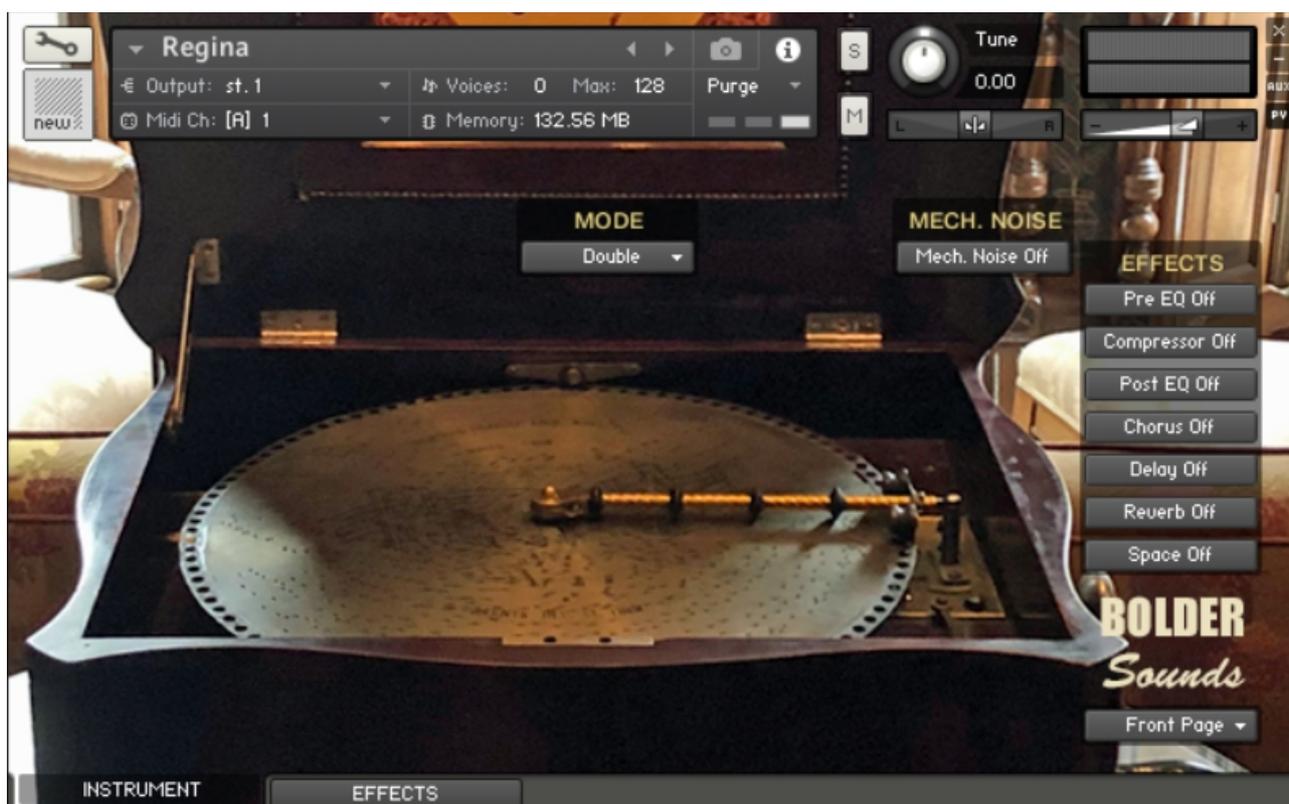


BOLDER *Sounds*

Presents

Grand Music Boxes

for NI Kontakt 5.5+



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About the Grand Music Boxes

Welcome to the Grand Music Boxes library for NI Kontakt from Bolder Sounds!

This is a sample library which I have been wanting to make for years, however the right circumstances just never seemed to be at hand, but finally everything just seem to come together in the year 2019.

This library features two Grand Music Boxes. When I refer to them as *Grand* music boxes we are talking about 5 octave music boxes from the early 1900's.

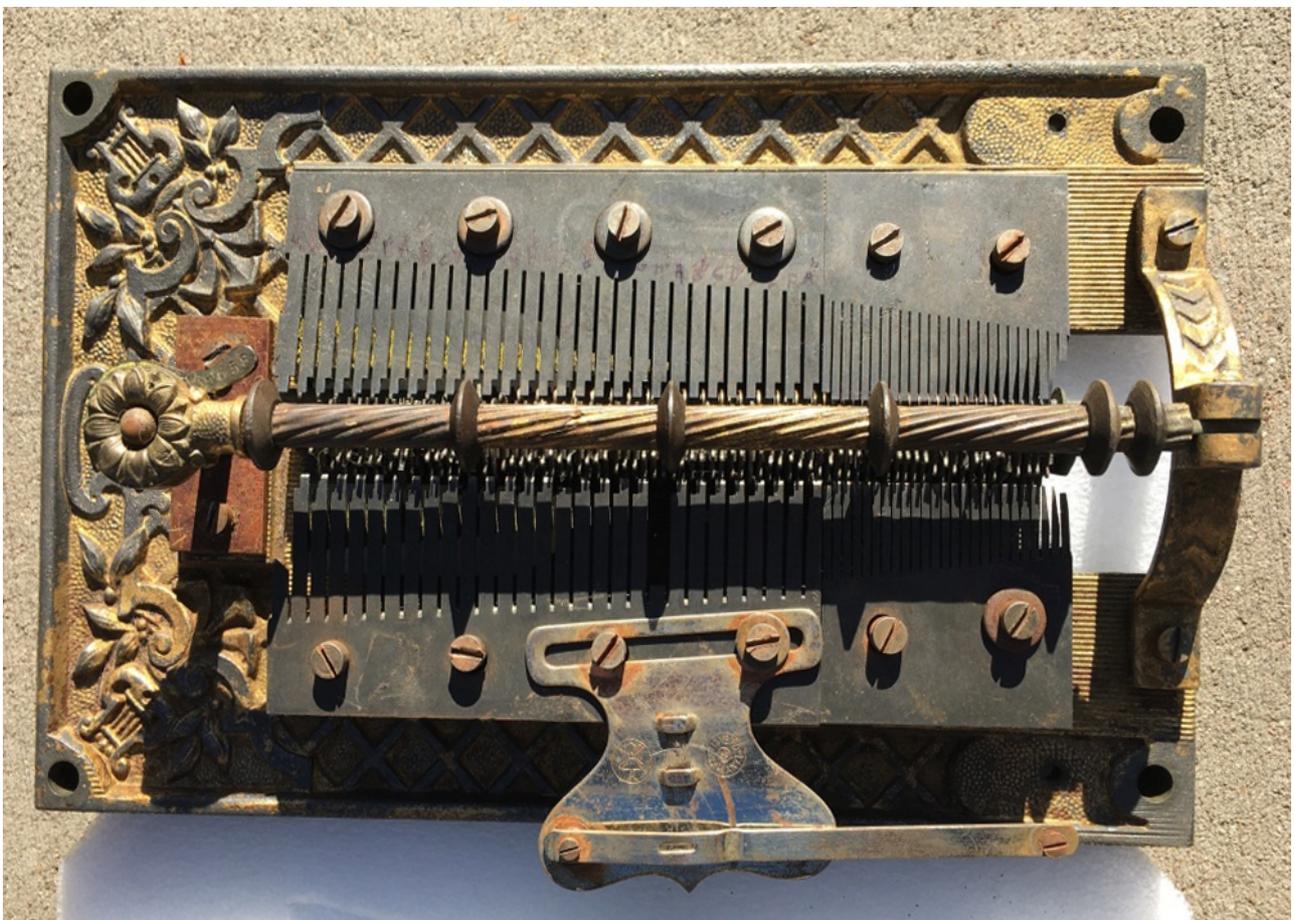
The star of the show in this library is the beautiful Regina 15.5" music box (made from 1894 -1919) which is housed in the Hamill House Museum in Georgetown Colorado, about an hour and a half drive through the mountains from where I live here in Boulder, Colorado. I would like to thank the Historic Georgetown Inc. for being so generous with the recording of their music box.



15.5" disc Regina Music Box.

The second Grand Music Box in this library is a Kalliope *mechanism* - most likely from around the same time period (1885-1915). The reason I am calling this a *mechanism*, is because the music box guts were not recorded in a music box case but instead placed on various resonating surfaces to create different sonic signatures, while each comb was hand-plucked (typically with a small screwdriver).

You may be familiar with music box mechanisms you can buy rather inexpensively that simply place on any surface and turn the crank which plucks the comb of the music box mechanism and it will play a tune on whatever resonating surface it is placed. The recording of the Kalliope mechanism was based on the same principle - however the Kalliope mechanism is big (7.5" by 12"), and weighs 13 pounds!



Kalliope music box mechanism.

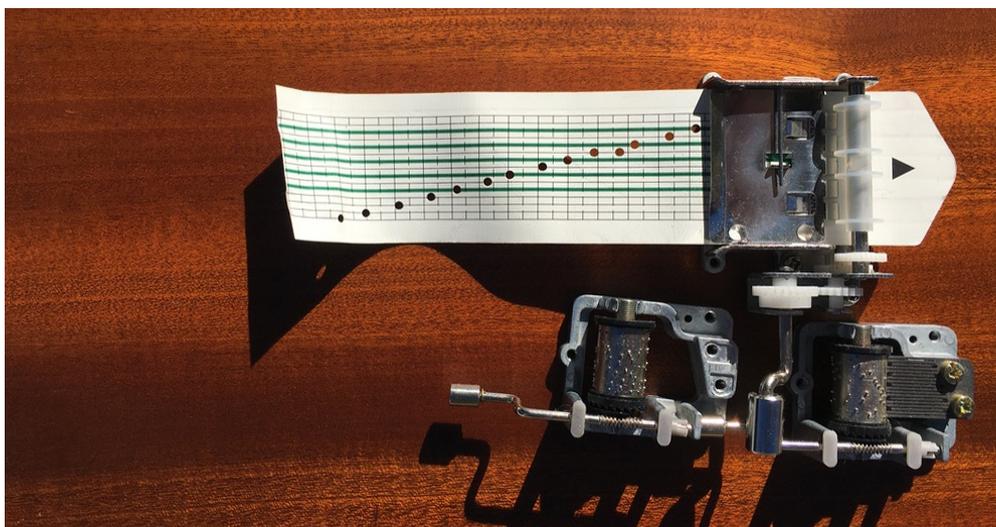
There are 2 other music box sets included in this library which are *not* considered to be a Grand size. They are the DIY (do-it-yourself) music boxes and the Bird music boxes. These are included as a compliment to the Regina and the Kalliope. I found layering these smaller music boxes in various ways on top of the bigger music boxes to be quite expressive and sonically interesting.



Bird Music Boxes with a Sankyo mechanism.

4 bird music boxes were sampled (only 3 are pictured above because #4 bird was decapitated and was quite gruesome to look at). The mechanism inside each bird was made by the Sankyo company. On these smaller music boxes – the only pitches available are the pitches required to play a particular tune. Therefore it was necessary to take each Bird music box to have as wide a variety of samples for realism. The Kontakt .nki labeled “Bird Combo” is a combination of the best samples from each of the 4 Bird music boxes.

The DIY music box samples are taken from various small cheap music box mechanisms.



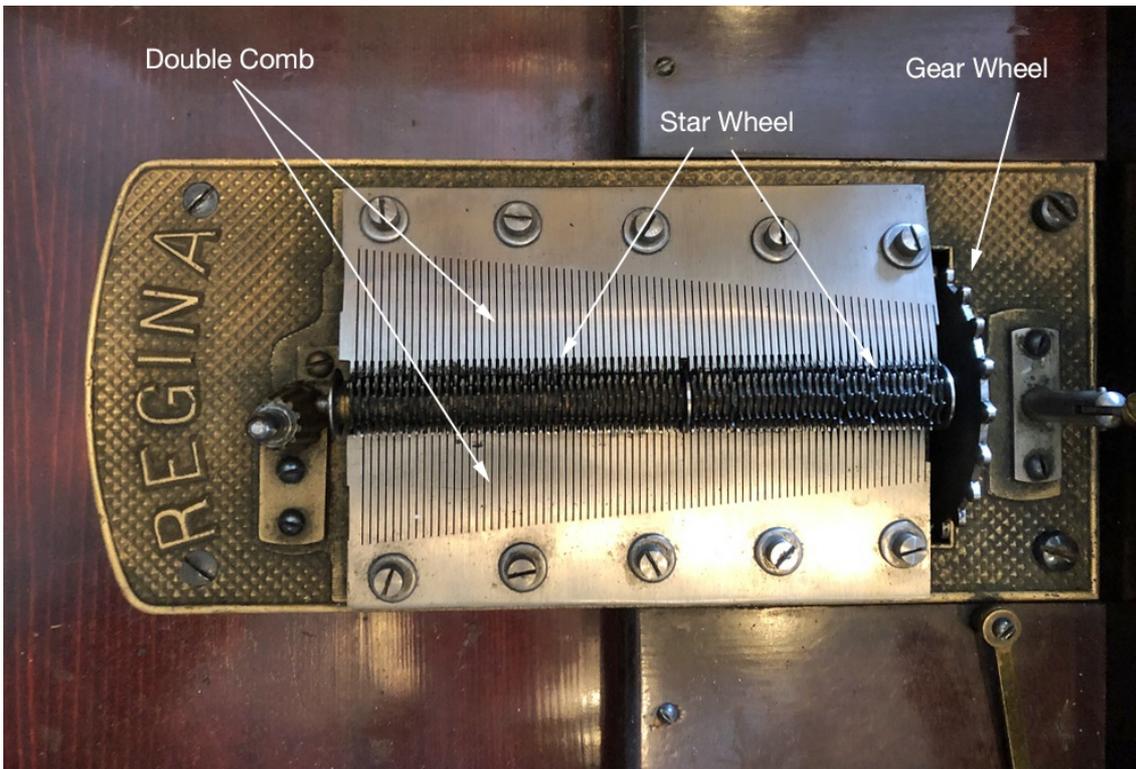
The DIY mechanisms recorded on the back of a tenor guitar as a resonator.

About the mechanics of the Grand Music Boxes.

Here is a simplified breakdown of how the Regina Music Box works -

1. A crank on the side of the Regina case tightens a spring.
2. The spring when released sets a gear wheel in motion.
3. The gear wheel spins the disc that has punched out holes on the outer circumference of the disc.
4. The perforations that are punched in the disc (sort of like midi data) engage the star wheel to rotate.
5. The star wheel in turn plucks the comb (tine) of the music box mechanism.





The Regina music box and the Kalliope mechanism both had a double comb mechanism which creates a rich natural chorus type effect. The Star Wheel is triggered by the perforations in the disc.

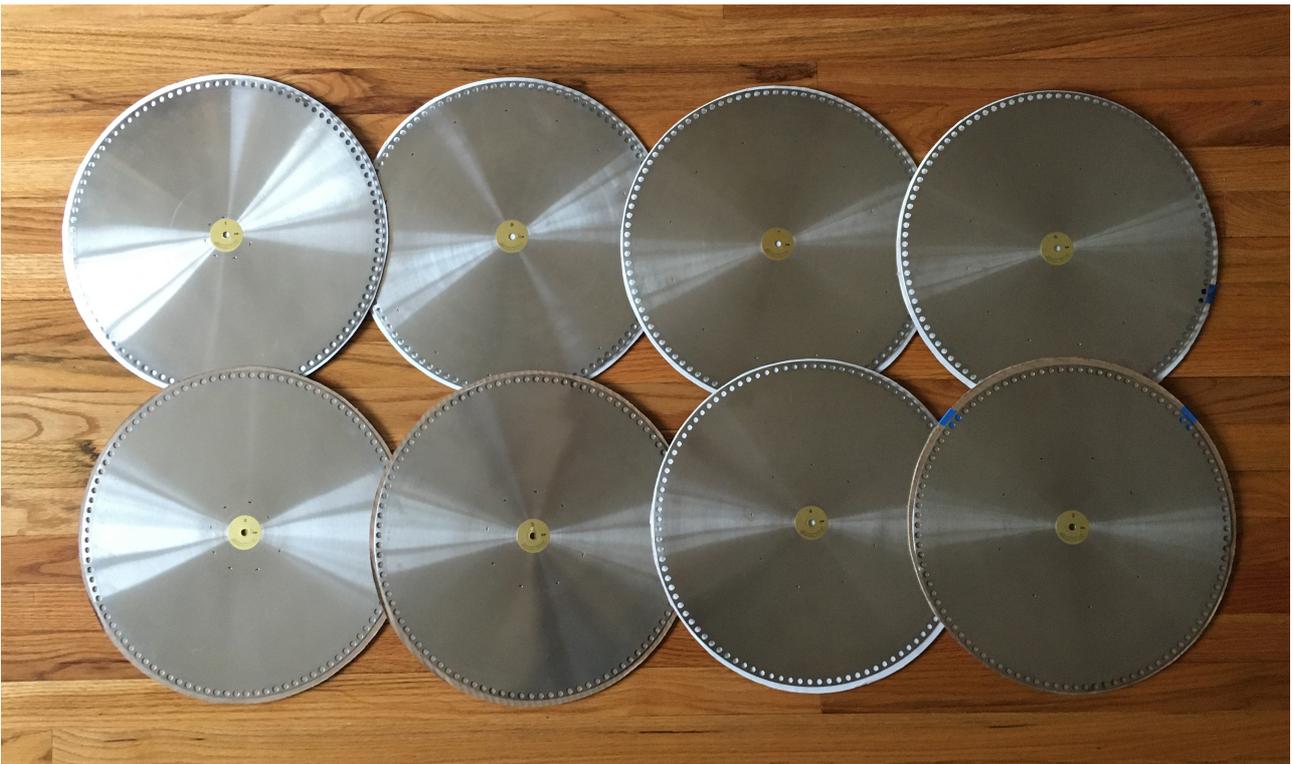


A 15.5 inch Regina disc (the origins of midi sequencing).

About the Sampling Process of the Regina

How does one isolate notes of a music box while it plays a tune? One does not! It would not work since we need the full decay of a note for a quality sample library.

I did some research and found Jack Perron at Hens Tooth Discs in New Hampshire. Jack is an expert on music boxes and the creation of custom music discs for old music boxes like the Regina. He was very helpful and kind in educating me about music boxes. I explained to Jack what I wanted to do, but I don't think he really understood (as is the case in trying to explain sampling to your average person). Jack created 8 discs for me that did not play a song but simply triggered each note the Regina had to offer (probably the easiest song he ever worked on). The reason it took 8 discs was because we needed to space out each note to sustain as long as possible before being interrupted by the next note on the disc. Jack has also worked with the Icelandic singer Björk on her recording called Vespertine.



8 Regina discs made by Jack Perron for sampling each pitch of the Regina.

Regina Sampling Session #1 – November 22 - 2019

So the idea was to play each disc and record it ... simple – right? Wrong! Nothing in the creation of sample libraries is ever simple I have learned. After driving through quite a snow storm up Interstate 70 to Hamill House in Georgetown - the first problem I encountered when cranking up the Regina for the first time was I noticed a continual gggrrrrr – gggrrrrr sound coming from the Regina in a regular rhythm. I could not get rid of it no matter what. I proceeded on with the sampling session thinking that I would be able to remove the noise using Izotope RX noise reduction. That would be absolutely necessary - if each sample had that noise, just playing a chord would create an unacceptable level of mechanical noise. I decided to proceed with the sampling session by recording each disc numerous times since there were various environmental noises that were beyond my control - noisy heating vents, a guy running a snowblower across the street, I-70 being just a couple hundred yards away, my grumbling stomach etc...

When I got back to Boulder, in my studio the next day I decided to have a listen to the sampling session. Typically when sampling in a case like this – on the recording I would announce "disc 1, disc 2 etc ... when I got to disc 6, my next announcement was disc 8 ... what!! Sampling can sometimes be a bit of a hypnotic experience. I have found in order to stay sane you must go all the way into the sound and try to become one with it, if you don't, the experience can drive you mad. But once you get in that hypnotic state, you can lose track of things in the real world that are important – like separating discs you have recorded from ones you have not - AAARRRRGGGH!!

So obviously another trip up to Georgetown was needed. I wrote Jack Perron about the grinding noise of the gear wheel and sent him an audio sample. He said it was perfectly normal and that the Regina I was recording was actually quieter than many others he had heard previously. I explained to Jack how problematic the gear wheel noise was for my purposes. He suggested maybe trying to hand trigger the gear wheel with the spring fully loosened, he said I must be very careful in doing so or I might damage the Regina.

The Gear Wheel and Hand Crank noises are recaptured in the sampled Regina for you to add in if you wish to for authenticity sake.

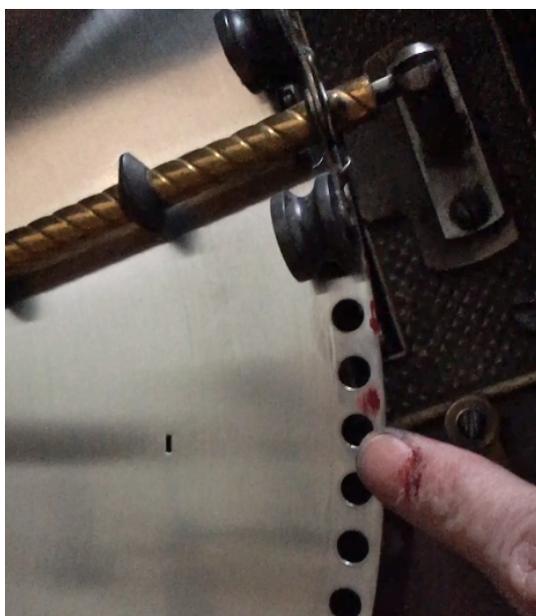
Regina Sampling Session #2 – December 5 – 2019

In this sampling session the first thing I did was to take care of sampling the missing Regina disc #7 – that went fine.

I tried Jack Perron's suggestion of triggering the gear wheel by hand – that was too scary, I did not feel confident that I knew what I was doing ... so I abandoned that idea very quickly.

However I realized that if I released the disc stabilizer arm and *very slowly* spun the disc by hand (with the spring fully loosened) that the moment a note was triggered I could stop the disc manually from spinning (and therefore eliminate and noise made by the gear wheel) and have the natural decay of the note ring out. This was very tedious and tiring on my old back, but worth the effort.

After about 3 hours of doing this with each disc my hand and disc looked like this -



Blood on the tracks from sampling the Regina by spinning and stopping the disc manually.

However – it was worth it and I was satisfied with the results. When I got back into my studio and worked with the samples over the next few weeks I came to the realization that the hand triggered Regina samples sounded subtly different than the samples that were recorded with the noisy gear wheel spinning – why?

I have come to the conclusion that with the disc continually spinning there is a natural wavering sound effect created with each sample (almost like an slow LFO applied to the amplitude of a waveform). The hand triggered Regina samples have a little bit more stagnant nature to their sound decay. Both are unique and useful. They are presented in the Regina .nki as *mechanism* and *hand* sample sources which can be chosen on the Instrument panels Back Page. They can also be played together when choosing double MODE on the Front Page (and independently edited as well).

About the Sampling Process of the Kalliope Mechanism

The Kalliope mechanism was recorded in mono with a Townsend Labs L22 modeling microphone which is sonically very flexible. In post recording you can choose which mic it will emulate – I chose a Telefunken C-12 emulation.

I chose various resonating surfaces to record the Kalliope mechanism -

1. A wood stairwell -
2. A closet door -
3. The inside of a baby grand piano with the sustain pedal depressed -
4. An aluminum garbage can -

Each of these resonators creates a unique sonic signature and is a *completely* different result compared to running a sample through a IR Convolution – each sample is unique.



Recording the Kalliope mechanism rear comb on a closet door with a Townsend L22.

There were 4 separate combs on the Kalliope mechanism –

Rear *high and low* and Front *high and low*.

The reason for recording in mono was to recreate virtually the dual comb effect made by the simultaneous plucking of both combs by the star wheel.

In our virtual Kalliope – you can choose a single comb instrument or a double comb instrument.



The Rear Combs of the Kalliope mechanism (prior to cleaning them up).

The Kalliope has an entirely different sound signature than the Regina – it is more marimba-like and percussive.

Layering the Regina and the Kalliope on top of each other creates a most evocative sound!



We hope you enjoy the Grand Music Boxes library for Kontakt!

Dennis and Bo

General Stuff

KONTAKT Compatibility:

This library requires NI KONTAKT version 5.5.2 or higher. This library is NOT compatible with the KONTAKT 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.

Learn MIDI CC# Automation

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 of the Panel.

***Please be aware - this library is not encrypted for use in the FREE Kontakt PLAYER. This library is NOT loaded into Kontakt via the "Add Library" function. See below for the various choices you have for loading this library into Kontakt.*

There are 4 methods in which you can load you Bolder library into Kontakt:

1. Drag any Kontakt instrument or multi (.nki or .nkm) directly onto the Kontakt rack from your desktop or hard drive.
3. Load via the FILES menu (locate the floppy disc icon in the center of the Kontakt toolbar).
4. In the Kontakt toolbar - click the BROWSE icon. To the left of Kontakt your browser appears. Click on the the far left tab which says "files". From here you can navigate anywhere in your computers file system and load program or multi files.
5. Use the QUICK LOAD feature located just to the left of the FILES icon mentioned above. The QUICK LOAD feature works very similar to the Libraries Tab only without the sexy graphics. Once you've clicked on the QUICK LOAD button, at the bottom of the Kontakt rack you will see a browser appear. Simply drag your Bolder library onto this browser. It will be there for future quick loading. For more details and flexibility on the QUICK LOAD feature, please consult your NI Kontakt manual.

About the Presets

There are a total of 16 Preset drop-down Menus on the Effect Panel.

Pre EQ and Pre SG-EQ Presets.

Compressor - S.B.Comp - F.B.Comp and Transient Presets.

Post EQ and Post SG-EQ Presets.

Chorus - Flanger - Phaser - Rotator and LFO Presets.

Delay Presets.

Reverb Presets.

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 select the **Save as Preset #** in the Preset Menu.

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

When you Save a Preset, the changes are written into the data folder and then automatically loaded the next time you load the instrument in Kontakt. So there is no need to save the instrument.

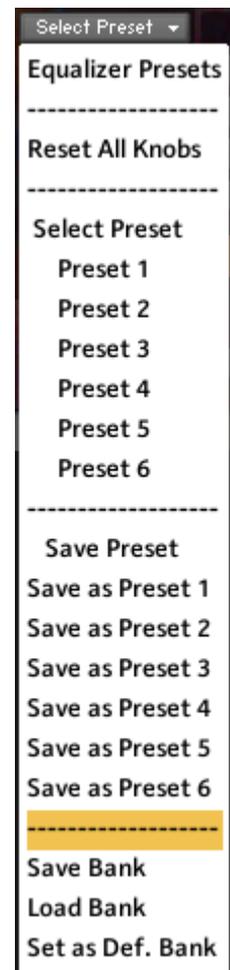
The six Presets can also be Saved and Loaded as a **Bank**.

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

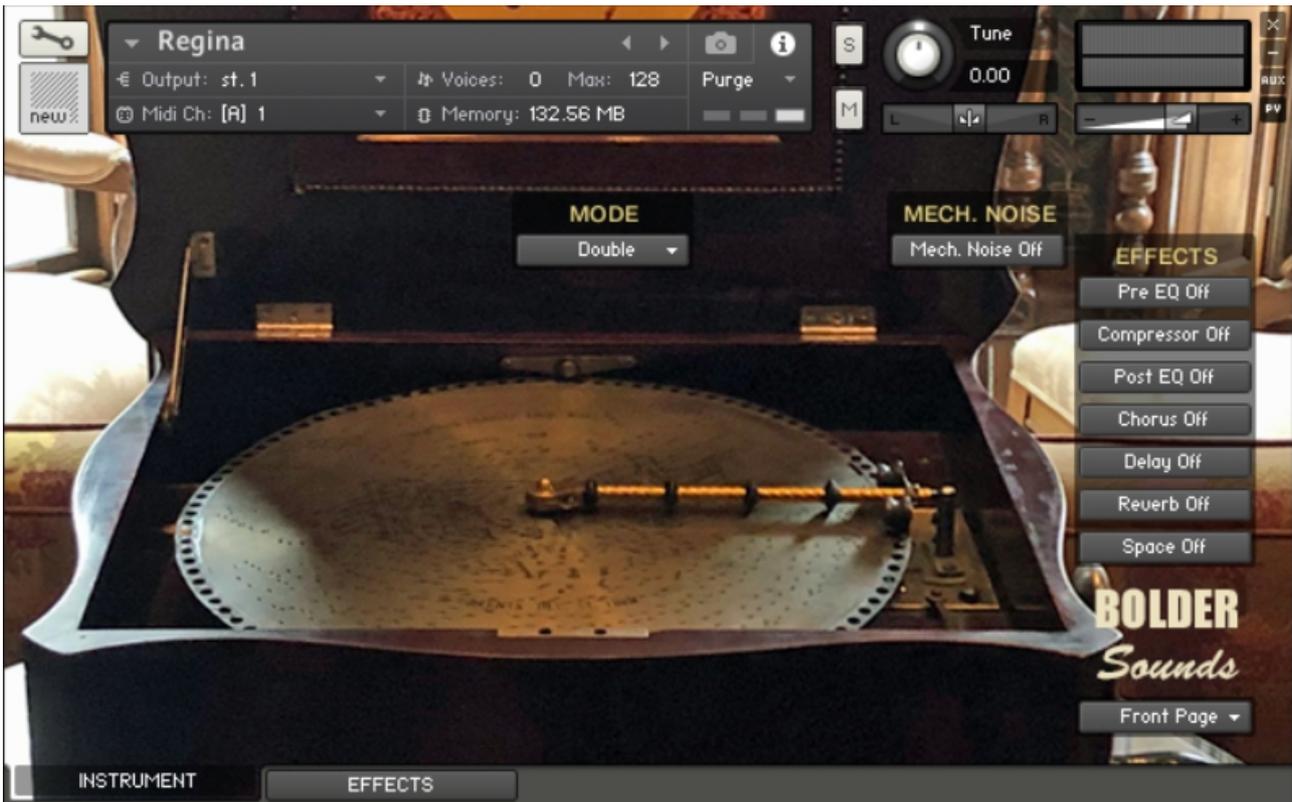
To Load a Bank, select the **Load Bank** in the Preset Menu. A open dialog box opens, pointing to the default Data folder.

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**.

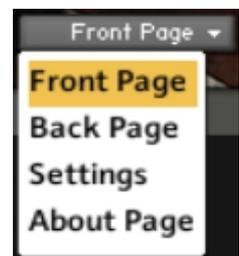
The Reset All Knobs sets all the knobs to their default setting.



The Regina



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



The Front Page:

On the Front Page you can select between the 2 Modes -

1. Single Mode
2. Double Mode

The Mechanical can be turned On/Off.

Here you can also turn the Global Effects On/Off.

(If you want to edit the Global Effects, then go to the Effect Panel)

The Back Page:



On the Back Page you can select between the two different Reginas.

Here you also adjust all the various settings for the Regina -



1. Tune
2. Volume
3. Pan
4. Sample Start
5. Attack Curve
6. Attack
7. Damp/Release
8. Sustain/Decay.

If you selected Double Mode, you can Link the two Reginas - so when you adjust the settings on one Regina, it is reflected on the other Regina.

The Tune can be adjusted either in semitones or in fine tune (hold down SHIFT).

ALT/OPT or SHIFT will toggle the Damp/Release and the Sustain/Decay knobs.

The Settings Page:

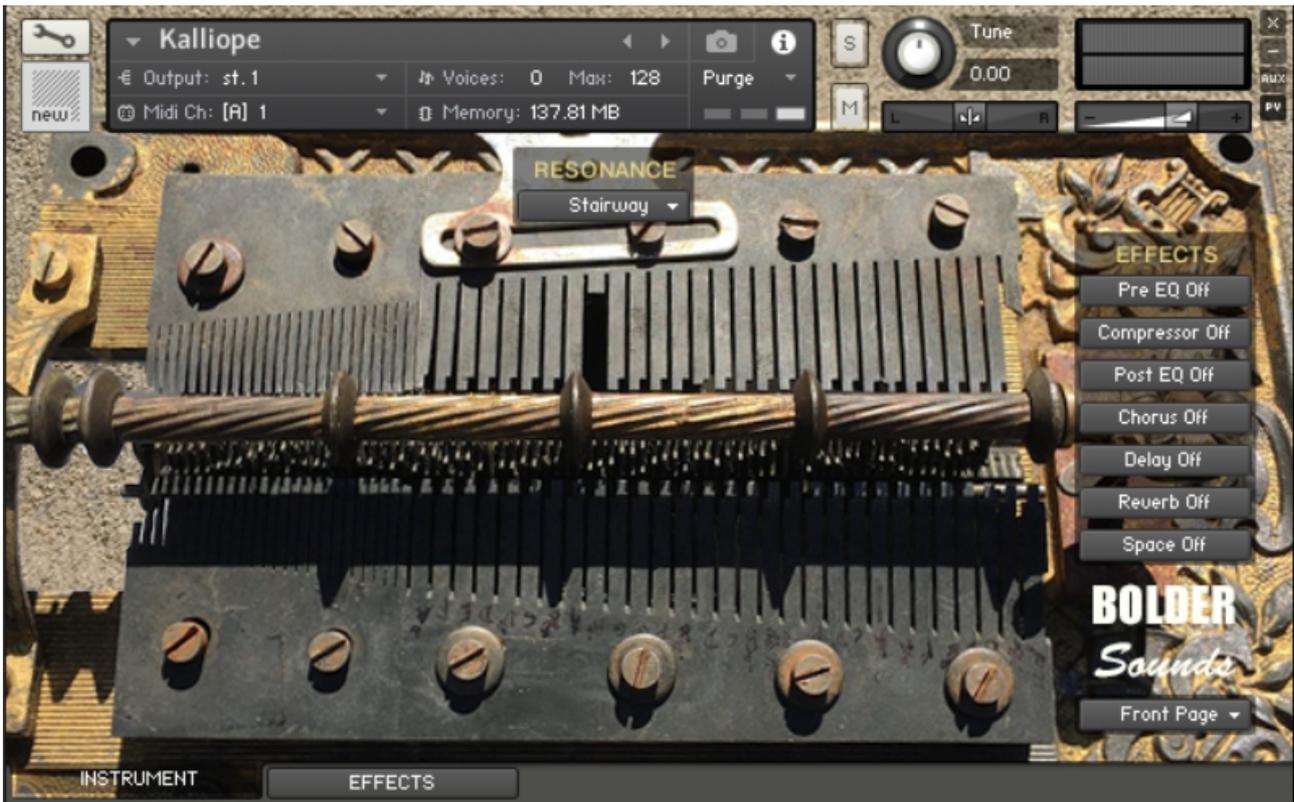


Here you can adjust how much the velocity will affect the Volume and the LP Filter Cutoff.

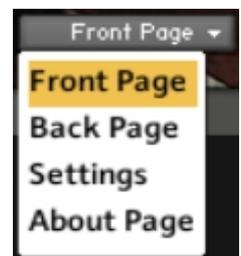
You can also select the Keys that will play the Mechanical and Crank Noise.

And you can adjust the Speed and the Level of Crank and Mechanical Noise.

The Kalliope



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



The Front Page:

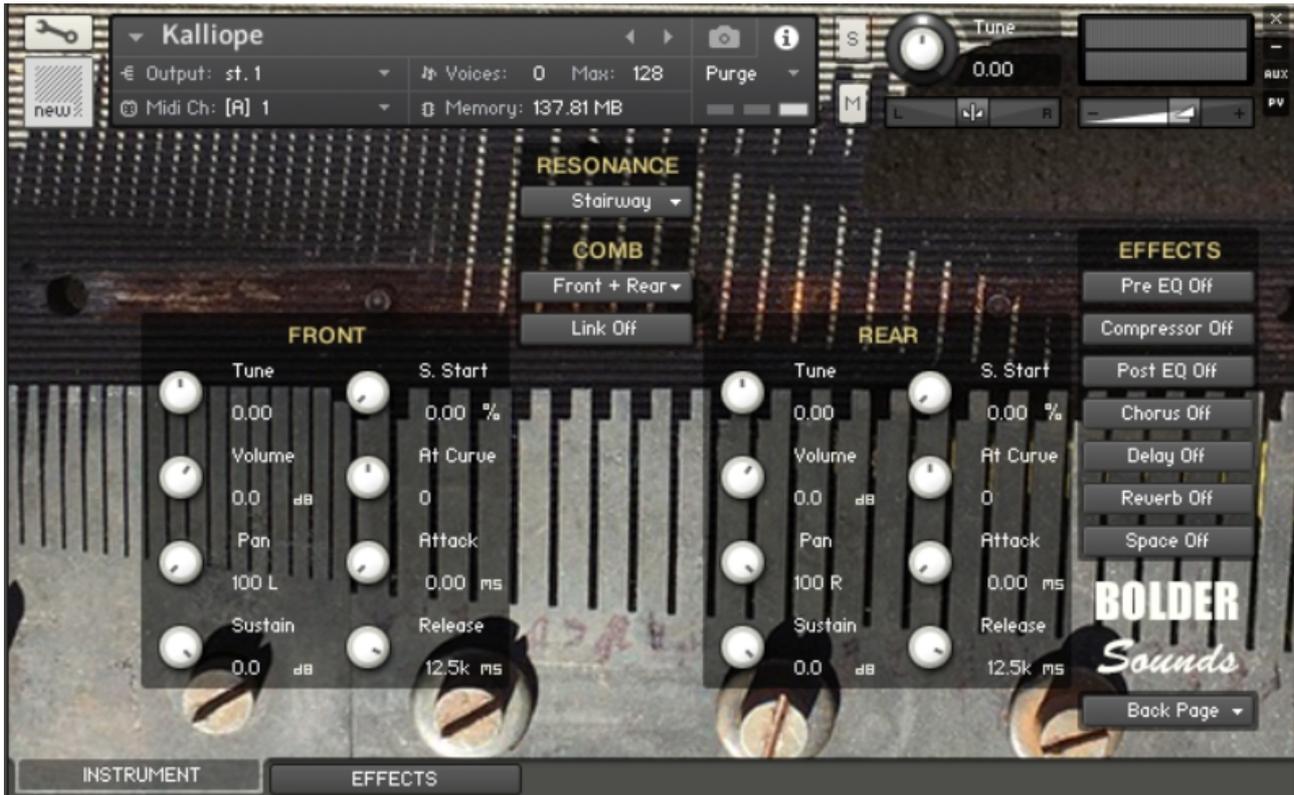
On the Front Page you can select between the 4 different Resonance versions of the Kalliope -



Here you can also turn the Global Effects On/Off.

(If you want to edit the Global Effects, then go to the Effect Panel)

The Back Page:



On the Back Page you can select between the various combinations of the Front Comb and/or the Rear Comb -

Here you also adjust all the various settings for the two Combs -

1. Tune
2. Volume
3. Pan or Spread
4. Sample Start
5. Attack Curve
6. Attack
7. Damp/Release
8. Sustain/Decay.

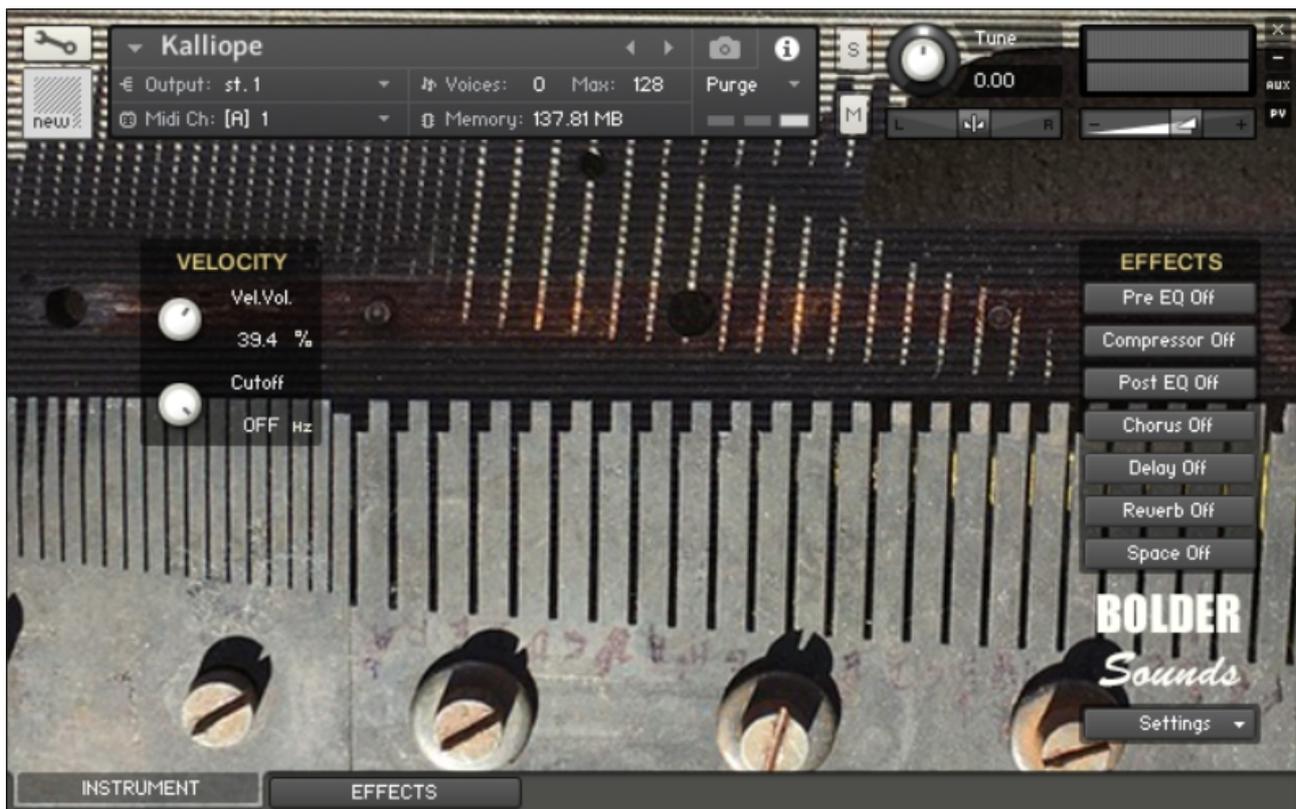


You can Link the two Combs - so when you adjust the settings on one Comb, it is reflected on the other Comb.

The Tune can be adjusted either in semitones or in fine tune (hold down SHIFT).

ALT/OPT or SHIFT will toggle the Damp/Release and the Sustain/Decay knobs.

The Settings Page:

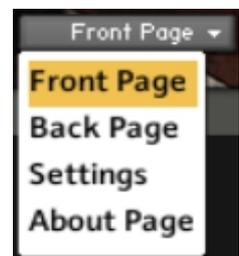


Here you can adjust how much the velocity will affect the Volume and the LP Filter Cutoff.

The Bird Music Boxes



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



The Front Page:

On the Front Page you can select between the 2 Modes -

3. Single Mode
4. Double Mode

Here you can also turn the Global Effects On/Off.

(If you want to edit the Global Effects, then go to the Effect Panel)

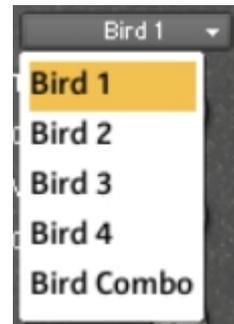
The Back Page:



On the Back Page you can select between the different Birds -

Here you also adjust all the various settings for the Birds -

1. Tune
2. Volume
3. Pan
4. Sample Start
5. Attack Curve
6. Attack
7. Damp/Release
8. Sustain/Decay.



If you selected Double Mode, you can Link the two Birds - so when you adjust the settings on one Bird, it is reflected on the other Bird.

The Tune can be adjusted either in semitones or in fine tune (hold down SHIFT).

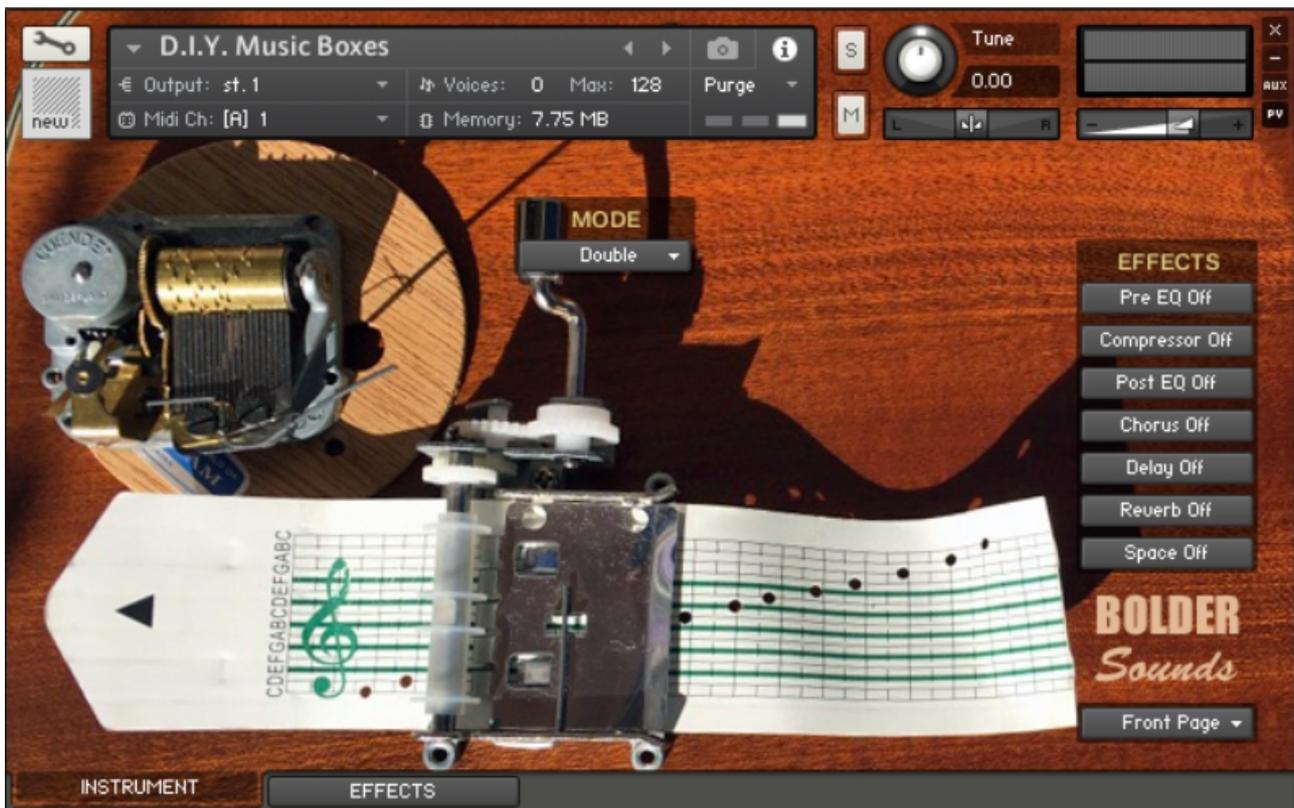
ALT/OPT or SHIFT will toggle the Damp/Release and the Sustain/Decay knobs.

The Settings Page:

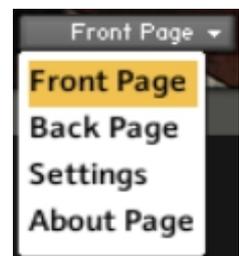


Here you can adjust how much the velocity will affect the Volume and the LP Filter Cutoff.

The D.I.Y. Music Boxes



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



The Front Page:

On the Front Page you can select between the 2 Modes -

5. Single Mode
6. Double Mode

Here you can also turn the Global Effects On/Off.

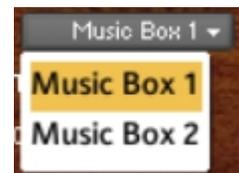
(If you want to edit the Global Effects, then go to the Effect Panel)

The Back Page:



On the Back Page you can select between the two different Music Boxes -

Here you also adjust all the various settings for the Music Boxes



1. Tune
2. Volume
3. Pan
4. Sample Start
5. Attack Curve
6. Attack
7. Damp/Release
8. Sustain/Decay.

If you selected Double Mode, you can Link the two Music Boxes - so when you adjust the settings on one Music Box, it is reflected on the other Music Box.

The Tune can be adjusted either in semitones or in fine tune (hold down SHIFT).

ALT/OPT or SHIFT will toggle the Damp/Release and the Sustain/Decay knobs.

The Settings Page:



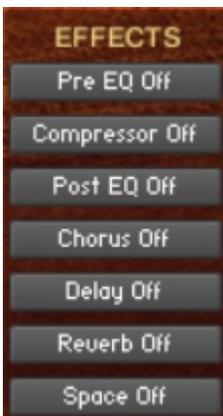
Here you can adjust how much the velocity will affect the Volume and the LP Filter Cutoff.

The Effects Panel



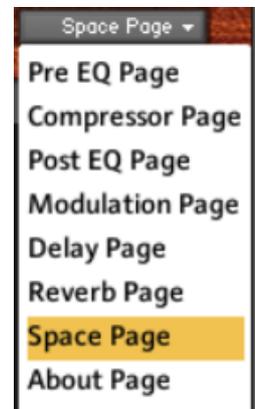
The Effect Panel has eight different Pages. Here you select and edit all the various Effect parameters.
You can also Save/Recall up to six Presets for each Effect, and Save/Load the Presets as Banks.

The Effects On/Off and the Pages:



The seven Effect buttons turn the various Effects On and Off, and open the corresponding Page.

You can also navigate between the different Effect Pages, using the Page Menu or ALT/OPT click on the On/Off button.



There are seven Effect Slots, and in the first four Slots you can load different Effects:

1. Slot - **PRE EQ:**

Select between 4 different Equalizers:

- 1-band EQ
- 2-band EQ
- 3-band EQ
- Solid G-EQ

2. Slot - **COMPRESSOR:**

Select between 3 different Compressors or Transient Master:

- Standard Compressor
- Solid Bus Compressor
- Feedback Compressor
- Transient Master

3. Slot - **POST EQ:**

Select between 4 different Equalizers:

- 1-band EQ
- 2-band EQ
- 3-band EQ
- Solid G-EQ

4. Slot - **MODULATION:**

Select between 5 different Modulations:

- Chorus
- Flanger
- Phaser
- Rotator
- Amp LFO

5. Slot - **DELAY:**

The Delay Time can either be free or in Sync with the host.

6. Slot - **REVERB:**

An algorithmic reverb.

7. Slot - **SPACE:**

You can select between 29 different convolution IR's.

=====
Script, Patch and Presets by Bo Clausen.

Enjoy the Grand Music Boxes library!

Dennis Burns - Bolder Sounds – December 2020
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Customer Support

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

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