

**Classroom Pump Organ
for NI Kontakt & Logic EXS24**



The Classroom Pump Organ was made around 1880 and uses air pressure to blow its reeds from the inside out, for an open, clear and direct sound. We sampled both the notes and the pump mechanism for a beautifully realistic playing experience. Our scripted version for Kontakt 3+ also enables creative chorus and harmony effects.

The Classroom Pump Organ features:

- Individually sampled notes and releases
- Pump mechanism sampled at five speeds in REX and WAV formats
- 2 round robins for all notes
- 152 stereo 24-bit WAV samples
- 1 program for NI Kontakt 3+ with scripted pump controls and GUI
- 3 programs for NI Kontakt 2+
- 3 programs for EXS24

Introduction

The Classroom Pump Organ was made around 1880 by C.A.V. Lundholm of Stockholm in Sweden. It was used as a Classroom Organ at Whitlockska Samskolan, a private education centre in Stockholm, between 1878 and 1978.

The organ is distinctive for its use of air pressure, as opposed to the more commonly found suction mechanism. The sound is produced by bellows pressing air through the reeds from the inside out. This creates an open, clear and direct sound.

We sampled all notes on the organ, and extended its playable range to C1 – C6 from the original C1 – C5. Additionally, we recorded the pump mechanism at different speeds. You can layer the sampled pump mechanism with your performance, or trigger it directly from the GUI in our scripted program for Kontakt 3+. When combined with scripted variations in note volume, the result is beautifully organic and realistic.

Our Kontakt 3+ program also enables creative chorus and harmony effects that go beyond the possibilities of the original instrument.

We hope you enjoy the Classroom Pump Organ!

The Precisionsound Team

Classroom Pump Organ for NI Kontakt 3,4 & 5

The file in NI Kontakt 3, 4 & 5 format requires the full version of NI Kontakt and does not work fully with the free Kontakt player!

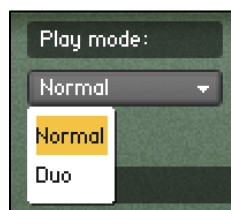
Organ Page



On the front page of the GUI, named “Organ”, you can choose a play mode, adjust tuning, and control the pump sound. From left to right, the controls are:

Play Mode

Play Mode: sets the current playing style. Two modes are available: **Solo** and **Duo**.



Solo mode is the natural sound of the organ, with two alternating round robins.

In **Duo** mode, two round robins are played simultaneously for each note. When combined with detuning, this creates a chorused tone reminiscent of an accordion.

Duo mode is described in detail overleaf.

- ① *The currently selected mode will be remembered after you save and reopen the Classroom Pump Organ instrument.*

Duo

When Duo mode is active, the note and release sounds are doubled. By default, the original and doubled samples are at the same pitch and volume. The controls in the Duo section enable you to adjust their pitch and volume for creative chorus and harmony effects.



Coarse: sets the transposition of the doubled samples in semitone steps, to a maximum of +/-1 octave.

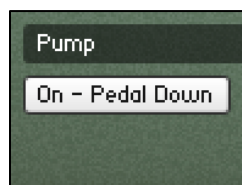
Fine: sets the tuning of the doubled samples in cents.

Mix: blends the two sets of samples. When *Mix* is zero, the original and doubled samples are equal in volume. When *Mix* is at -12, you hear only the original samples. When *Mix* is at +12, you hear only the doubled samples.

- ① *The controls in the Duo section take effect when Duo play mode is active. When Solo mode is active, the Duo controls have no effect on the sound.*

Pump

The Pump section controls the sound of the organ's pump mechanism and its effect on the volume of played notes.



On/Off: enables or disables the pump.

This button can also be controlled by the sustain pedal (MIDI CC64). Press and hold down the pedal to turn on the pump; raise the pedal to turn it off.

When the pump is on, the Classroom Pump Organ plays a sample of the pump mechanism at the currently selected rate. If you save the instrument with the pump on, it will automatically start playing the pump sample when reopened.

- ① *If your digital audio workstation sends an 'all notes off' message to Kontakt when stopping playback, this will cause the pump sample to stop. To ensure that it plays again when playback is restarted, add a sustain pedal down event (CC64=127) to the first beat of your MIDI sequence.*



Depth: sets the amount of volume modulation applied by the pump to played notes. It varies their volume over time.

When *Depth* is zero, the pump does not affect the volume of played notes.

When *Depth* is 100%, the volume of played notes is strongly affected by the pump, so that note volume cycles between normal level and silence, for a tremolo-like effect.

Rate: sets the speed of the pump mechanism. This determines the rate of both the sampled pump mechanism and its cyclical effect on the volume of played notes.

Five tempo-synced rates are available: one bar, half note, quarter note, eighth note, and sixteenth note.

Volume: sets the volume in decibels of the pump mechanism.

Dynamics Page



On the second page of the GUI, named “Dynamics”, you can shape the envelope and response of the sound. From left to right, the controls are:

Envelope

Attack: sets the time in milliseconds for the sound of the instrument to reach full volume when a note is played.

Decay: sets the time in milliseconds for the sound of the instrument to die away to silence when a note is released.

Start: sets the starting position of the playhead when you play a note. At 0%, the playhead starts at the beginning of the sample, so you hear the natural evolution of the sound. At higher values, the playhead starts later in the sample, resulting in a more consistent sound that can be useful in some musical styles.

Release

Volume: sets the volume in decibels of the release samples that sound when a note stops playing.

Velocity

Sens: sets the relationship between how hard you strike the keys (MIDI velocity) and the volume of the sound.

At 0%, the volume of the sound is unaffected by how hard you play, which is normal for an organ. At 100%, the volume of the sound is strongly affected by how hard you play.

Stereo + EQ Page



On the third page of the GUI, named “Stereo + EQ”, you can shape the stereo image and tone of the sound. From left to right, the controls are:

Stereo

Width: sets the stereo image of the instrument, from mono to 100% (natural stereo).

EQ

Lo Gain: sets the volume of low frequencies, between +/-6 decibels.

Mid Gain: sets the volume of mid frequencies, between +/-6 decibels.

Mid Freq: sets the centre of the frequencies controlled by the *Mid Gain* dial.

Hi Gain: sets the volume of high frequencies, between +/-6 decibels.

- ① The Lo and Hi EQ frequencies have been pre-tweaked by Precisionsound to suit the instrument.

Reverb + Delay Page



On the fourth page of the GUI, named “Reverb + Delay”, you can apply a delay effect and a high-quality convolution reverb. From left to right, the controls are:

Reverb

Level: sets the volume in decibels of the convolution reverb effect.

Type: changes the impulse response of the convolution reverb. Seventeen impulse responses are available, ranging from short springs to churches and cathedrals. You can also disable the reverb by setting this menu to “Reverb off”.

Delay

Level: sets the volume in decibels of the delay effect.

Delay on/off: enables or disables the delay effect.

Time: sets the gap in milliseconds between delay repetitions.

Tone: sets the high-frequency damping of the repetitions generated by the delay, where 0% provides no damping, and 100% provides full damping for a darker sound.

Feedback: sets the extent to which repetitions generated by the delay are fed back into the delay, to produce more repetitions. At 100%, the delay continues regenerating indefinitely.

Spread: sets the stereo image of the repetitions generated by the delay, where 0% is mono, and 100% is full stereo for a ping-pong delay effect.

Credits



Recording: Daniel Näsström

Sound editing: Lars Westin

Kontakt scripting: Iain Morland <http://www.iainmorland.net>

GUI graphics: Lars Westin

This product includes impulses from the free Bricasti M7 library by Acousticas, used under license.

The manual was written by Iain Morland.

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