



Version 2.2 - Updated May 22, 2020  
An **Impact Soundworks** Sample Library  
Designed for Kontakt 5 Player

Performed & Recorded By Simon Dalzell  
Produced in Collaboration with Impact Soundworks

## Introduction

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We are pleased to present the beauty and elegance of **Pearl Concert Grand**, our debut grand piano virtual instrument. This library features a pristine Yamaha C7 captured in exquisite detail with four microphone positions, spanning 14,000+ audio samples. Our goal with **Pearl** was to create a truly timeless piano instrument versatile enough for everything from film scores and classical repertoire to rock and pop music.

Most importantly, **Pearl** is designed to be a *joy* to play. We meticulously crafted this instrument's default presets, 'touch', effects, and mic positions to be eminently playable. A lovely, unencumbered user interface provides very easy control over all aspects of the sound, such as mic mixing, channel EQ, tuning, and velocity response. By simply adjusting the mic mix alone, you can achieve drastically different sounds: emotional and intimate through the close mics, or voluminous and reverberant with stage and hall enabled.

We know that as soon as you load **Pearl** and beginning playing, you'll fall in love - we did!

## Notes on Version 2.2

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In this version of the instrument, we've addressed some long-standing issues with sustain pedal and release behavior, as well as corrected issues with the 24-bit patches, and added more snapshots. We have also reduced CPU usage and upgraded the sound quality and realism of overlapping notes!

# Installation & Setup

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**Pearl** is a Kontakt instrument, requiring Kontakt (or Kontakt Player) version 5.6 or higher. Please ensure that Kontakt works properly on your machine before downloading, installing, or activating the library.

If Kontakt does not work on your machine, Pearl will not work either!

1. Install the **Pulse** application if you don't already have it. **Pulse** is a cross-platform desktop app that lets you download and install your libraries with blazing speed! You'll need to create an account here, but once you do, you can access your purchases from **any** developers using **Pulse**, anytime, from any computer.

<https://pulsedownloader.com/>

2. Once **Pulse** is installed, open it and enter your **PEARL Concert Grand** product code. Follow the instructions to download and install the library.

3. Open Native Access, click "Add a Serial", and input the same product code to **activate** the library.

4. Once activated, click "View Products Not Installed". Find **PEARL Concert Grand** in this list. Click the "Add Library" button to the right, and select the folder where Pulse downloaded the library. This completes the installation process.

## OPTIONAL – 24bit Samples

For maximum fidelity, you can use the optional set of 24bit patches. These are more memory-intensive and will take up more space on your hard drive, so please keep that in mind. If you want to free up hard drive space, you can delete the files with "24bit" in the name from the **Samples** subfolder.

## OPTIONAL – Close Noise Ambient Loop

This file contains a seamless loop of noise from the hall, as picked up through the close mics. You can layer it underneath any track using Pearl and mix to taste if you want a bit more 'air' and realism!

# Library Content

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**Pearl Concert Grand** features detailed recordings of a Yamaha C7 grand piano. The recordings were captured at 24-bit / 88 khz and downsampled using the highest-quality sample rate conversion (SRC) to 44.1khz. All 88 notes were sampled **chromatically**, with 8 dynamic (velocity) layers per note from *pp* to *ff*. Samples were recorded both with sustain (damper) pedal raised and lowered. When a MIDI sustain pedal is used (CC64), you will hear the **actual resonance** of notes being played with the pedal lowered. Additionally, the entire set of samples has two round robin (RR) variations.

Key release noises for every note are provided at multiple dynamics, offering a **realistic release 'tail'** echoing through the space and the piano body. Pedal release noises are also provided. These are triggered when notes are played with the sustain pedal down, and the sustain pedal is lifted. Release samples also include two round robin variations.

The library includes four microphone positions:

### Close (Stereo)

A pair of DPA 4003 microphones placed on a stereo bar towards the keyboard end of the piano. These provide the cleanest, driest sound. Because of their placement, they also have a slight stereo image, meaning that higher notes will sound louder in the right channel and lower notes will sound louder in the left channel. This can be exaggerated or mitigated by using the stereo width knob.

### Stage (Stereo)

A pair of Earthworks M30 omnidirectional microphones mounted to a wedge-shaped wooden panel and placed a few feet back from the piano. The wedge essentially makes the microphones into boundary mics, adding stereo separation while still capturing more ambience than the close mics.

### Pedal (Mono)

A single Rode NT5 placed under the piano pointing at the underside of the sound board. This one is mostly to add diversity to the library, and works best when mixed in with either the close or hall mic, or on its own with heavy effects processing added.

### Hall (Stereo)

A pair of DPA 4011 cardioid microphones mounted in an ORTF configuration, placed further back in the hall and elevated to about 12 feet. These will sound best when used to add ambience to the close or stage mics.

## Pedal / CC Support

**Pearl** supports a number of useful pedal CCs:

The **damper** (sustain) pedal via MIDI CC 64. In v2.0, this pedal now supports the full range of MIDI values 0-127, with 127 being no damping at all. You can thus achieve whatever level of damping you prefer by applying different pressure to your pedal (or drawing different values in your DAW!) However, this functionality does use **some extra CPU**. To **disable** continuous pedaling, simply turn off **Continuous Pedal Values** on the settings page. CC64 will then simply function as OFF/ON.

The **sostenuto** pedal via MIDI CC 66. When this is pressed, all notes currently being played will be sustained. For example, if you play a Cmaj, hold, and enable the sostenuto pedal, the Cmaj will ring out even if released. However, new notes played will not ring out.

The **soft** (una corda) pedal via MIDI CC 67. When pressed, this will soften (muffle, darken) all notes.

Lastly, **Pearl** supports the use of the sustain pedal even after a MIDI note is played. For example, if you play a staccato note and immediately press the sustain pedal, the note will “catch” and sustain. This feature can be toggled with the **Repedalling** option on the settings page, and the “catch” window is set with the **Release** envelope value.

Note that when **Repedalling** is active, the instrument CPU usage is increased, so if you do not plan on using this feature, we recommend turning it OFF.

## Resource Usage & Light Patches

**Pearl** is a very deeply-sampled library where no sacrifices were made in audio fidelity. The master patch, “Pearl Concert Grand.nki” contains all 14,000+ samples and when all mic positions are loaded, RAM usage can climb to 5-6gb depending on your DFD settings in Kontakt.

It is possible to reduce **Pearl**'s resource consumption by disabling mic positions you don't need. This is the simplest and most straightforward solution.

However, we realize that not every project requires the full depth of sampling **Pearl** has to offer, and so we've created a selection of LIGHT patches with reduced resource usage. These patches, stored in the Instruments\Light folder, are as follows:

**Pearl Concert Grand (No RR):** Omits the second RR variation for all samples, cutting memory usage in half. You can always use Extra RR for more variation without extra memory usage.

**Pearl Concert Grand (No Sustain):** Omits the pedal-on samples, again cutting memory usage roughly in half. If you are writing music that does not use the sustain pedal, there is no reason not to use this patch! Of course, the sustain pedal will still work and function as normal; it will just use the normal set of recordings instead.

**Pearl Concert Grand (No Sus+RR):** Combines the two patches above, reducing memory usage by 75% compared to the default master patch. T

**Pearl Concert Grand (Lightest):** Omits RR and sustain pedal samples and uses sampling on every *other* note, instead of every note. While not ideal for exposed, solo piano performances, this subtle change (which saves an additional 50% RAM) is virtually unnoticeable in many contexts. If you are really strapped for memory, use this as a last resort.

# User Interface

We've created an intuitive and elegant script engine for **Pearl** which allows you control over every aspect of the instrument: microphone mixing, velocity response, tuning, EQ, effects, etc.



## Volume

Affects the output volume for the entire instrument - all mics and effects.

## Transpose

Sets transposition for all incoming MIDI events. Unlike Kontakt's "Tune" knob, **this does not affect tuning!** It simply takes any MIDI notes sent to Kontakt and moves them up or down by the selected number of semitones.

## Mic Mixer - Width

Controls the stereo width of each mic channel. Each mic can be expanded in the stereo field or collapsed to mono.

## Mic Mixer - Offset

Controls the playback position of samples through each mic position. For example, a value of 4ms in the Close mic position means that the Close mic samples will be played starting 4ms into each recording. Higher offsets make the instrument more 'responsive', reducing the delay before the tone of each note is heard, but may truncate the beginning of each note.

We recommend using minimal offset values for the Close mic position, if offset is used there at all. For the other mic positions, offset may be used to effectively reduce the microphone distance and delay between mics.

### Mic Mixer - Volume

Controls the volume of each mic channel.

### Mic Mixer - Mic / FX Switch

Switches the view for each mic channel from the mixer view to the channel effects strip (EQ & compression).

### Mic Mixer - Mic Buttons (Purge)

Clicking the labeled buttons at the bottom of each mic channel strip will enable or disable that mic position entirely. By default, disabled mics are also unloaded (purged) from memory, however this setting may be changed on the advanced page.

### Mic Mixer - Output Menu

Each mic position can be sent to a different Kontakt output (st.1, st.2, etc.) If you change your output configuration while Pearl is loaded, please hit the “!” button in the upper right of the Kontakt plugin/standalone interface so the list of outputs within Pearl can be refreshed.

**IMPORTANT!** When using any output other than “Default”, the selected mic will **bypass** the global FX. This is a limitation of Kontakt itself, as the global FX apply to Kontakt's main outputs and not the separate DAW outputs.



### Mic FX - Compress

Controls the wet mix for the bus compressor on each mic channel. These compressor settings are 3:1, 10ms attack, 400ms release, 10dB makeup gain, and -13dB threshold.

### Mic FX - EQ (HF, LF, HMF, LMF)

Controls the gain for the 4-band bus EQ on each mic channel. The frequencies are as follows: 155hz (LF), 707hz (LMF), 2khz (HMF), 5.7khz (HF).

## Performance Page



### Vel -> Vol (Velocity to Volume)

Controls how much velocity affects the instrument's volume. If turned all the way up, volume scales evenly with velocity. If turned all the way down, samples are always played at the same volume regardless of velocity. This behavior is not realistic, but may be useful if you want to hear the softer-recorded dynamics at a louder volume.

### Vel -> Bright (Velocity to Brightness)

Controls how much velocity affects the instrument's overall brightness. Naturally, each recorded dynamic is progressively brighter than the last, but this control helps smooth over transitions in layers thus adding even more realism and responsiveness.

### A/D/S/R - Attack, Decay, Sustain, Release

These controls allow you to change the volume (amplitude) envelope for the instrument. When using any offsets, we recommend a slight attack of ~3ms to ensure there are no pops or clicks in the attack of each sample. Decay, sustain, and release should generally be left at default values, but it's easy to create experimental sounds by varying them.

Also, if **Repedalling** is enabled, the Release time will serve as the 'catch' time for repedalling a note.

### Velocity Sensitivity Table

This table allows you to edit the velocity response of the instrument. The X-axis represents input velocity, and the Y-axis represents output velocity. The default shape is an upward-sloped line, meaning that input velocity matches output velocity (no changes).

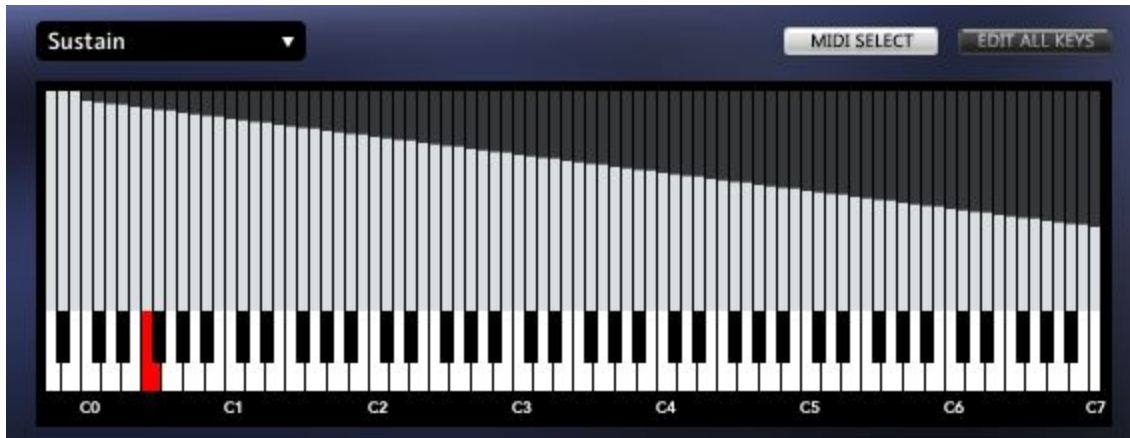
## Sensitivity Curve

If you prefer not to manually edit the Sensitivity table, you can simply use this knob to morph between various sensitivity levels smoothly.

## Per-Key Editing

New in Pearl 2.0, you can now change several parameters for every individual playable key! The **Dropdown** menu allows you to select which parameter you'd like to edit.

Note that when **Edit All Keys** is **enabled**, all changes made to the knobs above (Vel > Vol, ADSR, etc.) will be applied to all keys. Even if you edit the table below, adjusting any of these knobs will **overwrite** your per-key changes. Thus if you want to create a custom setup, you should first **disable Edit All Keys**.



## Editing Table

Just like the Sensitivity table, here you can draw values with your mouse.

## MIDI Select

When enabled, you can play a MIDI note to highlight a key for editing. Then, by moving the knobs above, you will change values for **ONLY** this key.

## Microtuning (Dropdown Option)



This table allows you to set microtuning (in increments of 1 cent, i.e. 1/100th of a semitone) for the piano. You can draw in exact tuning changes to specific keys, or you can select a **Root Key** and a **Tuning Preset**.



## Tuning Presets

As with velocity and master presets, here you can save or load factory & custom presets for tuning. We've included a few common piano tunings such as just intonation and pythagorean, as well as A=432, A=442, and A=448hz.



### Pedal Noise

Controls the volume of pedal release noises, which are triggered when the sustain pedal is pressed or lifted.

### Normal Note Release Noise

Controls the volume of key release noises when the sustain pedal is UP, which are triggered when keys are lifted.

### Sustained Note Release Noise

Controls the volume of key release noises when the sustain pedal is DOWN, which are triggered when keys are lifted.

### Continuous Pedal Values

When enabled, any value from 0-127 is supported on the sustain pedal (CC64) at the cost of increased CPU. **Rolloff Speed** modifies the degree to which note length is affected by partial values.

### Re-Pedalling

When enabled, it is possible to press the sustain pedal to 'catch' a note that has already been released, as long as the note is within its release window (set by ADSR). This costs extra CPU but can enable some useful performance techniques.

### Round Robin

When enabled, an extra RR variation will be used. When disabled, these samples will be purged.

## High Dampers

Pianos naturally lack dampers in the upper register. This means that high notes will ring out when played, as opposed to stopping when the key is lifted. When this button is enabled, high notes will act as if they had dampers - they will stop ringing out when notes are lifted, and they will be affected normally by the damper pedal. In short, leave this OFF for maximum realism.

## Pedalled Samples

When enabled, a separate set of recordings is used when the sustain pedal is down. You can disable this to save RAM.

## Global FX Tab



**Pearl** includes a rack of four high-quality, studio-grade effects. These are as follows:

**Compressor:** An analog-modeled compressor (Solid Bus Comp) with controls for threshold, attack, makeup gain, ratio, and dry/wet mix.

**Tape Saturation:** A vintage tape saturation & warming effect with controls for input gain (saturation amount), warmth, and HF (high frequency) rolloff.

**Transient Designer:** A specialized compressor that enhances or attenuates transients and sustains, with separate control for input gain.

**EQ:** A four-band parametric EQ (Solid G-EQ) with controls for LF, LMF, HMF, and HF gain and frequency bands, along with LMF/HMF Q (width).

**Reverb:** A powerful convolution reverb send with 31 custom impulse responses (IRs) created by Impact Soundworks. These range from small rooms to halls, from dreamy and digital to realistic. Controls are offered for reverb HPF and LPF (high pass and low pass filters) as well as size (reverb length multiplier) and wetness.

## Credits

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**Recording and Performance:** Simon Dalzell

**Recording Engineer:** Wiley Ross

**Recording Assistant:** Dylan Carpenter

**Instrument Design:** Simon Dalzell & Andrew Aversa

**Kontakt Programming & Scripting:** Nabeel Ansari and Mario Kruselj

**Editing:** Elan Hickler

**Additional Editing:** Iain Morland

**Artwork:** Dickie Chapin (Constructive Stumblings)

## Troubleshooting & Feedback

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Have you used **Pearl** in a project recently? Got an awesome track you'd like to share? Drop us a line ([admin@impactsoundworks.com](mailto:admin@impactsoundworks.com)) and we might post it on our website! Or, tell the world at our Facebook page here: <http://www.facebook.com/ImpactSoundworks>

We encourage all our users to share and promote their work made using our samples. Word-of-mouth is the **#1 way people find our instruments**, so it also helps us to produce more great libraries for you!

For any technical support issues regarding the library, don't hesitate to email [support@impactsoundworks.com](mailto:support@impactsoundworks.com).

You can also visit our friendly user community and support forum on KVR Audio:

<http://www.kvraudio.com/forum/viewforum.php?f=176>

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