HEAD RUSH®
CORE

User Guide
English

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(1.0) Introduction

(1.1) Box Contents

HeadRush Core

USB Cable

Power Cable (2 pieces)

Software Download Card

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(1.2) Support

For the latest information about this product (documentation, technical specifications, system requirements, compatibility information, etc.) and product registration, visit **headrushfx.com**.

For additional product support, visit **support.headrushfx.com**.

(2.0) Setup

Items not listed under *(1.1) Introduction > Box Contents* are sold separately.

IMPORTANT! In the *(4.21.2) Global Settings > Audio* menu, make sure you set the **Outputs** to send signal at amp level if you are using a traditional guitar amplifier, or line level (default) if you are using a full-range flat-response amplifier, mixer, PA speaker or audio interface.
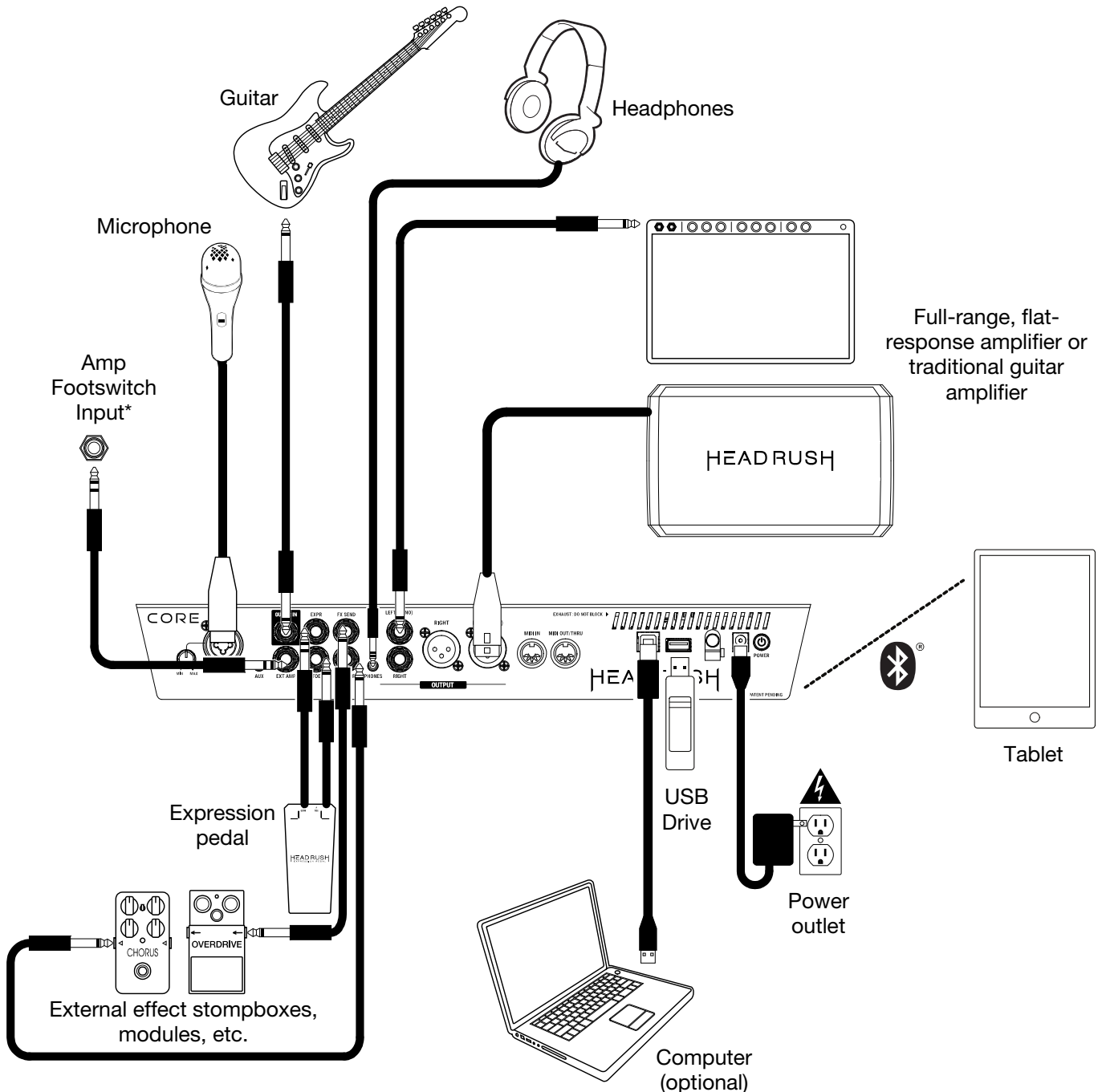
* IMPORTANT! Only connect this output to amplifiers that have a "short-to-sleeve" footswitch input. If you connect this output to any other type of footswitch input, you may cause permanent damage to your equipment. If you are unsure if your amplifier has a "short-to-sleeve" footswitch input, please consult the amplifier's manual or manufacturer to confirm before attempting.

(3.0) Features

(3.1) Top Panel
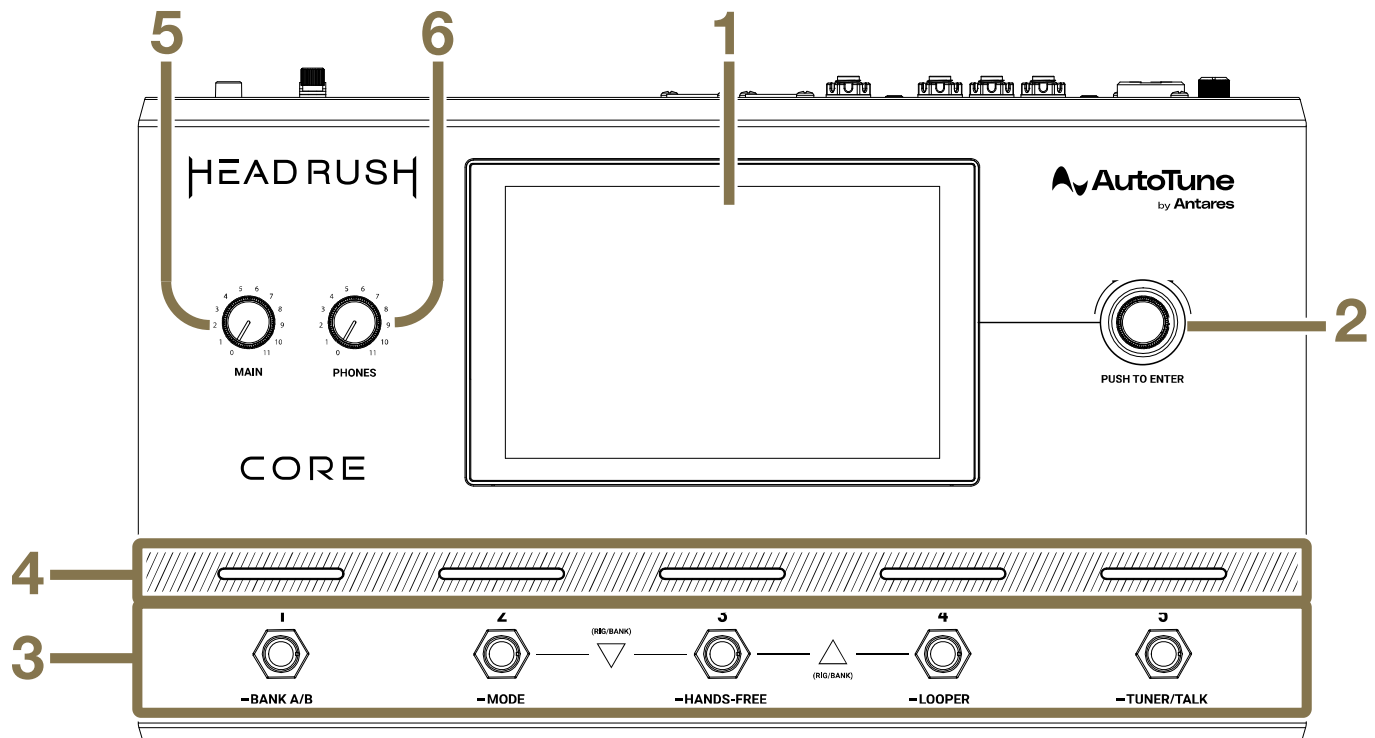
1. **Main Display**

   This full-color multi-touch display shows information relevant to HeadRush Core's current operation. Touch the display (and use the hardware controls) to control the interface. See *(4.1) Main Screen* to learn how it works.

2. **Encoder**

   Turn this encoder to scroll through the available menu options or adjust the parameter values of the selected field in the display. Push the encoder to confirm your selection.

3. **Footswitches**

   Press these footswitches to activate or deactivate the assigned block or scene, or to load the assigned rig. See *(4.5) Footswitch Modes* for more information.

4. **Footswitch Indicators**

   These lights indicate whether the block, rig, or scene assigned to each footswitch is on (brightly lit) or off (dimly lit).

5. **Main Volume**

   Turn this knob to adjust the volume level of the **Outputs**.

6. **Headphone Volume**

   Turn this knob to adjust the volume level of the **Phones Output**.

(3.2) Rear Panel
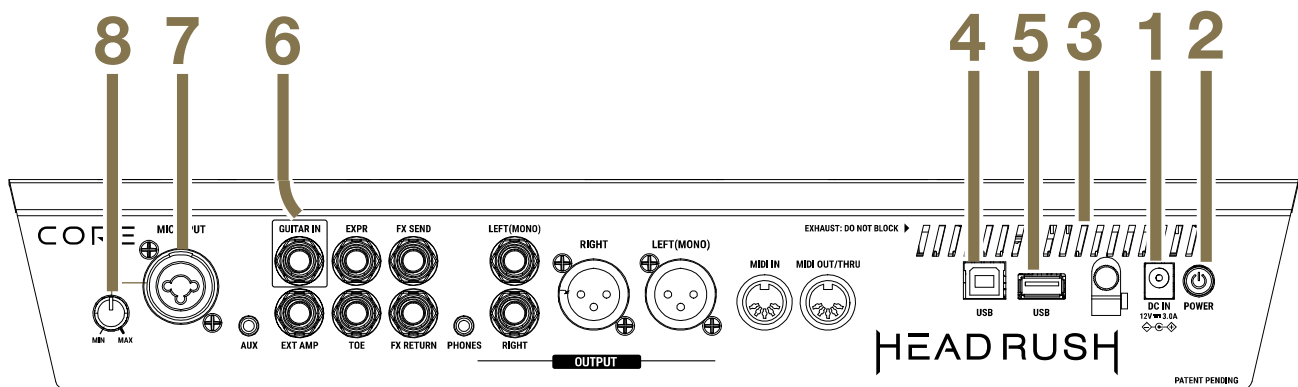
1. **Power Input**

   Connect this input to a power outlet using the included power cable.

2. **Power Switch**

   Press this button to turn HeadRush Core's power on.

3. **Vent**

   Make sure this vent is unobstructed while using HeadRush Core.

4. **USB-B Port**

   Connect this USB port to a computer using a standard USB cable. This connection allows HeadRush Core to send and receive the digital audio signal to and from your computer. You can also use this connection to import or export rigs, block presets, setlists, loops, clones, and tracks for the practice tool. See *(4.16) USB* for more information.

5. **USB Type-A Port**

   Connect a USB flash drive to this USB port for additional storage. A class-compliant USB device can also be connected to this USB port for external MIDI control.

6. **Guitar Input** (1/4"/6.35 mm, TS)

   Connect your guitar to this input using a standard instrument cable.

7. **Mic Input** (XLR or 1/4"/6.35 mm, **balanced**)

   Connect a microphone to this input using a standard XLR or 1/4" (6.35 mm) microphone cable. You can enable or disable +48V phantom power for these inputs in the *(4.21.2) Global Settings > Audio* menu.

   Important: Only enable phantom power if your microphone requires it. Most dynamic microphones and ribbon microphones do not require phantom power, while most condenser microphones do. Consult your microphone's documentation to find out whether it needs phantom power.

8. **Mic Input Gain**

   Use this knob to adjust the level of the **Mic Input**. View the current level of the microphone by double tapping the input block to make sure the level is not low or clipping.
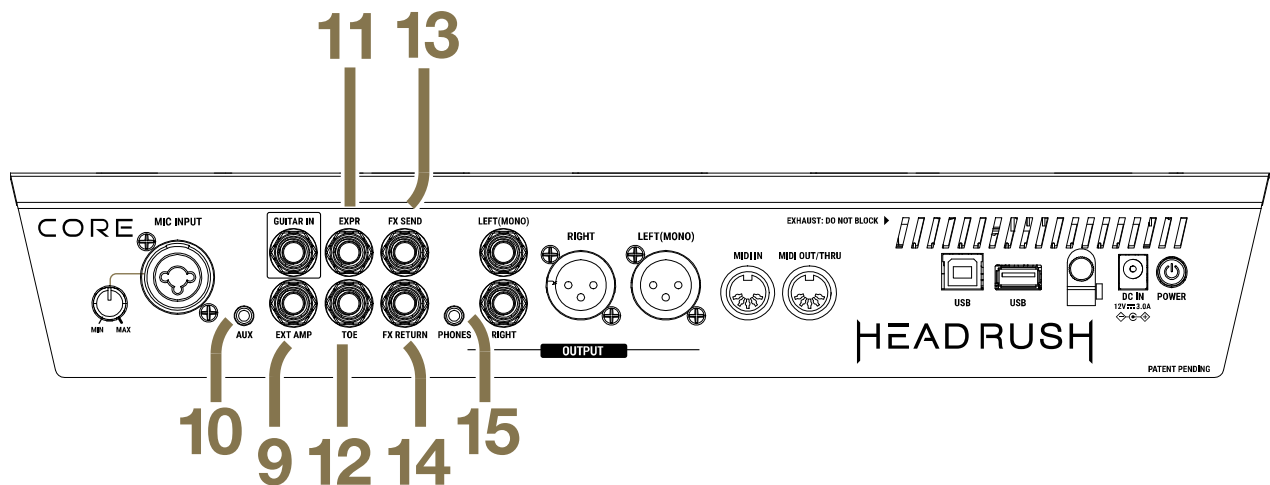
9. **External Amp Footswitch Output** (1/4"/6.35 mm, TRS)

Connect this output to the footswitch input of an external guitar amplifier to toggle channels or turn reverb on and off on the amplifier using HeadRush Core.

IMPORTANT! Only connect this output to amplifiers that have a "short-to-sleeve" footswitch input. If you connect this output to any other type of footswitch input, you may cause permanent damage to your equipment. If you are unsure if your amplifier has a "short-to-sleeve" footswitch input, please consult the amplifier's manual or manufacturer to confirm before attempting.

10. **Aux Input** (1/8"/3.5 mm, TRS)

Connect an optional audio source (e.g., smartphone, tablet, etc.) to this input using an 1/8" (3.5 mm) stereo cable.

Important: The audio signal from the aux input is routed directly to the outputs of HeadRush Core without any modeling or effects applied, and cannot be used by the looper. It is also unaffected by the main volume knob.

11. **Expression Pedal Input** (1/4"/6.35 mm, TRS)

Connect an optional secondary expression pedal to this input using a standard instrument cable.

12. **Expression Pedal Toe Switch Input** (1/4"/6.35 mm, TS)

Connect the toe switch output of your optional expression pedal to this input using a standard 1/4" (6.35 mm) TS cable.

13. **FX Send Output** (1/4"/6.35 mm, TRS)

Connect this output to the input of another effects module, an effect pedal, or the effects loop return of an amplifier.

14. **FX Return Input** (1/4"/6.35 mm, TRS)

Connect this input to the output of another effects module, an effect pedal, or the effects loop send of an amplifier.

Note: If you want to use the FX loop with Mono devices, use a standard 1/4" TS instrument cable. If you want to use the FX loop with Stereo devices, use a 1/4" TRS instrument cable, such as a 1/4" TRS to Dual 1/4" TS Splitter cable. If you are using the FX loop in Stereo, you will also need to enable the **Stereo FX Send** and/or **Return** in the *(4.21.2) Global Settings > Audio* menu.

15. **Phones Output** (1/8"/3.5 mm, TRS)

Connect standard 1/8" (3.5 mm) stereo headphones to this output. Use the **phones volume** knob to control the volume level.
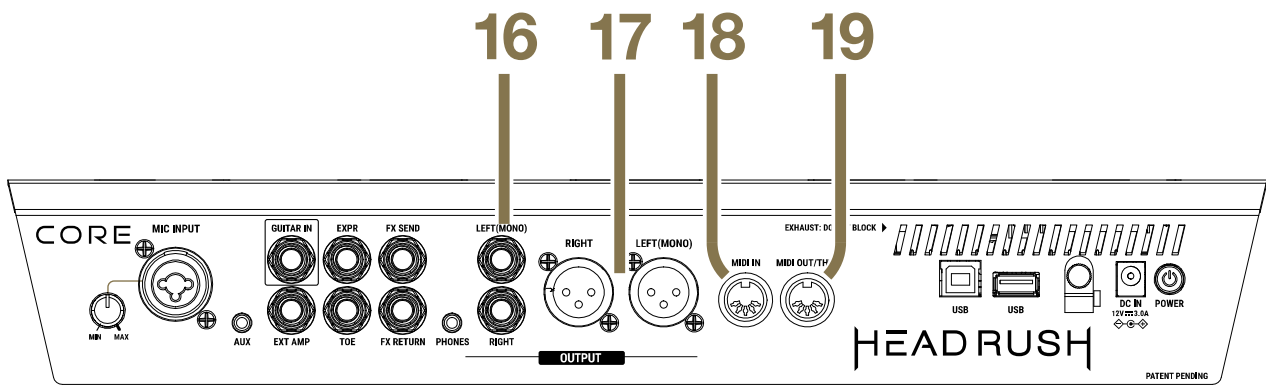
16. **Outputs** (1/4"/6.35 mm, TRS)

Connect these outputs to the inputs of your amplifier, audio interface, etc. If you only need to use one output, use the one labeled **(Mono) L**.

The 1/4" Outputs can be set to amp level or line level in the *(4.21.2) Global Settings > Audio* menu.

17. **Outputs** (XLR)

Connect these outputs to the inputs of your mixer, active loudspeaker, etc. If you only need to use one output, use the one labeled **Left (Mono)**.

If you need to reduce hum or noise, enable the **XLR Ground Lift** setting in the *(4.21.2) Global Settings > Audio* menu.

18. **MIDI Input** (5-pin DIN)

Use a standard MIDI cable to connect this input to the MIDI output of an optional external MIDI device.

19. **MIDI Out/Thru** (5-pin DIN)

Use a standard MIDI cable to connect this output to the MIDI input of an optional external MIDI device. You can set this output to be a standard MIDI output or MIDI throughput in the *(4.21.8) Global Settings > MIDI* menu.
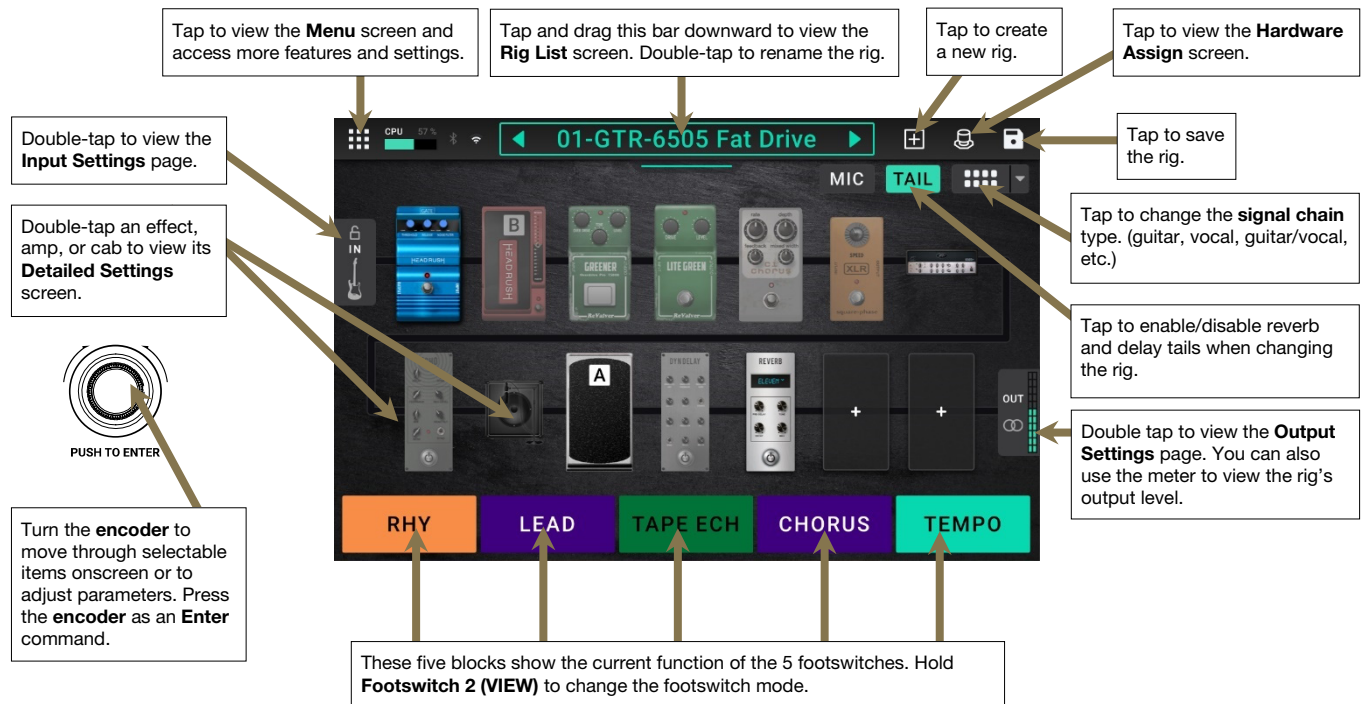
(4.0) Operation

This chapter describes HeadRush Core's functions.

(4.1) Main Screen

(4.1.1) Overview

Tap to view the **Menu** screen and access more features and settings.

Tap and drag this bar downward to view the **Rig List** screen. Double-tap to rename the rig.

Tap to create a new rig.

Tap to view the **Hardware Assign** screen.

Double-tap to view the **Input Settings** page.

Double-tap an effect, amp, or cab to view its **Detailed Settings** screen.

Tap to save the rig.

Tap to change the **signal chain** type. (guitar, vocal, guitar/vocal, etc.)

Tap to enable/disable reverb and delay tails when changing the rig.

Turn the **encoder** to move through selectable items onscreen or to adjust parameters. Press the **encoder** as an **Enter** command.

Double tap to view the **Output Settings** page. You can also use the meter to view the rig's output level.

PUSH TO ENTER

01-GTR-6505 Fat Drive

MIC TAIL

RHY LEAD TAPE ECH CHORUS TEMPO

These five blocks show the current function of the 5 footswitches. Hold **Footswitch 2 (VIEW)** to change the footswitch mode.

(4.1.2) Basic Operations

Important: The sequence of blocks in your signal chain is not necessarily reflected in the footswitches. You can freely assign blocks to available footswitches without changing your signal chain at all—and vice versa. See *(4.6.1) Hardware Assign > Footswitches* to learn about this.

To assign a block (amp, cab, impulse response, effect, or clone) **to an empty slot**, tap the (**+**) icon and then use the list that appears. See *(4.3.1) Rigs > Creating a New Rig* to learn about this.

To show a block's Detailed Settings screen, double-tap it. Its settings screen will appear with its preset menu, parameters, and assigned color. See *(4.4) Adjusting Settings* to learn about this.

To rearrange the blocks in your signal chain, tap and drag a block to another slot or between two other blocks (the blocks after that position will shift one slot further down the signal chain).

To activate or deactivate a block, press the **footswitch** assigned to it, or tap the block and then tap the **On/Off** button that appears at the bottom of the screen.
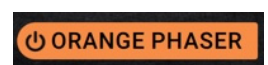
To switch an amp, cab, or IR between a dual and single configuration, tap the amp, cab, or IR, then tap the **X2** button that appears at the top of the screen. See *(4.1.4) Amp/Cab Doubling* to learn about this.

10

To remove a block, tap and hold the block, and then drag it to the bottom bar.

To load another rig (preset), do any of the following:

- Tap the ◄ or ► next to the name of the current rig on the screen.

- Tap the name of the rig on the screen and then turn the **encoder**.

- Hold the horizontal line below the rig name and drag downwards until a rig list is shown, then tap a rig to load it. When this list is shown, you can use the search bar to help find a specific rig quickly.
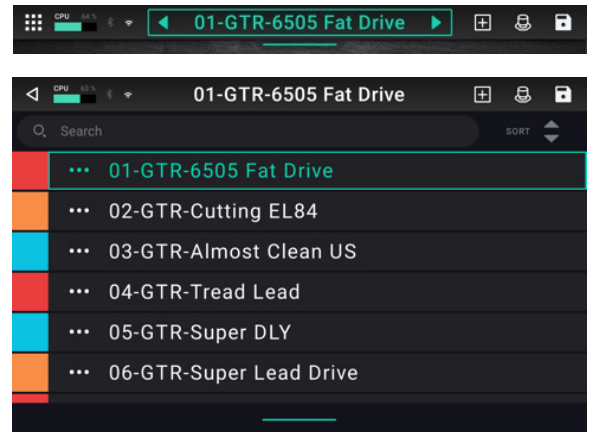
To view other options, tap the **menu icon** in the upper-left corner, and then tap an option.

(4.1.3) Reverb/Delay Tail Spillover

HeadRush Core features two types of Reverb/Delay Tail Spillover:

- If you have reverb and/or delay effect(s) active on your rig and then switch to a different rig, the effect(s) will continue to decay after switching to the second rig.

- If you have a reverb or delay effect active on your rig and then bypass this effect, it will continue to decay after it is bypassed.

To enable or disable Reverb/Delay Tail Spillover for the whole rig, tap **Tail** on the main screen.

Note: This feature will not work if you are using an effects loop or if USB Audio is enabled in the Global Settings.

To enable or disable Reverb/Delay Tail Spillover for an individual effect, double tap the effect in the **Main Screen** to access the effect's **settings screen**. Then change the effect's **Tails** by tapping the **Off** and **On** buttons.

Note: Adjusting this parameter will not impact the Reverb/Delay Tail Spillover setting for the whole rig.

(4.1.4) Amp/Cab Doubling

When switching an amp, cab, or IR between a single and dual configuration using the **X2** button, you can select from two options:

- **Stereo-Doubling:** When this option is selected, two amps, cabs, or IRs are placed left and right within a single slot to create a wider image. Both amps, cabs, or IRs will be active at all times.

- **Switch-Doubling:** When this option is selected, two amps, cabs, or IRs are placed within a single slot, and you can switch between the top and bottom amp, cab, or IR.

   To use Switch-Doubling, you must assign a footswitch to this function in your rig. In the Hardware Assign page, select the **Signal Chain** category of the **Footswitch Assignment Menu**, and choose from the following two options:

   Doubling: A <Switch> B: If there is one Switch-Doubled amp, cab, or IR, this setting assigns the footswitch to alternate between the top and bottom options of the block(s).

   Both: A-B-C-D: If there are two Switch-Doubled amps, cabs, or IRs, and one is located on the top path of a split signal chain and the other is located on the bottom path of a split signal chain, this setting assigns the footswitch to alternate between the four options of the block(s) in round-robin order.
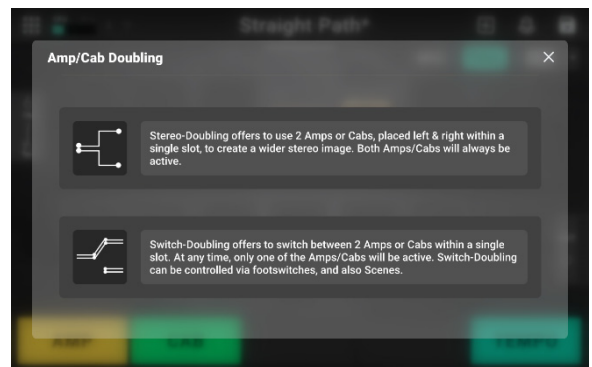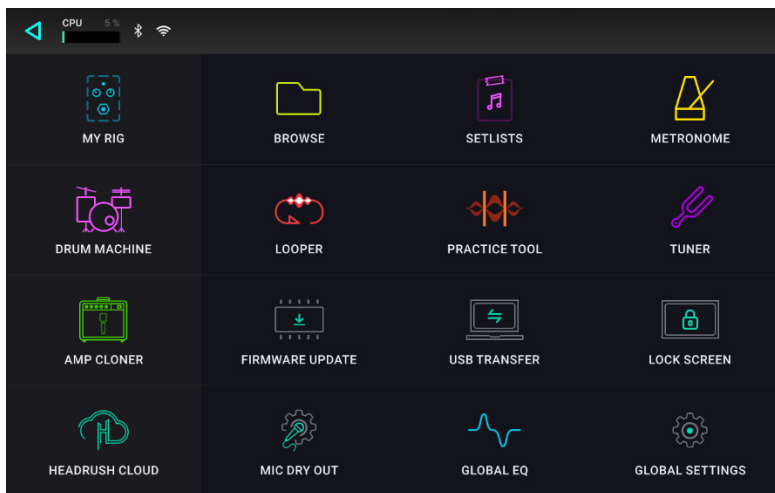
(4.2) Menu Screen

Most of the key features of HeadRush Core are accessible from the **Menu** Screen.

To access the menu screen, tap the **Menu** icon in the upper left corner of the **Main** screen.

To return to the Main screen, tap the ◀ icon in the upper left corner of the **Menu** screen.


The following screens can be accessed from the **Menu** screen:

- **My Rig:** See *(4.1.1) Main Screen > Overview* and *(4.3) Rigs* to learn more about this screen.

- **Browse:** See *(4.8) File Browser* to learn more about this screen.

- **Setlists:** See *(4.9) Setlists* to learn more about this screen.

- **Metronome:** See *(4.10) Metronome* to learn more about this screen.

- **Drum Machine:** See *(4.11) Drum Machine* to learn more about this screen.

- **Looper:** See *(4.12) Looper* to learn more about this screen.

- **Practice Tool:** See *(4.13) Practice Tool* to learn more about this screen.

- **Tuner:** See *(4.14) Tuner* to learn more about this screen.

- **Amp Cloner:** See *(4.15) Amp Cloner* to learn more about this screen.

- **Firmware Update:** Tap here to enter **Firmware Update** mode. This will allow you to update HeadRush Core when new firmware is available, using either a USB connection to your computer or over-the-air via Wi-Fi.

- **USB Transfer:** See *(4.16.1) USB > Transferring Files & Settings* to learn more about this screen.

- **Lock Screen:** See *(4.17) Lock Screen* to learn more about this screen.

- **HeadRush Cloud:** See *(4.18) HeadRush Cloud* to learn more about this screen.

- **Mic Dry Out:** See *(4.19) Mic Dry Out* to learn more about this screen.

- **Global EQ:** See *(4.20) Global EQ* to learn more about this screen.

- **Global Settings:** See *(4.21) Global Settings* to learn more about this screen.

(4.3) Rigs

When you are using HeadRush Core, a **rig** is a preset: the combination of assigned **blocks**—the amps, cabs, IRs, clones, and effects—and the parameter settings of each of them. You can create, edit, save, and load rigs, making it easy to recall the perfect sound for each part of your performance.

To access your rig from the Menu, tap the **My Rig** icon.
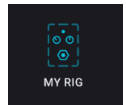
Each rig has **14 slots**, each of which can have one block (amp, cab, IR, clone, or effect) assigned to it. An exception is when a slot is using an amp, cab, or IR in a dual configuration (when the **2X** button next to it is enabled).

Assigned slots will show graphical representations of the blocks, and empty slots will show a ✚ symbol.

(4.3.1) Creating a New Rig

To create a new rig, tap the ✚ button in the upper-right corner of the main screen, and then tap **New Rig**.

To assign a block (amp, cab, IR, clone, or effect) to an empty slot:

1. Tap the empty slot (✚).

2. In the list that appears, tap the type of block you want to assign.

3. In the list that appears, tap the specific block you want to assign.

4. In the next list that appears, tap the preset you want to load for that block.

As you add blocks, you will notice the CPU meter in the top left screen fill up. There is no limit to the number of the same type of blocks you can add; however, if this CPU meter reaches 100%, you may experience some unwanted tonal side effects (popping, clicks, etc.).
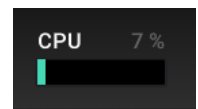
If you are loading an impulse response (IR) file, you can select one that is truncated to **1024** samples, which are less DSP-intensive, freeing up more resources to load and use additional blocks and/or IRs to your rigs.

To load a truncated IR, select the **IR 1024** model instead of the normal setting (**2048**) when adding an IR to your rig.
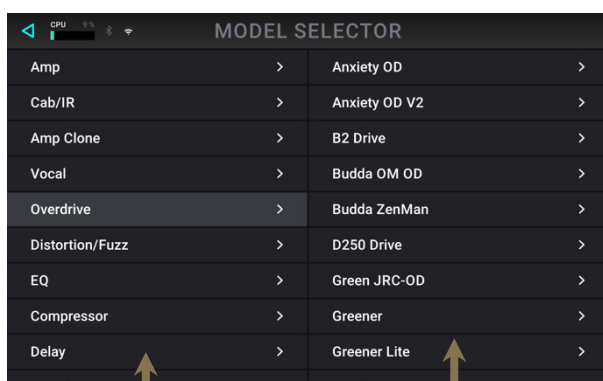
Available block types (**Amp**, **Cab**, **IR**, **Clone**, or **Effects**).

Available models for each type.
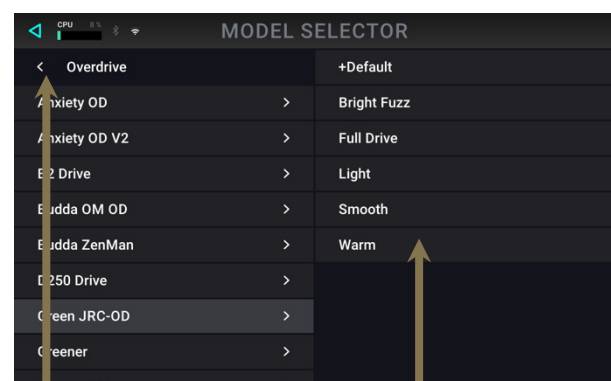
Tap here to return to the list of block types.

Available presets for each model.

(4.3.2) Signal Path

The **signal path** is the direction that the audio signal follows from your guitar, through your 14 available blocks, and ends at the outputs of HeadRush Core. You can easily reconfigure your signal path to best suit your needs, especially when it comes to creating more complex rigs.

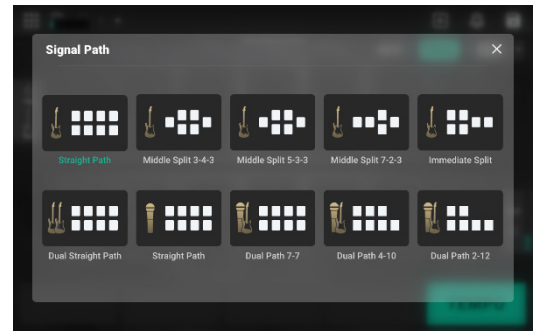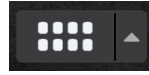**To reconfigure the signal path**, tap the arrow next to the signal path button, located at the bottom of the **Main** screen. An overlay with your available signal chain routings will appear.

The following signal path options are available:

Guitar: Straight Path

This straight signal path is the default and the most common for users that are creating non-complex guitar tones.
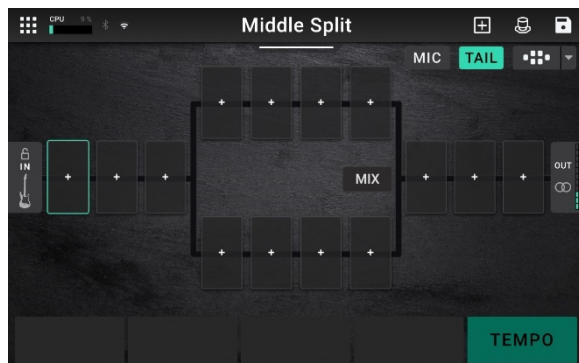
Guitar: Middle Split

This signal path splits in the middle and rejoins near the end. This configuration is useful for using two types of effects (or chains of effects) but want to keep their signals separate.

There are three separate Middle Split options:

- **Middle Split 3-4-3** features three slots after the Input, an eight-slot split Mix section, and then three slots before the Output.

- **Middle Split 5-3-3** features five slots after the Input, a six-slot split Mix section, and then three slots before the Output.

  Note: Middle Splits 3-4-3 and 5-3-3 use the same singal path icon shape.

- **Middle Split 7-2-3** features seven slots after the Input, a two-slot split Mix section, and then three slots before the Output.

See *(4.4.2) Adjusting Settings > Parameters > Mix* to learn how to mix the split paths together.
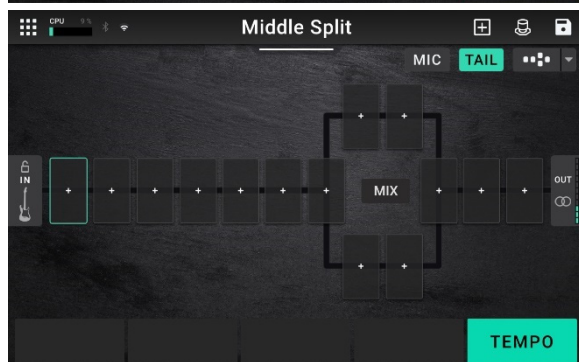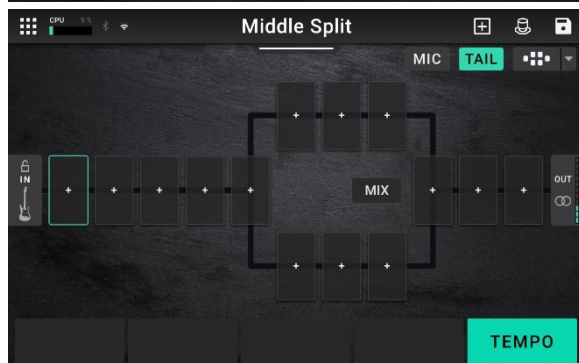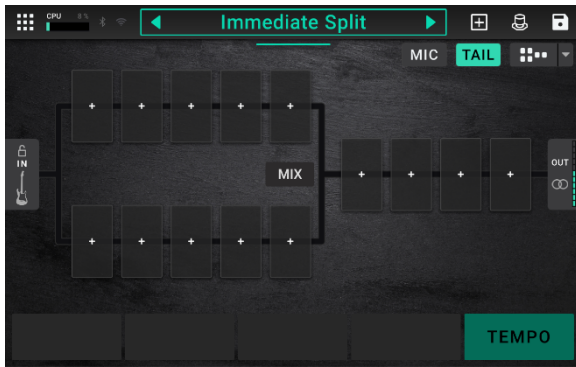
Guitar: Immediate Split

This signal path splits immediately from the source and rejoins near the end. Like the second configuration, this one is useful for using two types of effects (or chains of effects) independently, but it allows for more models in the split paths and the rejoined one.

See *(4.4.2) Adjusting Settings > Parameters > Mix* to learn how to mix the split paths together.
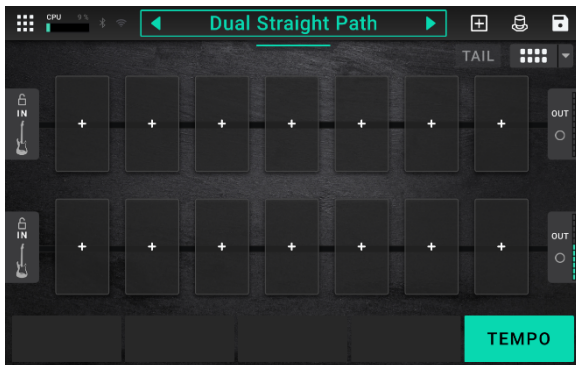
Guitar: Dual Straight Path

This straight signal path is the most common for users that would like to connect two guitars simultaneously while maintaining separate singal paths for each guitar. This can be useful for making easy switches between electric and acoustic guitars on stage or playing along with a friend. When using this signal path type, the upper path uses the Combo XLR+1/4" microphone input, and the bottom path uses the 1/4" guitar input.
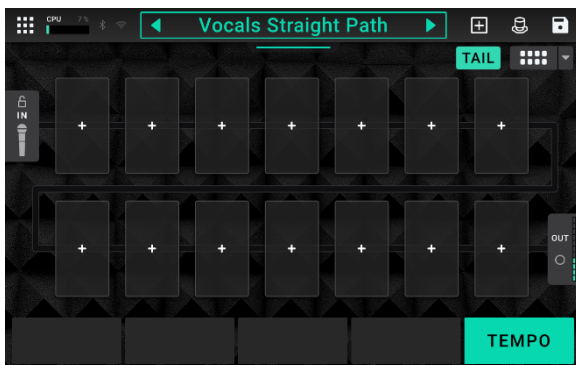
Vocals: Straight Path

This straight signal path is the most common for users that are creating non-complex vocal tones.
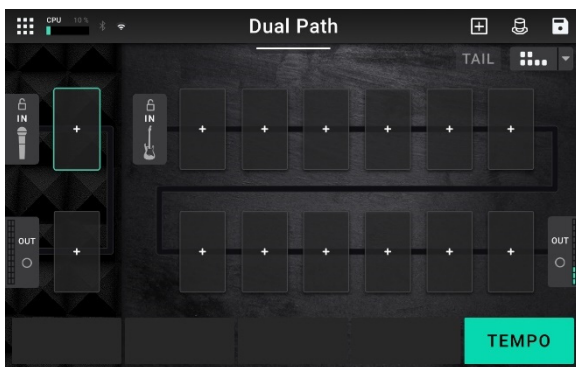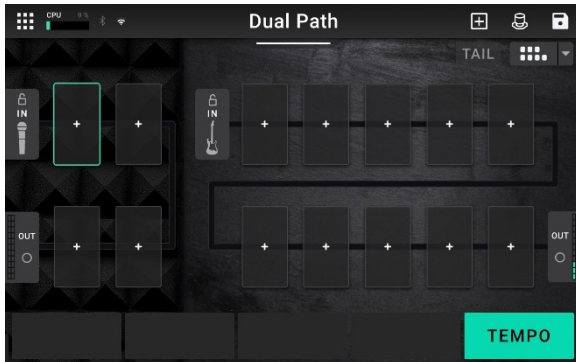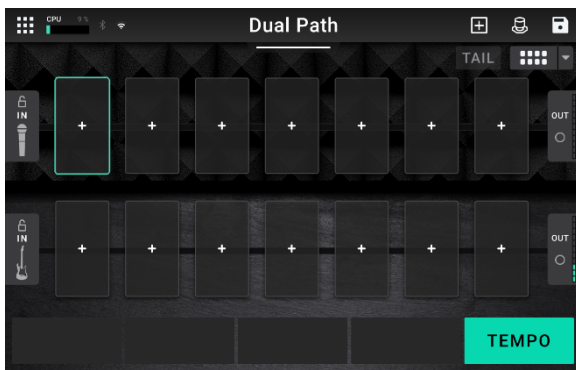
Vocals and Guitar: Dual Path

These signal paths are the most common for users who want to utilize effects for both guitar and voice.

There are three separate Dual Path options.

- **Dual Path 7-7** features seven slots each for vocals and guitar.

- **Dual Path 4-10** features four slots for vocals and ten slots for guitar.

- **Dual Path 2-12** features two slots for vocals and twelve slots for guitar.

Optimizing Your Signal Path

After adding blocks to a rig, you can use the touchscreen to arrange your selected blocks in any sequence, but you may find that some configurations will sound better than others.

Here are some common model placement suggestions for creating great rigs with HeadRush Core:

- Dynamics (e.g., **compressors**), filters (e.g., **wah**, **pitch shifters**), and **volume** pedals are generally placed at the beginning of the signal chain. Alternatively, you can place volume pedals at the end of the signal chain to provide a slight variance in functionality.

- Gain-based effects (e.g., **overdrive**/**distortion**, **fuzz**) usually come next.

- Equalization (**EQ**) is often used to shape the tonal characteristics of overdrive/distortion and fuzz effects, so put an EQ after them. Alternatively, place it before them to shape the guitar's general tone—cutting unwanted frequencies—before the gain pedals.

- Modulation effects like **flangers**, **phasers**, and **chorus** are typically placed next.

- Time-based effects like **delays** and **reverbs** are generally placed in between the **amp** and **cab** blocks (to simulate an amp's built in FX loop), or near the end of the signal chain.

- **Amp models**, **cab models**, **IRs**, and **amp clones** are often placed near end of the signal chain, although you can place it wherever you want, depending on your needs.

Switching Between Paths

When using split path signal chains, you can use a footswitch or expression pedal to toggle or blend between each path.

To toggle between split paths using a footswitch, use the *(4.6) Hardware Assign* page to assign a footswitch to this function in your rig. In the Hardware Assign page, select the **Signal Chain** category of the **Footswitch Assignment Menu**, and choose **Path Mix: A <Switch> B**.

Each press of the assigned footswitch will alternate between the full top row split path in the rig being active and the bottom row being muted, and vice versa. This option can only be applied to split path rigs.

Note: You can also set this assignment as part of a Scene by adjusting the **Patch Switch** parameter located at the bottom of the **Scene Assign** page.
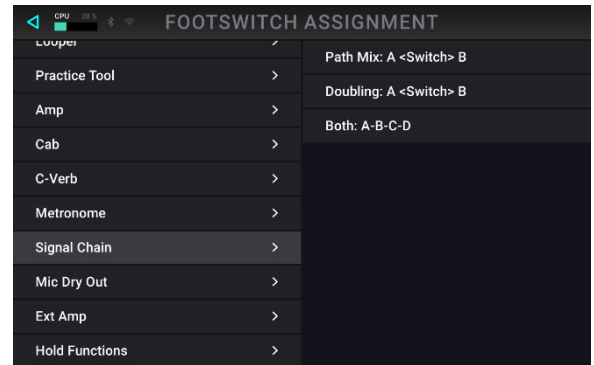
To blend between signal paths using an external expression pedal, use the *(4.6) Hardware Assign* page to assign the external expression pedal to the **Mix > A <Crossfade> B** assignment.

(4.3.3) Stereo vs. Mono

The outgoing signal from HeadRush Core can be mono or stereo, depending on the models in your rig, the signal path, and which outputs you are using. An indicator near the end of the signal path indicates the current configuration.

The signal will be **stereo** if you do any **one** of the following:

- Use any stereo effect model in your signal chain. Even if you have placed mono effect models after it. This is possible because the mono effect is simply applied identically to both channels and not summed.
- Use a split signal path, even if the split paths rejoin before the output.
- Use a double-amp, double-cab, and/or double-IR configuration (i.e., if **2X** is **on**).

The signal will be **mono** if you do **all** of the following:

- Use no stereo effect models in your signal chain.
- Use the linear (not split) signal path.
- Use only single-amp and single-cab configurations (if you use an amp or cab model at all).

Alternatively, the signal will be mono if you do both of the following:

- Use only the **L/Mono output** (of a stereo pair) on the rear panel.
- Reduce the **Rig Width** output setting to **0%**.

To adjust the width of the stereo field, tap the **Out** icon at the end of your signal path, and turn the third **parameter knob** to adjust the **Rig Width** output setting. This affects stereo signals only, not mono signals. **100%** uses the full stereo field while **0%** produces a mono signal.

(4.3.4) Saving a Rig

If you have made certain changes to a rig, you will see an asterisk (✱) next to its name at the top of the screen, indicating that you have changed the rig in some way and may want to save it.

You will see an asterisk if you have done any of the following:

- assigned a block to the rig.
- deleted a block from the rig.
- moved a block in the signal path.
- changed a block's preset (see *(4.4) Adjusting Settings* to learn more).
- made any change in the Hardware Assign screen (see *(4.6) Hardware Assign* to learn more).

Activating or deactivating a block, adjusting parameters on any screen, or using the expression pedal on any screen will **not** cause the asterisk to appear. You can save these changes to this rig, save these changes as another rig, or discard them altogether.

If the asterisk is shown and you try to load a different rig, you will be asked to select one of these options:
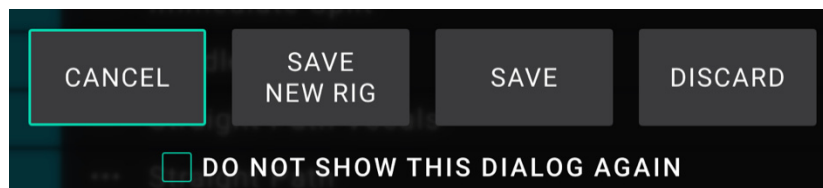
- **Cancel**: This option returns to the previous screen without saving the current rig or loading a new rig.
- **Discard Changes**: This option loads a new rig without saving any changes to the previous rig.
- **Save as a New Rig**: This option lets you save the current rig as a new rig. In the screen that appears, use the keyboard that appears to enter a name, and then tap **Save**. That rig will be saved, and the new rig will load.
- **Save Changes to Rig**: This option saves any changes you made to the rig and then loads the new rig.

Note: Select **Do not show this dialog again** in the message to disable these confirmation messages. You can re-enable them in the *(4.21.1) Global Settings > General* screen.

To save a rig while you are editing it, tap the **Save icon** in the upper-right corner.

To save your changes to the current rig, tap **Save**.

To save your changes as a new rig, tap **Save New Rig**, use the keyboard that appears to enter a name, and then tap **Save**.

To return to the previous screen without saving, tap **Cancel** at any time.
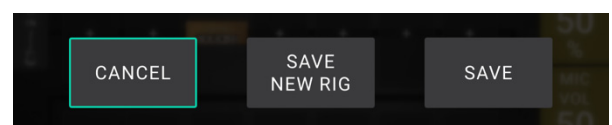
(4.3.5) Renaming a Rig

To quickly rename a rig that you are currently editing, double tap the Rig Name in the top bar. Use the virtual keyboard that appears to type the new name, and then tap **Rename**.

To rename a rig that you are not currently editing, tap and drag the bar below the Rig Name to show the list of rigs on your HeadRush Core. Then, tap the ••• button next to the name of the rig you would like to rename, and tap the pencil icon that appears. Finally, use the virtual keyboard to type the new rig name, and then tap **Rename**.
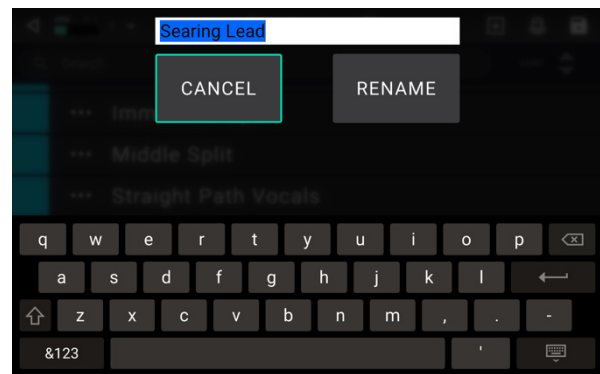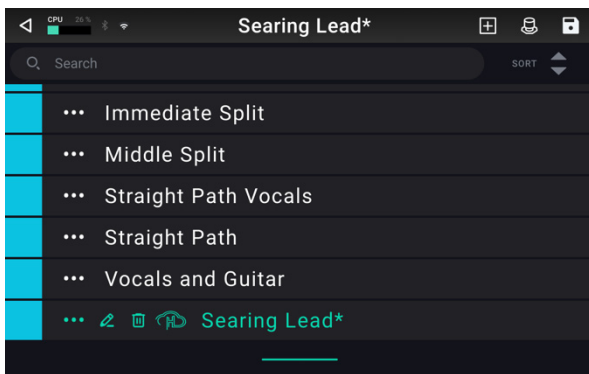
Note: You can also rename rigs using HeadRush Core's built-in File Browser. See the *(4.8) File Browser* section of this manual for more information.

(4.3.6) Deleting a Rig

To delete a Rig, tap and drag the bar below the Rig Name to show the list of rigs on your HeadRush Core. Then, tap the ••• button next to the name of the rig you would like to delete, tap the trash can icon that appears, and then confirm that you would like to delete the rig.

Note: You can only delete a rig if you are in the "All Rigs" setlist. If you are in a user created setlist, this option will be replaced by an option to delete the rig from the setlist only.
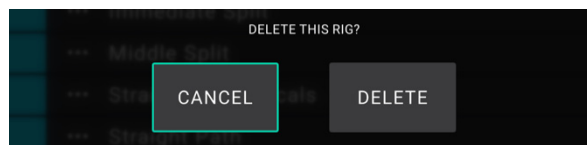
Note: You can also delete rigs using HeadRush Core's built-in File Browser. See the *(4.8) File Browser* section of this manual for more information.

(4.4) Adjusting Settings

To adjust the settings of a block in your rig, double-tap it to open its settings screen. You can adjust the settings of any block (amp, cab, IR, clone, or effect), the input (the **In/Lock** icon), the output (the **Out** icon), or mix (the **Mix** icon).

(4.4.1) Overview

Tap ◁ to return to retain your changes and return to the main screen.

Tap this icon to enter the *(4.6) Hardware Assign* menu.

Tap this icon to discard any changes you've made since opening this screen.

See *(4.4.3) Saving a Block Preset*.

Tap and slide a fader to change a parameter's value.

Tap the **Preset** menu to select a preset.

Tap a button to change a parameter's setting.

Tap the block name to assign a different block to this slot.

Tap the **sliders icon** to open the advanced block edit page.

Tap **Delete** to unassign the block from the slot.

This meter displays the output level of the block.

Tap a color to assign it to this block. That color will be shown in the Hardware Assign screen, and in the footswitch indicator for this model.

These buttons turn the model EQ on/off and adjust its settings.

Tap the **arrow icon** to return to the first page of settings.

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(4.4.2) Parameters

Listed below are some of the common parameters that you can adjust for each type of block. The block types include amps, cabs, IRs, clones, effects, input settings, output settings, and mix settings (if you are using a split signal path). See *(4.4.3) Saving a Block Preset* to learn how to save a preset after adjusting parameters.

Amp (HeadRush / Revalver)

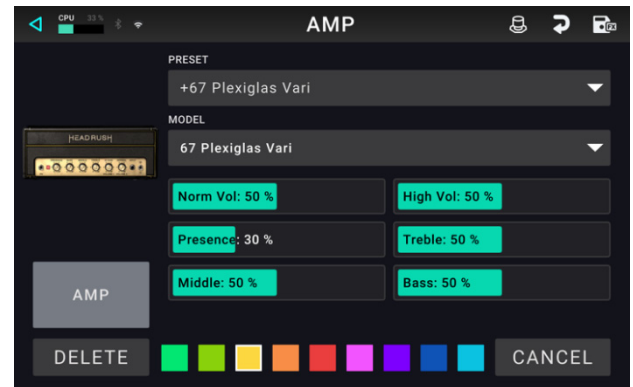The Amp category is a list of popular guitar and bass amplifiers.

- **Preset**: This is the current amp preset, which includes the model, all its settings, and its color assignment.

- **Model**: This is the amp model.

- **Amp Settings**: These are the settings for the selected amp model (different models may have more or fewer settings).

- **Out Level**: This setting adjusts the overall output level of the amp model without affecting its tonal characteristics.

- **Color**: This is the assigned color, which will appear in the Hardware Assign screen and the switch indicator if the amp is assigned to a switch.

Cab (HeadRush / Revalver)

The Cab category is a list of popular guitar and bass amp cabinets, which contain the speakers. HeadRush Core recreates not only the sound of the cabinet but also the type of microphone recording it.

- **Preset**: This is the current cab preset, which includes the model, all its settings, and its color assignment.

- **Cab Type**: This is the cab type. Numbers notated as _X__ indicate the number of speakers it has and the size of each speaker (e.g., **2X12** denotes a cab with two 12-inch speakers, **4X10** denotes a cab with four 10-inch speakers). Numbers notated as __W indicate the emulated wattage (output power) of the speaker.

- **Mic Type**: This is the type of microphone being used on the cab. You can select different models of dynamic (**Dyn**), condenser (**Cond**), or ribbon (**Ribbon**) microphones.

- **Mic Settings**: These are the settings for the microphone:

  - **Break Up**: This determines the amount of speaker "breakup"—the natural distortion that occurs when the audio signal overdrives the speaker.

  - **On-Axis**: This determines the microphone position relative to the cab. On-axis placement (**On**) positions the microphone at the center of the speaker, usually resulting in a brighter sound with more definition. Off-axis placement (**Off**) is slightly offset at an angle from the center of the speaker, and it often sounds darker in tone.

  - **Out Gain**: This is the cab's output gain level.

  - **Amp Gain**: This is the amplifier's gain level.

- **Color**: This is the assigned color, which will appear in the Hardware Assign screen and the switch indicator if the cab is assigned to a switch.
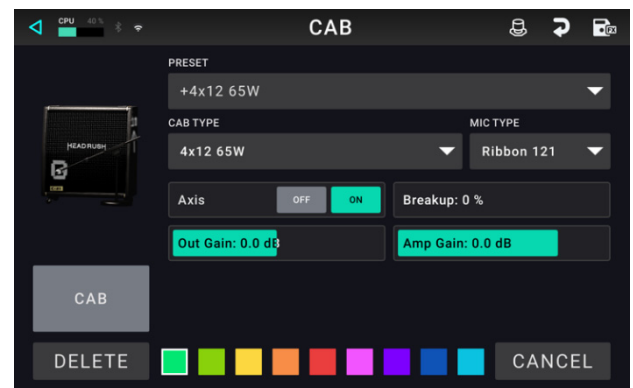
Effects

There are many types of guitar and vocal effects available on HeadRush Core, and their adjustable settings depend on the type of effect selected.

> **Preset**: This is the current effect preset, which includes the selected effect, all its settings, and its color assignment.

> **Effect Settings**: After the effect has been selected, you can further dial in the effect by adjusting the parameters that appear on screen.

Amp and Pedal Clones

A **Clone** is an alternative type of guitar/bass amplifier or distortion/overdrive/fuzz pedal simulation that allows you to capture the sound of your own gear and use it inside of HeadRush Core. See *(4.15) Amp Cloner* to learn more about how to capture your own clones.

> **Preset**: This is the current Clone preset, which includes the selected clone, all its settings, and its color assignment.
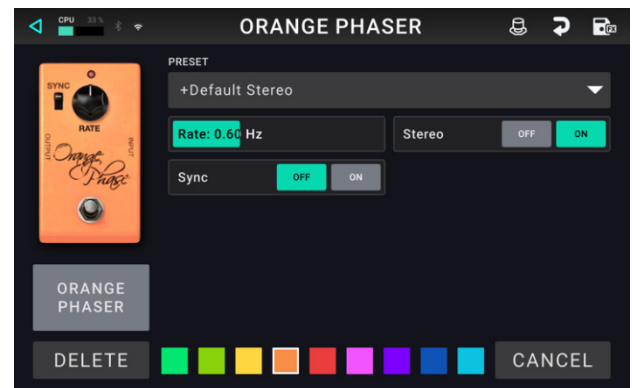
> **Clone File**: Tap here to select a previously created or imported clone from your internal storage.

> **Clone Settings**: After the Clone has been selected, you can further dial in the clone's sound by adjusting the tone stack parameters that appear on screen.

> **Cab ON/OFF**: You can use this setting to disable the sound of the speaker cab from your Amp & Cab clone, and instead use an onboard cabinet model or an IR file.
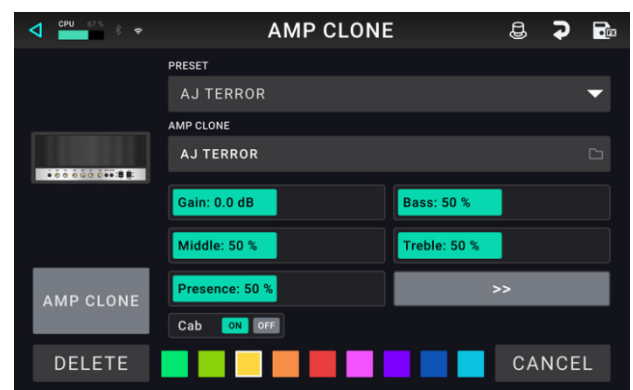
Speaker Cabinet Impulse Response (IR 2048/1024 Samples)

A Speaker Cabinet Impulse Response **(IR)** models the tone and speaker characteristics of a guitar or bass speaker cabinet, and is typically stored as a .WAV file.

These files can be loaded to your rig by using the **IR (2048 Samples)** and/or **IR (1024 Samples)** blocks, found in the **Cab/IR** category of the model selector.

HeadRush Core includes 300+ cabinet IR files onboard, however, there are also many reputable third-party companies that capture and distribute IRs that can be imported into HeadRush Core.

You can load IRs at the highest quality (2048 samples) or at a lower quality (truncated to 1024 samples), which is less DSP-intensive, enabling you to load and use additional blocks and/or IRs to your rigs.

> **Preset**: This is the current IR preset, including the selected IR, all its settings, and its color assignment.

> **IR File**: Tap here to select a speaker cabinet IR file from your internal storage.

> **IR Settings**: After the IR has been selected, you can further dial in the IR's sound by adjusting the **Gain**, **Hi-Cut**, **Lo-Cut**, and **Mix** parameters on screen.

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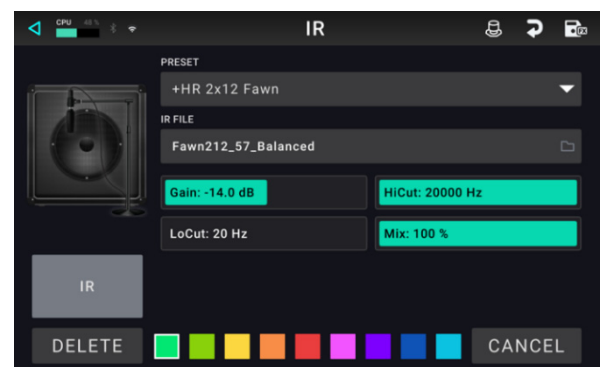
Convolution Reverb Impulse Response (C-Verb)

A Convolution Reverb Impulse Response **(IR)** models the reverberation and ambiance characteristics of an acoustic space, and is typically stored as a .WAV, .AIF, or .OPUS file.

These files can be loaded to your rig by using the **C-Verb** effect, found in the **Reverbs** category of the model selector.

The **C-Verb** effect allows you to explore your tone in a variety of acoustic spaces using the included 50+ IR files or by importing IRs from third-party companies for virtually endless tonal possibilities.
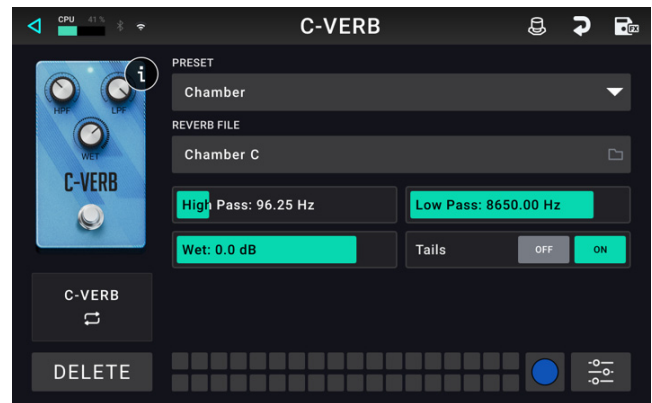
> **Preset**: This is the current C-Verb preset, including the selected IR, all its settings, and its color assignment.

> **Reverb File**: Tap here to select a convolution reverb IR file from your internal storage.

> **IR Settings**: After the IR has been selected, you can further dial in the IR's sound by adjusting the **High Pass**, **Low Pass**, **Wet**, and **Tails** parameters on screen.

Important: Only one instance of C-Verb can be loaded to each Rig. If a multi-channel IR is loaded, only the first two channels are used. The maximum supported length for a loaded IR is 10 seconds, and the CPU usage of this effect will be determined by the length of the IR loaded.

In (Guitar / Vocal)

These input settings control the signal sent through the models of your rig:

Preset: This is the current input preset, which includes all its settings and its locked/unlocked state.

Parameters: This menu determines whether these input settings are locked or unlocked.

- When **unlocked**, the settings will change to the new rig's input settings each time you load a new rig. The lock icon on the main screen will be **gray**.

- When **locked**, the settings will be retained as "global" input settings, regardless of the rig. The lock icon on the main screen will be **red**.

Rig Input: This setting determines whether the rig's input signal is taken from the **guitar input** (**Guitar**), or the right (R) **return input** (**FX Ret R**). This menu is shown only when **Rig Input** is set to **Per Rig** (in the global settings (see *(4.21.2) Global Settings > Audio* to learn about this).

> **Note**: The **Rig Input** parameter is available on **Guitar In** blocks only.

Input Level Meter: This level meter indicates the current level of your input signal **before** the input controls shown on this screen.

Input Gain: This setting controls the gain level of the signal sent from your guitar into your rig. The available range is **-60.0** to **12.0 dB**.

> **Note**: The **Input Gain** parameter is available on **Guitar In** blocks only. To control the Input Gain for a **Vocal In** block, use the **Mic Input Gain** knob on the rear panel of HeadRush Core.

Gate Thrsh (Threshold): This setting controls the signal level required to open the noise gate, enabling the guitar signal to be sent to the rig. The available range is **-120.0** to **0.0 dB**. The threshold is represented by a white line on the **input level meter**.

Gate Rel (Release): This setting controls the amount of time it will take for the noise gate to close once the incoming guitar signal stops. The available range is **1–3000 ms**.

HP Filter, Noise Filter, EQ (Vocal Only): There are additional settings for a high-pass filter, noise filter, and EQ on the input block to help refine your microphone's sound before any effects are applied. These parameters are available on Vocal In blocks only.

> **Note**: The **HP Filter, Noise Filter,** and **EQ** parameters are available on **Vocal In** blocks only.
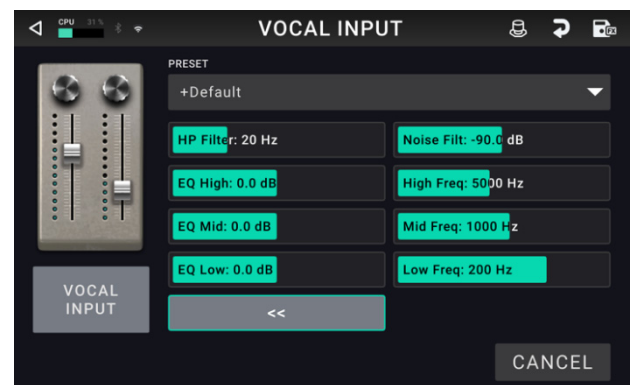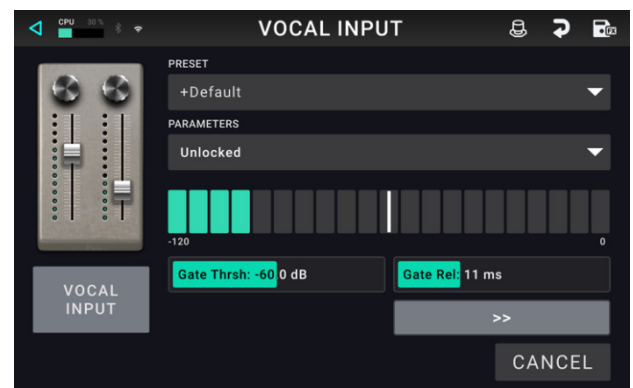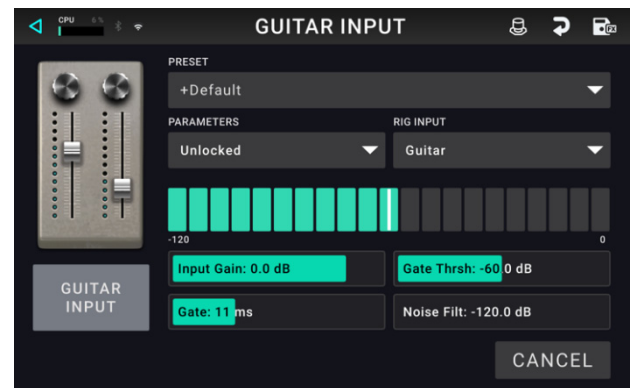
Out (Guitar / Vocal)

These output settings control the signal sent to HeadRush Core's outputs:

Preset: This is the current output preset, which includes all its settings.

Output: This level meter indicates the current level of your output signal **after** the output controls shown on this screen. You can set which outputs will send this signal in the Global Settings screen. See *(4.21.2) Global Settings > Audio* to learn about this.

Rig Vol (Volume): This setting controls the level of the audio signal sent from the outputs. The available range is **-60.0** to **36.0 dB**.

Rig Width: This setting controls how much of the stereo field the output signal uses. **100%** uses the full stereo field, while **0%** produces a mono signal. This affects stereo signals only, not mono signals.

Alternate Output: This level meter indicates the current level of your output signal. You can set which outputs will send this signal in the Global Settings screen. The **To Amp Gain** setting controls the level of this signal unless the **Alternate Output** source is set to **Rig Input**. See *(4.21.2) Global Settings > Audio* to learn about this.

Alt (Alternate) **Out Gain**: This setting controls the gain level of the signal of the Alternate Output unless the **Alternate Output** source is set to **Rig Input** (see *(4.21.2) Global Settings > Audio* to learn about this). The available range is **-60.0** to **12.0 dB**.

Note: The **Alternate Output and Alt Out Gain,** parameters are available on **Guitar Out** block only.
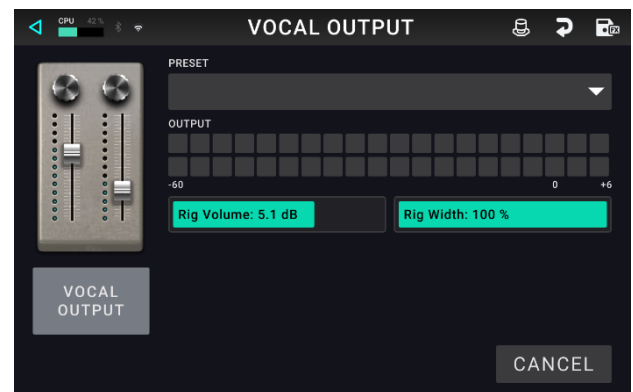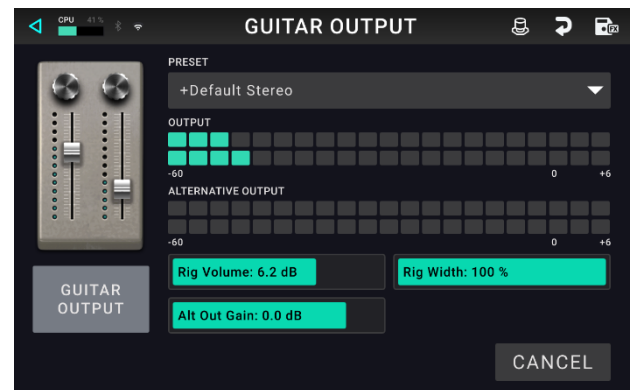
Mix

These settings control mix of a split signal path. This is available only for rigs with split signal paths (see *(4.3.2) Rigs > Signal Path* to learn more):

Preset: This is the current mix preset, which includes its settings on the right edge of the display.

A Lev / **B Lev** (Level): These settings control the volume levels the upper (**A**) and lower (**B**) branches of the signal path. The range is **-60.0 dB** to **+12.0 dB**.

A Pan / **B Pan**: These settings control the panning (position in the stereo field) the upper (**A**) and lower (**B**) branches of the signal path. The range is **-100%** to **+100%**.

A/B Delay: This setting controls a timing offset between the upper (**A**) and lower (**B**) branches of the signal path. The range is **-30000μs** to **+30000μs**. If the value is negative (**-**), the A branch is delayed. If the value is positive (**+**), the B branch is delayed.

Advanced Block Edit Page

The amp, cab, IR, clones, and effects blocks also feature a second page of parameters, where you can adjust gain and EQ. The settings on this page are the same for each available block type.

- **Input Gain**: This setting controls the gain level of the signal sent going into the block. The available range is **-12.0** to **12.0 dB**.
- **Input Level Meter**: This level meter indicates the current level of your input signal **before** the input controls shown on this screen.
- **Output Gain**: This setting controls the gain level of the signal after it has been processed by the block. The available range is **-12.0** to **12.0 dB**.
- **Output**: This level meter indicates the current level of your output signal **after** the output controls shown on this screen. You can set which outputs will send this signal in the Global Settings screen. See *(4.21.2) Global Settings > Audio* to learn about this.
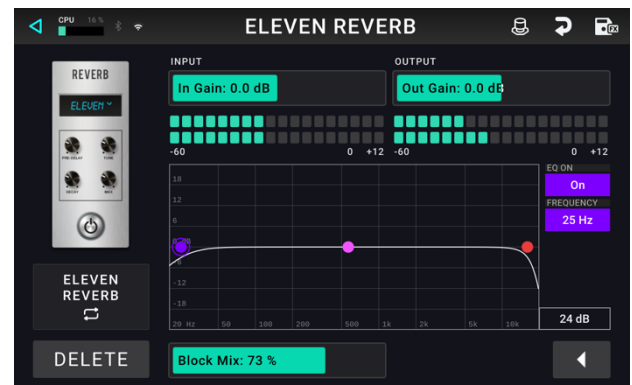- **EQ On**: This setting determines whether equalization is enabled (**On**) or disabled (**Off**) for the outputs.
- **Level**: This setting determines if/how much the signal level from the outputs is boosted or cut. This value is applied to the level set by the **Main** knob.
- **Low Band** & **High Band**: These settings determine what type of equalization is applied to the lowest-frequency band (**Low Band**) and to the highest-frequency band (**High Band**): **Shelf** or **Cut**.
- **EQ Bands:** There are four available EQ bands: Low (blue), Low Mid (teal), High Mid (yellow-green), and High (orange). Tap to select each band. To adjust each band's **Frequency** and **Gain**, you can simply drag the dots along the graph, or use the parameters on the right side of the graph.
- **Frequency:** This setting determines the center frequency of each EQ band, in Hertz (Hz).
- **Gain:** This setting determines how much the equalizer boosts or cuts the signal and the corresponding frequency band.
- **Quality:** This setting determines the width of the frequency band. The higher the setting, the wider the band will be around the center frequency (the first setting). This setting is applied whether **Low Band** or **High Band** is set to **Shelf** or **Cut**.
- **Mode:** For the **Low** and **High** frequency bands, this determines whether the equalization is applied as a **Shelf** or **Cut**.
- **Zoom:** You can view the EQ graph on a **12 dB** or **24 dB** scale by tapping this setting at the bottom.
- **Block Mix:** This setting controls the wet/dry blend of the block's input signal and processed output signal.

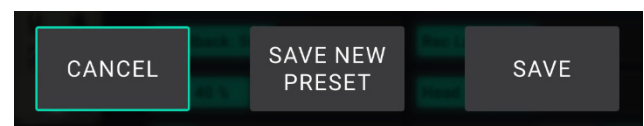## (4.4.3) Saving a Block Preset

Tap the **Save icon** in the upper-right corner to save a block preset.

- **To save your changes to the current preset**, tap **Save**.
- **To save your changes as a new preset**, tap **Save New Preset**, use the keyboard that appears to enter a name, and then tap **Save**.
- **To return to the previous screen without saving**, tap **Cancel** at any time.

(4.5) Footswitch Modes

The five footswitches can be used to activate or bypass blocks (amps, impulse responses, clones, cabs, or effects) as well as select scenes, rigs, and setlists. The footswitches can be used in one of five modes: **Stomp Mode**, **5-Rig Mode**, **3-Rig Mode**, **Hybrid Mode**, or **Setlist Mode**. The mode you are in when you power off HeadRush Core will be the mode you are in when you power it back on.

To change the mode:

1. Press and hold the second footswitch (labeled "**—VIEW**") until **the available modes** appears on the bottom of the screen on the virtual OLEDs. The adjacent five footswitches now correspond to the five modes: **Stomp**, **5-Rig**, **3-Rig**, **Hybrid**, or **Setlist**.

2. Press a **footswitch** to enter the corresponding mode.

Additionally, you can access shortcuts to other features from the same menu used for selecting the footswitch mode.

- **To access the Drum Machine,** hold the footswitch labeled **DRUMS**.

- **To turn the Metronome on/off,** hold the footswitch labeled **METRO**.

- **To turn the Mic Dry feature on/off,** hold the the footswitch labeled **MIC DRY**.

- **To turn the Lock Screen feature on/off,** hold the footswitch labeled **UN(LOCK).**

To exit this Menu without making a change, hold the footswitch labeled **EXIT.**

(4.5.1) Stomp Mode

In Stomp Mode, the five footswitches correspond to blocks or scenes in your rig. Press a footswitch to activate or deactivate its block.

To show a second bank of 5 stomps, press and hold the first footswitch (labeled "**—BANK A/B**")

To load the previous rig, press footswitches 2 and 3 (▼) simultaneously.

To load the next rig, press footswitches 3 and 4 (▲) simultaneously.
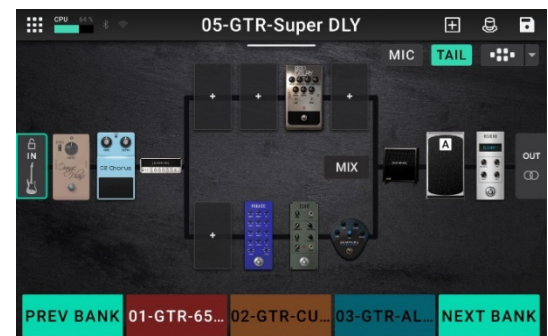
(4.5.2) 3-Rig Mode

In 3-Rig Mode, the middle three footswitches correspond to rigs you have saved. Press a footswitch to load its rig.

To show the previous three rigs, press footswitch 1.

To show the next three rigs, press footswitch 5.

(4.5.3) 5-Rig Mode

In 5-Rig Mode, all five footswitches correspond to rigs you have saved. Press a footswitch to load its rig.

To show the previous five rigs, press footswitches 2 and 3 (▼) simultaneously.

To show the next five rigs, press footswitches 3 and 4 (▲) simultaneously.

(4.5.4) Hybrid Mode

In Hybrid Mode, the middle three footswitches correspond to blocks or scenes in your rig. Press a footswitch to activate or deactivate its block.

To show a second bank of 3 stomps, press and hold the first footswitch (labeled "**—BANK A/B**")

To load the previous rig, press footswitch 1.

To load the next rig, press footswitch 5.

(4.5.5) Setlist Mode

In Setlist Mode, the middle three footswitches correspond to setlists you have saved. Press a footswitch to load its setlist.

To show the previous three setlists, press footswitch 1.

To show the next three setlists, press footswitch 5.

(4.6) Hardware Assign

The Hardware Assign screen enables you to customize how HeadRush Core's footswitches control each rig, as well as set other "per rig" parameters".
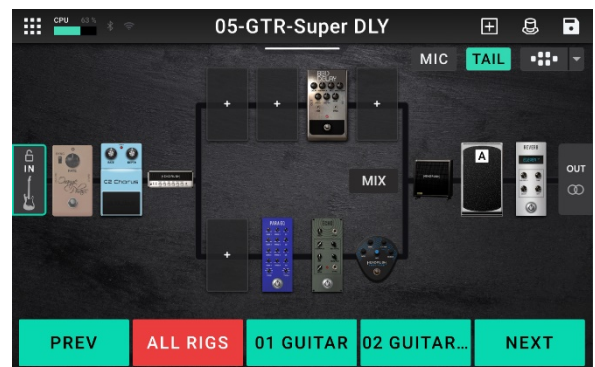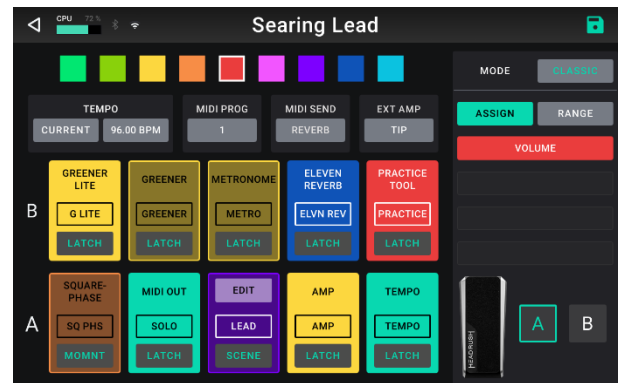
> **To open the Hardware Assign screen**, tap the **footswitch icon** in the upper-right corner of the main screen.

> **To return to the main screen**, tap the ◁ button in the upper-left corner.

Important: The Hardware Assign settings are all part of the overall rig, so remember to save your changes you want to keep.

To set the color associated with the rig, tap it in the upper-left part of the screen. This color will appear next to the rig name when you view a list of all available rigs or when you view and create setlists. It will also be the color of the corresponding footswitch indicator when HeadRush Core is in the **Rig** footswitch mode.

To set the tempo of the rig's time-based effects, (delays, modulation, etc.) tap the button under **Tempo** to select **Current** or **Fixed**.

- **Current**: The rig will use the last-used tempo or the one set by the **Tempo** footswitch.

  > **To set the tempo**, press the **Tempo** footswitch (the lower-right-most one) at the desired tempo 3–8 times to set the new tempo in beats per minute (**BPM**). You can do this anytime that footswitch display shows **Tempo**.

- **Fixed**: The rig will use a tempo that you set here.

  > **To set the tempo**, turn the **encoder** to set the desired tempo in beats per minute (**BPM**). You can set the tempo only in this Hardware Assign screen.

The **MIDI PROG** setting assigns a MIDI program change number to the current rig. When a MIDI program change message matching this number is sent from an external MIDI device to the HeadRush Core, the assigned rig will load.

To set the MIDI program change number for the current rig, tap the **MIDI PROG** field and use the **encoder** to select a number between 1 and 128. Note that MIDI program change numbers 0–127 correspond to rigs 1–128, with program change message #0 loading the rig assigned to "1", and so forth.

Important: Use the **Prog Change** setting in the **Global Settings > MIDI** menu to determine whether HeadRush Core should receive or send MIDI program change messages. (see *(4.21.8) Global Settings > MIDI* for more information).

The **MIDI SEND** button can be used to send up command of up to 5 different MIDI messages (Program Change, Control Change, Note On/Off) when the rig is loaded. See *(4.6.5) MIDI Out Messages* for more information about this feature.

(4.6.1) Footswitches

The ten boxes in the lower-left corner represent the 2 footswitch banks of HeadRush Core when in Stomp Mode or Hybrid Mode. You can assign any switch-based parameters (ones with only two states) to any of the footswitches—regardless of their location in the signal chain.

You can also assign controls from the Looper, Metronome, and Practice Tool features to a footswitch within a rig for easier access.
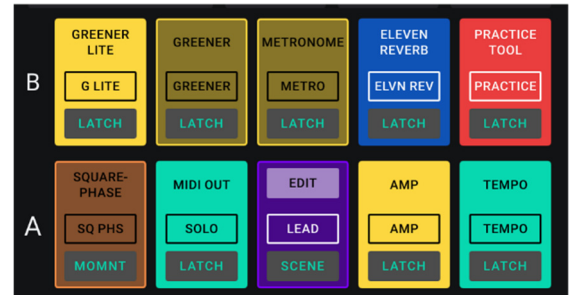
To assign a parameter to a footswitch:

1. Tap a box. **✚** indicates an empty box.

2. In the list that appears, tap the block or feature with the parameter or control that you want to assign.

3. In the list that appears, tap the parameter you want to assign. Usually, the parameter will simply be **On** (to activate or deactivate it).

    Tap **Unassigned ✕** to unassign that footswitch.

4. On the Hardware Assign screen, tap **Latch/Momnt/Scene** for that footswitch to cycle through the available options:

    When set to **Latch**, each press will turn the block on or off.

    When set to **Momnt**, pressing and holding the footswitch will activate it, and releasing the footswitch will deactivate it. This will also disable the footswitch's default hold functionality (for example, entering the Looper for footswitch 4).

    When set to **Scene**, each press will turn a scene on or off. A scene is a collection of "linked" blocks in the rig—all of which will simultaneously turn on or off when you press that scene's footswitch. See the *(4.6.2) Scenes* section to learn about this feature.
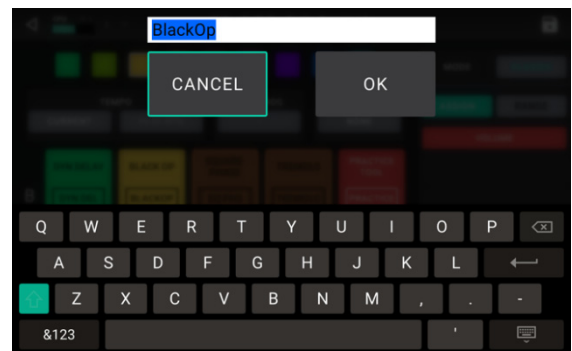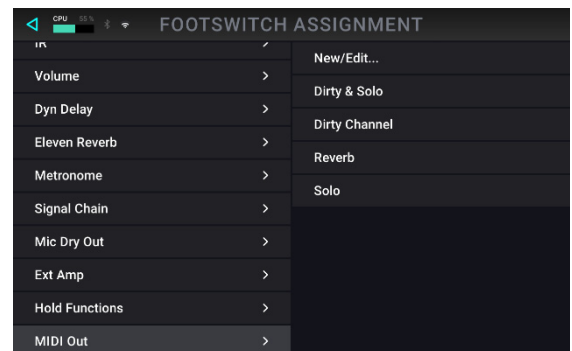
To swap two assignments, tap and drag one of them over the other, and then release it.

To edit the text displayed above the footswitch, tap the text in the box below the block name, use the virtual keyboard that appears to enter a name, and then tap **OK**.

A footswitch can also be used to send up command of up to 5 different MIDI messages when the footswitch is pressed and released. See *(4.6.5) MIDI Out Messages* for more information about this feature.

(4.6.2) Scenes

The **Scene** feature allows you to turn multiple blocks on or off or change multiple presets for a block in each rig using one footswitch press. When you press the footswitch assigned to that scene, all blocks included in that scene will turn on or off, depending on how you assign them. This is a great way to create multiple tones in the same rig. For instance, you may want a particular reverb block to be on anytime a particular distortion block is also on. Alternatively, you may want to turn one delay block off when you turn another one on. Scenes enable you to do this with only one footswitch press.

**To create and edit a scene:**

1. On the **Hardware Assign** screen, tap **Latch/Momnt/Scene** for the desired footswitch to cycle through the available options, and select **Scene**.

2. On that footswitch, tap **Edit**. The Scene Editor will appear, which shows all models in your rig.

3. For each model in the rig, tap the **On/Off/No Change** field to cycle through the available options:

   - **On**: This block will turn on when you turn the scene on.
   - **Off**: This block will turn off when you turn the scene on.
   - **No Change**: This model will remain unaffected when you turn the scene on.

4. If you would like a block to load a preset when the scene is turned on, tap the **Preset** field, and select a preset. With this feature enabled, you change the parameters of a block by selecting a scene.

5. If you are using Switch-Doubling or a Split Path signal chain, use the **Doubling Switch** and **Path Switch** options to toggle between **A/B/No Change**.

6. If you would like to set up a command of up to 5 different MIDI messages when the scene is activated, tap the **MIDI Out** button to configure them. See *(4.6.5) MIDI Out Messages* for more information about this feature.

7. Tap a **color** at the bottom of the touchscreen to select a color for the scene.

8. Tap the ◁ button in the upper-left corner to return to the **Hardware Assign** screen.
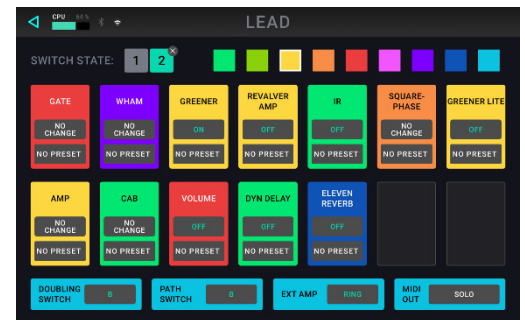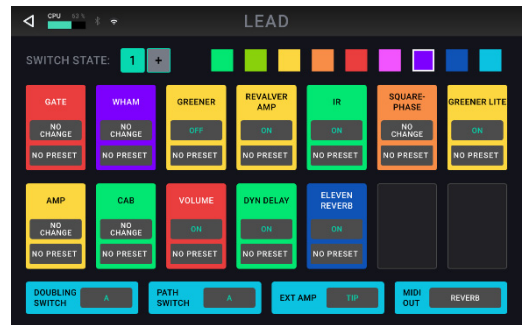
To toggle between 2 scenes on 1 footswitch:

1. On the **Scene Editor** screen, tap the **+** located next to Switch State 1, to add a second state.

2. Create the second scene using the editor as normal by choosing which blocks should be turned on, off, or have no change.

3. Tap a different color for the footswitch LED to be shown when the second state is enabled by the footswitch.

4. Tap the ◁ button in the upper-left corner to return to the **Hardware Assign** screen.

To rename a scene (which appears in the footswitch indicators), tap the text in the box below **Edit** on the block on the **Hardware Assign** screen, use the virtual keyboard that appears to enter a name, and then tap anywhere other than the text field.
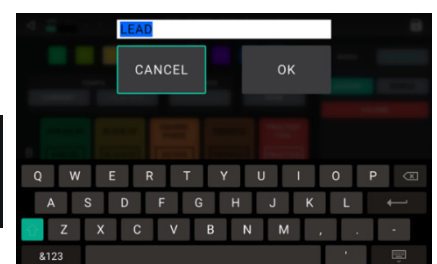
(4.6.3) Expression Pedal

When an external expression pedal with a toe switch is connected, it can control two parameters (in Classic Mode), two sets of four parameters (in Advanced Mode) or two sets of two parameters (in Auto-Engage Mode). Use the external pedal's toe switch to switch between them—Expression Pedal **A** or **B**.

Note: When you save your rig, the current selected Expression Pedal state (A or B) will be saved and then recalled when you load the rig again.

The column of four boxes represents the expression pedal settings. You can assign one or more continuously adjustable parameters (ones with a range of values) to the expression pedal.

> **To set the expression pedal mode**, tap the button above **Range** in the upper-right corner to select **Classic**, **Advanced, or Auto-Engage**.

- **Classic**: You can assign one parameter to each expression pedal (**A** and **B**). Using the toe switch will select the other expression pedal parameter and deactivate (bypass) the current expression pedal's parameter. For instance, if you assign a wah pedal to Expression Pedal A and a volume pedal to Expression Pedal B, only one of them will be active at any time; when you are controlling the wah pedal, the volume pedal will be bypassed, and vice versa.

- **Advanced**: You can assign up to four parameters to each expression pedal (**A** and **B**). Moving the pedal will adjust all its assigned parameters simultaneously. Using the toe switch will select the other expression pedal and leave the current pedal's parameters active and at their maximum values.

- **Auto-Engage**: You can assign up to two parameters to each expression pedal (**A** and **B**). In this mode, you can deactivate (bypass) the current expression pedal's parameter(s) by moving it to the **Toe Up**, **Toe Down**, or **Stop** position, depending on your **Off Pos** (Position) setting. You can also set an **Off Delay** time (0–5000 ms) that determines how long it will take for the parameter(s) to bypass when the expression pedal is moved to the Off Position. Like in Classic mode, using the toe switch will still select the other expression pedal (A or B) and deactivate (bypass) the current expression pedal's parameter(s).

Important: You **cannot** edit any parameters assigned to the expression pedal in **Classic Mode** (they will show a lock icon and be grayed out in other screens to indicate this). You **can** edit any parameters assigned to the expression pedal in **Advanced Mode** or **Auto-Engage Mode** (they will show a pedal icon in other screens to indicate this).
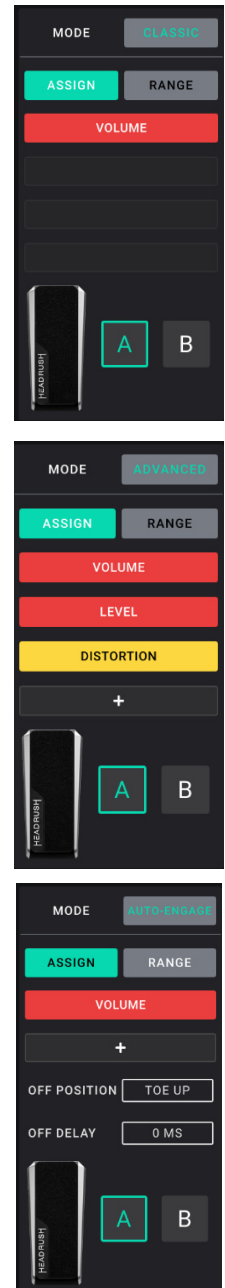
To assign a parameter to the expression pedal:

1. If the **Assign** button is not on, tap it.

2. Tap a box under the **Assign** button. **+** indicates an empty box.

3. In the list that appears, tap the model with the parameter you want to assign.

4. In the list that appears, tap the parameter you want to assign.

   Tap **Unassigned ✕** to unassign that box.
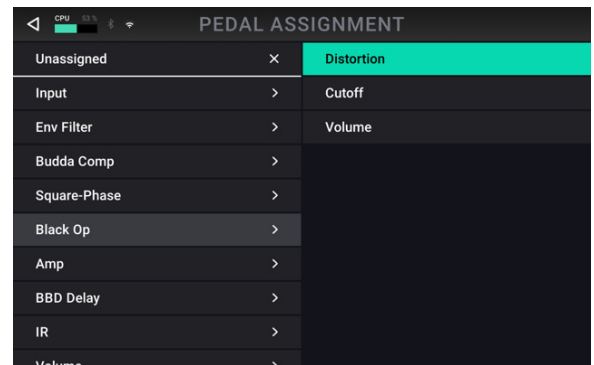
To set the range of an assigned parameter:

1. If the **Range** button is not on, tap it.

2. Tap a value under the **Range** button.

3. Turn the **encoder** to set the desired value as a percentage of the parameter's entire range. Press the **encoder** or tap elsewhere to confirm the value.
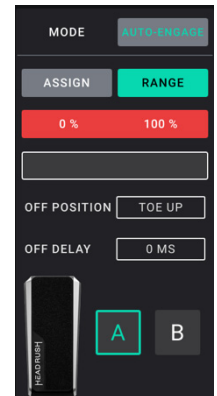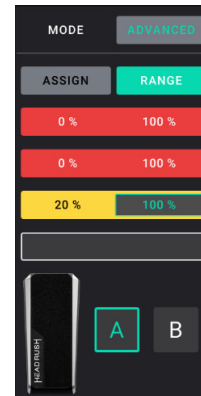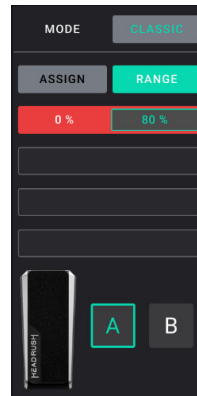
(4.6.4) Ext Amp

You can assign a switch to send a signal to your traditional guitar amplifier's footswitch input by using the **external amp output**. You can use this feature to do things like change from the clean to dirty channel or turn reverb on and off on your amplifier.

To use this feature when switching to a rig, tap the button under **Ext Amp** on the hardware assign page, and then select **Tip**, **Ring**, or **Both**. If you are unsure of which setting to use, please consult the amplifier's manual or manufacturer to confirm.

This feature can also be assigned to a footswitch on the **Model Selector** page that appears when you are assigning a footswitch's function. It can also be assigned to a scene by adjusting the parameter on the **Scene Editor** screen.

IMPORTANT! Only connect this output to amplifiers that have a "short-to-sleeve" footswitch input. If you connect this output to any other type of footswitch input, you may cause permanent damage to your equipment. If you are unsure if your amplifier has a "short-to-sleeve" footswitch input, please consult the amplifier's manual or manufacturer to confirm.

(4.6.5) MIDI Out Messages

The HeadRush Core can send a command of up to five MIDI messages to its 5-PIN MIDI DIN output when a rig is loaded, when a scene is activated, or when a footswitch is pressed.

To assign MIDI messages to be sent when a rig is loaded, tap the MIDI SEND button on the **Hardware Assign** page.
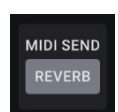
To assign MIDI messages to be sent when activating a scene, tap the MIDI OUT button on the **Scene Edit** page.
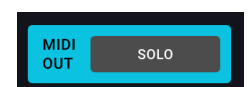
To assign MIDI messages to be sent when using an assigned footswitch within the rig, tap one of the footswitch assignment blocks on the Hardware Assign Page and then choose **MIDI OUT > New/Edit…**
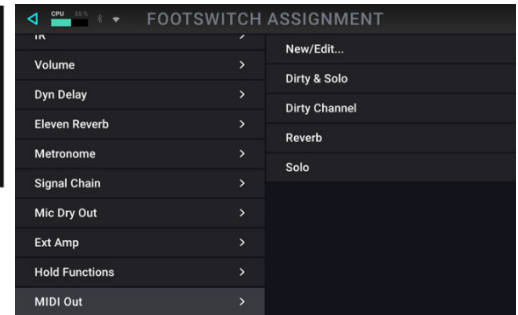
To configure a MIDI command, tap the buttons labeled **1, 2, 3, 4, or 5** to choose one of the five configurable messages, then set the parameters for the message by tapping on each button and turning the **encoder**.

You can select the following types of MIDI messages for each of these 5 configurable MIDI messages:

- **Program Change**
  - o Available Settings: MIDI Channel, MSB, LSB, and Program
- **Control Change**
  - o Available Settings: MIDI Channel, CC#, CC Data Value
- **MIDI Note On**
  - o Available Settings: MIDI Channel, MIDI Note #, and Velocity
- **MIDI Note Off**
  - o Available Settings: MIDI Channel, MIDI Note #, and Velocity
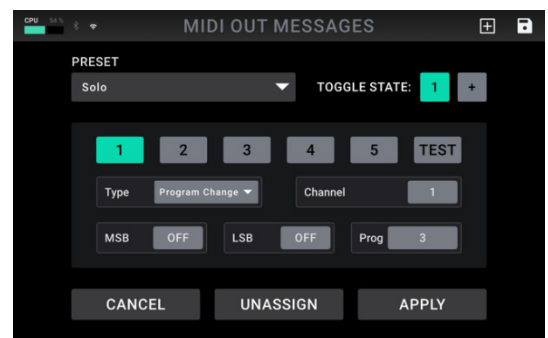
Important: If you plan to send Program Change messages, Use the **Prog Change** setting in the **Global Settings > MIDI** menu to determine whether HeadRush Core should receive or send MIDI program change messages. (see *(4.21.8 Global Settings > MIDI* for more information).

To test the MIDI command while configuring, tap the **TEST** button to send it to the MIDI output.

Your configured MIDI commands will be stored as a preset for easy recall when building new rigs or editing older rigs in the future.

> **To save a MIDI command preset**, tap the **Save** icon in the top bar.

> **To create a new MIDI command preset**, tap the **New** icon in the top bar.

Once finished editing a MIDI command on this page:

To save your MIDI parameters and confirm the assignment, tap **APPLY**.

To unassign the command from the footswitch, scene, or rig load, tap **UNASSIGN.**

To cancel any changes and return to the previous screen, tap **CANCEL.**

Important: When assigning a MIDI command to a footswitch, you can assign it to specific toggle states of the footswitch using the **TOGGLE STATE** parameter.

When the footswitch is set to **LATCH** on the main hardware assign page**,** any messages assigned to **Toggle State 1** will be sent on the first press of the footswitch, then any messages assigned to **Toggle State 2** will be sent on the next press of the footswitch, and so forth.

When the footswitch is set to **MOMNT** on the main hardware assign page, any messages assigned to **Toggle State 1** will be sent on the press of the footswitch, then any messages assigned to **Toggle State 2** will be sent on the release of the footswitch.

This **TOGGLE STATE** parameter is not available when assigning a MIDI command to be sent on **Rig Load**. For assigning a MIDI command to a **Scene**, you can use the **SWITCH STATE** parameter on the main **Scene Edit** page to choose which switch state that the MIDI messages should be sent.

TOGGLE STATE: 1 +

SWITCH STATE: 1 +

(4.7) Hands-Free Mode

Hands-Free Mode enables you to adjust any of the settings on your blocks by using just the footswitches and an optional external expression pedal.

To enter Hands-Free Mode, Press and hold the third footswitch (labeled "**—HANDS-FREE**"). While in Hands-Free Mode, the screen will show a single parameter and its value, and the footswitches enable you to edit the parameter, change to a different parameter, or change to a different slot to edit a different block.

To change the value of a parameter, press footswitch 1 or footswitch 2 (**PARAM –** or **PARAM +**) or move the external expression pedal.

To show the next parameter, press footswitch 3 (**NEXT PRM**).

To show the previous parameter, press and hold footswitch 3 (**PREV**).

To change to the next block in your signal chain, press footswitch 4 (**NEXT SLOT**).

To change to the previous block in your signal chain, press and hold footswitch 4 (**PREV**).

To quickly change and audition IR files, select the IR block, and then use footswitch 1 or footswitch 2 (**PARAM –** or **PARAM +**) to change between them.

Note: This option is only available when editing an IR in Hands-Free Mode.

To exit Hands-Free Mode, press the fifth footswitch (**EXIT**).
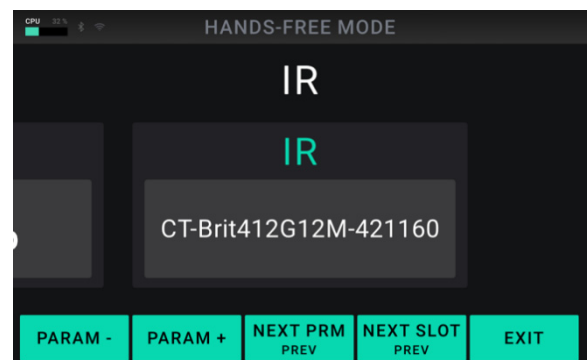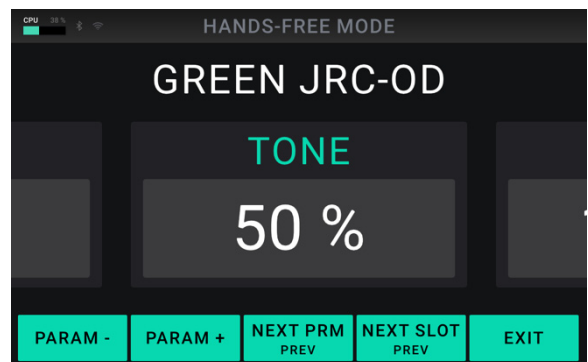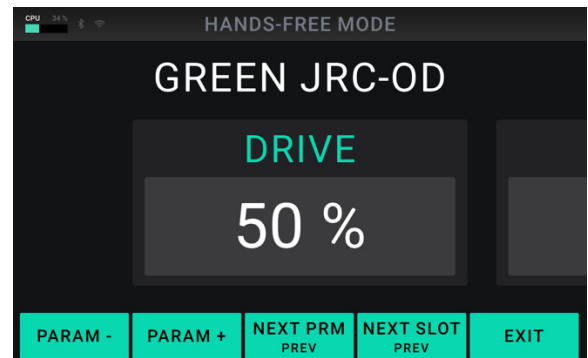
(4.8) File Browser

The **File Browser** is a handy tool for navigating your files and folders on HeadRush Core's internal storage. In addition to the internal storage, any USB storage devices connected to HeadRush Core's **USB-A** port will appear along the left side of this screen.

To access the File Browser, tap the **Menu** icon in the top left of the **Main** screen, and then tap the **Browse** icon.

BROWSE

The File Browser will also appear on other screens when performing actions like adding an **IR** or **Clone** to a rig, as well as loading a track to the **Practice Tool** or **Looper**.
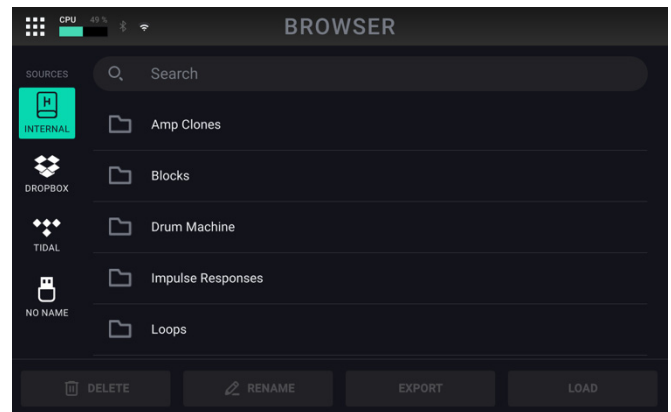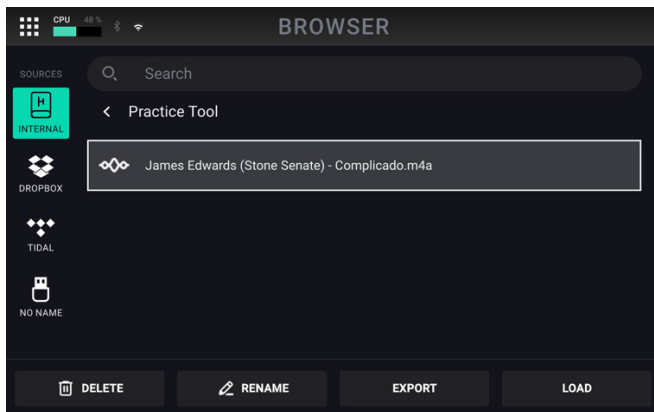
While the File Browser is open, you can tap folders to view their contents, as well as select a file and choose to **Delete**, **Rename**, **Export** (when USB Storage is connected to HeadRush Core's USB-A port), or **Load** it.

You can also import or load files from a linked **Dropbox** account using HeadRush Core's onboard Wi-Fi connection. This can be used for loading files such as rigs, clones, and impulse responses, but it is especially useful for loading your own songs to the *(4.13) Practice Tool*.

> **To link your Dropbox account,** tap the **Dropbox** icon located on the left side of this screen and follow the on-screen directions.
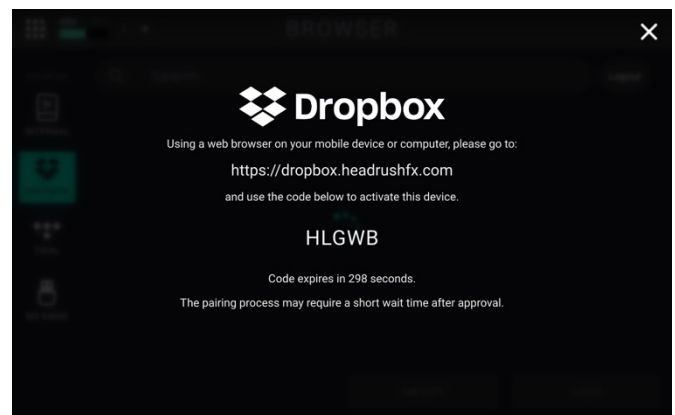
Additionally, you can load songs directly to the Practice Tool from a linked **Tidal with DJ Extension** account using HeadRush Core's onboard Wi-Fi connection.

> **To link your Tidal account,** tap the **Tidal** icon located on the left side of this screen and follow the on-screen directions.
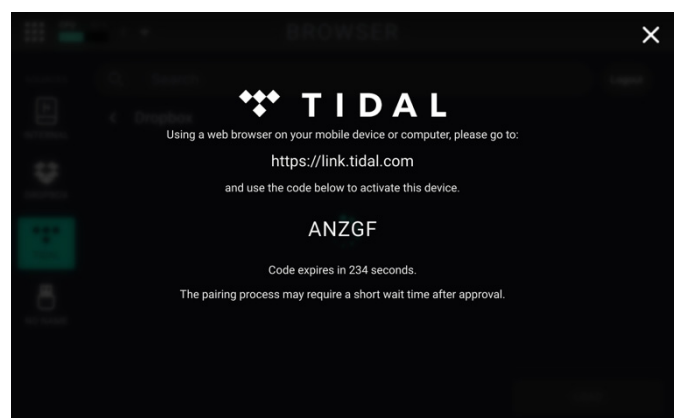
(4.9) Setlists

A **setlist** is a saved collection rigs arranged in a customized order. After being edited and saved, setlists can be loaded at a later time. This feature is useful if, for instance, you only need some of your rigs for a performance. In this case, you could save a setlist with only those rigs so that you don't have to spend time searching through all of your rigs while performing.

To view your available setlists, tap the **Menu** icon in the top left of the **Main** screen, and then tap the **Setlists** icon.
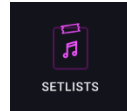
To load a setlist:

1. Open the **Setlists** screen as described above. Each setlist will show the number of rigs in parentheses (including multiple instances of the same rig).

2. **Optional**: Tap the **magnifying-glass icon** in the search bar in the upper-left corner and use the virtual keyboard that appears to enter a search term (e.g., part of the setlist name). The results will appear below.

3. Tap the desired setlist. The first rig of that setlist will load immediately. Tap **All Rigs** to view all rigs instead of a specific setlist.
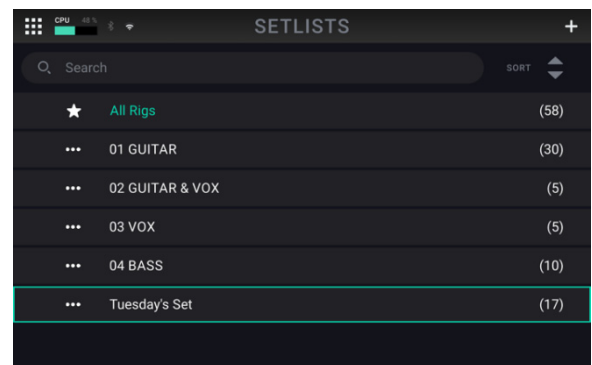
To edit a setlist, tap the ••• button on its left side, and then tap the **pencil** icon. You will see the same screen you used to create the setlist, where you can edit and save it.
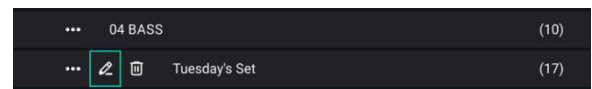
To delete a setlist, tap the ••• button on its left side, and then tap the **trash can** icon. Tap **Yes** to confirm the deletion or **Cancel** to return to the Setlists screen without deleting it.

To create a setlist:

1. Tap **+** in the upper-right corner of the main setlist screen.

2. In the screen that appears, the left half is a list of all available rigs, and the right half is the list rigs in the setlist.

   - **To add a rig to the setlist,** tap it in the list on the left half of the screen. It will automatically be added to the end of the setlist. Alternatively, you can tap and hold the rig while dragging it to the desired location in the setlist. You are able to add the same rig to more than one slot in a setlist.

   - **To rearrange a rig in the setlist,** tap and hold the rig while dragging it to the desired location in the setlist.

   - **To further customize the arrangement of your rigs,** tap the **[Empty]** + button in the lower-left corner. In place of a rig, a blank will be inserted into the setlist, and you can rearrange it as you would any other rig. In the **Rig**, and **Hybrid** footswitch modes, the blank will be assigned to the footswitch corresponding to its position in the setlist, and this footswitch will be disabled. Use this feature if you would like to limit the number of selectable rigs in a row of footswitches or in one of your banks of rigs.

   - **To remove a rig from the setlist,** tap the **X** on its right edge.
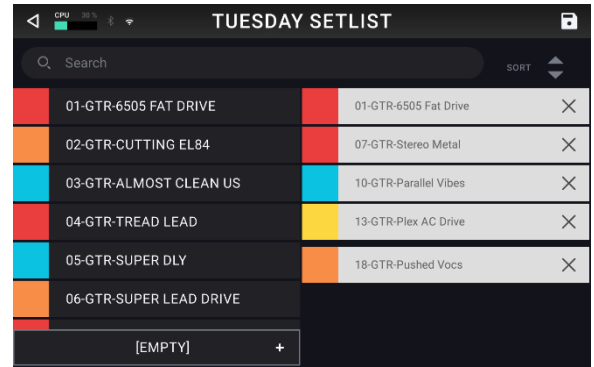
To save your changes to the current setlist, tap **Save** in the upper-right corner.

   - **To save your changes as a new setlist**, tap **Save New Setlist**, use the virtual keyboard that appears to enter a name, and then tap **Save**.

   - **To return to the previous screen without saving**, tap **Cancel**.
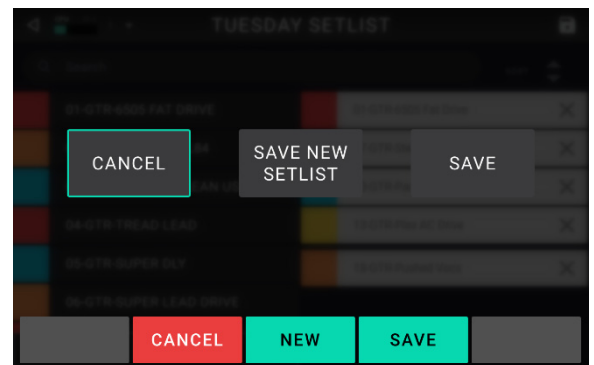
(4.10) Metronome

HeadRush Core includes simple yet convenient built-in **Metronome** that you can use while practicing.

To access the metronome, tap the **Menu** icon in the top left of the **Main** screen, and then tap the **Metronome** icon.

The following parameters are available to be adjusted:

- **Metronome**: Set this parameter to **On** to start playback of the metronome. The metronome will use the Global Tempo to determine its speed. Set this parameter to **Off** to disable the metronome.

- **Global Tempo**: Use this parameter to manually set the global tempo of HeadRush Core using the main **encoder**. You can alternately set this tempo by using the tap tempo footswitch.

- **Sound**: Use this parameter to select 1 of 5 different available metronome sounds to be used.

- **Level**: Use this parameter adjust the volume level of the metronome.

- **Time Sig**: Use this parameter determine the time signature of the metronome. The first beat of every measure will be accented.

- **Output**: Use this parameter to select which outputs the metronome's audio should be routed to.
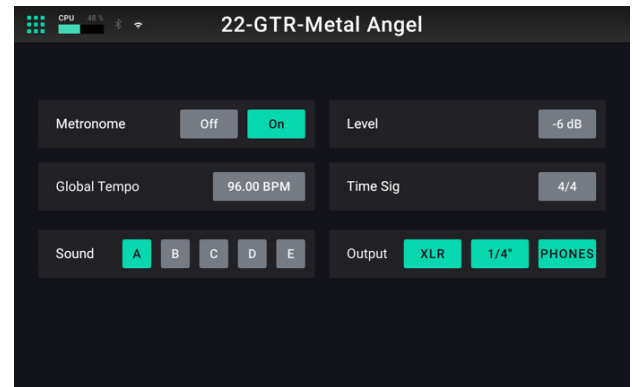
(4.11) Drum Machine

HeadRush Core features an onboard drum machine for enhanced songwriting inspiration and live performance. Whether you're looking to spice up your solo singer-songwriter gigs or want to jam on some new song ideas with drums late at night without waking the neighbors, the Drum Machine is always there for you when you need it.

> To access the Drum Machine, tap the **Menu** icon in the top left of the **Main** screen, and then tap the **Drum Machine** icon.

> You can also access the Drum Machine by pressing footswitch 3 to enter the second bank of controls, and then press footswitch 2 (labeled **DRUMS**).
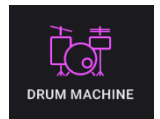
The Drum Machine features 16 total drum kits, with one preloaded kit. To learn how to download additional kits, see *(4.21.6) Global Settings > Activations* section of this manual.

(4.11.1) Main Page

The main Drum Machine page shows your currently selected **Drum Kit**, **Style**, **Tempo**, plus indicators for the drum machine's status and your footswitch's current assignments.
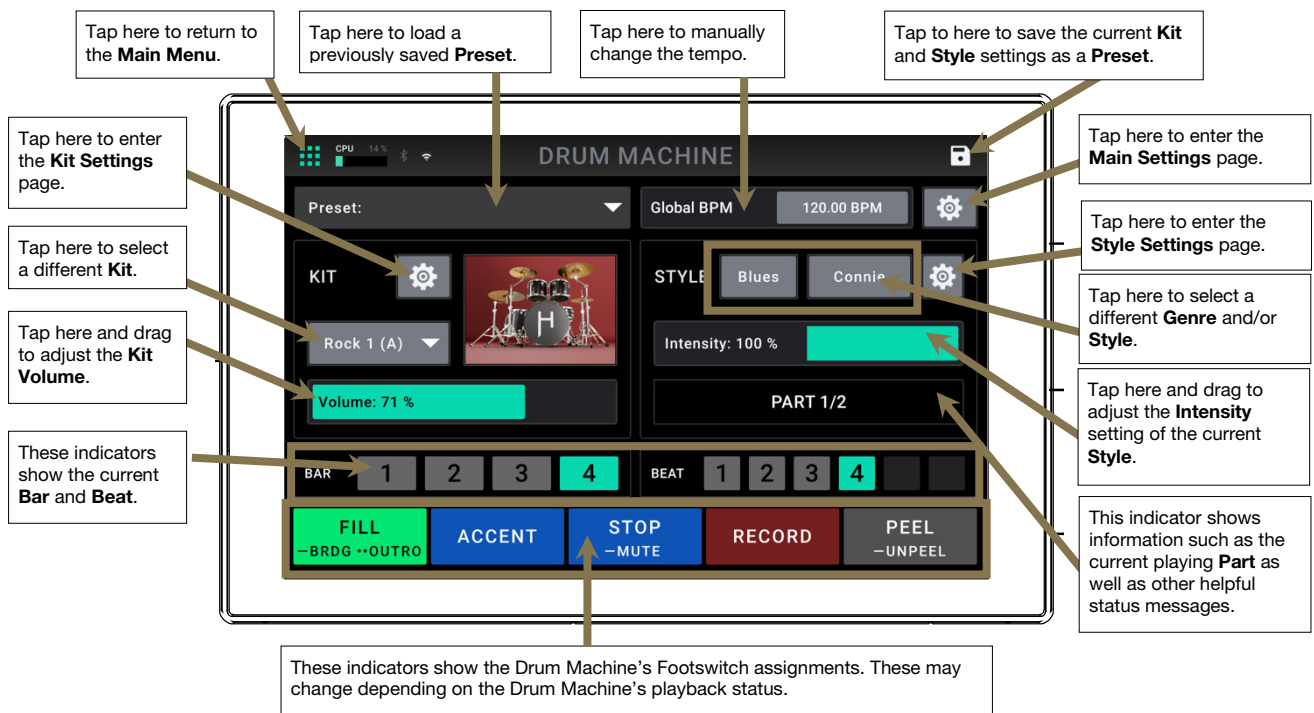
Additional settings can be found on the Drum Machine's **Main**, **Kit**, and **Style Settings** pages, which are discussed in the following sections of this user guide.

(4.11.2) Footswitch Controls

PLAY	ACCENT	LOOPER	PEEL −UNPEEL	(1/2) −EXIT
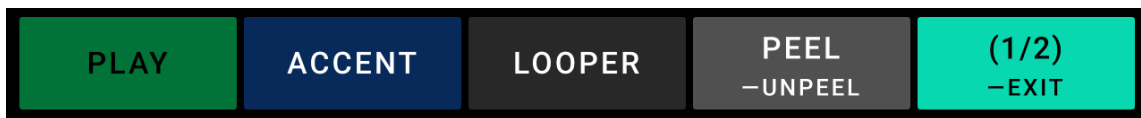
There are two banks of footswitch controls for the **Drum Machine**, and you can change between them by pressing footswitch 5.

> **To exit the Drum Machine**, hold footswitch 5 in either of these banks.

The first bank of footswitch controls contains the main playback controls for the **Drum Machine** and provides immediate access to the onboard **Looper**. The **Looper** access enables you to loop multiple layers of your guitar like a bass line, or chord progression, while using the **Drum Machine** as a songwriting or performance tool.

> **To start the Drum Machine's playback,** press footswitch 1 of bank 1 (**PLAY)**.

> **To trigger an accent sound**, press **footswitch 2** of **bank 1** (**ACCENT**).

While the Drum Machine is playing, the **PLAY** footswitch functionality changes to being able to trigger a **FILL**, a **BRIDGE** (transistion) pattern, changing to the **NEXT** pattern, as well as triggering an **OUTRO** that will play a short drum fill before stopping the drum machine.

FILL
−BRDG ··OUTRO

Tip: The main playback footswitch control's press, hold, and double-press functions can be customized using the main drum machine settings page. You can learn more about the options available in the *(4.11.3) Drum Machine > Main Settings* section of this User Guide.

- **To start recording a loop**, press footswitch 3 of bank 1 (**RECORD**) while the drum machine is playing. The footswitch indicator will flash until the next bar and will then start recording the first layer of the loop. Each additional single press of footswitch 3 will toggle the Looper between playback (**PLAYING**) and overdub (**DUBBING**) modes.

RECORD

PLAYING
−CLEAR ··STOP

- **To stop the loop,** double tap footswitch 3 of bank 1 (**STOP**).

- **To clear the loop,** hold footswitch 3 of bank 1 (**CLEAR**).

DUBBING
−CLEAR ··STOP

- **To peel off the last recorded layer of the loop,** press footswitch 4 of bank 1 (**PEEL**).

- **To bring back that layer,** hold footswitch 4 of bank 1 (**UNPEEL**).

The second bank of footswitch controls offers a way to immediately stop or mute the **Drum Machine**, as well as change the current Kit, Style, and Variaton directly from the footswitches.

STOP −MUTE	NEXT KIT −PREV	NEXT STYLE −PREV	NEXT VARI −PREV	(2/2) −EXIT

- **To stop the drum machine without an outro**, press footswitch 1 of bank 2 (**STOP**).

- **To temporarily mute the drum machine's output**, hold footswitch 1 of bank 2 (**MUTE**).

- **To restart the drum machine at the beginning of the pattern without a count-in**, press footswitch 1 of bank 2 when the drum machine is stopped (**RESTART**).

- **To change to the next kit, style, or variation,** press footswitch 2, 3, or 4 in bank 2, accordingly.

- **To change to the previous kit, style, or variation,** hold footswitch 2, 3, or 4 in bank 2, accordingly.

(4.11.3) Main Settings

On the **Main Settings** page, you can customize the behavior of the drum machine, including how patterns transition, which drum fills play, and which sounds should play when using the **Accent** footswitch.

> **To return to the main Drum Machine page,** tap the **X** icon in the top right of this page.
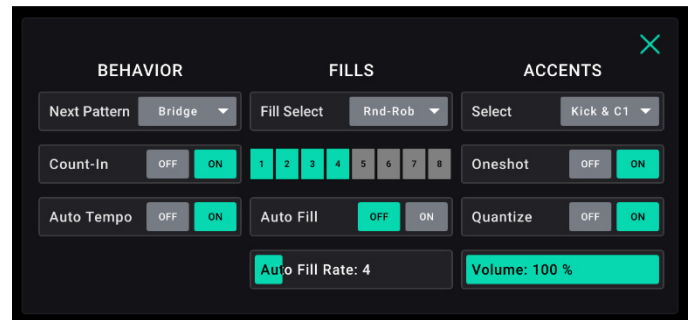
The following parameters are available on this screen:

Behavior:

- **Next Pattern:** This setting defines what happens when the Drum Machine's main footswitch being pressed once or held during playback. Depending on your previous experience with footswitch-driven drum machines, you may find one of the following behaviors to feel more natural and comfortable to your personal workflow.

  The available settings for **Next Pattern** are outlined in the chart below:

Setting: "Bridge"	
Action	**Behavior**
Press Once	A drum fill will play, and the drum machine will remain on the same "Part."
Hold	A "Bridge" transition pattern will play until the footswitch is released, then the Drum Machine will proceed to the next "Part."
Setting: "Fill"	
Action	**Behavior**
Press Once	A drum fill will play, and the drum machine will proceed to the next "Part."
Hold	A drum fill will play, but the drum machine will not proceed to the next "Part" if the footswitch is held to the end of the current bar.
Setting: "Fill Hold"	
Action	**Behavior**
Press Once	A drum fill will play, and the drum machine will remain on the same "Part."
Hold	A drum fill will play, and the drum machine will proceed to the next "Part" if the footswitch is held to the end of the current bar.

When the **Next Pattern** setting is changed, you will notice that the Footswitch Indicator's text will also change (as shown to the right of the chart) to remind you of its current function during playback.

Regardless of the setting for **Next Pattern**, the Drum Machine will always play an **Outro** fill and stop the current part if the main footswitch is double tapped.

- **Count-In:** When this setting is enabled (**ON**), the Drum Machine playback will start with 1 bar of Count-In. When this setting is disabled (**OFF**), Drum Machine playback will start instantly with no Count-In.

- **Auto-Tempo:** When this setting is enabled (**ON**), changing styles will automatically reset the Drum Machine's tempo to the selected style's factory default. When this setting is disabled (**OFF**), the tempo from the previous style will be retained when selecting a new style.
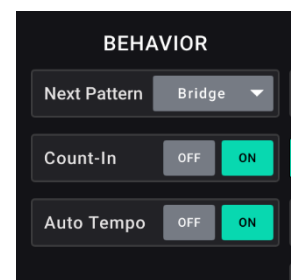
Fills:

- **Fill Select:** These settings define which **Drum Fills** are selected and played when triggered.

  o **Rnd-Rob (Round Robin)** will play all available drum fills in a list order.

  o **Random** will play all available drum fills in a random order.

  o **1/4, 1/2, etc.** will only select one specific fill to be played.

  Note: You can also tap the boxes below this parameter to enable or disable specific fills in Round Robin or Random mode if desired.

- **Auto Fill:** When enabled, a **Drum Fill** is automatically played after a selected number of bars.

- **Auto Fill Rate:** This parameter sets the number of bars before a **Drum Fill** is played when **Auto Fill** mode is enabled.
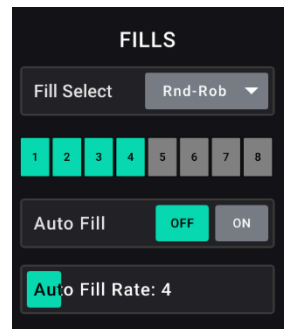
Accents:

- **Select:** Use this setting to select the type of **Accent** sound to be played when the **Accent** footswitch is pressed (e.g., kicks, crashes, open hi-hat).

- **One-Shot:** When this setting is enabled (**ON**), the **Accent** sound plays in full, even after releasing the footswitch. When this setting is disabled (**OFF**), the **Accent** sound is stopped when the footswitch is released.

- **Quantize:** Use this setting to have **Accent** sounds automatically sync to the current tempo when set to **On**.

- **Volume:** Use this setting to adjust the volume of each **Accent** sound.
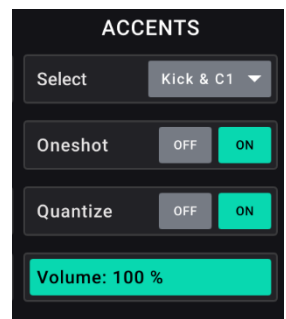
(4.11.4) Kit Settings

On the **Kit Settings** page, you can further customize the overall sound of the Drum Kits.

The available settings on this page include adjustments for **Tuning**, **Drum Channel Mix** (Kick, Snares, Cymbals, and Toms), **Length**, **Drive**, **Reverb**, and overall **Volume** and **Timbre** (Tone).

These custom kit settings can be saved as part of a preset by using the Save icon in the top right corner of the screen.
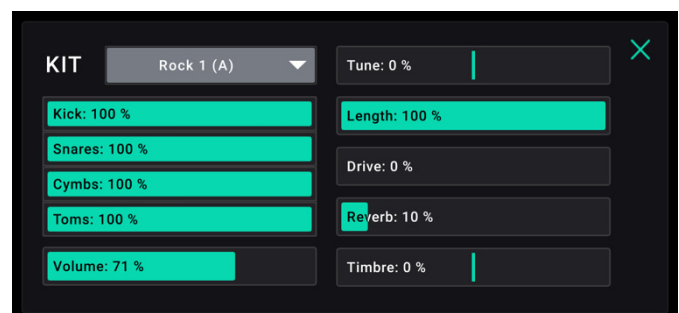
> **To return to the main Drum Machine page,** tap the **X** icon in the top right of this page.

(4.11.5) Style Settings

On the **Style Settings page**, you can further customize the **Groove** (swing) types and **Intensity** of the factory styles.

These custom Style settings can also be saved as part of a preset by using the Save icon in the top right corner of the screen.

> **To return to the main Drum Machine page**, tap the **X** icon in the top right of this page.
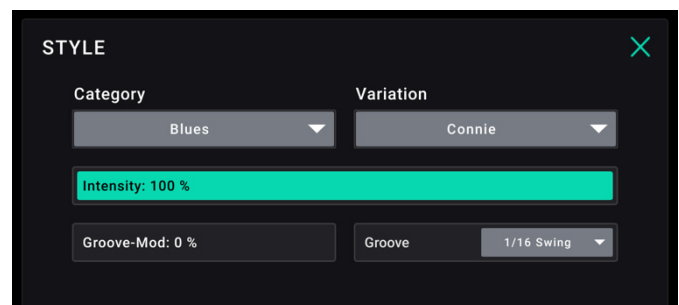
(4.12) Looper

HeadRush Core has a built-in looper that you can use to layer your performances. While the looper's operation is shown in the display, you can control most of it conveniently with the footswitches.

Each loop can be up to **5 minutes** long, with a maximum of **20 minutes** of overdubbed audio at a time across a maximum of **50 layers**.

To access the Looper, tap the **Menu** icon in the top left of the **Main** screen, and then tap the **Looper** icon. Alternately, press and hold the footswitch 4 (labeled "**—Looper**").

| Loop name | Rig name | New Loop | Load Loop | Save Loop |

This meter indicates your current location in the loop during recording or playback.

This indicates how many layers are playing in the current loop, including the original.

This indicates the current speed of the loop as a multiple or fraction of the original.

Tap here to access *(4.12.1) Additional Looper Settings*.

This controls how much of the looper's signal you hear in the outputs.

This controls how much of the looper's signal is routed back through it when recording another layer.

22-GTR-Metal Angel

NEW SONG IDEA.WAV

00:00.0   PLAY   00:09.1

Layers	1	Speed	x 1	Mix	50 %
Length	x 1	Feedback	100 %
Playback	Normal	Source	XLR Out

STOP OVERDUB PEEL UNPEEL REVERSE EXIT

This indicates whether the length of the current loop has been multiplied or divided.

This indicates the direction of playback.

This indicates whether the looper is located before or after your signal chain. For example, moving the looper to the **GUIT IN** position enables you to edit your guitar rig without having to play the same riff over and over again.

To record the first layer of a loop, press the **Record** footswitch. Recording will begin immediately, and the footswitch indicator will light **red**. Press the **Record** footswitch again to stop recording and start loop playback. The footswitch is now called **Overdub** and the footswitch indicator is **yellow**.
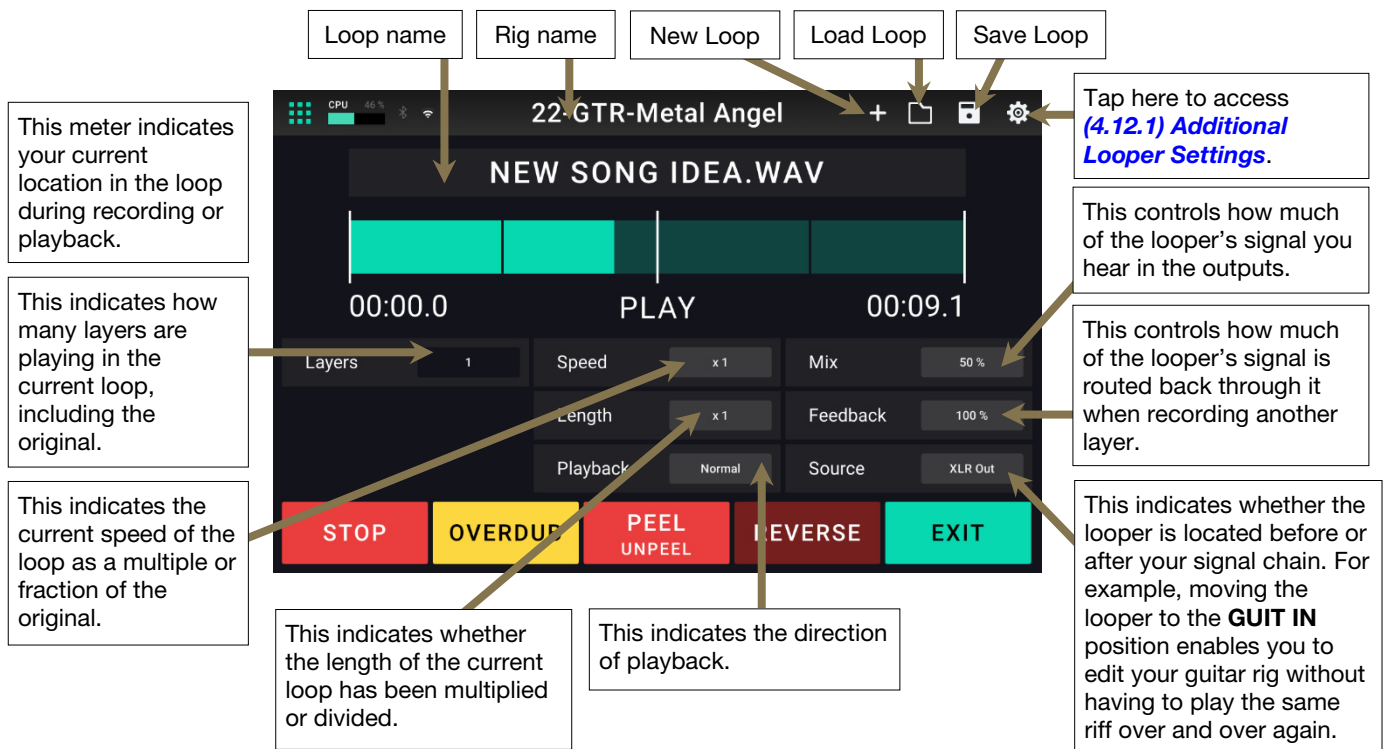
To record additional layers onto the loop (overdub), press the **Overdub** footswitch. Overdubbing will begin immediately, and the footswitch indicator will light **red**. Press the **Overdub** footswitch again to stop overdubbing and continue playback.

To erase the top-most (last-added) **layer of the loop**, press the **Peel** footswitch. The top-most layer of the loop will be erased immediately.

To recall the last layer removed, hold the **Peel** footswitch before performing any overdub actions.

To halve or double the length of the loop, tap the **Length** field, and turn the encoder. The loop's relative length is shown in the **Loop Length** field. The halving process is non-destructive, so you can restore your original loop and its content by pressing **2X Loop**.

To halve or double the speed of the looper, tap the **Speed** field, and turn the encoder. The loop's current relative speed is shown in the **Speed** field.

Tip: Use this to create low bass lines or ultra-high guitar parts that you couldn't ordinarily play.

To reverse looper playback, press the **Reverse** footswitch. The looper's current playback direction is shown in the **Playback** field.

Tip: Create eerie effects by recording layers in reverse then switching back to normal playback.

To set the looper's location in the signal chain, tap the **Source** field, and then turn the main encoder to place it before (**GUIT IN, MIC/GT2 IN**) or after (**XLR OUT, 1/4"**) the signal chain. Moving the looper to the **GUIT IN or MIC/GT2 IN** position enables you to edit your rig without having to play the same riff over and over again.

To create a new loop, tap the **+** icon in the top right corner and then tap **NEW LOOP**. Tap **Yes** to clear the current loop and create a new one or **No** to return to the Looper screen.

To save a loop, tap the disk icon in the top right corner and then tap **SAVE LOOP**. Tap **Yes** to confirm or **Cancel** to return to the Looper screen without saving.

To load a loop, tap the folder icon in the top right corner and then tap **LOAD LOOP**. When the file browser appears, select the loop to load, and then tap **Load** to load the loop or **Cancel** to return to the Looper screen.

Tip: While using the USB Transfer feature, you can import .WAV and .MP3 audio files for the Looper by placing the files in HeadRush Core's **/LOOPS/** directory.
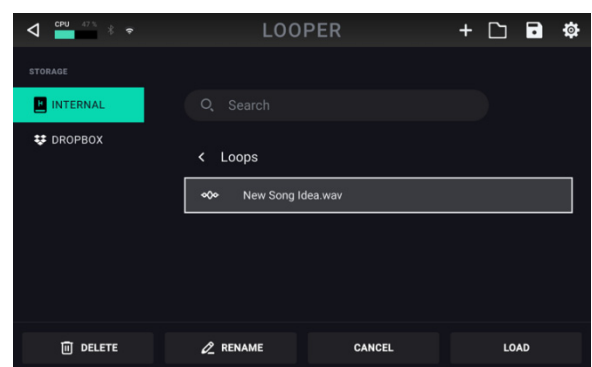
To edit a loop's name, tap the folder icon in the top right corner to access the file browser, locate the loop, and then tap **RENAME**. Use the virtual keyboard to type a new name, and then tap **OK** to confirm the new name or **Cancel** to return to the Looper screen.

To delete a loop, tap the folder icon in the top right corner to access the file browser, locate the loop, and then tap **DELETE**. Tap **Yes** to confirm the deletion or **No** to return to the Looper screen without deleting.

To exit the looper and return to the main screen, press the **Exit** footswitch. If the looper is playing, playback will continue.

To re-enter the looper, press and hold footswitch 4 (labeled "**—Looper**") again.

(4.12.1) Additional Looper Settings

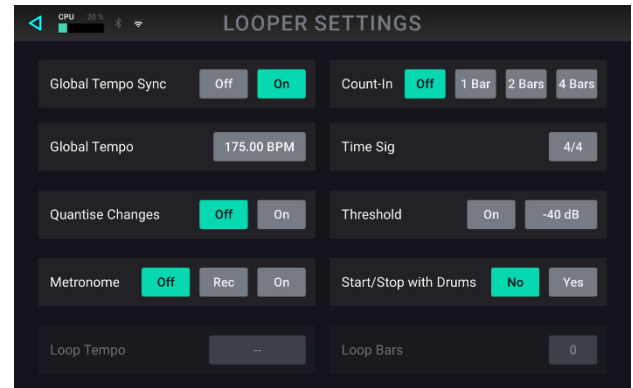**To access additional looper settings**, tap the **settings** icon in the top right of the looper screen.

The following parameters are available on this screen:

- **Global Tempo Sync**: Set this parameter to **On** to set the Looper to sync to HeadRush Core's Global Tempo. This is the same tempo used for any effects that are set to "Sync," as well as the Metronome feature. Set this parameter to **Off** to desync the Looper tempo from the global tempo.

- **Global Tempo**: Use this parameter to manually set the global tempo of HeadRush Core using the main **encoder**. You can alternately set this tempo by using the tap tempo footswitch.

- **Quantize Changes:** When **Global Tempo Sync** is set to **On**, the tempo of the loop will sync to the current internal global tempo, or the received MIDI tempo when enabled in the Global Settings.

- **Metronome**: Set this parameter to **Rec** (record) to have the metronome only play while the initial layer of the loop is being recorded. Set this parameter to **On** to have the metronome play while the loop is recording, playing, and overdubbing a layer. Set this parameter to **Off** to disable the metronome.

- **Count-In**: Use this parameter to determine a **1–4 Bar** count-in before a loop begins recording the initial loop layer. Set this parameter to **Off** to disable to the count-in bar and begin recording the initial loop layer instantly.

- **Time Sig**: Use this parameter to determine the time signature of the count-in.

- **Threshold:** Tap the **On** button to enable looper recording to only begin when the audio signal has reached a certain threshold. Use the field next to this to set the threshold level, from **-60** to **0 dB**.

- **Start/Stop with Drums:** Tap the **Yes** button to have the **Looper** automatically start and stop an existing loop when the **Drum Machine** is started and stopped. Tap the **No** button to disable this function.

- **Loop Tempo:** When **Global Tempo Sync** is set to **On**, this displays the estimated tempo of the current loop.

- **Loop Bars:** When **Global Tempo Sync** is set to **On**, this displays the estimated loop length in bars.

(4.13) Practice Tool

HeadRush Core includes a convenient built-in **Practice Tool** that you can use to play along with songs from your HeadRush Core's internal storage, connected USB storage devices, or a linked **Dropbox** or **Tidal with DJ Extension** account.

In addition to being able to play along with a song, you can also set **loop points** within a song, and use **speed** controls to slow it down to making learning the song easier, or use **pitch** controls to practice a song in different keys.

To access the Practice Tool, tap the top left **Menu** icon, and then tap the **Practice Tool** icon.
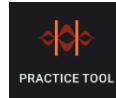
To eject the track from the practice tool, tap the **X** next to the track name.

To load a track, tap the box titled **Track**.

There are five banks of footswitch controls for the Practice Tool, and you can change between them by pressing footswitch the footswitch labeled **MORE**…

To turn the Loop feature of the Practice Tool on and off, tap the box titled **Loop** until it displays **On** or **Off** accordingly. To set loop points within the track**,** tap and drag the yellow arrows at the top of the screen, or tap the footswitches labeled **LOOP IN** and **LOOP OUT**.

To control playback of the track, tap the transport icons (**Rewind**, **Stop**, **Play/Pause**, **Forward**) at the bottom of the screen, or use the **4 footswitches** labeled **PLAY**, **STOP**, **RWD <<** and **FWD >>**.

To load the previous or next track in the folder, tap the footswitches labeled **TRACK <<** or **TRACK >>**.
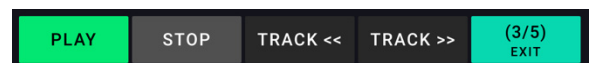
To decrease or increase the volume of the track in tap the footswitches labeled **VOLUME –** or **VOLUME +**.

To adjust the speed of the track without affecting the pitch of the track, tap the box titled **Tempo**, and turn the main **encoder**. You can also tap the **+10%** or **-10%** buttons located next to the tempo percentage or tap the 2 footswitches labeled **SPEED –** or **SPEED +**.
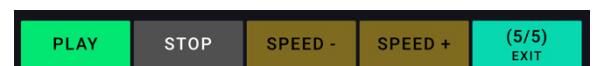
To adjust the pitch of the track (in semitones) **without affecting the speed** of the track, tap the box titled **Pitch**, and turn the main **encoder**.

(4.14) Tuner

To access HeadRush Core's built-in guitar tuner, press and hold footswitch 5 (labeled "—TUNER/TALK"). Alternatively, you can access the tuner by tapping the **Menu icon** in the top left of the **Main** screen, and then tapping the **Tuner** icon.
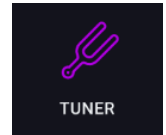
As you play a string, the screen will show the nearest note, as well as how flat or sharp the guitar string is. If only a green right arrow appears, your string is flat, and if only a green left arrow is shown, then your string is sharp. To successfully tune the string, adjust your guitar's tuners until both green arrows are lit.

The following parameters are available to be adjusted:

- **Tuner Reference**: Tap this parameter, then turn the main **encoder** to set the tuner's reference frequency. The default and most common setting for a guitar tuner is **440 Hz**.

- **Range**: Tap this parameter, then turn the main **encoder** to set the tuner's pitch reference range. Choose **GUITAR** if you are tuning a standard-range 6-string acoustic or electric guitar. Choose **BASS** if you are tuning a bass or an extended-range guitar that is tuned low.
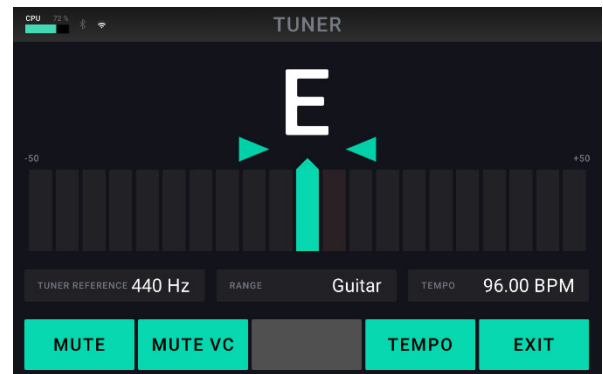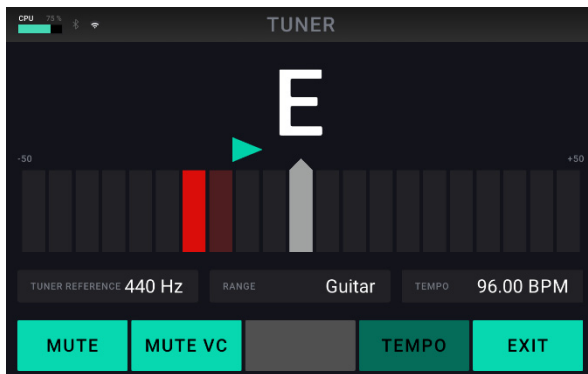
- **Tempo**: Tap this parameter to manually set the global tempo of HeadRush Core using the main **encoder**. You can alternately set this tempo by using footswitch 4 (**TEMPO**).

Additionally, you can access additional functionality on the **Tuner** page by using footswitches depending on the type of rig that you are using:

- **In guitar-only rigs,** you can mute the guitar signal by pressing the footswitch labeled **MUTE GTR**, and if the Mic Dry feature is enabled, you can mute that vocal signal by pressing the footswitch labeled **MUTE VC**.

- **In dual guitar rigs,** you can mute each guitar signal by pressing the footswitches labeled **MUTE GT1** and **MUTE GT2** respectively. You can also choose which signal is being tuned by pressing the footswitch labeled **TUNE GT1/TUNE GT2**.

- **In vocal-only rigs,** you can completely mute the vocal signal by pressing the footswitch labeled **MUTE VC.** You can also disable all vocal effects and use the Mic Dry signal instead by pressing the footswitch labeled **MIC DRY**.

- **In guitar and vocal rigs,** you can mute the guitar signal by pressing the footswitch labeled **MUTE GTR** and mute the vocal signal by pressing the footswitch with the indicator labeled **MUTE VC.** You can also disable all vocal effects and use the Mic Dry signal instead by pressing the footswitch labeled **MIC DRY**.

Tip: Using the **MIC DRY** function while on the Tuner page is especially helpful during performances, as it lets you "talk" to the crowd normally without effects applied while you are tuning your guitar between songs.

To exit the tuner page, tap footswitch 5 (**EXIT**).

(4.15) Amp Cloner

The **Amp Cloner** feature enables you to clone the sound of a real guitar or bass amplifier or pre-amp (with or without speakers), as well as real distortion, overdrive, and fuzz pedals, and expand the amount of available amp and effect sounds in your HeadRush Core. However, please be aware that some pedals cannot be cloned:

- Certain gated fuzz pedals are not able to be cloned at this time. A "gated fuzz" doesn't mean that there is an actual noise gate in the fuzz pedal, but that the bias is shifted so hard, that the signal is cutting out on low input volumes (which is a Noise Gate-like behavior).

- Some older fuzz pedals that were designed to be connected to a high-Z (high impedance) guitar output (7k to 15k Ohms) are not able to be cloned directly into the HeadRush Core without the use of a ReAmp box.

- Time-based effects like flanger, chorus, and delay effects are unable to be cloned at this time.

To access Amp Cloner, tap the **Menu** icon in the top left of the **Main** screen, and then tap the **Amp Cloner** icon.

Once **Amp Cloner** has loaded, you will be guided through an easy 3 step process of preparing to clone your gear via the on-screen directions shown below.

Once you are ready to clone your gear, tap **Proceed** to begin the process.

1. In **Step 1**, you will choose the type of gear that you would like to clone: **Amp & Cab**, **Amp / Pre-Amp**, or **Pedal Only**.
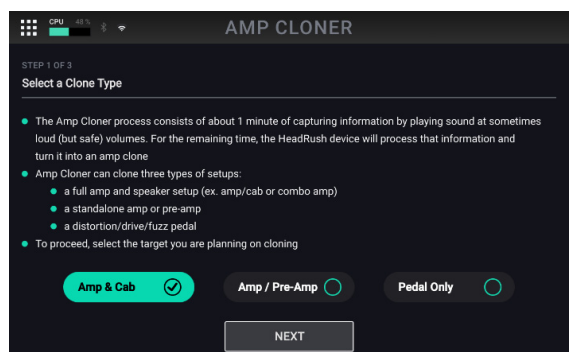
2. In **Step 2**, HeadRush Core will guide you through the process of correctly connecting your Amp or Pedal to HeadRush Core. During this step, you can tap the **Connection Diagram** button to view a visual diagram and ensure that your connections are correct. Additionally, you can preview and set your signal level using the on-screen meter.

   Tip: While we normally recommend targeting a signal level of -6 db to -3 db, some amps may be cloned more accurately when the signal level is closer to 0 dB. If you find that your clone is lacking gain or body when compared to the target amp, try aiming for a higher level. Likewise, if you find that your clone has too much gain or body when compared to the target amp, try aiming for a lower level.
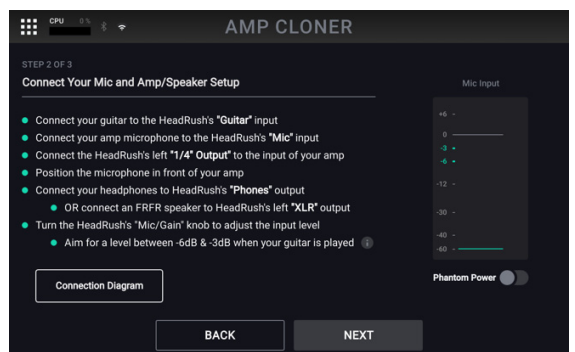
3. In **Step 3**, you can match the on-screen controls to the controls on the gear being cloned. Matching these controls is helpful as they will be taken into consideration if you want to adjust your EQ after the cloning process. Once you have matched your controls, tap **Start Clone** to begin the cloning process.
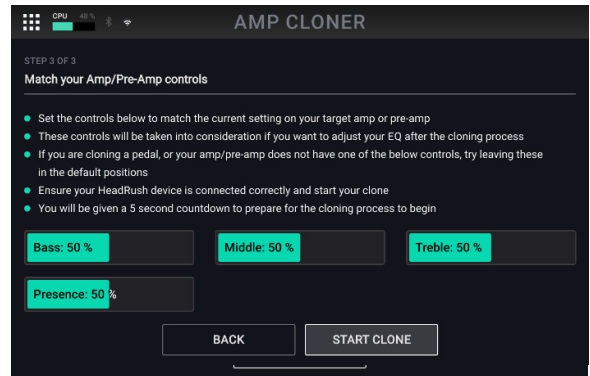
Once the cloning process has begun, a progress bar will be shown with details about what's happening. You will hear about 1 minute of measurement tones, and then the remaining time will be spent processing the information. The entire process lasts about 3 minutes or less; however, you can tap the **Cancel** button to abort the process at any time.
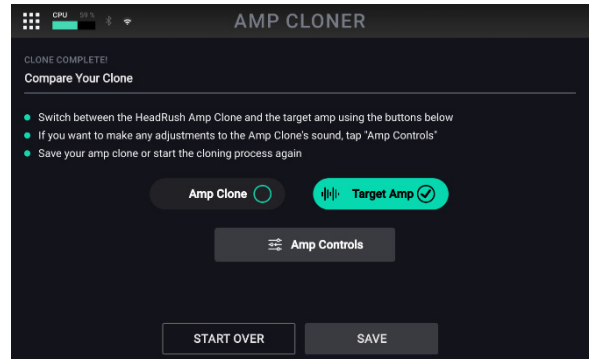
After the cloning process is complete, you will be brought to a screen where you are able to preview your clone, as well as compare it to the target device you cloned. You may choose to refine the clone at this time by tapping the **Amp Controls** button.

While on this screen, you can make adjustments to the clone's sound. You can also switch between the sound of the new clone and the target device.

Tip: If you are cloning an Amp & Cab, it is much easier to compare the sound of your clone to the target Amp & Cab if you place your HeadRush Core in a seperate room away from the target Amp & Cab. This can help you listen more objectively and not get distracted by any sound that you may still be able to hear while using headphones and listening to the comparisons.
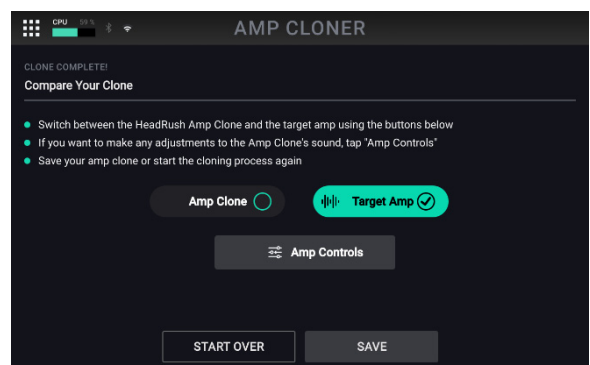
Once you have finished making any last adjustments, tap the **Confirm** button. You will be brought back to the previous page.

Once you are finished, tap the **Save** button. After you have saved your clone, you can add your clone to a rig in the same way you would add a traditional amp model or effect pedal by tapping an empty block on the **Main** page, and selecting **Amp Clone**.

(4.16) USB

You can use HeadRush Core's USB connection to your computer for *(4.16.1) Transferring Files & Settings* (e.g., rigs, setlists, presets, etc.), *(4.16.2) Recording* (to a digital audio workstation [DAW]), or *(4.16.3) Reamping*.

(4.16.1) Transferring Files & Settings

Over a USB connection, you can transfer rig, setlist, model preset, loop, clone, and/or impulse response (IR) files between your computer and HeadRush Core.

We recommend creating a backup copy of your files to your computer before you make any changes.

Important:

Do **not** disconnect or power off HeadRush Core during the process.

Any unsupported files will be ignored.

You cannot transfer a folder or .zip/archive folder to/from HeadRush Core. Instead, transfer any supported files directly.

We recommend organizing the file structure of your rigs, setlists, model presets, and/or impulse response files on your computer so that it is identical to the file structure as shown on the HeadRush Core "drive."
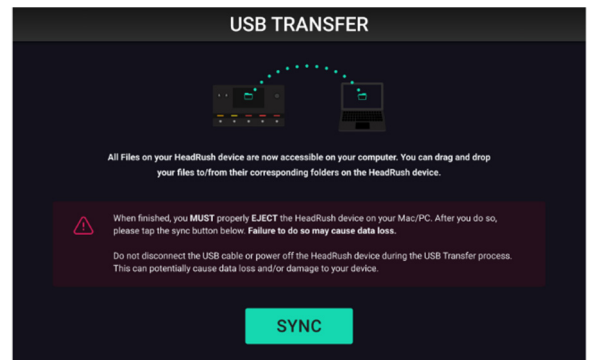
To transfer files between HeadRush Core and your computer:

1. Connect your computer to HeadRush Core's **USB port** using a standard USB cable.

2. With your computer powered on, power on HeadRush Core using the **power switch**.

3. Tap the **Menu** icon in the upper-left corner of the **Main** screen, and then tap **USB Transfer**.

4. On your computer, HeadRush Core will appear as a mass-storage device called **HeadRush**.

   Windows users: If this is the first time you've connected it to this computer, you may need to wait a minute while it installs the class-compliant drivers.

5. Open the **HeadRush** drive. You can now freely click and drag contents between **HeadRush** and your computer. Note that any changes you make to the contents of your **HeadRush** are immediate and cannot be cancelled.

   Tip: During this step, you can add an image to use with the screen lock feature. See *(4.17) Lock Screen* to learn more.

6. **IMPORTANT:** When you are finished transferring contents, you must **unmount/eject** the HeadRush drive from your computer. File corruption may occur if the drive is not properly ejected before continuing.

7. After the drive has been ejected, tap **Sync** on your HeadRush Core to "commit" any changes you made to the contents of the HeadRush drive.

   As HeadRush Core analyzes and imports the files, a meter on the display will indicate its progress. The normal **Menu** screen will reappear when the process is finished. Do not disconnect or power off HeadRush Core during the sync process.

(4.16.2) Recording

When HeadRush Core's USB port is connected to your computer, you can select and use HeadRush Core as a 24-bit audio interface, enabling you to play audio through it or to send its audio signal to the computer. It can use sample rates of 44.1 kHz, 48 kHz, or 96 kHz.

Important Note for Windows Users: Before connecting HeadRush Core to your computer, download the necessary drivers from **support.headrushfx.com** and install them.

To use HeadRush Core as an audio interface with your computer, open your computer's **Control Panel** (Windows®) or **System Preferences** (macOS®), open its sound/audio settings, and select **HeadRush Core** as the device for recording/input and/or for playback/output.

HeadRush Core can send six separate audio signal channels to your computer. Before recording HeadRush Core's audio signal into your digital audio workstation (DAW), select the channel/channels you want to record:

> **1**: the **left** channel of the **XLR main outputs** with all active effects applied.
>
> **2**: the **right** channel of the **XLR main outputs** with all active effects applied.
>
> **3**: the **left** channel of the **1/4" main outputs** with all active effects applied.
>
> **4**: the **right** channel of the **1/4" main outputs** with all active effects applied.
>
> **5**: a **mono** channel of the **1/4" guitar input** with no effects applied.
>
> **6**: a **mono** channel of the **Combo XLR + 1/4" microphone input** with no effects applied.

HeadRush Core can receive four separate audio signal channels from your computer. The channels are named and routed as follows:

> **1**: the **left** channel of your computer's output audio signal, which will be sent directly out of HeadRush Core's **main outputs** and **phones output**.
>
> **2**: the **right** channel of your computer's output audio signal, which will be sent directly out of HeadRush Core's **main outputs** and **phones output**.
>
> **3**: a **mono** channel of your computer's audio signal, which will be sent back through HeadRush Core (see *(4.16.3) Reamping* below).
>
> **4**: not used in this scenario.

Important: Remember to set your DAW's main outputs to be sent to **1/2**.

(4.16.3) Reamping

Reamping is a process that adds the tone coloration of an amp to a pre-recorded audio signal—in this case, sending audio from your DAW through HeadRush Core and then recording it back into your DAW. This is useful for saving time because you can change the sound of an already-recorded guitar track without having to manually play the same part again.

To use HeadRush Core to reamp an audio signal:

1. In your DAW, make sure **HeadRush Core** is selected as your audio interface for both recording/input and playback/output.

2. Assign the output of the desired track to **3**.

3. On HeadRush Core, tap the **Menu** icon in the upper-left corner of the **Main** screen, and then tap **Global Settings**.

4. In the Global Settings screen, tap the **USB Audio** tab located in the column on the left side.

5. On the USB audio tab, set your sample rate to be the same sample rate as the one in your DAW.

6. Next, for the USB Mode setting, tap **ReAmp**.

7. Once the sample rate and mode settings are confirmed, set **USB Audio** to **On**.

8. In your DAW again, create a new audio track and assign its input. For a **stereo** input signal, select **1/2**. For a **mono** input signal, select **1**.

9. Locate the point in your track where you want to start reamping.

10. On HeadRush Core, select the rig, blocks, or other parameters to achieve the sound you want.

11. In your DAW, start audio recording. The track you want to reamp will be sent through HeadRush Core and recorded into the audio track you created earlier.

(4.17) Lock Screen

The Lock Screen feature disables the **touchscreen** and gives you a simple interface that shows your current rig name, the current footswitch mode blocks, setlist name, and a customizable image.

To access the Lock Screen feature, tap the **Menu** icon in the top left of the **Main** screen, and then tap the **Lock Screen** icon.
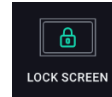
To exit the Lock Screen feature back to the Menu, simply tap the touch screen 3 times.

To customize the Screen Lock image, place a **.png**, **.bmp**, **.jpg**, or **.jpeg** file named **LockScreenLogo** in the root directory of the **HeadRush** drive while using the *(4.16.1) Transferring Files and Settings* feature.

We recommend using an **800x400**-pixel image (it will be automatically scaled to this size after transferring it). Note that any changes you make to the contents of your **HeadRush** are immediate and cannot be cancelled.
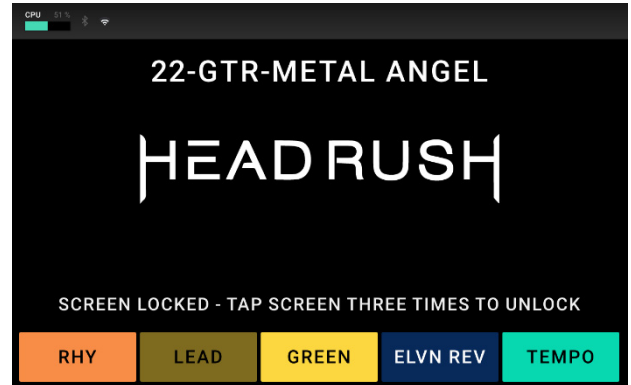
(4.18) HeadRush Cloud

The **HeadRush Cloud** is a **free** and **easy-to-use** file sharing service that can be accessed directly from your HeadRush Core when connected to a Wi-Fi network. To learn how to connect to a Wi-Fi network, see *(4.21.4) Global Settings > Wi-Fi*.

Using the HeadRush Cloud, you can find instant inspiration for new tones by previewing, downloading, and rating rigs and clones from HeadRush Artists as well as other HeadRush Core users. You can also upload rigs and clones for backup purposes, as well as share your own creations with the HeadRush Core community.
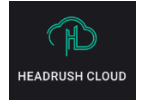
To open HeadRush Cloud, tap the **Menu** icon in the top left of the **Main** screen, and then tap the **Browser** icon.

The first time that you log into the HeadRush Cloud, a QR code will be shown on the screen along with a security code. Follow the directions on the screen to register for a free account.

Once you have registered and signed in, the **Featured** tab will be shown. On the **Featured** tab, you can learn more about HeadRush featured artists, as well as preview and download their personal rigs and clones.

Tap here to return to the **Menu** screen.

Tap a **HeadRush Artist** to learn more about them and view their uploaded content.

Tap here to **Browse** rigs and clones from other HeadRush Core users.

Tap here to access your personal profile settings, view support resources, or to sign out.

Tap here to **upload** a new rig or clone to your HeadRush Cloud account.

Tap here to view your previously uploaded content.

On the **Browse** tab, you can search for new rigs from the HeadRush community by using the search bar, sort, and filter features. You can tap and drag the screen to scroll through the content shown on screen.

Tap the **search bar** to use the virtual keyboard to search for content.

Tap the **image** to learn more about the content.

If you like the content, Tap here to **like** the rig.

Tap the **download** icon to download the rig.

Tap the **filter** icon to filter the content by type (rig vs clone) as well as intended genre.

Tap the **Sort** icon to sort by upload date, downloads, likes, and alphabetical order.

Tap the **play** icon to preview a rig's sound without downloading it.

Tap here to return to the Featured Artist tab.

Tap here to view your previously uploaded content.

On the **My Content** tab, you can search your own uploaded content by using the **search**, **sort**, and **filter** features, the same as you can in the **Browse** tab.
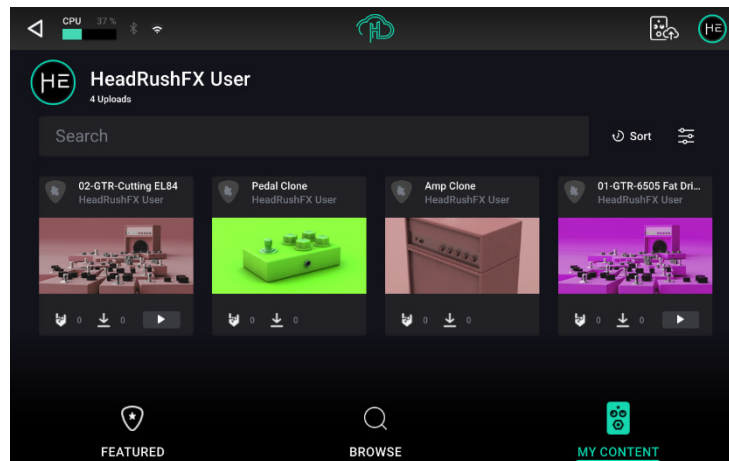
On the My Content tab, you can also delete content by tapping the rig or clone title to show the overlay, and then tapping the **trash can** icon at the top right.

(4.19) Mic Dry Out

HeadRush Core's **Mic Dry Out** feature enables you to still use a microphone while using rigs that use guitar-centric signal paths (Straight Path, Middle Split, Immediate Split) that typically do not allow adding FX to the microphone input.

This can be useful for different performance situations such as:

- You require the full 14 blocks of your rig to attain a complex guitar sound, and while you do not need vocal effects, you still need to sing simple backup vocals or talk to the audience between songs.

- You are livestreaming a performance or taking online lessons using your HeadRush Core as an audio interface and you still need a way to talk to your viewers or instructor.

To enable or bypass the Mic Dry Out signal on these types of rigs, tap the **Mic** button located on bottom of the Main screen next to the **Tail** and **Signal Path** buttons.

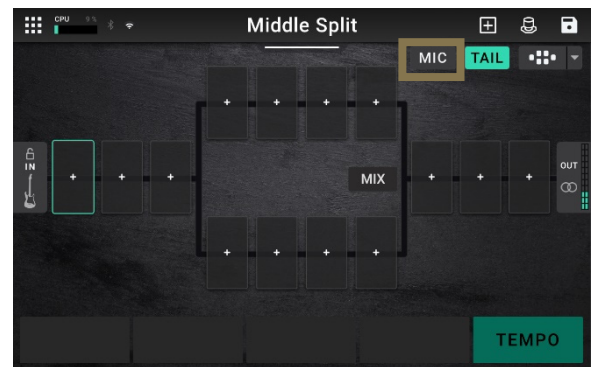Although you are unable to add vocal effects to the microphone signal to these types of rigs, the **Mic Dry Out** configuration screen still enables you to enhance the **Mic Dry Out** signal with a noise gate, compression, high pass filter, and simple EQ settings.

To access the Mic Dry Out configuration screen to further configure this signal, tap the **Menu** icon in the top left of the **Main** screen, and then tap **Mic Dry Out**. On this screen, you can adjust the following settings:
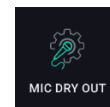
Preset: Select from included presets with preconfigured settings for various uses.

Active: Enables or disables the Mic Dry Out feature.

Volume: Sets the level of the incoming Mic signal. You can monitor the level using the **meter** above.

Gate Thresh: This is the volume level below which noise gate will be applied. Any sound at this level or higher will pass through the gate. Any sound lower than this level will be reduced.

High Pass: Adjusts the center frequency of the high pass filter applied to the mic signal.

Comp Threshold: This is the volume level at which compression is applied. Any sound at this level or higher will be compressed. Any sound at this level or lower will bypass the compressor.

Comp Make-Up: Adds additional gain to the compressed signal.

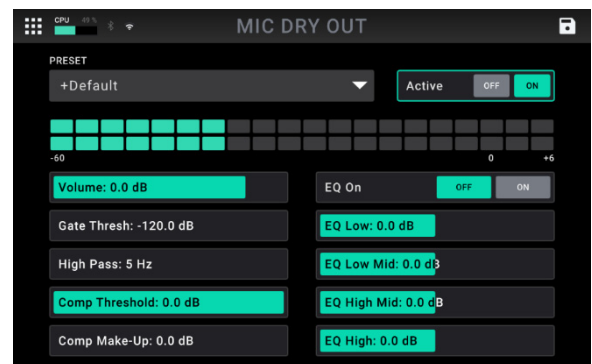**EQ On:** Enables or disables equalization. When enabled, you can adjust these additional settings:

EQ Low: Attenuate or boost the gain of the low frequency EQ band.

EQ Low Mid: Attenuate or boost the gain of the low-mid frequency EQ band.

EQ High-Mid: Attenuate or boost the gain of the high-mid frequency EQ band.

EQ High: Attenuate or boost the gain of the high frequency EQ band.

(4.20) Global EQ

The **Global EQ** screen lets you quickly apply additional equalization to **all** your rigs without permanently saving them. These settings are especially useful when a venue, rehearsal space, or other environment has different acoustic characteristics than the room where you originally created your rigs (e.g., the venue may sound "boomier," or a rehearsal space with soundproofing may deaden some of the high end).

To access the Global EQ screen, tap the **Menu** icon in the top left of the **Main** screen, and then tap the **Global EQ** icon.

These settings determine if/how equalization is applied the **XLR outputs** (the settings on the first tab in the left column) and/or the **1/4"** (**6.35 mm**) outputs (the settings on the second tab in the left column half of the screen). Each equalizer is a four-band parametric equalizer.

The available settings for each set of outputs are as follows:

EQ: This setting determines whether equalization is enabled (**On**) or disabled (**Off**) for the outputs.

Level: This setting determines if/how much the signal level from the outputs is boosted or cut. This value is applied to the level set by the **Main** knob.

Low, **Low Mid**, **High** & **High Mid**: The settings for each of these four frequency bands determine the shape of the equalization:

The **frequency setting** (**Hz**) determines the center frequency of the **low**-frequency band, **low-mid**-frequency band, **high**-frequency band, or **high-mid**-frequency band. You can adjust this by tapping on the dot for the desired frequency band, and dragging it left or right. Alternatively, you can tap the **frequency** field and use the **Main** knob to adjust it with more precision.

The **gain setting** (**dB**) determines how much the equalizer boosts or cuts the signal at the corresponding frequency band. You can adjust this by tapping on the dot for the desired frequency band, and dragging it up or down. Alternatively, you can tap the **gain** field and use the **Main** knob to adjust it with more precision.

The **quality setting** (**Q**) determines the width of the frequency band. The higher the setting, the wider the band will be around the center frequency (the first setting). This setting is applied whether **Low Band** or **High Band** is set to **Shelf** or **Cut**. You can adjust this by tapping and holding on the dot for the desired frequency band and tapping and dragging left or right with a second finger. Alternatively, you can tap the **quality** field and use the **Main** knob to adjust it with more precision.

The **mode setting** determines what type of equalization is applied to the lowest-frequency band (**Low Band**) and to the highest-frequency band (**High Band**): **Shelf** or **Cut**. This setting is not available for the **Low Mid** and **High Mid** bands. You can adjust this by tapping on the **mode** field and turning the **Main** knob.

You can reset the **Global EQ** feature back to the factory defaults by tapping the **Reset** icon at the bottom of the left column on this screen.

Note: This feature is specifically designed for adjusting the sound of every rig at once to accommodate your performance environment. If you would like to use an EQ with a similar interface in a specific rig, try the **Para EQ** block, located in the EQ category when adding a block to a rig.
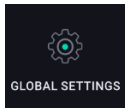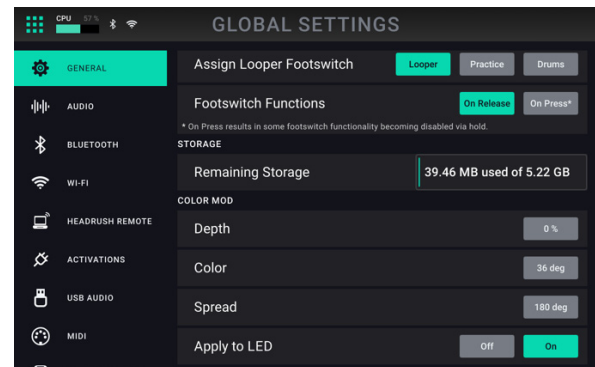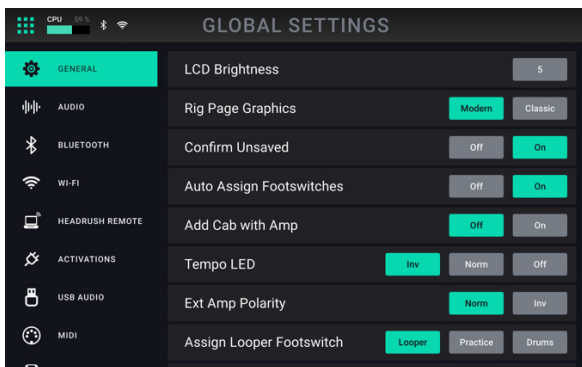
(4.21) Global Settings

Use the global settings to configure HeadRush Core's overall operation.

> **To show the global settings**, tap the **Menu** icon in the upper-right corner of the screen, and then tap the **Global Settings** icon.
>
> **To switch through each tab of the global settings**, tap the tabs along the left edge of the screen.

(4.21.1) General

LCD Brightness: This setting determines the brightness of the main display. Tap this field, turn the main **encoder** to select **1** (dim) through **5** (bright), and then press the **encoder**.

Rig Page Graphics: Choose **Modern** if you would like the main screen to feature realistic looking graphics of the gear being emulated. Choose **Classic** if you would like the main screen to feature less detailed graphics.

Confirm Unsaved: This setting determines whether you will see a confirmation message if you change the rig while there are unsaved changes on the current one. Tap **On** to enable these messages or **Off** to disable them.

Auto Assign Footswitches: This setting determines how models are assigned to the switches. Tap **On** if you want models to be automatically assigned to the next available switch when you load them. Tap **Off** if you want models to load without being assigned to a switch; you will have to assign them manually in the **Hardware Assign** screen.

Add Cab with Amp: This setting determines whether or not a specific cab and microphone are associated with the amp when loaded. When this is set to **Off**, any cab and microphone used in the current rig will be completely independent of the amp you select. When this is set to **On**, a specific cab and microphone combination will be used if you change the amp's **Preset** setting or if you load a new amp to the rig. You can change the cab and microphone manually afterward by adjusting the parameters of the cab model.

Tempo LED: This setting determines whether the Tap Tempo footswitch's LED blinks on the beat (**Norm**), on the off beat (**Inv**), or whether the LED is turned off completely (**Off**).

Ext Amp Polarity: If it seems like your external amplifier is getting the opposite messages you intended, change this parameter to invert the messages sent to the **External Amp Footswitch Output**. Select between **Norm** (normal) and **Inv** (inverted).

Assign Looper Footswitch: This setting changes the hold function of **footswitch 4**. This can be assigned to the **Looper**, **Practice Tool,** or **Drum Machine**.

Footswitch Function: This setting determines whether the footswitch action is triggered **On Release** or **On Press** of the footswitch. When set to **On Press**, some footswitch functionality will be disabled via hold instead of press.

Remaining Storage: This meter shows how much storage space is available in HeadRush Core's internal memory. If you want to increase the available memory, you can back up files to your computer or USB storage device and then delete the files from HeadRush Core using the **File Browser** or the **USB Transfer** feature.

Color Mod: If you have trouble distinguishing certain colors on your HeadRush Core's display, or if you just want to further customize the color scheme, you can use the color mod parameters to adjust their default settings.

If that sounds complicated to you, don't worry! It is best to learn simply by experimenting with the settings. While you experiment, a sample of your adjustments will be shown in real time. See the example below:
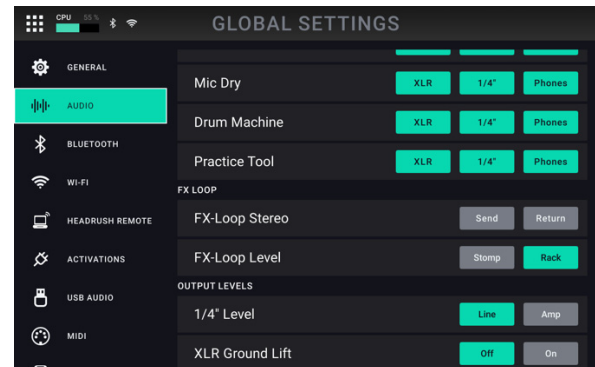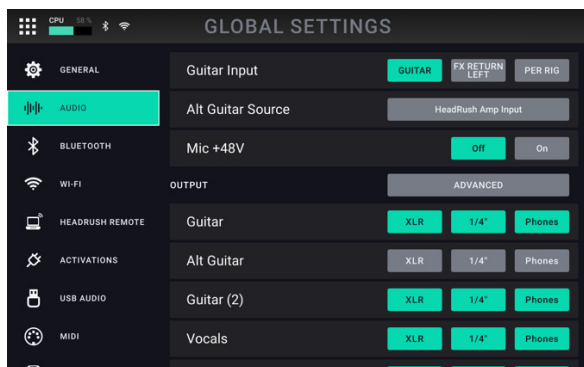
If you want to return to the default color scheme, the default settings are as follows:

- **Depth:** 0%
- **Color:** 36 DEG
- **Spread:** 180 DEG
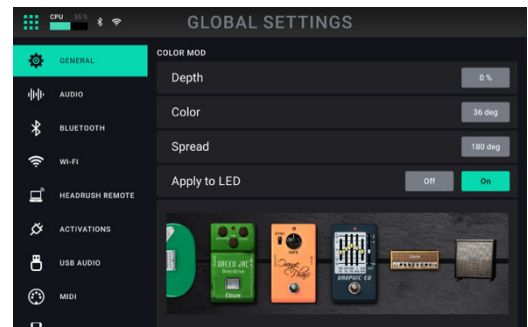
Note: The **Color Mod** feature is disabled when the **Lock Screen** feature is enabled.

(4.21.2) Audio

Guitar Input: This setting determines whether each rig's input signal is taken from the **guitar input** (**Guitar**), or the right (R) **return input** (**FX Ret R**). When set to **Per Rig**, the source is determined by the **Rig Input** setting of each rig (see *(4.4.2) Adjusting Settings > Parameters > In* to learn about this). When set to **FX Ret R** or **Per Rig**, the **FX-Loop Stereo Return** setting will be disabled; the signal will be mono.

Alt Guitar Source: This setting determines the point in the signal path from which the alternate output signal is taken: **Rig Input**, **Amp Input** (the default setting), **Amp Output**, **Cab Input**, **Cab Output**, **IR Input**, **IR 1024 In**, **Amp 2 Input**, **Amp 2 Output**, **Cab 2 Input**, **Cab 2 Output**, **IR 2 Input**, or **IR 1024 2 In**.

Mic +48V: This setting determines whether phantom power (+48V) is enabled (**On**) or disabled (**Off**) for the Combo XLR+1/4" microphone input.

Important: Only enable phantom power if your microphone requires it. Most dynamic microphones and ribbon microphones do not require phantom power, while most condenser microphones do. Consult your microphone's documentation to find out whether it needs phantom power.

Output:

Guitar: This setting determines where the top guitar path from a rig's output signal is sent to. Choose **XLR** to send the signal to HeadRush Core's XLR outputs, **1/4"** to send the signal to the 1/4" outputs, and **Phones** to send the signal to the 1/8" headphones output.

Alt Guitar: This setting determines where the signal from the Alt Guitar is sent to. Choose **XLR** to send the signal to HeadRush Core's XLR outputs, **1/4"** to send the signal to the 1/4" outputs, and **Phones** to send the signal to the 1/8" headphones output.

Guitar (2): This setting determines where the bottom guitar path from a rig's output signal is sent to. Choose **XLR** to send the signal to HeadRush Core's XLR outputs, **1/4"** to send the signal to the 1/4" outputs, and **Phones** to send the signal to the 1/8" headphones output.

Vocals: This setting determines where the vocal path from a rig's output signal is sent to. Choose **XLR** to send the signal to HeadRush Core's XLR outputs, **1/4"** to send the signal to the 1/4" outputs, and **Phones** to send the signal to the 1/8" headphones output.

Mic Dry: This setting determines where the dry vocal out from a rig's output signal is sent to. Choose **XLR** to send the signal to HeadRush Core's XLR outputs, **1/4"** to send the signal to the 1/4" outputs, and **Phones** to send the signal to the 1/8" headphones output.

Drum Machine: This setting determines where the Drum Machine's output signal is sent to. Choose **XLR** to send the signal to HeadRush Core's XLR outputs, **1/4"** to send the signal to the 1/4" outputs, and **Phones** to send the signal to the 1/8" headphones output.

Practice Tool: This setting determines where the Practice Tool's output signal is sent to. Choose **XLR** to send the signal to HeadRush Core's XLR outputs, **1/4"** to send the signal to the 1/4" outputs, and **Phones** to send the signal to the 1/8" headphones output.

Tap the **Advanced** button to access an additional set of parameters for more control of how your rig's audio output is assigned to the hardware outputs. These parameters are set globally, which enables you to quickly rearrange your output configuration for all rigs if you are in a new performance environment and need to adjust your settings.

Rig Output: This setting allows you to select any of the three available audio bus settings (**1**, **2**, or **3**) for each audio signal that is available from a Rig's output (**Guitar**, **Alt Guitar**, **Guitar (2)**, **Vocals**, **Mic Dry, Practice Tool,** and **Drum Machine**).
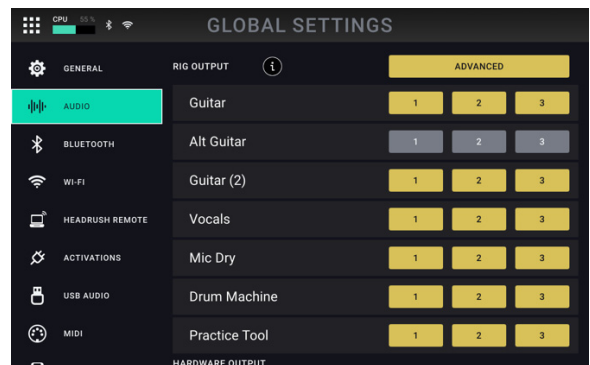
Hardware Output: This setting allows you to assign how the three buses are assigned to the **XLR**, **1/4"**, and **Headphones** outputs.

- **OUT 1:** This will assign **Bus 1** to the selected hardware outputs (in stereo).

- **OUT 2:** This will assign **Bus 2** to the selected hardware outputs (in stereo).

- **SPLIT 1/2:** This will assign **Bus 1** to the left side and **Bus 2** to the right side of the selected hardware outputs (in mono).

- **OUT 1+2:** This will assign both **Bus 1** and **Bus 2** to the selected hardware outputs (in stereo).

- **OUT 3:** This will assign **Bus 3** to the selected hardware outputs (in stereo).
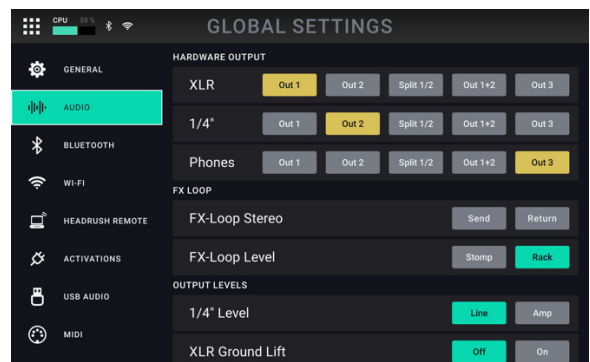
FX Loop:

FX-Loop Stereo: These settings determine whether the incoming and outgoing signal in the effects loop is stereo or mono. Tap **Send** to enable or disable the stereo signal for the **send outputs**. Tap **Return** to enable or disable the stereo signal for the **return inputs**.

FX Loop Level: This setting determines the signal level received by the **FX Return Input** (1/4"/6.35 mm, TRS). When set to **Rack**, the output level will be line level, +18 dBu. Use this setting if you are connecting a rack effects processor in HeadRush Core's FX-Loop. When set to **Stomp**, the output level will be +6 dBu. Use this setting if you are connecting a traditional guitar pedal ("stompbox") in the FX-Loop.

1/4" Level: This setting determines the signal level sent to the main **Outputs** (1/4"/6.35 mm, TRS). When set to **Line**, the output level will be +18 dBu. Use this setting if you are connecting HeadRush Core to a full-range, flat-response amplifier, PA speaker, mixer, or audio interface. When set to **Amp**, the output level will be +6 dBu. Use this setting if you are connecting HeadRush Core to a traditional guitar amplifier.

XLR Ground Lift: This setting determines whether the XLR ground lift feature is enabled (**On**) or disabled (**Off**). Use this feature to reduce hum or noise in the signal from the **XLR Outputs**.

(4.21.3) Bluetooth

HeadRush Core features an integrated **Bluetooth audio receiver**, enabling you to connect a mobile device and play along with songs, lesson apps, etc. The settings for this feature are located on this tab.

- **To enable the Bluetooth audio receiver for pairing** to your mobile device, tap the **ON** button at the top of the screen. Then, search for "HeadRush Core" in the Bluetooth Settings menu on your device and connect to it.

- **To configure which outputs the Bluetooth audio is sent to,** use the Bluetooth Out parameter and choose **XLR** to send the signal to HeadRush Core's XLR outputs, **1/4"** to send the signal to the 1/4" outputs, and **Phones** to send the signal to the 1/8" headphones output.

- **To adjust the Bluetooth input signal level,** tap the button next to the **Bluetooth In Level** text and then turn the main encoder to adjust the level from **-60 dB** to **+12 dB**.

- **To disconnect a paired Bluetooth Audio device**, tap the **disconnect** button next to the name of the device under the list of connected devices.

- **To disable the Bluetooth audio receiver,** tap the **OFF** button.

- **To have HeadRush Core forget a specific previously connected device**, tap the device's name and then tap **Forget Device**.

- **To have HeadRush Core forget all previously connected devices,** tap the button next to the **Reset Bluetooth Settings** text.
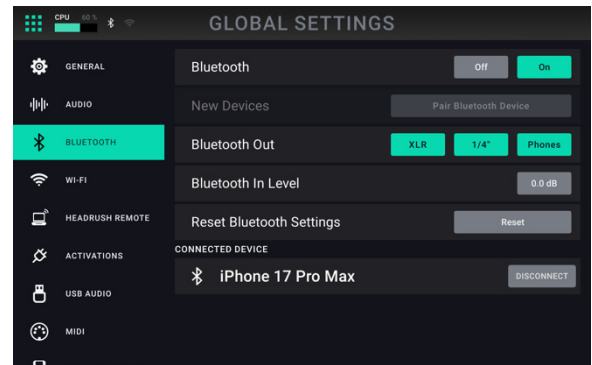
(4.21.4) Wi-Fi

HeadRush Core also features an integrated **Wi-Fi connection**, enabling you to connect your HeadRush Core to a local network so that you can receive new **firmware updates**, use the **HeadRush Cloud** to download/share new rigs and clones, or access files from a Dropbox storage account when using the **File Browser**.

- **To connect HeadRush Core to your local Wi-Fi network**, tap the **ON** button at the top of the screen. Then, tap the local network that you would like to connect to, and enter the password for the network when prompted.

- While you are connected to a Wi-Fi network, you can tap the **settings** icon located next to the network name to view the Wi-Fi signal strength, security, and IP details, as well as access settings for auto-connect, and forgetting a local network.

- **To have HeadRush Core forget a specific previously connected Wi-Fi Network**, tap **Forget** on this details screen.

- **To have HeadRush Core forget all previously connected devices,** tap the button next to the "Reset Wi-Fi Settings" text.

- **To disconnect HeadRush Core from your local network** and disable Wi-Fi, tap the **OFF** button.
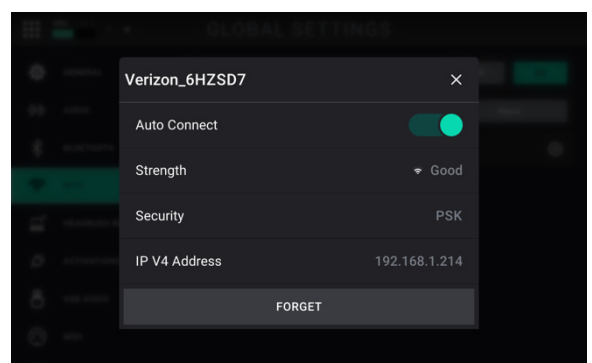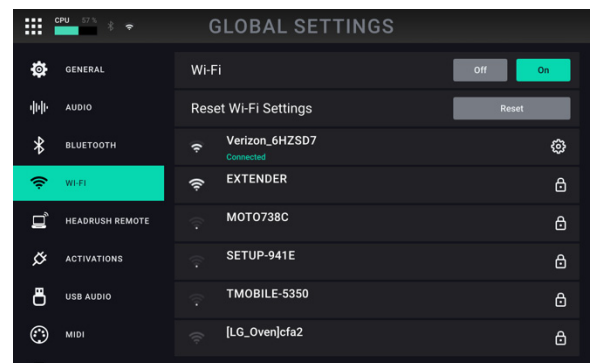
(4.21.5) HeadRush Remote

When HeadRush Core is connected to Wi-Fi, set the HeadRush Remote global setting to **On** to enable access to the Web UI editor. Once enabled, open a web browser and enter the IP address shown here, or **headrushcore.local**. You can use this interface to edit and save rigs and setlists as well as adjust global settings. See *(4.23) Remote Edtior Web UI* for more information on how to use HeadRush Remote.

HeadRush Remote features several security features that can be helpful when connecting your Core on a public Wi-Fi network at performances.

To have Core display a security PIN number when a remote editor is connected, tap the **ON** button next to the **Authorize with PIN** setting. The PIN number will be shown in the HeadRush Remote editor, as well as directly on your Core's screen when a connection attempt is made, and you will be able to authorize the connection from your Core's screen.

To have Core automatically reject any future connection attempts, tap the **DENY** button next to the **New Connection Attempts** setting. This security feature can be helpful when connecting to an editor on a public Wi-Fi network at performances.

To disconnect any previously connected devices from the HeadRush Remote editor, tap **Reset** next to the **Previously Connected Devices** setting.
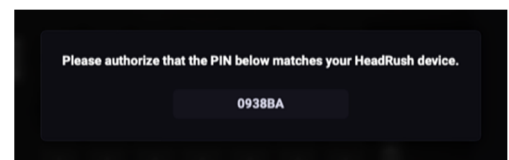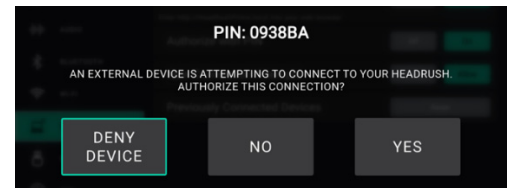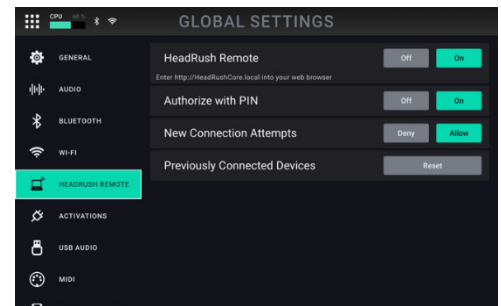
(4.21.6) Activations

On the **Activations** tab, you can download 15 additional drum kits for the **Drum Machine** when connected to a Wi-Fi network.

To download drum kits, tap the **Download All** button at the top of the page to download all kits at once, or tap the **download icon** next to each kit to download individually.

You can see the available space left on Core at the bottom of this page, and you can also see the size of each drum kit next to its individual download button.

You can cancel single downloads in process by tapping the **X** icon, or you can cancel all downloads in progress by tapping the **Cancel All** button at the top of the screen.

To delete drum kits, navigate to the **Menu** screen and tap the **Browse** icon. Once you're on the File Browser page, enter the **/Drum Machine/Kits** folder, tap a drum kit to select it, and then tap the **Delete** button.
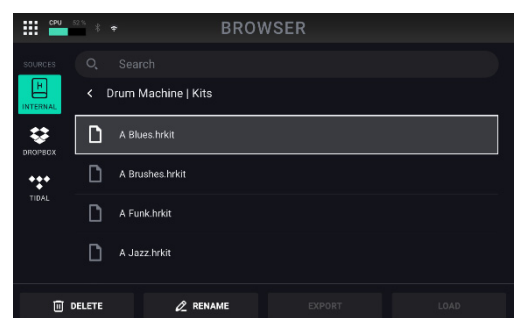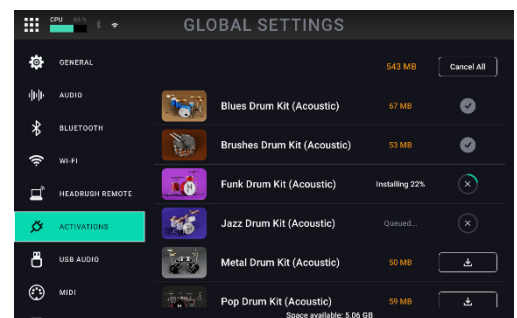
(4.21.7) USB Audio

USB Audio: This setting determines whether or not HeadRush Core is sending a USB audio signal over a USB connection. Tap **On** to enable sending of the USB audio signal with the selected **Sample Rate**. Tap **Off** to disable the USB audio signal. To change the Sample Rate, set **USB Audio** to **Off** first, select the correct sample rate, set **USB Audio** to **On** again, and restart your DAW.

Sample Rate: This setting determines the sample rate of the USB audio signal: **44.1** kHz, **48.0** kHz, or **96.0** kHz. Remember to select the same sample rate as the one in your DAW. Also, set it **before** opening your DAW.

**USB Mode**: This setting determines what audio signal HeadRush Core sends over the USB connection and how its outputs function while doing so:

- **Live**: The audio signal will be sent to your computer as well as to HeadRush Core's **outputs**.

- **DAW**: The audio signal will be sent to your computer only. HeadRush Core's **outputs** will be disabled to prevent any latency while monitoring.

- **Reamp**: Your computer will send an audio signal to HeadRush Core, which will process it through the current rig and send it back to your computer. HeadRush Core's **outputs** will be disabled to prevent any latency while monitoring. See *(4.16.3) USB > Reamping* to learn how to configure your DAW for this process.

USB In Level: This setting determines the incoming USB Audio level, from **-60.0 dB** to **12.0 dB**.
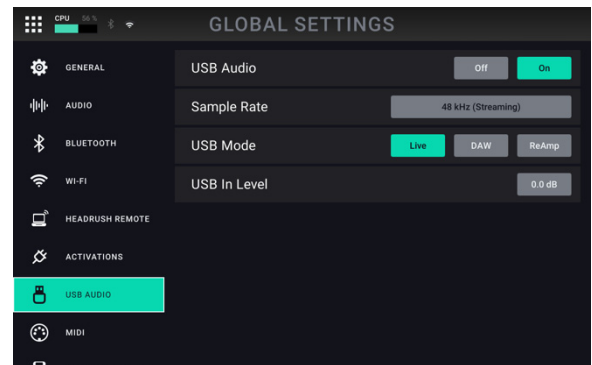
(4.21.8) MIDI

These settings determine how HeadRush Core sends and receives MIDI information to and from external devices. These settings affect only HeadRush Core's **MIDI Input** and **MIDI Output**.

MIDI Thru: Tap **On** to use the **MIDI Output** as a MIDI throughput; any MIDI information sent to HeadRush Core's **MIDI Input** will be sent directly to the **MIDI Output**. Tap **Off** to use HeadRush Core's MIDI output normally; HeadRush Core will be able to send its own MIDI information out of the MIDI output.

Receive MIDI Clock: Tap **On** to enable HeadRush Core to receive MIDI clock information. Tap **Off** to use HeadRush Core's own internal MIDI clock (which will not be sent out).

Prog Change: Tap **Send** to enable or disable HeadRush Core's transmission of MIDI program change messages when you load a rig. Tap **Recv** to enable or disable HeadRush Core's reception of MIDI program change messages from an external MIDI device.

MIDI Channel: This setting determines the MIDI channel(s) from which HeadRush Core will send and receive MIDI messages. Tap this field, turn the **encoder** to select all channels (**Omni**), or **1–16**, and then press the **encoder**.
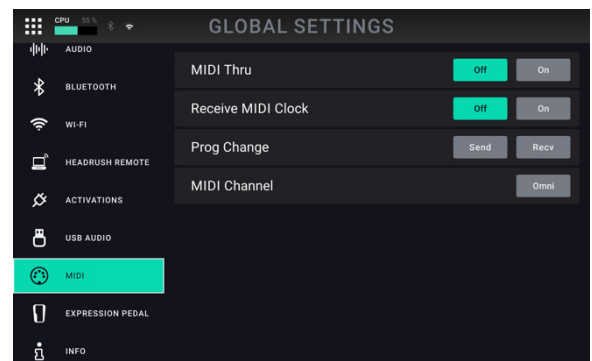
(4.21.9) Expression Pedal

The settings on this tab are for configuring an external expression pedal connected to HeadRush Core's rear panel **EXPR** and **TOE** inputs.

Toe Switch: Change this parameter to **Latch** if your external expression pedal uses a latching toe switch, or **Momnt** if your expression pedal uses a momentary toe switch.

Pedal Polarity: If it seems like your expression pedal is registering motion in the wrong direction, you can change this parameter to invert the pedal polarity. Select between **Norm** (normal) and **Inv** (inverted).

"Intensity" on Drum Mach. Page: When set to **ON**, the expression pedal will ignore any rig assignments and instead automatically control the **Intensity** parameter when the **Drum Machine** page is shown.
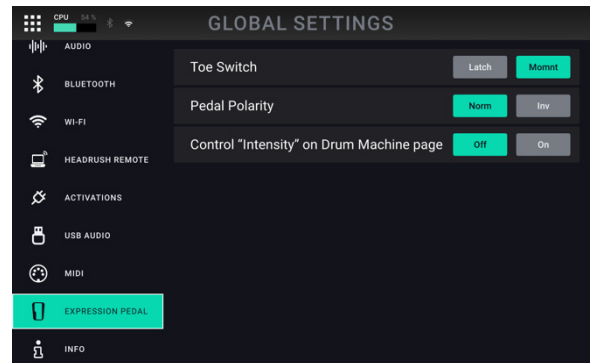
(4.21.10) Info

On this tab you can view HeadRush Core's current **firmware** and **hardware versions**, and access HeadRush Core's **License** information.

Send anonymous usage statistics: This determines whether or not your usage statistics will be sent occasionally to us, enabling us to improve the HeadRush Core experience.

Reset All Global Settings: Tap **Reset** to reset all your global settings to their factory defaults.

Reset Wi-Fi & Bluetooth Settings: Tap **Reset** to have HeadRush Core forget all previously connected Bluetooth devices and Wi-Fi networks.
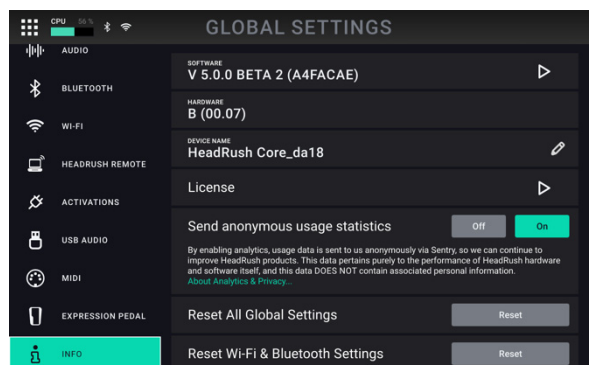
(4.22) External MIDI Control

HeadRush Core can be controlled by incoming MIDI CC (control change) messages sent from external MIDI gear. This external MIDI gear must be connected to the 5-pin **MIDI Input** or the **USB-A** connection. If USB-MIDI gear is being connected to the USB-A port, it must be class compliant and require no software drivers to function.

The chart below lists the parameters that can be controlled by external MIDI gear:

CC#	Action	CC#	Action
CC#1	External Expression Pedal	CC#45	Drum Machine - Outro
CC#12	Global Tempo -	CC#46	Drum Machine - Mute
CC#13	Global Tempo +	CC#47	Drum Machine - Accent
CC#14	External Pedal Switch (A/B)	CC#49	Footswitch 1
CC#16	Rig Up (Previous Rig)	CC#50	Footswitch 2
CC#17	Rig Down (Next Rig)	CC#51	Footswitch 3
CC#18	Bank Up (Previous Bank)	CC#52	Footswitch 4
CC#19	Bank Down (Next Bank)	CC#53	Footswitch 5
CC#20	Footswitch Bank (A/B)	CC#64	Tap Tempo
CC#21	Scene 1	CC#65	Looper - 1/2 Speed
CC#22	Scene 2	CC#66	Looper - 2X Speed
CC#23	Scene 3	CC#67	Looper - 1/2 Loop
CC#24	Scene 4	CC#68	Looper - 2X Loop
CC#25	Scene 5	CC#69	Looper - Start/Stop
CC#26	Scene 6	CC#70	Looper - Record
CC#27	Scene 7	CC#71	Looper - Insert
CC#28	Scene 8	CC#72	Looper - Peel
CC#29	Scene 9	CC#73	Looper - Mute
CC#30	Scene 10	CC#74	Looper - Reverse
CC#31	Drum Machine - Open/Close	CC#75	Block 1 Toggle (On/Off)
CC#32	Drum Machine - Previous Kit	CC#76	Block 2 Toggle (On/Off)
CC#33	Drum Machine - Next Kit	CC#77	Block 3 Toggle (On/Off)
CC#34	Drum Machine - Previous Style	CC#78	Block 4 Toggle (On/Off)
CC#35	Drum Machine - Next Style	CC#79	Block 5 Toggle (On/Off)
CC#36	Drum Machine - Previous Variation	CC#80	Block 6 Toggle (On/Off)
CC#37	Drum Machine - Next Variation	CC#81	Block 7 Toggle (On/Off)
CC#38	Drum Machine - Volume -	CC#82	Block 8 Toggle (On/Off)
CC#39	Drum Machine - Volume +	CC#83	Block 9 Toggle (On/Off)
CC#40	Drum Machine - Intensity -	CC#84	Block 10 Toggle (On/Off)
CC#41	Drum Machine - Intensity +	CC#85	Block 11 Toggle (On/Off)
CC#42	Drum Machine - Play/Stop	CC#86	Block 12 Toggle (On/Off)
CC#43	Drum Machine - Fill	CC#87	Block 13 Toggle (On/Off)
CC#44	Drum Machine - Next/Bridge	CC#88	Block 14 Toggle (On/Off)

CC#89	Mic Dry (On/Off)		CC#102	Practice Tool - Open/Close
CC#90	Hands-Free - Open/Close		CC#103	Practice Tool - Play/Pause
CC#91	Looper - Open/Close		CC#104	Practice Tool - Stop
CC#92	Tuner - Open/Close		CC#105	Practice Tool - Volume -
CC#93	Lock Screen - Open/Close		CC#106	Practice Tool - Volume +
CC#94	Enter Stomp FS Mode		CC#107	Practice Tool - Loop In
CC#95	Enter Hybrid FS Mode		CC#108	Practice Tool - Loop Out
CC#96	Enter Setlist FS Mode		CC#109	Practice Tool - Speed-
CC#97	Enter Rig FS Mode		CC#110	Practice Tool - Speed+
CC#98	Enter 5 Rig FS Mode		CC#111	Practice Tool - Pitch-
			CC#112	Practice Tool - Pitch+

While most of the parameters in the list above are actions that will be triggered when any CC data value (0-127) is sent along with the correct CC#, some parameters require specific data values to function properly.

For example:

- When sending CC messages to control the **Internal** and **External Expression Pedal** (CC#1 and CC#2), you can send an exact data value between 0-127 to make precise settings.

- When sending CC messages to control the **Internal Footswitches** (CC#49 through CC#53), you must send a data value of 127 to simulate the press, and then another CC# message with a data value of 0 to simulate the release of the footswitch. If you only send the press data value, the current assigned hold function to that internal footswitch will be activated.

- When sending CC messages to control the **Tap Tempo** (CC#64), you must send the CC message multiple times to simulate setting the Tap Tempo via an internal footswitch.

If your external MIDI device is not controlling the HeadRush Core as expected, try adjusting the CC data values like the examples above, as well as exploring any settings that may be available on your MIDI device itself. Some MIDI devices will have specific CC Toggle and CC Momentary modes where one mode may work better than the other.

(4.23) Remote Editor Web UI

The HeadRush Remote Editor web UI provides a quick and easy-to-use tool for working with your HeadRush Core. You can use it to view and edit rigs and setlists, access the HeadRush Cloud, and more.
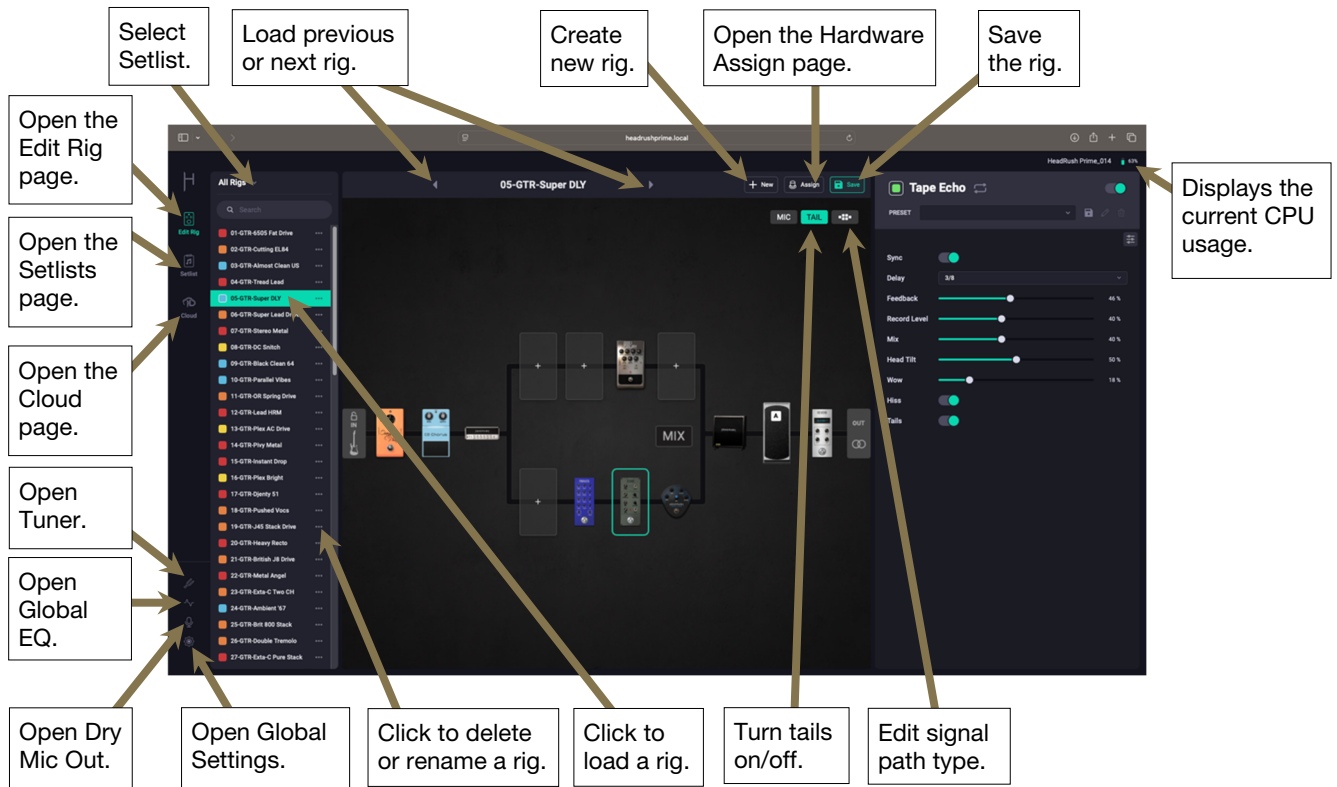
Note: For best results, we recommend using a computer or tablet with a 7" or larger screen, and using the native web browser for that device (e.g., Microsoft Edge for Windows-based devices, Safari for macOS/iOS-based devices, or Google Chrome for Android-based devices). You may find that other browsers are incompatible with the Remote Editor web UI.

To access the Remote Editor:

1. On HeadRush Core, tap the **Menu** icon in the upper-left corner of the **Main** screen, and then tap **Global Settings**.

2. Select the **Wi-Fi** page on the left side of the screen, and ensure that the HeadRush Core Wi-Fi is set to **On**, and then connect to your local network.

3. Select the **HeadRush Remote** page on the left side of the **Global Settings** screen, and ensure that the HeadRush Remote setting is set to **On**.

4. On your computer, tablet, or other external device (connected to the same Wi-Fi network), open a web browser and enter **headrushcore.local** or the IP address shown on HeadRush Core (for example, **http://192.168.68.81**) into the address field.

(4.23.1) Edit Rig

The Remote Editor will open with a view just like **My Rig** mode on your HeadRush Core device. From here you can browse, edit, and save rigs; adjust block settings and manage presets; apply hardware assignments; and more.

Select Setlist.

Load previous or next rig.

Create new rig.

Open the Hardware Assign page.

Save the rig.

Open the Edit Rig page.

Open the Setlists page.

Open the Cloud page.

Open Tuner.

Open Global EQ.

Displays the current CPU usage.

Open Dry Mic Out.

Open Global Settings.

Click to delete or rename a rig.

Click to load a rig.

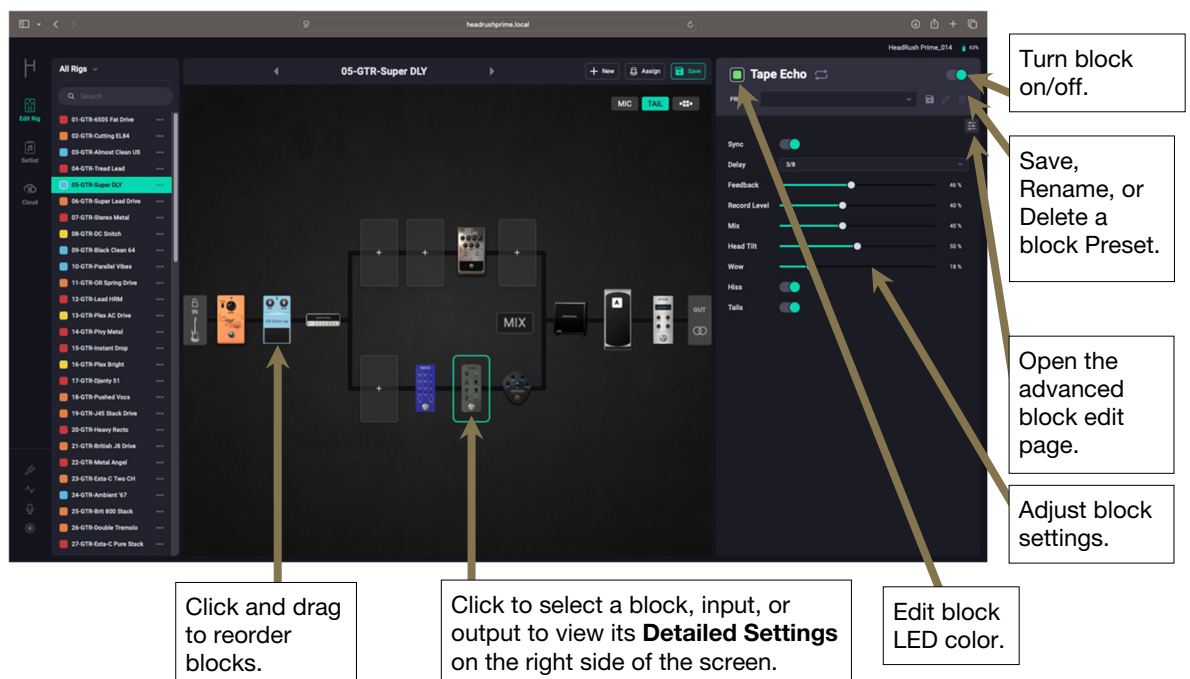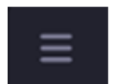Turn tails on/off.

Edit signal path type.

Depending on the size or rotation of your screen, the rig list may be shown when initially loading the editor. If it is not shown, tap the icon shown to the right above to open it.

When the Rig List is opened on the left side of the screen, you can browse and edit rigs in your setlists.

When a block is selected, use the onscreen controls on the right side to edit block parameters.

See *(4.4) Adjusting Settings* to learn more about adjusting block settings.

Turn block on/off.

Save, Rename, or Delete a block Preset.

Open the advanced block edit page.

Adjust block settings.

Click and drag to reorder blocks.

Click to select a block, input, or output to view its **Detailed Settings** on the right side of the screen.

Edit block LED color.

The Hardware Assign page functions just like the hardware version, where you can edit footswitch and expression pedal assignments, create and edit scenes, adjust LED colors, and more.
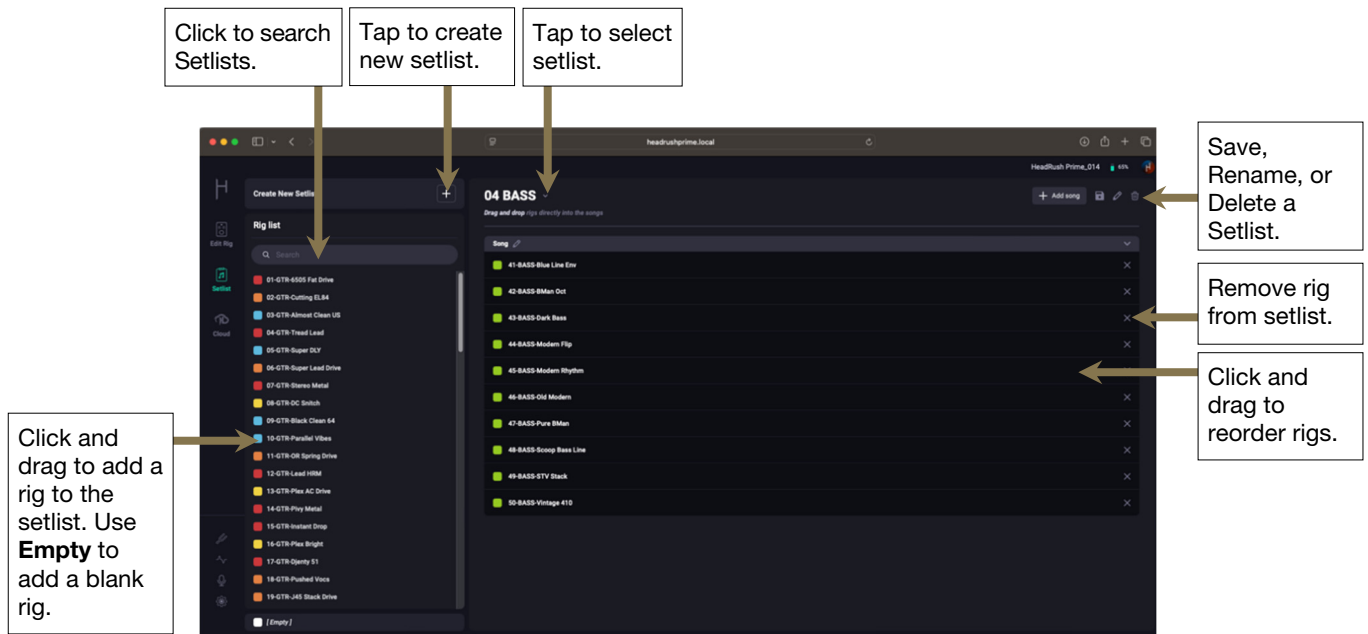
See *(4.6) Hardware Assign* to learn more about hardware assignments.

Adjust MIDI program change number of the rig.

Adjust footswitch indicator color.

Adjust rig tempo.

Add and edit footswitch assignments.

Adjust expression pedal assignments.

Add and edit scene switch states.

Adjust footswitch indicator color.

Adjust footswitch behaviors per scene.
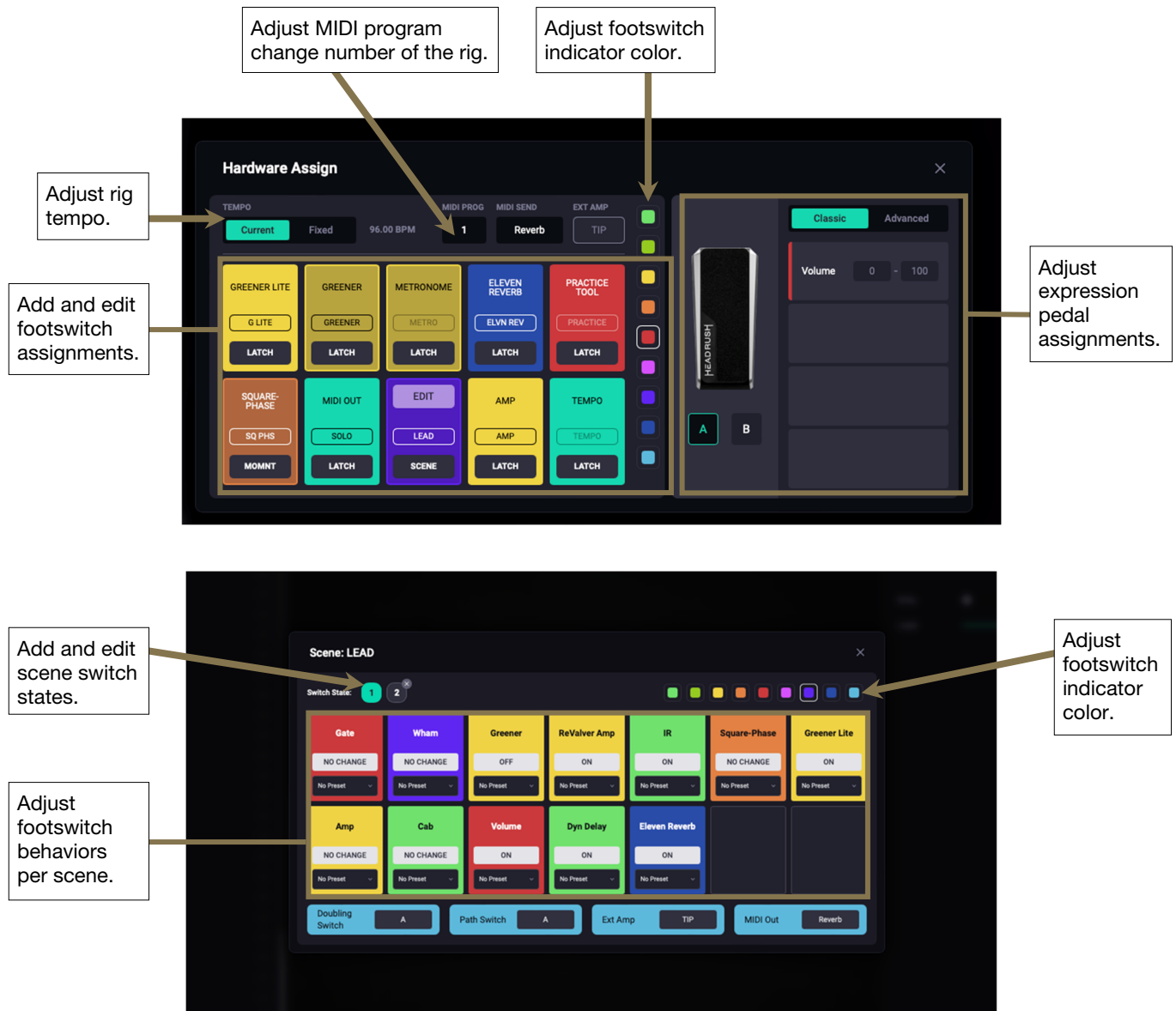
(4.23.2) Setlist

Click the **Setlist** icon to view the Setlists page. The left side of the screen shows the Rig List, with all factory and user-created rigs. The right side of the screen shows the rigs in the selected setlist.

See *(4.9) Setlists* to learn more about using setlists.

Click to search Setlists.

Tap to create new setlist.

Tap to select setlist.

Save, Rename, or Delete a Setlist.

Remove rig from setlist.

Click and drag to reorder rigs.

Click and drag to add a rig to the setlist. Use **Empty** to add a blank rig.

(4.23.3) HeadRush Cloud

Click the **HeadRush Cloud** icon to view the HeadRush Cloud page.

- Click the **Featured** tab at the bottom of the screen to explore Featured content.
- Click the **Browser** tab at the bottom of the screen to browse and search through other users' rigs and clones
- Click the **My Content** tab at the bottom of the page to show your own shared rigs and clones.

See *(4.18) HeadRush Cloud* to learn more about using the HeadRush Cloud.
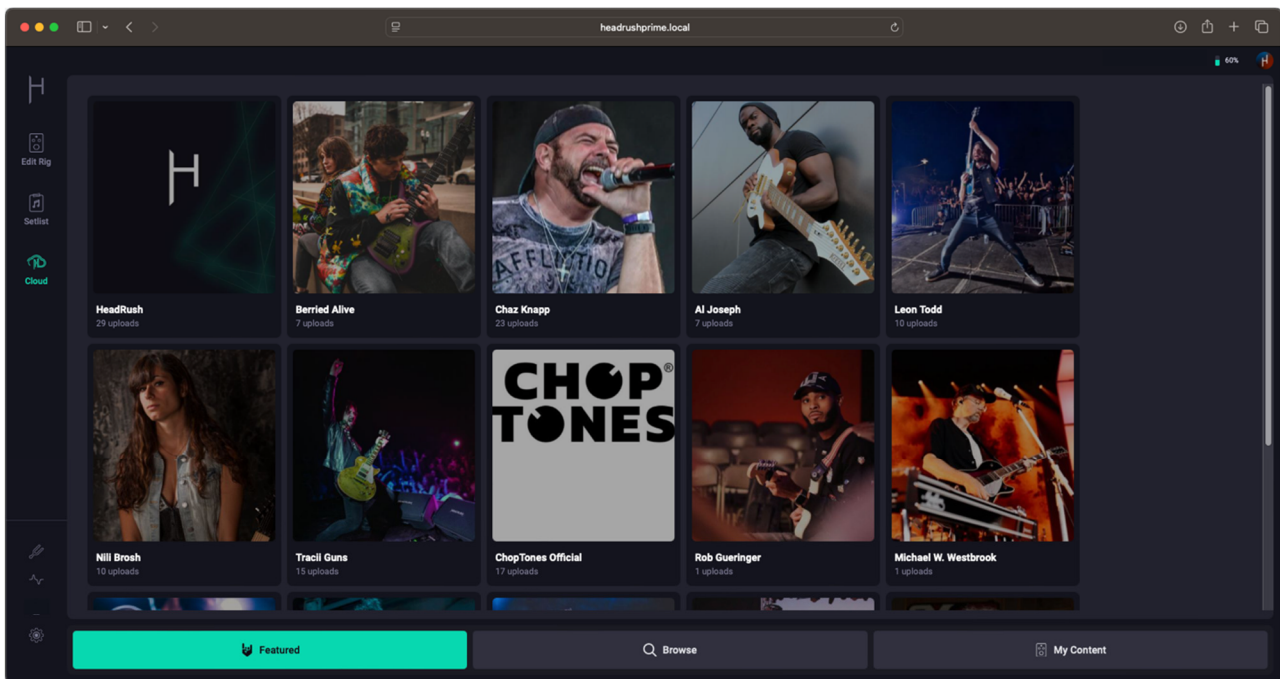
(4.23.4) Tuner

Click the **Tuner** icon to view the Tuner.
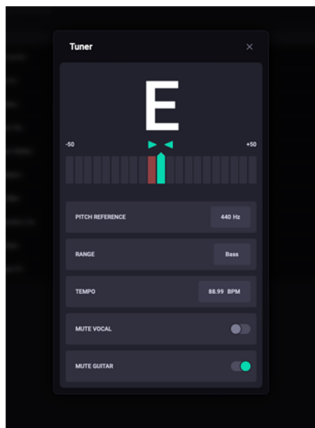
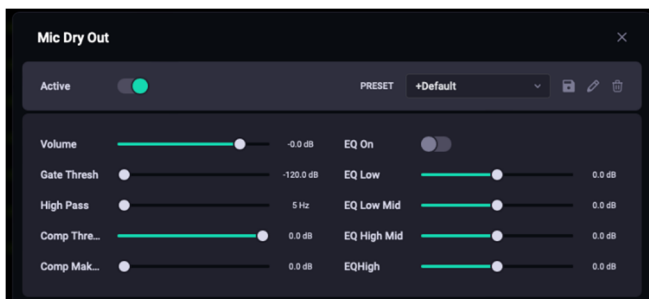See *(4.14) Tuner* to learn more about using the tuner.

(4.23.5) Global EQ

Click the **Global EQ** icon to view the Global EQ page.

See *(4.20) Global EQ* to learn more about using the global EQ.
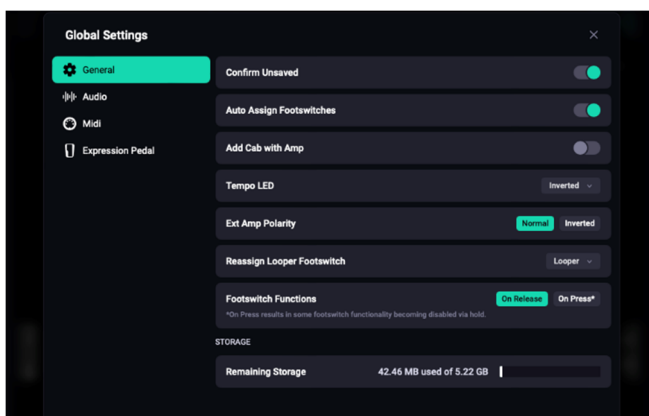
(4.23.6) Mic Dry Out

Click the **Mic Dry Out** icon to view the Mic Dry Out page.

See *(4.19) Mic Dry Out* to learn more about using the Mic Dry Out feature.

(4.23.7) Global Settings

Click the **Global Settings** icon to view the Global Settings page.

See *(4.21) Global Settings* to learn more about using the Global Settings.

(5.0) Appendix

(5.1) Technical Specifications

Footswitches	(5) Footswitches with color LEDs
Knobs	(1) 300° main volume knob (1) 300° headphone volume knob (1) 360° navigation/data encoder
Display	7" full-color display with touch interface
Connectors	1/4" (6.35 mm) TS input (guitar) XLR / 1/4" (6.35 mm) input (microphone) 1/4" (6.35 mm) TRS input (expression pedal) 1/4" (6.35 mm) TS input (expression pedal toe switch) 1/8" (3.5 mm) stereo input (auxiliary device) 1/4" (6.35 mm) TRS output (external amp footswitch) 1/4" (6.35 mm) stereo pair outputs XLR stereo pair outputs 1/8" (3.5 mm) stereo headphone output 1/4" (6.35 mm) TRS input (FX send) 1/4" (6.35 mm) TRS output (FX return) (1) 5-pin MIDI input (1) 5-pin MIDI output USB Type-A port USB Type-B port
Power	**Connection** DC power adapter input **Input Voltage** 12 VDC, 3 A, center-positive
Dimensions (width x depth x height)	16.08" x 9.24" x 2.64" 40.84 x 23.46 x 6.70 cm
Weight	8.37 lbs. 3.80 kg

Specifications are subject to change without notice.

(5.2) Trademarks & Licenses

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Rev A

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