



The Organ of Zum Kripplein Christi Ev.
Lutheran Church in Iron Ridge, Wisconsin
Hinners Organ Co., ca. 1905

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16' Pedal Bourdon
Pedal Coupler
Octave Coupler

16' Bourdon Bass (starts at C2)
16' Bourdon Treble
4' Principal Bass
4' Principal Treble
8' Diapason Bass
8' Diapason Treble
8' Lieblich Gedackt Bass
8' Lieblich Gedackt Treble
8' Gamba Bass (Shares bottom
octave with Lieblich Gedackt)
8' Gamba Treble
4' Flute Bass
4' Flute Treble

Bellows Signal (Not
operational)

Tremulant

The Church

Zum Kripplein Christi is located in Dodge County, Wisconsin, about two miles south of State Highway 33 between Horicon and Allenton. It can be viewed on Google Maps through this link:

<https://www.google.com/maps/place/Zum+Kripplein+Christi+Lutheran/@43.428801,-88.4904648,221m/data=!3m2!1e3!4b1!4m5!3m4!1s0x88043f0457c0acd5:0x87a058a7605e0dcc!8m2!3d43.428801!4d-88.489405>

Zum Kripplein Christi is German for “To the little manger of Christ.” The present building was built in 1864, and the congregation operated a Lutheran Elementary School until 2006. The building has thick plastered stone walls. The ceiling has a unique curve. The interior looks like it hasn’t changed in the last hundred years.



The Organ

The Hinners organ of Zum Kripplein Christi Ev. Lutheran Church in Iron Ridge, Wisconsin was built around 1905. Looking at the Organ Historical Society database, there are many Hinners organs from that era that are nearly identical. Other organ builders of that time (such as Wangerin-Weickhardt) also built one manual organs with split ranks with similar stop lists.

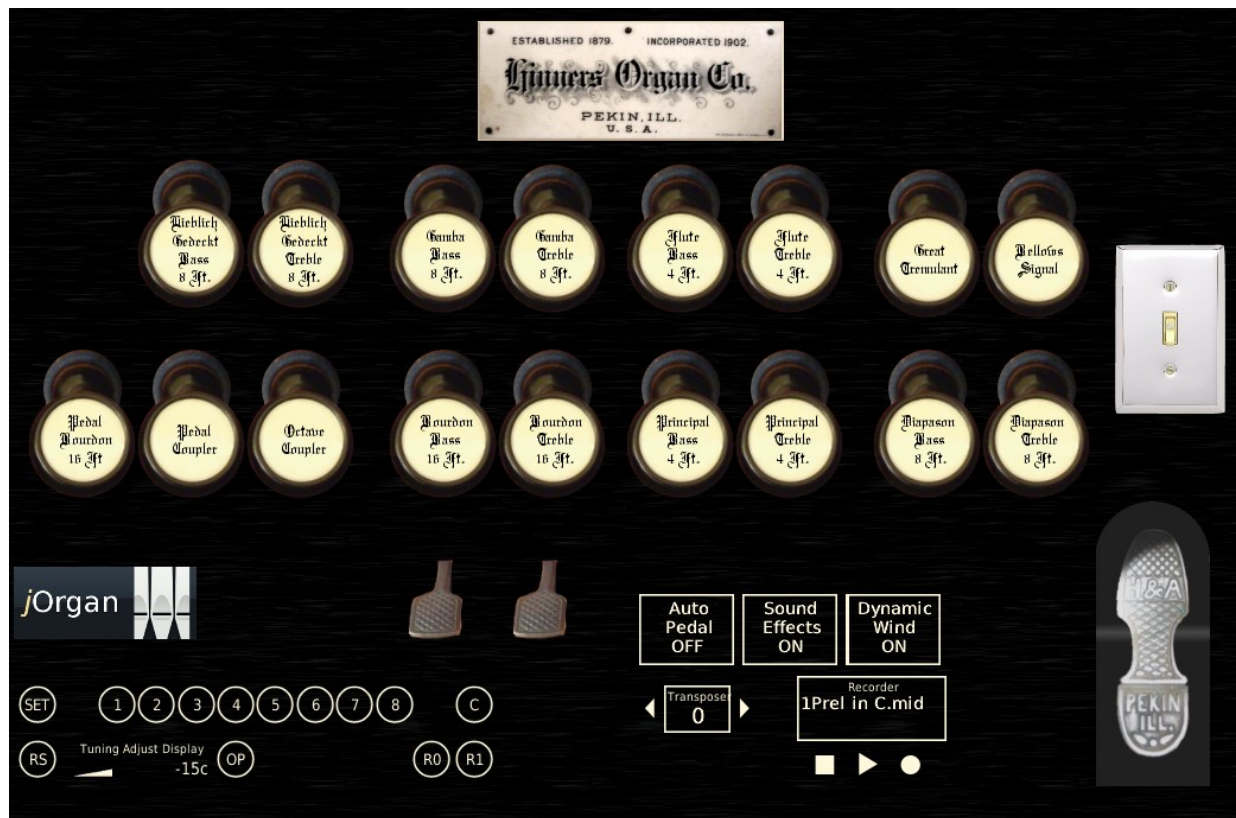
It is a single manual mechanical action instrument. Each manual rank is split at middle C (B2/C3) so in some ways it can function like a two manual instrument with different registrations for right and left hands.¹ The 27 note pedalboard is flat with parallel pedals.

There are two mechanical preset pedals, one is *forte* which draws all manual stops, and the other is *piano*, which cancels the Bourdon 16, Diapason 8' and Principal 4' stops (*Forte* must be engaged before *piano* can work.)

All ranks are enclosed except the Pedal Bourdon, Diapason 8' and Principal 4'.

There is a tremulant that affects all ranks (non functional at this time), and also a "Bellows Signal" stop-knob which did not appear to work. The organ now has an electric blower activated by a switch.

The Virtual Model



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

The tremulant on the original organ was non-functioning. Here it is given a frequency of 4.4 Hz.

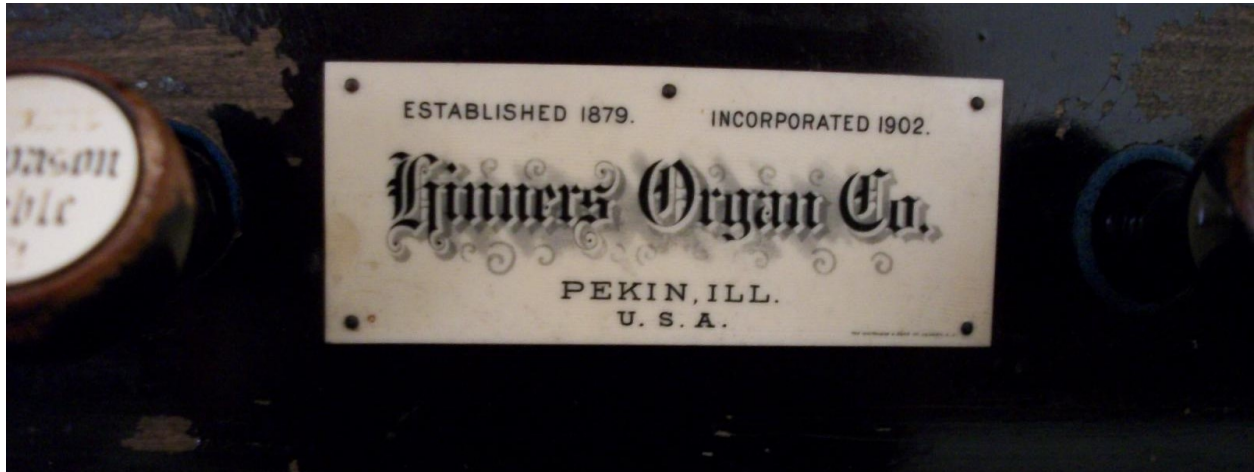
The key-action and swell open/close sounds are from the Jaekel organ of St. Paul's in Fort Atkinson.

¹ Use the 4' stops and play an octave lower in the bass area (C1-B2) for a softer accompaniment, and play the louder 8' (or 8' and 4') stops in the treble area (C3-C6) for a solo. This works very well for a two-manual effect. This style of playing is what these organs with split ranks were designed for.

The stop-action sounds and calcant bell are recordings of simulations.

The bellows pumping sounds are genuine, but from another organ.

The swell pedal graphic is from a photo of another Hinners organ from the same year. Hinners continued to use its H & A pedals even after the Albertsen name was dropped. The Zum Kripplein Christi Hinners has a volume pedal with a diamond pattern on the “sole” and a star pattern on the “heel.”



Additional Controls

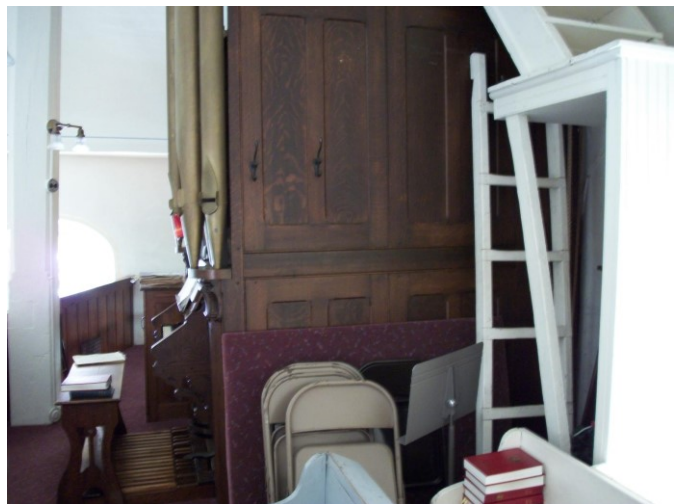
NOTE: All switches and controls in the ivory-white outline style are additions to the original instrument's configuration.

Combinations

Eight general combinations with a cancel are added to the organ. They may be set using the “set” piston.

Reverb Controls

The virtual model has a switches for Fluidsynth reverb (R0 and R1). The reverb is preset to be similar to the acoustics of Zum Kripplein Christi Ev. Lutheran Church in Iron Ridge, Wisconsin. The standard controls for Fluidsynth reverberation are hidden behind the nameplate. Since Fluidsynth reverb has its limitations, we recommend using a convolution reverb program with the Zum Kripplein Christi impulse response, included in the folder “Reverb.”



Sound Effects

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

Auto Pedal

For those playing this virtual model with a single keyboard, we include the Auto Pedal. 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 somewhat unstable, the Dynamic Wind Simulation is set to have a slower pitch drop and 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. The real instrument does not have a transposer.

Pitch Adjust

Pitch can be changed with the slider. Cents +/- is displayed. "OP" is the setting for the original pitch of the organ, which is about -15c. The "RS" button resets the organ to standard pitch. With this feature, the organ can be tuned to other instruments on the fly.

Recorder

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

Recording and Processing Information

Organ was recorded January 20, 2017

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. Attack trimming was done with [Wavosaur](#).

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

A few samples were resynthesized using [SPEAR software](#) to replicate non-functioning pipes and to reduce noise.

Analysis of Principal 4' samples were on average 15.1875c below standard pitch.

Swell open / close volume is based on and compared with recordings of a C chord (C2 – E4) with the registration of Lieblich Gedackt 8' and Flute 4' with swell open and closed.

Thanks

Sounds from the Hinners Organ in Zum Kripplein Christi Ev. Lutheran Church in Iron Ridge, Wisconsin, U. S. A. were recorded and are used in this virtual model with the kind permission of Zum Kripplein Christi Ev. Lutheran Church.

Hinners & Albertsen volume pedal graphics processed by [John Stratman](#).

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