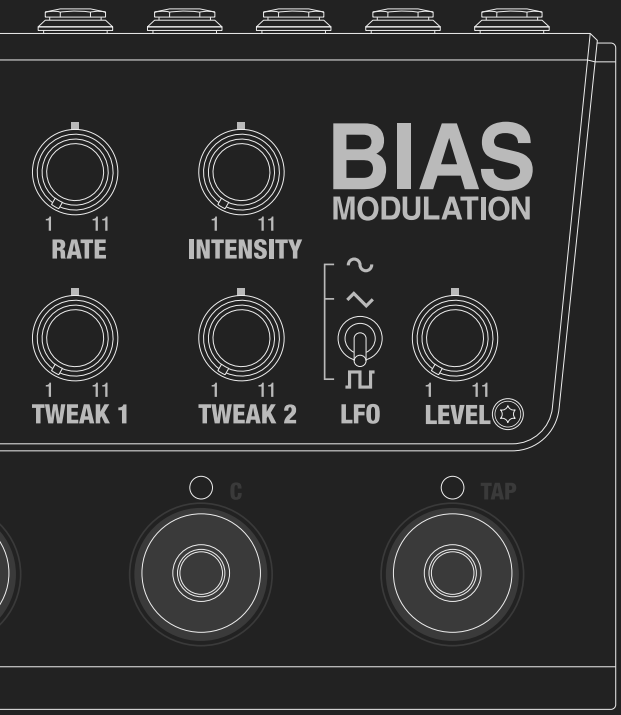
Positive Grid®



BIAS MODULATION

Product Manual

INTRODUCTION

First and foremost, thank you for purchasing BIAS Modulation, the world's first cross-platform Modulation pedal! BIAS Modulation lets you quickly and easily design thousands of custom Modulation pedals from scratch. It can be seamlessly integrated with BIAS Pedal Modulation software (on both mobile and desktop platforms).

For all you hardware enthusiasts out there, our BIAS Pedal software provides a virtual workshop for you to build your own modulation pedals inside and out. From the time-based modulation to the amplitude modulation, all the custom designs for modulation pedals you can ever imagine are possible for you to create.

Before you plug in your guitar and start jamming, please take the time to review this owner's manual and go over some of the basics about the pedal.

CONTENTS

BIAS Modulation

Introduction 1

Getting started 5

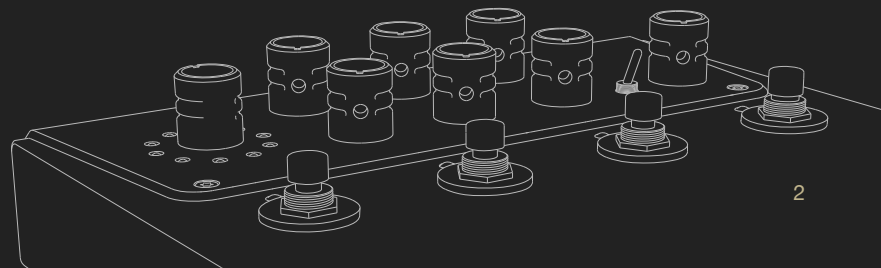
- Within the box
- Connect to a power source
- Signal Connection
- Connect with BIAS Pedal app

Overview 9

- Control Panel
- Footswitch Panel
- Rear Panel

Function and operation 11

- Mono & Stereo
- Engage & Bypass
- Save Preset
- Assign Footswitch
- Modulation Modules
- LFO
- Tap Tempo and BPM
- Expression Pedal
- Calibration
- MIDI
- Factory Reset



BIAS Pedal

Introduction — 22

How to get BIAS Pedal — 23

- Redeem & Activate My Software
- Buy BIAS Pedal on Apple App Store

BIAS Pedal user interface — 27

- Desktop Version
- Mobile Version

Preset menu — 31

Save Presets — 32

Signal path — 33

- Custom Panel
- Module 1 (Time-based modulation)
- Module 2 (Amplitude)
- Power Module
- EQ (Equalizer)

Noise Gate — 43

Amp Room — 44

ToneCloud — 45

- How to preview presets on ToneCloud
- Download presets from ToneCloud

Settings — 47

- Desktop version
- Mobile version

Connect with BIAS Delay — 49

- Remote Mode
- Device Preset Menu
- Store presets to BIAS Delay
- Device Setting Menu
- Firmware Upgrade

Others

Warranty — 53

End User License Agreement — 58

GETTING STARTED

Within the box

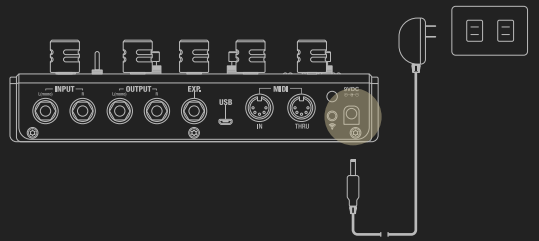
Please carefully review each item in the box:

- BIAS Modulation • 9V DC power adapter • Micro USB cable
- Quick Start Guide • Redeem card for BIAS Pedal Modulation Pack • Optional rubber feet

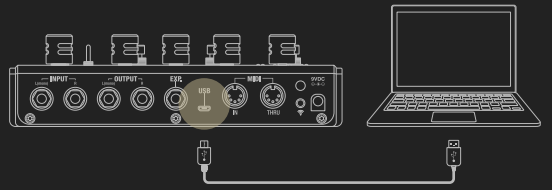
Connect to a power source

A 9V DC power adapter or a USB port (using a Micro USB cable) can power BIAS Modulation. You'll find both power connections on the pedal's rear panel.

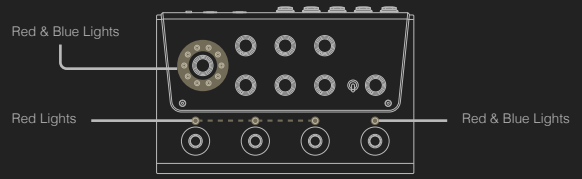
To power the unit with a 9V DC adapter, insert the power plug and connect the power adapter to an electrical outlet.



To power the unit via a USB port, insert the Micro USB cable into the pedal and connect the other end to a USB port on your laptop or desktop computer.



During the booting stage, all LEDs on the control panel will flash red and blue, indicating that the pedal is booting up.

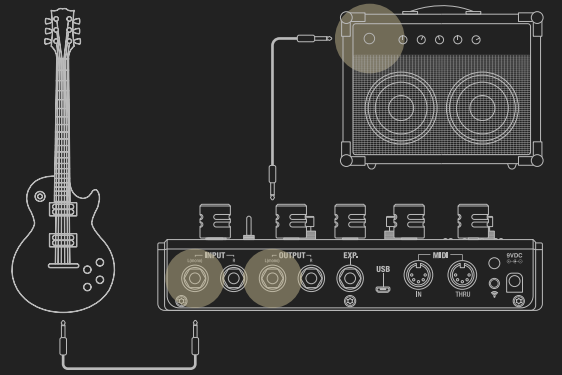


*Note: When the pedal is on, the wireless LED will begin to pulse softly, indicating that the pedal is on standby and ready for use.

Signal Connection

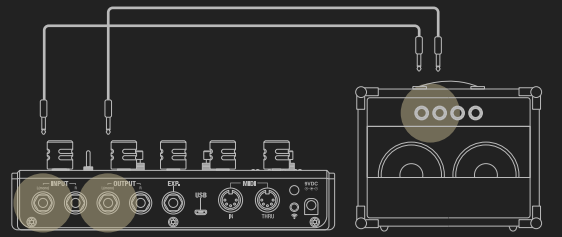
Here are two basic ways to connect BIAS Modulation in your signal chain.

1. Place the pedal in the signal chain before your guitar or bass amplifier. This will produce the pedal's modulation effects before the signal enters the amplifier. Make sure to keep the pedal's gain low with this setup or the sound might get out of control.



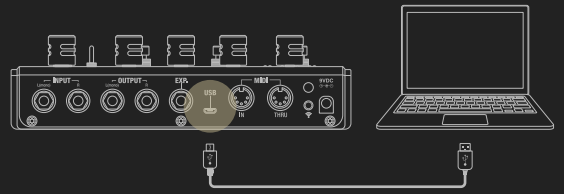
*Note: BIAS Modulation provides either True Bypass or Buffer Bypass for you to choose from (please refer to the Bypass Mode section of this manual). If you have a lengthy cable and a long signal path and want to preserve high frequencies, Buffer Bypass will be most suitable for your needs. On the other hand, if you want to tone down the harsh top end of your sound, True Bypass might fit your needs better.

2. If you have an amplifier that comes with an effect loop, you can connect BIAS Modulation to the effect loop to create modulation effects between the amp's preamp and power sections. In this setup, your modulation effect will be applied after the gain/overdrive stage and will typically sound more natural than with the first setup noted above.



Connect with BIAS Pedal app

BIAS Modulation comes with a license for BIAS Pedal - Modulation Pack (desktop software). You can redeem the software code on our store page (see the Redeem & Activate My Software section of this manual). In addition to BIAS Pedal (desktop), there's also a mobile version of BIAS Pedal for iPad (sold separately).



To connect with the BIAS Pedal desktop software, simply connect BIAS Modulation to your computer using the supplied Micro USB cable and launch the BIAS Pedal software. BIAS Modulation will automatically connect with the BIAS Pedal software and initiate Remote Mode (see the Remote Mode section of this manual).

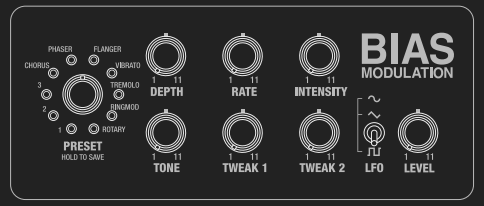
To connect with BIAS Pedal mobile, turn on the Wireless function on BIAS Modulation by engaging the Wireless button on the rear panel. The LED will start to blink, indicating that the pedal is now in pairing mode and ready for connection.

Next, launch BIAS Pedal mobile. Go to Settings => Connect. BIAS Pedal mobile will begin searching for an active BIAS Modulation pedal nearby and connect with the pedal automatically once it finds it.

*Note: If BIAS Pedal mobile is unable to detect your BIAS Modulation pedal, please check that the wireless function is turned on and reconnect again. Also try bringing your mobile device closer to the pedal.

OVERVIEW

Control Panel



• Preset knob

Controls the currently engaged preset. Once a parameter changes, the LED will start to blink, indicating that a change has been made to the current preset. Long-press the Preset knob again to save your changes. BIAS Modulation comes with 20 presets in total, with 10 presets assigned to each bank. Press the knob to switch between the 1st bank (red) and 2nd bank (blue).

• DEPTH

Controls the depth of the primary LFO (BIAS Modulation also includes a secondary LFO, which is discussed later in this manual).

• RATE

Controls the speed of the primary LFO.

• INTENSITY

Controls the level of the modulation effect.

• TONE

Controls a “tilt” filter (bipolar shelving filter). Turning the Tone control clockwise from its noon position attenuates low frequencies while simultaneously boosting highs. Turning the Tone control anti-clockwise has the opposite effect, boosting low frequencies while simultaneously cutting highs.

• TWEAK 1

The function of this control knob depends on the module and effect type that’s engaged. (see the Modulation Module section of this manual).

• TWEAK 2

The function of this control knob depends on the module and effect type that’s engaged (see the Modulation Module section of this manual).

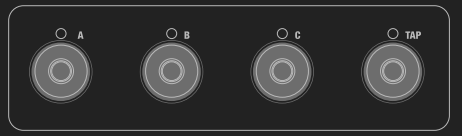
• LEVEL

Controls the overall output level.

• LFO

Selects among the available LFO waveforms: Round(sine), Triangle(Saw) and Pulse(Square). You can select from additional LFO waveforms in BIAS Pedal software.

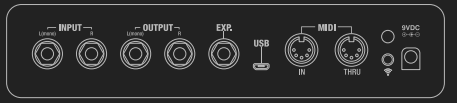
Footswitch Panel



BIAS Modulation comes with footswitches labeled A, B and C and a Tap Tempo footswitch. The A, B and C footswitches allow you to alternately engage and bypass presets in BIAS Modulation (see the Footswitch Mapping section of this manual for more information).

Yo u can tap the Tap Tempo footswitch twice, and the duration between taps will determine the BPM value. (See the Tap Tempo and BPM sections of this manual for more information.)

Rear Panel



• Input

Stereo ¼” TS Hi-Z jacks

• Output

Stereo ¼” TS jacks

• EXP.

¼” TRS jack for an expression pedal (see the Expression Pedal section of this manual for more information)

• USB

Micro USB port for supplying power to the pedal and for integrating the pedal with BIAS Pedal (desktop) software

• MIDI In/Thru

Supports standard MIDI communication using a 5-pin MIDI connector (see the MIDI section of this manual for more information)

• Wireless button and associated LED

There are 3 different LED states for the Wireless button:

> LED blinks slowly - Indicates the pedal is on standby.

> LED blinks rapidly - Indicates wireless connection is in pairing mode and ready to connect with BIAS Pedal mobile.

> LED is constantly lit - IIndicates the pedal is connecting with BIAS Pedal mobile software.

• 9V DC Power Jack

Supports a 9V DC power supply with negative tips. The minimum current draw is 270mA.

FUNCTION AND OPERATION

1. Mono & Stereo

BIAS Modulation comes with stereo inputs and outputs. With mono input (plugging into the left channel only), BIAS Modulation will duplicate the input signal on both channels so you can still get stereo signal at BIAS Modulation's outputs. This is necessary in order to hear some of BIAS Modulation's stereo effects panned properly. If you also plug into the pedal's right input, BIAS Delay will switch to stereo mode and process left and right channels independently.

2. Engage & Bypass

When you first plug the power in, BIAS Modulation pedal will be in Bypass Mode , meaning that the input signal will be passed through the pedal without any modification from the presets' processing. There are two different bypass types for BIAS Modulation:

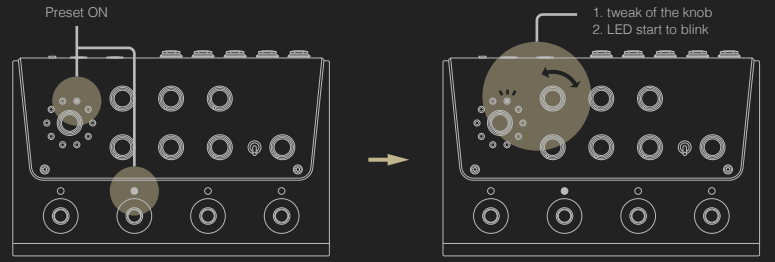
A. Buffer Bypass (System default) - The signal will go through the buffer circuit and generate a lower-impedance output signal. This allows the output signal to go through a much longer cable without compromising high frequencies. In addition, Buffer Bypass can prevent the common 'pop' noise you'd otherwise hear when engaging or disengaging a preset.

B. True Bypass - This creates a short circuit between the input and output to keep the bypassed signal untouched as a high-impedance output signal. If you are using a cable longer than 18.5 feet while using this bypass mode, you might get volume loss in the high frequencies.

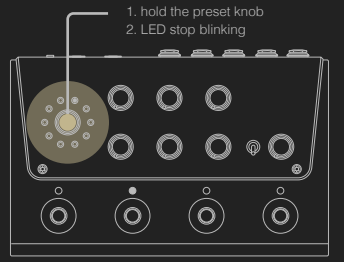
To engage a preset and hear its effect, press one of the A, B or C footswitches. Press the same footswitch again to switch back to bypass mode, or press another footswitch to switch to another preset.

3. Save Preset

Once the preset is on, you can tweak any of the knobs on the control panel to modify its sound. The preset LED will start to blink when you move a knob, indicating that the parameter has changed.

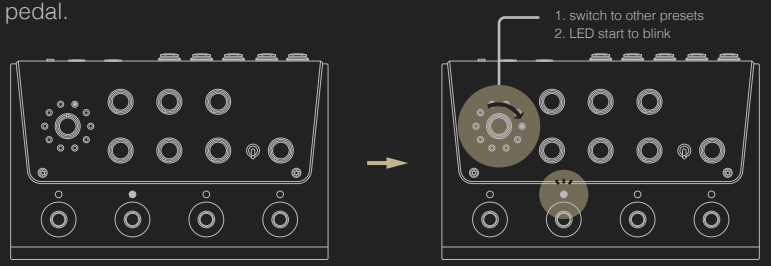


To save the parameter changes, hold the preset knob until the LED stops blinking.
To dismiss the changes, switch to another preset or switch back to Bypass Mode.

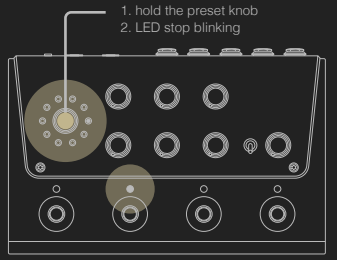


4. Assign Footswitch

Each footswitch can turn on or off one of the 20 presets assigned to it in the pedal.



To assign a different preset for a footswitch, just tweak the Preset knob to switch to another preset. The footswitch LED will start to blink. Hold the Preset knob until the LED stops blinking, at which point the preset mapping will update.



5. Modulation Modules

BIAS Modulation comes with two major modulation modules: time-based and amplitude-based. The time-based module (Module 1) manipulates the delay time inherent in effects such as Chorus, Phaser, Flanger and so on. The amplitude module (Module 2) dynamically alters the amplitude (volume) of the signal, creating tremolo or panning effects. With BIAS Modulation, you can choose to engage just one of these two modulation modules or use both modules at once to create unique modulation effects.

When only engaging one modulation module, the knobs on the pedal's control panel control the module. When engaging both modulation modules at once, the knobs on the pedal's control panel control only Module 1 (the time-based module). The Tweak 1 & 2 knobs control different parameters for Module 1 and Module 2:

For Module 1 (Time-based)

TWEAK 1 - Controls Feedback
TWEAK 2 - Controls Wobble speed (produced by BIAS Modulation's secondary LFO)

For Module 2 (Amplitude)

TWEAK 1 - Controls Shift
TWEAK 2 - Controls Wobble speed (produced by the secondary LFO)

To understand how the parameters mentioned above work, see the Module 1 and Module 2 sections of this manual.

6. LFO

The LFO (Low Frequency Oscillator) generates a very low frequency (below 20Hz) that modulates signal phase to create a modulation effect. Each type of LFO waveform produces unique characteristic in the resulting sound.

Built-in waveform types for BIAS Modulation:

- Round 
- Triangle 
- Pulse 

7. Tap Tempo and BPM

BIAS Modulation comes with a Tap Tempo footswitch that allows you to quickly set the BPM value that controls the LFO rate. The elapsed time between two taps represents a beat (¼ note) and determines the BPM (beats-per-minute) value.

For example, when you tap twice in 0.5 sec :

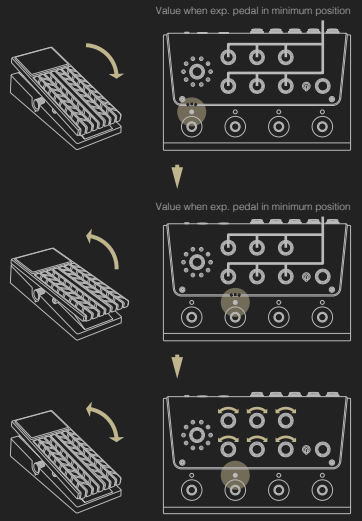
2 taps in 0.5sec = 1 beat in 0.5 sec = 120 beats in 60 sec = 120 BPM

After producing a BPM value using Tap Tempo, you can still adjust the RATE knob to change the note subdivision, to speed up or slow down the LFO rate. Set the RATE knob to the 12 o'clock position for a quarter note value.

8. Expression Pedal

BIAS Modulation supports expression pedals, giving you continuously variable control of multiple parameters at once while playing live onstage or in a recording studio.
BIAS Modulation can work with expression pedals fitted with standard TRS jacks. The expression pedal's range of control over BIAS Modulation's parameters is calibrated by moving knobs on your BIAS Modulation, as is explained immediately below:

- Calibration



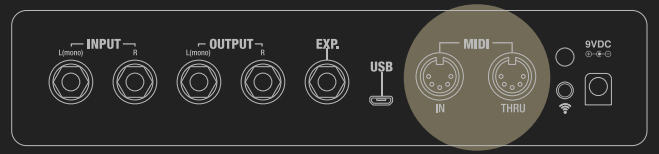
1. Plug in an expression pedal with a TRS cable.
2. Engage the preset you want to control with the expression pedal.
3. Hold down the Wireless button on the rear panel to engage calibration mode. LED A will start to blink. Set the expression pedal to its minimum position and turn the pedal's knobs to their minimum values. Press footswitch A to save the minimum parameter values for the expression pedal. Footswitch B will automatically start to blink as you finish calibrating the expression pedal with footswitch A.
4. Set the expression pedal to its maximum position, and turn the pedal's knobs to their maximum values. Press footswitch B to save the maximum parameter values for the expression pedal.
5. Hold down the Wireless button to leave Calibration mode.

- Control

Once you're done calibrating, the parameters will change linearly between their minimum and maximum values when you depress the expression pedal.

9. MIDI

BIAS Modulation supports standard MIDI commands:



- MIDI IN - This connector receives MIDI commands from an external MIDI device. Patch the MIDI Out connector on the external MIDI device to the MIDI IN connector on BIAS Modulation.

- MIDI THRU - BIAS Modulation will send the MIDI command it receives at its MIDI In connector out its MIDI THRU port. You can connect MIDI THRU to another MIDI device to receive the command from BIAS Modulation.

- MIDI Channel

The default MIDI Channel number is 1. With the BIAS Pedal app, you can select the MIDI channel from 1-16 or select Omni (in which case the pedal will receive MIDI commands on all channels).

- Program Change

Program Change allows you to switch presets using an external MIDI device. Here's how MIDI Program Change messages are mapped to BIAS Modulation's presets:

PC#	Preset
PC# 0	Preset 1
PC# 1	Preset 2
PC# 2	Preset 3
PC# 3	Preset 4
PC# 4	Preset 5
PC# 5	Preset 6
PC# 6	Preset 7
PC# 7	Preset 8
PC# 8	Preset 9
PC# 9	Preset 10
PC# 10	Preset 11
PC# 11	Preset 12
PC# 12	Preset 13
PC# 13	Preset 14
PC# 14	Preset 15
PC# 15	Preset 16
PC# 16	Preset 17
PC# 17	Preset 18
PC# 18	Preset 19
PC# 19	Preset 20

- Control Change

Control Change allows you to control certain parameter using an external MIDI device's continuous controllers ("CCs"). Here's how the continuous controllers are mapped to BIAS Modulation's parameters:

CC#	Control	Value
CC# 40	TWEAK 1	0-127
CC# 41	TWEAK 2	0-127
CC# 10	LEVEL	0-127
CC# 11	DPETH	0-127
CC# 12	INTENSITY	0-127
CC# 13	RATE	0-127
CC# 14	TONE	0-127
CC# 71	LFO	0-3
CC# 60	BPM Sync	0=off 1=on
CC# 80	A Footswitch	0=up, 127=down
CC# 81	B Footswitch	0=up, 127=Down
CC# 82	C Footswitch	0=up, 127=down
CC# 83	Tap Tempo	0=first step, 127=secod step

- MIDI Clock

BIAS Modulation supports MIDI clock. When you connect BIAS Modulation to a MIDI Clock generator using a MIDI cable, BIAS Modulation synchronizes its BPM value to the clock source's tempo. You can enable or disable the MIDI Clock function in BIAS Modulation.

What is "MIDI Clock" ?

MIDI clock is a signal that is used to synchronize all connected MIDI-equipped devices, allowing them to sync to the same tempo via MIDI. Some synthesizers, sequencers and DAWs can work as a MIDI Clock generator, sending MIDI Clock signals to other MIDI-equipped devices.

10. Factory Reset

Factory Reset allows you to reset your pedal back to its factory-default state. When you hold down the Wireless button while plugging the pedal's power in, the pedal will engage Reset Mode. While in Reset Mode, the LED lights will continuously blink. Long-press the Wireless button again to reset the device (the pedal will then reboot to complete the reset process), or short-press it to leave Reset Mode. You can also reset the pedal within the BIAS Pedal app.

Items that will be reset:

- Device name
- MIDI settings
- Presets
- Bypass type
- Footswitch mappings

BIAS PEDAL

INTRODUCTION

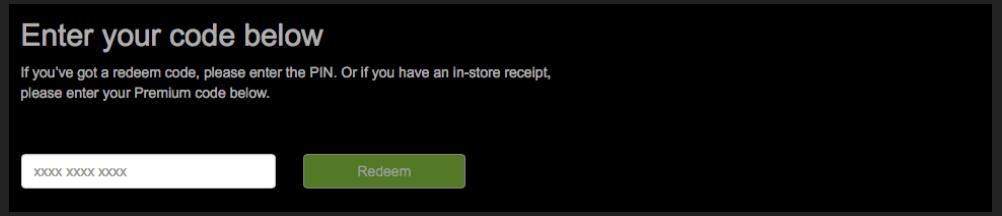
BIAS Pedal is a multi-platform application for stompbox design and modeling. The software lets you design your own modulation pedal by customizing every single component, including two unique modulation modules, the power source and filter, and even the outer design of the pedal. You can also share your pedal with Positive Grid's global ToneCloud community and download amazing pedals straight from ToneCloud.

BIAS Pedal also comes with BIAS Modulation support, allowing you to use BIAS Pedal as an interface to customize BIAS Modulation.

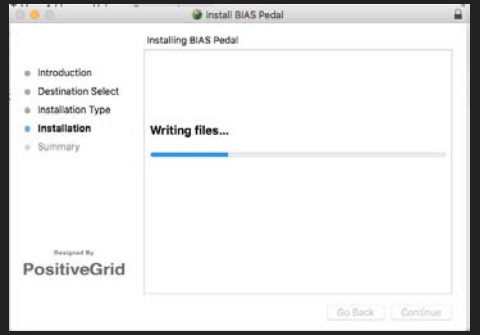
HOW TO GET BIAS PEDAL?

Redeem & Activate My Software

BIAS Modulation comes with BIAS Pedal - Modulation Pack (desktop software). Go to our website https://store.positivegrid.com/redeem
and enter the redeem code printed on the redeem card.



Once your code has been redeemed, go back to the store page to download the installer and install BIAS Pedal



After the installation, you can find BIAS Pedal in your DAW or Applications folder.

To activate your license, just log into your ToneCloud account in BIAS Pedal via the Settings menu. All features found in the Modulation Pack will be unlocked once you log in.

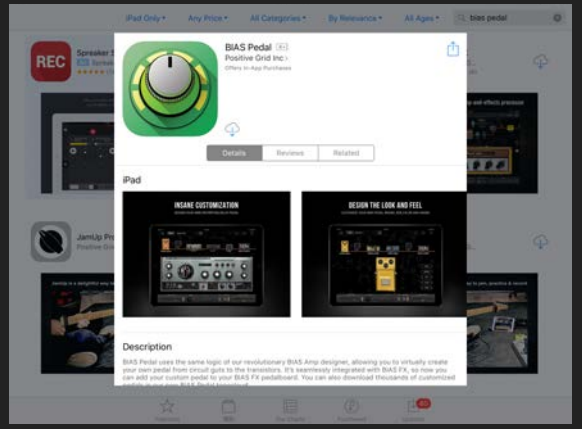
System requirements for BIAS Pedal desktop version:

System Requirement	
Windows	Windows 7 or later
Mac	OS X 10.9 or later

Support DAW	Requirements
Ableton Live	8.0 or above
Avid Pro Tools	10 or above
Apple Logic Pro	9.0 or above
Apple GarageBand	6.0.5, 10.0 or abov
Cakewalk Sonar	X2 or above
Cockos Reaper	3.4 or above
Steinberg Cubase	5.0 or above
Steinberg Nuendo	4.3 or above
PreSonus Studio One	Producer/Professional 2 or above

Buy BIAS Pedal on Apple's App Store

BIAS Pedal also comes with a mobile version for iPad. Search for BIAS Pedal on the App Store and download the trial version for free. You get the full-featured version of BIAS Pedal by unlocking the trial version, which procedure is explained next.



To unlock all features of BIAS Pedal - Modulation Pack and obtain a permanent license for the app, go to Positive Grid's in-app store by clicking on the shopping-cart icon in the interface's upper-right corner and follow the prompts to purchase it.

BIAS PEDAL USER INTERFACE

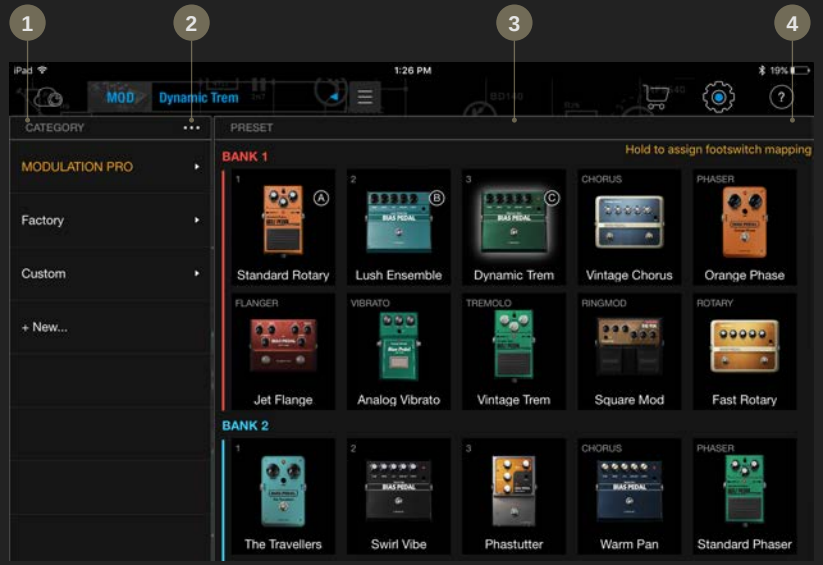
Desktop Version

1. ToneCloud - Enters the ToneCloud page.
2. Effects page - Switches among installed software packs. Available software packs include Distortion Pack, Delay Pack and Modulation Pack.
3. Preset menu - Shows the current preset. Click to open the preset menu.
4. Save button - See the Save Preset section of this manual for more information.
5. Setting Menu - See the Settings section of this manual for more information.
6. Signal Path - See the Signal Path section of this manual for more information.
7. Input volume - Controls the input volume. To prevent feedback, the input volume will be muted at startup when using a built-in microphone and speaker as the chosen audio input/output device.
8. Tempo - Shows the current BPM (beats-per-minute) value. You can set the BPM by entering the desired value or by using the built-in tap tempo feature. The BPM range goes from 40 to 400.
9. Quick Snap - Provides 8 slots to save and instantly recall different parameter setups for instant comparison of different settings.
10. Noise Gate - See the Noise Gate section of this manual for more information.
11. Amp Room - See the Amp Room section of this manual for more information.
12. Output volume - Controls the output volume.
13. Design button - Customize the look of your pedal. See the Custom Panel section of this manual for more information.

Mobile Version

1. ToneCloud - Enters the ToneCloud page.
2. Effects page - Switches among your installed software packs. Available software packs include Distortion Pack, Delay Pack and Modulation Pack.
3. Preset menu - Shows the current preset. Press to open the preset menu.
4. Save button - See the Save Preset section of this manual for more information.
5. Setting Menu - See the Settings section of this manual for more information
6. Tooltip - Helpful tips explaining each button and knob.
7. Signal Path - See the Signal Path section of this manual for more information.
8. Input volume - Controls the input volume. To prevent feedback, the input volume will be muted at startup when using a built-in microphone and speaker as the chosen audio input/output device
9. Tempo - Shows the current BPM value. You can set the BPM by entering the desired value or by using the built-in tap tempo feature. The BPM range goes from 40 to 400.
10. Quick Snap - - Provides 8 slots to save and instantly recall different parameter setups for instant comparison of different settings.
11. Noise Gate - See the Noise Gate section of this manual for more information.
12. Amp Room - See the Amp Room section of this manual for more information.
13. Amp Room - See the Amp Room section of this manual for more information.
14. Output volume - Controls the output volume.
15. Design button - Customize the look of your pedal. See the Custom Panel section of this manual for more information.
16. Open in BIAS FX - Import current pedal to BIAS FX. Needs BIAS FX mobile.

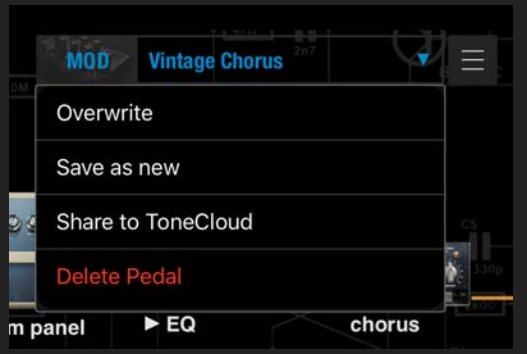
PRESET MENU



1. CATEGORY - Shows all the available preset categories. Each category can store several presets. You can add new categories or delete them. Make sure you don't delete the entire category if you want to keep the presets that are inside.
2. EDIT (Category) - Renames, reorders or deletes categories. Click Done when you're finished editing.
3. PRESETS - Shows all the pedals in the selected category. Click each pedal to load its sound. Click twice to check its signal path and to change the parameters for this preset.
4. EDIT (Preset) - Renames, reorders or deletes presets. You can drag presets to other categories. Click Done when you're finished editing.

SAVE PRESETS

BIAS Pedal lets you store every pedal you build and recall them anytime, anywhere.



On the top menu bar, click the save button next to the preset name to see the save options.

- Overwrite - Save the changes made to the parameters for the current preset.
- Save as new - Save current parameters as a new preset and select a category to store it to.
- Share to ToneCloud - Share your preset to ToneCloud.
- Delete Pedal - Delete current pedal.

The save button will light up after any parameter changes, indicating that the changes have not been saved yet.

SIGNAL PATH

The signal path shows you how the signal is being processed. Each module in the signal path provides different functionalities and a different control interface. This section will show you how to work with these modules and how to get the tone you want.

Custom Panel

The Custom Panel shows how the pedal looks. You can custom-design the look of your pedal by editing the options listed immediately below.

1. PHOTO
Load a photo from your iPad or computer to use as the background image for the pedal. You can alo adjust the image size and its position on the pedal.

2. RENAME
Name or rename your pedal at any time.

3. BOX
Select the type of box. Different boxes come with different knob placements and numbers.

4. COLOR
Select the background color.

5. KNOB
Select the knob design.

Module 1 (Time-based modulation)

Module 1 allows you to design your own time-based modulation effect.

1. Topology
Select the type of effect you want, using the knob on the far left. The units used for parameter values, or the actual parameters themselves, may differ for each control depending on the type of effect you select, as explained below.

2. Time Sync Display Panel
When the BPM switch is on, the Time Sync panel will display the value of the Rate knob as a time division corresponding to the global BPM set in BIAS Pedal software. When the BPM switch is off, the Time Sync panel displays the value of the Rate knob in Hz (Hertz, or cycles per second).

3. BPM Sync Switch
This switch alternately sets the Rate knob to adjust Hz or the time division corresponding to the global BPM.

4. Intensity
Adjusts the dry/wet mix. When the Intensity knob is set to its maximum value (all the way to the right), the signal is 100% wet and you are only hearing the processed (effect) signal.

5. Tone
Controls a “tilt” filter (bipolar shelving filter). Turning the Tone control clockwise from its noon position attenuates low frequencies while simultaneously boosting highs. Turning the Tone control anti-clockwise has the opposite effect, boosting low frequencies while simultaneously cutting highs.

6. Low Cut
Rolls off low frequencies in the wet signal to clean out muddiness when needed.

7. Rate
[Chorus, Vibrato, Flanger, Phaser]
Adjusts the oscillation speed of the LFO.
[Rotary]
Adjusts the rotation speed of the rotary speakers.

8. Depth
[Chorus, Vibrato, Flanger, Phaser]
Adjusts the oscillation depth of the LFO.
[Rotary]
Adjusts the rotation speed of the rotary speakers.

9. Voice
[Chorus, Vibrato]
Adjust the number of voices generated by the effect. More voices results in a lusher-sounding effect.
[Flanger]
Adjust this control to select among four different types of flanging modes: Voice 1 is “positive narrow mode,” Voice 2 is “positive wide mode,” Voice 3 is “negative narrow mode,” and Voice 4 is “negative wide mode.” The positive and negative mode designations indicate positive or negative feedback is respectively applied with the effect. The narrow and wide mode designations indicate the different sweeping ranges for the flanger.
[Rotary]
Adjusts the angle between two virtual microphones: voice1 = 0 degrees, voice 2 = 45 degrees, voice 3 = 90 degrees, and voice 4 = 180 degrees.
[Phaser]
Adjusts the number of stages used by the phaser: voice1 = 2 stages, voice2 = 4 stages, voice3 = 8 stages, and voice4 = 12 stages. The more stages used, the more hollow-sounding is the resulting effect.

10. Feedback
Adjusts the signal level being fed back into the wet signal chain.

11. Wobble
[Chorus, Vibrato, Flanger, Phaser]
Adjusts the secondary LFO. Turning on Wobble results in some randomness in the Depth setting.
[Rotary]
Adjusts the ratio of the horn speaker and woofer speaker’s relative rotation speeds.

12. Width
[Chorus, Vibrato, Flanger, Phaser]
Adjusts the width of the effect’s stereo image.
[Rotary]
Adjusts the virtual mic’s distance to the woofer speaker (a higher value is equivalent to a closer mic position).

13. Offset
[Chorus, Vibrato, Flanger, Phaser]
Shifts the center point of modulation.
[Rotary]
Adjusts the crossover frequency for the horn and woofer speakers.

14. LFO
Adjusts the shape of the LFO waveform. Sine (Top left) and Triangle (Bottom left) usually provide a more subtle and controlled effect, whereas Pulse (Top right) and Rounded Pulse (Bottom right) add some stutter to the effect.

15. Output
Adjusts the overall output volume.

Module 2 (Amplitude)

Module 2 lets you design your own amplitude-based modulation effect.

1. Topology

Select the type of effect you want. The units used for parameter values, or the actual parameters themselves, may differ for each control depending on the type of effect you select, as explained below.

2. Time Sync Display Panel

When the BPM switch is on, the Time Sync panel will display the value of the Rate knob as a time division corresponding to the global BPM set in BIAS Pedal software. When the BPM switch is off, the Time Sync panel displays the value of the Rate knob in Hz (Hertz, or cycles per second).

3. BPM Sync Switch

Sets the Rate knob to adjust Hz or the time division corresponding to the global BPM.

4. Intensity

Adjusts the dry/wet mix. When the Intensity knob is set to its maximum value (all the way to the right), the signal is 100% wet and you are only hearing the processed (effect) signal.

5. Tone

Controls a “tilt” filter (bipolar shelving filter). Turning the Tone control clockwise from its noon position attenuates low frequencies while simultaneously boosting highs. Turning the Tone control anti-clockwise has the opposite effect, boosting low frequencies while simultaneously cutting highs.

6. Rate

[Tremolo, Pan, Auto Swell]
Adjusts the oscillation speed of the LFO.
[RingMod]
Adjusts the oscillation speed that modulates the carrier frequency.

7. Depth

[Tremolo, Pan]
Adjusts the oscillation depth of the LFO.
[RingMod]
Adjusts the oscillation depth that modulates the carrier frequency.
[Auto Swell]
Adjusts the threshold/sensitivity to produce a slow attack.

8. Wobble

[Tremolo, Pan]
Adjusts the secondary LFO. Turning on Wobble results in some randomness in the Depth setting .
[RingMod]
Sets the carrier frequency; this has a very prominent effect on the RingMod sound.
[Auto Swell]
Sets the depth of the secondary LFO, adding tremolo to the slow-attack sound.

9. Shift

[Tremolo, Pan, Auto Swell]

Alters the LFO's waveform so that it "leans" to the left or right. This has the effect of giving a triangle waveform an abrupt (leaning left) or slow (leaning right) ramp up to its peak. For an LFO with a square waveform, Shift increases (leaning left) or decreases (leaning right) the duration of the LFO's peaks. In practical use, listen to how moving the Shift control affects how your modulation effect pulses.

[RingMod]

Sets the speed of the volume rise for a slow attack.

10. LFO

Adjusts the shape of the LFO waveform. Sine (Top left) and Triangle (Bottom left) usually provide a more subtle and controlled effect, whereas Pulse (Top right) and Rounded Pulse (Bottom right) add some stutter to the effect.

11. Output

Adjusts the overall output volume.

Power Module

The Power Module controls the output stage of the effect. You can switch among different power-supply options ranging from 6V to 18V batteries.

1. Attack

Determines how quickly compression is applied.

2. Release

Determines how quickly compression ceases and the signal level recovers.

3. COMP

Adjusts the overall compression amount sent to the selected battery module.

4. Output

Adjusts the output gain after compression.

5. Battery

Sets the input level (threshold) above which compression begins. It is affected by the level of the COMP control.

6V: -45dB~-30dB
9V: -35dB~-20dB
12V: -25dB~-10dB
18V: -15dB~0dB

EQ (Equalizer)

EQ allows you to adjust the balance of frequencies in the signal. You can turn down the volume at a certain frequency to make it sound more polished. BIAS Pedal provides three EQ module types for you to choose from.

Studio EQ

- Preset - Loads factory and user EQ setups. Save and name your user Studio EQ setups here.
- Gain - Adjusts the boost or attenuation for bass, mid, and high filters.
- Frequency - Sets the frequency for each filter.
- LEVEL - Adjusts the output level of the EQ module.
- MIX - Adjusts the Dry/Wet ratio for the EQ.

Graphic EQ

- Preset - Loads factory and user EQ setups. Save and name your user Graphic EQ setups here.
- Filter - Filter 1 is a low-cut filter. Filter 8 is a high-cut filter. Filters 2 through 7 are peaking (bell-curve) filters.
- Numbers - Tap a numbered button to turn its filter on.
- LEVEL - Adjusts the output level of the EQ module.
- MIX - Adjusts the Dry/Wet ratio for the EQ.

Parametric EQ

- Preset - Loads factory and user EQ setups. Save and name your user Parametric EQ setups here.
- Slider - Drag the slider to adjust the boost or attenuation amount for different frequencies.
- LEVEL - Adjusts the output level for the EQ module.
- MIX - Adjusts the Dry/Wet ratio for the EQ.

NOISE GATE

Each preset comes with its own individual noise gate control. You can adjust the threshold and decay values that work best for your pedal.

- Threshold - Controls the threshold level. When the input signal is louder than the threshold, the signal is able to pass through the gate. If the input signal is lower than the threshold, the signal will be cut off. Make sure your threshold level is slightly above the background noise.
- Decay - Controls the decay time of the signal that is being cut off.

You need to save the preset in order to store its noise gate settings.

AMP ROOM

Amp Room allows you to evaluate the sound of each pedal by pairing with six amp models we have implemented from BIAS Amp. Each amp model has its own unique tonality and gain structure.

- British 900 - Clean, British style amplifier.
- '94 MATCH 30 - Clean amplifier.
- Mini Duo Reverb - Clean, American style amplifier.
- '67 Dumble Clean - Low gain, glassy amplifier.
- British Lead 800 - Crunch amplifier.
- SLO 100 - High gain amplifier.

On the signal path, you can change the position of pedal and amp to simulate an effects loop.

To do so, simply place the pedal after the amplifier in the Amp Room. You have now created an effects loop.

TONECLOUD

In ToneCloud, you can share your own pedal or download custom pedals from other great musicians from around the world. You can preview presets in ToneCloud, add them to your Favorites list, and download them right into BIAS Pedal on your mobile device.

Click the ToneCloud icon in the top-left corner of the software's interface.

1. Home Button
Leaves ToneCloud

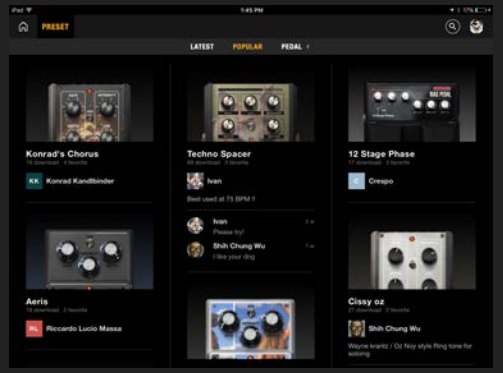
2. PRESET
Browses presets in ToneCloud

3. Search
Searches for a pedal by name

4. My Page
Manages your uploaded presets and favorite presets

5. LATEST
Shows the presets most recently uploaded in ToneCloud

6. POPULAR
Shows the most frequently downloaded and most popular presets



7. PEDAL
Filters the list of available presets by type (Chorus/Vibrato, Flanger, Rotary, Phaser, Tremolo/Pan, RingMod, Auto Swell and Hybrid)

How to preview presets on ToneCloud

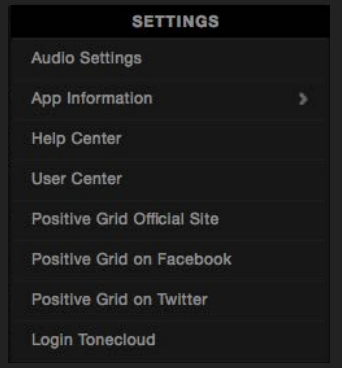
Select the preset you want to preview (audition). There's a preview slider for each preset; click it to preview the sound.

Download presets from ToneCloud

Select the preset you want to download. Click the download button and choose the desired location for saving the preset. Then click DOWNLOAD to download it.

SETTINGS

Desktop



- Audio Settings - Selects the audio device, input/output routing, sample rate and buffer size settings.
- App Information - Executes a factory reset or shows the app version, DSP engine, license and What's New page.
- Help Center - Links to our Help Center website for guides and FAQs or to write to our support agent.
- User Center - Links to the User Center. You can manage your ToneCloud account there.
- Positive Grid Official Site - Links to Positive Grid's website.
- Positive Grid on Facebook - Links to Positive Grid's Facebook page
- Positive Grid on Twitter - Links to Positive Grid's Twitter page.
- Login/Logout - Log in to and out of your ToneCloud account

Mobile

- Connect - Connects with BIAS Modulation or another compatible device.
- Input Channel - Selects the input channel, which depends on the routing setup for your audio device.
- Output Selector - Chooses the output device.
- Knob Gesture - Chooses how to control the knobs with gestures on the touch screen.
- Run in Background - Allows BIAS Pedal to run and process sound in the background.
- Latency - Chooses between Low and Normal latency settings. Low latency setting requires more CPU usage. Set the latency setting to Normal if you hear clicking or popping noises.
- Feedback - Send us your feedback. You can write your feedback or issue a report.
- App Information - Executes a factory reset or shows the app version, DSP engine, and What's New page.
- Positive Grid on Facebook - Links to Positive Grid's Facebook page.
- Positive Grid on Twitter - Links to Positive Grid's Twitter page.
- Help Center - Links to our Help Center for guides and FAQs or to write to our support agent.

CONNECT WITH BIAS DELAY

BIAS Pedal can also function as a remote-control interface for BIAS Modulation to allow further customization options.

Remote Mode

After connecting with BIAS Modulation, BIAS Pedal will enter Remote Mode. All actions and changes made inside the BIAS Pedal software will be reflected on the BIAS Modulation unit. You can preview all presets from BIAS Pedal and ToneCloud through BIAS Modulation. Furthermore, you can manage presets and device settings, or update BIAS Modulation to the latest version once new firmware is made available. The following section will show you what you can do when you integrate BIAS Pedal with BIAS Modulation.

Device Preset Menu

In Remote Mode, you can manage the presets stored inside BIAS Modulation.

1. Device Category
Shows the current presets in BIAS Modulation.

2. Slot Name
Shows which slot the preset is storing its settings to.

3. Footswitch Mapping
Shows the current footswitch mapping (preset assignment). You can change the mapping by right clicking and holding the Preset icon.

Store presets to BIAS Delay

To store new presets to BIAS Modulation, simply click the STORE TO PEDAL button in the lower bar. Choose a slot to store the preset, and then confirm the change.

Device Setting Menu

In Remote Mode, the settings menu will show all the settings for your BIAS Modulation.

- Disconnect - Disconnects integration with BIAS Modulation.
- Device Information - Checks the model type, serial number, device name and firmware version. You can also rename your BIAS Modulation and upgrade the firmware here.
- Bypass Type - Selects the bypass type for BIAS Modulation. To understand how bypass works, see the Engage & Bypass section of this manual.
- MIDI Clock - Enables or disables MIDI Clock.
- MIDI Channel - Selects the MIDI channel for receiving MIDI commands.
- Backup & Restore - Backup all presets for BIAS Modulation here, and store presets in BIAS Pedal. You can also restore all presets to another device. You can backup up to 5 sets of presets.
- Factory Reset - Resets BIAS Modulation to its factory-default state. All presets, device information and MIDI settings will be reset.

Firmware Upgrade

Using BIAS Pedal, you can update BIAS Modulation with new features and bug fixes as they become available. This allows BIAS Modulation to keep improving itself for better performance and sound and more fun.

Go to Settings menu => Device Information => Firmware to check if there is a new version available to install. BIAS Pedal will begin to update the firmware for BIAS Modulation . **DO NOT** turn the power off or disconnect the pedal while the firmware update is running.

For more information and FAQs or to contact a support agent, please check our Help Center at: https://help.positivegrid.com/hc/en-us

WARRANTY

PLEASE READ THIS DOCUMENT CAREFULLY. IT CONTAINS IMPORTANT INFORMATION ABOUT YOUR RIGHTS AND OBLIGATIONS, AS WELL AS LIMITATIONS AND EXCLUSIONS THAT MAY APPLY TO YOU. BY ACCEPTING DELIVERY OF POSITIVE GRID PRODUCTS, YOU AGREE TO ACCEPT AND BE BOUND BY THESE TERMS AND CONDITIONS.

Limited Warranty

Positive Grid warrants that your new Positive Grid product, when purchased at an authorized Positive Grid retailer or reseller, shall be free of defects in materials and workmanship for a period of One (1) Year from the original date of purchase. Positive Grid may, in its sole discretion, require proof of the original purchase date in the form of a dated copy of the original authorized dealer's invoice or sales receipt.

During the Warranty Period

- Positive Grid shall, in its sole discretion, either repair or replace any product that proves to be defective upon inspection by Positive Grid.
- Positive Grid reserves the right to update any product returned for repair and to change or improve the design of the product at any time without notice.
- Positive Grid reserves the right to use reconditioned parts and assemblies as warranty replacements for authorized repairs.
- Service and repairs are to be performed only by Positive Grid or a Positive Grid authorized service center.
- Unauthorized service, repair or modification will void this Limited Warranty.

This is your sole warranty. Positive Grid does not authorize any third party, including any dealer, retailer or sales representative, to assume any liability on behalf of Positive Grid or to make any warranty for Positive Grid.

Transferability/Assignment of Warranty

This Limited Warranty is extended to the original retail purchaser. This Limited Warranty can be transferred to anyone who may subsequently purchase this product provided that such transfer is made within the Warranty Period and Positive Grid is provided with all of the following items: all warranty registration information for the new owner (see www.positivegrid.com/warranty), and a photocopy of the original sales receipt. Warranty coverage shall be determined by Positive Grid in its sole discretion. When transferring ownership of a product that provides online connectivity to Positive Grid software or ToneCloud, it is very important that you CANCEL your online subscription(s) before transferring ownership of the product.

Shipping/Freight

You are responsible for all shipping costs to transport your product to Positive Grid or an authorized service center. Positive Grid will pay for shipping and freight charges to return your product after service is complete, within the Country of original purchase only.

DISCLAIMER AND EXCLUSIONS

THE FOREGOING WARRANTY IS THE ONLY WARRANTY GIVEN BY POSITIVE GRID AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, EXCEEDING THE SPECIFIC PROVISIONS OF THIS WARRANTY ARE HEREBY DISCLAIMED AND EXCLUDED FROM THIS WARRANTY. UPON EXPIRATION OF THE APPLICABLE EXPRESS WARRANTY PERIOD DESIGNATED ABOVE, POSITIVE GRID SHALL HAVE NO FURTHER WARRANTY OBLIGATION OF ANY KIND.

Positive Grid shall NOT be liable for, and this Limited Warranty does not apply to:

- Products purchased from unauthorized Positive Grid retailers or resellers.
- Products presented for warranty support or service without proof of purchase.
- Products that have been altered in a manner that the serial number, name, identification numbers or logos have been tampered with or are missing.
- Products that have been modified from the original design.
- Damages incurred during transit to an authorized Positive Grid service center.
- Damages incurred from unauthorized adjustment, repair or service by anyone other than Positive Grid or an authorized Positive Grid service center.
- Damages incurred from physical abuse of the product.
- Damages incurred by fire, flood, earthquake, water, wind, lightning or other natural disaster.
- Damages incurred by liquid contamination.
- Damages incurred from excessive high or low temperature or humidity.
- Damages incurred from inappropriate storage.
- Physically damaged connectors.
- Damage incurred from any use of the product in any application other than the use for which it was intended.

LIMITATION OF LIABILITY

POSITIVE GRID SHALL IN NO EVENT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES SUFFERED BY THE PURCHASER OR ANY THIRD PARTY, INCLUDING WITHOUT LIMITATION, DAMAGES FOR LOSS OF PROFITS OR BUSINESS, OR DAMAGES RESULTING FROM USE OR PERFORMANCE OF THE PRODUCT, WHETHER IN CONTRACT OR IN TORT EVEN IF POSITIVE GRID HAS BEEN ADVISED OF THE POSSIBILITY THEREOF. POSITIVE GRID SHALL NOT BE LIABLE FOR ANY EXPENSES, CLAIMS, OR SUITS ARISING OUT OF OR RELATING TO ANY OF THE FOREGOING. POSITIVE GRID'S FULL LIABILITY FOR ANY DEFECTIVE PRODUCT SHALL IN NO EVENT EXCEED THE ACTUAL PURCHASE PRICE PAID FOR THE DEFECTIVE PRODUCT*

*Some states do not allow the exclusion or limitation or incidental or consequential damages, so the above limitation may not apply to you.

END USER LICENSE AGREEMENT

1. GENERAL

This End User License Agreement ("EULA") is a legal agreement between Positive Grid, Inc. ("Positive Grid") and the Licensee (either an individual or on behalf of an entity, "Licensee"). By installing, downloading, or otherwise using the software in any manner (including, but not limited to, using the product which the software may be supplied with), Licensee agrees to be bound by the terms of this EULA. If you do not agree or do not have the authority to enter into this EULA, then do not install, download or otherwise use the software or the product which it may be supplied with.

2. DEFINITIONS

- "Positive Grid Products" means certain products developed and owned by Positive Grid, which may be comprised of Hardware and Software (as defined in this EULA).
- "Software" means the computer software (regardless of format or media in which distributed) designed (but not limited) to run with the Hardware, which is owned or licensed by Positive Grid.
- "Licensee" is to use the Software he receives from Positive Grid, Inc. all copies thereof, and all pertinent documentation exclusively for his own purposes, and must keep it separate from third parties.

3. SCOPE OF USE

Positive Grid Products are protected by copyright laws and international treaty provisions, as well as other intellectual property laws and treaties. Any other use or exploitation not explicitly granted to Licensee in this EULA shall not be allowed without written consent from Positive Grid.

- Positive Grid grants to the Licensee a limited, nonexclusive, nontransferable, revocable license to use the Software solely for Licensee's use, without any modification. This license is not a sale. This License applies to updates or supplements to the original Software, unless Positive Grid provides other terms along with the update or supplement.
- Licensee may install and personally use the licensed Software on two devices (e.g. one laptop, one work station).
- Licensee may copy the Software, if it is necessary for agreed use. Licensee is authorized to create a backup, if this is necessary to secure the future use.
- Licensee may not separate the components contained in the Software or otherwise reconfigure the Software to circumvent technical limitations on the use of the Software or to otherwise exceed the scope of each license.
- Licensee may not export, convey, rent, sublicense, transfer or otherwise distribute the Software or any rights therein to any person or entity.

4. RESERVATION OF RIGHTS

- Ownership. Licensee agrees that Positive Grid owns all legal right, title and interest in and to the Software. Positive Grid reserves all rights not expressly granted to Licensee in this EULA. Title and copyrights to the Software remain with Positive Grid.

- Trademarks. Nothing in this EULA gives Licensee a right to use any of Positive Grid's trade names, trademarks, service marks, logos, domain names, or other distinctive brand features. Licensee agrees not to remove, obscure, or alter any proprietary rights notices (including copyright and trademark notices) that may be affixed to or contained within the Software.

5. LIMITATION OF LIABILITY

If the Software does not perform substantially in accordance with the applicable documentation within 30 days of Licensee's purchase , liability is limited to refund of Licensee's purchase price for the Software (without interest)

5. CONSENT TO USE DATA

Positive Grid may collect and use technical information about the Software and devices you use in connection with the Software in a manner that does not personally identify you. Positive Grid may use this information to improve our products or to provide customized services. Positive Grid may also disclose this information to third parties so that they may improve the way their products or services interact with the Software.

7. TERMINATION OF EULA

Positive Grid may terminate this EULA and License at any time if Licensee has breached any provision of this EULA.

8. ASSIGNMENT AND DELEGATION

The rights and duties or obligations granted or created under this EULA may not be assigned, transferred or delegated by Licensee without the prior written approval of Positive Grid.

9. ENTIRE AGREEMENT

This EULA is the entire agreement between Licensee and Positive Grid relating to the Software and supersedes all prior or contemporaneous oral or written communications, proposals and representations with respect to the Software or any other subject matter covered by this EULA. Positive Grid may make changes to this EULA, by posting such changes on its website at www.positivegrid.com