



RAYZOOM TECHNOLOGIES LLC

# JAMSTIX

INTELLIGENT VIRTUAL DRUMMER

Release 3.6.0



USER MANUAL

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## 1 What is Jamstix?

Jamstix is a new breed of virtual drum software, which simulates a drummer inside of your DAW. Unlike most other drum modules, which either provide static MIDI patterns or an engine that combines pre-recorded MIDI patterns, Jamstix features a state-of-the-art real-time simulation of a human drummer down to the calculation of the time it takes a drummer to move an arm from drum A to drum B. This means that arrangements created with Jamstix are always humanly playable (no ten-armed drummers) and also always unique and varied since they are created based on rules and not static patterns.

Whether you are a hobbyist or a professional, whether you are in need of a jamming partner or a drum arrangement tool, a student wanting to learn more about drumming style or a songwriter needing to create a complex and unique drum track quickly, whether you have no drum module at all or have every high-end drum library on the market and wish to get the most realistic grooves out of them, Jamstix 3 is the answer to all of it.

We hope you will enjoy it as much as we did creating it! If you have any problems or questions using Jamstix, please contact us immediately in our support forum at <http://www.rayzoon.com> so we can help you quickly.

## 2 Specifications

- Available Interfaces:
  - VST (32-bit & 64-bit) - Windows and OSX
  - AU (32-bit & 64-bit) - OSX
  - AAX (64-bit) - Windows and OSX
- 1xMIDI input/1xMIDI output
- 8 stereo audio outputs (1 in AAX mode)
- built-in mixer with 3-band EQ, compressor and stereo delay effect
- extensive MIDI controller mapping
- supported sample rates: 44.1-96kHz
- copy protection: license key file

## 3 Requirements

- ✓ PC:
  - Windows 7 or higher (32-bit or 64-bit)
  - Windows XP should work but is not officially supported
- ✓ MAC: OSX 10.7.0+ (Intel CPU)
- ✓ Pentium class 2GHz CPU or higher
- ✓ 512MB RAM (1GB+ recommended)
- ✓ 1-5GB free hard drive space (depending on expansions)
- ✓ Hosts: any host with VSTi, AUi or AAX-64 support

## 4 Compatibility

Jamstix has been successfully tested in many hosts. However, since hosts and Jamstix can be used in myriads of ways and host versions often change, make sure to test drive the demo in your environment and your workflow.

## 5 Installation

### 5.1 PC (Windows)

Run jamstix3\_setup.exe to install the plugin. You will be asked for the desired location of the data files, which should be a large and fast hard drive. You will then be asked for the plugin locations, where the DLL file will be copied. This should be a location that your host(s) scans for plugins.

Copy the provided license key file to data location.

Load Jamstix in your host as you would any other plugin instrument. Go to the KIT tab and click 'Install Pak' to load your kits and expansion Paks as directed on your download page.

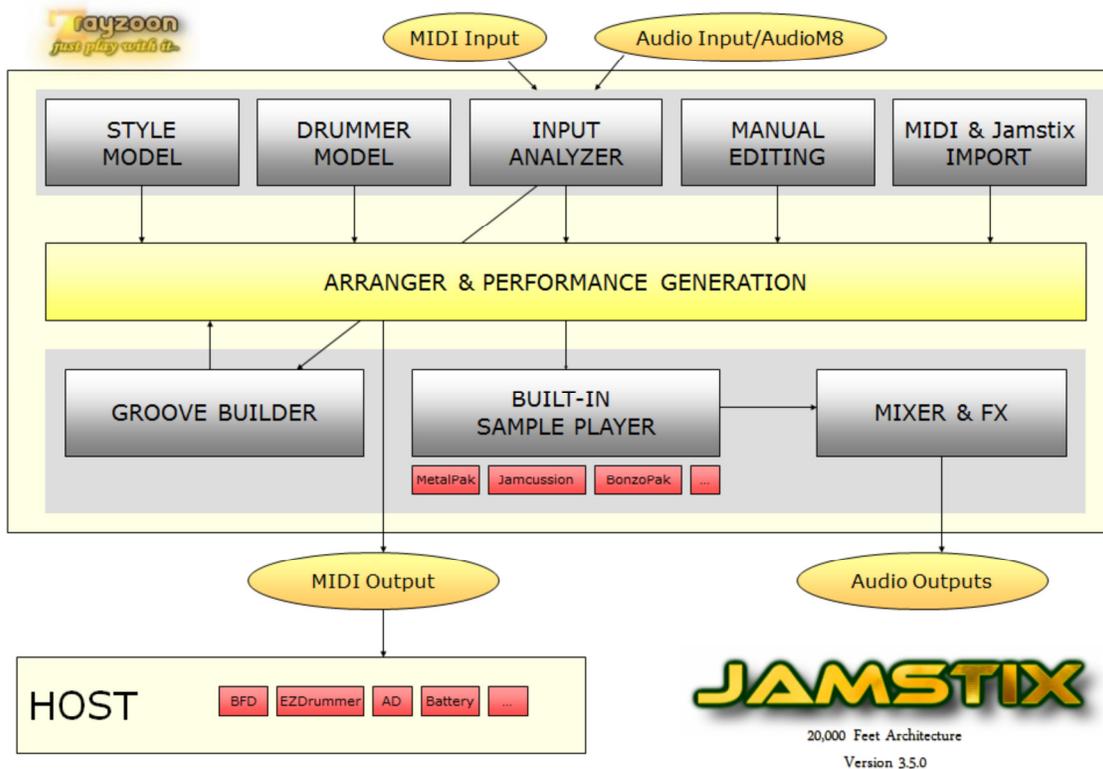
### 5.2 MAC (OSX)

Download the JamstixManager from the link in your delivery email and run it. It will ask for your license key, which you must copy/paste from your delivery email.

JamstixManager will connect to our servers and retrieve a list of all your available products. Simply click INSTALL to have these items downloaded and installed on your Mac.

See *Appendix B* for more info on JamstixManager.

## 6 Workflow



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## 6.1 How does Jamstix work within my host?

Let's talk about how exactly Jamstix functions with your host since it is such a unique plugin. Jamstix loads like any other instrument into your host and can also be used like any other traditional drum module by sending it MIDI drum notes (see *Drum Module Mode* for details).

However, when used in a jam mode, Jamstix becomes a virtual drummer that performs by itself in synch to your hosts song position, tempo and time signature. When the host plays, Jamstix plays. The resulting arrangement is stored within Jamstix so there is no need to record its performance in the host. Simply load/save your host project and the Jamstix arrangement is automatically saved and recalled.

Within Jamstix, you have various ways of affecting what the drummer plays. You can select styles and drummers, change brain settings, import MIDI patterns, create your own patterns or share the work with the brain etc. Jamstix gives you unprecedented freedom to use various workflows to fit it into your creative work process, ranging from a fully-automated "let Jamstix do its thing" to hand-editing patterns and having Jamstix do the chores around it.

Furthermore, Jamstix allows you export bars, parts or a whole song to the host via MIDI files for further editing in the host outside of Jamstix.

In summary, Jamstix can serve many roles in your studio, ranging from a simple drum sample player module to a interactive jam partner.

## 6.2 The "Song -> Part -> Bar" Concept

It is important for you to understand how the brain of Jamstix envisions a song. A song consists of any number of parts (i.e. verse, chorus, bridge). Each part has a number of unique bars and can be repeated multiple times. Each bar has a groove aspect (the main rhythm), an accent aspect (embellishments that are different for each bar) and a fill aspect (only used if the bar is assigned a fill).

When the host enters a bar as it plays, Jamstix looks up what part of its arrangement that bar belongs to. If that bar has already been composed, then Jamstix simply plays its content. Otherwise, it will check whether the bar is a core bar, meaning within the first play-through of the part. If that is the case then the bar gets composed from scratch based on the current settings of the brain. If it is not a core bar then the groove pattern is copied from its core bar parent and the rest (accents and fill aspects) is composed from scratch.

The composition process for groove and accents is "as-you-go"; two 16<sup>th</sup> notes at a time as the bar is being played. Fills on the other hand are composed as a whole immediately. Some styles use groove elements that also compose the whole bar at once.

## 6.3 Automatic vs. Manual Composition

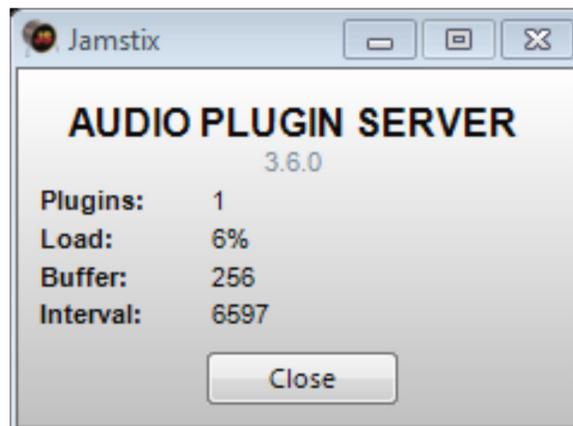
A key aspect of Jamstix is its flexibility, which allows it to fit within very different workflows. Some users let Jamstix compose everything by itself and merely define the song parts and adjust the brain settings to their liking. Others extend this by hand editing a few aspects of the grooves, accents and fills Jamstix has composed in the bar editor. Another group of users likes to create all those elements from scratch using the bar editor.

No matter which approach you use, Jamstix provides the tools to make your work process more efficient and also simplifies maintenance of the drum performance as your song matures and changes.

## 6.4 Jam Interaction

Jamstix has the ability to interact with MIDI and audio input in real-time. This can be great for jamming with it to develop a musical idea, giving you the sense of playing with a human drummer versus a static drum machine. The main information that Jamstix extracts from audio and MIDI input is the averaged volume. This is then used to adjust the power (velocity) of the drum playing and also triggers various play rules of the brain that depend on song volume, such as switching from snare head to side-stick, from hihat to ride or simplifying (reducing) rhythms at very low volumes.

## 7 Audio Plugin Server Window



**NOTE: On Windows/PC, the server window is hidden.**

Whenever you load Jamstix into your host, you will notice a small application opening on your desktop with the name 'Jamstix'. This is the audio plugin server of Jamstix and a very distinct feature of Rayzoon products beginning with Jamstix 3.6.

The audio plugin server allows for the following functionality:

1. Interaction between different products, regardless of host (i.e. Jamstix playing intelligently with the future JamBassist plugin)
2. Efficient sharing of resources if multiple instances of Jamstix are used
3. Allows caching of resources for faster repeat load times

Do not close the 'Jamstix' audio plugin server window while Jamstix is open in your host. If Jamstix is closed by your host, the server will exit after one minute of idle time.

## 8 Overview

Here is a quick look at the main elements of the Jamstix interface:



### 8.1 Main Menu

Allows you to switch the information displayed from SONG (brain display & bar editor) to KIT (virtual kit & kit editor) , MIXER (virtual kit & mixer) or OPTIONS.

### 8.2 Transport/Timing

Provides controls to select the current bar, the power level and the minimal dynamic level.

### 8.3 Song Sheet

This is the arrangement of your song. It lists the individual parts of your song (intro, verse, chorus etc.) in sequential order. You can name parts, change their length and number of repetitions, their fill behavior and choose a specific style and drummer for every part. You can also adjust timing and shuffling for the whole song or individual parts.

### 8.4 Timeline

The timeline is a horizontal display of all bars of your arrangement, making it easy to quickly scroll through the song.

### 8.5 Virtual Kit/Brain/Options

This area displays either the virtual kit, the brain or the options, depending on your main menu selection.

## 8.6 Kit Editor/Bar Editor/Mixer

This area shows the kit editor, bar editor or mixer depending on your main menu selection.

## 8.7 Edit Mode

Here you can switch between drum edit mode and Jamcussion edit mode (if Jamcussion is installed). This affects the song sheet, kit and brain as it switches between the drum set and the percussion aspect of your project. There is also a snowflake icon to freeze the arrangement (similar to freezing in the host).

## 8.8 Jam Mode

There are three jam mode buttons allowing you to select the normal jam mode or jam modes that utilize MIDI or audio input from the host. If none of these buttons are down then Jamstix is in *Drum Module Mode*, playing back incoming MIDI drum notes as any other drum plugin.

## 8.9 Status Bar

The status bar displays help information about controls and other screen elements when you move the mouse over them.

**NOTE THE  BUTTONS IN SEVERAL OF THE INTERFACE ELEMENTS, WHICH PROVIDE IMPORTANT CONTEXT MENUS.**

# 9 Song Wizard

When you load Jamstix into your host, you will see the 'Wizard' screen in the upper right panel, which is designed to let you start off with a preset song format, style, drummer and kit. It also features the SongBuilder™, allowing you to very quickly tell Jamstix the structure of your song (verse, chorus, bridge etc.) and have Jamstix create a complete song sheet for you.

Later on, you can always reopen the Song Wizard with the 'Wizard' button in the song sheet, if need be.

Here's a step-by-step guide for your first Jamstix experience:

- press 'Create Song' in the wizard screen to create a song sheet based on the preset style, drummer and kit
- start your host and click 'Song' in Jamstix to load the brain display
- watch the song sheet, brain and bar editor as the song plays. Notice the part changes, and the display of the notes in the bar editor
- click 'Kit' in the main menu, watch the visual kit being hit as the song plays and try changing the kit via the 'Load' button
- click 'Mixer' and try changing the EQ knobs on the first channel

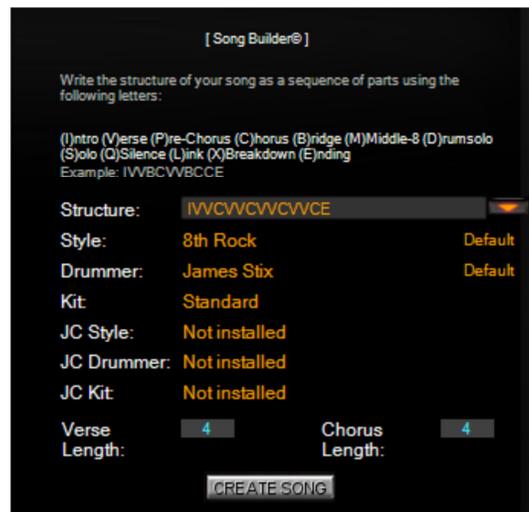
Now start experimenting with some changes, such as:

- clicking on a part's length to change its length and/or number of repetitions. Notice that you don't ever have to worry about bar numbers, the succeeding parts are automatically adjusted.
- move some of the sliders and knobs in the brain area, such as 'Kick' or 'Snare' items, and listen how the rhythm changes as a result.
- click on the style name on top of the brain to change it. Notice how the rhythm and the brain controls are modified as a result of your selection. Try the same with the drummer.

- stop the host and select a bar via the timeline. Now click a cell in the bar editor and you will see a sound selection panel where you can select a sound for the limb and beat that the cell represents. Now start your host a bar before the one you just edited and listen to the change as your new sound is played.
- try editing using the "Preview" function (the circular arrow to the left of the bar editor). This will force Jamstix to repeat the current bar so you can edit one bar and continuously hear your changes. Your host should be stopped for this.

**WHEN YOU SAVE A SONG VIA THE SONG MENU INTO THE 'SONGS' FOLDER, IT WILL AUTOMATICALLY BE ADDED TO THE QUICKSTART LIST OF THE SONG WIZARD.**

## 9.1 SONG BUILDER



The Song Builder is a fast way to create a complex song arrangement in Jamstix. Never before has it been so easy to get a complete drum track with verse, chorus, bridge etc. (even drum solos!) in just a few seconds.

Here is how it works: Jamstix wants you to specify the sequence of the parts of your song by chaining letters together:

I=Intro  
 V=Verse  
 P=Pre-Chorus  
 C=Chorus  
 B=Bridge  
 E=Ending  
 D=Drum Solo  
 S=Solo (other instrument)  
 M=Middle 8  
 Q=Silence  
 X=Breakdown  
 L=Link  
 (See Appendix A for details on part types)

For example, you may enter IVVCVVCBCCE as your song. Now select the desired style, drummer and kit and specify the length of your verse and chorus (non-repeat length). That's it. Click 'Create Song' and Jamstix will build the parts based on your input. It will choose lengths and repetitions for parts other than verse and chorus that are most likely appropriate. It will also adjust drummer settings to match the character of the part (i.e. Power hand for chorus). All you have to do is listen to it and then make any additional detail changes you desire in individual parts.

If you **click the menu icon** next to the structure edit box, you will see a list of preset structures to choose from. You can add your own by editing structures.ini in the Jamstix data folder.

If you have Rayzoon Jamcussion© installed then the Song Builder also allows you to choose a Jamcussion style/player and kit.

Please note the optional preset selections in the 'Style' and 'Drummer' rows, which allow you to specify any available preset for the selected style and/or drummer. Since you can save your own presets, this function enables you to use custom styles and drummers with the song builder. Furthermore, when the style preset is at 'Default' but Jamstix finds presets that start with the letter of the part type (i.e. "[X] Keep It Cool" in a Breakdown) then it will randomly select one of those presets. This means that, wherever available, song builder automatically chooses style presets designed specifically for the current part type.

If you would like to use a single MIDI pattern that you have saved on your hard-drive from another product, you can use these simple steps to create a custom song from that **one** single pattern in seconds, complete with fills, proper part characters and so forth:

- load 'Import' style
- load your MIDI pattern (or JS1/2/3 groove file) of choice
- use 'Save Style Preset' in the brain menu and give it a brief descriptive name
- click 'Wizard', select 'Import' as the style and you will see your saved preset in the list to the right of the selected style
- select all other options as desired and click 'Create Song'

There is simply no other product on the market that gives you this kind of power to develop complex song structures in seconds from any compatible MIDI pattern file.

Please note that Jamstix treats part lengths (verse etc.) as musical units versus total part length. For example: a typical verse may contain a sequence of 4 chords, spanning 4 bars that is repeated twice. Jamstix sees this as a part of length=4 and repetitions=2 for a total part length of 4x2=8 bars. Therefore, **do not** enter Verse Length=**8** and then a single **V** in the song structure for such a verse. Instead use Verse Length=**4** and enter **VV** (for two reps). This does not apply to single-rep parts (Middle-8, Pre-Chorus, Silence, Drumsolo, Link).

You can left-click on the kit labels to toggle kit loading on/off, which is helpful if you have a modified kit loaded and don't want it replaced by the song builder.

## 10 Installing Paks (Stock Kit & Expansions)

### 10.1 PC (Windows)

Use the 'Install Pak' button in the KIT window to install the Jamstix stock kit and any other expansion Paks you may have purchased. This is a straight-forward process: select the RXP or RXP2 file(s) of your Paks and Jamstix will install them.

## 10.2 Mac (OSX)

Run JamstixManager to download and install new products or update existing ones. See Appendix B for more detail.

## 11 Drum Kit

Jamstix offers an amazingly powerful and flexible audio engine that combines a high quality sample player (for Jamstix kits) with the ability to drive any of your existing VSTi drum modules (such as EZDrummer™, BFD™, Battery™, Addictive Drums™ etc.) in your host using the MIDI output of Jamstix. The result is that you can use Jamstix on its own or harness its power to drive your other drum modules, complementing any of your drum kits with the power and realism of the Jamstix brain.

What's more, you can even combine Jamstix sounds and an external drum module to form a mixed kit. For example, you can combine Jamstix cymbals and percussion sounds with an EZDrummer™ kit. Imagine the possibilities!

### 11.1 Virtual Kit Display

Click on the 'Kit' label in the main menu to access the virtual kit display:



When Jamstix plays a drum (whether it is an internal sound or just MIDI output), the corresponding drum image in this kit will be highlighted to a degree that corresponds to the power (velocity) of the hit. This allows you to watch Jamstix play the kit and can be very entertaining, educational or helpful to identify a specific hit.

You can audit a drum or cymbal by left-clicking on it. If you keep the **CTRL** key pressed while clicking, you will solo the sound and all others will be muted. If you keep the **SHIFT** key

pressed while clicking you can mute a sound. Note that muted sounds will appear semi-transparent.

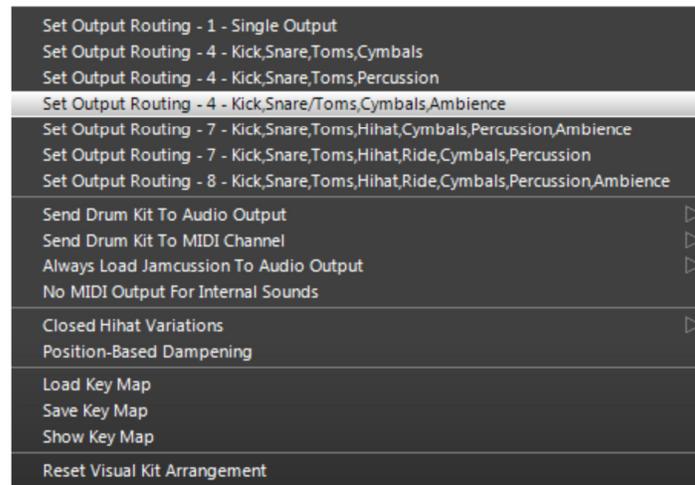
The **LOCK** icon controls whether the position of each instrument is fixed. Unlock the kit and you can drag drums and cymbals around if you so desire. Please note that the arms and legs of the drummer are calculated based on the drum layout so if you move a cymbal too far away from the drummer, he will stop using it and try to find an alternate instrument. This is not just a fun thing to do; it can actually be useful to achieve specific performances. For example: try taking the hihat away and watch the drummer switch to the ride. If you take that away also then he will play the hihat on tom 5.

The **DICE** icon allows you to randomize the current kit based on available sounds. This usually yields 'wild' creations but often times it will create something cool that can be perfected with a few adjustments.

The lower right corner of the kit panel shows the current memory usage. The first number is the total sample pre-buffer size and the second number is the total play buffer size.

### 11.1.1 Kit Menu

The  menu icon will give you several commonly used output templates that can be selected with a click versus having to set each sound manually.



**Please note that you must configure your host to support multiple audio outputs or you will not hear sounds assigned to outputs #2 and higher.** Some hosts do this automatically and others require some steps. Please refer to your host's documentation for details.

The two **Send Whole Kit** functions let you assign an audio output or MIDI channel to all sounds of the kit at once.

**Always Load Jamcussion To** lets you override the audio output that Jamcussion sounds are assigned to when you load a kit.

**Closed Hat Variations** includes three levels of hihat openness fluctuations on closed hihats. Some high-end sound libraries and external hardware sound modules offer many more degrees of hihat openness than the 5 levels in Jamstix. With such libraries, small openness fluctuations on closed hats can yield very realistic results.

**Position-Based Dampening** affects the way sounds are dampened. If checked, the dampening start point is related to the length of the side (longer sound->later dampening). If not checked, all sounds are dampened the same regardless of size.

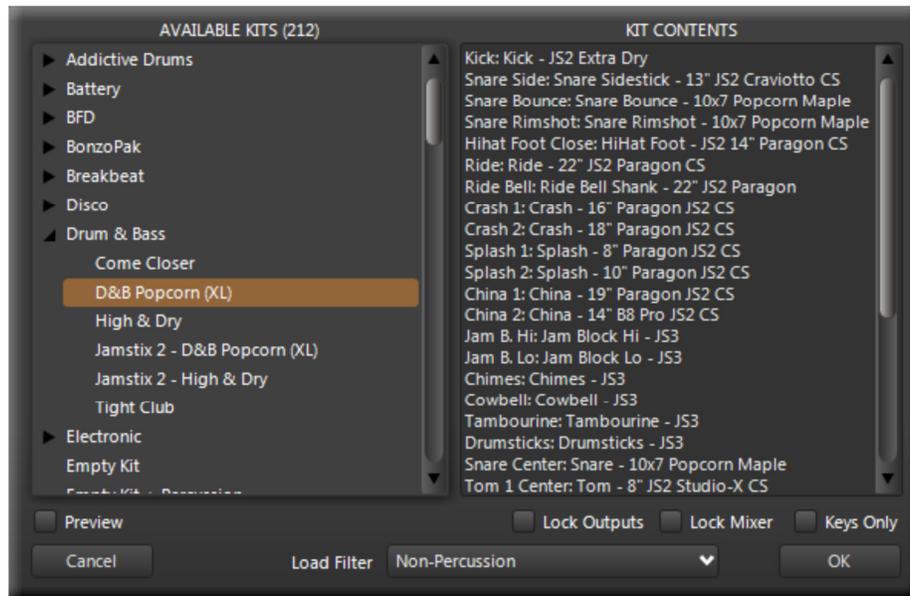
**Load/Show Key Map** allows you to align the MIDI keys to match the layout of 3<sup>rd</sup> party products. These files are editable text files so you can create your own in a text editor if you wish.

**Show Key Map** will open a tabbed text file with all sounds used by the current kit and their MIDI key assignments, which is useful for comparing kits or when sending MIDI drum data in drum module mode.

**Reset Virtual Kit Setup** returns the current visual kit to its optimal arrangement and erases any placement changes you may have made.

## 11.2 Loading & Saving Kits

You can load and save kits with the corresponding buttons. You can also load a new kit by clicking on the kit name.



Clicking on a kit will display its contents on the right side and, if the **Preview** button is highlighted, the kit will be previewed with the currently playing rhythm.

The **Lock Outputs** button allows you to lock the current output assignments of sounds so that loading a new kit will not change them. This is great for situations where you have a custom split of sounds across outputs but need to change the kit.

The **Lock Mixer** button allows you to lock the mixer settings from being changed by a new kit.

The **Keys Only** option causes Jamstix to only extract the key assignments from the loaded kit, not the sounds or mixer settings. This is very useful when you only want to change the key assignments of your current kit to match a specific drum module.

The **Load Filter** controls what part of the kit file gets loaded. Sometimes you may want to load the hihat or the toms of another kit into your current kit and this will allow you to do so.

### 11.3 Kit Editor

**Left-click** on a drum to audit its sound and see the kit data in the lower panel.



The kit editor gives you low-level access to every individual drum sound in the kit.

Click on the **name** of the sound to load a different sample set for it.

The **KEY** setting specifies the MIDI key that is assigned to this particular sound.

The **CHANNEL** controls the MIDI channel used for the sound by the MIDI output and export function of Jamstix.

The **OUTPUT** controls which audio output is used for the sound by the internal audio engine. This is great for spreading a kit across multiple channels so sounds can be processed differently either by the built-in EQs and compressors or the host's effect processing chain.

The **VOL** and **PAN** knobs are pretty self-explanatory. The **AMB** knob controls the amount of ambience signal used by the sound and **DMP** can be used to shorten the sustain of a sound. The **TUN** knob controls the pitch or tuning of a sound.

The **LINK** button allows you to edit multiple sounds at once. When checked, changing any data element will affect its associated partner instruments, which is great if you need to adjust the volume on all toms at once, for example. The button is available on toms and cymbals only.

The **ARTICULATION** box gives you access to individual articulations of a sound when available. If set to 'All', all articulations are affected by any change. You may want to lower the volume of the open hihat for example without affecting the closed hihat volume. Simply select 'Open' from the articulation menu and off you go.

The **DYN** knob is only available for Jamstix 3 sounds (stock kit or expansions). It controls the dynamic range of the sound through the velocity spectrum. The higher the value, the quieter low velocity layers will be compared to high velocity layers.

The **velocity map** allows you to map input and output velocity of the sound to match your specific sound and mix. For example, if you click 'Compressed', lower input velocities will lead to the use of higher output velocities leading to a louder, compressed playback.

**Right-click the velocity map** to audit the sound at that velocity.

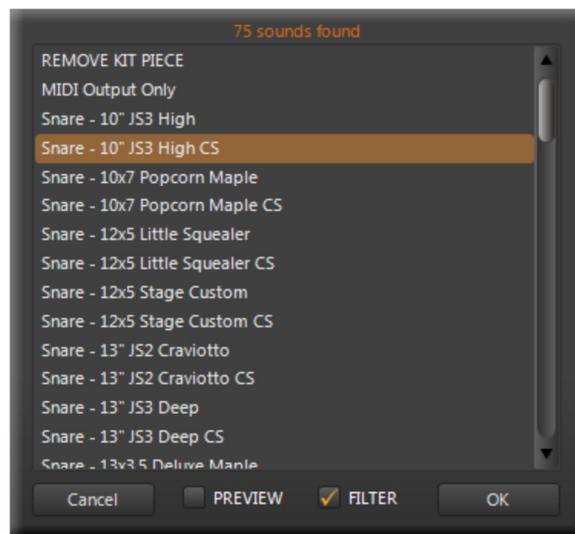
The **Min** and **Max** knobs on **Jamstix 3+** sounds allow you to control the volume of the sound across the velocity spectrum. If the MIN level is raised, sounds from velocity layers under or at that level will be leveled out in volume, which can be useful when low power hits of a sound are too quiet. If the MAX level is raised, sounds from velocity layers over or at that level will be leveled out in volume, which can be useful when high power hits of a sound are too loud.

You can also think of MIN as an “expander” and MAX as a “compressor”, both without the attack and release artifacts of those signal processors.

The **Min** and **Max** knobs on **Jamstix 1 or 2** sounds allow you to control the volume of the sound across the velocity spectrum. If both knobs are in the middle position then the volume is unaltered. The minimum volume knob controls attenuation (left of center) or amplification (right of center) of the lowest velocity level (0) and, likewise, the other knob does the same for maximum velocity (127). All other velocity levels in between have their attenuation/amplification interpolated based on these values. This sounds complicated but is very easy to use. Here are two examples:

- a) Suppose you have a snare sound whose volume in the lower velocities is too loud for your mix. You could expand the velocity map but this would reduce the number of velocity layers used and maybe you want to keep the diversification of sound that the layers bring. So instead you can just turn the ‘Min Vol’ knob left. This reduces the volume of lower velocity layers without affecting the high layers as much.
- b) Suppose a snare is being overpowered by a full and punchy mix and you need compression but are weary of the compressor sound coloration or pumping. Instead, you can turn the ‘Min Vol’ knob right, which amplifies lower velocity layers.

Finally, a note on changing sounds. Click on the sound name and you will see a list of available sounds. If you wish to use an external drum plugin for a sound, select **MIDI OUTPUT ONLY**. Note that the list gives you a preview option and a filter option, which reduces the list to sounds Jamstix thinks fit the specific drum type.



## 11.4 Adaptive Velocity Layer Management (AVLM)

Beginning with Jamstix 3, all Rayzoon kits will be packaged for the new AVLM engine in Jamstix 3. Older sounds are still supported by Jamstix 3 but do not use AVLM.

The purpose of AVLM is optimal velocity layer volume scaling. For each kit element there can be up to 50 or more samples recorded at various hit strengths. When the groove engine requests a sample to be played for a specific velocity (power), AVLM determines the desired dB level for the sample based on the difference between the loudest and quietest sample available and where the velocity of the note falls in between. In order to avoid machine-gunning, AVLM will select randomly from all samples within a certain range of the target dB level. After that, the sample volume is scaled based on the DYN, MIN and MAX settings (see kit editor) for the sound.

The result is that AVLM often alleviates the need for velocity map adjustments and/or compression. For example: in a specific song the toms may sound well at full strength hits but disappear in the mix at lower volumes. Instead of compression, you may choose to just lower the dynamic range of AVLM using the DYN knob in the kit editor. You will hear the lower hits gaining volume while to hard hits stay the same.

## 11.5 MIDI Output Usage

Jamstix outputs all its notes as MIDI to the host. This means if your host supports VSTi MIDI output routing, you can record the output of Jamstix to a MIDI track in your host and edit it or send it to a different drum module for playback. It also means that you can route the MIDI output of Jamstix to the MIDI input of another module in real-time.

## 12 Mixer

The mixer controls the audio outputs of Jamstix and can be accessed via 'Mixer' in the main menu.



Jamstix provides 8 stereo audio outputs. Each channel strip has a yellow button to toggle the channel on and off. There is also a volume slider and associated LED level meter including a small red LED that signals brick wall limiter activity. Next to the toggle button is the number of the channel, which will display associated sounds of the current kit (roughly) in the status line when the mouse is moved over the channel number.

The  menu icon on the right gives you the ability to load and save mixer settings.

**Flip Stereo** will flip the stereo position from drummer's to listener's perspective.

The **MIDI Only** button will cause Jamstix to unload samples and not play them at all, instead just sending the notes to the MIDI output. This is useful when you are driving another drum module with Jamstix via the MIDI output.

The **Downmix** option will route all outputs to merge on output#1, which makes the other outputs effectively busses for effect processing and sub-mixing. This option is also very useful for hosts that do not support multiple VST audio outputs.

**AMB To Last** is a switch that will direct all ambience signals to the last available output (maximal #8), which is very useful if you wish to subject all ambience, regardless of source, to additional effect processing in Jamstix or the host.

The **AMB** knob allows you to control the overall ambience level for the currently active kit (drum set or Jamcussion kit). Ambience is a stereo room signal that comes with most Jamstix sounds (except CS sounds).

The **DMP** knob shortens the sustain for the ambience simulating a more dampened recording room.

The **WID** knob adjusts the size of the stereo field with a fully left turned knob yielding a mono signal. This is a very important control since drums have been traditionally mixed with a wide variety of stereo widths depending on the genre and arrangement. For example: if the drums overpower a mix, reduce the stereo widths to place the drums more narrowly.

The **EQ**, **COMP** and **ECHO** buttons allow you to switch on controls for special sub-functions of the mixer.



The EQ controls a 3-band equalizer with Lo, Mid and Hi band controls.



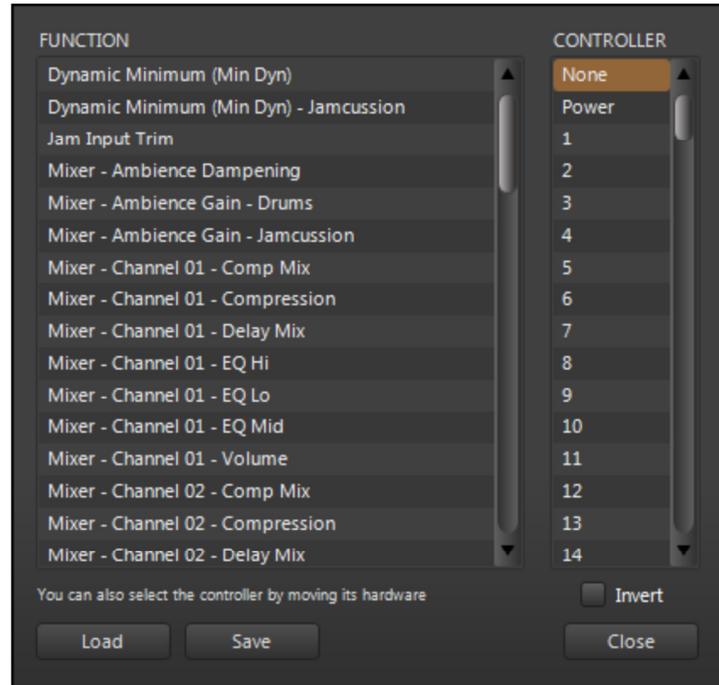
The COMP section controls a compressor with adjustable threshold, attack, release and dry/wet mix. Note that the dry/wet knob allows you to operate inline compression as well as parallel (NY) compression.



The ECHO section features a stereo delay. The delay length is chosen in musical note lengths (48<sup>th</sup> to whole note) and is always synced to the current tempo. You can choose the stereo mode (center, slow pan, fast pan) and adjust feedback rate, low pass filter and dry/wet mix.

## 12.1 MIDI Remote Control

A very cool feature of the Jamstix mixer is the ability to remote control it via MIDI controllers. Simply right-click on a control in the mixer you will see the MIDI controller window with the chosen control highlighted.



Select the desired MIDI controller number or, if you already have a hardware MIDI controller hooked up, move that controller for Jamstix to learn the controller. You can use the **Invert** switch to flip the control range so that low controller values yield high function values.

Many modern hosts allow you to draw/record envelopes of MIDI controllers in your song so you can use the host or your hardware MIDI controller to remote-control aspects of the mixer at certain parts of your song, such as opening the stereo width during an intro or reducing a EQ high band during an ending.

## 13 The Jamstix Interface – In Depth

Let's work our way across the main Jamstix interface and learn how to influence the way its brain works.

First off, you can choose between the standard interface (983x692) and the compact interface (930x600) in the 'Options' window. Use the compact interface if Jamstix appears to large for your screen resolution.

## 14 Main Menu



The main menu controls what the panels below display. SONG will activate the brain and bar editor. KIT shows the visual kit and kit editor. MIXER shows the visual kit and the mixing console. OPTIONS shows the option screen. The little knob to the right controls the brightness of the brain and song sheet displays.

### 14.1 Transport & Modes



The big blue buttons on the top control the edit mode of Jamstix. The left button activates the standard drum set mode. Song sheet, bar editor and kit will show drum parts and kit. If you have Jamcussion installed then the right button will allow you to switch to Jamcussion mode with song sheet, bar editor and kit accessing Jamcussion-specific data. If you hold SHIFT while clicking on one of these buttons then the corresponding kit will be muted.

The jam mode buttons control the way the A.I. interacts. Your choices are as follows:

#### 14.1.1 Drum Module Mode

This mode disables the brain and makes Jamstix perform like any other traditional drum sound module. Send it MIDI drum data from your host to its MIDI input and Jamstix will play it back.

You activate the mode by depressing the current jam button. You will see the song sheet being replaced with various options for the drum module mode:

Use the **Map GM** button if you have a kit loaded that does not use the GM key layout but you need to send MIDI data in GM format to it. Jamstix will automatically translate the input to match the kit layout.

### Automatic Ride Bell

If checked, any ride notes with a velocity of 127 (full) are translated to ride bell events. This is useful when using an e-drum kit with a single zone ride pad that can only send ride notes.

### Use TD-20 Extensions

This option is for those who wish to play Jamstix with a Roland TD-20 (or similar) e-drum kit. It enables the following behavior:

- modifies hihat logic of the internal engine to produce realistic responses when the TD-20 sends a CC4 change AFTER a note is hit
- routes TD-20 hihat rim notes automatically to the corresponding tip and shank notes
- allows hihat splashing
- allows cymbal choking via after-touch
- enables snare position sensing, routing offset hits to the offset sound slot

### Cymbal Variations

This is very useful when using an e-drum kit with only one or two cymbal pads. You can choose to deactivate the feature, use it for Crash 1 only or for all cymbals.

#### 14.1.2 Normal Jam

In this mode, the Jamstix brain is active but it will not let itself be affected by MIDI input or audio analysis data. This is perfect if you wish to manually control all aspects of the performance. We also recommend that you start off learning Jamstix in this mode.

#### 14.1.3 Audio Jam

This mode is identical to the above but in addition, Jamstix will adjust its power level (velocity) based on analysis of audio data sent to it by the audioM8 plugin that comes with Jamstix for use as an insert effect on audio tracks. The power level affects various decisions of the brain, such as auto sidestick usage, rhythm reduction and hihat/ride switch rules so this mode will let you use a guitar or bass to jam with Jamstix and feel it respond to your dynamics.

Use the **Input Trim** in the **Options** page to adjust Jamstix to your specific power level. Your loudest play should just make the power knob hit max. You should also look at the **Input Velocity Map** in the **Options** screen to adjust the response further, such as making a sweet spot where the power level is fairly constant unless you play VERY quiet or VERY loud. There is also a '**Response Rate**' option to control how fast song power falls in an audio jam when the audio volume decreases.

#### 14.1.4 MIDI Jam

Use this mode if you want to jam with Jamstix using a MIDI instrument. This mode is like the one above but instead of audio data, Jamstix will analyze MIDI data it receives to adjust the power level. In addition, MIDI analysis also allows some style and drummer models to adjust their 'thinking' to specific characteristics of your play, such as instant hits when you're playing staccato.

Use the **Input Trim** in the **Options** page to adjust Jamstix to your specific power level. Your loudest play should just make the power knob hit max. You should also look at the **Input**

**Velocity Map** in the **Options** screen to adjust the response further, such as making a sweet spot where the power level is fairly constant unless you play VERY quiet or VERY loud.

### **14.1.5 Power Level**

The power knob controls the overall power level used by the brain to adjust the power level of the drum playing and also to make certain play style decisions. You can manually set this controls or remote-control it via a MIDI controller from the host or a hardware MIDI controller. Also, if you are using MIDI or audio jamming, the power level will be adjusted by Jamstix in response to that input.

If you have Jamcussion installed, you can alter the perceived power level for Jamcussion by holding ALT and then changing the power knob. This lets you adjust the relationship of drums and percussion dynamic response.

### **14.1.6 Minimum Power**

The **DYN** knob sets the minimum power level allowed, meaning the kit will not be played any softer than this value. This is great for songs that have a fairly constant power level so playing too softly in low dynamic areas would make the kit too quiet. Using a higher level on this slider will keep the sounds loud enough, yet the brain will still use the power thinking that corresponds to the current power level. Note that the control affects only the current kit (drum set or Jamcussion) so that both can be set differently.

### **14.1.7 Transport Controls**

The Lock icon allows you to control whether Jamstix is slaved to the host song position or not. By default the lock is closed, meaning Jamstix always follows then host.

In some hosts, you need to unlock Jamstix if you want to use the preview function of Jamstix and the host is not running.

The next icon is the "goto zero" icon, which will move Jamstix to the first bar. Next to it are icons to move the current bar one back or ahead.

### **14.1.8 Freezing**

The snow flake icon between the big blue buttons lets you freeze/unfreeze Jamstix, which is very handy when you have a complex arrangement with real-time jamming to audio or MIDI and need to bounce or freeze Jamstix in the host. Freezing causes Jamstix to repeat the notes it played for each bar exactly as it did the last time, irrespective of real-time controllers etc. It will also compact the memory usage of the internal samples by deleting all those who are not needed.

The best way to freeze is to let the host play the whole song and then click the freeze button.

## 14.2 The Song Sheet

The song sheet shows you the overall structure of your song, which is a sequence of parts, such as intro, verse and chorus. When your host plays, Jamstix will play the parts from top to bottom, when one ends the next is started. Each part begins at a specific measure in the host so that the two are always synchronized.

The **Wizard** button activates the quickstart song list and Song Builder function in the right panel, which is the best way to get started with a new project. The **Liveloop** button toggles live-looping, which is an exciting mode for use with live performances. When liveloops are active, each part in the song sheet corresponds to patch changes (1 for part 1, 2 for part 2 etc.) as well as the specified **TRG** MIDI key. Jamstix will play normally through the song but if a patch change is received, it will switch to the corresponding part as soon as the current part is completed (excluding repetitions). It will then repeat the new part until the next patch change. This is very useful if you have a song with defined parts but wish to control the sequence and number of repetitions on the fly while performing live with Jamstix. By using a foot controller that can send patch changes or a MIDI keyboard, you can easily instruct Jamstix to change song parts as you play. This will be discussed further in the section "Liveloops".

You can use **SHIFT+left-click** to select several parts in order to use the part menu functions on all of them at once.

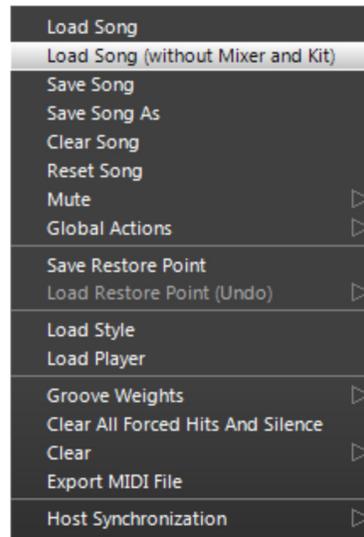


The screenshot shows the Song Sheet interface for a 12-Bar Blues song. At the top, there are four buttons: WIZARD (with a small orange indicator light), LIVELOOP, TIME, and SHUFFLE. Below the buttons, the title "12-Bar Blues" is displayed. The main area contains a table with columns for PART, BARS, REPS, RE, TE, and TRG. The rows represent different parts of the song, including Intro, Verse 1, Chorus 1, Verse 2, Chorus 2, Verse 3, Chorus 3, Verse 4, Chorus 4, and Ending. Checkmarks in the RE and TE columns indicate that these parts are repeated. The TRG column shows the MIDI key assigned to each part, such as F0, Bb0, and A6.

PART	BARS	REPS	RE	TE	TRG
Intro	2	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	–
Verse 1	4	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	F0
Chorus 1	4	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Bb0
Verse 2	4	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	–
Chorus 2	4	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	A6
Verse 3	4	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	–
Chorus 3	4	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	–
Verse 4	4	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	–
Chorus 4	4	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	–
Ending	1	1	<input type="checkbox"/>	<input type="checkbox"/>	–

### 14.2.1 Song Menu

The  menu button in the top left area of the song sheet lets you access the following menu:



Note that you can CTRL drag & drop the song name to your host or Explorer/Finder to create a MID clip or file of you entire song.

#### Load Song

Lets you load a song identical to the way the quickstart works. Each song has its own song sheet, kit and mixer settings. The menu item below it lets you load song without its mixer and kit settings.

#### Save Song

Lets you save your whole session (arrangement, mixer and kit) to a song file. If you save it in the 'songs' subfolder then the song will be available as a quickstart song.

#### Clear Song

Clears the song sheet and creates a single default part.

#### Reset Song

This leaves the song arrangement intact but recomposes all parts and resets the groove weights to default.

#### Mute

This submenu allows you to mute fills and accents, which can be very handy during the groove composition process.

#### Global Actions

Several functions to change default options for all parts at once .

#### Load/Save Restore Point

This function loads or saves a safety copy of your current song to/from the 'revisions' folder.

**Load Style** and **Load Player** allow you to select those items for the current part much like the corresponding items in the brain menu or clicking on the style and drummer name in the brain panel.

## Groove Weights

A groove weight marks each individual beat of each bar (at 16<sup>th</sup> note resolution). Possible options are **Heavy**, **Neutral** and **Syncopated**. These weights affect the composition process of the brain and changing them can be a way to force the brain's thinking into a desired direction for a particular song, especially if it uses uncommon time signatures.

The groove weight submenu of the song menu lets you load a weight format and apply it to all bars of the song or reset all bars to the default weights.

## Clear All Forced Hits And Silence

The bar editor allows you to mark beats as hits or force silence on them. This menu item clears all of those markers on all bars.

## Export MIDI File

This option exports a MIDI file for the song for those who cannot drag-&-drop to the explorer.

## Host Synchronization

This sub menu allows you to double or halve the tempo sent by the host. Sometimes you may have to work with a song that was recorded at the wrong BPM (i.e. 60 instead of 120) and the only feasible work-around is to compensate by halving or doubling the tempo for Jamstix. Please note that this will inevitably cause the Jamstix bar/beat counter to be out of synch with the host so this should only be used as a last resort.

## 14.3 Part Editing

There are three edit aspects for parts in the song sheet. If TIME and SHUFFLE buttons are both up, you will see length, fill and trigger data. If you depress TIME then you can edit the overall timing and SHUFFLE shows shuffle/swing functions.

You can also switch the part name for the style name or player name by clicking on the PART column header in the song sheet.

## 14.4 Part Length/Fills/Triggers

The song sheet represents the arrangement of your song. It features a vertical list of parts that constitute your song. The **BARS** column specifies the musical length of each part and the **REPS** column states how many times a part gets repeated.

Click on a **Part Name** to go to that part and double-click a part name to edit its name. If you hold down the CTRL key, you can drag & drop parts to change their order. You can also CTRL-drag a part to the host (or Explorer/Finder) for a MIDI export.

The **RF** stands for '**Repetition Fill**', which means that Jamstix will play a fill whenever the part is about to be repeated. The **TF** stands for '**Transition Fill**', which is a fill that is played on the last bar of the part right before Jamstix switches to the next part. Check the boxes as desired to have fills played where and when you need them.

The **TRG** column deals with keys that trigger a part to be played in Liveloop mode. Please refer to the Liveloop section of this manual for more information.

## 14.5 Part Timing

This slider controls the overall position of Jamstix time in relation to the host's time. If the slider is centered, they are both perfectly in synch. If the slider is further left, Jamstix will be ahead of the host and vice versa the right area will cause Jamstix to lag behind the host. You can use the song slider to change all parts at once or a part slider to affect that part only.

## 14.6 Part Shuffle

Shuffling is a term that refers to aligning notes along triplet structures in a base 4 time signature. The most common application of shuffling is the swing. Jamstix applies shuffling to its playing on the fly so you can take a straight 4/4 rock rhythm and make it a shuffle just by using the shuffle controls without actually changing the rhythm.

You activate/deactivate shuffling with the **8th** and **16th** buttons. Most of the time you will want 8<sup>th</sup> shuffling but some songs (i.e. some funk and modern gospel tunes) require 16<sup>th</sup> shuffling.

You can control the depth of the shuffling with the shuffle slider.

## 14.7 Part Menu

Right-clicking on a part will let you access the following menu:



### New Part

A submenu with various options to create a new part.

### Remove Part

Removes the part from the song.

### Part Type

This affects the way the brain composes the part. Intros and endings get their fills composed but not grooves and accents.

**Song Loops To Here**

If song looping is checked in the Options then you can use this function to tell Jamstix what part to jump back to when the end of the song has been reached.

**Copy / Paste**

These items allow you to copy and paste an entire part. Note that pasting does not create a new part but changes the one that it is executed on. You will also see options to copy the style or drummer of this part to all other parts of the song.

**Load Part / Save Part**

These items let you load & save parts to your drive for use in other projects.

**Copy Style & Drummer / Paste Style & Drummer**

This items let you paste the brain settings (style and drummer) from one part to another.

**Recompose**

This submenu gives you a variety of options to force recomposition of the current part.

**Locking**

Locking a part means that all bars of the part are locked, keeping those bars from getting changed by the brain. This is useful if you want to protect a whole part from accidental recomposition.

**Composing**

This submenu allows you set the 'Composed' flag for all bars of the part at once. A composed bar will not be changed by the brain unless brain settings are changed.

**Import**

This submenu allows you to import **grooves** (Jamstix 2/3 grooves saved via the bar menu), **MIDI patterns** (such as are provided by many drum modules or MIDI groove packs) as well as **Jamstix 1 Rhythms** (requires Jamstix 1 to be installed). When importing a MIDI pattern, Jamstix will automatically adjust part length and repetition so that the total length stays the same but the musical length equals the number of bars in the imported MIDI pattern.

**Groove Weights**

A groove weight marks each individual beat of each bar (at 16<sup>th</sup> note resolution). Possible options are **Heavy**, **Neutral** and **Syncopated**. These weights affect the composition process of the brain and changing them can be a way to force the brain's thinking into a desired direction for a particular song, especially if it uses uncommon time signatures.

The groove weight submenu of the part menu lets you load a weight format and apply it to all bars of the part or reset all bars to the default weights.

**Reset - Submenu****Clear All Forced Hits And Silence**

The bar editor allows you to mark beats as hits or force silence on them. This menu item clears all of those markers on all bars of the part.

**Reset Play Filters**

These options will reset timing offsets and velocity offsets, which are assigned by the 'feel' logic of the brain for all events of the part.

### 14.7.1 Bar Timeline

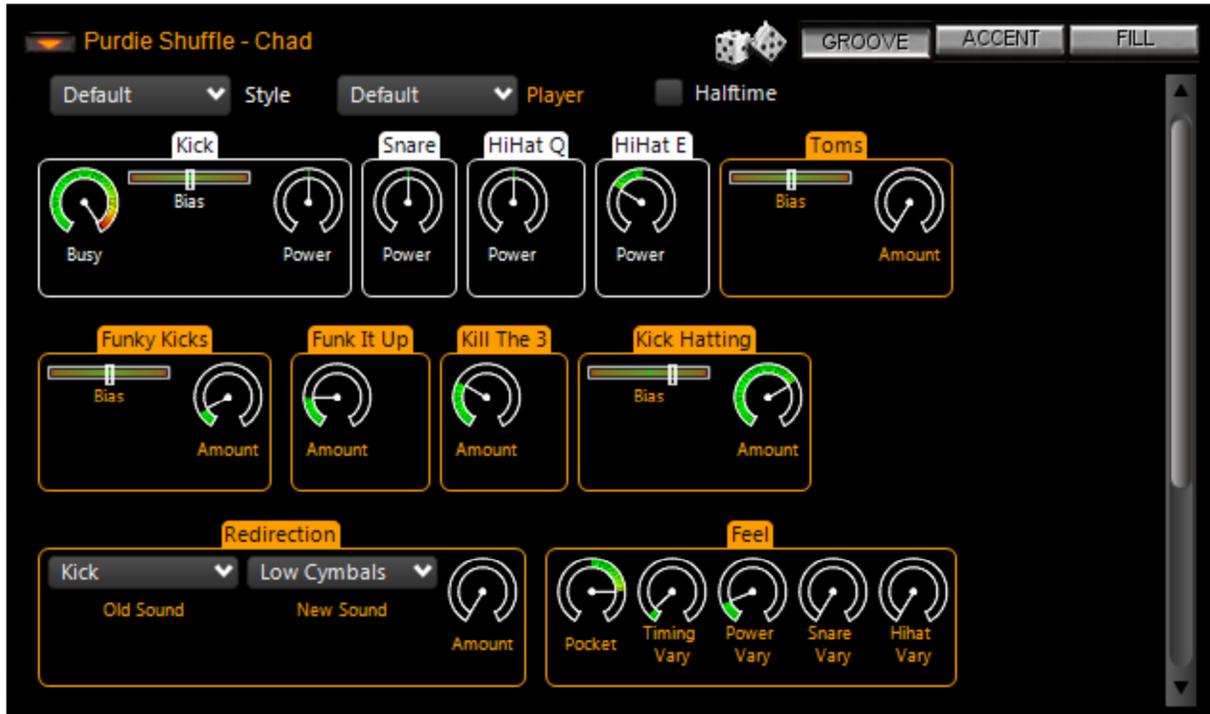


The bar timeline offers a horizontal display of all bars of the song. You can use the slider to quickly move within the song and you can also left-click on a bar to jump to it. Right-clicking on a bar opens a bar menu, which will be discussed in-depth in the 'Bar Editor' section.

Bars that appear orange signal that they contain a fill. Also note the black dots in the bar icon, which are a minimized version of the bar editor display of the notes the bar contains. The red dots at the bottom of each bar signal whether the corresponding beat has been composed similar to the bigger red dots in the bar editor. Also, just as the bar editor, the icon contents will switch from groove to accent to fill, depending on the selection of the view aspect in the top area of the brain.

If you lock a bar, it will be displayed with semi-transparency in the timeline. The first bar of each part is marked by a red/white horizontal line on the left side. Moving the mouse over a bar shows you the corresponding part name, repetition number as well as bar number in part and repetition in the status line.

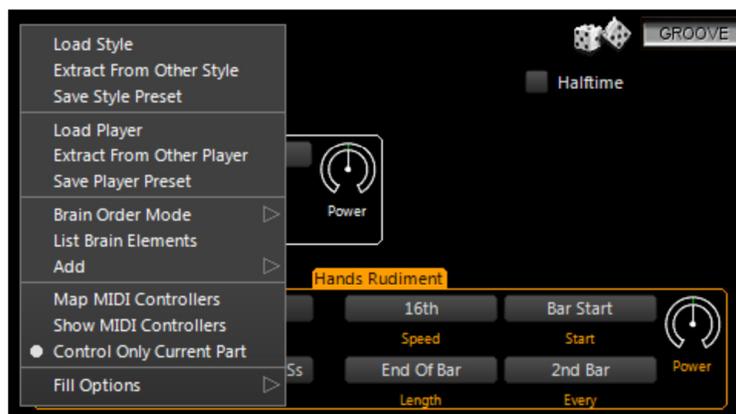
## 14.8 The Brain



This is the heart of the Jamstix rhythm generation. The brain gives you access to the style and drummer of the current part. Both aspects are mixed into a list of control elements that apply to them. These items change from style to style and drummer to drummer. Style elements have a white frame while drummer elements have an orange frame.

Note the GROOVE, ACCENT and FILL buttons above the brain display. These buttons determine which aspect of the brain you are looking at. Changing this aspect will change the brain display, the bar editor display and the bar timeline icon contents.

You can use the dice icon to randomly change the brain settings if you are in an adventurous mood. You will also notice the familiar  menu button, which displays the brain menu:



### Load Style

Opens a screen to let you select a style for this part.

**Extract From Other Style**

Opens a screen to let you select one or more elements from another style to be merged with your current style. This is great for combining various elements that you like in several styles into a single style. The only limit is your imagination (i.e. try adding 'Bossa Nova' elements to a 'Thrash Metal' style).

**Save Style Preset**

This stores your current style setup as a variation of the original style. You can recall it in any project using the same style from the 'Style' list at the top of the brain.

**Load Player**

Opens a screen to let you select a player for the current part.

**Extract From Other Player**

Opens a screen to let you select one or more elements from another drummer to be merged with your current drummer. This is great for combining various elements that you like in several drummers into a single player.

**Save Player Preset**

This stores your current drummer setup as a variation of the original drummer. You can recall it in any project using the same drummer from the 'Player' list at the top of the brain.

**Brain Order Mode**

Controls the way brain elements are ordered.

**List Brain Elements**

Creates an HTML page with all brain elements of all styles and players you have installed for easy reference.

**Map MIDI Controllers**

This opens the same screen you see when you right-click on a brain control element. We'll discuss it in-depth when we talk about 'MIDI Remote Control'.

**Show MIDI Controllers**

Opens a HTML listing of all currently assigned MIDI controllers for easy reference.

**Control Only Current Part**

If checked, MIDI controllers received will only be sent to the current part; otherwise all parts will receive them.

**Fill Default Options**

*Start Fill With A Crash* – If active, fills will start with a crash cymbal on the last heavy groove tick before the fill.

*End Fill With A Crash* – If active, fills will always end with a crash cymbal on the first beat of the following bar.

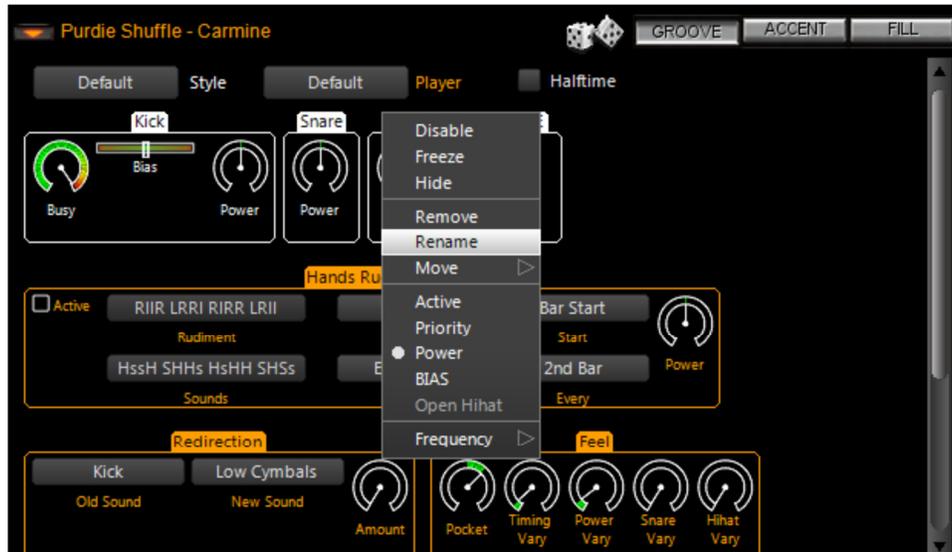
*Suppress Groove During Fill* – If active the groove is ignored during the fill. Otherwise, Jamstix will attempt to play the fill and the groove simultaneously, subject to the limb control system, of course.

*No 16th Shuffling* – If active, fills will not use 16<sup>th</sup> shuffling unless 8<sup>th</sup> shuffle is active as well.

You can also load/save fill settings from this menu.

### 14.8.1 Brain Controls

The sliders, lists and knobs of the brain are created dynamically based on the definition of the style and drummer model. You can left-click on those labels to access a sub-menu for them:



**Disable** will mute the element. This is great if you want to place your own i.e. kick notes via the bar editor but have the brain take care of the other sounds.

**Freeze** causes the element to be excluded from any recomposition.

**Hide** will fold up the elements display to de-clutter the brain screen. Great to use on elements you don't use or don't need to change.

**Remove** will permanently remove the element from the brain.

**Rename** is useful when you load several like elements and need to distinguish them.

**Move** lets you change the position of the brain element.

**Right-clicking** on the control body itself will open the MIDI controller mapping screen to remote-control the brain element. We'll discuss this in-depth in the next section.

The **Active..,BIAS** menu items let you toggle the display of those controls within the element.

**Frequency** determines if the element is active on all bars or alternating bars (odd or even). For example, you may have an open hat element that you want only on every other bar.

You should spend some time changing the controls of various styles and drummers to get a feel for them and how they affect the drum production. Move the mouse over the controls and read the tips in the status bar to learn more about what the controls do specifically. Hold down SHIFT when adjusting a knob to use fine-tuning.

Let's talk a bit more in depth about some of the most common brain controls:

#### 14.8.1.1 Feel Processor

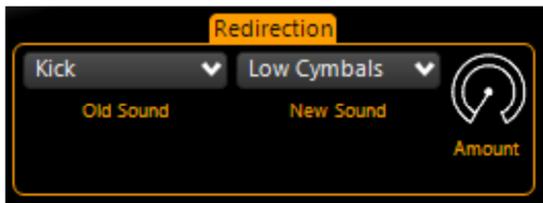


Every drummer has a feel that affects the timing and power of the composed hits. The **Pocket** slider determines whether the drummer is playing before, on or behind the beat. The term usually refers to a delay (playing behind the beat) but for simplicities sake it also applies here to playing ahead of the beat. Each drummer model applies the pocket setting differently for different sounds. For instance, a drummer might alter the timing of a hihat note to a larger extent than a kick note.

The result is what is commonly called a 'groove feel', which plays a major part in making a drum performance sound realistic and professional versus drum machines that play precisely on the beat or randomizer functions that simply vary timing without any musical analysis.

The **Timing Vary** and **Power Vary** sliders induce fluctuations in timing and power on top of the aforementioned groove model.

#### 14.8.1.2 Redirection



Redirection is a powerful function offered by most drummer models that allows you to send all events from one sound (or sound group) to another. A common application of this would be to send the hihat notes to Tom 5 in strong rock grooves. Another idea is to send all notes to 'Light Cymbals' during a quieter intro or bridge section.

#### 14.8.1.3 Power Hand



When the song power level exceeds the 'Min Power' setting, all right hand hihat sounds will be routed to 'New Sound'. Drummers often do this during sections of heightened power or significance, such as a chorus.

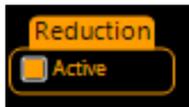
You can choose to have your drummer switch to the ride, semi-open hats, fully opened hats or crash cymbals 1 or 2. The latter is common in aggressive styles, such as Punk and Metal.

#### 14.8.1.4 Auto Snare



This handy element automatically switches to using the snare sidestick versus the head when the song power level drops below 'Max Power'.

#### 14.8.1.5 Reduction



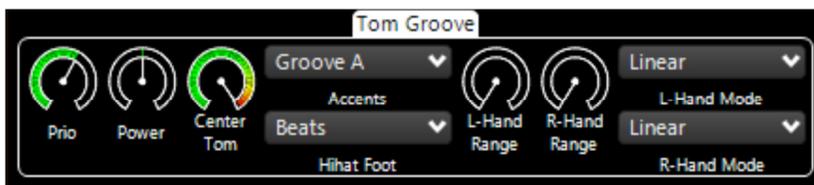
Most drummer models feature 'Reduction', which suppresses certain hits as the song power level drops. This is a progressive process that depends on the drummer model. Usually the drummer switches to cross-sticking as the power drops, then drops snare notes or turns them to kicks and finally, at zero level, only the hihat keeps playing.

#### 14.8.1.6 Snare Ghosts



Some styles offer 'Snare Ghosts' accent notes, which are lightly played (and sometimes bounced) snare notes that give the rhythm busyness and/or syncopation. If a style does not offer this function and you wish to add it, use the 'Add' submenu of the brain menu to do so.

#### 14.8.1.7 Tom Groove



The tom groove element gives you the power to add a dual-hand tom pattern to any groove via the 'Add' submenu of the brain menu. Use the priority slider to blend the groove in with the other groove elements, ranging from low priority background to top priority foreground where it is likely to suppress many other sounds. Experiment with the other controls to get a feel for what this thing can do. You can get anything from a single tom jungle beat to a monster groove that runs both hands randomly over all toms.

### 14.8.1.8 Groove Importer



The groove importer is the focus of the 'Import' style but can also be added to any style via the 'Add' submenu of the brain menu. It allows you to load a MIDI drum pattern, Jamstix 1 rhythm or saved Jamstix 2/3 groove and have it fed into the composition process. If other groove elements are present, you will get a mix of the imported groove and them. Please watch the video 'Creating Your Own Base Groove' for more details.

Use the 'Power' knob to attenuate or amplify the velocities of the imported notes as desired.

Note that the importer can handle multi-bar MID files as well as sequential JS2/JS3 groove files for multi-bar rhythms. The latter are files with the same name but the suffix \_Bx with  $x \geq 1$ . These files are generated when you save a bar and specify more than 1 bar to save.

The groove importer is an awesome tool to breathe life into those hundreds of static MIDI patterns you may have laying around on your hard drive!

### 14.8.1.9 BIAS Sliders

Many brain elements feature a BIAS slider, which acts like a filter that restricts where the element can place notes within a bar. If the BIAS slider is centered nothing will be filtered. The further left the slider goes, the less of the higher time subdivisions (or ticks) of the bar are available for the filter. Conversely, moving the slider right reduces the number of early ticks allowed for usage by the element. Note that this does not change the way notes are generated in the allowed ticks, it simply filters out the start or end of the bar.

### 14.8.1.10 Rudiment Generator

The rudiment generator is a powerful tool that generates specific hit patterns. You can use these patterns to liven up a groove but also as a replacement for fills, if so desired.

Drummers are generally taught how to play what is called the "essential rudiments", a sequence of specific left/right hand hits. These were hugely important for traditional snare drumming found in the military and high-school bands. As the drum set evolved, drummers started to use these rudiment patterns around the set on toms and cymbals and not just on the snare, eventually even adding the kick drum to this new arsenal of sounds.

Rudiments are hugely important for complex fill-like clusters that use odd times over a straight base groove and/or unusual accentuation (off-beat). A good example are the 16<sup>th</sup> shuffle fills played by modern gospel drummers, which are virtually impossible to play without deploying rudiment skills.

Jamstix offers you rudiment playing capability that encompasses the traditional patterns but allows you to even go beyond that and create your own rudiments.



The rudiment is defined as a sequence of letters that indicate the limb to be used:

L=loud left hit  
 R=loud right hit  
 l=soft left hit  
 r=soft right hit  
 F=flam

The sound is a similar sequence indicating the sound to be played for each hit:

K=Kick  
 S=Snare  
 T=Tom  
 1..5=Tom 1..Tom 5  
 H=Hihat

R=Random Kick/Snare/Tom/Hihat  
 D=Random Kick/Snare/Tom  
 B=Random Kick/Snare/Hihat

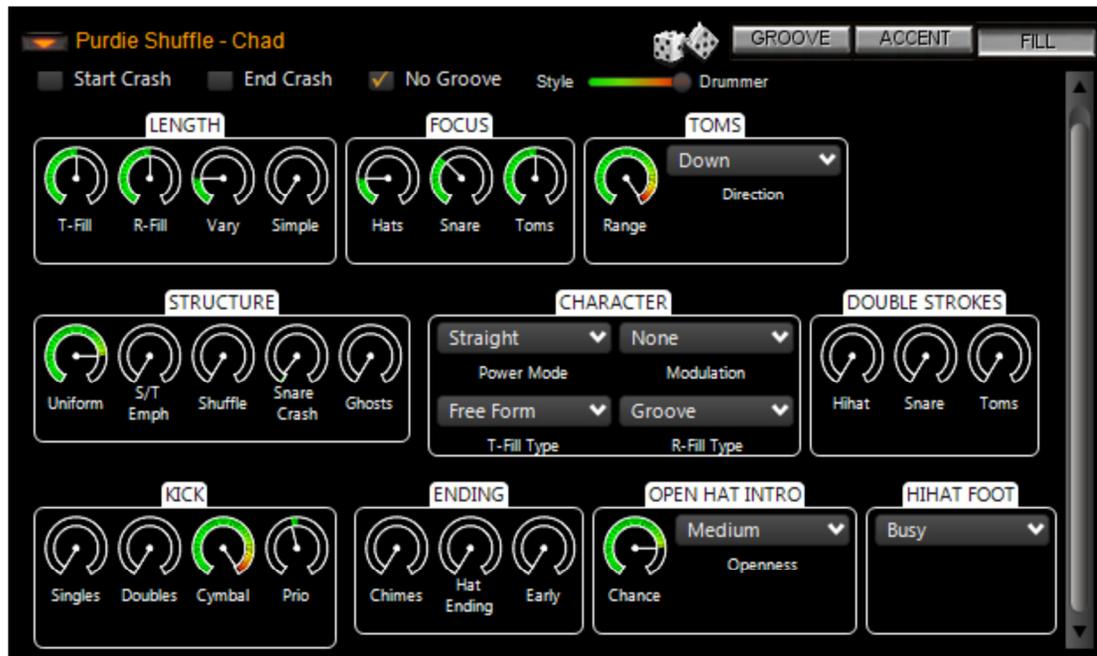
**Speed** is the speed at which each note is played. **Start** determines when within the bar the rudiment starts playing. **Length** is the length of the rudiment (note that 'unlimited' causes the rudiment to be continued until the part ends). The **Every** list controls how often the rudiment is executed within the part.

Rudiments are played left to right through the sequence. If the sequence ends before the end of the rudiment, it will continue from the beginning. You may add spaces to make the rudiment easier to read for yourself. This is especially helpful for odd timed rudiments. For example: a rudiment like LRL RLR will add a 3-feel to a 4 beat (i.e. 4/4), especially when played as a 16<sup>th</sup> shuffle rudiment. Have fun experimenting with 5 and 7 beat rudiments as well.

If you **double-click** on the rudiment edit box, you will see a list of preset rudiment patterns. You can add your own by editing rudiments.ini in the Jamstix data folder.

### 14.8.2 Fill Generator

Jamstix has an incredibly powerful fill generator that creates unique and realistic fills in real-time. It does NOT simply use MIDI clips as the vast majority of drum modules on the market today. This is an actual modeling of a drummer's behavior during fills and you can affect it with various controls to fit your specific needs.



#### 14.8.2.1 Start Crash

If checked, the fill will be preceded by a crash on the last heavy beat before the start of the fill. You can set the default for this option in the brain context menu.

#### 14.8.2.2 End Crash

If checked, the fill will end with a crash on the downbeat of the next bar. You can set the default for this option in the brain context menu.

#### 14.8.2.3 No Groove

If checked, the groove will be suppressed while the fill is playing. Otherwise, the drummer will attempt to play groove notes wherever possible during the fill. You can set the default for this option in the brain context menu.

#### 14.8.2.4 Style/Drummer

The style and drummer models come with their own internal settings for the fill generator aside from those you can see. They provide the fill generator with idiosyncrasies that are typical for the style and drummer. This slider allows you to determine the 'power balance' between the two parties.

#### 14.8.2.5 Length

The **T-Beat** knob decides how many beats a transition fill will last. Likewise, the **R-Beat** knob controls repetition fill length. The **Vary** knob adds a random fluctuation to those lengths and you also have a **Simple** knob that you can use to reduce the complexity of the riffs played.

**14.8.2.6 Focus**

The focus panel deals with the type of drums that the drummer will focus on during the fill. You can control the ratio of hihat, snare and toms usage.

**14.8.2.7 Toms**

This panel allows you to control the range of the toms used during the fill. This ranges from only Tom 5 at minimum to all toms at maximum setting. The **Direction** setting gives you control over the direction that the drummer plays the toms.

**14.8.2.8 Uniformity**

This slider affects the 'creativity' of the drummer during the fill. Low levels give the drummer free hand whereas higher levels force him to repeat a smaller substructure (riff) throughout the fill.

**14.8.2.9 S/T Emph**

Emphasis instructs the drummer to add snare hits to low tom hits and vice versa, which adds power to the fill and its often found in harder rock fills.

**14.8.2.10 Snare Crash**

This slider controls the chance of a left hand snares being emphasized by a crash with the right hand.

**14.8.2.11 Ghosts**

Ghosting causes the drummer to play light snare ghost notes on any 16<sup>th</sup> note that does not have any other left or right hand events. This fills out the fabric of the fill and also gives it something of a rudiment/paradiddle feel.

**14.8.2.12 Shuffle**

This slider determines how likely the drummer is to use triplets during the fill, which produces a shuffle feel. This only applies to fill structures that are not shuffled by nature. The slider will not have any effect on native triplet combinations used by some drummer models.

**14.8.2.13 Power Mode**

The power profile controls the power level of the drummers playing during the fill as follows:

Straight	Power level is not changed during the fill
Power	Power level is raised by 20% during the fill
20 0	Power level starts at 20% above normal and then sinks to normal level at the end of fill.
20 -20	Power level starts at 20% above normal and then sinks to 20% below normal level at the end of fill.
-40 20	Power level starts at 40% below normal and then rises to 20% above normal level at the end of fill.
Accented	Power level fluctuates in 8 <sup>th</sup> note intervals

#### **14.8.2.14 Modulation**

Modulation refers to additional power fluctuations within sub-structures of the fill. You should experiment with the settings to get a feel for them.

#### **14.8.2.15 Fill Type**

'Free form' instructs the fill generator to generate a fill fully independent from the groove whereas 'Groove' creates more rhythm-like fills/breaks using only kick, snare and toms and leaving the hihat element of the groove playing throughout the fill. You can set the fill type separately for transition and repetition fills. By default, rep fills are groove fills and trans fills are free form.

There are also 3 build-up fills: toms, toms & kick and snare & tom. These are progressive 8<sup>th</sup> note sequences that fill the whole bar (regardless of length and focus settings).

#### **14.8.2.16 Double Strokes**

Double strokes refers to a technique where a hit of lesser power is added to a hit at a distance of a 32nd note with the same hand. This is usually achieved using stick bounce back. This panel lets you control how likely the drummer is to use double stroking.

#### **14.8.2.17 Kick**

This panel lets you add single and double kick notes throughout the fill. You can also control how many of those kick notes will be accompanied by a cymbal hit.

#### **14.8.2.18 Chimes**

This slider controls the likelihood of chimes being played right before the end of the bar.

#### **14.8.2.19 Hat Ending**

This slider determines the chance of an open hat placed an eighth before the end of the fill.

#### **14.8.2.20 Early**

This slider determines the chance of then fill ending with an early downbeat on the 4+.

#### **14.8.2.21 Open Hat Intro**

Controls the hihat slowly opening up during the groove before the fill to lead into it.

#### **14.8.2.22 Hihat Foot**

This control decides the behavior of the hihat foot during the fill.

#### **14.8.2.23 End Crash**

Controls what cymbals are used for the end crash of the fill .

### 14.8.2.24 Quick Load/Save

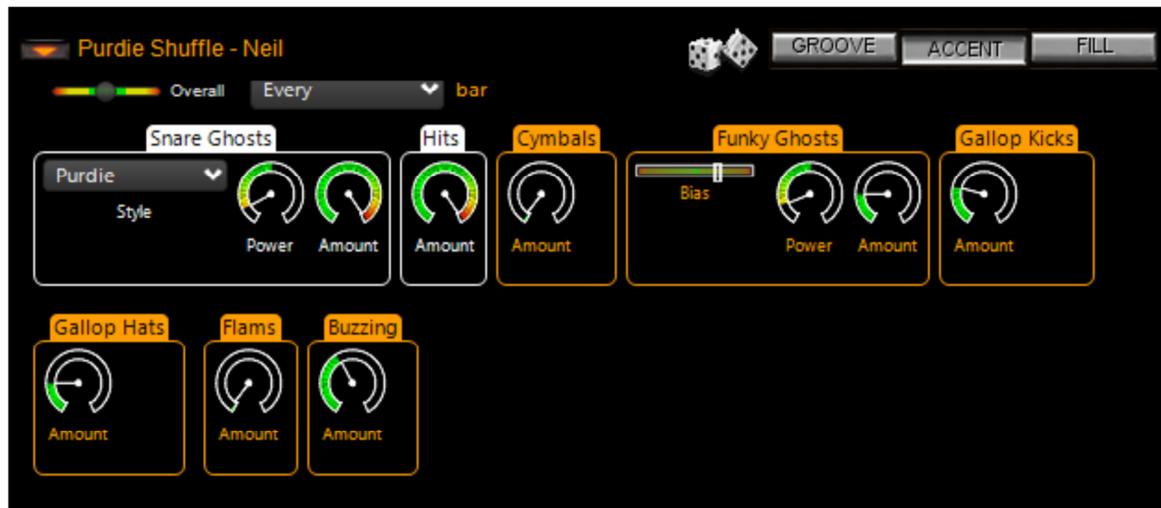
When you are working on the perfect fill for a specific bar, you may wish to retain a few fills to choose from. Instead of having to save and load fills from the hard drive, you can use the quick fill storage accessible from the bar menu. This allows you to store up to five fill variants per fill. Note that these fills are specific to the bar and not shared across bars or parts.

### 14.8.3 Accents

The accent page of the brain is very similar to the groove page. Depending on the drummer model used, you will see a variety of sliders to add various embellishments to the groove. Some styles also contribute elements.

Accents are what makes a groove come alive as it is played over and over. Higher accent levels will make the groove busier and more complex whereas low levels make the groove simpler and more static.

You can use the 'Overall' slider at the top to attenuate or amplify the settings of all sliders at once. This is very useful if you have established a careful balance of the sliders but need an overall control for experimentation.

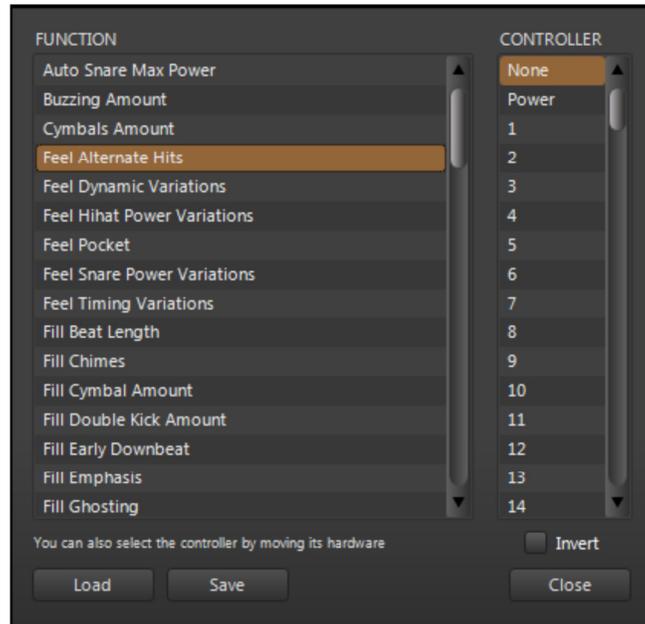


The bar control allows you to only add accents every n-th bar.

### 14.8.4 MIDI Remote Control

Just as with the mixer and main controls, Jamstix allows you to connect brain controls to specific brain control elements to alter them dynamically from the host or hardware MIDI controller during the song.

Simply right-click on a brain control and you will see the MIDI controller window with the chosen control highlighted.



Select the desired MIDI controller number or, if you already have a hardware MIDI controller hooked up, move that controller for Jamstix to learn the controller. You can use the **Invert** switch to flip the control range so that low controller values yield high function values.

Many modern hosts allow you to draw/record envelopes of MIDI controller in your song so you can use the host or your hardware MIDI controller to remote-control aspects of the mixer at certain parts of your song, such as pushing the timing pocket forward during a crescendo.

## 14.9 The Bar Editor



The bar editor is a window into every single bar of the performance in the form of a limb-centric step sequencer. The columns of the bar editor represent the beats of the bar in 16<sup>th</sup> note resolution. The rows represent the limbs of the drummer (and percussionist). All the notes generated by the brain are displayed in this grid and can therefore be adjusted by you as needed. You can even share the workload with the brain by, for example, assigning kick and snare manually and then letting the brain create the other notes. The possibilities are endless!

Note that the bar editor responds to the GROOVE, ACCENT and FILL button in the brain area so that you only see that specific aspect of the bar at any time. During play, the brain will merge the three parts of the bar and resolve limb issues by priority.

The rows of the bar editor have abbreviated limb names to the left (LF=Left Foot, RF=Right Foot, LH=Left Hand and so forth).

You can **double-click** on an empty cell to enter a new note. The sound will default to the most common sound for that limb or the last sound you selected for that limb in your current session. If you double-click on an occupied cell then the note within it is removed.

Editing a note is done by left-clicking on it and then adjusting the knobs in the top right area of the bar editor or right-clicking on the note to open an edit context menu. You can also select multiple events at once by dragging the mouse over them.

**Dragging** a note with the CTRL key held will copy the note to another cell. If you hold the SHIFT key instead then the note gets moved.

If you have a **mouse-wheel**, you can use it to increase or decrease the velocity of all selected notes. If you hold down the CTRL key, you can adjust the hihat opening level.

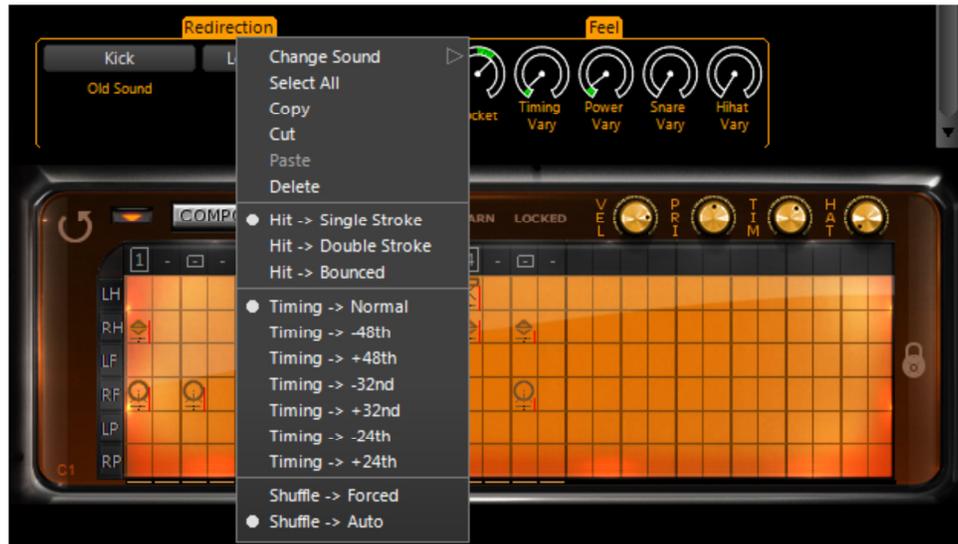
The **VEL** knob adjusts the velocity of the selected note(s).

The **PRI** knob determines how important the note is. Moving left increases the priority. This is important when the brain combines groove and accent during playback and must resolve limb conflicts, where the higher priority will beat out the lower one.

The **TIM** knob moves the note up to 47ms before or after the beat, which is the heart of the groove processing within Jamstix as part of the drummer modeling.

The **HAT** knob only affects hihat notes and sets the opening level if its cymbals.

### 14.9.1 Bar Editor Context Menu



**Change Sound** lets you select a new sound for the event(s).

The **Hit Style** refers to the way the note is played as follows:

**SINGLE** – A single hit

**DOUBLE** – A hit followed by a slightly quieter hit a 32<sup>nd</sup> note later. This is commonly called a double stroke.

**BOUNCE** – Three hits forming a 32<sup>nd</sup> triplet of decreasing power, similar to the natural bounce of a drumstick.

The **TIMING MODE** can be used to induce a musical (versus chronological) time offset by a 24<sup>th</sup>, 32<sup>nd</sup> or 48<sup>th</sup> note.

The **SHUFFLE** option allows you to shuffle specific notes without setting the whole bar into shuffle mode.

The **LOCKED** button allows you to lock the note similar to locking a bar but it only affects this single note. When you add notes manually in the bar editor they are always locked by default so the brain won't erase and overwrite them when it composes.

While playing you may notice red crosses appearing on some bar editor notes. This signals you that the note was suppressed during the last play-through. If you move the mouse over the note you will see more information about the reason in the status line.

If the **LEARN** button is activated, Jamstix will listen to incoming MIDI data, interpret it and enter it into the bar editor. This is a great alternative to hand-placing events if you are comfortable playing your desired groove on a MIDI keyboard or e-drumkit. Note that the automatic event locking as outlined in the 'Bar Menu' section is considered as well as the 'Quantize Import' setting in the 'Options'.

### 14.9.2 Event Icons

The icons in the bar editor represent visually what drum or cymbal it uses. It also carries other information about the hit.



The vertical red bar represents the power (velocity) of the hit. The closer it gets to the top of the icon, the louder the hit.



The hihat icons indicate the openness of the hihat visually.



One dot at the right side of the icon indicate that this hit is a 'Double', meaning a second hit follows the first at lower velocity and with a 32<sup>nd</sup> note delay.



Two dots at the right side of the icon indicate that this hit is a 'Bounce', meaning two hits of diminishing velocity each with a 48th note delay.

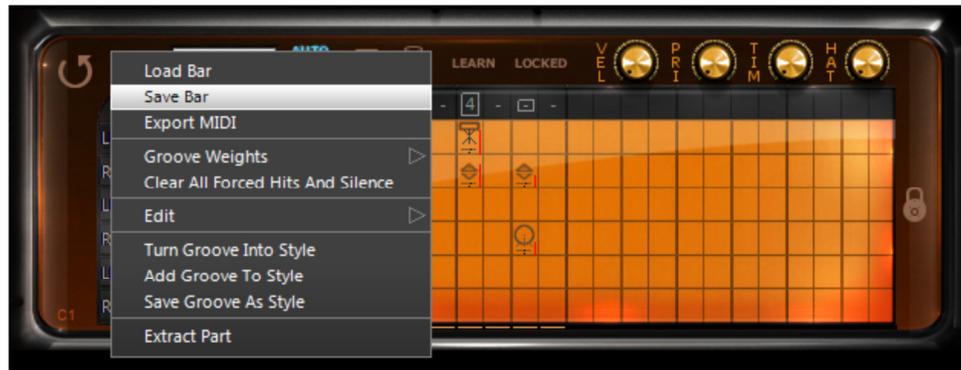


A black triangle of the left side indicates that the hit is shuffled, either due to shuffling of the part or just of the event.



A horizontal red line at the top of the icon means that the event is locked.

### 14.9.3 Bar Menu



The bar menu operates on the current bar displayed in the bar editor. You can **load** and **save** a bar to disk for future use in other projects. You can load, save and reset **groove weights** similar to the part menu but only affecting this single bar.

The **Fill** submenu allows you to load and save the fill of this bar. There is also a provision for quick load and save of fills during a session. You can load and save up to 5 fill versions per bar into slots. This is a quick way to store up to 5 candidates of a specific fill without having to create file names and go through dialogs. Please remember that these stored fills will be discarded when Jamstix is closed and are not saved to the project file.

The **Accent** submenu allows you to load and save the accents of this bar.

**Delete**, **copy** and **paste** are fairly self-explanatory. The **Clear** submenu offers you fine-grain control over every aspect of the bar so you can clear just the accents of a bar, for example. This is the same as the trashcan icon but it also marks the bar for re-composition.

The **Locking** submenu deals with locking specific events so that they are not affected by recomposing by the brain. Compared to locking the whole bar, this allows a mixed mode where some events are locked and others are generated by the brain. This submenu also has a toggle that determines whether manually placed events are immediately locked or not.

The **Import** submenu gives you the ability to import a Jamstix 1 fill or a MIDI file fill into this bar.

**Extract Part** allows you to create a new part from a subset of an existing part.

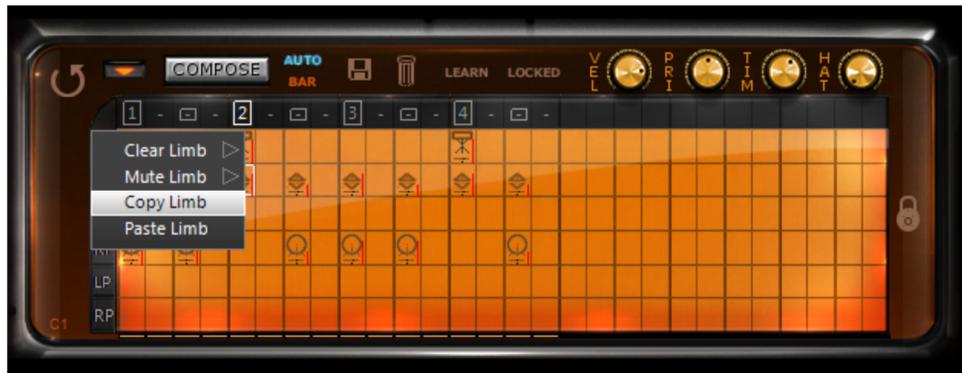
**Turn Groove Into Style** will take the bar data and save it to 'Bar Groove'. It then loads the 'Import' style into the current part, sets it to JS2 or JS3 Groove and loads the 'Bar Groove' data. This is a quick way to turn a bar into a style to groove on.

**Save Groove As Style** does the same thing but it will ask you to name and save the groove as a style file so you can use it in the SongBuilder.

**Add Groove To Style** does the same thing but does not clear the other style elements from the brain, which is great if you wish to ADD the note pattern to the existing style logic.

#### 14.9.4 Limb Menu

Clicking on a limb label to the left of the bar editor (LH,RH,LF etc.) offers you a menu to clear (delete) all events of that limb for either the current bar, part or even the whole song. There is also a similar option that mutes the limb. You can also copy and paste all events of a limb to another bar.

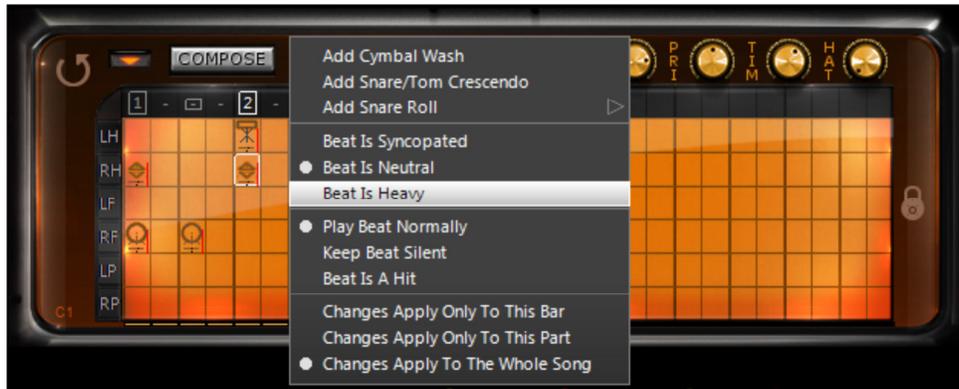


#### 14.9.5 Editing Groove Weights

Right-clicking on a tick (the beat number on the top area of the bar editor) gives you a variety of options. You can insert preset patterns that are usually tedious to hand-edit, such as a cymbal wash or snare roll. You also can determine the groove weight of the tick. Let's expand on that a bit: the Jamstix brain uses the groove weights to make decisions while composing a bar. For example: the 8<sup>th</sup> Rock style places main snares on every second 'Beat' tick it encounters. By manually changing these weights you can dramatically affect the way the brain composes. This is especially useful if your song has an unusual time signature and you want to force a certain pattern.

The possible groove weights are:

- Heavy** marks the tick as one that is traditionally emphasized
- Neutral** marks the tick as middle of the pack
- Syncopated** marks the tick as usually not emphasized



The bottom options of the menu decide if weight changes affect just the bar, the part or the whole song.

#### 14.9.6 Forcing Hits and Silence

If you **left-click** on a tick (the beat number on the top area of the bar editor) you can cycle through the special modes, which are '**Forced Hit**' (yellow rectangle – causes a kick/crash on the tick to emphasize it if the style has the 'Hits' accent element) and '**Forced Silence**' (red strikethrough – causes Jamstix to be silent on this beat).

#### 14.9.7 What is a "Core Bar"?

You may notice the letter C or R with a number showing in the left bottom area of the above the bar editor. This signals whether the bar is a core or repeat bar and its position within the repetition sequence. Core bar means that the current bar is within the first part play-through and not within a repetition. That is important to consider when manually editing bars because changes to a core bar will affect all its partner bars in the repetitions of the same part whereas changes to non-core bars do not affect any other bars.

If the bar is not a core bar, the label in the bar editor will show R plus the core bar number that affects the bar and clicking on the label will jump to that bar.

#### 14.9.8 Locking A Bar

Lock a bar by clicking on the LOCKED button if you wish to keep the brain from changing the bar no matter what.

#### 14.9.9 Using the 'Composition' Controls

There are several buttons between the song sheet and the brain that deal with the way the brain composes. Let's look at them in detail:



Click on the **disk** icon to create a restore point of your song. You can recall restore points via the song menu if you need to 'undo' changes.

**Auto** controls whether changing any brain controls leads to an immediate recomposing

When the **BAR** button is highlighted, recomposing will only affect the current bar. Otherwise, the whole part gets recomposed.

**COMPOSE** is very useful when you don't want to change any brain settings but would like to hear an alternate composition.

The **trash can** will clear the current aspect (groove, accent or fill) of the bar and also mark it as composed. This means that the brain will not replace the deleted events unless a recompose is triggered.

## 14.10 How Exactly Do Style & Drummer Models Work?

Jamstix uses a network of complex elements to create drum performances, which are grouped into a style model and a drummer model, working in unison.

The style model creates groove notes and it can sometimes also create accents. It also has special instructions for the fill generator.

The drummer model is engaged after the style model has done its job. Some drummer models add more events to the groove but most don't. Instead, they will affect the notes created by the style model in various ways, such as timing and power level and even redirecting them to other sounds. Most drummer models create accents and also have special settings for the fill generator.

After both models are done composing, the brain performs limb checks, filtering out notes that collide with each other due to timing, limb placement etc. This ensures a realistic performance.

## 14.11 Using Saved Grooves with The 'Import' Style

Jamstix allows you to take any GM-compatible MIDI pattern file that you have stored on your hard drive and have it processed by the drummer model. This means you can take that cool but sterile groove you downloaded from the Internet and have it played back by your favorite Jamstix drummer with accents, fills, groove feel, power variations and so forth!

You can also use Jamstix 1 rhythms or saved Jamstix 2/3 grooves.

Simply use the 'Import' style, select the desired format and then click the sound clip label (<click to select>) to load the desired file.

## 14.12 Creating Grooves Completely From Scratch

If you want full manual control over the grooves used in your song, use the 'Silent' style and 'Silent' drummer. You should also check 'Lock Manually Created Events' in the bar menu.

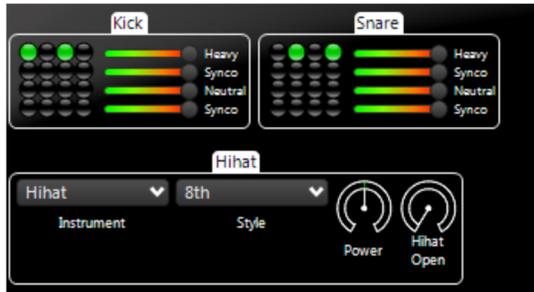
Now you can place your notes as desired in the bar editor.

Even though you are not taking advantage of the style and drummer modeling, you are still saving a lot of time by using the bar editor, arranger and built-in limb checking.

You may also change to a different drummer model and have your hand-crafted groove interpreted by it.

### 14.13 Creating Grooves the Jamstix 1 Way

If you loved the rhythm tab in Jamstix 1 then you should try the 'Jamstix Classic' style. It offers a similar way to program your own groove and, unlike the Jamstix 1 version, supports the full range of JS2 time signatures.



### 14.14 Special Jamstix Styles

There are several special styles available in the load style dialog at the root level:

#### 14.14.1 IMPORT

This style gives you a groove importer to use MIDI patterns or saved JS1/2/3 grooves. This is great for using your existing static MIDI patterns and bringing them to life with the Jamstix A.I. You can also add a groove importer to any other style using the brain add submenu.

#### 14.14.2 JAMSTIX CLASSIC

This style gives you checkbox grid controls to program the basic kick/snare patterns similar to the Jamstix 1 rhythm engine. You can also add "classic controls" to any other style using the brain add submenu.

The grids work like this: every 'heavy' weight tick triggers a new column. So reading columns from left->right/top->down is like going through the bar sequentially in 16th notes. Click on a cell to add a hit. You can also right-click/hold/slide up-down on a hit to adjust velocity. The sliders to the right control the probability that any hit in that row will actually sound (great to create variability).

#### 14.14.3 SILENT

This is an empty style used for completely manual rhythm programming.

#### 14.14.4 FREESTYLE

This style approximates the 'free jam' behavior of Jamstix 1. It can generate a huge range of rhythms covering various genres and is also capable of producing very unusual patterns.

You decide the basic groove by selecting complexity, funkiness and amount for kick, snare and hihat. On top of this basic groove, you can enforce a specific snare mode, such as a backbeat or a Motown snare pattern. Another important feature is the 'Character', which is a third filter that can enforce a genre on the current groove.

#### 14.14.5 INTRO

Use this style in intro parts. You can have a ride cymbal intro, drumstick count-in as well as hihat count-ins. The song builder automatically chooses this style for intro parts.

#### 14.14.6 TOOLBOX

The toolbox folder contains several styles with many presets, designed to give you quick access to the most common rhythms.

## 14.15 Status Line

The status line is in the bottom left area of Jamstix and displays helpful hints as well as control values during editing. There are also four small LEDs that signal input/output and kit status. The **MIDI-IN** LED lights up whenever MIDI data is received. The **AUDIO-IN** LED lights up when audio analysis data from an audioM8 plugin or the audio input is received and the **MIDI-OUT** LED lights up when Jamstix sends data to its MIDI output.

The LoD% LED shows you the percentage of currently active voices that are streaming (versus playing from memory pre-buffer). The more red the LED turns, the higher the percentage. This is useful if you experience clicking in the audio signal, which can indicate disk I/O overload. In that case you can either increase **Voice Reduction** or increase the **LoD Pre-Buffer** in the **Options**. Note that a red LED without audio corruption does **NOT** mean there is an issue.

The numeric display to the right of the LoD% LED shows the currently active number of voices, which corresponds to overall CPU usage.

## 14.16 Big Time Panel

Clicking on the bar/beat display opens a “big time” panel, which is very helpful in live situations, where the performer may be too far away from the display to easily see the song position, current part name and (if liveloop is active) the next part to be played.



## 15 E-Drumming

Jamstix can be used with any e-drum kit similar to drum samplers/libraries that can be triggered via MIDI. The quality and expressiveness of the Jamstix sounds exceeds that of virtually any e-drum kit on the market today. You may have spent thousands of dollars on that killer kit but for just \$99 or so more you can let Jamstix significantly improve the sound quality of your e-drumming.

What's more, Jamstix MIDI output and GM translation capabilities make it the ideal "hub" for all your drum samplers/libraries. Let's look into this in more detail.

### 15.1 Setting Jamstix Up For E-Drumming

Simply depress the current jam button to set Jamstix to drum module mode. You will see the song sheet being replaced with various options:

Use the **Map GM** button if you have a kit loaded that does not use the GM key layout but you need to send MIDI data in GM format to it. Jamstix will automatically translate the input to match the kit layout. This means that you can use your e-drum kit in GM mode for any kit in Jamstix (internal or MIDI-driven) regardless of the actual key assignments of that kit.

#### Automatic Ride Bell

If checked, any ride notes with a velocity of 127 (full) are translated to ride bell events. This is useful when using an e-drum kit with a single zone ride pad that cannot send separate bow and bell notes.

#### Cymbal Variations

This is very useful when using an e-drum kit with only one or two cymbal pads. You can choose to deactivate the feature, use it for Crash 1 only or for all cymbals.

### 15.2 Roland V-Drums TD20 Support

Jamstix goes the extra mile to support the amazing capabilities of high-end V-Drums. Simply check the **Use TD-20 Extensions** box in the drum module options and the following functions will take effect:

- modifies the hihat logic of the internal engine to produce realistic responses when the TD-20 sends a CC4 change AFTER a note is hit
- routes TD-20 hihat rim notes automatically to the corresponding tip and shank notes
- allows hihat splashing
- allows cymbal choking via after-touch (grabbing the cymbal)
- enables snare position sensing so when you hit the snare off-center, Jamstix will play the 'offset' sound instead of the 'center' sound

We challenge you to find any other product in this price range that gives you this level of functional support and sound quality for your V-Drums!

## 16 Support for Unusual Time Signatures

Jamstix is one of the few virtual drummers capable of composing in odd or unusual time signatures! Here are all supported signatures:

x/4 with x=1,2,3,4,5,6,7

x/8 with x=1,2,3,4,5,6,7,8,9,10,11,12,13,14

## 16.1 Changing Time Signatures

If your song uses time signature changes, you need to do the following:

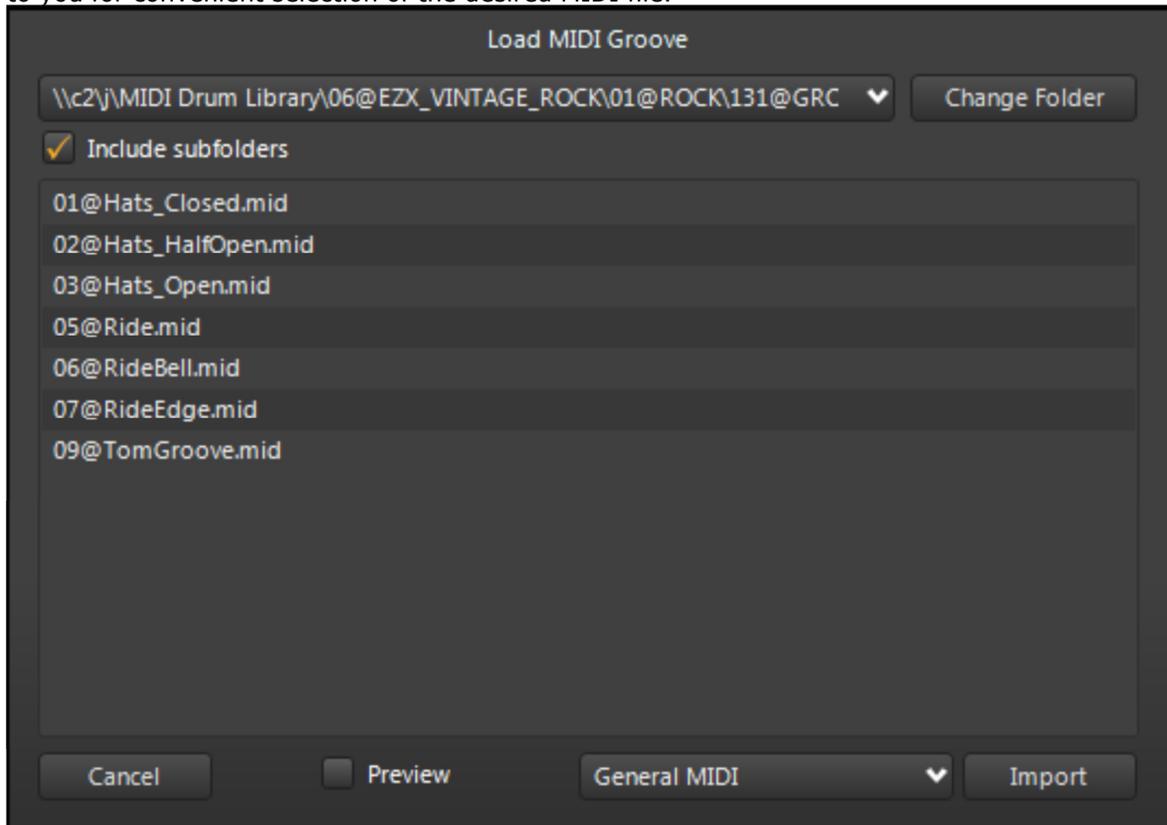
- ✓ enable 'Time Sig Changes' in the Options screen
- ✓ click on every part length and select the proper time signature for each part

If the time signature changes in your host are not aligned with the ones specified for the parts then you may encounter synch problems.

Ideally, you wouldn't have to tell Jamstix your time signatures as it can see them via the VST interface but unfortunately the song position information of VST is not designed to handle time signature changes and in order to provide a tight synch to the host we require you to set each part manually.

## 17 MIDI Import Dialog

The 'Groove Importer' brain element as well as the 'Import MIDI Fill' option displays a dialog to you for convenient selection of the desired MIDI file.



The top-left combo-box holds all folders that you have previously imported from so you can quickly go to your most commonly used file locations.

The list box in the middle shows all MIDI files in the active location and, if you have checked 'Include subfolders', it will also scan all sub-folders of the location.

Note the import format selection, which allows you to specify the key layout used by the MIDI file, if it is not in GM format.

Check 'Preview' to hear a preview of the MIDI file when you single-click on it in the list.

## 17.1 MIDI output to host

Jamstix sends all its notes to its MIDI output so that you can record or route the data in your host (if supported by the host). For example, you can record the data to a MIDI track, set Jamstix to 'Drum Module Mode' (with Map GM unchecked) and then feed the MIDI data back to Jamstix (or some other drum module) for playback.

The 'MIDI Only' mode will keep Jamstix from loading any of its internal sounds. This can be useful when you want to be able to toggle between a Jamstix kit and a 3rd party plugin driven by Jamstix via MIDI.

## 17.2 MIDI Export

The bar, part and song menus offer you EXPORT MIDI options to save MIDI data to a file that you can drag into your host.

## 17.3 MIDI Drag-&-Drop

You can drag and drop MIDI data from Jamstix directly to the host as follows:

Whole Song: Hold CTRL, click and drag SONG NAME in song sheet  
Whole Part: Hold CTRL, click and drag PART NAME in song sheet  
One Bar: Hold CTRL, click and drag BAR ICON in the timeline

**Note that you must have played the song, part or bar at least once before using EXPORT BAR, PART or SONG (or drag-&-drop) or you may end up with empty or partial bars. Rearranging the part order will reset the MIDI export buffer.**

# 18 Jamming With Jamstix

As mentioned earlier, Jamstix can monitor MIDI or audio inputs for your instrument playing and interact with it.

The main information that Jamstix extracts from audio and MIDI input is the averaged volume. This is then used to adjust the power (velocity) of the drum playing and also triggers various play rules of the brain that depend on song volume, such as switching from snare head to side-stick, from hihat to ride or simplifying (reducing) rhythms at very low volumes.

As an alternative, you can use parameter automation envelope in your host to control the song power level as needed.

Due to the sheer number of hosts available for use with Jamstix and their changes with newer versions, we can only give you general instructions on how to set up audio or MIDI jamming with Jamstix. If you need in-depth help with a specific host, please use our support forum.

## 18.1 Jamming With Audio

- 1) Add Jamstix to your project as a plugin instrument.
- 2) Add audioM8 as an insert effect to the audio track of your choice.
- 3) If the audio track carries live data, enable 'Input Echo' or 'Input Monitoring' on it.

#### 4) Set Jamstix to 'Audio Jam'

You should now see the red 'Audio' LED at the bottom of Jamstix light up as you play your audio instrument or play the audio track. As your host plays and Jamstix drums, you will see the power knob turn in response to the averaged volume of the audio data.

You can use the **input trim** knob in the Options screen to lower or raise the sensitivity of the input and/or you can use the '**Input Velocity Map**' to define the best response curve for your instrument and play style. There are also '**Audio Rise Delay**' and '**Audio Fall Delay**' knobs to control how fast song power rises or falls in an audio jam when the audio volume changes.

You can add more than one audioM8 plugin in your project and Jamstix will use all their data using a 'highest value wins' strategy.

## 18.2 Jamming With MIDI

- 1) Add Jamstix to your project as a plugin instrument.
- 2) Make sure you have a MIDI track with output=Jamstix.
- 3) Set the input of that track to the desired MIDI data source
- 4) Enable 'Input Echo' or 'Input Monitoring' of the MIDI track
- 5) Set Jamstix to 'MIDI Jam'

You should now see the yellow 'MIDI' LED at the bottom of Jamstix light up as you play your MIDI instrument. As your host plays and Jamstix drums, you will see the power knob turn in response to the averaged volume of your MIDI instrument.

You can use the '**MIDI Trim**' knob in the Options screen to lower or raise the sensitivity of the input and/or you can use the '**Input Velocity Map**' to define the best response curve for your instrument and play style.

## 19 Liveloops

Liveloops are a great way to use Jamstix during live performances. You can activate it by clicking the LIVELOOP icon in the song sheet. In a nutshell, this turns every part of the song into a loop and assigns it a program change number (Part 1=1, Part 2=2 etc.). Jamstix will keep playing the current part until it receives the program change number of another part. If that happens, the current part will be completed and Jamstix will then jump to the requested part.

This simple performance control in association with the fill MIDI trigger and other real-time MIDI controllers allows you to control Jamstix during a live performance where you may wish to continue playing a chorus longer than usual or have a improvised solo part of undefined length and fills. This gives you the reliability of a fixed song structure and guaranteed part play-through and the flexibility of jumping between song parts at the same time.

If you'd rather use MIDI keys than program change events to switch parts, specify the desired MIDI key in the TRG column for every part in the song sheet.

Please note that parts are repeated indefinitely in liveloop mode regardless of their repetition setting. However, the part type 'Intro' will move toward the next part regardless. Similarly, the 'Ending' part type will cause playback to stop.

Some drum plug-ins allow you to create several rhythms, store them in 'slots' and then trigger them via MIDI keys. Liveloop mode does much the same for Jamstix so if you like this workflow, you can use liveloop mode and place part changes or MIDI keys in your host Jamstix MIDI track to trigger the desired parts at the desired time. In this case, you may want

to try check the 'Liveloop Bar Jump' option to have part changes executed at the end of the current bar rather than the end of the current part.

Finally, you have the choice between parts being repeated indefinitely or following their repetition count using the "Liveloop Advance Part" MIDI trigger key. For example: you may have a live performance that you want to follow the set part/rep structure without you having to MIDI trigger part changes. Simply send the 'Advance Part' MIDI trigger after starting the song and the part changes occur automatically. You may suddenly wish to extend a part (i.e. a solo or audience-involvement) and can do so by sending the 'Advance Part' trigger to switch to indefinite repeat. When you're done, send the trigger again and part changes will resume.

## 20 Restore Points

Jamstix is very complex and you can easily make changes that you wish you could undo later. Therefore, we have added a revision control system that is very much like the 'System Restore Points' of Windows.

Simply click on the disk icon in the middle of the Jamstix interface and your current song will be saved. You can keep up to 10 revisions. If you save more than that, the oldest revision will be overwritten.

If you want to recall a restore point, go to the song menu and choose the 'Load Restore Point (Undo)' option. You will see date and time of each revision available.

Jamstix also features an auto-save function in the 'Options' tab to have restore points created automatically. Auto-save will not trigger if the host is playing so it will not interfere with your work.

Revisions files are stored in the folder 'jamstix2\revisions' in your 'My Documents' folder.

## 21 Continuous Hihat Opening (CC4)

Jamstix supports continuous hihat openness signaled via MIDI controller #4 (editable in KMAP files). Likewise, any CC4 values received by Jamstix for use by its internal engine will be translated into the corresponding hihat sound, depending on how many levels are available in the specific kit (3 to 5 levels).

## 22 Options - General Window



### FULL DEBUG LOG

This option causes Jamstix to write extensive debug data into its log file (rzdlog.txt). You should use this option only when directed to do so by tech support and only for the duration specified since it can use significant CPU and disk resources.

### ENABLE LIMB CONTROL

This option controls the real-time limb transition time calculation, which measures how long it takes for a drummer's limb to get from one drum to another and suppresses sounds that are not playable based on that minimum time. It should be enabled at all times unless you are seeking special non-human performances.

### AUTO AUDIT SOUNDS

If this option is enabled the sound of an event will be played whenever the mouse moves over it in the bar editor or cell editor and the host is not playing.

### ALWAYS SYNC

If disabled, Jamstix reads the song position from the host only while playing or recording. If enabled, it will also do so while the host is stopped.

### ALLOW TIME SIG CHANGES

If your song has time signature changes, you need to enable this option and give each song part its proper time signature in the part edit screen.

### QUANTIZE MIDI IMPORT

If enabled, MIDI clips are quantized during import, which is useful if you want to use the drummer models groove feel instead of whatever feel is programmed in the MIDI clip. This also affects the MIDI LEARN mode.

### ENABLE MIDI OUTPUT

Toggles the MIDI output to host.

**MIDI PLAY IN JAM**

If enabled, MIDI data received will trigger drums just as in drum module mode.

**REVERSE HIHAT CONTROLLER**

By default, hihat pedal pressure MIDI controller values of 127 trigger closed hihats and 0 fully open hihats. This option reverses this so the value 127 triggers fully open hats.

**NEVER DOWNMIX**

This overrides the 'Downmix' switch in the mixer for users who always use multiple outputs and never wish to down-mix to output #1.

**ENABLE SONG LOOPING**

When enabled, Jamstix will loop back to the selected part in the song sheet when the song reaches the end of the last part.

**LIVELOOP BAR JUMPS**

When enabled, Jamstix will execute part requests at the end of the current bar rather than at the end of the current part. If Liveloops are off, this option has no effect.

**COMPACT USER INTERFACE**

When enabled, Jamstix will use a slightly smaller user interface (930x600) for user with limited screen resolution.

**YAMAHA PITCH CONVENTION**

When enabled, Jamstix will name notes following the Yamaha convention (C3=60). Uncheck if you want to use the Roland convention (C4=60).

**DYNAMIC REALISM**

This option lets you reduce sample memory usage. The further left the knob, the fewer sample layers will be loaded at the expense of sound realism.

**ENABLE LOAD-ON-DEMAND (LoD)**

The LoD system is new for Jamstix 3 and reduces the memory consumption of the drum kits. We recommend you disable this option only as a last resort if you are having CPU or disk I/O issues that cannot be resolved with the below LoD options.

**LoD Pre-Buffer:** The larger the buffer, the more RAM is used and the less often read buffers with disk I/O have to be used. Increase this value if you are getting crackles due to disk I/O issues or see the message 'LoD Overload' in the Jamstix status line repeatedly.

**LoD Priority:** This affects the priority level of the LoD engine. Try switching between 'Normal' and 'Higher' if you are getting crackles and nothing else has helped.

**Bounce Mode:** Check this box if you encounter audio corruption during bouncing, mixdown or freezing in your host.

**If you cannot get rid of crackling, even at the 96k pre-buffer level, raise the audio latency in your host until the crackling is gone or switch off LoD.**

**VOICE REDUCTION**

This option affects the way Jamstix 'kills' voices to keep the CPU load reasonable. At level 1 only very simple reduction is used to keep the voice load to a maximum of around 100. This mode is great if either your CPU is powerful enough to handle it or you are using Jamstix as a drum brain for your e-drum kit. For all other situations, choose the lowest level that gives you satisfactory CPU loads. The default level is 6.

**AUDIO OUTPUTS**

*Deprecated in Jamstix 3.5*

**BAR OFFSET (ACTUAL)**

If you encounter a difference between the bar numbers displayed in your host and Jamstix, use this option to equalize them.

**BAR OFFSET (VISUAL)**

Some hosts display a different bar/beat then they are sending to Jamstix when using count-ins. If this happens, use this option to equalize them.

**AUTO-SAVE**

This option allows you to have restore points created automatically at the specified interval. Auto-save will not trigger if the host is playing so it will not interfere with your work.

The default mode is EXIT, which will store a revision point when you close your project.

**ARM SPEED**

This is the speed at which the drummer can move his arms from one drum to another.

**ARM DELAY**

This is the time the drummer needs to hit the same drum again with his arms.

**FOOT DELAY**

This is the time the drummer needs to hit the same pedal again with his feet.

**BURST TIME**

Human drummers can accelerate their movements for a short period of time. This is modeled as bursts in Jamstix. Here you can adjust how long a burst can last.

**BURST RECOVERY**

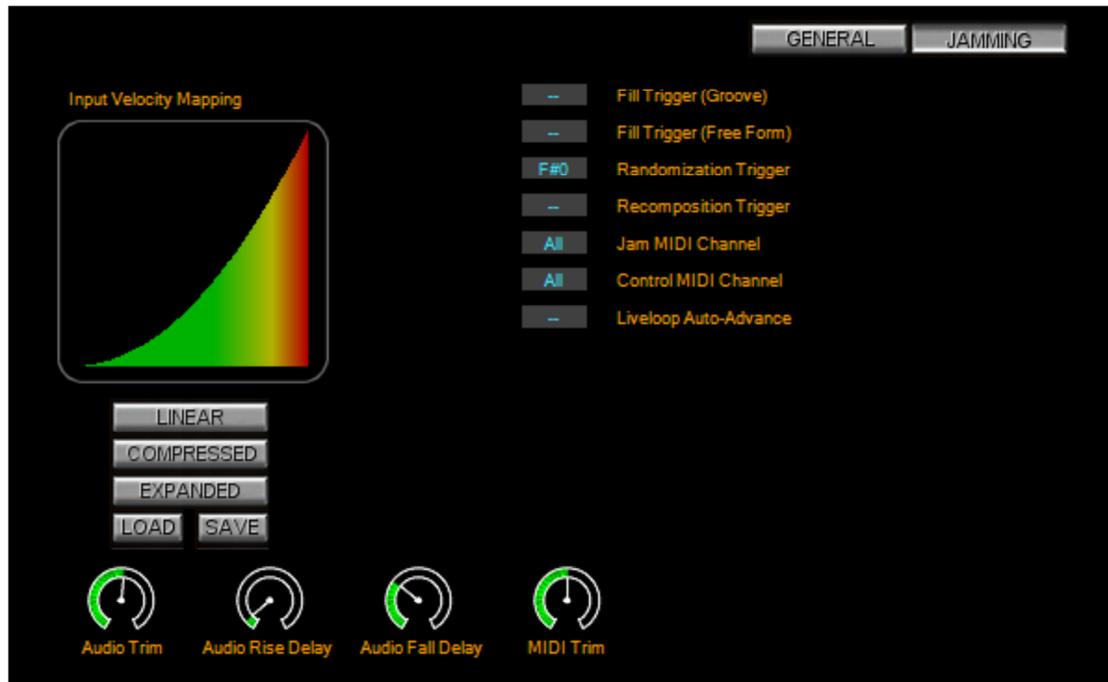
This is how long a drummer needs after a burst to recover for another burst.

**BURST FACTOR**

This setting determines how much faster the drummer can move during a burst.

## 23 Options – Jamming Window

You access the jam options by clicking the “JAMMING” button.



### 23.1 Input Velocity Mapping

This important control determines how velocity information from audio and MIDI input is interpreted and is very useful to define a sweet spot for your specific instrument and play style when you jam with Jamstix.

The concept is simple: the horizontal axis is the velocity reported from the input and the vertical axis is the velocity interpreted by Jamstix. The **load** and **save** buttons allow you to manage these mappings across projects. The **linear**, **compress** and **expanded** buttons give you quick templates to work from.

Load the ‘Wide Sweet Spot’ template to get an idea of how it works. You can see that the middle section of the curve is fairly flat, which means that Jamstix will play at a fairly constant power level as long as your input signal ranges from slightly quiet to slightly loud. If you play very quiet, Jamstix will drop its power level as well and, vice versa, at very high volumes, the power level is quickly raised as well.

The **Audio Trim** knob can be used to set a good basic audio response level to work with and the two **Delay** knobs determine how fast the song power falls or rises in response to audio volume changes. The **MIDI Trim** knob can be used to amplify or attenuate MIDI velocity data received.

### 23.2 MIDI Channel & Triggers

#### Fill Trigger (Groove)

If this key is received on the control channel, Jamstix will insert a groove fill into the current bar. Groove fills are based on the underlying groove and are more subtle.

**Fill Trigger (Free Form)**

If this key is received on the control channel, Jamstix will insert a free form fill into the current bar. These fills are more distinct than groove fills.

**Randomization Trigger**

If this key is received on the control channel, Jamstix will randomize the brain as if you had clicked the dice button.

**Recomposition Trigger**

If this key is received on the control channel, Jamstix will recompose as if you had clicked the COMPOSE button.

**Jam MIDI Channel**

This MIDI channel will be monitored as a MIDI input signal for jamming.

**Control MIDI Channel**

This MIDI channel will be monitored for trigger events

**Liveloop Auto-Advance**

Useful for live performances to switch back and forth between song structure following and infinite-loop part triggering while using Liveloops.

## 24 Parameter Automation

Jamstix offers different control elements in its brain based on style and drummer selected. The host interface specification does not allow the dynamic changing of parameters so it cannot support such a flexible system. Therefore, Jamstix offers extensive MIDI controller mapping in addition to parameter automation. Most modern hosts offer the same envelope support for MIDI controllers as for parameter automation. However, there are no names associated with MIDI controllers as with parameter automation.

The available automation parameters are:

**Power Level**

Controls the song power knob. This is a great alternative to a MIDI or audio jam as you can fine-tune the power level throughout your song easily with an envelope.

**Reduction**

Similar to the 'Reduction' in the brain panel, this affects the rhythm reduction but without the need for a song power change.

**Timing**

This controls the global timing slider.

## 25 Configuration File (jamstix3.ini)

**WINDOWS:** Documents\Jamstix3\jamstix3.ini  
**OSX:** ~/Music/Jamstix3/jamstix3.ini

There are a few options that you can manually toggle:

**HideAPS=0|1** def=1

WINDOWS ONLY: Controls whether the server window is hidden.

**DPIXOverride=[x]** def=0

WINDOWS ONLY: Instructs Jamstix to assume the specified horizontal display resolution (DPI). Useful for certain widescreen displays (i.e. 3200x1800) where some text in Jamstix is displayed too small.

**PriorityMode=0..2** def=0

WINDOWS ONLY: Controls process priority selection to avoid crackling and CPU load issues.

0 = NORMAL priority is used but switches to HIGH if sample rate exceeds 48kHz.

1 = Always uses HIGH process priority

2 = Always uses NORMAL process priority

**AutoCloseWaitTime=[x]** def=60000

Time in milliseconds that elapses between the last Jamstix instance being closed by the host and the Jamstix server process exiting.

**LargeTuningRange=0|1** def=0

Expands the tuning range for kit elements 4-fold.

**LiveloopsPatchOffset=[x]** def=0

Modifies the way patch numbers from the host are interpreted. For example: if X=1, patch number 1 will trigger the first part.

**BELockedColor=[x]** def=\$0000FF

Changes the color used to indicate a locked event in the bar editor. Specify as BGR value.

**BEVeloColor=[x]** def=\$0000FF

Changes the color used to indicate the velocity of an event in the bar editor. Specify as BGR value.

## 26 Log File

Jamstix writes status information to the file **rzdlog.txt**. If you experience problems with Jamstix it is always a good idea to attach the log file to your support request e-mail.

**WINDOWS:** Documents\Jamstix3\rzdlog.txt  
**OSX:** ~/Music/Jamstix3/rzdlog.txt

## 27 Troubleshooting

Please use the table below for common problems and solutions. If all fails, please contact us in our support forum online or send us an e-mail to [support@rayzoon.com](mailto:support@rayzoon.com)

Problem	Solution
<b>I HAVE INSTALLED JAMSTIX AND THERE IS NO SOUND</b>	Make sure you have installed all your Paks. AND Make sure you have a kit loaded.
<b>WHEN I USE A DRUMMER OTHER THAN 'CHARLIE', I GET NO SNARE OR KICKS</b>	Turn up the song power knob above the song sheet.
<b>I AM USING A MULTI OUTPUT KIT BUT ALL THE SOUND IS ROUTED TO OUTPUT #1</b>	Uncheck 'Downmix' in the Jamstix mixer.
<b>ALL I HEAR IS THE KICK</b>	Set up your host to properly support all audio outputs of Jamstix. OR Check 'Downmix' in the mixer.
<b>MY TIME SIGNATURE CHANGES DON'T SEEM TO WORK RIGHT</b>	'Allow Time Sig Changes' in the OPTIONS must be checked. AND For every time sig change in your host, there must be a part change in JS at the exact same time. AND Each part in JS must have its proper time sig set in the part length edit box.
<b>I HAVE CRACKLES AND DROP-OUTS WHEN "Load-on-Demand" (LoD) IS ENABLED</b>	Increase 'Pre-Buffer' in 'Options' AND/OR Increase 'Voice Reduction' in 'Options' AND/OR Increase audio latency in the host
<b>MY HOST CRASHES WHEN I TRY TO LOAD JAMSTIX</b>	Please contact us on the support forum or via e-mail.
<b>WHEN INSTALLING THE PAKS, I GET A 'ACCESS DENIED' MESSAGE</b>	Using Windows Explorer, set the permissions on the Jamstix folder to read/write for Everyone

## 28 Appendix A - SongBuilder Part Type Reference

### 28.1 I=Intro

- selects the 'Intro' style
- sets part length to 2 bars with 1 rep
- repetition fills OFF and transition fills ON

### 28.2 V=Verse

- uses selected style and preset
- if set to default preset and the style has a [V] preset, the latter will be used
- sets part length to verse length with X reps (X=how many part letters in sequence)
- repetition fills ON and transition fills ON

### 28.3 P=Pre-Chorus

- uses selected style and preset
- if set to default preset and the style has a [P] preset, the latter will be used
- sets part length to half the verse length with X reps (X=how many part letters in sequence)
- power hand set to 50% hihat with a threshold of 50%
- repetition fills OFF and transition fills ON

### 28.4 C=Chorus

- uses selected style and preset
- if set to default preset and the style has a [C] preset, the latter will be used
- sets part length to chorus length with X reps (X=how many part letters in sequence)
- power hand threshold set to 50%
- repetition fills ON and transition fills ON

### 28.5 B=Bridge

- uses selected style and preset
- if set to default preset and the style has a [B] preset, the latter will be used
- sets part length to verse length with X reps (X=how many part letters in sequence)
- power hand set to 50% hihat with a threshold of 50%
- repetition fills ON and transition fills ON

### 28.6 E=Ending

- uses selected style and preset
- if set to default preset and the style has a [E] preset, the latter will be used
- sets part length to 1 with 1 reps
- repetition fills OFF and transition fills OFF
- Current purpose is to provide end-crash for preceding fill. Future versions will add actual specific end-play behavior.

### 28.7 D=Drum Solo

- uses selected style and preset
- if set to default preset and the style has a [D] preset, the latter will be used
- sets part length to 1 with verse length reps
- repetition fills ON and transition fills ON
- sets both fill lengths to 100% with no variation
- disables start and end crash for fills

## 28.8 S=Solo (other instrument)

- uses selected style and preset
- if set to default preset and the style has a [S] preset, the latter will be used
- sets part length to verse length with X reps (X=how many part letters in sequence)
- repetition fills ON and transition fills ON

## 28.9 M=Middle 8

- uses selected style and preset
- if set to default preset and the style has a [M] preset, the latter will be used
- sets part length to verse length with 2 reps
- repetition fills ON and transition fills ON
- sets 'Halftime'

## 28.10 Q=Silence

- uses 'Silent' style and drummer
- sets part length to 2 with 1 rep
- repetition fills OFF and transition fills OFF

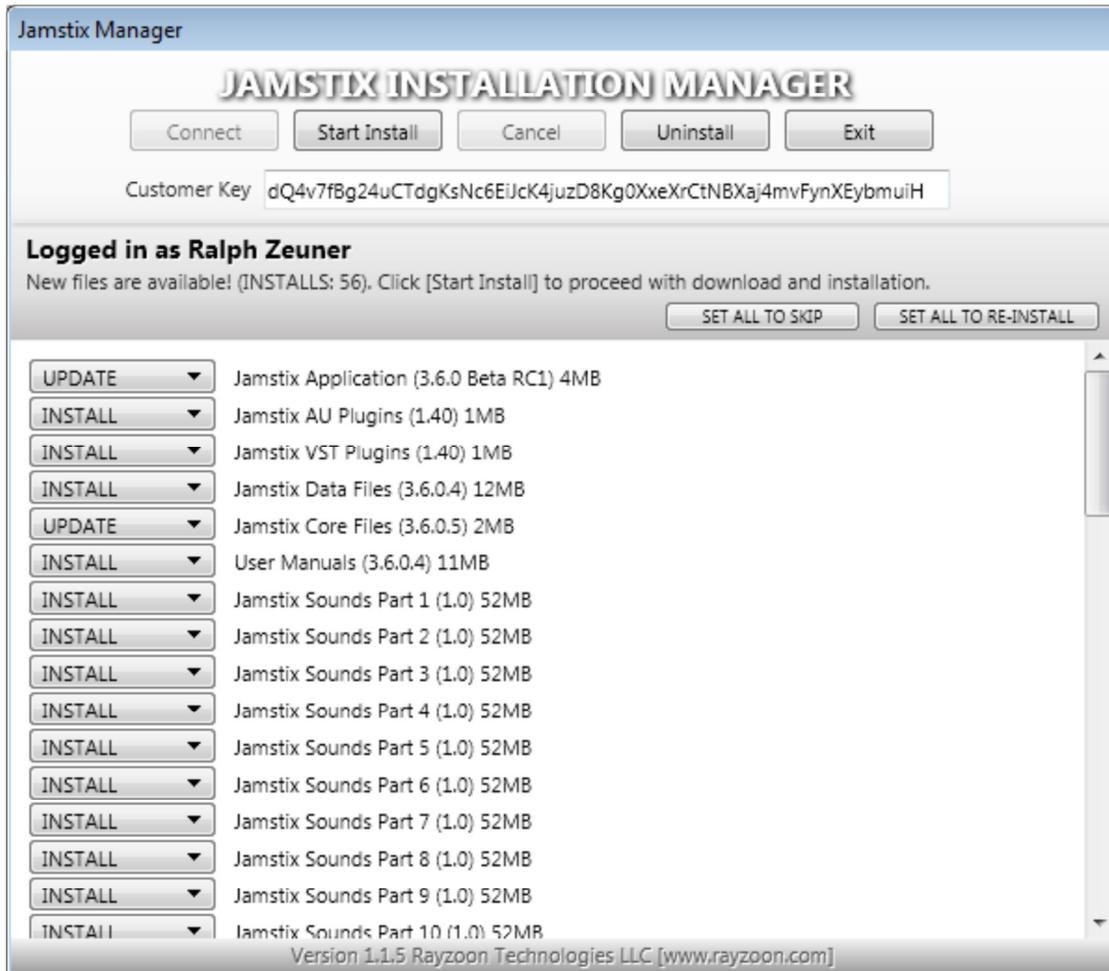
## 28.11 X=Breakdown

- uses selected style and preset
- if set to default preset and the style has a [X] preset, the latter will be used
- sets part length to verse length with X reps (X=how many part letters in sequence)
- repetition fills ON and transition fills ON

## 28.12 L=Link

- uses selected style and preset
- if set to default preset and the style has a [L] preset, the latter will be used
- sets part length to half verse length with 1 rep
- repetition fills OFF and transition fills ON
- power hand set to 50% hihat with a threshold of 50%

## 29 Appendix B - Jamstix Manager (OSX)



If you are using Jamstix on OS X, all download, installation and activation tasks are conveniently taken care of by the JamstixManager application.

Copy-&-paste your customer key from your delivery email into the edit box. You will only have to do that once as it will be retained for future use. Click 'Connect' to establish a connection to our servers.

Once connected, all your available products are listed and your license will be validated. All you need to do is click 'Start Install' and everything will be downloaded and installed on your computer. If you buy an expansion Pak or wish to verify you are running the latest version of Jamstix, just run the manager and it will download & install any changed or new products.

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