The Mighty Wurlitzer

The Mighty Wurlitzer is the crowning achievement of the Wurlitzer Company's many years of developing cinema and theatre organs. The »mighty« tone richness elicited from this great work is how it got its name.
In the museum itself, one's eyes initially fall on the horseshoe-shaped console in a white varnish finish offset with gold, from which the organ is put »into operation«. On the second floor, directly above, is the full line of Wurlitzer instruments in three large, accessible rooms: the main chamber, the orchestra room and the solo room. Downstairs, inaccessible to visitors, are the relay stations, an electrical wind machine and the bellows for wind generation. The airflow is fed from there through a canal (conducts) to the organ pipes in the chambers.
The Mighty Wurlitzer is, just like the church organ, at first a simple pipe organ. However, using its rows of pipes, called ranks, it is able to imitate specific orchestra instruments. This includes elaborate percussion (xylophone, glockenspiel or marimba harp, with a large drum, snare drum, hi-hat or tom-tom) and an entire array of special sound effects like birds chirping, wind howling, a train rushing by or foghorns.
The sheer variety of instrumental sounds and effects initially served as background music to the plot of silent films, its primary function being a cinema organ. Of course, only the owners of large cinemas could afford such a large and expensive instrument – which also required a seasoned player who knew how to use it effectively – while a piano or reed organ sufficed in smaller theatres. However, should the great investment in such a cinema organ actually pay off, it had to carry out other tasks beyond the accompaniment of silent films. These primarily included holding independent concerts. The conception of the instrument as a »one-man orchestra« (unit orchestra) gave it the effortless ability to entertain a large audience in a wide variety of ways with only one player. To this end the player used the myriad technical possibilities offered by such a massive instrument. The majority of sounds and effects, as well as their many possibilities for combination, served to enchant the audience. Through the position of the console the player always was visible to the audience; in the function of a showman, virtually an entertainer, he appeared on stage as an elegant artist in a tailcoat or tuxedo. There have been many renowned artists, among them multiple women.
The tradition of such concerts prevented the cinema organ from fading away even after the introduction of sound films. And yet while they fell silent in Germany with the onset of World War II, they still can be found in England and the United States. The first cinema organs in Germany were mainly built by the companies M. Welte & Sohn in Freiburg, E. F. Walcker & Co. in Ludwigsburg and Steinmeyer in Öttingen. Their cinema organs generally had two manuals and only a few basic sounds (ranks). 25 such organs were standing in Berlin alone, including 18 Oskalyd organs by Walcker: a dual-manual with 19 ranks from the year 1921 in the Alhambra Theater on Kurfürstendamm, and another dual-manual with 16 ranks from 1923 (expanded to 21 ranks in 1928) in the chamber light shows on Potsdamer Platz, and a three-manual with 10 ranks from 1925 in the Ufa Palast on Lehniner Platz, the current site of the Schaubühne. For the 1920s the American Theatre Organ Society (ATOS) lists 32 cinema and concert organs in Berlin alone. In England the John Compton Organ Co., Christie Unit Organ by WM Hill & Son and Norman & Beard produced instruments renowned well beyond the country's borders. Yet the strongest impetus came from the Rudolph Wurlitzer Company in the USA, who introduced their first cinema organs in 1924, first in England, then in continental Europe, to great success. As early as 1927 the BBC aired pictures of the Wurlitzers, sold »His Master's Voice« on vinyl several months later in quantities that few producers could even dream about today. An unbelievable boom set in. People flocked to Wurlitzer concerts in the cinemas and theatres – a mass movement that we now can only observe at rock concerts.

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But who was Wurlitzer? The company's founding dates back to Rudolph Wurlitzer (1831–1914), who left his hometown Schöneck in Saxony's Vogtland region in 1853 to try his luck in America. Wurlitzer came from a family of instrument makers, of which there were several hundred around Markneukirchen during his time. At first, in the New World Rudolph Wurlitzer sold musical instruments from his home country. However, he soon felt certain that he could make good business producing musical instruments for the military. He founded a factory for production thereof in Cincinnati in 1861. Due to good profits he opened another business in 1865 in Chicago. He expanded his operations in 1880. Production of pianos started again, mainly automatics like coin pianos and orchestrions – following a large trend of the time by doing so. Together with his brother Anton he founded Rudolph Wurlitzer & Bro., renamed to the Rudolph Wurlitzer Company in 1890, with the company founder as president (1890–1912). In 1908 Wurlitzer merged with the company DeKleist in North Tonawanda, New York and expanded to one of the largest companies of its type. Cinema organs were ultimately manufactured as well.

Wherein lay the mystery of the global success of the Wurlitzer cinema organ – global, because the Rudolph Wurlitzer Company exported to all continents? Its instruments can be found in Tokyo, Johannesburg or Stockholm, Auckland, Buenos Aires or Toronto (as early as 1916 in the latter). Between 1927 and 1929 in Germany, additional organs were installed in Düsseldorf, Essen, Munich and Nuremberg, along with Berlin. The success was because of high-quality organs that met the tonal and technical demands of the time to a very high degree. Such success is, of course, not solely credited to the company Wurlitzer, but is largely owed to the ingenious English organ maker Robert Hope-Jones (1859–1914) who, despite his intentiveness, was not initially met with financial success – neither in his home country nor in America later on. Farny Reginald Wurlitzer (1883–1972), the youngest son of the company's founder, not only sold many of Hope-Jones' patents in 1910 – the year of birth of the Wurlitzer theatre and cinema organ – but also took him on as a managing employee at the flourishing company. Hope-Jones significantly expanded the electro-pneumatic tracker action (the connection from the key to the pipe through the relay station is electrical, the functions in the console are pneumatic). He introduced the so-called multiplex system, but also various registers such as Tibia Clausa or Tuba Horn, to the Wurlitzer. He is also to thank for the mobile console, which proved itself both in »show business« as well as cinema shows, when the console could be lowered after a pre- or interlude, for instance. Hope-Jones' inventions, coupled with years of highly cost-intensive experimentation, led in the 1920s to the Wurlitzer Hope-Jones organ, the Wurlitzer Unit organ, the Mighty Wurlitzer – of which the *Berliner Musikinstrumenten-Museum* currently has the largest sample

The console © MiM, photo: Jürgen Liepe

on the European mainland. Wurlitzer's advertisements describe this organ as »The Perfect Musical Instrument for the Theatre. The Wurlitzer combines the world's finest pipe organ with all the different voices of the Symphony Orchestra under the control of one musician.«

The Mighty Wurlitzer in our museum is a special instrument for Werner Ferdinand von Siemens (1885–1937), grandson of the company founder Werner von Siemens. According to Horst Schimmelpfennig, one of the great cinema organ players of Berlin, Werner Ferdinand von Siemens – amazed the magical sounds traveled to North Tonawanda in 1928 and ordered a dual-manual Type 200 organ with eight ranks, which appeared in Berlin as Opus 2019 on 28 January, 1929. However, Siemens immediately sold it in favour of a far larger instrument to the Ufa-Palast am Zoo. On 28 August of that same year the instrument arrived at his villa in Berlin-Lankwitz. The console was installed in the concert hall of the building, and the remainder was located in the neighbouring room and basement.

The Organ Opus 2064 is an expanded design of Type 250. The differences lie in the extension of three manuals to four, each of which have 61 keys spanning five octaves (C–c^4), and the function of which can be described as follows: The first manual serves as accompaniment. The percussion is played from it, such as the tympani. The second manual is the main manual with the expression pedal, with which the sound can be amplified from the finest pianissimo to an exponential fortissimo. From here, percussion instruments such as sleigh bells or church bells can be played. The third

manual is an orchestral manual installed upon Siemens' request, especially popular for playing bells and the xylophone. The »solo«, serially used as the third manual, became the fourth manual after the inclusion of the »orchestral.« It is from here that the trumpets can best be played. The pedal boasts over 32 keys and a range of 2 1/2 octaves (C–g^1). Furthermore, the instrument received two additional rows of pipes (ranks): Gamba and Lieblich Bourdon 16' 8' 4' with 85 pipes each. At four ranks the range was increased by two octaves or one octave each (Tibia Clausa, String, String Celeste and Viol Celeste). Each of the aforementioned chambers had been made individually »swellable«, with a general swell pedal installed. Aside from the Vox Humana, Tibia Clausa and Tuba each received several tremulants. Couplers were added and the register buttons or switches were expanded due to the enhanced and enlarged ranks.

The Mighty Wurlitzer did not arrive at the museum as a gift from the Siemens family. In 1943 the villa in Lankwitz, and with it the organ, passed into the ownership of the Reich. The villa did survive the war unscathed, but the organ sustained significant damage from a cable fire, which Marvin E. Merchant – a GI stationed in Berlin – devotedly tried to repair. After many years of negotiation and a contract from 28 May and 3 June of 1982, the museum ultimately received the Wurlitzer organ from its former Reich ownership as »voluntary conveyance from the Federal Republic of Germany.« It has since been housed in the museum under the inventory index number 5369. The aforementioned company E. F. Walcker, entrusted with the function of the cinema organ, restored the instrument in their workshops, whereby great care was taken in maintaining its original condition. They also ensured its installation in the intended location in the museum, and its playability as well.

As described above, the organ possesses an electropneumatic tracking action that controls the pipe vents through relays. The relay station housed in the basement of the museum consists of 12 sections with 181 relays and 9,698 contacts. The contacts – once produced by Wurlitzer out of sterling silver, now primarily merely silver-coated – are a highly sensitive element in the elaborate structure. If one of the contacts is oxidised, its function is already impaired. Restorers and electricians are thus constantly working on maintaining its playability. Of course, this can simply be switched off by using electronics (midification), as is used with the Mighty Wurlitzer at the Collège Claparède in Geneva. We, however, wish to preserve the original as much as possible, and thus take the potential lapse into consideration.

Our Wurlitzer is a so-called 4/16. This means it has four manuals, which we have already described, and 16 ranks (base sounds or rows of pipes). The ranks in the three chambers on the second floor are organised as follows:

Main chamber
(Main chamber, upper left from the console) – 7 ranks:
1. Diaphon-Diapason
2. Bourdon-Flute
3. Viol d'orchestre
4. Viol celeste
5. Ophileide
6. Clarinette
7. Vox humana Sound effect: Chrysoglott

Orchestral chamber
(Orchestral chamber, middle chamber) – 4 ranks:
8. Gamba (contra)
9. Lieblich gedackt (Bordun)
10. Quintadena
11. Oboe-Horn Sound effect: Marima harp

Solo chamber
(Solo chamber, right chamber) – 5 ranks:
12. Tibia clausa
13. String
14. String celeste
15. Trumpet
16. Orchestral Oboe

Noise and sound effects, as well as percussion: tom-tom, glockenspiel, xylophone, chimes, sleigh bells, sand block, bass drum, snare drum, crash cymbal, tambourine, Chinese gong, bird whistle, castanets, triangle, chord cymbal, wind howl or surf.

The Mighty Wurlitzer boasts 1,228 pipes, with 19 effects including percussion. It is designed in accordance with the multiplex system (unit system). This allows every rank to be viewed independently from the manuals. The wiring allows for each unit to be played in any desired pitch with every manual by using stop levels – e. g. two octaves lower than the pitch of the button pressed. All intermediate notes, like thirds or fifths, can be played within an octave. This richness of principal possibilities notwithstanding, one will admittedly not use the same register possibilities for all manuals. With the multiplex system the individual ranks sometimes possess more pipes – namely 73, 85 or 97 – than correspond to the 61 buttons of the manuals. The organ thus has more possibilities for registering. Any register combination required during playing can be achieved with no temporary disruption thanks to the »pistons«, for quick register changes. Each manual has 10 such pistons, white knobs below the keyboards, which – literally at the press of a button – facilitate the desired combination. These are fixed register combinations that the player can programme as desired on a switchboard within the back of the console. Another three pistons are present in the pedal on the left.

There are some 175 stop buttons or switches for flexible registering, broken down into white, red, black or yellow for the individual manuals and the pedal for better differentiation.

Relay station © MIM, photo: Knud Peter Petersen

Three different pipe registers in the solo chamber (from l. to r.):
1. Trumpets (reed stops with brass bells)
2. Viol celeste / Viol d' orchestre
(suspended, tuned flue pipes corresponding to the
Vox humana of a church organ)
3. Bourdon (stopped wooden flue stops)
© MIM, photo: Knud Peter Petersen

One special feature of the Mighty Wurlitzer is playing with the »second touch«, triggered by pushing down harder on the buttons of the first and second manual as well as the pedal. Other pipes and effects are produced this way. Church bells, birds chirping or sleigh bells can be created with the »second touch«. The player also has the opportunity to play the melody and effect with one hand on the same keys simultaneously.
In order to technically master an instrument as complex as the Wurlitzer, the hands and feet of the player must be able to operate completely independently from one another. Unlike the church organ player, for example, the player of the cinema organ only uses the left foot for the pedals, and the right operates the expression pedal, pistons or pedals for percussion. The art of playing such a multi-faceted instrument is a skill in itself.
Every Saturday, and on many special occasions, the Wurlitzer in our museum is played. This allowed for an almost forgotten Berlin tradition to be revived after more than 40 years, enchanting more and more listeners as time goes by.

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