograph in the States was developed and filed for patent in 1891 by Albert K. Keller, who soon assigned the patent rights to the Automatic Phonograph Exhibition Co. headed by Felix Gottschalk in New York. The Albert K. Keller designed automatic phonographs with Edison mechanism were at first manufactured in collaboration with Ezra T. Gilliland of the Gilliland Sales Co., and installed in arcades in many big cities. After the crisis on the stock market in 1893 the New York based company headed by Felix Gottschalk was dissolved by the trustees, and the efforts of the Automatic Phonograph Exhibition Co. to standardize the industry with the Keller designed machine had come to an end. It is interesting to note, that Albert K. Keller claimed that he first conceived the invention as early as 1887, and that he had built an operating machine, a forerunner of the known 1891 style, that same year. The first real series of machines was according to Albert K. Keller’s statements manufactured at the James F. Gilliland Electric Co. in Adrian, Michigan, in the autumn 1889. The fact is still, however, that the first recorded public demonstration of a coin-operated phonograph took place in San Francisco on the 23rd November 1889.
Until stable selective mechanisms were developed for real in the late 1890s and early 1900s most coin-operated phonographs in the USA were made on the basis of electric, battery powered Edison or spring driven Columbia machines. The most important selective automatic music machine of the first decade of the 20th century, the “Automatic Entertainer” with 24 selections, was patented and produced by the John Gabel owned company in Chicago. The first model, which was constructed late in 1905, was produced in 1906 with an exposed 40 inch horn (102 cm) on top, and it is today often considered the real ‘father’ of the modern multi-selection disc-playing phonographs. John Gabel and his company did in fact receive a special prize at the ‘Pan-Pacific Exposition’ for the “Automatic Entertainer”.

John Gabel’s Automatic Entertainer, 1906

A counterpart to John Gabel’s machine was the cylinder playing “Autophone” with 12 selections made in San Francisco by The Autophone Co. (also a division in the city of New York). The “Autophone” for cylinder play, which was a very nice instrument, was designed by Cornelius Reinhardt. Cylinders were also used in the third of the big selective machines to be mentioned here. The machine in question was the impressive 24-selection “Multiphone” produced in New York with cabinet design by William H. Pritchard, later also head of The Autophone Co., and a mechanism developed by Cyrus C. Shigley and Julius Roever. The design of the cabinet alone made it rather expensive to produce in large numbers, and alterations to the initial two patented designs were made. In fact a 30-selection “Magazine Phonograph” patented by Allison A. Pratt in 1907 might have been produced by The Multiphone Co. in New York, but none of those machines seem to have survived. While mentioning the coin-operated multi-selection music machines of the period between 1900 and 1910 it is important to remember one particular fact. The fact, that there was no real amplification of acoustic sound. It was a problem for John Gabel’s “Automatic Entertainer” and other machines of the same size, because it was difficult to use them in bars and saloons with many people. The machines had to bring in a lot of money to make it worthwhile.

In Europe there were several good, reliable coin-op salon gramophones on the market during the period from 1900 until 1913. The best known of these big gramophones today are “Le Ogerphone”, “Le Ramophone”, and “Le Concert Automatique Francaise”, which were produced on license by
different French companies mainly for the local market, and used on locations well into the 1920s. Another nice, but not well known, coin-op gramophone, “Le Vairiphone”, was made during the same period by G. Capy in Vaires s/Marne. Those French salon gramophones all play phono-cut Pathé records. The German gramophones with coin slots, however, were very often table-top models, that could be installed in very small locations. One company in particular, Deutsche Grammophon-Aktiengesellschaft in Berlin, made some very nice coin operated 6- or 12-selection gramophones in the years after 1904.

A distinctive mark of most European style machines of the era was that they often played Pathé ‘hill-and-dale’ records, which were phono-cut. They were played with a rounded needle in contrary to the ordinary needle-cut records. By using a rounded needle instead of a pointed one the wear of the records was less noticeable, and especially the tall French models with big brass horns on top were suitable for public use. In the cabinet below the mechanism of the salon gramophones shelves for extra records could be found in order to give the patron an option. The many different types of automatic or semi-automatic phonographs with coin slots certainly were important for the promotion of music to the public during the decades before home phonographs and gramophones could be owned by everybody.

The acoustic era of the coin-operated phonographs finally came to an end around 1925/26 with the introduction of electrically recorded 78rpm records. Henry C. Harrison of the Western Electric Co., the manufacturing subsidiary of the American Telephone & Telegraph Co., was granted a patent for electrical recording in May 1924, but the first commercial electrical recording session took place in February 1925, and the first real electrically recorded disc was released on the market in April that same year. Electrical amplification of the sound was of course important to the manufacturers of coin-op phonographs because many of the different amplification methods used during the acoustic era were very expensive and after all not successful on location.

The era of the modern electrically amplified phonographs, often described as pieces of Americana, really started after 1926/27, when the “Electramuse” based on a patent of 1921/23 by James E. Stout was introduced by the firm Holcomb & Hoke Manufacturing Co. in Indianapolis, Indiana. The company was founded by Frank (Fred) J. Hoke Sr. and James Irving Holcomb in 1896, and both founders were still alive when the story of the company was written in 1958. The “Electramuse” had a square cabinet with front window and it was design patented in 1927 by Frank J. Hoke Sr., and according to the unpublished story “Two Heads Are Better” written by Frank Hoke Jr. in 1958, the company lost more than half a million dollars during the four years it was active in the automatic phonograph business. That is quite an interesting and honest statement from a pioneer in the business. Frank J. Hoke Sr. also states in the story that there was only one thing wrong with the machine: It was not selective! By the way, the company was liquidated in 2009 as a consequence of the financial crisis worldwide. About the same time, early in 1927, another well designed coin-operated phonograph, the “National Automatic Selective Phonograph”, was introduced by the Automatic Musical Instrument Co. in Grand Rapids, Michigan.

Around 1928 several other companies released automatic phonographs, jukeboxes, and among them was the J. P. Seeburg Piano Co. at 1510 Dayton Street in Chicago, headed by the founder, Justus Percival Seeburg (1871-1958), and his only son Noel Marshall Seeburg (1897-1972). The J. P. Seeburg Piano Co. (founded in 1907) had in 1927, when the management heard news about the “Electramuse” model, tried to introduce a “Melatone” coin-op phonograph on the market. It was no success, and in fact all about hundred manufactured “Melatone” machines were recalled.
Then, in 1928 and 1929, the J. P. Seeburg Piano Co. tried again for real (company name changed to J. P. Seeburg Co. around July 1928), and was more successful on the market with the “Autophone”, which was first shown at the Chicago Commodore Hotel ‘Music Trade Convention’ in June 1928, and certainly more successful with the following line of 8-selection “Audiophone Senior” and “Audiophone Junior” pneumatic coin-op phonographs. Showing their nickelodeon ancestry the “Audiophone” models were equipped with electric motors that in turn operated a suction pump. The pump was used to turn the ferris-wheel type mechanism for record selection, but the pump also supplied suction for rubber tubing that went to pneumatic operated valves that controlled the operation of several smaller pneumatics. In 1930 the J. P. Seeburg Co. (company name changed to The J. P. Seeburg Corp. around September 1929) presented the all mechanically operated 8-selection phonograph called the “Audiophone E”, with mechanism developed by Arvid Dahlstrom, of which the first version looked very much like the “Electramuse” made by the Holcomb & Hoke Manufacturing Co. before 1929.

The Mills Novelty Co. at 4100 Fullerton Avenue in Chicago, entered the market for coin-operated radios and multi-selection phonographs in 1928, and became a very important competitor against other manufacturers in the years to come. The brothers Frank W. Mills and Bert E. Mills (sons of Herbert Stephen Mills, 1872-1929) had a lot of patents for coin-detectors and phonograph mechanisms granted through the 1920s and early 1930s.

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The Rudolph Wurlitzer Co., established back in 1856, started out in the automatic phonograph business by introducing the 10-selection “Debutante” in 1933, a model that looked much the same as the “Ampliphone” made by the Mid-West Automatic Phonograph Co. late in 1932. It is important to mention here that The Rudolph Wurlitzer Co. had been active in the coin-op phonograph business years before (1927-1929), when the firm produced semi-automatic “Victrola” models with a 5 cent coin-box mounted on the side. Not many “Debutante” models were actually produced in 1933, and it may have been considered a trial production by the management before it was decided to go at full steam into the business. Homer Earl Capehart was again an important man, as he introduced the ‘Simplex’ mechanism to the Wurlitzer company. The ‘Simplex’ was an old construction, but Russell I. Wilcox had filed an improved patent for the mechanism construction in 1931 (used in the “Ampliphone” model) and assigned it by mesne assignments to The Rudolph Wurlitzer (Manufacturing) Co. in 1934/35. The Rudolph Wurlitzer Co. at Wurlitzer Station in North Tonawanda, New York, became in the era to come, the ‘Golden Age’ of jukeboxes, a very important player with phonograph cabinets designed first by Charles N. Deverall, the “Model P-12” of 1935, and after that a line of wonderful cabinet designs by Paul M. Fuller, the “Model 312” of 1936 plus 16 additional patented designs for classics until 1948, when he decided to leave the Wurlitzer company. The now famous industrial designer Paul M. Fuller was born on the French island Corsica on the 5th January 1897, and he died at the Millard Fillmore Hospital in Buffalo on the 29th March 1951 only 54 years of age.
In the early and mid 1930s the modern-style automatic phonograph was not yet considered a housetrained piece of machinery, and today it might be right with a popular expression to call the following period the hobbledehoy stage of the jukebox. Today we know it more correctly as the ‘Golden Age’, and the latter half of the 1930s was definitely a period with circumstances important for the development of the jukebox towards the hey-days of design in the years 1941/42. Circumstances like the difficult economic situation, the war that might come, the invention of new techniques, and certainly the public yearning for musical entertainment. All considered one cannot expect that a similar breathtaking era will ever be possible in the future history of the jukebox concept.

The period prior to the ‘Golden Age’ gave birth indeed to a growing demand for music machines, and in the years 1934-36 there was a perceptible competition among the relatively few big manufacturers to operate automatic phonographs in diners, saloons, and other small locations of entertainment. The production of jukeboxes in large numbers was no longer tantamount to a safe increase in earnings. An effective marketing with a steady release of new models became more and more important for the survival of the manufacturing companies, and the production year gradually became of great importance when the owner of a saloon or diner should be talked into accepting a new piece of furniture.

The automatic coin-operated phonographs had suddenly become a real financial success for several companies like The Rudolph Wurlitzer Co., The J. P. Seeburg Corp., the Rock-Ola Manufacturing Corp. (David C. Rockola delivered one of the new 12-selection Rock-Ola’s to the decks of the luxury liner Queen Mary on her maiden voyage from New York in 1936), and the Automatic Musical Instrument Co., also called AMI. The ‘big four’ mentioned here were of course not the only ones to produce classic designs. A relatively large number of design patents are today proof of the presence of many hard-working industrial designers.
The special version of jukeboxes to be used in small locations, often called counter-top or miniature jukeboxes, was a well-known type around 1938/39, and the leading manufacturer, The Rudolph Wurlitzer Co., marketed the nice models “Wurlitzer 41”, “51”, “61”, “71”, and “81” until 1941/42.

The Rock-Ola Manufacturing Corp. had in order to compete with these only the model “Rock-Ola CM-39” of 1939 (with a matching pedestal designed by Arthur Nagel) and later in 1941 also the model “Rock-Ola 1409”, also called “JR-12”. There were a few others of the same type on the market, but as a phenomenon they had no chance to compete with the hide-away units with remote controls, which were introduced for real in 1939 by the Automatic Musical Instruments Co. in the form of “Mighty Midget” units, and in the form of “Wall-O-Matic” and “Bar-O-Matic” remote controls introduced by The J. P. Seeburg Corp.. The small counter-top jukeboxes could not survive the hey-days of design and the competition during the years 1940-42, but the hide-away units did survive because they could be used in very small locations in the big cities.

After the war, towards the end of the ‘golden’ era, all four big companies and a few others introduced new cabinet types for automatic phonographs, and Paul M. Fuller again had several cabinet designs.
patented and assigned to The Rudolph Wurlitzer Co., which was still the leading firm in the business. The post-war models were produced in large numbers followed by very effective marketing, and the models in mind were of course the famous “Wurlitzer 1015”, the following model “1080” and finally the “Wurlitzer 1100” with a well designed ‘Encore’ program selector.

The last of the three models was nicknamed ‘Bullet’ or ‘Bomber Nose’ by the public and all three models were design patented by Paul M. Fuller in the period 1946-1948. Another line in the jukebox history led to the big audio/visual machines, which mainly the Mills Novelty Co. of Chicago tried to make popular in the 1940s. The main problem for the manufacturers of film machines had since the idea was conceived first time before 1910 been the construction of reliable reel operating mechanisms. After decades of experiments the Mills Novelty Co. finally got a reliable mechanism using RCA-projectors at the end of the 1930s, which could be used for 16mm film with sound tracks officially called ‘Soundies’ (one reel with 8 film clips released per week). The film for the “Mills Panoram” machines were mainly produced by RCM Productions named after the three involved men: the founder James (Jimmy) Roosevelt (head of Globe Productions Inc.), the songwriter Sam Coslow, and of course Fred L. Mills (head of the Mills Novelty Co.), and distributed by The Soundies Corp. of America. To contain the mechanism the Mills Novelty Co. needed a nice cabinet, and the industrial designer Everett B. Eckland of Oak Park, Illinois, who had been consulted by the company through the 1930s, came up with the design for it. In the 1960s the big French “Scopitone” and Italian “Cinebox” models plus a few others came out onto the market, and it has been interesting work for the author over the past decade to register the musical and cultural heritage of the 1960s captured in the wonderful 16mm scoop-a-tunes, the film strips used in the second generation audio/visual jukeboxes, also nicknamed ‘see-hear jukes’, that followed the impressive American 16mm ‘reverse-title’, non-select, 8-film “Mills Panoram” machines of the 1940s. The film clips were really fantastic forerunners of what we know today as modern, promoting music videos so essential to both the music industry and the pop-rock artists, and a total of more than 1,030 titles on magnetic or optical sound 16mm film stock are known to exist.

Gert J. Almind, Denmark, for www.radiomuseum.org
The ‘Silver Age’ of jukeboxes is often described as the period starting with the first 100-selection phonograph, “Seeburg M-100-A” and “-B”, designed by Mahlon W. Kenney and introduced by The J. P. Seeburg Corp. in 1948/49, and ending with the last models with visible record changing mechanism in the early 1960s. In the early 1960s the design of coin-op music machines became quite different, and a lot of design patents were filed in order to protect the models in competition with the few other big manufacturers on the American market. Especially AMI, now by the name of Rowe/AMI, and Seeburg used the right to design patent the cabinets. At AMI the two distinct designs for “XJ Continental” and “XJ Lyric” were filed for patent in August, 1960, by Jack R. Mell. After the two models designed by Jack R. Mell (patents granted in 1962), Melvin H. Boldt took over the trend-setting again at Rowe/AMI, and design patented the following models.

None of the jukeboxes from the other two big jukebox companies, the Rock-Ola Manufacturing Corp. and The Rudolph Wurlitzer Co., were design patented in the 1960s and 1970s. This seems strange because there were so many models produced by both companies, and it also seems as if Rock-Ola and Wurlitzer were slightly behind the current design trends in the late 1960s and early 1970s. It was obvious, however, that the cabinet design was considered an important component of the complete product when sound transmission really was a factor. Plastic, that had been at first a novelty, was in the 1960s a necessary component material, but jukeboxes were moved from one location to the other, and literally had to be built to withstand the beating they were constantly subjected to during transport. At Wurlitzer it was simply a matter of building a cabinet with or without plastic that enhanced the tone, protected the mechanism, was durable, attractive, and that would blend with any location decor, and still allowed the finished jukebox to be sold at a reasonable price. The cabinets made by the Rock-Ola Manufacturing Corp. became discreet, designed to blend into the background rather than be the focus of attention. During the 1960s, through the 1970s, and into the 1980s the Rock-Ola company produced a lot of models.
In the latter half of the 1980s, in 1986/87 to be exact, the Deutsche Wurlitzer GmbH tried again with the Paul M. Fuller nostalgic design, marketing the “Wurlitzer 1015 OMT” (One More Time), and the new model became an immediate success. The “OMT”-model was also introduced with a new compact-disc mechanism in 1989. Late in the 1990s, the American main office of the Wurlitzer Jukebox Co. moved to Gurnee in Illinois, but the production facility was still located in Stemwedel-Levern in Germany. Rock-Ola Manufacturing Corp., however, tried in 1987 with a new version of the 1973 “Wurlitzer 1050” design and called it the “Rock-Ola Nostalgia 1000”. Although the 160-selection model was introduced late in the autumn of 1986 as a ‘truly sense-sational’ model, the cabinet was still too heavy and did not have the elegance of the classic “Wurlitzer 1015” of 1946/47.

In the 1990s several manufacturers in Europe and America reproduced the classic Paul M. Fuller design. N.S.M. Apparatebau GmbH in Bingen a/Rhein in Germany even used the term ‘the Concorde of nostalgia jukeboxes’ in the sales campaign for the “N.S.M. Nostalgia Gold”, which had an extremely fast changer mechanism, but it was and is always the cabinet design that really matters. In America official model names like “Rock-Ola Bubbler Nostalgic” (now produced by the Antique Apparatus Co., a leading exponent of the amalgamation of vintage design and hi-tech sound), “Rowe/AMI LaserStar Nostalgia” (voted the #1 compact-disc jukebox by American operators), and even “Seeburg Classic” (the models “SCCD-1” and “SCCD-2”) can be found on ‘nostalgic’ jukeboxes. In England the manufacturing company Sound Leisure Ltd. at 39 Ings Road in Leeds (founded in 1978 by Alan J. Black and Kevin E. Moss) has been known for years for its very elegant and Paul M. Fuller inspired reproduction antique jukeboxes, especially the “Manhattan” and “Gazelle” series.

“Sachsenklang” (semi-automatic) by Böhm-Automatic, GDR, 1964
Considering the models and designs mentioned in this short story, the following question might have been asked in the early morning hours among operators and patrons in the ‘juke-joints’: “Will there ever again be a really new, revolutionary era in jukebox design?“ It is the author’s opinion that one of the first steps towards a new design era was taken in 1998 by Christian Bökenkamp in Germany, a student since 1991 at the Berlin University of the Arts (Hochschule der Künste, Berlin). Christian Bökenkamp created a marvellous, unique 1:1 model of a wall-mounted jukebox for the theme ‘Gestaltung einer Musikbox’ completing his course of study in industrial design. The story continues, and it will be fun to study the developments in both the digital satellite down loading units and the new DVD-units with space for 600 audio/video titles and 1,000 audio-only titles, and especially to study the design ideas for the cabinets in the years to come. The history is not written to the end; there will be new chapters in the history of jukeboxes.

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Gert J. Almind

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Gert J. Almind, Denmark, for www.radiomuseum.org
Rock-Ola “Spectravox”, 1941

Packard “Manhattan” and “Pla-Mor” phonographs, and “Out-of-this-World” ceiling speaker in a voter registration office in Indiana (Homer Earl Capehart’s election campaign for the U. S. Senate)
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Selected reading


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