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VERSILIAN STUDIOS

KARORYFER LECOLDS



# VIRTUOSITY DRUMS

PRODUCT MANUAL

KVRDC'21





# INTRODUCTION

Jazz drumming is as diverse and intricate as any other aspect of the Jazz tradition, yet we have found it to be rather under-represented in the world of free sample libraries. Working with drummer Austin McMahon, we recorded all essential stick articulations on the “house kit”, which is featured in weekly live-streams and sessions at Virtuosity Musical Instruments in Boston, MA.

*Austin performs regularly with Jerry Bergonzi’s Quartet and has recently performed and/or recorded with Sean Jones, George Garzone, Joe Lovano, Lionel Loueke, Ben Monder, Lage Lund, Kate McGarry, Noah Preminger, Jason Palmer and Grace Kelly. Austin currently teaches in the Jazz Department at New England Conservatory Preparatory and Continuing Education Division, Boston, MA.*

Learn more about the performer: <http://www.austinmcmahon.com/>

*Located just steps from Symphony Hall, Virtuosity was founded in Fall of 2015 after a need was recognized for a communal meeting place for musicians to exchange ideas, network, and learn about instruments new and old.*



For more info on the venue: <https://www.virtuosityboston.com/>

# DEVELOPMENT

**R**ecording took place at Virtuosity Musical Instruments, located in the Symphony area of Boston, MA. Virtuosity is a hotspot for the local Jazz community and home to a weekly session and other performance settings.

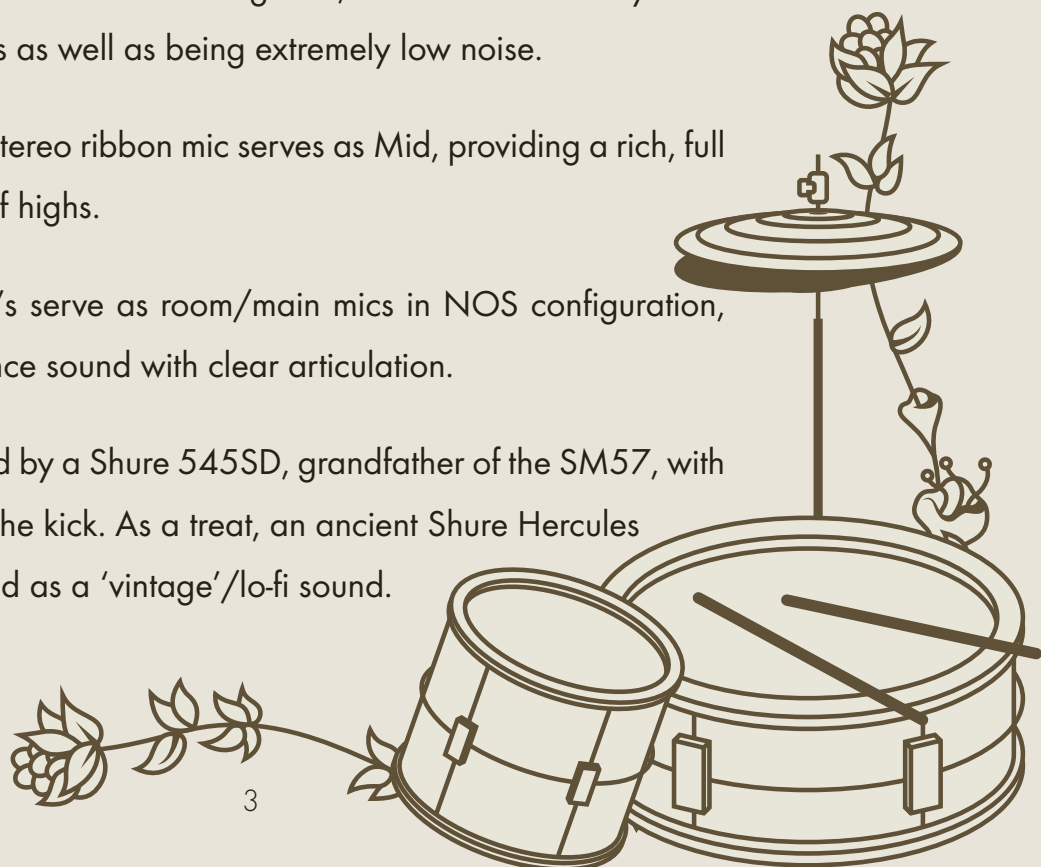
The snare, toms, and kick were recorded with a special 'wave' technique, where rather than attempting to record discrete dynamic levels, the drummer freely played louder and softer notes. The result is up to 36 dynamic levels with no round robins, which makes these instruments very suitable to live playing on keyboard or virtual drums as they will benefit enormously from the natural variation in velocity. The cymbals on the other hand use a smaller number of discrete velocity layers at 4 round robins, to help in situations of high repetitions.

For overheads, we used Blue Hummingbirds, which are deliciously articulate on toms and cymbals as well as being extremely low noise.

A Samar VL-373A stereo ribbon mic serves as Mid, providing a rich, full sound with gently rolled-off highs.

A pair of sE RN17's serve as room/main mics in NOS configuration, providing a natural audience sound with clear articulation.

The snare is handled by a Shure 545SD, grandfather of the SM57, with another Hummingbird on the kick. As a treat, an ancient Shure Hercules from the 1950's is provided as a 'vintage'/lo-fi sound.







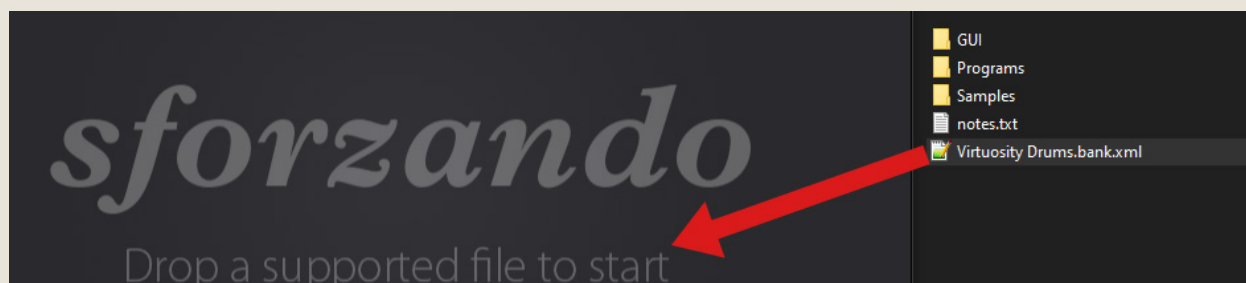
# INSTALLATION

**B**egin installation by downloading the library from the Versilian Studios, Karo-ryfer website, or direct from KVR. Extract the contents of the .zip file, which will generate a folder titled 'Virtuosity Drums' which contains the entirety of the library, including samples, programs (patches), and the GUI files.

Place this folder wherever you would like the library to be accessed from in the future – this could be on an external hard drive, an internal SSD, or your main hard drive.

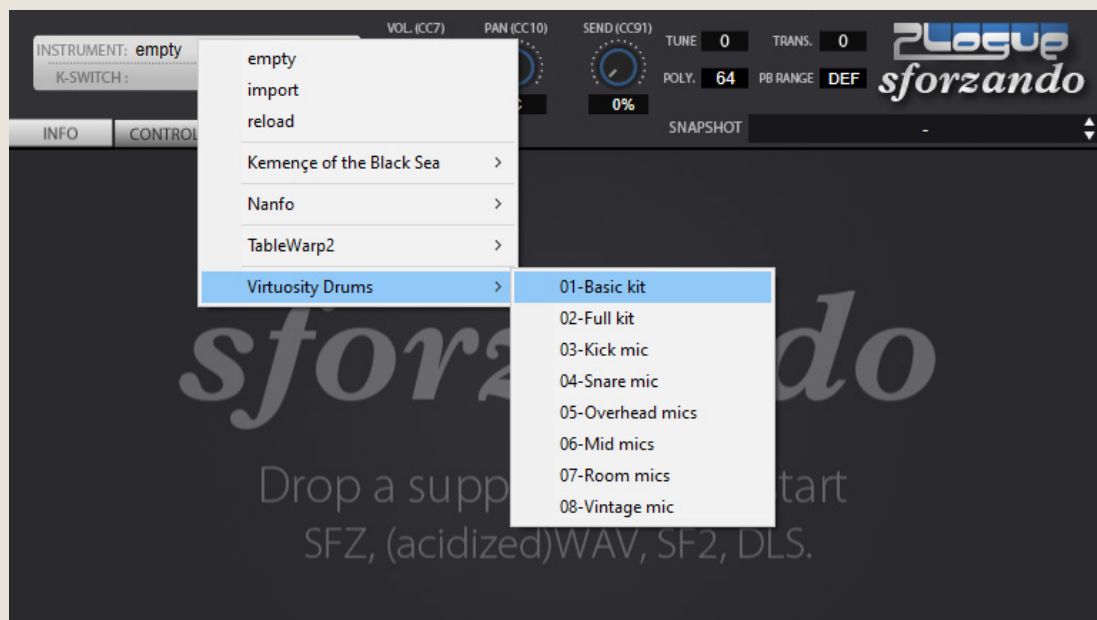
To use the library, you must also install Sforzando or ARIA player by Plogue. Sforzando is available [for free from the Plogue website](#), while you may own the ARIA player already if you have used any Garritan products.

Once installed, open Sforzando or ARIA and open the Virtuosity Drums folder. Locate "Virtuosity Drums.bank.xml" and drag and drop it into the open Sforzando window.



# LOADING PATCHES

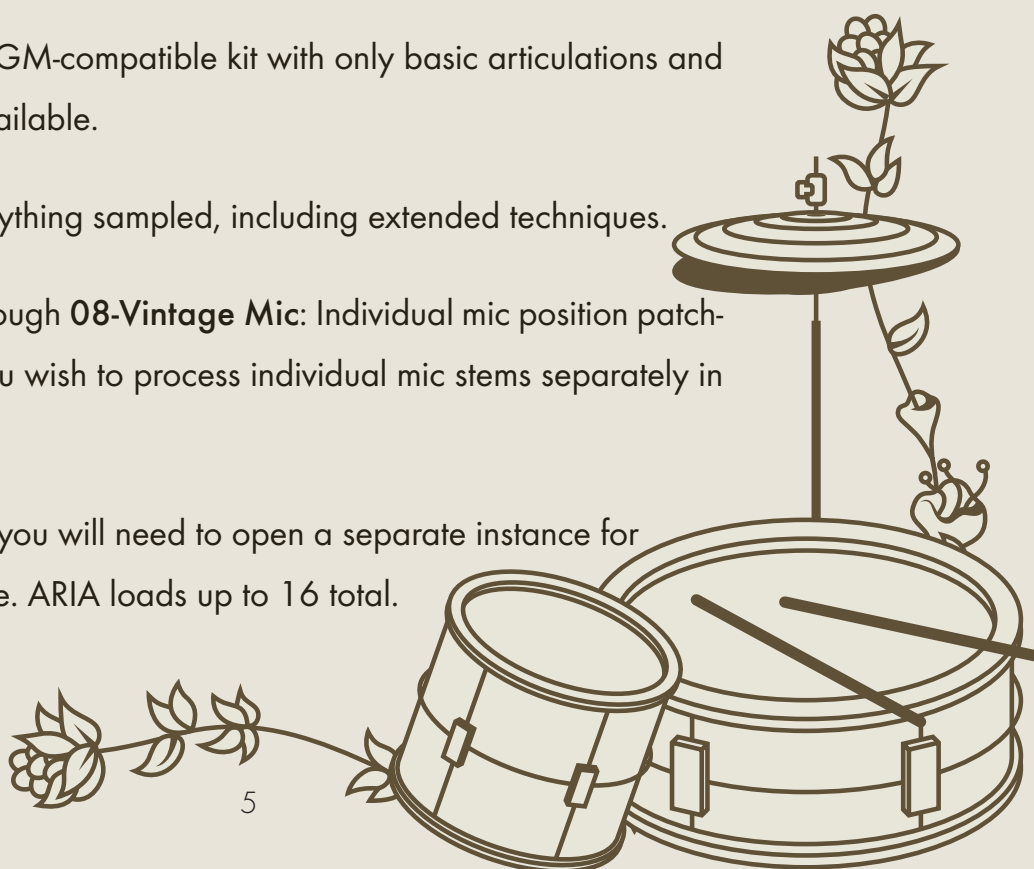
Once you have installed the library, you can load patches by clicking the 'Instrument' dropdown in Sforzando or ARIA, and selecting a program under 'Virtuosity Drums':



There are 8 programs available:

- **01-Basic Kit:** A GM-compatible kit with only basic articulations and mic positions available.
- **02-Full Kit:** Everything sampled, including extended techniques.
- **03-Kick Mic through 08-Vintage Mic:** Individual mic position patches. Use this if you wish to process individual mic stems separately in your DAW.

If using Sforzando, you will need to open a separate instance for each patch you wish to use. ARIA loads up to 16 total.



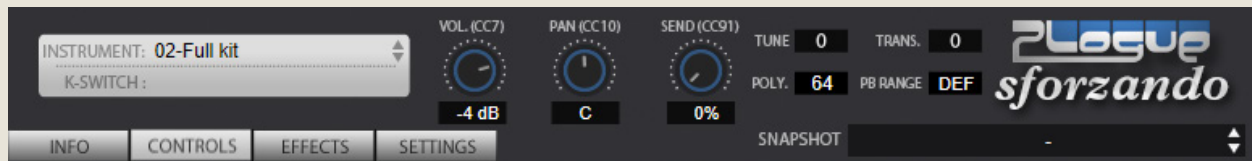
BY KARORYFER SAMPLES  
&  
VERSILIAN STUDIOS  
KVRDC'21

# OPERATION

Once loaded in Sforzando or ARIA, the GUI will become available to you. This window will provide nearly everything you need to control and shape the sound of the instrument from tuning drums to controlling the stereo image to help it fit in your mix. In this section of the manual, I'll walk you through each part of the GUI and typical settings.







The top portion of the GUI is standard for all Sforzando libraries. Note that if you are using ARIA player, your GUI will look quite different here, as ARIA is designed to accomodate multiple patches at once.

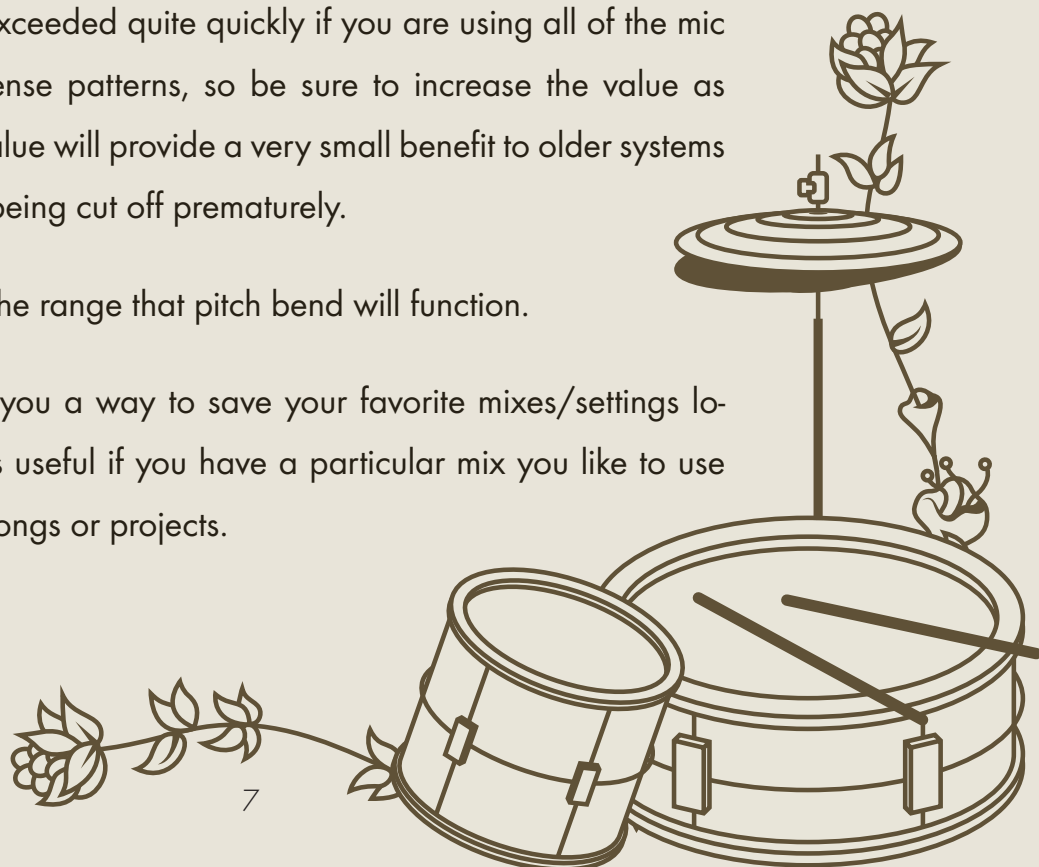
Here you can select the Instrument loaded from among all libraries installed on your system. Also accessible are Volume (CC7), Pan (CC10), and [Reverb] Send (CC91) controls. The four tabs below; Info, Controls, Effects, and Settings change the active screen on the GUI.

To the right, Tune provides adjustment in cents of the pitch of the library. This is not needed with the library, as there are individual tune controls for each drum provided separately (see later). Trans[pose] allows the incoming MIDI data to be transposed by halfsteps, which is generally not useful with drums.

Poly[phony] is the total number of voices available to the engine. Note that this number may be exceeded quite quickly if you are using all of the mic positions and playing intense patterns, so be sure to increase the value as needed. Decreasing the value will provide a very small benefit to older systems at the cost of some notes being cut off prematurely.

PB Range controls the range that pitch bend will function.

Snapshot provides you a way to save your favorite mixes/settings locally for recal later. This is useful if you have a particular mix you like to use regularly across multiple songs or projects.





Select the 'Controls' tab and the above screen will appear.

In the center of the screen are the **microphone level** faders, which allow you to mix the various microphones together to achieve the desired sound. If you have the Full Kit loaded up, you will see all six microphone positions and all of the controls shown. If you have the Basic Kit, only Kick, Snare, and Overhead will be available. For the individual mic position programs/patches, only that named mic position will be available.

Beneath each of the stereo mic positions (Overhead, Mid, and Room), there are **Width** controls which allow you to collapse these positions to mono or simply narrow them down if they are too wide for your mix or to assist with placement.

For Kick and Snare mics, there is instead a **Bleed** setting which you can use to control whether or not these microphone positions pick up the sounds of other drums. In a real recording, even the most optimally placed kick or snare mic will pick up other pieces of nearby kit such as toms or cymbals. However, this can sometimes be the root cause of unwanted issues like comb filtering resulting from phasing, so disabling bleed can provide a cleaner sound in some cases.

Beneath the Kick bleed control is **Dampen**, which reduces the resonance of the kick drum. This is very useful for using the kit in other genres in particular.



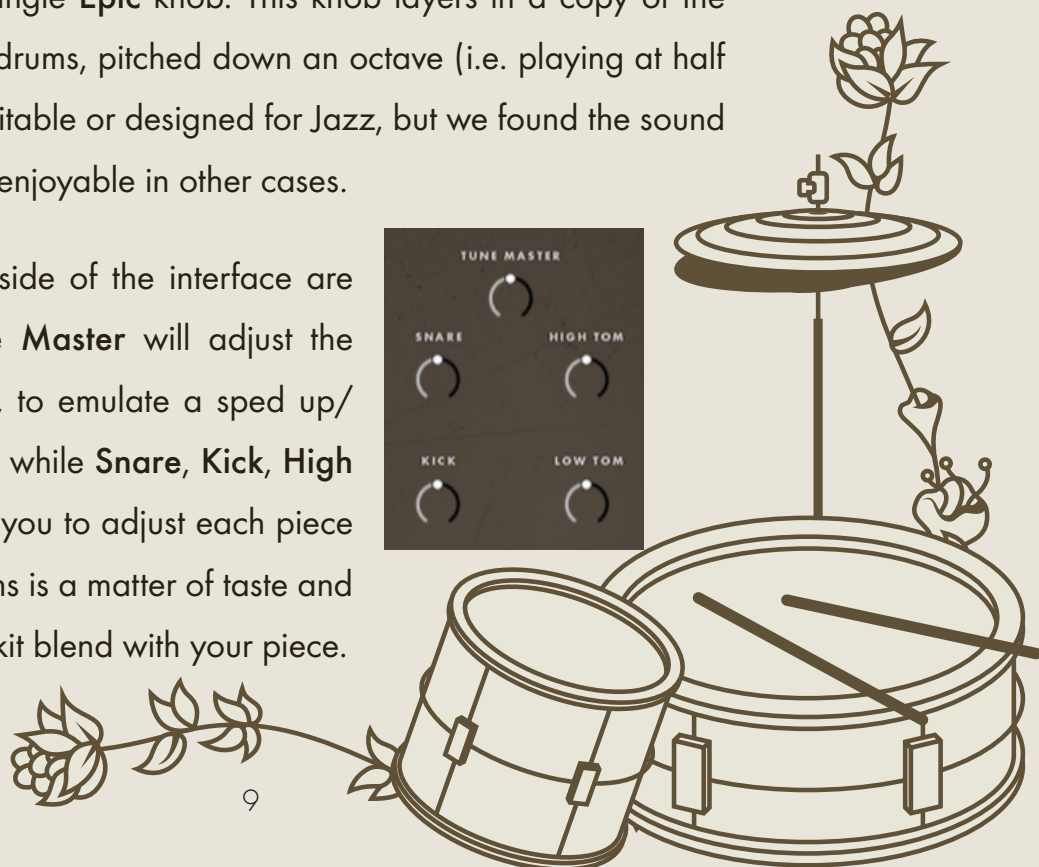


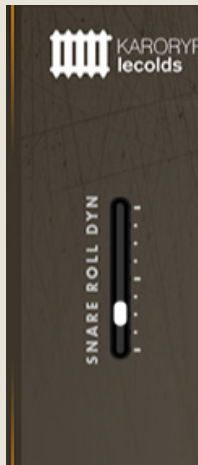
Beneath the bleed control for the Snare mic is the **Snares on/off** button, which allows you to engage (default) or disengage the snares on the snare drum. This button does not appear on *Basic Kit*. The snares are responsible for the buzzy sound of the snare drum and turning them off will swap to a parallel set of snare-off samples which are the natural sound of the drum.

A brief technical note: in real life, the snares also resonate with many other pieces of the kit, in particular the kick drum. When you disengage the snares, the kick drum samples will also swap to reflect this change. If for any reason you wish to use the opposite kick drum sample, it is available on the B note right below the “active” kick sample, and will always be the opposite of whatever the snare setting is.

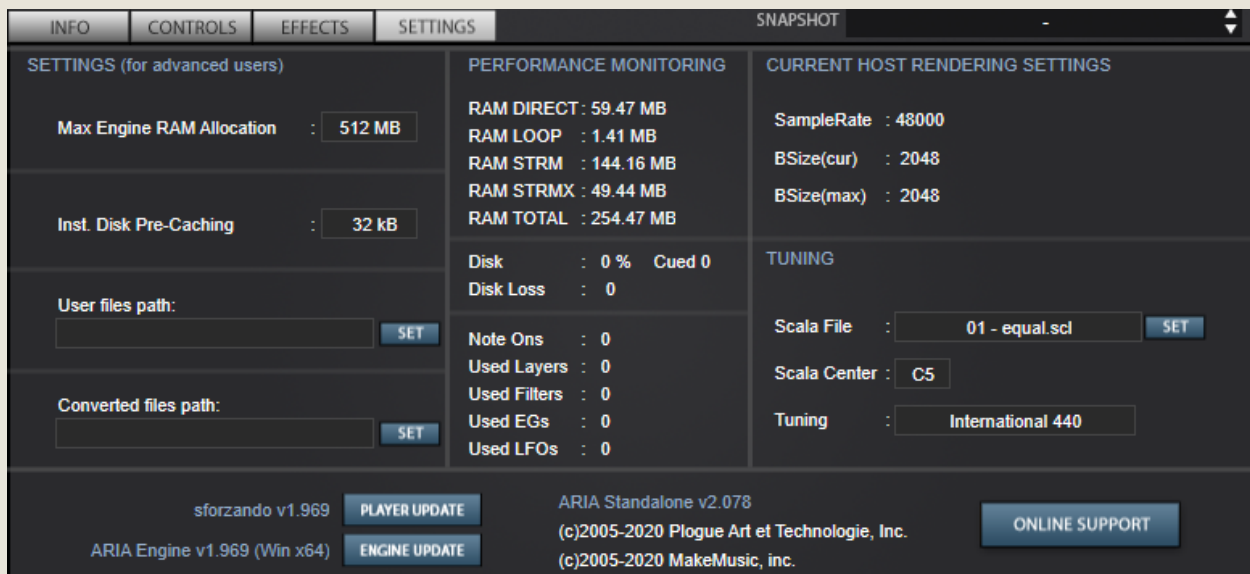
Beneath the four mic positions to the right (Overheads, Middle, Room, and Vintage), there is a single **Epic** knob. This knob layers in a copy of the samples, in particular the drums, pitched down an octave (i.e. playing at half speed). The result is not suitable or designed for Jazz, but we found the sound to be very interesting and enjoyable in other cases.

On the right-hand side of the interface are the Tuning controls. **Tune Master** will adjust the entire kit’s tuning at once, to emulate a sped up/slowed down drum break, while **Snare**, **Kick**, **High Tom**, and **Low Tom** allow you to adjust each piece individually. Retuning drums is a matter of taste and may be useful to help the kit blend with your piece.





To the left is the **Snare Roll Dyn[amic]** slider. This mirrors your Mod-wheel, which controls the dynamics of the continuous snare roll. Dynamics for **all other sounds** (i.e. basically everything) are controlled by key velocity (i.e. how hard you press keys on your keyboard, provided your keyboard measures velocity). You generally should **NOT** move this slider with your mouse, instead draw a continuous controller curve on CC1 in your DAW or use your modwheel to record activity on this; the slider is really only intended for visual feedback or live playing situations.



The Effects tab (not pictured) provides a generic algorithmic reverb.

In the Settings tab are some generic metrics about the instrument's behavior and some settings to tweak performance. Of most importance perhaps here is Max Engine RAM Allocation. On a modern system with at least 4 GB of RAM, I would suggest setting this to 2 GB to ensure the engine can load all the samples it needs to into RAM.

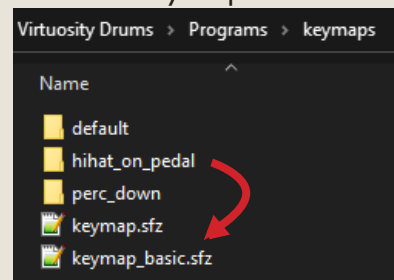
In the center column you can see the current RAM, disk, and engine usage. Over time, as notes are played, the total RAM usage will increase to a maximum of approximately 1.3 GB. The other settings in this panel fall outside the scope of this manual.

# KEYMAPS & E-DRUM HI-HAT CONTROL

A powerful feature of this library is the swappable keymap system. Keymaps are files which define where all of the instruments appear on the keyboard. For example, it is a keymap which determines the kick drum appears on Note 36. Keymaps can be opened and edited in any text editor.

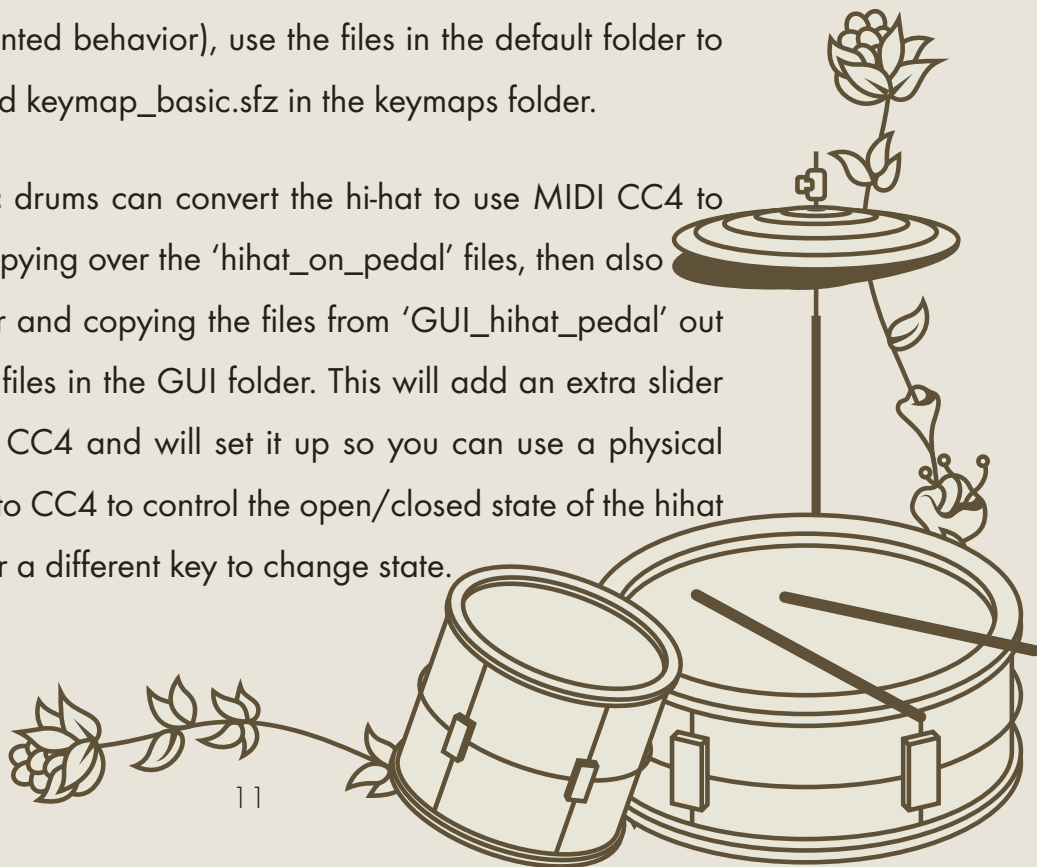
The library uses two keymaps: `keymap.sfz` and `keymap_basic.sfz`, the former is used by 'full kit' and the latter by 'basic kit'. You can view the keymap files within the directory as shown below:

Virtuosity Drums/Programs/keymaps/



There are several 'presets' available in addition to the default keymap pair, located in the folders 'hihat\_on\_pedal' and 'perc\_down'. To activate these keymaps, copy the contents of these folders (the `keymap.sfz` + `keymap_basic.sfz`) out of the folder and REPLACE the `keymap.sfz` + `keymap_basic.sfz` located in the keymaps folder. If you wish to restore the default behavior (in case of unwanted behavior), use the files in the default folder to replace the `keymap.sfz` and `keymap_basic.sfz` in the keymaps folder.

A user of electronic drums can convert the hi-hat to use MIDI CC4 to select how open it is by copying over the 'hihat\_on\_pedal' files, then also going into the 'GUI' folder and copying the files from 'GUI\_hihat\_pedal' out so they overwrite the .xml files in the GUI folder. This will add an extra slider which shows the status of CC4 and will set it up so you can use a physical pedal, knob, or slider tied to CC4 to control the open/closed state of the hi-hat instead of having to trigger a different key to change state.







## PATCHES & ARTICULATIONS

**O**n the following page is a diagram of the default keymap used in the library. As discussed on the prior page, keymap files are fully editable and customizable, so can be tweaked if desired.

Note that not all instruments cover all mic positions. Percussion instruments, such as Tambourine and Triangle (most things located between 54-84) do not use Vintage or Kick mic positions, and use Snare as a mono close mic position. Cuica, Woodblock, and Timbale only have a single position, Overhead, and won't appear while using other mics.

### MASTER CC LIST - VIRTUOSITY DRUMS

CC1 (mod wheel): Snare Roll Dynamics

#### Mic Settings

CC101: Kick Mic Volume

CC102: Kick Mic Bleed Toggle (None/Snare/All)

CC103: Snare Mic Volume

CC104: Snare Mic Bleed Toggle (None/Kick/All)

CC105: Overhead Mics Volume

CC106: Overhead Mic Width

CC107: Mid Mics Volume

CC108: Mid Mic Width

CC109: Room Mics Volume

CC110: Room Mic Width

CC111: Vintage Mic Volume

#### Tune

CC90: Master Tune (for slow/fast drumbreak effect)

CC76: Snare Tune

CC72: Kick Tune

CC86: High Tom Tune

CC81: Low Tom Tune

#### Extra

CC71: Kick Dampen Amount

CC21: Snares On/Off Toggle

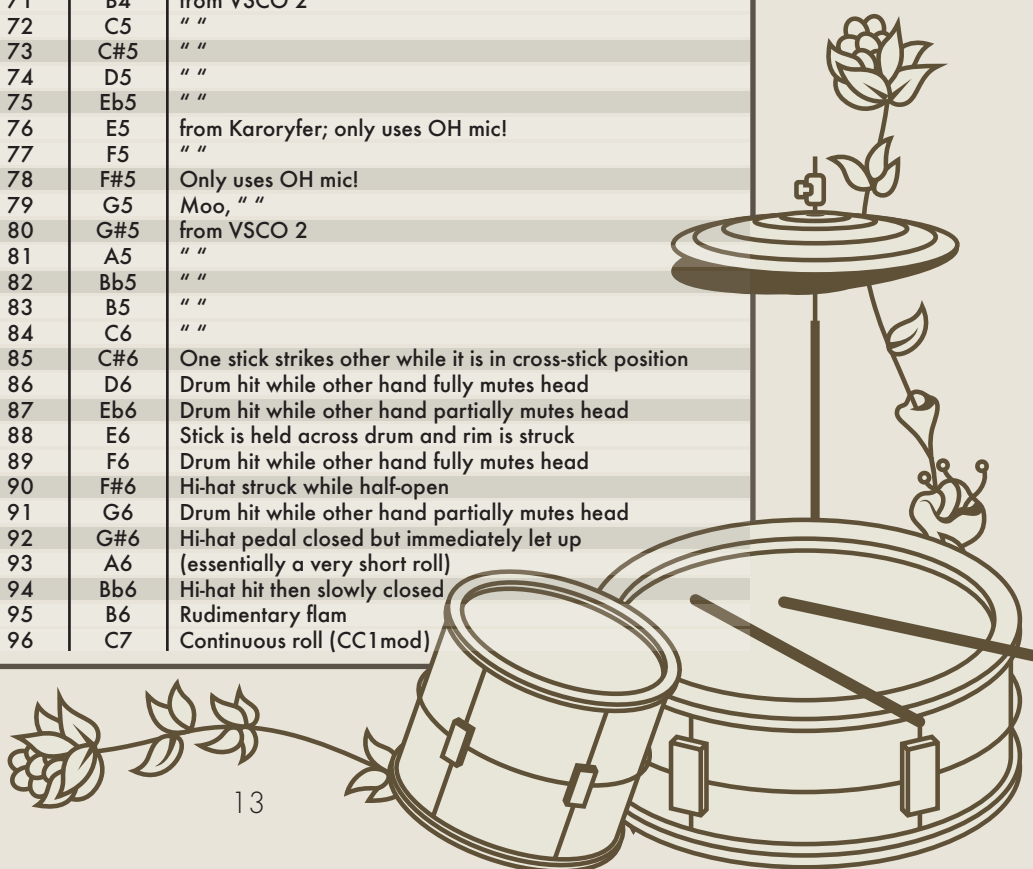
CC113: "Epic" Effect Amount

CC4: Hi-hat Pedal Position (\*Requires custom reconfiguration, see pg. 11)

# DEFAULT KEYMAP

## BASIC KIT

Kick Alternate	35	B1	Opposite of snare status (off/on)
Kick Primary	36	C2	Matches snare status (on/off)
Snare Stickshot	37	C#2	One stick strikes other while it is touching drum head
Snare Center Hit	38	D2	
Snare Off-center Hit	39	Eb2	
Snare Rimshot	40	E2	Rim of drum and head struck simultaneously
Low Tom Center Hit	41	F2	
Hi-hat Closed Hit	42	F#2	Struck while fully closed
Low Tom Off-center Hit	43	G2	
Hi-hat Pedal	44	G#2	Pedal pushed down rapidly
Low Tom Rimshot	45	A2	
Hi-hat Open Hit	46	Bb2	Struck while fully open
Low Tom Cross-stick	47	B2	Rim of stick hit while stick held across head
High Tom Center Hit	48	C3	
Crash Normal Hit	49	C#3	
High Tom Off-center Hit	50	D3	
Ride Normal Hit	51	Eb3	
-	52	E3	-
Ride Bell Hit	53	F3	
Tambourine Shake	54	F#3	from VSCO 2
Flat Ride as Crash	55	G3	Flat ride cymbal struck as crash (in lieu of splash cymbal)
Cowbell	56	G#3	from VSCO 2
Sizzle Crash	57	A3	Chain placed on crash to create extra sizzle
Vibraslap	58	Bb3	from VSCO 2
Flat Ride Normal Hit	59	B3	A flat ride cymbal (no 'bell')
High Bongo	60	C4	from VSCO 2
Low Bongo	61	C#4	" "
Conga Muted Hit	62	D4	" "
Conga Open Hit	63	Eb4	" "
Tumba Hit	64	E4	" "
High Timbale	65	F4	from Karoryfer
Low Timbale	66	F#4	" "
High Agogo Bell	67	G4	from VSCO 2
Low Agogo Bell	68	G#4	" "
Cabasa	69	A4	" "
Large Shaker	70	Bb4	(in lieu of maraca)
Whistle, Short	71	B4	from VSCO 2
Whistle, Long	72	C5	" "
Guiro, Slow	73	C#5	" "
Guiro, Fast	74	D5	" "
Claves	75	Eb5	" "
High Woodblock	76	E5	from Karoryfer; only uses OH mic!
Low Woodblock	77	F5	" "
Mute Cuica	78	F#5	Only uses OH mic!
Open Cuica	79	G5	Moo, " "
Mute Triangle	80	G#5	from VSCO 2
Open Triangle	81	A5	" "
Shaker	82	Bb5	" "
Sleigh Bell	83	B5	" "
Belltree	84	C6	" "
Snare Stickshot, Alternate	85	C#6	One stick strikes other while it is in cross-stick position
Snare, Hand-Muted	86	D6	Drum hit while other hand fully mutes head
Snare, Half-Hand Muted	87	Eb6	Drum hit while other hand partially mutes head
Snare, Cross-stick	88	E6	Stick is held across drum and rim is struck
Low Tom, Muted	89	F6	Drum hit while other hand fully mutes head
Hi-hat Half-Open Hit	90	F#6	Hi-hat struck while half-open
Low Tom, Half-Muted	91	G6	Drum hit while other hand partially mutes head
Hi-hat Splash Hit	92	G#6	Hi-hat pedal closed but immediately let up (essentially a very short roll)
Snare Buzz	93	A6	
Hi-hat 3/4ths Open Hit	94	Bb6	Hi-hat hit then slowly closed
Flam	95	B6	Rudimentary flam
Snare Roll	96	C7	Continuous roll (CC1 mod)







# TROUBLESHOOTING

If you are experiencing issues with the library, there are a few steps you can try to resolve the issues before contacting us. Below is a list of common possible problems and 'home remedies' that will work to fix them.

## 1. Samples could not be found warning.

Generally the best solution is to re-extract the files from the .zip archive, or re-download the archive. Never move any of the folders or files in the 'Virtuosity Drums' folder to another location as this will break the program. If you wish to move the library, move the Virtuosity Drums folder itself with everything left inside as-is.

## 2. Instrument uses up too much memory or CPU.

Use the 'Basic Kit' version instead, or one of the individual mic position patches for the most space savings and CPU usage reduction. Increase your DAW's audio driver buffer size and ensure your computer is in 'Performance' mode.

## 3. Library fails to register in Sforzando/ARIA.

Make sure you update Sforzando/ARIA to the latest version. You can do this by



going to the settings tab and selecting 'Player Update', then 'Engine Update' as well after that.

#### 4. Instrument takes a long time to load.

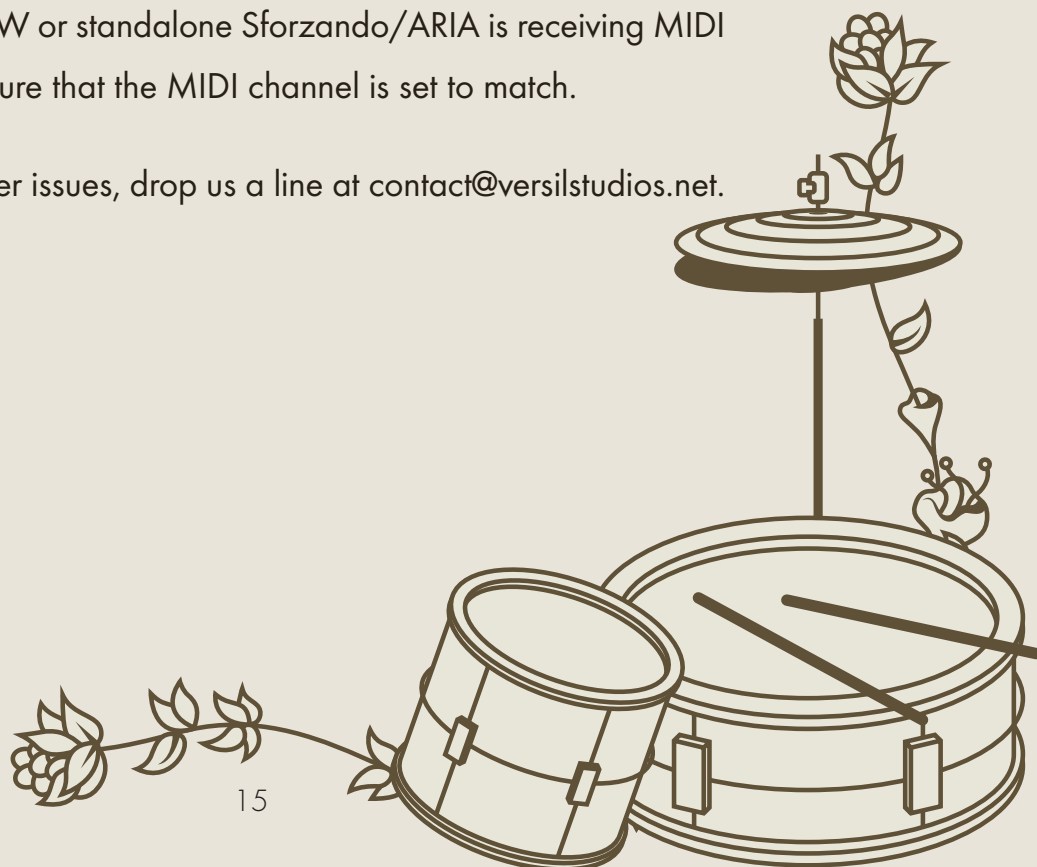
On Windows 10 devices or devices with 'realtime protection' anti-malware systems, such systems will attempt to scan the literally thousands of samples that Sforzando/ARIA needs to load before letting Sforzando/ARIA load them. It is strongly advised that you at least temporarily disable such 'realtime protection' systems while loading libraries, or set up an exemption for your folder or drive of sample libraries.

It is always recommended to use a solid state drive (SSD) from which to stream samples. A 256 GB external drive can be had for the price of a decent dinner with a drink and can hold this very library nearly 200 times over, while also speeding up load times significantly vs. a mechanical hard drive.

#### 5. Instrument won't respond to MIDI input.

Make sure your DAW or standalone Sforzando/ARIA is receiving MIDI from your device, then ensure that the MIDI channel is set to match.

If you have any other issues, drop us a line at [contact@versilstudios.net](mailto:contact@versilstudios.net).





# CREDITS

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GUI Design

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