BOLDER Sounds

Presents

Electric Sitar

for NI Kontakt 4+

Index

This is a sample library project I've been wanting to complete for some time and I believe we have something really special here for you! This instrument has a distinct and unique voice. Now that it is available as a virtual instrument I have no doubt that it's musical effectiveness can be greatly expanded beyond of solely creating a groovy 60s vibe.

Electric Sitar Background

The New Jersey-based Danelectro company produced an electric sitar and gave John Lennon and George Harrison the first two made. The instrument was designed by New York session musician Vinnie Bell.

The Danelectro company was originally an amp manufacturer and later expanded into guitar production. Their goal was to make a guitar that sounded like a sitar made famous by on Beatles recordings, but in an easily playable form.

Below is an excerpt from a terrific book called *Beatles Gear* by Andy Babiuk:
Commenting on his guitar collection for a magazine feature in the 1980s, George Harrison pointed to an instrument and said: " *There's the electric sitar they gave me because of the Ravi Shankar thing. It is supposedly the very first one; it's got a strip on the back saying 'Patent Pending'. Spencer Davis saw it once and said, 'oh can I borrow that for a night'? And hijacked it. I never saw it for about two years-by which time everybody had used one so I never actually used it."*

After doing quite a bit of research on the electric sitar, I realized that the list of songs featuring this instrument is quite extensive. I've also noticed that this instrument is frequently used in introductions to songs to give them a distinct flavor. However in no way should it be limited to this kind of use - this instrument is the primary sound of Pat Metheny's "Last Train Home" as well as Steely Dan's "Do It Again" where the electric sitar is played in very much a jazz fusion/bebop context. Below is a small list of songs where this distinct instrument's voice is heard.

The Games People Play - Joe South (Duane Allman plays electric sitar on a instrumental version of this song)
I Was Made To Love Her / Signed Sealed Delivered - Stevie Wonder
Last Train Home - Pat Metheny
Do It Again - Steely Dan
Don't Come Around Here No More - Tom Petty
To Be Over & It Can Happen - Yes (Steve Howe)
Hooked On A Feeling - BJ Thomas
It's A Shame - The Spinners
Cry Like A Baby - The Box Tops
Steal Away - Robbie Dupree
Cat's In The Cradle (intro) - Harry Chapin
Spinal Tap - Listen To The Flower People (very funny solo)

Other artists who have used the electric sitar on their recordings include:
Beck, Steppenwolf, Kronos Quartet, Genesis, The Clash, Todd Rundgren, Guns N' Roses, Lenny Kravitz, R.E.M, Metallica, Santana, Eric Johnson, Pearl Jam , Alice in Chains, Steve Vai, Rory Gallagher and Eddie Van Halen.

The 1971 album Somethin' Else recorded by Danny Davis and the Nashville Brass prominently featured an electric sitar, a first for the country music industry. The instrument provided accompaniment on such songs as "Snowbird", "Rose Garden" and ”Are You from Dixie”?

About The Sampling Process

3 independent sample sources were recorded - neck and bridge pickup samples as well as microphone samples. I had this guitar rewired so I could use a stereo jack and record the neck and bridge pickups simultaneously.
I noticed when playing this instrument unplugged it had quite a charming acoustic quality, yet very soft. And I thought it would be ideal if I could capture this acoustic signal. The mic samples really make this sample library unique. They give this instrument a very animated top end with the result being a bit of a acoustic-electric hybrid, giving us a closer emulation of a real sitar.

Since we are now dealing with a virtual instrument and interesting sound design option is to assign a controller to each of the three independent sample sources and manipulate them in real time or in a sequence. Something that would be quite impossible to do while actually playing the instrument.

This sampling process coupled with creative and flexible KSP scripting by Bo Clausen will give you many creative opportunities. Have fun!

Features of the Electric Sitar Sample Library

- 3 independent sample sources – neck and bridge pickup samples as well as microphone samples.
- 3 x independent round-robin per key, for each of the 6 strings of the Electric Sitar. Strings 1 - 4 were sampled chromatically up to the 12th fret. The second string up to the 15th fret and the first string was sampled all the way up to the 20th fret.
- 3 velocity layers for all the sustain samples.
- Independent Volume and Tone/EQ control of each sample source.
- A very advanced scripted Pitch Bend and Vibrato control.
- Detailed Articulation control to emulate slurs (hammer-ons and pull-offs)
- Sampled Slides – both ascending and descending in half, whole and one and a half steps.
- Detailed KSP scripted control of Fretting Position on the neck of the guitar, including an Auto Fret Selection feature.
- A Key Switch Page where you can freely assign which key will trigger the various Key Switches.
- 9 different effects - each with its own Preset menus, so you can save and recall all the various parameters.
- And much more!

The full uncompressed size of this library is 2.6 GB. It has been Kontakt compressed (.ncw) down to 1.45 GB for convenience of downloading and rapid loading into Kontakt.

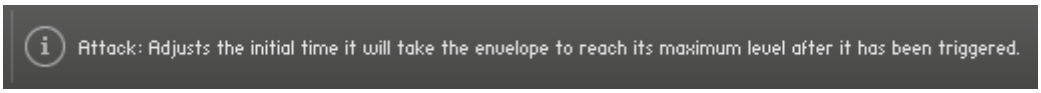
General Stuff

KONTAKT Compatibility:

This library requires NI KONTAKT version 4.2.4 or higher, and has been tested for compatibility in KONTAKT 5. This library is NOT compatible with the KONTAKT 4 or 5 sample PLAYER, only the full retail KONTAKT SAMPLER. It will only run in demo mode for 15 minutes on the KONTAKT PLAYER.

Hover Over Mouse Help:

If you turn on the **Show Info Pane**, you can simply 'hover' your mouse over a particular control and the information on that control will be displayed in the Info Pane at the bottom of the KONTAKT window.



Reset Knobs:

All knobs can be reset to their default value, if you CTRL + Click (PC) or Command + Click (Mac) on the knob.

MIDI Learn CC#:

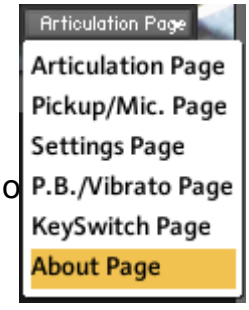
All the buttons and knobs can be automated by a MIDI control. Just Right + Click (PC) or Control + Click (Mac) the button or knob and select **Learn MIDI CC# Automation**, and then move your hardware MIDI controller.

Panels:

The User Interface has two Panels. Click on the Panel Tab Name to open the Panel.

The About Page:

Each Panel has an **About Page** that gives you a quick overview o



About the Presets

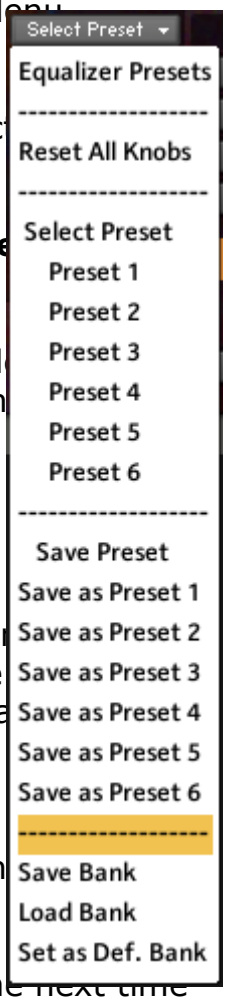
There are a total of 14 Preset drop-down Menus.

On the Instrument Panel:
Neck EQ Presets, **Bridge EQ** Presets, **Mic. EQ** Presets, **Slide** Presets and **Art.** Presets.

On the Effect Panel:
Compressor Presets, **Global EQ** Presets, **Chorus** Presets, **Flanger** Presets, **Phaser** Presets, **Delay** Presets, **Reverb** Presets, **Cabinet** Presets and **Space** Presets.

The Preset Menu:

You can Save and Recall up to six Presets per Preset drop-down Menu.



To Save a Preset, first edit the settings as you like, and then selec
as Preset # in the Preset Menu.

To Recall/Select a Preset, open the Preset Menu and select the **Pre**

When you Save a Preset, the changes are written into the data fol
automatically loaded the next time you load the instrument in Kon
there is no need to save the instrument.

The six Presets can also be Saved and Loaded as a **Bank**.

To Save the six Presets as a **Bank**, select the **Save Bank** in the P
A save dialog box opens, pointing to the default Data folder inside
Instrument folder. For better organization, give the file a name tha
the Effect – ex. "EQ - my presets".

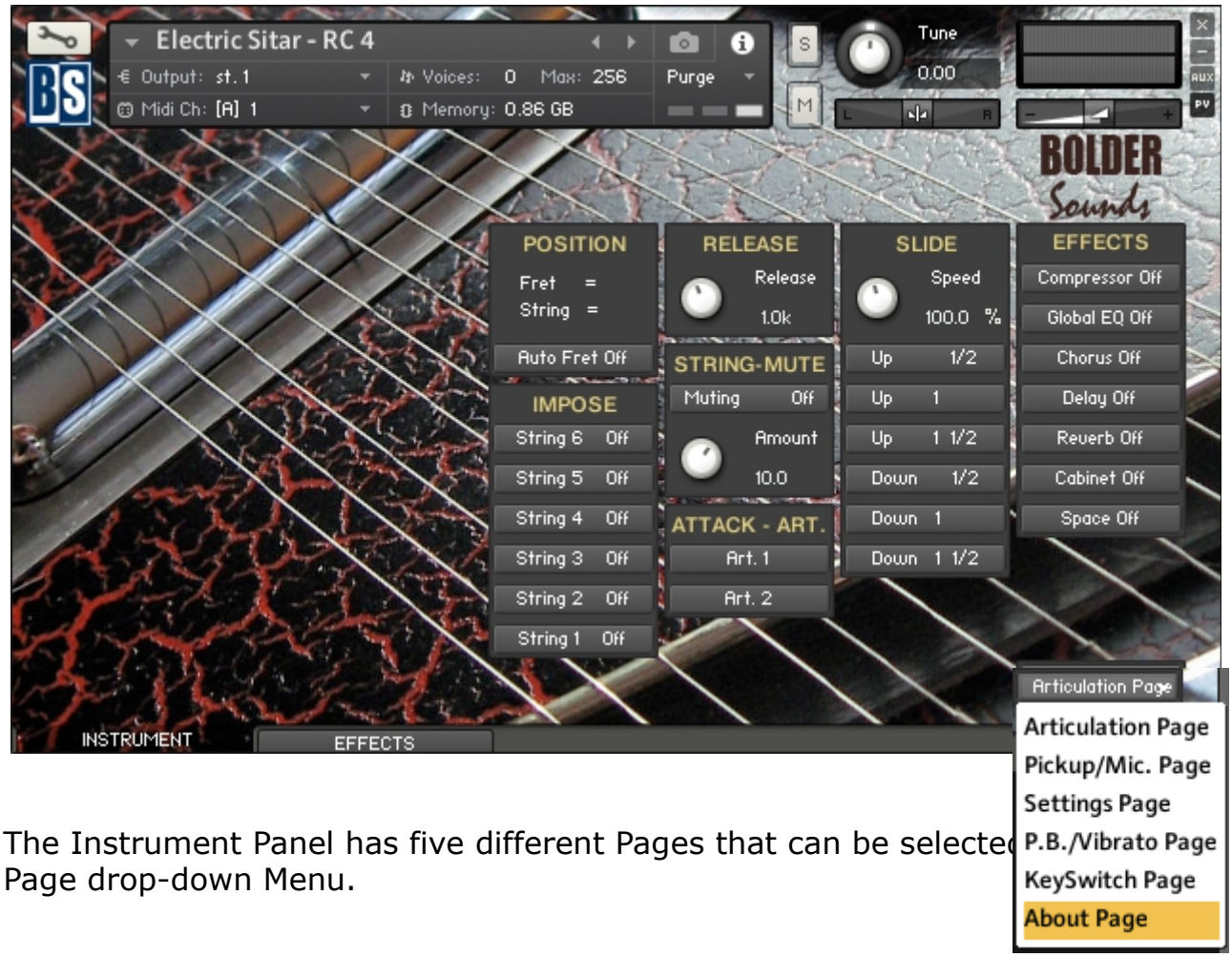
To Load a Bank, select the **Load Bank** in the Preset Menu. A open
opens, pointing to the default Data folder.

If you have loaded a Bank and you want this Bank to be loaded the next time you load the instrument in Kontakt, then select the **Set as Def. Bank**

The Reset All Knobs sets all the knobs to their default setting.

PS: All the default Banks are stored in the sub-folder "Default Banks" inside the Data folder.

The Instrument Panel



The Instrument Panel has five different Pages that can be selected Page drop-down Menu.

The Articulation Page:

On the Articulation Page you find a Position Display, that shows the Fret Position and the currently Playing String.

You also get a visual indication of the selected Slide, Articulation or Imposed String button.

Each string can be Imposed via a Key Switch (red color code), and hereby override the Auto String Selection.

The Fret Position can be select via a Key Switch (yellow color code).

You can select between six different Slides via Key Switches (cyan color code), and adjust the speed/tempo of the Slide articulations.

Here you also find two Art. buttons that will give you different attacks on the sustain notes, and they can be controlled via Key Switch (green color code).

You can turn the String Muting On/Off, either by mouse-click or via Key Switch (green color code), and the amount of the Muting effect can be adjusted.

About String Selection

With string instruments, like the guitar, a certain note can often be played on multiple strings. For example, A2 can be played on three different strings of the guitar, with each string having its own very distinctive sound.

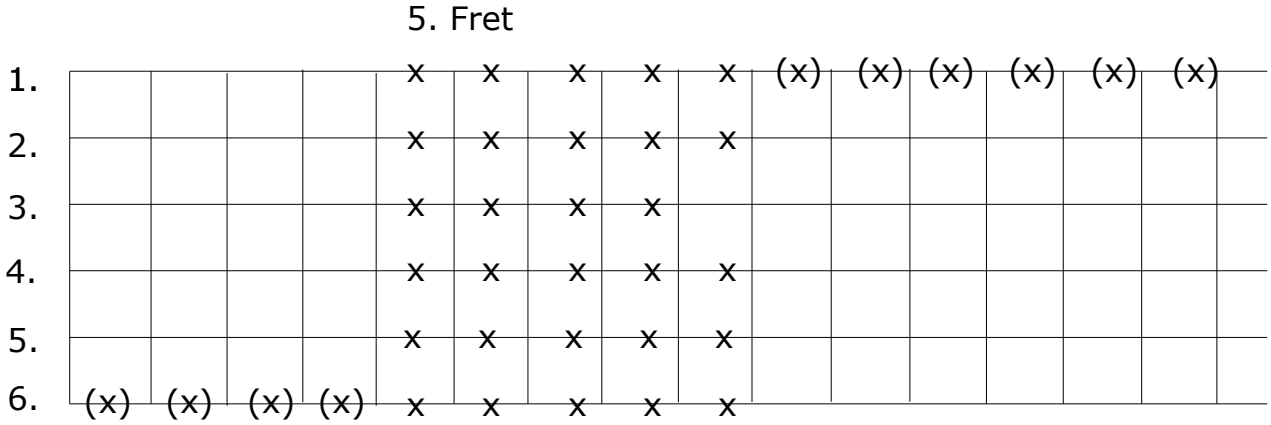
When a real guitar player plays a note on the guitar, he will typically choose the string on which the note can be played with a minimum of effort. That is, without moving the left hand too much.

When you play the sampled guitar instrument from a keyboard, it's a little more difficult to deal with the string selection.
So we've made a script that will help you taking care of the string selection.

There are two different ways to select the strings that will be played:
1.
You can either set/select a Fret Position, and then the scripted string-algorithm will automatically select the correct string according to the Fret Position.
The Fret Position is set/selected with Key Switches (Yellow color code).
2.
Or you can override the Fret Position and Force/Impose the string that you want to play. You Impose a string by holding down a Key Switch (Red color code).
When you release the Impose String Key Switch key, the Fret Position will return back to the last selected position.

About the scripted String-algorithm

Here's a diagram that shows the note/string pattern, the string-algorithm uses when it selects strings. (In the example below, the 5th Fret Position is selected).



About the scripted Fret-algorithm

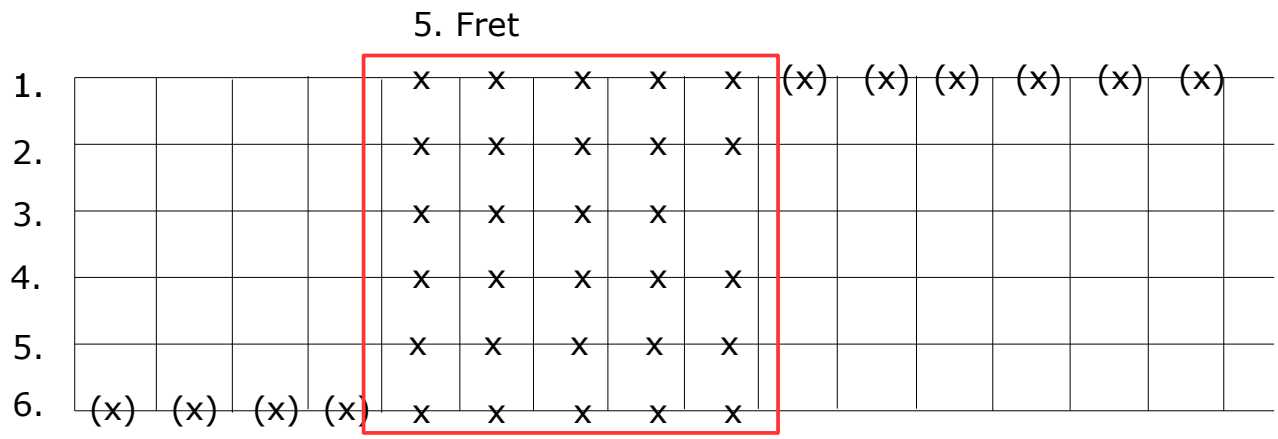
If you turn on the **Auto Fret** button, then a scripted Fret-algorithm kicks in and helps you select the Fret Position.

Here's how the Auto Fret-algorithm works:

As soon as a note is outside of the current "Fret Zone", a new Fret gets automatically selected, all depending on if the note is higher or lower than the "Fret Zone".

A "Fret Zone" = All the notes that are inside the String-algorithm (the red rectangle) when a Fret is selected (five frets/half-steps).

In the example below, the 5th Fret Position is selected.

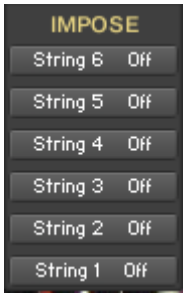


So playing a note outside the current “Fret Zone”, will move to a new Fret and hereby also move the “Fret Zone”.

If you want to override the Automatic Fret selection, you can still select the Fret with the Key Switches.

The **Position Display** shows the selected Fret Position and the String that is currently playing.

When **Auto Fret** is turned on, the Fret Position is automatically selected according to the lowest/highest played note.



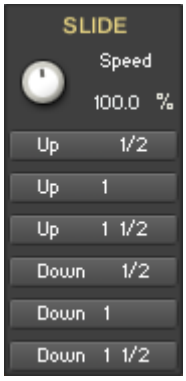
When one of the **Impose String** buttons are turned on, then the selected string is forced to play its full range and hereby override the Auto String Selection.
The buttons are controlled by Key Switches (red color code) that can be selected on the Key Switch Page.

The **Release** knob adjust the time it will take to bring the level back to zero after the key has been released.

The **Muting** button turns the Muting/Damping of the strings on/off. The button can be controlled by a Key Switch (green color code) selected on the Key Switch Page.
The button can also be turned On/Off via a mouse-click.

The **Muting** knob controls the amount of the String Muting.

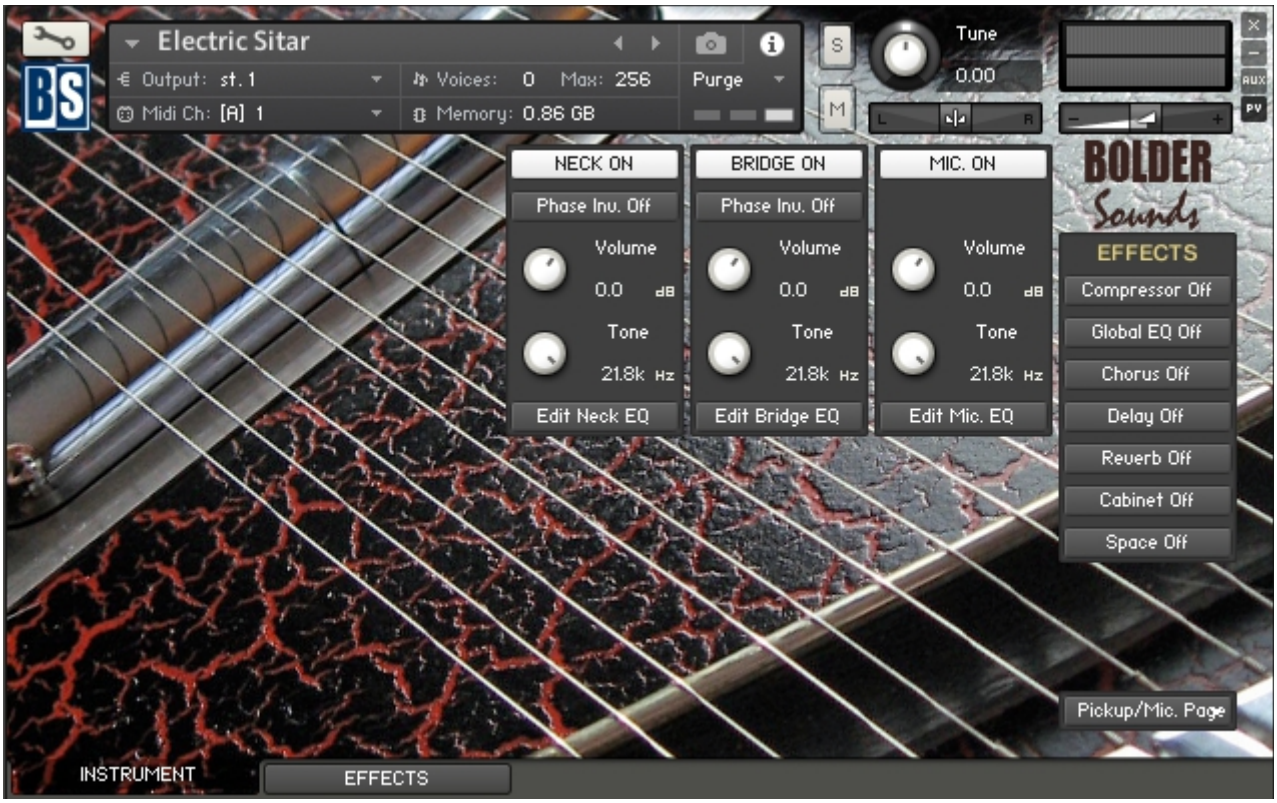
The **Art.** buttons turns the Articulations on/off. The buttons can be controlled by Key Switches (green color code) that can be selected on the Key Switch Page.
The button can also be Locked via mouse-click.



The **Speed** knob controls the speed/tempo of the Slide articulations.

When one of the **Slide** buttons are turned on, then the note slides up/down from a ½ to 1½ step below/above the target note. The buttons are controlled by Key Switches (cyan color code) that can be selected on the Key Switch Page.

The Pickup/Mic. Page:



On the Pickup/Microphone Page you can turn the Neck and Bridge Pickups and the Microphone samples On/Off and control their Volume and Tone.

Each of the three pickup/mic types has its own independent Equalizer, that you can open and then adjust as you like.

The Neck and Bridge Pickups can both be Phase Inverted. This will give you all the possible Phase Inverted combinations between the three pickup/mic types.

The **NECK** button turns the Neck Pickup samples On/Off.

The Neck **Phase Invert** button shifts the phase of the Neck Pickup samples.

The Neck **Volume** knob adjusts the Volume of the Neck Pickup samples.

The Neck **Tone** knob adjusts the Tone (LP Filter) of the Neck Pickup samples.

The **Edit Neck EQ** button Opens/Closes the Equalizer for the Neck Pickup samples.

The **BRIDGE** button turns the Bridge Pickup samples On/Off.

The Bridge **Phase Invert** button shifts the phase of the Bridge Pickup samples.

The Bridge **Volume** knob adjusts the Volume of the Bridge Pickup samples.

The Bridge **Tone** knob adjusts the Tone (LP Filter) of the Bridge Pickup samples.

The **Edit Bridge EQ** button Opens/Closes the Equalizer for the Bridge Pickup samples.

The **MIC.** button turns the Microphone samples On/Off.

The Mic. **Volume** knob adjusts the Volume of the Microphone samples.

The Mic. **Tone** knob adjusts the Tone (LP Filter) of the Microphone samples.

The **Edit Mic. EQ** button Opens/Closes the Equalizer for the Microphone samples.

The **EQ On/Off** button turns the EQ On/Off.

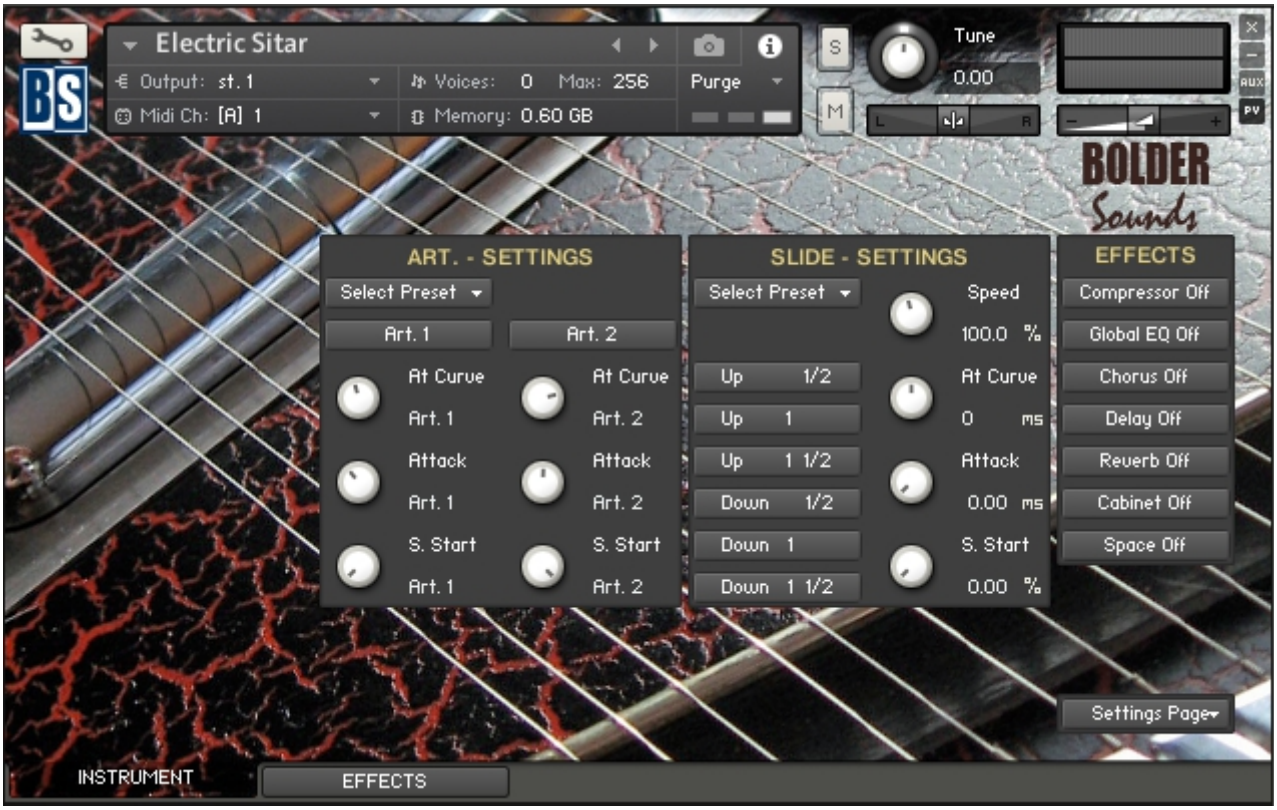
When the EQ is turned On, then the Tone (LP Filter) is turned Off.

The **Freq.** knob chooses the frequency at which boosting or cutting will appear.

The **Bandw.** knob sets the width of the frequency band in octaves to boost or cut.

The **Gain** knob controls the amount of boost at positive values, or the amount of cut at negative values.

The Settings Page:

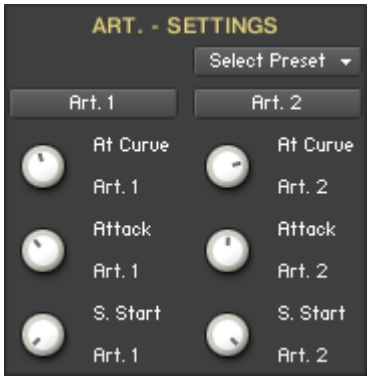


On the Settings Page you can adjust the attack settings of the Slides. The settings are global for all the Slides.

On this Page the Slide buttons can be turned on via a mouse-click, to help you when you adjust the settings.

Here you can also adjust the attack settings of the two Art. (You need to have the Art. turned on to see and adjust the settings).

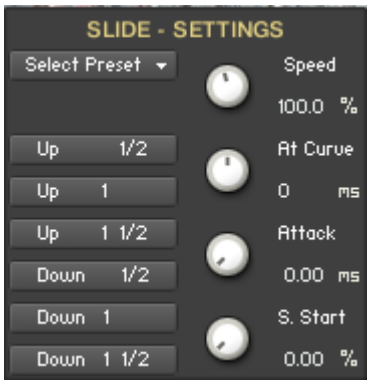
Both the Slide settings and the Art. settings can be Saved/Recalled as Presets, and Saved/Loaded as a Bank.



The **At. Curve** knob adjusts the curve shape of the attack phase. A value of zero results in a linear curve, negative values make the shape more concave, and positive values make it more convex.

The **Attack** knob adjusts the initial time it will take the envelope to reach its maximum level after it has been triggered.

The **Sample Start** knob adjusts the start point of the samples.



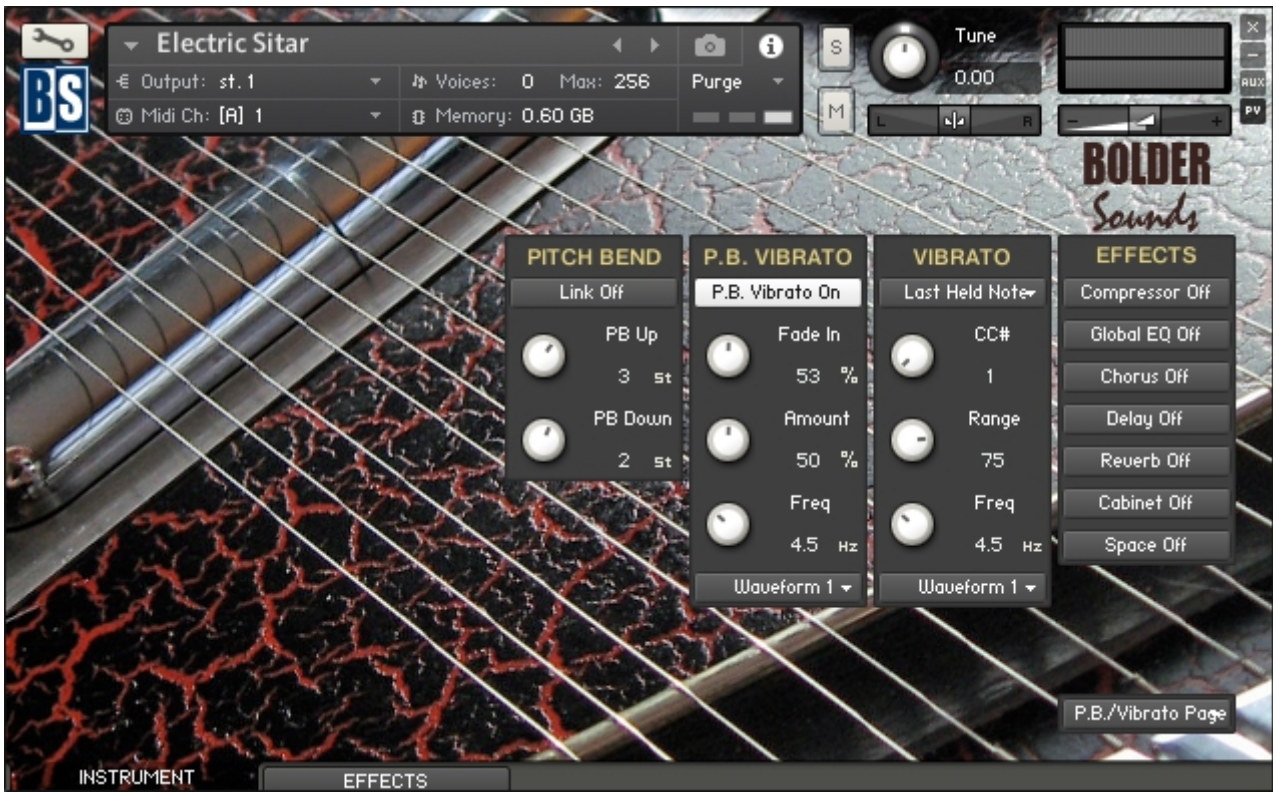
The **Speed** knob controls the speed/tempo of the Slide articulations.

The **At. Curve** knob adjusts the curve shape of the attack phase. A value of zero results in a linear curve, negative values make the shape more concave, and positive values make it more convex.

The **Attack** knob adjusts the initial time it will take the envelope to reach its maximum level after it has been triggered.

The **Sample Start** knob adjust the start point of the samples.

The P.B./Vibrato Page



On the P.B./Vibrato Page you select and adjust all the various Pitch Bend and Vibrato settings.

The Pitch Bend range is set manually, and can be set independently for Up and Down Bend.

Moving the Pitch Wheel will only bend the last playing note.

The Pitch Bend can also have a scripted P.B. Vibrato added, when the Pitch Wheel is moved up or down and reaches its maximum.

The P.B. Vibrato can select between seven different waveforms.

The Vibrato can either work as a Global Vibrato or only add Vibrato to the last played, and still held, note.

You can freely choose a CC# to control the Vibrato Amount, and set the Range of the controlled Vibrato Amount.

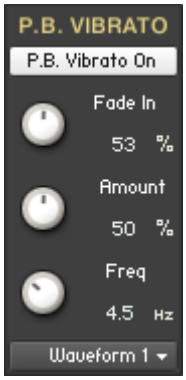
The Global Vibrato can select between two different waveforms.

The Last Note Vibrato can select between seven different waveforms.

When the **Link** button is On, the PB Up and PB Down knobs are linked, and they behave like one knob.

The **PB Up** knob controls how many semitones which will be bent, when the Pitch Wheel is moved upward. The knob is bipolar (+-), CTRL/Command + Click sets the knob to zero.

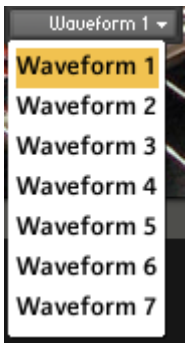
The **PB Down** knob controls how many semitones which will be bent, when the Pitch Wheel is moved downward. The knob is bipolar (+-), CTRL/Command + Click sets the knob to zero.



If the **Pitch Bend Vibrato** is turned on, a scripted LFO vibrato will be added, to only the last played note, when the Pitch Bend reaches its maximum.

The **P.B. Vibrato Fade In** knob controls the fade in time for the scripted LFO Vibrato that is added to the last played note, when the Pitch Bend reaches its maximum.

The **Pitch Bend Amount** knob controls the amount of the scripted LFO Vibrato that is added to the last played note, when the Pitch Bend reaches its maximum.



The **P.B. Vibrato Freq** knob controls the speed of the scripted LFO Vibrato that is added to the last played note, when the Pitch Bend reaches its maximum.

With the **P.B. Waveform Menu** you can select between the different waveforms that will control the P.B. Vibrato.

With the **Vibrato Menu** you can select between a Global Vibrato that is added to all ringing notes, or a **Last Held Note Vibrato** that is added to the last played, and still held, note.

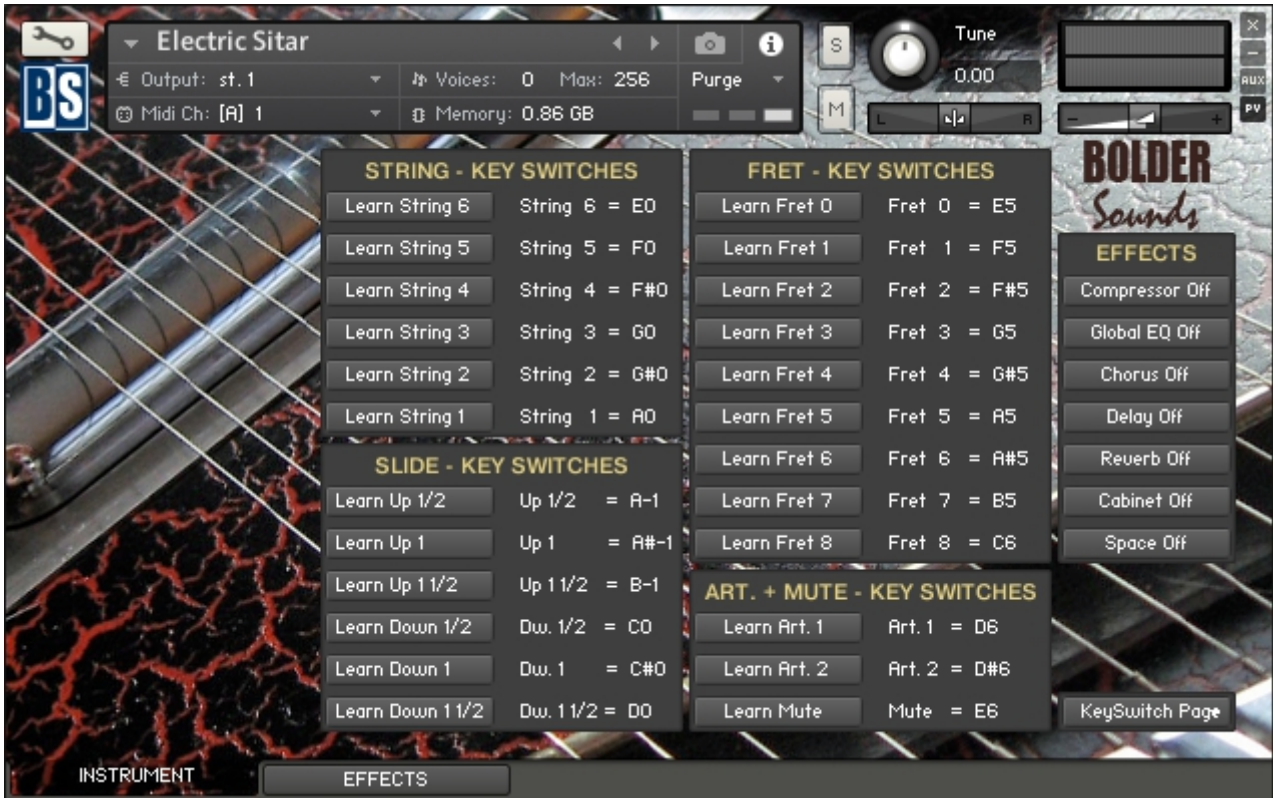
The **Vibrato CC Control** knob selects the CC# that will modulate the Vibrato Amount.

The **CC# Range** knob controls the LFO Vibrato Amount range, when you move the selected CC# controller.

The **Vibrato Freq** knob controls the speed of the Vibrato.

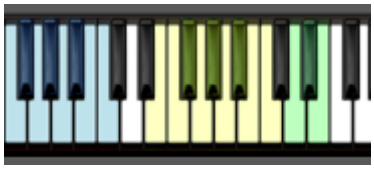
With the **Vibrato Waveform Menu** you can select between the different waveforms that will control the Vibrato.

The Key Switch Page:



On the Key Switch Page, you can freely assign which key that will trigger the various Key Switches.

Each Key Switch group has its own display, that shows the selected keys for the KS, and also has its own key color coding.

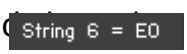


All the Key Switches work in Touch Mode.

To assign a Key Switch, do this:

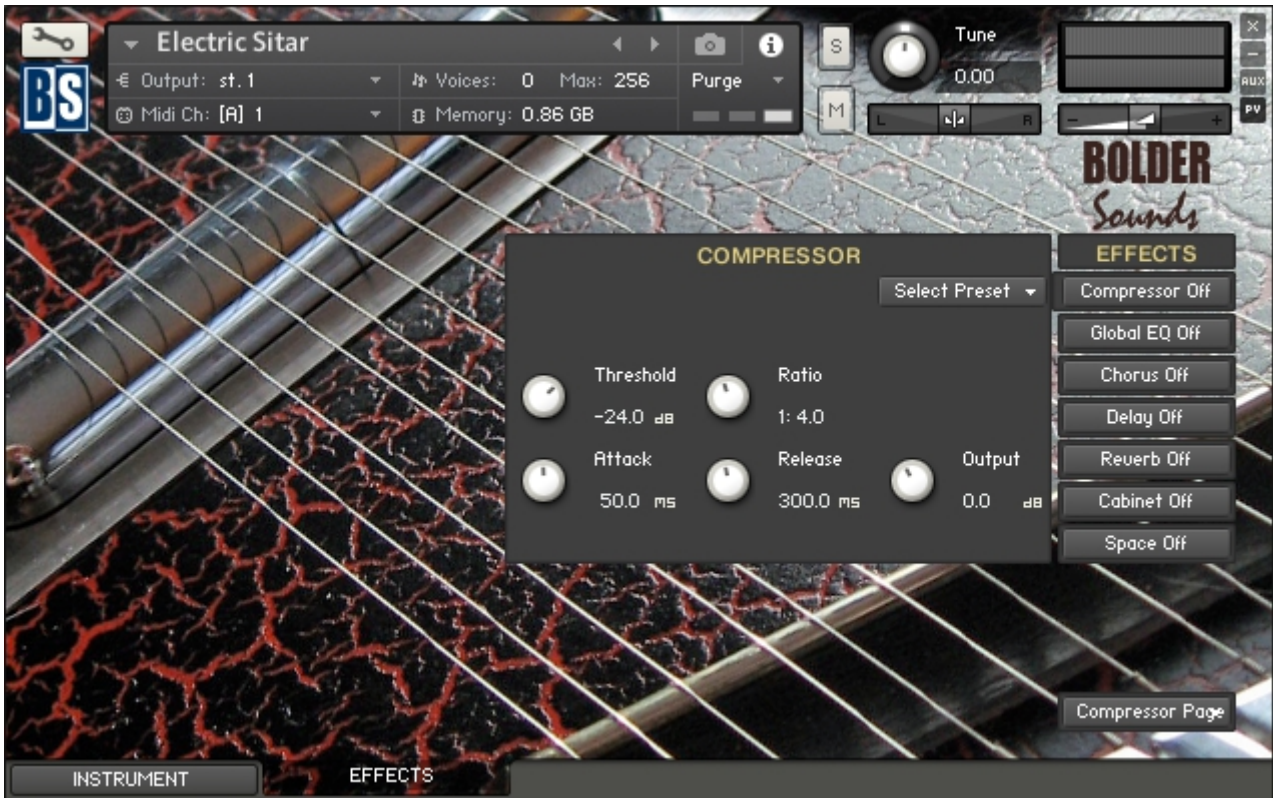
1. Activate the **Learn** button. 

2. Then play the Key that you would like to be the Key-Switch for the Preset. You can either play your connected MIDI keyboard, or click on the virtual keyboard in KONTAKT.

The **Display** now shows the new note name of the Key-Switch, and 

code on the virtual keyboard updates to the selected key.

The Effects Panel



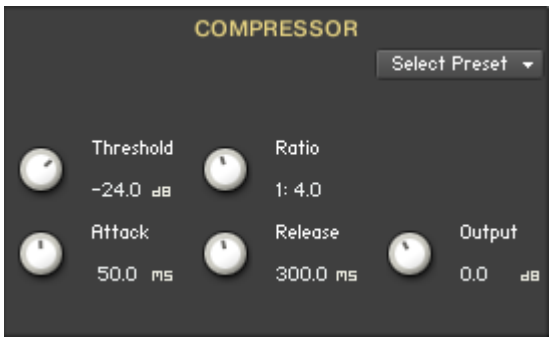
The Effect Panel has seven different Pages. Here you select and edit all the various Effect parameters. You can also Save/Recall up to six Presets for each Effect, and Save/Load the Presets as Banks.

The Effects On/Off and the Pages:

The seven Effect buttons turn the various Effects On and Off, and opens the corresponding Page when the Effect gets turned On.

You can also navigate between the different Effect Pages, using the Page Menu.

The Compressor Page



The **Threshold** knob sets a level above which the compressor starts reducing peaks. Only signals above the threshold are affected by the compression ratio, signals below are unaffected.

The **Ratio** knob determines the amount of compression. 1:1 means no compression at all, while 2:1 means that a 2 dB increase at the input will raise the output by only 1 dB.

The **Attack** knob sets how long it takes for the compression to kick in after an input signal exceeds the threshold level. 5 ms is a good starting point.

The **Release** knob determines how long it takes for the compression action to stop after the input signal falls below the threshold level. Typical values range from 50 to 250 ms.

The **Output** knob Sets the compressors output level.

The EQ Page:

The EQ can either be a simple Bass/Middle/Treble Equalizer, with predefined Frequency and Bandwidth.

Or an Advanced 3-Band Parametric Equalizer.

The **Freq.** knob chooses the frequency at which boosting or cutting will appear.

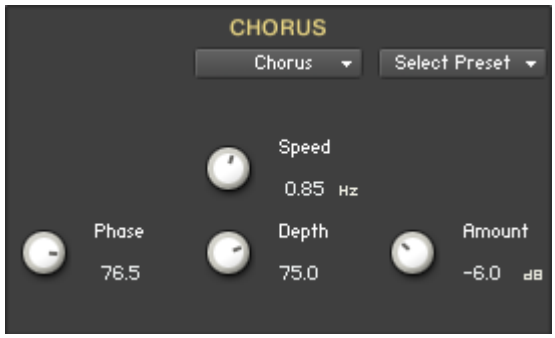
The **Bandw.** knob sets the width of the frequency band in octaves to boost or cut.

The **Gain** knob controls the amount of boost at positive values, or the amount of cut at negative values.

The Modulation Page:

On the Modulation Page, you can choose between three different modulation types.

Chorus:



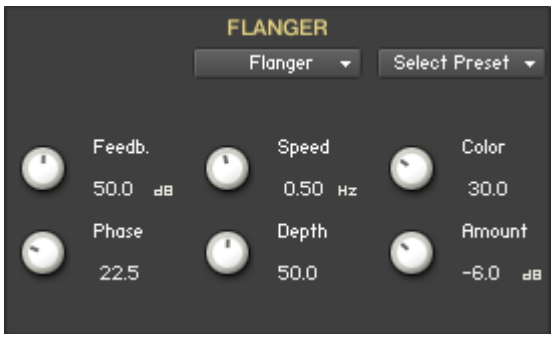
The **Depth** knob sets the amount of LFO modulation applied to a signal. Higher amounts result in a stronger effect.

The **Speed** knob sets the speed of the LFO modulating the signal.

The **Phase** knob adjusts the phase difference between the two LFOs that drive the left and right stereo channels.

The **Amount** knob sets the amount of processed signal sent to the main output.

Flanger:



The **Depth** knob sets the amount of LFO modulation applied to a signal. Higher amounts result in a stronger effect.

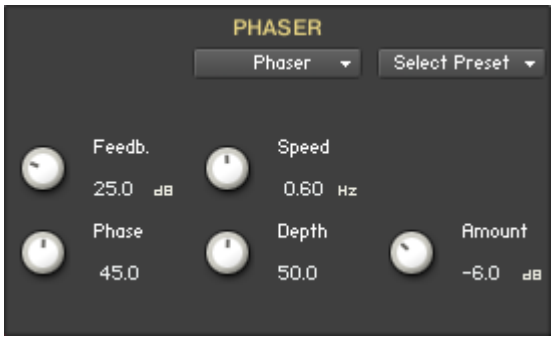
The **Speed** knob sets the speed of the LFO modulating the signal.

The **Phase** knob adjusts the phase difference between the two LFOs that drive the left and right stereo channels.

The **Color** knob adjusts the range of the flanging effect. Lower values sweep the effect toward the higher end of the flanging range, while larger values sweep the effect toward the lower end.

The **Feedback** knob routes the processed signal back to the Module's input. Higher values create a sharper, more intense effect.

Phaser:



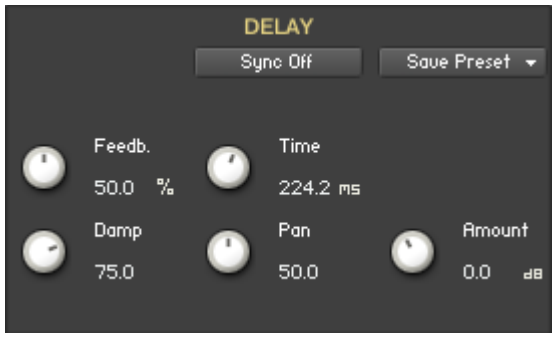
The **Depth** knob sets the amount of LFO modulation applied to a signal. Higher amounts result in a stronger effect.

The **Speed** knob sets the speed of the LFO modulating the signal.

The **Phase** knob adjusts the phase difference between the two LFOs that drive the left and right stereo channels.

The **Feedback** knob routes the processed signal back to the Module's input. Higher values create a sharper, more intense effect.

The Delay Page:



The **Feedback** knob sends a portion of the output back into the input of the delay line, which creates repeating echoes. A value of 0 produces only one echo, higher values give multiple echoes.

The **Damping** knob reduces high frequencies in the delayed signal. With feedback applied, each successive echo has a progressively lower high-frequency response.

The **Time** knob sets the interval of the delay, in either milliseconds or rhythmical values synchronized to external MIDI Clock, depending on the Sync button state.

The **Pan** knob - setting a value higher than 0 results in a panning effect where each consecutive echo alternates between the left and right channel. The higher the value, the greater the stereo spread.

The **Amount** knob sets the amount of processed signal sent to the main output.

If the **Sync** button is turned on, the Delay is synchronized to an external MIDI Clock.

The Reverb Page:

The **Predelay** knob introduces a short amount of delay before the reverb takes effect. Increase this parameter to simulate larger rooms, decrease it for smaller rooms.

The **Color** knob determines the type of material used to construct the room. Lower values are softer surfaces, higher values are harder surfaces.

The **Size** knob determines the room size by setting the length of the effect. Higher values simulate larger rooms, lower values smaller rooms.

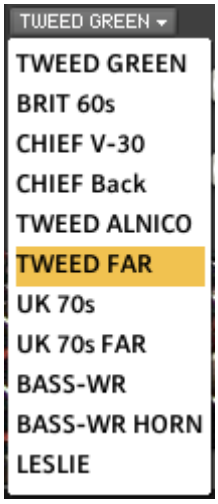
The **Stereo** knob - higher values increase the stereo effect. Use lower values to simulate sitting closer to the stage, and higher values for sitting further back in the hall.

The **Damping** knob sets the amount of absorption in the room. Higher values simulate more absorption.

The **Amount** knob sets the amount of processed signal sent to the main output.

The Cabinet Page:

With the **Cabinet** Menu you can choose between the different cabinet simulations.



The **Size** knob adjusts the size of the simulated cabinet. Larger cabinets tend to have a more pronounced bass response, while smaller cabinets sounds thin and tinny.

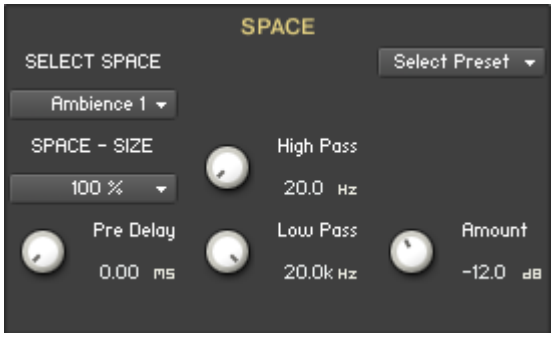
The **Air** knob controls the level of the early reflections in the room response, adding a sense of space to the sound.

The **Treble** knob boots or cuts the level of the higher frequencies.

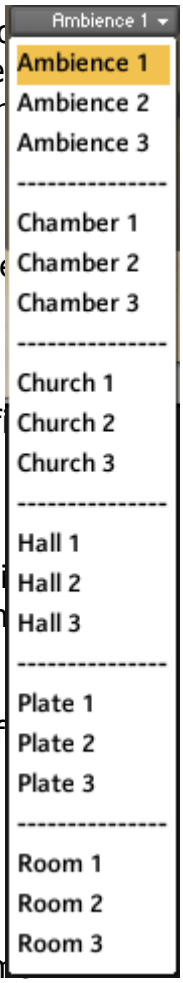
The **Bass** knob boots or cuts the level of the lower frequencies.

The **Output** knob sets the cabinets output level.

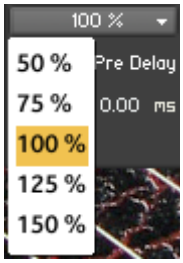
The Space Page:



With the **Select Space** Menu, yo
choose between eighteen differe
Responses, that can be loaded in
convolution plugin.



The eighteen Impulses are divide
different categories.



With the **Space Size** Menu, you can choose between fi
different sizes of the selected Impulse Response.

The **Pre Delay** knob determines the room size by setti
length of the effect. Higher values simulate larger roon
values smaller rooms.

The **High Pass** knob attenuates frequencies below the chosen cutoff
frequency.

The **Low Pass** knob attenuates frequencies above the chosen cutoff

The **Amount** knob sets the amount of processed signal sent to the m
output.

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Script, Patch and Presets by Bo Clausen.

Enjoy the Electric Sitar!

Dennis Burns - Bolder Sounds – March 2015

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Customer Support

For any questions, technical issues inquiries etc .... Please contact Bolder Sounds via email at sales@boldersounds.net.

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