FRACTAL
AUDIO SYSTEMS

VP4
VIRTUAL PEDALBOARD

VP4 OWNER'S MANUAL

Contents

TIP
‣ You can click links in this manual, including any entry in the table of contents.
‣ To return quickly to the table of contents, click "VP4 Owner's Manual" in the upper left of most pages.

Declaration of Conformity

Manufacturer's Name: **Fractal Audio Systems, LLC**

Manufacturer's Address: **4 Wilder Drive, Plaistow, NH 03865 USA**

Declares that the product: Name: **VP4**; Option: **None**

Conforms to the following directives:

▸ Electromagnetic Compatibility(EMC) 2014/30/EU

▸ EN 55032:2015 AMD.1:2020+A11:2020

▸ EN 55035:2017+A11:2020

▸ EN IEC 61000-3-2:2019/A1:2021

▸ EN 61000-3-3:2013AMD.1:2019+ AMD.2:2021

▸ Low Voltage Directive(LVD) 2014/35/EU

▸ EN IEC 62368-1: 2020/A11:2020

Clifford Chase
President / CEO
August 21, 2024

Legal Notices

Fractal Audio Systems. VP4 Owner's Manual.
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Manufacturer names and product names mentioned herein are trademarks or registered trademarks of their respective owners, which are in no way associated with or affiliated with Fractal Audio Systems. The names are used only to illustrate sonic and performance characteristics.

SAFETY

⚠ **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 shock, do not remove screws. No user serviceable parts inside. Refer servicing to qualified service personnel.**

1. Obey all warnings on the VP4 and in this manual.

2. Keep away from sources of heat such as heat ducts, registers or appliances that produce heat.

3. Keep the AC Adapter in good condition. Do not kink, bend, or pinch power cords.

4. If the cord becomes damaged, discard and replace the adapter.

5. If not using your VP4 for extended periods of time, disconnect from power.

6. Refer servicing to qualified personnel only.

7. Stop operation of the unit and obtain service if:

8. Liquids or excessive moisture enter the unit.

9. The unit operates incorrectly, or performance is inconsistent or erratic.

10. The unit has been dropped and/or the enclosure damaged.

11. Prolonged exposure to high volume levels can cause hearing damage and/or loss. The use of hearing protection in high volume situations is recommended.

> ⚠ **The VP4 is designed to be used with the included 9V DC 1.3A negative center power supply. Operating the unit using a supply with different specifications can cause problems including damage to your VP4 or other connected equipment.**

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, 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 equipment or increase the separation between the devices.
• Connect the equipment to different outlets on different circuits.
•Consult the dealer or an experienced technician for help.

Welcome

Thank you for choosing the VP4 "Virtual Pedalboard" multi-FX processor from Fractal Audio Systems. The VP4 offers up to four simultaneous effects with a user-friendly experience based on traditional pedals. It can be used between your guitar and amp or modeler for "Pre" effects, or with a modeler or an amp's FX loop for "Post" effects. There's even a special global mode to enable "4CM" setups.

With hundreds of models from the award-winning Axe-Fx III—like Drives, Delays, Reverbs, Modulation, Pitch, Plex, EQs, Compressors, Wah, Tremolo, and more—the VP4 is a versatile new platform for any guitarist or musician looking to add great effects to their sound.

Uncompromising Sound Quality: True to Fractal Audio's reputation, the VP4 delivers pristine sound quality, suitable for use on stages or in the studio.

"Fractal-Quality" Effects: The VP4 includes hundreds of different effects (435 as of this writing!) based on those in the award-winning Axe-Fx III.

104 Presets: Each preset is like a different pedalboard with its own four effects, effectively allowing one VP4 to replace an entire collection of pedals.

Four Footswitches: These allow classic ON/OFF switching, making it intuitive and easy to use the VP4 like traditional pedals.

Expression Pedals: Connect up to two expression pedals or switches for real-time control. The Fractal Audio EV-1 and EV-2 are perfect for use with the VP4.

Advanced Options: While it is designed for simplicity, the VP4 also supports a number the most popular optional features from our flagship Axe-Fx III, including scenes, channels, modifiers, expert editing, and more.

Analog I/O with Unity Gain & Analog Bypass: Analog I/O can be used in mono or stereo and features unity gain. In addition, the unit features optional analog buffered bypass, which entirely removes all processing from the signal path.

SPDIF digital I/O, USB, MIDI I/O, and more: The VP4 also includes a suite of extra I/O for enhanced versatility.

VP4-Edit: This comprehensive software editor and librarian makes it easy to manage and customize your VP4. It is free and can be found on our web site.

Upgradeable Firmware: The VP4 features upgradeable firmware, ensuring that you always have access to the latest improvements and features.

The VP4 Virtual Pedalboard was designed for musicians—by musicians—to offer great sound and versatility in an easy-to-use, compact, and reliable unit. We look forward to the music you will create using the VP4, and we thank you, as always, for choosing Fractal Audio Systems.

Introducing the Setup Menu

The Setup menu helps you make the most of the VP4.

It contains various global settings, options, utilities, and info, with pages for **Audio, Pedals, Footswitches, MIDI/Remote, Settings, Reset**, and **System Info**.

A detailed guide to every option in the Setup menu begins on

OPEN THE SETUP MENU

▸ Press **ENTER** and **EXIT** together.

▸ Use **PAGE LEFT** and **PAGE RIGHT** to navigate the menu.

▸ Press **EXIT** to go back to wherever you came from.

ENTER   EXIT

└─ SETUP ─┘

⧗ Changes in SETUP are stored automatically as you make them. When this happens, the title bar of the VP4 will display "**SAVING…**". Do not power while the VP4 is saving, or your most recent changes could be lost.

VP4 in 60 Seconds

CONNECT THE VP4

The following is for a typical mono "Pedalboard" setup.
Other setup options such as **FX Loop/Post** are shown starting on .

‣ Connect your guitar to VP4 **Input L/Mono**.

‣ You can also connect other pedals before or after the VP4.

‣ Connect VP4 **Output L/Mono** to the input of your amp or modeler.

    ▫ Use standard patch cables.

‣ Connect the provided **AC adapter** to the VP4 and turn it on.

VIRTUAL PEDALBOARD

‣ By default, the VP4 boots into **Effects Mode (blue LEDs)**
In Effects Mode, the four footswitches turn effects ON or OFF.

‣ You can change the **MODE** for other options (at right, and next page).

EDIT EFFECTS   See for more on Editing.

‣ To edit an effect, turn **SELECT** to highlight it and then press **ENTER**.

‣ Use the **ABCD** and **SELECT** knobs to adjust settings. Some effects have multiple pages. Press **EXIT** when you're finished.

‣ To change **Block Type** (Drive, Reverb, etc.) go to the
Home page in Effects Mode and turn **ABCD**.

BROWSE PRESETS   See for more on Presets.

‣ The VP4 stores 104 **Presets**. Each preset can have its own FX and settings.

‣ To load a preset, change to **Preset Mode** and:

    ▫ Use the footswitches (see next page)

    ▫ OR, turn **Knob A** to browse the presets list and press **ENTER** to confirm.

SAVE CHANGES   See for more on Saving

‣ To save changes to the current preset, press **SAVE** then **ENTER**.

‣ Use **SELECT** and **ABCD** to choose a location to save to. Edit the preset name and scene names if desired. Press **ENTER** 2x to confirm.

Four Modes

The VP4 has four modes: **Presets, Scenes, Effects**, and **Tuner/Tempo**.

Different modes have different footswitch functions and also change the appearance of the Home page and what some of the knobs and buttons do.

SELECT A MODE

Use the **MODE SELECT** page to change the mode. To access Mode Select:
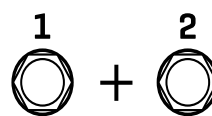
Press switches 1+2 together.   Press HOME+SAVE buttons together.
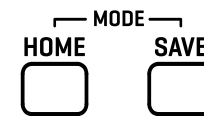
In Mode Select, use the footswitches to choose a mode:

Preset Mode	**Scene Mode**	**Effects Mode**	**Tuner Mode**
(Green)	(Red)	(Blue)	(Yellow)

ⓘ On the **Home** page the mode changes automatically as you turn **SELECT** to highlight the **Preset** name, **Scene** name, or one of the **Effects**.

FOOTSWITCHES

The four footswitches do different things in different modes.

Default settings appear on the next page.

Footswitches and "Gig Mode"

The VP4 offers a convenient master setting called **GIG MODE** that's enabled by default. With this setting active, you can access Presets, Banks, Scenes, Effects, Channels, Tuner, and Tap Tempo using simple tap and hold options across the four footswitches.

ALL MODES

TAP footswitch combos for special actions.

MODE SELECT

1 — ⊕ — 2

TUNER/TEMPO MODE

3 — ⊕ — 4

MODE SELECT

TAP any switch choose a mode.

1	2	3	4
PRESET MODE	**SCENE MODE**	**EFFECTS MODE**	**TUNER/TEMPO MODE**

PRESET MODE

▼ **TAP** any switch to load a **Preset** from the current **Bank**.

1   2   3   4

⏷HOLD 1:
Previous Bank

⏷HOLD 4:
Next Bank

SCENE MODE

▼ **TAP** any switch to load a **Scene** from the current **Preset**.

1   2   3   4

⏷HOLD 1:
Previous Preset
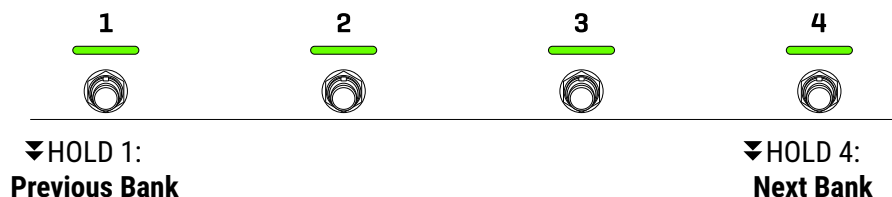
⏷HOLD 4:
Next Preset
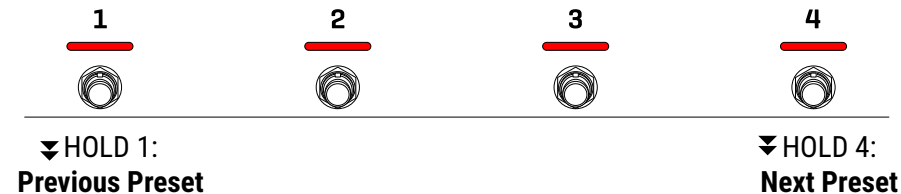
EFFECTS MODE

▼ **TAP** any switch to **Bypass or Engage** the corresponding effect.

1   2   3   4

⏷ **HOLD** any Switch to show the four **Channels** for that effect.

CHAN **A**   CHAN **B**   CHAN **C**   CHAN **D**
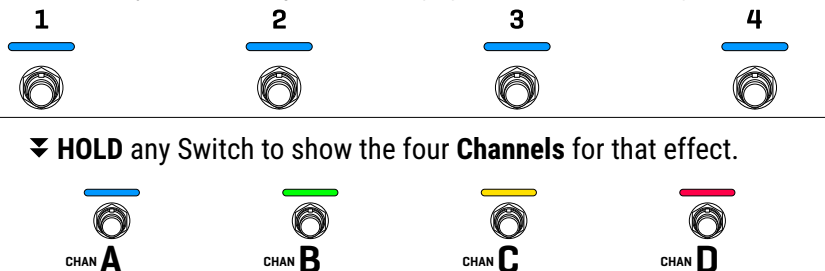
▼ **TAP** to select a channel and exit. ⏷**HOLD** to select and stay.

TUNER/TEMPO MODE

▼ **TAP** Switch 1
for TAP TEMPO

▼ **TAP** Switch 4
to EXIT the TUNER

1   2   3   4

▼ **TAP** Switch 3
to MUTE/UNMUTE
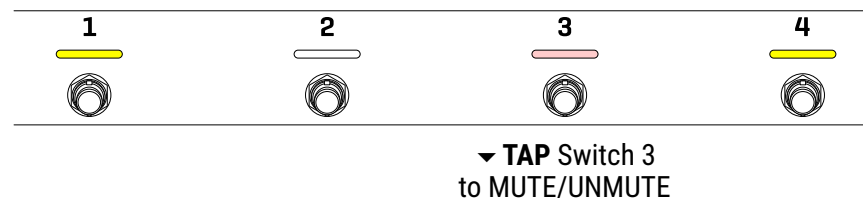
Note: The default "Press and Hold" options cause the "TAP" functions of the footswitches to activate on the "upstroke" of the switch.

The Home Page

The home page is designed to help you set up the VP4 and use it during performances.

The VP4 contains 104 **PRESETS**.

Presets are grouped in **BANKS** (A–Z) containing four presets each.

ℹ️ Each preset also contains four **SCENES**.

• Scenes are a power user feature that can reduce the need to "tap dance" on FX footswitches—and much more.

4CM Indicator   Pages Display   Mini Tuner   CPU Meter

Page Title   4CM 2/2   🏠 ☐☐ ☐☐☐☐ ▷◁   **CPU:63%** Ⓔ

A1: Preset Name
S1: Scene Name

WAH	DRV	DLY	REV
A	A	A	A

TIP TEXT

Knob A Label   **Knob B Label**   **Knob C Label**   **Knob D Label**
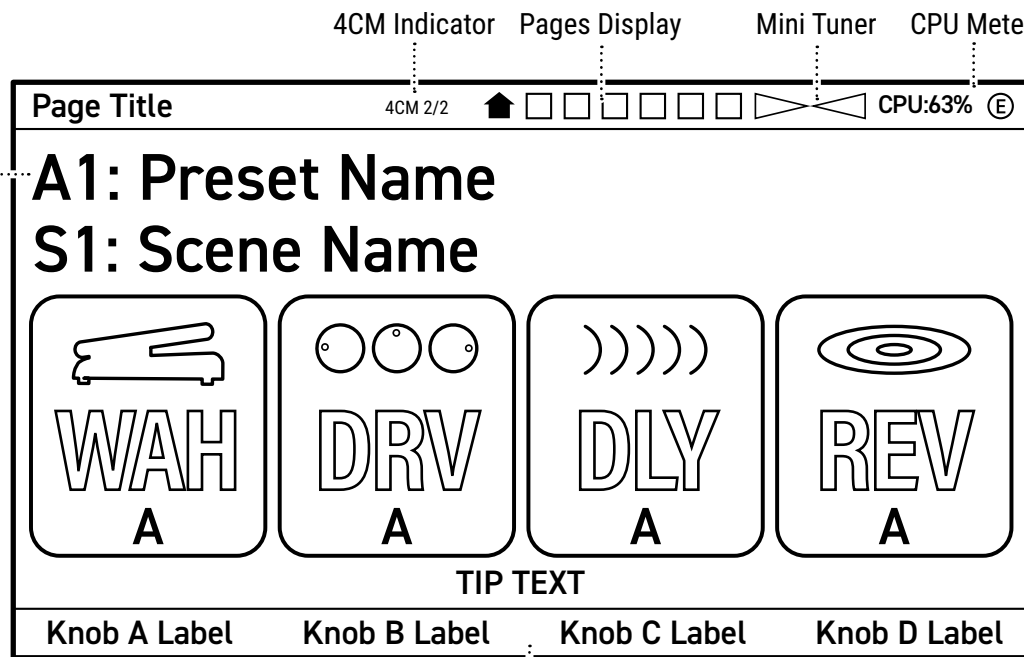
"Edited" Ⓔ appears here whenever there are unsaved changes to the current preset.

Each preset can have four effects. You'll find Drives, Delays, Reverbs, Modulation FX, EQs, and many more.

ℹ️ The letter beneath each effect shows its current **CHANNEL**.

• "Channels" are a power user feature that can add great sonic flexibility to a single preset.

Labels show the functions of ABCD knobs on many pages.

Other Pages

The different areas of the VP4 use different types of pages containing various settings and options.
Use the **ABCD** and **Select** knobs to navigate these pages and make changes.

◄ SELECT ►
(A) (B) (C) (D)
○ ○ ○ ○

| | | | | | | | | | |
A   B   C   D

◄ SELECT ►

▲ SELECT ▼
A Time
B Rate
C Tone
D Mix
Level
Balance
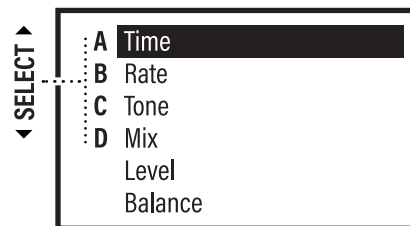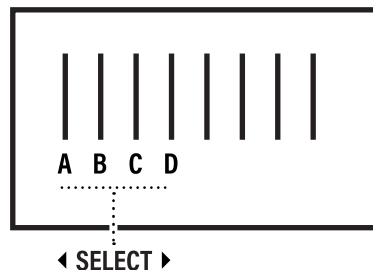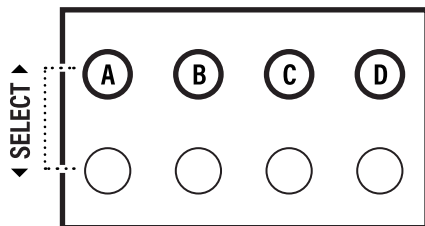
	A	B	C
	Time	Time	Time
	Rate	Rate	Rate
	Tone	Tone	Tone
	Mix	Mix	Mix
	Level	Level	Level
	Balance	Balance	Balance

▲ SELECT ▼

Top Panel
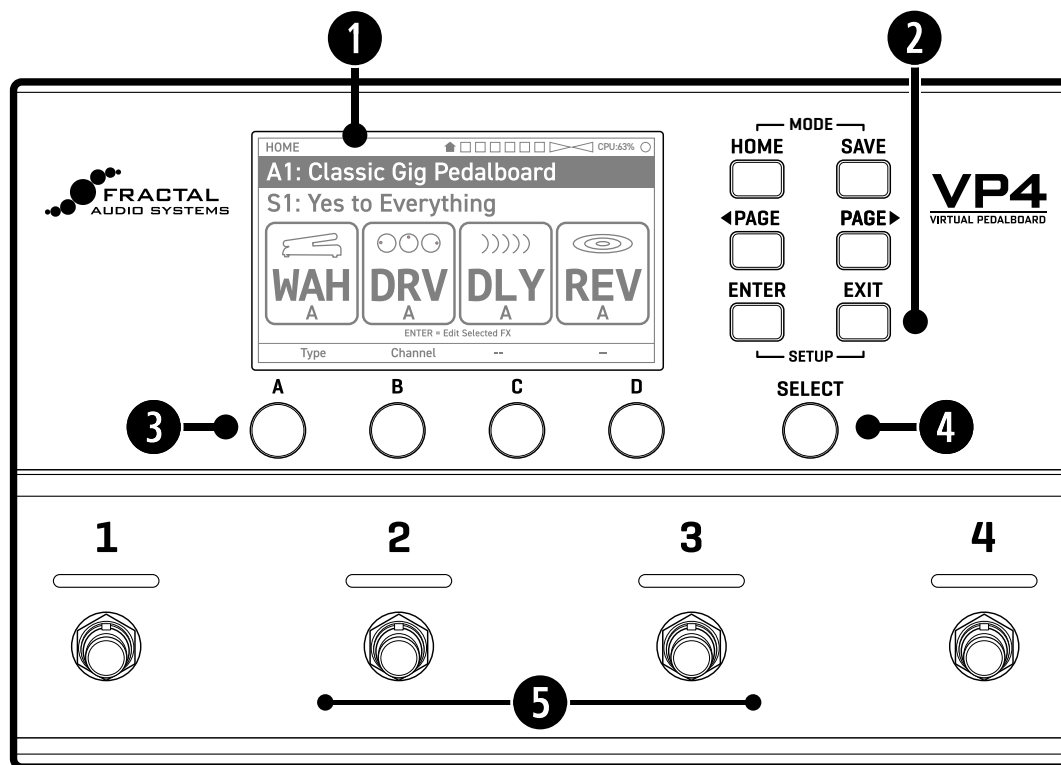
BUTTON COMBOS
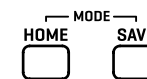
HOME + SAVE: Press these at the same time to show **MODE SELECT**. See

ENTER + EXIT: Press at the same time to show the **SETUP** menu. See for an intro to this area.

① **DISPLAY** – The display is a high contrast color LCD.

② **BUTTONS** – Six buttons operate the VP4:

- **HOME**: Press this to show the Home Page at any time. See

- **SAVE:** Press this to save the current Preset. See

- ◂ **PAGE LEFT** and **PAGE RIGHT** ▸ : Use these to navigate left and right through any menu. Icons in the title bar show where you are. 🏠☐☐☐☐☐

- **ENTER**, **EXIT**: These confirm or cancel various options, and also perform special actions. Some pages show tips. For example, with an Effect block selected on the Home page, you will see, "ENTER = Edit Selected Effect". **ENTER** is also used to add a Modifier for remote control or realtime parameter changes. Learn more beginning on

③ **ABCD knobs** – Turn the knobs to adjust on-screen settings. In a vertical menu or grid, look for labels that show how the knobs map to controls.

④ **SELECT knob**: Highlights different areas of the current page. For instance, if the page displays multiple rows of controls, turning the SELECT knob will switch between the rows. Once a row is highlighted, use the ABCD knobs to adjust the controls in that selected row.

NOTE: On the **HOME** page, select also changes the **Mode**. See

⑤ **Footswitches** – The four footswitches use our proprietary Solid State Switching (SSS™) technology, ensuring smooth, quiet operation with no mechanical contacts to fail. Their default functions vary based on the currently selected **Mode**. See .

ⓘ *Note: The default "Press and Hold" options cause the footswitches to fire when you release instead of when you tap. You can disable or customize press and hold using* **SETUP > Footswitches**. *See* *for more on this.*

Back Panel
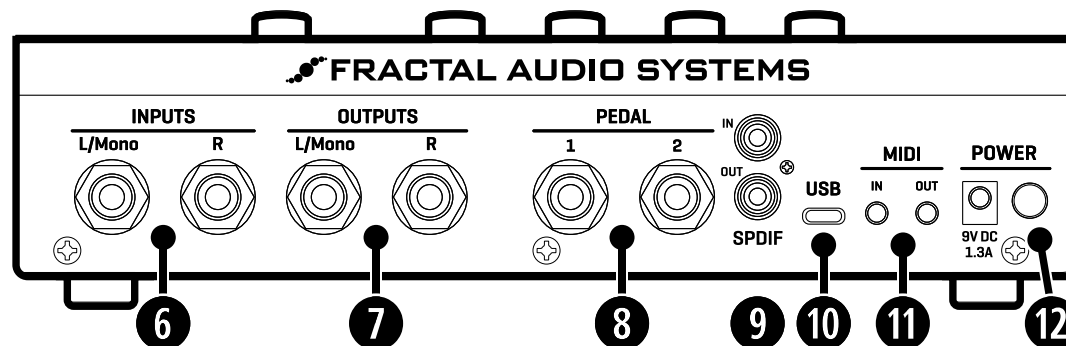
6 **INPUTS** – Connect your guitar, bass or other instrument to **Input L/Mono** using a standard patch cable. You can also connect the outputs of pedals, modelers, as well as the line level signal of an amp's effects loop "Send".

ⓘ **Input Levels:** the VP4 comes set for a typical guitar with hot pickups. If input clipping occurs, an **IN CLIP** warning is displayed and the **Input Pad** setting is temporarily increased. See p. 10 for more on **Input Levels.**

ⓘ **Mono vs. Stereo Input**: The VP4 defaults to "MONO" input mode. When using the VP4 with stereo input signals, use both **Left** and **Right** inputs and set **SETUP > Audio > Input Mode** to "STEREO". Don't use the R input for mono or connect to only one input in stereo. See p. 10 for more.

7 **OUTPUTS** – Connect the VP4 Output(s) to the input(s) of your amplifier, modeler, or other pedals using standard patch cables.

ⓘ **Output Levels**: With no effects, the VP4 outputs a **unity gain** signal. Output levels will increase or decrease based on the settings of Presets, Scenes, and Effects. If output clipping occurs, an **OUT CLIP** warning is displayed. See p. 11 for more.

ⓘ **Mono vs. Stereo Output**: The VP4 defaults to "STEREO" output, which is also compatible with mono setups, but other settings are also available. See p. 11 for more.

WARNING: The VP4 is designed for instrument or line level signals. Connecting it to the "Speaker" output of an amp will cause serious damage the VP4 and/or your amp.

8 **PEDAL jacks** – The VP4 has two jacks for connecting expression pedals like the Fractal Audio EV-1 and EV-2. Alternatively, a single momentary or latching switch can be connected in place of an expression pedal.

When you first connect a pedal or switch it needs to be configured. Learn more starting on p. 13.

9 **SPDIF DIGITAL I/O** – For connecting devices with SPDIF digital I/O. The VP4 operates at a fixed clock rate of 48kHz. The SPDIF output always mirrors the signal at the analog outputs. To use the SPDIF input, you must first select it manually in **SETUP > Input Source**.

10 **USB** – The VP4 is also a high quality, 2×2, 24-bit/48kHz audio interface for Mac and Windows computers, with added MIDI-over-USB capability for connecting to VP4-Edit, Fractal-Bot, or any DAW or computer MIDI application. See USB on p. 15 for more.

11 **MIDI** – The VP4 features 3.5 mm MIDI In and Out ports for modern, space-saving connectivity. To connect to traditional 5-pin MIDI hardware, a "Type A" 3.5 mm to 5-pin DIN adapter is required. These are available at shop.fractalaudio.com The optional **SETUP > MIDI/Remote > MIDI Thru** setting can be enabled to echo messages from In to Out. A detailed MIDI implementation can be found on p. 55.

12 **POWER** – Connect the provided **9V DC 1.3A** AC Adapter here and use the power switch to turn the VP4 on or off. The VP4 features pop suppression, but amps/speakers in a rig should still always be turned off first and on last.

Input Level

The VP4 features an adjustable input pad that allows it to accept signals ranging from very quiet vintage guitars to loud pedals, effects sends, or modelers.

The **Input Pad** setting can be adjusted from 0 dB (for low-level input signals) to 6 dB, 12 dB, or 18 dB (for progressively louder input signals). The default Input Pad setting is 12 dB, which is ideal for guitars with hot pickups.

When the input clips, a red "**IN CLIP**" warning appears in the title bar, indicating the need to increase the Input Pad setting.

Automatic Input Pad Adjustment

If the input of the VP4 clips persistently, the unit will automatically increase the Input Pad setting. When this occurs, the word "Auto" will appear next to the Input Pad value, for example: "12 dB (Auto)" indicating that the pad was automatically increased to 12 dB. When you reboot the VP4, the automatic setting is cleared, and the last manually selected value is restored. If you want to make the automatic pad setting permanent, just turn the **Input Pad** knob one "click" to clear "Auto".

ADJUST THE INPUT PAD:

▸ Open **SETUP > Audio > Input Pad**.

▸ Play loudly and watch the meter. The input meter will turn red and "**IN CLIP**" will appear in the title bar if clipping occurs.

▸ Increase the **Input Pad** setting as high as necessary to prevent clipping. Be aware that increasing the pad setting also raises the noise floor, so set it as low as possible without clipping.

⚠ *If input clipping still occurs with the Input Pad setting at the maximum value of 18dB, decrease levels upstream from the VP4.*

Note that while 4CM Routing is enabled, a common **Input Pad** setting is shared by both Left (Pre) and Right (Post) inputs.

Input: Mono vs. Stereo

MONO INPUT

The VP4 defaults to "MONO" input mode, with **SETUP > Audio > Input Mode** set to "MONO". Use only the Left/Mono input for mono signals.

NOTE: SPDIF and USB inputs always operate in stereo, regardless of settings.
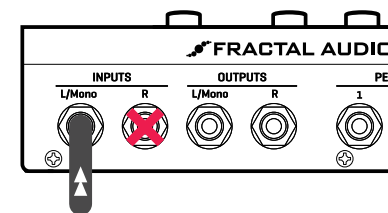
STEREO INPUT

For stereo input signals, always connect to *both* Left and Right inputs and change **SETUP > Audio > Input Mode** to "STEREO".

*NOTE: SPDIF and USB outputs are tapped after the setting for **SETUP > Audio > Output Mode**. These outputs use a stereo format, but the signal may be heard in mono depending on the above setting.*
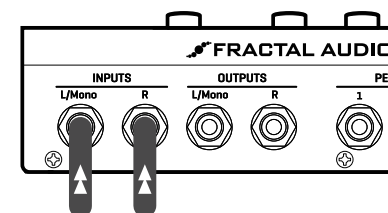
Note that the **Input Mode** setting is overridden when the global **4CM Routing** option is "ENABLED". 4CM routing passes the signal from **Input L/Mono** to "Pre" effects and the signal from **Input R** to "Post" effects.

FAQ: Are the Effects Mono or Stereo?

Most of the Effect Blocks in the VP4 process full stereo, in and out: **Chorus, Compressor, Enhancer, Filter, Flanger, Formant, Gate, GEQ, PEQ, Phaser, Resonator, Tremolo/Panner Volume/Pan, Wah.**

Some blocks sum the input signal to mono internally and then produce a stereo output: **Multitap Delay, Plex, Reverb, Rotary, Synth**.

Drive always processes the input in mono and outputs a mono signal. **Ringmod** produces a mono effect but the dry signal remains stereo.

Delay, Pitch, and some others offer a combination of mono and stereo types but always pass the dry signal in stereo.

Note 1: *Some stereo effects contain internal settings such as "Stereo Spread" that can be used to collapse a stereo signal back to mono.*

Note 2: *Stereo versions of mono effects are possible using two parallel blocks with expert settings for Input Select and Balance.*

Output Level

ADJUSTING OUTPUT LEVELS

Check the levels of individual effects. The edit menu for every effect includes a Level control, or you can open the Preset Mix/Routing page to adjust all four effect levels in one place.

Every preset also includes a master **Preset Level** control plus controls to adjust all four **Scene levels**. Find these on the Preset **Main Levels** page (Press **HOME**, then **Page Right** 2x).

Remember that the **Input Gate** also includes a **Level** control.

UNITY GAIN

With no effects and no adjustments, the VP4 outputs a unity gain signal. Overall output levels can change based on the settings of your effects, presets, and scenes. If output clipping occurs, an OUT CLIP warning is displayed. Adjust effect/reset/scene levels to address this.

TIP: Delay, Multitap Delay, Megatap Delay, Plex Delay, and Reverb effects have a default setting called **Bypass Mode: MUTE FX IN** which allows effect tails to spill over when the effect is bypassed. As you turn Mix higher than 50% in these effects, the dry level will gradually decrease, until it is entirely silent at Mix 100% – even when the effect is bypassed. If you want to maintain unity gain when bypassing one of these effects with its Mix above 50%, change its Bypass Mode to "**THRU**". This kills spillover, but preserves unity gain.

ANALOG BYPASS

The VP4 features buffered analog bypass. This passes signal directly from the input to the output with no digital conversion, latency, or digital processing.

If you want to control analog bypass with a footswitch, set Press & Hold for any footswitch to "**VP4 BYPASS**" in **SETUP > Footswitches.**

If you want analog bypass to turn on automatically whenever all four effects are bypassed, enable **SETUP > Global Settings > Automatic VP4 Bypass.**

If you want to control analog bypass using a connected pedal/switch or MIDI, choose the desired option in **SETUP > MIDI/Remote > VP4 Bypass.**

Output: Mono vs. Stereo

The VP4 defaults to "**STEREO**" output mode. This setting is effectively also compatible with mono setups, but several other options are available under **SETUP > Audio > Output Mode**. Here is an overview of several scenarios, with recommended settings for each.

▸ **Stereo:** *No special settings required. Connect the VP4 outputs to two amps or to the dual inputs of stereo pedals or processors.*

▸ **"Half Stereo":** Leave the VP4 in its default stereo configuration but connect only the left output to a mono input for a "half-stereo" setup. You may find that certain sound settings produce unusual or unexpected results. For example, a "panner" will sound like a tremolo when one side is missing. A ping-pong delay may "ping" but never "pong." Compare "**SUM L+R**" below.

▸ **Copy L>R:** If you want to force your rig to mono, "dual mono" is also an option. Sonically, this is identical to using the left channel in half-stereo (above), except that the mono signal is output at *both* the left and right jacks for use with two mono amps. To switch to dual mono, change **SETUP > Audio Output Mode** to "**COPY L->R**".

▸ **SUM L+R**: In this setup, left and right channels are internally combined, with a "summed mono" signal sent to both left and right outputs. This has the advantage of not discarding half of the sound, but certain stereo signals can be problematic when summed to mono. For example, short delays or phase differences between channels can result in strange artifacts or even total cancellation. Take the "2290" style delay. Like the effect it is based on, the right channel of the wet signal is phase inverted, so the effect is silent when summed to mono! To switch to summed mono, change **SETUP > Audio Output Mode** to "**SUM L+R**". (In addition to "2290 w/Modulation" this applies to Warm Stereo Delay, 80s Style Chorus, Triangle Chorus, and Warm Stereo Chorus.)

▸ Note that the Output Mode setting is overridden when the global **4CM Routing** option is "ENABLED". 4CM passes the signal from "Pre" effects in mono to **Output L**, and the signal from "Post" effects in mono to **Output R**.

Tuner

The VP4 offers a precise tuner with a bar graph, arrows for flat or sharp, and a virtual strobe that rotates clockwise for sharp and counterclockwise for flat. In the default "Gig Mode" there are multiple ways to show the tuner:

▸ Press **Footswitches 3 + 4** at the same time.

▸ Use **Mode Select** (see).

By default, the tuner **mutes** the VP4 input. This mute turns off when you exit the tuner, or you can tap **footswitch 3** to toggle the mute on/off. See below for additional tuner **Mute Type** options.

You can exit the tuner the same way you opened it, or just tap **Footswitch 4.**

▶━◁ **TIP:** Most pages also include a "Mini Tuner" in the title bar.

From the tuner, you can press PAGE RIGHT to show the global tuner options:

PARAMETER	Description.
Mute Type Auto In Auto Out Manual In Manual Out	"Auto" options engage the mute every time the tuner is opened. You can un-mute and re-mute manually using footswitch 3. "Manual" options require you to tap footswitch 3 to mute the tuner. Both "In" options mute at the input. Tails ring out. Both "Out" options mute at the output. Tails are silenced.
Display Mode MIXED/FLATS/SHARPS	Determines whether the tuner shows note names for accidentals as Sharps, Flats, or a mix of both.
Calibration	Calibrates the tuner. The tuner defaults to A440.
Downtune 0 – 4 Semitones	The **Downtune** control makes tuning feel more familiar when your guitar is tuned down. For example, if your guitar is tuned down half a step to Eb, setting Downtune to "1" will show the notes in the tuner as if the guitar were in standard E tuning. This keeps everything consistent, and any effects that use pitch will adjust automatically when Downtune is on.
Use Offsets OFF/ON **1st, 2nd, 3rd, etc.**	**Use Offsets** determines whether the six offset settings are applied or ignored. Offsets allow the tuner to adjust individual notes slightly away from standard tuning. This is useful for specific tuning systems like Buzz Feiten tuning. The offset range is +/- 25 cents.

Tempo

Footswitch 1 in Tuner mode is the **Tap Tempo** footswitch, allowing you to set the global tempo of the VP4. Fine adjustments can be made using **Knob A** on the Tuner page.

USING THE TEMPO

Many VP4 effects have parameters that can sync to the tempo, such as delay time, tremolo speed, and sequencer steps. Tempo sync is not a global setting; it must be enabled for each parameter in any effect in a preset.

Tempo parameters appear as a separate option alongside the setting they control. For example, in the "Digital Mono Delay," you'll see both the "Time" control and the corresponding "Tempo" control.

Time   Tempo

◯   [NONE]

500 ms
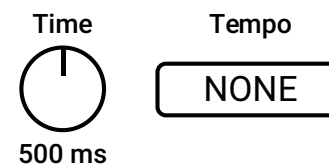
When Tempo is set to a rhythmic value, the corresponding time or rate control is disabled. Its current value is shown in parentheses, and a warning appears if you attempt to change it.

Time   Tempo

◯   [1/8 DOT]

(375 ms)
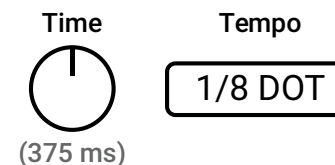
PRESET TEMPO SETTINGS

Every preset also has a setting that determines whether it should change the tempo when it is loaded. See **Controllers > Tempo "Tempo to Use"** on for more.

Expression Pedals

The VP4 has two jacks for connecting external expression pedals or switches. Each jack can host one pedal or one switch. **Pedals** allow realtime control of effects like wah, whammy, and many more, and they can also be assigned to global Volume options. **Switches** can similarly be used to control effects, and they too can be assigned to global options including Tempo, Bypass, and more.

EXPRESSION PEDAL

TRS

TRS Cable

TRS
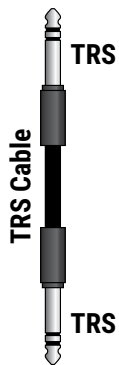
PEDAL JACK 1 or 2
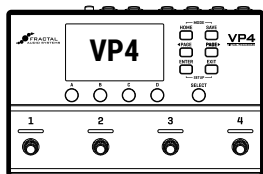
CONNECT & CALIBRATE A PEDAL

Expression pedals 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.

1. Connect an expression pedal to one of the VP4 Pedal jacks using a **TRS-to-TRS** cable.

2. Open **SETUP>Pedals**.

3. For pedal jack 1, set **Pedal 1 Type** to "EXPRESSION PEDAL".
   For pedal jack 2, use **Pedal 2 Type** instead

4. Select the **Calibrate** option and press **ENTER**.

5. Follow the on-screen instructions to perform Calibration.

6. Check your pedal by sweeping it through the entire range and watching the on screen meter.

7. Press **HOME** when finished.

VP4
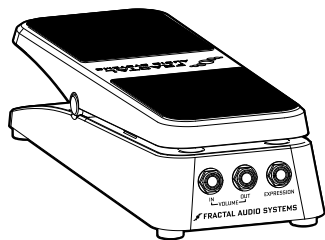
FRACTAL AUDIO EV-1 & EV-2

The Fractal Audio EV-1 (full-sized) and EV-2 (compact) are perfect for use with the VP4. They deliver smooth, linear control and are built tough. Both pedals also double as analog volume pedals, offering versatility for different setups.

ASSIGNING A PEDAL FOR EFFECT CONTROL

Expression pedals can be used to control sound settings using a **Modifier** with its **SOURCE** set to "PEDAL 1" or 2. Modifiers are saved with the preset rather than operating globally. Typical uses include controlling wah, whammy, or volume but there are countless possibilities. Learn more starting on .

ASSIGNING A PEDAL FOR GLOBAL VOLUME

Pedals can also be assigned globally to **Input Volume** or **Output Volume**, eliminating the need to add a Volume effect block in every preset.

1. Open **SETUP>MIDI/Remote**.

2. Turn **SELECT** to **Input Volume** or **Output Volume**.

3. Turn **Knob A** to set the value to "PEDAL 1" or "PEDAL 2".

4. Press **HOME** when finished.

TUNER ON HEEL DOWN

The VP4 can automatically show the tuner when a connected pedal, switch, or MIDI controller is in the low position ("heel down").

1. Open **SETUP>MIDI/Remote**.

2. Turn **SELECT** to **Tuner on Heel Down**.

3. Turn **Knob A** to set the value to "PEDAL 1" or "PEDAL 2".

4. Press **HOME** when finished.

FAQ: Expression Pedals & Factory Presets

Some VP4 Factory Presets use expression pedals with "Auto Engage," a feature that engages the effect when you move the pedal. This **disables** the footswitch that normally turns the effect on or off. Auto-Engage is a feature of the "Modifier" system. Learn more starting on

External Switches

Each of the VP4 pedal jacks can be used to connect a single switch instead. Switches provide on/off simplicity to control sound parameters or global settings.

For a single switch, connect to one of the VP4 Pedal jacks with a patch cable.
For a dual switch, connect to both pedal jacks of the VP4 using a TRS "insert" cable.

SET UP A SWITCH

1. Connect your switch(es) as shown (left).

2. Open **SETUP>Pedals**.

3. For the "Pedal 1", set **Pedal 1 Type** to the appropriate "SWITCH" option:

   □ Choose "SWITCH (Any, Follow Hardware)" when you connect either a latching/toggle switch, or when you connect a momentary switch and want it to work as a momentary switch.

   □ Choose "SWITCH (Momentary, Virtual Toggle)" when you connect a momentary switch but want it to work as a latching/toggle switch.

4. Press **HOME** when finished.

FAQ: Momentary/Latching

Switches are available in two formats: momentary and toggle/latching. Momentary switches stay active only while being pressed, like a piano sustain pedal. Toggle/latching switches remain engaged until you click them again, like a classic stompbox.

Either type can be used with the VP4, but momentary switches are more flexible because they can be also used to create "Virtual Toggle" switches with tap on/tap off action.

SINGLE SWITCH   **DUAL SWITCH**

TS   TRS

Guitar Cable   OR   Insert Cable

TS   TS   TS

PEDAL JACK 1 or 2   **PEDAL JACK 1 AND 2**
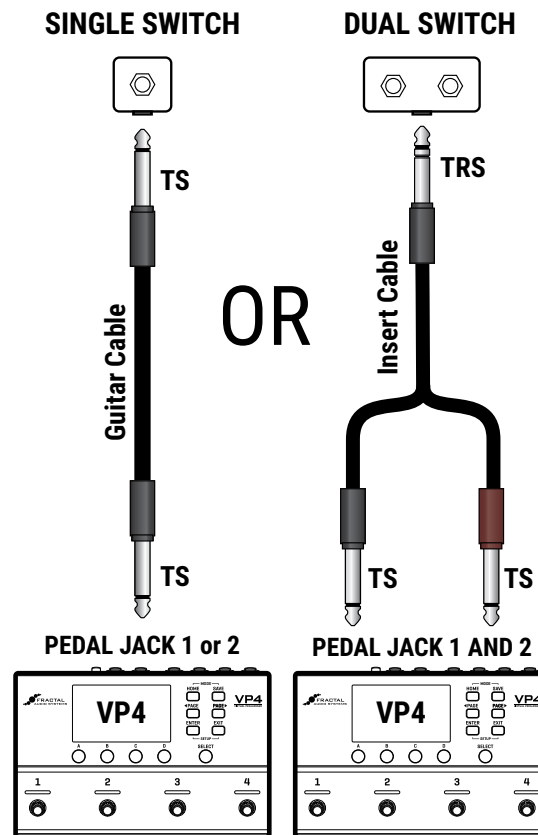
ASSIGN A SWITCH FOR EFFECT CONTROL

External Switches can be used to control sound settings using a **Modifier** with its **SOURCE** set to "PEDAL 1" or "PEDAL 2". Modifiers are saved with the preset rather than working globally. Typical uses include controlling delay hold, rotary speed, or drive "boost", but there are countless creative possibilities. Learn more starting on .

ASSIGN A SWITCH TO A GLOBAL FUNCTION

External Switches can also be assigned globally to Input or Output volume as a "Kill Switch," or to "Tap Tempo" or "VP4 Bypass".

1. Open **SETUP>MIDI/Remote**.

2. Turn **SELECT** to the desired option.

3. Turn **Knob A** to select "PEDAL 1" or "PEDAL 2".

4. Press **HOME** when finished.

USB

USB provides the VP4 with a host of great audio features. With 2×2 channels, you can record the output or the input of the VP4, play back computer audio at the outputs of the VP4, or send signal from the computer to the VP4 for processing.

USB INPUTS (RECORDING)

FX1 FX2 FX3 FX4	**1** **2**	**Processor Output**	*Record stereo processed audio from the VP4 outputs.*
INPUTS L R	**3** **4**	**IN 1 L+R**	*Record unprocessed audio from the VP4 input(s)*

USB OUTPUTS (PLAYBACK)

1 **2** USB PLAYBACK LEVEL	OUTPUTS L R	**OUT 1 L+R**	*Play Computer Audio at the VP4 output.*
3 **4**	FX1 FX2 FX3 FX4	**Processor Input**	*Route Computer Audio to the VP4 for processing.*
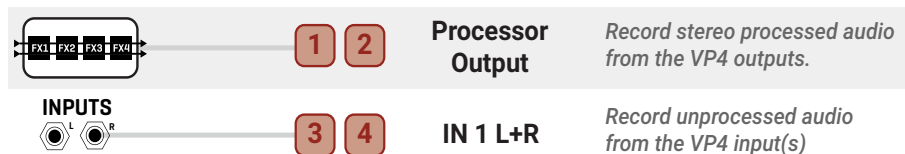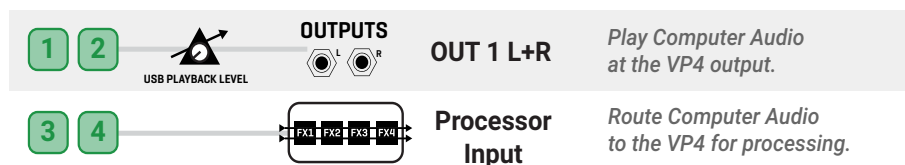
Note: Connecting the VP4 to some computers can cause a USB ground loop which can produce unwanted noise. To eliminate this noise, disconnect USB, or try a USB isolator or audio isolation transformer(s) in your rig.

FAQ: Why would USB cause noise or hum?

A computer can create a ground loop with a guitar amp when the VP4 is connected to both. To address this, consider using a **USB Audio Ground Loop Eliminator (Type C > C)** between the VP4 and the computer, or an **audio isolation transformer** between the VP4 and the amp. Also, if you're using a laptop, try switching from AC power to battery power or vice versa.

MAC OS MINIMUM REQUIREMENTS

OS: OS X 10.13 or newer. (Older versions may work but are not supported).

CPU: Intel Processor or Apple Silicon.

Memory: 512MB minimum.

USB: USB 2.0 support required.

Driver: No driver is required for Mac OS.

WINDOWS MINIMUM REQUIREMENTS

OS: Windows 10 or newer

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

Memory: 1GB minimum.

USB: USB 2.0 support required.

Driver: A USB driver is required for Windows operating systems. The Windows driver can be downloaded from **http://www.fractalaudio.com/vp4-downloads**

VP4-Edit

VP4-Edit is a free, intuitive software editor for the VP4. This app allows you to easily create, edit, and manage your VP4 from your connected Mac or PC, providing a fast and user-friendly interface. Whether you're dialing in effects, building scenes, or managing presets, VP4-Edit simplifies the process, helping you get the most out of your unit. It even includes bonus features not available on the VP4 itself, such as Block Library, Channel Copy, Scene Swap, and more.

You can download VP4-Edit for Mac or Windows at:
https://www.fractalaudio.com/vp4-edit

Fractal-Bot

In the Tools menu of VP4-Edit, you'll find Fractal-Bot, a companion utility designed for updating firmware and managing backups of the presets and settings on your VP4. Fractal-Bot is straightforward to use, featuring a self-guided, step-by-step interface that makes the process simple and efficient.

Backing up your VP4 is simple with Fractal-Bot's **Receive Mode**. Just choose a folder to store your files, press Begin, and click OK.

When a new firmware update is available, open VP4-Edit, launch Fractal-Bot from the Tools menu, switch to **Send Mode**, and follow the on-screen instructions. It's a good practice to make a backup before any update or whenever you make significant changes to your sounds or settings.

Fractal-Bot even has a built-in help video.

Setup: Classic Pedalboard

Most players will use the VP4 as a straightforward VIRTUAL PEDALBOARD. For this setup, connect your guitar to the VP4 L/Mono input. Connect VP4 L/Mono output to the input of your amp or modeler. Use standard guitar patch cables. Aside from the usual steps of checking levels and mono/stereo, no special settings are required.Try banks A-O with this setup.

▸ Connect your guitar to VP4 Input **L/Mono**

▸ Connect VP4 Output **L/Mono** to your amp.
  Use VP4 Output **R** to a second amp for stereo.

▸ If connecting in front of a modeler, disable its Noise Gate, if possible.
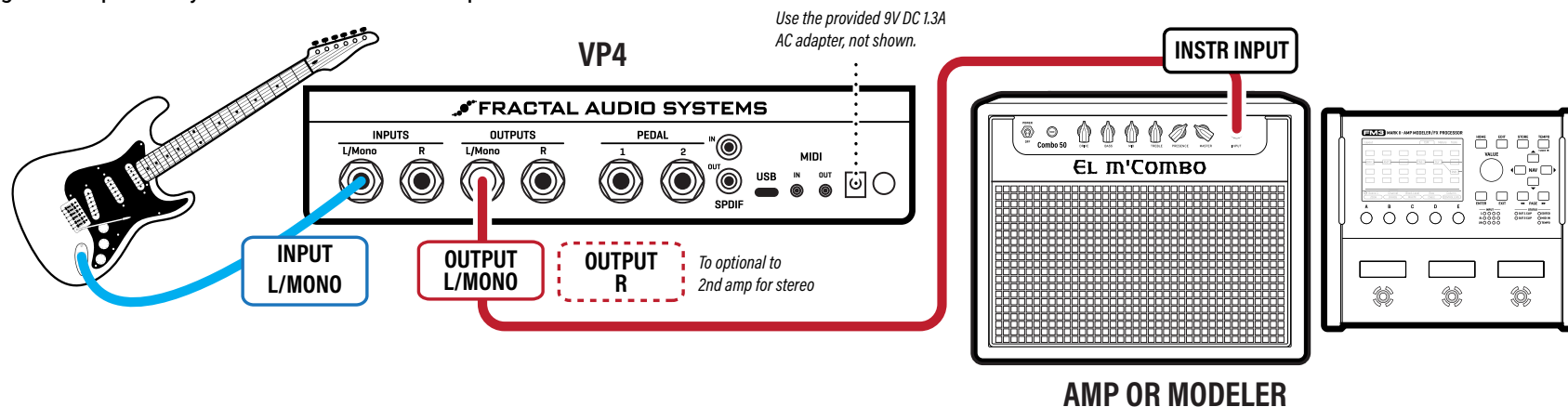
Setup: VP4 With Other Pedals

The VP4 can also be used before and/or after other pedals. Use standard guitar patch cables for every connection. Aside from the usual simple steps of checking levels and mono/stereo settings, no special settings are required.

Try Factory Preset banks Try banks A-O with this setup. If you have a Drive Pedal in front of the VP4, try banks P–R or any preset marked ">"

▸ Connect your guitar or the output of another pedal to VP4 **Input L/Mono.**

▸ For stereo input, connect both VP4 inputs, **L/Mono** and **R**, and be sure **SETUP > Audio > Input Mode** is set to "STEREO".

▸ Connect VP4 **Output L/Mono** to the input of your next pedal or amp.

▸ For stereo input, connect both VP4 outputs, **L/Mono** and **R**, and be sure **SETUP > Audio > Output Mode** is set to "STEREO".
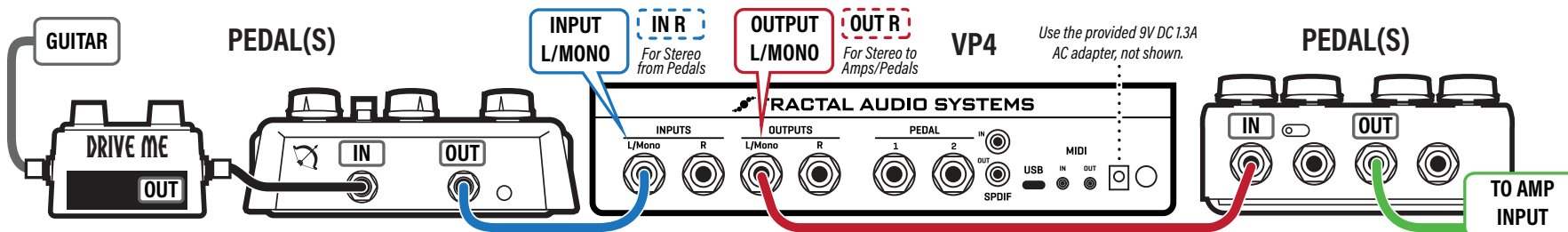
Setup: Effects Loop of an Amp

The VP4 can be used in an amp's effects loop for "Post FX".

Aside from the usual steps of checking levels and mono/stereo, no special settings are required. Use standard guitar patch cables for every connection.

▸ Connect your guitar to the guitar input of your amp.

▸ Connect the **FX SEND** of your amp to VP4 **Input L/Mono**. Adjust the loop level to prevent clipping on the VP4.

▸ Connect VP4 **Output L/Mono** to the **FX RETURN** of your amp.

▸ Use optional **Output R** to connect to the FX Return of a second amp for stereo.

▸ The VP4 can also be used before, after, or between other "Post" FX in your amp's FX loop—in mono or stereo (see VP4 with Other Pedals, previous page).

FAQ: Series Loop vs. Parallel Loop?

While parallel loops were once popular because of how they preserve the dry tone when used with vintage or less advanced effects, the VP4 and other modern processors are able to offers excellent sonic performance in a series loop.

In fact, designing and dialing in sounds for a series loop is easier and more flexible because the effects chain acts as a single processing path. Not only does this allow you to use effects that process the dry signal, such as EQ, compression, volume, etc., but each effect can also process the full signal from the previous one, leading to unique interactions and a more complex final sound. Trem-flanged-shimmer-echoes? Easy!

If your amp's effects loop is **parallel**, you must instead ensure that no dry signal passes through the VP4. This means usually means using only time-based effects with **MIX** set to 100% or **"Kill Dry"** turned on, and **"Routing"** set to "Parallel". (Find these options in HOME > Preset Mix/Routing)

If your amp is switchable, the "Series" loop setting is easier to use and may be the better choice.
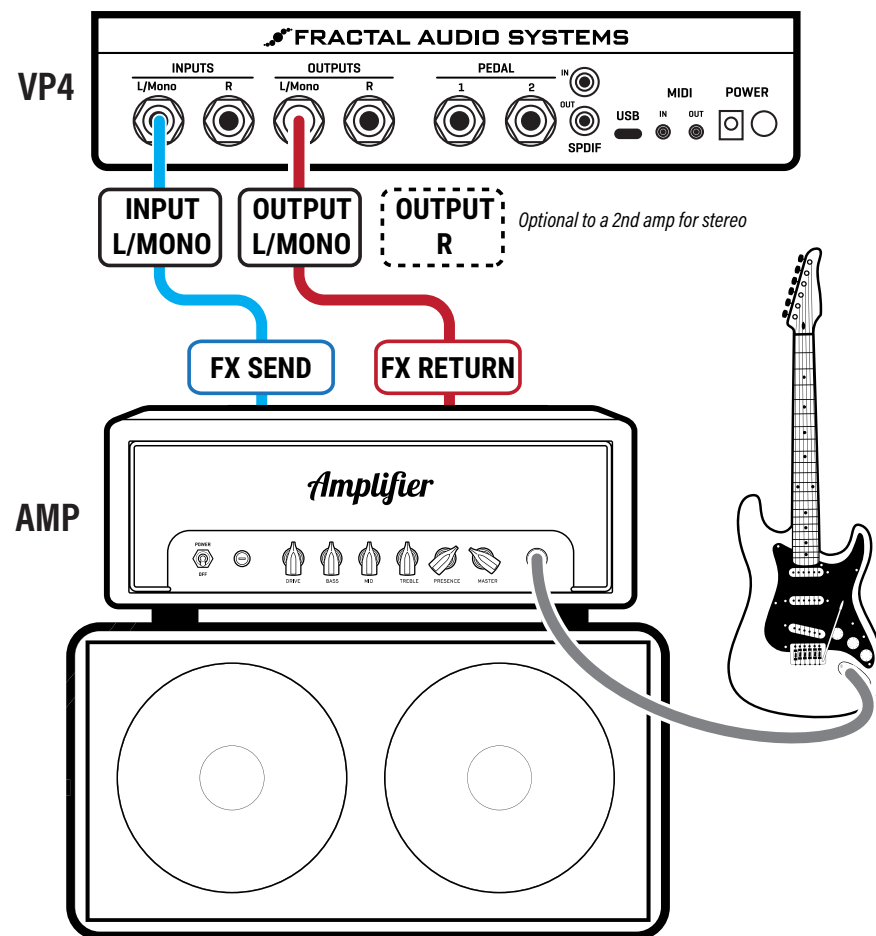
Presets designed specifically for FX Loop "Post" setups can be found in banks P, Q, and R. However, some of the presets intended for "Pre" setups will also potentially work in this type of rig. These have the symbol ">" at the end of their name.

Bank R contains a preset template for amps with a **parallel** FX loop. For such rigs, be sure to follow the instructions in the box at left.

Setup: Four Cable Method ("4CM")

Four Cable Method, or "4CM," allows you to run two separate mono signal paths through the VP4: one between your guitar and amp for "PRE" effects like wah or drive, and a second through your amp's FX loop for "POST" effects like delay and reverb, which can sound clearer and more defined in this position. For more about pre and post effects, see p. p. 19. Factory preset bank T is ready to use with 4CM setups.

SPECIAL SETTINGS AND PRESETS REQUIRED!

⚠️ The VP4 requires both a specific global setting and custom presets to function properly with 4CM. Using default settings or presets may cause to your amp to create loud feedback.

Before setting up 4CM, open **SETUP > Global Settings > 4CM Routing** and set it to **ENABLED**. Only presets configured specifically for 4CM will work with this setup. Using a preset that IS NOT configured for 4CM will switch the VP4 to **BYPASS** and defeat all processing. If global **4CM Routing** is **DISABLED**, any preset that IS configured for 4CM will switch the VP4 to **ANALOG BYPASS**.

CONFIGURE A PRESET FOR 4CM

▸ Press **HOME** and then **Page Right** 4 times to the **Mix/Routing** page.

▸ Turn **SELECT** counterclockwise to highlight "4CM Mode."

▸ Turn **Knob A** to select the preferred configuration of Pre and Post effects (options range from 0 Pre / 4 Post to 4 Pre / 0 Post). When a preset is configured for 4CM, this is shown in the title bar of the home page (Ex: "**4CM 2/2**".) This note turns orange when the VP4 is bypassed because of a mismatch between the global and preset 4CM settings.

▸ **Save** the preset to store your 4CM setting.

4CM IS MONO ONLY

IN L "Pre"   OUT L "Pre"   IN R "Post"   OUT R "Post"

FX SEND   FX RTN

INPUT

AMP

If your modeler has the ability to simulate both an amp's front input and a send/return loop, you can use it in a 4CM setup. However, connecting the VP4 as only PRE or POST is typically a better option.

4CM RIG SETUP

Use standard guitar patch cables for each connection. Always connect all four cables when using 4CM or it won't work.

▸ Turn your amp off and all the way down.

▸ Change **SETUP > Global Settings > 4CM Routing** to "**ENABLED**"

▸ Connect your guitar to VP4 **Input L/Mono**.

▸ Connect VP4 **Output L/Mono** to the main input of your amp.

▸ Connect the **FX Send** of your amp to VP4 **Input R.**

▸ Connect VP4 **Output R** to the **FX RETURN** of your amp.

▸ Load or create a 4CM preset (instructions, left).

▸ Turn your amp on and turn up gradually to test.

▸ Remember to turn off your amp or re-wire your rig FIRST if you want to change the **4CM Routing** setting back to DISABLED or use "**Reset System Parameters**".

See the previous page for notes on **Series vs. Parallel** *FX Loops.*

PRE SIDE

IN L — GATE — PRE FX IF ANY — OUT L   └ TUNER

POST SIDE

IN R — POST FX IF ANY — LEVELS/EQ — OUT R

When using the VP4 with 4CM, keep in mind that it is mono only. Global settings for **Input Mode** and **Output Mode (except "MUTE")** are IGNORED when **4CM Routing** is set to ENABLED, and only the left channel of the last Pre- or Post effects is passed to the respective output. As explained in Mono vs. Stereo on p. 11, this means you will only hear half of stereo effects like ping-pong delay or panning. Mono effect types and settings are therefore recommended for a 4CM rig. Remember also that many stereo effects have controls like **Stereo Spread** or **Master Pan**, which can be used to eliminate differences between right and left channels. Expert Edit options (p. 25) may allow greater control in this area.

In a 4CM preset, the **Input Gate** is applied at the **Pre** input, which also feeds the tuner. The master **Preset EQ**, **Main Levels**, and **Scene Levels** are applied at the **Post** output.

The **Input Pad** setting (p. 45) affects both the PRE and POST inputs. If your Amp's send level is particularly hot, this might require a higher pad setting than your guitar.

Setup: VP4 + FM3 (Pre or Post)

VP4: PRE-FX

The VP4 can be used just like traditional pedals in front of an FM3 or other amp modeler. The setups on this page also apply to the Fractal Audio Axe-Fx, FM9, and legacy products like the AX8.

▶ Follow the instructions at the top of to connect the VP4 in front of the FM3.
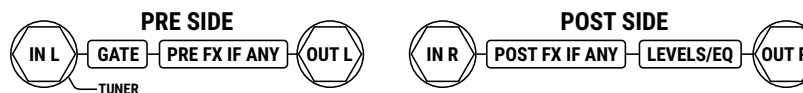
▶ Connect the FM3 as usual to your monitors, FRFR, or amp.

BENEFITS: *This setup gives you a flexible virtual pedalboard in front of the FM3. This allows you to offload CPU hungry "Pre-FX" like Drives. Meanwhile, using a "Whammy" or "Virtual Capo" on the VP4 leaves the FM3 pitch block free for other things. The VP4 has the same input gate and impedance features as the FM3 so you're not sacrificing anything in this regard.*
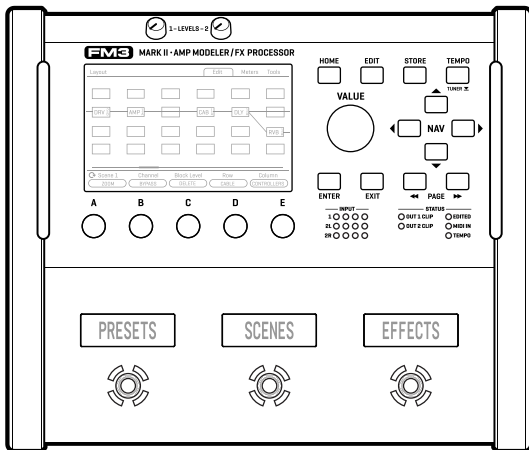
Factory banks A–O are well suited for use in front of a modeler like the FM3.

VP4: POST-FX, ANALOG

The VP4 can be used after the FM3 for post effects.

▶ Connect FM3 outputs to VP4 inputs using cables that end in standard 1/4" connectors (not TRS).

▶ When connecting in stereo, use two cables and change VP4 **SETUP>Audio>Input Mode** to "STEREO".

▶ For FM3 Out 2, use the Out 2 block in your FM3 presets, or change **SETUP>I/O>Audio> Output 2 Cop**y to "OUTPUT 1".

BENEFITS: *This setup gives you a lot of power for effects after the FM3. It also adds additional instances of effects in cases where the FM3 only offers one per preset (Pitch, Plex, Reverb, etc.).*

VP4: POST-FX, DIGITAL

The FM3 and many other modelers have SPDIF digital outputs. Remember that the VP4 has a fixed clock rate of 48KHz.

▶ For FM3 Out 1 digital, connect **a SPDIF cable** from FM3 SPDIF OUT to VP4 SPDIF IN.

▫ On the FM3, set **SETUP>I/O>Audio> SPDIF Out Source** to "OUTPUT 1".

▫ On the VP4, set **SETUP>Audio>Input Source** to "DIGITAL". SPDIF is always stereo regardless of the setting for VP4 **SETUP>Audio>Input Mode.**

▶ Connect the output(s) of the VP4 to your monitors/speakers using standard guitar cables.

BENEFITS: *SPDIF digital interconnection creates a unified rig without the latency of extra conversions.*

TIP **Use ONE Noise Gate**

When using the VP4 with a modeler like the FM3, you'll typically need a noise gate only on whichever device your guitar is directly connected to. You can disable the VP4's gate per preset () or globally lower its threshold by up to -40 dB, effectively minimizing its impact ().

FAQ: VP4 + FM3 + MIDI

Any FM3+VP4 rig allows you to use the two units independently or linked via MIDI. Most users will likely have the FM3 control the VP4, but it's also possible to connect in the other direction.

To use the FM3 to switch the VP4, connect the FM3's MIDI Out to the VP4's MIDI In. For simple Program Change (PC) messages, set the FM3's **SETUP > MIDI/Remote > General > Send MIDI PC** to the channel your VP4 uses under **SETUP > MIDI/ Remote**. For more complex messaging, use the Scene MIDI Block in your FM3 presets.

To use the VP4 to switch the FM3, connect the VP4's MIDI Out to the FM3's MIDI In. Although the VP4 has more limited outbound MIDI capabilities, it can send Program Change. To do this, set the VP4's **SETUP > MIDI/Remote > Send MIDI PC** to match the channel that your FM3 is set to under **SETUP > MIDI/Remote > General.**

Factory banks P–R, and any preset marked ">" are well suited for use in post-modeller setups.

Setup: VP4 as an Insert with FM3

You can use the VP4 as an analog stereo insert with the FM3, utilizing Out 2 and In 2 on the FM3 to integrate the VP4 into custom presets. This allows you the flexibility to decide between Pre or Post for each individual FM3 preset, taking advantage of all the potential benefits outlined on the previous page. Connect your guitar to **Instr In** on the FM3.

▶ Connect **FM3 Out 2 L+R** to **VP4 In L+R** using guitar patch cables. Humbuster™ Cables may be used to combat ground hum which may occur while a computer is connected to the VP4 via USB.

▶ Connect **VP4 Outputs L+R** to **FM3 Input 2 L+R** using guitar patch cables.

▶ Connect **FM3 Out 1 L+R** to your speakers, monitors, mixer, or other devices as you normally would.

▶ On the VP4, open **SETUP > Audio** and set **Input Mode** to "STEREO", **Input Source** to "ANALOG" and **Output Mode** to "STEREO".

▶ On the FM3, open **SETUP > IO > Audio** and set **Input 1 Source** to "ANALOG", **Input 2 Mode** to "STEREO", **Output 2 Output Type** to "LINE LEVEL", **Output 2 Mode** to "STEREO", **Output 2 Level** to "+4 dbU" and **Output 2 Copy** to "NONE".

▶ Set VP4 **Input Pad** to 0 dB. Set the FM3 **Out 2 Level** knob to 12 o'clock. Set FM3 **Out 1** as you usually would.

▶ On the FM3, place the **OUT 2** and **IN 2** blocks where you want to insert the VP4. Position them anywhere in the preset, depending on whether you want the VP4 before ("pre") or after ("post") your amp/cab. Ensure they're connected to each other, and that the preset ends with the **OUT 1** block.

▶ On the VP4, you'll probably want to disable the **Noise Gate** in your presets ().

▶ Bypassing the **IN2** block on the FM3 will remove the VP4 from the signal path, continuing to pass audio without it.
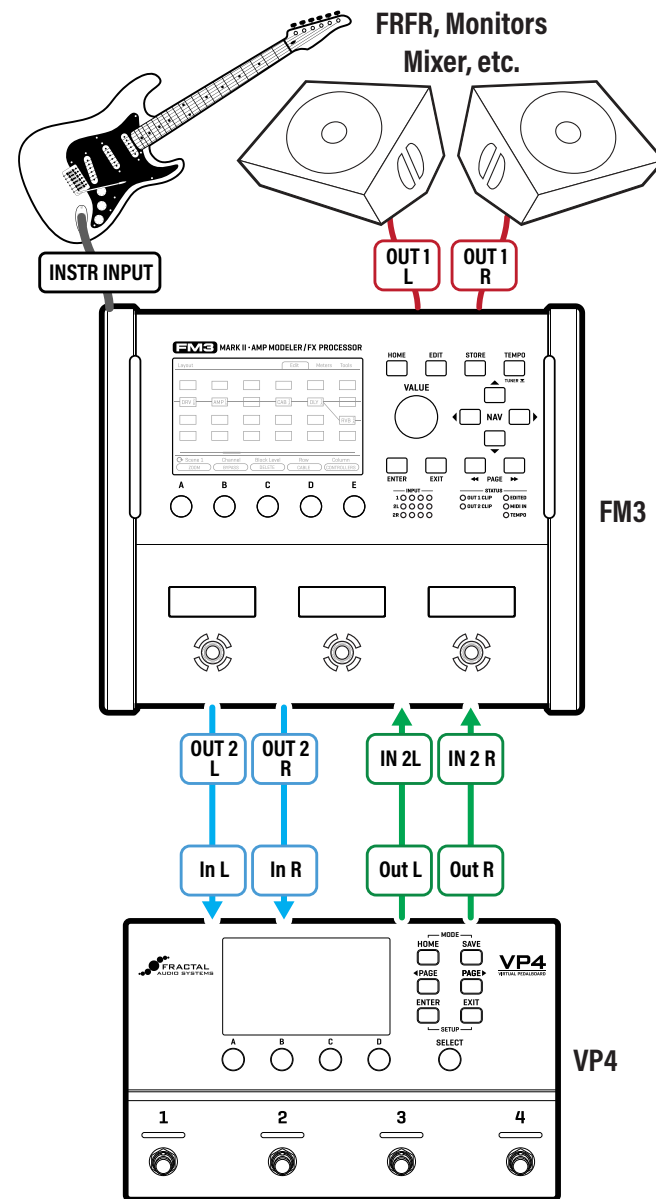
FM3 signal path showing the OUT 2 and IN 2 blocks positioned for POST FX (top) and PRE FX (bottom). You could also place additional FM3 blocks before or after the insert.

- Factory banks A–O are well suited for use in front of an amp block or modeler.

- Factory banks P–R, and any preset marked ">" are well suited for use after an amp block or modeler.

Pre vs. Post Effects

A guitar amp consists of two main sections: the preamp and the power amp. The preamp shapes the initial tone, adding gain and often distortion to your tone. The power amp then amplifies this signal to power your speakers, making it louder. Some amps also rely on power amp distortion and other adjustments that further shape your tone.

The placement of effects before or after distortion significantly impacts your overall tone. This principle also applies to the order of distortion pedals and other effects. While there are common practices, experimenting with effect placement can lead to unique sounds. Understanding why certain effects are typically placed PRE or POST and how this shapes your tone will help you achieve the sounds you're looking for.

PRE Effects (Before Distortion/Preamp)

Effects like overdrive, distortion, wah, compression, and others are classically placed before the preamp. This allows them to directly shape the guitar's raw signal and drive the amp, affecting tone, distortion, and dynamics.

Try a simple experiment with a Wah effect, a Drive effect, and a clean amp. When you place the wah in front of distortion, it results in the traditional "wah-enhanced" distorted tone, where the wah excites certain frequencies as you sweep it (and who doesn't love a parked wah tone?!). Placing the wah after the distortion, however, has a profound impact, peaking and cutting the rich harmonics generated by the distortion. This can result in a synth-like sound, which makes sense since many synthesizers place filters (akin to wah) after harmonically rich oscillators.You can try this same experiment with EQ, phaser, and other effects in relation to distortion.

TIP: VP4-Edit allows you to drag and drop one effect on another to swap them!

POST Effects (After Distortion/Preamp)

"Time-based" effects such as reverb, delay, and chorus are often placed after distortion. This allows the repeats, ambience, or subtle modulation to be heard clearly and distinctly—instead of being "trashed" by further distortion. If you tried the experiment earlier in this section, you know that EQ, phaser, and other effects can also be used after distortion to produce sounds with a very specific character. Meanwhile, a rotary effect would sound *familiar* after distortion, since it simulates the movement of a physical speaker.

Exceptions and Special Cases

The first exception is the big one. *Creativity does not play by the rules.* In fact, any effect can in fact be placed in any position. For example, echo or delay into a cranked amp or drive pedal was part of "the sound of the 70s" and is still widely used today in many styles of music. Artists like The Edge, Neil Young, Eric Johnson, and Jimmy Page have all utilized this technique, and they created some of the most iconic tones in history. Even distortion itself can be an outlier. In metal, industrial, punk, and other styles, distortion can be used in unconventional ways to achieve aggressive saturation and lofi effects.

EQs and effects that sculpt tone — including phasers, flangers, filters, and more—create different but useful and interesting sounds either before or after distortion. Try it and see!

Pitch effects are also a special case. "Heavy" consonant harmonies like 5ths and octaves can be epic when run into distortion. Shifters that are 100% wet like the Whammy or Virtual Capo can sound more natural when they are processed by drive effects and your preamp, but can hint at "chipmunk" or "ogre" in post. Complex or dissonant harmonies, as well as subtle detune and shimmer effects, can get "clobbered" by distortion—just like delays and reverbs—so they are often used post. Shimmer and other harmony effects can also *create* high or low frequencies, meaning they interact differently before or not only distortion but EQ, filter, etc. (Ring modulators can fall into this category as well.) Again, experiment and see what you like.

Summary

PRE EFFECTS shape the fundamental tone and dynamics of the guitar signal before it's amplified or distorted. They can also be used to push your preamp, changing its tone, distortion, and dynamics.

POST EFFECTS can add ambience, depth, and modulation to the already shaped or distorted signal without compromising clarity. They can also have a more profound effect on distortion by changing its tone in dramatic and noticeable ways.

ALL EFFECTS can be placed where you think they sound best. You can learn more about the creative use of effects by studying the rigs of your guitar heroes, by experimenting with the VP4 and your other equipment, and by learning more about audio, acoustics, physics, sound design, and music.

Presets

Each preset is like a virtual pedalboard with your choice of four effects, effectively allowing one VP4 to replace an entire collection of traditional pedals. Additionally, each preset has its own Noise Gate, Master EQ/levels, and more.

Just as you can have multiple physical pedalboards, you can create multiple presets. In each preset, you can start fresh (or from a copy) and save your configuration. Every preset in the VP4 can be customized or even erased.

Some players may rely on just a single preset, while others might create different presets for each gig or even for different parts of one song.

PRESET BANKS

The VP4 organizes its presets into 26 banks, each identified by a letter from A to Z. Within each bank, there are four presets, numbered 1 through 4. For example, the presets in the first bank are labeled A1, A2, A3, and A4.

LOAD PRESETS IN PRESET MODE

▸ In Preset Mode, tap the footswitches to select one of the four presets in the current bank (e.g., A1–A4).

▸ To change the **BANK** in Preset Mode using the footswitches, press and hold Switch 4 or Switch 1 to step up or down through the banks.

▾ **TAP** any switch to load a **Preset** from the current **Bank**.

| 1 | 2 | 3 | 4 |

⊼HOLD 1:
Previous Bank

⊼HOLD 4:
Next Bank
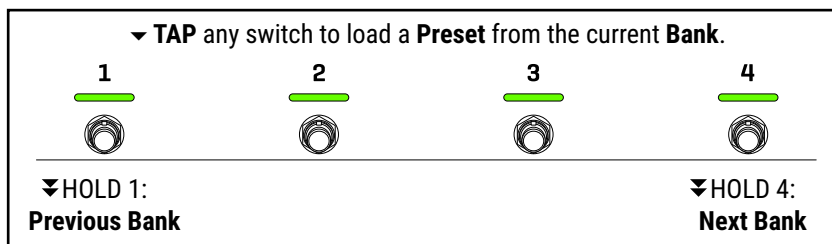
▸ On the **Home page** in Preset Mode, you can also turn **Knob A** to browse the entire list of presets on the VP4. Press ENTER to load the selected entry or EXIT to cancel.

  ▫ The footswitches will automatically update to reflect the selected preset and bank. For example, if you load preset A1, the footswitches will map to all four presets in bank A, so, A1, A2, A3, and A4. If you load preset Z4, the footswitches will be Z1, Z2, Z3, and Z4.

FACTORY PRESETS

The VP4 comes preloaded with dozens of factory presets. A directory at the end of this manual lists them with notes. Please note that different types of rigs work best with certain types of effects. Presets are arranged categorically to make this easier:

Banks A–O : "Pre-FX" (pedalboard) presets for use between guitar and amp

Banks P–R : "Post-FX" presets designed for amp FX loop (series)

Bank S : Bass presets, plus an Acoustic guitar template.

Bank T : "4CM" presets.

Banks V–Z : Blank presets for you to store your own creations.

Remember, you can modify or overwrite any factory preset. Should you desire, you can download the current factory presets from: **https://www.fractalaudio.com/vp4-downloads**

Factory Presets

Notes about the factory presets can be found in the table on .

Most presets in the VP4 are designed to be used in front of an amp. These are compatible with other effects placed before or after the VP4.

Presets designed for FX Loop "Post" applications can be found in banks P, Q, and R. These also work very well in a "Pre" setup if the amp is clean or if a drive pedal is placed in front of the VP4. Similarly, many of the "Pre" presets can also work in a post rig. These are marked ">".

Bank R contains a preset template for amps with a parallel FX loop.

Bank S contains presets for bass guitar and acoustic guitar.

Bank T contains several examples designed for 4CM rigs (see).These presets will be automatically Bypassed if your VP4 has default settings. Similarly, presets not configured for 4CM will be bypassed if the global 4CM routing option is enabled.

NOTE: The VP4 is unlike most other Fractal Audio products. Without amp and cab modeling, it is designed to be used with an amp or a modeler. Therefore, the way the factory presets respond can be quite different from one setup to the next. Keep this in mind:

1) Some amps can get loud when used with certain effects or settings. Adjust and save to set levels as needed for your equipment.

2) The best results will probably also require custom settings for your guitars, amps, speakers, and other effects. The VP4 is easy to use. Make it your own.

Working With Effects

In the real world, building a pedalboard means making hard choices about valuable "real estate." With the VP4, however, such limitations are replaced by a vast "inventory" of virtual effects. To design a preset, you select effects, dial in basic settings, and save.

TURNING EFFECTS ON AND OFF

▸ Change to **EFFECTS MODE** and use the footswitches.

CHOOSE EFFECTS

▸ On the Home page, turn **SELECT** to highlight any effect or empty slot.

▸ Turn the corresponding **ABCD** to set the **Block Type**. (Ex: "Drive" or "Reverb").

  ▫ To remove an effect, choose "**No Effect**" from the list.

▸ Press **ENTER** to confirm or **EXIT** to cancel.

EDIT EFFECT SETTINGS

▸ On the Home page, turn **SELECT** to highlight any effect.

▸ Press **ENTER** to show the effect editor.

▸ Use the **ABCD** knobs to adjust settings. Turn **SELECT** to change rows.

▸ Use **PAGE** buttons for effects with more options.

▸ To change the **Effect Type** at any time, just tap page left until the **Type Picker** appears (see FAQ, top right).

▸ Press **EXIT** or **HOME** when finished.

Gear Nerd? Expert Tweaker?

◀PAGE + PAGE▶ = 👆😎
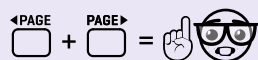
The VP4 was designed for ease of use, offering minimal options similar to traditional pedals. At the same time, Fractal Audio is known for its extensive depth and flexibility, allowing creative players and FX enthusiasts to dive deep into sound design.
If that sounds like you, then **Expert Edit** may be of interest. This special mode reveals expanded options for editing effects and modifiers. To open Expert Edit, press **PAGE LEFT** and **PAGE RIGHT** at the same time while editing an effect, or with an effect selected on the home page. Press **EXIT** at any time to quit Expert Edit.

FAQ: Block Type vs. Effect Type

Effects on the VP4 are organized as "blocks" in high level categories like "**Drive**," "**Delay**," or "**Reverb**." Each block also contains an **Effect Type** picker. For instance, within the Drive block type, you can choose from effect types like "Face Fuzz," "Klone Chiron," "Super Overdrive," and many more.

Block Types available on the VP4 (above)
vs. Effect Types in the Drive block, for example (below).

• BB Pre	• Full OD	• Plus Distortion
• BB Pre AT	• Gauss Drive	• Rat Distortion
• Bender Fuzz	• Griddle Cake	• SDD Preamp
• Bit Crusher	• Hard Fuzz	• Shimmer Drive
• Blackglass 7K	• Heartpedal 11	• Shred Distortion
• Blues OD	• Hoodoo Drive	• Sonic Drive
• Bosom Boost	• Horizon Precision Drive	• Suhr Riot
• Box o' Crunch	• Jam Ray	• Sunrise Splendor
• Compulsion Distortion	• Klone Chiron	• Super OD
• DS1 Distortion	• M-Zone Distortion	• T808 Mod
• DS1 Distortion Mod	• Master Fuzz	• T808 OD
• Esoteric ACB	• Maxoff 808	• Tape Distortion
• Esoteric Bass RCB	• MCMLXXXI Drive	• Timothy
• Esoteric RCB	• Micro Boost	• Tone of Kings
• Eternal Love	• Mid Boost	• Treble Boost
• Face Fuzz	• Nobelium OVD-1	• TS9DX +
• FAS Boost	• Octave Distortion	• TS9DX Hot
• FAS LED-Drive	• OD 250	• Tube Drive 3-Knob
• Fat Rat	• OD 250 Gray	• Tube Drive 4-Knob
• FET Boost	• OD-One Overdrive	• Valve Screamer VS9
• FET Preamp	• PI Fuzz	• Zen Master

Effect Blocks Inventory

The table below lists all the Blocks available on the VP4, showing the number of Types available for each block and the maximum number of each block that can be used within a single preset.

Block		Description	Types	#
CHO	Chorus	Classic mono and stereo modulation effects including vibrato.	20	4
CMP	Compressor	Control dynamics and add sustain.	16	4
DLY	Delay	Up to 8 seconds of delay, with types for analog, digital, tape, and more.	28	4
DRV	Drive	Types include overdrive, distortion, fuzz, boost, and many more.	63	4
ENH	Enhancer	Classic and modern spatialization.	3	4
FLT	Filter	Includes classic and esoteric filter types plus touch-wah and auto-wah.	18	4
FLG	Flanger	Types cover everything from subtle mod to "zero cross" to extreme jet.	32	4
FOR	Formant	Create dynamic vowel sounds and talk effects.	1	4
GTE	Gate/Expander	Use this in addition to the built-in preset gate for creative effects.	4	4
GEQ	Graphic EQ	Multiple types ranging from three bands to ten.	16	4
MGT	Megatap	Creates echo patterns with controls that shape time, volume, pan and more.	20	4
MTD	v	Fantastic collection of multi-tap delays, choruses, and more.	34+	4
PEQ	Parametric EQ	The 5-band parametric equalizer allows precise control of your tone.	1	4
PHR	Phaser	A variety of vintage and cutting edge phaser effects, including 'vibe.	16	4
PIT	Pitch Shift	Includes capo, detune, harmonizer (intelligent/custom), whammy, and more.	16	2
PLX	Plex Delay	Up to eight delays and pitch in a matrix. From granular to lush… Gorgeous!	44	4
RES	Resonator	Resonant filters create ringing tones, chords and more.	1	4
REV	Reverb	World-class recreations of vintage springs, rooms, plates, halls, and more.	66+	2
RNG	Ring Mod	The extremely flexible ring modulator provides for a range of cool effects.	1	2
ROT	Rotary	Simulates a classic rotary speaker with multiple microphones.	1	4
SYN	Synth	A 3-voice monophonic synth that tracks what you play.	1	2
TRM	Tremolo	Essential vintage and modern tremolo styles, plus auto pan.	5	4
VOL	Volume/Pan	Simple volume block also offers channel input/output tools.	1	4
WAH	Wah	The essential wah, with multiple types based on classic originals.	8	4

Blocks Guide

A VP4 Basic Blocks Guide is in progress. It details the effect blocks, types, and basic parameters.

Meanwhile, since the VP4 is based on the award-winning Axe-Fx III, the **Fractal Audio Axe-Fx III/FM9/FM3 Blocks Guide** provides a detailed reference that is equally applicable to almost every basic and expert of the VP4 effects.

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

Note for Axe-Fx III, FM9, and FM3 Users

TIP To enhance the standalone VP4 experience for new users, the names of some parameters on its "Basic" pages may differ from those on its "Expert Edit" pages () and therefore from their equivalents on the Axe-Fx, FM9, or FM3. For example, "LFO Depth" might appear simply as "Depth," and "Diffusion Mix" might be labeled just as "Diffusion." Since many pedals use minimalist or creative labels, we wanted the VP4 to feel more intuitive for those accustomed to this style.

Additionally, the VP4 includes various new effect types not found in our other products. These are essentially tweaks of existing types, presented with simplified interfaces. Examples include "Vibrato" types in the Chorus block, single-voice types in the Pitch block, changes and consolidation in Plex block types.

Some blocks include other types of differences. The "Mix law" on most time based effects has been sweetened for use in front of an amp. The VP4 Drive block uses a switchable control "Mode" switch instead of separate types for some pedals (e.g. Compulsion Distortion HP/LP). Also, for ease of use and greater preset portability, the "Custom Shifter" utilizes local custom scale settings instead of global ones.

Other differences are merely superficial, such as renaming Reverb types for better alphabetical ordering.

Understanding CPU

In a DSP-based processor like the VP4, the CPU acts as the brain, managing and executing all the effects, settings, and functions. The CPU Level indicates how much processing power is being used. The VP4 has a powerful processor, able to run top quality effects in impressive combinations.

A meter in the upper right shows the current CPU level, with a normal limit of about 80% to keep some required processing power in reserve. If this limit is exceeded, the VP4 will switch to bypass mode and display a warning: "CPU LIMIT: Bypassed."

CPU usage depends on the number of effects in a preset, their settings, modifiers, and more. Even an empty preset consumes some CPU. As you add effects or use more demanding settings, the CPU level rises.

CPU TIPS

▸ **Bypassed** blocks still use CPU to stay ready for instant activation. To save CPU, remove any blocks you aren't using.

▸ Modifiers use a small amount of CPU, and their Update Rate setting can impact this usage.

▸ If you need multiple types of an effect, for example, **Drive: Treble Boost** vs. **Drive: Fat Rat**, but don't need them both to be active at the same time, you can use one block with different **Channels** instead of two separate blocks, saving considerable CPU. Learn more about Channels on <u>p. 34</u>

▸ Different **Effect Types** (<u>p. 25</u>) within a block can use varying amounts of CPU. For example, in the Plex Delay block, the "Golden Shimmer" uses around 18% CPU, while the "Econo Shimmer" uses about 11%. In the Reverb, "Spring" types use less CPU. Experiment with changing types to see which are more or less CPU-hungry.

▸ There's also significant variation in CPU usage among Drive block types. Consider options like Shimmer Drive or FET Boost if you need a low-CPU drive. For a totally clean boost, consider an EQ or a Filter!

▸ Take advantage of gapless switching! If you don't need all effects active at once, **use different effects in different presets** and switch between them smoothly. Note that ensuring spillover between different presets requires special attention. See <u>p. 32</u> for details.

▸ Effect **settings** can also impact CPU usage. For example, lowering the "Quality" setting in the Reverb block can help save CPU resources.

▸ **Expert Edit** (<u>p. 25</u>) offers access to additional parameters that can further lower CPU usage for an effect. Visit our forum to talk with Fractal Audio experts and discover more tips.

Saving Changes

If you edit a preset and want the changes to be retained for future use, you must **SAVE**. Unsaved changes will be lost when you switch to a different preset or power off the device. Every preset in the VP4 can be saved or even overwritten.

To save a preset, press the **SAVE** button. From here, you can press **ENTER** followed by **ENTER** to confirm, or take a moment to edit the **preset name** or **scene names** before saving.

When you edit any preset in any way, the front panel "EDITED" indicator lights up until you save or load a new preset. It appears in the title bar as a yellow dot with an "E" .ⓔ

NOTE: Editing a preset includes: changing effect settings, turning effects on or off, adjusting Input Gate/Main Levels/Preset EQ, changing the Scene, changing the tempo, or editing controllers.

Changes made in the SETUP menu always saved automatically.

TO SAVE A PRESET

▸ Press **SAVE** to show the Save page.

▸ Press **ENTER** to Save. You'll be prompted to press **ENTER** again to confirm.

▸ The message "**SAVED!**" is shown when saving is complete.

TO CHANGE PRESET OR SCENE NAMES

You can edit the name of any preset or its scenes while saving.

▸ Press **SAVE** to show the Save page.

▸ Select the **NAME** fields to edit the preset name any of the Scene Names.

   ▫ Turn the knob **A** to move the cursor.

   ▫ Knob **B** selects **UPPER CASE** letters and **space**

   ▫ Knob **C** selects **lower case** letters and **space**.

   ▫ Knob **D** selects **numbers and symbols** and **space**

   ▫ **Page Left** = DELETE character. **Page Right** = INSERT character.

   ▫ You can use up to 31 characters in a preset name.

▸ Press **ENTER** to Store, then press **ENTER** again to confirm.

Preset Tutorial

Load an Empty Preset

‣ Change to **Preset Mode**

‣ Turn **knob A** to any <Empty> preset and press **ENTER**.

Add a Phaser effect

‣ Turn **SELECT** until the first effect is highlighted.

‣ Turn A until the **Phaser** effect is shown and then press **ENTER**.

‣ Press **ENTER** again to edit the Phaser. The Phaser Types page will appear.

‣ Turn **knob A** to highlight the "Script 90" type.

‣ Press **ENTER** or **Page Right** to show the settings for the Phaser.

‣ We'll start simple. Adjust **Rate** and **Depth** however you like them.

‣ Press **EXIT** when you're done.

Save the Preset

‣ Press **SAVE**.

‣ We're not going to change the LOCATION where the preset is saved but we are going to give it a NAME. Turn **SELECT** to highlight the NAME line.
Use: **Cursor** (knob A)   **A-Z**, (knob B)   **a-z** (knob C)   **0-9** (knob D)

‣ Enter the name "**My VP4**". If you make a mistake, **PAGE LEFT** and **PAGE RIGHT** can be used to delete or insert characters.

‣ Press **ENTER** twice to commit your changes.

Add a Drive effect

‣ Turn **SELECT** until the second effect is highlighted.

‣ Turn **knob B** until the **Drive** effect is shown and then press **ENTER**.

‣ Press **ENTER** again to edit the Drive. The Types page will appear.

‣ Turn **SELECT** or **knob A** to highlight the "T808 OD" type.

‣ Press **ENTER** or **PAGE RIGHT** to show the settings for the Drive.

‣ Dial in the Drive however you like it and press **EXIT** when you're done.

Save the Preset Again

‣ Press **SAVE, ENTER, ENTER.**

Add Delay and Reverb.

‣ Use what you've learned to add a **Delay** block and a **Reverb** Block for effects 3 and 4.

‣ Save the preset when you're done.

You have now created a preset from scratch!

For those who wish to dive deeper into some of the more advanced functionality offered by just a single VP4 preset, this tutorial continues on with Channels and Scenes.

Noise Gate

Every preset includes an adjustable noise gate at the input, before any effects. The noise gate can be used to eliminate unwanted noise and hum by cutting off or filtering the sound when its level drops below a certain threshold. This is especially useful when using high-gain amps or playing in noisy environments.

The gate has the following controls:

Gate Type – The "CLASSIC" type opens and closes like a typical gate pedal. The "INTELLIGENT" and "NOISE REDUCER" types use precision filtering to minimize noise from electromagnetic interference ("EMI"). For these gates to work effectively, it is crucial to set **SETUP > Global Settings > AC Line Frequency** based on your location. The default setting of "60 Hz" is suitable for North America and most of Central and South America. The "50 Hz" setting is for Europe, Asia, Africa, Australia/New Zealand, and parts of South America such as Argentina and Chile.

Threshold – This determines how quiet the signal must be for the gate to close. Higher settings make the gate more aggressive, meaning it will close on louder signals. To turn the gate completely off, set this control fully counterclockwise.

Release – The Release setting determines how long it takes for the noise gate to close after the signal level drops below the threshold, which typically happens when you stop playing. Choose a high setting if you want the gate to drift closed, allowing the noise to fade out over up to 1 second. Choose a low setting if you want the gate to snap shut abruptly.

Level – This adjusts the level of the signal coming out of the gate if you need a boosted level going into your effects. However, be aware that this compromises unity gain.

INPUT GATE EXPERT SETTINGS ◄PAGE + PAGE► =
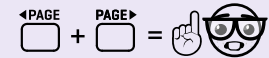
The Noise Gate contains several "hidden" expert parameters. These will be familiar to those who use current Fractal Audio products, or those who like to dive deeper into sound design. While on the **Input Gate** page, press **Page Left** and **Page Right** at the same time to show its expert settings page:

Ratio - Think of this as the strength of the gate. A higher ratio causes the closed gate to reduce the noise more dramatically, while the lowest setting (1:1) causes the gate to have no effect at all.

Attack - This determines how quickly the noise gate opens after the signal level exceeds the threshold – typically when you *start* playing. Choose a fast setting for a quick, aggressive attack. Choose a slow setting if you want the gate to open in a more relaxed way. The default of 2.0 ms is a good starting point.

INPUT IMPEDANCE   Ω

The **Input Impedance** setting, found alongside Expert settings for the Gate (above) controls how the VP4 uses real analog components to vary the load on your guitar pickups. This replicates the tonal changes caused by the impedance of certain analog stomp boxes (e.g., vibe, fuzz effects).

In the default "AUTO" mode, the impedance is set automatically based on the first active effect in your preset. This setting—applied whether or not you ever look at the Expert page—is usually best, but you can also select custom values if desired.

Main Levels

The Main Levels page of every preset contains the master **Preset Level** and **Preset Balance** controls.

In addition, each Scene also has a **Scene Level** control which can be used to trim the level of that scene +/- 20 dB.

Preset EQ

Every preset has its own master 10-band EQ. The EQ setting is applied at the output. All effects and scenes in the current preset are processed by its EQ settings.

Preset Mix/Routing

The **Preset Mix/Routing** page is like a "Command Center" for the various mix-related settings for all effects in the current preset. It shows the four effect types and allows you to adjust their Mix, Level and other settings without bouncing between menus. To navigate this page, turn **SELECT** to the desired row, and turn **ABCD** to adjust settings for the four effects.

Bypass - Use this to bypass/engage effects when you're not in Effects Mode.

Mix - This adjusts the balance of "Dry" and "Wet" for the effect. Effects with no mix, such as Wah, GEQ, etc., will show "NA".

Level - This adjusts the overall level of the effect, both wet and dry.

Meters - A meter at the top of each column shows the input level (blue) and output level (green) for the corresponding effect. When clipping occurs, the meter turns red. This makes the Mix/Routing page an excellent tool for tracking down the cause of clipping inside a preset. For instance, if you see that Effect 3 overloads its output but not its input, you know to adjust the settings inside Effect 3 to correct this.

Bypass Mode - Bypass Mode determines how an effect block behaves when it is bypassed. The default setting of "**Mute FX In**" for time-based effects allows tails to spill over when the effect is bypassed. (Note that for these effects, "Level" controls the dry even while the effect is bypassed.) The default setting of "**Thru**" for non time-based effects behaves similarly to "True Bypass" on an analog pedal: while bypassed, "Thru" has no impact whatsoever on the sound. (Additional options for Bypass Mode are covered on the next page.)

Kill Dry - Kill dry is a provided for those who run time-based effects in **parallel** (see "Routing" below). With Kill Dry turned on, no DRY signal passes through the block. Instead, the **Mix** control functions as a level control for the Wet signal only, potentially making parallel effects easier to use.

Channel - Changes the **Channel** of the selected effect. Remember that each channel has its own settings for all parameters — including Mix, Level, Bypass Mode, Kill Dry, etc.). You can even change the Effect type — but not the Block Type). See p. 34 for more on Channels.

TIP: If you're using Scenes, change to Scene Mode and open this page as an excellent "Scene Builder" with the ability to adjust bypass, channel, mix, level, and more—with four scenes instantly available across the footswitches.

Routing: This parameter allows effects 2, 3, or 4 to be run in Series or Parallel with respect to the previous block. A dynamic illustration shows the current configuration.

Example: Setting Effect 3 to "Parallel" places it in parallel with Effect 2, as shown in the image (right). Of course you could say that Effect 2 is also parallel to Effect 3, but on the VP4, "Series" or "Parallel" refers to the *previous* block. So, Effect 2 is in series with Effect 1, and Effect 3 is in parallel with Effect 2. This also explains why you can't choose "parallel" for Effect 1: there is no previous effect!
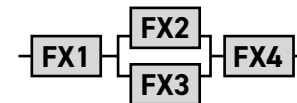
FAQ: Why Do People Use Parallel Effects?

If you, like most people, have always strung pedals together in a chain, you'll be comfortable with the default settings on the VP4, with four effects in series.

The option to run effects in parallel does create certain creative sound design opportunities however. An easy example to understand is Reverb and Delay in series or in parallel. In series, you hear reverb on the dry (what you play) and the wet (the echo that follows). In parallel, only the dry signal passes into the reverb, so the echoes that follow are dry, with no reverb.

MYTH: Time-based effects are easier or sound better in parallel.

FACT: On the VP4, time-based effects work just as well in series as they do in parallel, with no difference in the dry signal's level or tone.
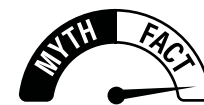
First, adjusting **Mix** for time-based effects on the VP4 does not change the dry level until it is turned above 50%, making it easy to maintain unity gain.

Second, the VP4 has a **very high-quality signal path**, meaning that the dry signal isn't compromised like it might be on vintage gear, analog pedals, etc.

In short, you can easily achieve excellent results with series effects. If anything, it's parallel effects that require extra effort, as you'll need to either 1) turn on Kill Dry if available for that block, or 2) adjust the Mix to 100% and set Bypass Mode to "Mute In" or "Mute Out."

*Because parallel effects require special settings, the VP4 has a built-in "Help" page. To view it, select any **Routing** parameter on the Mix Overview page and then press **ENTER**.*

Bypass Mode

Bypass Mode might be considered an expert feature, as most musicians won't need to adjust it often. However, understanding how it works may prove useful.

You can set Bypass Mode for an effect to determine how it behaves when bypassed. Each channel of an effect can have its own Bypass Mode, allowing for different behaviors across channels. While not every block type has this feature, most do.

You can find Bypass Mode for each effect on the **Home > Preset Mix/Routing** page. It's also available in **Expert Edit** (p. 25) for each effect.

> **TIP**   **USING CHANNELS?** If so, remember to check the Bypass Mode setting for each one. See p. 34 for more on Channels.

The default setting of "**Mute FX In**" for time-based effects allows spillover of tails when the effect is bypassed. The default setting of "**Thru**" for non time-based effects behaves similarly to "True Bypass" on a pedal – while bypassed, that effect has no impact whatsoever on the sound.

Different effects include additional options, detailed here:

MUTE – When the block is bypassed, both wet and dry are totally silenced.

THRU – When bypassed, the block is completely disengaged. None of its parameters have any effect on the sound. It behaves like an empty effect.

MUTE FX IN – When the block is bypassed, the inputs to the wet portion of the effect are muted, effectively turning off the effect while "tails" ring out or "spillover." The dry signal remains the same whether the effect is on or off.
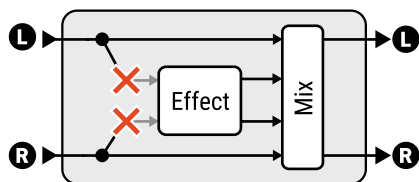
Note that **Level**, **Balance** and other parameter that affect the Dry signal continue to do so even when the block is bypassed.

MUTE FX OUT – When the block is bypassed, the outputs of the wet/effect are muted, ending tails immediately. The bypassed effect continues to process audio, so tails are already present when you turn it back on. The dry signal remains the same whether the effect is on or off.
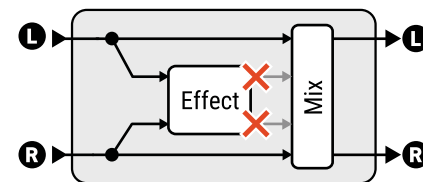
Note that **Level**, **Balance**, and other parameter that affect the Dry signal continue to do so even when the block is bypassed.

MUTE IN – When the block is bypassed, its inputs are muted. This silences both wet and dry signal but allows effect tails to spillover. Use this mode when you want tails on a time-based effect in parallel and **Kill Dry** is not on or available.
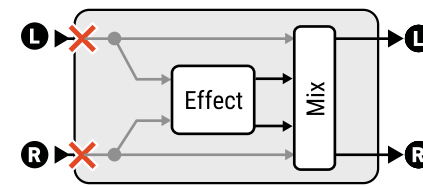
MUTE OUT – When the block is bypassed, all audio is totally silenced immediately, but the input is still "listening" so tails will be "pre-loaded" when you engage the effect. Use this mode when you want no tails on a time-based effect in parallel and **Kill Dry** is not on or available.
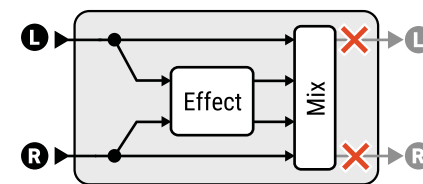
Spillover

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

When Bypassing an individual Effect

For tails that ring out when a block is bypassed, set the block's **Bypass Mode** (p. 31) to "MUTE FX IN". This is the default setting for most time-based effects. For effects routed in **parallel** (p. 30), use "MUTE IN" instead.

When Switching Channels

Spillover will continue when you change an effects channel, but be aware that different channels use the same memory, so changes to parameters like type, time, or size may cause a "sweep" effect in the tail. To ensure perfect spillover, use multiple blocks of the same type instead of changing channels.

When Switching Scenes

Since scenes simply bypass or engage blocks, and potentially change their channels, see the two entries above to ensure perfect spillover.

When Changing Presets

Spillover between presets is more involved. First, go to **SETUP > Global Settings** and set the **Spillover** parameter to determine whether "DELAY," "REVERB," "DELAY & REVERB," or "ALL" will spill over when switching presets. ("ALL" includes Delay, Reverb, Plex Delay, Multitap Delay, and Megatap blocks.)

You must also ensure the exact same blocks exist in each preset you switch between. These blocks need to be the same **block type** and **number;** **Delay 1** spills over only to **Delay 1**; **Delay 2** to **Delay 2**, and so on.

The corresponding blocks must also have similar settings and placement. For example, if you switch from a preset where **Delay 1** is a "Digital Mono" delay with Time 200 ms, to one where **Delay 1** is a "Analog Stereo" with Time of 500 ms, the tails and tone will not be consistent across the change. Similarly, you might hear a difference in the tail if a block is placed before vs. after another effect across different presets.

TRY IT!

▶ Place a Delay effect in a new preset. Turn up the Mix and Feedback, and use a footswitch to bypass the effect. It will also work if a Scene bypasses the effect for you.

▶ With Global Spillover set to "ALL", save an exact copy of your preset to a new location and test spillover as you change between them. You can use this technique as a starting point, making changes in the new preset without disrupting any of the settings that affect spillover.

Disabling Spillover

You can also apply these techniques to **disable** spillover.

For example, the Bypass Mode "THRU" or "MUTE FX OUT" can be used to kill the tail instantly when an effect is bypassed.

You can also disable the global preset spillover setting by setting it to "OFF".

Reset Tools

The Tools menu allows you to reset various parts of the current preset to their default settings. Use Reset when you need a fresh start after making changes to an effect block or other area, or as a troubleshooting step.

▸ Turn **A** to select a category from the left column.

▸ Turn **C** to choose a specific tool (some categories have only one option).

▸ Press **ENTER** to execute and confirm.

The four "Reset FX" options include tools for each channel, with the currently selected channel indicated by a dot. You'll also find tools to reset the **Input Gate, Main Levels/EQ,** and the entire **Controllers** menu**.**

Note that resetting an effect or channel does not remove any modifiers. To do that, go to **Home > Controllers > Modifiers**, open each modifier you want to remove, and change its Source to "NONE"—or just remove the entire block and re-insert it into the preset.

Remember to **Save** a preset after performing any reset(s) if you want the changes to be permanent.

Intro to Scenes

Imagine a traditional pedalboard where you might want to turn multiple pedals on or off quickly to set up different sounds — in other words, tap-dancing. **Scenes** in the VP4 simplify sound changes by allowing you to switch between effect combinations with a single action. Scene even include a way to adjust the overall output level. Scenes can also change effect **Channels** (right).

Scenes don't need to be created—they're already there, ready to be set as desired. To save any changes to a scene, you must save the entire preset. When you save any preset, you can also give each scene its own name.

SELECT A SCENE

▸ In **Scene Mode**, tap a footswitch to select the corresponding scene.

▸ On the **Home Page**, you can also select the Scene name

> ▼ **TAP** any switch to load a **Scene** from the current **Preset**.
>
>   1   2   3   4
>
> ▼ HOLD 1:   ▼ HOLD 4:
> **Previous Preset**   **Next Preset**
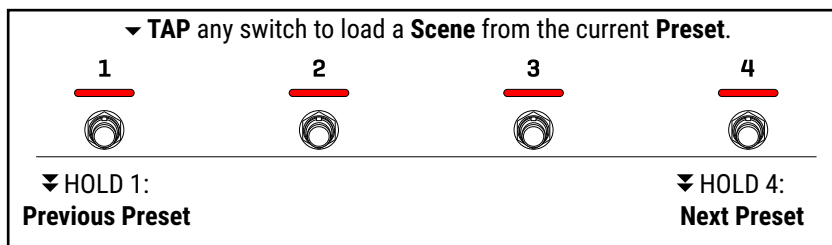
   and press **ENTER** to use the **Scene Picker**.

  ▪ **MIDI** – MIDI can be used to select Scenes using the various options in the **SETUP > MIDI/Remote** menu ().
  ▪ **VP4-Edit** provides an easy, one-click way to change the Scene.

⚠ *Keep in mind, Scenes do NOT store individual parameter values. If you want an effect to have different settings in different scenes, even if it's just for a single knob, you'll need to switch the effect to a different channel.*
The flip side of this is one of the great benefits of using scenes: any changes made to a channel will conveniently adjust all other scenes that use the same channel, making it easy to apply consistent updates across multiple scenes.

Intro to Channels

With channels on the VP4, each effect block is like entirely different versions of that effect rolled into one.

Every effect in every preset has four independent channels: **A, B, C**, and **D**. YOu can change the channel manually, or a Scene can change it for you.

While Channels can't change the **Block Type** (e.g., DRIVE vs. DELAY), they can change the **Effect Type** and all other settings. For example, **Channel A** of a Drive could be dialed in as a clean boost, **Channel B** as a laid back overdrive, **Channel C** as a dimed distortion, and **Channel D** as a spitty fuzz. Every knob or setting in each channel is independently adjustable!

SELECT A CHANNEL

The VP4 offers various ways to select a channel, whether for editing or during a performance.

▸ In FX Mode, **press and hold** the footswitch for any effect to display its **Channel Picker**. This requires the default Gig Mode setting ().

     Ⓐ   Ⓑ   Ⓒ   Ⓓ

  ▫ The main display shows the **Effect Type** for each of the channels.
  ▫ Tap a channel switch to select and exit, or press and hold to select and stay.
  ▫ On the HOME page, this selects the effect. However, while editing, you can change any effect's channel without switching away from the one you're editing.

  ▪ **While Editing an Effect** – Page left to the "Type" page and turn **Knob D**.
  ▪ From **HOME**, page right to the **Preset Mix/Routing** page. Once there, turn **Select** to highlight the "Channel" row and turn **ABCD** to set the channels for four effects.
  ▪ **MIDI** – MIDI can be used to change the Channel.
  ▪ **VP4-Edit** provides an easy one-click way to change the channel.

SETTING UP CHANNELS

To set up a Channel, simply select it as described above, change the various settings, and then save the preset. Note that any MODIFIERS () apply to all channels.

Working With Scenes

SETTING UP SCENES

Whenever you create a preset, you are already using at least one Scene. Setting up additional scenes is easy. Here are step-by-step instructions:

▸ Change to **Scene Mode** and select the desired Scene.

▸ Change to **FX Mode** and turn Effects ON or OFF using the footswitches.

▸ Set the **CHANNEL** for each block as desired ().

▸ Test and save your preset, adding names to your scenes as desired. See for more on saving changes.

Scenes Example:

SCENE 1	SCENE 2
OFF DRV A / CHO A / OFF DLY A / REV A	DRV B / OFF CHO A / DLY A / REV B
In this example, the Chorus and Reverb are on, Drive and Reverb Off.	In this scene, the Chorus turns off and all the other effects turn on.
Imagining the Drive on channel A as a Clean Boost, you could manually turn it on or off in FX mode.	The Drive changes to channel B. Imagine that it is a Screamer Drive, making this like a "lead" scene.

With four scenes in every preset, you have the flexibility to create a variety of sounds within a single preset, each tailored to whatever you need it to do.

ADJUST SCENE LEVELS

Scenes can also adjust the overall output level. When boosting a scene, remember to be on guard against output clipping. If you can't turn up one scene loud enough without clipping, turn the others down.

▸ Press **HOME** and then change to **Scene Mode** first so you can use the footswitches to check levels as you change Scenes.

▸ Press **Page Right** 2x to the **Main Levels** page.

▸ Use **SELECT** and **ABCD** to adjust Scene Levels.

▸ Save the Preset.

THE DEFAULT SCENE

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

If you'd rather override this behavior, you can change the Default Scene in **SETUP>Global Settings>Default Scene.**

Scene FAQ

FAQ: Do I Need to Use Scenes and Channels?

You can enjoy the VP4 without needing to understand Scenes or Channels. Even if you don't dig in to presets, you can use the FX very much like traditional pedals.

Do recognize, however, that Scenes and Channels are *always there* whether you rely on them or not. They're like the gears on a multi-speed bike: you can ride and never change gears, but they're still there. In the same way, you're always using at least one scene, and every effect is set to one of its four channels. So technically, YES, you need to use Scenes and Channels, but you don't really need to know much about them unless you want to take things to a new level.

FAQ: Why does editing an Effect change every Scene?

It doesn't have to, but unless you understand and use Channels, it will.

If you want an effect to have a different settings in a different scenes, you'll need to set it to a different channels.

Whenever you edit an effect block (like Drive, Delay, or Reverb), it's always set to one of its four Channels (A, B, C, or D). When you change the settings for that Channel, all Scenes that use that Channel will have those changes, which is why edits might affect multiple Scenes.

To avoid this, switch the effect block to a different Channel before making edits. This way, your changes apply only to the Scenes using that Channel, leaving the others unaffected.

Remember, each effect has four channels, and there are four scenes, so it is possible to have unique settings in every scene if you want.

One benefit of this approach is that you can share Channels between scenes where you want them to stay the same. Additionally, since each Channel can have a completely different **Effect Type**, you're not just getting snapshots of a given knob. Instead, it's like having four effects in one!

TIP: If you want only slight changes, use VP4-Edit to copy any Channel to another before making adjustments. See the next FAQ.

FAQ: Can I Copy/Paste Scenes or Channels?

It is not possible to copy/paste scenes or channels directly on the VP4

VP4-Edit includes tools to copy one Scene to another, however, as long as you do this inside of a single preset. It is never possible to copy Scenes across presets.

VP4-Edit also allows you to copy effect **channels**. Within any block, you can copy A,B,C, or D to any other channel — or to ALL channels.

You can even copy a channel to the clipboard to be pasted into another block of the same type — and this even works across different presets!

VP4-Edit also includes a **Library** which can save any channel—or an entire block with all four channels and all modifiers—for instant recall at any time in any preset. Think of this having your favorite settings on speed dial. You'll need to use the Library in VP4-Edit on a computer, however, since it is not available from the VP4 front panel.

FAQ: How do Modifiers work across Channels?

Modifiers allow remote control and automation. Learn more beginning on .

On the VP4, a modifier applies to all channels of the block where it is created. For example, if you assign an expression pedal to control the "Mix" in one channel, that pedal will also control the "Mix" in every other channel. You cannot assign a modifier to only one channel and not the others.

Be aware that within a block, some effect types have parameters that others don't. In these cases, a modifier might either have no effect or could impact a different aspect of the sound. For example, a "Hall" reverb offers a "Stereo Spread" control, but a "Spring" reverb does not. If Channel A is set to a Hall and Channel B is set to a Spring, a modifier on Stereo Spread won't work while the Reverb is on channel B.

Channels Tutorial

This section continues the . If you haven't done so already, please complete that section before continuing.

Set Up Channel B in the Drive Block

▸ Change to **FX Mode**.

▸ Press and hold the footswitch for the **Drive** effect. The **CHANNEL PICKER** will appear. Notice that Channel A is selected. Its footswitch is bright and it is shown with a white dot. The text beside each channel in the Picker shows the currently assigned Effect Type for that channel.

▸ Change to **Channel B** by pressing footswitch 2.

▸ Press **ENTER** to edit the Drive.

▸ Because this effect has already been edited, you will arrive first at the first page of knobs. Press Page Left to go back to the Type picker.

▸ Turn **SELECT** or **knob A** to highlight the "**Tube Drive 3-knob**" type.

▸ Press **ENTER** or **Page Right** to show the settings for the Drive.

▸ Dial in the **Tube Drive** however you like and press **EXIT** when you're done.

▸ Repeat the above steps to dial in Channel C and Channel D for the drive block.

    ▫ Use the **CHANNEL PICKER** to change the drive to **Channel C**.

    ▫ Dial in Channel C however you like it and press **EXIT** when you're done.

    ▫ Use the **CHANNEL PICKER** to change the drive to **Channel D**.

    ▫ Dial in Channel C however you like it and press **EXIT** when you're done.

▸ When you're finished, set the Drive Block back to Channel A and save the preset.

Your Drive now has four channels set up to play!

Now continue to the Scenes Tutorial (right).

Scenes Tutorial

Set Up and Save Scene 1

▸ Change to **Scene Mode** and select **Scene 1** by tapping footswitch 1.

▸ Change to **Effects Mode** and set up the FX as follows:
Phaser: OFF, Drive: OFF, Delay: OFF, Reverb: ON

▸ Make sure the Drive block is on **Channel A**.

    ▫ Press and hold the footswitch for the **Drive** effect. The **CHANNEL PICKER** will appear. Tap footswitch 1 to select Channel A.

▸ Save the preset by pressing **SAVE**. Turn **SELECT** to the **Scene 1 Name** row and use knobs **A, B, C, and D** to enter the name "**Reverb**".

▸ Press **ENTER** twice to save all of these changes.

Set Up and Scene 2

▸ Change to **Scene Mode** and select **Scene 2** by tapping footswitch 2.

▸ Change to **Effects Mode** and set up the FX as follows:
Phaser: ON, Drive: ON, Delay: OFF, Reverb: ON

▸ Make sure the **Drive block** is on **Channel A**.

Set Up and Scene 3

▸ Change to **Scene Mode** and select **Scene 3** by tapping footswitch 3.

▸ Change to **Effects Mode** and set up the FX as follows:
Phaser: ON, Drive: ON, Delay: ON, Reverb: ON

▸ Change the **Drive block** to **Channel B.**

    ▫ Press and hold the **Drive** effect footswitch to use the **CHANNEL PICKER.**

▸ Let's learn to adjust **Scene Levels**. Press HOME.

▸ Press Page Right 2x to go to the preset Main Levels page.

▸ Use **SELECT** and **knob C** to set **Scene 3 Level** to **+4.00 dB** (for a boost).

▸ Press **HOME** when this is done.

Set Up and Scene 4

▸ Change to **Scene Mode** and select **Scene 4** by tapping footswitch 4.

▸ Change to **Effects Mode** and set up the FX however you want.

Save Everything and Try It!

▸ Press **SAVE**. Enter names for Scenes 2, 3, and 4. Press **ENTER** 2x when you're done

▸ Change to **Scenes Mode** and try out all four scenes using the footswitches.

Modifiers

Modifiers are one of the most exciting features in the world of Fractal Audio. They allow effect parameters to be remote controlled or automated in real time. With modifiers, the creative possibilities are practically limitless: control the sweep of a volume pedal, wah, or whammy, the rate of a modulation effect like phaser or rotary, the gain of a drive, the input gain ("send level") of a reverb or shimmer, and more.

Starting simply, you might assign a connected expression pedal. Digging deeper, you'll discover other "sources" to use instead of pedals: every preset has its own LFO, Envelope Follower, Sequencer, a Pitch Follower, and an ADSR "envelope generator". You can also use a MIDI CC# message via an "External Controller."

Modifiers can also be stacked, so, for instance, one pedal could simultaneously adjust delay feedback, mix, and more. Additionally, you decide both the minimum and maximum range that the target parameter should change. For example, a reverb mix could range from 0-100%, or be limited to just 25-40%. Expert users will enjoy the ability to dial in custom curves and more. Each preset can have up to 16 different modifiers in total.

Modifiers are easy to use but offer fantastic potential for those who want extreme creativity or control.

CREATING A MODIFIER

The process of creating a modifier starts at the parameter you want to control. Parameters that support modifiers are marked with a yellow circular symbol (illustrated below). When a modifier is already assigned, the circle appears solid, like a yellow LED that's turned ON. This symbol can appear on knobs, switches, text parameters, sliders, or any other type of control.
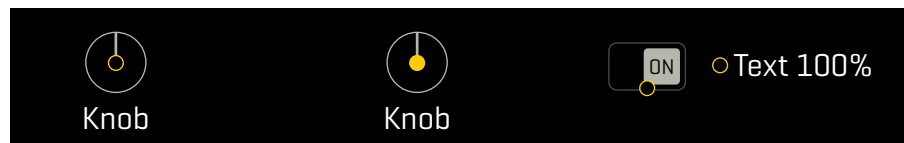
Knob	Knob	ON ○Text 100%
The open circle means you can add a modifier here.	The filled circle means a modifier is already present.	Here, a switch and a text parameter allow modifiers.

TO CREATE A MODIFIER

▸ Select any parameter that supports a modifier. Look for the yellow circle.

▸ Press the **ENTER** button to show the Modifier screen

▸ On the Modifier screen select the **Source** you want to use to control the parameter — for example, "PEDAL 1". The basic modifier page also allows you to:

　▫ Select a **Source** to control your parameter. (Learn more on the next page.)

　▫ Set the **Range** for the parameter being controlled. For example, a Volume pedal might be set to range from 0.0 (silent) to 10.0 (max) or might be limited to 8.0–10.0, going from "slightly dialed down" to "full on".

　▫ You might want to set up **Auto-Engage** (p. 39) which activates the effect based when the modifier is used. NOTE: This disables normal ON/OFF footswitch control of the effect, but eliminates the need for an extra stomp, or a separate toe-switch.

　▫ You can adjust the **Performance** "Update Rate". The "Fast" setting is the smoothest but uses a bit more CPU.

▸ Press **EXIT** to leave the modifier menu.

▸ **SAVE** the preset to save the modifier.

TO EDIT OR REMOVE A MODIFIER...

To edit an existing modifier, use the process above for creating a modifier.

▸ To remove a modifier, simply change its SOURCE to "NONE".

FAQ: Why Can't I Change a Setting once it has a Modifier?

You can't manually adjust a parameter that is under the control of a modifier. Modifiers are shared across all channels, so plan accordingly.

In the event you want to remove a modifier and can't find it, or when a modifier on one channel causes unexpected results on another, you can find a list of all modifiers in the current preset in the Controllers menu. See .

Modifier Settings

The Modifier screen contains settings to control how the modifier works.

SOURCE

The Source is the controller which drives a modifier. There are 12 options:

- **Pedal 1, 2** – Use these to directly assign pedals or switches connected to the VP4. Instruction for setting these up begin on .

- **External 1, 2, 3, 4** – External Controllers allow you to assign MIDI CCs as modifier sources. They can also be set globally to either of the onboard PEDAL jacks. To assign a CC or pedal globally to any of the 4 External Controllers, open SETUP > MIDI Remote, scroll down using SELECT, and then turn A to assign the desired value.

- **LFO A, LFO B, ADSR, Sequencer, Envelope** – The VP4 includes four "Internal Controllers" that can be used as modifier sources. Settings for these sources can be found in the **Controllers** menu () and are saved independently in every preset.

- **Pitch** – The Pitch Detector analyzes the pitch of your playing and outputs a low value for low notes and a high value for high notes. It is keyed to the lowest and highest notes on a standard 6-string guitar.

- **None** – Assigning this controller removes the modifier from a parameter.

PARAMETER RANGE

The Range settings define **Min** and **Max** points for how the target parameter responds to the source. These allow you to fine-tune sound changes.

EXAMPLE 1: 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 normally goes from -100% to +100%.

EXAMPLE 2: The modifier for a pedal controlling **Rotary Rate** has **Min** at "0.67 Hz" and **Max** at "6.5 Hz" (classic "chorale" and "vibrato" speeds for a Leslie). Meanwhile, the rate can actually span from range 0 (parked) to 10.0 Hz.

AUTO-ENGAGE

If you've ever used a Wah pedal without a toe-switch, you'll quickly grasp the concept of "Auto-Engage." Just like a Wah that automatically turns on when you push it forward and bypasses when you pull it back, Auto-Engage works similarly but can be applied to any effect. Once you try it, you may find that it comfortably eliminates the need for expression pedal "toe" switches.

Auto-Engage engages or bypasses any block when the **Source** of a modifier changes. It has two settings:

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 when 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.

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

Off Value – Sets the position threshold that the source must cross for auto-engage to occur. If Off Value is below 50%, the effect bypasses when the controller goes below the threshold. If it's set to 50% or higher, the effect bypasses when the controller goes above the threshold. For "heel down = bypassed," set to 5%. For "toe down = bypassed," use 95%.

PERFORMANCE

Update Rate controls how often the modifier is refreshed. The setting of slow is in fact still very fast, and fine for the vast 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 on a filter, for instance). Adjust this setting if you think you hear "zipper noise" while a modifier is in use.

EXPERT OPTIONS

In the same way that effects allow "Expert" editing (), so do Modifiers. The next page covers these additional options.

Expert Modifier Settings

Modifiers support "Expert" editing () in the same way effect settings do. To show the Expert settings for any modifier, first display its basic Modifier page, then switch to Expert mode by pressing **Page Left** and **Page Right** at the same time. All of the basic Modifier settings (previous page) also appear in expert mode, plus the following additional options:

◀PAGE + PAGE▶ = 👆😎
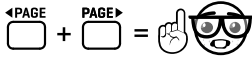
Customizing Source-Parameter Curves

Start, **Mid**, **End**, **Slope**, **Scale**, and **Offset** are used to create custom curves which re-map the relationship between the modifier source and the value of the target parameter. A **graph** shows the relationship between the source (x-axis) and the parameter (y-axis). The 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 other examples below show examples of the kinds of shapes and curves you can create using Start, Mid, End, Slope, Scale, and Offset.
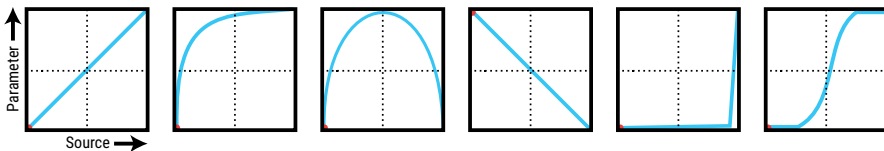
Damping

Attack and **Release**: These values apply "damping" to slow the rate at which the target parameter value chases the source. **Attack** determines the rate of change as the source is increased, and **Release** controls the rate as it decreases. At low settings, these add just a little smoothing. Try settings of about 10 ms to "relax" a pedal or to ease the edges of a square LFO to eliminate clicks and pops. Higher settings can cause sound changes to be extremely slow and lazy.

PC Reset

PC Reset allows you to set a specific value for an external controller when a preset first loads. This feature temporarily overrides the actual position of the external controller until it is physically moved or updated.

Here's how it works:

▸ While setting up a modifier, turn PC Reset to "ON."

▸ Save the preset.

▸ Return to editing the effect and locate the parameter that has the modifier applied. Normally, you wouldn't be able to adjust the value of that parameter directly. However, with PC Reset turned ON, you can set and save a specific value.

▸ This value will be used when the preset loads, until the external controller (like a pedal) is physically moved, which then updates the parameter.

MODIFIER TIPS & TRICKS

▸ The same source can be assigned to multiple modifiers at the same time. For example, one pedal might adjust Chorus Rate and Chorus Depth at the same time — even in different ways.

▸ Modifiers use a very small amount of CPU power while you use them. Test any presets which seem close to the edge.

▸ In addition to Auto Engage, you can also assign modifiers to the "Bypass" parameter.

▸ The LFO, Sequencer, and ADSR are used as modifier sources, but these also have parameters of their own which can be controlled by a modifier. For example, an expression pedal can control the rate of the Controller LFO. An Envelope can turn the Sequencer on or off. The potential for creative sound design is immense!

▸ The last page of the Controllers menu contains a list of all of the modifiers used in the current preset. When you select one of these, you can press ENTER to open that modifier for editing.

Modifier Tutorial: Wah

This tutorial will help you learn to create a modifier. If you've already set up an expression pedal for use with your VP4, you can use that pedal here. If not, you can add one using the instructions on , or use the option below to create an "LFO wah" instead, requiring no pedal.

1. Select any preset that does not already contain a Wah block.

   □ To select a preset, enter **Preset Mode** and use **Knob A** and **ENTER**.

2. Turn **SELECT** to highlight the effect slot where you want to place the Wah.

3. Turn the Type knob below the desired slot to "**WahWah**" and press **ENTER**.

4. Press **ENTER** to edit the Wah.

5. Select a type such as "Cry Babe" and press **Page Right** to the settings for the Wah.

6. Select the top row of controls, then turn **knob A** to select the "**Wah Control**" setting. This highlights it in blue.

7. Press **ENTER** to show the **Modifier** screen.

8. The "Source" setting will be highlighted. Turn **Knob A** to select "**Pedal 1**". (Option: You can also use "**Pedal 2**" if you have it set up, or if you don't have a pedal, try "**LFO A**".)

9. Test your pedal. You should hear the wah working, and see the on screen dot moving while you move the pedal.

OPTION: If you want the Wah block to bypass automatically when you move the pedal to the heel position, change "Auto-Engage" from "OFF" to any of the other options, such as "Medium Position".

10. Press **EXIT** return to the Wah edit menu.

11. **SAVE** your preset if you want these changes to be permanent.

Next Steps: Try a Sequencer Wah

1. Start with the preset you created using the tutorial in the left column.

2. On the **HOME** page, turn **SELECT** to highlight the Wah.

3. Press **ENTER** to edit the Wah.

4. Find and highlight the "**Wah Control**" knob, then press **ENTER** to open the modifier screen.

5. Change the source to "**Sequencer**". The sequencer is one of the on-board controllers that can be programmed independently in every preset. We'll adjust it in a moment...

6. Scroll down on the Modifier page and make sure **Auto-Engage** is set to "OFF".

7. If your Wah is bypassed, turn it on now using the appropriate footswitch.

8. Now let's edit the sequencer. Press **HOME** and then Tap **Page Right** repeatedly until you land on the **Controllers** page.

9. Press **ENTER** to open the **Controllers** menu.

10. Page to the **Controllers > Sequencer** page.

11. Select the top row. Change **Run** to "RUN". Set **Steps** to "8"

12. Select the 2nd row. Use knobs A-D to Set **Steps 1-4** as desired.

13. Turn **SELECT** one click to the right. Set **Steps 5-8** as desired.

14. You can continue to explore the Sequencer, or press **HOME** when finished.

15. Don't forget to **SAVE** your preset if you want to make these changes permanent.

The Controllers Menu

The Controllers menu contains **Internal Controllers** provided for use as modifier sources. It also provides access to preset **Tempo** settings.

To view or edit these Internal Controllers:

▸ Load the desired Preset

▸ Press **Home,** and then press **Page Right** six times to **CONTROLLERS**.

▸ Press **ENTER** to open the Controllers menu

▸ You can page left and right to access **Tempo**, **LFO**, **Envelope Follower**, **ADSR** (Envelope Generator), **Sequencer**, and the **Modifiers** overview for the current preset.

▸ Press **HOME** or **EXIT** at any time to exit the Modifiers menu.

▸ If you want to save your Controller changes, save the entire Preset.

Controllers > Tempo

The Tempo page allows you to view or change the tempo, change tempo setting for the current preset, and turn on a metronome to use for practicing.

Tempo - Sets a specific tempo such as 90 beats per minute (BPM).

TIP: While you're on this page, the **ENTER** key allows you to tap the desired tempo. The Tap Tempo feature has two modes: "AVERAGE" – which results in smooth changes over multiple taps and "LAST TWO", which sets the tempo instantly after just two taps. You can choose the desired option in **SETUP > Global Settings > Tap Tempo Mode.**

Tempo To Use - Determines how the VP4 behaves when the preset loads. The choices are:

▫ **GLOBAL TEMPO**: The Global Tempo value is a system setting independent of any preset or effect. When you load a preset with this setting, the tempo does not change from whatever it was previously.

▫ **PRESET TEMPO:** When you load a preset with **Tempo To Use** set to "PRESET," the saved Tempo value takes over.
(Note: The Global Tempo remains set in the background and will be used when you load a different preset with "Tempo To Use" set to "GLOBAL.")

Metronome - Adjusts the level of a built in metronome, handy for practicing.

Controllers > LFO (A/B)

An LFO (Low-Frequency Oscillator) generates a slow, repeating signal that can modify various aspects of a sound. Common examples include the pulse of a tremolo, the sweeping motion of a phaser, or the random filter effect heard in Frank Zappa's "Ship Ahoy." The Internal Controller LFO can be assigned as the source for any modifier, enabling you to craft a wide range of interesting effects. It offers the following settings:

Rate, Tempo – You can manually set the rate in Hertz, or synchronize it to a rhythmic value in time with the VP4's tempo.

Depth – This controls the amplitude, or intensity, of the LFO, adjusting how prominently it affects the sound.

LFO Type - Sets the waveform shape. Options include classics like Sine, Triangle, Square, Saw, and Random, as well as more specialized shapes like Log, Exponential, and Astable, which simulates certain analog LFOs.

Duty and **Shape** – These alter the waveform in distinctive and useful ways. Adjusting the Duty of a Square wave, for instance, controls the proportion of time that the waveform stays in its "high" state versus its "low" state during each cycle. The best way to understand these controls is to observe the waveform graph while making adjustments.

High Cut – filters the waveform, smoothing out aspects of its shape.

Quantize – This converts smooth waveforms into stepped ones. For example, applying Quantize to a Triangle waveform will change its smooth, continuous rise and fall into a series of distinct "terraces".

Run – Starts and stops the LFO. This can be used to assign a Pedal/Switch or Envelope Follower to trigger the LFO, or to start/stop it via MIDI, ensuring perfect alignment with a track.

Output B Phase: The LFO outputs two signals, and you'll see LFO A and LFO B listed in the modifier sources. You can use this control change the Phase of output B with respect to A.

Controllers > Envelope Follower

The Envelope Follower generates a control signal based on the dynamics of your playing. You can fine-tune its sensitivity and response time, making it ideal for "touch" effects that react to how hard or soft you play.

You can independently set **Attack** and **Release** times, adjust the trigger **Threshold**, and control the input **Gain**. Additionally, **Low Cut** and **High Cut** filters let you shape the response without altering what you hear. A meter shows the response in realtime while you play.

Controllers > ADSR

The ADSR controller is an envelope generator. Once triggered, it changes its output value over time with adjustable settings for **Attack, Decay, Sustain, Sustain Level**, and **Release** ("ADSR"). A graph visually represents the effects of these settings as you make adjustments.

The ADSR is triggered when the signal level surpasses a set point called the **Threshold**. A Type parameter lets you choose between Linear and Exponential curves. You can observe the graph to see how these settings affect the envelope.

The ADSR has three modes—**Once, Loop, and Sustain**—and can optionally be set to **Retrigger** every time the signal level goes above the set point, rather than needing to play all the way through before retriggering. Unlike the **Envelope Follower** (above) the ADSR envelope generator produces the same control signal each time, but only triggers when you play with enough intensity.

Controllers > Sequencer

The **Step Sequencer** brings rhythm and movement to a sound by creating control patterns. **Rate** and **Tempo** allow you to define the speed of your sequence, while **Stages** lets you select the number of steps in the pattern. Use the **Run** switch to start or stop the sequence, and the **Step** button to advance the sequence manually. Finally, **Damping Time** smooths the transitions between stages, giving your pattern a more fluid, less abrupt feel.

Controllers > Modifiers

The last page of the Controllers menu is the Modifiers list, which displays all the modifiers in the current preset. You can edit any modifier in this list by selecting it and pressing ENTER. Each preset can include up to 16 modifiers, but remember that each one also demands a tiny slice of CPU!

Pitch Detector

The **Pitch Detector** is available as a Source for modifiers, though it doesn't appear in the **Controllers** menu since it has no adjustable parameters. It analyzes the pitch of your playing, outputting a low value for low notes and a high value for high notes, calibrated to the range of a 6-string electric guitar in standard tuning.

External Controllers

External Controllers are also Modifier Sources, but they need to have a control source assigned to them in order to function. For each of the four External Controllers, you can globally assign PEDAL 1, PEDAL 2, or any MIDI CC# message.

For example, if you want to use MIDI CC#11 to operate a Wah effect, you would first assign "CC#11" to **External 1** in global SETUP, and then use External 1 as the Source of a modifier controlling the Wah.

While this proxy method is indirect, it has several advantages. First, it allows you to share presets between those who use different pedals in different ways, providing an easy way to make global changes instead of editing every preset. One person might use PEDAL 1 as a Global Volume while another uses it for Wah, Whammy and other flexible scenarios. Yet another might connect a MIDI controller with its own onboard pedal that transmits CC#11.

External Controllers assigned to MIDI are given a value of "0" until some MIDI data is received to change them. The External Controller Initial Value parameters can change the startup value for a MIDI controller to any value. Then, when the VP4 is powered on, any modifiers assigned to the missing controller will be at the desired value instead of at 0.

Find the options to assign and set the initial value for External controllers in the **SETUP > MIDI/Remote** menu.

The Setup Menu

As noted in the introduction to this manual, the Setup menu contains various global settings, options, utilities, and information, with pages for **Audio, Pedals, Footswitches, MIDI/Remote, Settings, Reset**, and **System Info**.

OPEN THE SETUP MENU

▸ Press **ENTER** and **EXIT** together.

▸ Use **PAGE LEFT** and **PAGE RIGHT** to navigate the menu.

▸ Press **EXIT** to go back to wherever you came from.

ENTER   EXIT
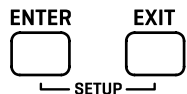
└── SETUP ──┘

⧗   Changes in SETUP are stored automatically as you make them. When this happens, the title bar of the VP4 will display "**SAVING...**". Do not power while the VP4 is saving, or your most recent changes could be lost.

The following pages contain a complete reference detailing every page and option in the Setup menu.

SETUP > Audio

PARAMETER	Description
Input Meter	This meter shows the audio level in the VP4 after the Input Pad (see below). The meter turns red when input clipping occurs.
Input Pad 0, 6 dB, 12 dB, 18 dB	The **Input Pad** setting can be adjusted from 0 dB (for low-level input signals) to 6 dB, 12 dB, or 18 dB (for progressively louder input signals). The default Input Pad setting is 12 dB, which is ideal for guitars with hot pickups. When the input clips, the words "**IN CLIP**" also appear in red in the title bar of the main display, indicating the need to increase the pad setting. **Automatic Input Pad Adjustment:** If the input of the VP4 clips persistently, the unit will automatically increase the Input Pad setting. When this occurs, the word "Auto" will appear next to the Input Pad value, for example: "12 dB (Auto)" indicating that the pad was automatically increased to 12 dB. When you reboot the VP4, the automatic setting is cleared, and the last manually selected value is restored. If you want to make the automatic pad setting permanent, just turn the Input Pad knob one "click" to clear "Auto" and set the desired value. While "4CM Routing" is enabled, a common input pad setting is shared by both PRE and POST inputs. Excessive levels at either of these will cause the automatic pad setting to be applied to both. *If the input still clips with the pad setting at 18dB, decrease the output level of the device(s) connected to the VP4 input(s).*
Input Mode MONO, STEREO	Determines whether the VP4 accepts signal in mono or stereo. When using the VP4 with a single input, set the **Input Mode** to 'MONO' and connect to the **L/Mono** input only. When using the VP4 as a stereo device, make sure to set the Input Mode to "STEREO" and always connect cables to both the left and right inputs (L/Mono and Right). The **Input Mode** setting is overridden when the global "4CM Routing" option is ENABLED.
Input Source Analog, SPDIF, USB 3/4	Sets the input source, selecting between **Analog** (the onboard jacks), **SPDIF** (the onboard SPDIF IN connector) or **USB Channels 3/4**, which appear as outputs on a connected computer. See p. 15 for more on USB. Connect only 48k streams to the SPDIF input, as the VP4 will automatically derive its 48k clock signal from the detected input.
Output Mode STEREO, SUM L+R, COPY L->R, MUTE	This setting determines how signal is processed at the analog outputs. This control makes it easy to use the same presets in a variety of stereo and mono environments. USB and SPDIF Audio goes directly to the converters in stereo and is NOT affected by this setting. The option "MUTE" is available in case you want to eliminate analog audio from the VP4 while using it with a DAW. The **Output Mode** setting is overridden when the global "4CM Routing" option is ENABLED. See Mono vs. Stereo on p. 11 for more on how the VP4 processes audio internally.
Output Phase NORMAL/INVERT	Determines whether signal at the output will be normal or phase-inverted relative to the actual output of the input or effects. You can use this in a pinch to correct phase inversion problems elsewhere in your setup.
USB 1/2 & 3/4 Level -40.00 – + 20.00 dB	The **USB 1/2 Level** and **USB 3/4 Level** parameters adjust USB playback levels from -40 to +20 dB. While computer audio playback levels are typically set on the computer itself, these controls are useful when you need an additional boost or cut.

SETUP > Footswitches

The footswitch page allows you to designate how Press & Hold works on the VP4.

Note: The default "Gig Mode" (see) has a press and hold function on every footswitch. This causes effects and other tap functions to fire when you release the switch instead of when you tap it. You can completely disable all press and hold function, or even assign custom functions using **Press & Hold Mode**, below.

PARAMETER	Description
Press & Hold Mode	Selects between available options for global press and hold footswitch functions.
	Disabled - Disables all press and hold functions. Every operation must be executed using the knobs, buttons, and tap switches.
	Gig Mode - Selects a ready-to-play set of custom press-and-hold functions. See **p. 6** for full details.
	Custom Mode - Allows you to select between various options for press and hold on the four switches.
Hold Timeout 0.25 – 2.00 Seconds	This sets the time limit before any Hold function is fired, beginning from the moment the switch is depressed. When a Hold function is assigned, a Tap function fires if the switch is released before the press and hold timeout elapses.

Tap a switch WITHOUT a Hold function

time

Tap function fires at the moment you tap the switch, just like an analog pedal.

Tap a switch WITH a Hold function

Press and Hold Timeout (0.50 seconds by default)

time

A Hold function DELAYS the Tap function until you *release* the switch, as long as this happens before the Timeout.

Hold Function Under a Tap Switch

Press and Hold Timeout (0.50 seconds by default)

time

When you hold a switch, its HOLD function fires once the Timeout runs out. The Tap function does not fire.

Custom Press & Hold 1 **Custom Press & Hold 2** **Custom Press & Hold 3** **Custom Press & Hold 4**	These four parameters provide the option to assign optional global Press & Hold functions to the four footswitches of the VP4. These options are shown when Press & Hold Mode is set to "CUSTOM". IMPORTANT: Any custom assignment is global across every mode.

▸ **Disabled** – The selected footswitch has no hold function. It's tap function fires at the moment the switch is depressed.

▸ **Mode Select** – The mode select screen is displayed, just as if you had pressed HOME + SAVE.

▸ **Preset Mode, Scene Mode, FX Mode, Tuner Mode** – The VP4 changes to the designated mode.

▸ **Bank +1, Bank -1** – The VP4 switches to the next or previous bank of four presets. Which ever preset was selected in the

▸ **Preset +1, Preset -1** – The VP4 switches to the next or previous Preset.

▸ **Scene +1, Scene -1** – The VP4 switches to the next or previous Scene.

▸ **Channel Picker** – Shows the 4-button "Channel Picker" for the corresponding effect. For example, if this function is assigned to switch 3, holding Switch **3** = will show the channel picker for the effect in slot **3**.

▸ **VP4 Bypass** - Engages analog bypass for the VP4.

SETUP > Pedals

PARAMETER	Description
Pedal 1 Type **Pedal 2 Type**	Set this according to the what you have connected. **EXPRESSION PEDAL** - Choose this option when connecting an expression pedal such as the Fractal Audio EV-1 or EV-2. 3rd party expression pedals 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. Each pedal jack can also support one switch. The use of dual switches is not supported. **SWITCH (Any, Follow Hardware)** Use this setting when you connect a latching switch, or when you connect a momentary switch and want momentary action. **SWITCH (Momentary, Virtual Toggle)** Use this setting to cause a connected momentary switch to behave like a latching/toggle switch.
Calibrate PEDAL 1 **Calibrate PEDAL 2**	These options allow you to calibrate expression pedals connected to an onboard **Pedal** jack. ‣ Select the appropriate option and press **ENTER**. ‣ Move the pedal through its full range of motion several times. The meter will show the actual response of your pedal, which does NOT need to fully reach the top or the bottom but should show motion across the majority of the range. ‣ Press **ENTER** again when finished. ‣ The mini-graph on the main **Pedals** page now shows the output of your calibrated pedal. If it does not range from 0-100, calibrate again or check your cable, pedal, etc. **Remember**: Switches, unlike pedals, do not need to be calibrated but should still display 0-100 on the mini-graph.

SETUP > MIDI/Remote

PARAMETER	Description
MIDI Channel 1–16, OMNI	Sets the channel on which the VP4 will receive MIDI messages. "OMNI" causes the unit to respond to incoming messages on *all* channels.
MIDI Thru Off, On	This enables or disables MIDI thru, which causes messages received at the MIDI In port to be merged with any internally generated MIDI data at the MIDI Out port.
Receive MIDI PC ON/OFF	Determines whether the VP4 will process or ignore incoming MIDI Program Change messages.
Send MIDI PC 1–16 OMNI OFF	Determines whether or not the VP4 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 FM3. 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 *all* channels.
Ignore Redundant PC ON/OFF	This setting determines whether the VP4 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 footswitches to toggle effects, and then reload the preset to have it revert to its saved state.
INITIAL VALUE: **External Control 1–4**	These parameters specify the initial value to be used for each of the External Controllers () when the VP4 is powered on. This value persists until data is received from a MIDI controller. This is especially useful when an external MIDI controller is absent. For example, if you normally use a MIDI expression pedal to control the volume in your presets, a missing controller might make the preset get "stuck" in a muted position. Setting an initial value of 100% for the External Controller mapped to that MIDI 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 locally connected pedals or switches.

SETUP > Pedals (Continued)

PARAMETER	Description
Input Volume **Output Volume**	These individual parameters allow you to globally control the input or output levels of the VP4. Use these for convenient global Volume without needing to "waste" one of the effects on a Volume block.
Tempo Tap	Provides the ability to tap the tempo using an external switch. Learn more about Tempo on
Tuner	Provides a way to remotely enter or exit the Tuner.
Tuner on Heel Down	You can set the VP4 to automatically display the tuner when the designated Pedal or MIDI CC is in the "Heel Down" position (≤5%). This feature works best when the same controller is also assigned to **Input Volume** or **Output Volume**, allowing the tuner to pop up when you turn the volume down.
FX 1,2,3,4 Bypass	These four options allow you to use external switches or MIDI messages to bypass or engage the four FX of the VP4.
FX 1,2,3,4 Channel	These four options allow you to use external switches or MIDI messages to set the channel for each of the four FX of the VP4.
External 1,2,3,4	External Controllers are Modifier Sources that require data from an input such as a Pedal Jack or a MIDI CC# message to function. For instance, if you want to use MIDI CC#11 to control a Wah effect, you would assign CC#11 to **External 1**, then use **External 1** as the Source for a modifier in the Wah block. Think of an External Controller as a "proxy" that connects your physical or MIDI controller to effect parameters. For each of the four External Controllers, you can assign PEDAL 1, PEDAL 2, or any MIDI CC#. See for more on External Controllers.
External 1,2,3,4 Initial Value	On the MIDI/Remote page, you'll find the four INITIAL VALUE parameters at the bottom. These allow you to set the default startup value for External Controllers assigned to MIDI. This assigned value will remain active until the appropriate MIDI CC# message is received to update it.
Preset +1, Preset -1	These two settings allow you to step up or down through the presets of the VP4 using MIDI CC# messages.
Scene Select	This feature allows you to choose specific Scenes based on the value of a MIDI CC message sent to the VP4. The value refers to the data associated with a particular MIDI CC# message, not the CC# number itself. For example, if you assign MIDI CC#17 to control Scene Select, the value sent for CC#17 (ranging from 0 to 127) determines which Scene is loaded: 0 = Scene 1 2 = Scene 3 4 = Scene 5 6 = Scene 7 1 = Scene 2 3 = Scene 4 5 = Scene 6 7 = Scene 8 The series continues, cycling through scenes 1–8 for values 8 through 127.
Scene +1, Scene -1	These two settings allow you to step up or down through the Scenes of the current preset using MIDI CC# messages.
VP4 Bypass	The VP4 features buffered analog bypass. This passes signal directly from the input to the output with no digital conversion, latency, or digital processing. If you want to control analog bypass using a connected pedal/switch or MIDI, choose the desired option here.

SETUP > Global Settings

PARAMETER	Description
Gapless Changes ON, OFF	On the VP4, preset, scene, and channel changes are gapless by default. The option to turn this feature off is provided because it can help conserve a small amount of CPU resources.
Spillover OFF, DELAY, REVERB, DELAY+REVERB, ALL	Allows **Delay** and **Reverb** tails to continue ringing out, or "spillover," when switching **Presets**. Setting this to "OFF" clears the tail upon preset change. Selecting "ALL" enables spillover for Delay, Reverb, Plex Delay, Multitap, and Megatap blocks. NOTE: Spillover when bypassing an effector changing scenes is automatic and determined by the Bypass Mode, so it's not affected by this parameter.
Automatic VP4 Bypass OFF, ON	The VP4 features a buffered analog bypass, which passes the signal directly from input to output without digital conversion, latency, or processing. To have analog bypass activate automatically when all four effects are bypassed, set this option to ON.
Tap Tempo Mode AVERAGE, LAST TWO	Determines how the tempo is adjusted when tapping the Tempo footswitch, an external tap tempo controller, or the EDIT button on the **Controllers > Tempo** page. "AVERAGE" is based on the average of the last ten taps, making it more forgiving but resulting in more gradual changes. "LAST TWO" uses only the last two taps, requiring more precise tapping but allowing for quicker tempo changes.
Noisegate Offset +/- 40 dB	Globally adjusts the THRESHOLD of the Input Noise Gate, raising or lowering it across all presets. If the THRESHOLD for a specific preset is set to "OFF," the global Offset will have no effect. This can be particularly handy in situations where the overall noise environment changes, such as moving between different venues with varying levels of interference or when swapping between different instruments that might have different noise sensitivity.
AC Line Frequency 60 Hz, 50 Hz	Certain types in the Noise Gate use smart EMI filtering to reduce hum and buzz. To ensure optimal performance, set this parameter to match the power line frequency of your region: **60 Hz** for North America, Taiwan, South Korea, some parts of South America and other regions. 50 Hz for most of Europe, the United Kingdom, Australia, China, India, South Africa, the majority of Asia, and parts of South America. This setting is crucial for the Noise Gate to effectively filter out unwanted noise based on your local power supply frequency.
Startup Mode PRESETS, SCENES, EFFECTS	Sets the mode that will be active when the VP4 is powered on.
Default Scene AS SAVED, 1–8	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.
LCD Contrast 0–100%	Adjusts the contrast of the main display.

SETUP > Global Settings (Continued)

PARAMETER	Description
Switch LED "ON" Brightness **Switch LED "OFF" Brightness** 1–100%	These two settings independently adjusts the brightness of footswitch LEDs when they are turned ON or OFF.
Fade Selected Effect Timeout OFF, 1–10 Seconds	On the Home page, the selected effect is highlighted with a yellow box. If you find this distracting while playing, you can set the highlight to fade after a period of up to 10 seconds. To bring the highlight back, simply turn **SELECT** by one click, or toggle any effect on or off.

SETUP > Reset

PARAMETER	Description
Reset System Parameters	This utility resets ALL parameters in the **SETUP** menu and **Tuner** back to factory default values. Reset system parameters is a useful step during troubleshooting. Importantly, this action does not delete or modify your presets. You will be prompted to press **SAVE** and then **ENTER** to confirm. Always turn your amp or speakers off before performing RESET SYSTEM PARAMETERS on the VP4 . 1) Resetting system parameters is irreversible; 2) This option can change audio levels; 3) In a rig wired for 4CM, you will need to manually change 4CM Routing back to ENABLED after performing a Reset.

Clear All Presets	This utility allows you to Clear all Presets. You will be prompted to press ENTER to confirm. Be very careful with this option—erasing presets is irreversible!
	
	If you want to restore the factory presets instead, follow these steps:
	
	▶ Visit the Download page for the VP4 and download the latest Factory Presets file.
	https://www.fractalaudio.com/vp4-downloads
	    ▫ *On Windows, you'll need to unzip the downloaded file. Mac OS does this automatically.*
	▶ Open **VP4-Edit**, launch **Fractal-Bot** from the **Tools** menu, and follow these steps:
	    ▫ In Section 2 - CHOOSE A FILE TO SEND, browse to the SysEx file you downloaded.
	    ▫ Press Begin and then SEND. Allow the transfer to complete. Once done, close Fractal-Bot.
	    ▫ In VP4-Edit, choose Refresh Preset Names from the Preset Menu.

SETUP > System Info

PARAMETER	Description
	This screen shows the current firmware version, the date it was released, and CPU usage level.

Specifications

INPUTS

Connectors:	(2) 1/4" phone jack, unbalanced
Impedance:	1 MΩ (less, w. "Input Impedance" settings applied.)
Max. Input Level:	+20dBu

A/D CONVERSION

Bit Depth:	24 bits
Sample Rate:	48 kHz
Dynamic Range:	114 dB
Frequency Response:	20 – 20kHz, +0 / -1 dB

ANALOG OUTPUTS

Connectors:	(2) 1/4" phone jack unbalanced
Impedance:	600Ω
Max Output Level:	+16dBu

D/A CONVERSION

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

DIGITAL I/O

Connectors:	RCA Coaxial Type for S/PDIF in and out
Format:	Uncompressed PCM
Sample Rate:	48 kHz fixed

USB AUDIO

Format:	USB 2.0 Class compliant, USB Type "C" connector
Channels:	8 (4 in, 4 out, each mapped to specific ports internally)
USB Audio Clock:	48 kHz fixed

MIDI INTERFACE

Input Connector:	(1) TRS 3.5 mm Female - Type A
Output Connector:	(1) TRS 3.5 mm Female - Type A
Thru:	No dedicated connector, but incoming MIDI can be merged to the output by enabling **Setup > MIDI/Remote > MIDI Thru** to "ENABLED"

PEDAL INTERFACE

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

GENERAL

Finish:	Powder coated steel chassis.
Controls:	6 buttons, 5 knobs, 4 footswitches.
Display:	480 × 272 high contrast color LCD.
Dimensions:	10.0" W. × 2.6" H. × 6.31" D. (254.0mm W. × 66.0mm H. × 160.3mm D.)
Weight:	3 lbs 7 oz (1.56 kg)
Power Requirement:	9V DC 1.3A
Power Connector:	2.1mm barrel connector, negative center
Internal Battery:	NONE

ENVIRONMENTAL

Operating Temperature:	32 to 122 °F (0 to 50 °C)
Storage Temperature:	-22 to 167 °F (-30 to 70 °C)
Humidity:	Max. 90% non-condensing

Dimensions

10.00in REF
[254mm]

254mm

160.3mm

6.31in
[160.3mm]
REF

WEIGHT: 3 lbs 7 oz / 1.56 kg

2.75in
[69.9mm]
TYP

1.66in
[42.1mm]

2.51in
[63.6mm]

2.51in
[63.6mm]

.28in
[7.1mm]

8.27in
[210mm]

4.75in
[120.7mm]

⌀ .63in
[15.9mm]
TYP

10.00in
[254mm]

6.31in
[160.3mm]
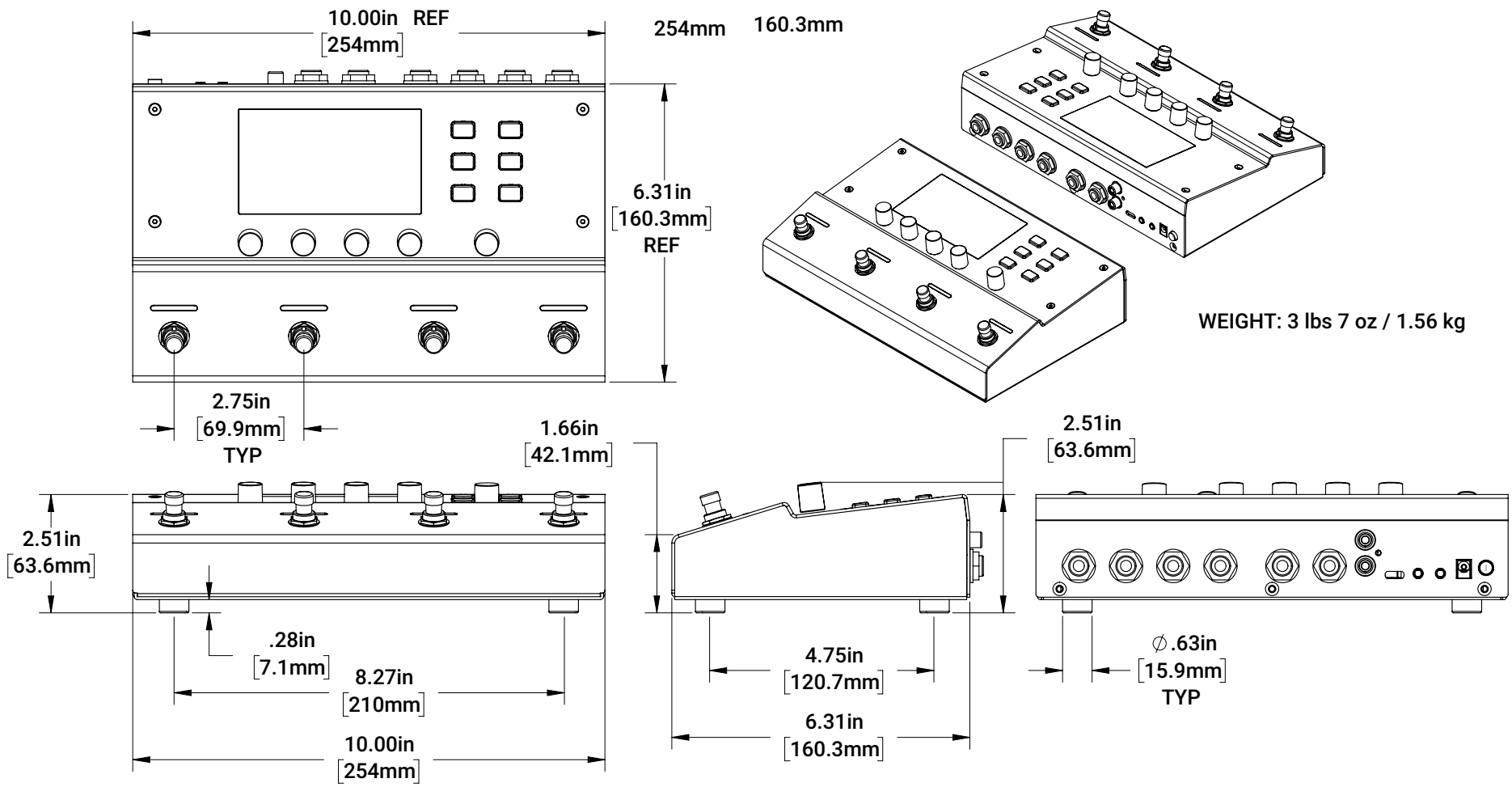
Feet are held in place with m3.5 screws

MIDI Implementation

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	O	Receivable CCs are globally soft-assigned to functions via the MIDI/Remote menu under SETUP. These include Input and Output volumes, Tap Tempo, Tuner, 4 "External Controllers" (assignable as modifiers to one or more parameters on a per-preset basis), additional Preset and Scene functions, , and all block BYPASS and CHANNEL switches.
Program Change	True Number	O	O	The VP4 can transmit PC messages.
	Bank Select	X	O	
System Exclusive	Fractal Audio	O	O	SysEx is used extensively for VP4-Edit.
	Real time	O	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	O	VP4 Global Tempo syncs automatically to MIDI Beat Clock. VP4 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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Factory Preset Notes

A1: Virtual Pedalboard	Four basic effects in a simple pedalboard for a pedal platform amp.
A2: 70s Pedals	Another take on the basic pedalboard with a throwback feel. This one has a Wah with auto Engage mapped to Pedal 1
A3: Vintage EHFX >	Pedalboard with effects based on four classics.
A4: Bossy FX	Collection of colorful stompboxes. So many of us began with these classics and they're still on our boards today.
B1: Country Living	Break out your Tele and get to chicken pickin'! Each effect has four full dialed in channels. From AustinBuddy
B2: Rotary Scenes >	Classic Rotary Speaker Tones with four Scenes. Scene 3 is a blend of dry and Rotary. In Scene 4, you can use Pedal 1 to control the speed.
B3: Mod Squad Pedals >	Rare 80s modulation effects. Most of the channels on the 4 effects are dialed in for stereo. By Leon Todd and M@
B4: Mod Squad Racks >	Modulation pedals collection. Based on a preset by Leon Todd.
C1: Drive Drive Drive!	Stacked Drive Pedals for classic staging. Try them alone, or combine them in interesting ways. Don't miss channels! AustinBuddy.
C2: Drives on Display	Four Drive pedals with four ABCD settings = 16 different drive block tones dialed in by AustinBuddy. There's also a boost.
C3: Distortion Explorer	8 different distortion-specific types in two blocks, plus four GEQ pre-block tonal sculpture options and a delay
C4: Fuzz Into Fuzz	If you love fuzz, you probably love more fuzz. Here, they're stacked two at a time with different disgustingly beautiful textures to explore.
D1: Chorus Collection	A collection of chorus effects. Get to know some of the available types offered side by side. Based on blocks by AustinBuddy.
D2: Flange Factory	Four flangers to try, plus the "Andy's Mistress" effects from Axe-Fx III.
D3: Phaser Plethora	A plethora of phasers. Use this preset to get to know some of the available types offered side by side. Based on blocks by AustinBuddy.
D4: Trem-A-Lo-Los	Sample four of the many different styles of Tremolo on the VP4. Plex Detune in front of the Trem for a rainy night.
E1: Blackpanel Dad Rock	Ready for a gig, even if it's in your bedroom or basement, Cool "Dad Rock" tones from Michael Pickens.
E2: Grab and Go	Compressor Pedal, Auto-Engage Wah on Pedal 1, Griddle Cakes Drive, and DM-Two Delay. Leon Todd
E3: Bari Tony	Create classic vintage tones with this downtuned baritone sim.
E4: Fuzzy Synth Octaves	Mono synth with touch filter and distortion plus ring mod octave. Channels too! Use Controllers: Envelope to adjust filter response.
F1: Celestial Verbs	Four channels of shimmering star reverbs, plus four floating clouds, side by side. Auto-swell and Plex delay too! Leon Todd.
F2: Poly Octave Gens	Polyphonic Octaves Generator in two flavors plus bonus effects.
F3: Funk U Tron	Get your funk on with a squishy compressed Envelope Filter, plus pitch and echo options. Every block has 4 channels dialed in.
F4: Good Vibes	Vibrato Pedals are back in fashion. Here are multiple examples. Based on a preset by AustinBuddy.
G1: AW Clean	Andy Wood created this clean preset for use with a Woodshed compressor in front of the VP4.
G2: AW Tele	More from Andy Wood... Tele FX. Signature PEQ, plus a sweet Tremolo, Slapback, and Reverb.
G3: AW Lead FX	Andy Wood lead FX. You can use this with a drive pedal in front of the VP4 or potentially into a crunchy amp.
G4: Spaghetti Western	A nod to il maestro Morricone, with bonus scenes for Rockabilly and Hank's Shadows. Based on a preset by Leon Todd.
H1: MF Box o' Crunch	Marco Fanton created this preset based on the "Box o' Crunch" drive pedal, designed for a clean platform amp.
H2: MF Clean	Marco Fanton's clean FX preset contains four quintessential clean effects dialed in with channels.
H3: MF FAS	Marco Fanton created this preset based on the "FAS LED-Drive" pedal, designed for a clean platform amp with delay, reverb, and more.
H4: ZOSO FX	Classic fuzzes, vintage echo, and a phaser with attitude. Dial in Jimmy Page-inspired tones and turn it up.

I1: Austin Stevie	Crank up some Texas tone with these SRV-inspired effects from AustinBuddy.
I2: Austin Johnson	Tools for getting an "EJ" type clean, dirty, and lead sound, by AustinBuddy.
I3: Lowell's Slide	The two compressor in series trick heard on so many great slide guitarists records, by AustinBuddy
I4: Later Jimi	A range of effects inspired by Jimi Hendrix. Based on a preset by "Hippie Tim"
J1: May Day	Got a sixpence? Adjust Filter to taste. S3 has a custom harmony (E maj) with creative extras. Use with a clean amp or remove Drive for "Post". Channels too!
J2: VitAmIn S	An inspired tribute featuring Wah, Whammy, Drive, Detune, Octaves, Delay. Based on presets by "Hippie Tim"
J3: Zapped	Based on Dweezil Zappa's Gift of Tone. Dynamic Flanger and Sample/Hold Filter. Adjust Dyna using Controllers > Envelope. Add a wah in front for the real deal.
J4: You Too Buddy?	AustinBuddy brings U this preset containing distinctive dot eight delays, SDD preamp, and plex shimmer.
K1: Downtune Capo	Virtual Capo set to -1, -2, and -3, plus a "Fake Bass" in Scene 4.
K2: Zero Flange	"Zero crossing" will be familiar if you've heard tape flanging on a track like "Itchycoo Park" or "Listen to the Music". Automatic and Pedal 1 versions.
K3: Megataps	The Megatap allows up to 128 taps on a single delay line. Hear it in action here.
K4: Digital-al-al-al >	Vintage digital delays doing what they do best... best... best.... Leon Todd
L1: Galacticus Verb	Extreme space reverbs including one with a pedal 1 "Hold", plus extra effects.
L2: Magneto Echoes	Magnetic Delays with tape distortion and compression, plus optional spring reverb.
L3: Aurora Australis	Angelic multitap echoes plus appropriate pedal effects before and after. Adjust Master Pan in the MTD for mono or stereo. Leon Todd.
L4: Custom Harmonies	The VP4 allows custom scales to be saved inside the pitch block. Here are a few examples saved as scenes/channels. "Jessica" scale by AustinBuddy.
M1:80s Comp'd Fx	The 80s were a decade of excesses, like clobbering guitar effects with post compression like in this preset.
M2:Rhythmic Blissing	Fractal Audio "Interns" Owen and Charlie created this cool synchronized effect with heavy modulation and a 16th not "chopper"
M3:Psychadelic '67	Reverse delay adapted from an Axe-Fx III preset used on the live "Experience Hendrix" tour.
M4:RockMeOn Clean	Leon Todd evokes a classic "walkman processor" style clean tone in this throwback designed for a clean amp.
N1: Run Like Heck	Inspired by the big rig that sends all others back to mother in a cardboard box. From Cooper Carter.
N2: Floyd Leads	Four Floyd Lead effects in this preset from Cooper Carter and the players in Brit Floyd.
N3: Cooper's Toolbox	Gigging preset with four dialed-in pre-FX from Cooper Carter.
N4: Feedbaq Mach 3 /P1	Pedal 1 brings 3 different overtones of feedback in this preset by Dweezil Zappa and Matt Picone.
O1: Against the Machine	You can choose between wah and whammy, both mapped to pedal 1, plus delay and phaser in this raging preset from Cooper Carter.
O2: Cosmic Voyage	Two delays and two reverbs create dramatic ambient effects in this preset from Cooper Carter.
O3: The Beauty Way	Larry Mitchell produced this VP4 preset with four scenes based on sounds in his live show.
O4: Dual Tape St. Spring	Parallel Tape Echoes and dual spring reverbs are featured in this preset from VP4 all-star beta tester @Pedalbuilder
P1: MF FX Post	Marco Fanton's Post FX preset contains chorus, delay, plex, and reverb.
P2: AW Stripes Post	Andy Wood created this Post FX preset after distortion in his pedalboard rig.
P3: Hair Metal Post	Post FX with hairspray and spandex. Based on a preset by "Flyingfadr"
P4: Rack Gods Post	Leon Todd's take on a huge rack of post FX.

Q1: Lerxst FX Post	Blah blah blah, blah blah blah blah blah blah. Blah blah? Blah BLAH blah blah!
Q2: JP Loop FX Post	Effects from the Gift of Tone preset by John Petrucci including Rhythm, Chorus, and Lead sounds..
Q3: LT FX Post	Leon Todd presents a collection of his favorite Post effects here.
Q4: Mark Day Post	Fractal Audio's own Mark Day dialed in this preset containing his favorite post FX. The filter is a foot-switchable boost, with each channel at a different level.
R1: Neal's Post FX	Effects from Neal Schon's "Gift of Tone" preset fine tuned by Cooper Carter.
R2: Double Plex Post	Huge stereo plex delays in parallel, plus traditional delay and detune adorn this massively wet post fx preset, also from Leon Todd.
R3: Stereo Delays Post	"Simple" delays plus extra effects make up this selection based on a preset by Leon Todd.
R4: Parallel FX Loop Tpl	This template preset is preconfigured for a parallel effects loop. All FX are 100% wet or have "Kill Dry" turned on, and mute when bypassed.
S1: Basses Loaded	Classic and modern bass effects with channels dialed in.
S2: Bass'd On	This ready-to-play bass preset also contains multiple channels of EQ that you can use to instantly sculpt your tone.
S3: Bass-X	Bass-X is way beyond the basics, with Distortion, Envelope Filters, Octaves and Echo!
S4: Acoustic Toolkit	This simple toolkit contains channels of Compresor, EQ, Chorus, and Reverb ready for acoustic guitars.
T1: VP4 | 4CM	This starter preset for 4CM is a re-spin of "A1: Virtual Pedalboard" that's designed for 4CM rigs.
T2: Mod Squad 4CM	Preset B3 and B4 are combined in a 4CM configuration in this preset.
T3: Gift of Djent 4CM	Based on selections from our popular "Gift of Tone" series, this preset includes pre and post FX ready for use with a 4CM rig.
T4: 4CM Parallel Loop	This 4CM preset is preconfigured for a parallel effects loop. All FX are 100% wet or have "Kill Dry" turned on, and mute when bypassed.