



The Organ of Zion Ev. Lutheran Church in Cambria, Wisconsin
M.P. Möller, Inc., Opus 3864, 1924

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GREAT

1. Open Diapason 8'
2. Melodia 8'
3. Dulciana 8'
4. Flauto Traverso 4' (From 2)

Swell to Great (8')

Swell to Great 4'

Swell to Great 16'

Great to Great 4'

Great to Great 16'

Chimes

SWELL

5. Stopped Diapason 8'
6. Salicional 8'
7. Dolce 8' (From 3)
8. Voix Celeste 8'
9. Flute 4' (from 5)
10. Violina 4' (From 6)

Swell 4'

Swell 16'

PEDAL

11. Bourdon 16'
12. Lieblich Gedeckt 16' (11 with reduced wind)

Swell to Pedal (8')

Great to Pedal (8')

Crescendo

Tremulant (for the whole organ)

All pipes and chimes enclosed

Mechanical Swell

From one point of view, 1924 was *not* the golden age of organ building. The organ world was still under the influence the “Mighty Wurlitzer” with its unification and duplexing in which a few ranks could be reused again and again at different pitches and in different divisions.

From another point of view, 1924 *was indeed* the golden age of organ building. The Organ Historical Society Database (which is not complete) lists 78 instruments produced by the Möller factory during that year. At that time they were producing one organ after another for churches, music halls, theaters and other institutions. Möller claimed to be the largest organ builder in the world, building over 12,000 instruments in the lifetime of their company. One writer stated, “In some cases, Möller was willing to build what a client could not afford from another builder. In other situations, the zeal to get instruments sold and installed may have eclipsed specific artistic ambition” (Ambrosino).

[Möller Opus 3864](#) shows craftsmanship. Each rank is quite pleasant in harmonics. The Celeste is warm. The Open Diapason sings. The influence of theatre organ building is present with its unification and duplexing, but in this organ the reuse of ranks is not in excess. The string and celeste stops make some simple orchestral effects possible. The single principal (Open Diapason 8') on the organ makes a nice solo stop with the softer stops of the swell. It can easily be made into a “plenum” by using the 4' coupler. For the size of Zion church, the Open Diapason played in octaves does fill the room.



The Virtual Model

The organ is replicated to show how it would sound and function in pristine condition.

- The original organ had a combination system that used a setter button and a pedal lever. I have opted for the standard style of combinations and setter.
- As in the original organ, the Great combinations control the Great and Pedal stops. The Swell combinations control the Swell and Pedal stops.
- The Lieblich Gedackt 16' pedal stop activates the Bourdon 16' rank along with a volume reducing switch filter, reflecting the way the original organ reduced the wind in the rank to reduce the volume.

Skin



The skin is based on the jOrgan theatre skin. Stops were modified to look like celluloid faux ivory stop keys. Pistons were modified from photographs of the Möller organ. Non-Möller elements are from the Stratman Master Skin.

The chimes are activated with the “chicken head” on/off switch rather than with a stop, which is how the chimes work on the original organ’s console. Even though it appears to be a rotary switch that would also control volume, it is simply an on/off switch.

Additional Controls



Reverb Controls

The virtual model has the standard controls for Fluidsynth reverberation. Combination R1 approximates the acoustics of Zion church. Other “R” combinations are present for the user to prepare other settings. A “Set” button just for the reverb is provided. Since Fluidsynth reverb has its limitations, we recommend using a convolution reverb program with an impulse response like “[Small Church Schellingwoude](#).”

Sound Effects

Sound Effects turns on sound effects synchronized to the stop and coupler action, the crescendo pedal, the mechanical swell and the blower (which is also activated by the ON/OFF switches). Turning Sound Effects OFF disables all sound effects.

Melody Coupler / Auto Pedal

For those playing this virtual model with a single keyboard, we include the Melody Coupler and Auto Pedal. The Melody Coupler will couple the highest note played on the Great from the Swell to the Great (keys 60-96 C3-C6). The Auto Pedal will couple the lowest note played on the Great from the Pedal division to the Great (36-57 C1-A2).

Dynamic Wind Simulation

The Dynamic Wind Simulation Engine monitors key activity using jOrgan's MIDI merger and has all key activity trigger an incrementer that uses a number of switch filters to vary the pitch, thus simulating wind behavior in a pipe organ. Faster play and increased polyphony bring the pitch down as far as -10c, and the pitch then recovers in a short time. Since the wind behavior in the original organ was quite shaky, the Dynamic Wind Simulation is set to have a quick pitch drop and a quick pitch recovery. For the effect to work, all keyboards must be referenced to the jOrgan MIDI merger. An indicator in the "Dynamic Wind OFF/ON" switch shows the state of the pitch in the wind simulation. The "Wind" light on the console will also flash. It remains on when the pitch is at standard pitch.

Transposer

The transposer allows you to change the key of the music you are playing.

Pitch Adjust

Pitch can be changed with the slider. The frequency of A in Hertz is displayed. "OP" is the setting for the original pitch of the organ, which is about A = 431 Hz. The "440" button returns the organ to standard pitch. With this feature, the organ can be tuned to other instruments on the fly. The frequency display is not affected by the transposer.

Recorder

The recorder records a performance with a MIDI file, and can also play a performance back, along with registration and expression changes.

Thanks

Sounds from the Möller organ in Zion Ev. Lutheran Church in Cambria, Wisconsin, U. S. A. were recorded and are used in this virtual model with the kind permission of Zion Ev. Lutheran Church.

Thanks also to Dr. Mark Bugeja for suggestions and comments on both the visual elements and adjustments on the sound samples.

Thanks also to Al Schroer for additional information on "soft wind" and some history on Möller organs.

Recording and Processing Information

Organ was recorded January 29, 2016

Sounds recorded with a [TASCAM DR-07 MK II](#) digital recorder at 44,000 Hz

Processing done with [Audacity](#). Mild noise reduction done. Samples divided. Some attack trimming was done with [Wavosaur](#).

Sondfont built with [Polyphone](#). Samples looped in Polyphone. Additional equalization was done with Polyphone to reduce or remove all frequencies below the fundamental.

Analysis of Celeste and Salicional samples. Salicional samples were on average 30c below standard pitch. Celeste samples were on average 45c below standard pitch. The average difference between each celeste sample and each regular sample was about 10c. The celeste did not seem to be tuned by the scaled method (designed to give an even pulse across the keyboard) or the uniform method. The entire celeste rank is now tuned 10c above standard pitch (uniform method).



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Recordings of the classical organ literature or of Christian hymnody and organ literature based on Christian hymnody using this virtual organ are permitted as derivative works, and such recordings may be shared with attribution as described above.

Additional Information

Ambrosino, Jonathan, "A Good Story with a Bad Ending: M.P. Möller 1875-1992"

<https://dl.dropboxusercontent.com/u/2384349/ambrosino/paper-iso1993.html>

M. P. Möller at Wikipedia. [https://en.wikipedia.org/wiki/M. P. Moller](https://en.wikipedia.org/wiki/M._P._Moller)

Organ Historical Society. <http://organsociety.org/>

M.P. Möller, Inc., Opus 3864, 1920s, OHS Database ID 44818. Zion Lutheran Church Cambria, Wisconsin <http://database.organsociety.org/SingleOrganDetails.php?OrganID=44818>





