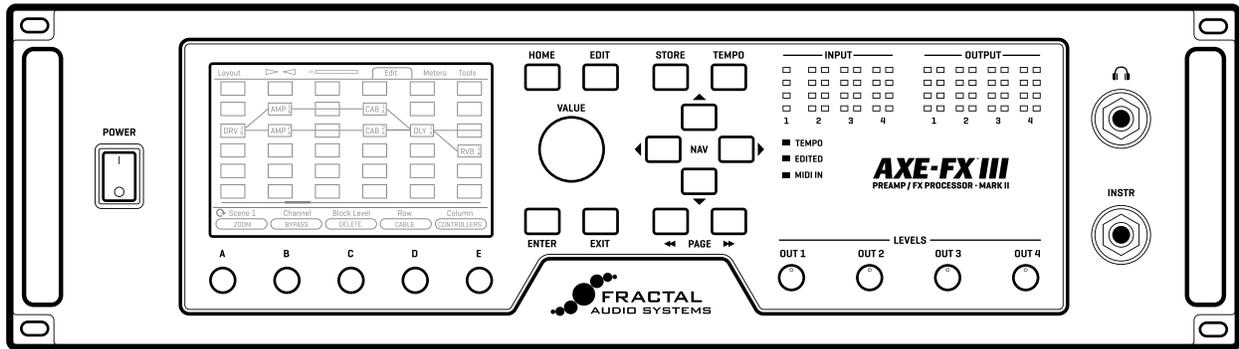




AXE-FX™ III

PREAMP/EFFECTS PROCESSOR



OWNER'S MANUAL

Current as of Axe-Fx III Firmware 19.x
Original, Mark II, Standard and TURBO versions
February 2022

Inside Front Cover

Declaration of Conformity

Manufacturer's Name: **Fractal Audio Systems, LLC**
Manufacturer's Address: **4 Wilder Drive, Plaistow, NH 03865 USA**

Declares that the product:

Product name: **Axe-Fx III** Product option: **None**

Conforms to the following Product Specifications:

Safety: EN60065:2014

EMC: EN55013:2013

EN55020:2007+A11:2011

EN55024:2010

EN61000-3-2:2014

EN61000-3-3:2013

Supplementary Information:

The product herewith complies with the requirements of
the Low Voltage Directive 2006/95/EC
and the EMC Directive 2004/108/EC.

Clifford Chase
President / CEO
January 22, 2018

EMC/EMI

This equipment has been tested and found to comply with the limits for a Class B Digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in residential installations. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. There is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ▶ Reorient or relocate the receiving antenna.
- ▶ Increase the separation between the equipment and receiver.
- ▶ Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- ▶ Consult the dealer or an experienced radio/TV technician for help.

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Important Safety Instructions



WARNING: To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.



CAUTION: To reduce the risk of fire or electric shock, do not remove screws. There are no user serviceable parts inside. Refer servicing to qualified service personnel.

1. Obey all warnings on the Axe-Fx III chassis and in this User Guide.
2. Keep away from sources of heat such as ducts, registers or appliances that produce heat.
3. Connect only to a standard grounded AC outlet of 100–240V, 47–63 Hz.
4. Keep the power cord in good condition. Do not kink, bend, or pinch.
5. If the cord becomes damaged, discard and replace it.
6. If not using your Axe-Fx III for extended periods of time, disconnect from AC power.
7. Protect the unit from rain and excessive moisture.
8. Refer servicing to qualified personnel only.
9. Stop operation of the unit and obtain service if:
 - Liquids or excessive moisture enter the unit.
 - The unit operates incorrectly or performance is inconsistent or erratic.
 - The unit has been dropped and/or the enclosure damaged.
10. Prolonged exposure to high volume levels can cause hearing damage and/or loss. The use of hearing protection in high volume situations is recommended.

A Manual for Online and Print Use

This manual is intended for use in desktop, tablet, and smart phone readers. It includes clickable links and bookmarks to make navigation and cross-reference easy. We generally recommend against printing, because firmware updates tend to make older manual versions out of date. That said, considerations have been taken for those who prefer paper. You are granted permission to print this PDF for personal use only. A copy center or online printer can print and bind a book for you from the PDF file. Hopefully those with screen readers can forgive the changes made herein to accommodate the print version: all links also include a page or section numbers, page spreads have extra margins towards the binding edge, and blank pages have been included to preserve page and chapter flow.

1 INTRODUCTION

WELCOME TO THE AXE-FX III

The Axe-Fx III is the current flagship product in our long line of industry-leading guitar processors, and the world's most powerful unit of its kind, with significantly more raw power than anything we've offered before. Our vision for this platform was to create a product that sounds better, does more, and is easier to use than ever before, with all of the best and room for more. It features our newest "Cygnus" amp modeling technology, UltraRes™ and FullRes™ speaker cab simulations, our legendary effect algorithms, and much more.

Fractal Audio Systems is known for accurate amp models with the sound and feel of real tube amps. The Axe-Fx III carries this torch high. "Cygnus" picks up where "Ares" left off, with improvements and upgrades to the accuracy, sound, and feel. Some may ask: "how can it still be getting better after all these years?" We maintain that there is always room for improvement and innovation and submit the Axe-Fx III as proof.

The hardware has been completely re-designed around a streamlined workflow. The centerpiece is a dazzling high-contrast full-color display with 30x the resolution of previous products. This display works alongside five endless-rotary push encoders ("push-knobs"). These do different things on different pages, with labels to show dynamic functions. The end result is a user experience that's immediately more intuitive. The display also excels at animation for meters, modifiers, and more.

Power and resources are vastly expanded. Two 1-GHz "Keystone" DSPs benchmark at 2.8x the power of the Axe-Fx II, and there are two additional processors dedicated to graphics and USB. Peripherals include 4Gb of blazing fast PC1600 DDR3 memory, hundreds of Mb of FLASH memory, a proprietary FPGA and more. The number of inputs and outputs has more than doubled in comparison to previous products. Routing capabilities have also been upgraded with dedicated blocks for each Input and Output allowing for highly flexible preset and rig design. All 1/4" outputs feature our Humbuster™ technology to help reduce the noise caused by ground loops.

Better sound quality has been achieved through an audiophile-grade signal path. The difference is heard as a lower noise floor, pristine clarity, and USB audio performance that's even better than most dedicated pro audio interfaces. As a 24-bit/48k 8x8 interface, the Axe-Fx III allows you to record multiple tracks of processed audio at the same time, plus a DI. You can playback computer backing tracks or process incoming signals from the computer. The re-amping workflow is improved with independent monitoring of backing tracks and re-processed guitar tones while you dial in a sound.

Physically, the Axe-Fx III combines extraordinary design with manufacturing quality rugged enough to withstand the rigors of life on the road. The unit is housed in a steel enclosure with a one-piece anodized aluminum faceplate/bezel featuring a glowing Axe-Fx III logo.

Axe-Edit™ III, a fully re-tooled version of our editor for Mac or PC, is packed with great new features including Quickbuild mode, a Scene Manager, and window scaling on monitors up to 5k and beyond.

Of course the unit features upgradeable firmware, meaning we can offer new features and fixes through free firmware updates—something that our customers greatly enjoy.

This manual also covers the "Mark II" version of the Axe-Fx III, introduced in 2020.

We hope you will enjoy using the Axe-Fx III as much as we've enjoyed creating (and playing) it.

FEATURE SUMMARY

- Rugged 3U steel chassis with a sleek anodized aluminum front panel and illuminated “Axe-Fx III” logo. On the Axe-Fx III Mark II, the logo can color cycle, or you can choose your own color.
- Two 1.25 GHz (“Turbo”) or two 1.0 GHz (“Standard”) Keystone DSPs benchmark at 2.8x the power of the Axe-Fx II.
- 4Gb blazing fast PC1600 DDR3 memory, hundreds of Mb of FLASH memory, proprietary FPGA.
- Dedicated processors for graphics and USB.
- VALUE knob optical encoder lifespan rated for 1,000,000+ rotations.
- Audiophile-quality signal path yields superior sound quality and a far lower noise floor and THD than previous products.
- Auto-switching front/rear instrument inputs, both with “Secret Sauce IV”.
- Three stereo inputs: 1 with XLR/1/4" combo jacks, two with balanced 1/4" inputs.
- Four stereo outputs: one pair with XLR outs, one pair with both XLR and 1/4" outs, and two pairs with 1/4" outs.
- Humbuster technology on all 1/4" outputs helps reduce ground loop noise.
- Front panel headphones output.
- Front panel LED meter bridge for instant visibility of levels.
- Easy-to-use interface allows intuitive and efficient editing.
- Stunning color display with 30x the resolution of previous products. On the Axe-Fx III Mark II, the display is improved even further, with enhanced clarity, color, and contrast.
- Animated on-screen metering for every block, input, output, and more.
- 5 soft-knobs with on-screen labels for turn and push functions.
- 512 Preset memories (1024 on the Mark II), each an entire rig with amp(s), cab(s) and effects.
- 14x6 grid layout allows larger presets than Axe-Fx II, AX8, FX8, and FM3.
- New “Zoom” view shows the entire grid on one page.
- 8 nameable “Scenes” per preset store settings like “presets within a preset”.
- Revolutionary new “Channels” concept for fast, seamless switching of up to four channels per block.
- Built-in tools to copy Channels and Scenes within a preset.
- Hundreds of accurate amp models with real tube amp sound and equally-important feel.
- New Cabinet block features a “Cab-Lab” style multichannel mixer to load up to four IRs at once.
- 2,048 Factory cabs, 189 “Legacy” Cabs (from Axe-Fx II), 2,048 User Cabs and 16 Scratchpad memories.
- Factory IRs by Fractal Audio and the best of 3rd party creators.
- Presets can now contain up to four instances of Compressor, Drive, and Delay blocks.
- New blocks: Plex Delay, Ten-Tap Delay, Multiplexer, Realtime Analyzer and more.
- Effect “Types” create classic sounds at the turn of a knob. Types include 40+ drives, 50+ reverbs, 30+ delays, and many more.
- New effect models include analog Tri-stereo Chorus, deep modeled Phaser and Flanger blocks.
- Improved Reverb is even richer and smoother than ever.
- Improved Pitch block with faster detection and tracking.
- New fully parametric “Input EQ” in Amp block.
- Fully revamped 5.8 minute stereo Looper with undo.
- Tone Matching to clone any tone, now in UltraRes.
- Built-in IR Capture Utility allows you to create your own speaker cab IRs.
- New Input and Output blocks make routing more flexible than ever.
- Improved and faster Tuner featuring a new interface.
- 8x8 USB Audio with better audio performance than most dedicated pro audio interfaces.
- Dedicated USB Input block for reamping/processing tracks.
- MIDI-over-USB between Axe-Fx III and a computer is 10x faster than the same connection on Axe-Fx II.
- MIDI IN, OUT and THRU ports.
- Rich MIDI implementation allows extensive remote control.
- The new “Scene MIDI” block enables each scene to transmit up to 8 PC/CC messages when loaded.
- Optional MIDI PC/Bank transmission when a new preset is loaded.
- Two on-board PEDAL jacks for expression pedals like the Fractal Audio EV-1 and EV-2.
- FASLINK 2 connector for connecting up to four of our next-gen Foot Controllers, FC-6 and FC-12.
- Daisy-chain FC series foot controllers for more pedal board “real estate” or to allow player and tech to share switching responsibilities on “cloned” systems.
- Future proof: as ever, fully upgradeable firmware means the Axe-Fx III has the capability for free updates.
- Built-in backup firmware allows recovery in the event of complications during update.
- And much more.

THE SETUP MENU

Throughout this manual, you will be directed to the **Setup** menu, which includes the following sections:

- The **FC Controllers** menu includes all settings for a connected FC Series controller.
- The **Global Settings** menu includes options which govern the overall behavior of the Axe-Fx III.
- The **I/O** menu contains settings for inputs and outputs, levels, audio, USB, and switches or expression pedals connected directly to the Axe-Fx III.
- The **IR Capture** utility can be used to create your own “User Cab” impulse responses.
- The **MIDI/Remote** menu contains MIDI settings, plus several pages of assignments for the many remote-controllable functions of the Axe-Fx III.
- The **Utilities** menu contains informative readouts plus a control to adjust screen brightness, and tools to reset or erase the Axe-Fx III.

To access the **Setup** menu:

- ▶ Press **HOME**.
- ▶ Push the “**E**” knob for the **SETUP** main menu.
- ▶ Use the **NAV** buttons or “**A**” knob to select a sub-menu and press **ENTER** to make a selection.
- ▶ Use **PAGE** and **NAV** buttons to get around the menus. Use **VALUE** and knobs **A–E** to make changes.
- ▶ Press **HOME** at any time to return home.
- ▶ NOTE: Changes in the **SETUP** take effect immediately and never need to be stored

Use these links for instant access to the **Setup** menu topics in this manual:

SETUP

—	FC Controllers	<u>Section 13</u>
—	Global Settings	<u>Page 69</u>
—	I/O	<u>Page 71</u>
—	IR Capture	<u>Section 14</u>
—	MIDI/Remote	<u>Page 75</u>
—	Utilities	<u>Page 80</u>

QUICK CONNECT GUIDE

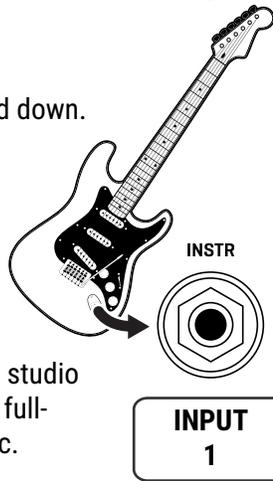
The most popular and flexible way to enjoy the Axe-Fx III is through a full-range system such as studio monitors, a high-quality PA, or full-range cabinets designed specifically for guitar. All of the factory presets are designed for this type of setup.

Of course you can use the unit in many other types of setups, including those which integrate with tube amps, USB recording, guitar speakers, 3rd-party outboard equipment, and more. You can find over ten examples in [Section 4](#) of this manual.

Basic setup instructions for a typical direct/full-range rig appear below:

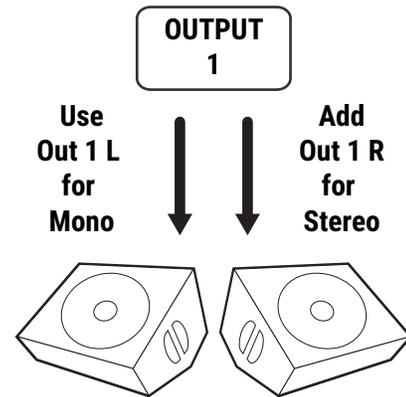
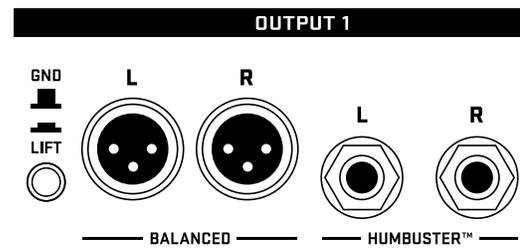
1 Begin with all level knobs turned down. Connect your guitar to the front or rear **Instrument** input (**Input 1**).

The Axe-Fx III is also perfect for bass and other instruments.



2 Connect **Output 1** to your mixer, studio monitors, audio interface, PA system, full-range speakers, power amp inputs, etc.

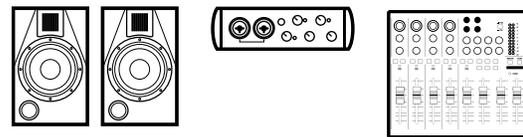
- For a mono rig, use **Out 1 Left**.
- For stereo, also connect **Out 1 Right**.
- Use **XLR outputs** to connect to balanced inputs, or use the **1/4" outputs** when connecting to unbalanced inputs.
- Use **Humbuster cables** with **1/4" outputs** to reduce hum from ground loops.



3 Turn up the front panel **OUT 1** knob and adjust the level on your monitors as desired.

Explore factory presets by turning the **VALUE** wheel.

Select Scenes within a preset by using **NAV Up/Down**.



**FRFR speakers, Studio Monitors
Audio Interface or Mixer**

FAQ: WHY FULL RANGE?

A Full-Range Flat Response (“FRFR”) system aims to reproduce the entire audio spectrum without any tonal coloration. In comparison, most traditional guitar speakers are sonically limited, with tonal coloration and limited low and high response. Each speaker cabinet has its own effect on your sound, and a 1×12 open-back combo is never going to sound like a 4×12 stack. In comparison, full-range flat-response studio monitors, PA speakers, and FRFR speakers designed specifically for guitar are designed to reproduce *anything* you play through them. The output of a fully modeled signal path is in fact closer to what you’d hear in a finished mix or recording, so it sounds best when played through a system that is designed for full range. Of course, many other setup types exist, as demonstrated in the many examples shown in [Section 4](#) of this manual.

SETTING LEVELS

Setting proper levels is critical but easy, with many meters to help you while you work.

INPUT LEVELS

The Axe-Fx III comes ready-to-use for the typical guitar or bass, but you should check that your guitar is not clipping the inputs.

Connect a guitar to the **Instrument** input. Choose your loudest pickup setting and set all the guitar controls to “wide open.” Play loudly to push the levels as you watch the front panel **INPUT 1** meter LEDs. A red LED on the input meter indicates a level of -6dB, which is still safely below clipping. Adjust the input trim so your loudest playing “tickles the red.” It is of course also fine if a lower output guitar never hits the red. In general, you should set input levels as high as possible without clipping:

- ▶ Open **SETUP : I/O : Input** page.
- ▶ Adjust **Input 1/Instrument** input levels using the **A** knob.

Inputs 2, 3 and 4 can be adjusted using the same method. Each has its own **Input trim** parameter on the **Input** page of the **I/O** menu under **SETUP**.

You can also monitor levels on the **Meters** page of the **Home** menu.



Except at the very lowest settings, Input level adjustments do not affect gain levels. As you adjust the input level to the A/D converter, the output is compensated accordingly, so what you hear is not affected by how you set these controls.

OUTPUT LEVELS

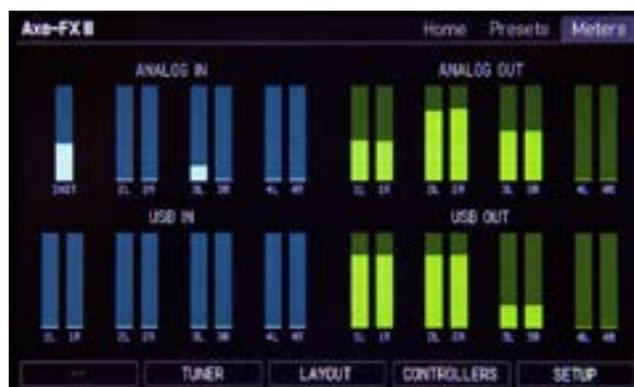
Output levels are very easy to monitor on the front panel meters, and easy to control using the four front panel **LEVEL** knobs. You can also monitor output levels in higher resolution by paging to the **Meters** page from the **Home** menu.

Outputs 1-2 are ready to be connected to consumer line inputs (-10 dBV). If you are connecting to professional-grade equipment operating at +4dBu, set the nominal output levels as follows:

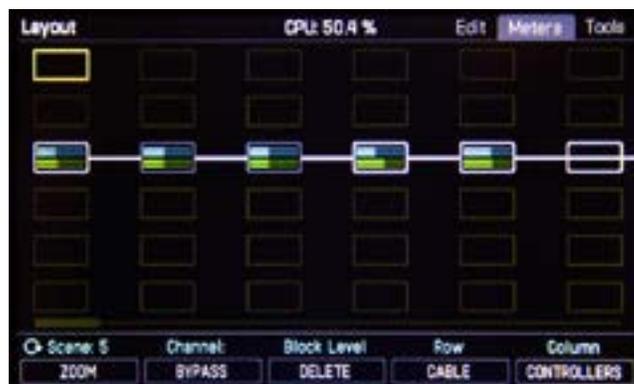
- ▶ Page to **SETUP : I/O : Audio**.
- ▶ Adjust **Output 1: Output Level** or **Output 2: Output Level** to +4dBu.

Learn more about the **I/O Menu** on [p. 71](#).

If you notice the Outputs clipping, this means your presets are too hot. [Section 7 on p. 49](#) is dedicated to the important subject of adjusting preset levels.



The Meters page of the Home menu shows all I/O levels.



The Layout also has a Meters view showing block levels.

HUMBUSTER™ CABLES

Most **FRFR** setups use the XLR outputs of the Axe-Fx III into the **balanced** inputs of mixers, monitors, and other devices. For these applications, XLR cables or XLR-to-TRS cables are typical.

When connecting the 1/4" outputs of the Axe-Fx III to unbalanced 1/4" inputs on other devices, you can use standard 1/4" patch cables, but there is a better option. **Humbuster™** technology on all 1/4" outputs of the Axe-Fx III can significantly reduce unwanted noise due to the common problem of a ground loop. For this to work, you must use a special Humbuster cable. This has one **TRS** end (like a balanced cable) and one **TS** end (like a guitar cable). The TRS end connects to the Axe-Fx III. The TS end connects to your other device or amp.

Humbuster cables are available from <http://www.fractalaudio.com/cables>. You can make your own by following the diagram below. Be sure to use high-quality connectors and shielded cable.



MONO VS. STEREO



The Axe-Fx III comes pre-configured for **stereo** but you can connect it in **mono** with no issues. In mono, however, you may find that certain presets or settings produce unexpected results. For example, a panner sounds like a tremolo when one channel is missing. A ping-pong delay may “ping” but never “pong”. Stereo enhancers or certain types of modulation may not be apparent at all. Even the tone can change if amps or cabs have been panned. Here is an overview of several scenarios, with recommended settings for each.



- ▶ **STEREO:** *No special settings required.*
- ▶ **HALF STEREO:** Leaving the Axe-Fx III in its default stereo configuration but connecting only one (Left) output results in “half-stereo.” This setup works fine, aside from the exceptions mentioned above (ping-pong, panning, etc). *No special settings required.*
- ▶ **MONO, COPY L>R:** Sonically, this is identical to half-stereo, with the same limitations, except that mono signal is produced at *both* the left and right jacks so you can connect to two monitors. To switch to dual mono, open **SETUP: I/O: Audio** and set **Mode** for the desired output to “COPY L->R”.
- ▶ **MONO, SUM L+R:** In this setup, left and right channels are added together resulting in a mono signal at both left and right outputs of the Axe-Fx III. While this does not discard half of the channels like half-stereo does, summing has its own issues. For example, short delays or phase differences between channels can result in strange artifacts or cancellation. To switch to summed mono, open **SETUP: I/O: Audio** and set **Mode** for the desired output to “SUM L+R”.

On the Axe-Fx III, a flexible block-based I/O system makes it easy to use different outputs with different settings for different purposes. See Input and Output blocks in the [“Blocks Guide”](#).

All options of the I/O menu under **SETUP** are detailed in [Section 12](#).

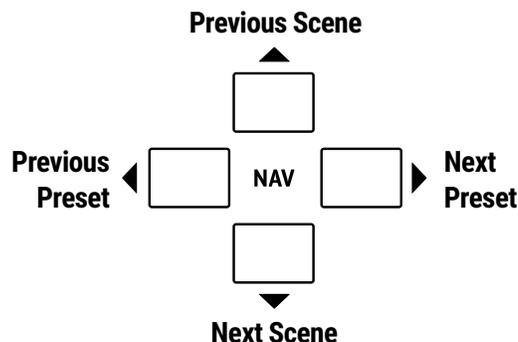
THE HOME PAGE: PRESETS

Once you have connected your Axe-Fx III you can begin to audition factory preset sounds. Remember that aside from a few templates, the factory presets are designed for use with full-range speakers, monitors, or headphones. See [Section 4](#) for details on creating presets for other setups.

The Axe-Fx III contains 512 preset memories (1024 on the Mark II), each a fully independent rig with its own amps, cabs, effects, settings, controllers, and more. When you consider everything that is possible with Scenes and Channels, a single preset can easily cover an entire song, or even a whole show.

Here's how to explore the factory presets:

- ▶ Press **HOME** to show the **Home** page, where you can switch presets.
- ▶ To change presets, turn the **VALUE** knob or use the **NAV** left/right buttons.
- ▶ Many factory presets contain fully developed **Scenes**. You can switch Scenes using **NAV** up/down or knob **A**. See [p. 9](#) for an introduction to Scenes.



OTHER HOME MENU FUNCTIONS

- ▶ The push functions of the five knobs of the hme page provide access to other areas:
 - **Tuner** ([Page 67](#))
 - **Layout grid** ([Page 8](#) and [Page 34](#))
 - **Controllers** ([Page 59](#))
 - **FC Per Preset** (See [Section 13: FC Controllers](#)).
 - **Setup** ([Page 3](#) and [Page 69](#)).
- ▶ A **mini-Tuner** appears at the top of the **Home** page itself.

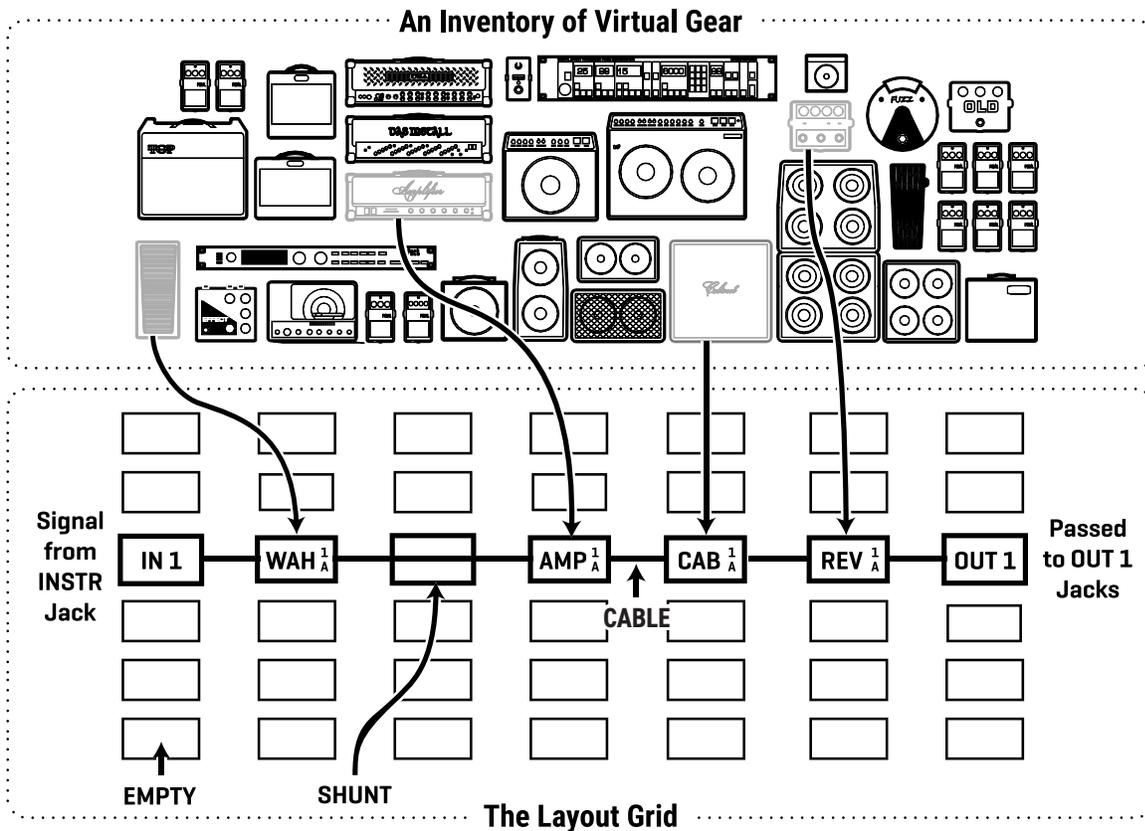
THE PRESETS DIRECTORY

- ▶ You can also access a **PRESETS** directory:
 - From the Home page, press **PAGE RIGHT** until the **Presets** page is shown.
 - Presets are shown in numerical order. To sort presets alphabetically by name, press the **"Sort A-Z"** button.
 - Use the **VALUE** wheel and **NAV** buttons to select any entry.
 - The **ENTER** key loads the selected preset and returns to the **Home** page

INTRO TO THE LAYOUT GRID

In the world of traditional gear, our options are limited by budget, space, weight, and the limits of the gear itself. Building a rig means making hard choices. With the Axe-Fx III however, a limited selection of gear is instead replaced by a vast (ever-growing!) “**inventory**” of virtual amps, cabs, effects, and more. Every preset gives you the flexibility to design a totally new rig composed of whichever components you choose.

Let’s learn the vocabulary of preset creation. To create a **preset**, virtual pieces of gear are selected from the **inventory** and placed as **blocks** into the slots of the **layout grid**, a structure of rows and columns. Each block represents a different component like a wah pedal, amp, reverb, etc. Blocks are connected together using virtual **cables**, and you can create splits, merges or multiple parallel paths as needed. Passive **shunts** carry signal through empty grid spaces. Special **input** and **output** blocks connect to the various jacks and USB signals of the Axe-Fx III. The following graphic illustrates these concepts:



Let’s review what is happening above. Various **blocks** have been placed on the **grid** and connected with **cables**. Signal flow begins at the **Input** block on the left. It then goes to a **Wah** block. The wah connects to a **shunt**, which has no effect on the sound and is shown only to introduce the idea of how it carries signal from one location to another. The shunt is connected to an **Amp** block (we might set its type to “Plexi 100W High”), which in turn feeds a **Cab** (one of the many “4x12” options, perhaps). This is connected to a **Reverb** and then to an **Output** block. In this limited example, only a few blocks are shown on a partial grid. In reality the size of a preset is limited only by the grid structure, block inventory, and total processing power (“CPU”). You will find that you can create very large virtual rigs with multiple amps, cabs, and effects.



A new “ZOOM” feature shows the whole grid at once. Look for the ZOOM button on Layout menu pages.

INTRO TO SCENES AND CHANNELS

Imagine a rack system like those used by many guitar players over the past decades. In this system, various amps, pedals, and rack units are connected through a central **switching system**, which places components in or out of the signal path at will. Some components in a rig like this have their own settings that the switcher can control remotely—like the channels on an amp, or the different settings of a delay. Using the switcher, you set up different combinations gear and settings and then save a **preset**: Clean, Rhythm, Lead, etc. (Yes, this old rig does all this and weighs just a few hundred pounds!)

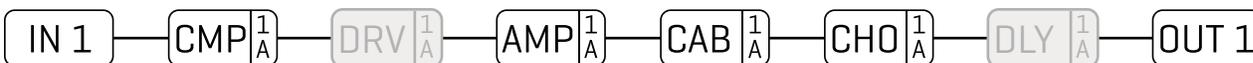
A single Axe-Fx III preset is comparable to an entire rig. Axe-Fx **Scenes**, are an innovation something like a switching system. A Scene stores whether each block is **engaged** or **bypassed**, and which of up to four “**channels**” it should be on. A Channel is like a preset within a block; each block has up to four channels, and every channel its own fully independent settings. For example, **Channel A** of a **Drive** block might be a “clean boost”, **B** could be a “screamer”, **C** a distortion, and **D** a fuzz. So, with channels, you get four different sounds from just one block! By switching blocks and channels for you, Scenes offer a way to select different sounds without changing presets.

Scenes offer many advantages. First, they eliminate “tap dancing” and make complex sound changes easy. Also, scene changes are fast and can even be perfectly seamless. Scenes also make it easy to set up delay and reverb for “spillover” so tails can ring out across changes. Scenes even have their own names, which is especially helpful as you step through them.

SCENES AND CHANNELS: A VISUAL EXAMPLE



Here is our preset. The Input 1 block feeds a Compressor followed by a Drive, then into an Amp and Cab, followed by Chorus and a little Delay, ending up at the Output 1 block.



SCENE 1 – “Clean”: For scene 1, the Drive and Delay blocks are bypassed. We dial in the Compressor, Amp, Cab, and Chorus for a classic clean tone. Notice that the amp says “1A”. This means we are using **Amp 1**, set to **channel A**. Let’s imagine it as the “ODS-100 Clean” model. We name the scene “Clean”.



SCENE 2 – “Crunch”: To create scene 2, we bypass the Compressor, Chorus and Delay and engage the Drive. The Amp block is changed from channel A to channel B, which we dial in as a “Euro Blue” crunch model. Remember, each channel has a totally independent set of settings, so every amp parameter exactly as we wish for this scene: Drive, Treble, Mid, Bass, and many, many more. We then dial in Channel “A” of the drive block with a good “screamer” sound by selecting the “TS808 OD” type. Let’s name this scene “Crunch”.



SCENE 3 – “Lead”: Here’s our soaring lead. The Chorus is bypassed. We’ve changed the compressor to Channel “B” and dialed it in for sustain. The amp is the same as the “Crunch” scene but Drive changes to “B”, which we’ll make a “Fat Rat”. The Delay is on channel “B” dialed in with higher mix and feedback. We name the scene “Lead”.

Learn more in [“Scenes & Channels” on p. 43](#)

GRID EDITING: QUICK START

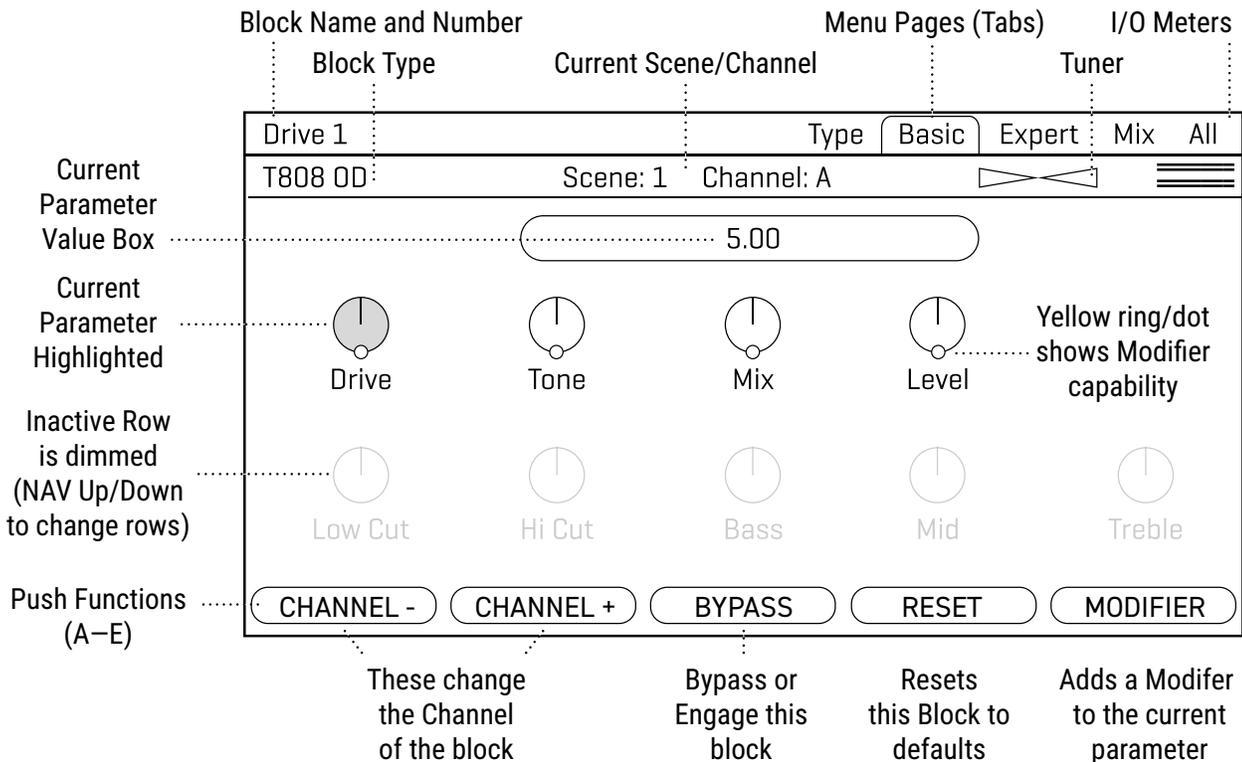
Learn more about working with the grid in [Section 5](#). Meanwhile, here's a very quick primer:

- ▶ From the **Home** page, press **LAYOUT** (knob **B**) or **ENTER** to show the "Edit" page of the Layout menu, commonly called the "**grid**".
- ▶ Use the **NAV** buttons to move the cursor around the grid.
- ▶ Turn the **VALUE** knob to cycle through the inventory of blocks at any grid location. When you find the block you want, press **ENTER** to confirm. Press **EXIT** to cancel changes.
- ▶ On the grid, "push" functions of the **B**, **C**, and **D** knobs allow you to toggle a block's **Bypass** state, **Delete** a block, or create/remove a connector **Cable** between any two blocks in adjacent columns.
- ▶ To save any changes, press **STORE, ENTER, ENTER**.

BLOCK EDITING: QUICK START

Learn more about editing blocks in [Section 5](#). Meanwhile, here's a very quick primer:

- ▶ On the grid, select the desired block and press **EDIT** to open its menu.
- ▶ Use the **PAGE** buttons to navigate menu pages.
- ▶ Many blocks have a **TYPE** page, which allows you to dial in classic settings instantly. Examples include setting an amp to "USA Lead+", a drive to "Face Fuzz", or a reverb to "Large Spring".
- ▶ Use the **A**, **B**, **C**, **D**, and **E** knobs to edit on-screen parameters. From any block's Edit menu, press **EXIT** to return to the grid.
- ▶ To save any changes, press **STORE, ENTER, ENTER**.
- ▶ The stylized diagram below shows a typical edit menu page with annotations:



USB OVERVIEW

USB provides the Axe-Fx III with a host of great features. A 16-core, 500 MHz microcontroller provides 16 channels of flawless 48kHz USB audio (8 in, 8 out) allowing the Axe-Fx III to be the center of your music workstation. The audiophile-grade signal path components and converters provide better audio performance than most dedicated USB audio interfaces. With 8×8 channels you can record multiple tracks of processed audio and DI signals, monitor backing tracks, audition stereo re-amps in real-time, and more. A USB audio sound source can even be placed on the grid for processing via the dedicated USB Input block.

USB is also required to use Axe-Edit and Fractal-Bot, the companion software products for the Axe-Fx III.

See [Section 3: USB, on p. 19](#) for full details on the USB capabilities of the Axe-Fx III.

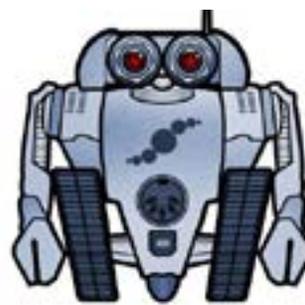
FRACTAL-BOT & AXE-EDIT III

In addition to providing audio and MIDI capabilities, connecting the Axe-Fx III to a computer via USB allows you to use companion software applications **Fractal-Bot** and **Axe-Edit III**.

Fractal-Bot is a small, simple program used to update the Axe-Fx III when new firmware is released. It includes tools to backup or restore presets and other custom settings, and can be used to install downloaded presets or cabs.

Axe-Edit III is a full-featured software editor/librarian for the Axe-Fx III and FC Controllers. If you are comfortable with audio software or plug-ins, you will probably enjoy using this program to work with the Axe-Fx III. While the Axe-Fx III can certainly be operated from the unit's front panel, Axe-Edit III brings a new level of convenience, including some "power-user" routines that aren't possible on the unit itself (e.g. Block Library, Scene Swap, Performance Control pages, etc.). It also provides tools for managing presets and banks, installing Cab Packs, and more.

You can download Axe-Edit III for Mac or Windows at <http://www.fractalaudio.com>.



CONNECTING PEDALS DIRECTLY

! *This section is for pedals connected to the local “Expression” jacks of the Axe-Fx III.
For pedals connected to a MIDI or FC Series controller, see the next page.*

Each of the two local **Expression** jacks of the Axe-Fx III allows you to connect one expression pedal or one external footswitch. A connected pedal or switch can change effect parameters, or operate any of a long list of global functions. Many factory presets are ready for use with one or more pedals.

TO CONNECT & CALIBRATE AN EXPRESSION PEDAL...

Expression pedals for the Axe-Fx III should have a linear resistance taper and must have a maximum resistance in the range of 10–100kΩ. Expression pedals must be used with Tip-Ring-Sleeve (TRS) cables!

Connect your expression pedal to the desired jack with a TRS cable, then follow these instructions to calibrate:

- ▶ Page to the **Pedal** page of the **I/O** menu under **SETUP**.
- ▶ Ensure that **Pedal Type** is set to “CONTINUOUS”.
- ▶ Navigate to the **Calibrate Pedal** function and press the **ENTER** button.
- ▶ Follow the on-screen instructions to perform calibration.

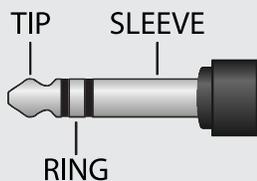
TO CONNECT A SWITCH...

Follow the instructions above and simply set **Type** to “MOMENTARY” or “LATCHING” based on what you’re connecting. (If you’re not sure, check with the switch manufacturer or try both settings to see which works better.) Calibration is not required. You can use a normal guitar cable (TS) for switches. Only ONE switch can be used at each of the pedal jacks.

THE EV-SERIES EXPRESSION PEDAL

The Fractal Audio Systems EV series of expression pedals are perfect for use with all Fractal Audio Systems products. The EV-1 is a full-sized expression pedal. The EV-2 is a compact version. These pedals feature rugged cast metal casings, a high quality 100kΩ potentiometer, and built-in analog volume pedal capability. Learn more at <https://www.fractalaudio.com>.

FAQ:



WHAT IS TRS? “TRS” stands for TIP-RING-SLEEVE and describes the configuration of a 1/4" end plug or jack with **three contacts**. Normal guitar cables are “TS” (Tip-Sleeve) since they lack the “ring” used as a third contact. Expression pedals require TRS cables because voltage is transmitted to them on one contact (the tip), and returned on another (the ring), allowing the host device to sense pedal position. The third contact (sleeve) is connected to ground.

GLOBAL EXPRESSION PEDAL SETUP

Pedals need to be assigned before they do anything. Once you have connected and calibrated a pedal according to the instructions on the previous page (or if you are using a MIDI or FC-connected pedal) you can globally assign it as “External 1”, which is used in many factory presets as a Wah controller.

To set “External 1” to respond to your connected pedal:

1. From the Home page, open **SETUP: MIDI/Remote** and change to the **External** page.
2. **NAV** to **External Control 1**.
3. Turn the “**A**” or **VALUE** knob to set this external controller to your pedal:
 - Select “**PEDAL 1**” or “**PEDAL 2**” for the onboard Expression jacks.
 - Select “**FC__ PEDAL __**” for a pedal connected via an FC series controller.
 - Select a **number** if your pedal is transmitting a MIDI CC#. For example, by default, the Fractal Audio Systems MFC-101 transmits CC#11 for XP1 and CC#16 for XP2.
4. **EXIT** when finished. Most of the first 100 Factory Presets contain a Wah block you can test with.

Learn more about assigning pedals and switches to sound parameters in [Section 9: Modifiers](#).

GLOBAL VOLUME PEDAL SETUP

The Axe-Fx III allows remote control of the volume at all inputs and outputs. If you have a second pedal, or if you want to use one pedal for global volume instead of expression, follow the instructions below:

The first step is to decide which volume you want to control. Adjusting **Input volume** affects gain/distortion and the behavior of level-dependent blocks like the compressor or gate. Adjusting **Output volume** does *not* affect level-dependent blocks, but scales everything you hear including effect tails. For all other volume options, you can insert a **Volume** block anywhere in your preset and control it with an “External Controller” as described above (See also [“Modifiers” on p. 53.](#))

To set up a global volume pedal, first ensure that you have a pedal connected and ready to use. Then:

1. From the **Home** page, open **SETUP: MIDI/Remote: Other**.
2. **NAV** to the entry for the volume you want to control: **Input 1, 2, 3, or 4**, or **Output 1, 2, 3, or 4**.
3. Turn the “**A**” or **VALUE** knob to assign a controller to your selected entry.
 - Select “**PEDAL 1** or **PEDAL 2**” for the onboard Expression jacks
 - Select “**FC__ PEDAL __**” for a pedal connected via an FC series controller.
 - Select a **number** if your pedal is transmitting a MIDI CC#. For example, by default, the Fractal Audio Systems MFC-101 transmits CC#11 for XP1 and CC#16 for XP2.
4. Test and **EXIT** when finished.

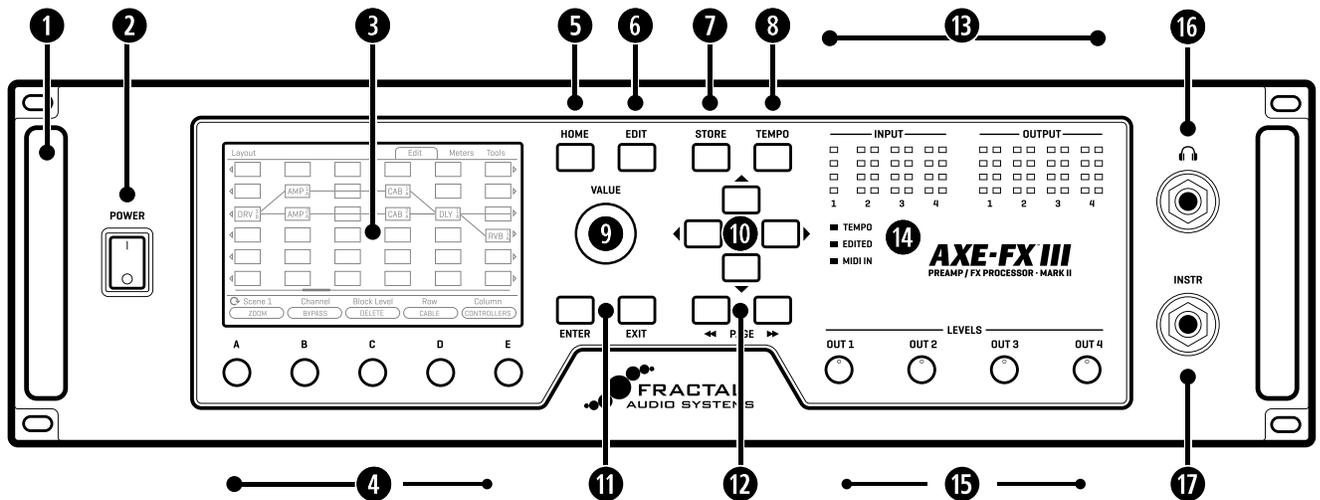
Learn about other options for global remote control in [“The MIDI/Remote Menu” on p. 75.](#)

SHORTCUTS

The Axe-Fx III has many user interface shortcuts. These are listed in [“Shortcuts” on p. 102.](#)

2 HARDWARE OVERVIEW

THE FRONT PANEL



- 1 **Chassis** – The Axe-Fx III is housed in a rugged 3U steel chassis with a sleek anodized aluminum front panel. A pair of high-strength handles make the unit easy to manage.
- 2 **Power Switch** – The front panel power switch turns the Axe-Fx III on or off with pop suppression.
- 3 **Color Display** – A large 800×480 custom color display has 30x the resolution of previous models. The display has excellent brightness and contrast for high readability even in difficult conditions.
- 4 **A, B, C, D, and E knobs** – Five endless rotary push-encoders perform different functions on different menu pages. Most “Edit” menus show one or two rows of five knobs for easy 1:1 operation. On vertical menu pages, knob functions are indicated on-screen by labels (“A” through “E”). Push functions are shown on-screen as buttons. These knobs also have hidden “double tap” functions detailed on [p. 103](#).
- 5 **HOME Button** – This button shows the **Home** menu—a convenient starting point for loading or editing presets, and accessing the tuner, controllers, metering, and global setup options. You can double-tap home as a shortcut to open the layout grid.
- 6 **EDIT Button** – This button opens the **Edit** menu for a block selected on the Layout grid. You can also tap **EDIT** sequentially to step through all blocks in the current preset (top-to-bottom, left-to-right), or double-tap to step in reverse order. See [“Presets” on p. 33](#) for more on editing presets.
- 7 **STORE Button** – Enters the **Store** menu where you can save presets and enter names for presets or scenes. See [“Saving Changes” on p. 41](#).
- 8 **TEMPO Button** – Tap this button once to show the **Tempo** page of the Controllers menu, or tap 2+ times to set a new tempo. The tempo can also be entered using a footswitch or MIDI. After setting the tempo, press **EXIT** to go back to back to wherever you were. See [“Tempo” on p. 65](#).

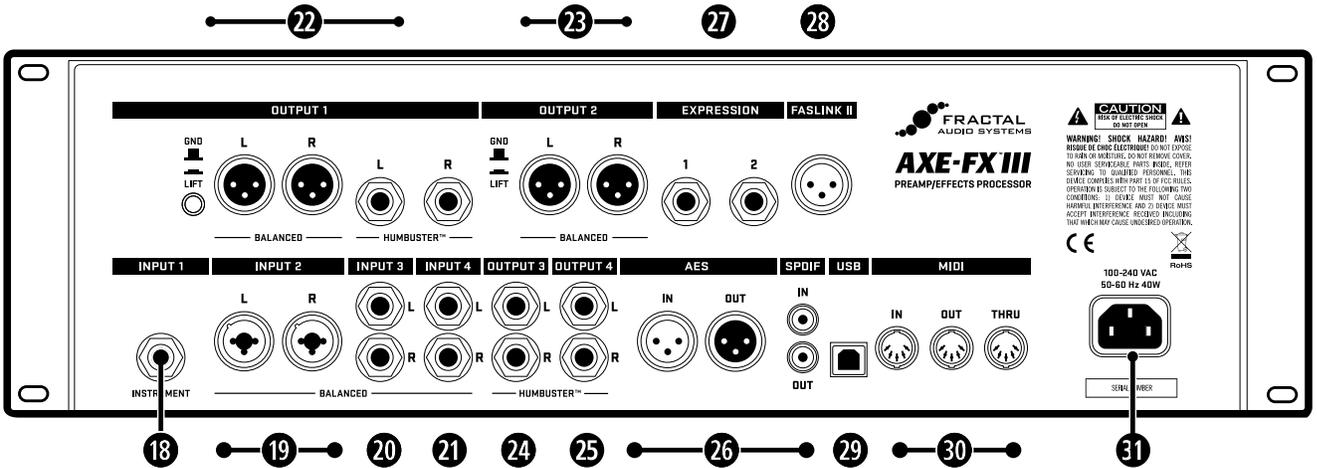
2 HARDWARE OVERVIEW

- 9 **VALUE Knob** – The **VALUE** knob performs different functions on different menu pages. In the **Home** menu, it selects presets. In **Layout** (grid) pages, it is used to add or modify blocks on the grid. In **Edit** menus, it changes parameter values, selects from lists, and more. A hidden “push” function enters the Layout (grid) of the current preset from other pages or menus.
- 10 **NAV Buttons** – The four **NAV** buttons perform different functions on different menu pages. On the preset pages of the **Home** menu, they select and load Presets (Left/Right) and Scenes (Up/Down). In other menu pages, they select between on-screen parameters or options, moving the “focus” of the **VALUE** knob, as indicated by a blue highlight and brighter blue text.
- 11 **ENTER and EXIT Buttons** – The **ENTER** button executes commands, commits changes, accesses sub-menus, and more. **EXIT** works for cancel, escape, and various other functions.
- 12 **PAGE LEFT and PAGE RIGHT Buttons** – These buttons step through menu pages, shown as “tabs” at the top of the display.
- 13 **Meter Bridge** – Eight LED meters show the levels of every input and output on the Axe-Fx III. For inputs, the red LED lights at -6dB. Set input levels so your loudest playing “tickles the red” if possible (see [p. 5](#)). For outputs, the red LED indicates -1 dBFS and is therefore a more immediate indication of clipping. You can also find meters on the **Meters** pages of the **Home** and **Layout** menus.
- 14 **Status LEDs** – Three LEDs indicate important information. The **Tempo** LED flashes to show the current Tempo. The **Edited** LED lights whenever the current preset has been altered but not saved. The **MIDI In** LED lights while MIDI data is being received at the MIDI Input or via USB.
- 15 **Output Level Knobs 1–4** – These knobs independently control the volumes at the corresponding rear panel outputs. The Output 1 knob simultaneously controls Output 1 XLR jacks and 1/4” jacks, and the headphones level. Outputs 3 and 4 are at unity gain when set fully clockwise.
- 16 **Headphones Output – 1/4” Stereo Jack** – Connect headphones here to monitor Output 1 (see above).
- 17 **Front Panel Instrument Input (mono) – (1) 1/4” Jack (unbalanced)** – Plug your instrument into this jack intended specifically for use with electric, acoustic, and bass guitars. See **Notes** below for details about both front and rear instrument inputs.

NOTES ABOUT FRONT & REAR INSTRUMENT INPUTS

- ▶ The front Instrument input always overrides the rear instrument input. This allows you to build a rig using the rear input—with a wireless unit, for instance—and then change to the front input simply by plugging in a cable. There are no settings for this. The input switches automatically.
- ▶ Both front and rear Instrument inputs feature our “**Secret Sauce IV**” circuitry, which – among other things – lowers the noise floor using a proprietary technique and special analog input circuitry.
- ▶ The **Input 1** block sets the impedance for Input 1 automatically, or can be manually overridden for “loading” effects on your pickups. See **Input Blocks** in the [“Blocks Guide”](#).
- ▶ You can also connect guitars and other instruments to **Inputs 2, 3 or 4**. These are designated as LINE Level but accommodate high impedance sources so as not to load down guitar pickups.
- ▶ You can use traditional effect pedals in a loop, or between your guitar and the Axe-Fx III. You may need to trim the input when using a loud guitar or pedal. See [“Setting Levels” on p. 5](#).

THE REAR PANEL



ANALOG INPUTS

Axe-Fx III inputs are extremely flexible. Any input can be placed as a block on the grid for use in any number of scenarios. Example rig diagrams are provided in [Section 4](#).

- 18** **Input 1 [Instrument] (mono)** – (1) 1/4" Jack (unbalanced) – Plug your instrument into this jack intended specifically for use with electric, acoustic, and bass guitars. See **Notes** (previous page) for details.
- 19** **Input 2 L+R (stereo)** – (2) XLR/1/4" Combo Jacks (balanced) – These combo jacks combine XLR female and 1/4" jacks in one, accepting either balanced or unbalanced line level signals.
- 20** **Input 3 L+R (stereo)** – (2) 1/4" Jacks (balanced) – Input balanced or unbalanced line level signals.
- 21** **Input 4 L+R (stereo)** – (2) 1/4" Jacks (balanced) – Input balanced or unbalanced line level signals.

Balanced audio connections are resistant to noise and interference. It is best to use XLR or TRS (3-conductor) cables when connecting Axe-Fx III inputs 2, 3 and 4 to the balanced outputs of other devices. Regular TS-type "patch" cables (2-conductor) are sufficient when connecting to unbalanced outputs.

ANALOG OUTPUTS

Like inputs, outputs are typically used by placing blocks on the grid, though in this case the various XLR and 1/4" Humbuster jacks suggest different uses for different outputs. Example rig diagrams are provided in [Section 4](#).

Humbuster technology on all 1/4" outputs can significantly reduce hum from ground loops. Humbuster Cables are available at <http://shop.fractalaudio.com>. Learn more on [p. 6](#).

- 22** **Output 1 L+R (stereo)** – (2) XLR-Male (balanced) and (2) 1/4" Jacks (Humbuster)
Use the XLR jacks to connect Output 1 to balanced inputs, employing the provided ground lift switch if necessary to reduce 60-cycle hum. Use the 1/4" unbalanced Humbuster outputs to connect to unbalanced inputs, such as those on guitar power amps and other devices. Output 1 is utilized as the main output in all factory presets.

2 HARDWARE OVERVIEW

- 23 Output 2 L+R (Stereo) – (2) XLR-Male Jacks (balanced)** – Use these XLR jacks to connect to balanced inputs. Use the ground lift switch if necessary to reduce unwanted 60-cycle hum.
- 24 Output 3 L+R – (Stereo) – (2) 1/4" Jacks (Humbuster)** – Use these 1/4" unbalanced outputs to connect to unbalanced inputs, such as those on guitar power amps or other devices.
- 25 Output 4 L+R – (Stereo) – (2) 1/4" Jacks (Humbuster)** – Use these 1/4" unbalanced outputs to connect to unbalanced inputs, such as those on some guitar power amps or other devices.
- Outputs 3 and 4 are designed for unity gain applications such as the popular “Four-Cable Method” and other setups using traditional guitar amps. Set the OUT 3 and OUT 4 Level knobs fully clockwise for unity gain. See the relevant rig diagrams in [Section 4](#) for more information.
- 26 Digital Inputs and Outputs** – This includes both S/PDIF and AES/EBU format input and output jacks. Only one or the other pair can be active at any time depending on the setting of the **SPDIF/AES Select** parameter found in **SETUP: I/O: Audio**. These jacks transmit and receive at a fixed rate of 48k. The Axe-Fx III defaults to using its internal clock but can also use Word Clock signals received at the digital input. Find descriptions of related parameters under [“I/O: AUDIO Page” on p. 72](#).
- 27 Expression Inputs – (2) 1/4" Jack** – These are used to connect an external expression pedal or switch to control various functions of the Axe-Fx III. See [“Connecting Pedals Directly” on p. 12](#) for more information.
- 28 FASLINK II Connector** – Connect Fractal Audio FC-6 or FC-12 foot controllers here. A standard XLR cable powers the FC without an external “wall wart” adapter, and carries 2-way communications.
- i NOTE:** *The FASLINK II port on the Axe-Fx III is designed for our “FC” series of foot controllers and is NOT compatible with the FASLINK port on our MFC-101 MIDI foot controller.*
- 29 USB** – This provides the Axe-Fx III with 8×8 USB audio and 2-way MIDI capabilities when connected to a compatible Mac or PC. Drivers are required for Windows. No driver is required for Mac OS X. See [Section 3: USB, on p. 19](#) for more.
- 30 MIDI Ports** – The MIDI IN port of the Axe-Fx III allows you to use a 3rd party MIDI controller or interface to control various functions including preset and scene selection, effect bypass, channel changes, parameter changes, and more. Messages received at the MIDI IN port are passed automatically to the MIDI THRU port. The MIDI OUT port transmits MIDI data generated by the Axe-Fx III to connected devices.
- See [“The MIDI/Remote Menu” on p. 75](#) for details on how to configure the MIDI Channel and other options. MIDI messages can also be transmitted by presets or by the Scene MIDI block. See
- 31 AC Power Receptacle** – Insert the supplied power cable and connect the other end to a grounded AC power receptacle. The Axe-Fx III has a universal power supply, which means it can be used around the world without an adapter simply by changing the cable.

3 USB

COMPUTER INTEGRATION

With a USB connection to a computer, the Axe-Fx III functions as an 8-in/8-out 24-bits 48kHz ultra-low latency audio interface for Mac and Windows computers. A driver is required for use under Windows. This extremely high-quality audio interface is powerful enough to be the centerpiece of a Digital Audio Workstation (DAW).

In addition, a computer connection provides high-speed “MIDI-over-USB” for remote control of the Axe-Fx III, backups, updates, editing, and more.

WINDOWS MINIMUM REQUIREMENTS

OS: Windows 7 SP1 or newer (all versions compatible with x86 or x64).

CPU: Intel Core 2 @1.6 GHz or better, or AMD equivalent.

Memory: 1GB minimum.

USB: USB 2.0 support required.

Driver: The Axe-Fx III is fully class-compliant, but driver installation is still required for use under Windows.

The Windows driver can be downloaded at <http://www.fractalaudio.com/support>.

Step-by-step instructions are included with the installer.



MAC MINIMUM REQUIREMENTS

OS: OS X 10.6.8 or later for MIDI-over-USB (Fractal-Bot, Axe-Edit III, Cab-Lab, etc.).

OS X 10.9 or later for USB audio. An issue in older OS X versions causes audio pops.

CPU: Intel Processor or Apple M1 series.

Memory: 512MB minimum.

USB: USB 2.0 support required.

Driver: No driver is required for Mac OS. The Axe-Fx III is class-compliant.

! *Important: If you are using a USB-C to USB adapter on an Apple computer, always plug the USB-C end of the adapter into a USB-C or Thunderbolt 3 (USB-C) port on your Mac first, and **then** connect the USB cable of your Axe-Fx III to the adapter.*



MIDI-OVER-USB

The USB connection also carries high-speed “MIDI-over-USB”. On the computer, the **Axe-Fx III MIDI In** port inputs MIDI data from the Axe-Fx III. The **Axe-Fx III MIDI Out** port transmits data from the computer to the Axe-Fx III.

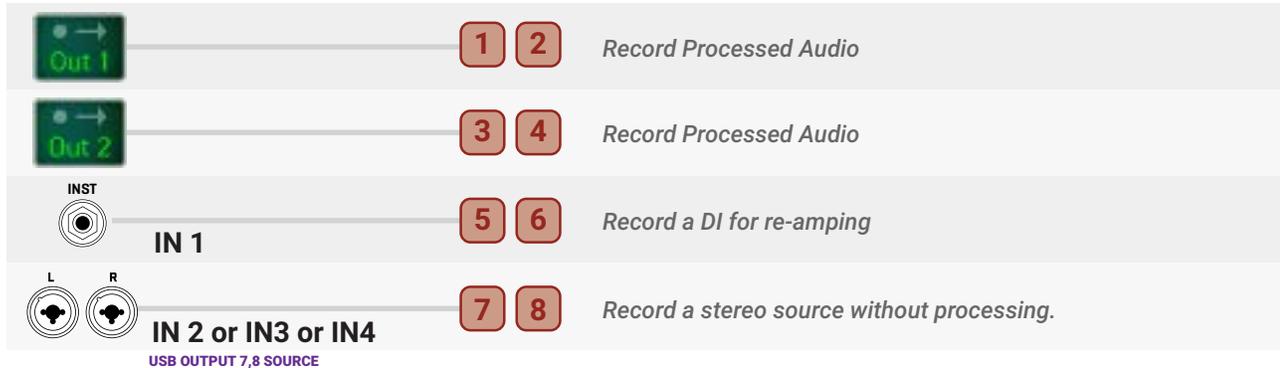
MIDI-over-USB performs the same functions as regular 5-pin MIDI, only faster. For example, the Axe-Fx III will process an incoming MIDI Program Change message whether that message is transmitted through the unit’s own **MIDI IN** port, or via the **Axe-Fx III MIDI Out** port of a connected computer.

USB INPUTS AND OUTPUTS

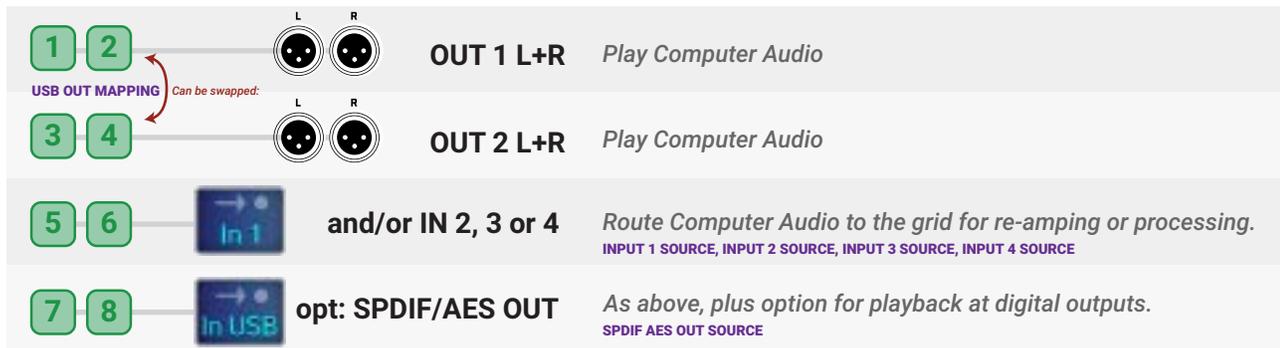
The USB Recording and playback capabilities of the Axe-Fx III are illustrated below. The numbered red boxes in the top section represent USB inputs on the computer, and the numbered green boxes in the top section represent USB outputs on the computer.

In the following diagram, parameters shown in purple are found in **SETUP: I/O: Audio**

COMPUTER INPUTS (RECORDING)



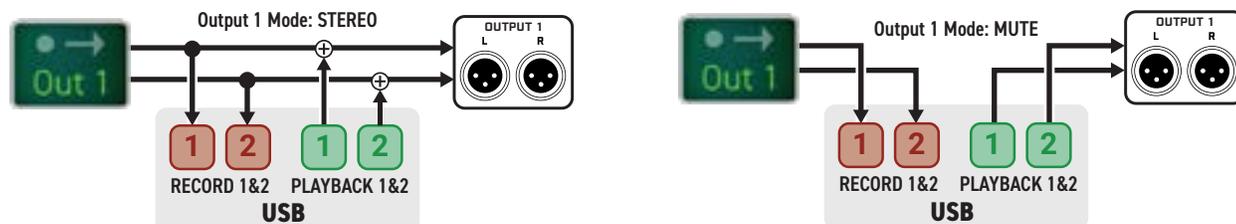
COMPUTER OUTPUTS (PLAYBACK)



OPTION: USB INPUT MONITORING ONLY

It is possible to record and play back USB audio without also hearing "local" audio from the Out 1 or Out 2 blocks at the corresponding physical jacks by changing **SETUP:I/O: Audio: Output 1 (or 2) Mode** to "MUTE"

The following diagram shows how signal is routed during normal use and when this special option is used.



MAC OS X SYSTEM AUDIO

By default, Mac OS X system audio plays through USB Channels 1+2 of a connected device. If you are using a multi-channel audio application such as Logic or Mainstage, you can simply select the desired outputs on a track-by-track basis. The following section applies rather to *system* audio.

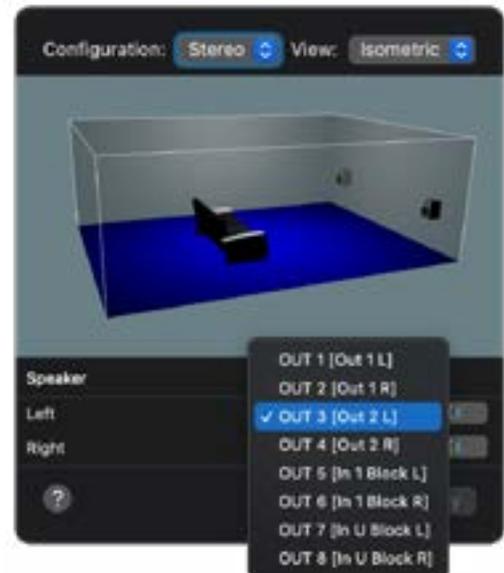
Audio from apps such as Apple Music or iTunes will normally be played back to the first pair of USB outputs. As detailed on the previous page, these are –by default– mixed in at output 1, which is also the destination for processed guitar signals in all factory presets.

If you want to separate system audio and guitar processing to two different pairs of outputs, you might think at first that you need to change every factory preset to use the Output 2 block. That would work, but there are two other options.

The first option is to re-map USB Audio playback so computer outputs 1 and 2 to go to Out 2 L+R instead of Out 1 L+R. To do this, change SETUP : I/O : Audio : **USB OUTPUT MAPPING** to “1/2 -> OUT2, 3/4 -> OUT1”.

The second option is to use the “Configure Speakers” option in Mac OS. To change this setting:

1. First ensure that the Axe-Fx III is selected as your output device.
 - Connect the Axe-Fx III to your Mac as described on [p. 19](#).
 - Open the **Output** pane of **Sound preferences** (Choose Apple menu > System Preferences, click Sound, then click Output) and select the **Axe-Fx III**.
2. Open **Audio MIDI Setup** (find it in **Utilities** in your computer’s **Applications** folder).
3. Select the **Axe-Fx III** device from the list, then click the **Configure Speakers** button (lower right).
4. Make sure that the Configuration is set to “Stereo” and then select the desired left and right channels. **IMPORTANT:** As shown in the screen capture below, the computer outputs corresponding to Axe-Fx Out 2 L+R are numbered “3” and “4” in the computer.
5. Click “Apply” then click “Done” to finish.



USB RE-AMPING

The Axe-Fx III USB Audio capabilities are perfect for “re-amping”, a method in which the raw un-processed DI output of a guitar is recorded and then re-processed later through the amp, cab, and effects of your choice. Re-amping has many benefits. First, it allows you to record when inspiration strikes, capturing a DI instead of obsessing over final tone. Later, you – or a mixing engineer – can redesign a sound as your track’s production advances. Also, punches and edits made on the DI track are essentially made inaudible by the re-amping process. In comparison to other products, the Axe-Fx III allows you to use the unit in the best and most effective re-amping workflows, including being able to dial in new tones while simultaneously listening to the track for context.

NOTE: This method is for USB Re-Amping. For analog reamping, simply copy Input 1 to Output 3 or 4 ([p. 73](#)).

This tutorial also assumes you are using default settings for the various parameters in Setup: I/O.

STEP 1: RECORDING

The following tutorial assumes that the Axe-Fx III has been selected as the audio interface in your Digital Audio Workstation (DAW), and that you have connected **Output 1 L/R** to studio monitors, or that you are monitoring through the Axe-Fx III headphones jack. The details for each step below may vary slightly from one DAW to another, but this guide should be easy to adapt to your own environment.

1. In your DAW, select **Axe-Fx III** as the main audio interface. Set the main outputs to **Axe-Fx III Outputs 1+2**.
2. Create a new project in the DAW, and set its sample rate to **48kHz**. Record or insert any backing tracks.
3. Connect your guitar to the **Instrument** input and select a preset well-suited to the material you’re recording.
4. For this tutorial, we will record both the processed output and the DI.
 - Create a **mono** track. Name this track something like “Guitar DI”. Set its input to **Input 5**. This is the DI output of the Axe-Fx III. This will record the signal at the **Input 1 Instrument** jack with no processing.
 - Create a **stereo** track. Name this track something like “Guitar Reference 1”. Set its inputs to **Axe-Fx III Inputs 1+2**. This will record the processed guitar signal sent on the grid to the **OUT 1** block.
5. **Arm** both of your guitar tracks for recording, making sure that **Software/Input Monitoring** is *NOT* enabled.
6. Hit **RECORD** and roll the track. You should see signal on both tracks. Be aware: while the processed track will show “hot” levels, the signal level on a DI track will appear to be *very low*. This is **NORMAL!** You are recording the instrument level signal exactly as it comes out of your guitar with no pre-amplification.

STEP 2: RE-AMPING

To prepare for basic re-amping, change two settings on the Axe-Fx III.

1. Press **HOME** and open **SETUP : I/O : Audio** and make the following two changes:
 - Change **Digital Input Source** to “USB/CHANNELS 5/6”.
 - Change **Input 1 Source** to “**DIGITAL**”.
2. **MUTE** the “Guitar Reference 1” track.
3. Change the output of your “DI” track to **Axe-Fx III Output 5/6**. Set its output level to **-6.0 dB**.
4. Solo your DI track, then rewind and hit **PLAY**. You should hear the DI being processed by your Axe-Fx III preset.
5. Record the re-amp. Create a stereo track. Name this track something like “Guitar Re-Amp 1”. Set its inputs to **Axe-Fx III Inputs 1+2**.
6. Arm your re-amping track for **recording**, making sure that **Software/Input Monitoring** is *NOT* enabled.
7. Rewind, hit **RECORD**, and roll the track. The output of the preset is recorded.
8. Change **Input 1 Source** back to “**ANALOG**” when you finish re-amping.

4 SETTING UP

This section provides an overview of various ways to use the Axe-Fx III. These diagrams represent just a few of the many ways to use this flexible product, and even if you only intend to use a basic setup you can still learn from looking over this section.

GENERAL PRINCIPLES

POWER & LEVELS

- ▶ When creating a new setup, begin with all level knobs turned down and all devices powered off.
- ▶ The Axe-Fx III features pop suppression on startup, but speakers or monitors should still be powered on last whenever possible.
- ▶ Basic surge/spike protection is recommended but not required.

AXE-FX III INPUTS

- ▶ When connecting a guitar to the Axe-Fx III, the front or rear **Input 1/Instrument** jacks are preferable. These feature “Secret Sauce IV” circuitry, which lowers the noise floor using a proprietary technique and special analog input circuitry. The front jack overrides the rear one, so you can connect in different ways without changing menu settings even when the rear jack is utilized in a rack system.
- ▶ You can also connect guitars and other instruments to **Inputs 2, 3 or 4**. These are designated as LINE level but accommodate high impedance sources so as not to load down guitar pickups.
- ▶ When connecting the outputs of other devices to inputs on the Axe-Fx III, use appropriate cables and connectors. For balanced signals use balanced connectors. Regular guitar cables are fine for unbalanced connections to the inputs of the Axe-Fx III.
- ▶ Setting **Input Levels** correctly is important. See [“Setting Levels” on p. 5](#).

AXE-FX III OUTPUTS

- ▶ Outputs 1 and 2 default to -10 dBV. You may wish to change these to +4 dBu when connecting to professional audio equipment. Find these settings on under **SETUP: I/O: Audio**
- ▶ When connecting to a device with **balanced inputs**, it is best to use the XLR outputs of the Axe-Fx III with XLR cables or XLR-to-TRS cables.
- ▶ If a connected device has **unbalanced inputs**, use the unbalanced 1/4" outputs of the Axe-Fx III. **Humbuster cables** are not required, but can help prevent the noise associated with ground loops. Purchase Humbuster cables at shop.fractalaudio.com or from your nearest Fractal Audio Systems dealer. (See [p. 6](#).)

MONO/STEREO

- ▶ Any setup can easily be adapted for mono or stereo with some simple changes to input and output settings.
- ▶ See [“Mono vs. Stereo” on p. 6](#) for an introduction, and [“I/O: AUDIO Page” on p. 72](#) for details on I/O parameters.

USING THE AMP BLOCK WITH TRADITIONAL GUITAR SPEAKERS

- ▶ When using the Axe-Fx III amp block into traditional (*not* FRFR) guitar speakers, certain advanced parameters warrant special consideration. On the “Speaker” page of the Amp block, set **Speaker Drive** to zero. You may also wish to zero **Speaker Compression**. Also consider matching **LF Resonance Frequency** to match the resonance of your connected cab – if you know it.

FRFR/DIRECT

Global Settings: Default
Presets: Factory or Custom

This is by far the most popular type of setup, taking full advantage of the ability of the Axe-Fx III to every part of an “end-to-end” guitar chain, from stompboxes to amps, cabs, post effects, and more, for maximum versatility.

Output 1 is connected directly into full-range, flat response (“FRFR”) speakers such as those offered especially for guitar players by a number of manufacturers. Such systems are typically self-amplified (“active” or “powered”), but may consist of separate “passive” full-range speakers and a full-range power amp. Other suitable FRFR systems include high-quality PA speakers (including “Personal Monitor” wedges) or studio monitors.

In some cases, signal from the Axe-Fx III may pass through a mixer first. That’s fine, as long as you connect to LINE inputs. You do NOT need to use a mic preamp! Contact your mixer’s manufacturer if you have any questions.

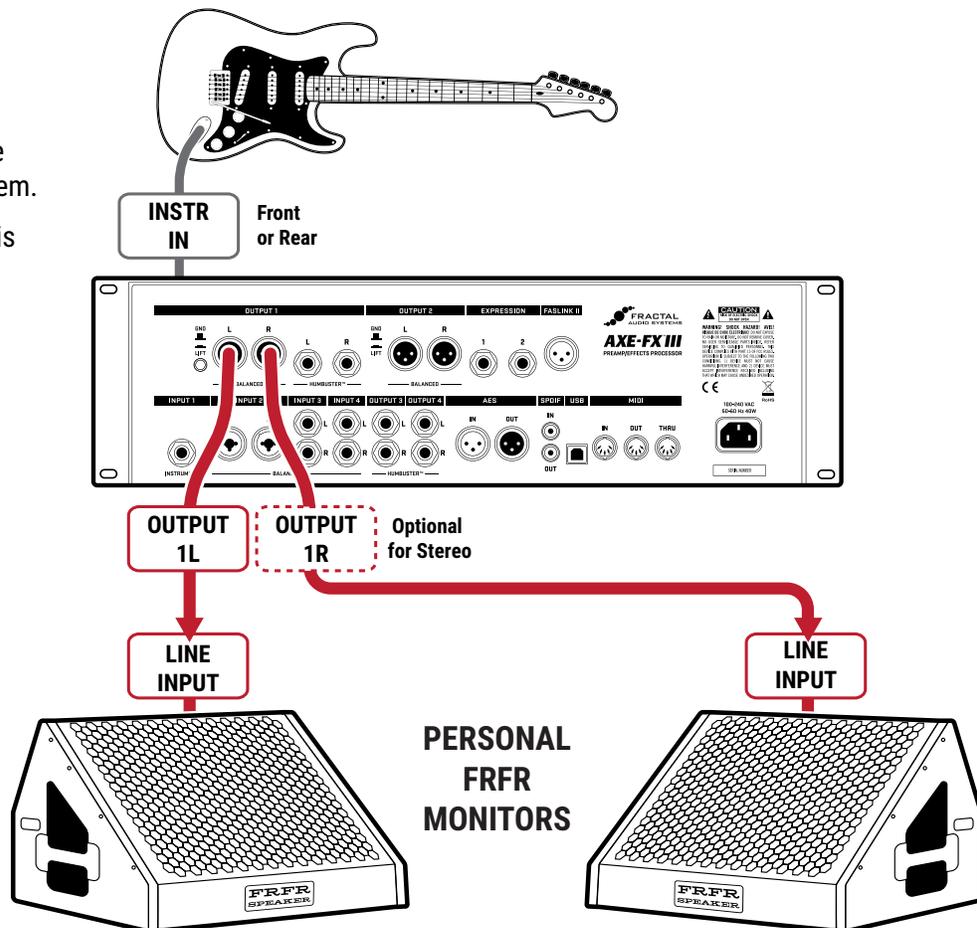
All Global and I/O settings are at default values. All Axe-Fx III factory presets are designed for this setup.

Adjust overall levels using the front panel **OUT 1** knob.

This is also the setup for a Digital Audio Workstation (DAW). Just add a computer connected via USB (don’t forget drivers if you’re running Windows) and the speakers connected to your Axe-Fx III become the main monitors for the DAW. Headphones can also be used.

CONNECTIONS

- ▶ Connect your guitar to **Input 1 (Instrument)**.
- ▶ Connect **Output 1** to the input of your FRFR System.
- ▶ The presets used for this setup also work great with **headphones**.



FRFR MONITOR & FRFR TO FRONT-OF-HOUSE

Global Settings: “Out 2 Copy Out 1” Turned ON
Presets: Factory or Custom

This type of setup is similar to the previous FRFR/Direct setup except that it also sends signal to a mixer for front-of-house mixing (and possible band monitors). In this configuration, the Axe-Fx III creates a fully modeled end-to-end guitar signal path for the ultimate in tonal flexibility—stompboxes, amps, cabs, post effects, and more.

Output 1 is connected directly to your own monitors. Use full-range flat response (“FRFR”) monitor speakers such as those offered especially for guitar players by a number of manufacturers. These might be self-powered or passive, with an external power amp. High-end PA monitor wedges can also be fantastic for this purpose.

Output 2 is used as an independent *copy* of Output 1. For this example, this is accomplished with a Global settings change rather than inserting an Output 2 block in every preset. (See “Connections” below for details.)

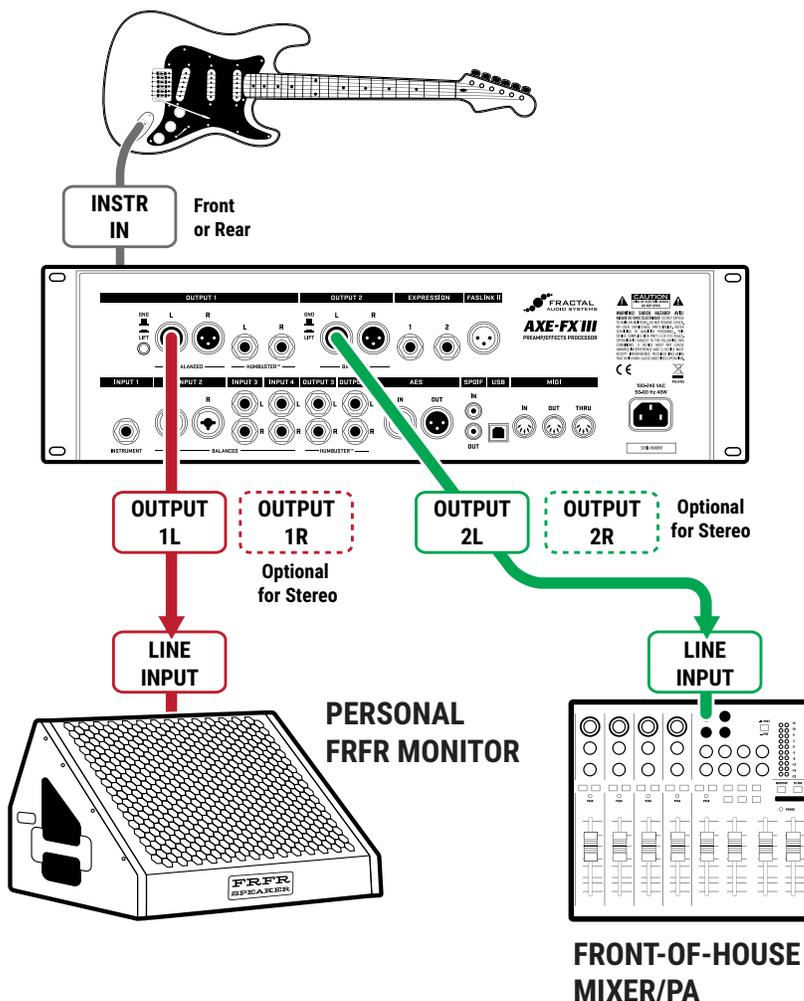
In the event that your monitors are stereo but front-of-house wants mono, consider whether you want to send them half-stereo or summed stereo and change **SETUP: I/O: OUTPUT 2 Mode** (see [“Mono vs. Stereo” on p. 6](#)).

Adjust your own monitor level using the front panel **OUT 1** knob.

Adjust your send level to front-of-house using the front panel **OUT 2** knob. One advantage of this setup is that you can adjust stage levels and house levels independently.

CONNECTIONS

- ▶ Connect your guitar to **Input 1 (Instrument)**.
- ▶ Connect **Output 1** to the input of your FRFR System.
- ▶ In **SETUP: I/O: Audio**, set **Output 2 Copy Output 1** to “ON”.
- ▶ Connect **Output 2** to the front-of house system.
 - This will presumably be a balanced connection, so use XLR cables if so.
 - If you are working with a sound technician, be sure to tell them that you are outputting a hot LINE level input – NOT a microphone level signal. They should use a balanced line input without a preamp.
 - Also tell them you are sending a fully processed “mix-ready” sound, and that – at least to start – they should initialize the channel with no EQ or processing.



POWER AMP & GUITAR SPEAKERS

Global Settings: Modified (see below)
Presets: Factory or Custom

This popular setup uses a power amp and traditional guitar speakers, which are *NOT* full-range or flat response, so speaker simulation is disabled globally. Blocks are used to recreate stompboxes, amps, and studio effects. Depending on your amp, power amp modeling may also need to be disabled globally.

DISABLE SPEAKER CAB MODELING

IMPORTANT: For this setup, bypass **Cabinet Modeling** under **Global Settings**.

- ▶ Navigate to **SETUP: Global Settings: Config.**
- ▶ Change **Cabinet Modeling** to "BYPASSED".

CONSIDER YOUR POWER AMP...

There are two categories of power amp that you can use with the Axe-Fx III. A sonically "**neutral**" power amp is generally the preferred variety. Such amps (mostly solid-state) allow you to use **Power Amp Modeling** in the Axe-Fx III, which accurately recreates the appropriate power amp tone and dynamics for your selected amp model.

The second category is "**non-neutral**" power amps, typically tube-powered, and made specifically for traditional guitar rigs. This includes not only rackmount amps, but the power amp in a tube head or combo—usable for a rig like this one when you plug directly in to the amp's FX RETURN jack. The non-neutral power amp can sound great, but you'll be "stuck" with the tone and dynamics of that particular amp, and you will almost certainly want to disable **Power Amp Modeling** as detailed below:

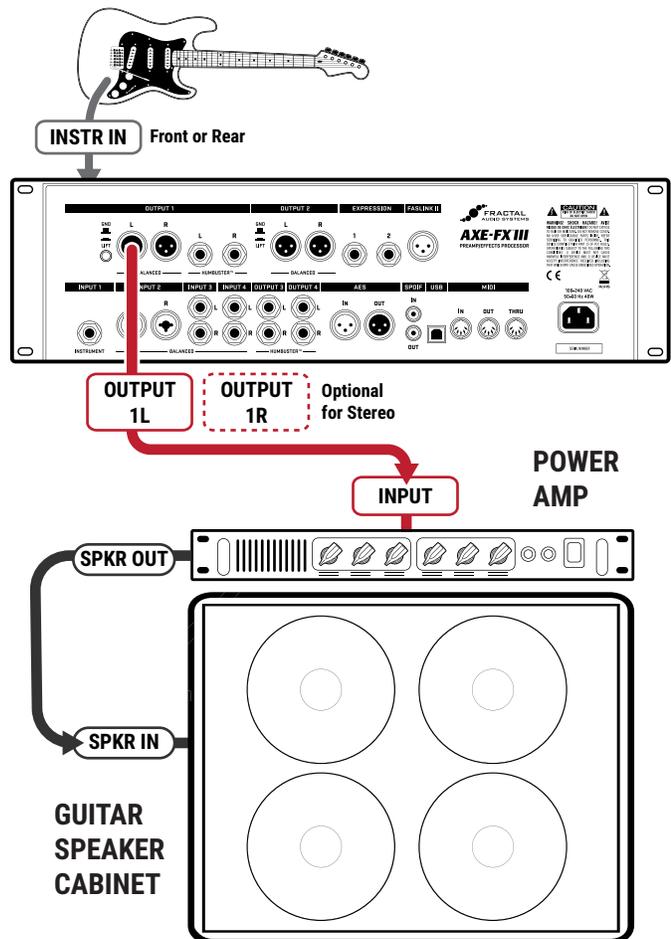
DISABLE POWER AMP MODELING

IMPORTANT: when using a non-neutral power amp, set **Power Amp Modeling** under **Global Settings** to **OFF**.

- ▶ Navigate to **SETUP: Global Settings: Config.**
- ▶ Change **Power Amp Modeling** to "OFF".

CONNECTIONS

- ▶ Connect your guitar to **Input 1 Instrument**.
- ▶ Connect **Output 1 L** to the input of your power amp, which is assumed to already be connected to a guitar speaker cabinet. You can also connect to the FX Return jack on many amp heads/combos.
- ▶ When using 1/4" outputs, **Humbuster** cables are recommended to reduce hum from ground loops.



POWER AMP & CAB & FRFR/DIRECT

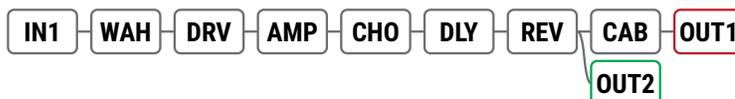
Global Settings: Default, check I/O Mono/Stereo settings

Presets: Custom

In this setup, custom presets simultaneously send two different signals—WITH speaker sims sent to a full-range front-of-house/monitors P.A. mix, and one WITHOUT speaker sims, sent to a “backline” rig consisting of a power amp and traditional guitar cab. For this example, we are assuming that the backline system uses a neutral power amp.

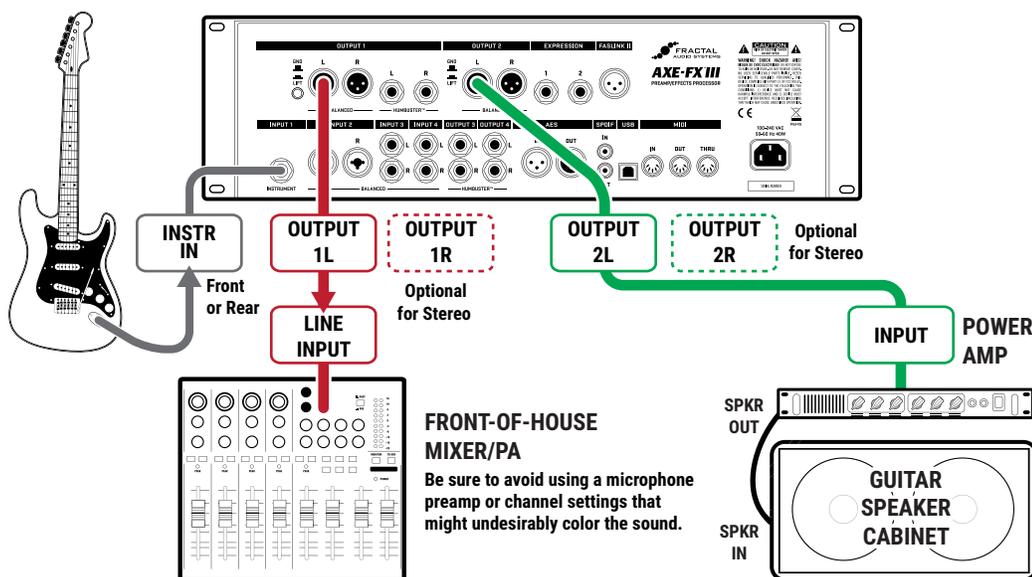
Output 1 connects to a full-range system—typically the house PA—sending a complete virtual rig tone, including simulated speakers. This provides all the benefits of going direct: versatile, consistent tone without “bleed” at very controllable volume levels for a better overall mix.

Output 2 sends a separate signal, almost identical to the first, but without speaker simulation—because it will be going to a power amp and traditional guitar speaker. This approach provides a very familiar “backline” experience—great natural sustain and feedback, “moving air,” and familiar stage volume and presence.



This setup requires **custom presets** with both **Output 1** and **Output 2** blocks on the grid. Output 1 is at the end of the chain (where it appears in factory presets) and Output 2 taps the signal just before the cab block as shown below.

Note that the cab block has been moved to after the effects, which may collapse them to mono at Output 1. If a stereo signal is required at Output 1, the cab block must be modified for stereo use. Another solution would be to split the signal after the amp into separate chains of [Cab—Effects—Out 1] and [No-Cab—Duplicate Effects—Out 2].



CONNECTIONS

- ▶ Connect your guitar to **Input 1 (Instrument)**.
- ▶ Connect **Output 1** to the Front-of-House PA. Inform the sound technician that the Axe-Fx III outputs a direct LINE level signal which should initially not require any EQ or settings typically used on a mic'd guitar cabinet.
- ▶ Connect **Output 2** to the input of your power amp. Again, we are assuming a neutral power amp is in use (see note, [p. 26](#)).
- ▶ If using the 1/4" outputs, **Humbuster** cables are recommended to reduce hum from ground loops.

FOUR-CABLE METHOD (“4CM”)

Global Settings: Default, but see “Tip” Below Presets: Custom

The Four-Cable Method (“4CM”) setup places the Axe-Fx III in two places at once with two separate processing chains. The first goes in front of your amp, where a chain of “pre” effects like wah and drive replace traditional stompboxes. The second placement is in the effects loop of the same amp, where a chain of “post” effects like delay and reverb appear. Although a head and separate cab are shown, many combo amps also offer an onboard effects loop and can be used as well.

4CM requires special presets with no Amp or Cab blocks. A stylized illustration appears below. Signal hits the Axe-Fx III first, where it is processed by **pre effects**. **Output 3** feeds the front of the amplifier. A chain of **post effects** is run in the amp’s FX loop using **Input 4** and **Output 4**. Note that the pre and post chains are not connected to each other at all on the grid. In fact, either chain can be as simple or as complex as desired.

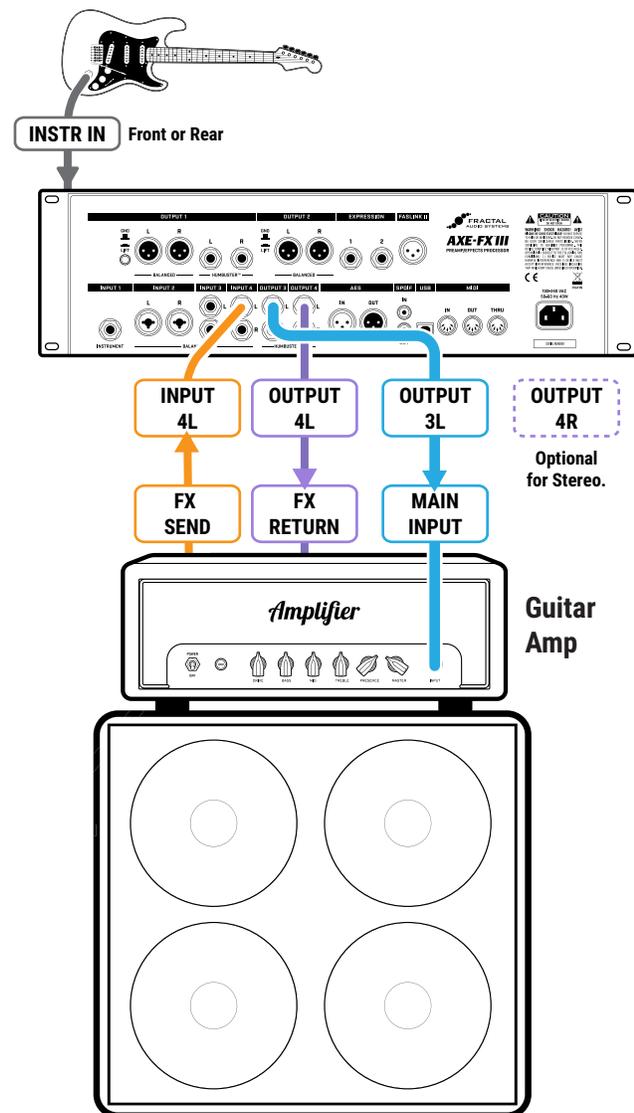


CONNECTIONS

- ▶ 4CM requires custom presets with no Amp or Cab blocks (see above). A template is included (#382).
- ▶ Connect your guitar to **Input 1 (Instrument)**.
- ▶ Connect **Output 3 L** to the input of your amp. Set the front panel **OUT 3** knob fully clockwise for unity gain operation. A **Humbuster** cable is recommended to reduce hum from ground loops.
- ▶ Connect your amp’s FX Send to **Input 4 L** on the Axe-Fx III. Input levels can be adjusted on the **Input** page of the **I/O** menu under **SETUP**. Set **Input 4 Mode** to “LEFT ONLY” on the **Audio** Page of the **I/O** menu under **SETUP**.
- ▶ Connect **Output 4 L** to the FX Return of your amp. Set the front panel **OUT 4** knob as desired for appropriate volume. A **Humbuster** cable is recommended. To extend this configuration for optional stereo, connect **Output 4 R** to the FX Return of a second amplifier, bypassing that unit’s preamp altogether.

TIP: OPTIMIZE FOR LOW NOISE

The optional **Boost/Pad** functions on Outputs 3 and 4 are designed to run the D/A converters at boosted levels, padding their outputs for even lower noise. To find the right setting, adjust either of these settings as high as possible without clipping the outputs, as indicated by a red LED on the front panel meters. You’ll actually hear the noise floor drop as you increase Boost/Pad. Find these options on the **Audio** page of the **I/O** menu under **SETUP**.



FX PROCESSOR ONLY (“POST”)

Global Settings: check I/O Mono/Stereo settings, see “Tip” Below

Presets: Custom

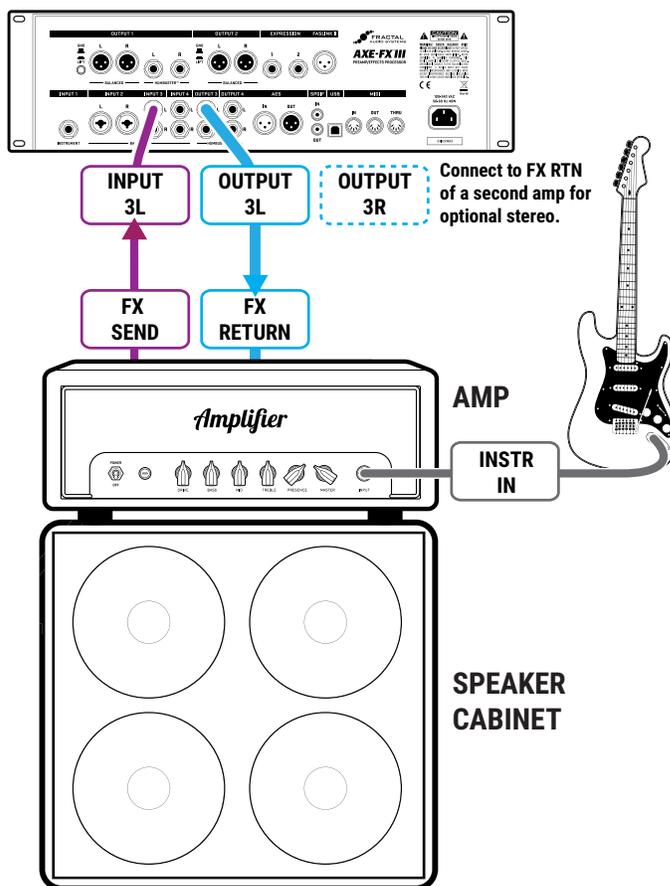
Although it was designed for complete rig replacement, the Axe-Fx III can also be put to superb use as a standalone FX processor, providing access to our industry leading effects for those who are not ready to make the switch to modeling.

This setup uses only three of the four cables used in the Four-Cable Method (p. 28) for operation in an amp’s FX loop, providing post- but no pre-effects. Output 3 and 4 are designed for unity gain applications—which may or may not be important in this case depending on your amp. Here we’ll use Output 3 and pair it with Input 3 for simplicity’s sake.

You will need to create custom presets without Amp or Cab blocks, containing only those effects that sound good to you *after* preamp distortion: typically chorus, EQs, delays, reverbs, certain types of pitch shift, etc.

CONNECTIONS

- ▶ This setup requires custom presets with no Amp or Cab blocks.
- ▶ Connect your guitar to your amp’s instrument input as usual.
- ▶ Connect the FX Send of your amp to **Input 3 L**. Input levels can be adjusted in **SETUP : I/O : Input**.
- ▶ In **SETUP : I/O : Audio**, set **Input 3 Mode** to “LEFT ONLY”.
- ▶ Connect **Output 3 L** to the FX Return of your amp. A **Humbuster** cable is recommended.
- ▶ Set the front panel **OUT 3** knob as desired for appropriate volume levels. If unity gain is required, set the knob fully clockwise.
 - To extend this configuration for optional **stereo**, you would typically connect **Output 3 R** to the FX Return of a second amplifier, bypassing that unit’s preamp altogether.
 - Other types of stereo setup are of course possible, including using two totally different amps each connected on Left and Right sides of one I/O pair, or I/O 3 for one amp and I/O 4 for another. There are no limits except your imagination.



TIP: OPTIMIZE FOR LOW NOISE

The optional **Boost/Pad** functions on Outputs 3 and 4 are designed to run the D/A converters at boosted levels, padding their outputs for even lower noise. To find the right setting, adjust either of these settings as high as possible without clipping the outputs, as indicated by a red LED on the front panel meters. You’ll actually hear the noise floor drop as you increase boost/pad. Find these options on the **Audio** page of the **I/O** menu under **SETUP**.

FX PROCESSOR ONLY (“PRE”)

Global Settings: check I/O Mono/Stereo settings, see also “Tip” below
Presets: Custom

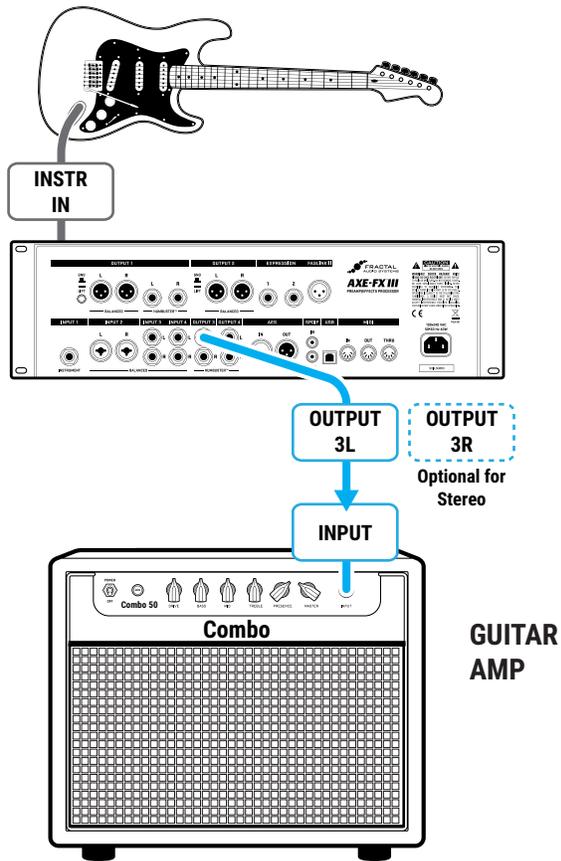
Here, the Axe-Fx III is used as the ultimate **virtual pedalboard**, providing access to our vast collection of industry-leading effects between guitar and amp, where traditional pedals might be placed. As with all Axe-Fx III setups, you are not limited by the stock offerings but can combine effects in any configuration imaginable, creating totally new sounds using the layout grid and its modular block architecture. Custom presets contain no Amp or Cab blocks.

This setup uses only two of the four cables used in the Four-Cable Method ([p. 28](#)). Outputs 3 and 4 are designed for unity gain applications—which is important in this setup. Here we’ll use **Output 3** and pair it with **Input 3** for simplicity’s sake.

You will need to create custom presets without Amp or Cab blocks, and those presets should be created with an understanding of how effects sound *in front of* your amp’s preamp and the distortion it generates.

CONNECTIONS

- ▶ This setup requires custom presets with no Amp or Cab blocks.
- ▶ Connect your guitar to **Input 1 Instrument** on the Axe-Fx III. Adjust input levels if required as detailed on [p. 5](#).
- ▶ Connect **Output 3 L** to the input of your amp. A **Humbuster** cable is recommended.
- ▶ Set the front panel **OUT 3** knob fully clockwise for unity gain.
 - To extend this configuration for optional stereo, connect **Output 3 R** to the input of a second amplifier.
 - You might use the Axe-Fx III to select between two amps by changing Channels on the Output 3 block:
 - Channel A: Balance Center (Both Amps)
 - Channel B: Balance Left (Left Amp)
 - Channel C: Balance Right (Right Amp)
 - Channel D: (Not used)
 (See [“Scenes & Channels” on p. 43](#) for more.)



TIP: OPTIMIZE FOR LOW NOISE

The optional **Boost/Pad** functions on Outputs 3 and 4 are designed to run the D/A converters at boosted levels, padding their outputs for even lower noise. To find the right setting, adjust either of these settings as high as possible without clipping the outputs, as indicated by a red LED on the front panel meters. You’ll actually hear the noise floor drop as you increase boost/pad. Find these options on the **Audio** page of the **I/O** menu under **SETUP**.

INSERTING OUTBOARD GEAR

Global Settings: As per your usual setup, check I/O Mono/Stereo Settings

Presets: Custom

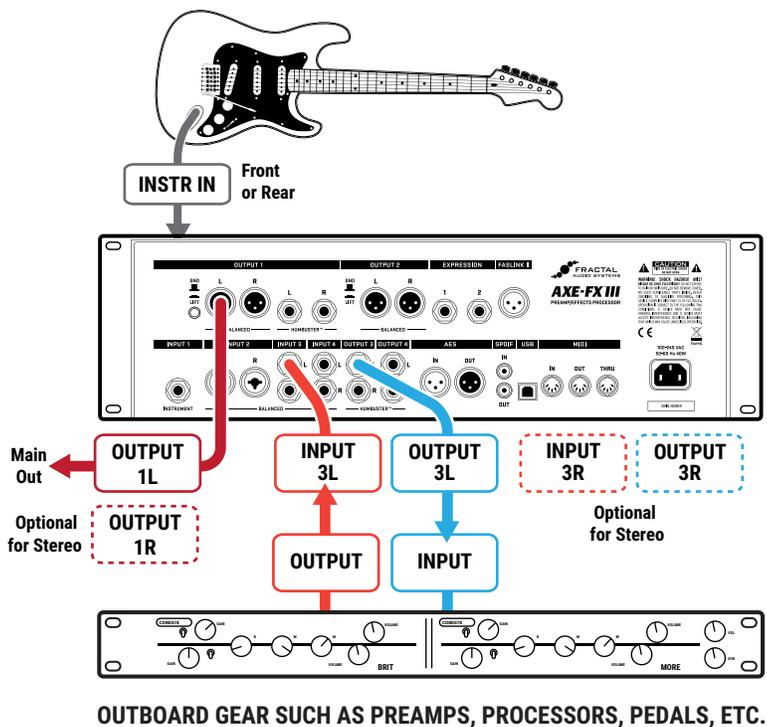
With the typical “direct” setup using only Input 1 and Output 1, the Axe-Fx III has enough I/O blocks left over for multiple “send-and-return” inserts of outboard gear. The simple example below imagines a 3rd-party device inserted using Output 3 (used as a “send”) and Input 3 (used as a “return”). This setup can also be used with stereo inserts, or expanded with multiple I/O pairs for multiple outboard devices. Insert devices can even be added to other types of setups using these same techniques.

Custom presets are required for this type of setup, with output and input blocks added for the send and return points (see example below). The Axe-Fx III has no “FX LOOP” blocks, so inputs and outputs are placed individually on the grid. In a send/return pair, the Output block is connected to the Input block (as shown below), allowing the Input block (return) to serve as a master bypass control for the send/return loop.



CONNECTIONS

- ▶ Connect your guitar to **Input 1 (Instrument)**.
- ▶ This example assumes **Output 1** is connected to FRFR monitors.
- ▶ Connect **Output 3 L** as a “send” to the input of your outboard device. Adjust output levels using the front panel **OUT 3** knob with the following considerations:
 - Outputs 1 and 2 have options for -10 dBV and +4 dBu in **SETUP: I/O: Audio**.
 - Outputs 3 and 4 provide unity gain when the knob is fully clockwise.
 - You can also adjust the levels of an individual Output block.
- ▶ Connect the output of your outboard device to **Input 3 L** as a “return”. Adjust levels on your device or use the trim controls under **SETUP: I/O: Input**.
- ▶ Optionally connect the right channel inputs and outputs for stereo insert devices.



4 SETTING UP

MULTI I/O SETUPS

The flexibility of the new Input and Output blocks allows some very cool and complex setups to be basically self-explanatory. The diagrams below show ideas for rigs which in the past might have required intricate explanations, but are now just presets.

The ideas in these layouts might inspire other setups, perhaps in combination with the rig setup diagrams found earlier in this section. For example, you might use extra Inputs and Outputs to insert outboard gear, or use different backline and front-of-house options. The only limit is your imagination.

For clarity only, all blocks are shown engaged instead of bypassed.

DUAL OUTPUT GUITAR

CPU: 82%

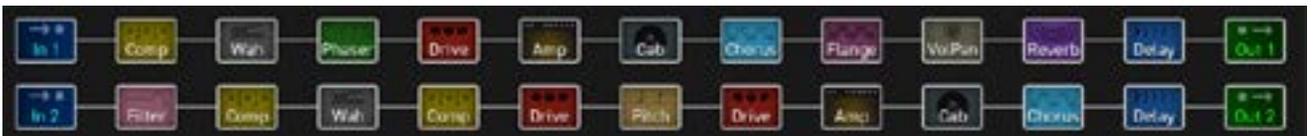
Here, Inputs 1 and 2 are used independently with the magnetic and piezo outputs of a dual-output guitar. The two signals eventually merge for some “mastering” effects before being passed to Output 1 in full layered stereo. Each chain has a huge complement of effects including amp and cab modeling. The amp for the piezo out might use a “Tube Preamp” model and an acoustic guitar simulation IR downloaded from Axe-Change.



FULLY INDEPENDENT GUITAR AND BASS

CPU: 83%

This rig processes full guitar and bass rigs at the same time! Guitar uses Input 1 and Output 1. Bass uses Input 2 and Output 2. This setup would have required two separate Axe-Fx II units to accomplish. You can easily imagine adapting a setup like this to process two electric guitars, or separate simultaneous electric and acoustic. By the way, these signal paths are copies of actual presets used by some artists who endorse Fractal Audio.



GUITAR CHAIN & MIXER EFFECTS

CPU: 84%

Let’s look at a more vertical example. Here, a mini FRFR guitar rig is combined with three rich sets of effects imagined to be integrated with a mixer for live performance. I/O pair 2 is used for a special vocal FX insert chain, complete with a raging Drive block. Chain 3 is a massive stereo shimmer for a keyboard rig, controlled by its own volume pedal. Chain 4 contains a bevy of effects, imagined to be used in different scenes on an Aux bus.



5 PRESETS

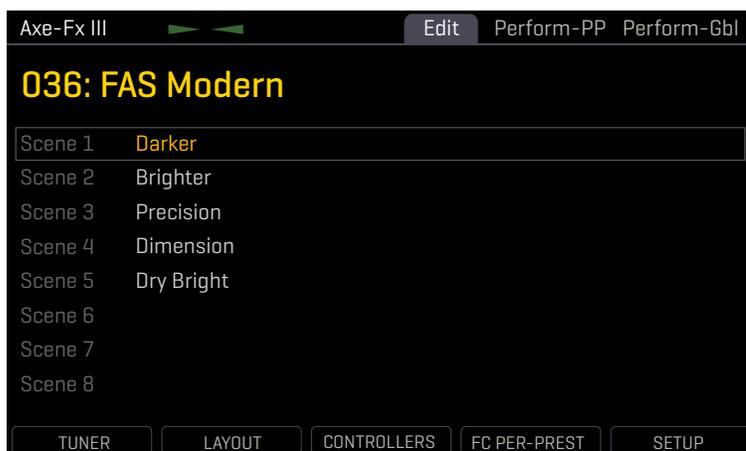
OVERVIEW

- ▶ The Axe-Fx III contains 512 preset memories (1024 on the Mark II), each a fully independent rig with its own amp, cab, effects, and more. Every preset has its own name.
- ▶ The Axe-Fx III ships with various “Factory” presets, plus many empty locations, but even Factory presets can be changed or completely overwritten.
- ▶ If you want to restore the factory presets (or install the newer versions we occasionally release), you can download them from <https://www.fractalaudio.com> and re-install them using Fractal-Bot or Axe-Edit.
- ▶ As introduced in [“Intro to the Layout Grid” on p. 8](#), presets are built on by inserting, connecting, and dialing in “Blocks”.
- ▶ Presets contain “Scenes” and Blocks contain “Channels”. Both of these subjects are covered in depth in [Section 6: Scenes & Channels](#)
- ▶ Compared to other products, the Axe-Fx III allows larger presets with greater capabilities. When you consider everything that is possible with Scenes and Channels, a single preset can easily cover an entire song, or even an entire gig.

LOADING PRESETS

Different areas of the Axe-Fx III provide different ways to load presets:

- **On the Home page** – Use the **NAV LEFT** and **NAV RIGHT** buttons or turn the **VALUE** knob.
- **On the “PRESETS” directory page of the HOME menu** – Select a preset and press **ENTER**. Presets in the directory are sorted in numerical order. To re-sort alphabetically, press the **SORT A–Z** button (v **A**).
- **FC CONTROLLER** – The FC Controllers offer a range of dedicated “preset select” options.
- **MIDI** – MIDI Bank and Program Changes select presets using the industry-standard “Controller 0 + PC” method. See [“MIDI Reference Tables” on p. 106](#). MIDI Custom PC Mapping is also supported, see [“Program Change Mapping” on p. 47](#).



The Home Page

5 PRESETS

THE LAYOUT GRID

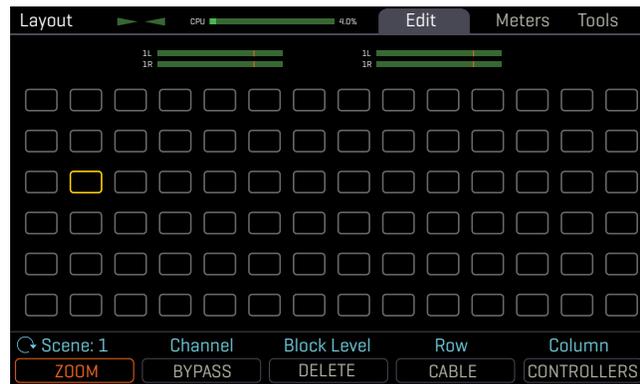
The grid is a 14×6 framework used for building presets. The grid is made up of spaces or slots into which blocks are inserted to set up signal flow. Cables connect blocks. Grid spaces and cables are stereo, though not every block processes audio in stereo.

Access the grid from the **Home** page by pressing the **ENTER** button or the **LAYOUT** Push-knob.

In the default view, the Axe-Fx III display shows only a 6×6 section of the 14×6 grid. Navigate to off-screen areas using the **D** or **E** knobs, or the **NAV** buttons. A bottom scrollbar indicates where you are in the overall left-to-right layout. To show the entire grid at once, zoom out with the **ZOOM** button (Push-knob **A**).



The grid normally shows six rows and six columns. You can scroll left or right with navigation controls.



Zoom out to show the entire grid at once. This also reveals VU meters for leveling scenes and presets.

WORKING WITH BLOCKS

As explained in [“Intro to the Layout Grid” on p. 8](#), the Axe-Fx III grid must be populated with **Blocks**. These come from a large inventory of amps, cabs, stompboxes, studio effects, and more. To interact with the grid you must move the **cursor** – a yellow rectangle controlled by the **D** or **E** knobs, or the **NAV** buttons. For simplicity, we’ll refer simply to these controls as “**NAV**” going forward.

TO INSERT A BLOCK...

- ▶ **NAV** to the desired grid location.
- ▶ Turn the **VALUE** wheel to step through the list of blocks, including options for **SHUNT** (see below) and **NONE**.
- ▶ Press **ENTER** to confirm or **EXIT** to cancel changes.
- ▶ Every preset has its own complete inventory of blocks. Using a block in one preset does not make it unavailable to other presets.

TO CHANGE OR REMOVE AN EXISTING BLOCK...

- ▶ Select the block and turn **VALUE** to change it to the desired type. To REMOVE a block, select “**NONE**”.
- ▶ Press **ENTER** to confirm or **EXIT** to cancel changes.

DELETE

A shortcut makes it easy to remove an existing block or convert it to a shunt. Select the block and press the DELETE button (Push-knob B). A deleted block is replaced by a shunt. Delete any shunt to leave an empty space.

TO BYPASS OR ENGAGE A BLOCK...

- ▶ Use **NAV** buttons to select the block.
- ▶ Press the **BYPASS** button (Push-knob **C**). Bypassed blocks are grayed out (dimmed).

SHUNTS

A shunt is a sonically transparent block—a mere tool which carries signal through otherwise empty grid locations. Your preset will be silent unless you make a complete connection from the Input block to the Output block, so place a shunt wherever you don't use another block like an Amp, Cab, or effect. Like grid spaces, a shunt is stereo; you don't need two for left/right. Shunts do use a small amount of CPU, so don't overdo it.

TO INSERT A SHUNT...

- ▶ **NAV** to the desired grid location and turn **VALUE** until “**SHUNT**” is displayed.
- ▶ Press **ENTER** to confirm or **EXIT** to cancel changes.

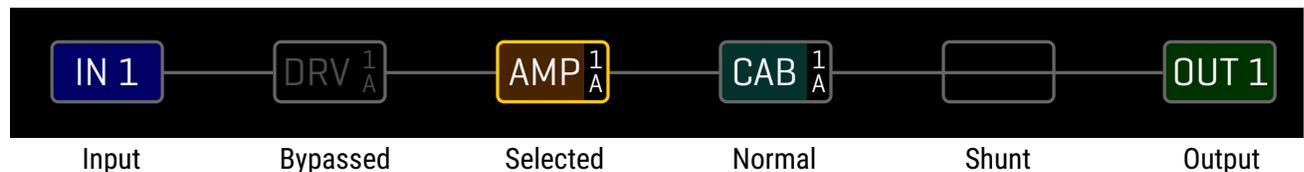
INPUTS AND OUTPUTS

Input and **Output** blocks are required to place input signals on the grid or pass signal to output jacks. All factory presets use Input 1 and Output 1. Other setups may require different Input and Output blocks.

See [“The Fractal Audio Blocks Guide”](#) for additional information.

BLOCK DISPLAY TYPES

The color display shows different grid block states as follows:



GLOBAL BLOCKS

Global Blocks allow settings for a given block instance to be automatically synchronized across multiple presets. For example, a global AMP block could be used in several presets. When any setting of that amp is changed on one, the others update automatically. See also [“Global Blocks” on p. 92](#).

5 PRESETS

MOVING BLOCKS, ROWS, AND COLUMNS

The **Tools** page of the **Layout** menu contains various utilities to **MOVE** individual blocks, rows, or columns UP, DOWN, LEFT, or RIGHT. When a block or a grid row/column is moved, it swaps places with the item in the space it is moved to. This may result in certain connector cables being modified or removed, so be sure to observe how the elements of your preset are interconnected before proceeding with a move operation.

- ▶ Open the **Tools** page of the **Layout** menu.
- ▶ Select a function with the **FUNCTION** knob (**A**): Move Effect/Column/Row, Left/Right/Up/Down.
- ▶ Use the **NAV** buttons to select the target Block, Row, or Column you wish to move.
- ▶ Press **ENTER** to execute the move.

CONNECTOR CABLES

Just like physical gear, the blocks in the Axe-Fx III need to be connected together for signal to flow. This is done using virtual cables, which run from one grid block to another. With even one connector missing, your preset may be totally silent! Like shunts, connectors are *totally* transparent.

TO CREATE A CONNECTOR CABLE...

- ▶ On the grid, navigate to the block where you wish the cable to BEGIN. You can't start from an EMPTY grid space!
- ▶ Press the **CABLE** button (Push-knob **D**), or **ENTER**. The selected block and its neighbor to the right will alternately flash.
- ▶ **NAV** to the desired destination block, which must be in the next column to the right.
- ▶ It is possible to select an empty location. A shunt will be added there if you complete the cable.
 - Be sure to select a destination that is not *already* connected to the block you started from, or you will REMOVE that cable (see below).
- ▶ Press **ENTER**. To cancel without connecting, press **EXIT** instead.

TO REMOVE A CABLE CONNECTOR...

Cables are removed in much the same way as they are created.

- ▶ On the grid, **NAV** to the block where the cable begins.
- ▶ Press the **CABLE** button (Push-knob **D**), or **ENTER**. The selected block and its neighbor to the right will alternately flash.
- ▶ **NAV** to select the "other end" of the cable you wish to remove.
- ▶ Press **ENTER**. To cancel without removing, press **EXIT** instead.



SHORTCUT: To span multiple empty grid columns with a series of shunts and cables, select any block that is followed by a series of empty spaces, then **press-and-hold** the **ENTER** button. The intervening spaces will be automatically filled with shunts and connected with cables. Careful: any *existing* cables encountered along the way will be REMOVED!

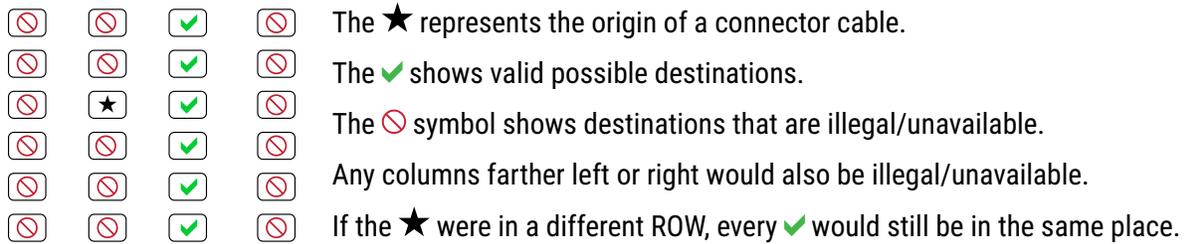


*Remember, on the Axe-Fx III grid, each component is STEREO. Shunts, cables, and most blocks are stereo in/stereo out. The grid allows up to six full stereo paths, and you do NOT necessarily need to create parallel grid paths for stereo! Some blocks internally process audio in mono (such as Amp or Drive) but even these generally have **Input Select** and **Output Balance** parameters.*

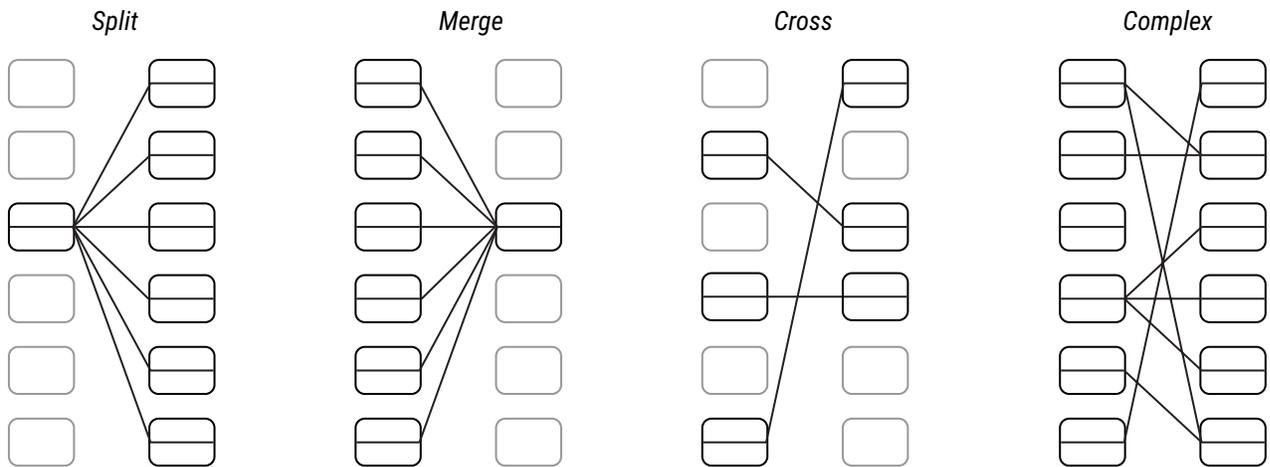
THE RULES OF AXE-FX III CABLES

- ▶ No cables = No sound. Even one missing link will break the chain.
- ▶ Signal flows from LEFT to RIGHT.
- ▶ A cable MUST originate from a BLOCK or a SHUNT. Empty locations are not viable origins.
- ▶ If you try to connect to an EMPTY location, a SHUNT will be created there.
- ▶ You can ONLY connect to blocks in the next column to the right.

The diagram below illustrates some of the ideas above:



- ▶ You may freely SPLIT or MERGE up to six ways at any point. This is sonically transparent and there is zero risk of signal degradation or phase problems. CROSSING is also possible. Here are some examples:



5 PRESETS

BLOCK INVENTORY

The following table contains an overview of every block. Each preset has the entire inventory to choose from.

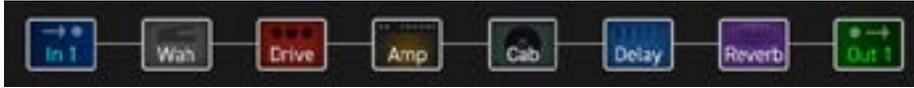
BLOCK	DESCRIPTION
AMP Amp	Here it is! Hundreds of amp models in one block.
CAB Cab	Speaker cab simulation offering our proprietary UltraRes™ and FullRes™ Technologies.
CHO Chorus	Create classic mono and stereo modulation effects including vibrato.
CMP Compressor	Control dynamics and add sustain.
XVR Crossover	Split a signal into high and low frequency components.
DLY Delay	Up to 8000 ms of delay, with types for analog, digital, tape, and more.
DRV Drive	25+ types including boost, overdrive, distortion, fuzz, and many more.
ENH Enhancer	Classic and modern modes to create and control spatialization.
RTN Feedback Return	Receives signal from the Feedback Send block.
SND Feedback Send	Transmits signal to the Feedback Return block.
FLT Filter	Includes low pass, high pass, band pass, and many other types.
FLG Flanger	Various types cover everything from subtle modulation to extreme jet.
FOR Formant	Create dynamic vowel sounds with this multi-mode formant filter.
GTE Gate/Expander	Useful for everything from subtle control to extreme effects.
GEQ Graphic EQ	A variety of modes allow easy, flexible tone sculpting.
IN Input	Injects the signal from physical inputs onto the grid.
IRP IR Player	Similar to the Cab Block -- Impulse Response processing in a lightweight version.
LPR Looper	A powerful looper with great remote control options.
MGT Megatap	This 128-tap delay creates fantastic sonic patterns and beautiful brute force reverbs.
MIX Mixer	Allows you to mix up to six stereo signals.
MBC Multiband Comp	Three-band compressor that is great for mastering or dynamic EQ.
MTD Multitap Delay	A variety of special delays including diffuser, quad-tap, and more.
MUX Multiplexer	This input selector routes one of many inputs to an output.
OUT Output	Transmits signal to the corresponding physical output jacks.
PEQ Parametric EQ	The 5-band parametric equalizer allows precise control of tone.
PHA Phaser	A variety of vintage and cutting edge phaser effects, including 'vibe.
PIT Pitch Shift	Includes detune, harmonizer (intelligent/custom), whammy, and more.
PLX Plex Delay	Up to eight delay lines interacting in a matrix. Gorgeous!
RES Resonator	Resonant comb filters in parallel. Create chords and more.
REV Reverb	World-class recreations of vintage springs, rooms, halls, and more.
RNG Ring Mod	The extremely flexible ring modulator provides for a range of cool effects.
ROT Rotary	Simulates a classic rotary speaker with multiple microphones.
RTA Realtime Analyzer	Visually plots the frequency spectrum of an input signal.
SYN Synth	A 3-voice monophonic synth that tracks what you play.
TTD Ten-Tap Delay	Set the time, pan, and spacing of one to ten separate echoes.
TMA Tone Match	Matches the Axe-Fx III to the sound of an amp, recording, or device.
TRM Tremolo	Creates classic trem, plus auto-pan or extreme psycho acoustic effects.
VOC Vocoder	Digital re-creation of the analog classic. "Stop the human. Stop the intruder."
VOL Volume/Pan	Simple volume block also offers channel input/output tools.
WAH Wah	The classic wah, with multiple types based on classic originals.

Each preset also includes a set of **Controllers** for automation, and a **Scene MIDI** block.

EXAMPLE PRESET GRIDS

Several preset illustrations appear below, to explain how blocks are combined to form presets. These illustrations are screen-captures from Axe-Edit III, rather than representations of the small screen.

Ex 1: Sweet and Simple. Wah. Drive pedal. Amp and Cab. Delay and Reverb. Notice the **In 1** and **Out 1** blocks.



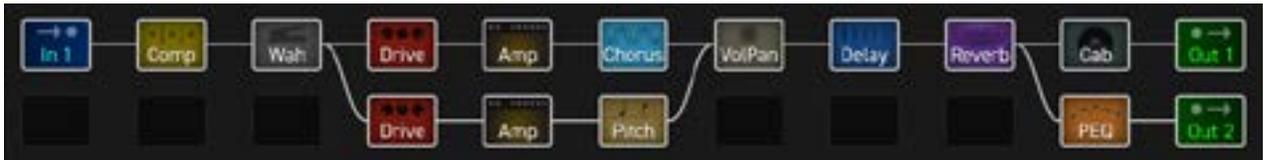
Ex 2: Here some more effects are added. Reverb is run in parallel to the delay for a different sound.



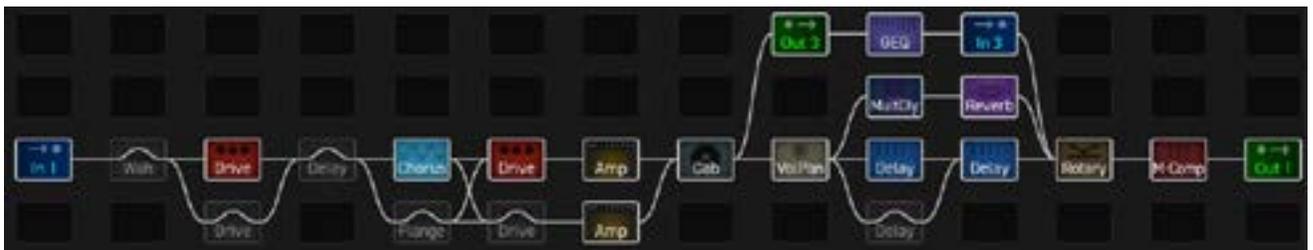
Ex 3: An entire parallel chain for a shimmering, filtered effect with a VOLUME block for its own "Send" control.



Ex 4: A complex preset with effects *before* and *after* two amps. A stereo cab feeds OUT 1 (Front of House), while Output 2 taps the signal with NO cab for use with a neutral power amp & real guitar speakers (on-stage backline).



Ex 5: A more complex preset with two amps, parallel paths, outboard gear, and 4 each of drive and delay blocks. (This preset is the first on this page to show some blocks which are bypassed.)



EDITING EFFECT BLOCKS

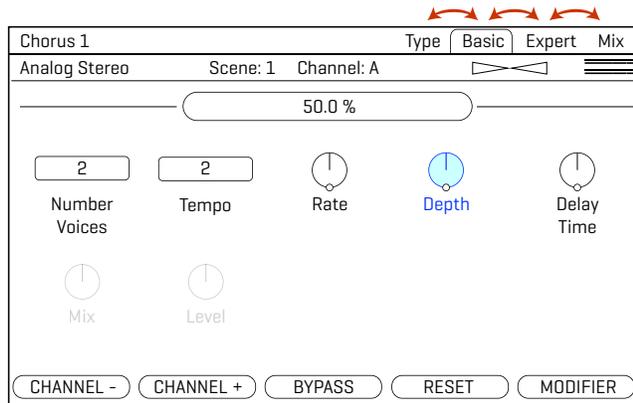
Blocks are fully programmable, meaning you can dial in every setting as desired and save the result. The **Edit** menu for every block contains one or more **pages**, each with multiple **parameters** to control various functions. Here's a quick guide covering how to access and work with the different types of Edit menu pages.

OPENING AN EDIT MENU

- ▶ On the **Layout** grid, select the desired block and press **EDIT**.
- ▶ OR... from anywhere, press **EDIT** to jump right to the Edit menu for the selected block (or the first block if none is selected).

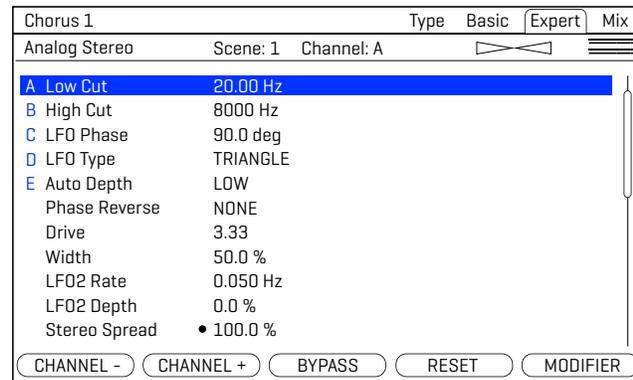
TURNING PAGES

- ▶ Some menus have multiple pages, shown as "tabs" at the top of the menu (red arrows, right).
- ▶ Tap the **PAGE** buttons to page left or right.



EDITING "KNOB" PAGES

- ▶ Some Edit menu pages show rows of up to five virtual controls like knobs, switches or selectors. To make changes, use the five knobs below the display.
- ▶ You will hear all changes in real time.
- ▶ Switch between rows using **NAV UP/DOWN**.

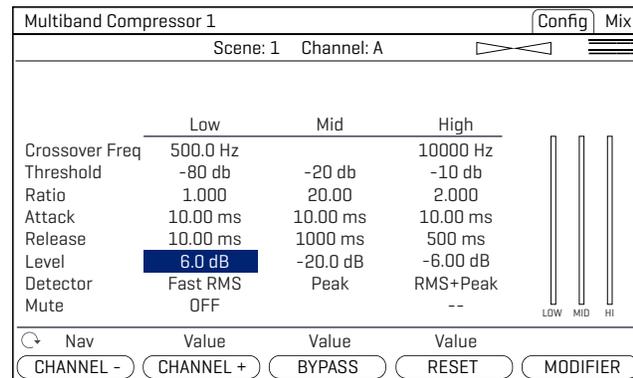


EDITING "MENU" PAGES

- ▶ Some pages have vertical lists of parameters.
- ▶ Use the **NAV UP/DOWN** buttons to step through the list or **NAV LEFT/RIGHT** buttons to jump.
- ▶ The **A** knob and the **VALUE** knob operate the selected parameter.
- ▶ **B, C, D,** and **E** knobs control other parameters in the list, as shown by labels on the list.

OTHER PAGE TYPES

- ▶ Some pages are arranged in rows and columns. Some include interactive meters or graphs. Use **NAV** and **VALUE** or **A,B,C,D,E** knobs to move around and make changes.
- ▶ For **TYPE** pages, such as Amp Type, just **NAV** through the list to make a selection. Selections take effect instantly.



RESETTING A BLOCK/CHANNEL

Use RESET when you want a fresh start after making changes to a block.



- ▶ If it isn't already open for editing, select the desired block on the grid and press **EDIT**.
- ▶ Press the **RESET** button (Push-knob **D**). You are prompted to reset the *current channel*.
- ▶ Press **ENTER** to confirm. You can reset other channels in a block as they are used.

Learn more about Channels in [Section 6: Scenes & Channels](#).

SAVING CHANGES

After making changes to a preset, you may want to save the results. Here's how:

TO STORE A PRESET...

- ▶ Press **STORE** to show the STORE page.
- ▶ Press **STORE** again (or **ENTER**) to display "Do you want to overwrite the Preset?"
- ▶ Press **ENTER** again to confirm, or **EXIT** to cancel.
- ▶ The message "SAVED!" is shown when saving is complete.



What constitutes "making changes"? Obviously, parameter edits, but also changing the scene (see [Section 6: Scenes & Channels](#)), and sometimes, when new firmware requires changes to be made automatically, simply loading a preset can cause the edited light to turn on.

TO CHANGE THE PRESET NAME OR LOCATION...

The Axe-Fx III has 512 preset memory locations (1024 on the Mark II). You can edit the name of any preset while storing.

- ▶ Press **STORE** to show the STORE page.
- ▶ **NAV** down once to the PRESET line.
 - Turn the **B** knob to move the cursor.
 - The **C** knob selects **upper case** letters.
 - The **D** knob selects **lower case** letters.
 - The **E** knob selects **numbers**.
 - The **VALUE** knob selects ALL characters, including **symbols**.
 - You can use up to 31 characters in a preset name.
- ▶ You can also **NAV** to any Scene name to edit it in the same way.
- ▶ Press **STORE** again (or **ENTER**) and then press **ENTER** again to confirm.
- ▶ The message "SAVED!" is displayed and the new location (if any) is loaded.



*Scene naming is a powerful capability. Aside from stating what a specific scene is intended for, the names of un-used scenes can be used for short notes or reminders. Shorthand may help. For example, a "slash" could indicate expression capability on an "External" controller: "FB /1, Time /2" could show that **Feedback** is controlled by "External 1" and **Mix** by "External 2".*

PRESET CPU LIMITS

Each block you place in a preset contributes to the total CPU load for that preset. You can check the current load at any time by viewing the mini CPU meter at the top of the grid.

The maximum allowable load is about 80%, and if you manage to get much above that, audio performance may be compromised.

When inserting a new block would cause an overload, this is prevented and the message "INSUFFICIENT CPU" is displayed. It is assumed that a new block will be used to its limit when making this determination.

If you are prevented from inserting a block because of CPU limits, you can remove an unused or less important block. Adjusting certain parameters can also help. Beware of trying to set parameters back to higher values after inserting the desired block. At extremely high CPU usage levels, the Axe-Fx III may become unstable and/or Axe-Edit may stop responding.

Here are a few of the common block parameters whose settings have a measurable effect on CPU usage:

- **Amp: Output Comp:** Set to "0" for the least CPU usage.
- **Cab: Mute:** The more IRs you use per block, the higher the CPU usage. Cab Preamp and Room settings also affect CPU.
- **Reverb: Quality** and **Echo Density.** Lower = less CPU. The "Spring" type uses the least CPU.
- **Compressor:** Set **Type** to one of the "PEDAL" options to use less CPU.
- **Phaser: Stages.** Lower = less CPU.
- **Filter: Order** and **Q.** Lower = less CPU.
- **Multitap Delay: Type.** Different types have different CPU requirements.
- **Modifiers** also affect CPU usage.
- **Synth :** More voices = more CPU.

The Fractal Audio Wiki keeps a list of CPU saving ideas. Find it at:
https://wiki.fractalaudio.com/axefx2/index.php?title=Presets_and_blocks.

CPU & USB

With its dedicated processor for USB, CPU usage is not increased when USB is connected.

6 SCENES & CHANNELS

OVERVIEW

Before reading this section, please review [“Intro to Scenes and Channels” on p. 9.](#)

Every Axe-Fx III preset contains eight **Scenes**. Scenes don't need to be added or created, and there's no way to delete them either—they're just there, ready for use. Think of a Scene like a “preset within a preset.” Scenes control which blocks are on or off, which Channel each block is set to, and more.

There are many benefits to using Scenes. Selecting a Scene allows you to recall with one tap what would otherwise require “tap dancing” across foot switches. Scenes load instantly and changes can be gapless and seamless, and they offer the easiest way to ensure perfect “spillover” of time-based effects like delay and reverb.

The Channels feature is almost self explanatory. Most blocks have some number of channels (typically four), and for each channel you can set every parameter of that block to any setting. It's like having multiple blocks in one.

WHAT SCENES INCLUDE...



- Each Scene sets the **Bypass** state of every block in the current preset.
- Each Scene sets the **Channel** of every block in the current preset.
- Each Scene has its own levels via the **Scene Level** settings in every Output block.
- Each scene has its own settings for four **Scene Controllers** (See [p. 63](#)).
- Scenes can use the **Scene MIDI block** to send MIDI messages. See [“Sending MIDI” on p. 100](#)
- Scenes interact with FC controller **“Control Switches”** (See [Section 13: FC Controllers](#)).
- Each Scene also has its own **Name**.

WHAT SCENES *DO NOT* INCLUDE...

In short? *Everything else*. Scenes only affect the items listed above. Scenes cannot change which blocks are placed on the grid, or change the grid routing. You cannot tweak effect parameters per Scene (except through Scene Controllers), but remember, you can switch Channels.

WHAT EACH CHANNEL INCLUDES...

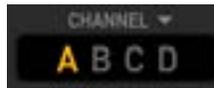
Each Channel stores its own settings for **every parameter in the block**. This gives you up to four independent sounds from a single block. Note that just like on a traditional pedal or processor, time-based blocks such as Delay and Reverb share one set of memory across different channels, so you may hear a “sweep” if you change time or size. To avoid this, just use different blocks from scene-to-scene.

FAQ: WHY NOT JUST CHANGE PRESETS? Preset changes give you total flexibility. You can change anything and everything in every preset, but there are also drawbacks. Synchronizing multiple presets is tedious, it takes care to get levels and spillover just right, and while preset changes are fast, Scene changes are even faster and can be seamless.

CHANGING CHANNELS

Different areas of the Axe-Fx III provide different ways to change Channels:

- **On the GRID** – Select the desired block and turn the **Channel** knob (**B**). The current Channel is shown above the knob.
- **While EDITING a BLOCK** – Use the dedicated **CHANNEL -** and **CHANNEL +** buttons. The current channel is shown near the top center of every page in the Edit menu.
- **FC CONTROLLER** – The FC Controllers offer a range of dedicated “Channel” functions.
- **MIDI** – MIDI and other Global Controllers such as a connected external footswitch can be used to select Channels. See [“Selecting Scenes & Channels Remotely” on p. 46](#).
- Of course, **Axe-Edit** can also be used to change channels.



SETTING UP CHANNELS

Whenever you edit a block, you are already programming at least one Channel (usually Channel A). Programming additional channels is easy: simply select the desired channel as described above and use your usual methods to set the various parameters to their new values. Repeat for each Channel in the block and then save the preset.

TO COPY A CHANNEL...

The **Tools** page of the **Layout** menu (“grid”) provides a utility to copy one Channel to another. This works within a single block only; you can’t copy a Channel from one block to another, or from one preset to another.

1. Navigate to the **Tools** page of the **Layout** menu (grid).
2. Turn the **VALUE** wheel until “COPY CHANNEL” is shown on the display.
3. Use the **D** knob to select the scene you want to copy *from*. Channel letters are shown above the knobs.
4. Use the **E** knob to select the location you want to copy *to*.
5. Press **ENTER** or the on-screen **EXECUTE** button (Push-knob **C**) to complete the copy.
6. Test your preset and remember to **STORE** to make the changes permanent.

SELECTING SCENES

Different areas of the Axe-Fx III provide different ways to select a Scene.

- **On the Home page** – Use the **NAV UP/DOWN** buttons or turn knob **A**. The current scene is highlighted.
- **On the GRID** – Turn the **Scene** knob (**A**). The current scene is shown above the knob.
- **FC CONTROLLER** – The FC Controllers offer a range of dedicated “Scene Select” functions.
- **MIDI** – MIDI and other Global Controllers such as a connected external footswitch can be used to select scenes. See [“Selecting Scenes & Channels Remotely” on p. 46](#).
- Of course, **Axe-Edit** can also be used to select Scenes.

SETTING UP SCENES



When you create or edit any preset, you are working with at least one Scene. To set up additional scenes, simply select the desired Scene and use the usual methods to turn effects ON or OFF and select channels, then save your changes. Here are step-by-step instructions:

TO SET UP A NEW SCENE OR EDIT AN EXISTING ONE...

1. Load the desired preset and select the desired Scene.
2. Bypass or engage each block as desired.
 - On the Layout (grid) or while editing any block, use the **BYPASS** button (Push-knob **B**).
 - Or use any assigned footswitch or remote controller to bypass/engage the block.
3. Set the **Channel** for each block as described on the previous page.
4. Test and save your preset. On the **STORE** page, **NAV** to your new scene and give it a name (see [p. 41](#)).

Always carefully test ALL scenes in your preset—even those you think you might not use. Ensure that there are no undesired volume jumps or other surprises waiting to happen.

TO COPY ONE SCENE TO ANOTHER...

The **Tools** page of the **Layout** menu contains a tool to copy one scene to another. (not including the scene name). This works within a single preset; you can't copy a scene from one preset to another.

1. Navigate to the **Tools** page of the **Layout** menu (grid).
2. Turn the **VALUE** wheel until “COPY SCENE” is shown on the display.
3. Use the **D** knob to select the scene you want to copy *from*. Scene numbers are shown above the knob.
4. Use the **E** knob to select the location you want to copy *to*. You can also choose to copy one scene to “ALL”.
5. Press **ENTER** or the on-screen **EXECUTE** button (Push-knob **C**) and the copy operation is completed.
6. Test your preset and remember to **STORE** to make the changes permanent.

Axe-Edit makes it even easier to set up and copy scenes, with useful tools and a dedicated “**Scenes Manager**.”

SELECTING SCENES & CHANNELS REMOTELY

Scenes and Channels can be selected using MIDI or Global Controllers. Switches but not pedals are recommended in this case (though switches *can* be plugged in at “Pedal” jacks). Several options are provided.

SCENE INCREMENT AND DECREMENT

The **Scene Increment** and **Decrement** functions allow you to step up or down through scenes one at a time. You must first assign each function its own CC# or pedal/switch option in the **MIDI/Remote** menu. The function is triggered by any value of the controller.

SCENE SELECT

This option uses the value of a controller to select a specific Scene. You must first give the **Scene Select** function its own controller in the **MIDI/Remote** menu under **SETUP**.

The scene is set by the *value* of the controller (not the controller number itself... see FAQ below). Values begin at 0, while Scenes are numbered from 1, so “**Value plus one = Scene number**” (see table 1, right). The series continues, repeating scenes 1–8 across CC values up to 127¹.

EXAMPLE: Let’s say you want your DAW to select scene 3. Open the **MIDI/Remote** menu and assign your desired CC# to “Scene Select”. Let’s say CC#34. Set your DAW to send CC#34 with a value of “2”, which loads scene 3.

CHANNEL SELECT

This uses the value of a controller to select a specific Channel. Each block has its own dedicated setting for channel select, found across the listings on the **Channel** page of the **MIDI/Remote** menu under **SETUP**.

The Channel is set by the *value* of the controller (not the controller number itself... see FAQ below). Values begin at 0, which is Channel A, and it continues from there. (See table 2, right). As with Scene Select (above) the series continues, repeating Channels A–D across values to 127.

TABLE 1

CC Values, Scenes.

0 = Scene 1
1 = Scene 2
2 = Scene 3
3 = Scene 4
4 = Scene 5
5 = Scene 6
6 = Scene 7
7 = Scene 8

TABLE 2

CC Values/Channels

0 = Channel A
1 = Channel B
2 = Channel C
3 = Channel D

¹ In mathematical terms, that’s **Scene# = [(CC Value mod 8) +1]**

FAQ: MIDI CC Number and CC Value... What's the difference?

MIDI Control Change messages –aka “CCs”– have a **number** (0–127) and a **value** (0–127). The number is like an “ID” specifying *which* function you want to control. A simple example might be a MIDI expression pedal that sends CC#7 which is interpreted as Volume by a device. The Axe-Fx III lets you designate CCs for items in a long list found in the **MIDI/Remote** menu under **SETUP**.

Once a CC# is set to control a function, its **value** tells that function what to do. Some functions—like Volume—interpret data across a continuous range from 0–127. Other functions—like Bypass—simply toggle OFF for a low value and toggle ON for a high one. Other functions might be triggered by *any* value.

Different types of physical controllers transmit values in different ways. A **pedal** that rocks continuously from heel-to-toe sends a “stream” of values from 0–127. A **switch** sends a single value for OFF (typically 0) and another for ON (typically 127). Other MIDI controllers offer other options.

As described above, both the CC number and its value are the key to selecting Scenes and Channels via MIDI.

PROGRAM CHANGE MAPPING

Another way to select Scenes via MIDI is using **Custom PC Mapping**, which allows a single incoming MIDI **Program Change** (PC) message to select your choice of both **Preset and Scene**. This is a popular option in cases where a connected MIDI foot controller lacks the sophistication to transmit the MIDI messages required for scene selection.

The **PC Mapping** parameter on the **General** page of the **MIDI/Remote** menu under **SETUP** must be enabled for custom mapping to be in effect. With this option set to “ON”, an internal table re-maps each incoming MIDI Program Change message so it can load your choice of preset and scene. The map is limited to 128 entries so MIDI BANK SELECT messages are ignored while PC Mapping is enabled.

With PC Mapping option set to “OFF”, MIDI Program Changes load presets on a 1:1 basis and Bank Select commands are processed as usual as per [“MIDI Reference Tables” on p. 106](#).

BUILDING THE MAP

The mapping table is on the **Mapping** page of the **MIDI/Remote** menu under **SETUP**.

To use it, follow this simple process:

1. **NAV** to the row for whichever Program Change message you want to re-map.
2. Use the **B** knob to set the desired value for **Map to Preset**.
This is the preset that will load when the selected Program Change message is received.
3. Use the **C** knob to set the desired value for **Map to Scene**. You can choose a scene by its number, or select “AS SAVED” to load the default scene saved in your preset. (see [p. 45](#) for more on Default Scene).
4. Repeat steps 2 through 4 for any remaining Program Change messages you wish to remap.
5. **EXIT** when finished. You do not need to store settings in the **SETUP** menu.

The custom map parameters remain intact even if you switch **PC Mapping** Off.

SENDING MIDI WITH SCENES

Scenes can also transmit MIDI. See [“Sending MIDI” on p. 100](#).

SCENE LEVELS

Each of the Output blocks includes eight parameters that allow you to cut or boost the level for any scene. Using these adjustments is a quick way to balance or boost scene levels when other level options are not available.

THE DEFAULT SCENE

When a new preset is loaded, it automatically starts on whichever Scene that was selected when that preset was last saved. To set the **default scene** for any preset, simply select the desired Scene and then save the preset.

You can also select a fixed “Default Scene” under **Setup: Global Settings: Config**. This overrides the last-saved scene and causes your selected scene to load first for all presets.

SCENES, CHANNELS & MODIFIERS

The Modifier system provides extensive automation and remote control of parameters on the Axe-Fx III.

Modifiers are detailed in [Section 9 on p. 53](#) but here is a summary of important information about Scenes, Channels, and modifiers.

SCENE CONTROLLERS

Block parameter values are the same in every Scene of a preset. Of course, you can change the Channel, which is great but not the same thing. The **Scene Controller** system, however, provides a way for individual parameters or groups of parameters to have different values in every scene.

See [“Tutorial: Scene Controllers” on p. 63](#).

CHANNELS & MODIFIERS

Modifiers are **shared** across Channels, meaning that any modifier you create in one channel will be present on all channels of that block. This is a great convenience in most cases, avoiding the need to apply the same modifier multiple times as you change channels.

In some cases, you may notice that if you change an effect **Type** from one channel to the next, certain parameters are either not present at all, or appear with different names. For example, in the Delay block, the **Mono Tape** delay has a parameter called “Head 2 Ratio”, while this same parameter is called “L/R Time Ratio” in the **Dual Delay**. These differences are such that results should not be unpredictable.

SCENE REVERT

Scene changes you make from the Axe-Fx III front panel (or Axe-Edit III) remain in effect until you save them or discard them by loading a different preset without saving. Changes made via footswitches or MIDI, however, may work differently, depending on a Global setting called **Scene Revert**. With Scene Revert turned on, Scene changes are discarded as soon as you load a new Scene. Here are two examples so you can compare how Scene changes work in both modes:

Ex 1: SCENE REVERT OFF (default)

1. You load SCENE 1. DRIVE 1 is OFF.
2. You turn DRIVE 1 ON with a Footswitch.
3. You change to SCENE 2.
4. You change BACK to SCENE 1.
5. Drive will be ON as you last left it.

Ex 2: SCENE REVERT ON

1. You load SCENE 1. DRIVE 1 is OFF.
2. You turn DRIVE 1 ON with a Footswitch.
3. You change to SCENE 2.
4. You change BACK to SCENE 1.
5. Drive will be OFF as you last saved it.

TO ENABLE/DISABLE SCENE REVERT...

1. Page to the **General** page of the **MIDI/Remote** menu under **SETUP**.
2. **NAV** to SCENE REVERT and set it “ON” or “OFF” as desired.
3. **EXIT** to finish. (You do not need to STORE changes in SETUP.)

7 LEVELING PRESETS

This section is about balancing levels across Presets, Scenes and Channels. It is not about correctly setting *overall* input and output levels.

Balancing levels requires both knowledge and tools. The challenge of getting levels “right” is not unique to the Axe-Fx III. Guitar players and audio technicians face the same obstacles when using traditional equipment: our hearing, speakers, and surroundings are all variable. On a platform as powerful and flexible as the Axe-Fx III, the number of options that affect volume can be daunting, but fortunately there are some good rules of thumb, all backed by a number of precision controls and meters. This section aims to provide a method you can rely on to normalize the levels of Presets, Scenes and Channels.

GENERAL PRINCIPLES

- ▶ Our ears deceive us. The “equal-loudness contour” or “Fletcher Munsen” effect causes us to hear tonal balance differently as volume levels change. At lower volumes, low and high frequencies seem to be relatively quieter. Check your sounds at various levels, especially “gig” volume, and strive to learn more about this phenomenon.
- ▶ Different speaker systems have different frequency response, which affects our perceptions of tone and volume. Set levels on the same system you will perform through – ideally, the best and most accurate speakers you can attain. Be prepared to make adjustments on other systems, and this goes for your tone as well as your levels.
- ▶ Context, including other sounds and the environment itself, also change perceptions of loudness. Two different guitar sounds may seem to be equal in level when you audition them alone, but might then sound totally different when they are “competing” in a mix against other instruments such as bass and drums, or when played in a problematic performance space. Don’t be surprised if you work alone to level sounds and then find things sound different on stage.

THE RULE OF THUMB

Challenges aside, it’s important that you know how to adjust levels on the Axe-Fx III.

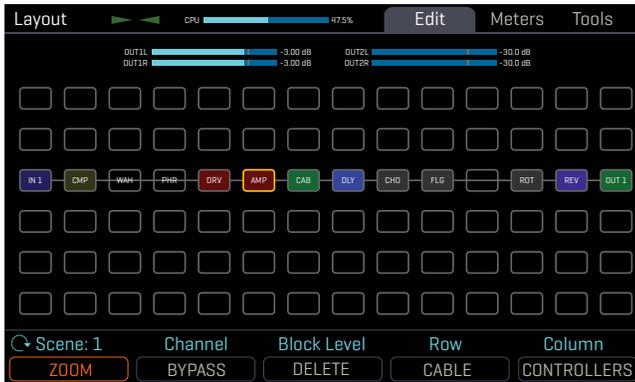
- ▶ There are a lot of different ways to adjust level on the Axe-Fx III. A good rule of thumb is to use the **Level** parameter of the **Amp** block. See “**The Method**” on the next page for an a process that works across Presets, Scenes and Channels.
- ▶ Above all, use common sense. Rely on meters, but don’t set levels solely on how they look. **USE YOUR EARS!**

EXCEPTIONS TO THE RULE

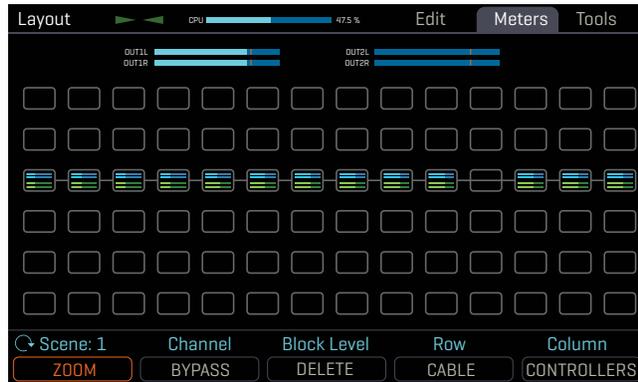
- ▶ When following the Amp block(s) with any level-dependent dynamic effects, such as a **compressor** or **gate**, you will need to re-adjust those blocks after changing amp levels. A better option may be to “bend” the rule of thumb and adjust the output of the last dynamics block instead.
- ▶ This is also the case for any nonlinear effects such as **drive** which may in rare cases (such as Tape Saturation or Bitcrusher effects) be placed *after* the amp. Adjust **Level** for these blocks *instead* of the amp.
- ▶ If you have prominent **Drive/Saturation** in the **Preamp** simulation of the **Cab** block, adjust the **Level** of the Cab block instead.

A METHOD FOR LEVELING

The grid provides excellent tools for leveling presets, scenes, and channels. While the grid is zoomed out (press knob A) you will see **VU meters** for **Outputs 1 and 2** at the top of the display. The scale of these meters is -20 to +10 dB with a red line at 0. (This is the internal level, NOT a dBu reading.) These meters are great for setting levels. If you page from the **Edit** page to the **Meters** page, input (blue) and output (green) meters on each individual block will help you spot any trouble or gain staging issues.



The zoomed out grid shows VU meters atop the screen.



Page right to the Meters page for block meters.

To set levels, play your guitar and watch the top VU meters. Remembering the rule of thumb (see previous page) navigate to the Amp block and adjust its level by turning the Block Level knob (C). The VU meter should hover around at the red line. Different types of playing and different amp models and settings will activate the meter in different ways. “Chugs” for instant, will usually hit the hardest. If you want to compare the levels of two presets/scenes/channels, play the same type of material while watching the meters. Remember the principles on the previous page; trust the meters, but use common sense.

TIP: When using two Amp blocks at the same time, you may find it easier to adjust levels in a single block which sums their outputs, such as a Cab, Mixer, or Volume.

The **Layout** view allows you to change Scenes (knob A) and Channels (knob B), so you can compare and adjust everything all within a single page.

LEADS AND LOUDER SOUNDS

Given a method established for normalizing the level across Presets, Scenes, and Channels, what if you specifically want some sounds to be louder or quieter than others? The best approach is to not boost the loudest sound but to *make the others quieter*. This helps prevent clipping that might happen if you make some sounds too loud. When using this method, use the meters and your ears. It is perfectly fine for some tones to appear very quiet; Fractal Audio products have an excellent signal to noise ratio and do not suffer internally from the same degree of problems as analog gear when operating at lower than ideal levels.



Make it easier to adjust levels by using the Looper block to “play” while you operate the level controls. Place the looper between the input and your first block.



BLOCK BYPASS LEVELS

Not just amps and cabs, but block effect settings also contribute to preset levels. Here are some tips to help dial in effects, so that levels can remain consistent as you bypass or engage blocks.

- ▶ Learn more about Bypass Modes in [“The Fractal Audio Blocks Guide”](#)
- ▶ Sometimes, effects are intended specifically to boost or cut levels. Other times, you want the volume to stay the same as an effect is dialed in. In either case, there’s an easy method you can use to make correct settings. First, with the effect engaged, dial in the **Mix** so the blend of wet and dry sounds is as desired. Then, with one hand on the block’s **Level** parameter and the other on its **Bypass** button (Push-knob **C**), switch the effect on and off, making level adjustments until the desired volume is achieved when the effect is engaged.
- ▶ **Time-based effects** like delay and reverb are usually best with their **Bypass Mode** set to “MUTE FX IN”. This ensures that dry levels remain consistent when you engage or bypass the block. Because this setting masks possible changes to your “dry” signal, you should use the Meters page of the Layout menu to ensure that the level is roughly the same before and after these effects when they are bypassed.
- ▶ Pitch effects require special consideration. Depending on their particular type and settings, you may wish to treat them like a time-based effect with the “MUTE FX IN” setting, or you may wish to set **Bypass Mode** to “THRU” and use the first method.

8 BLOCKS GUIDE

THE FRACTAL AUDIO BLOCKS GUIDE

Both the Axe-Fx III and our floor-based modeler FM3 use presets built from blocks, and the blocks on both devices share many of the same parameters and settings. A separate manual covers these blocks in complete detail. More than a simple reference, it contains background information, tips, and extra material to help you make the most of your Axe-Fx or FM3.

The **Fractal Audio Blocks Guide** can be downloaded from <https://www.fractalaudio.com/fas-bg>



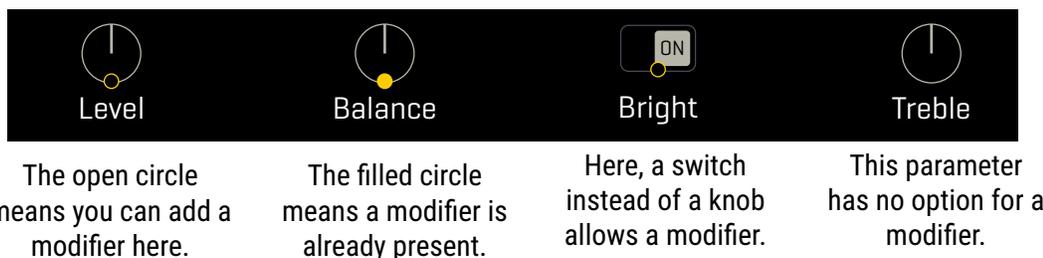
Blocks Guide

9 MODIFIERS

Modifiers can be one of the most exciting features on the Axe-Fx III. They allow sound parameters to be remote-controlled or automated in real time. For example, you might use an expression pedal to operate a wah or whammy, or use an LFO (Low Frequency Oscillator) to auto-sweep a filter. MIDI can also be used to adjust effects, control volume, and more. Modifiers are easy to use, but offer incredible depth of power for those who like to push the limits.

CREATING A MODIFIER

The process of creating a modifier begins at the parameter you want to control. Parameters that can be controlled are marked with an open yellow circle, as depicted below. When a modifier is already present, the circle will be solid, like an LED that has been turned on. You will see the same symbol whether the target parameter is on a knob page, a text page, or any other type of menu.



TO CREATE A MODIFIER...

- ▶ Select any parameter that supports a modifier. 
- ▶ Press the **ENTER** button or the **MODIFIER** Push-knob to show the **Modifier** menu.
- ▶ The menu has three pages. The first two are **Source** pages, determining which control **SOURCE** should affect the parameter.
 - Select the desired option on the Source 1 page, such as “External 1” or “LFO1”.
 - Source 2 is used only for advanced applications, so you will be working with Source 1 in most cases.
 - Learn more about Sources on [p. 55](#).
- ▶ Press **PAGE RIGHT** to switch to the **Modify** page. This page contains all of the parameters related to the interaction between the source and the parameter. Learn more about these options on [p. 56](#). At a minimum, check that **MIN** and **MAX** are set to the lowest and highest values desired. You can test at any time.
- ▶ Press **EXIT** to leave the modifier menu.
- ▶ Test your modifier. Modifiers animate on-screen knobs, faders switches and graphs. For text-only menu parameters, a bar graph shows the value of the source.
- ▶ Modifier changes are saved when you **STORE** the preset.

TO EDIT OR REMOVE A MODIFIER...

- ▶ To edit an existing modifier, use the same process as creating a modifier.
- ▶ To remove a modifier, change its **SOURCE(s)** to “NONE”.

MODIFIER TUTORIAL: WAH PEDAL

Here is a basic step-by-step tutorial on setting up a modifier for a classic Wah pedal.

For this example, we assume:

- A **Wah block** is already in your preset (if not, see
- You have an **Expression pedal** ready (See [“Global Expression Pedal Setup” on p. 13](#))

Here are the steps:

1. On the Grid, **NAV** to your Wah block and press **EDIT** to show its menu.
2. Turn to the **Config** page of the Wah block’s Edit menu.
3. Notice the yellow Modifier dot symbol beneath the on-screen **Wah Control** parameter.
4. **NAV** to select that parameter (or just give its knob a twiddle). It will be highlighted when selected.
5. Press **ENTER** or the **MODIFIER** Push-knob to show the **Modifier** menu.
6. On the **Source 1** page, change the **SOURCE** to your pedal. If you followed the instructions on [p. 13](#), this will be “EXTERNAL 1”. The hardware pedal jacks can also be used directly.
7. Test! The Wah should work when you move the pedal. You’ll also see the dot move on the graph. If it doesn’t work, check your source or make sure the pedal is properly connected and calibrated.
8. Save the preset by pressing **STORE, ENTER, ENTER**.



The Wah in this example is controlled by an expression pedal. An expression pedal can be used to control other parameters like whammy control, rotary rate, delay feedback, and many, many more.

There are also many different sources we could use instead of a pedal. Try an LFO for a modulating auto-wah, or an Envelope Follower for some funky Mu-Tron action. And MIDI opens up a world of controller options.

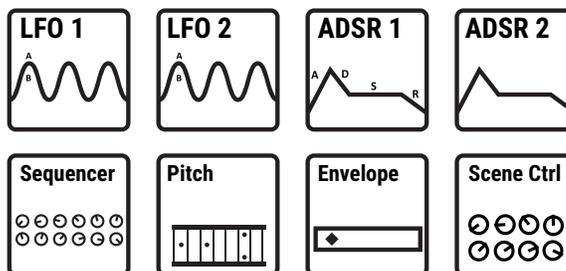
MODIFIER SOURCES OVERVIEW

There are 70+ different choices to use as modifier sources.

INTERNAL CONTROLLERS

Internal controllers are a part of every Axe-Fx III preset. You will find two **LFOs** (Low Frequency Oscillators), two **ADSRs**, a **Sequencer**, a **Pitch Detector**, an **Envelope Follower**, four **Scene Controllers** five **Manual Controllers**. (See [p. 59](#)). Tempo is also in the controllers block.

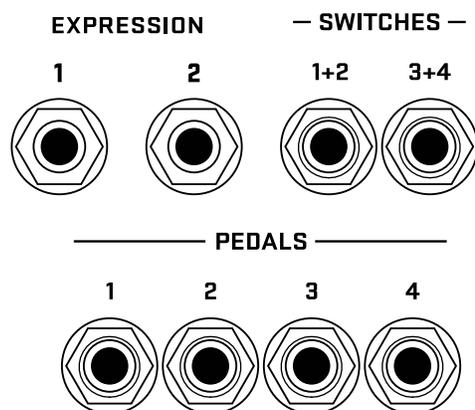
To show the **Controllers** menu, press the **CONTROLLERS** button on the **Home** page (Push-knob **C**) or **Layout** menu (**E**), or press the **TEMPO** button once.



ONBOARD & FC PEDALS & SWITCHES

The **Expression** jacks of the Axe-Fx III and the **Pedal** or **Switch** jacks of a connected **FC-6** or **FC-12** can be assigned directly as modifier sources. In comparison to previous products, it is no longer necessary to assign these to an **External Controller** first (though this is still possible and even recommended).

Control Switch functions also allow the switches of a connected FC to be used directly as modifier sources. See your FC documentation for more on these.



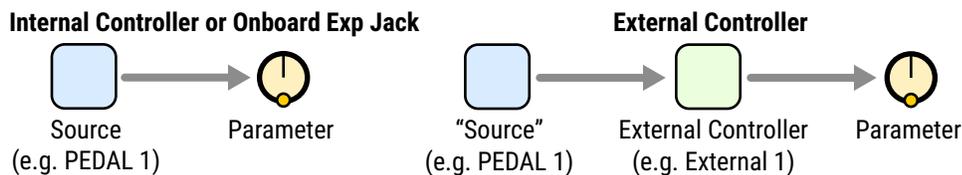
EXTERNAL CONTROLLERS



External Controllers are proxy or “go-between” sources. They each have their own global setting to determine *what controls them*. You can set them up to be controlled by your choice of:

- Any **MIDI Control Change (CC#)** message.
- One of the onboard **Expression (Pedal)** jacks.
- One of the **Pedal** or **Switch** jacks of a connected FC series controller.

In comparison to Internal Controllers or Onboard & FC Pedals and Switches, external controllers act like a “go-between” as illustrated below.



External Controllers are a great choice for presets you might share, because different people will use different controllers in different setups.

Example: you send your friend a preset containing a Wah operated by **External 1**. On your system, External 1 is globally assigned to “PEDAL 1” – one of the onboard expression jacks. On your friend’s system, External 1 is assigned to “CC#16” because an older MIDI controller is being used. The Wah works perfectly on both rigs with no changes required! Learn more about External controllers on [p. 61](#).

MODIFIER PARAMETERS

The **Modify** page of the modifier menu contains parameters to determine the nature of the relationship between the source(s) and the parameter. By default, a modifier is linear: the parameter value moves in direct proportion to the source. By changing this relationship, you can create a variety of desirable effects. For example, you might adjust the “taper” of the change, reverse its effect, or smooth the changes over time. Here is an overview of the additional parameters you can use to create these effects and many more.

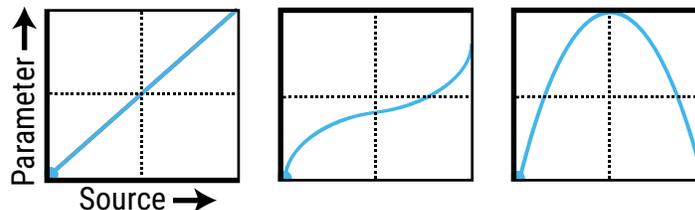
The **Channel** setting determines whether the modifier will be enabled on ALL channels or just on one channel (A,B,C or D). There are many creative uses for this, including effects which auto-engage only when set to a particular channel where their modifier is active.

The **Source 1 Scale**, **Source 2 Scale**, and **Operation** parameters are for dual source modifiers. See p. xx for more.

Min and **Max** determine the range of parameter change. These are extremely important parameters.

*EXAMPLE: The modifier for a pedal controlling **Delay Feedback** has **Min** at “10%” and **Max** at “50%”. The feedback sweeps only from 10% to 50 as the pedal is moved, even though this parameter’s actual range is from -100% to +100%.*

Start, **Mid**, **End**, **Slope**, **Scale**, and **Offset** are used to create custom curves which re-map the source to the target. On the Modify page, a **graph** shows the relationship between the source (x-axis) and the parameter (y-axis). A dot on the graph tracks the source. The default settings (first graph below) create a 1:1 linear relationship (the blue line) between source and parameter. As the source changes, the parameter tracks it directly. The second two graphs below show just a few examples of the kinds of non-linear curves you can create using **Slope**, **Scale**, and **Offset**. The pages which follow contain more examples.



Damping, **Attack** and **Release**: These are used to slow the rate at which the target parameter value “chases” the source. At low settings, these add just a little smoothing. Try settings of about 5 ms to “relax” a pedal or to ease a square LFO to eliminate clicks and pops, or use higher settings for slow, lazy changes. Increase **Attack** to slow the change as the source is increased. **Release** controls the rate as the source decreases. The **Damping** type parameter determines if damping happens in a linear (constant) or exponential manner (slowing as the source reaches the extremes.)

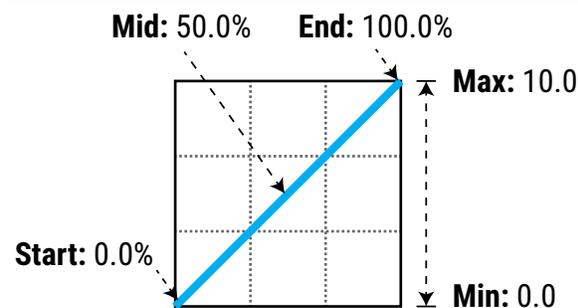
Auto-Engage works with **Off Value** to create effects which turn ON or OFF automatically whenever the source controller is moved. This is typically used with a Wah pedal so you don’t need a toe switch. (Follow the example on [p. 54](#) and set AUTO-ENGAGE to “SLOW POS” to try it out!) See also **Auto-Engage** on [p. 58](#).

PC Reset sets the value for an external source when a preset first loads. This allows you to override the actual position of an external controller until it is moved or updated. To set the default value: after applying the modifier, exit to the Edit page. Notice that the value of that parameter can be edited as usual. If **PC Reset** is ON, the value you set and then save will be used from preset load until the source is changed (i.e. the pedal has been moved).

Update Rate controls how often the modifier is refreshed. The setting of slow is actually very fast, and fine for the majority of applications. The faster settings require additional CPU but provide even smoother sound performance when ultra fast changes are required (while using a fast LFO for instance). Check this setting if you think you hear “zipper noise” while a modifier is in use.

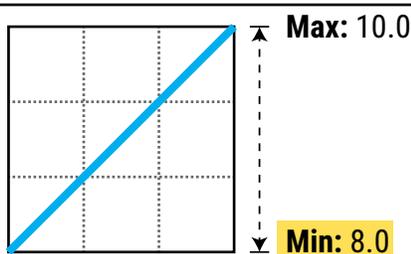
UNDERSTANDING MODIFIER MIN AND MAX

MIN and **MAX** set a range for the parameter under control. This lets you fine-tune modifiers in very cool ways. In the example below, imagine a volume pedal with different settings. Using the principles on this page, you should be able to achieve a wide range of modifier control scenarios.

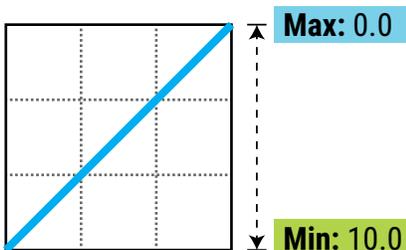


Here is your basic “vanilla” volume pedal.

The pedal “start” (heel position) sets the volume to Min: 0.00; silent. The pedal “end” (toe down position) has the volume at Max: 10 or all the way up. As you rock the pedal forward, the dot follows the line. It moves up as it goes and the volume does too.



Now, something different: a “boost” pedal with Min set to 8 and Max still at 10. In the heel position, the volume will go only as low as 8, instead of 0 as in the previous example.

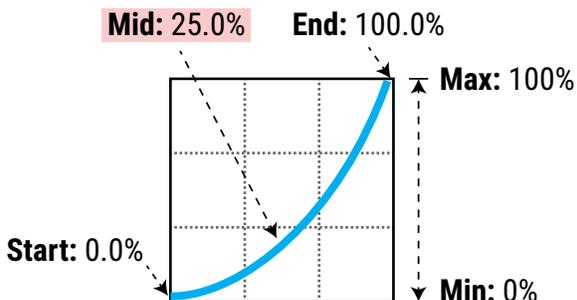


Here is a different twist: Min is at 10.0 – the loudest setting, while Max is at 0.0 – silent.

It looks the same, but this is a reverse volume pedal!

USING “MID” TO CREATE BASIC CURVES

Let’s imagine a modifier on the feedback of a delay to demonstrate changes to **response curves**. By now you should be familiar with the default settings, so let’s skip right to the curved version:



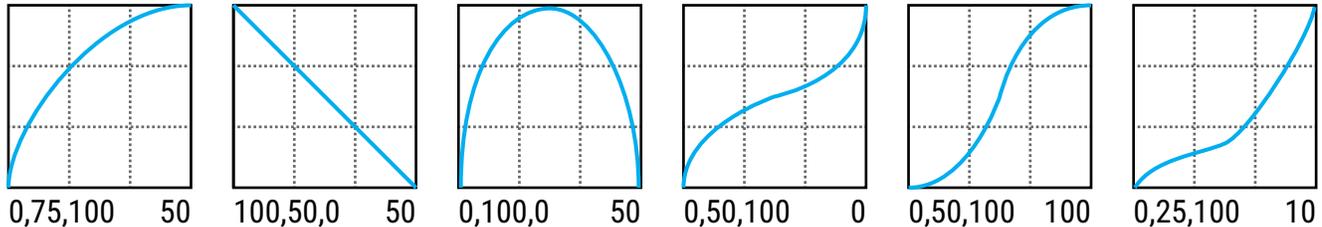
As we adjust Mid, the graph shows the curve. At 25%, the response is “tapered” so that with the pedal half way forward, Feedback is only 25% between Min and Max.

This type of curve provides gradual control of feedback across the lower end of the range, and then a more rapid change towards the top.

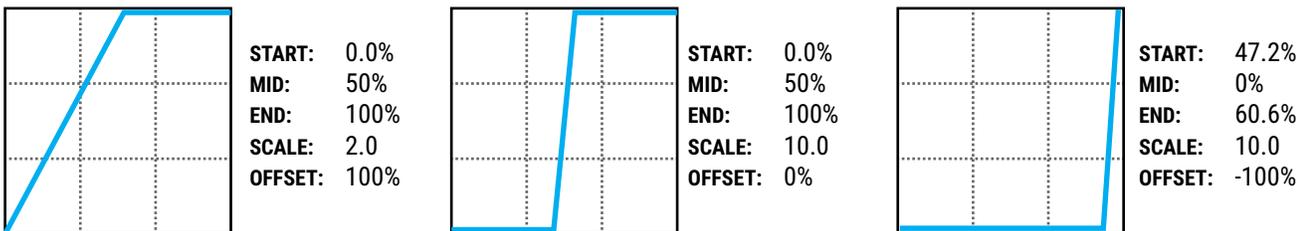
9 MODIFIERS

ADVANCED MODIFIER CURVES AND SHAPES

You can also adjust **Start**, **End**, and **Slope** (which introduces an “S” or “backwards S” shape). The numbers beneath each example below show the settings for **Start**, **Mid**, **End** and **Slope**. With a bit of experimentation, you will learn to achieve desired modifier effects quickly. Try dialing in the shapes below for practice:



Scale and **Offset** also re-map modifier response. **Scale** adds vertical exaggeration or compression, while **Offset** moves the entire curve up or down on the Y-axis. Segments outside the graph boundaries will be clipped and replaced by line segments. The examples below show some interesting possible applications.



AUTO-ENGAGE TURNS EFFECTS ON/OFF AUTOMATICALLY

If you have used a Wah pedal with no toe switch, you will recognize “auto engage”. This type of effect turns on automatically when you rock the pedal forward it and then bypasses when you pull the pedal back. **Auto-Engage** allows you to set up any effect like this: wah, whammy—you name it.

Auto-Engage engages or bypasses a block when the **Source** of a modifier changes. Once you try it, we believe you will quickly find that this capability comfortably eliminates the need for an expression pedal “toe switch,”

Set up Auto-Engage using two parameters on the Modify page:

Auto-Engage – Determines whether or not the block will automatically engage or bypass. FAST, MEDIUM and SLOW settings determine how quickly the effect turns ON/OFF once Auto-Engage is triggered. Use SLOW settings to “relax” auto-engage, so your effect doesn’t switch off too suddenly while you’re still using it.

- The three POSITION (“POS”) options trigger the effect based on **OFF VALUE** (see below).
- The three SPEED (“SPD”) options engage the effect when the controller is moved quickly.
- Set to “OFF” to disable Auto-Engage.

Off Value – Sets the *position* threshold that the source must cross for auto-engage to occur. When **Off Value** is set below 50%, the effect is bypassed when the controller goes *below* that value. If **Off Value** is set to 50% or higher, the effect is bypassed when the controller goes *above* that value.

For “heel down = bypassed”, set to 5%. For “toe down = bypassed”, try 95%.

MODIFIERS AND CHANNELS

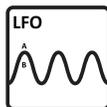
Remember, a modifier is normally shared across all of the channels of the block where it exists. However, you can also limit it to operating on just a *single* channel—your choice—by using the **Channel** setting in the modifier menu.

INTERNAL CONTROLLERS

Internal Controllers can be programmed per-preset for use as modifier sources. To access these parameters, push the **CONTROLLERS** button on the **Home** page (Push-knob **C**) or press **TEMPO**.

TEMPO Tempo appears in the Controllers menu. For more information, see [Section 10: Tempo](#).

LF01 & LF02



A Low Frequency Oscillator (“LFO”) generates control signals in the form of a variety of wave shapes. Examples of LFOs in use include the pulse of a tremolo, the back and forth sweep of a phaser, or the random filter in *Ship Ahoy* by Frank Zappa.

Type sets the shape. You can set the **Rate** or lock the LFO to the current **Tempo**. You can vary the overall **Depth** and **Duty**, or symmetry. The **Run** parameter starts and stops the LFO. This can be used to keep it from drifting out of time.

Each LFO outputs “A” and “B” signals, each of which is an independent modifier source on the list. You can change the **Phase** of output B with respect to A.

Quantize changes smooth waveforms into stepped ones. Try it on the “TRI” waveform for example.

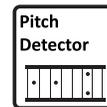
ADSR1 & ADSR2



The two ADSR sources are envelope generators with **Attack**, **Decay**, **Sustain** and **Release** parameters (thus “ADSR”). The ADSR is triggered whenever the signal level exceeds its **Threshold** measured at the selected input (1 or 2). The envelope has three self-explanatory **modes (Once, Loop, and Sustain)** and can optionally be set to **Retrigger** every time the threshold is exceeded. A **Type** parameter selects between Linear and Exponential curves.

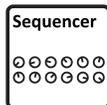
In comparison to the Envelope Follower, the ADSR envelope *generator* always creates the same control signal, but only triggers when you play hard enough.

PITCH DETECTOR



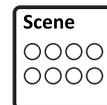
The Pitch Detector analyzes the pitch of your playing and outputs a low value for low notes and a high value for high notes.

SEQUENCER



The Step-Sequencer generates control patterns by looping through 2–32 “stages.” You set the **Value** for each stage, the **Number** of stages, and the **Rate** or **Tempo**. The **Run** switch allows you to start or stop the sequence. Damping slurs the change between steps.

SCENE CONTROLLERS



The four Scene Controllers provide a way to change sound settings from one Scene to another. Think of each Scene Controller as a “virtual knob” whose setting can be programmed with a different value in every Scene. By assigning this knob as a modifier source, you can create “per-scene” parameters.

For example, you might assign Scene Controller 1 to **Input Drive** in the **Amp** block with a value of 10% in Scene 1, 50% in Scene 2, 75% in Scene 3, and so on.

As with any source, a scene controller can be assigned to multiple parameters at the same time, each with its own modifier settings.

A Scene Controllers tutorial appears on [p. 63](#). For more on Scenes, see [Section 6 on p. 43](#).

ENVELOPE FOLLOWER



This converts input level to a control signal, responding variably to your playing dynamics. The classic example is a touch-wah, where the frequency of the wah varies based on how hard you play. You can set **Attack** and **Release** times independently, set the trigger **Threshold**, and adjust the **Gain** at the trigger signal input, which can be set to Input 1 or Input 2.



The Internal Controllers menu offers four channels for four sets of independent settings for ALL of the items listed above: four tempos per preset, four sequencer settings, etc. When you change the channel, ALL of the controllers switch to the new channel and the new settings. Axe-Edit III provides a way to copy/paste Controller channels.

MANUAL CONTROLLERS

The five Manual Controllers are virtual knobs with no function other than to serve as modifier sources. A Manual controller makes it possible, for instance, to create a “super control” where one knob operates multiple sound functions at the same time. For example, you might assign delay mix, reverb time and chorus depth parameters – all at the same time – to the “**Manual 1**” modifier source. Now, when you adjust **Manual 1**, all of the above parameters will change simultaneously as desired.

Another good use for Manual Controllers is to simulate an expression pedal when you do not have one handy.

Change the value of a Manual Knob in the Controllers menu, or, for a more accessible option, place on one of the Performance Control pages (see [p. 94](#)).

TUTORIAL: MANUAL CONTROLLERS

In this tutorial, we will set up a **Manual Controller** to adjust the **Feedback** and **Mix** of a Delay block.

1. Load the factory preset “#022 Super Verb” and turn on the Delay block.
2. The first step in using a Manual Controller is to assign it as a **Modifier Source** to the parameter of your choice. Enter the **Layout** grid of the preset, navigate to the **Delay** block, and press **EDIT**.
3. Use the **PAGE** buttons to locate the **Config** page of the **Delay** block.
4. **NAV** to the **Feedback** parameter and notice the open yellow modifier “ring” beneath the knob.
5. With the **Feedback** parameter highlighted, press **ENTER** to display the **Modifier** menu.
6. On the **Source 1** page, select **Manual 1**.
7. Page right twice to the **Modify** page. Set **Min** to 0% and the **Max** to 50%.
8. Press **EXIT** to return to the **Delay** menu. Notice that the open modifier symbol is now a **solid yellow dot**.
9. **NAV** down to the **Mix** parameter and press **ENTER** to display the **Modifier** menu.
10. On the **Source** page, select **Manual 1**.
11. Page right to the **Modify** page. Set **Min** to 5% and the **Max** to 75%.
12. Now let’s try the Manual Controller. Press **HOME** to show the home page.
13. Press the **CONTROLLERS** button (Push-knob **C**).
14. Use the **PAGE** buttons to locate the **Manual** page of the **Controllers** menu.
15. Turn **knob A** to adjust **Manual 1** and listen to your delay settings change. As the knob approaches 100%, the Delay mix increases (louder echoes) and the Feedback increases (more repeats).
16. Press **STORE, ENTER, ENTER** to save your work. Not only will all of the modifier settings be saved, but the position of the Manual knob as well.
17. **EXTRA CREDIT!** Use Axe-Edit to place your Manual 1 knob on one of the PERFORMANCE CONTROL pages and give it the name “Delay/Mix+FB” (See [“Performance Control Pages” on p. 94](#) for more)

METRONOME

A metronome is included for convenience. The Metronome is not technically a controller, but its settings are accessed through the Tempo page of the Controllers menu. To enable the metronome press the Tempo button and adjust the level for the desired output(s). Note: the metronome levels persist across presets and are reset to OFF at power on.

EXTERNAL CONTROLLERS

External Controllers are modifier sources that are in turn controlled themselves via external MIDI or a connected expression pedal or switch. For example, if the source of a modifier on a Wah effect is set to “External 1” and External 1 is set to “MIDI CC#16”; a connected MIDI expression pedal transmitting CC#16 then operates the Wah.

This concept is illustrated on [p. 61](#).

The global assignments for External Controllers are set on the **External Control** page of the **MIDI/Remote** menu under **SETUP**. You can assign a MIDI CC#, an on-board Expression pedal or switch, or a Pedal or Switch on a connected FC series controller. Choosing an External Controller as the source of your modifier is the same as assigning any other source (see [“To Create a Modifier...” on p. 53](#)). To change which CC# or pedal/switch operates an External Controller:

1. Open the **MIDI/Remote** menu in **SETUP** and page to **External Ctrl**.
2. Use **NAV** to select the External Controller you want to change (ex: “External Control 1”).
3. Use **VALUE** to change the assignment. You can also select “NONE” to disable the selected controller.
4. **EXIT** when finished.

EXTERNAL CONTROLLER INITIAL VALUES

External Controllers assigned to MIDI are given a value of “0” until some MIDI data is received to change them. You can imagine how a missing or broken MIDI controller might therefore present a big problem...

The **External Controller Initial Value** parameters can change the startup value for a controller to 100%. Then, when the Axe-Fx III is powered on, any modifiers assigned to the missing controller will be all the way *up* instead of all the way down. To change the initial value for an External Controller:

- ▶ Page to the **General** page of the **MIDI/Remote** menu under **SETUP**.
- ▶ Use **NAV** to select to whichever controller you want to change (ex: “External Control 1”).
- ▶ Use **VALUE** to change the setting.
- ▶ **EXIT** when finished.

MODIFIERS LIST

The last page of the **Controllers** menu lists all of the modifiers in the current preset. You can jump to edit each modifier from this list by pressing **ENTER**.

As you’ll gather from looking at the list, the maximum number of modifiers per preset is 24.

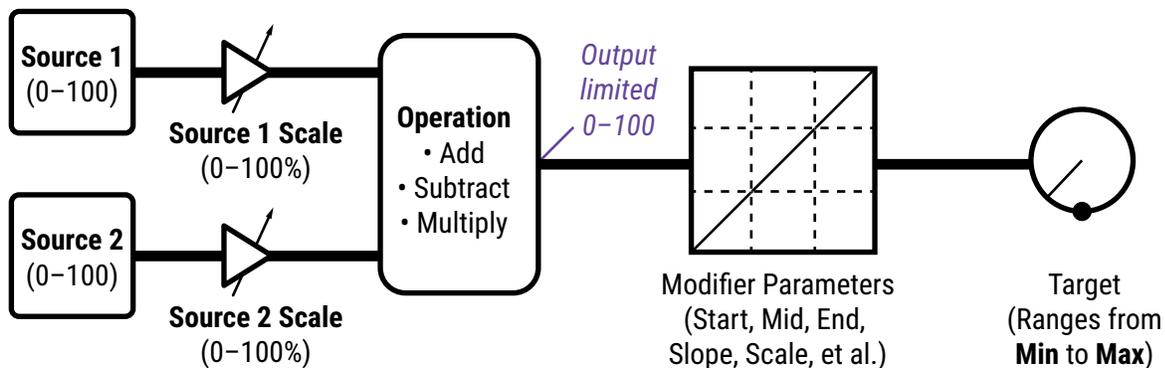
DUAL SOURCE MODIFIERS

The Axe-Fx III allows modifiers to have not one but *two* sources. These can be combined in interesting ways to jointly control a target parameter. Among many other possibilities, this allows pedal-controlled effects to be operated by either of two different pedals. (Onstage and offstage for artist and tech, or upstage and downstage so you can stroll out onto the catwalk during a stadium tour.)

When creating a modifier as described in this chapter, you will notice that the menu has separate pages for selecting **Source 1** and **Source 2**. The **Modify** page then has three parameters which allow you to scale and combine these together. Each source normally ranges from 0-100%, but **Source 1 Scale** or **Source 2 Scale** can be used to reduce the impact of either source. Meanwhile, the **Operation** parameter determines whether the two sources will be added (Source 1 + Source 2), subtracted (Source 1 - Source 2), or multiplied (Source 1 x Source 2).

After the two sources are combined, the output is constrained between 0 and 100. In other words, you cannot add two pedals together and have the output become 200%. Any value greater than 100 is treated as 100. So, to achieve our stated example of having two different pedals operate the same wah, each pedal must be returned to the heel position when not in use.

The following diagram illustrates how the two sources and their parameters work together.



TUTORIAL: SCENE CONTROLLERS

In this tutorial, we will set up a Scene Controller to adjust the Input Drive of an Amp block. While it is easy enough to achieve different amp sounds within a preset simply by switching the channel, this example provides an excellent and easy way to understand how Scene Controllers work.

To complete this tutorial, you'll need a preset with an amp and cab block with four identical scenes. You can create one on your own, or download the preset "**SC Tutorial**" from Axe-Change:

<https://axechange.fractalaudio.com/detail.php?preset=9221>

1. The first step in using a Scene Controller is to assign it as a **Modifier Source** to the parameter of your choice. Enter the **Layout** grid of the preset, navigate to the **Amp** block, and press **EDIT**.
2. Use the **PAGE** buttons to locate the **Tone** page of the **Amp** block.
3. **NAV** to the **Drive** parameter and notice the open yellow modifier "ring" beneath the knob.
4. With the **Drive** parameter highlighted (blue), press **ENTER** to display the **Modifier** menu.
5. On the **Source 1** page, select **Scene Controller 1**. We don't need any custom settings on the **Modify** page.
6. Press **EXIT** to return to the **Amp** menu. Notice that the open yellow modifier symbol is now a **solid yellow dot**.
7. Now let's set the values for our Scene Controller. Press **HOME** to show the home page.
8. Press the **CONTROLLERS** button (Push-knob **C**).
9. Use the **PAGE** buttons to locate the **Scene Ctrl** page of the **Controllers** menu.
10. The **Controller 1** column lists eight different values – one per scene. These will set the value for our target parameter in each of the eight scenes.
11. Dial in the **Scene Controller 1** value for Scene 1. Let's set it to about 20% for a "cleanish breakup" type of sound. Use your ears!
12. Change to Scene 2. Double-tap **HOME** to go to the grid then turn **Knob A** to change the scene. Push **Knob D** ("Controllers") to return to the Scene Controllers Editor.
13. **NAV Down** to select the **Scene 2** row in the **Controller 1** column. Turn **VALUE** to set the value for Scene 2. Let's set it to about 45% for a nice crunch. Again, use your ears.
14. Using the process in the previous steps, set the value for Scene 3 to 75% and Scene 4 to 100% (or as desired).
15. Press **HOME** to return to the **Home** page. Test your first four scenes using the **NAV UP/DOWN** buttons.
16. Press **STORE, ENTER, ENTER** to save your work. If desired, enter **Scene Names** as outlined in "[Saving Changes](#)" on p. 41.
17. Feel free to assign other **Scene Controllers** to other parameters in your preset as desired.



New to Axe-Change? Download the file from the link above, then use Axe-Change to import it. Select an available preset location

MODIFIER TIPS AND TRICKS

- The same source can be assigned to multiple modifiers at the same time. For example, one pedal can adjust Chorus Rate and Chorus Depth at the same time – even in different ways.
- The modifier menu is unique in that it will not allow you to change pages unless **Source 1** is set to something other than “NONE”.
- The modifiers for a given block will normally be shared across all of its channels, but you can also limit a modifier so it applies only to any one channel—your choice. Change the “Channel” setting inside the modifier menu to do so.
- Remember that modifiers use a small amount of CPU power while you use them. Check any presets that are close to the edge.
- All of the Internal Controllers (Tempo, LFOs, ADSRs, etc.) are part of the **Controllers** block. This block has four channels, so you can have up to four different sets of Controller values in one preset.
- Each block has a dedicated **Bypass** parameter, and this parameter allows you to assign a modifier. (*“Bypass Mode” is not used as it was across the previous generation of Fractal Audio products.*)
- Scenes cannot change block parameters, but Scene Controllers can. Four different knobs can be used with modifiers to change the value of desired parameters. See the tutorial on [p. 63](#) for more on this.
- Auto-Engage allows a modifier source like an expression pedal to simultaneously engage an effect and adjust a parameter. It isn’t just for the wah however. Try it with a tremolo or rotary block and rate.
- “The Golden Whammy” is a now-classic modifier application where the very first few degrees of travel for an expression pedal change the Mix of a pitch block from 0 to 100, and the remainder of the pedal’s travel operates a classic whammy effect. The transition is perfectly smooth with no steps or jumps as the effect engages. You can study this in factory preset #88: JS410.
- Internal Controllers are used as modifier sources, but these also have many parameters of their own which can be controlled by a modifier. For example, one LFO can control the rate or depth of another one. An Envelope can turn the Sequencer on or off. A Scene Controller can cause an LFO to start or stop. The potential for creative effect processing is immense!
- The switches of an FC controller can also be used as modifier sources. For this to work, you need to use the **Control Switch** function detailed in The **Fractal Audio Footswitch Functions Guide** found at <https://www.fractalaudio.com/fas-ffg>

10 TEMPO

Tempo is used in electronic music for synchronizing different rates and times, whether inside one machine or across several. Tempo on the Axe-Fx III allows for both internal and external synchronization, providing effects with a central BPM clock that can either run autonomously or follow the tempo of a connected device outputting MIDI Beat Clock. The Axe-Fx III does not transmit MIDI Clock itself. The Tempo can be set to any whole number value in the range 20–250 BPM. The Axe-Fx III flashes its current tempo on a front-panel LED.

THE GLOBAL TEMPO

The Global Tempo value is a system setting outside of any presets, scenes or channels. You can change it in any of several ways:

1. Tap two or more times on the front panel **TEMPO** button.
*NOTE: By default, the tempo averages across ten taps, but you can set it to use only two taps with an option found under **SETUP: Global: Config: Tap Tempo**.*
2. Tap the **TEMPO** button once and use the **Tempo** knob (**B**).
3. Use an external MIDI device to transmit **MIDI Clock** to the **MIDI IN** port of the Axe-Fx III.
4. Use a MIDI CC# or external switch assigned to **Tempo Tap**, located on the **Other** page of the **MIDI/Remote** menu under **SETUP**. (See NOTE under #1 above).

Be aware that whenever you change the Global Tempo, you are also changing the current Preset Tempo, which will be saved if you store the current preset (see below). Be on guard that you don't accidentally over-write saved tempos!

PRESET TEMPO

A given preset can *ignore* the Global Tempo and use its own saved **Preset Tempo** instead. In fact, this is the default setting. Notice that a preset's **Tempo** page contains two parameters: one is an actual **Tempo** (BPM) value, and the other is a setting called **Tempo To Use**, which determines what will happen when that preset is loaded.

When you load a preset whose **Tempo To Use** is "PRESET," the saved **Preset Tempo** takes over: the tempo LED flashes accordingly and all tempo-dependent time/rate parameters are re-calculated. In fact the Global Tempo has not changed; it remains in the background and will be used when you load a different preset with **Tempo to Use** set to "GLOBAL".

Be aware that whenever you alter a preset's own Tempo, you are also updating the Global Tempo.

Remember that each of the four channels of the **Controllers** menu has its own settings for both **Tempo** (BPM) and **Tempo to Use**. You can use this to have some Scenes or Channels change the tempo while others do not.

TO SET "TEMPO TO USE"...

1. Load the preset.
2. Tap once on the **TEMPO** button.
3. Change **TEMPO TO USE** as desired to either "GLOBAL" or "PRESET".
4. STORE the preset.

SYNCHRONIZING SOUND PARAMETERS

Rates and times in a preset can be made to sync rhythmically to the Tempo by setting their corresponding **Tempo** parameters. This is done by selecting from a list of values, ranging from 1/64-note-triplets to double whole notes, with 76+ options in all. For example, to set the **Time** of a Mono Delay block to follow the quarter note pulse of the tempo, find the **Tempo** parameter on the **Config** page of the Delay block's **Edit** menu and set this value to "1/4."

The moment you assign a value for Tempo (other than "NONE"), its associated rate or time parameter is overridden and may not be changed manually – as indicated by its appearance in parentheses. To regain control of an overridden parameter, set its corresponding Tempo parameter back to "NONE".

Almost every LFO rate and delay time parameter on the Axe-Fx III can be synced to the tempo.

TO SYNCHRONIZE A DELAY TO THE TEMPO...

- ▶ Navigate to any type of Delay block and press **EDIT** to show its Edit menu.
- ▶ Find the **Tempo** parameter and set it to "1/4". Feel free to choose/explore other options. "1/8th dot" is also very useful and popular.
- ▶ STORE the preset.

Remember that once a **Tempo** has been set, you will be unable to adjust **Time** manually or with a Modifier.

TO SYNCHRONIZE A TREMOLO OR OTHER RATE TO THE TEMPO...

- ▶ Navigate to the effect and press **EDIT** to show its Edit menu.
- ▶ Find the **Tempo** parameter and set it as desired. A typical value here might be "1/8th" or "1/16th". Feel free to choose/explore other options.
- ▶ STORE the preset.

Remember that once a **Tempo** has been set, you will be unable to adjust **Rate** manually or with a Modifier.

Note that syncing an LFO to the tempo does not align the phase of that LFO to the Tempo LED, to MIDI song position pointer, or to other synchronized LFOs. You can synchronize various LFOs together by setting their RATE knobs fully counterclockwise to "LFO1 SYNC" and then syncing the **LFO1 Controller** to the **Tempo** ([p. 59](#)).

11 THE TUNER

The Axe-Fx III has a built-in Tuner—essential for the performing or recording musician. The tuner is easy to use and has high-resolution automatic pitch detection, a calibration control, offsets for modified tuning schemes, and the option to mute audio while tuning. Find the Tuner on the **Home** page by pressing **TUNER** (Push-knob **A**).

The tuner features a note name display, a “zero-center” meter, a spinning “strobe” type display and triangular indicators for sharp and flat.

ADVANCED TUNER FUNCTIONS

The actual tuner is on the **Tune** page of the **Tuner** menu.

The **Config** and **Offsets** pages provide options for advanced tuner functions.

Configuration Parameters

PARAMETER	Description.
Source	Selects which physical input the tuner should listen at.
Mute OFF/INPUT/OUTPUT	Determines how the tuner mute function works. <ul style="list-style-type: none"> ▪ OFF: No mute. All signal is passed as usual when the tuner is engaged. ▪ OUTPUT: The signal is muted at the output. Tails are silenced. ▪ INPUT: The signal is muted at the noise gate. Tails ring out.
Display Mode MIXED/ALL FLATS/ ALL SHARPS	Determines whether the tuner shows note names for accidentals as Sharps, Flats, or a mix of both.
Calibration 430.0 – 450.0 Hz	Calibrates the tuner by setting the frequency of A4 (in the octave above middle C). The tuner defaults to A440.
Downtune 0 – 4 Semitones	The Downtune control allows for simplified tuning when tuning down one to four semitones. The Tuner display will read the non-downtuned equivalent note, i.e. if tuning down two semitones, the D will still show E. While Downtune is set to any value other than None, any blocks that utilize pitch information will also be transposed accordingly.
Use Offsets OFF/ON	Determines whether the Offset settings (see below) are applied or ignored.

OFFSET PARAMETERS

PARAMETER	Description
E1, B2, G3, D4, A5, E6 +/- 25.00 Cts	Offsets allow the tuner to be calibrated so individual notes diverge from standard concert tuning by a defined amount. Use this for example for Buzz Feiten tuning.

MINI TUNERS

For convenience, mini-tuners appear throughout the Axe-Fx III. These consist of two green triangles to indicate when a note is flat (left lit), sharp (right lit) or in tune (both lit).

12 SETUP MENU

Open the menu by pressing the **SETUP** button (Push-knob **E**) on the **Home** page. The current **Firmware Version** is shown at the top of the page. To enter a menu, select it with **NAV** and press **ENTER**. All changes take effect immediately without needing to be stored. The settings for Setup parameters are included in a backup of the System (see ["Backing Up & Restoring" on p. 89](#)).

THE FOOT CONTROLLERS MENU

The Foot Controllers menu is covered in its own Section on [p. 81](#).

THE GLOBAL SETTINGS MENU

 Reminder: You do not need to store settings in the **SETUP** menu. **EXIT** twice when finished.

GLOBAL SETTINGS: CONFIG PAGE

PARAMETER	Description
Output # EQ Type OFF/GRAPHIC/PARAMETRIC	Four different parameters allow you to change the type of the four global equalizers at each of the outputs (1,2,3, & 4).
Power Amp Modeling ON/OFF	This parameter globally enables or disables power amp simulation in all Amp blocks in all presets when the Axe-Fx III is used with a guitar-oriented/tube power amp that contributes significantly to tone and dynamics. Having these characteristics applied twice to the sound—once in the virtual power amp and once in the real power amp—would result in an over-processed sound. All parameters that are NOT part of the virtual power amp continue to work normally while Power Amp Modeling is turned off. Presence and Depth are disabled, and Master Volume becomes a simple volume control.
Cabinet Modeling ON/OFF	This parameter conveniently enables or disables Cab block processing in all presets. The Cab block will not physically appear to be bypassed, but acts exactly as if it had been replaced a shunt. Use this when you are using the Axe-Fx III with an amp powering a traditional guitar speaker cabinet, or the sound will be muffled, muddy, and boomy.
Tone Control Display AUTHENTIC/IDEAL	This parameter governs the "Tone" page of the amp block. When set to Authentic (default) only those controls present on the actual amp are displayed. When set to Ideal all tone controls are displayed. Also, when set to Authentic, the Bass, Mid and Treble controls are reset to default values when changing models to ensure accuracy for models that may not have these controls.
Update Pre-11.x Presets Spkr Imp Upon Load YES, NO	This causes older presets to automatically update the Speaker Impedance Curve parameter to an appropriate value when loaded. NOTE: Setting this to YES will also cause the EDITED LED to light indicating the preset has been modified but not saved. See the "The Fractal Audio Blocks Guide" for more on Speaker Impedance Curve parameter in the Amp block.
Speaker Impedance Curve	Determines how the Speaker Impedance curve is selected when changing Type (Amp Model) in the Amp Block. When set to "DEFAULT ", the usual matching impedance curve for the new Type is used. When any other value is set here, this type will be pre-selected whenever the Amp Type is changed.

12 SETUP MENU

PARAMETER	Description
Spillover OFF/DELAY/REVERB DELAY&REVERB, ALL	<p>Allows delay and reverb “tails” to ring out or spill over across Preset changes. Setting to “OFF” causes effect tails to be cleared upon preset change. Spillover when switching Scenes or using “IA” Switches is not affected by this parameter. (“ALL” includes not only Delay and Reverb but also Plex Delay, Multitap, Megatap and Ten-Tap delay blocks.)</p> <p>See also "Spillover" on p. 99.</p>
Reverb Mix +/- 50%	<p>This boosts or cuts the MIX for ALL Reverb blocks in all presets. Note that this offset is NOT reflected in the value shown for the actual Reverb block MIX parameter. This feature is provided because certain dead or lively performance spaces may require more or less reverb across all presets.</p> <p>Remember that MIX generally applies only to Reverb blocks which are wired in <i>series</i>. (Parallel reverbs typically run with MIX at 100%.)</p>
Effects Mix +/- 50%	<p>This feature is provided because certain performance spaces may require more or less of certain effects across all presets. This boosts or cuts the MIX of all blocks for which the GLOBAL MIX parameter is set to “ON”. This switch must be enabled on a per-block/per-preset basis and is available on the Mix page of the Edit menu for these block types: Chorus, Delay, Flanger, Formant, Multitap, Phaser, Pitch, Plex Delay, Reverb, Ring Mod, Rotary, Ten-Tap Delay</p>
Noisegate Offset +/- 40.00 dB	<p>Globally raises or lowers the THRESHOLD of the Noise Gate for all Input blocks. If the THRESHOLD for a given preset is set to “OFF”, the global Offset will have no effect. Learn more about the Noise Gate in "The Fractal Audio Blocks Guide"</p>
Prompt on Edited Preset Change	<p>When set to ON the unit will prompt before changing presets if the current preset has been edited. This spares you from accidentally losing your edits. NOTE: Be sure to change this to OFF before performing!</p>
Indicate Edited on Scene Change ON/OFF	<p>This determines whether or not Scene Changes will activate the "EDITED" light on the front panel and in the connected editor. Please note that the current scene is still saved as the default scene even when this setting is turned off.</p>
Display Offset 0, 1	<p>(Also appears in the MIDI/Remote menu) Causes presets numbers to begin at 001 instead of 000. This only offsets the display, meaning that it does not change which preset is actually loaded by a given footswitch or MIDI message.</p>
Default Scene AS SAVED, SCENES 1–8	<p>When set to “As Saved” the scene selected when recalling a preset is the scene that was active when the preset was last saved. When set to a particular scene value that scene will always be selected when any preset is recalled.</p>
Tap Tempo AVERAGE, LAST TWO	<p>Determines how the tempo changes when tapping the front panel TEMPO button or an external tap tempo controller (see p. 79). “AVERAGE” sets the tempo based on the average of ten taps, meaning taps are more forgiving but changes are more gradual. “LAST TWO” considers only the time interval between the last two taps, which means taps must be more precise but changes occur more quickly.</p>
Value Knob Push Function	<p>By default, pushing the main “VALUE” knob shows the layout grid. To disable this feature, change the setting of this parameter to “NONE”.</p>
AC Line Frequency	<p>The Noise Gate in the Input Block uses smart EMI filtering to reduce hum and buzz. For this to work correctly, you must set this parameter to match the power line frequency of your country (i.e. 60 Hz for North America, 50 Hz for EU, etc.).</p>

GLOBAL SETTINGS: OUT 1 EQ & OUT 2 EQ PAGES

Four separate pages – one for each output – each provide an equalizer, plus a master LEVEL adjustment control. The type of EQ can be changed, or the EQ can be disabled via the **EQ Type** parameter on the **Config** page.

Use these EQs to make global adjustments to the tone or level of ALL presets. This is convenient when you need to compensate for using a different amp or speakers, or if a particular performance space seems overly bright or boomy. The master GAIN fader should be used with care as it can cause clipping, and lowering it can affect the signal-to-noise ratio.

These EQs affect ONLY the Analog outputs. AES/SPDIF/USB are not affected.

NOTE: When **Output 2 | Copy Output 1** is enabled, Output 1 Global EQ settings are NOT applied to signals at Out 2. Instead, the Output 2 Global EQ settings apply as usual.

GLOBAL SETTINGS: CUSTOM SCALES PAGE

The **Scales** page is used to configure scales for the **Custom Shifter** type in the **Pitch** block. Learn more in "[The Fractal Audio Blocks Guide](#)".

Note that as of firmware 12, global scales can also be edited, exported, and imported using Axe-Edit.

PARAMETER	Description
Custom Scale Number 1–32	Selects from among the 32 global custom scales available to edit using the 12 parameters which follow.
___ SHIFT (+/- 24)	These 12 parameters are used to set the shift amount for each of the 12 steps of the chromatic scale. Range is +/-24 semitones (+/- two octaves). To set up a custom scale, select its number in the field above and then set each of the 12 pitch values as desired. Changes take effect immediately, with no need to STORE. Soft-buttons provide options to reset a selected value or all values in the current scale to the default value of +/- 0 semitones.

THE I/O MENU

☞ Reminder: You do not need to store settings in the **SETUP** menu. **EXIT** twice when finished.

I/O: INPUT PAGE

The **Input** page of the **I/O** menu contains four parameters that scale the input to the A/D converters: **Input 1/Instrument Level**, **Input 2 Level**, **Input 3 Level**, **Input 4 Level**.

Remember that, except at very low settings (5% or less), input level adjustments do not affect gain levels or what you hear. This is because as you adjust the level to the input of the A/D converter, the output of the converter compensates accordingly, so your guitar signal level remains exactly the same when it reaches the grid and any virtual amps or effects.

The global **Input 1 Gain** parameter adjusts the gain globally for In 1/Instrument. Use this, for example, to compensate for a lower output guitar. This adjustment happens *prior* to the In 1 Gate.

I/O: AUDIO PAGE

PARAMETER	Description
Word Clock	This selects the clock source for the A/D and D/A converters as follows:
INTERNAL	"INTERNAL": uses the internal clock.
SPDIF/AES IN	"SPDIF/AES IN": uses the clock recovered from the current digital input. A valid 48 kHz data stream must be present at the AES or SPDIF port for the Axe-Fx III to operate properly.
SPDIF/AES Out Source	This allows you to specify which signal should be transmitted at the SPDIF or AES digital output. Options include Output 1, Output 2, Input 1 or USB 7,8.
Output 1 or 2, Input 1 or 2	
USB Output 7,8 Source	This determines whether computer USB audio inputs 7 and 8 will record the signal from physical INPUT 1, INPUT 2 or INPUT 3.
USB Output Mapping	Determines whether the first two pairs of computer USB audio playback outputs are mapped to Out 1 L+R and Out 2 L+R (in that order) or vice versa. (See the red note on p. 20 for details).
USB Buffer Size	Set this to lower values for less latency with USB Audio, set to higher values if you are experiencing distorted audio. Stop USB audio streaming when changing this value so as to allow the buffer to reset properly. Streaming can be stopped by closing the application sending data to the Axe-Fx III or by disconnecting the USB cable.
8–256	
Digital Input Source	Sets the global digital input source to your choice of AES, SPDIF, or USB Channels 5/6. See " Input Source " below, for more on this.
Input Source (1, 2, 3, 3, 4)	These four settings determine whether each input is fed by the corresponding analog input jacks, or by the current Digital Input Source (above). For example, to route USB audio to Input 1, set Digital Input Source to "USB", and set Input 1 Source to "Digital". See " Input Selection " on p. 98 .
ANALOG, DIGITAL	
Input 2 Mode	These parameters determines whether signals at the corresponding input will be processed in stereo, or in one of several mono modes ("LEFT", "RIGHT", or "SUM L+R").
Input 3 Mode	
Input 4 Mode	
LEFT ONLY	
L+R SUM	It is important that you choose the correct setting based on what's actually connected or present. Setting an input to "STEREO" and then not connecting one of the two jacks will result in reduced levels.
STEREO	

PARAMETER	Description
Output 1 Mode Output 2 Mode Output 3 Mode Output 4 Mode STEREO, SUM L+R COPY L>R MUTE	<p>These four parameters determine how signals at the corresponding output ports will be processed. This control makes it easy to use the same presets in a variety of stereo and mono performance or recording environments. The decision between the mono options "SUM L+R" or "COPY L>R" should be based on the source material.</p> <p>See "Mono vs. Stereo" on p. 6 for more information on these options.</p> <p>USB Audio goes directly to the converters and is NOT affected by this setting.</p> <p>The option "MUTE" allows for special use cases involving USB Input monitoring. See the diagram on p. 20</p>
Output 1 Level Output 2 Level -10dBV +4 dBu	<p>These two parameters set the nominal levels of their respective outputs.</p> <p>Use "-10 dBV" for consumer-grade equipment including many guitar products.</p> <p>Use "+4 dBu" with professional audio equipment.</p> <p>The product manual for your connected device should indicate whether it operates at +4 dBu or -10 dBV (Default). (Some devices are switchable.)</p> <p>USB Audio levels ARE affected by this setting.</p>
Output 1 Phase Output 2 Phase Output 3 Phase Output 4 Phase NORMAL, INVERT	<p>These four parameters determine whether signal at the corresponding output ports will be normal or phase-inverted relative to its state at the output of the grid. This lets you compensate for unwanted inversions elsewhere in the signal chain.</p> <p>USB Audio signals ARE affected by this setting.</p>
Output 2 Copy Output 1 OFF/ON	<p>Enabling this option creates a copy of the Output 1 signal at Output 2. Use this for the convenience of having an extra copy of the Output 1 mix with separate front panel level control—without the need to insert an additional output block.</p> <p>This setting does NOT copy USB audio, and only works only when the Output 2 block is NOT present on the grid for the current preset!</p>
Output 3 Copy Input 1 Output 4 Copy Input 1 OFF/ON	<p>Enabling either of these options creates a copy of the Input 1 signal at Output(s) 3 or 4. Use this for the convenience of having an extra copy of the Input 1 signal (for all-analog re-amping, for instance) without the need to insert additional output block(s) on the grid.</p> <p>This setting does NOT copy USB Audio and only works only when the corresponding output block is NOT present on the grid for the current preset! For example, Output 3 Copy Input 1 will NOT copy Input 1 when the Output 3 block is on the grid.</p>

12 SETUP MENU

PARAMETER	Description
Output 3 Boost/Pad Output 4 Boost/Pad 0/6/12/18 dB	<p>These settings engage a boost/pad which can help lower the noise floor of Output 3 or 4. This may be useful when outputting to a tube amp or modeler or with the Four-Cable Method.</p> <p>Boost/Pad helps optimize D/A performance without affecting levels, since a boost at the converter's input is paired with a corresponding cut at its output. Be watchful, however, as boosting makes it easier to clip the converters. Watch the meters and if clipping occurs, reduce levels within your preset or turn this setting down.</p>

I/O: USB/AES PAGE

The **USB/AES** page of the **I/O** menu contains parameters to adjust the levels of USB and AES inputs.

USB 1/2, 3/4, 5/6, 7/8 – These parameters adjust USB Input levels from -40 to +20 dB. Remember that from the perspective of the Axe-Fx, a “USB Input” is used for computer *playback*; audio is routed from the computer to a USB input of the Axe-Fx, and levels can be cut or boosted here. Be careful not to boost overall levels to the point of output clipping.

AES/SPDIF – This scales the levels of signals from the AES and SPDIF inputs. Recognize that this scaling occurs at the output of the input; that is, after the input itself but prior to any processing on the grid.

I/O: PEDAL PAGE

The **Pedal** page of the **I/O** menu contains parameters to set up and use an expression pedal or a switch through the Pedal jacks on the rear panel of the Axe-Fx III. Expression pedals should have a linear resistance taper and max resistance of 10kΩ to 100kΩ. The Fractal Audio Systems EV-1 and EV-2 expression pedals are recommended. Expression pedals must be used with Tip-Ring-Sleeve (TRS) cables.

An external switch may also be used, as long as its contacts make and break the connection between tip and sleeve. A regular 1/4" guitar cable can be used with switches.

Two meters show the readings for connected pedals both pre and post calibration. It is acceptable for the PRE-CAL meter to not reach its full limit, but if the POST-CAL meter doesn't reach the top or bottom of its range, please perform calibration again.

PARAMETER	Description
Pedal # Type CONTINUOUS, MOMENTARY, LATCHING	Set this according to the physical type of the pedal or switch that is connected. Use "CONTINUOUS" for expression pedals and "MOMENTARY" or "LATCHING" for switches.
Calibrate PEDAL #	<p>Calibrate expression pedals connected to an on-board Pedal jack.</p> <p>First select this menu choice, then:</p> <ul style="list-style-type: none"> ▶ Press ENTER. ▶ Move the pedal through its full range of motion several times. ▶ Press ENTER again when finished. <p>Switches, unlike pedals, do not need to be calibrated.</p>

THE MIDI/REMOTE MENU

The **MIDI/Remote** menu contains global MIDI-related settings, and allows you to make assignments for Global Controller functions including Block Bypass, Block Channel, the Looper, External Controllers, and more.

 Reminder: You do not need to store settings in the **SETUP** menu. **EXIT** twice when finished.

LEARN MODE

The MIDI Remote menu features a hidden **Learn Mode** function. Rather than using the knobs to assign a pedal, switch, or MIDI CC, you can use Learn Mode. This is quick and also potentially saves you from needing to know which MIDI CC is assigned to a button or pedal on a remote device. Here's how it works:

Navigate to the entry you want to assign: for example, "External Control 1" or "Tempo Tap".

1. Press **ENTER** to activate **Learn Mode**.
2. Move the remote pedal, knob, switch, etc. so Learn Mode can detect its activity.
3. The controller will be assigned automatically to your function.
If not, try again, troubleshooting the remote device as necessary, or press Exit to cancel.

MIDI/REMOTE: GENERAL PAGE

PARAMETER	Description
MIDI Channel 1–16, OMNI	Sets the channel on which the Axe-Fx III will receive MIDI messages. "OMNI" causes the unit to respond to incoming messages on <i>any</i> channel.
Display Offset 0, 1	(Also appears in the Global menu) Causes preset numbers to begin at 001 instead of 000. This only offsets the display, meaning that it does not change which preset is actually loaded by a given footswitch or MIDI message.

12 SETUP MENU

PARAMETER	Description
Scene Revert ON/OFF	Selects between two different ways for scenes to work when you change them via a Footswitch or MIDI: "OFF" (Default): Scene edits are RETAINED across Scene changes as long as you do not change PRESETS. So if you tweak Scene 1, switch to Scene 2, then switch back to Scene 1, your tweaks will still be intact. "ON": Scene edits are LOST if you change the Scene without saving. So if you tweak Scene 1, switch to Scene 2, then back to Scene 1, Scene 1 will have reverted to its previously saved state. This makes Scene changes feel more like traditional preset changes.
Effect Bypass Mode VALUE/TOGGLE	This setting determines how MIDI messages set the Bypass State of a block. When set to "Value" the bypass state is controlled by the CC value (0–63=OFF, 64–127=ON). When set to "Toggle" the bypass state toggles whenever the CC message is received, regardless of the value (0–127).
Send Realtime Sysex ON/OFF	This determines whether real-time MIDI SysEx messages for tuner and tempo will appear at the MIDI OUT port.
Program Change ON/OFF	Determines whether the Axe-Fx III will process or ignore incoming MIDI Program Change messages.
Ignore Redundant PC ON/OFF	This setting determines whether the Axe-Fx III should re-process or ignore a Program Change message that corresponding to the current preset. With this setting "OFF", a preset will be reloaded—all changes discarded—when it is selected again via PC. This allows you, for instance, to load a preset, use various "Instant Access" switches to bypass effects, and then stomp the footswitch that originally selected the preset to have it revert to its saved state. With this setting "ON", redundant PC messages are ignored. When PC mapping is used, if the current Scene has changed, the preset will not reload but the Scene will still revert to that set in the map.
Send MIDI PC 1–16 OMNI OFF	Determines whether or not the Axe-Fx III will automatically transmit a MIDI Program Change message at its MIDI OUT port when a new preset is loaded. This is the easiest way for most people to operate a single connected MIDI device while changing presets on the Axe-Fx III. Any custom MIDI mapping is left to the downstream device. To use this feature you simply select which channel you want the message to be transmitted on. The "OMNI" setting transmits the message on <i>all</i> channels.

PARAMETER	Description
MIDI PC Offset	Adds a specified value to all incoming MIDI Program Change requests before they are processed. This makes it possible, for instance, to address alternate presets in different “registers”. You might use the same MIDI messages to access presets 1–16 for a gig with one guitar, and –by specifying an offset of +16– use presets 17–32 for a different guitar without re-programming your controller.
PC Mapping	PC Mapping determines whether incoming MIDI Program Change messages load presets 1-for-1, or load other presets and scenes instead. With PC Mapping turned “OFF”, presets are loaded 1:1 based on incoming MIDI bank Select and Program Change messages. With custom PC Mapping enabled, incoming Program Change messages are re-mapped according to the values in the table on the Custom page of the MIDI/Remote menu (see below).
INITIAL VALUE: External Control 1–16	These sixteen parameters specify the initial value to be used for each of the 16 External Controllers (p. 61) when the Axe-Fx III is powered on. This value persists until data is received from the MIDI controller. This is especially useful when an external MIDI controller is absent. For example, if you normally use an expression pedal to control the volume in your presets, a missing pedal might make the preset get “stuck” in a muted position. Setting an initial value of 100% for the External Controller mapped to that pedal would ensure that when the pedal is not connected, the volume will stay at 100% instead of 0%. This setting is only for controllers with a MIDI CC# assignment. It does not apply to local or FC pedals or switches.

MIDI/REMOTE: MAPPING PAGE

With PC Mapping enabled (see above), incoming Program Change messages are re-mapped according to the values in the table in this section.

PARAMETER	Description
Map to Preset Map to Scene	When PC Mapping (above) is turned “ON”, the parameters in this table specify which preset and scene are loaded for each incoming MIDI PC message. See p. 47 for additional info on PC Mapping.

MIDI/REMOTE: BYPASS PAGE

The **Bypass** page of the **MIDI** menu allows you to map MIDI CC messages—or connected pedals and switches—to bypass or engage blocks. CC messages can be sent by a MIDI controller or computer connected to the MIDI IN

12 SETUP MENU

jack, or via the USB connection of the Axe-Fx III. Each of these settings is global. In every case, the method for mapping a controller to one of these functions is the same:

1. Use the **NAV** knob to select the desired function.
2. Use the **VALUE** knob to assign a controller to the function:
 - **1–127** to assign a MIDI CC#.
 - **PEDAL 1** or **PEDAL 2** to assign a pedal connected to the on-board expression jacks of the Axe-Fx III.
 - **FC__ PEDAL 1–4** to assign a pedal connected to the corresponding **pedal** jack of the designated FC controller.
 - **FC__ SW 1–4** to assign a switch connected to the corresponding **switch** jack of the designated FC controller.
 - **NONE** to remove all assignments from the selected item.

MIDI/REMOTE: CHANNEL PAGE

The **Channel** page works exactly like the **Bypass** page except the entries are used to set the Channel of each block instead of its bypass state. The *value* of the CC message sets the channel as follows:

0 = Channel A 1 = Channel B 2 = Channel C 3 = Channel D

The series continues, repeating A, B, C, D for values up to 127 (D).

For additional information, see ["Channel Select" on p. 46](#).

MIDI/REMOTE: EXTERNAL PAGE

Controller assignments for the sixteen **External Controllers** used in Modifiers (See [Section 9: Modifiers](#)).

MIDI/REMOTE: LOOPER PAGE

Controller assignments for the functions of the Looper.

MIDI/REMOTE: OTHER PAGE

Controller assignments for various other functions of the Axe-Fx III.

PARAMETER	Description								
Tempo Tap	Provides the ability to tap the tempo using an external controller. Remember that tempo is calculated using either the last two taps OR an average, as set in the global Tempo configuration (p. 65). Learn more about Tempo in Section 10 .								
Tuner	Provides a way to remotely enter or exit the Tuner (Section 11).								
Preset Inc/Dec Preset Inc/Dec Start/Stop	These allow you to step up or down through a sequence of presets with pre-defined start and end/wrap points. Preset mapping and offsets are ignored.								
Scene Select	<p>Selects specific Scenes. The controller <i>value</i> (NOT the CC number) determines which Scene is loaded:</p> <table style="margin-left: 40px;"> <tr> <td>0 = Scene 1</td> <td>2 = Scene 3</td> <td>4 = Scene 5</td> <td>6 = Scene 7</td> </tr> <tr> <td>1 = Scene 2</td> <td>3 = Scene 4</td> <td>5 = Scene 6</td> <td>7 = Scene 8</td> </tr> </table> <p>The series continues, cycling through scenes 1–8 for values up to 127 (Scene 8). For more, see "Scene Select" on p. 46 or "CC Value to Scene" on p. 110</p>	0 = Scene 1	2 = Scene 3	4 = Scene 5	6 = Scene 7	1 = Scene 2	3 = Scene 4	5 = Scene 6	7 = Scene 8
0 = Scene 1	2 = Scene 3	4 = Scene 5	6 = Scene 7						
1 = Scene 2	3 = Scene 4	5 = Scene 6	7 = Scene 8						
Scene Increment Scene Decrement	The Scene Increment and Decrement functions allow you to step up or down through scenes. These functions are triggered by CC data values above 63.								
Input 1,2,3,4 Volume Output 1,2,3,4 Volume	Eight individual parameters allow you to globally control the levels of the corresponding Input or Output blocks.								
Output 1 Volume Increment, Output 1 Volume Decrement, Output 2 Volume Increment, Output 3 Volume Decrement	<p>These options provide a convenient way to permanently increase or decrease the MAIN output volume for the Out 1 or Out 2 Blocks in the currently loaded preset. Each time Volume Increment is triggered, the MAIN is increased by 1.0 dB and the preset is saved. This is the same for Volume Decrement, except it decreases volume.</p> <p> IMPORTANT! Any unsaved changes such as altered effect parameters or bypass states will also be stored when either of these functions is triggered!</p> <p> These functions are designed for use with momentary footswitches set up to send a CC# value of 127 for "ON" and 0 for "OFF". Do not use an expression pedal or you could inadvertently increase levels to +20 dB with a single sweep!</p>								

THE UTILITIES MENU

UTILITY: DISPLAY PAGE

Provides a control to adjust brightness for the main LCD display. On the Axe-Fx III Mark II, there are additional controls for the LED Brightness and Color of the main front panel logo.

UTILITY: ADC LEVELS

Shows Analog-to-Digital Converter levels for the four front panel Level knobs and rear panel Expression jacks for troubleshooting. You can set the output level here at an exact percentage.

UTILITY: RESET PAGE

This page provides a tool to set parameters in the **SETUP** menu back to factory default values. **Reset system parameters** is one of the first steps of troubleshooting. It never deletes or modifies your presets. You will be prompted to press ENTER to confirm.

Be very careful with this option. Resetting system parameters is irreversible!

A second utility provides the ability to **Clear all Presets**. You will be prompted to press ENTER to confirm.

Be very careful with this option. Erasing presets is irreversible!

UTILITY: USB PAGE

This page meters the USB input and output FIFO buffers. Ideally these will be at around 50%. If the buffer overflows or underflows, **USB Buffer Size** ([p. 72](#)) should be increased. Remember that you need to quit all audio applications or remove and reconnect the USB cable to reset the buffer.

UTILITY: FIRMWARE PAGE

This page indicates which firmware version the Axe-Fx III is running.

USB and FPGA firmware versions are also shown.

For more information, see ["Tap Tempo" on p. 70](#).

13 FC CONTROLLERS

The Fractal Audio FC-6 and FC-12 foot controllers are designed for use with the Axe-Fx III and other Fractal Audio products. Every FC offers an impressive suite of features and capabilities, incorporating years of innovation and customer feedback. They look great too, making an awesome addition to your stage or studio.

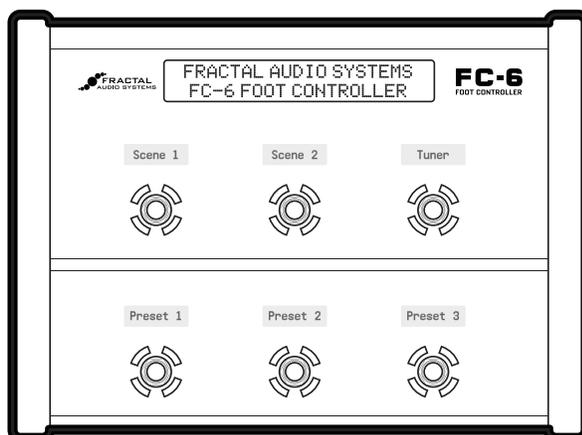
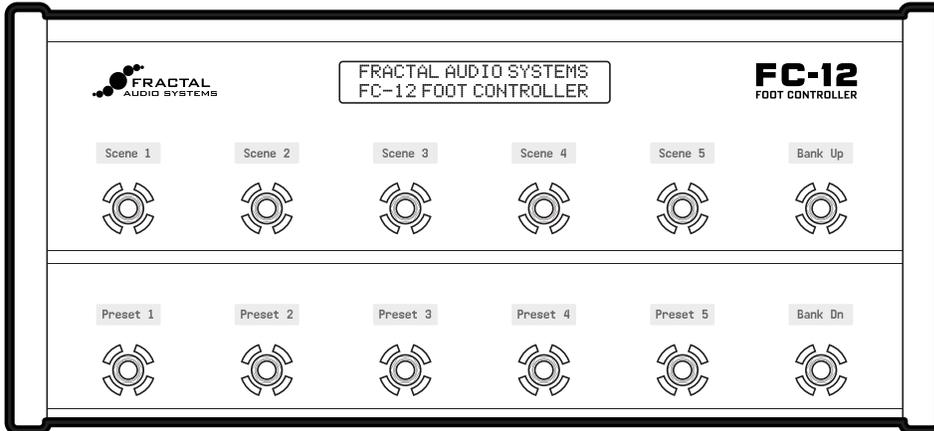
All aspects of the FC are set up through the Axe-Fx III under **SETUP: FC Controllers** ([p. 69](#)).

The **FC Owner's Manual** covers the FC hardware, how to connect, and basic operations.

Find it at <http://fractalaudio.com/fcm>

The **Fractal Audio Footswitch Functions Guide** covers the details of everything FC footswitches can do.

Find it at <https://www.fractalaudio.com/fas-ffg>



13 FC CONTROLLERS

14 IR CAPTURE

This section details the use of a built-in tool that allows you to capture your own Impulse Responses using the Axe-Fx III and some additional equipment.

Whether part of a combo or housed in its own cabinet, the **speaker** is a major part of the sound of any guitar or bass amp. When you hear great tone on a recording or at a live show, this means someone somewhere has done a great job of selecting and placing **mics** (even if the player is already using a Fractal Audio product!).

The Axe-Fx III uses Impulse Responses (“IRs”) to faithfully reproduce the sound of a **mic’d speaker**, with over 2,048 **Factory Cabs** provided, and 2,048 more memory slots for **User Cabs**. Our store offers many [professionally produced Cab Packs](#), but you can also create your own IRs using the **IR Capture utility** in the Axe-Fx III. The process is easy and requires only some common pro-audio gear.

Learn more about Impulse Responses in the **Cab Block** section of [“The Fractal Audio Blocks Guide”](#)

DECIDE ON A CAPTURE METHOD

There are two different methods of IR capture. Both methods require microphone(s) and preamp(s), and both methods produce excellent results.

Method 1 requires a flat, neutral, full-range **power amp**. This will typically be a solid-state amp designed for pro-audio applications (e.g. *not* a guitar-oriented amp, which would add tonal coloration).

Method 2 adds a **speaker-level DI box** – such as the **Fractal Audio X-Load LB-2** – to “factor out” the power amp, so you can use *any amp*—even a regular guitar amp.

MONITOR YOUR AXE-FX III

When creating IRs, you’ll probably want to test-drive the results right away. Connect your guitar to your Axe-Fx III and set up whatever you’d normally use for direct, **full-range monitoring** (headphones, studio monitors, powered FRFR speakers, etc.). The capture process uses **OUTPUT 2 LEFT**, so please ensure that **Output 2 | Copy Output 1** is set to “OFF” on the **Audio** page of the **I/O** menu under **SETUP**.

MIC THE SPEAKER

- Before you can mic a speaker, you’ll need to play through it. You can plug right in to the actual guitar amp itself as you normally would, or you can use an Axe-Fx preset (with the Cab block bypassed or circumvented) into a neutral power amp, into the speaker. One advantage of the latter method is that once you capture the IR, you can use the same exact amp for testing, which should produce results remarkably close to the original.
- Once you’ve got a good guitar tone coming through the speaker, it is time to set up the mic(s). Recording studios have control rooms isolated from the “live room”, making it easy to hear what the microphone is picking up without interference from a loud amp. Having an assistant or robot to adjust the mic is convenient. If this option isn’t available to you, try using headphones to let you focus on the mic’d tone. It might be loud, so take care not to damage your hearing.¹ You can also record the amp and listen back to make sure you are satisfied with the tone.

¹ <https://www.osha.gov/SLTC/noisehearingconservation/>

14 IR CAPTURE

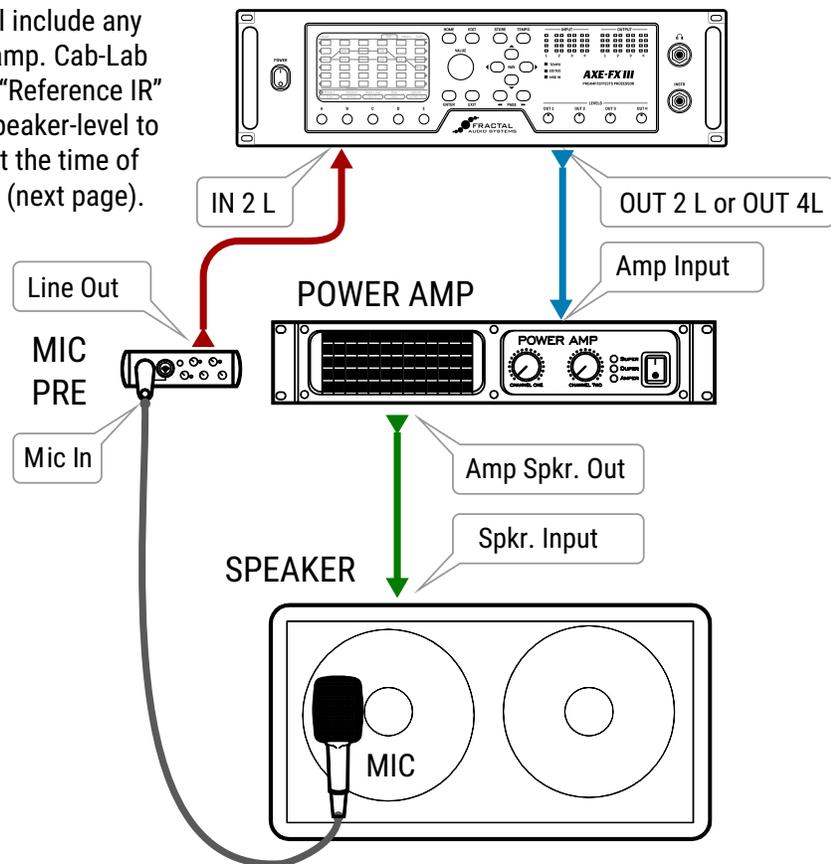
- The tone you get from a mic'd speaker depends on the type(s) and position(s) of the microphone(s). Select a mic that is well-suited for guitar cab recording and position it according to your preference. Information is widely available about mic placement, distance, angle, etc., but don't be afraid to experiment.
- Each mic needs to be connected to a preamp to bring the signal up to line level for processing. The preamp also contributes to the tone, so a high-quality preamp (like an API or Neve) is generally preferred, but even an inexpensive mixer can produce excellent results. **Don't** allow the mic preamp to distort.
- With an optional mixer, you can combine multiple microphones to capture a **blend**.
- EQ is OK, but dynamics processing such as compression can cause the IR to misrepresent the source.
- If the cab is loaded with multiple speakers, you should listen to each one to see how they compare.

SETUP 1: MIC ONLY

Method 1 ("MIC ONLY") requires a microphone, a preamp, and a flat, neutral power amp.

- Set up a preset with your preferred **Amp** block, and set its **Cab** block to "SCRATCHPAD 1" for instant auditioning.
- Connect the **mic** to the input of the preamp.
- Connect the **output** of the preamp (or mixer) to **INPUT 2 LEFT** of the Axe-Fx III.
- Connect **OUTPUT 2 LEFT** or **OUTPUT 4 LEFT** of the Axe-Fx III to the **input** of your power amp.
- Connect the power amp's **speaker out** to your speaker.
- Open the **Config** page of the **IR Capture Utility** under **SETUP** and set Capture Method to **MIC ONLY**.
- Follow the Capture Instructions on [p. 86](#)

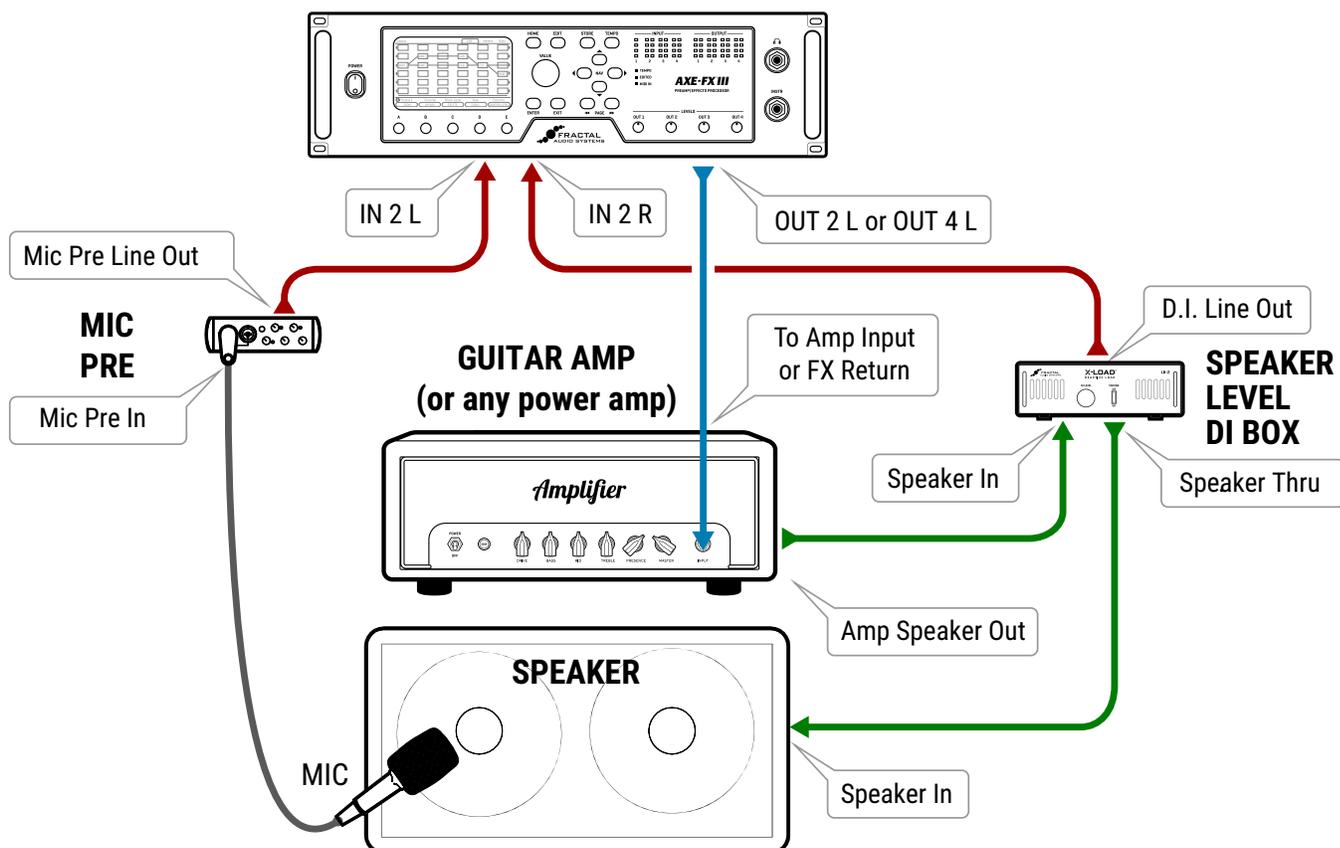
NOTE: IRs created using this method will include any tonal coloration imparted by the power amp. Cab-Lab can remove this effect using a separate "Reference IR" of just the power amp created using a speaker-level to line-level DI, but if you have this DI-box at the time of capture you might as well use "Mic + DI" (next page).



SETUP 2: MIC + DI

Method two requires a microphone, a preamp, and a DI Box with the special capability to convert speaker level to line level. This method has an advantage in that it “factors out” the tonal influence of the power amp, allowing almost any amp to be used. A neutral power amp is still preferable, but even a regular guitar amp can produce excellent results, as the Axe-Fx is able to remove distortion, completely separate the speaker response, and produce a pure and accurate IR.

- Connect the mic to the input of the preamp.
- Connect the output of the preamp to the **IN 2 Left** of the Axe-Fx.
- Connect **OUTPUT 2 LEFT** or **OUTPUT 4 LEFT** of the Axe-Fx to the **FX Return** of your guitar amp. If your amp doesn't have an FX return, use the guitar input. Set the amp to as clean a setting as possible.
- Connect the amplifier's **speaker out** to the **speaker level input** of the **DI box**. Be sure to use a DI box that is specifically designed to work with speaker level signals and one that does NOT have any on-board cabinet emulation. You can also use a DI output on your amp if it has one, as long as it is NOT a speaker emulated output.
- Connect the **Speaker Out or Thru jack** of the DI box to the **input** of your speaker.
- Connect the **Line Level Output** of the DI box to **IN 2 Right** of the Axe-Fx.
- Open the **Config** page of the **IR Capture Utility** under **SETUP** and set Capture Method to **MIC + DI**.
- Open the **Audio** page of **SETUP: I/O** and ensure that **INPUT 2 MODE** is set to “STEREO”.
- Follow the Capture Instructions on [p. 86](#)



CAPTURING IMPULSE RESPONSES

USING AXE-EDIT OR CAB LAB

Axe-Edit now includes a free **IR Capture Utility** which serves to control for the Axe-Fx III during IR capture.

Cab-Lab is an IR Mixer and Toolbox, available at <https://www.fractalaudio.com/cab-lab-3>. It is strongly recommended that you use Cab-Lab to capture IRs. The interface is easier to use, and you will also be able to save the raw IR data to your computer for later remixing or re-processing.

FROM THE AXE-FX III FRONT PANEL

This section covers capturing from the Axe-Fx III front panel:

1. Make the connections for your chosen setup as detailed on the previous pages of this section.
2. In the Axe-Fx III, create a preset with an **Amp** block set to an appropriate model and a **Cab** block with Cab 1 set to Bank: "SCRATCHPAD", Number: "1". In that same Cab block, set Cabs 2, 3 and 4 to "MUTED". IRs are automatically sent to this special location upon capture for instant auditioning.
3. Open **SETUP, NAV** to the **IR Capture** menu, and press **ENTER**.
4. On the **Config** page, you will typically want **Capture Mode** set to "ULTRA-RES" for close-mic'd IRs, though "STANDARD" resolution is also available. "FULL-RES" can be used for longer IR captures (see inset, below) **Capture Method** should be set to "MIC ONLY" or "MIC+DI" depending on which setup you are using.
5. On the **Config** page of the **IR Capture** utility, select a **Bank** and a **Slot** where you want the finished IR to be saved. Enter a **Name** using the functions on the **B,C, D** and **E** knobs.
6. On the Config page, consider the following optional parameters as well:
 - **Deconvolution:** In low-noise environments the **conventional** technique can provide slightly better bandwidth and magnitude accuracy. In a higher-noise environment the reverse filter technique can provide better results.
 - **IR Processing:** This selects between "Minimum-Phase" which transforms the IR into a minimum-phase version, "Auto-Trim" which removes the leading silence, and "None" which applies no processing at all.
 - **Delay Compensation:** This allows compensating for excessive delays due to extreme mixer latency or far-field mic distances. To use the compensation refer to the graph on the Capture page. Press E to select "Graph (Time)" and do a test sweep. Note the waveform delay and dial in the desired amount of compensation. Note that the speed of sound is roughly 1 ft/ms so a mic that is 10 ft from the speaker would incur roughly 10 ms of delay. Note that IR Capture Utility will automatically compensate for delays up to approximately 20 ms (1K samples). Correction is only required for delays greater than 20 ms.

FAQ: WHAT IS FULL-RES? Fractal Audio introduced FullRes impulse response technology in 2021. This new technique allows for IR up to 1.37 seconds (far longer than even UltrasRes™). These can be used for realistic recreations of ambient spaces without the increased latency normally associated with long IRs. Producers and engineers often use "Room Mics" to increase the depth and liveliness of recordings. However, the typical live room has a reverb time of 500-700 ms, well beyond the 20-40 ms afforded by typical IR processing. FullRes IRs can capture a typical live room and even small-to-medium halls and clubs, and can even be used as a convolution reverb. As of this writing, only the Axe-Fx III supports FullRes IRs. Any FullRes IRs you capture with this utility can be stored on the unit in "User Cab Bank 3 (FR)".

7. Press the **TEST** button (Push-knob **A**) to generate a test sweep for setting levels.
8. The **OUTPUT LEVEL 2** knob on the front of the Axe-Fx III sets the level of the sweep signals sent to the power amp. Turn it – and your power amp – up until you hear the test through the speaker. It should be loud enough to push the speaker to “optimal” levels and eliminate background noise interference, but not loud enough to be uncomfortable or cause distortion.
9. The front panel **INPUT 2** LED meter of the Axe-Fx III indicates the signal level coming back to the Axe-Fx III from the mic and preamp or mixer. Adjust the preamp output levels and use **INPUT 2** level on the **Input** page of the **I/O** menu to ensure that the signal is nice and hot without clipping. It is OK to “tickle the red” LED, as this indicates a level of -6 dB, below actual clipping.
10. Once levels are set correctly, it is time to capture. Press the on-screen **CAPTURE** button (Push-knob **B**) and wait quietly for the capture to complete (two sweeps, ~5 seconds).
11. If you set up the test preset in Step 2 correctly, you should hear the IR automatically and be able to audition it at once.
12. Press **SAVE** to store your capture to the location you selected in Step 5.
13. Be sure to select a new **location** and **name** before performing any additional captures with the same setup.

14 IR CAPTURE

15 ADDITIONAL TOPICS

FRACTAL-BOT

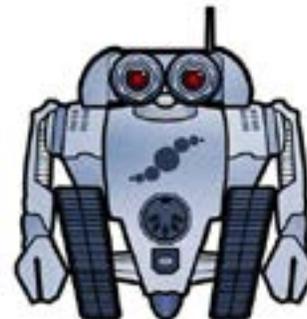
Fractal-Bot is required for **Backing up and Restoring** sounds and settings (below), **Updating Firmware** (p. 90) and can be used for **Transmitting Presets**, or **Installing User Cabs** (p. 96).

The program is self-explanatory and has instructions built in.

To be able to use Fractal-Bot, Windows users will need to install a driver to enable communication between the computer and the Axe-Fx III. The Windows driver is available at <https://www.fractalaudio.com/axe-fx-iii-downloads>.

Computers running OS X do not require a driver to communicate with the Axe-Fx III.

Download and install **Fractal-Bot** from our web site at <http://fractalaudio.com/fractal-bot.php>.



BACKING UP & RESTORING

Once Fractal-Bot is installed, you can use it for backing up or restoring or installing files.

BACKING UP

Fractal-Bot automates the backup process. Select the **RECEIVE** tab and follow the built-in instructions. Here are some things to consider when using Fractal-Bot:

- ▶ The Axe-Fx III doesn't emphasize this distinction, but its **Presets** are actually divided into banks of 128. To backup all of your presets, backup all of the banks: **A** (0–127), **B** (128-255), **C** (265–383) and **D** (384–511).
- ▶ A backup of the **SYSTEM** includes all of the custom settings in the **Setup** menu: **Global**, **I/O**, **MIDI/Remote**, and **Tuner** settings.
- ▶ **User Cabs** are backed up in two individual banks.
- ▶ In Fractal-Bot, you will need to specify a location for the backup files. It is wise to prepare this in advance. Many pros we work with use a consistent naming system for their backup folders: **"yymmdd - Axe-Fx III"** (two digit year, two digit month, two digit day). In addition to the backup files, create a text file to remind you what firmware version was installed when the files were created.

RESTORING

Fractal-Bot is also used to restore backup files to your Axe-Fx III. In this case, the process is less automated but still very easy. You will need to send over all of the files from your backup set individually. Once the first file completes, send the next file over, and so on, until they are all finished. Remember to *reboot* the Axe-Fx III immediately if a **System** file has been transmitted to it! (Fractal-Bot will remind you.)

You can use the same process to install presets or cab files you download.

MIDI

On the Axe-Fx III, backup and dumping are not supported over 5-pin MIDI. You can transmit backup files to the unit this way, but because the transfer rate is so slow, this can take a LONG time and is advised against.

FIRMWARE UPDATES

Our products are upgradeable, and we are committed to continual improvement. These highly anticipated updates add new amps, cabs, effects and features, fix issues, and more. We recommend keeping the firmware in your Axe-Fx III up to date as new versions are released. Firmware is technically software – the “operating system” of your Axe-Fx III – tracked using version numbers: 1.00, 1.01, 2.00, etc. Every Axe-Fx III is shipped from the factory with the latest version installed. You can check your version any time by pressing the **SETUP** button (Push-knob **E**) on the **Home** page. The version is displayed at the top left of the **Setup** menu.

UPDATING

Updating is safe, easy, and quick with Fractal-Bot (see previous page). Before you begin, please QUIT any other applications which might interfere, including Axe-Edit and any DAW software or audio/MIDI applications.

1. **Download** the latest firmware for your Axe-Fx III from <https://www.fractalaudio.com/axe-fx-iii-downloads>.
2. **Unzip** the download file. The archive may contain various documents in addition to the actual firmware file, which is a MIDI System Exclusive or “SysEx” file. Extract the **.syx** file to a location you can easily find when required. **Do not double-click the .syx file**. Fractal-Bot will prompt you for its location when it is needed.
3. Please read the **Release Notes** included with the firmware download. They’ll let you know what’s new and alert you to anything you may need to be aware of before updating to the new version.
4. Before performing a major firmware update, it is not unwise to **back up** your Axe-Fx III (see previous page).
5. Launch **Fractal-Bot** and proceed through three self-explanatory steps.
6. Firmware updates will occasionally be accompanied by new versions of the Axe-Fx III Factory Presets. These will be available on our web site support page and can also be installed using Fractal-Bot.

FIRMWARE Q&A

Q: How do I know the upgrade worked?

A: Check your firmware version anytime by pressing the **SETUP** button (Push-knob **E**) on the **Home** page. The version is displayed at the top of the **Setup** menu.

Q: Can I skip versions to go from a very old firmware version to a much newer one?

A: You can upgrade from any version to any other version. When you skip versions it is recommended that you also read the Release Notes for all interim versions, all of which are included with every firmware release.

Q: Will updating my firmware erase, modify or “upgrade” my factory presets?

A: Firmware updates do not erase customized presets. However, firmware updates may alter the *sound* of existing presets. Always read Release Notes before updating. Saving presets after a firmware update can render them incompatible with previous versions. It is always wise to create a full back up using Fractal-Bot before a major update.

Firmware updates do *not* upgrade Factory Presets. Updated Factory Presets, when offered, are released as a separate update on our web site support page. Fractal-Bot can be used to transmit this update in the same way it is used to update firmware.

Q: The firmware update failed mysteriously. What should I do?

A: If the Axe-Fx still boots normally, just try the update again. If successive failures occur, please delete and re-download the update file before trying again. Trying a different USB port or cable can also solve issues.

Q: After updating, my Axe-Fx will no longer boot normally.

A: See “Recovery” on the next page.

RECOVERY

PROBLEMS DURING/AFTER FIRMWARE UPDATE

The Axe-Fx III has a built-in recovery system known as the “Emergency Boot Loader” to protect you against mishaps during firmware update. To boot from the emergency boot loader:

1. Power down the unit and wait five seconds.
2. Power on holding **both** **PAGE LEFT** and **PAGE RIGHT** buttons until the **Emergency Utility** page appears.
3. Update as normal using **Fractal-Bot**.

PROBLEMS WITH A SINGLE PRESET

If your Axe-Fx III will not boot normally, the problem may just be the current preset. You can force the unit to load an empty initialized preset as follows:

4. Power down the unit and wait five seconds.
5. Power on holding **HOME** until the boot-up progress bar first appears.

The Axe-Fx III will boot with an empty initialized preset in location “000”. You can **STORE** this to any other location to overwrite a problematic preset.

PROBLEMS WITH GLOBAL SETTINGS OR PARAMETERS

In the very unlikely event that a problematic system parameter prevents the Axe-Fx III from booting normally, you may use the following procedure to recover:

1. Power down the unit and wait five seconds.
2. Power on holding **EDIT** until the boot-up progress bar first appears.
3. Enter **SETUP**, open the **Utilities** menu, and page to **Reset**.
4. Execute **Reset System Parameters** as indicated on-screen (Push-knob **A** followed by **ENTER**).
WARNING! Do NOT accidentally perform CLEAR ALL PRESETS!!!
5. Follow the on-screen instructions to execute. Press **HOME** when finished.



You can in fact hold both **HOME** and **EDIT** at once to reset the current preset *and* prevent the loading of global settings and parameters.

GETTING HELP

Our forum is a source of great help ranging from product Q&A to tutorials and more. Fractal Audio staff participate in the conversation, and response times can be very fast. Find it at <https://forum.fractalaudio.com>.

Our wiki, maintained by members of the Fractal Audio community, is also an excellent resource: <https://wiki.fractalaudio.com>.

You can get support directly from Fractal Audio Systems at: <https://support.fractalaudio.com> or internationally via our dealers listed at <https://www.fractalaudio.com/international-ordering>.

GLOBAL BLOCKS

Global Blocks provide a convenient way to synchronize parameter changes across multiple presets.

If you use multiple presets and want to keep certain sound settings the same in all of them, you might imagine needing to repeat those changes into every preset, one by one. Another idea might be to use Axe-Edit to copy/paste the desired blocks from one preset to another. Global Blocks eliminate these the need for such tedious, repetitive tasks. Any change to any Global Block in one preset is made automatically across all other presets where that Global Block is used.

Each block type that supports Global Blocks is backed with eight Global Blocks of its own. For example, there are eight DIFFERENT Global "Amp 1" blocks and an additional eight DIFFERENT Global "Amp 2" blocks. Global blocks are stored outside the preset area in "System Memory." All parameters in all channels can be governed by Global Blocks. All modifiers, however are stored in the preset itself and are NOT part of the Global Block.

GLOBAL BLOCKS SUPPORT

Most of the 40+ block types support the use of global blocks. (The following are NOT included: Crossover, FB Send/Return, IR Player, Looper, Megatap, MIDI, Mixer, Multiband Comp, Multiplexer, RTA, Resonator, Synth, 10-tap delay, Vocoder.)

GLOBAL BLOCKS EXAMPLE

Imagine a set of five different presets used for a live rig. Each of them has one amp block (AMP 1) with the same settings, but this amp is surrounded by totally different effect chains. Now, depending on the venue, your guitar, the backing band, the audience, the weather, you name it... You may want to make changes to your amp block, just as you would any physical amp. Turn up the treble. Turn down the gain. Adjust the Graphic EQ. Using the simple operations described on the next page, it becomes easy to link the amp blocks in these presets together, so modifying any one of them changes all of them.

First, you would open one of the presets where the amp is dialed in nicely. Now, save that Amp's settings as a Global Block by selecting Amp 1 and choosing LINK TO GLOBAL BLOCK. Let's say we choose "Global Block 1". Don't forget to save the preset!

Now, open each of the remaining presets, select AMP 1, and choose LINK TO AND LOAD FROM GLOBAL BLOCK, selecting "Global Block 1". The settings from Amp 1: Global Block 1 appear automatically, and the link is created. Don't forget to save the preset! Repeat as needed for other presets.

Other applications for Global Blocks include using them to change gate threshold settings as you change from an active guitar or bass to a passive one, globally adjusting the level of a volume block used as a "boost", dialing in individual effects that are used with different amps in different presets, and much more.

Global Block Operations

Four different operations enable presets to interact with Global Blocks. You can find these operations on the **Tools** page of the **Layout** menu (from the Grid, page right to “Tools”). To execute a function, select the desired grid block using the **NAV** buttons, use the **VALUE** wheel to choose the desired Global Block function, turning the **E** knob if indicated to select the desired Global Block number, and press **ENTER** or the “Execute” button (Push-knob **C**).

Using Axe-Edit makes working with Global Blocks even easier, and also provides a high level view of where they are used in your preset.

LINK TO GLOBAL BLOCK

The **Link to Global Block** function “creates” a Global Block from a block in your preset, and then creates a link between the two. This is always the first step when you want to begin using Global Blocks. Any existing settings in the selected Global Block is over-written with the settings from the block in your preset. After a link is created, any time you save changes, the Global Block is updated. Any time another linked preset is changed and saved, this preset will be updated.

Always save your preset immediately after creating a link to a Global Block.

LOAD FROM AND LINK TO GLOBAL BLOCK

The **Load from and Link to Global Block** function loads existing Global Block data into the selected block in your preset, and *then* creates a link between the two. You would normally use this function to link a set of presets to a Global Block that you first created using the **Link to Global Block** function (above). After a link is created, any time you save changes, the Global Block is updated. Any time another linked preset is changed and saved, this preset will be updated.

Again, always save your preset immediately after creating a link to a Global Block!

LOAD FROM GLOBAL BLOCK

The **Load from Global Block** function loads existing Global Block data into the selected block in your preset, but does NOT create a link between the two. This allows you to use Global Block data as a “template” for populating local block settings without the usual link.

UNLINK FROM GLOBAL BLOCK

This operation totally disconnects the selected block from any Global Blocks.

UNLINK ALL BLOCKS FROM GLOBAL

This operation unlinks all blocks in the current preset from Global blocks to which they may be linked.

PERFORMANCE CONTROL PAGES

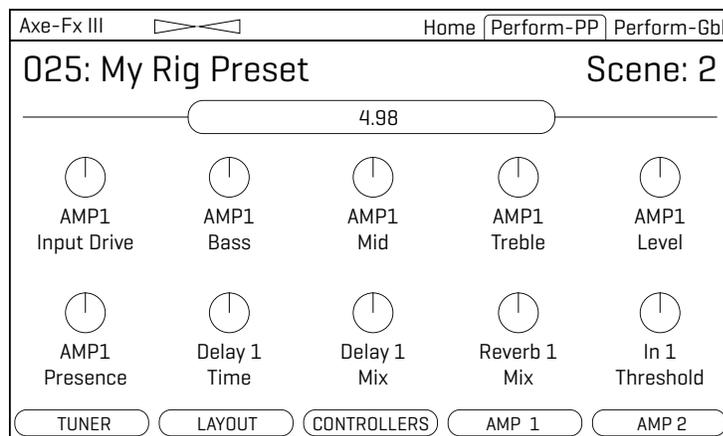
INTRODUCTION

The two **Performance Control** pages of the Axe-Fx III provide a way for you to design and build your own custom front panel menu pages, each with your choice of any ten knobs, switches, or parameters from any block. Performance Control pages eliminate the need for menu-diving to find the controls for your favorite settings. The ten on-screen knobs map directly to the front panel A, B, C, D, and E knobs of the Axe-Fx III. This creates an experience very much like using a traditional amp or pedal where what you see is what you get.

One of the Performance Control pages is “**Global**” meaning that the 10 parameters you place there remain the same even as you change presets. The *values* of these controls change – for instance, if you place AMP 1/ TREBLE, you will see the Treble setting change from say, 6, to 3 to 10 as you switch presets, but the AMP 1/ TREBLE knob itself will always appear in the same place on the Global Performance Control page. Meanwhile, the “Per Preset” Performance Control page allows you to choose up to ten different parameters in each and every preset. One preset might show ten Amp controls, while the next shows ten effect controls, while the next shows a mix of both. Each parameter on the page shows a 2-line text label. By default, these show the block name/ number, and the parameter name, but you can change these to custom values.

The two Performance Control pages are located in the **HOME** menu of the Axe-Fx III. Press **HOME**, then **PAGE** to either Per-Preset (“Perform-PP”) or Global (“Perform-Gbl”) tabs. Use the **NAV** buttons to switch between the controls. Use the **A,B,C,D** or **E** knobs or **VALUE** to make changes. Because these pages are designed for use *during* a performance, the Axe-Fx III will not leave them if you change presets or scenes.

In summary, Performance Control pages represent a powerful way to design the perfect setup for quick changes, such as during a soundcheck, or even (gasp) in the middle of a solo.



A Sample Performance Control Page, showing a mix of Amp and Effect Controls

PLACING CONTROLS ON PERFORMANCE PAGES

Performance Pages must be set up using **Axe-Edit**, the companion editor/librarian software for the Axe-Fx III. In the following tutorial, we will set up a few examples.

1. Decide whether you want to set up the Global page or the Per Preset page. Remember: parameters placed on the global page stay there as you change presets. Those on the Per-Preset page will be different from one preset to another. The Global Page might contain your top ten “go to” parameters. Many players will place the basic knobs of the AMP 1 block here: Drive, Bass, Mid, Treble, Presence, Depth, Master Volume, Level, etc. Let’s get started with this in our tutorial.
2. Connect your Axe-Fx III over USB to a compatible Mac or Windows computer. You will need a driver if you are running Windows. See Chapter X.
3. Install and Launch **Axe-Edit III**. Learn more about Axe-Edit on p. X.
4. To add Amp 1 controls to the Global Performance Control page, we need to begin in a preset containing the Amp 1 block. Click the PRESETS button in Axe-Edit, then click the preset of your choice: **008: Plexi 50W** for example.
5. On the grid, click the **AMP 1** block. Change the “Authentic” tab if it isn’t already selected.
6. Switch to the Performance Control editor by clicking the **Perform** button above the grid.
7. **Drag and Drop** the **Input Drive** parameter by its label to the first slot of the Global Performance Controls.

IMPORTANT: You must drag controls by their LABEL! If you drag on the knob, you will change its value. Don’t panic if this happens, just UNDO by pressing Command + Z (Mac) / Control + Z (Win).

8. Continue drag-and-drop of parameters to desired locations. You can in fact drag ANY parameter from anywhere in any block. You are limited to ten, and you don’t need to fill all of the slots.

TIP: You do not need to exit the Performance Control editor to change blocks... use the shortcut menu found to the left of the large block icon in Axe-Edit. It lists every block in the current preset.

9. You can use drag-and-drop to rearrange controls in Axe-Edit. To remove any control, select it and press Delete/Backspace on your keyboard.
10. You can change the **label** for any control by double-clicking on the existing name. Type your desired text and then press Enter/Return on your keyboard to confirm.
11. Since we are setting up the Global Performance Controls, there is no need to save. When working with Per-Preset Performance Controls, however, you must save the preset after you finish drag-and-drop.
12. Check your work on the Axe-Fx III. Press HOME and then page to the Perform-Gbl tab.

LOADING USER CABS

In addition to thousands of onboard cabs in its factory banks, the Axe-Fx III allows you to store up to 2,048 cabs in user memories. These “User Cabs” allow you to personalize your Axe-Fx III with unique tones.

User Cabs – also known as “Impulse Responses (IRs)” – may be transferred to the Axe-Fx III as follows:

1. First, you’ll need an impulse response file in SysEx format (.syx).
 - Fractal Audio Systems offers various professionally produced user Cab Packs at <https://shop.fractalaudio.com>. These include creations by Fractal Audio as well as third-party producers.
 - Axe-Change, our file sharing site, is a great resource for FREE cabs. <https://axechange.fractalaudio.com>
 - Don’t confuse the newer “.IR” file format, which is solely used for re-mixing in Cab-Lab (see below).
2. Using **Fractal-Bot** or **Axe-Edit III**, transmit the file to your Axe-Fx III, noting which **User Bank** and which numbered **Slot** you are sending it to. (Example: User 1, #215.)
 - **Fractal-Bot** – This basic utility can send individual cabs to any location or transmit entire banks. To import a single IR, open a Cab block on the grid and set **Cab 1** to the **Bank** and **Number** you want to transmit a cab to. Then send the sysex file to the Axe-Fx III using Fractal-Bot and the unit will save the IR to that location.
 - **Axe-Edit III** – The **Axe-Manage Cabs** tool allows you to drag and drop user cab files into memory slots. Don’t forget to press **SAVE!** You can also manage entries already in the memory of the Axe-Fx III with operations like copy, paste, rename, and drag-and-drop re-ordering. When you purchase a Cab Pack, this is the best and easiest way to load multiple IRs at once into your Axe-Fx III, audition the results, and organize your favorites.
3. Once the IR has been transmitted to your Axe-Fx III, select the **Cab** block in your preset and press **EDIT**.
4. Change the cab to the **Bank** and **Number** that your IR was transmitted to. (Example: “USER 1, #215”).

You can even create your own cabs if you have some basic equipment. See [“IR Capture” on p. 83](#).

NOTE: In comparison to older Fractal Audio systems products, user cabs are NOT included in a backup of the SYSTEM area of the Axe-Fx III. Conversely, restoring a System backup will never overwrite user cabs.



Cab-Lab is a full-featured 8-channel IR mixer and toolbox in standalone and plug-in formats.

For decades, artists, producers and engineers have crafted tone using a mixer to blend the sounds of different mics or speakers. While the Axe-Fx III provides four mixer slots, Cab-Lab allows up to 8, and has additional options and tools, with the ability to export Cab files and save mix sessions.

Learn more at:

www.fractalaudio.com/cab-lab-3

AXE-CHANGE

Axe-Change is the official source for sharing Preset and Cab files for your Axe-Fx III and other Fractal Audio Systems products. You can upload your own creations or browse what others have contributed including some high profile artists (though regrettably many artists treat their Axe-Fx presets as guarded secrets).

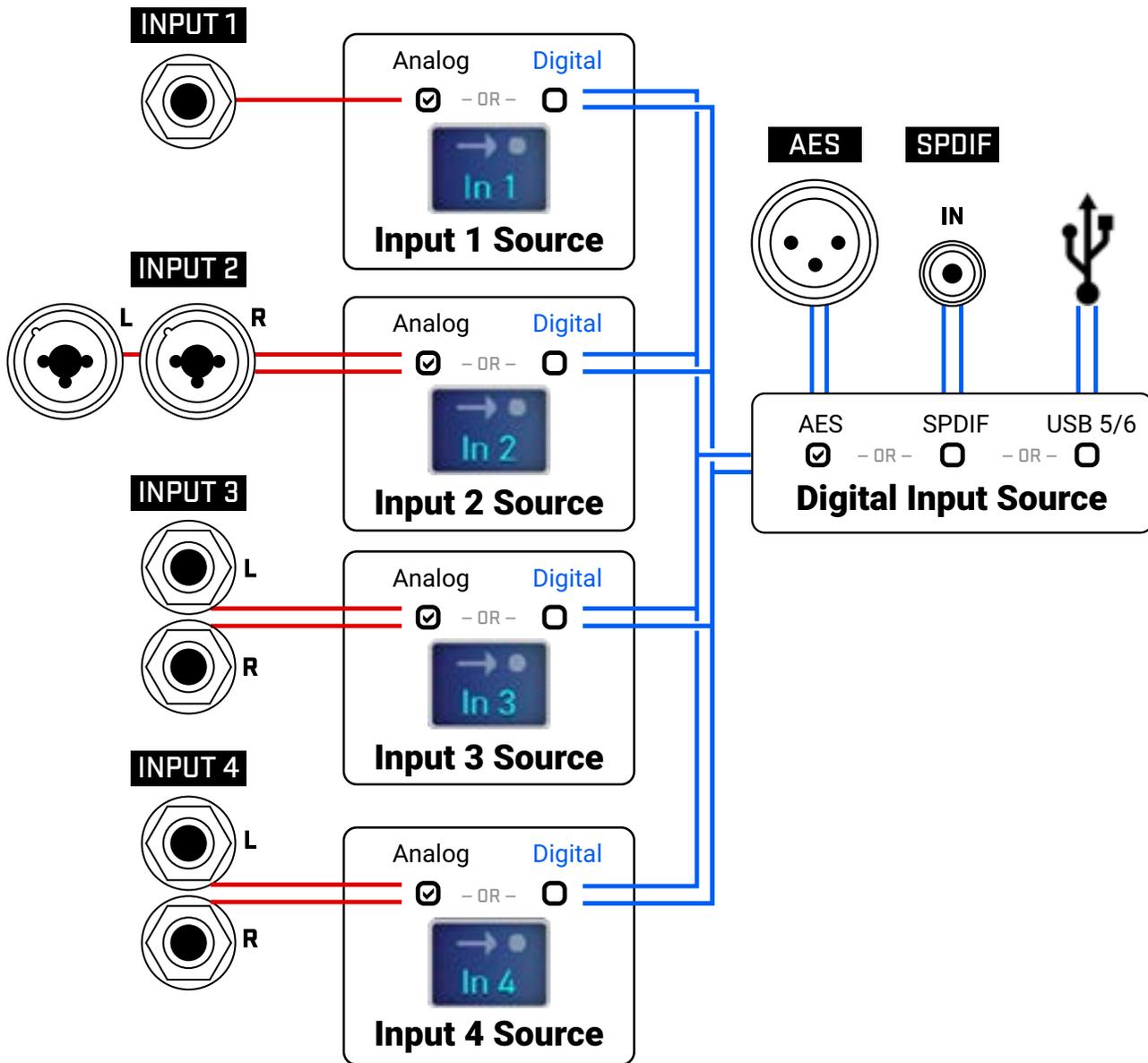
Find Axe-Change at <https://axechange.fractalaudio.com>.

The screenshot shows the AXE-CHANGE website interface. At the top, there's a navigation bar with 'DOWNLOAD PRESETS & CABS' and 'SEARCH OR BROWSE BELOW' on the left, and 'UPLOAD YOUR CREATIONS' and 'LOG IN TO GET STARTED' on the right. A search bar is located below the navigation. The main content area is divided into two columns: 'POPULAR DOWNLOADS' and 'RECENT UPLOADS'. Each column contains a table of items with columns for Name, Model/FW, Author, and Downloads. Below these columns is an 'ARTIST UPLOADS' section, also containing a table with Name, Model/FW, Author, and Downloads. At the bottom of the page, there are three promotional banners: 'Axe-Fx II ALL NEW - TAKE THE POWER', 'VISIT THE FRACTAL FORUM Ask, answer, or just hang out.', and 'MFC-101'. The AXE-CHANGE logo and tagline 'Download and Upload Presets and Cabs for your Axe-Fx' are at the very bottom.

INPUT SELECTION

Firmware 15 for the Axe-Fx III introduced a new way of selecting between analog and digital input sources. Each of the available inputs has an option in settings for ANALOG or DIGITAL. The Analog inputs are “hard wired”, meaning that when **Input 1** is set to “ANALOG” it uses the Input 1 jacks, Input 2 uses the Input 2 jacks, and so on. When any input is set to “DIGITAL” it uses a shared digital input source, which can be set globally to your choice of AES, SPDIF, or USB. The concept is illustrated below.

All parameters for input selection can be found in **SETUP: I/O: Audio**.



SPILLOVER

Spillover allows delay and reverb tails to “ring out” when an effect is bypassed or when you change channels, scenes, or presets. This section covers how to set up spillover in different scenarios.

WHEN BYPASSING A BLOCK (“IA” SWITCHES)...

Block spillover is easy and requires only a particular setting in the block. For tails to ring out when an individual block is bypassed, set that block’s **Bypass Mode** to “MUTE FX IN”. If an effect is running in parallel, use “MUTE IN” instead. Be aware that different channels share effect memory, so changes to time, size, etc, may cause a “sweep” in the tail.

WHEN SWITCHING SCENES...

Switching Scenes provides one of the best ways for sound changes to have perfect spillover. Since Scenes simply bypass or engage blocks one-by-one or in groups, just refer to the instructions above for all blocks in your preset.

WHEN CHANGING PRESETS...

Spillover across different presets is a bit more involved. The first step is to open **SETUP: Global Settings: Settings** and set the **Spillover** parameter to determine whether “DELAY”, “REVERB”, or “DELAY&REVERB” or “ALL” will spill over when you change presets. (“ALL” includes not only Delay and Reverb but also Plex Delay, Multitap Delay, Megatap and Ten-Tap delay blocks.)

You must also ensure that the exact same blocks exist in each of the presets you want to switch between. These need to be the same block *and* the same number (i.e. **Delay 1** spills over only through **Delay 1**, **Delay 2** through **Delay 2**, etc.). These corresponding blocks must also have similar settings and placement on the grid or problems could be heard. For example, if you change from a preset where **Delay 1** has a **TIME** of 500 ms, to a preset where **Delay 1** has a **TIME** of 100 ms, the tails will suddenly be heard as 100 ms echoes instead. Similarly, you might hear a big difference in the tail if a block is placed *after* the Amp in one preset, and *before* it in another!



For a simple preset spillover experiment, create a preset, then save an exact copy to a new location and test spillover. Then begin making changes as needed to settings outside of those blocks that you want to spill over. Axe-Edit III also makes it easy to copy and paste a block from one preset to another.

SENDING MIDI

MIDI Messages are transmitted at the MIDI OUT/THRU port of the Axe-Fx III. Connect a 5-pin MIDI cable from the MIDI Out to the MIDI In of your other device.

SEND MIDI PC

The simplest MIDI capability of the Axe-Fx III is transmitting a single MIDI program change message (“PC”) each time a new Preset is loaded—whether via the front panel, using an FC Footswitch, or in any other way. To enable this, open the **SETUP | MIDI/Remote** menu and page to the “**General**” tab. Set **Send MIDI PC** to the desired MIDI channel.

THE SCENE MIDI BLOCK

A more sophisticated MIDI tool is the **Scene MIDI Block**. Once you place this block on the grid, it transmits MIDI messages automatically whenever a new scene is loaded—whether via the front panel, with a footswitch, or by any other means. The Scene MIDI block can transmit up to eight total custom PC or CC messages. Remember that a “default scene” loads automatically when you select a new preset, so any footswitch that selects a new Preset or a new Scene can also cause the Axe-Fx III to send a burst of MIDI messages. See the [“The Fractal Audio Blocks Guide”](#) for more on the Scene MIDI Block.

CONTROL SWITCH MIDI

Another way the Axe-Fx III can transmit MIDI messages is using **Control Switches** set up on an external Fractal Audio FC-6 or FC-12 Controller. The primary function of a Control Switch is to operate as a **Modifier** source to control sound parameters. Beyond this, however, each of the six Control Switches has the capability to transmit a custom “payload” of MIDI data every time the switch is turned on ON or OFF. Because this isn’t tied to another event such as a Preset or Scene change, Control Switch MIDI is more flexible and dynamic.

Because Control Switches can be momentary or latching (and even mutually exclusive), the CS MIDI system is very versatile. You might change a connected MIDI-controlled amp, manually operate a remote processor, sequencer, lighting system, and more.

Here is a summary of the MIDI Capabilities of a Control Switch:

- ▶ Control Switches are placed into an FC Layouts as functions.
- ▶ Control Switches 1–6 appear in the list of **Modifier** sources on the Axe-Fx. The role of a switch as a modifier source is not compromised if you also use it to transmit MIDI. The same switch can simultaneously control the Axe-Fx and a connected device. See [Section 9: Modifiers](#) to learn more.
- ▶ Each Control Switch has its own global **MIDI Payload** containing up to four Program Change (“PC”) or Control Change (“CC”) messages on any MIDI Channels, with custom values from 0–127, or disabled (“--”) for both the ON and OFF states of the switch.
- ▶ Each MIDI Payload also has a “master switch” allowing it to be enabled or disabled.

SETTING UP THE MIDI PAYLOAD FOR A CONTROL SWITCH:

- ▶ Open the **SETUP | FC Controllers** menu and page to the “**CS MIDI**” tab.
- ▶ Use **NAV** buttons and the **VALUE** wheel to get around the page.
- ▶ Select the desired control switch at the top of the menu. (CS1, CS2, etc.)
- ▶ Make sure **ENABLED** is set to “**YES**” if you want the switch to send MIDI.
- ▶ NAV through the table and create your desired MIDI Payload of up to four commands, with different values for ON and OFF
 - For each command, selecting whether you want a Program Change (PC) or Control Change (CC) message.
 - Set the MIDI Channel for that command as desired from 1–16.
 - If you chose a CC Command, set the CC Number.
 - Set the desired Values for when the switch is ON and when it is OFF.
 - You can select values from 0–127, or “--” which means “send nothing.”
- ▶ There is no need to save CS MIDI settings. They take effect immediately.



Remember, Control Switches can be switched manually using a footswitch, or automatically by Scenes. See your FC **Owner's Manual** and **Footswitch Functions Guide** for more on Control Switches.

SHORTCUTS

The Axe-Fx III has several shortcuts and hidden features. These are summarized below.

IN GENERAL

- To show the Layout Grid for the current preset, push the **VALUE** wheel.
- Press **EDIT** to jump to the Edit menu for the currently selected block.

ON THE HOME PAGE

- Press **ENTER** to show the Layout Grid for the current preset.
- Use **NAV LEFT/RIGHT** to select presets and press **NAV UP/DOWN** or turn knob **A** to select scenes.

IN THE AMP BLOCK

- On the Output EQ page, press **ENTER** to flatten the EQ.
- On the Output EQ page, press **NAV UP/DOWN** to change the number of bands.

IN THE CAB BLOCK

- **NAV** to the Cab Number field and press **ENTER** to enter the Cab Picker for the selected.

ON THE GRID

- With any block selected, **press-and-hold ENTER** to create a series of shunts and cables to bridge empty space to the right. This will also **CLEAR** existing connectors between a series of blocks.

IN THE EDIT MENU OF ANY BLOCK

- Press **EDIT** to skip to the Edit menu of the next block, or multiple times to step through all blocks.

TO OPEN THE CONTROLLERS MENU

- Press the **TEMPO** button once.

ON THE SEQUENCER PAGE OF THE CONTROLLERS MENU

- With any **Stage** selected, press **ENTER** to randomize the values of all stages.

DOUBLE-TAP SHORTCUTS

Firmware 17.0 introduced new “double-tap” shortcuts to the front panel controls. These are listed here with other shortcuts

HOME - You can double-tap the **HOME BUTTON** to open the Layout grid.

EDIT - You can tap the **EDIT** button sequentially to step through all blocks in the current preset (top-to-bottom, left-to-right), or *double-tap* to step in reverse order.

STORE - You can double-tap **STORE** to skip directly to the final saving prompt without reviewing name or location changes.

PUSH-KNOBS: From any page in the **Home** menu or **Layout** menu (except “Tools”), double tap the **A, B, C, D, and E knobs** to jump directly to editing the following blocks:

A: Amp 1

B: Drive 1 (think “b for boost”)

C: Cab 1

D: Delay 1

E: Reverb 1 (think “E-verb”)

FREQUENTLY ASKED QUESTIONS

Q: Why all the technical terminology?

A: The language of the Axe-Fx III is for the most part the universal language of professional audio. This allows the Axe-Fx III to serve very diverse communities from casual to pro players, to producers, engineers, and beyond. The terminology and concepts you will use and learn are not unique to the Axe-Fx III either. Understanding them will help you to master the craft of sound and to communicate with other pros. At the same time, the Axe-Fx III is easier than ever, with dedicated controls and a clear interface that doesn't distract or disrupt the creative flow.

Q: What is "FRFR"?

A: FRFR stands for "full-range, flat response." This acronym is used to describe a "neutral" speaker or speaker system that is designed to reproduce the entire audible spectrum of 20 Hz – 20kHz without emphasis. Examples of FRFR systems would include high-quality studio monitors and properly designed PA systems or monitors. Many manufacturers are also now offering FRFR systems designed specifically for direct guitar applications.

Q: How do I upgrade the firmware of my Axe-Fx III?

A: Use Fractal-Bot, available from www.fractalaudio.com.

Q: Can I load my presets from the Axe-Fx II, AX8, or FX8 into the Axe-Fx III (or vice versa)?

A: No, presets are not cross-compatible, but you can generally transfer parameter settings by hand without unexpected results. As of this writing, all of the same amp models are present, and "factory" speaker cabs of the Axe-Fx II are present in the "Legacy" bank on the Axe-Fx III.

Q: My expression pedal isn't working. What should I do?

A: Expression pedals need to be calibrated and assigned to a parameter, controller or remote function. See "[Connecting Pedals Directly](#)" on p. 12 for a basic overview. Are you using a TRS cable? Is it connected to the correct port on the Axe-Fx III? Is it actually an expression pedal? Did you set up a Modifier as described in [Section 9](#)?

Q: My Axe-Fx III seems much quieter than my Axe-Fx II with similar settings.

A: By default, analog outputs 1 and 2 are now set to -10dBV. To change these to +4dBu, use the **Output Level** parameters for Out 1 and Out 2 on the **Audio** page of the **I/O** menu under **SETUP**. (See [p. 73](#).)

Q: My Axe-Fx III won't start up correctly.

A: Please see "[Recovery](#)" on p. 91.

Q: Can I use a computer or external MIDI controller to remote control the Axe-Fx III?

A: Yes. The Axe-Fx III has a rich MIDI spec which allows it to be remote controlled. Using a computer, you can use the built-in USB connection for "MIDI-over-USB", rather than relying on a third-party MIDI interface. See "[The MIDI/Remote Menu](#)" on p. 75 and "[MIDI Implementation](#)" on p. 113 for more on this.

Q: I'm hearing click and pops.

A: First, check all cables. You'd be surprised by how often a short can be found in a brand new or trusted cable. Then, check to see whether you are clipping the Axe-Fx III inputs or outputs ([p. 5](#)). Excessive CPU usage may also be to blame. Is the CPU meter above 80%? If so, you may have overloaded the current preset. Try removing one block and review "[Preset CPU Limits](#)" on [p. 42](#) for useful tips.

Q: One or more of my presets produces no sound.

A: This might be any one (or several) of a number of things. Is every other component in your rig working correctly? Most of the time, the problem is a faulty or disconnected cable. Checking the Axe-Fx III with headphones can help rule this possibility out. Using the DELETE button (Push-knob **B**), try changing each block to a SHUNT, ending with the Amp and Cab blocks. Do some presets work? If so, have you double-checked to ensure that each has a complete path from the input to the output? Does every preset begin and end with Input and Output blocks corresponding to inputs and outputs connected to other equipment? Is there a Modifier assigned to a volume or level control while the pedal or external switch is not present? You may simply need to change the INITIAL VALUE for an external controller from 0% to 100% (see [p. 77](#)). Does the preset require a USER CAB which is not loaded? Try changing the Cab block to a Factory cab. See also http://wiki.fractalaudio.com/axefx2/index.php?title=No_sound.

Q: Why would I place a certain effect *before* or *after* an Amp and Cab?

A: Sonically speaking, the main reason to care about effect placement is that a given effect will sound different when placed before or after distortion.

How does this difference sound? If you've ever switched the sequence of traditional drive and wah pedals, you've heard an excellent example. In the case of wah before overdrive, the resonant filter of the wah "excites" the overdrive in a cool way while still retaining a natural overall tone. When the wah follows distortion, you might hear a more dramatic sweep that almost sounds synth-like and might be considered less "classic." It's not surprising then that wah would traditionally be run as a "pre" effect between guitar and amp. The amp's distortion follows the wah. Many other effects fall in this same category.

A different example is found in overdrive with reverb or delay. In the natural world, reverb and echo occur because of open spaces around your guitar amp – like a club or concert hall. These effects would therefore NOT be heard before a distorted amp, but *after* it. Recording studios often add these kinds of effects "post", i.e. at the console—after the mic has picked up the distorted sound from the guitar amp. If you wanted to simulate this natural sounding reverb or delay these effects would likely be run "post." This is not to say that delay or reverb before distortion is a "no-no." Many "legendary" tones came from echo units in front of an amp—but this effect is very different from "post" delay—not only tonally, but also in terms of dynamics.

The good news is that the Axe-Fx III allows you to experiment easily and find what combinations of pre- and post-effects work best for you. Creativity begins where conformity ends.

MIDI REFERENCE TABLES

MIDI BANK & PROGRAM CHANGE

The following table lists the MIDI Bank and Program Change messages required to select Axe-Fx III presets. MIDI Bank Select (CC#0) Value , Midi Program Change = Axe-Fx III Preset Number.

0, 0 = 0	0, 42 = 42	0, 84 = 84	0, 126 = 126	1, 40 = 168
0, 1 = 1	0, 43 = 43	0, 85 = 85	0, 127 = 127	1, 41 = 169
0, 2 = 2	0, 44 = 44	0, 86 = 86	1, 0 = 128	1, 42 = 170
0, 3 = 3	0, 45 = 45	0, 87 = 87	1, 1 = 129	1, 43 = 171
0, 4 = 4	0, 46 = 46	0, 88 = 88	1, 2 = 130	1, 44 = 172
0, 5 = 5	0, 47 = 47	0, 89 = 89	1, 3 = 131	1, 45 = 173
0, 6 = 6	0, 48 = 48	0, 90 = 90	1, 4 = 132	1, 46 = 174
0, 7 = 7	0, 49 = 49	0, 91 = 91	1, 5 = 133	1, 47 = 175
0, 8 = 8	0, 50 = 50	0, 92 = 92	1, 6 = 134	1, 48 = 176
0, 9 = 9	0, 51 = 51	0, 93 = 93	1, 7 = 135	1, 49 = 177
0, 10 = 10	0, 52 = 52	0, 94 = 94	1, 8 = 136	1, 50 = 178
0, 11 = 11	0, 53 = 53	0, 95 = 95	1, 9 = 137	1, 51 = 179
0, 12 = 12	0, 54 = 54	0, 96 = 96	1, 10 = 138	1, 52 = 180
0, 13 = 13	0, 55 = 55	0, 97 = 97	1, 11 = 139	1, 53 = 181
0, 14 = 14	0, 56 = 56	0, 98 = 98	1, 12 = 140	1, 54 = 182
0, 15 = 15	0, 57 = 57	0, 99 = 99	1, 13 = 141	1, 55 = 183
0, 16 = 16	0, 58 = 58	0, 100 = 100	1, 14 = 142	1, 56 = 184
0, 17 = 17	0, 59 = 59	0, 101 = 101	1, 15 = 143	1, 57 = 185
0, 18 = 18	0, 60 = 60	0, 102 = 102	1, 16 = 144	1, 58 = 186
0, 19 = 19	0, 61 = 61	0, 103 = 103	1, 17 = 145	1, 59 = 187
0, 20 = 20	0, 62 = 62	0, 104 = 104	1, 18 = 146	1, 60 = 188
0, 21 = 21	0, 63 = 63	0, 105 = 105	1, 19 = 147	1, 61 = 189
0, 22 = 22	0, 64 = 64	0, 106 = 106	1, 20 = 148	1, 62 = 190
0, 23 = 23	0, 65 = 65	0, 107 = 107	1, 21 = 149	1, 63 = 191
0, 24 = 24	0, 66 = 66	0, 108 = 108	1, 22 = 150	1, 64 = 192
0, 25 = 25	0, 67 = 67	0, 109 = 109	1, 23 = 151	1, 65 = 193
0, 26 = 26	0, 68 = 68	0, 110 = 110	1, 24 = 152	1, 66 = 194
0, 27 = 27	0, 69 = 69	0, 111 = 111	1, 25 = 153	1, 67 = 195
0, 28 = 28	0, 70 = 70	0, 112 = 112	1, 26 = 154	1, 68 = 196
0, 29 = 29	0, 71 = 71	0, 113 = 113	1, 27 = 155	1, 69 = 197
0, 30 = 30	0, 72 = 72	0, 114 = 114	1, 28 = 156	1, 70 = 198
0, 31 = 31	0, 73 = 73	0, 115 = 115	1, 29 = 157	1, 71 = 199
0, 32 = 32	0, 74 = 74	0, 116 = 116	1, 30 = 158	1, 72 = 200
0, 33 = 33	0, 75 = 75	0, 117 = 117	1, 31 = 159	1, 73 = 201
0, 34 = 34	0, 76 = 76	0, 118 = 118	1, 32 = 160	1, 74 = 202
0, 35 = 35	0, 77 = 77	0, 119 = 119	1, 33 = 161	1, 75 = 203
0, 36 = 36	0, 78 = 78	0, 120 = 120	1, 34 = 162	1, 76 = 204
0, 37 = 37	0, 79 = 79	0, 121 = 121	1, 35 = 163	1, 77 = 205
0, 38 = 38	0, 80 = 80	0, 122 = 122	1, 36 = 164	1, 78 = 206
0, 39 = 39	0, 81 = 81	0, 123 = 123	1, 37 = 165	1, 79 = 207
0, 40 = 40	0, 82 = 82	0, 124 = 124	1, 38 = 166	1, 80 = 208
0, 41 = 41	0, 83 = 83	0, 125 = 125	1, 39 = 167	1, 81 = 209

15 ADDITIONAL TOPICS

1,82 = 210	2,6 = 262	2,58 = 314	2,110 = 366	3,34 = 418	3,86 = 470
1,83 = 211	2,7 = 263	2,59 = 315	2,111 = 367	3,35 = 419	3,87 = 471
1,84 = 212	2,8 = 264	2,60 = 316	2,112 = 368	3,36 = 420	3,88 = 472
1,85 = 213	2,9 = 265	2,61 = 317	2,113 = 369	3,37 = 421	3,89 = 473
1,86 = 214	2,10 = 266	2,62 = 318	2,114 = 370	3,38 = 422	3,90 = 474
1,87 = 215	2,11 = 267	2,63 = 319	2,115 = 371	3,39 = 423	3,91 = 475
1,88 = 216	2,12 = 268	2,64 = 320	2,116 = 372	3,40 = 424	3,92 = 476
1,89 = 217	2,13 = 269	2,65 = 321	2,117 = 373	3,41 = 425	3,93 = 477
1,90 = 218	2,14 = 270	2,66 = 322	2,118 = 374	3,42 = 426	3,94 = 478
1,91 = 219	2,15 = 271	2,67 = 323	2,119 = 375	3,43 = 427	3,95 = 479
1,92 = 220	2,16 = 272	2,68 = 324	2,120 = 376	3,44 = 428	3,96 = 480
1,93 = 221	2,17 = 273	2,69 = 325	2,121 = 377	3,45 = 429	3,97 = 481
1,94 = 222	2,18 = 274	2,70 = 326	2,122 = 378	3,46 = 430	3,98 = 482
1,95 = 223	2,19 = 275	2,71 = 327	2,123 = 379	3,47 = 431	3,99 = 483
1,96 = 224	2,20 = 276	2,72 = 328	2,124 = 380	3,48 = 432	3,100 = 484
1,97 = 225	2,21 = 277	2,73 = 329	2,125 = 381	3,49 = 433	3,101 = 485
1,98 = 226	2,22 = 278	2,74 = 330	2,126 = 382	3,50 = 434	3,102 = 486
1,99 = 227	2,23 = 279	2,75 = 331	2,127 = 383	3,51 = 435	3,103 = 487
1,100 = 228	2,24 = 280	2,76 = 332	3,0 = 384	3,52 = 436	3,104 = 488
1,101 = 229	2,25 = 281	2,77 = 333	3,1 = 385	3,53 = 437	3,105 = 489
1,102 = 230	2,26 = 282	2,78 = 334	3,2 = 386	3,54 = 438	3,106 = 490
1,103 = 231	2,27 = 283	2,79 = 335	3,3 = 387	3,55 = 439	3,107 = 491
1,104 = 232	2,28 = 284	2,80 = 336	3,4 = 388	3,56 = 440	3,108 = 492
1,105 = 233	2,29 = 285	2,81 = 337	3,5 = 389	3,57 = 441	3,109 = 493
1,106 = 234	2,30 = 286	2,82 = 338	3,6 = 390	3,58 = 442	3,110 = 494
1,107 = 235	2,31 = 287	2,83 = 339	3,7 = 391	3,59 = 443	3,111 = 495
1,108 = 236	2,32 = 288	2,84 = 340	3,8 = 392	3,60 = 444	3,112 = 496
1,109 = 237	2,33 = 289	2,85 = 341	3,9 = 393	3,61 = 445	3,113 = 497
1,110 = 238	2,34 = 290	2,86 = 342	3,10 = 394	3,62 = 446	3,114 = 498
1,111 = 239	2,35 = 291	2,87 = 343	3,11 = 395	3,63 = 447	3,115 = 499
1,112 = 240	2,36 = 292	2,88 = 344	3,12 = 396	3,64 = 448	3,116 = 500
1,113 = 241	2,37 = 293	2,89 = 345	3,13 = 397	3,65 = 449	3,117 = 501
1,114 = 242	2,38 = 294	2,90 = 346	3,14 = 398	3,66 = 450	3,118 = 502
1,115 = 243	2,39 = 295	2,91 = 347	3,15 = 399	3,67 = 451	3,119 = 503
1,116 = 244	2,40 = 296	2,92 = 348	3,16 = 400	3,68 = 452	3,120 = 504
1,117 = 245	2,41 = 297	2,93 = 349	3,17 = 401	3,69 = 453	3,121 = 505
1,118 = 246	2,42 = 298	2,94 = 350	3,18 = 402	3,70 = 454	3,122 = 506
1,119 = 247	2,43 = 299	2,95 = 351	3,19 = 403	3,71 = 455	3,123 = 507
1,120 = 248	2,44 = 300	2,96 = 352	3,20 = 404	3,72 = 456	3,124 = 508
1,121 = 249	2,45 = 301	2,97 = 353	3,21 = 405	3,73 = 457	3,125 = 509
1,122 = 250	2,46 = 302	2,98 = 354	3,22 = 406	3,74 = 458	3,126 = 510
1,123 = 251	2,47 = 303	2,99 = 355	3,23 = 407	3,75 = 459	3,127 = 511
1,124 = 252	2,48 = 304	2,100 = 356	3,24 = 408	3,76 = 460	
1,125 = 253	2,49 = 305	2,101 = 357	3,25 = 409	3,77 = 461	
1,126 = 254	2,50 = 306	2,102 = 358	3,26 = 410	3,78 = 462	
1,127 = 255	2,51 = 307	2,103 = 359	3,27 = 411	3,79 = 463	
2,0 = 256	2,52 = 308	2,104 = 360	3,28 = 412	3,80 = 464	
2,1 = 257	2,53 = 309	2,105 = 361	3,29 = 413	3,81 = 465	
2,2 = 258	2,54 = 310	2,106 = 362	3,30 = 414	3,82 = 466	
2,3 = 259	2,55 = 311	2,107 = 363	3,31 = 415	3,83 = 467	
2,4 = 260	2,56 = 312	2,108 = 364	3,32 = 416	3,84 = 468	
2,5 = 261	2,57 = 313	2,109 = 365	3,33 = 417	3,85 = 469	

15 ADDITIONAL TOPICS

Entries on this page and the next are used only by the Axe-Fx III Mark II, which has a total of 1,024 presets.

4, 0 = 512	4, 43 = 555	4, 86 = 598	5, 1 = 641	5, 44 = 684	5, 87 = 727
4, 1 = 513	4, 44 = 556	4, 87 = 599	5, 2 = 642	5, 45 = 685	5, 88 = 728
4, 2 = 514	4, 45 = 557	4, 88 = 600	5, 3 = 643	5, 46 = 686	5, 89 = 729
4, 3 = 515	4, 46 = 558	4, 89 = 601	5, 4 = 644	5, 47 = 687	5, 90 = 730
4, 4 = 516	4, 47 = 559	4, 90 = 602	5, 5 = 645	5, 48 = 688	5, 91 = 731
4, 5 = 517	4, 48 = 560	4, 91 = 603	5, 6 = 646	5, 49 = 689	5, 92 = 732
4, 6 = 518	4, 49 = 561	4, 92 = 604	5, 7 = 647	5, 50 = 690	5, 93 = 733
4, 7 = 519	4, 50 = 562	4, 93 = 605	5, 8 = 648	5, 51 = 691	5, 94 = 734
4, 8 = 520	4, 51 = 563	4, 94 = 606	5, 9 = 649	5, 52 = 692	5, 95 = 735
4, 9 = 521	4, 52 = 564	4, 95 = 607	5, 10 = 650	5, 53 = 693	5, 96 = 736
4, 10 = 522	4, 53 = 565	4, 96 = 608	5, 11 = 651	5, 54 = 694	5, 97 = 737
4, 11 = 523	4, 54 = 566	4, 97 = 609	5, 12 = 652	5, 55 = 695	5, 98 = 738
4, 12 = 524	4, 55 = 567	4, 98 = 610	5, 13 = 653	5, 56 = 696	5, 99 = 739
4, 13 = 525	4, 56 = 568	4, 99 = 611	5, 14 = 654	5, 57 = 697	5, 100 = 740
4, 14 = 526	4, 57 = 569	4, 100 = 612	5, 15 = 655	5, 58 = 698	5, 101 = 741
4, 15 = 527	4, 58 = 570	4, 101 = 613	5, 16 = 656	5, 59 = 699	5, 102 = 742
4, 16 = 528	4, 59 = 571	4, 102 = 614	5, 17 = 657	5, 60 = 700	5, 103 = 743
4, 17 = 529	4, 60 = 572	4, 103 = 615	5, 18 = 658	5, 61 = 701	5, 104 = 744
4, 18 = 530	4, 61 = 573	4, 104 = 616	5, 19 = 659	5, 62 = 702	5, 105 = 745
4, 19 = 531	4, 62 = 574	4, 105 = 617	5, 20 = 660	5, 63 = 703	5, 106 = 746
4, 20 = 532	4, 63 = 575	4, 106 = 618	5, 21 = 661	5, 64 = 704	5, 107 = 747
4, 21 = 533	4, 64 = 576	4, 107 = 619	5, 22 = 662	5, 65 = 705	5, 108 = 748
4, 22 = 534	4, 65 = 577	4, 108 = 620	5, 23 = 663	5, 66 = 706	5, 109 = 749
4, 23 = 535	4, 66 = 578	4, 109 = 621	5, 24 = 664	5, 67 = 707	5, 110 = 750
4, 24 = 536	4, 67 = 579	4, 110 = 622	5, 25 = 665	5, 68 = 708	5, 111 = 751
4, 25 = 537	4, 68 = 580	4, 111 = 623	5, 26 = 666	5, 69 = 709	5, 112 = 752
4, 26 = 538	4, 69 = 581	4, 112 = 624	5, 27 = 667	5, 70 = 710	5, 113 = 753
4, 27 = 539	4, 70 = 582	4, 113 = 625	5, 28 = 668	5, 71 = 711	5, 114 = 754
4, 28 = 540	4, 71 = 583	4, 114 = 626	5, 29 = 669	5, 72 = 712	5, 115 = 755
4, 29 = 541	4, 72 = 584	4, 115 = 627	5, 30 = 670	5, 73 = 713	5, 116 = 756
4, 30 = 542	4, 73 = 585	4, 116 = 628	5, 31 = 671	5, 74 = 714	5, 117 = 757
4, 31 = 543	4, 74 = 586	4, 117 = 629	5, 32 = 672	5, 75 = 715	5, 118 = 758
4, 32 = 544	4, 75 = 587	4, 118 = 630	5, 33 = 673	5, 76 = 716	5, 119 = 759
4, 33 = 545	4, 76 = 588	4, 119 = 631	5, 34 = 674	5, 77 = 717	5, 120 = 760
4, 34 = 546	4, 77 = 589	4, 120 = 632	5, 35 = 675	5, 78 = 718	5, 121 = 761
4, 35 = 547	4, 78 = 590	4, 121 = 633	5, 36 = 676	5, 79 = 719	5, 122 = 762
4, 36 = 548	4, 79 = 591	4, 122 = 634	5, 37 = 677	5, 80 = 720	5, 123 = 763
4, 37 = 549	4, 80 = 592	4, 123 = 635	5, 38 = 678	5, 81 = 721	5, 124 = 764
4, 38 = 550	4, 81 = 593	4, 124 = 636	5, 39 = 679	5, 82 = 722	5, 125 = 765
4, 39 = 551	4, 82 = 594	4, 125 = 637	5, 40 = 680	5, 83 = 723	5, 126 = 766
4, 40 = 552	4, 83 = 595	4, 126 = 638	5, 41 = 681	5, 84 = 724	5, 127 = 767
4, 41 = 553	4, 84 = 596	4, 127 = 639	5, 42 = 682	5, 85 = 725	
4, 42 = 554	4, 85 = 597	5, 0 = 640	5, 43 = 683	5, 86 = 726	

15 ADDITIONAL TOPICS

6, 0 = 768	6, 43 = 811	6, 86 = 854	7, 1 = 897	7, 44 = 940	7, 87 = 983
6, 1 = 769	6, 44 = 812	6, 87 = 855	7, 2 = 898	7, 45 = 941	7, 88 = 984
6, 2 = 770	6, 45 = 813	6, 88 = 856	7, 3 = 899	7, 46 = 942	7, 89 = 985
6, 3 = 771	6, 46 = 814	6, 89 = 857	7, 4 = 900	7, 47 = 943	7, 90 = 986
6, 4 = 772	6, 47 = 815	6, 90 = 858	7, 5 = 901	7, 48 = 944	7, 91 = 987
6, 5 = 773	6, 48 = 816	6, 91 = 859	7, 6 = 902	7, 49 = 945	7, 92 = 988
6, 6 = 774	6, 49 = 817	6, 92 = 860	7, 7 = 903	7, 50 = 946	7, 93 = 989
6, 7 = 775	6, 50 = 818	6, 93 = 861	7, 8 = 904	7, 51 = 947	7, 94 = 990
6, 8 = 776	6, 51 = 819	6, 94 = 862	7, 9 = 905	7, 52 = 948	7, 95 = 991
6, 9 = 777	6, 52 = 820	6, 95 = 863	7, 10 = 906	7, 53 = 949	7, 96 = 992
6, 10 = 778	6, 53 = 821	6, 96 = 864	7, 11 = 907	7, 54 = 950	7, 97 = 993
6, 11 = 779	6, 54 = 822	6, 97 = 865	7, 12 = 908	7, 55 = 951	7, 98 = 994
6, 12 = 780	6, 55 = 823	6, 98 = 866	7, 13 = 909	7, 56 = 952	7, 99 = 995
6, 13 = 781	6, 56 = 824	6, 99 = 867	7, 14 = 910	7, 57 = 953	7, 100 = 996
6, 14 = 782	6, 57 = 825	6, 100 = 868	7, 15 = 911	7, 58 = 954	7, 101 = 997
6, 15 = 783	6, 58 = 826	6, 101 = 869	7, 16 = 912	7, 59 = 955	7, 102 = 998
6, 16 = 784	6, 59 = 827	6, 102 = 870	7, 17 = 913	7, 60 = 956	7, 103 = 999
6, 17 = 785	6, 60 = 828	6, 103 = 871	7, 18 = 914	7, 61 = 957	7, 104 = 1000
6, 18 = 786	6, 61 = 829	6, 104 = 872	7, 19 = 915	7, 62 = 958	7, 105 = 1001
6, 19 = 787	6, 62 = 830	6, 105 = 873	7, 20 = 916	7, 63 = 959	7, 106 = 1002
6, 20 = 788	6, 63 = 831	6, 106 = 874	7, 21 = 917	7, 64 = 960	7, 107 = 1003
6, 21 = 789	6, 64 = 832	6, 107 = 875	7, 22 = 918	7, 65 = 961	7, 108 = 1004
6, 22 = 790	6, 65 = 833	6, 108 = 876	7, 23 = 919	7, 66 = 962	7, 109 = 1005
6, 23 = 791	6, 66 = 834	6, 109 = 877	7, 24 = 920	7, 67 = 963	7, 110 = 1006
6, 24 = 792	6, 67 = 835	6, 110 = 878	7, 25 = 921	7, 68 = 964	7, 111 = 1007
6, 25 = 793	6, 68 = 836	6, 111 = 879	7, 26 = 922	7, 69 = 965	7, 112 = 1008
6, 26 = 794	6, 69 = 837	6, 112 = 880	7, 27 = 923	7, 70 = 966	7, 113 = 1009
6, 27 = 795	6, 70 = 838	6, 113 = 881	7, 28 = 924	7, 71 = 967	7, 114 = 1010
6, 28 = 796	6, 71 = 839	6, 114 = 882	7, 29 = 925	7, 72 = 968	7, 115 = 1011
6, 29 = 797	6, 72 = 840	6, 115 = 883	7, 30 = 926	7, 73 = 969	7, 116 = 1012
6, 30 = 798	6, 73 = 841	6, 116 = 884	7, 31 = 927	7, 74 = 970	7, 117 = 1013
6, 31 = 799	6, 74 = 842	6, 117 = 885	7, 32 = 928	7, 75 = 971	7, 118 = 1014
6, 32 = 800	6, 75 = 843	6, 118 = 886	7, 33 = 929	7, 76 = 972	7, 119 = 1015
6, 33 = 801	6, 76 = 844	6, 119 = 887	7, 34 = 930	7, 77 = 973	7, 120 = 1016
6, 34 = 802	6, 77 = 845	6, 120 = 888	7, 35 = 931	7, 78 = 974	7, 121 = 1017
6, 35 = 803	6, 78 = 846	6, 121 = 889	7, 36 = 932	7, 79 = 975	7, 122 = 1018
6, 36 = 804	6, 79 = 847	6, 122 = 890	7, 37 = 933	7, 80 = 976	7, 123 = 1019
6, 37 = 805	6, 80 = 848	6, 123 = 891	7, 38 = 934	7, 81 = 977	7, 124 = 1020
6, 38 = 806	6, 81 = 849	6, 124 = 892	7, 39 = 935	7, 82 = 978	7, 125 = 1021
6, 39 = 807	6, 82 = 850	6, 125 = 893	7, 40 = 936	7, 83 = 979	7, 126 = 1022
6, 40 = 808	6, 83 = 851	6, 126 = 894	7, 41 = 937	7, 84 = 980	7, 127 = 1023
6, 41 = 809	6, 84 = 852	6, 127 = 895	7, 42 = 938	7, 85 = 981	
6, 42 = 810	6, 85 = 853	7, 0 = 896	7, 43 = 939	7, 86 = 982	

15 ADDITIONAL TOPICS

CC VALUE TO SCENE

When selecting Scenes using the global options found on the **Other** page of the **MIDI/Remote** menu under **SETUP**, the *value* of the designated CC# determines the Scene:

0.....1	16.....1	32.....1	48.....1	64.....1	80.....1	96.....1	112.....1
1.....2	17.....2	33.....2	49.....2	65.....2	81.....2	97.....2	113.....2
2.....3	18.....3	34.....3	50.....3	66.....3	82.....3	98.....3	114.....3
3.....4	19.....4	35.....4	51.....4	67.....4	83.....4	99.....4	115.....4
4.....5	20.....5	36.....5	52.....5	68.....5	84.....5	100.....5	116.....5
5.....6	21.....6	37.....6	53.....6	69.....6	85.....6	101.....6	117.....6
6.....7	22.....7	38.....7	54.....7	70.....7	86.....7	102.....7	118.....7
7.....8	23.....8	39.....8	55.....8	71.....8	87.....8	103.....8	119.....8
8.....1	24.....1	40.....1	56.....1	72.....1	88.....1	104.....1	120.....1
9.....2	25.....2	41.....2	57.....2	73.....2	89.....2	105.....2	121.....2
10.....3	26.....3	42.....3	58.....3	74.....3	90.....3	106.....3	122.....3
11.....4	27.....4	43.....4	59.....4	75.....4	91.....4	107.....4	123.....4
12.....5	28.....5	44.....5	60.....5	76.....5	92.....5	108.....5	124.....5
13.....6	29.....6	45.....6	61.....6	77.....6	93.....6	109.....6	125.....6
14.....7	30.....7	46.....7	62.....7	78.....7	94.....7	110.....7	126.....7
15.....8	31.....8	47.....8	63.....8	79.....8	95.....8	111.....8	127.....8

CC VALUE TO CHANNEL

When changing Channels using the global options found on the **Channel** page of the **MIDI/Remote** menu under **SETUP**, the *value* of the designated CC# determines the Channel:

0.....A	16.....A	32.....A	48.....A	64.....A	80.....A	96.....A	112.....A
1.....B	17.....B	33.....B	49.....B	65.....B	81.....B	97.....B	113.....B
2.....C	18.....C	34.....C	50.....C	66.....C	82.....C	98.....C	114.....C
3.....D	19.....D	35.....D	51.....D	67.....D	83.....D	99.....D	115.....D
4.....A	20.....A	36.....A	52.....A	68.....A	84.....A	100.....A	116.....A
5.....B	21.....B	37.....B	53.....B	69.....B	85.....B	101.....B	117.....B
6.....C	22.....C	38.....C	54.....C	70.....C	86.....C	102.....C	118.....C
7.....D	23.....D	39.....D	55.....D	71.....D	87.....D	103.....D	119.....D
8.....A	24.....A	40.....A	56.....A	72.....A	88.....A	104.....A	120.....A
9.....B	25.....B	41.....B	57.....B	73.....B	89.....B	105.....B	121.....B
10.....C	26.....C	42.....C	58.....C	74.....C	90.....C	106.....C	122.....C
11.....D	27.....D	43.....D	59.....D	75.....D	91.....D	107.....D	123.....D
12.....A	28.....A	44.....A	60.....A	76.....A	92.....A	108.....A	124.....A
13.....B	29.....B	45.....B	61.....B	77.....B	93.....B	109.....B	125.....B
14.....C	30.....C	46.....C	62.....C	78.....C	94.....C	110.....C	126.....C
15.....D	31.....D	47.....D	63.....D	79.....D	95.....D	111.....D	127.....D

16 SPECIFICATIONS

INSTRUMENT INPUTS

Connectors:	Front and rear 1/4" phone jacks, unbalanced (<i>front automatically overrides rear</i>)
Impedance:	1 M Ω (less if "Auto-Z" is active)
Max. Input Level:	+16 dBu

ANALOG INPUT 2

Connectors:	(2) XLR-F + 1/4" phone "combo jack" balanced
Impedance:	1 M Ω
Max. Input Level:	+20 dBu

ANALOG INPUT 3

Connectors:	(2) 1/4" phone jack balanced (TRS)
Impedance:	1 M Ω
Max. Input Level:	+20 dBu

ANALOG INPUT 4

Connectors:	(2) 1/4" phone jack balanced (TRS)
Impedance:	1 M Ω
Max. Input Level:	+20 dBu

A/D CONVERSION

Bit Depth:	24 bits
Sample Rate:	48 kHz
Dynamic Range:	114 dB
Frequency Response:	20 – 20kHz, +0 / -1 dB
Crosstalk:	< -60 dB over full bandwidth

ANALOG OUTPUT 1

Connectors:	(2) XLR balanced with Ground Lift (2) 1/4" phone jack unbalanced (hum-canceling) <i>Selectable between -10 dBV and +4 dBu in software</i>
Impedance:	600 Ω
Max Output Level:	+20 dBu

ANALOG OUTPUT 2

Connectors:	(2) XLR-M balanced with Ground Lift <i>Selectable between -10 dBV and +4 dBu in software</i>
Impedance:	600 Ω
Max Output Level:	+20 dBu

ANALOG OUTPUT 3

Connectors:	(2) 1/4" phone jack unbalanced (hum-canceling)
Impedance:	600 Ω
Max Output Level:	+20 dBu

ANALOG OUTPUT 4

Connectors:	(2) 1/4" phone jack unbalanced (hum-canceling)
Impedance:	600 Ω
Max Output Level:	+20 dBu

HEADPHONE OUTPUT

Connector:	1/4" stereo phone jack
Impedance:	35 Ω

16 SPECIFICATIONS

D/A CONVERSION

Dynamic Range: 114 dB
Frequency Response: 20 – 20kHz, +0 / -1 dB

DIGITAL I/O

Connectors: RCA Coaxial Type for S/PDIF, XLR for AES (*selectable in software*)
Format: Uncompressed PCM
Sample Rate: 48 kHz fixed

USB AUDIO

Format: USB 2.0 Class compliant
Channels: 16 (*8 in, 8 out, each mapped to a specific source or connector*)
USB Audio Clock: 48 kHz fixed

MIDI INTERFACE

Input Connector: (1) 5-pin DIN
Output Connector: (1) 5-pin DIN
Thru Connector: (1) 5-pin DIN

PEDAL INTERFACE

Connectors: (2) 1/4" TRS phone jack
Format: Pedal: 10–100 kΩ max
Switch: make/break; momentary or latching

FASLINK II INTERFACE

Connectors: (1) XLR-F
WARNING: Connect ONLY to the FASLINK II connector on a Fractal Audio FC Series controller

GENERAL

Finish: Powder coated steel chassis with anodized aluminum faceplate
Controls: 12 buttons, 10 knobs (*6 with additional "push" functions*)
Display: 800×480 high contrast color LCD
Dimensions: 19.00" W. × 5.16" H. × 11.53" D.
482.6mm W. × 131.1mm H. × 292.87mm D.
(*including front handles and rear jacks*)
Weight: 15 lbs 2.4 oz (6.87 kg)
Input Voltage: 90–264 VAC, 47 – 63 Hz (*universal input*)
Power Consumption: <40 W
Backup Battery Life: >10 years
Backup Battery Type: CR-2032

ENVIRONMENTAL

Operating Temperature: 32 to 122 °F (0 to 50 °C)
Storage Temperature: -22 to 167 °F (-30 to 70 °C)
Humidity: Max. non-condensing

MIDI IMPLEMENTATION

The Axe-Fx III features a robust MIDI implementation detailed below.

Function		Tx	Rx	Remarks
Basic Channel	Default	1	1	
	Changed	1-16	1-16	
Note Number	True Voice	X	X	
Velocity	Note ON	X	X	
	Note OFF	X	X	
After Touch	Keys	X	X	
	Channels	X	X	
Pitch Bend		X	X	
Control Change		X	0	Receivable CCs are globally soft-assigned to functions via the MIDI/Remote menu under SETUP. These include Input and Output volumes, Tap Tempo, Tuner, 16 "External Controllers" (assignable as modifiers to one or more parameters on a per-preset basis), some Scene functions, all Looper functions, and all block BYPASS and CHANNEL switches.
Program Change	True Number	0	0	The Axe-Fx III can transmit CC and PC messages.
	Bank Select	X	0	
System Exclusive	Fractal Audio	0	0	SysEx is used extensively for Axe-Edit III.
	Real time	0	X	
	Non-Real time	X	X	
System Common	Song Position	X	X	
	Song Select	X	X	
	Tune Request	X	X	
System Real time	Clock	X	0	Axe-Fx III Global Tempo syncs automatically to MIDI Beat Clock. Axe-Fx III does not transmit MIDI clock.
	Commands	X	X	
Auxiliary Messages	Local ON/OFF	X	X	
	All Notes OFF	X	X	
	Active Sense	X	X	
	Reset	X	X	

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WARRANTY

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