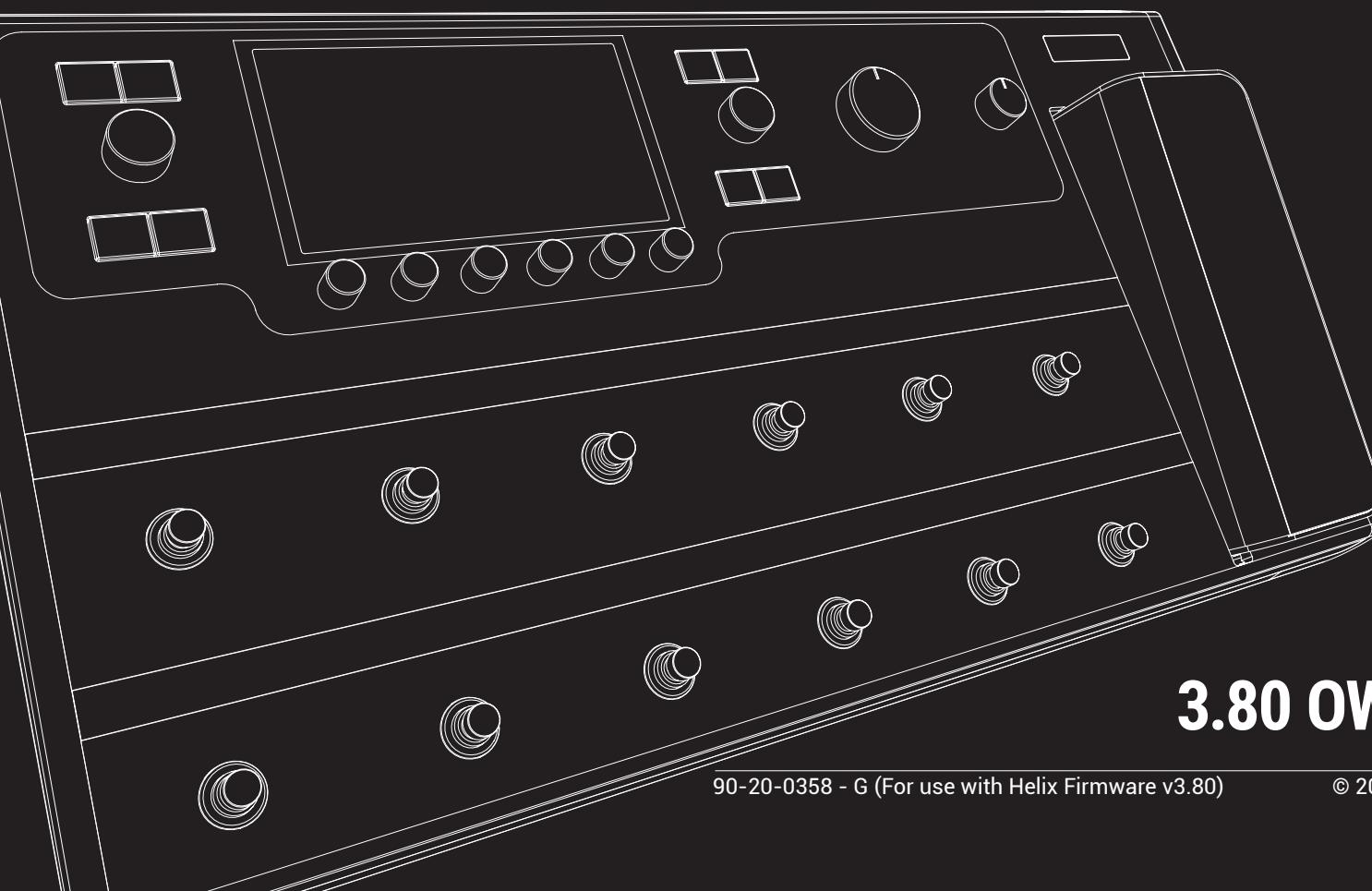




H E L I X



## 3.80 OWNER'S MANUAL >

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**Supplier's Declaration of Conformity  
47 CFR § 2.1077 Compliance Information**

**Unique Identifier:** Line 6® Helix®

**Responsible Party - U.S. Contact Information:**

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<https://line6.com/>

**FCC Compliance Statement:**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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The Model and Serial numbers can be found on the product label. Please record these numbers below and retain this document for your records.

**Model Number:** \_\_\_\_\_

**Serial Number:** \_\_\_\_\_

# Welcome to Helix

Thank you for purchasing Helix®, one of the most powerful and flexible audio processors ever created. We hope it helps drive your search for tonal bliss and spawns years of creativity, both on stage and in the studio. This manual covers Helix with firmware version 3.80 (and later).

## What Have I Gotten Myself Into?

Although Helix may appear complicated at first glance, it's designed in such a way that once you learn a few basic concepts and shortcuts, you'll be able to construct both simple and complex tones at nearly the speed of thought, with very little menu diving required.

Although you're likely anxious to rip open the plastic and plug in, wait! At the very least, check out the *Helix Cheat Sheet* that came in the box, and keep it handy. Then read the ["Quick Start"](#) chapter of this manual and we'll have you up and shredding in no time.

 **TIP:** Be sure also to visit [line6.com/videos](#), where we're always adding new video tutorials covering the latest Line 6 gear!

## What's In the Box?

- Line 6® Helix®
- *Helix Cheat Sheet* (read that one first!)
- AC power cable
- USB cable
- Hex wrench for adjusting the resistance expression pedal's resistance
- Warranty card

## Common Terminology

While reading this manual, you may encounter several unfamiliar terms. It's important to know what they mean. Don't worry—there's no math.

**Home** The *Home* screen is your primary workspace for creating and editing tones. If you ever get lost, press  to return to the *Home* screen.

**Block** *Blocks* are objects that represent various elements of a preset, such as amps, cabs, effects, splits, loopers, inputs, outputs, and impulse responses.

**Path** A *path* represents the signal flow of your tone. Helix has two separate paths, 1 and 2, each with its own input(s) and output(s). Paths can be serial (single) or parallel (dual). Path 1 can be routed into path 2 for more sophisticated tones.

<b>Preset</b>	A <i>preset</i> is your tone. It consists of all blocks on the <i>Home</i> screen, footswitch assignments, controller assignments, and Command Center messages.
<b>Setlist</b>	A <i>setlist</i> is a collection of presets. Helix has eight setlists containing 128 presets each.
<b>Model</b>	Each processing block can accommodate one <i>model</i> (or in some cases, two models). Helix includes over 80 guitar and bass amps, over 40 cabs, and over 220 effects models.
<b>Controller</b>	<i>Controllers</i> are used to adjust various parameters in real-time. For example, the expression pedal can be used to control wah, or the tone knob on a Variax guitar can be used to control amp gain and reverb depth.
<b>Send/Return</b>	<i>Sends and Returns</i> are used to connect additional equipment to Helix for effects loops or processing multiple instruments simultaneously. Helix has four mono sends and returns, but adjacent pairs can be selected for stereo operation.
<b>IR</b>	<i>IRs</i> (Impulse Responses) are mathematical functions representing the sonic measurements of audio systems (for Helix, speaker cabinet and microphone combinations). Helix can store up to 128 custom or third-party IRs at a time. See " <a href="#">"Impulse Response (IR)"</a>
<b>Variax®</b>	Variax isn't just a great guitar; it also contains special electronics that recreate the sound of other specific guitars and instruments, and allow for instant retuning of each string. Helix and Variax communicate with one another in unique and powerful ways. See " <a href="#">"What is Variax?"</a>
<b>L6 LINK™</b>	<i>L6 LINK</i> provides easy, single-cable, digital audio connectivity and remote control ability between Helix and Line 6 Powercab® active guitar speaker systems and DT-Series amplifiers. See " <a href="#">"L6 LINK - Powercab Plus and DT 25/50 Amp Options"</a>
<b>FRFR</b>	<i>FRFR</i> (Full Range, Flat Response) speakers have the ability to amplify a modeler without adversely affecting its tone, ensuring great detail, a wide sweet spot, predictability, and consistency from studio to stage. You could almost think of FRFR monitors as very loud, gig-ready studio monitors.
<b>DAW</b>	<i>DAW</i> (Digital Audio Workstation) refers to any computer (or mobile device) used for audio recording. The components of a DAW include an audio interface, audio recording software (such as Cubase®, Logic, Garageband, Pro Tools®, etc.), and monitoring system (amplifier & speakers or headphones). Helix functions as a high-performance USB 2.0 audio interface with all major DAW software - See " <a href="#">"USB Audio"</a>

## Why Does Helix Sound [insert descriptor here]?

Like most guitarists, you're probably used to the sound and feel of real tube amps. So are we. Musicians instinctually understand that a roaring 4x12 cab pointing at the back of their knees sounds and feels totally different from a pair of plastic PA speakers (or even high-quality studio monitors) pointing at their face. Yet some may blame their multieffects box for this disparity. Like any other device without built-in speakers, Helix is completely at the mercy of what you plug it into. Your playback system has a massive impact on the sound and feel of your tone, and if Helix appears to sound thin, tubby, boxy, harsh, dull, or some other less-than-ideal adjective, the first thing to scrutinize is your playback system.

There's also nothing wrong with bypassing the Helix cab or IR blocks and running it into a flat power amp and real wooden cab; digital magic will never convince anyone their 6" computer speakers are a wall o' stacks. Your tone is only as good as the weakest link in your chain, and understand that given identical playback systems, Helix amp modeling is designed to be virtually indistinguishable from the real thing.

## HX Edit Application



Be sure to grab the free **HX Edit** application for Mac and PC—available for download at [line6.com/software](https://line6.com/software).

HX Edit is a full-featured editor and preset & IR librarian, and allows you to easily create & restore full Helix device backups, and update your device to the latest firmware (also see the next section). You can connect more than one Helix and/or HX device, and HX Edit will display an individual application window for each.

## Preset Sharing with Helix/HX Devices & Helix Native Plugin

All Helix and HX hardware and software live within the same ecosystem. Using multiple windows within HX Edit and/or multiple instances of the Helix Native plugin, both blocks and entire presets can be freely dragged and dropped or copied and pasted between units, with some restrictions. Please see the HX Edit and Helix Native [Pilot's Guides](#) for specifics on preset compatibility.

## Updating Helix Firmware

If your Helix device is still running a previous firmware version, it is highly recommended to update to the latest available version, which can be accomplished easily using the Line 6 HX Edit application.



**IMPORTANT!** All presets saved and exported from earlier, Helix 2.xx firmware versions are fully compatible with firmware version 3.xx. **Please note, however, that presets saved and exported using Helix with firmware 3.0 and later will not be compatible with 2.xx firmware versions.** We highly recommend using HX Edit to back up your custom presets **before** updating to Helix firmware 3.xx.

First, install the latest HX Edit software version on your Mac or PC (available at [line6.com/software](https://line6.com/software)), connect Helix to your computer's USB port, and HX Edit will check online and let you know if a newer firmware version is available. If so, HX Edit will then walk you through performing a full device backup and firmware update, all within minutes. Please see the [HX Edit Pilot's Guide](#) for full details.

## Factory Presets

Helix includes hundreds of factory presets to get you started, and we often tweak, replace, or otherwise update them with most firmware updates.



**IMPORTANT!** Because we never want to overwrite your own custom presets, firmware updates **never** automatically make new factory presets visible; you need to load them manually. Restoring factory setlists and presets will completely overwrite your own, so **make sure they're backed up first**, using the backup function in HX Edit, as in the following steps.

## Restoring Factory Presets

The following steps will overwrite and replace **all** presets within all your device's setlists with those included in the installed firmware version.

1. Open HX Edit, and from the File menu, select "Create Backup" and follow the prompts to backup all your device's current presets and settings.
2. Turn off Helix. While holding footswitches 7 and 8 (the left two footswitches on the bottom row), turn it back on.
3. Wait for "Will restore..." to appear and let go.
4. Optionally, if you have setlists that include custom presets you wish to restore, use the Restore From Backup feature within HX Edit to selectively restore the desired setlists (see the [HX Edit Pilot's Guide](#)).

# Marketplace

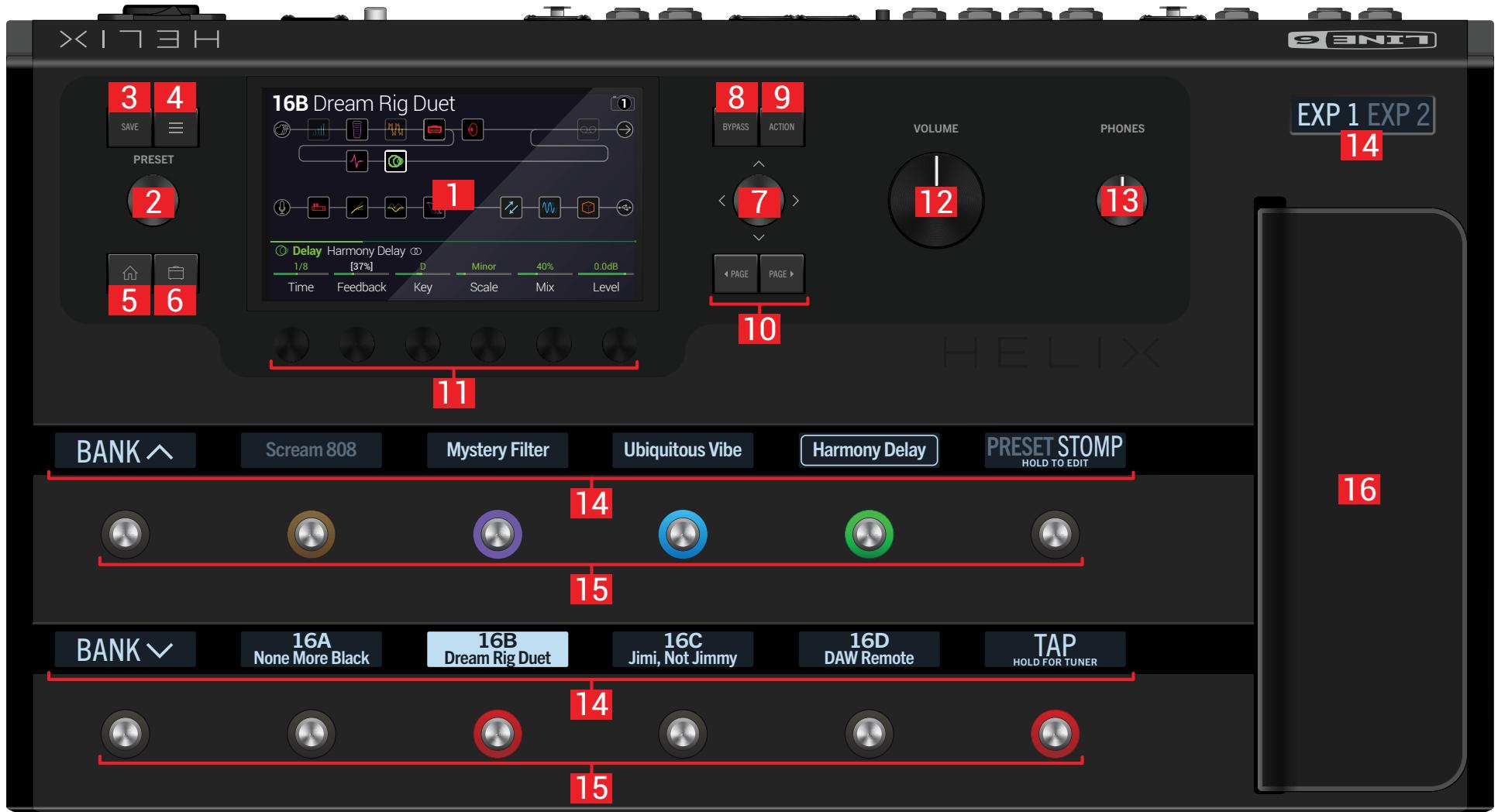
Be sure to visit the [Line 6 Marketplace online shop](#), where you'll find 3rd-party add-on assets that further enhance the functionality of Helix family devices and the Helix Native plugin! As of this writing, 3rd-party presets and IRs are available—check back often on Marketplace for product news and announcements.



You can access Marketplace directly using the free [HX Edit app](#), where you sign in to your Line 6 online account, then choose to **Get More Presets** or **Get More IRs** from the HX Edit menu. Once you've purchased premium Marketplace assets, they can be downloaded immediately, directly into your HX Edit Presets and/or IR Library, and ready to use on Helix. Please see the latest [HX Edit Pilot's Guide](#) for details.

**TIP:** Registered owners of Line 6 Helix family devices are entitled to a generous discount toward the purchase of the **Helix Native plugin!** Note that all your Helix presets and IRs can be loaded directly into Helix Native—and vice-versa—making your stage and studio tasks easier than ever. Please visit the [Line 6 Online Shop](#).

# Top Panel



- Main Display** This large color LCD is your window into the power of Helix.
- PRESET** Turn this knob to select a preset. Press the knob to open the Setlist menu—see "[Selecting Presets and Setlists](#)"
- SAVE** Press this button to rename and save changes to a preset.
- ≡** Press this button to dive a bit deeper into Helix, and you'll find Command Center, Global EQ, Global Settings, and other menus.
- ⌂** If you ever get lost, press this button to return to the main Home screen.
- EQ** Press this button once, or multiple times, to quickly jump to the tonestack parameters (Gain, Bass, Mid, Treble, etc.) of any Amp+Cab, Amp, and Preamp models in the current preset.
- Joystick** Move the joystick to navigate the main display. On the Home screen, move the joystick to select a block. Press ACTION and move the joystick to move the selected block. Turn the joystick to change the selected block's model. Press the joystick to open the model list. Press and turn the joystick to quickly scroll across the signal flow. Yeah, the joystick does a lot.
- BYPASS** Press this button to turn the selected block on and off.

 **SHORTCUT:** Press and hold BYPASS to turn Global EQ on (the  icon appears in the upper right corner of the LCD) and off.

- ACTION** Press this button to open the action panel for the selected block or screen. From the Home screen, the action panel lets you move, copy, paste, and clear blocks, as well as add any changes you've made to a block as a Favorite or save current settings as the model's default. Other screens may have unique action panels; for example, the Global Settings action panel lets you reset all global settings at once.
- <PAGE/PAGE>** If the selected block or item has more than one page of parameters, press < PAGE or PAGE > to view more parameters—see "[Selecting Blocks/Adjusting Parameters](#)" on page 14.

- Knobs 1-6** Turn one of the six knobs below the main display to adjust the parameter's value above; press the knob to reset the parameter's value. If a rectangular button appears above a knob, press the knob to engage its function.

 **SHORTCUT:** For most time-based parameters such as delay time or modulation speed, press the knob to toggle between setting the value in ms or Hz and note divisions (1/4-note, dotted 1/8-note, etc.).

 **SHORTCUT:** Controllers can be assigned to most parameters. Press and hold a parameter's knob to quickly jump to the "[Controller Assign](#)" page for that parameter.

- VOLUME** Turn this knob to control the Helix device's main output volume.
- PHONES** Turn this knob to control volume from the PHONES output.
- Scribble Strips** The thirteen Helix LCD scribble strips tell each footswitch's current assignment, so there are never any surprises during a show. If a particular footswitch has more than one block or item assigned, the scribble strip may read "MULTIPLE (X)," where X is the number of assignments. You can custom label scribble strips—see "[Customizing a Footswitch Label](#)"
- Footswitches** The capacitive, touch-sensitive footswitches have colored LED rings that tell you the assigned block or item's current state. While in Stomp footswitch mode, touch (but don't press) a footswitch to quickly select the assigned block or item. Touch the switch repeatedly to cycle through multiple assigned items—see "[Stomp Footswitch Mode](#)"

 **SHORTCUT:** While in Stomp footswitch mode, touch (but don't press) a footswitch for two seconds to assign that switch to the selected block.

 **SHORTCUT:** While in Stomp footswitch mode, touch and hold (but don't press) two switches to swap all assignments between them (including any custom scribble strip names or LED colors).

 **SHORTCUT:** Touch (but don't press) TAP to display the tempo panel briefly. This lets you quickly fine-tune the current tempo without navigating to the Global Settings > MIDI/Tempo menu.

 **NOTE:** Touch-to-select can optionally be turned off, and other footswitch settings customized—see "[Global Settings > Footswitches](#)"

- Expression Pedal** Move the expression pedal to control volume, wah, or a combination of amp and/or effects parameters. Activate the hidden toe switch to toggle between EXP 1 and EXP 2. (The scribble strip above tells you which one is active.) If an external pedal is connected to the rear panel EXP 2 jack, the built-in pedal becomes EXP 1 only—see "[Controller Assign](#)"

 **NOTE:** Adding a Wah, Pitch Wham, or Poly Wham block automatically assigns its Position parameter to be controlled by EXP 1. Adding a Volume Pedal or Pan block automatically assigns its Position to be controlled by EXP 2.

# Back Panel



**17. EXP 2 and 3** Two additional expression pedals can be connected to Helix and assigned to adjust a wide variety of parameters—see ["Controller Assign"](#)

**18. EXT AMP 1/2** Connect to your traditional guitar amp to switch its channels or turn its reverb on and off. Use a TRS cable for dual operation (1=tip, 2=ring).

**19. CV/Expression Out** Connect to the expression pedal input on stompboxes or CV (Control Voltage) input on vintage pedals or synths.

**20. GUITAR IN** Connect your primary guitar or bass guitar here. This jack provides impedance selection and a switchable pad.

**21. AUX IN** (10kΩ) Connect a secondary, active-pickup equipped guitar or bass here.

**22. MIC IN** Plug your microphone in here for processing your vocals or recording to your computer via USB. This XLR jack provides 48V phantom power for studio condenser mics and a variable low cut filter.

**23. SENDS/RETURNS 1-4** These 1/4" ins and outs can be used as FX loops for inserting external stompboxes into your tone or as additional inputs and outputs for connecting keyboards, drum machines, mixers, and other gear. See ["Send/Return"](#)

**24. Ground Lift Switch** If you are experiencing hums and buzzes, press this button in to eliminate ground loops between your equipment.

**25. XLR OUT** Use balanced XLR cables to connect to your studio gear, or the house mixer, PA, or FRFR speaker(s) when playing live. When using a mono playback system, connect only the LEFT/MONO XLR jack.

**IMPORTANT!** Never connect the Helix device's XLR outputs to a device whose XLR inputs have 48V phantom power enabled!

**26. 1/4" OUT** Use unbalanced 1/4" TS cables to connect to your guitar amp, FRFR speaker(s), studio monitors, or other playback system. When using a single amp or speaker, connect only the LEFT/MONO 1/4" jack.

**27. PHONES Out** (12Ω) Connect stereo headphones here; turn the top panel PHONES knob to adjust the volume.

**NOTE:** Helix provides plenty of gain for high impedance headphones. With lower impedance headphones, you may notice a bit of distortion if the PHONES knob is turned all the way up. This is normal.

**28. VARIAX Input** This input provides power, digital audio, effects control, and instant recall between Helix and a Line 6 Variax guitar—see ["What is Variax?"](#)

**29. MIDI IN, OUT/THRU** Connect Helix to your MIDI gear for sending and receiving program changes, continuous controllers, and other MIDI messages.

**30. S/PDIF IN/OUT** Digitally connect Helix to your studio equipment via S/PDIF (75-ohm RCA) cables.

**NOTE:** S/PDIF and AES/EBU cannot be active at the same time—see ["Global Settings > Ins/Outs"](#)

**31. AES/EBU, L6 LINK** L6 LINK provides easy digital audio and remote control connectivity between Helix and Line 6 Powercab Plus active guitar speaker systems and DT-Series amplifiers. Alternatively, connect Helix to your studio equipment via an AES/EBU (110Ω XLR) cable—see ["L6 LINK - Powercab Plus and DT 25/50 Amp Options"](#)

**32. USB** Helix also functions as a high quality, multi-in/out, 24-bit/96kHz audio interface for Mac and Windows® computers, with DI, Re-amping, and MIDI functionality built right in. Helix can also record to an iPad or iPhone mobile device (with optional Apple Camera Connection Kit). Use of a USB 2.0 (or higher) port is required—Do not use an external USB hub—see ["USB Audio"](#)

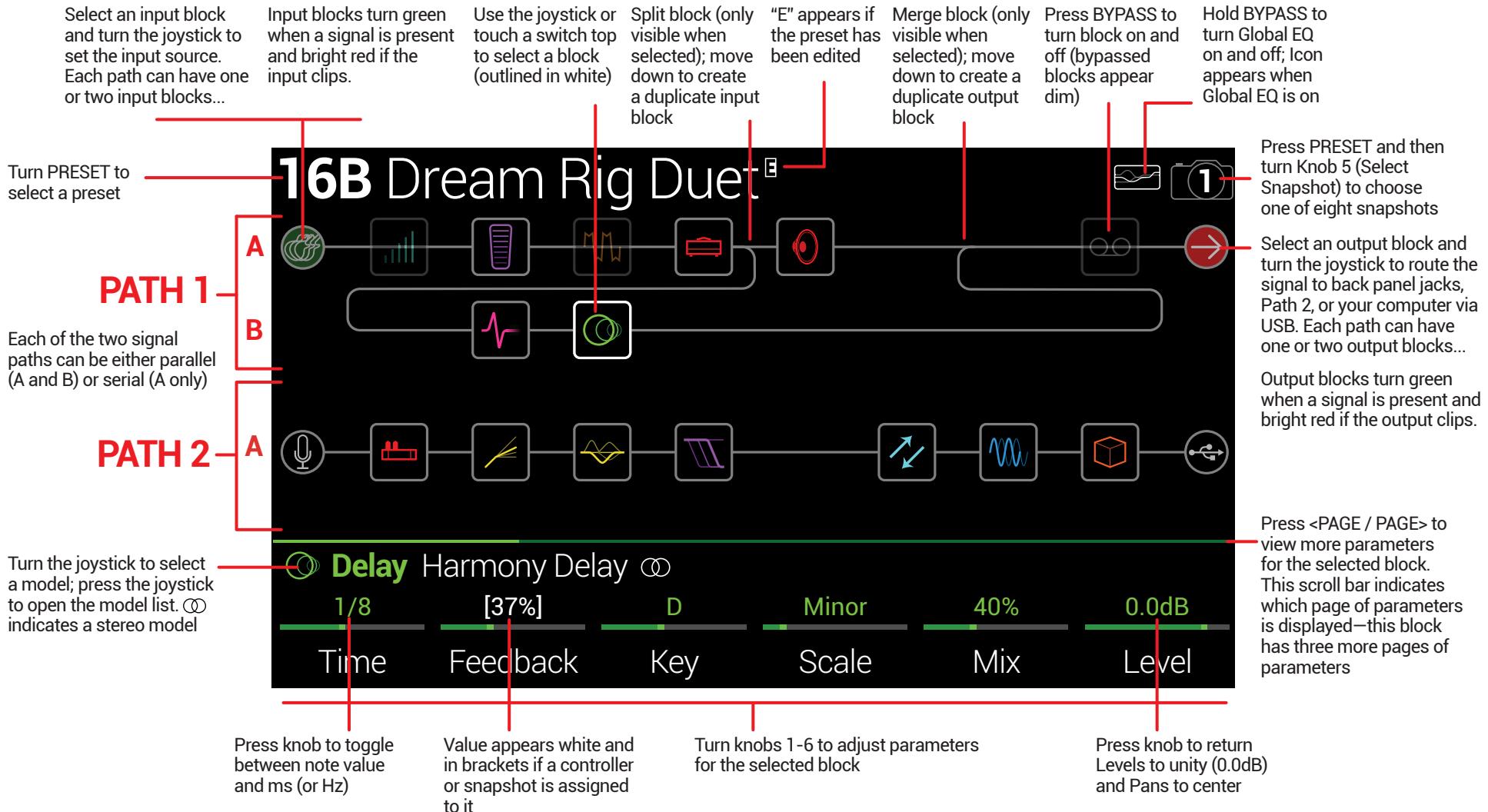
**33. AC In** Connect Helix to a grounded AC power outlet using the included IEC power cable.

**34. POWER Switch** It's alive!

# Home Screen

90% of your daily tone building is accomplished from the Home screen.

Press  at any time to return to the main Home screen.



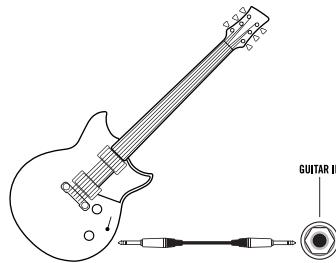
# Quick Start

## Setting Proper Output Levels

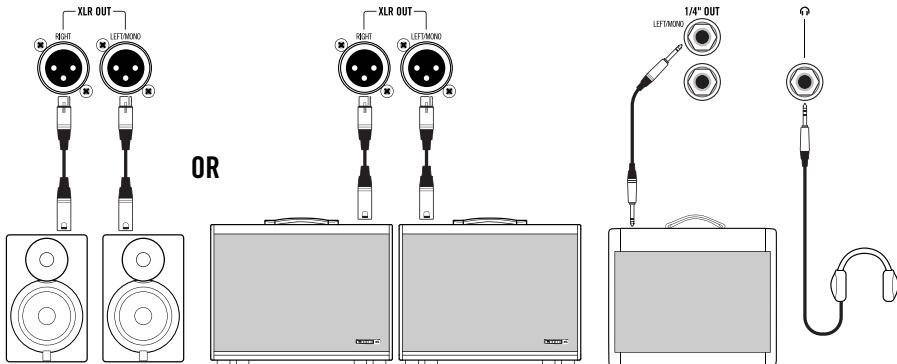
1. Make sure the VOLUME and PHONES knobs are turned down.



2. Connect a guitar to the Helix GUITAR IN jack.



3. Connect the Helix outputs to your playback system.

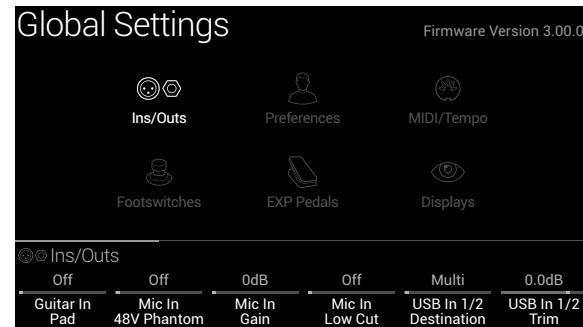


The Helix device's 1/4" and XLR output levels must be set to match your playback system. If you're only using headphones, for now, skip to step 9.

4. Press **≡** to open the Menu.

5. Press Knob 6 (Global Settings).

The Global Settings screen appears:



6. If necessary, move the joystick to select the Ins/Outs submenu.
7. Press PAGE > to select page 2.
8. Using Knobs 1 and 2 under the display, set levels according to the table below:

Output	Are you connecting to...?	Then do this:
1/4"	Guitar pedal or the front of a guitar amp	Set 1/4" Outputs to "Instrument"
	Powered speakers with unbalanced inputs or digital recorder	Set 1/4" Outputs to "Line"
XLR	Mic inputs on mixer or standalone mic preamps	Set XLR Outputs to "Mic"
	PA/FRFR speakers or studio monitors with balanced inputs	Set XLR Outputs to "Line"

9. Slowly turn up the VOLUME knob.

If you're listening on headphones, slowly turn up the PHONES knob.



# Selecting Presets and Setlists

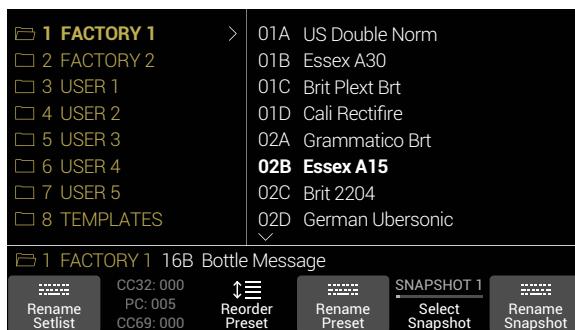
## 1. Turn PRESET to select presets within the current setlist.

Helix stores eight setlists, each containing 32 banks of four presets (A, B, C, and D). As we promised, no math—that's a grand total of 1,024 preset locations. If that's not enough, your cover band should be asking for more money.

**TIP:** Use the free Line 6 HX Edit software to create, backup, and restore a virtually endless library of presets and setlists stored on your computer.

Remember to try the latest factory and artist-created presets included with the latest Helix firmware—see [page 5](#).

Press PRESET to open the Setlist menu:



Navigating the Setlist menu is straightforward:

Turn the joystick (or move it up and down) to select items in a list.

From the Setlist column, press the joystick (or move it right) to load its first preset.

From the Preset column, move the joystick left to go back to the Setlist column.

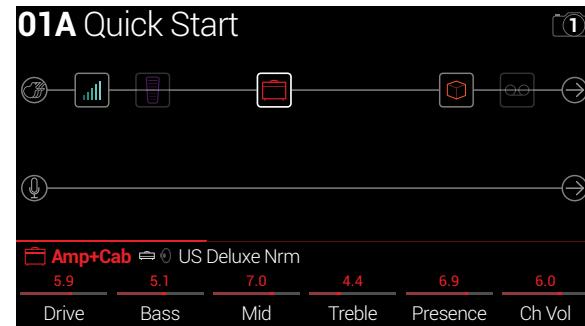
Turn Knob 3 (Reorder Preset) to move the selected preset up and down the list.

## 2. Use the joystick to select Setlist 8 TEMPLATES > Preset 01A Quick Start.

**TIP:** The dark text above Knob 2 displays the required MIDI messages for recalling the selected setlist, preset, and snapshot from external MIDI devices or software. In the illustration above, the FACTORY 1 setlist is recalled with a CC32 message of 000, the 02B Essex A15 preset is recalled with a PC (program change) message of 005, and SNAPSHOT 1 is recalled with a CC69 message of 000.

## 3. Press to return to the Home screen.

You should see something like this:



## Preset Footswitch Mode

Preset mode is used to navigate presets in the current setlist.

## 1. If not already there, press FS6 (PRESET/STOMP mode) to select Preset mode.

FS6 indicates the selected mode and the middle eight switches display two banks of presets, and the active preset appears with a red LED ring and white scribble strip:



## 2. Press BANK or BANK to choose the desired banks.

## 3. The banks' presets flash, indicating they're ready to load.

## 4. Press one of the eight preset switches to load the preset.



**NOTE:** Footswitch behavior can be customized. See "[Global Settings > Footswitches](#)"

# Stomp Footswitch Mode

While in Stomp mode, each of the middle eight footswitches (or left 10 switches if Global Settings > Footswitches > Stomp Mode Switches is set to "10 Switches") can do a number of things:

- Toggle one or more blocks on and off
- Toggle between two values of one or more parameters
- Generate a MIDI, External Amp control, CV/Expression, or QWERTY Hotkey message
- All of the above, even simultaneously

If not already there, press FS6 (PRESET/STOMP mode) to select Stomp mode.

FS6 indicates the selected mode and the middle eight footswitches display blocks' model names, parameter names, Command Center messages, and/or customized labels:



**NOTE:** If a switch is assigned to multiple blocks or items, its scribble strip reads "MULTIPLE (X)," where X is the number of assignments, and stepping on the switch turns them all on and off. If some blocks are on and some are bypassed, stepping on the switch toggles each block's bypass state.

**NOTE:** While in Stomp mode, stepping on BANK ⌈ or BANK ⌋ temporarily enters Preset mode. Once you've selected a preset, Helix returns to Stomp mode.

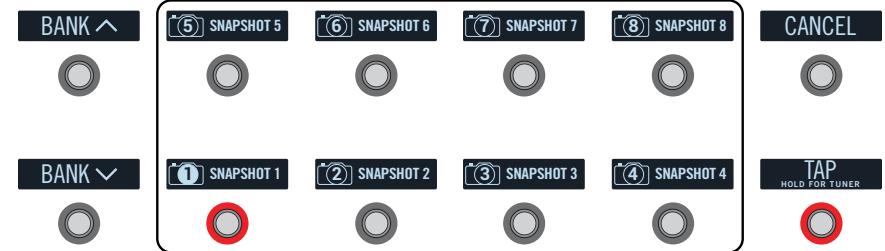
# Snapshot Footswitch Mode

Similar to the snapshots feature in some high-end digital mixers, each of the Helix device's eight snapshots stores and recalls the state of certain elements in the current preset, including:

- **Block Bypass**—The bypass (on/off) state of all processing blocks (except Looper), independent of any footswitch assignments. See "[Using Snapshots](#)"
- **Parameter Control**—The values of any parameters assigned to controllers (up to 64 per preset). See "[Using Snapshots](#)"
- **Command Center**—The values of any instant MIDI CC, Bank/Prog, MMC, CV Out, HX Preset, HX Snapshot, and HX Looper commands, plus the state (dim or lit) of any CC Toggle, CV Toggle, and Ext Amp messages. See "[Command Center](#)"
- **Tempo**—The current system tempo, if "[Global Settings > MIDI/Tempo](#)" > Tempo Select is set to "Per Snapshot." (By default, it's set to "Per Preset")

## 1. Press BANK ⌈ and BANK ⌋ simultaneously to enter Snapshot mode.

The middle eight switches flash, indicating a snapshot is ready to be selected.



## 2. Press one of the eight snapshot switches to select it.

**NOTE:** Snapshots are powerful enough to warrant their own chapter. See "[Snapshots](#)" for more information.

**NOTE:** If you don't want Snapshot footswitches to disappear after selecting one, set "[Global Settings > Footswitches](#)" > Knob 4 (Snapshot Mode Switches) to "Manual Return." In this case, Helix stays in Snapshot footswitch mode until you press FS6 (CANCEL).

## Pedal Edit Mode

Most blocks' settings can be edited without taking your hands off the guitar, including Amp, Effect, Cab, IR, Split, Mixer, Input, and Output Block parameters—even Variax String Level, Powercab Plus, and DT25/DT50 remote parameters! If you hate having to reach down and twist knobs, Pedal Edit mode will be your new best friend. Although Pedal Edit is not intended to replace proper controller assignment, in a pinch, it can also be used to tweak one parameter at a time during a performance.

### 1. Hold FS6 (PRESET/STOMP mode) for two seconds.

The preset's processing blocks appear on the footswitches, flashing:

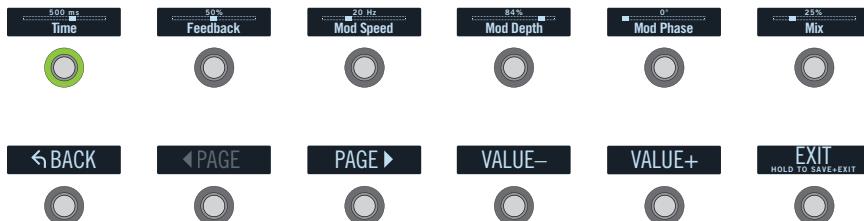


If the preset has more than ten processing blocks, you may not see the block you want. Press FS6 (MORE...) one or more times until you do.

**NOTE:** Selecting a block in Pedal Edit mode has no correlation to any footswitch assignment it may have.

### 2. Press the footswitch displaying the block you want to edit.

The block's first page of parameters appears at FS1–FS6.



If the block has more than one page of parameters, press FS8 (<PAGE>) or FS9 (PAGE>) until you find the parameter.

### 3. Press the footswitch displaying the parameter you want to adjust.

Press and hold a Time or Speed switch to toggle between setting the value in ms or Hz and note divisions (1/4-note, dotted 1/8-note, etc.).

### 4. Use the expression pedal to adjust the parameter.

For fine adjustment, press FS10 (VALUE-) and FS11 (VALUE+). Hold FS10 (VALUE-) or FS11 (VALUE+) for faster adjustments.

To select a different block, press FS7 (BACK).

### 5. When finished, press FS12 (EXIT).

If you want to save any changes made to the preset, hold FS12 (EXIT) for two seconds.

## Selecting Blocks/Adjusting Parameters

Blocks are objects that represent various elements of a preset, such as amps, cabs, effects, splits, loopers, and even inputs and outputs.

### 1. From Stomp footswitch mode, briefly touch (but don't press) the footswitch assigned to the desired block.

The selected block appears with a white box on both the main LCD and the scribble strip:



If multiple blocks are assigned to a footswitch, its scribble strip reads "MULTIPLE (X)." Touch the top of the switch repeatedly until the desired block is selected.

**NOTE:** Repeatedly touching a "MULTIPLE (X)" switch may jump to completely different screens, depending on its assignments. For example, if a switch is assigned to an effect block, an effect parameter, and a Command Center MIDI message, repeated touches will cycle through all three items on the Home, Controller Assign, and Command Center screens, respectively. Basically, anything on the switch is only a touch away.

Alternatively, move the joystick to select a block.

**SHORTCUT:** Press to quickly select the Amp+Cab, Amp, or Preamp block and its tonestack parameters (Gain, Bass, Mid, Treble, etc.) appear. If a preset has more than one of these blocks, press repeatedly to cycle through all tonestacks.

Optionally, press the joystick knob while turning to change its behavior to quickly select blocks (rather than select a block's model)—also see "[Global Settings > Preferences](#)"

## 2. Turn Knobs 1-6 below the screen.

Some blocks have more than one page of parameters, in which case a horizontal scrollbar appears above the parameters. For example, the red scrollbar above the Amp+Cab block's parameter inspector (shown below) indicates that additional pages of parameters are available:



## 3. Press <PAGE/PAGE> to access more parameters (if available).

## Bypassing a Block

If a footswitch is assigned to the block, press the switch.

Alternatively, select the block and press BYPASS to toggle the block on and off.

Bypassed blocks appear semi-transparent and, if assigned to a footswitch, its LED ring dims and scribble strip label grays out:



**NOTE:** The switch's LED ring and scribble strip label reflect the color and bypass state of its most recently selected block or item, even if other blocks assigned to the same switch are enabled.



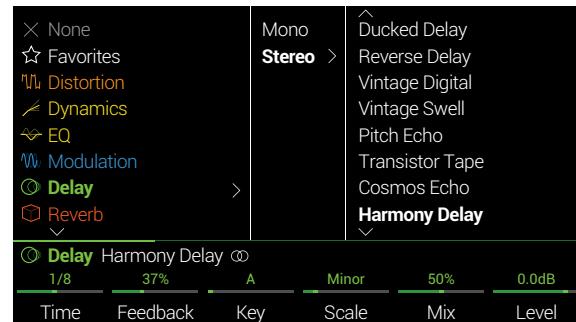
## Choosing a Block's Model

To change an existing block's model, select the block and turn the joystick.

To create a new block, select an empty location and turn the joystick.

Selecting models within the same category can be very quick. However, as Helix has hundreds of items to choose from, using this method to, say, change a mono distortion block (beginning of the list) into a stereo FX Loop block (end of the list) is very slow. Instead, you should open the model list:

## 1. Press the joystick to open the model list:



Most model categories include subcategories. For example, effects generally have Mono, Stereo, and Legacy subcategories. Amp+Cab and Amp models have Guitar and Bass subcategories. Cab models have Single and Dual subcategories.

Turn the joystick (or move it up and down) to select items in a list.

Press the joystick (or move it right) to view a category or subcategory's contents.

Move the joystick left to go back one column.



**IMPORTANT!** If you encounter items in the list that are grayed out or unavailable, this means the current path (1 or 2) cannot accommodate that category, subcategory, or model. See "[Dynamic DSP](#)".



**NOTE:** The first category in the list, Favorites, is initially empty, awaiting you to add amp, cab, and/or effects models, including your own custom settings and assignments—see "[Adding a Block to Favorites](#)" on page 17.

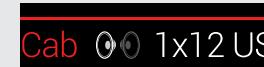
## 2. Using the joystick, select the desired category, subcategory, and model.



**NOTE:** Amp+Cab, Cab > Dual, and IR > Dual blocks are special in that they represent two models within a single block. To change the amp model in an Amp+Cab block, press <PAGE until the amp icon is white and turn the joystick. To change the cab model, press PAGE> until the cab icon is white and turn the joystick.



To change the first cab model in a Cab > Dual block, press <PAGE until the left cab icon is white and turn the joystick. To change the second cab model, press PAGE> until the right cab icon is white and turn the joystick.



Follow similar steps for the IR > Dual block IR selection.

- To close the model list, select an item in the far right column and press the joystick again (or press ).



**SHORTCUT:** It is also possible to quickly access model subcategories without ever having to open the model list...

From the Home screen with the desired block location selected, hold **< PAGE** and press **PAGE >** to jump to the next subcategory.

Hold **PAGE >** and press **< PAGE** to jump to the previous subcategory, then turn the joystick to select models within that subcategory.

## Choosing an Input

- Move the joystick left to select an Input block and turn the joystick. To view a list of available inputs, press the joystick.

Normally you should select "Multi," which includes three simultaneous inputs: Guitar, Aux, and Variax.



**SHORTCUT:** From any Input block, joystick left to jump to the Output block. From any Output block, joystick right to jump to the Input block. We call this the "Pac Man Shortcut."



**NOTE:** Input blocks display signal present (green) and clipping (red) indication, as well as input metering (see "[Block Level Indicators and Meters](#)".

## Choosing an Output

- Move the joystick right to select an Output block and turn the joystick. To view a list of available outputs, press the joystick.

Normally you should select "Multi," which includes four simultaneous pairs of outputs: 1/4", XLR, Digital, and USB 1/2.



If Path 1 doesn't have enough block locations or DSP to accommodate your tone, it can be routed to Path 2:

- Select Path 1's output block and turn the joystick to select Path 2A.



Path 2's Input block displays an arrow, indicating it is being fed by Path 1.



If Path 2 has two input blocks, you may select either Path 2A or 2B; or split your signal further to both 2A and 2B. See "["2 into 1"](#)" for an example.

**NOTE:** Output blocks display signal present (green) and clipping (red) indication, as well as output metering (see "[Block Level Indicators and Meters](#)".

## Moving Blocks

- Select any block (other than Input or Output) and press ACTION.

The block appears "picked up," and the action panel appears. The inspector's icon shows you the directions in which the block can be moved.



- Move the joystick left or right to move the block.

Moving the joystick down moves the block to a new parallel B path. See "[Serial vs. Parallel Routing](#)" for details.

**NOTE:** A block on Path 1 cannot be moved to Path 2 (and vice versa). You can, however, copy and paste a block from one path to the other. See the next section. All output blocks display Knob 1 (Pan) and Knob 2 (Level), as well as output meters (see "[Block Level Indicators and Meters](#)".

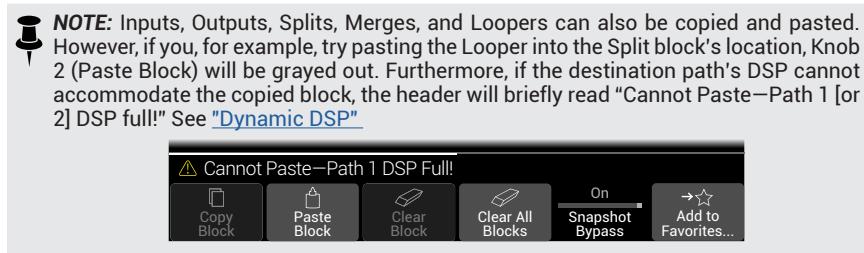
- Press ACTION again (or ) to close the action panel.

# Copying and Pasting a Block

Blocks from one path can be copied and then pasted into the same path, the other path, or a path in an entirely different preset.

1. Select the block you wish to copy and press ACTION.
2. Press Knob 1 (Copy Block).
3. Select the location you wish to paste the block—even in a different preset—and press ACTION.
4. Press Knob 2 (Paste Block).

 **NOTE:** Inputs, Outputs, Splits, Merges, and Loopers can also be copied and pasted. However, if you, for example, try pasting the Looper into the Split block's location, Knob 2 (Paste Block) will be grayed out. Furthermore, if the destination path's DSP cannot accommodate the copied block, the header will briefly read "Cannot Paste—Path 1 [or 2] DSP full!" See "[Dynamic DSP](#)".



# Clearing a Block

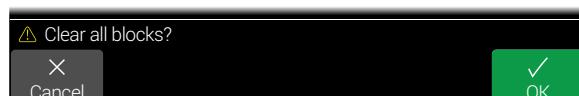
1. Select the block you wish to clear and press ACTION.
2. Press Knob 3 (Clear Block).

# Clearing All Blocks

Clearing all blocks removes all processing blocks (including the Looper) and resets both Path 1 and 2 to serial. It does not affect Path 1A or Path 2A Input and Output blocks, nor does it affect the [Command Center](#).

1. Press ACTION.
2. Press Knob 4 (Clear All Blocks).

The following dialog appears:



3. Press Knob 6 (OK).

# Adding a Block to Favorites

Once you've dialed in an amp or effects block exactly the way you like it, you can save its settings as a "Favorite" so the block can be added very quickly to other tones, complete with your stored parameter settings, bypass state, and existing bypass assignment (excluding any existing controller or snapshot assignments)\*.

Favorites appear in the model menu's "Favorites" category and can be renamed, reordered, and cleared. You can add up to 128 favorites.

 \***NOTE:** If you don't want a favorite to be recalled with its bypass assignment, add the block to favorites before creating a custom bypass assignment.

**INPUT, Output, Split, or Merge Mixer block types cannot be added as favorites.**

1. Choose one of your preferred amps, cabs, or effects and tweak it exactly how you like it, with or without a bypass assignment.
2. Press ACTION and then press Knob 6 (Add to Favorites). The Favorites list appears.



3. To replace an existing favorite, select the favorite you want to replace and press Knob 5 (Replace Favorite).\*
- To add a new favorite, select the location where you want to add it and press Knob 6 (Add New Favorite).

Once added, the model and its stored settings appear within the Inspector, now with the Favorites icon at its left, replacing its previous Category icon.



#### 4. OPTIONAL: While the Favorites list is open, press ACTION.

- To reorder the selected favorite up or down the list, turn Reorder Favorite
- To rename the selected favorite, press Rename Favorite
- To clear the selected favorite, press Clear Favorite
- To clear all favorites, press Clear All Favorites. A dialog appears. Press OK to confirm.

To put your favorites to use... Within any preset, select an empty block and turn the joystick. All your perfectly-tweaked favorite amps and effects appear as your first options, without having to open the model list at all!

**\*NOTE:** If you replace and overwrite an existing favorite that is already in use within your presets, the presets remain unchanged.

However, if you want to "update" any preset to use the newly-edited favorite, select the existing favorite block with the preset, turn the joystick knob one click away and then back to effectively "reload" the updated favorite.

**TIP:** Using the HX Edit app, you can export your favorites to your computer as .fav files, allowing you to build a virtually limitless collection that can be imported back into your device's Favorites library at any time—as well as shared between devices, or with other Helix/HX device and Helix Native owners! HX Edit also offers several features for easily managing your Favorites library.

## Saving a Model's User Default Settings

If you find yourself constantly re-tweaking your commonly-used models the same way, you can save a model's settings as its new defaults (excluding Input, Output, Split, or Merge Mixer blocks' settings) so the model shows up that way every time.

#### 1. Choose any model and tweak it exactly how you like it.

Configure any of its parameters and bypass state. (Existing MIDI, bypass, snapshot, and controller assignments are not saved with the User Model Defaults.)

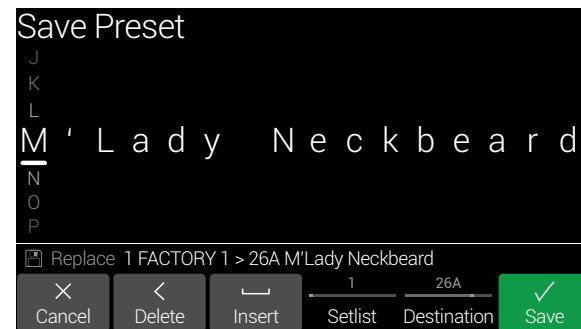
#### 2. Press ACTION, press PAGE ▷ and then Knob 2 (User Default).

All your current parameter settings are now saved as the default for all future uses of the model. (Existing presets that include the model are not affected.)

**NOTE:** To return a model to factory defaults, press ACTION, press PAGE ▷, and then press Knob 1 (Factory Default). No current presets' model settings are changed—you'll see the factory defaults restored the next time you insert the model.

## Saving/Naming a Preset

#### 1. Press SAVE to open the Save Preset screen:



Move the joystick left or right to move the cursor.

Turn the joystick (or move it up/down) to change the selected character.

Press Knob 2 (Delete) to delete the selected character and shift all following characters to the left.

Press Knob 3 (Insert) to insert a space and shift all following characters to the right.

**SHORCUT:** Press the joystick to cycle through A, a, 0, and [SPACE].

#### 2. Turn Knob 4 (Setlist) and Knob 5 (Destination) to choose the Setlist and Preset location you wish to overwrite.

Any of Helix's 1,024 presets can be overwritten.

#### 3. Press SAVE again or Knob 6 (Save).

## Creating/Restoring Full Device Backups

Creating full backups of your Helix device's presets, IRs, favorites, custom model defaults, and global settings is highly recommended to make sure your precious custom tones and configurations are never lost! Fortunately, the free Line 6 [HX Edit](#) app makes it easy to create full backups and restore them anytime (available from [line6.com/software](#)). Please refer to the [HX Edit Pilot's Guide](#) for steps on how to use its built-in Backup & Restore features.

# Serial vs. Parallel Routing

For many guitar tones, a serial (one stereo path) signal flow is more than adequate. For example, our **8 TEMPLATES > 01A Quick Start** preset has a volume pedal, wah pedal, Amp+Cab, reverb, and looper, but there's still room for distortion, modulation, and delay blocks:



For more sophisticated tones, a parallel (two stereo paths) signal flow can be created. This lets one split the signal into two stereo paths, process them separately, and mix the two paths back together.

1. Select the Amp+Cab block and press ACTION to pick it up.
2. Move the joystick down.

The Amp+Cab block is moved to a newly created parallel path B (lower).



In the illustration above:

Our guitar signal goes into the Volume and Wah blocks.

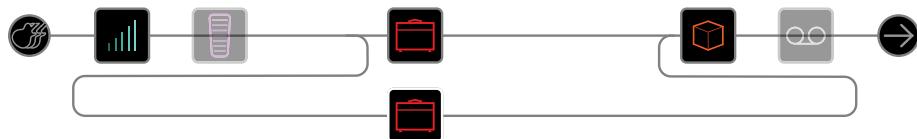
The signal is split to path 1A (upper) and path 1B (lower).

Stereo path 1A (upper) is sent to the Reverb and Looper blocks and Stereo path 1B (lower) is sent to the Amp+Cab block.

Stereo paths 1A and 1B are merged together after the Looper block and sent to the Multi Output.

3. Press ACTION again to drop the Amp+Cab block.

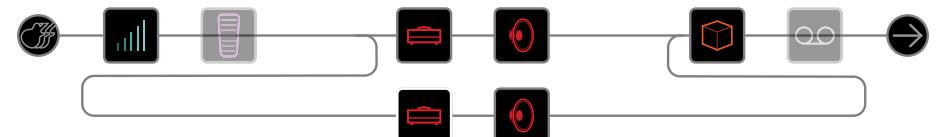
This preset probably doesn't sound ideal. A more appropriate tone may have paths 1A and 1B each with an Amp+Cab block, only to merge again before the Reverb...



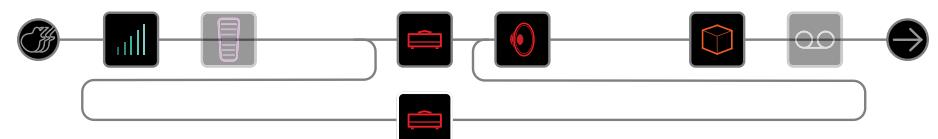
...or maybe a single Amp block splitting into two separate Cab blocks...



...or two separate Amp and two separate Cab blocks...



...or two separate Amp blocks merging into a Cab > Dual block.



Remember, this is only half of your tone. You still have Paths 2A and 2B to play with!

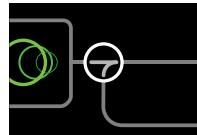
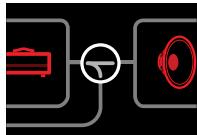
## Removing Parallel Path B

To remove path B, simply clear any blocks on path B (lower) or move them all back up to path A (upper).

# Moving Split & Merge Blocks for More Parallel Routings

1. Use the joystick to select the point where paths A and B split or merge.

"Split" and "Merge" blocks only appear when selected but can be adjusted and moved like any other processing block.



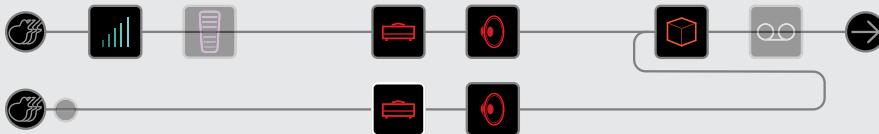
2. Press ACTION to pick up the Split or Merge block for moving.

Choose one of the following parallel routing options:

## 2 into 1

Move the Split block down to path B.

The Split block shifts left, and a duplicate Input block is created:



This new Input block can be assigned to a completely different input. This routing can be used for mixing a guitar and vocal or the models and magnetic pickups in a connected Variax guitar, each with their own processing blocks.

## 1 into 2

Move the Merge block down to path B.

The Merge block shifts right, and a duplicate Output block is created:

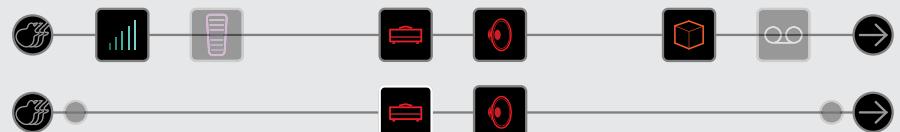


In this example, the Input block is split to paths A and B, each with its own Output block. Path A could be routed to the 1/4" outputs, while path B could be routed to the XLRs.

## True Parallel

Move both the Split and the Merge blocks down to path B.

Duplicate Input and Output blocks are created:



A guitar and vocal could be processed independently in this routing, each with its own input, stereo path, processing blocks, and outputs. Alternatively, two different band members could be processed independently.

## Super Serial

A serial path has eight processing block locations. If that's not enough, you can use parallel path B to create one big "super serial" path.

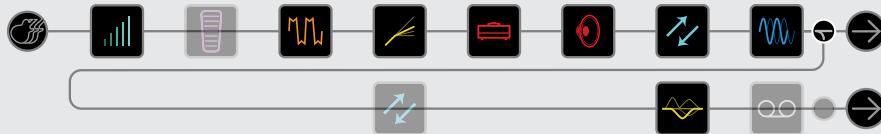
### 1. Move the Merge block down to path 1B.

A duplicate Output block is created.

### 2. Move the Split block all the way to the right, past the last processing block on path 1A.

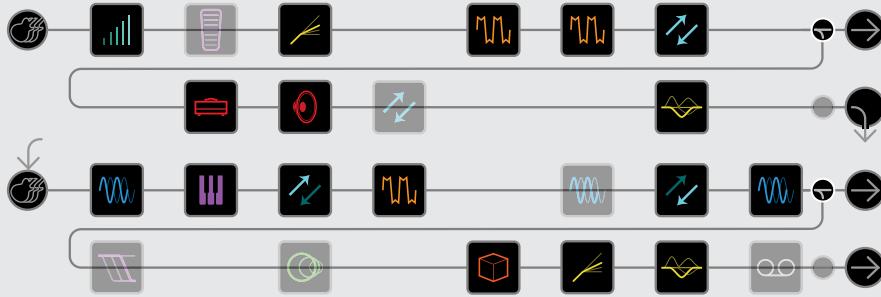
### 3. Select the Output block on path 1A and turn Knob 2 (Level) all the way down.

That way, you're only hearing Output 1B.



In the illustration above, our signal is processed by the eight blocks on path 1A and processed further by the three blocks on path 1B.

Of course, if this still isn't enough, you could always duplicate the above signal flow with path 2 and then route path 1B's output block to path 2A for one gigantic serial tone with up to 32 block locations (DSP permitting - See "[Dynamic DSP](#)"):



## True Preset Spillover

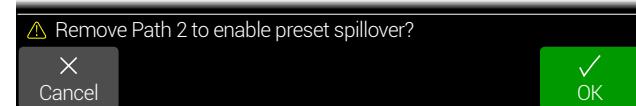
In powerful multieffects processors like Helix, switching to a different preset requires unloading DSP blocks for the current preset and then loading DSP blocks for the new one, resulting in a small audible gap. If you're willing to sacrifice one of Helix's two DSPs, you can achieve true preset spillover, complete with delay and reverb trails.

**IMPORTANT!** Unfortunately, Looper recording or playback will not currently spill over from one preset to another.

### 1. From the Home screen hold ACTION and press HOME.

Or, set Preset Spillover to "On" within "[Global Settings > Preferences](#)"

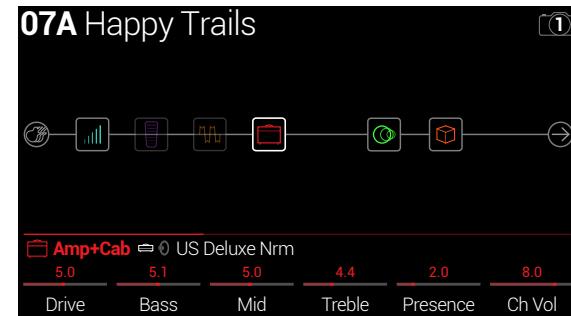
A dialog appears:



### 2. Press Knob 6 (OK)

### 3. Press HOME.

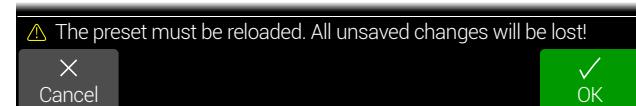
Path 2 has disappeared—what was previously "Path 1" of your current preset is now vertically centered on the Home screen.



### 4. To return to normal operation with two paths, first save your current preset if you wish to retain your Path 1 changes, then hold ACTION and press HOME.

Or, set Preset Spillover to "Off" within "[Global Settings > Preferences](#)"

A dialog appears:



## 5. Press Knob 6 (OK).

Your device is returned to normal, two-path operation.

## Tips for Using Preset Spillover

When Preset Spillover mode is active, you can still import and load any saved Helix preset. However, only the preset's Path 1 blocks, settings, and routing are loaded. Any existing Path 2 blocks, along with their settings and assignments, remain saved within the preset and are restored when you turn Preset Spillover Off. To follow are several tips and behaviors you'll want to be aware of when Preset Spillover is active:

- With Spillover On, Path 2 is hidden, and no audio is routed to it. Therefore, you'll want to ensure your presets' Path 1A and/or Path 1B Output blocks are **not** set to Path 2, or no signal will be heard.
- Some block types are limited to being used once per preset. This means that you'll want to avoid loading presets that already include these block types on Path 2 when you plan to turn Spillover On. These items include:
  - One Looper block max. can be added per preset.
  - One instance of each of the Returns 1~4 can be added per preset, whether used within a mono or stereo Return block, FX Loop block, or within Input or Output blocks—also see "[Send/Return" on page 42](#).
  - One digital type Input block (S/PDIF) max. can be added per preset—also see "[Input" on page 24](#).
  - Any combination of up to 64 total controller assignments can be created within a preset, therefore, it's unlikely you'll run out. If you want to max out your controller assignments, best to eliminate them from path 2 blocks.
- For preset changes—if preset A is still spilling over into preset B, switching to preset C will abruptly cut off preset A. That is, you'll only ever hear two presets (DSPs) at the same time.
- When a Delay block is set with Tempo Sync "On" (i.e., its Time parameter is set to note divisions), the trails will attempt to sync to the new preset's BPM on preset change. To keep delay trails' tempo consistent, avoid using Tempo sync for Delays, or set your "[Global Settings > MIDI/Tempo](#)" - Tempo Select to Global.
- Note that whether Spillover is On or Off, you can also store and recall multiple blocks' on/off states and parameter settings within your current preset with seamless switching using Snapshots! See "["Snapshots" on page 49](#).

## Dynamic DSP

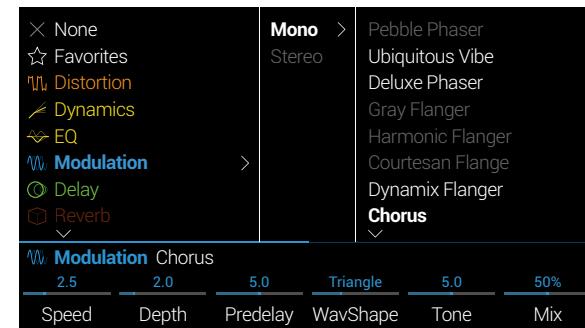
Like nearly all modern audio processors, the Helix engine is based on DSP (Digital Signal Processing). Some models require many times more DSP horsepower than others, so it makes logical sense that fewer of those models could exist in a tone. To work around this, some processors restrict you to one amp, one reverb, one delay, etc. With Helix, we feel it's important to let you keep adding whatever you want to your tone, even if you may eventually run out of DSP.

That said, there are some rules governing the number of certain types of blocks you can add to a preset:

<b>Amp+Cab, Amp, or Preamp blocks</b>	Any combination, up to four (two per path max.)
<b>Cab blocks (includes Amp+Cab blocks)</b>	Up to four Single Cab blocks (two per path max.), or up to two Dual Cab blocks (one per path max.)
<b>IR (Impulse Response) blocks</b>	Up to four 1024-point Single IR blocks (two per path max.), or two 2048-point Single IR blocks (one per path .max), or two Dual IR blocks, (one per path max.)
<b>Polyphonic ("Poly") and high DSP type effects blocks</b>	One per path max. These effects include the Feedbacker (Dynamics), Poly Sustain (Delay), Poly Detune (Modulation), and Poly Pitch, Wham, Capo and 12 String (Pitch/Synth).
<b>Looper block</b>	One

To see which models can be added to the current path, press the joystick to open the Model List.

Grayed out items cannot be accommodated and are skipped over - See "[Selecting Blocks/Adjusting Parameters](#)".



## Tips to Optimize DSP

- Each of Helix's two primary paths utilizes its own DSP. If all of your blocks are on paths 1A and 1B, you're only using half its horsepower! If you plan on creating tones with two or more amps and more than a handful of effects, expect to use both paths 1 and 2.
- Some block types use much more DSP than others, such as Amps, Reverbs, and Poly effects models. EQ, Dynamics, Volume/Pan, and Send/Return blocks use relatively little

- Some models may use more DSP than others in the same category. This is especially true with amp models
- Instead of a parallel path with two Amp+Cab blocks or two separate Amps and Cabs, try adding a single Amp block followed by one Cab > Dual block (mixing two different Cabs can provide some substantial variations)
- The IR-based Cab blocks and IR blocks (firmware version 3.50 and later) utilize significantly less DSP than the original Legacy Cab blocks
- The stereo version of an effects block will use approximately twice as much DSP as a mono version of the same block. Likewise, the dual version of a cab block will use roughly twice as much DSP as the single version
- Some model categories have "Simple" blocks, which utilize less DSP than others
- Instead of toggling between two of the same amp or effects blocks (with different settings), use controllers or snapshots to instantly adjust parameters within a single block

## Block Order and Stereo Imaging

Most of the Helix effects models have both mono and stereo versions. A stereo block displays  after its model name in the inspector. The stereo imaging—or how wide your tone appears with stereo speakers or headphones—is highly dependent on the type of blocks you add, and in what order.

Keep the following things in mind when building tones:

- All Amp+Cab, Amp, Preamp, and Poly effects blocks are mono, so any stereo signal sent into these will be collapsed to mono. As such, it's a good idea to add only mono blocks before amps and preamps
- Adding a mono effects block will collapse any preceding stereo blocks on the same path to mono
- If you're only ever connecting Helix to the front of a single guitar amp or PA/FRFR speaker, there may be no need to use stereo models at all (except, of course, for models that are only offered as stereo!)
- Legacy effects models vary in behavior:
  - Legacy Distortion, Dynamics & Pitch/Synth effects are mono
  - Legacy Modulation & Delay effects vary in that some are mono, some stereo, and some mono-in/stereo-out, where adjusting the effect's Mix parameter can narrow the stereo image that is fed into them
  - Legacy Filter and Reverb effects are stereo

## What is Variax?

[Line 6 Variax guitars](#) feature special electronics that model the sound of other specific guitars and instruments, as well as allow for instant retuning of each string. Helix and Variax work together in powerful and flexible ways. You can:

- Store Variax model, tuning, and/or volume and tone knob positions with a Helix preset or snapshot and recall them instantly
- Toggle between two Variax models and/or tunings via footswitch or MIDI CC
- Turn the Variax volume and/or tone knobs to control one or more Helix amp and effects parameters remotely. You could almost think of them as EXP 4 and EXP 5
- Split Variax modeled and magnetic signals, process them separately through independent signal paths, and either mix them together or route them to different Helix outputs
- Power the Variax modeling engine via a VDI (CAT-5 or Ethercon) cable, eliminating the need for the Variax guitar's removable battery



## Variax Workbench HD Application Support



Helix can also be used as the USB interface for the [Line 6 Workbench HD](#) editor/librarian software (v2.15, or later). Workbench HD is a free application for Mac and PC, available from [line6.com/software](http://line6.com/software). To use your James Tyler®, Shuriken™, or Standard Variax Standard with Workbench HD, you'll need to configure the following:

- Go to Helix [Global Settings > MIDI/Tempo](#) and set MIDI over USB to "On"
- If using Workbench HD on Windows, you must install the Helix USB driver (v1.85 or later)—available from [line6.com/software](http://line6.com/software)
- It is recommended to update your Variax to the latest Variax HD firmware



**IMPORTANT!** Variax Workbench HD uses MIDI channel 16. When connecting to Workbench HD via Helix's USB port, do not assign Helix or any of Helix's Command Center messages to MIDI channel 16 or Omni (which includes channel 16).

# The Blocks

## Input

Each preset can have up to four Input blocks (one or two per path).



**None** Disables (mutes) the input block. Only available on Path 2.

**Multi** Guitar, Aux, and Variax inputs are all active simultaneously. Normally, it is best to choose Multi.

**Guitar** Guitar in only.

**Aux** Aux in only. (10kΩ input for an active-pickup equipped guitar or bass.)

**Variax** With a [James Tyler](#) (JTV), [Shuriken Variax](#), or [Standard Variax](#) guitar, the "Variax" Input source receives the Model or Magnetic signal, depending on the guitar's Model switch setting.

**Variax Magnetics** Receives only the Variax magnetic pickup signal.

**Mic** Mic in only.

**Return 1, 2, 3, 4, 1/2, 3/4** Returns 1, 2, 3, and 4 can act as additional mono input blocks. Returns 1/2 and 3/4 can act as additional stereo input blocks for processing keyboards, drum machines, or even other modelers. If a Return or FX Loop processing block exists in the preset, the utilized Return input will be non-selectable. See "[Send/Return](#)"

**S/PDIF** S/PDIF digital in only. If a Variax input (or Multi input, which includes Variax) exists on another Input block within the preset, S/PDIF in will be non-selectable.

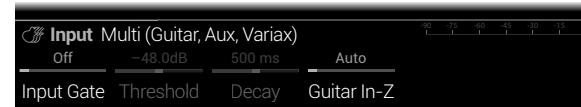
**USB 3/4, 5/6, 7/8** USB inputs 3/4, 5/6, and 7/8 can all be used for processing tracks from your Mac or Windows DAW software. See "[USB Audio](#)"

Helix also receives input from USB 1/2, but it's dedicated to monitoring audio from your computer (or iPad or iPhone mobile device) and bypasses all processing blocks. As such, it's not available as an input block source.



**TIP:** Input blocks include a built-in signal present/clip indicator—see [page 45](#).

All input blocks include a dedicated noise gate and gain reduction meter (see [page 45](#)). Threshold and Decay parameters are grayed out unless the Input Gate parameter is turned on:



Input > Multi and Input > Guitar blocks have an additional Guitar In-Z parameter. Helix has an impedance circuit on its Guitar Input that affects tone and feel by loading your guitar's pickups as they would by an effect pedal or amplifier. A lower value will typically result in some high frequency attenuation, lower gain, and an overall "softer" feel. A higher value provides full frequency response, higher gain, and an overall "tighter" feel. The "Auto" option allows the impedance to reflect the impedance of the first block on Path 1A—also see the Auto Impedance option in ["Global Settings > Preferences" on page 69](#)

Multi and Variax input blocks have additional pages for Variax parameters:

## James Tyler Variax, Shuriken Variax, or Variax Standard



**NOTE:** All Input block - Variax parameters on pages 2 through 4 change functionality between Per Preset vs. Global following how you set the Variax Settings parameter (Knob 1 on page 2).

Page	Knob	Parameter	Description
1	1	<b>Variax Settings</b>	Determines whether all Variax settings (pages 2~4) are applied per preset or globally.
2	2	<b>Variax Model</b>	Selects the Variax model and pickup position setting. When set to "Don't Force," Helix respects the Variax current setting.
3	3	<b>Variax Volume Knob</b>	Remotely sets the Variax volume knob setting. When set to "Don't Force," Helix respects the current Variax volume knob position.
2	4	<b>Variax Tone Knob</b>	Remotely sets the Variax tone knob setting. When set to "Don't Force," Helix respects the current Variax tone knob position.
5	5	<b>Variax Lock Control</b>	When set to "Unlocked," the Variax tone knob, volume knob, and toggle switch remain active. When locked, the Variax knobs and/or switches no longer control the local guitar functions. Turning the Variax model knob resets all to "Unlocked."
6	6	<b>Variax Tuning</b>	When set to "Don't Force," Helix respects the Variax guitar's current tuning. When set to "Custom," Helix engages any custom tuning on page 3.

Page	Knob	Parameter	Description
3	1	Variax String 6	
	2	Variax String 5	
	3	Variax String 4	
	4	Variax String 3	
	5	Variax String 2	
	6	Variax String 1	

Page	Knob	Parameter	Description
4	1	String Level 6	
	2	String Level 5	
	3	String Level 4	
	4	String Level 3	
	5	String Level 2	Attenuate the volume levels individually per string, if desired.
	6	String Level 1	

## Output

Each preset can have up to four Output blocks (one or two per path).



**Multi** 1/4", XLR, Digital, and USB 1/2 outputs are all active simultaneously. Normally, it is best to choose Multi.

**Path 2A, 2B**, These outputs only appear for Path 1 output blocks and route Path 1 or 2A+B into Path 2.

**1/4"** 1/4" outs only.

**XLR** XLR outs only.

**Send 1/2**, Send 1/2 and 3/4 can act as additional output blocks.

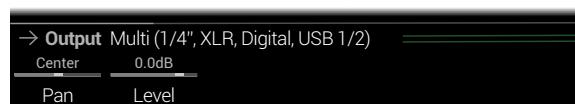
**Send 3/4**

**Digital S/PDIF**, Choose the Digital Output type (S/PDIF or AES/EBU), Digital Output Level, and the desired Sample Rate in the ["Global Settings > Ins/Outs"](#).  
**AES/EBU, L6 LINK**, The Global Ins/Outs settings are not necessary for L6 LINK—also see ["L6 LINK - Powercab Plus and DT 25/50 Amp Options" on page 25](#).

**USB 1/2**, **USB 1/2, 3/4**, and **5/6** can act as additional output blocks for routing paths to your computer, or iPad, or iPhone mobile devices (with optional **USB 5/6 Apple Camera Connection Kit**).

USB 7 and 8 are dedicated for re-amping, and are not available as output block destinations. See ["USB Audio"](#) for details.

All output blocks display Knob 1 (Pan) and Knob 2 (Level), as well as output meters (see ["Block Level Indicators and Meters" on page 45](#)):



**SHORTCUT:** Press Knob 1 (Pan) to return Pan to center. Press Knob 2 (Level) to return Level to unity (0.0dB).

**TIP:** Use Knob 2 (Level) to set the path's overall level, which is important to ensure all of your presets maintain a consistent volume throughout your set.

## L6 LINK - Powercab Plus and DT 25/50 Amp Options

Alternatively, the digital XLR connector can be used for L6 LINK output to the L6 LINK input of up to two Line 6 [Powercab Plus](#) active guitar speaker systems or [DT 25/50](#) amplifiers, with one or more of these receiving devices connected in series (use of a 110Ω XLR cable is recommended for all L6 LINK connections). When more than one Powercab Plus or DT 25/50 units are connected via L6 LINK, your stereo Helix signal is intelligently split, with the left channel going to the first unit and the right channel to the second. If you have one Powercab or DT connected, the Helix output is collapsed to mono and fed to the single unit. L6 LINK also sends remote control messages, providing customizable control over your connected devices right from Helix—globally or per preset!

The Output block - Powercab and DT 25/50 settings are available on pages 2~5 for any **Multi** or **Digital** output block type, allowing you to customize the desired options for your respective device(s) from Helix. (Please also refer to your Powercab Plus and DT 25/50 [Pilot's Guides](#).)



**NOTE:** Powercab Plus and DT 25/50 firmware v2.00 or later is required for L6 LINK functionality.

## Output Block - Powercab Settings

Output Block - Powercab Plus Remote Settings			
Page	Knob	Parameter	Description
1	Powercab Remote	Speaker Mic Dist	When in Speaker Mode, determines the Powercab mic distance, used on Powercab's XLR output(s): 1.0~12.0 inches.
		Speaker User IR	When in User IR Mode, determines the Powercab User IR used: index 0~127.
		Speaker Low Cut	When in Speaker or User IR Mode, configures the Low Cut EQ applied, Off or 20Hz~500Hz.
	Powercab Mode	Speaker Hi Cut	When in Speaker or User IR Mode, configures the Hi Cut EQ applied: 500Hz~20kHz or Off.
		Speaker Level	When in Speaker or User IR Mode, configures the volume trim applied: -60dB~+6dB.
	Flat Voicing	Speaker Color	When in Speaker or User IR Mode, choose the LED ring color on any connected Powercab(s): Auto, color choice, or Off.
2	Powercab Mode	Determines the Powercab mode: Flat, Speaker, or User IR. (Note that some page 2~3 Powercab settings will change reflecting the Mode selected here.)	
3	Flat Voicing	When in Flat Mode, determines its speaker Voicing type: FRFR, LF Flat, or LF Raw.	
	Speaker Select	Determines which Powercab unit(s) you want to control: Powercab 1, Powercab 2, or both simultaneously (1+2 Link). Normally, you should leave this set to 1+2 Link, which edits both Powercabs simultaneously, to maintain phase coherence. Note that with Powercab 212 Plus, Powercab 1 targets the left speaker in each (or both) amp(s), and Powercab 2 targets the right speaker in each (or both) amp(s). You'll see the following Powercab page 2~3 settings reflect the option selected here.	
4	Speaker Type	When in Speaker Mode, determines the Powercab speaker model.	
5	Speaker DI mic	When in Speaker Mode, determines the Powercab mic model used on Powercab's XLR output(s).	

## Output Block - Powercab Plus Remote Settings

Page	Knob	Parameter	Description
3	Speaker Mic Dist	Speaker User IR	When in Speaker Mode, determines the Powercab User IR used: index 0~127.
		Speaker Low Cut	When in Speaker or User IR Mode, configures the Low Cut EQ applied, Off or 20Hz~500Hz.
		Speaker Hi Cut	When in Speaker or User IR Mode, configures the Hi Cut EQ applied: 500Hz~20kHz or Off.
	Speaker Level	Speaker Color	When in Speaker or User IR Mode, configures the volume trim applied: -60dB~+6dB.
		Speaker Color	When in Speaker or User IR Mode, choose the LED ring color on any connected Powercab(s): Auto, color choice, or Off.

## Output Block - DT25/50 Settings

Output Block - DT25/50 Remote Settings			
Page	Knob	Parameter	Description
4	DT 25/50 Remote	DT 25/50 Select	Determines the behavior for all page 4~5 settings sent to your connected DT 25/50 unit(s): Off - No DT Remote settings are sent. Preset - All DT Remote settings are stored with the current preset and sent upon load of the preset. Global - All DT Remote settings are sent, with all settings remaining the same regardless of the current Helix preset.
		DT Channel	Determines which DT you want to control: DT 1, DT 2, or both simultaneously (1+2 Link). (Note that page 4~5 DT settings reflect the option selected here.)
		DT Topology	When set to A (Helix), the DT unit(s) switch to Chan. A and its preamp bypassed, allowing your Helix signal to be utilized. When set to B (DT Pre), the DT switches to Chan. B, and its internal preamp is activated.
	DT Power Amp	DT Power Amp	Determines the negative feedback loop Topology: I~IV.
		DT Tube Config	Determines the tube Power Amp mode: Class A or Class AB.
		DT Tube Config	Determines the configuration of the DT power tubes: Triode or Pentode.

Output Block - DT25/50 Remote Settings			
Page	Knob	Parameter	Description
1	DT Reverb	Determines the On/Off state of the DT amp's on-board Reverb.	
2	DT Rev Mix	Determines the wet/dry Mix of the Reverb effect: 0~100%.	
5	3	DT 12AX7 Boost	(DT50 only) Determines the On/Off state of the DT amp's 12AX7 Boost. Available when the DT50 Low Volume Mode is Off.
	4	DT Feedback Cap	(DT50 only) Determines the DT feedback capacitor type: X (Tight) or Y (Smooth).
5	5	DT B+ Voltage	(DT50 only) Determines the level of the DT phase inverter B+ Voltage: Low or High.

**TIPS:** Just like with any amp, cab, or effect parameter, Powercab, and DT remote parameters can be quickly assigned to footswitches or snapshots.

When using the L6 LINK Out, often, the Helix Preamp models are a better choice than Amp or Amp+Cab models, allowing you to adjust the power amp and speaker cab options offered by the Powercab or DT units to taste.

Powercab Plus users can also utilize the IR and Reverb options available on the Powercab, thereby alleviating the need to add IR or Reverb blocks within their Helix presets.

It is possible to use Helix to control several parameters remotely on your DT-Series amp (channel select, power amp topology, reverb, etc.) via MIDI. Connect a 5-pin MIDI cable from Helix's MIDI Out to the DT amp's MIDI In and use the Helix "Command Center" to configure the desired MIDI commands for any preset.

Start by loading the **TEMPLATES > DT25-DT50 Remote** preset since it has several handy DT commands already mapped to Helix switches for you. You can customize this template and create your own sets of controls to add to your presets. See the [DT MIDI Implementation Guide](#) for a complete list of MIDI commands.

## Effects

Many Helix effects blocks are offered in mono or stereo versions. Stereo effects display  after the model name. Also, Helix includes selected effects from the classic Line 6 DL4™, DM4™, MM4™, and FM4™ stompboxes, as well as M13®, M9®, and M5® processors; these appear in the Legacy subcategory (also see ["Block Order and Stereo Imaging" on page 23](#)).



Select an effects block and turn the joystick to change its model, or press the joystick knob to enter the Model menu.

 **TIP.** The Favorites category that appears at the start of the Model menu is initially empty, awaiting you to add your preferred models to it—see [page 17](#).

## Distortion Models

Model	Subcategories	Based On*
Kinky Boost	Mono, Stereo	Xotic® EP Booster
Deranged Master	Mono, Stereo	Dallas Rangemaster Treble Booster
Minotaur	Mono, Stereo	Klon® Centaur
Teemah!	Mono, Stereo	Paul Cochrane Timmy® Overdrive
Heir Apparent	Mono, Stereo	Analogman Prince of Tone
Tone Sovereign	Mono, Stereo	Analogman King of Tone
Alpaca Rogue	Mono, Stereo	Way Huge® Red Llama (modded)
Compulsive Drive	Mono, Stereo	Fulltone® OCD
Dhyana Drive	Mono, Stereo	Hermida Zendrive
Horizon Drive	Mono, Stereo	Horizon Precision Drive
Valve Driver	Mono, Stereo	Chandler Tube Driver
Top Secret OD	Mono, Stereo	DOD® OD-250
Prize Drive	Mono, Stereo	Nobels® ODR-1(bc)
Scream 808	Mono, Stereo	Ibanez® TS808 Tube Screamer®
Pillars	Mono, Stereo	Earthquaker Devices® Plumes
Hedgehog D9	Mono, Stereo	MAXON® SD9 Sonic Distortion
Stupor OD	Mono, Stereo	BOSS® SD-1 Overdrive
Deez One Vintage	Mono, Stereo	BOSS DS-1 Distortion (Made-in-Japan)
Deez One Mod	Mono, Stereo	BOSS DS-1 Distortion (Keeley modded)

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Model	Subcategories	Based On*
Ratatoullie Dist	Mono, Stereo	Pro Co RAT (with LM308 opamp)
Vermin Dist	Mono, Stereo	Pro Co RAT
Vital Dist	Mono, Stereo	Earthquaker Devices Life - Octave/Distortion circuit
Vital Boost	Mono, Stereo	Earthquaker Devices Life - Boost circuit
KWB	Mono, Stereo	Benadrian Kowloon Walled Bunny Distortion
Legendary Drive	Mono, Stereo	Carvin® VLD1 Legacy Drive (hi gain channel)
Swedish Chainsaw	Mono, Stereo	BOSS HM-2 Heavy Metal Distortion (MIJ)
Arbitrator Fuzz	Mono, Stereo	Arbiter® Fuzz Face®
Pocket Fuzz	Mono, Stereo	Jordan Boss Tone Fuzz
Bighorn Fuzz	Mono, Stereo	'73 Electro-Harmonix® Ram's Head Big Muff Pi
Triangle Fuzz	Mono, Stereo	Electro-Harmonix Big Muff Pi
Dark Dove Fuzz	Mono, Stereo	Electro-Harmonix Russian Big Muff Pi
Ballistic Fuzz	Mono, Stereo	Euthymia ICBM Fuzz
Industrial Fuzz	Mono, Stereo	Z.Vex Fuzz Factory
Tycoctavia Fuzz	Mono, Stereo	Tycobrahe® Octavia
Wringer Fuzz	Mono, Stereo	Garbage's modded BOSS FZ-2
Thrifter Fuzz	Mono, Stereo	Line 6 Original
Xenomorph Fuzz	Mono, Stereo	Subdecay Harmonic Antagonizer
Megaphone	Mono, Stereo	Megaphone
Bitcrusher	Mono, Stereo	Line 6 Original
Ampeg Scrambler	Mono, Stereo	Ampeg® Scrambler Bass Overdrive
ZeroAmp Bass DI	Mono, Stereo	Tech 21® SansAmp Bass Driver DI V1
Regal Bass DI	Mono, Stereo	Noble Preamp Bass DI
Obsidian 7000	Mono, Stereo	Darkglass® Electronics Microtubes® B7K Ultra
Clawthorn Drive	Mono, Stereo	Wounded Paw Battering Ram
Tube Drive	Legacy	Chandler Tube Driver
Screamer	Legacy	Ibanez Tube Screamer
Overdrive	Legacy	DOD Overdrive/Preamplifier 250
Classic Dist	Legacy	Pro Co RAT
Heavy Dist	Legacy	BOSS Metal Zone

Model	Subcategories	Based On*
Colordrive	Legacy	Colorsound® Overdriver
Buzz Saw	Legacy	Maestro® Fuzz Tone
Facial Fuzz	Legacy	Arbiter Fuzz Face
Jumbo Fuzz	Legacy	Vox® Tone Bender
Fuzz Pi	Legacy	Electro-Harmonix Big Muff Pi
Jet Fuzz	Legacy	Roland® Jet Phaser
L6 Drive	Legacy	Colorsound Overdriver (modded)
L6 Distortion	Legacy	Line 6 Original
Sub Oct Fuzz	Legacy	PAIA Octave Divider
Octave Fuzz	Legacy	Tycobrahe Octavia
Bronze Master	Legacy	Maestro Bass Brassmaster
Killer Z	Legacy	BOSS Metal Zone MT-2

## Dynamics Models

Model	Subcategories	Based On*
Deluxe Comp	Mono, Stereo	Line 6 Original
Red Squeeze	Mono, Stereo	MXR Dyna Comp
Kinky Comp	Mono, Stereo	Xotic SP Compressor
Ampeg Opto Comp	Mono, Stereo	Ampeg Opto Comp Compressor
Rochester Comp	Mono, Stereo	Ashly® CLX-52 (in conjunction w/ B. Sheehan)
LA Studio Comp	Mono, Stereo	Teletronix® LA-2A®
3-Band Comp	Mono, Stereo	Line 6 Original
Noise Gate	Mono, Stereo	Line 6 Original
Hard Gate	Mono, Stereo	Line 6 Original
Horizon Gate	Mono, Stereo	Horizon Precision Drive - Gate Circuit
Autoswell	Mono, Stereo	Line 6 Original
Feedbacker †	Mono	Line 6 Original, Feedback Generator
Tube Comp	Legacy	Teletronix LA-2A
Red Comp	Legacy	MXR Dyna Comp
Blue Comp	Legacy	BOSS CS-1
Blue Comp Treb	Legacy	BOSS CS-1 (Treble switch on)

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†The Feedbacker model utilizes polyphonic pitch shifting and, therefore, is extremely DSP-intensive—possibly utilizing up to half of all DSP available for Path 1 or Path 2!

Model	Subcategories	Based On*
Vetta Comp	Legacy	Line 6 Original
Vetta Juice	Legacy	Line 6 Original
Boost Comp	Legacy	MXR Micro Amp

 **TIP:** Dynamics - Compressor and Gate models display a handy gain reduction meter—see [page 45](#).

## EQ Models

Model	Subcategories	Based On*
Simple EQ	Mono, Stereo	Line 6 Original
Low and High Cut	Mono, Stereo	Line 6 Original
Low/High Shelf	Mono, Stereo	Line 6 Original
Parametric	Mono, Stereo	Line 6 Original
Tilt	Mono, Stereo	Line 6 Original
10 Band Graphic	Mono, Stereo	MXR 10-Band Graphic EQ
Cali Q Graphic	Mono, Stereo	MESA/Boogie Mark IV Graphic EQ
Acoustic Sim	Mono, Stereo	Line 6 Original

## Modulation Models

Model	Subcategories	Based On*
Optical Trem	Mono, Stereo	Fender® optical tremolo circuit
60s Bias Trem	Mono, Stereo	Vox AC-15 Tremolo
Tremolo/Autopan	Mono, Stereo	BOSS PN-2
Harmonic Tremolo	Mono, Stereo	Line 6 Original
Bleat Chop Trem	Mono, Stereo	Lightfoot Labs Goatkeeper
Script Mod Phase	Mono, Stereo	MXR Phase 90
Pebble Phaser	Mono, Stereo	Electro-Harmonix Small Stone
Ubiquitous Vibe	Mono, Stereo	Shin-ei Uni-Vibe®
FlexoVibe	Mono, Stereo	Line 6 Original
Deluxe Phaser	Mono, Stereo	Line 6 Original
Gray Flanger	Mono, Stereo	MXR 117 Flanger
Harmonic Flanger	Mono, Stereo	A/DA Flanger

Model	Subcategories	Based On*
Courtesan Flange	Mono, Stereo	Electro-Harmonix Deluxe EM
Dynamix Flanger	Mono, Stereo	Line 6 Original
Chorus	Mono, Stereo	Line 6 Original
70s Chorus	Mono, Stereo	BOSS CE-1
PlastiChorus	Mono, Stereo	Modded Arion SCH-Z chorus
Ampeg Liquifier Chorus	Mono, Stereo	Ampeg Liquifier Chorus
Trinity Chorus	Stereo	Dytronics® Tri-Stereo Chorus
4-Voice Chorus	Mono, Stereo	Line 6 Original
Bubble Vibrato	Mono, Stereo	BOSS VB-2 Vibrato
Vibe Rotary	Stereo	Fender Vibratone
122 Rotary	Stereo	Leslie® 122
145 Rotary	Stereo	Leslie 145
Triple Rotary	Mono, Stereo	Yamaha® RA-200
Retro Reel	Mono, Stereo	Line 6 Original
Double Take	Mono, Stereo	Line 6 Original
Poly Detune †	Mono	Line 6 Original
AM Ring Mod	Mono, Stereo	Line 6 Original
Pitch Ring Mod	Stereo	Line 6 Original
Pattern Tremolo	Legacy	Line 6 Original
Panner	Legacy	Line 6 Original
Bias Tremolo	Legacy	1960 Vox AC-15 Tremolo
Opto Tremolo	Legacy	1964 Fender Deluxe Reverb®
Script Phase	Legacy	MXR Phase 90 (script logo version)
Panned Phaser	Legacy	Ibanez Flying Pan
Barberpole	Legacy	Line 6 Original
Dual Phaser	Legacy	Mu-Tron® Bi-Phase
U-Vibe	Legacy	Shin-ei Uni-Vibe
Phaser	Legacy	MXR Phase 90
Pitch Vibrato	Legacy	BOSS VB-2
Dimension	Legacy	Roland Dimension D

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†The Poly Detune model utilizes polyphonic pitch shifting and, therefore, is extremely DSP-intensive—possibly utilizing up to half of all DSP available for Path 1 or Path 2!

Model	Subcategories	Based On*
Analog Chorus	Legacy	BOSS CE-1
Tri Chorus	Legacy	Dytronics Tri-Stereo Chorus
Analog Flanger	Legacy	MXR Flanger
Jet Flanger	Legacy	A/DA Flanger
AC Flanger	Legacy	MXR Flanger
80A Flanger	Legacy	A/DA Flanger
Frequency Shift	Legacy	Line 6 Original
Ring Modulator	Legacy	Line 6 Original
Rotary Drum	Legacy	Fender Vibratone
Rotary Drum/Horn	Legacy	Leslie 145
Tape Eater	Legacy	Line 6 Original
Warble-Matic	Legacy	Line 6 Original
Random S&H	Legacy	Line 6 Original
Sweeper	Legacy	Line 6 Original

## Delay Models

Model	Subcategories	Based On*
Simple Delay	Mono, Stereo	Line 6 Original
Mod/Chorus Echo	Mono, Stereo	Line 6 Original
Dual Delay	Stereo	Line 6 Original
Multitap 4	Stereo	Line 6 Original
Multitap 6	Stereo	Line 6 Original
Ping Pong	Stereo	Line 6 Original
Sweep Echo	Mono, Stereo	Line 6 Original
Ducked Delay	Mono, Stereo	TC Electronic® 2290
Reverse Delay	Mono, Stereo	Line 6 Original
Vintage Digital	Mono, Stereo	Line 6 Original
Vintage Swell	Mono, Stereo	Line 6 Original
Pitch Echo	Mono, Stereo	Line 6 Original
Transistor Tape	Mono, Stereo	Maestro Echoplex® EP-3
Cosmos Echo	Mono, Stereo	Roland RE-201 Space Echo®

Model	Subcategories	Based On*
Harmony Delay	Stereo	Line 6 Original
Bucket Brigade	Mono, Stereo	BOSS DM-2
Adriatic Delay	Mono, Stereo	BOSS DM-2 w/ Adrian Mod
Adriatic Swell	Mono, Stereo	Line 6 Original
Elephant Man	Mono, Stereo	Electro-Harmonix Deluxe Memory Man
Multi Pass	Mono, Stereo	Line 6 Original
Heliosphere	Mono, Stereo	Line 6 Original
Poly Sustain †	Mono	Line 6 Original
Glitch Delay	Mono, Stereo	Line 6 Original
Euclidean Delay	Mono, Stereo	Line 6 Original
ADT	Mono, Stereo	Line 6 Original
Crisscross	Mono, Stereo	Line 6 Original
Tesselator	Mono, Stereo	Line 6 Original
Ratchet	Mono, Stereo	Line 6 Original
Ping Pong	Legacy	TC Electronic 2290
Dynamic	Legacy	TC Electronic 2290
Stereo	Legacy	Line 6 Original
Digital	Legacy	Line 6 Original
Dig w/Mod	Legacy	Line 6 Original
Reverse	Legacy	Line 6 Original
Lo Res	Legacy	Line 6 Original
Tube Echo	Legacy	Maestro Echoplex EP-1
Tape Echo	Legacy	Maestro Echoplex EP-3
Sweep Echo	Legacy	Line 6 Original
Echo Platter	Legacy	Binson® EchoRec®
Analog Echo	Legacy	BOSS DM-2
Analog w/Mod	Legacy	Electro-Harmonix Deluxe Memory Man
Auto-Volume Echo	Legacy	Line 6 Original
Multi-Head	Legacy	Roland RE-101 Space Echo
Bubble Echo	Legacy	Line 6 Original
Phaze Eko	Legacy	Line 6 Original

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† The Poly Sustain model utilizes polyphonic pitch shifting and, therefore, is extremely DSP-intensive—possibly utilizing up to half of all DSP available for Path 1 or Path 2!

## Reverb Models

Model	Subcategory	Based On*
Dynamic Hall	Mono, Stereo	Line 6 Original
Dynamic Plate	Mono, Stereo	Line 6 Original
Dynamic Room	Mono, Stereo	Line 6 Original
Dynamic Ambience	Mono, Stereo	Line 6 Original
Dynamic Bloom	Mono, Stereo	Line 6 Original
Shimmer	Mono, Stereo	Line 6 Original
Hot Springs	Mono, Stereo	Line 6 Original
Nonlinear	Mono, Stereo	Line 6 Original
Glitz	Mono, Stereo	Line 6 Original
Ganymede	Mono, Stereo	Line 6 Original
Searchlights	Mono, Stereo	Line 6 Original
Plateaux	Mono, Stereo	Line 6 Original
Double Tank	Mono, Stereo	Line 6 Original
Plate	Legacy	Line 6 Original
Room	Legacy	Line 6 Original
Chamber	Legacy	Line 6 Original
Hall	Legacy	Line 6 Original
Echo	Legacy	Line 6 Original
Tile	Legacy	Line 6 Original
Cave	Legacy	Line 6 Original
Ducking	Legacy	Line 6 Original
Octo	Legacy	Line 6 Original
'63 Spring	Legacy	Line 6 Original
Spring	Legacy	Line 6 Original
Particle Verb	Legacy	Line 6 Original

## Pitch/Synth Models

Model	Subcategories	Based On*
Pitch Wham	Mono, Stereo	Digitech Whammy®
Twin Harmony	Mono, Stereo	Eventide® H3000
Simple Pitch	Mono, Stereo	Line 6 Original
Dual Pitch	Mono, Stereo	Line 6 Original
Boctaver	Mono/Stereo	Boss OC-2 Octaver
3 OSC Synth	Stereo	Line 6 Original
Poly Pitch †	Mono	Line 6 Original
Poly Wham †	Mono	Line 6 Original
Poly Capo †	Mono	Line 6 Original
12 String †	Mono	Line 6 Original
3 Note Generator ‡	Mono, Stereo	Line 6 Original
4 OSC Generator ‡	Mono, Stereo	Line 6 Original
Bass Octaver	Legacy	EBS® OctaBass
Smart Harmony	Legacy	Eventide H3000
Octi Synth	Legacy	Line 6 Original
Synth O Matic	Legacy	Line 6 Original
Attack Synth	Legacy	Korg® X911 Guitar Synth
Synth String	Legacy	Roland GR700 Guitar Synth
Growler	Legacy	Line 6 Original
Buzz Wave	Legacy	Line 6 Original
Rez Synth	Legacy	Line 6 Original
Seismik Synth	Legacy	Line 6 Original
Analog Synth	Legacy	Line 6 Original
Synth Lead	Legacy	Line 6 Original
String Theory	Legacy	Line 6 Original
Synth FX	Legacy	Line 6 Original
Saturn 5 Ring Mod	Legacy	Line 6 Original
Synth Harmony	Legacy	Line 6 Original
Double Bass	Legacy	Line 6 Original

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† These indicated Pitch/Synth models utilize polyphonic pitch shifting and, therefore, are extremely DSP-intensive. Each one might take up half of all DSP available for Path 1 or Path 2!

‡ The 3 Note Generator and 4 OSC Generator models make sound without any instrument connected, therefore, their blocks are turned off by default. Be sure to first set your Helix volume to low, and press BYPASS to turn them on.

## Filter Models

Model	Subcategories	Based On*
Mutant Filter	Mono, Stereo	Musitronics Mu-Tron III
Mystery Filter	Mono, Stereo	Korg A3
Autofilter	Mono, Stereo	Line 6 Original
Asheville Pattrn	Mono, Stereo	Moog® Moogerfooger® MF-105M MuRF Filter
Voice Box	Legacy	Line 6 Original
V Tron	Legacy	Musitronics® Mu-Tron III
Q Filter	Legacy	Line 6 Original
Seeker	Legacy	Z Vex Seek Wah
Obi Wah	Legacy	Oberheim® voltage-controlled S&H filter
Tron Up	Legacy	Musitronics Mu-Tron III (up position)
Tron Down	Legacy	Musitronics Mu-Tron III (down position)
Throbbing	Legacy	Electrix® Filter Factory
Slow Filter	Legacy	Line 6 Original
Spin Cycle	Legacy	Craig Anderton's Wah/Anti-Wah
Comet Trails	Legacy	Line 6 Original

## Wah Models

Model	Subcategories	Based On*
UK Wah 846	Mono, Stereo	Vox V846
Teardrop 310	Mono, Stereo	Dunlop® Cry Baby® Fasel model 310
Fassel	Mono, Stereo	Dunlop Cry Baby Super
Weeper	Mono, Stereo	Arbiter Cry Baby
Chrome	Mono, Stereo	Vox V847
Chrome Custom	Mono, Stereo	Modded Vox V847
Throaty	Mono, Stereo	RMC® Real McCoy 1
Vetta Wah	Mono, Stereo	Line 6 Original
Colorful	Mono, Stereo	Colorsound Wah-fuzz
Conductor	Mono, Stereo	Maestro Boomerang
Teardrop Bass Q	Mono, Stereo	Modified Dunlop 105Q

## Volume/Pan Models

Model	Subcategories	Based On*
Volume Pedal	Mono, Stereo	Line 6 Original
Gain	Mono, Stereo	Line 6 Original
Pan	Stereo	Line 6 Original
Stereo Width	Stereo	Line 6 Original
Stereo Imager	Stereo	Line 6 Original

## Common FX Settings

Parameter	Description
Drive	Adjusts the amount of overdrive, distortion, or fuzz.
Bass	Adjusts the bass level.
Mid	Adjusts the midrange level.
Treble	Adjusts the treble level.
Speed	Adjusts the speed of the effect, with higher settings providing faster rates. <b>Press the knob to toggle between Hz and note values.</b> Choosing a Hz value provides a specific modulation speed in cycles per second; choosing a note value provides a time based on the current tempo. Not all Speed parameters can be synced to note values, as they may be non-linear and highly interactive. (Note that stepping on TAP once resets any LFO-based effects, such as tremolos and rotary speakers.)
Rate	Adjusts the rate of the effect, with higher settings providing faster rates. <b>Press the knob to toggle between numeric and note values.</b> Not all Rate parameters can be synced to note values, as they may be non-linear and highly interactive. (Note that stepping on TAP once resets any LFO-based effects, such as tremolos and rotary speakers.)
Time	Adjusts the delay/repeat time, with higher settings providing longer delays. <b>Press the knob to toggle between ms and note values.</b> Choosing a ms value provides a specific time in milliseconds; choosing a Note Division value provides a time based on the current tempo. With a note division value, this parameter's value is retained when changing models.
Depth	Adjusts the intensity of the modulation. Higher settings result in more extreme pitch bending, wobble, or throb, depending on the effect.
Feedback	Adjusts the amount of delayed signal fed back into the effect. Higher settings can provide more dramatic textures.
Decay	Sets the length of time the reverb effect sustains.
Predelay	Determines the time before the reverb effect is heard.

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Parameter	Description
Scale	On stereo delays, the Scale offers control over the left & right channel repeats proportionately. The left channel repeats following the Time value, and the right channel repeats at a time that is the percentage of the left time. For example, if a delay's Time is set for 1 second and the Scale set to 75%, the left channel will repeat at 1 second and the right at 750 milliseconds (ms).
Spread	Spread differs slightly among stereo delay effects. For most delays, it adjusts how widely the repeats bounce left and right. For example, with the Ping Pong Delay, 0 is in the middle (mono), and 10 is full left to right panning for the repeats.
Headroom	For modulated stereo delays, Spread affects the LFOs' (low frequency oscillators) stereo modulation behavior. At 0, the LFOs are in sync. At 10, the two LFOs are 180 degrees out of sync, so that when one side is modulating up, the other side is modulating down.
Low Cut	Some mod and delay pedals' internal signal paths exhibit a bit of grit, especially when placed after a high-gain amp block. Negative values increase the perceived amount of grit; positive values clean things up a bit. At 0dB, the model behaves like the original pedal.
High Cut	Filters a portion of the block's bass and/or treble frequencies, which can help remove rumble and/or high-end harshness.
Mix	Blends the effected "wet" signal vs. the "dry" signal passed through the block. When set to 0%, the path bypasses the effect completely. When set to 100%, the entire path is fed through the effect, and no dry thru signal is heard.
Level	Adjusts the overall output level of the effects block. Be careful not to boost this parameter too high on multiple blocks, as digital clipping could occur (also see " <a href="#">Block Level Indicators and Meters</a> "). You should typically leave this at 0.0dB for most blocks. Where the original pedal's level or volume knob behavior doesn't really apply to dB values, 0.0-10 may be used.
Trails	<i>Trails Off:</i> Any delay repeats or reverb decays are instantly muted when the block is bypassed. <i>Trails On:</i> Any delay repeats or reverb decays continue to decay naturally when the block is bypassed, or a different snapshot is selected.

## Amp+Cab

Amp+Cab blocks are convenient in that when you select an Amp model, its matching Cab model is automatically loaded.



**NOTE:** As of Helix firmware version 3.50, all Amp+Cab blocks include new IR-based Cab models! Please see "[Speaker Cabinet Models](#)" on page 36 for more info.

To change the amp model in an Amp+Cab block, press <PAGE until the amp icon is white and turn the joystick. To change the cab model, press PAGE> until the cab icon is white and turn the joystick.



The first page of Amp+Cab parameters is called the tonestack, and represents the knobs you would see on the real amp's panel:



**SHORTCUTS:** Press to quickly select the Amp+Cab, Amp, or Preamp block and access its tonestack parameters (Gain, Bass, Mid, Treble, etc.). If a preset has more than one of these blocks, press repeatedly to cycle through all tonestacks.

While the Model List is open, press to jump to highlight the Amp category without having to scroll down to it.

## Amp and Preamp Models

Model	Subcategory	Based On*
WhoWatt 100	Guitar	Hiwatt® DR-103 Brill
Soup Pro	Guitar	Supro® S6616
Stone Age 185	Guitar	Gibson® EH-185
Voltage Queen	Guitar	Victoria Vintage Queen
Tweed Blues Nrm	Guitar	Fender Bassman® (normal channel)
Tweed Blues Brt	Guitar	Fender Bassman (bright channel)
Fullerton Nrm	Guitar	Fender 5C3 Tweed Deluxe (normal channel)

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Model	Subcategory	Based On*
Fullerton Brt	Guitar	Fender 5C3 Tweed Deluxe (bright channel)
Fullerton Jump	Guitar	Fender 5C3 Tweed Deluxe (jumped channels)
GrammaticoLG Nrm	Guitar	Grammatico LaGrange (normal channel)
GrammaticoLG Brt	Guitar	Grammatico LaGrange (bright channel)
GrammaticoLG Jmp	Guitar	Grammatico LaGrange (jumped channels)
US Small Tweed	Guitar	Fender Champ®
US Princess	Guitar	Fender Princeton Reverb®
US Super Nrm	Guitar	Fender Super Reverb® (normal channel)
US Super Vib	Guitar	Fender Super Reverb (vibrato channel)
US Deluxe Nrm	Guitar	Fender Deluxe Reverb® (normal channel)
US Deluxe Vib	Guitar	Fender Deluxe Reverb (vibrato channel)
US Double Nrm	Guitar	Fender Twin Reverb® (normal channel)
US Double Vib	Guitar	Fender Twin Reverb (vibrato channel)
Mail Order Twin	Guitar	Silvertone® 1484
Divided Duo	Guitar	÷13 JRT 9/15
Interstate Zed	Guitar	Dr Z® Route 66
Derailed Ingrid	Guitar	Trainwreck® Circuits Express
Grammatico GSG	Guitar	Grammatico GSG100
Jazz Rivet 120	Guitar	Roland JC-120 Jazz Chorus
Essex A15	Guitar	Vox AC-15
Essex A30	Guitar	Vox AC-30 with top boost
A30 Fawn Nrm	Guitar	Vox AC-30 Fawn (normal channel)
A30 Fawn Brt	Guitar	Vox AC-30 Fawn (bright channel)
Matchstick Ch1	Guitar	Matchless® DC30 (channel 1)
Matchstick Ch2	Guitar	Matchless DC30 (channel 2)
Matchstick Jump	Guitar	Matchless DC30 (jumped)
Mandarin 80	Guitar	Orange® OR80
Mandarin Rocker	Guitar	Orange Rockerverb 100 MkIII (dirty channel)
MOO)))N T Nrm	Guitar	Sunn® Model T (normal channel)
MOO)))N T Brt	Guitar	Sunn Model T (brite channel)
MOO)))N T Jump	Guitar	Sunn Model T (jumped channels)

Model	Subcategory	Based On*
Brit J45 Nrm	Guitar	Marshall® JTM-45 (normal channel)
Brit J45 Brt	Guitar	Marshall JTM-45 (bright channel)
Brit Trem Nrm	Guitar	Marshall JTM-50 (normal channel)
Brit Trem Brt	Guitar	Marshall JTM-50 (bright channel)
Brit Trem Jump	Guitar	Marshall JTM-50 (jumped)
Brit Plexi Nrm	Guitar	Marshall Super Lead 100 (normal channel)
Brit Plexi Brt	Guitar	Marshall Super Lead 100 (bright channel)
Brit Plexi Jump	Guitar	Marshall Super Lead 100 (jumped)
Brit P75 Nrm	Guitar	Park® 75 (normal channel)
Brit P75 Brt	Guitar	Park 75 (bright channel)
Brit 2203	Guitar	Marshall JCM-800, 100W, 2203
Brit 2204	Guitar	Marshall JCM-800, 50W, 2204
Placater Clean	Guitar	Friedman BE-100 (clean channel)
Placater Dirty	Guitar	Friedman BE-100 (BE/HBE channel)
Cartographer	Guitar	Ben Adrian Cartographer
German Xtra Blue	Guitar	Bogner® Ecstacy 101B, EL34 (blue channel)
German Xtra Red	Guitar	Bogner Ecstacy 101B, EL34 (red channel)
German Mahadeva	Guitar	Bogner Shiva
German Übersonic	Guitar	Bogner Überschall®
Cali Texas Ch1	Guitar	MESA/Boogie Lone Star® (clean channel)
Cali Texas Ch2	Guitar	MESA/Boogie Lone Star (drive channel)
Cali IV Rhythm 1	Guitar	MESA/Boogie Mark IV (channel I)
Cali IV Rhythm 2	Guitar	MESA/Boogie Mark IV (channel II)
Cali IV Lead	Guitar	MESA/Boogie Mark IV (lead channel)
Cali Rectifire	Guitar	MESA/Boogie Dual Rectifier®
Archetype Clean	Guitar	Paul Reed Smith® Archon® (clean channel)
Archetype Lead	Guitar	Paul Reed Smith Archon (lead channel)
ANGL Meteor	Guitar	ENGL® Fireball 100
Solo Lead Clean	Guitar	Soldano SLO-100 (clean channel)
Solo Lead Crunch	Guitar	Soldano SLO-100 (crunch channel)
Solo Lead OD	Guitar	Soldano SLO-100 (overdrive channel)

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Model	Subcategory	Based On*
EV Panama Blue	Guitar	EVH® 5150III 100, 6L6 (blue channel)
EV Panama Red	Guitar	EVH 5150III 100, 6L6 (red channel)
PV Panama	Guitar	Peavey® 5150®
PV Vitriol Clean	Guitar	Peavey Invective (clean channel)
PV Vitriol Crunch	Guitar	Peavey Invective (crunch channel)
PV Vitriol Lead	Guitar	Peavey Invective (lead channel)
Revv Gen Purple	Guitar	Revv® Generator 120 (purple/gain ch. 3)
Revv Gen Red	Guitar	Revv Generator 120 (red/high gain ch. 4)
Das Benzin Mega	Guitar	Diezel VH4 (mega channel)
Das Benzin Lead	Guitar	Diezel VH4 (lead channel)
Line 6 Clarity	Guitar	Line 6 Original
Line 6 Aristocrat	Guitar	Line 6 Original
Line 6 Carillon	Guitar	Line 6 Original
Line 6 Voltage	Guitar	Line 6 Original
Line 6 Kinetic	Guitar	Line 6 Original
Line 6 Oblivion	Guitar	Line 6 Original
Line 6 Ventoux	Guitar	Line 6 Original
Line 6 Elmsley	Guitar	Line 6 Original
Line 6 Elektrik	Guitar	Line 6 Original
Line 6 Doom	Guitar	Line 6 Original
Line 6 Epic	Guitar	Line 6 Original
Line 6 2204 Mod	Guitar	Line 6 Original
Line 6 Fatality	Guitar	Line 6 Original
Line 6 Litigator	Guitar	Line 6 Original
Line 6 Badonk	Guitar	Line 6 Original
Ampeg B-15NF	Bass	Ampeg B-15NF Portaflex®
Ampeg SVT Nrm	Bass	Ampeg SVT® (normal channel)
Ampeg SVT Brt	Bass	Ampeg SVT (bright channel)
Ampeg SVT-4 PRO	Bass	Ampeg SVT-4 PRO
US Dripman Nrm	Bass	Fender Bassman (Silverface)
Woody Blue	Bass	Acoustic® 360

Model	Subcategory	Based On*
Agua Sledge	Bass	Aguilar® Tone Hammer
Agua 51	Bass	Aguilar DB51
Mandarin Bass 200	Bass	Orange AD200 MkIII
Cali Bass	Bass	MESA/Boogie M9 Carbine
Cali 400 Ch1	Bass	MESA/Boogie Bass 400+ (channel 1)
Cali 400 Ch2	Bass	MESA/Boogie Bass 400+ (channel 2)
G Cougar 800	Bass	Gallien-Krueger® GK 800RB
Del Sol 300	Bass	Sunn® Coliseum 300
Busy One Ch1	Bass	Pearce BC-1 preamp (channel 1)
Busy One Ch2	Bass	Pearce BC-1 preamp (channel 2)
Busy One Jump	Bass	Pearce BC-1 preamp (jumped)
Studio Tube Pre	Preamp > Mic	Requisite Y7 mic preamp

## Common Amp Settings

Parameter	Description
Master	Adjusts the amount of power amp distortion. This parameter is highly interactive with all other power amp parameters—the lower the Master is set, the less effect the other controls will have.
Sag	Lower Sag values offer “tighter” responsiveness for metal and djent playing; higher values provide more touch dynamics & sustain for blues and classic rock riffs.
Hum	Controls how much heater hum and AC ripple interacts with your tone.
Ripple	At higher settings, things get freaky.
Bias	Changes the Bias of the power tubes. Lower values achieve a “colder” Class AB biasing. At maximum, the amp is operating in Class A.
Bias X	Determines how the power amp tubes’ voicing reacts when pushed hard. Set low for a tighter feel. Set high for more tube compression. This parameter is highly reactive with the Drive and Master settings.

Tonestack and deeper amp parameters found on subsequent pages may differ depending on the amp model selected.

## Amp

Amp blocks are identical to Amp+Cab blocks, except they contain no matched cab model.



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## Preamp

We've also included a complete set of Preamp versions of each Amp model, which provide the tone of just the preamp stage of the amp—recommended when feeding Helix into an external amplifier (either via 1/4" to your traditional amp or via L6 LINK to a Line 6 Powercab Plus, DT25, or DT50).



Preamp blocks require less DSP than a full Amp block.

## Speaker Cabinet Models

As of Helix firmware v3.50, there are both IR-based **Cab** and **Legacy** type speaker cabinet models to choose from (more on these below). You can also choose between two subcategories of Cab blocks—**Single** and **Dual**. Single Cab blocks are mono. Dual Cab blocks offer stereo output, with the ability to utilize two separate Cab & Mic models, independent parameter settings, and optionally be panned left and right. Not surprisingly, Dual Cabs take twice as much DSP as single Cabs.



**TIP:** You can optionally utilize a Single or Dual IR block instead of a Cab block to add speaker cabinet emulation to your preset—see "["Impulse Response \(IR\)" on page 40](#).

Don't worry—all the pre-v3.50 factory Cab models are all still included, now renamed as **Legacy Cabs** and in their own menu category, as covered in "["Legacy Cab Models" on page 39](#)". Your pre-v3.50 presets will automatically load and utilize the Legacy Cabs, but you can certainly try out the new cabs in all your new and old presets! The **Amp+Cab** type blocks also now utilize the new Cabs. Note that the new Cab and IR models utilize significantly less DSP power than the older Legacy Cabs.

**To change the first cab model in a Cab > Dual block, press <PAGE until the left cab icon is white and turn the joystick. To change the second cab, press PAGE> until the right cab icon is white and turn the joystick.**



**TIP:** Dual Cabs can optionally be "Linked" as a global option (see the **Link Dual Cabs** option within "["Global Settings > Preferences" on page 69](#)"). When set to "On," selecting a cab model for the Cab A slot automatically selects the same Cab model for the Cab B slot within the block. You can also access this Link option within the HX Edit application.

## Cab Models

The following table lists the new IR-Based Cab models available within the Model Browser's **Cab - Single** and **Dual**, and **Amp+Cab - Guitar** and **Bass** categories.

Model	Subcategories	Captured From*
<b>Soup Pro Ellipse</b>	Single, Dual	1x6x9" Supro, S6616
<b>1x8 Small Tweed</b>	Single, Dual	1x8" Fender Champ
<b>1x10 US Princess</b>	Single, Dual	1x10" Fender Princeton Reverb
<b>1x12 Fullerton</b>	Single, Dual	1x12" Fender 5C3 Tweed Deluxe
<b>1x12 Grammatico</b>	Single, Dual	1x12" Grammatico LaGrange
<b>1x12 US Deluxe</b>	Single, Dual	1x12" Fender Deluxe, Oxford
<b>1x12 Open Cast</b>	Single, Dual	1x12" Custom open-back, EVM12L
<b>1x12 Open Cream</b>	Single, Dual	1x12" Custom open-back, G12M-65
<b>1x12 Cali EXT</b>	Single, Dual	1x12" MESA/Boogie Extension, EVM12L
<b>1x12 Cali IV</b>	Single, Dual	1x12" MESA/Boogie MkIV Combo
<b>1x12 Blue Bell</b>	Single, Dual	1x12" Vox AC-15, Blue Alnico
<b>2x12 Blue Bell</b>	Single, Dual	2x12" Vox AC-30 Fawn, Blue Alnico
<b>2x12 Silver Bell</b>	Single, Dual	2x12" Vox AC-30TB, Silver Alnico
<b>2x12 Match H30</b>	Single, Dual	2x12" Matchless DC30, Custom G12H-30
<b>2x12 Match G25</b>	Single, Dual	2x12" Matchless DC30, Custom G12M-35
<b>2x12 Double C12N</b>	Single, Dual	2x12" Fender Twin, C12N
<b>2x12 Interstate</b>	Single, Dual	2x12" Dr. Z Z Best, V30
<b>2x12 Jazz Rivet</b>	Single, Dual	2x12" Roland JC-120
<b>2x12 Mail C12Q</b>	Single, Dual	2x12" Silvertone 1484, Jensen C12Q
<b>2x12 Mandarin30</b>	Single, Dual	2x12" Orange, V30
<b>4x10 Tweed P10R</b>	Single, Dual	4x10" Fender Bassman, P10R
<b>4x10 US Super</b>	Single, Dual	4x10" Fender Super Reverb, CTS® alnico
<b>4x12 WhoWatt</b>	Single, Dual	4x12" Hiwatt AP Fane®
<b>4x12 Greenback20</b>	Single, Dual	4x12" Marshall Basketweave G12M-20
<b>4x12 Greenback25</b>	Single, Dual	4x12" Marshall Basketweave G12M-25
<b>4x12 Greenback30</b>	Single, Dual	4x12" Marshall Basketweave G12H-30
<b>4x12 1960A T75</b>	Single, Dual	4x12" Marshall 1960A, G12T-75
<b>4x12 Blackback30</b>	Single, Dual	4x12" Park 75, G12H-30

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Model	Subcategories	Captured From*
4x12 Brit V30	Single, Dual	4x12" Marshall 1960AV, V30
4x12 Cali V30	Single, Dual	4x12" MESA/Boogie 4FB, V30
4x12 Mandarin EM	Single, Dual	4x12" Orange, Eminence®
4x12 MOO)))N T75	Single, Dual	4x12" Sunn, G12T-75
4x12 Cartog Guv	Single, Dual	4x12" Modified Lee Jackson, Eminence Governor
4x12 Cartog C90	Single, Dual	4x12" Modified Lee Jackson, Mesa C90
4x12 Uber T75	Single, Dual	4x12" Bogner Uberkab, G12T-75
4x12 Uber V30	Single, Dual	4x12" Bogner Uberkab, V30
4x12 XXL V30	Single, Dual	4x12" ENGL XXL, V30
4x12 SoloLead EM	Single, Dual	4x12" Soldano, Eminence 12-5875
1x12 Epicenter	Single, Dual	1x12" Epifani® Ultralight
1x15 Ampeg B-15	Single, Dual	1x15" Ampeg B-15
2x15 Brute	Single, Dual	2x15" MESA/Boogie, EV
2x15 US Dripman	Single, Dual	2x15" Fender Bassman, JBL® D130
4x10 Garden	Single, Dual	4x10" Eden D410XLT
4x10 Ampeg Pro	Single, Dual	4x10" Ampeg PR-410HLF
6x10 Cali Power	Single, Dual	6x10" MESA/Boogie PowerHouse®
8x10 SVT AV	Single, Dual	8x10" Ampeg SVT-810AV

## Microphone Models

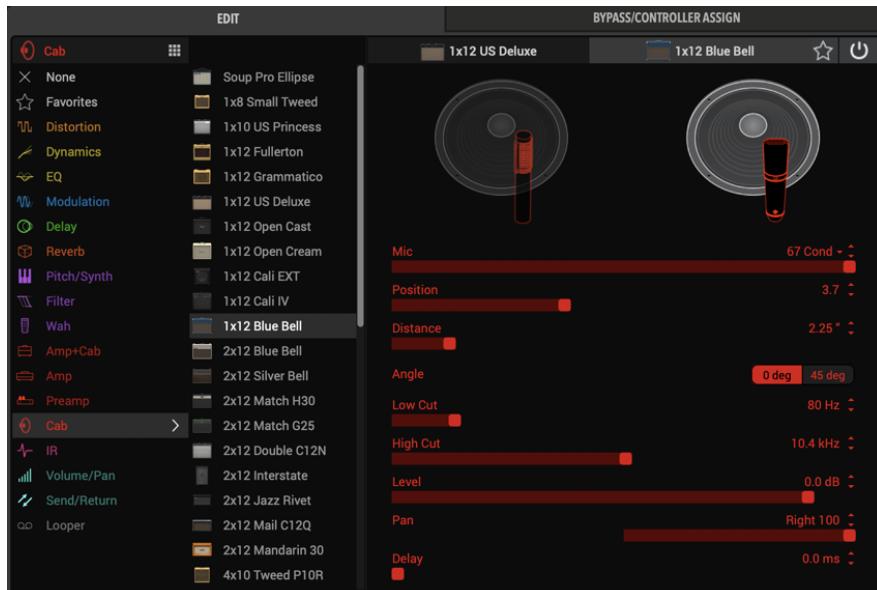
Model	Captured From*
<b>- GUITAR -</b>	
57 Dynamic	Shure® SM57
421 Dynamic	Sennheiser MD 421-U
7 Dynamic	Shure SM7B
906 Dynamic	Sennheiser e906
30 Dynamic	Heil Sound® PR 30
121 Ribbon	Royer® R-121
160 Ribbon	Beyerdynamic® M 160
4038 Ribbon	Coles 4038
84 Ribbon	AEA R84
414 Cond	AKG® C414XLS
47 Cond FET	Neumann® U47 FET
67 Cond	Neumann U67
<b>- BASS -</b>	
57 Dynamic	Shure SM57
421 Dynamic	Sennheiser MD 421-U
7 Dynamic	Shure SMT
88 Dynamic	Beyerdynamic M88TG
52 Dynamic	Shure Beta 52A
112 Dynamic	AKG® D112
D6 Dynamic	Audix® D6
40 Dynamic	Heil Sound PR 40
4038 Ribbon	Coles 4038
414 Cond	AKG C414XLS
47 Cond FET	Neumann U47 FET
67 Cond	Neumann U67

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## Editing Cab Options

The following table lists the parameters you'll see available when a **Cab > Single** or **Cab > Dual** model is selected from the Model Browser. You'll also see these parameters when editing the Cab on an **Amp+Cab - Guitar** or **Bass** block. When using a Dual Cab you'll see this same set parameters, as well as Pan and Delay parameters, for Cab A and Cab B, allowing you to adjust the Cabs individually.

**TIP:** When connected to the Line 6 HX Edit application, a graphical interface is available in the app for editing any Cab block (shown below), allowing you to easily click and drag the microphone itself to adjust its Position and Distance! For a Dual Cab, you can drag the mic for either cab to edit its Position & Distance. Please see the [HX Edit Pilot's Guide](#) for details.



The HX Edit app's Cab editing interface (Dual Cab block shown)

## Single & Dual Cab Parameters

Parameter	Description
<b>Single &amp; Dual Cab Parameters:</b> The following are available for both Single & Dual Cabs	
Mic <sup>†</sup>	Selects one of the available Guitar or Bass cab mic models.
Distance <sup>†</sup>	Sets the distance (1 inch to 12 inches) between the mic and the speaker.
Position <sup>†</sup>	Sets the left/right position of the mic, from the center to the edge of the speaker cone.
Angle <sup>†</sup>	Selects the angle of the mic in relation to the speaker: 0 degrees (on-axis) or 45 degrees (off-axis).
Low Cut	Filters a portion of the cab's bass (from Off up to 500 Hz) and/or treble (from Off down to 500 Hz) frequencies, which can help remove rumble and/or high-end harshness.
High Cut	Adjusts the overall output level of the Cab.
<b>Dual Cab Parameters:</b> The following are available for Dual Cabs only	
Pan	Adjusts the selected Cab's left/right stereo output balance. <b>TIP:</b> With a Dual Cab block, try using two different Cab models and panning each oppositely for a larger stereo effect.
Delay	Delays the selected Cab up to 50 ms. Use to delay the output of one Cab model to simulate a "double tracking" effect—most effective when the two Cab models are also panned opposite. The "Auto" option automatically applies a delay amount to approximate the selected cab's "Distance" parameter value. This results in a more accurate representation of the two cabs' mics blending together.

**NOTE:** These parameters are not available for Expression Pedal, Variax Knob, or MIDI CC Controller assignment.

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## Legacy Cab Models

In addition to the preceding IR-based Cab Models, the following Legacy Cab Models are available within the **Cab - Single Legacy** and **Dual Legacy**, and **Amp+Cab - Guitar+Legacy** and **Bass+Legacy** categories (firmware v3.50 and later). All Cab models also include your choice of Legacy Mic model type used on the Cab, as well as several Mic settings (see the following list of Legacy Mic Models).

When selecting a Legacy Dual Cab, you can independently choose the specific cab and settings for each. Dual Cab blocks are stereo, with each of its two Cab models panned hard left and right.

## Legacy Cab Models

Model	Subcategories	Based On*
<b>Soup Pro Ellipse</b>	Single, Dual Legacy	1 x 6x9" Supro S6616
<b>1x8 Small Tweed</b>	Single, Dual Legacy	1x8" Fender Champ
<b>1x10 US Princess</b>	Single, Dual Legacy	1x10" Fender Princeton Reverb
<b>1x12 Field Coil</b>	Single, Dual Legacy	1x12" Gibson EH185
<b>1x12 Fullerton</b>	Single, Dual Legacy	1x12" Fender 5C3 Tweed Deluxe
<b>1x12 Grammatico</b>	Single, Dual Legacy	1x12" Grammatico LaGrange
<b>1x12 US Deluxe</b>	Single, Dual Legacy	1x12" Fender Deluxe Oxford
<b>1x12 US Princess</b>	Single, Dual Legacy	1x12" Fender Princeton Reverb
<b>1x12 Celest 12H</b>	Single, Dual Legacy	1x12" ÷13 JRT 9/15 G12 H30
<b>1x12 Blue Bell</b>	Single, Dual Legacy	1x12" Vox AC-15 Blue
<b>1x12 Lead 80</b>	Single, Dual Legacy	1x12" Bogner Shiva CL80
<b>1x12 Cali IV</b>	Single, Dual Legacy	1x12" MESA/Boogie Mk IV
<b>1x12 Cali Ext</b>	Single, Dual Legacy	1x12" MESA/Boogie EVM12L
<b>2x12 Double C12N</b>	Single, Dual Legacy	2x12" Fender Twin C12N
<b>2x12 Mail C12Q</b>	Single, Dual Legacy	2x12" Silvertone 1484
<b>2x12 Interstate</b>	Single, Dual Legacy	2x12" Dr Z Z Best V30
<b>2x12 Jazz Rivet</b>	Single, Dual Legacy	2x12" Roland JC-120
<b>2x12 Silver Bell</b>	Single, Dual Legacy	2x12" Vox AC-30TB Silver
<b>2x12 Blue Bell</b>	Single, Dual Legacy	2x12" Vox AC-30 Fawn Blue
<b>2x12 Match H30</b>	Single, Dual Legacy	1x12" Matchless DC-30 G12H30
<b>2x12 Match G25</b>	Single, Dual Legacy	1x12" Matchless DC-30 Greenback 25
<b>4x10 Tweed P10R</b>	Single, Dual Legacy	4x10" Fender Bassman P10R

Model	Subcategories	Based On*
<b>4x12 WhoWatt 100</b>	Single, Dual Legacy	4x12" Hiwatt AP Fane
<b>4x12 Mandarin EM</b>	Single, Dual Legacy	4x12" Orange Eminence
<b>4x12 Greenback25</b>	Single, Dual Legacy	4x12" Marshall Basketweave G12 M25
<b>4x12 Greenback20</b>	Single, Dual Legacy	4x12" Marshall Basketweave G12 M20
<b>4x12 Blackback30</b>	Single, Dual Legacy	4x12" Park 75 G12 H30
<b>4x12 1960 T75</b>	Single, Dual Legacy	4x12" Marshall 1960 AT75
<b>4x12 Uber V30</b>	Single, Dual Legacy	4x12" Bogner Uberkab V30
<b>4x12 Uber T75</b>	Single, Dual Legacy	4x12" Bogner Uberkab T75
<b>4x12 Cali V30</b>	Single, Dual Legacy	4x12" MESA/Boogie 4FB V30
<b>4x12 XXL V30</b>	Single, Dual Legacy	4x12" ENGL XXL V30
<b>4x12 SoloLead EM</b>	Single, Dual Legacy	4x12" Soldano
<b>1x12 Del Sol</b>	Single, Dual Legacy	1x12" Sunn Coliseum
<b>1x15 Ampeg B-15</b>	Single, Dual Legacy	1x15" Ampeg B-15
<b>1x18 Del Sol</b>	Single, Dual Legacy	1x18" Sunn Coliseum
<b>1x18 Woody Blue</b>	Single, Dual Legacy	1x18" Acoustic® 360
<b>2x15 Brute</b>	Single, Dual Legacy	2x15" MESA/Boogie 2x15 EV
<b>4x10 Ampeg HLF</b>	Single, Dual Legacy	4x10" Ampeg SVT 410HLF
<b>6x10 Cali Power</b>	Single, Dual Legacy	6x10" MESA/Boogie Power House
<b>8x10 Ampeg SVT E</b>	Single, Dual Legacy	8x10" Ampeg SVT

## Legacy Microphone Models

To follow is the list of Mic Models offered for all Legacy Cabs.

Model	Based On*
<b>57 Dynamic</b>	Shure SM57
<b>409 Dynamic</b>	Sennheiser MD 409
<b>421 Dynamic</b>	Sennheiser MD 421-U
<b>30 Dynamic</b>	Heil Sound PR 30
<b>20 Dynamic</b>	Electro-Voice® RE20
<b>121 Ribbon</b>	Royer R-121
<b>160 Ribbon</b>	Beyerdynamic M 160

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Model	Based On*
4038 Ribbon	Coles 4038
414 Cond	AKG C414 TLII
84 Cond	Neumann KM84
67 Cond	Neumann U67
87 Cond	Neumann U87
47 Cond	Neumann U47
112 Dynamic	AKG D112
12 Dynamic	AKG D12
7 Dynamic	Shure SM7

## Editing Legacy Cab & Mic Settings

To follow are the parameters available when a **Cab - Single Legacy** or **Dual Legacy**, or **Amp+Cab - Guitar+Legacy** or **Bass+Legacy** block is selected. When using a Dual Cab, you'll see two sets of these parameters, allowing you to adjust Cabs A and B individually.

### Legacy Cab Parameters

Parameter	Description
Mic	Selects one of the 16 available mic models.
Distance	Sets the distance (1 inch to 12 inches) between the mic and the speaker grille.
Low Cut	Filters a portion of the cab's bass and/or treble frequencies, which can help remove rumble and/or high-end harshness.
High Cut	Filters a portion of the cab's bass and/or treble frequencies, which can help remove rumble and/or high-end harshness.
EarlyReflec	Sets the amount of "early reflections." Higher values add more reflective room sound to your Amp tone.
Level	Adjusts the overall output level of the Cab.

## Impulse Response (IR)

Impulse Responses are mathematical functions representing the sonic measurements of specific audio systems (for Helix, speaker cabinet, and microphone combinations). Helix can load and store up to 128 custom or third-party IRs at a time.



### Single and Dual IR Blocks

From the IR menu, you can select either a mono **Single IR** block type or a stereo **Dual IR** block type.

- A Single IR block allows you to choose either the 1024-Sample or 2048-Sample higher resolution IR type. Optionally, you can add up to two Single 1024 IR blocks on a signal path (such as one each within the A & B parallel paths).\*
- A Dual IR block provides the ability to load two of your IRs into one block, which can be independently set with different parameter settings, delayed, and panned as desired. You can add one Dual IR block max. per signal path.\*



\*NOTE: The maximum IR blocks per signal path is also combined with the v3.50 Cab, Dual Cab, and Amp+Cab block types—see ["Dynamic DSP" on page 22](#).

### IR Block Parameters

Individual IR Parameters - The following are available for an IR block. You'll see two sets of these parameters in a Dual IR block—one set for each of the block's "A" and "B" IRs.

Parameter	Description
IR Select	Loads the IR index 1-128 from the IR Library—see the following section.
Low Cut	Filters a portion of the IR block's bass/treble frequencies, which can help remove rumble and/or high-end harshness.
High Cut	Filters a portion of the IR block's bass/treble frequencies, which can help remove rumble and/or high-end harshness.
Mix	Adjusts the balance of dry and wet (IR processed) signals. 0% = completely dry, and 100% = completely wet.
Level	Adjusts the overall output level of the IR.
<b>Dual IR Block Parameters - The following are additionally available for any Dual IR block.</b>	
Pan	Pan the output of each IR independently up to 100% Left or 100% Right.
Polarity	Sets the polarity (Normal or Inverted) for either IR. If you encounter audible phasing, try setting one IR's Polarity to Inverted.

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Parameter	Description
Dual IR Block "Both" Parameters - The following are applied to both IRs in a Dual IR block.	
Delay	Delays either the "A" or "B" IR up to 50 ms. You can use this to correct minor phasing issues between the blocks' IRs (as an alternative to using Polarity), or to delay the output of one IR to simulate a "double tracking" effect—most effective when the two IRs are also panned opposite.
Mix	Adjusts the balance of dry and wet (IR processed) signals for the entire Dual IR block. 0% = completely dry, and 100% = completely wet.

## IR Formats

For all Helix family devices, as well as Helix Native plugin, the following IR file types are supported.

- **Helix Impulse Response (.hir)** - This is the proprietary Line 6 IR file format. All IRs purchased through the Line 6 Marketplace are of this file type—see ["Marketplace" on page 6](#).
- **WAV (.wav)** - Most IR producers and vendors typically offer IRs in the .wav format. It is possible to import a mono or stereo .wav file IR, regardless of its bit depth, length, or sample rate frequency. Upon import, IR .wav files are automatically converted to a 48kHz sample rate, 32-bit, mono, and 2,048 sample length for Helix. You can use the HX Edit app's Preferences to set the preferred behavior for importing Stereo WAV IRs (import the left or right channel data of the file, or a mix of both).

## Loading IRs into Helix

Loading Impulse Response files into Helix requires connecting to the HX Edit application in your Mac or Windows computer. The HX Edit application is available as a free download from [line6.com/software](#).

1. **Connect Helix to your computer via USB and open the HX Edit application.**
2. **Click the IRs tab.**



3. **Drag one or more IR files from the desktop or any Finder window directly into the HX Edit application's Impulses list (or use the HX Edit IR - Import command).**

The HX Edit app updates the Helix hardware's IR list automatically. Helix can load and store up to 128 IRs at a time.

## Loading an IR in an IR Block

Once you've imported IR files into Helix (see the previous section), you can then put them to use by adding one or more IR blocks into your tone. It is recommended to use an Amp block preceding an IR block (rather than an Amp+Cab type block).

1. **Move the joystick knob to select an empty block location just to the right of your Amp block on the signal path.**
2. **Push the joystick knob and turn it to select the IR category. You can choose either a Single IR, for mono operation, or a Dual IR.**

**NOTE:** When choosing a Single IR, you may optionally choose the higher fidelity 2048-sample IR (there is a max. limit of one 2048-sample IR block per Path, or two 1024-sample IR blocks per path).

3. **Turn Knob 1 (IR Select) to choose the IR index (1~128) to utilize the preferred IR file within your IR library.**

Use Knobs 2~5 to fine tune the IR settings to taste—see below.

If you've selected a Dual IR, you can repeat this step using the second page of options to independently select another IR and adjust its settings.

**TIP:** Optionally, you can create a Snapshot assignment (see ["Using Snapshots" on page 50](#)) on the IR Select parameter, which then allows you to change between different IRs within the block per snapshot!

## IR File Reference

Once an IR block is configured to utilize an IR index slot that includes an imported IR (.wav or .hir) file, and the preset then saved, the preset creates a "reference signature" to the imported IR from its file name. Likewise, if you save your IR block as a Favorite (see ["Adding a Block to Favorites" on page 17](#)) or set the IR block's current settings as the User Model Defaults (see ["Saving a Model's User Default Settings" on page 18](#)), the IR block also creates a reference to the specific IR file within your IR library. Therefore, if you re-order IRs within the IR library list, your preset (or IR Favorite or User Model Default block) will still intelligently reference the originally associated IR file, even if it now resides in a different IR Library index location. This also makes it easy to share your presets with friends since they can then insert the same IR file in any slot within their Helix IR library, and the preset will find it. Please also refer to the [HX Edit Pilot's Guide](#) for additional info regarding the use of IRs.

# Send/Return

Each of the Helix four sends and returns can be used independently or used together as an FX loop.



FX loops let you dynamically insert your favorite external stompboxes (or rack effects) into any location in your tone.

**NOTE:** Each send and return pair can be set for Instrument (for inserting stompboxes) or Line-level operation—see “[Global Settings > Ins/Outs](#)”. Send/Return blocks also offer clip indicators for level management—see “[Block Level Indicators and Meters](#)” on page 45.

**NOTE:** Each return can be used only once in a preset. For example, if you add a Return 1 block (or assign one of the input blocks to Return 1), Return 1/2, FX Loop 1, and FX Loop 1/2 items will all appear grayed out in the model list, as they also utilize Return 1.

## Send Settings

Knob	Parameter	Description
1	Send	Adjusts the level sent to your external devices.
2	Dry Thru	Adjusts the level of the signal passed through the Send block, independent of the Knob 1 (Send) level. Normally, this should be set to 0.0dB.

## Return Settings

Knob	Parameter	Description
1	Return	Adjusts the level received at the Return jack.
2	Mix	Blends the Return signal vs. the dry signal passed through the Return block. When set to 0%, the path bypasses the Return completely. When set to 100%, the entire signal is fed from the Return, and no dry thru signal is heard.

## FX Loop Settings

Knob	Parameter	Description
1	Send	Adjusts the level sent to your external device.
2	Return	Adjusts the level received at the Return jack.

Knob	Parameter	Description
3	Mix	Blends the FX loop signal vs. the dry signal passed through the FX Loop block. When set to 0%, the path bypasses the FX loop completely. When set to 100%, the entire path is fed through the FX loop, and no dry thru signal is heard. (This means that if you don't currently have your external gear connected to the Send & Return jacks, you won't hear any output signal unless you bypass the FX Loop block!)
4	Trails	<i>Trails Off:</i> An external stompbox would be instantly muted when the FX Loop block is bypassed. <i>Trails On:</i> An external delay or reverb stompbox would continue to decay naturally when the FX Loop block is bypassed, or a different snapshot is selected.

## Looper

Helix offers three different Looper types: the 1 Switch, 6 Switch, and Shuffling Looper. Many factory presets already include a Looper block, which is already assigned to a Stomp mode footswitch. A Looper block can exist anywhere on either Path 1 or Path 2—one Looper block per preset maximum.



## Looper Models (Mono & Stereo)

Model	Based On*	Max. Loop Length	
		Half Speed	Full Speed
6 Switch Looper (Mono)	Line 6 Original	120 seconds	60 seconds
1 Switch Looper (Mono)	Line 6 Original	120 seconds	60 seconds
Shuffling Looper (Mono)	Line 6 Original	n/a	60 seconds
6 Switch Looper (Stereo)	Line 6 Original	60 seconds	30 seconds
1 Switch Looper (Stereo)	Line 6 Original	60 seconds	30 seconds
Shuffling Looper (Stereo)	Line 6 Original	n/a	30 seconds

**IMPORTANT!** You may change presets while looping, but loop playback will stop unless the preset you select includes the same type of looper block (same 6 Switch, 1 Switch, or Shuffle looper type, and same mono or stereo type).

**TIP:** The Command Center - HX Looper options allow you to customize your Stomp Mode footswitches further to easily trigger multiple looper functions for the 6 Switch or 1 Switch Loopers—see “[Command Center](#)” on page 60.

The Looper can also be controlled via external MIDI—see “[MIDI](#)” on page 77.

## Looper Settings (6 Switch & 1 Switch Looper)

Knob	Parameter	Description
1	Playback	Adjusts looper playback level. You may find it useful to turn this down a bit so your live guitar can be slightly louder.
2	Overdub	Relatively sets the level of your loop while overdubbing. For example, if your Overdub Level is set to 90%, each time your loop repeats, its volume will be reduced by 10%, sounding quieter and quieter with each overdub pass.
3	Low Cut	Filters a portion of the loop's bass and/or treble frequencies, which can improve the mix with your live guitar.
4	High Cut	

## Using the 6 Switch Looper

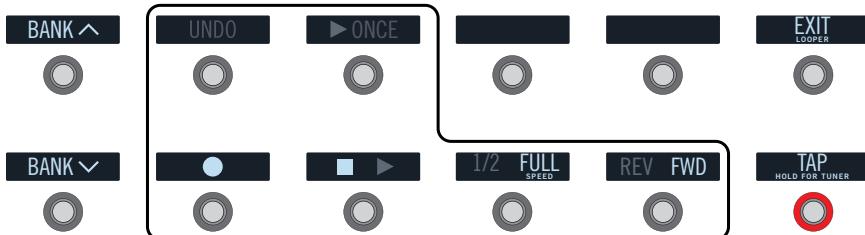
Once assigned, pressing the Stomp mode footswitch for a 6 Switch Looper activates its Looper Footswitch mode, where all its functions are conveniently laid out and labeled on the Helix footswitches.

### 1. Add a 6 Switch Looper block to your preset and assign it to a footswitch in Stomp mode.

See ["Quick Bypass Assign" on page 54](#).

### 2. From Stomp mode, press the "6 Switch Looper" footswitch.

Looper mode appears:



Switch	Description
●	Step on ● to start recording a loop. Step on ■ ▶ to end the loop and immediately start playback. Step on ● to overdub additional parts. Step on ■ ▶ again to stop playback.
UNDO	If you make a mistake on your last overdub, step on UNDO to erase it.
▶ ONCE	Step on ▶ ONCE to play the recorded loop once through.

Switch	Description
1/2 SPEED	Recording at full speed and then switching to 1/2 speed will also drop the loop down one octave. Recording at 1/2 speed will double your looping memory, and switching to full speed will cause the loop to play at double speed (up an octave).
REV FWD	Step on REV/FWD to hear your loop backward.

**NOTE:** If you press ● while loop playback is stopped, this will always record a new loop, and any previous recording will be discarded.

While in Looper mode, stepping on BANK ▲ or BANK ▼ temporarily enters Preset mode. Once you've selected a preset, Helix returns to Looper mode.

### 3. To return to the previous mode, press FS6 (EXIT).

## Using the 1 Switch Looper

As its name implies, all functions for the 1 Switch Looper are available from its assigned Stomp mode footswitch, described as follows.

### 1. Add a 1 Switch Looper block to your preset and assign it to a footswitch in Stomp mode.

See ["Quick Bypass Assign" on page 54](#).

### 2. Press the 1 Switch Looper switch.

The LED lights red, indicating the loop is recording.

### 3. Press the 1 Switch Looper switch again.

The LED lights green, indicating the loop is playing back.

### 4. Press the 1 Switch Looper switch again.

The LED lights amber, indicating the loop is in overdub mode. Subsequent presses of the switch toggle between play and overdub mode.

### 5. While the Looper is in play or overdub mode, press and hold the switch for 1 second.

The most recent recording is undone. Holding the switch again will redo the recording.

### 6. Quickly double-press the 1 Switch Looper switch.

Playback/recording stops, and the LED lights white, indicating a loop is in memory.

### 7. While Looper playback/recording is stopped, press and hold the switch for 1 second.

The most recent recording is deleted, and the LED lights dim white.

## Using the Shuffling Looper

Part looper, part sampler, part performance instrument—the Shuffling Looper chops up your recorded loop, randomizes the slices, and gives you control over reordering, octave shifting, reversing, repeating, and more.

### 1. Add a Shuffling Looper block to your preset and assign it to a foot-switch in Stomp mode.

See ["Quick Bypass Assign" on page 54](#).

### 2. Turn Knob 1 (Slices) to set the number of slices your loop will be chopped into.

### 3. Press the switch to begin recording.

The LED lights red, indicating the loop is recording.

### 4. When done recording your loop, press the switch.

The LED lights green, and the sliced loop sequence immediately plays.

### 5. During playback, adjust the following knobs (or assign them to controllers, like expression pedals):

- Slices**—Determines the number of slices your loop will be chopped into
- SeqLength**—Determines the number of steps in the sequence before it loops
- Shuffle**—Determines the likelihood of slices shuffling/reordering
- Pitch**—Determines the likelihood of your slices changing pitch, based on the new Interval 1 and Interval 2 settings
- Reverse**—Determines the likelihood of slices playing backward
- Repeat**—Determines the likelihood of slices repeating
- Smoothing**—Higher values apply smoothing between slices and can give a synth-pad type quality. Lower values maintain transients. Or set it just high enough to avoid pops and clicks
- Seq Drift**—Determines the likelihood of a slice changing after it has played
- Playback**—Sets the playback level of the loop sequence
- Low Cut and High Cut**—Adjust these to filter some of the bass or treble frequencies of the loop playback
- Interval 1 and Interval 2**—Sets the pitch of some slices, the likelihood of which is determined by the Pitch parameter (from an octave down to an octave up)

 **TIP:** To only use pitch and reverse effects on your loop, turn Shuffle down to 0% and set the Slices and SeqLength to the same value.

### 6. Want to change it up? While the loop is playing, press the switch to randomize its slice sequence.

### 7. Quickly double-press the Looper switch.

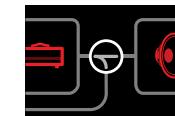
Playback/recording stops, and the LED lights white, indicating a loop is in memory. Press again to restart.

### 8. While the loop is playing or stopped, press and hold the switch.

The recording is deleted, and the LED lights dim white.

## Split

A Split block appears any time a parallel path is created, but is visible only when selected.



Helix has four different types of Split blocks: Y, A/B, Crossover, and Dynamic.

**Y** By default, the signal is fed to Paths A (upper) and B (lower) evenly. The individual Balance (pan) options offer control of the stereo balance sent to each path.

**A/B** The signal can be sent in different amounts to Paths A (upper) and B (lower).

**Crossover** Treble frequencies are sent to Path A (upper) and bass frequencies are sent to Path B (lower).

**Dynamic** Similar to a crossover, except the audio content exceeding the audio **Threshold** is sent to Path A, and the content below the audio Threshold is sent to Path B.

## Split > Y Settings

Knob	Parameter	Description
1	Balance A	Adjusts the stereo balance (pan) of the signal that is sent to Path A (upper).
2	Balance B	Adjusts the stereo balance (pan) of the signal that is sent to Path B (lower).

## Split > A/B Settings

Knob	Parameter	Description
1	Route To	Determines the amount of the signal sent to Path A vs. Path B. <b>Press the knob to set to Even Split.</b>

## Split > Crossover Settings

Knob	Parameter	Description
1	Frequency	Any signal above this frequency is sent to Path A (upper); any signal below this frequency is sent to Path B (lower).
2	Reverse	When on, reverses the path assignments (any signal above the crossover frequency is sent to Path B, any signal below the crossover frequency is sent to Path A).

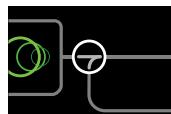
## Split > Dynamic Settings

Knob	Parameter	Description
1	Threshold	Any signal below the Threshold volume level is routed to Path A; any signal above the Threshold is routed to Path B.
2	Attack	Determines how fast the signal is routed to Path B once reaching the Threshold.
3	Decay	Determines how fast the signal returns to Path A once falling below the Threshold.
4	Reverse	When on, reverses the path assignments (any signal above the Threshold value is sent to Path B, any signal below the Threshold value is sent to Path A).

**NOTE:** Much like any Effects type block, a Split block can be bypassed, as well as have a bypass assignment created for it. When bypassed, regardless of the Split type in use, the block sends both left and right signals to both paths equally.

## Merge

A Merge > Mixer block appears any time a parallel path is created, but is visible only when selected:



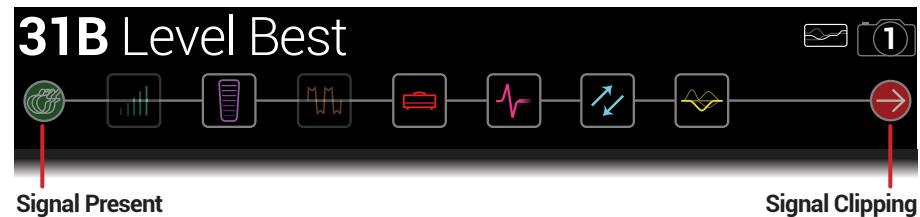
Knob	Parameter	Description
1	A Level	Adjusts the output level of Path A (upper).
2	A Pan	Adjusts the left/right stereo balance of Path A.
3	B Level	Adjusts the output level of Path B (lower).
4	B Pan	Adjusts the left/right stereo balance of Path B.
5	B Polarity	Inverts the polarity of Path B. Typically, this should be set to "Normal."
6	Level	Adjusts the overall output level of the Merge block.

## Block Level Indicators and Meters

Helix includes real-time level indicators and metering for specific block types, which are very handy for visually checking and optimizing the gain staging throughout your tone's signal flow.

### Signal Present and Clip Indicators

**For path Input and Output blocks** - These blocks are displayed with a green fill to indicate a signal is present, and a red fill if the input is too hot. If clipping is indicated, reduce the signal level before and/or at the red indicated Input/Output block.

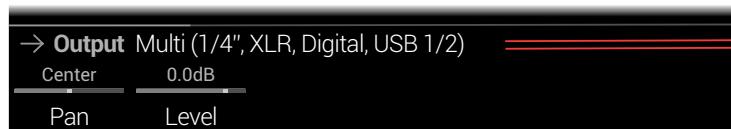
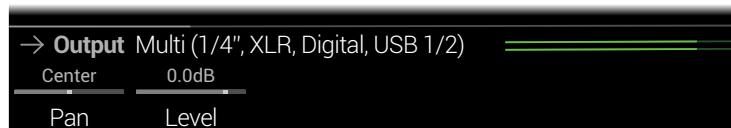


**For Send/Return - Send, Return, and FX Loop blocks** - Whenever the signal level at any of these block types is too hot, a red fill color is displayed as a clip indicator. If clipping is indicated, you should reduce the signal level preceding and/or at the red indicated Send/Return block.



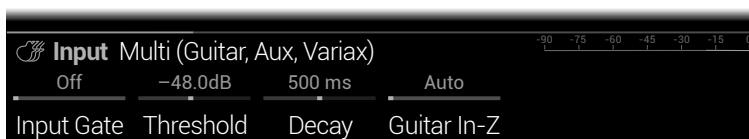
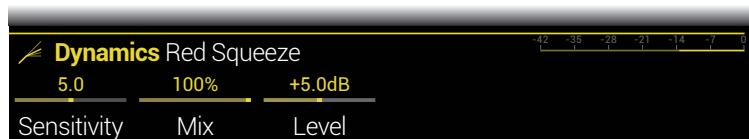
## Level Meters

**For Output, Send, or FX Loop type blocks** - When one of these block types is selected within the Signal Flow, you'll see its meter appear within the lower Inspector portion of the Helix Home screen. The meter measures output level and is displayed green for normal signal levels. Whenever the signal is too hot, the meter is displayed red to alert you of clipping. A single meter bar is displayed for mono blocks, and a dual bar for stereo blocks.



## Gain Reduction Meters

**For all Dynamics - Compressor and Input block - Gate type blocks** - A meter measures the dB amount of gain reduction being applied by the effect, providing a helpful indicator for adjusting your compression and gate parameters. A single gain reduction meter is displayed for mono and stereo Dynamics models, and a triple meter is displayed for the 3-Band Comp model (one for each frequency band).



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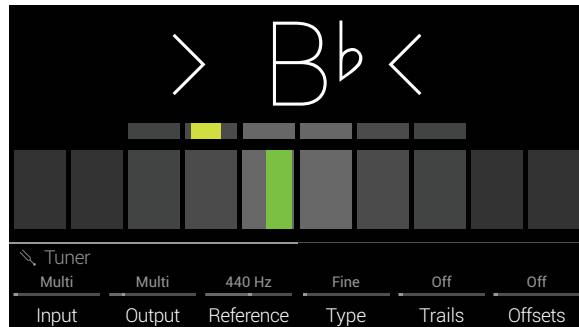
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# Tuner

Helix offers three Tuner types, Fine (shown below), Coarse, and Strobe, selectable from Knob 4 of the Tuner Settings—see the following table.

## 1. Hold the TAP footswitch until the Tuner screen appears:



## 2. Pluck an individual string on your guitar.

When a box left of the center is lit red or yellow, your string is flat. When a box right of center is lit red or yellow, your string is sharp. When one of the center boxes on the lower row is lit green, the top row of smaller bars can be used for more precision. When both arrows are illuminated, your string is perfectly in tune.

## 3. To exit the Tuner, step on any footswitch.

All tuner settings are global.



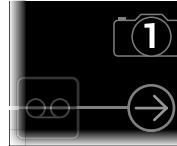
**TIP:** If you have a favorite pedal or rack tuner and wish to use it instead of Helix's tuner, connect Send 1, 2, 3, or 4 to your tuner's input and turn Knob 2 (Tuner Out) to select that Send. This way, every time you hold the TAP footswitch, Helix will automatically route the signal to your favorite tuner.

## Tuner Settings

Page	Knob	Parameter	Description
1	1	Input	Determines which input the tuner will listen to. Normally, it's best to choose "Multi," which listens to the Guitar, Aux, and Variax inputs simultaneously.
	2	Output	Determines the active output while the Tuner screen is active. If you prefer to hear nothing while tuning, choose "Mute." Normally, it's best to choose "Multi," which routes the input to 1/4" XLR, Digital, and USB 1/2.
	3	Reference	If you'd like to tune to a reference other than standard 440 Hz, select from 425 to 455 Hz.
	4	Type	Choose between three Tuner types: Fine (color-changing, needle tuner with fine-tuning bar, the default), Coarse (color-changing needle tuner with no fine-tuning bar), or Strobe. The Tuner accurately tunes notes down to 21.83 Hz (low F) for 5-string basses.
	5	Trails	This setting is Off by default. When set to "On," delay repeats and reverbs' decay continue to ring out, and even the Looper keeps running, while the tuner is engaged.
	6	Offsets	Enables the Tuner offsets displayed on Page 2.
2	1	String 6 Offset	
	2	String 5 Offset	
	3	String 4 Offset	Some guitarists feel that tuning certain strings slightly sharp or flat in relation to concert tuning can improve intonation. String offsets calibrate the tuner so that these slightly out-of-tune pitches appear as in tune. String 6 is low E, and String 1 is high E. Tuning offsets won't be applied unless Knob 6 (Offsets) on Page 1 is turned on.
	4	String 3 Offset	
	5	String 2 Offset	
	6	String 1 Offset	

# Snapshots

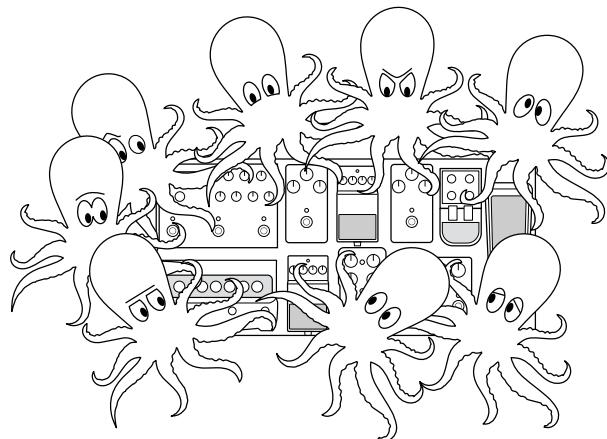
A camera icon appears in the upper right corner of the screen. Its number indicates the current snapshot.



## What are Snapshots?

Snapshots are presets within a preset.

Imagine you have eight pet octopuses, all slithering around your amp and pedalboard. Instead of tap-dancing on your pedals (and accidentally stepping on a tentacle), you shout, "Okay, gang—here's the verse... now!" and your octopuses switch some pedals on, switch other pedals off, and tweak all your amps and pedals' knobs to make the best possible settings for your song's verse, all seamlessly with spillover delay and reverb trails. Then you shout, "Ready for the chorus... now!" and your octopuses instantly tweak everything for your song's chorus. That's the power of snapshots.



The only thing your octopuses/snapshots *can't* do is rearrange your pedalboard or swap out an effect or amp for a different one (unless both effect blocks exist in the same preset).

Each preset can have up to 64 parameters assigned to Snapshots; hence, eight octopuses with eight tentacles each. The octopuses can remember eight separate groups of on/off statuses and setting tweaks per preset; that is, Helix has eight snapshots per preset.

Each of the eight snapshots in Helix stores and recalls the state of certain elements in the current preset, including:

- **Block Bypass**—The bypass (on/off) state of all processing blocks (except Looper), independent of any footswitch bypass assignments.

**NOTE:** The bypass state of blocks is automatically stored and recalled per snapshot. Optionally, you can exclude a block's bypass state from being affected by snapshots—see "[Snapshot Block Bypass On/Off](#)" below.

- **Parameter Control**—The values of any parameters assigned to controllers (up to 64 per preset).
- **Command Center**—The values of any instant MIDI CC, Bank/Prog, MMC, CV Out, Qwerty Hotkey, and HX Looper messages, plus the state (dim or lit) of any CC Toggle, CV Toggle, and Ext Amp messages. See "[Command Center](#)".
- **Tempo**—The current system tempo, if "[Global Settings > MIDI/Tempo](#)" > Tempo Select is set to "Per Snapshot." (By default, it's set to "Per Preset")

Depending on how you set them up, snapshots can act as **eight variations of the same tone, eight drastically different tones, or any combination thereof—all within the same preset**. A single preset's snapshots may accommodate all the various tones required for a song in many cases.

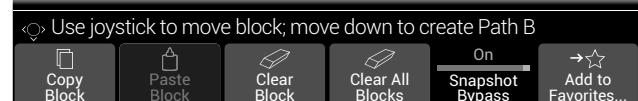


**IMPORTANT!** Snapshots make it easy for multiple blocks assigned to the same footswitch to end up in unexpected states. For example, if FS2 toggles between Delay (ON) and Reverb (OFF) blocks and a snapshot turns the Reverb on, FS2 will suddenly turn both blocks on and off together.

## Snapshot Block Bypass On/Off

There may be situations where you *don't* want snapshots to control a particular block's bypass state; that is, you'd prefer to turn it on and off manually. For example, you may want manual control of a Boost block at any time without worrying whether a particular snapshot might turn it on or off.

1. Within the Home screen, select a processing block within the signal flow and press ACTION.
2. Turn Knob 5 (Snapshot Bypass) to set the behavior for the block.

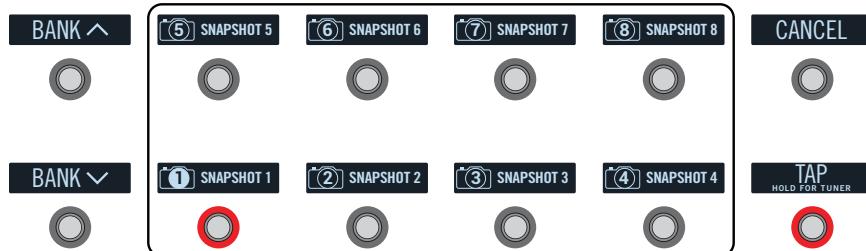


By default, all blocks are set to "On" to automatically control their bypass states via snapshots. Change to "Off" to disable snapshot control of the selected block's bypass state.

# Using Snapshots

## 1. Press BANK ⌈ and BANK ⌋ simultaneously to enter Snapshot footswitch mode.

The middle eight switches flash, indicating a snapshot is ready to be selected. The current snapshot's footswitch lights red, and its camera lens appears inverted.



## 2. Press one of the eight snapshot switches to select a different snapshot.

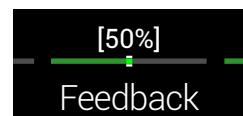
**NOTE:** If you don't want Snapshot footswitches to disappear after selecting one, set ["Global Settings > Footswitches"](#) > Knob 4 (Snapshot Mode Switches) to "Manual Return." In this case, Helix stays in Snapshot footswitch mode until you press FS6 (CANCEL).

Alternatively, press the PRESETS knob and turn Knob 5 (Select Snapshot).

**NOTE:** If you select a snapshot that hasn't yet been altered, it appears the same as the snapshot you came from. As soon as you edit a new snapshot (say, by enabling or bypassing an amp or effect block), the snapshot becomes "active" and remembers any changes.

## 3. Adjust the preset by doing one or more of the following:

- Turn several blocks on or off by pressing stomp mode footswitches and/or the BYPASS button
- Push-turn a few knobs to assign their parameters to the Snapshots controller. The parameter's values appear white and in brackets to indicate it is assigned.



- On the Command Center page, adjust the Instant messages' values or press a footswitch assigned to CC Toggle, CV Toggle, Ext Amp, Qwerty Hotkey, or HX Looper. These Command Center-assigned messages are sent when recalling a snapshot—also see ["Command Center"](#)

**SHORTCUT:** Hold ACTION and press a parameter knob to quickly remove any controller assignment (including the Snapshots controller). The value appears in color, indicating no controller is assigned to it.

**NOTE:** You can also manually assign the Snapshots controller. From the ["Controller Assign"](#) page, select the desired block and parameter and turn Knob 2 (Controller) to select "Snapshot."

**NOTE:** Each preset can have up to 64 controller assignments, including parameters controlled by Snapshots. If you attempt to add a 65th, "Too many controller assignments!" appears in the header:



In this case, you must clear some controllers to free up assignments. See ["Clearing a Block's Controller Assignment\(s\)"](#) or ["Clearing All Controller Assignments"](#).

## 4. Switch back to the snapshot you started with.

Helix instantly and seamlessly returns to its previous state.

**NOTE:** If you've changed ["Global Settings > Preferences"](#) > Snapshot Edits to "Discard," you must save the preset before selecting a different snapshot; otherwise, any edits will be discarded!

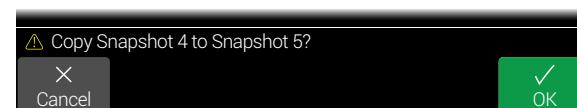
# Copying/Pasting a Snapshot

Instead of creating a new snapshot from scratch, you may want to copy an existing one to another snapshot location and tweak just a few things. There are two ways to do this:

## Quick Copy/Paste Snapshot from Footswitches

- Press BANK ⌈ and BANK ⌋ simultaneously to enter Snapshot footswitch mode.
- While touch-holding the footswitch for the snapshot you want to copy, briefly touch and release the footswitch for the snapshot you want to overwrite.

A dialog panel appears:



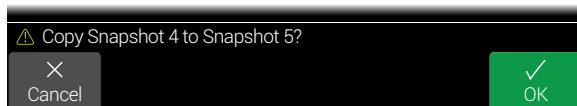
## 3. Press Knob 6 (OK).

**NOTE:** The "touch" behavior for footswitches can be disabled using the Stomp Select option in ["Global Settings > Footswitches"](#).

## Copying/Pasting a Snapshot from the Front Panel

1. Press PRESETS to open the Setlist menu and turn Knob 5 (Select Snapshot) to select the snapshot you want to copy.
2. Press ACTION and then Knob 1 (Copy Snapshot).  
Helix returns to the Setlist menu.
3. Turn Knob 5 (Select Snapshot) to choose the snapshot you want to overwrite.
4. Press ACTION and then Knob 2 (Paste Snapshot).

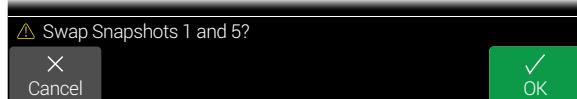
A dialog panel appears:



5. Press Knob 6 (OK).

## Swapping Snapshots

1. Touch (but don't press) the two snapshot switches you want to swap until the following dialog appears:

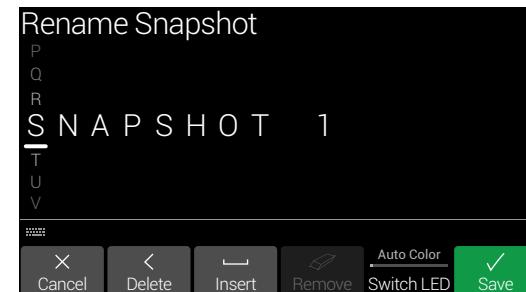


2. Press Knob 6 (OK).

## Customizing a Snapshot Footswitch Name and Color

Instead of having to remember the difference between "SNAPSHOT 1" and "SNAPSHOT 2," it's helpful to rename your snapshots something descriptive, such as "VERSE," "BIG SOLO," or "D. IGLOO." It can also be helpful to customize the footswitch LED colors.

1. Press PRESETS to open the Setlist menu.
2. Press Knob 6 (Rename Snapshot).  
The Rename Snapshot screen appears:



Move the joystick left or right to move the cursor. Snapshot names are limited to 10 characters.

Turn the joystick (or move it up/down) to change the selected character.

Press Knob 2 (Delete) to delete the selected character and shift all following characters to the left.

Press Knob 3 (Insert) to insert a space and shift all following characters to the right.

 **SHORTCUT:** Press the joystick to cycle through A, a, 0, and [SPACE].

Press Knob 4 (Remove) to remove the custom name. Remove is grayed out until a custom name is applied.

3. To optionally change a footswitch's LED color, turn Knob 5 (Switch LED) to select the desired color. The default "Auto Color" setting is red.



4. Press Knob 6 (Save).  
Snapshot names and LED colors are only retained if you save the preset.

# Saving Snapshots

Press **SAVE** twice to save the preset.

Saving a preset stores all of its 8 snapshots automatically.

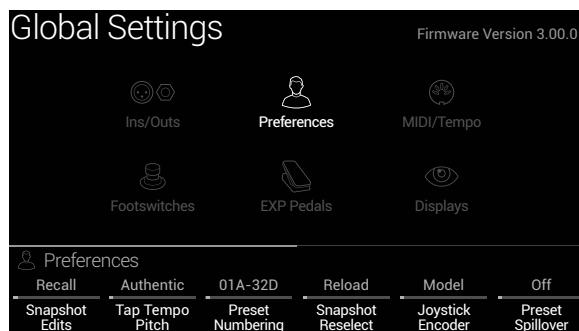


**NOTE:** Selecting a preset recalls the Snapshot that was active when the preset was saved.

## Determining Snapshot Edit Behavior

Say you're on Snapshot 2 (VERSE), and you change a few things—switch a delay block on, switch a mod block off, tweak an Amp's Gain parameter from your Variax Tone knob, etc. If you switch to Snapshot 4 (CHORUS) and then back to Snapshot 2 for the second verse, should Helix recall those changes or return Snapshot 2 to its state when the preset was last saved? There's no right answer, and Helix lets you choose.

1. Press **≡** and then Knob 6 (Global Settings).
2. Move the joystick to select the Preferences submenu.



3. Turn Knob 1 (Snapshot Edits) to set snapshot edit behavior.

- **Recall**—Any snapshot edits are recalled when jumping from snapshot to snapshot and appear as you *last left them* (the default)
- **Discard**—Any snapshot edits are discarded when jumping from snapshot to snapshot and appear as *the preset was last saved*. If you want to save changes made to a snapshot while Snapshot Edits is set to "Discard," **press SAVE twice before selecting another snapshot**

The camera icon on the home screen shows you the Snapshot Edits setting at a glance—When set to "Recall," the camera is gray; when set to "Discard," the camera is red.



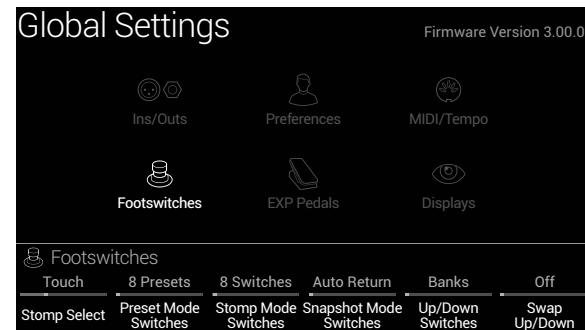
**SHORTCUT:** At any time, hold **BYPASS** and press **SAVE** to toggle this setting.

## Snapshot Reselect

This additional "[Global Settings > Preferences](#)" > Snapshot Reselect parameter adds even more flexibility to the Snapshot footswitches. For example, say you're playing along on Snapshot 2 (VERSE), then you press the Snapshot 4 (CHORUS) to load it. What should happen if you press the Snapshot 4 footswitch again? With Snapshot Reselect set to the default "Reload," Snapshot 4 is simply reloaded again. But when set to "Toggle," it will now load the previously loaded snapshot (Snapshot 2, in this example)—and successive presses of the Snapshot 4 footswitch then continues to toggle between Snapshot 2 and Snapshot 4.

## Arranging Preset, Snapshot, and Stomp Switches

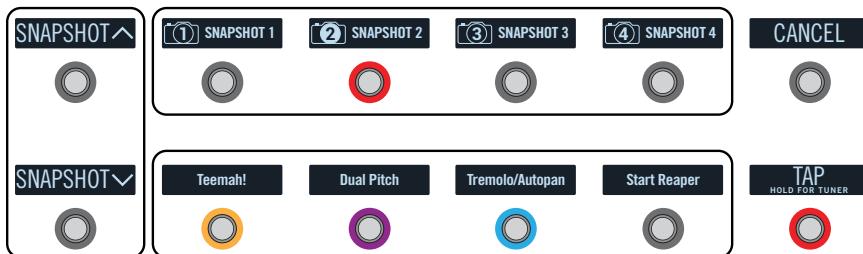
1. Press **≡** and then Knob 6 (Global Settings).
2. Move the joystick to select the Footswitches submenu.



3. Turn Knob 2 (Preset Mode Switches) to customize the middle eight switches:

- 8 Presets—Two banks of presets (the default)
- Preset/Stomp—One bank of presets on the top row, switches from stomp mode on the bottom row

- Stomp/Preset—Switches from stomp mode on the top row, one bank of presets on the bottom row
- Preset/Snap—One bank of presets on the top row, Snapshots 1-4 on the bottom row
- Snap/Preset—Snapshots 1-4 on the top row, one bank of presets on the bottom row
- Snap/Stomp—Snapshots 1-4 on the top row, switches from stomp mode on the bottom row (see image below)



- Stomp/Snap—Switches from stomp mode on the top row, Snapshots 1-4 on the bottom row
- 8 Snapshots—Snapshots 1-8

#### 4. Turn Knob 5 (Up/Down Switches) to customize FS1 and FS7 on the far left.

Select Banks (Bank Queue), Presets, or Snapshots (see image above).

 **SHORTCUT:** At any time, press and hold both FS1 and FS7 to cycle through BANK ↑ /↓, PRESET ↑/↓, and SNAPSHOT ↑/↓.

#### 5. Turn Knob 6 (Swap Up/Down) to On to invert the FS1 and FS7 behaviors.

When set to On, FS7 selects the next snapshot (up), and FS1 the previous snapshot (down).

 **SHORTCUT:** Touch (don't press) hold both FS1 and FS7 for two seconds to swap their ↑/↓ behaviors.

## Tips for Creative Snapshot Use

- The obvious use case for snapshots is designating them to specific sections of your song. For example, Snapshot 1 would be the Intro, Snapshot 2 would be Verse 1, Snapshot 3 might be the Chorus, and so on
- Turn any Delay, Reverb, and/or FX Loops blocks' Trails parameter to "On" for seamless spillover between snapshots
- "SNAPSHOT (X)" on the scribble strip isn't very descriptive. Don't forget to name your snapshots—See "[Customizing a Snapshot Footswitch Name and Color](#)"
- Worried that further tweaking might make your tone worse, not better? Snapshots are a great way to compare minor changes between tones without having to take your hands off the guitar.
- Want to switch channels on your external amp but don't want to waste a stomp footswitch on it? Command Center MIDI, CV, and Ext Amp Instant  $\text{f}^\wedge$  messages are automatically transmitted when a Snapshot is recalled.
- Set different keys in Harmony Delay blocks or intervals in Pitch blocks per snapshot
- Set different Variax models (or tuning!) per snapshot
- Having difficulty maintaining consistent volume throughout a song? Set the Output block's Level parameter per snapshot
- In a preset that includes a Looper block, open Command Center, and configure an Instant  $\text{f}^\wedge$  command with the HX Looper - Play message assigned for Snapshot 7 and with the HX Looper - Stop message assigned for Snapshot 8. Now record a loop, and you can toggle between Snapshot 7 and 8 to play and stop your loop (along with any other actions you might additionally set to happen on these two snapshots)

# Bypass Assign

## Quick Bypass Assign

1. From the Home screen, use the joystick to select the block you wish to assign to a footswitch.

Input, Output, and Merge blocks cannot be assigned to footswitches. Any Split block type can be assigned to a footswitch; when bypassed, the signal is split and routed equally to both Path A (upper) and Path B (lower).

2. Step on FS6 (PRESET/STOMP mode) to select Stomp mode (if not already there).
3. Touch and hold (but don't press) the desired footswitch until the following dialog appears:



If you want to replace any other blocks that may already be assigned to the footswitch, turn Knob 3 (Assign) to "Replace." Otherwise, leave it set to "Merge," which allows for multiple blocks to be assigned to the same switch.

If you want to change the way the switch behaves, turn Knob 4 (Type) to "Momentary" or "Latching."

**Momentary** The block is bypassed (or enabled, if already bypassed) for as long as you hold the switch.

**Latching** The block is bypassed (or enabled, if already bypassed) every time you press the switch. This is the default.

4. Press Knob 6 (OK).

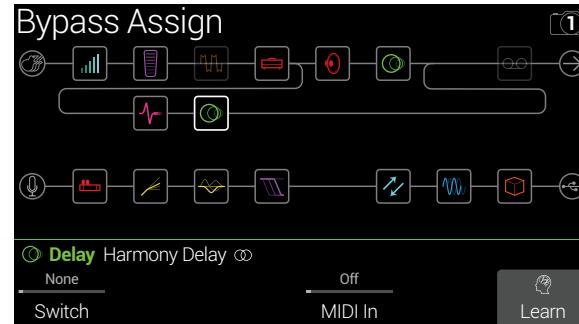
**NOTE:** This "touch" behavior for footswitches can be disabled using the Stomp Select option in ["Global Settings > Footswitches"](#)

## Manual Bypass Assign

A Stomp mode footswitch is the most obvious method for turning blocks on and off, But Helix can also engage or bypass a block automatically when moving an expression pedal or the Volume or Tone knob on a Variax guitar. For example, moving EXP 1 forward past the heel down position can enable a Wah or Poly Wham block, and returning EXP 1 to the heel position will bypass it again.

1. Press to open the Menu.
2. Press Knob 1 (Bypass Assign).

The Bypass Assign screen looks very similar to the Home screen:



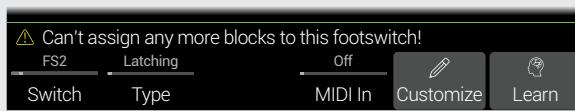
3. Move the joystick to select the block you want to bypass.
  4. Turn Knob 1 (Switch) to select the desired footswitch, expression pedal, or Variax knob. (Optionally, you can also use Knob 4 to control the block's bypass via MIDI—see step 5.)
- None** Removes the bypass assignment.
- Footswitch 2~11** Stepping on the Stomp mode footswitch turns the block on and off.
- 2~11** Selecting Footswitch 2-5 or 8-11 displays Knob 2 (Type). Turn knob 2 to select "Momentary" or "Latching." When set to Momentary, the block is bypassed (or enabled, if already bypassed) for as long as you hold the switch. When set to Latching, the block is bypassed (or enabled, if already bypassed) every time you press the switch.
- NOTE:** Footswitch type (momentary or latching) is determined per footswitch, not per assignment.

- EXP Toe** You can also choose to assign a block's bypass to the onboard pedal's Toe Switch; however, its behavior is always "Latching." **NOTE:** Adding a Volume Pedal, Pan, Wah, Pitch Wham, or Poly Wham block automatically assigns it to "EXP Toe."
- EXP Pedal 1, 2, or 3** Configures the expression pedal's movement to automatically enable (or bypass) the block, offering the following options:  
Knob 2 (Position) determines the point within the expression pedal's travel where the block is enabled or bypassed. 0% is heel down; 99% is toe down. Knob 3 (Wait) determines how long Helix waits before bypassing the block; for example, you wouldn't want the wah to turn off every time you touched the heel down position in your big funk wah solo. Knob 5 (Behavior) determines how bypassing is handled. When set to "Toggle," bringing the pedal past the Knob 2-Position value will toggle the block's bypass state from what it is currently (i.e. enable if currently bypassed and vice versa). "Toe Down" and "Heel Down" always bypass the block at the designated position, regardless of the block's starting state. (With "Heel Down" selected, the block will always enable when you cross the Knob 2-Position value and bypass when you return below it.)

- Variax Vol, Variax Tone** Moving the Variax Volume or Tone knob automatically enables (or bypasses) the block.  
Selecting Variax Vol or Variax Tone displays Knob 2 (Position) and Knob 3 (Wait). Position determines where in the knob's travel the block is enabled or bypassed. 0% is all the way down (counterclockwise), 99% is all the way up (clockwise). Wait determines how long Helix waits before bypassing the block.

**NOTE:** Footswitch 1 and 7 can be assigned at any time, but they only appear if the Stomp Mode Switches option is set to "10 switches" (see "[Global Settings > Footswitches](#)"). Otherwise, FS1 and FS7 appear as BANK ▲ and BANK ▼.

**NOTE:** Each footswitch can have up to 8 assignments. If you attempt to add a ninth, a warning appears in the header:



**TIP:** To reverse bypass behavior, **press BYPASS**. In such a case, the block will be bypassed when moving the expression pedal or Variax knob past the Position location. Since multiple blocks can be assigned to an expression pedal, moving the pedal can turn some blocks on and others off at different positions in the pedal's travel.

## 5. If desired, turn Knob 4 (MIDI In) to assign an incoming MIDI CC message to turn the block on and off.

Incoming CC values 0-63 turn the block off; values 64-127 turn the block on. Note that some MIDI CCs are reserved for global functions and cannot be selected—see "[MIDI](#)" on page 77.

**SHORTHOT:** Alternatively, press Knob 6 (Learn) and then send Helix a MIDI CC message. The incoming message is automatically selected. See "[Controller Assign](#)" for more info.

## Clearing Bypass Assignment(s)

While in the Bypass Assign screen, press **ACTION** and then press **Knob 1** to clear the currently selected block's assignment(s). Or, press **Knob 2** to clear all the assignments from all blocks within the preset.



# Customizing a Footswitch Label

- From the Bypass Assign screen, use the joystick to select a block whose bypass is assigned to a footswitch and press Knob 5 (Customize).

The Customize screen appears:



Move the joystick left or right to move the cursor.

Turn the joystick (or move it up/down) to change the selected character.

Press Knob 2 (Delete) to delete the selected character and shift all following characters to the left.

Press Knob 3 (Insert) to insert a space and shift all following characters to the right.



**SHORTCUT:** Press the joystick to cycle through A, a, 0, and [SPACE].

Press Knob 4 (Remove) to remove the custom label, after which the footswitch label displays its normal assignment. Remove is grayed out until a custom name is applied.

- To customize the footswitch's LED color, turn Knob 5 (Switch LED) to select the desired color (or turn it off).

Normally, you should leave this set to "Auto Color".

- Press Knob 6 (OK).



**SHORTCUT:** Once an item has been assigned to a footswitch, touch and hold (but don't press) the footswitch, and a duplicate Customize button appears above Knob 5.

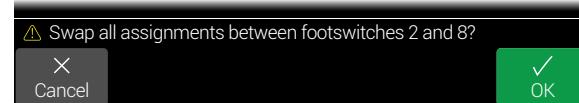


**NOTE:** Footswitches can also be customized from the "Command Center" screen (or HX Edit application!).

# Swapping Footswitches

If you want to change the location of Stomp mode footswitches (especially those with multiple items assigned or custom labels and LED ring colors), instead of manually reassigning everything, you can quickly swap all assignments between two footswitches.

- Touch (but don't press) any two Stomp mode footswitches until the following dialog appears:



- Press Knob 6 (OK).

**NOTE:** This "touch" behavior for footswitches can be disabled using the Stomp Select option in ["Global Settings > Footswitches"](#)

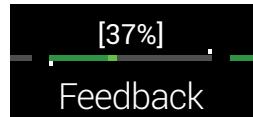
## Tips for Creative Bypass Assignment

- If you assign a footswitch to more than one block or other item, "MULTIPLE (X)" isn't very descriptive. Don't forget to custom label it - See ["Customizing a Footswitch Label"](#)
- If you find yourself constantly toggling one switch off and another on, assign both blocks to the same footswitch, and while one is selected, press BYPASS. Now pressing the footswitch will toggle one off and the other on simultaneously. A footswitch can have up to simultaneous eight blocks assigned.
- Assign a Wah block to be engaged only when moving an expression pedal past 1%. Set the Wait time long enough so that natural foot movements don't turn the wah off every time you reach the heel-down position.
- Different blocks can be enabled or bypassed at different locations of an expression pedal or Variax knob's travel. Experiment with turning on multiple overdrive blocks—one at Position 5%, another at Position 30%, another at Position 70%, and so on.
- When using a footswitch to toggle between two Amp or Amp+Cab blocks, the amp models may sound notably different from one another (just like real amps!). Use an EQ block to make one Amp block sound a bit closer to the other Amp block and assign its bypass to the same footswitch.
- Assign a delay block with very high feedback to be turned on only when reaching the toe position of an expression pedal (or fully clockwise Variax knob). Squeals galore.

# Controller Assign

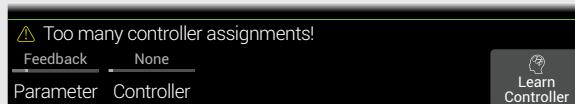
Helix provides a wide variety of tools for controlling your tone during a performance. The most obvious one is the built-in expression pedal (often assigned to wah or volume). But you may also assign footswitches to toggle between two values of a given parameter or parameters, control a parameter from an external MIDI device, or the volume and tone knobs on a James Tyler Variax, Shuriken Variax, or Variax Standard guitar. You can even have parameters instantly change when selecting different snapshots within a preset.

If a controller has been assigned to a parameter, the value appears white and in brackets. White dots appear on the slider to indicate the controller's Minimum and Maximum range values (see next section for details).



**NOTE:** Adding a Wah, Pitch Wham, or Poly Wham block automatically assigns its Position parameter to be controlled by EXP 1. Adding a Volume Pedal or Pan block automatically assigns its Position to be controlled by EXP 2.

**NOTE:** Each preset can have up to 64 controller assignments. If you attempt to add a 65th, "Too many controller assignments!" appears in the header:



In this case, you must clear some controllers to free up assignments. See "[Clearing a Block's Controller Assignment\(s\)](#)" or "[Clearing All Controller Assignments](#)".

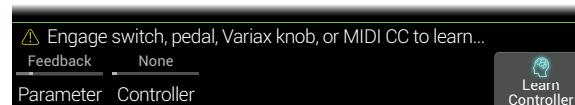
## Quick Controller Assign

1. From the Home screen, press and hold the knob for the parameter you wish to control.

Helix jumps to the Controller Assign page and displays your parameter above Knob 1 (Parameter).

2. Press Knob 6 (Learn Controller).

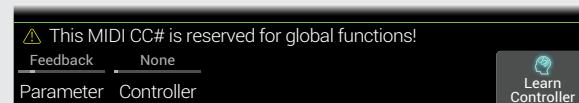
The button's brain icon glows blue, and the header reads, "Engage switch, pedal, Variax knob, or MIDI CC to learn...":



3. Move the expression pedal, turn the Volume or Tone knob on a connected Variax, step on a Stomp mode footswitch, send a MIDI CC message from your MIDI device, etc.

The controller name appears above Knob 2 (Controller).

**NOTE:** Helix has reserved specific MIDI CC messages for global functions; these CCs cannot be used as controllers. If you attempt to learn a CC message reserved for global functions, the following dialog appears:



See "[MIDI](#)" for more information.

4. Press to return to the Home screen.

**SHORTCUT:** To assign a parameter to the Snapshots controller, it's even easier—push and turn the parameter's knob. The value appears white and in brackets, indicating it's now assigned to a controller.

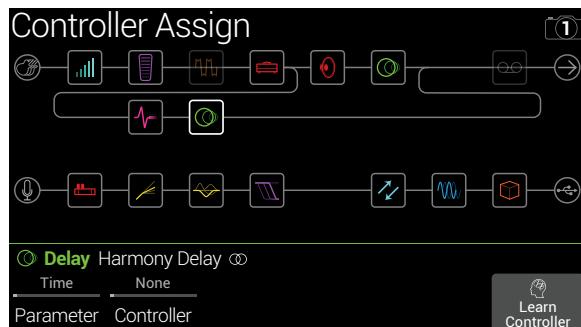
**SHORTCUT:** Hold BYPASS and press a parameter knob to quickly remove any controller assignment (including the Snapshots controller). The value appears without brackets, indicating no controller is assigned to it.

# Manual Controller Assign

The Controller Assign screen is where you manually assign parameters to be adjusted in real-time by controllers.

1. Press  to open the Menu.
2. Press Knob 2 (Controller Assign).

The Controller Assign screen looks very similar to the Home screen:



3. Move the joystick to select the block containing the parameter to which you want to assign a controller.

The most recently accessed parameter appears above Knob 1 (Parameter).

 **NOTE:** Amp+Cab and Cab > Dual blocks are special in that they represent two models within a single block. To assign controllers to the amp parameters in an Amp+Cab block, press <PAGE until the amp icon is white. To assign controllers to the cab parameters, press PAGE> until the cab icon is white.

Amp+Cab  Stor

Amp+Cab  1x12

To assign controllers to the first cab's parameters in a Cab > Dual block, press <PAGE until the left cab icon is white. To assign controllers to the second cab's parameters, press PAGE> until the right cab icon is white.

Cab  1x12 US

Cab  1x12 Le

4. Turn Knob 1 (Parameter) to select the parameter you wish to control.
5. Turn Knob 2 (Controller) to select the desired controller.

**None** Removes the controller assignment.

**Exp Pedal 1, 2, or 3** The most common type of controller. Used to control Volume, Wah, Pitch Wham, etc.

**Variax Vol, Variax Tone** If you have a James Tyler Variax or Variax Standard guitar, its volume and tone knobs can be used to adjust a wide variety of Helix parameters.

**Footswitch 1-5, 7-11** Stepping on a Stomp mode footswitch can toggle between a parameter's min and max values.

If a footswitch is assigned to one parameter only (no blocks, Command Center messages, or other parameters), the parameter name appears in the scribble strip:

**Feedback**



Selecting Footswitch 1-5 or 7-11 will display Knob 3 (Type). Turn Knob 3 to select "Momentary" or "Latching." Momentary means the value will change for as long as you hold the switch. Latching toggles between Min and Max values every time you press the switch. Footswitch type (momentary or latching) is determined per footswitch, not per assignment.

You can customize footswitches using the "[Command Center](#)" screen.

**MIDI CC** Selecting "MIDI CC" will display Knob 3 (MIDI CC#). Turn Knob 3 to select the desired MIDI CC number.

**Snapshots** Although all controller-assigned parameters are updated per snapshot, an additional "Snapshots" controller is available when other controllers are already used.\*

 \***NOTE:** When assigning a parameter to a physical control (Variax knob, Footswitch) or MIDI, Snapshots are also assigned by default. However, there's an additional Snapshot Control option on page 2 of the Controller Assign parameters—set this to "Off" to bypass this behavior.

 **NOTE:** Footswitch 1 and 7 can be assigned at any time, but they only appear if the Stomp Mode Switches option is set to "10 switches" (see "[Global Settings > Footswitches](#)"). Otherwise, FS1 and FS7 appear as BANK ▲ and BANK ▼.

 **NOTE:** Some CC#s cannot be selected, as they are reserved for the Helix global functions. See "[MIDI](#)" for more information.

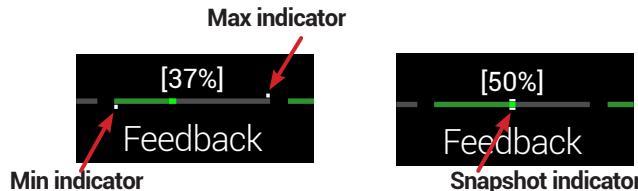
## 6. If desired, turn Knob 4 (Min Value) and Knob 5 (Max Value) to set the range you wish to control.

**TIP:** To reverse controller behavior, swap the min and max values.

When you return to the Home screen, you'll see the assigned parameter appears with its value in brackets and in white text to indicate it includes a controller assignment.

For any footswitch, pedal, or Variax knob type controller assignment, you'll also see the Min and Max values indicated with white dots.

You'll see the white indicators above and below the slider's value for a snapshot assignment, as shown below.



## Tips for Creative Controller Assignment

- If you assign a footswitch to more than one controller or another item, "MULTIPLE (X)" on the scribble strip isn't very descriptive. Don't forget to custom label it—See the following sections.
- By default, a parameter's Min and Max values will be pretty extreme. It pays to play pretty conservatively here, as subtle parameter adjustments go a long way.
- To smoothly blend between the tone on parallel paths A and B, select a Split > A/B block and assign the Route To parameter to an expression pedal. By default, a heel-down position means the signal passes fully through Path A. Moving the pedal toward the toe-down position will gradually crossfade into Path B. Alternatively, assign a footswitch to control the Route To parameter, for instantly switching back and forth.
- If you're looking for a gritty boost for a solo, instead of adding a Distortion block, try assigning a footswitch to increase both the Mid and Channel Volume parameters of an Amp+Cab, Amp, or Preamp block.
- If you're looking for an ultra-clean boost, instead of adding a Volume/Pan > Gain block, try assigning a footswitch to increase the Level parameter of a Merge > Mixer or Output block.
- If you have a favorite delay or reverb pedal, use an FX Loop block to insert it into your tone. Assign EXP 1, 2, or 3 to control the block's Mix parameter, which will smoothly blend the pedal into your tone.
- For extreme psychedelic dub delay squeals, assigning a footswitch to both increases a Delay's feedback and decrease its time.
- Assign a footswitch to toggle between two Delay > Time parameter values, such as 1/4 and 1/8 dotted.

- Assign the tone knob on your JTV Variax or Variax Standard guitar to a Pitch Wham block's Position parameter. Watch guitarists in the audience try to figure out how a knob on your guitar generates huge dive-bomb effects.
- Assign multiple Amp+Cab parameters to a single switch. With enough assignments, you could almost treat the switch as an A/B amp channel switcher.
- Assign Mic or IR Select to a footswitch. Set the two mic models or IRs as min and max values. Now you can instantly toggle between two mics or two IRs.

## Clearing a Block's Controller Assignment(s)

- From the Controller Assign screen, select the block whose controller assignments you want to clear and press ACTION.
- Press Knob 1 (Clear Controllers).

## Clearing All Controller Assignments

- From the Controller Assign screen, press ACTION.
- Press Knob 2 (Clear All Controllers).

The following dialog appears:



- Press Knob 6 (OK).

**IMPORTANT!** Clearing All Controller Assignments also removes the Wah and Volume assignments from EXP 1 and EXP 2. Use this function with caution!

## Customizing a Controller Footswitch Label

As there's no room for a dedicated Customize button on the Controller Assign page, customizing scribble strips for footswitches only assigned to one or more controllers must be done from the ["Command Center"](#) page.

**SHORTCUT:** Once an item has been assigned to a footswitch, touch and hold the footswitch (but don't press), and a Customize button appears above Knob 5.

# Command Center

Helix also just so happens to be a world-class master remote control for your entire touring or studio rig. Each of its Stomp mode footswitches and expression pedals can be used to send a variety of messages:

- Transmit MIDI, CV/expression, or External Amp commands to your guitar amps, vintage pedals, synths, or even other modelers.
- Send QWERTY Hotkey messages, emulating a computer keyboard, to practically any software to control it from your device.
- Configure footswitches to expand your device's Stomp mode with additional control functions (see ["HX Preset, Snapshot, and Looper Commands" on page 62](#)).
- Up to six "Instant"  commands can be transmitted automatically when a Helix preset is recalled, for starting your DAW, triggering a MIDI-controlled lighting system, or switching presets on external gear.

 **NOTE:** Instant commands offer a **Wait Time** parameter, letting you delay certain events by up to 1000ms. This is to help Helix control older MIDI gear that may behave incorrectly when receiving multiple commands very close together. Unless you specifically need to delay a message, leave this set to "0 ms."

All Command Center assignments are stored per preset, but they can be copied and pasted to other presets. See ["Copying and Pasting a Command"](#)

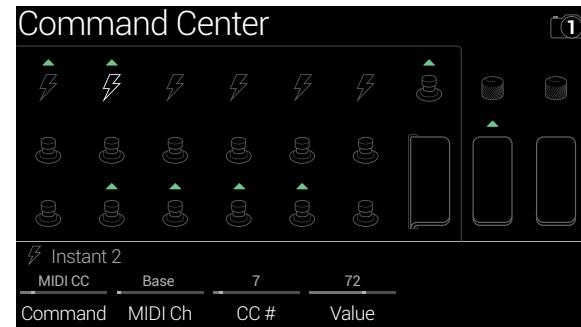
 **NOTE:** The Value parameters of any instant MIDI CC, Bank/Prog, MMC, CV Out, and HX Looper messages, plus the state (dim or lit) of any CC Toggle, CV Toggle, and Ext Amp messages, are automatically recalled when selecting a snapshot.

 **NOTE:** By default, all MIDI-based Command Center messages are transmitted via MIDI and USB simultaneously. You can customize MIDI behaviors using the ["Global Settings > MIDI/Tempo"](#) options.

## Assigning a Command

1. Press  to open the Menu.
2. Press Knob 3 (Command Center).

Any switches, pedals, or instant locations with commands assigned appear with turquoise triangles above them:



3. Move the joystick to select the footswitch, pedal, Variax knob, or instant location you wish to use to send the command.

4. Turn Knob 1 (Command) to select the type of command you wish to transmit.

Not all command sources can send the same types of commands.

Select "None" to remove any command assignment.

5. Turn Knobs 2-5 to adjust the command's settings, which are determined by the type of command:

MIDI CC (Continuous Controller)		
Knob	Parameter	Description
2	MIDI Ch	Sets the CC message's MIDI channel (1-16). When set to "Base," Helix follows the Global MIDI channel, which is set from the <a href="#">"Global Settings &gt; MIDI/Tempo"</a> page.
3	CC #	Sets the CC number (0-127).
4	Value [Min Value]	Sets the CC number's value (0-127). For EXP 1-3 and Variax Volume/Tone Knob, sets the minimum CC value controlled by the pedal or knob.
5	[Max Value]	For EXP 1-3 and Variax Volume/Tone Knob, sets the maximum CC value controlled by the pedal or knob.

CC Toggle			
Page	Knob	Parameter	Description
	2	MIDI Ch	Sets the CC messages' MIDI channel (1-16). When set to "Base", Helix follows the Global MIDI channel, which is set from the <a href="#">"Global Settings &gt; MIDI/Tempo"</a> page.
	3	CC #	Sets the CC number (0-127).
1	4	Dim Value	Sets the CC number's value (0-127) when the footswitch ring is dim. For Footswitches 6 (PRESET/STOMP mode) and 12 (TAP), it appears as "Initial Val."
	5	Lit Value	Sets the CC number's value (0-127) when the footswitch ring is lit. For Footswitches 6 (PRESET/STOMP mode) and 12 (TAP), it appears as "Toggle Val."
2	1	Type	Sets the footswitch's behavior to either "Latching" (the default) or "Momentary."

 **NOTE:** For CC Toggle commands, one of two values is automatically transmitted upon preset recall, determined by the footswitch's state (dim or lit) when the preset was saved. Subsequent presses of the footswitch toggle between the two states' CC values—Knob 4 (Dim Value) and Knob 5 (Lit Value).

Bank/Prog			
Knob	Parameter	Description	
2	MIDI Ch	Sets the Bank/Program message's MIDI channel (1-16). When set to "Base," Helix follows the Global MIDI channel, which is set from the <a href="#">"Global Settings &gt; MIDI/Tempo"</a> page.	
3	Bank CC00	Sets the CC#00 (Bank MSB) value. Select "Off" if the receiving device shouldn't respond to Bank MSB.	
4	Bank CC32	Sets the CC#32 (Bank LSB) value. Select "Off" if the receiving device shouldn't respond to Bank LSB.	
5	Program	Sets the Program Change (PC) value. Select "Off" if you only want to send a Bank MSB and/or Bank LSB message.	

Note On			
Knob	Parameter	Description	
2	MIDI Ch	Sets the note's MIDI channel (1-16). When set to "Base," Helix follows the Global MIDI channel, which is set from the <a href="#">"Global Settings &gt; MIDI/Tempo"</a> page.	
3	Note	Sets the MIDI note value (C-1 ~ G9). Middle C is C3.	
4	Velocity	Sets the MIDI note's velocity (0-127).	
5	Note Off	Determines whether the MIDI note sustains until pressing the switch again (Latching) or sustains only while the switch is held (Momentary).	

MMC (MIDI Machine Control)		
Knob	Parameter	Description
2	Message	Determines the message type.
Ext Amp		
Knob	Parameter	Description

 **IMPORTANT!** Connect EXT AMP 1/2 only to amplifiers that utilize "short-to-sleeve" footswitch inputs. Connecting to any other sort of input could cause permanent damage to both your amp and Helix! If you're not sure if your amp has short-to-sleeve inputs, contact the manufacturer.

 **IMPORTANT!** The Helix device's ability to control external amp channel and/or reverb switching has been tested with many popular amps and heads. Unfortunately, this does not guarantee compatibility with all products. Note that, depending on the channel switching jack's circuitry in the guitar amp used, the EXT Amp function may not operate as expected.

 **NOTE:** When an Ext Amp command is assigned to Instant 1-6, the connection determined by Knob 2 (Select) is made when the preset is loaded. When an Ext Amp command is assigned to a footswitch, the footswitch's current state (dim or lit) determines whether or not the External Amp connection is made when the preset is loaded; when dim, no connection is made; when lit, the connection determined by Knob 2 (Select) is made. Subsequent presses of the footswitch toggle the connection on (LED lit) and off (LED dark).

CV (Control Voltage) Out		
Knob	Parameter	Description
2	CV Value [CV Min Val]	Sets the CV value (1-100) appearing at the Helix device's CV/Expression jack. For EXP 1-3 and Variax Volume/Tone Knob, sets the minimum CV value controlled by the pedal or knob.
3	[CV Max Val]	For EXP 1-3 and Variax Volume/Tone Knob, sets the maximum CV value controlled by the pedal or knob.

CV (Control Voltage) Toggle		
Knob	Parameter	Description
2	Dim Value	Sets the CV value (0-100) when the footswitch ring is dim. For Footswitches 6 (PRESET/STOMP mode) and 12 (TAP), it appears as "Initial Val."
3	Lit Value	Sets the CV value (0-100) when the footswitch ring is lit. For Footswitches 6 (PRESET/STOMP mode) and 12 (TAP), it appears as "Toggle Val."
4	Type	When assigned to a footswitch, determines whether the footswitch behavior is Latching (default) or Momentary.

 **NOTE:** For CV Toggle commands, one of two CV values appears at the CV/Expression output, automatically transmitted upon preset recall, determined by the footswitch's state (dim or lit) when the preset was saved. Subsequent presses of the footswitch toggle between the two states' CV values—Knob 2 (Dim Value) and Knob 3 (Lit Value).

## QWERTY Hotkey Commands

QWERTY hotkeys (computer keyboard shortcuts with or without modifiers, such as Shift, Control, Option/Alt, and Command) can also be sent to your Mac, PC, or iOS device via USB, allowing you to control virtually any DAWs, YouTube, Spotify, looping software, DJ software, lighting software, and more!

QWERTY command assignments can be made to any footswitch or any Instant  command, allowing them to be sent automatically from any preset or snapshot recall. To follow are steps to configure on Helix (but you'll likely find it faster and easier to configure Hotkey assignments using the HX Edit app).

1. From the Command Center page, select a footswitch or Instant command and turn Knob 1 (Command) to select "Hotkey."
2. Turn Knobs 2~5 to select the desired key combination. If the keystroke doesn't have modifiers, leave Knobs 2, 3, and 4 set to "None."

Like a standard computer keyboard, hotkeys won't work unless the software or app you want to control is in focus.

QWERTY Hotkeys			
Page	Knob	Parameter	Description
1	2	Modifier 1	Set up to three key modifier(s) to be sent with the keystroke: Choose Shift, Alt, Ctrl, or Mac/PC (corresponds to the "Windows" key on Windows OS systems, and the "Command" key on macOS systems).
	3	Modifier 2	Choose None for knob 2~4 for no added modifier.
	4	Modifier 3	Choose None for knob 2~4 for no added modifier.
2	5	Keystroke	Sets the alpha, numeric, or other computer keyboard key value to be sent.
	1	Type	Sets the footswitch type as either Momentary or Latching.

 **TIP:** To get you started, we've provided several "[Factory Presets](#)" within the Templates setlist pre-configured with hotkey commands to remotely control numerous popular DAW, multimedia, and productivity computer apps!

## HX Preset, Snapshot, and Looper Commands

These "HX" commands allow you to configure Stomp mode switches for even greater control of your device's internal functions. These commands are saved per preset.

 **NOTE:** Although Stomp mode switches can be assigned to multiple functions, to avoid unintended behavior, we strongly recommend the HX Preset, HX Snapshot, and HX Looper commands are assigned only to empty footswitches.

## HX Preset

The HX Preset command allows you to configure a Stomp mode footswitch to immediately "Jump to" any other preset within the current setlist.

1. From the Command Center page, select a footswitch and turn Knob 1 (Command) to "HX Preset."
2. Turn Knob 2 (Preset) to "Next," "Previous," or choose a specific preset number (01A~32D).

HX Preset		
Knob	Parameter	Description
2	Preset	Sets the preset to be selected by the command: Next, Previous, or a preset's number (01A~32D), which resides within the current setlist.

## HX Snapshot

The HX Snapshot command allows you to configure a Stomp mode footswitch to immediately recall any snapshot within the current preset.

1. From the Command Center page, select a footswitch and turn Knob 1 (Command) to "HX Snapshot."
2. Turn Knob 2 (Behavior) to either "Press/Release" or "Press/Hold."
3. Turn Knobs 3 and 4 to configure which snapshots are recalled per the "Press" and the "Release" (or "Hold") of the footswitch.

HX Snapshot		
Knob	Parameter	Description
2	Behavior	Sets the behavior for the footswitch. This allows you to recall the desired snapshot index number, or Next or Previous snapshot, <i>independently</i> per each Press and Release, or each Press and Hold of the footswitch. (Note that the assigned, Stomp mode footswitch's label and LED will only indicate the command assigned to the Press function.)
3	Press	Sets the snapshot to be recalled on the Press action of the footswitch.
4	Release/ Hold	Sets the snapshot to be recalled on the Release (or Hold, depending on your Knob 2 selection) of the footswitch.

## HX Looper

For a preset that includes a Looper block, this command allows you to configure an Instant  $\text{fz}$  or Stomp mode footswitch to trigger Looper functions (Play, Stop, Record, etc.).

 **NOTE:** A 6 Switch or 1 Switch Looper block must be present in your preset for HX Looper commands to function.

### HX Looper - Instant Command Assignment:

1. In the Command Center window, select an Instant  $\text{fz}$  command controller and turn knob 1 (Command) to "HX Looper."
2. Turn knob 2 (Function) to choose the specific Looper function you wish to trigger.

The selected **Function** action is automatically stored and recalled per snapshot. This allows you to record a loop and, for example, configure an Instant command to automatically "Play" the Loop when loading one Snapshot and "Stop" when loading a different Snapshot (also see "[Using Snapshots](#)").

HX Looper - Instant $\text{fz}$ Command		
Knob	Parameter	Description
2	Function	Sets the Looper action to be triggered: Play, Stop, Play/Stop, Rec, Overdub, Record/Overdub, Play Once, Reverse, Forward, Reverse/Forward, Half Speed, Full Speed, Toggle Speed, or Undo.

### HX Looper - Footswitch Assignment:

1. In the Command Center window, select a footswitch and turn Knob 1 (Command) to "HX Looper."
2. Turn Knob 2 (Behavior) to either "Press/Release" or "Press/Hold."
3. Turn Knobs 3 and 4 to configure which Looper commands are sent per the "Press" and the "Release" (or "Hold") of the footswitch.

The selected **Behavior**, **Press**, and **Release/Hold** actions are automatically stored and recalled per snapshot.

HX Looper - Footswitch		
Knob	Parameter	Description
2	Behavior	Sets the behavior for the footswitch. This allows you to send up to two different Looper commands, <i>independently</i> per each Press and Release or each Press and Hold of the footswitch. (Note that the assigned, Stomp mode footswitch's label and LED will only indicate the command assigned to the Press function.)

HX Looper - Footswitch		
Knob	Parameter	Description
3	Press	Sets the Looper command to be sent on the Press action of the footswitch.
4	Release/ Hold	Sets the Looper command to be sent on the Release (or Hold, depending on your Knob 2 selection) of the footswitch.

Note that the assigned, Stomp mode footswitch's label and LED will only indicate the command assigned to the **Press** function.

## Copying and Pasting a Command

1. Select the location containing the command you wish to copy and press ACTION.
2. Press Knob 1 (Copy Command).
3. Select the location to which you want to paste the command—even in a different preset—and press ACTION.
4. Press Knob 3 (Paste Command).

## Copying and Pasting All Commands

Setting up the same or similar set of commands across multiple presets can quickly become tiresome. Fortunately, Helix lets you quickly copy and paste all commands to another preset.

1. From the Command Center page, press ACTION.
2. Press Knob 2 (Copy All Commands).
3. Select the preset to which you want to paste the commands and press ACTION.
4. Press Knob 3 (Paste All Commands).

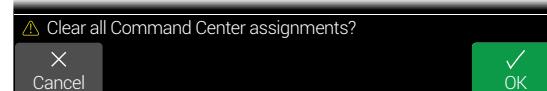
## Clearing a Command

1. Select the location containing the command you want to clear and press ACTION.
2. Press Knob 4 (Clear Command).

## Clearing All Commands

1. From the Command Center page, press ACTION.
2. Press Knob 5 (Clear All Commands).

The following dialog appears:

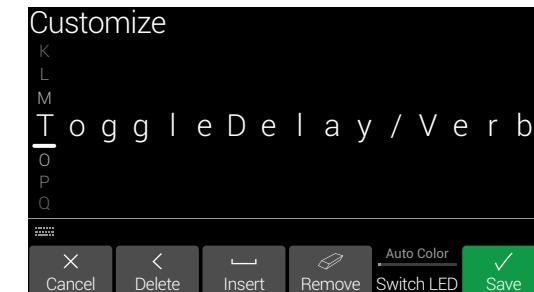


3. Press Knob 6 (OK).

## Customizing a Command Footswitch Label & Color

1. From the Command Center screen, select Footswitch 1-5, 7-11, or EXP Toe with a command assigned and press Knob 6 (Customize).

The Customize screen appears:



Move the joystick left or right to move the cursor.

Turn the joystick (or move it up/down) to change the selected character.

Press Knob 2 (Delete) to delete the selected character and shift all following characters to the left.

Press Knob 3 (Insert) to insert a space and shift all following characters to the right.



**SHORTCUT:** Press the joystick to cycle through A, a, 0, and [SPACE].

Press Knob 4 (Remove) to remove the custom label, after which the footswitch displays its normal assignment. The Remove option is grayed-out until a custom name is applied.

2. To customize the footswitch's LED color, turn Knob 5 (Switch LED) to select the desired color (or turn it off).

Normally, you should leave this set to "Auto Color.

3. Press Knob 6 (Save).

 **NOTE:** You can also customize footswitches from the "[Bypass Assign](#)" screen (or HX Edit editor application!)

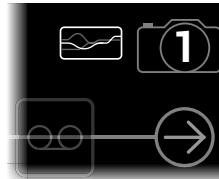
The Command Center - Customize footswitch label option is not available if you have selected an HX Preset, HX Snapshot, or HX Looper type command.

# Global EQ

The Helix device's Global EQ has three fully parametric bands plus variable low and high cut filters and is used for compensating for the wide disparity in acoustic environments on tour or when traveling from studio to studio. Global EQ is applied to all setlists and presets and can be heard from the 1/4" outputs, XLR outputs, or both.

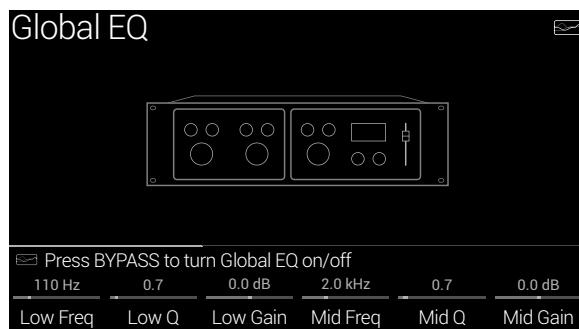
**NOTE:** Global EQ is never heard from Send, Digital, or USB outputs.

When Global EQ is active, the Home screen shows the Global EQ icon to the left of the snapshots icon:



1. Press to open the Menu.
2. Press Knob 5 (Global EQ).

The Global EQ screen appears:



3. Press BYPASS to turn Global EQ on and off.

**SHORTCUT:** From the Home screen, press and hold BYPASS to turn Global EQ on and off without navigating to the Global EQ page.

**TIP:** Press PAGE> to view page 3 of parameters and turn Knob 1 (Apply EQ) to apply the Global EQ to only the 1/4" outputs, only the XLR outputs, or both.

## Resetting Global EQ

Resetting the Global EQ returns its settings to factory default (flat).

1. From the Global EQ screen, press ACTION.
2. Press Knob 1 (Reset Global EQ).

The following dialog appears:



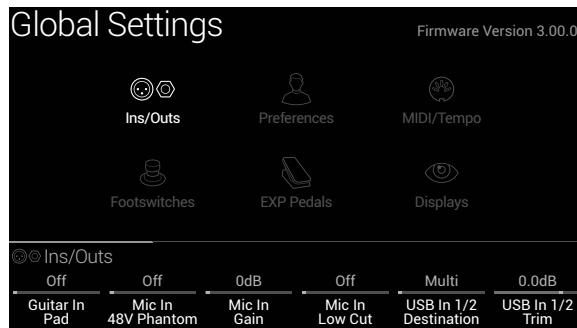
3. Press Knob 6 (OK).

# Global Settings

The Global Settings menu contains additional parameters that apply to all setlists and presets, such as input and output levels, custom footswitch mode settings, etc. The upper right corner displays the Helix device's current firmware version. Visit [line6.com/support](https://line6.com/support) for information on the latest Helix firmware updates.

1. Press **≡** to open the Menu.
2. Press Knob 6 (Global Settings).

The Global Settings screen appears:



3. Move the joystick to select one of the six submenus.

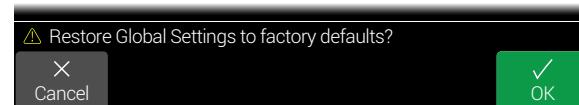
If necessary, press <PAGE/PAGE> to view more parameters.

## Resetting All Global Settings

Resetting the Helix Global Settings returns them to factory default. Performing this reset does not affect any presets you have created.

1. From any Global Settings submenu, press ACTION.
2. Press Knob 1 (Factory Settings).

The following dialog appears:



3. Press Knob 6 (OK).

**TIP:** Using the [HX Edit](#) app's Create & Restore Backup features, you can choose to include your device's global settings, along with Setlists, IRs, Favorites, and User Model Defaults!

# Global Settings > Ins/Outs



Page	Knob	Parameter	Description
		<b>1</b> <b>Guitar In Pad</b>	If your guitar or bass has active or high-output pickups, you may want to turn this on. There's really no rule; use what sounds best.  NOTE: The Input > Multi and Input > Guitar block includes its own Guitar Pad parameter that lets you engage the analog guitar pad per preset ("Off" or "On"). Or you could leave it set to "Global" and continue to turn this global Guitar In Pad setting to "On."
		<b>2</b> <b>Mic In 48V Phantom</b>	When on, Helix provides 48V from the XLR Mic In jack to power studio condenser microphones. <b>IMPORTANT!</b> Never connect the Helix device's XLR outputs to a device whose XLR inputs have 48V phantom power enabled!
<b>1</b>		<b>3</b> <b>Mic In Gain</b>	Sets the analog gain for the XLR Mic In jack.
		<b>4</b> <b>Mic In Low Cut</b>	Sets the frequency of the Mic In's dedicated, variable low-cut filter. Turn fully counterclockwise (or push) to disable.
		<b>5</b> <b>USB In 1/2 Destination</b>	If you like to jam along with iTunes, YouTube™, or your DAW, this setting determines from which of the Helix outputs your computer or iPad or iPhone mobile device's primary stereo audio stream will be heard. USB In 1/2 bypasses all Helix processing; USB 3/4, 5/6, and 7/8 can be selected as input blocks for processing DAW tracks or re-amping. Normally, you should choose "Multi," which sends USB In 1/2 directly to the 1/4", XLR, and Digital outputs. See " <a href="#">USB Audio</a> ".
		<b>6</b> <b>USB In 1/2 Trim</b>	Sets the level of incoming audio from USB 1/2, which bypasses all Helix processing. Normally, this should be left at 0.0dB.
	<b>1</b>	<b>1/4" Outputs</b>	Choose "Instrument" when connecting the Helix 1/4" outputs to stompboxes or the front of guitar amps; choose "Line" when connecting to mixers, studio monitors, or standalone recorders. When using a single amp or speaker, connect only the LEFT/MONO 1/4" jack.
	<b>2</b>	<b>XLR Outputs</b>	Choose "Mic" when connecting the Helix XLR outputs to standalone mic preamps or the XLR mic inputs on mixers; choose "Line" when connecting to studio monitors or the line inputs on mixers. When using a mono playback system, connect only the LEFT/MONO XLR jack.
<b>2</b>		<b>3</b> <b>Send/Return 1</b>	
		<b>4</b> <b>Send/Return 2</b>	Choose "Instrument" when using a Send/Return pair as an FX loop for stompboxes; choose "Line" when using a Send/Return pair as an FX loop for line-level rack processors or as additional inputs and outputs for connecting keyboards, drum machines, mixers, and other gear.
		<b>5</b> <b>Send/Return 3</b>	
		<b>6</b> <b>Send/Return 4</b>	
	<b>1</b>	<b>Re-amp Src (USB 7)</b>	USB out 7 and 8 are dedicated to recording a DI signal which can be used for re-amping; choose which two inputs will be sent dry (unprocessed) to your DAW. By default, USB 7 is set to "Guitar" and USB 8 to "Mic." See " <a href="#">USB Audio</a> ".
	<b>2</b>	<b>Re-amp Src (USB 8)</b>	
	<b>3</b>	<b>Volume Knob Controls</b>	Determines which output(s) are affected when turning the top panel VOLUME knob. For example, you may want to control the level sent from the 1/4" outputs to your stage monitor without affecting the XLR level sent to the front-of-house mixer. Or you may want to disable the VOLUME knob altogether; in this case, set it to "Digital," at which point Helix's 1/4" and XLR outs will be at unity level.
<b>3</b>		<b>4</b> <b>Headphones Monitor</b>	Determines which signal(s) are heard from the PHONES output. Normally you would set this to Multi (1/4"+XLR+Digital+USB 1/2), but there may be a situation where you only want to hear what's sent from the 1/4" or XLR outs, particularly if they are fed different signals (or band members!).
		<b>5</b> <b>Digital Output</b>	One digital output can be active at a time; choose S/PDIF or AES/EBU. Connecting an L6 LINK device to Helix automatically disables S/PDIF out. USB audio is not affected by this setting. See " <a href="#">Output</a> ".
		<b>6</b> <b>Digital Out Level</b>	Sets the S/PDIF and AES/EBU output levels. For most cases, you can leave this set to 0.0dB.
<b>4</b>	<b>1</b>	<b>Sample Rate</b>	Determines the sample rate of the Helix S/PDIF and AES/EBU outputs; choose 44.1 kHz, 48 kHz (the default), 88.2 kHz, or 96 kHz. When connecting to another device's S/PDIF or AES/EBU input, make sure you set both units to the same sample rate. Note that this setting does not affect Helix USB audio sample rate operation.

# Global Settings > Preferences



Page	Knob	Parameter	Description
1	1	<b>Snapshot Edits</b>	Determines whether or not any edits made to a snapshot (block on/off, parameter control, Command Center, tempo) are remembered when returning to that snapshot. When set to "Recall," any snapshot edits are recalled when jumping from snapshot to snapshot, and appear as you last left them. When set to "Discard," any snapshot edits are discarded when jumping from snapshot to snapshot, and appear as the preset was last saved. If you want to save changes made to a snapshot while Snapshot Edits is set to "Discard," press SAVE twice before selecting another. The camera icon on the home screen shows you the Snapshot Edits setting at a glance—When set to "Recall," the camera is gray; when set to "Discard," the camera is red. At any time, hold BYPASS and press SAVE to toggle this setting. See <a href="#">"Determining Snapshot Edit Behavior"</a>
	2	<b>Tap Tempo Pitch</b>	Determines how delay repeats behave when repeatedly pressing TAP. "Accurate" respects the natural pitch fluctuations inherent when changing a real delay pedal's time knob; "Transparent" minimizes these artifacts.
	3	<b>Preset Numbering</b>	Determines whether each setlist's presets appear as 32 banks of four (A B C D) or are numbered 000-127 (convenient when recalling presets via MIDI program change messages).
	4	<b>Snapshot Reselect</b>	Determines the behavior when pressing a Snapshot mode footswitch again after loading its assigned snapshot. "Reload" (the default) simply reloads the stored state of the footswitch's assigned snapshot again. "Toggle Previous" toggles between loading the previously selected snapshot and the footswitch's assigned snapshot.
	5	<b>Joystick Encoder</b>	Determines the joystick behavior when a block is selected within the Home screen - signal flow. For "Model" (the default), turning the joystick knob scrolls through available models for the selected block. For "Selection," turning the joystick knob quickly navigates selecting blocks across the signal flow. <b>SHORTCUT:</b> Pressing while turning the joystick reverses the current joystick behavior.
	6	<b>Preset Spillover</b>	Please see <a href="#">"True Preset Spillover" on page 21</a> . Determines whether Helix runs only Path 1 blocks with seamless delay and reverb spillover and minimal gap when switching presets (Spillover On) or runs both Path 1 and Path 2 blocks (Spillover Off, the default).
2	1	<b>Auto Impedance</b>	Determines how the Guitar In's impedance circuit behaves when the Input block > Guitar In-Z is set to "Auto." When set to "First Block" (the default), the impedance circuit reflects the impedance of the first block on Path 1A, regardless of whether it's enabled or bypassed. When set to "First Enabled," the impedance circuit reflects the impedance of the first enabled block on Path 1A.
	2	<b>Link Dual Cabs</b>	For a Dual Cab block, determines the behavior of the Cab model selection. When "Off" (the default), selecting a Cab model for either slot of the Dual Cab block is completely independent. When "On," selecting a Cab model for the Cab A slot automatically recalls a matching cab for the Cab B slot.

# Global Settings > MIDI/Tempo



Page	Knob	Parameter	Description
1	1	<b>MIDI Base Channel</b>	Sets the system base MIDI channel that Helix uses to receive and send MIDI communication via MIDI and USB. Note that MIDI messages assigned from the Command Center page can be set to any MIDI channel.
	2	<b>MIDI Thru</b>	When on, MIDI OUT also acts as a MIDI THRU; that is, it passes through any MIDI messages received at the MIDI IN jack.
	3	<b>Receive MIDI Clock</b>	Determines whether Helix responds to the incoming MIDI clock received at its MIDI IN port, via USB, or whichever it senses first ("Auto"). If you don't want Helix to respond to MIDI clock at all, set this to "Off." The Helix TAP footswitch LED flashes blue to tempo when synchronized to incoming MIDI clock.
	4	<b>Send MIDI Clock</b>	Determines whether Helix transmits MIDI clock from its MIDI OUT port, via USB, or both. If you don't want Helix to transmit MIDI clock at all, set this to "Off."
	5	<b>Tempo Select</b>	The "Speed" or "Time" parameters of all tempo-based FX can be set to a note value that follows Tap Tempo or the tempo set with Knob 6 (Snapshot BPM/Preset BPM/Global BPM). Choose whether the Helix tempo is stored and recalled with each snapshot, recalled with each preset, or is applied globally across all presets and snapshots. <b>NOTE:</b> Helix does not respond to pressing TAP at tempi lower than 40.0 BPM to ensure that multiple fast tap entries are recognized properly. You may still manually select a tempo as low as 20.0 BPM using this Tempo Select setting.
	6	<b>Snapshot BPM/Preset BPM/Global BPM</b>	This is an alternative way to set the Helix tempo, instead of repeatedly stepping on the TAP footswitch. Depending on the Knob 5 (Tempo Select) setting, this value is saved per snapshot, per preset, or globally. The Helix device's tempo has a resolution of 0.1 BPM (beats per minute). You can also quickly access this parameter at any time by briefly touching the TAP footswitch.
2	1	<b>MIDI Over USB</b>	When on, Helix receives and transmits MIDI data via USB in the same capacity as its MIDI jacks. (USB MIDI can be used with any computer to send and receive MIDI between Helix and DAW and MIDI software applications.)
	2	<b>MIDI PC Receive</b>	Determines whether or not Helix receives and responds to MIDI program change (PC) messages for recalling Helix presets.
	3	<b>MIDI PC Send</b>	Determines if Helix sends MIDI program change messages and to which MIDI outputs. Set to MIDI to send via MIDI 5-pin out only, USB to send via USB only, or MIDI+USB to send out both. If you don't want Helix to transmit MIDI PC messages at all, set to "Off."
	4	<b>Duplicate PC Send</b>	Determines whether Helix automatically sends matching MIDI program change (PC) messages when selecting presets. (Configure Knob 3, MIDI PC Send to determine which MIDI Outs the MIDI PC messages are transmitted.) A PC message is sent immediately when a preset is selected on Helix.
	5	<b>Snapshot CC Send</b>	Determines whether Helix automatically sends matching MIDI CC messages (CC69, values 0~9) when selecting Snapshots. This is handy for simultaneously recalling Snapshots on another MIDI-connected Helix or HX device. This option is "Off" by default.

## Global Settings > Footswitches



Knob	Parameter	Description
1	Stomp Select	By default, this option is set to "Touch," which enables the footswitches' capacitive touch features: While in Stomp FS mode, lightly touching a footswitch selects its assigned block for editing and offers a Quick Bypass Assign when touching and holding for two seconds, or offers a swap of assignments when touching and holding two assigned footswitches simultaneously for two seconds. If you don't want this "touch" behavior (such as if you play barefoot!), set this to "Off." Choosing "Press" changes the Stomp FS mode behavior so that when an assigned footswitch is pressed, it also selects the assigned block (in addition to toggling the block's bypass). If you want all these behaviors enabled, select "Touch+Press."
2	Preset Mode Switches	By default, Preset footswitch mode displays eight presets (four on each row). Choose from "8 Presets," "Preset/Stomp" (one bank of presets on the top row, switches from stomp mode on the bottom row), "Stomp/Preset" (switches from stomp mode on the top row, one bank of presets on the bottom row), "Preset/Snap" (one bank of presets on the top row, Snapshots 1-4 on the bottom row), "Snap/Preset" (Snapshots 1-4 on the top row, one bank of presets on the bottom row), "Snap/Stomp" (Snapshots 1-4 on the top row, switches from stomp mode on the bottom row), "Stomp/Snap" (switches from stomp mode on the top row, Snapshots 1-4 on the bottom row), and "8 Snapshots" (Snapshots 1-8).
3	Stomp Mode Switches	When set to "10 switches," FS1 (BANK $\wedge$ ) and FS7 (BANK $\vee$ ) are re-purposed as additional Stomp switches. This "10 switches" option only affects the Stomp footswitch mode—when you have the device in Preset, Snapshot, or Looper footswitch modes, BANK $\wedge$ and BANK $\vee$ are retained.
4	Snapshot Mode Switches	When set to "Auto Return," Helix returns to the previous footswitch mode after selecting a snapshot. When set to "Manual Return," Helix stays in Snapshot footswitch mode until you press FS6 (CANCEL). When set to "Toggle," remembers whether Preset Mode is in Preset or Snapshot mode and allows for toggling between Stomp and Snapshot mode via the MODE switch.
5	Up/Down Switches	When set to "Presets" or "Snapshots," FS1 (BANK $\wedge$ ) and FS7 (BANK $\vee$ ) change to PRESET $\wedge/\vee$ or SNAPSHOT $\wedge/\vee$ , where pressing either switch instantly selects the next/previous preset or snapshot, without a bank queue. This is useful if you've programmed a fixed set list for your show and just want to increment through all your presets or snapshots. You can also cycle through all three switch types by pressing and holding both the $\wedge$ and $\vee$ switches for two seconds. At any time, press and hold both FS1 and FS7 to cycle through BANK $\wedge/\vee$ , PRESET $\wedge/\vee$ , and SNAPSHOT $\wedge/\vee$ .
6	Swap Up/Down	When Stomp Mode Switches (see Knob 3 item above) is set to "8 Switches," use the "On" setting here to reverse the direction of the FS1 and FS7 BANK, PRESET, or SNAPSHOT up/down actions. <b>SHORTCUT:</b> Touch (but don't press) the Up and Down Stomp Mode FS1 and FS7 switches together for one second, and then press Knob 6.

## Global Settings > EXP Pedals



Knob	Parameter	Description
1	EXP 1 Polarity	
2	EXP 2 Polarity	If your external expression pedal appears to work backward—for example, a Volume pedal block is loudest with the heel all the way down—set this to "Inverted."
3	EXP 3 Polarity	
4	EXP 1 Pedal Position	
5	EXP 2 Pedal Position	Determines whether the Helix expression pedal positions are recalled per snapshot, per preset, or applied globally. If you want a Volume Pedal or Wah to maintain its position when switching presets, set this to "Global."
6	EXP 3 Pedal Position	

## Global Settings > Displays



Knob	Parameter	Description
1	LED Ring Brightness	Determines whether the Stomp mode footswitches' colored LED rings appear dim when bypassed or off when bypassed. When playing in bright sunlight, you may want to set this to "Off/Bright" to increase contrast.
2	Tap Tempo LED	If you'd prefer not to see the FS12 (TAP) red LED constantly flashing, you can turn it off.
3	Pedal Position Display	Determines whether the scribble strip above the onboard expression pedal temporarily shows the expression pedal's position ("Temporary") or remains visible ("Persistent"). When moving the pedal, the scribble strip shows a position indicator (0 ~ 100%).
4	Tempo BPM Display	Determines whether the scribble strip above the TAP Tempo footswitch temporarily displays the current tempo BPM value when tapped two or more times ("Temporary"), or the tempo BPM always remains displayed on this scribble strip, replacing the TAP label ("Persistent"). <i>SHORTCUT:</i> To fine-tune the tempo, briefly touch the TAP/TUNER switch to temporarily display the Tempo edit options on the main screen, then turn Knob 6 (BPM) to set the tempo value manually.

# USB Audio

Helix functions as a USB 2.0, multiple-input/output, 24-bit, 96kHz, low-latency audio interface for Windows and Mac computers, as well as for iPad or iPhone mobile devices (with optional Apple Camera Connection Kit adapter), and is compatible with all major DAW software.

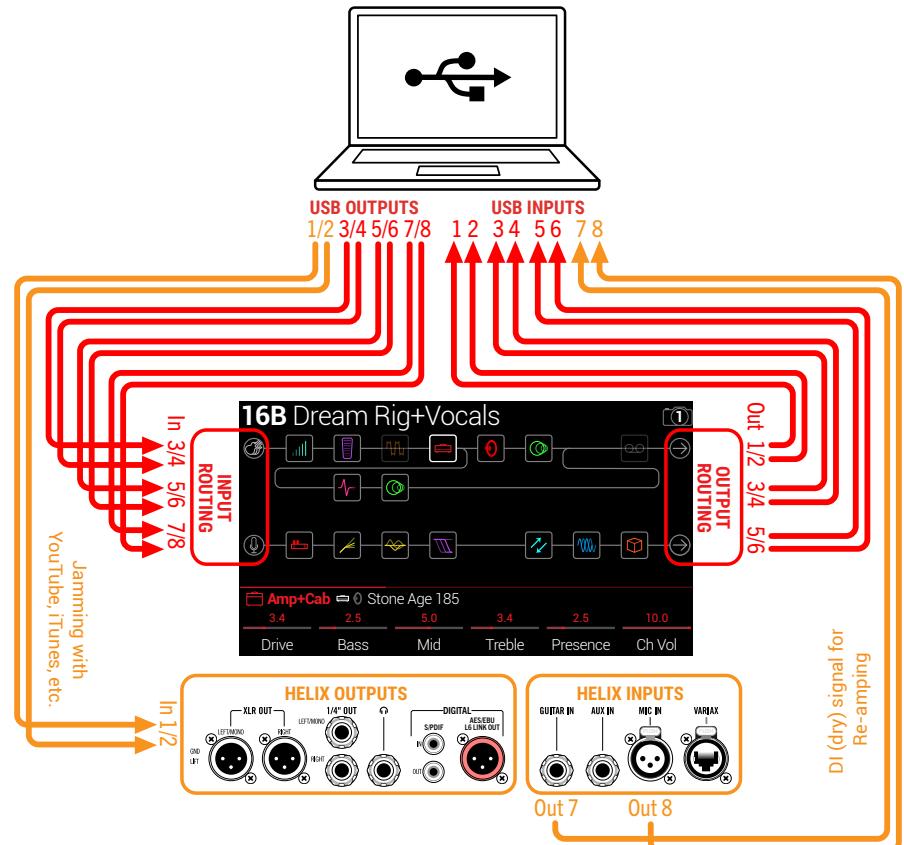
**NOTE:** For USB audio operation:

- For Windows computers, it is necessary to download and install the Line 6 Helix ASIO driver (see [page 76](#)).
- For Mac computers, it is only necessary to download and install the Line 6 Mac Core Audio driver if you desire audio sample rate operation at rates other than 48kHz (see [page 76](#)).
- For iPad or iPhone mobile devices, there is no driver installation necessary.
- All drivers are available from [line6.com/software](http://line6.com/software). Please refer to Helix firmware Release Notes for driver support specific to the latest Windows and Mac operating systems.

With the Helix default “Multi” Input and Output block settings in use, you’ll automatically hear audio software playback on USB 1/2 routed directly to the Helix XLR, 1/4" and Phones outputs. This lets you jam along with YouTube™, iTunes, or your DAW tracks without hearing them through a bunch of amps and effects.

If you set your DAW software track to record from Helix USB 1/2, you’ll capture your Helix-processed input signal in the DAW track—with zero-latency monitoring, since you hear your input from the Helix hardware outputs before it is routed through your software.

The additional Helix USB Inputs and Outputs are available within the Helix Input and Output blocks, and within your DAW software track menus. You can utilize these USB ins and outs for numerous routing configurations, all without patching extra cables—see the following examples.



# Hardware Monitoring vs. DAW Software Monitoring

Use of the Helix default "Multi" settings for both the Input and Output blocks provides hardware monitoring, which allows you to hear your live input signal at all times, independent of your DAW software's monitor settings. Hardware monitoring can be desirable since it allows you to hear your live guitar or mic input with Helix processing added and essentially "latency-free," since the monitor signal is not routed through your DAW software.

In some DAW recording scenarios, it may be preferable to utilize your recording application's "input monitoring" or "software monitoring" feature. This routes your live input signal through the armed recording track, thus allowing you to monitor the input effected by any plugins you may have inserted on the track. However, the one downside of DAW software monitoring is that your live input signal will be delayed slightly due to being routed through the software and back to the Helix outputs, which is referred to as "latency." Helix is designed to provide very low latency operation—see "[ASIO Driver Settings \(Windows\)](#)" for info and settings.

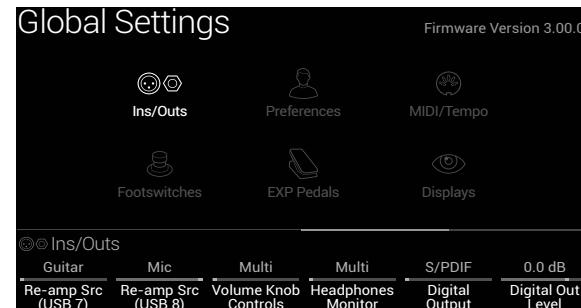
When a DAW track's software monitoring is active, you'll likely **not** want to hear the Helix hardware monitoring signal simultaneously. To achieve this, you can set the Helix Output block to USB Out 3/4 or 5/6. These Output block options will route your Helix-processed, stereo signal out to your DAW software without also providing the Helix hardware monitoring to USB 1/2. You'll then need to set your DAW track to receive from the same selected Helix USB Out to record the Helix-processed signal into the track. Or, you can optionally set the DAW track input to Helix USB 7 or USB 8 to record a dry DI signal—see the next section.

**NOTE:** Keep the Helix Input block set to "Multi" and your DAW software's main, Master output to Helix USB 1/2 to also hear playback of your full DAW mix.

## DI Recording and Re-amplification

A common DAW recording technique is to record a dry DI (Direct Input) signal, such as the unprocessed signal from your guitar, Variax, or mic, along with your mic'd or processed tone. This allows you to process the DI track later with plugins (such as the Line 6 [Helix Native plugin](#)) and/or "re-amplify" the DI track through an amp or other outboard gear. Helix has handy options built right in for recording DI tracks, as well as for easy re-amplification of DI tracks back through your own Helix tones, all without extra hardware or cabling!

Helix offers two special DI outputs, USB Outs 7 and 8, which appear as available options within your DAW software track input menus. These two dedicated USB Outs are tapped directly from the Helix input sources of your choice. To configure the Helix input source for each, go to Global Settings > Ins/Outs > Re-amp Src (USB 7) and Re-amp Src (USB 8), where you can select Guitar, Aux, Variax, Variax Mags, or Mic:



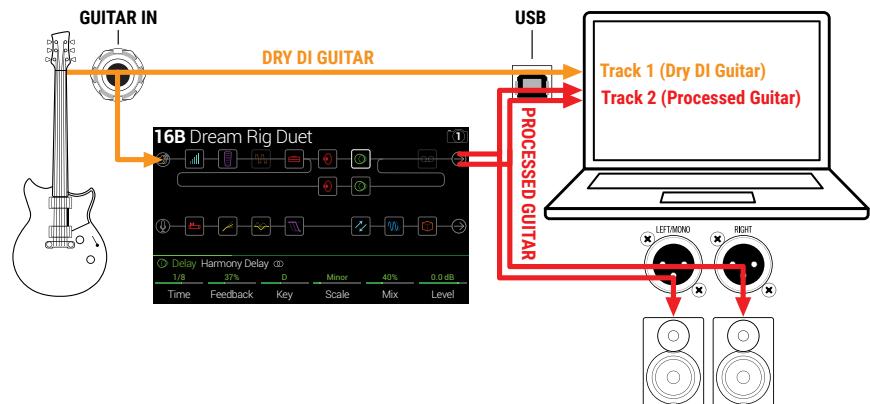
## Recording a Dry DI Track

For this example, we'll record guitar into two DAW tracks simultaneously, with one capturing the Helix-processed tone and the other the unprocessed DI guitar.

1. In the Helix Global Settings>Ins/Outs>Page 3 screen, set Re-amp Src (USB 7) to "Guitar" (as shown above).
2. Dial in your desired Helix tone, while keeping the Helix Input and Output blocks both set to the default "Multi" setting.
3. Create two new audio tracks in your DAW software project:

Create one mono track to record the dry DI guitar, and set the track's input to Helix USB 7.

Create one stereo track to record your full, stereo Helix-processed tone and set the track's input to Helix USB 1/2.



- Set both tracks' outputs, as well as the DAW Master output, to Helix USB 1/2 to allow all tracks to play back through Helix.

**NOTE:** Setting the stereo track's output to Helix USB 1/2 allows you to hear your Helix-processed tone via the Helix hardware monitoring while recording. For this configuration, disable software monitoring on all DAW tracks.

- Arm both these DAW audio tracks, hit the Record button and start laying down your guitar performance!

Now you have your Helix-processed track to hear with the project and a separate DI track with which you can further experiment at any time with DAW plugins and/or re-amping (see the next section).

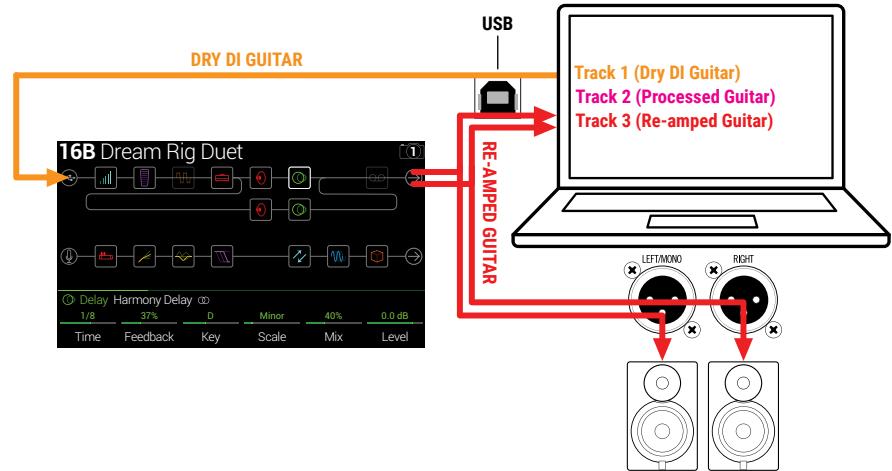
## Re-amping Through Helix

If your DAW software provides options for routing individual audio tracks to outputs other than just the main Helix USB Out 1/2, then you can use these steps for re-amping a dry recorded DI track back through Helix.

- In your DAW software, set the DI track's Output setting to a Helix stereo USB Out other than USB Out 1/2. For this example we'll use Helix USB Out 3/4.
- Create a new stereo track in your DAW project and set this track's Input and Output both to USB 1/2 - Let's name this track "Re-amped." Arm the track for recording.

**NOTE:** In some DAW software, it may be necessary to also activate the software monitoring feature on this "re-amped" track to monitor the Helix-processed signal when playing back your project. See your software's documentation.

- On Helix, select the Input block and set it to receive from the same USB stereo pair (USB In 3/4) and keep the Output block set to "Multi." Load your choice of amps and effects on the current Helix preset.



- Now play your DAW project and you'll hear the DI track "re-amped" through your Helix! Adjust the DI track's volume slider to make sure the signal feeding into Helix is not too hot. Tweak your Helix amp & effects as desired while listening with the playback of your project mix.
- Once you have your re-amplified guitar tone they way you like it, solo both the DI and re-amped tracks, rewind to the start of the project and hit the DAW Record button, allowing it to capture the signal into the new re-amped track in real-time.

Allow the DI track to play to the end, stop recording, and you've created your new re-amped guitar track!

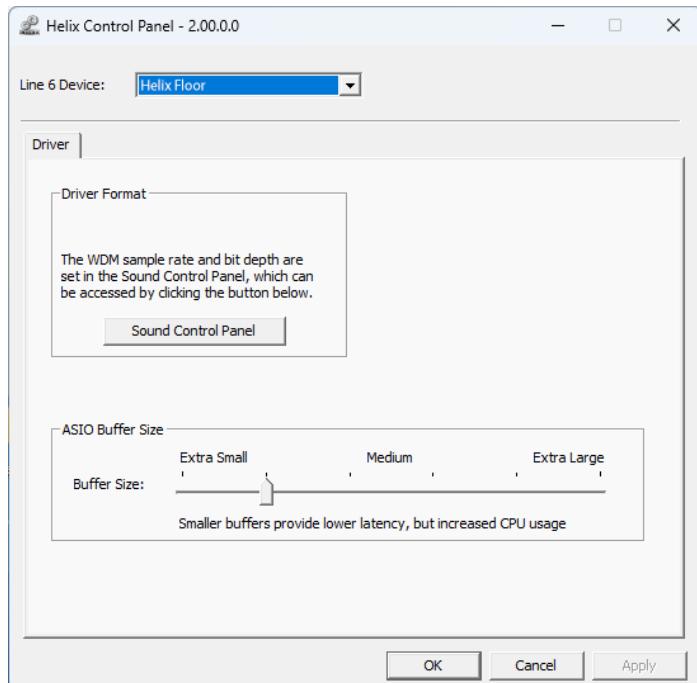
**TIP:** Note that you still have your original Guitar DI recording, and you can repeat this process to create additional re-amped tracks with different Helix settings, add plugins, blend with your original guitar track, and more.

# ASIO Driver Settings (Windows)

When using Helix as an audio interface for Windows DAW applications, it is highly recommended to configure the software to utilize the "ASIO" Helix driver. The Line 6 ASIO driver offers the superior, low-latency audio performance required for DAW recording. This driver selection is typically found in your DAW software's Preferences or Options dialog - see your software's documentation.

 **NOTE:** Download and install the latest Line 6 Helix ASIO driver from [line6.com/software](http://line6.com/software).

Once you've selected the ASIO Helix driver within your DAW software, you'll also see a button in the same dialog for "ASIO Settings" (or with a similar title). Press this button to launch the Helix Control Panel, where you make the following settings.



The Helix Driver Control Panel v2.00

**Sound Control Panel** This button launches the Windows Sound Control Panel, which is where you can optionally configure Helix to be the audio playback device for multimedia applications (such as Windows Media Player, iTunes, etc.) These settings are not relevant for your DAW software since these applications utilize the standard Windows driver.

**ASIO Buffer Size** Your goal is to achieve the lowest latency possible in your DAW software, but with glitch-free audio performance. Smaller buffer size results in lower latency, however, also increases the demands on your computer, which can result in clicks, pops, or other audio artifacts. Start with a lower slider setting here. If you encounter audio performance issues, return to this panel and move this slider to the right incrementally to remedy the problem.

Click the Apply and OK buttons when your Helix Control Panel settings are complete to return to your DAW software. Please also refer to your DAW software's documentation for more about its own specific audio device, buffer, and project settings.

# Core Audio Driver Settings (macOS)

To use Helix as an audio interface for Mac applications, it is unnecessary to install any additional driver. Helix will automatically utilize the Mac computer's "Class Compliant" USB driver when you connect to your USB port. Helix will then appear as a selectable Core Audio device within the Mac Utilities > Audio MIDI Setup panel and/or directly within your audio and multimedia applications. However, note that this Apple Class Compliant driver offers strictly 48kHz native sample rate operation. If you prefer to use a different native sample rate (or if your particular DAW application requires it), you can optionally download and install the Line 6 Mac Core Audio driver from [line6.com/software](http://line6.com/software). This Line 6 driver offers 44.1kHz, 48kHz, 88kHz, or 96kHz sample rate operation.

# MIDI

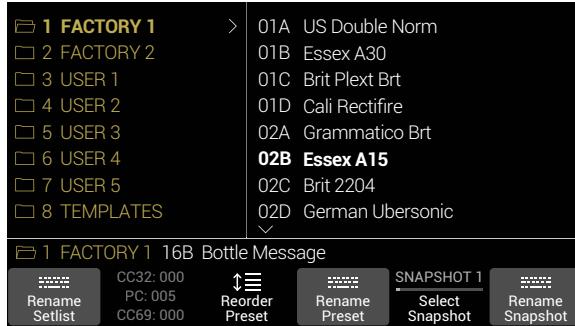
**NOTE:** Helix transmits and responds to MIDI messages over USB in the same manner as via its MIDI connectors. For USB MIDI operation on Windows computers, it is necessary to download and install the Line 6 Helix ASIO driver, available from [line6.com/software](http://line6.com/software). There is no driver installation necessary for an Apple Mac computer or iPad or iPhone mobile devices.

## MIDI Bank/Program Changes

Helix responds to traditional MIDI CC and Program change messages from an external MIDI device (or from MIDI software via USB) and will recall setlists, presets, and/or snapshots accordingly.

### Remotely Selecting a Setlist, Preset, and/or Snapshot

Press PRESETS to open the Setlist menu:



The dark text above Knob 2 displays the required MIDI messages for recalling the Helix device's setlists, presets, and/or snapshots from external MIDI devices or software. In the illustration above, the **FACTORY 1** setlist is recalled with a CC32 message of 000, the **02B Essex A15** preset is recalled with a PC (program change) message of 005, and **SNAPSHOT 1** is recalled with a CC69 message of 000.

**NOTE:** When navigating Presets from the Helix hardware (PRESETS encoder, preset footswitches, PRESET ▲ / PRESET ▼, etc.), Helix automatically transmits a MIDI Program Change message corresponding to the selected preset. If you'd prefer Helix not automatically transmit or receive PC messages, turn "[Global Settings > MIDI/Tempo](#)" > Knob 4 (MIDI PC Send/Receive) off.

## MIDI Clock Send and Receive

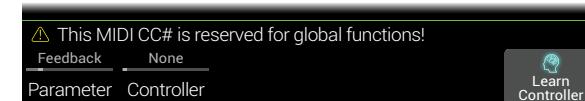
Helix can send and receive MIDI clock via its MIDI 5-pin in/out, as well as via USB. MIDI Clock options can be enabled and configured within the "[Global Settings > MIDI/Tempo](#)" options.

**MIDI Clock Send:** Transmit MIDI clock to synchronize the tempo of external pedals, rack gear, and software to the current Helix TAP Tempo rate.

**MIDI Clock Receive:** Synchronize the Helix time-based effects (such as delay and modulation) to incoming MIDI clock from external DAW software, drum machines, keyboard workstations, or other modelers. Note that the Helix TAP footswitch will flash blue (instead of the default red) to indicate the incoming tempo rate when receiving MIDI clock.

## MIDI CC

Helix has reserved specific MIDI CC messages for global functions; these CCs cannot be used as controllers. If you attempt to learn a CC message reserved for global functions (see "[Controller Assign](#)"), the following dialog appears:



MIDI CC#	Value	Function
<b>Pedal and Footswitch Assignments</b>		
1	0-127	Emulates EXP 1 Pedal
2	0-127	Emulates EXP 2 Pedal
3	0-127	Emulates EXP 3 Pedal
Emulates Stomp footswitch mode's FS1		
49	0-127	NOTE: MIDI CC49~59 messages control the respective switch's function while in Stomp, Preset, or Snapshot footswitch mode
50	0-127	Emulates FS2
51	0-127	Emulates FS3
52	0-127	Emulates FS4
53	0-127	Emulates FS5
54	0-127	Emulates FS7
55	0-127	Emulates FS8
56	0-127	Emulates FS9
57	0-127	Emulates FS10

MIDI CC#	Value	Function
58	0-127	Emulates FS11
59	0-127	Emulates EXP Toe switch
<b>Looper Controls</b>		
60	0-63: Overdub; 64-127: Record	Looper Record/Overdub switch (FS8)
61	0-63: Stop; 64-127: Play	Looper Play/Stop switch (FS9)
62	64-127	Looper Play Once switch (FS3)
63	64-127	Looper Undo/Redo switch (FS2)
65	0-63: Forward; 64-127: Reverse	Looper Forward/Reverse switch (FS11)
66	0-63: Full; 64-127: Half	Looper Full/Half Speed switch (FS10)
67	0-63: Off; 64-127: On	Looper block on/off; also enters/exits Looper footswitch mode
<b>Additional Controls</b>		
0	0-7	Bank MSB
32	0-7	Bank LSB—Setlist select
64	64-127	Tap Tempo
68	0-127	Tuner screen on/off
69	0-7 8 9	Snapshot 1-8 select Next snapshot select Previous snapshot select*  <b>TIP:</b> Set the " <a href="#">Global Settings &gt; MIDI/Tempo</a> ". -Snapshot CC option to "On" if you want Helix to automatically send the respective CC69 value to MIDI Out.
70	n/a	Reserved for future use
71	0-127	Engages the MODE switch

MIDI CC#	Value	Function
72	0-63: Previous; 64-127: Next	Loads the previous or next preset
73	n/a	Reserved for future use
74		
75	0-127	Parameter Knob 1 (global control)
76	0-127	Parameter knob 2 (global control)
77	0-127	Parameter knob 3 (global control)
78	0-127	Parameter knob 4 (global control)
79	0-127	Parameter knob 5 (global control)
80	0-127	Parameter knob 6 (global control)
81	0-63: Page Left; 64-127: Page Right	Triggers the device's Page Left and Page Right buttons
128	0-63: Off; 64-127: On	Talent Boost

\*MIDI Snapshot changes on CC69 received during preset loads are buffered and executed once the preset load is finished. This means that you can send a MIDI CC69 Snapshot change immediately after a PC message to effectively load a preset with a different Snapshot than with which it was saved.

