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JAMSTIX

INTELLIGENT VIRTUAL 3D DRUMMER

Release 4.4.4



USER MANUAL

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What is Jamstix?

Jamstix is an instrument plugin that 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 is the answer to all of it.

We hope you will enjoy using 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.

1 Specifications

- Available Interfaces:
 - VSTi (32-bit & 64-bit) – Windows
 - VSTi 64-bit – macOS*
 - Pro Tools AAX (64-bit) – Windows & macOS*
 - AUi 64-bit – macOS*
- 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

*macOS version is still in Beta

2 Requirements

- ✓ PC: Windows 7 or higher (32-bit or 64-bit)
- ✓ MAC: macOS 10.8.5 or higher (64-bit)*
- ✓ DAW/Hosts:
 - PC: any host with VSTi support or Pro Tools/AAX-64
 - MAC: any host with VSTi or AUi support or Pro Tools/AAX*

*macOS version is still in Beta

3 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.

4 Installation

Download the Jamstix Manager tool from the link provided in your delivery email or from our web site (Free Version download) and run it.

If you want the free version, click 'Install Free Version' and then 'Connect'. Make the desired folder selections when prompted and then click 'Start Installation'.

If you have purchased the full version of Jamstix, click 'Install Full Version' and then 'Connect'. Make the desired folder selections when prompted and then click 'Start Installation'.

Please note that full version users who have Jamstix 3 installed, can choose to use the sounds of their Jamstix 3 installation to save download time and disk space.

When finished, load Jamstix in your host as you would any other plugin instrument.

5 Quickstart Guide

The Jamstix 'HELP' menu contains a link to a concise online quickstart guide to assist you in getting acquainted with the major functional areas of Jamstix.

6 Updating/Adding New Purchases

Once Jamstix is installed, you can access the manager tool at any time from these areas:

- HELP menu
- ABOUT dialog (click on Jamstix logo)
- OPTIONS panel

This allows you to update your installation and/or add new expansions purchased with just a few clicks.

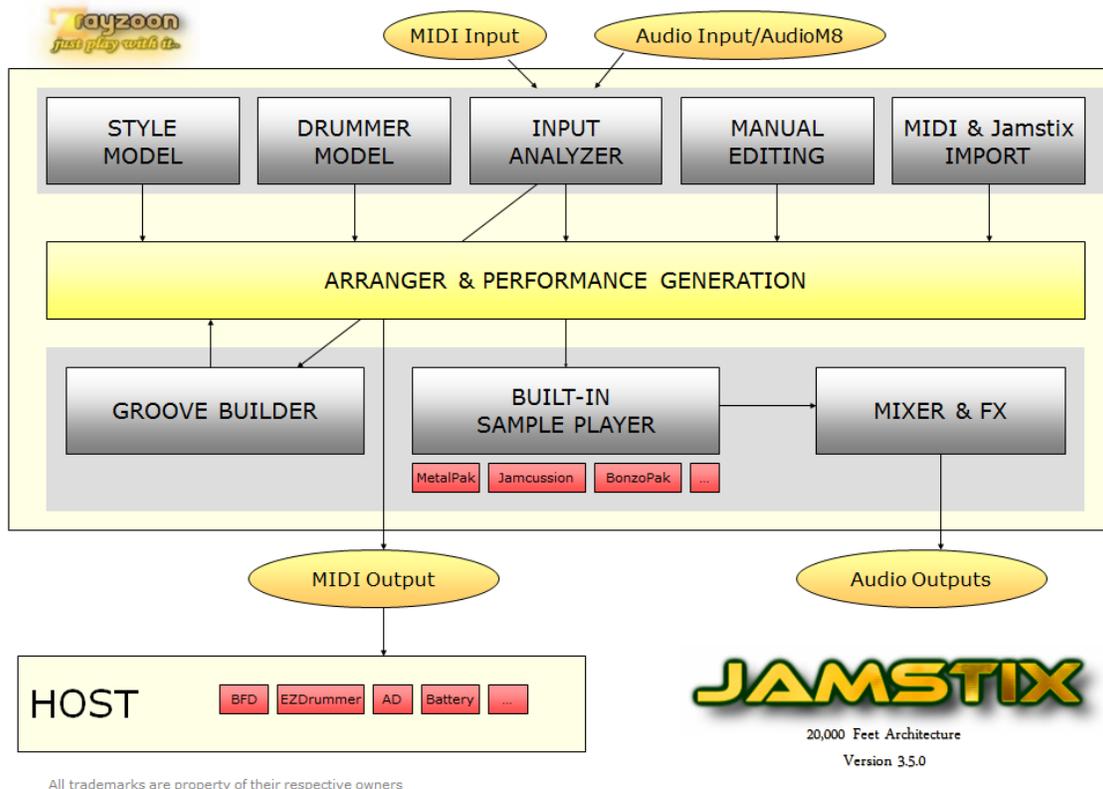
7 Technical Support

The preferred method of requesting technical support is to use the 'Email Tech Support' function in the Jamstix 'HELP' menu. This tool prepares an email template and lets you attach a zipped file of various log files collected from Jamstix to aid us in resolving your issue. No personal information will be transmitted with these logs.

Alternatively, or if Jamstix does not launch on your system, you can use the same function in the Jamstix manager tool.

Finally, you can also post questions or issues in the 'Support' forum on our web site or just send us an email to support@rayzoon.com

8 Workflow



8.1 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 *MIDI Playback 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 drag-&-drop for further editing of Jamstix.

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

8.2 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.

By default, the composition process is in FULL mode, which means any change to a part causes the whole part to be composed. If you elect to use real-time MIDI controllers for composition, you can switch Jamstix to AUTO mode and it will compose “as-you-go”; two 16th notes at a time as the bar is being played.

8.3 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.

8.4 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.

9 Overview

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



9.1 Main Menu

The main menu allows you to switch the information displayed from GROOVE (brain display & bar editor) to KIT (virtual kit & kit editor), MIXER (virtual kit & mixer) or BUILD (song builder).

You can also switch between DRUMS (drum set) and PERC (Jamcussion) editing mode and access the Jamstix OPTIONS as well as various user aids in the HELP menu.

The speaker icons next to the DRUMS and PERC buttons allow you to mute/unmute those modules.

9.2 Transport/Timing

This panel shows you the current song position and allows you to lock/unlock Jamstix from the host timing as well as toggling the Liveloop mode and arrangement freeze. The panel also signals the activity on the audio input, MIDI input and MIDI output and includes a voice counter to indicate the current load on the audio engine.

Furthermore, you can toggle the 'Big Time' display by clicking on the bar/beat counters.

9.3 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, shuffling (swing) and power level for the whole song or individual parts.

9.4 Timeline

The timeline is a horizontal display of all bars of your arrangement, making it easy to quickly scroll through the song. The bars alternate between rectangles and circles with part changes to make it easy to see the part transitions. Bars with a transition fill are colored orange whereas repetition fills are light pink. Manually composed fills are shown in aqua color.

9.5 Virtual Kit/Brain/Options

This area displays the 3D virtual kit, the brain, the song builder or the options pages, depending on your main menu selection.

9.6 Kit Editor/Bar Editor/Mixer

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

9.7 Jam Mode/Dynamics

There are four jam mode buttons allowing you to select the normal jam mode or jam modes that utilize MIDI or audio input from the host as well as the MIDI Playback mode where Jamstix plays back incoming MIDI drum notes like any other drum plugin.

9.8 Status Bar

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

NOTE THE ▾ SYMBOLS IN SEVERAL OF THE INTERFACE ELEMENTS, WHICH PROVIDE IMPORTANT CONTEXT MENUS.

9.9 User Interface Appearance

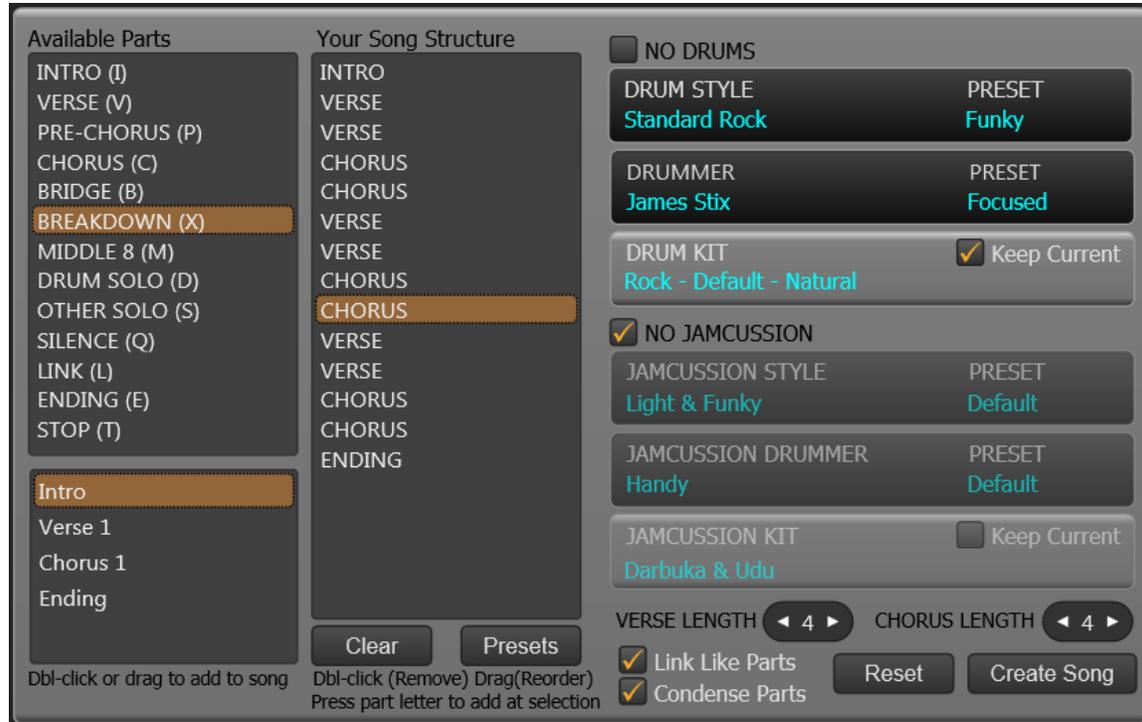
Under **OPTIONS/USER INTERFACE & 3D KIT**, you will find a **wide screen interface** option. This mode will allow you to see the drum set and the Jamcussion kit at the same time as well as EQ and compressor in the mixer and reduces scrolling needs in the brain interface.



Furthermore, you can also **scale** the interface to your liking from 80% to 160% to find the perfect fit for your screen size and sight preference.

10 Song Builder

When you load Jamstix into your host, you will see the 'BUILD' screen in the upper right panel, which is designed for 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 this function with the 'BUILD' button in main menu.

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

- press 'Create Song' to create a song sheet based on the preset style, drummer and kit
- start playback or recording in your host
- 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 3D virtual kit playing with the song 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:

- click 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' toggle in 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.

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 parts together via drag-&-drop or double-clicking from the part list on the list (See *Appendix A for details on part types*) or pressing the keyboard key assigned to each part. You can also use the existing parts of the song shown in the smaller list at the left bottom. The 'Presets' button gives you a menu of pre-defined song structures as a starting point.

On the right side you can tell Jamstix which style, drummer and kit to use for the drum set and Jamcussion, if installed. You may also define the length of verse and chorus parts. Jamstix will choose lengths and repetitions for other parts 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.

Please note the optional preset selections in the 'Style' and 'Drummer' panels, 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 a letter identifying 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. The preset option 'Random Pick' will cause the builder to randomly choose a different preset for every part it creates.

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 from the '@ Special Styles' folder
- click the 'Groove' brain element to open the MIDI import dialog
- select the desired file and input mapping
- use 'Save Style Preset' in the brain menu and give it a brief descriptive name
- click 'BUILD', 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 are repeated twice. Jamstix sees this as a part of length=4 and repetitions=2 for a total part length of $4 \times 2 = 8$ bars. Therefore, **do not** enter Verse Length=**8** for such a verse. Instead use Verse Length=**4** and select Verse twice for two reps. This does not apply to single-rep parts (Middle-8, Pre-Chorus, Silence, Drum Solo, Link).

If you want Jamstix to always create a separate part for each of your selections and not condense or combine subsequent parts of the same type, uncheck the box '**Condense Parts**'.

You can use the 'Keep Current' check boxes 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.

The check box **'Link Like Parts'** determines if parts of the same type should be linked or not. A linked part will always be a perfect copy of its parent part (the first part of its type). This is useful for songs where parts repeat in fully identical fashion.

If the NO DRUMS box is checked, the drum part of the song will be silent and the drum module will be muted. This is useful for songs where only Jamcussion is desired to play. Likewise, the NO JAMCUSSION box will mute the Jamcussion module.

11 3D Virtual Kit



Jamstix is the first major drum instrument with a **real-time 3D virtual kit**.

You may initially think that this is just a gimmick but using it for just a short time will likely make it invaluable to you because watching your drum parts being played with realistically moving drum sticks, articulating pedals and beaters, swinging cymbals, bouncing drum heads and gently swaying toms makes the performance of your music much more visceral and increases immersion as you work on your song, just as it does when working with a human drummer.

Furthermore, it will increase your understanding of the mechanics of drumming just by watching the kit and, if you are a student of drumming, you can use the 3D kit as a drum tutor by watching it perform simple or even highly complex grooves and fills at slower or faster speeds.



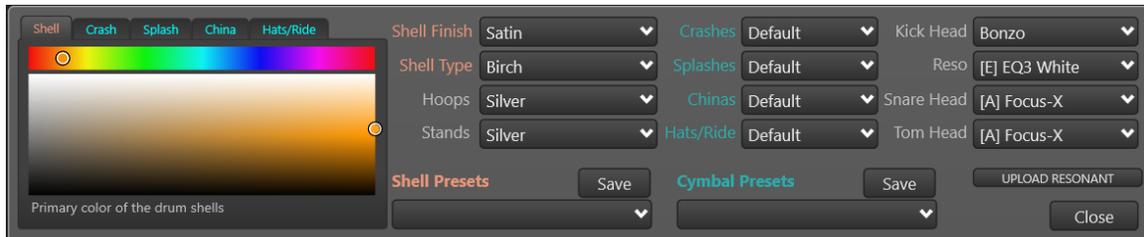
The middle/top panel of the kit editor gives you control of the appearance of the 3D kit. The first icon toggles 'show mode'. In this mode, the camera will randomly move and zoom around. If your DAW is playing, the cuts will be synchronized with bar changes.

The next eight icons switch between various camera position but you can always reposition the camera by click/dragging when the mouse cursor over the kit shows the four-way arrows. Zooming is accomplished using the mouse wheel.

The four-way icon in the panel toggles full-screen mode for the 3D kit.

The paint roller icon opens the kit appearance editor where you can change the following attributes of the kit:

- drum shell color
- cymbal colors by type
- drum shell texture (material) and finish
- hoops material
- color of cymbal stands and racks
- cymbal material/finish by type
- kick drum heads (batter and resonant)
- snare batter drum head
- tom batter drum head



You can even use your own image of choice as a logo on the resonant kick drum head by clicking the 'UPLOAD RESONANT' buttons. Images should be in square ratio.

CHANGES TO THE APPEARANCE OF THE KIT DO NOT CHANGE THE SOUNDS PLAYED FOR EACH KIT PIECE.

The lighting mode of the 3D kit is shown to the right of the paint roller icon. Click it to change to various lighting scenarios, including some special modes, such as 'Neon' with flickering neon lights, 'Candle' with a warm, flickering yellow light and, last but not least, the 'Stage' mode where the lights respond in color and intensity to the drums being played.

Toggling show mode, full-screen kit and the 'Stage' lighting mode yields the liveliest and most entertaining presentation of the 3D kit while playing. You may even end up recording it for music videos of your songs or show it on a large screen if you are using Jamstix for a live gig.

Kit pieces will be shown completely red if the assigned sound files are not present on your system. If you've chosen to install Jamstix without sound files, all sounds will load as 'MIDI Output Only' instead and therefore not be shown in red.

11.1 Changing Kit Pieces

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 and if you keep the **SHIFT** key

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

Right-clicking on a kit piece opens a context menu with various options:

CHANGE SOUND allows you to select a new sound for the kit piece.

SET TO MIDI OUTPUT ONLY will remove the sound assignment so that the kit piece only triggers a MIDI output signal for playback with a 3rd party plugin.

REMOVE FROM KIT removes the kit piece. Please note that the drummer A.I. will adjust to your layout changes intelligently. For example, without a hihat the drummer will switch to the ride. If you take that away also then he will play the notes on tom 5.

REMOVE ALL and **SET ALL TO MIDI OUTPUT ONLY** work the same way as described above but operate on all kit pieces at once.

REMOVE ALL OFFSET ASSIGNMENTS removes the tom and snare offset sound assignments, which is useful when routing to a 3rd party plugin.

CHANGE KICK DRUM TEXT lets you display any text you wish on the kick drum resonant head.

Right-clicking in the space outside of the kit pieces shows the same context menu but now you can add a new piece to the kit. Note that Jamstix will automatically switch from cymbal stands to a drum rack if you are using either two kick drums or exceed a certain number of cymbals.

11.2 3D Kit - Dual-Monitor Support

If you are using dual monitors, you can define how the full-screen kit functions under **OPTIONS -> USER INTERFACE & 3D KIT -> 3D Kit Multi-Monitor** as follows:

- Same Monitor - The 3D Kit opens on the same monitor where Jamstix is currently shown
- Other Monitor - The 3D Kit opens on the monitor where Jamstix is currently NOT shown
- Other/Auto - Same as above but the kit automatically opens in full-screen mode

11.3 3D Kit - Keyboard Shortcuts

The following keyboard shortcuts are supported for fast toggling of some of the 3D kit options:

| | |
|----------------|---|
| SHIFT-L | change lighting mode |
| SHIFT-S | toggle show mode |
| SHIFT-K | switch to full-screen mode |
| SHIFT-R | toggle between slow rotation and full pan/zoom in show mode |
| SHIFT-E | change environment |
| SHIFT-I | toggles the information display in full-screen mode |
| ESC | ends full-screen mode |

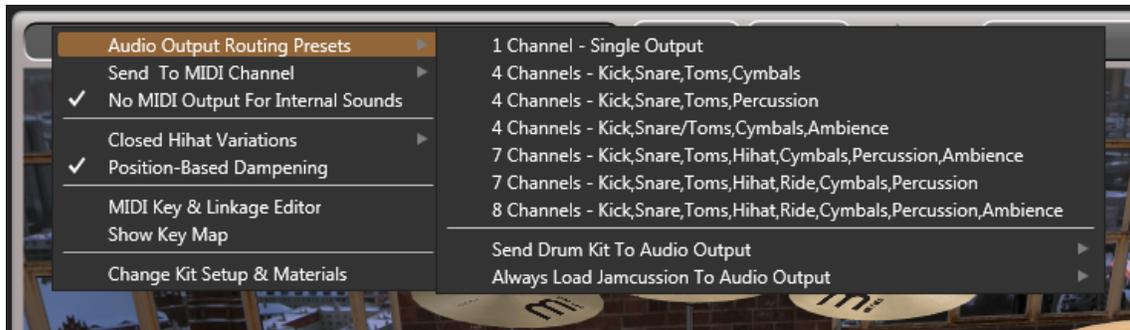
11.4 Kit Tool Bar

The top of the 3D kit panel shows the kit tool bar where you can load and save kits and also access the KIT menu. The arrow icon to the right of the SAVE button will randomize the kit pieces.

The right side of the tool bar shows the MIDI input and output mapping. These mappings determine how Jamstix interprets incoming MIDI data and MIDI file imports as well as the format in which MIDI data is sent to the output. See section **Jamstix & 3rd Party Drum Plugins** for more details on MIDI mapping.

11.4.1 Kit Menu

The kit menu will give you several commonly used output templates that can be selected with a click versus having to set each sound manually. Please be aware that most of the kit presets that come with Jamstix are tuned for a specific output configuration. Changing the routing can drastically alter the effects of the compressors and EQ.

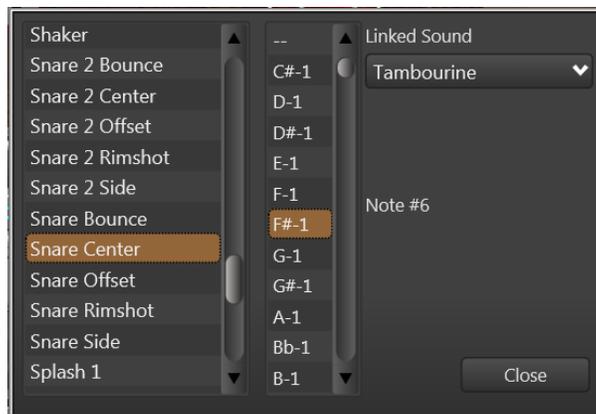


Please note that you must configure your host to support multiple audio outputs or you will not hear sounds assigned to outputs #2 and higher. Some hosts do this automatically and others require some steps. Please refer to your host's documentation for details.

The two **Send To MIDI Channel** functions let you assign a 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.

MIDI Key & Linkage Editor opens a screen where you can quickly edit the MIDI keys assigned to each kit piece and also chain a sound to another (linked sounds). You can use such links to fatten the snare by triggering both snares at once or adding a tambourine to the snare etc.



No MIDI Output For Internal Sounds should be checked if you are using a mix of Jamstix sounds and 3rd party drum sounds so that the latter does not play notes Jamstix is already sounding. There is also a MIDI icon in the kit editor to toggle this function.

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.

Snare Position Variations includes five levels of random fluctuations in the snare head hit position. This item is only available if your MIDI output mapping indicates that you are routing to a 3rd party plugin that supports this function (i.e. IK Multimedia MODODRUM)

Snare Position L/R Offset includes five levels of offset for the snare head hit position during rapid snare playing where a human drummer hits the left area of the head for the left stick and the right area for the right stick so that most hits are off-center. This item is only available if your MIDI output mapping indicates that you are routing to a 3rd party plugin that supports this function (i.e. IK Multimedia MODODRUM)

Tom Position Variations and **Tom Position L/R Offset** do the same as the above items but for the toms.

Review the 'Head Positioning' section for more details.

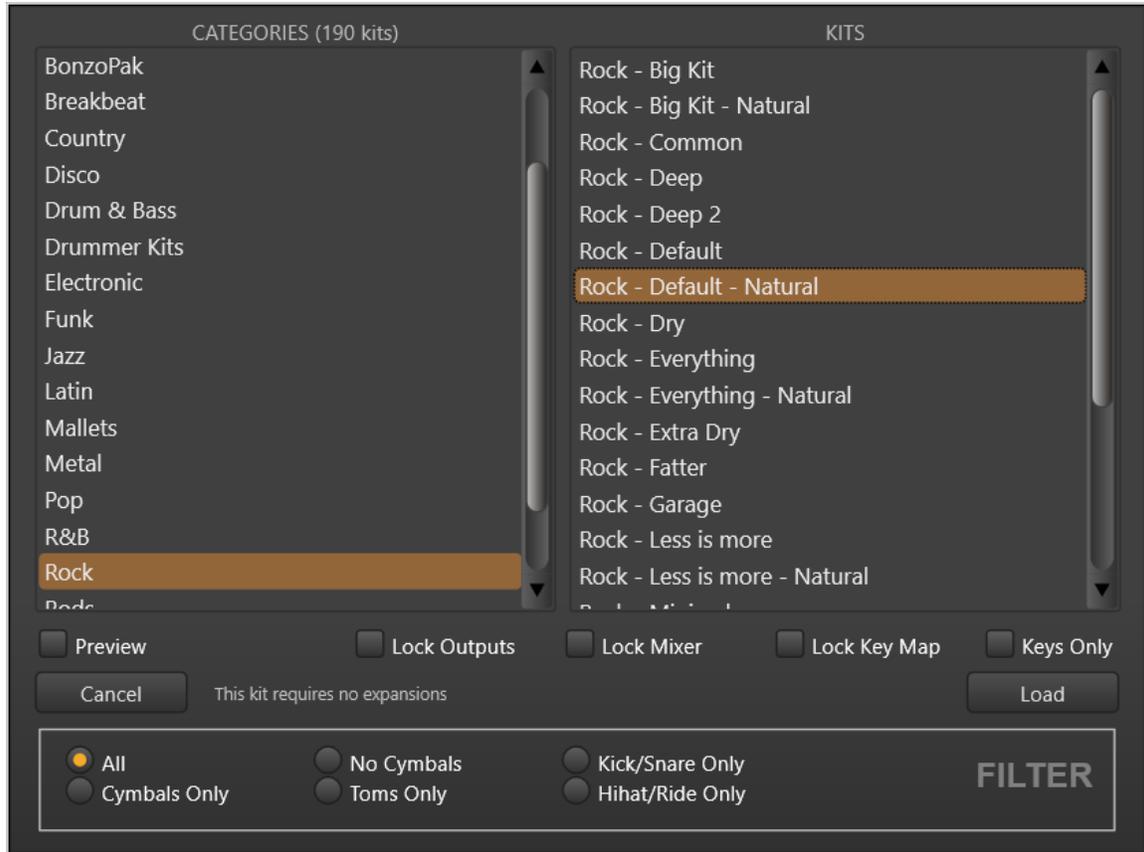
Position-Based Dampening affects the way sounds are dampened. If checked, the dampening start point is related to the length of the side (longer sound->later dampening). If not checked, all sounds are dampened the same regardless of size.

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 MIDI playback mode.

Change Kit Setup & Materials opens the kit appearance editor just like the paint roller icon in the kit editor.

11.5 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.

If a kit is shown in red, it is not currently installed on your system and would require the purchase of the expansion(s) shown to the right of the CANCEL button.

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

The **Lock Key Map** option will keep the new kit from changing assigned MIDI keys.

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 **FILTER** section 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.

11.6 Kit Editor



You can **left-click** a drum to audit its sound and see the kit data in the lower panel or you can select the desired item from the KIT PIECE list. If a piece has more than one sound, they will be shown in the ARTICULATION list.

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

The **MIDI KEY/CHANNEL** setting specifies the MIDI key and channel assigned to this particular sound.

The **AUDIO** list 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 **SIZING** controls do not affect the sound of the kit piece but the size of its virtual representation in the 3D kit.

The **VOLUME** and **PANNING** knobs are pretty self-explanatory. The **AMBIENCE** knob controls the amount of ambience signal used by the sound and **DAMPEN** can be used to shorten the sustain of a sound. The **TUNING** knob controls the pitch or tuning of a sound.

The **DYNAMICS** knob controls the volume range between light and powerful hits for this kit piece, which can be used as a natural and fully transparent form of compression.

The **LINKED EDIT** 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.

11.6.1 Velocity Mapping

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. You can right-click on the velocity map to audit the sound at that velocity.

The **MIN VOL** and **MAX VOL** knobs 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.

11.6.2 Volume Envelope

The volume envelope is a sophisticated tool to drastically change the character of a drum sound. It is somewhat similar to the ASDR envelope found in most synthesizers.

The **OFFSET** knob is used to suppress the initial transient part of the drum sound. This will make the sound ‘softer’, with less attack and emphasize the natural sustain section of the audio sample.

The **ATTACK** knob controls the speed at which the volume builds when the sample starts. Its effect is similar to the OFFSET control but without starting the sample playback passed the start position.

The **SUSTAIN** knob defines the length of playback where the volume remains unchanged after the ATTACK section is finished.

The **DECAY** knob controls the speed at which the volume is attenuated when the DECAF section is finished. You can also control the level of attenuation the section will finish with.

The **TAIL** is the section that follows DECAF and completes the sound reproduction. Shorter tails will fade out the sound before its natural decay is completed.

You can control this envelope separately for the close and ambience mic portion of the sound or use **SYNCHED** to link the ambience envelope to the close signal envelope.

We encourage you to play with the **PRESETS** list to see all the various timbres you can achieve from one single sound using the volume envelopes.

11.6.3 Head Positioning

Jamstix supports drum head positioning, which greatly increases realism by changing the sound of the drum head depending on where it is hit. There are two components to this:

Random Variations For Every Hit

These are random fluctuations in the hit position just as a human drummer does not hit the exact same spot over and over. The internal Jamstix samples do not support this feature. However, if you use a 3rd party plugin with snare or tom head positioning, you can control the degree of variation in the kit menu.

Left/Right Alternating

This happens when a drummer plays certain fills, rolls or other note clusters with sequential snare or tom notes and uses left and right hand hits in an alternating fashion. In this scenario, a human drummer will hit in the left side of the drum head with the left hand and vice versa.

The internal Jamstix samples support this feature using the ‘offset’ variations automatically. However, if you use a 3rd party plugin with snare or tom head positioning, you can control the degree of offset from the head center in the kit menu.

IF YOU ARE USING IK MULTIMEDIA MODODRUM, MAKE SURE TO SELECT CONTROLLER #14 FOR SNARE CONTROL and #15 FOR TOM CONTROL IN MODODRUM.

11.7 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 can be toggled on and off via its label. There is a volume slider and associated LED level meter including a small red LED that signals brick wall limiter activity. Below the slider is a standard SOLO toggle button.

The channel section to the right of the gain slider changes based on your effects selection and will either show the EQ, compressor or delay controls.

FLIP STEREO will flip the stereo position from drummer's to listener's perspective.

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.

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.

AMB To #8 is a switch that will direct all ambience signals to output 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 **AMBIENCE** 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 **AMB DAMP** knob shortens the sustain for the ambience simulating a smaller or more dampened recording room.

The **STEREO %** 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.

12.1 Equalizer FX

The equalizer features three bands with center frequency selection for the LO and HI band.

12.2 Compressor FX

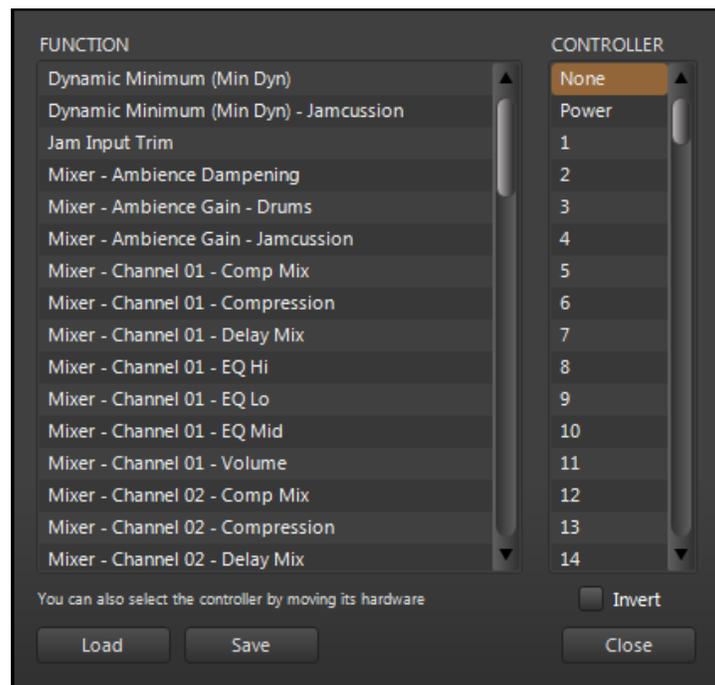
The compressors have adjustable threshold, attack, release and dry/wet mix. Note that the dry/wet knob allows you to operate inline compression as well as parallel (NY) compression.

12.3 Delay FX

The delay length is chosen in musical note lengths (48th to whole note) and is always synched to the current tempo. You can chose the stereo mode (center, slow pan, fast pan) and adjust feedback rate, low pass filter and dry/wet mix.

12.4 Mixer 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 Jam Modes



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

13.1 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.

13.2 MIDI Jam

Use this mode if you want to jam with Jamstix using a MIDI instrument. 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.

13.3 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 side stick 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.

13.4 MIDI Playback 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 must set the MIDI input mapping in the kit tool bar to the format in which you will send MIDI data to Jamstix so it is played back correctly.

In this mode, you will see the song sheet being replaced with various options for the drum module mode:

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 Power Level/Dynamics

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.

Note that you can also define preset power values for each part using the **PWR** page of the song sheet if you have fairly simple power change requirements and would rather not build a controller envelope in the DAW.

14.1 MIN/MAX Power

The **MIN** slider to the left of the power dial 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.

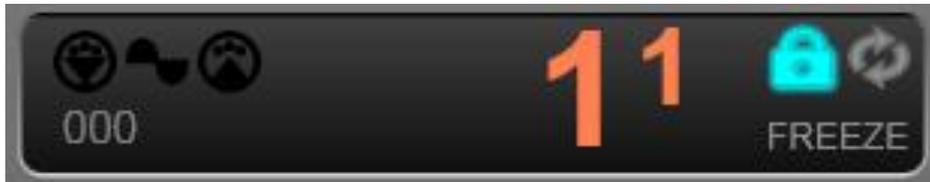
The same applies to the **MAX** slider, which controls the maximum power level allowed for drum sound playback.

14.2 MIDI Remote Control

If you right-click on the song power knob or min/max sliders, you can assign a MIDI controller to them for remote control via MIDI from your DAW. This screen will also allow you to assign controllers for the following functions:

| | |
|-----------------------|--|
| 'Song Timing' | Controls the timing slider in the song sheet under TIME |
| 'Song Shuffle' | Controls the timing slider in the song sheet under SWING |
| 'Jam Input Trim' | Controls the trim knob in the jamming options |
| 'Muting (Drums)' | Mutes the drum brain if value is >63 |
| 'Muting (Jamcussion)' | Mutes the Jamcussion brain if value is >63 |

15 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 the 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 arrow loop icon 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" of this manual.

The **FREEZE** button 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.

15.1 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 so when one ends the next is started. Each part begins at a specific measure in the host so that the two are always synchronized.

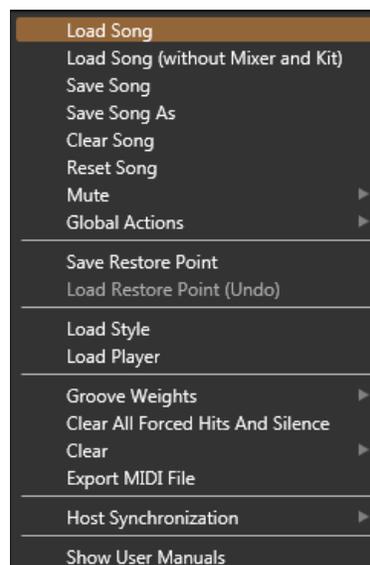
You can use **SHIFT+left-click** to select several parts in order to use the part menu functions on all of them at once.

Parts are colored to indicate linkage between parts. Linked parts have the same color as their master part but in a darker shade.

| PART | Bars/Reps | RE | TF | Trg |
|----------|-----------|-------------------------------------|-------------------------------------|-----|
| Intro | 2 1 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | – |
| Verse 1 | 4 2 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | D-1 |
| Chorus 1 | 4 2 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | E-1 |
| Verse 2 | 4 2 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | F-1 |
| Chorus 2 | 4 2 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | G-1 |
| Verse 3 | 4 2 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | A-1 |
| Chorus 3 | 4 2 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | B-1 |
| Ending | 1 1 | <input type="checkbox"/> | <input type="checkbox"/> | C0 |

15.1.1 Song Menu

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



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. **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 all parts at once.

Groove Weights

A groove weight marks each individual beat of each bar (at 16th 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.

Clear

This submenu should rarely be needed. Use as directed by tech support in case of certain issues.

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.

15.2 Part Editing

There are four edit aspects for parts in the song sheet. If EDIT is active, you will see length, fill and trigger data. PWR shows you sliders to control default power levels for each part. The SWING aspects shows shuffle (swing) functions for each part and the TIME aspect lets you push or pull the timing.

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.

15.3 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.

15.4 Part Editor

Double-clicking on a part name or single-clicking on its bars/reps display will open this editor:

Here you can edit the name, length and reps for the part.

If 'Allow Time Signature Changes' is enabled in the OPTIONS, you can specify the time signature for the part.

The 'Linked To' element lets you link a part to another part or unlink it.

If a part has a special type assigned (i.e. Verse, Chorus, etc.), you can reset the part type back to 'Normal'.

If the 'Use 2nd Kick and Snare' box is checked, the part brain will route all snare and kick events to the secondary snare and kick if present in your kit. This is a quick way to, for example, have a part use a lighter kick and snare for a verse part.

If the 'Suppress Sound Linkage' box is checked, the part brain will suppress any linked sounds assigned via the KIT menu option (MIDI Keys & Linkage Editor). This is useful if, for example, you've stacked the kick drum with the second kick sound but don't want this stacking to be applied during a verse part.

15.5 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.

15.6 Part Swing/Shuffle

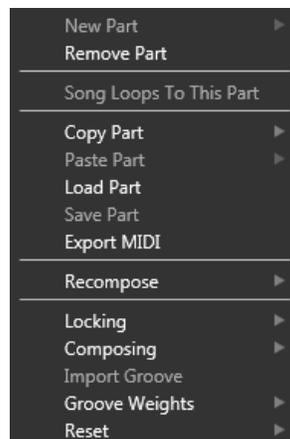
Shuffling is a term that refers to aligning notes along triplet structures in a base 4 time signature. The most common application of shuffling is the swing. Jamstix applies shuffling to its playing on the fly so you can take a straight 4/4 rock rhythm and make it a shuffle just by using the shuffle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

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

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

15.7 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.

Song Loops To This Part

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 re-composition 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 re-composition.

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 16th 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.

16 Bar Timeline



The bar timeline offers a horizontal display of all bars of the song. You can use the mouse wheel 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 transition fill. Light pink means the bar has a repetition fill and aqua will be used if you've manually placed a fill in a bar.

Bar shapes alternate between circles and rectangles to visualize part changes. 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.

17 The Brain



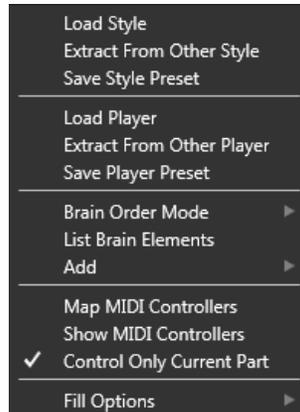
This is the heart of the Jamstix rhythm generation. The brain gives you access to the style and drummer of the current part. Both aspects are mixed into a list of control elements that apply to them. These items change from style to style and drummer to drummer. Style elements have a white frame while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

The STYLE and PLAYER preset lists contain presets with varying brain settings. You can also save your own configurations as presets via the brain menu.

You can use the crossing arrow icon to randomly change the brain settings if you are in an adventurous mood. Left of this icon is the **display mode** of the brain. In **PRO** mode, all brain elements of the style and drummer model are shown. In **NORMAL** mode, less used elements are collapsed. In **EASY** mode, only the most important elements are shown with all others hidden completely and the preset lists are expanded for easier selection.

You will also notice the BRAIN 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.

Add

This sub-menu offers various major brain elements that you can add to the brain as needed.

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 an 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 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 16th shuffling unless 8th shuffle is active as well.

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

17.1 Brain Elements

The sliders, lists and knobs of the brain are created dynamically based on the definition of the style and drummer model. You can right-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 re-composition.

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.

The **Active...Open Hihat** 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.

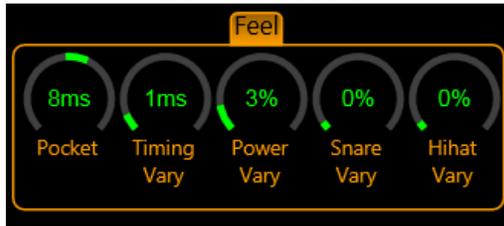
You can also select for the element to only affect the last bar. Another option is to have the element work only in the first half or second half of the part (each repetition as well), which is useful to create two distinct grooves within a larger part.

Display Mode-Dependent toggles the display of the brain element. If off, the element will always be shown regardless of the PRO/NORMAL/EASY setting.

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:

17.1.1 Feel Processor

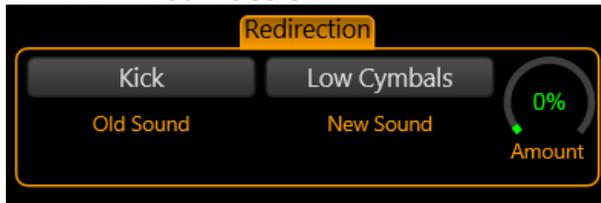


Every drummer has a feel that affects the timing and power of the composed hits. The **Pocket** slider determines whether the drummer is playing before, on or behind the beat. The term usually refers to a delay (playing behind the beat) but for simplicities sake it also applies here to playing ahead 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.

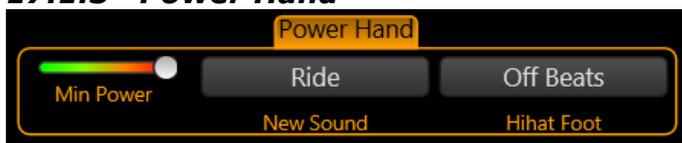
The **Timing Vary** and **Power Vary** sliders induce fluctuations in timing and power on top of the aforementioned groove model.

17.1.2 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.

17.1.3 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.

17.1.4 Auto Snare



This handy element automatically switches to using the snare side-stick/cross-sticking versus the drum head when the song power level drops below 'Max Power'.

17.1.5 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.

17.1.6 Snare Ghosts



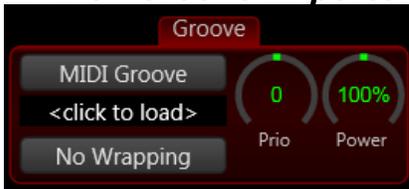
Some styles offer 'Snare Ghosts' accent notes, which are lightly played (and sometimes bounced) snare notes that give the rhythm busyness and/or syncopation. If a style does not offer this function and you wish to add it, use the 'Add' submenu of the brain menu to do so.

17.1.7 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.

17.1.8 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 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 Jamstix groove files for multi-bar rhythms. The latter are files with the same name but the suffix `_Bx` with $x > 1$. These files are generated when you save a bar and specify more than 1 bar to save.

If your part has a time signature that is different from the signature of your source groove, you can use **wrapping** to have Jamstix repeat the groove to fill the bar by selecting the number of 16ths in the source groove per bar. Furthermore, you can use different wrapping values to experiment with interesting 'slicing' of your source groove.

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!

17.1.9 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.

17.1.10 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). Good examples are the 16th 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 16th shuffle rudiment. Have fun experimenting with 5 and 7 beat rudiments as well.

If you **right-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.

17.2 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.



17.2.1 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.

17.2.2 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.

17.2.3 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.

17.2.4 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.

17.2.5 Length

The **T-Fill** knob decides how many beats a transition fill will last. Likewise, the **R-Fill** 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.

17.2.6 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.

17.2.7 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.

17.2.8 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.

17.2.9 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.

17.2.10 Snare Crash

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

17.2.11 Ghosts

Ghosting causes the drummer to play light snare ghost notes on any 16th 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.

17.2.12 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.

17.2.13 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 th note intervals |

17.2.14 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.

17.2.15 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, repetition fills are groove fills and transition fills are free form but this is also controlled by the specific drummer model you choose.

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

The 'Groove/Free' option will play 80% groove fills and 20% free form fills.

17.2.16 Double Strokes

Double-strokes are 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. This panel lets you control how likely the drummer is to use double stroking.

17.2.17 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.

17.2.18 Chimes

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

17.2.19 Hat Ending

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

17.2.20 Early

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

17.2.21 Open Hat Intro

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

17.2.22 Hihat Foot

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

17.2.23 End Crash

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

17.2.24 Stops

Can be used to create a 'Stop' feature within a fill. If you select 'Downbeat' time, a stop will be created on the first tick of the fill but the rest of the bar will still get a fill composed. The stop will be the silence between the downbeat and the beginning of the actual fill. This is great for entering a fill bar with emphasis, followed by silence and then a fill until the end of the bar.

In 'Heavy-1' time, the fill gets composed first but then a stop is inserted at the last heavy tick and all notes after the stop are deleted. You would use this to stop a fill before the end of the bar and leaving silence to the downbeat of the next bar.

The 'Heavy-2' mode works the same but puts the stop at the second-to-last heavy tick.

17.2.25 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.

17.3 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 of the groove. Some styles also contribute elements.

Accents make 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.

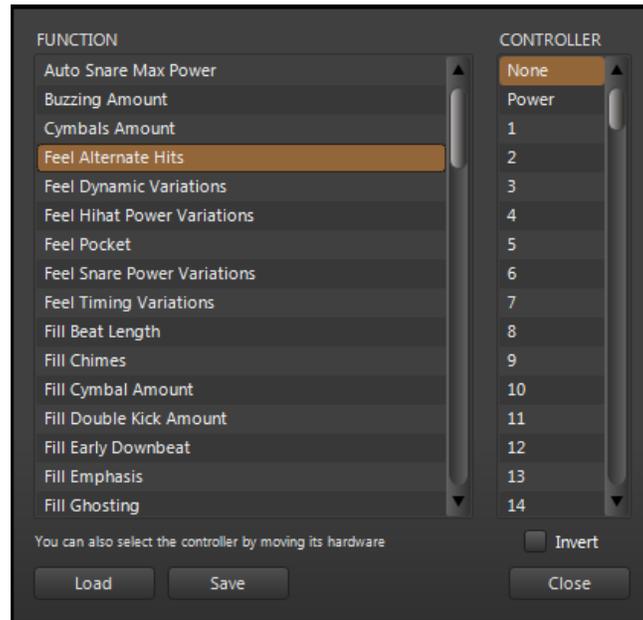


The bar control allows you to only add accents every n-th bar.

17.4 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.

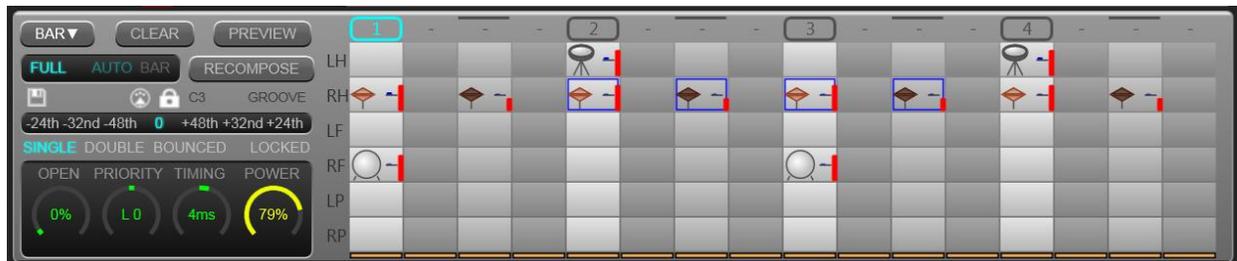
Simply right-click on a brain control and you will see the MIDI controller window with the chosen control highlighted.



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.

18 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 16th 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 kicks

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).

A **yellow shading** of a cell indicates the presence of a fill start crash or fill end crash at that position and limb. These notes are generated on-the-fly by the brain and cannot be edited directly. Use the fill crash checkboxes in the related fill to control their presence and selection.

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. You can also use the **DELETE** button to do this.

Editing a note is done by left-clicking on it and then adjusting the knobs in the left 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 in two ways:

- For a rectangular selection, click the top/left cell, hold SHIFT and click the bottom/right cell.
- For freeform multi selection, click the first cell, hold CTRL and then click all other desired cells.

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

The **PRIORITY** 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 **TIMING** 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 **OPEN** knob only affects hihat notes and sets the opening level of its cymbals.

The **SINGLE**, **DOUBLE** and **BOUNCED** buttons decide how the note is played.

- **SINGLE** – A single hit
- **DOUBLE** – A hit followed by a slightly quieter hit a 32nd note later. This is commonly called a double stroke.
- **BOUNCE** – Three hits forming a 32nd triplet of decreasing power, similar to the natural bounce of a drumstick.

Depending on compression and volume envelope, snare double hits may sometimes be obscured by the effect section. If that happens, open the brain element menu on the 'Feel' effector via right-click on its header and enable 'Hit-Style Attenuation', which allows you to increase the strength of the second hit as needed.

Above these buttons are the time-offset selectors, ranging from -24th to +24th note off center, which can be used to induce a musical (versus chronological) time offset by a 24th, 32nd or 48th note.

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.

If the **LEARN** button (MIDI icon) 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-drum kit. 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'.

While playing you may notice red crosses appearing on some bar editor notes. This tells 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.

18.1 Bar Editor Context Menu



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

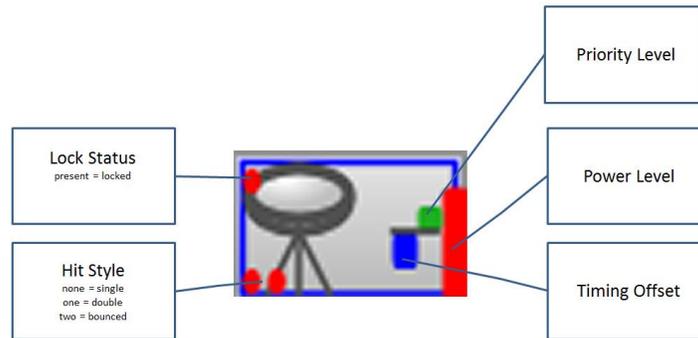
The standard **selection functions** will assist you with copying, cutting and pasting of notes as needed.

The **ADD** functions are designed to quickly create multi-note clusters that would be tedious to do manually, like cymbal washes or crescendos. Simply use SHIFT+click to select the position and size of the cluster and then choose the desired ADD function.

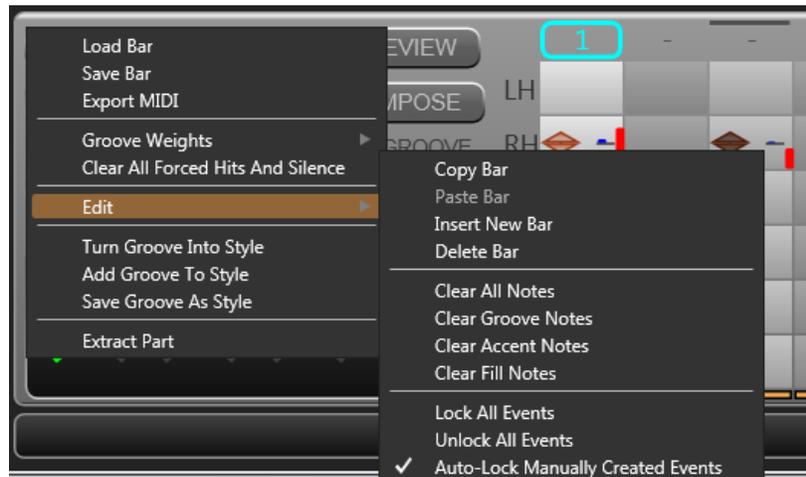
The **SHUFFLE** options allow you to shuffle specific notes without setting the whole bar into shuffle mode.

18.1.1 Event Icons

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



18.2 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.

If the brain is in FILL aspect, you will see options 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. You will also see an option to **import** a Jamstix 1 fill or a MIDI file fill into this bar.

If the brain is in ACCENT aspect, you will see menu options to load and save the accents of this bar.

Delete, **copy** and **paste** are fairly self-explanatory. The **Clear** options offer 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 function as the CLEAR button in the bar editor icon but it also marks the bar for re-composition.

The **Locking** options deal 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. There is also a toggle that determines whether manually placed events are immediately locked or not.

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 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.

18.3 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.



18.4 Tick Menu

Right-clicking on a tick (the beat number on the top area of the bar editor) gives you a variety of options. You can determine the groove weight of the tick, which the Jamstix brain uses to make decisions while composing a bar. For example: the 8th 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



18.4.1

The middle options of the menu control special tick modes:

Beat Is A Hit causes a kick/crash on the tick to emphasize it if the style has the 'Hits' accent element.

Keep Beat Silent causes Jamstix to be silent on this beat.

18.5 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.

18.6 Locking A Bar

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

18.7 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:



FULL is the default composition mode where Jamstix responds to any brain element change by re-composing the entire part at once.

If you turn FULL off, re-composition is controlled by two options:

AUTO marks the whole part for re-composition, which is then executed as Jamstix each bar is played. If this is off, no flagging occurs and you can do so manually as desired.

When the **BAR** button is highlighted, recomposing in AUTO mode will only affect the current bar.

RECOMPOSE is very useful when you don't want to change any brain settings but would like to hear an alternate composition or if you are running Jamstix with FULL and AUTO options off.

CLEAR 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. Note that locked events will not be removed unless you hold the CTRL key while clicking the CLEAR button.

18.8 Bar Editor - Keyboard Shortcuts

The following keyboard shortcuts are supported in the bar editor:

| | |
|-----------------|--|
| CTRL-C | copy selected events |
| CTRL-V | paste selected events |
| CTRL-X | cut selected events |
| SHIFT-P | toggle PREVIEW function |
| SHIFT-C | trigger rec-composition |
| SHIFT-Z | cycle through GROOVE, ACCENT and FILL editing aspect |
| CTRL-B | displays the bar editor from other modes, like the 3D-Kit view |
| SHIFT-H | toggle host synchronization between normal and half-speed |
| SPACEBAR | return keyboard focus to DAW |

19 Style & Drummer Models

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.

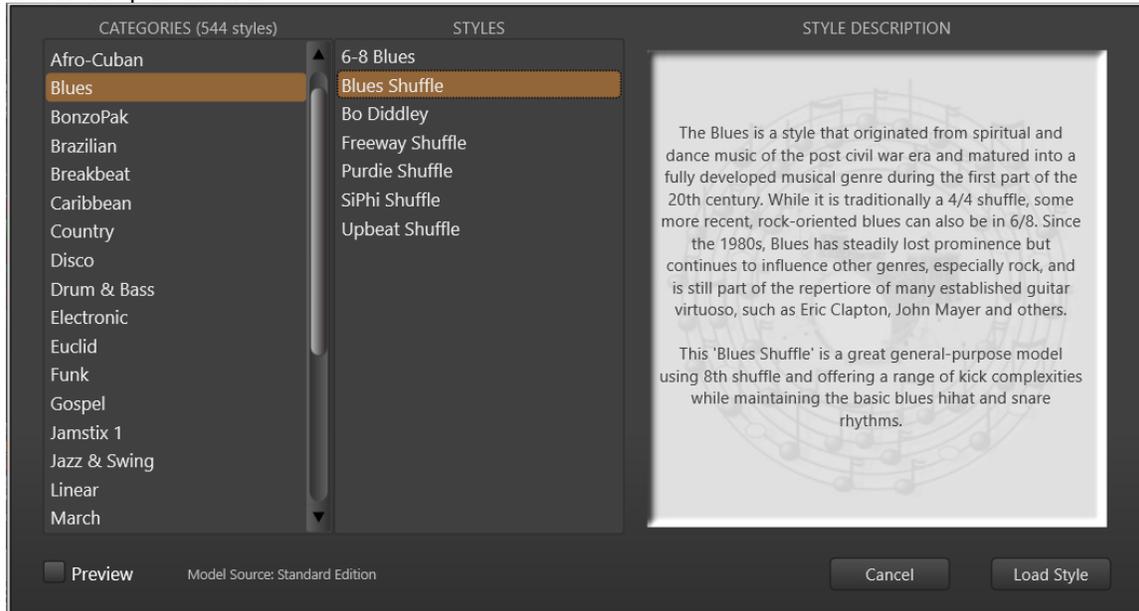
The style model creates groove notes and it can sometimes also create accents. It also has special instructions for the fill generator.

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.

19.1 Loading Styles

You can load a style model into a part by clicking the style name at the top of the brain panel or via the part menu.



Styles are grouped by genre with two special folders at the top. The 'User Styles' folder contains all your edits created via 'Save Groove As Style' in the bar menu and the 'Special Styles' folder will be explained in the next section.

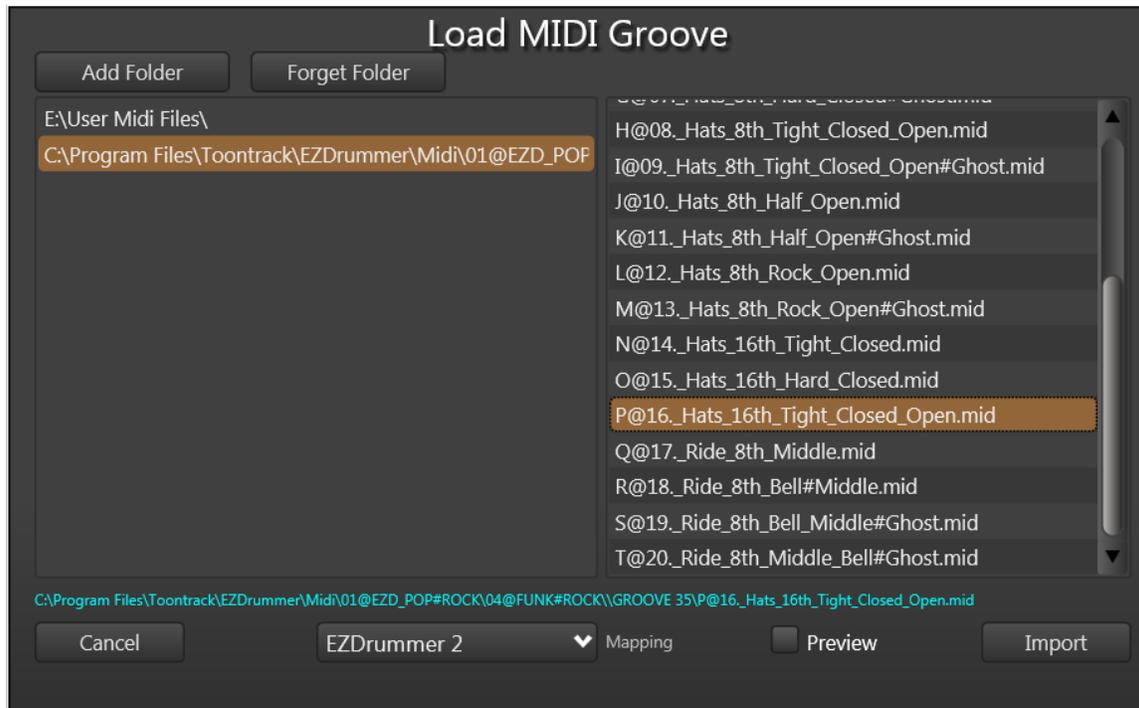
If a style is shown in red, it is not currently installed on your system and would require the purchase of the expansion shown to the right of the PREVIEW check box.

19.2 Special Styles

19.2.1 IMPORT

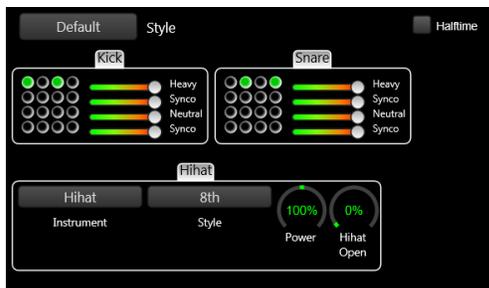
This style gives you a groove importer to use MIDI patterns or saved grooves. This means you can take that cool but sterile groove you downloaded from the Internet and have it played back by your favorite Jamstix drummer with accents, fills, groove feel, power variations and so forth!

You can also add a groove importer to any other style using the brain add submenu.



19.2.2 JAMSTIX CLASSIC

This style gives you checkbox grid controls to program the basic kick/snare patterns similar to the Jamstix 1 rhythm engine.



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).

The style has a two bar preset as well as an extended preset with tom and hihat grids.

Note that you can also add the kick and snare grids to any other style using the ADD submenu of the brain menu. This menu also offers hihat and tom grids for full manual base pattern editing.

The hihat grid supports changing the degree of openness by holding CTRL down while using the mouse wheel.

The tom grid supports changing the tom by pressing the jeys 1 through 5 as desired.

19.2.3 SILENT

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.

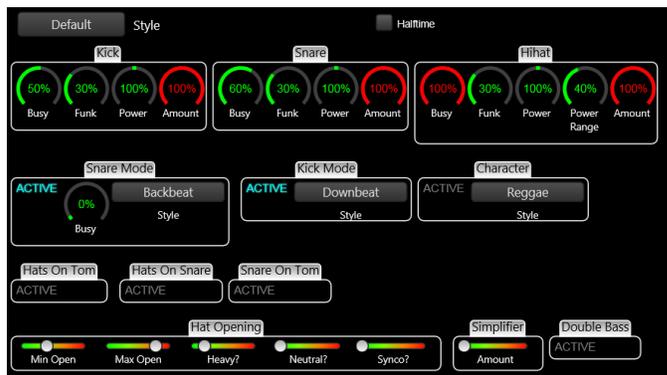
Now you can place your notes as desired in the bar editor.

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.

19.2.4 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.

19.2.5 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.

19.2.6 STOP

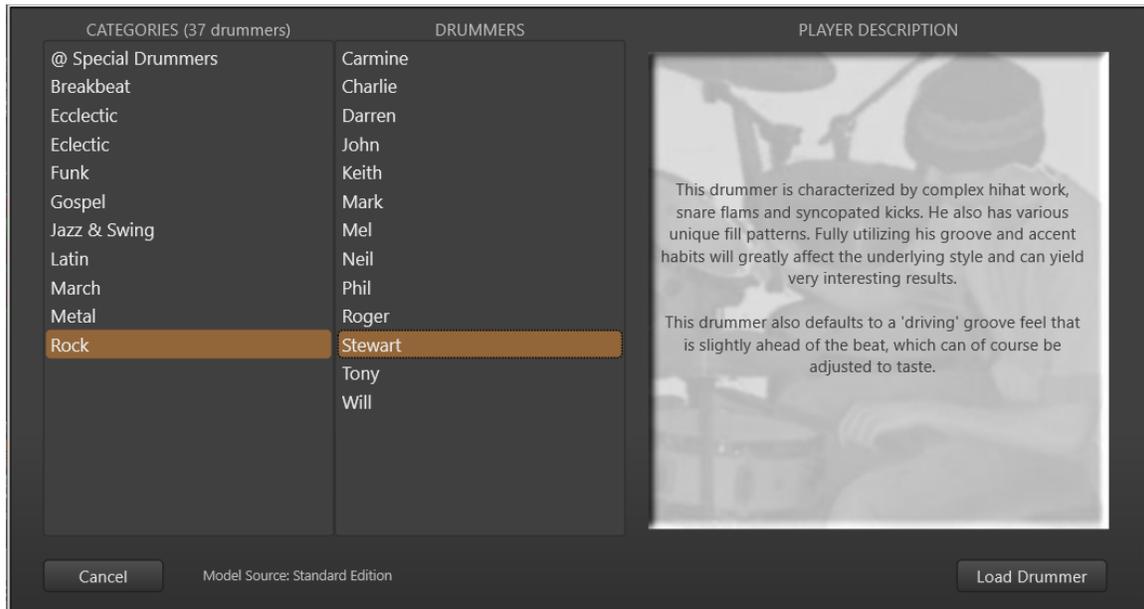
This style creates a stop of the drum performance with a kick or snare on the downbeat, which can be emphasized with a crash cymbal or several hihat events.

19.2.7 TOOLBOX

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

19.3 Loading Drummers

You can load a drummer model into a part by clicking the drummer name at the top of the brain panel or via the part menu.



Drummers are grouped by genre plus the folder 'Special Drummers', which will be explained in the next section. If a drummer is shown in red, it is not currently installed on your system and would require the purchase of the expansion shown to the right of the CANCEL button.

19.4 Special Drummers

19.4.1 Animal

This model may remind you of the awe-inspiring and hopelessly overplayed performances of a certain furry drummer. Surprisingly, he may provide just what you're looking for in some songs of yours.

19.4.2 James Stix

This is essentially the default model of Jamstix, featuring an all-around studio drummer that can fit almost any project.

19.4.3 Machine

This model is very useful for electronica songs because it disables the limb control and essentially acts like a drum machine.

19.4.4 Silent

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.

20 Status Information

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 three flashing icons to the left of the bar/beat counter. The **MIDI-IN** icon lights up whenever MIDI data is received. The **AUDIO-IN** icon lights up when audio analysis data from an audioM8 plugin or the audio input is received and the **MIDI-OUT** icon lights up when Jamstix sends data to its MIDI output.

The numeric display below those icons shows the currently active number of sound voices, which corresponds to overall CPU usage.

21 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.

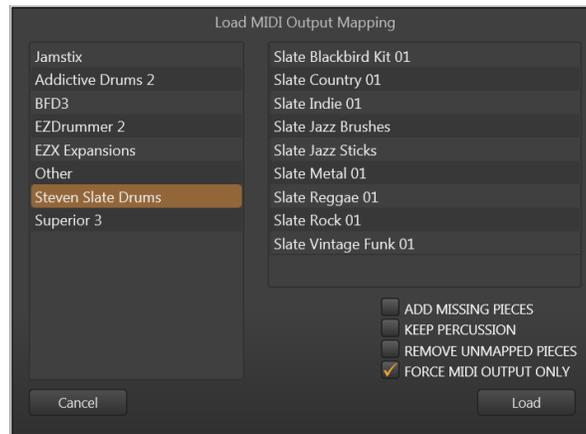


22 Jamstix & 3rd Party Drum Plugins

The drumming A.I. of Jamstix can be used with any of your existing 3rd-party drum plugins to give you maximum flexibility when it comes to picking the right drum kit/sound for a specific project.

Depending on your DAW, you either place the 3rd party plugin behind Jamstix on the same track, set the MIDI input of the drum plugin to 'Jamstix' or create a separate MIDI track with input=Jamstix and output=Drum Plugin. Whichever way you choose, the goal is to route the MIDI output of Jamstix to the MIDI input of the drum plugin.

The second adjustment needed is the key mapping used by Jamstix so that it matches what your drum plugin expects to receive. This is done in the KIT window with the output mapping specified at the end of the kit toolbar.



When selecting an output mapping, you are given several options as to how the current kit is affected by the mapping:

22.1.1 Add Missing Pieces

If the mapping specifies a kit piece that you have not currently in your kit, it will be automatically added.

22.1.2 Keep Percussion

This causes Jamstix to keep any kit percussion pieces (cowbell, tambourine, jam blocks etc.) that are currently in your kit so you can combine the sounds of the 3rd party plugin with Jamstix percussion sounds since many drum plugins don't easily offer such sounds in acoustic drum setups.

22.1.3 Remove Unmapped Pieces

If a current kit piece is not found in the mapping, it will be removed from the kit. Note that this will not affect kit percussion pieces if 'Keep Percussion' is checked.

22.1.4 Force MIDI Output Only

All mapped pieces will be set to 'MIDI Output Only' and any assigned internal sound is removed. You'd usually have this checked for 3rd party plugins, unless you wish to stack Jamstix and other plugin sounds.

22.2 MIDI Out Template Kit

You can use any Jamstix kit as a starting point for 3rd party plugin use via the output mapping. However, there is a 'MIDI Out Template' kit in the 'Special Kits' folder, which can be useful since it has all available Jamstix kit pieces loaded and already set to 'MIDI Output Only'.

22.3 MIDI Controller Mapping

The output mapping also specifies the usage of MIDI controllers to affect certain behaviors of the 3rd party plugin.

22.3.1 Hihat Pedal Pressure

Many drum plugins let you control the degree of openness of the hihat with a MIDI controller, usually #4. The output mapping specifies whether this function is supported by the plugin and which controller number to use.

22.3.2 Head Positioning

Some plugins allow control of the position of the drumstick on the drum head, which affects the sound. Jamstix supports such logic internally by calculating the appropriate position for every note played. The output mapping specifies whether this function is supported by the plugin and which controller numbers to use. Default is #14 for snare and #15 for toms. At the time of writing, the only mappings packaged with Jamstix that use this functionality are for MODODRUM by IK Multimedia.

See Appendix C for details on the MIDI output mapping file format.

23 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.

23.1 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:

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.

23.2 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 MIDI Playback 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!

24 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=1,2,3,4,5,6,7,8,9

x/8 with x=1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18

24.1 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.

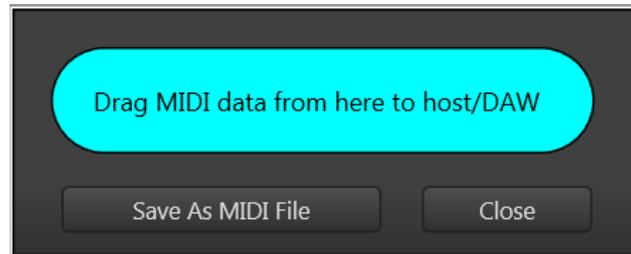
24.2 MIDI output to host

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 'MIDI Playback Mode' 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.

24.3 MIDI File Export / Drag-&-Drop

The bar, part and song menus offer you EXPORT MIDI options to save MIDI data to a file and to prepare drag-&drop to the host/DAW. Only the currently active brain (drums or Jamcussion) is exported.



24.3.1 Shortcuts to MIDI export

These keyboard shortcuts call the export tool directly:

| | |
|-----------------|--|
| One Bar: | CTRL+Click on BAR ICON in the timeline |
| Whole Part: | CTRL+ALT+Click on PART NAME in song sheet |
| Whole Song: | CTRL+Click on SONG NAME in song sheet |
| Song Structure: | Hold SHIFT, click and drag SONG NAME in song sheet |

The song structure export contains just the part names and is great to use for DAW scripting or visual reference in the DAW. It does not open the export tool but drags directly to the host.

If you are NOT using the FULL composition mode, 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.

25 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.

25.1 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.

25.2 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.

26 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 an 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 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.

27 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 left part of the bar editor 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.

28 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).

29 Options

NOTE: All option screens give you the ability to open the manager tool for updating your Jamstix installation quickly and easily.

29.1 General Options



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.

SYNC WHEN STOPPED

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.

DISABLE JAMCUSSION IN NEW PROJECTS

If checked, Jamcussion will be muted and toggled off in the song builder in new projects. This is useful if the majority of your projects do not use Jamcussion. You can always unmute it manually and toggle on in the song builder for projects that utilize Jamcussion.

DEDICATED PROCESS/SERVER MODE

When active, Jamstix will run outside of the DAW's process space. This should only be necessary if you are working with large projects in a 32-bit DAW.

CHECK FOR UPDATES

When checked, Jamstix will look for an updated version on our servers once per day and prompt you if an update is available.

COMPOSITION MULTI-THREADING

When checked, Jamstix will use multi-threading for full composition mode, which reduces audio-artifacts when recomposing large parts while playing at low latency.

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.

LOG MODE

Jamstix logs many of its actions to assist in troubleshooting. This can affect performance due to disk write flushing. In 'Minimal' mode, only few actions are logged with virtually no performance impact. The 'Debug' mode captures a lot of data and should only be used to assist our tech support in resolving specific issues.

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.

HEADROOM

This option reduces the overall volume sent to the DAW to adjust to your mixing style.

DYNAMIC RANGE

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

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.

29.2 Jamming Options

You access the jam options by clicking the "JAMMING OPTIONS" button.



29.2.1 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.

29.2.2 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.

29.3 User Interface & 3D Kit Options**CACHE USER INTERFACE**

When enabled, Jamstix will cache the GUI when it is closed so it can be re-opened very quickly. You should turn this feature off only if you have issues with GUI close/re-open in your DAW.

LOW INTERFACE REFRESH RATE

This should be disabled unless your system is having a hard time running Jamstix graphically.

FLASH LOGO IN TEMPO

When enabled, the JAMSTIX logo will flash with the host tempo to visually assist the player during jamming.

USE 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).

ENABLE INTERFACE SHADOW & GLOWS

This should only be turned off if you encounter visual artifacts in the GUI.

SHOW COMPACT PART LIST

When active, the vertical space between parts in the song sheet is condensed to see more parts at once in large projects with many parts.

COLOR BRAIN ELEMENTS BY CLASS

When active, note generating brain elements will be colored red, composition filtering elements will be blue and play filters will be green.

BAR EDITOR DOUBLE-CLICK TO DELETE

When active, double-clicking on a note in the bar editor will remove it.

USE WIDE-SCREEN INTERFACE

When active, the GUI is expanded horizontally to allow the display of both 3D kits (Jamstix, Jamcussion) at once, the simultaneous display of EQ and compressor in the mixer and a larger brain interface.

SHOW BOTH KITS IN WIDE-SCREEN

When active, Jamstix and Jamcussion kit are shown side-by-side in wide-screen mode.

DISPLAY DRUM RACK/STANDS

This function hides stands and the rack from the 3D kit. You should turn this off only if your video card struggles with the 3D kit.

DISPLAY ANIMATED DRUMSTICKS

This function hides the drumsticks if you don't like them for some odd reason.

SHOW TV

The 3D environments have a TV screen, which displays current part, tempo, time signature, style, drummer and kit selection. You can toggle its display with this option.

USER INTERFACE SCALE

This feature allows you to scale the GUI to your personal taste from 80% to 160%.

3D KIT MULTI-MONITOR

Same Monitor - The 3D Kit opens on the same monitor where Jamstix is currently shown
Other Monitor - The 3D Kit opens on the monitor where Jamstix is currently NOT shown
Other/Auto - Same as above but the kit automatically opens in full-screen mode

3D KIT FRAMERATE

Higher values will smoothen the 3D kit movements but require more video graphics power.

3D KIT QUALITY

Toggles the complexity of certain 3D shapes in the kit or turns them off. This has major impact on the frame rate that can be achieved for the 3D kit and processing power hit.

3D TEXTURE QUALITY

This should be left on HIGH unless you are using a computer with a very low powered video card.

3D ENVIRONMENT

Controls the environment or room the 3D kit is displayed in. The 'Basement' environment has the lowest performance impact, aside from 'None'. We are planning to release new environments over time and will also provide a guide that you can use to create your own.

DRUMSTICK POSITIONING SPEED

This setting controls how early a drum stick will start to move toward a kit piece to be played in the future. Adjust this to your personal liking.

3D CYMBAL TRIGGER FLASHING

Here you can control what cymbals will flash when hit. The intensity of the flashes corresponds with the power of the hit.

CYMBAL MARKINGS

This setting controls the size of the cymbal slot names overlaid on the cymbals, i.e. CHINA 2.

CYMBAL FINGERPRINTS

This setting controls the size of fingerprints shown on the cymbals.

3D DRUM TRIGGER FLASHING

This feature decides what part(s) of drums will flash when hit. The intensity of the flashes corresponds with the power of the hit.

3D DRUM SHELL IMPERFECTIONS

Adjusts the degree of drum shell wear & tear.

DRUM STICK COLOR

Pick your favorite drum stick color.

DRUM STICK MOTION BLUR

This feature adds a motion blur to the drum sticks to make it easier to track their movement at lower frame rates.

STICK MARKS

This setting controls the size and intensity of the drumstick marks shown on snare and tom drum heads.

DRUMHEAD/SHELL MOVEMENT

When a kick, snare or tom drum head is hit by the sticks, it will reverberate up and down just like a real drum head. Similarly, snare and tom shells will wiggle when the drum is hit. You can choose the extent of this effect here.

ACTION AFTER CREATE SONG

This setting controls which tab Jamstix switches to after you click 'Create Song' in the song builder.

WRIST ARTICULATION ANGLE

This setting controls the maximum angle and height a drum stick is raised before a kit piece is hit.

30 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.

31 Log Files

Jamstix writes status information to three log files in this location:

```
[SYSTEM DRIVE]:\ProgramData\Jamstix4\logs
```

The 'Plugin' log tracks actions taken from the audio thread.

The 'GUI' log tracks actions taken from the interface thread.

The 'Loader' log tracks actions taken from the sample loader thread for kit sounds.

If you experience problems with Jamstix it is always a good idea to attach the log files to your support request e-mail. The logs can be collected and zipped for you automatically by using 'Email Tech Support' from the Jamstix help menu or in the manager tool.

32 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

| Problem | Solution |
|---|---|
| I HAVE INSTALLED JAMSTIX AND THERE IS NO SOUND | Make sure you have a kit loaded. |
| WHEN I USE A DRUMMER OTHER THAN 'CHARLIE', I GET NO SNARE OR KICKS | Turn up the song power knob above the song sheet. |
| I AM USING A MULTI OUTPUT KIT BUT ALL THE SOUND IS ROUTED TO OUTPUT #1 | Uncheck 'Downmix' in the Jamstix mixer. |
| ALL I HEAR IS THE KICK | Set up your host to properly support all audio outputs of Jamstix. OR Check 'Downmix' in the mixer. |
| MY TIME SIGNATURE CHANGES DON'T SEEM TO WORK RIGHT | '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. |
| I HAVE CRACKLES AND DROP-OUTS WHEN "Load-on-Demand" (LoD) IS ENABLED | Increase 'Pre-Buffer' in 'Options' AND/OR Increase 'Voice Reduction' in 'Options' AND/OR Increase audio latency in the host |
| MY HOST CRASHES WHEN I TRY TO LOAD JAMSTIX | Please contact us on the support forum or via e-mail. |
| JAMSTIX DOES NOT SHOW UP IN MY HOST | Verify that 'jamstix4.dll' is in the plugin search path of your host. If it is, contact us on the support forum or via e-mail for additional help. |

33 Appendix A - SongBuilder Part Type Reference

33.1 I=Intro

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

33.2 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

33.3 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

33.4 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

33.5 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

33.6 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.

33.7 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

33.8 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

33.9 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'

33.10 Q=Silence

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

33.11 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

33.12 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%

33.13 T=Stop

- uses style 'Stop'
- sets part length to 1 with 1 rep
- repetition fills OFF and transition fills ON

34 Appendix B – Kit Piece Reference IDs

The following table shows the unique **DRUM KIT** identifiers for kit pieces used in mapping files:

| Kit Piece | ID | Remarks |
|----------------------|----|--|
| Kick | 0 | |
| Snare | 1 | At play time, this sound is resolved to center or offset hit by the A.I. |
| Snare Side/Crosstick | 2 | |
| Snare Bounced | 3 | |
| Snare Rimshot | 4 | |
| Snare Brushed Muted | 5 | This is a brush hit without lift in order to mute the head |
| Snare Brush Sweep | 6 | |
| RESERVED | 7 | |
| Hihat (Dynamic Open) | 8 | Pedal pressure controls open level |
| Hihat Foot Close | 9 | |
| Hihat Foot Splash | 10 | |
| RESERVED | 11 | |
| Ride | 12 | |
| Ride Bell | 13 | |
| RESERVED | 14 | |
| Crash 1 | 15 | |
| Crash 2 | 16 | |
| Crash 3 | 17 | |
| Crash 4 | 18 | |
| Splash 1 | 19 | |
| Splash 2 | 20 | |
| Splash 3 | 21 | |
| China 1 | 22 | |
| China 2 | 23 | |
| China 3 | 24 | |
| China 4 | 25 | |
| RESERVED | 26 | |
| Tom 1 | 27 | At play time, this sound is resolved to center or offset hit by the A.I. |
| Tom 2 | 28 | At play time, this sound is resolved to center or offset hit by the A.I. |
| Tom 3 | 29 | At play time, this sound is resolved to center or offset hit by the A.I. |
| Tom 4 | 30 | At play time, this sound is resolved to center or offset hit by the A.I. |
| Tom 5 | 31 | At play time, this sound is resolved to center or offset hit by the A.I. |
| Jam Block Hi | 32 | |
| Jam Block Lo | 33 | |
| Chimes | 34 | |
| Cowbell | 35 | |
| Tambourine | 36 | |
| Drumsticks | 37 | |
| Snare Center Hit | 38 | |
| Snare Offset Hit | 39 | The A.I. will use this sound for 16 th L/R clusters |
| Tom 1 Center Hit | 40 | |
| Tom 1 Offset Hit | 41 | The A.I. will use this sound for 16 th L/R clusters |
| Tom 2 Center Hit | 42 | |
| Tom 2 Offset Hit | 43 | The A.I. will use this sound for 16 th L/R clusters |
| Tom 3 Center Hit | 44 | |
| Tom 3 Offset Hit | 45 | The A.I. will use this sound for 16 th L/R clusters |
| Tom 4 Center Hit | 46 | |
| Tom 4 Offset Hit | 47 | The A.I. will use this sound for 16 th L/R clusters |
| Tom 5 Center Hit | 48 | |

| | | |
|---|-----------|---|
| Tom 5 Offset Hit | 49 | The A.I. will use this sound for 16 th L/R clusters |
| Hihat Closed | 50 | Pedal pressure is not considered |
| Hihat 25% Open | 51 | |
| Hihat 50% Open | 52 | |
| Hihat 75% Open | 53 | |
| Hihat Open | 54 | |
| Cymbal Choke | 55 | Will choke the last cymbal played with the same hand |
| Egg Shaker | 56 | |
| Metal Shaker | 57 | |
| Kick (Left Drum) | 90 | This is the 2 nd kick (left in drummer view) |
| Kick (Right Drum) | 91 | This is the main kick and only kick in a single kick drum setup |
| Hihat Shank Closed | 92 | |
| RESERVED | 93 | |
| Hihat Shank 50% Open | 94 | |
| RESERVED | 95 | |
| Hihat Shank Open | 96 | |
| 2 nd Snare | 97 | |
| 2 nd Snare Side/Crosstick | 98 | |
| 2 nd Snare Bounced | 99 | |
| 2 nd Snare Rimshot | 100 | |
| 2 nd Snare Brushed Muted | 101 | |
| 2 nd Snare Brush Sweep | 102 | |
| 2 nd Snare Center Hit | 103 | |
| 2 nd Snare Offset Hit | 104 | |

The following table shows the unique **JAMCUSSION** identifiers for kit pieces used in mapping files:

| Kit Piece | ID | Remarks |
|------------------------|-----------|----------------|
| Drum 1 Center | 58 | |
| Drum 1 Medium/Open | 59 | |
| Drum 1 Rim/Slap | 60 | |
| Drum 1 Hit & Mute | 61 | |
| Drum 2 Center | 62 | |
| Drum 2 Medium/Open | 63 | |
| Drum 2 Rim/Slap | 64 | |
| Drum 2 Hit & Mute | 65 | |
| Drum 3 Center | 66 | |
| Drum 3 Medium/Open | 67 | |
| Drum 3 Rim/Slap | 68 | |
| Drum 3 Hit & Mute | 69 | |
| Drum 4 Center | 70 | |
| Drum 4 Medium/Open | 71 | |
| Drum 4 Rim/Slap | 72 | |
| Drum 4 Hit & Mute | 73 | |
| Percussion 1 Main | 74 | |
| Percussion 1 Alternate | 75 | |
| Percussion 2 Main | 76 | |
| Percussion 2 Alternate | 77 | |
| Percussion 3 Main | 78 | |
| Percussion 3 Alternate | 79 | |
| Percussion 4 Main | 80 | |
| Percussion 4 Alternate | 81 | |
| Percussion 5 Main | 82 | |

| | | |
|------------------------|----|--|
| Percussion 5 Alternate | 83 | |
| Percussion 6 Main | 84 | |
| Percussion 6 Alternate | 85 | |
| Percussion 7 Main | 86 | |
| Percussion 7 Alternate | 87 | |
| Percussion 8 Main | 88 | |
| Percussion 8 Alternate | 89 | |

35 Appendix C - Output Mapping File Format

MIDI output mapping files can be edited in a text editor and are located in the folder:

C:\ProgramData\Jamstix4\data\midimaps (PC)
~/Music/Jamstix4/data/midimaps (macOS)

35.1 [Keys]

This section specifies the MIDI key to be used for every kit piece in Jamstix using the reference IDs from Appendix B.

Example: 0=36 specifies to send MIDI key #36 for kick drum notes

Only specify the keys that are actually supported by the 3rd party plugin.

35.2 [Hihat]

UseCC=

Set to 1 if the plugin supports hihat pedal pressure control via MIDI controller

Controller=

Specify the controller number to use for hihat pedal pressure (usually #4)

35.3 [Snare]

Controller=

Specify the controller number to use for drum head positioning. Set to 0 if not supported

35.4 [Tom]

Controller=

Specify the controller number to use for drum head positioning. Set to 0 if not supported

35.5 [Chokes]

Choke by MIDI Key

Similar to the [Keys] section, define MIDI keys that should be sent to choke cymbals.

Syntax is:

CH_[ReferenceID]=Key

Example:

CH_15=13 tells Jamstix to send MIDI key #13 to choke crash 1

Choke by Aftertouch

If the 3rd party plugin supports choking via aftertouch events, add this line:

```
AfterTouchChoke=1
```

35.6 [Drum Kit]

ShortName=MY OM

name shown in Jamstix output mapping list

LongName=MY OUTPUT MAPPING

name shown in Jamstix mapping selection dialog