

Performance *Zither* by Toby Sherriff

v1.3 for Kontakt 5.5

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About the Instrument

Performance Zither was created to increase playability while reducing the amount of time spent “taming” parameters. The instrument provides a variety of articulations and sound-shaping options and even includes some tools that can help spark creative ideas.

This instrument comes in both 24 and 16-bit versions. When loaded into Kontakt, the 24-bit version uses about 77 MB of RAM and 933 MB of disk space, while the 16-bit version uses about 71 MB of RAM and 439 MB of disk space. The Zither was sampled meticulously and uses a total of 537 samples. Under the hood, Performance Zither is powered by a custom script that provides advanced features like randomized round-robin, decay-matching release samples, arpeggio generation/detection algorithms, and more.

Note: Performance Zither requires the full version of Kontakt 5.5

Performance Zither Free

The free version of Performance Zither can be used for any purpose — personal or commercial. It is available for download at www.tobysherriff.net, and includes all four articulations (pick, pluck, hammer, and ensemble), as well as the various articulation parameters (flams, attack/decay settings, reverb, and ensemble spreading); however, the pluck, hammer, and ensemble articulations are only available for 5 minutes once they are triggered. After this time you must reload the instrument or purchase the full version.

Performance Zither Full

The full version of Performance Zither contains all the features of the free version, but no restrictions are placed on the articulations; you may use them for as long as you like. As with the free version, Performance Zither Full may be used for personal and commercial purposes.

Articulations

Performance Zither was sampled with three separate articulations (the ensemble articulation is created from these three). Each articulation offers a very distinct sound.

Pick

In this articulation, the strings are plucked with a guitar pick. This gives the tone a well-articulated and definite attack, without sounding too harsh. The picked articulation was recorded with three velocity layers and 4x round-robin, and employs velocity crossfading to create a realistic velocity response.

Pluck

In the plucked articulation the strings are plucked with a finger, achieving a harp-like sound that is softer than the other two articulations. This articulation was sampled with two velocity layers and 4x round-robin, and also uses velocity crossfading.

Hammer

The hammered articulation sounds much like a hammered dulcimer and offers an alternative to the crisp sound of the picked articulation. This articulation was sampled with two velocity layers and 4x round-robin, and also uses velocity crossfading.

Ensemble

The ensemble articulation combines all three articulations to create a thick and powerful sound. Round-robins are determined individually for each articulation, resulting in a total of 64 possible sample combinations for any given velocity and key.

Settings

The following settings are available on the articulation page:

- **Flam strokes:** determines the number of strokes to prepend to each note
- **Flam spacing:** the number of milliseconds that should elapse between each flam stroke
- **Attack amount:** the amount of the attack portion of the sample to include in each note
- **Attack smoothing:** samples will fade into their maximum amplitude after this many milliseconds
- **Decay amount:** the maximum amount of time it will take for a note to fade out completely
- **Reverb amount:** the amount of wet (reverb) signal to mix with the dry signal
- **Stereo spreading:** sets the amount of panning to apply to the different articulations to create a wide stereo effect; available with the ensemble articulation only

Modes

Sustain

Sustain mode is the default mode and enables conventional note-on triggered playback. Release triggers and tremolos are supported in Sustain mode.

Finger-damp releases determines whether or not release samples should be included. If enabled, the instrument will respond to note-off messages and create a finger-dampening effect that abruptly muffles the string's decay.

Tremolo source identifies the CC that should be used to trigger tremolos. If a note is played while the tremolo source CC is engaged (has a value greater than 0), a tremolo will begin. As you increase the tremolo source CC, the speed at which the tremolo plays will increase.

To change the speed range of the tremolo, adjust the values in the **Tremolo speed (ms)** boxes. These two values determine the number of milliseconds to wait between tremolo notes; as the tremolo source CC increases/decreases, the time between tremolo notes moves through this range.

Tremolo vel. source determines the velocity of the tremolo notes. Set to "Key Velocity" to play tremolos back at their performed velocity, or "CC" to change the velocity of the tremolo notes at any time.

Important note: Do not use CC 24 when assigning CC sources to knobs or parameters. It is used internally by the zither script and will conflict with any incoming CC 24 messages.

Arpeggio

Arpeggio mode allows you to perform arpeggios and scales accurately and easily. The keyword here is *perform*; the speed, range, key, shape, and velocity can all be controlled simultaneously, so you can create convincing runs in real time. To perform an arpeggio, just hold down one of the many preset shapes on the keyboard and cycle through the arpeggio generator CC. The speed at which the arpeggio generator moves determines when the arpeggio notes will sound, and only while the shape remains held. You can change the shape at any time to instantly update the arpeggio/scale type. See below for a list of all preset arpeggio shapes.

If **Ignore repeated notes** is enabled, increases/decreases in the arpeggio generator CC will only trigger new notes. If this option is disabled, slight variations in the arpeggio generator CC could produce the same pitch multiple times in a row, until it has increased/decreased enough to trigger a different pitch in the arpeggio/scale.

The velocities at which the arpeggio/scale notes will play back is determined by the **Velocity source** setting. If set to "key velocity", then the velocities from the note-on commands that determine the arpeggio type will determine the arpeggio velocities. If set to "CC", then you can use a CC to dictate the velocities at any time. This can be useful if you want to perform a specific crescendo or dynamic technique.

Important note: Do not use CC 24 when assigning CC sources to knobs or parameters. It is used internally by the zither script and will conflict with any incoming CC 24 messages.

When an arpeggio type is calculated, it is displayed on the staff at the bottom of the page. The arpeggio/scale type will always be shown with a root note of C, but will be played back in the same key from which it was triggered. The following is a list of preset arpeggio types/scales. To achieve the type indicated on the left, hold the notes indicated to the right. The notes here are illustrated with a root key of C but will work in any key.

- Unison/octave [C]
- Fourth [C, F]
- Fifth [C, G]
- Chromatic scale [C, C#, D]
- Harmonic minor scale [C, D, Eb]
- Major scale [C, D, E]
- Whole tone scale [C, D, E, F#]
- Pentatonic Scale [C, E, G, A]
- Octatonic Scale [C, D, D#, F, F#]
- Minor chord [C, Eb, G]
- Major chord [C, E, G]
- Minor 6 chord [C, Eb, G, A]
- (Dominant) 7th chord [C, E, G, Bb]
- Minor 7 chord [C, Eb, G, Bb]
- Major 7 chord [C, E, G, B]
- Minor major 7 chord [C, Eb, G, B]
- Diminished 7 chord [C, Eb, Gb, A]
- Half-diminished 7 chord [C, Eb, Gb, Bb]
- Augmented chord [C, E, G#]

Rain

Rain mode creates a textural effect in which notes are generated automatically based on the keys you hold down. Unlike arpeggio mode, which requires a generator CC, rain mode will make noise as soon as you press a key.

As with arpeggio mode, the **Velocity source** setting determines whether the generated notes will get their velocities from the held notes or from a CC.

Important note: Do not use CC 24 when assigning CC sources to knobs or parameters. It is used internally by the zither script and will conflict with any incoming CC 24 messages.

Enter a non-zero value into the **Velocity spreading** box to randomly modify the velocities of the generated notes. A value of 10, for instance, would mean that an outgoing velocity could be up to 10 units higher or lower than the incoming velocity.

If **Note spanning** is enabled, then octave multiples of each note will also be generated. This allows you to create a wider rain effect with only one hand.

In the **Raindrop interval** menu, you can define how much time should elapse between “raindrops”. Set it to “free” to specify a time in milliseconds (including an optional randomization amount), or “sync” to lock the note durations to the host tempo.

Setup

The setup page allows you to remap the keyswitches. Any setting that is not adjustable by a knob can be triggered via keyswitch, and keyswitches can be stacked to trigger multiple parameters at once. For example, you can stack the Sustain mode and hammer articulation keyswitches so that pressing that key automatically switches to Sustain mode and selects the hammer articulation. Stacked keyswitches are indicated by an inverted key colour: white for black keys, and black for white keys. The help text that appears at the bottom of the screen when you mouse over a key will describe the effects of any stacked keyswitch.

CC automation of knobs can be configured by right-clicking on any knob. *Again, do not use CC24 as it is used internally by the script.*

Changelog

V1.3 (Dec 11, 2015)

- Fixed some bugs relating to sample fades
- Major performance improvements – decreased the number of voices being produced
- Adjusted some min/max values
- Fixed a bug where ensemble panning would not get set correctly

V1.2 (Dec 8, 2015)

- Fixed some zone dimensions
- Fixed some inconsistent sample volumes
- Improved sound quality on some samples
- Tweaked sample fade settings

V1.1 (Dec. 5, 2015)

- Fixed an issue that could cause high CPU usage

V1.0 (Nov. 30, 2015)

- Preparation for release (no functional changes)

V0.20 (Nov. 20, 2015)

- Added three new arpeggio shapes (dim7, half-dim7, and aug7)
- Fixed a missing round-robin sample in the plucked articulation
- Redistributed controls on the mode page to create better alignment
- Made some graphic changes to the arpeggio display

V0.10 (Nov. 16, 2015)

- Added tremolo feature
- Decreased minimum decay amount
- Added 2 new arpeggio types: octatonic scale and minor 6 chord
- Improved behaviour when a note is repeated; the previous note's decay is handled better in all scenarios (flam, trem, release, etc.).
- Adjusted velocity curve to facilitate playing at lower velocities
- Improved volume consistency between groups and zones

V0.01b (Nov. 9, 2015)

- Initial implementation

Credits

Performance *Zither*

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