ALEXANDER

NEO SERIES

SUPERBALL

KINETIC MODULATOR!

USER MANUAL

CONTENTS

ABOUT ALEXANDER PEDALS

Alexander Pedals builds hand-crafted effects pedals in Garner, North Carolina. Each Alexander Pedal is meticulously voiced and tweaked by our sonic scientists to achieve sounds that are both instantly familiar yet completely unique.

Alexander Pedals are designed by Matthew Farrow and a group of trusted players, builders, and friends. Matthew has been building guitar pedals since the late 1990s, first with Pharaoh Amplifiers, and now with Disaster Area Designs. Matthew has designed some of the most innovative effects units on the market, including some big names he's not allowed to tell you about.

Alexander Pedals was started for two reasons - to make great tones, and to do good. The great tones part you probably have some idea about. As for doing good, Alexander Pedals donates a portion of the profits from every pedal sold to charity, whether you buy from us or our dealers. Matthew's younger brother Alex passed away in 1987 of a form of cancer called neuroblastoma. Alexander Pedals honors his memory by helping in the fight to end childhood cancer.

ALEXANDER

GREAT TONES. DOING GOOD.

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INTRODUCTION

Modulate Everything.

We took the leash off of what started as an experimental delay engine and Superball is what happened.

An uber-flexible LFO, dedicated time sequencing, and resonant low-pass filter combine for the bounciest digital delay oscillations you can imagine.
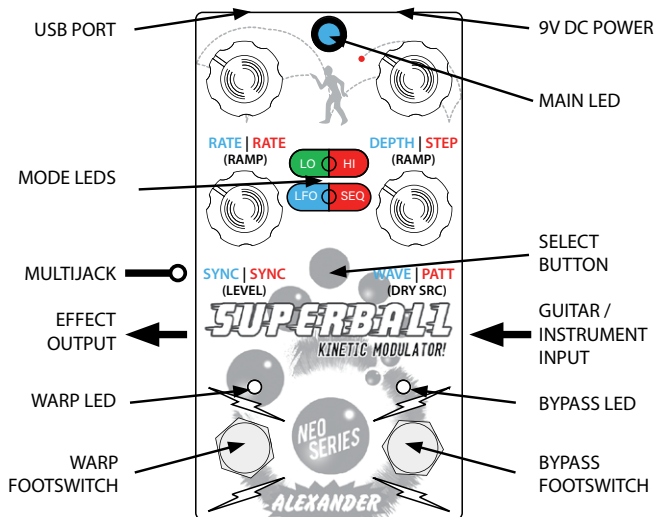
Warning: We're not getting this down off your roof if you get it stuck up there.

GETTING STARTED

Superball is pretty much like any other pedal. Plug in on the right side, then plug the lower jack on the left side to your amp or next pedal. Power it up, hit the footswitch and see what happens!

Want to hear some sounds that we like? Hold down the BYPASS footswitch to load in the factory presets. We put four cool tones in the pedal for you to tweak.

Experiment. Turn the knobs. Push the buttons. We think you'll find something you like.

USB PORT — 9V DC POWER

MAIN LED

RATE | RATE
(RAMP)

DEPTH | STEP
(RAMP)

MODE LEDS — LO | HI — LFO | SEQ

SELECT BUTTON

MULTIJACK

SYNC | SYNC
(LEVEL)

WAVE | PATT
(DRY SRC)

SUPERBALL
KINETIC MODULATOR!

EFFECT OUTPUT

GUITAR / INSTRUMENT INPUT

WARP LED

BYPASS LED

WARP FOOTSWITCH

NEO SERIES

BYPASS FOOTSWITCH

ALEXANDER

Messing with the knobs will get you a long way, but there is a lot to this pedal just under the surface. When you're ready to dive in to the advanced features of your new pedal, read on.

Oscillator Controls

The Superball is *basically* a delay effect, with Time, Repeat, Mix, and Filter controls.

The delay ranges from 0-1024ms when the delay clock is set to its normal value (please see Sequencer Controls for more details) and can go a long as 4096ms at the minimum clock rate. The delay can self-oscillate, and the built-in delay filter can tweak the tonal response of the signal in some really interesting ways.

But that's all kind of boring, right? Yep. So that's why we included a multi-wave low-frequency oscillator (LFO) to let you control all of the delay parameters at the same time! Simply tap the button in the middle of the pedal to change the control mode, and then adjust the knobs to control the parameters you want.

The easiest way to dial in the Superball is to first t**urn off the LFO and sequencer**. Tap the center button until the lower LED is BLUE (LFO) and turn the RATE, DEPTH, and SYNC knobs fully counter-clockwise (CCW.) Tap the button again until the lower LED is RED (SEQ) and turn the RATE and SYNC knobs CCW. Turn the PATT knob to around 1 o'clock for the default clock rate.
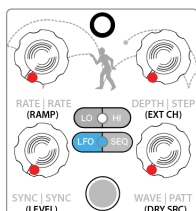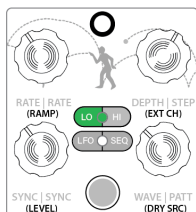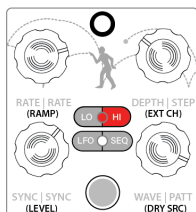
LFO OFF
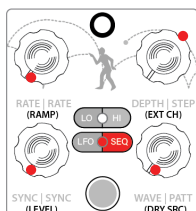
SEQ OFF

Tap the select button until the upper LED is GREEN - this lets you adjust the lower bounds of the control ranges. Turn the knobs until you hear the tone you want. Next, tap the select button until the upper LED is RED, which sets the pedal to adjust the high range of the delay effect. Turn the knobs and you'll hear the new sound.

SET LOW RANGE

SET HIGH RANGE

 When you are satisfied, tap the select button once more until the lower LED is BLUE, which returns you to the LFO adjust mode.

Increase the RATE knob until you see the upper LED blink to indicate the current speed, then increase the DEPTH knob until you can hear the delay effect changing. You can experiment with the knobs to hear lots of different variations on the LFO shape, depth, and rate.
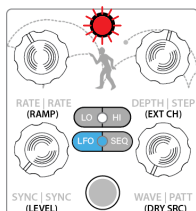
LFO ON

You can then make changes to the delay ranges at any time, even with the LFO enabled. Have fun and experiment, there are no wrong answers!

2

Sequencer Controls

Superball also has a unique clock sequencer effect, which is designed to change the sample rate clock of the audio DSP in a range of patterns.

Dialing in the sequencer is a lot like the LFO setting procedure so we'll start by disabling the LFO and setting a delay tone to experiment with.

Tap the center button until the lower LED is BLUE (LFO) and turn the RATE, DEPTH, and SYNC knobs fully counter-clockwise (CCW.) Tap the button again until the lower LED is RED (SEQ) and turn the RATE and SYNC knobs CCW. Turn the PATT knob to around 1 o'clock for the default clock rate.

Tap the select button until the upper LED is GREEN - this lets you adjust the lower bounds of the control ranges. Turn the knobs until you hear the tone you want. Ignore the HI range for now, but remember you can adjust it later.
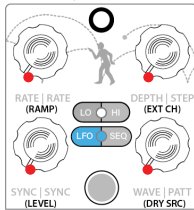

LFO OFF
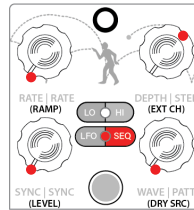
SEQ OFF

Return to the SEQ control mode by tapping the center button until the lower LED is RED, then increase the RATE knob until you hear the sequencer start working. The delay signal will change pitch in clean steps, pitch-shifting and changing speed.

You can experiment with changing the patterns of the sequencer and the number of steps in each pattern by turning the PATT and STEP knobs. You can also combine the LFO and sequencer at the same time, so go nuts and make some crazy sounds!

If you hear pops or clicks in the audio, try setting the DRY SRC control to ANALOG by holding the center button and turning the lower-right knob fully CCW.
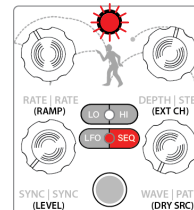
SEQ ON

Sequence Editing

The sequencer does have one weird trick you can exploit - you can actually *play* it like a synth! Connect a MIDI keyboard to Superball using your interface of choice and then set the PATT knob fully CW. The upper LED will turn VIOLET to indicate that you're in the User Pattern selection.

Set the number of steps you want to edit with the STEP knob, then play one or more notes on the keyboard. Superball will use those notes to determine the pitch intervals of the sequencer as it steps through. You can also turn the RATE knob to zero and manually play the clock with the keyboard in the same way. Superball recognizes three octaves of notes, from C2 to C5. Input note C4 to set the clock rate to its default setting, or input a note outside of this range to reset the sequence to its default and start over.

The user sequence is saved as part of the Superball's presets, so your hard work is retained even if you power down the pedal.

Loading and Saving Presets

Have you ever spent a lot of time tweaking your gear to get the sounds you really love, only to find that your pedal knobs moved between your practice space and the gig? Or maybe you need a lot of sounds but don't have a ton of room on your board for multiple pedals?

Presets to the rescue!

Superball and all of our other Neo Series pedals have built-in preset capability. That means you can save and recall four sounds from a single pedal with no extra hardware or funny business. If you do have a MIDI controller, the preset capability expands to 16!

To load a preset, simply hold down the BYPASS footswitch for 1 second.

The upper LED will blink one, two, three, or four times to indicate the current preset and you're all set!

ALL of the pedal settings are recalled as part of the preset - knob positions, expression settings, and effect modes.
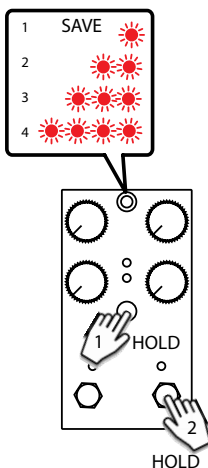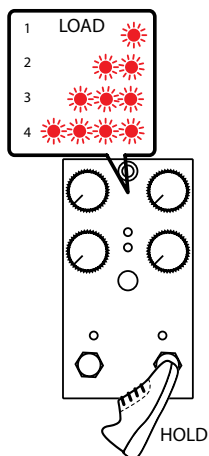
To save the current preset, press and hold the center Select button, then hold the BYPASS footswitch down.

The upper LED will blink to indicate the preset that was saved.

If you're using a MIDI controller to access presets on your Neo Series pedal, just send a program change (PC) message to load a preset.

You can access an additional 12 presets using MIDI for a total of 16.

To save presets 5-16, load in the preset by sending a MIDI program change then edit its settings. Once satisfied, save as normal. The current settings will save in the current preset.

Tap & Tempo Sync

Superball has a robust and powerful Tempo Sync functionality, and we let you set it up the way you prefer.

Turn the lower-left knob in LFO and SEQ modes to assign either of these sources to the Tempo Sync.

CCW = No Sync   MID = Tap Tempo   CW = Bounce / Step

No Sync: The LFO or sequencer runs at the rate set by the RATE knob and does not respond to tap tempo.

Tap Tempo: The LFO or sequencer runs at the rate set by the RATE knob and will respond to tap tempo or MIDI clock.

Bounce / Step: The LFO will "bounce," or trigger when the Tap / Bounce footswitch is pressed, and will re-trigger at the RATE setting from 1-10 times depending on the DEPTH knob.

Fun fact: the "bounce" effect works like a real ball - each bounce after the first is slightly less intense, until the bounce ends on its own.

The sequencer will advance by one step each time the Tap / Bounce footswitch is pressed.

If either LFO or sequencer is set to Bounce or Step, then Tap Tempo is disabled. If both are set to No Sync, then the Tap Sync will control the base delay effect instead.
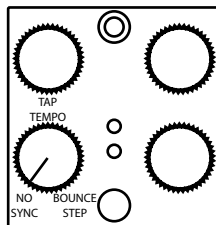
Ramping

Superball features an advanced expression functionality we call RAMP! This allows you to seamlessly morph between two different pedal settings with a single tap of your toe.

Hold the left footswitch to force Superball to move to the HIGH range setting. The LFO will not affect the delay engine while the ramp is engaged, but the sequencer will still function as normal.

The pedal settings will change at the rate set by the RAMP control.. Hold the center button and turn the upper-left knob to set the ramp rate.

Release the footswitch to return to normal operation.

HOLD TO ACTIVATE RAMP

RELEASE TO RETURN
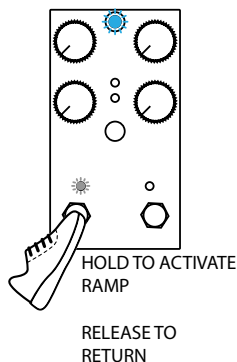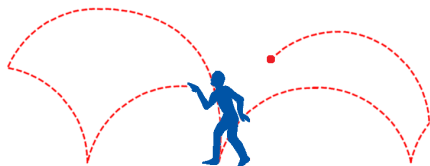
Setting Up Your Pedal

Your Neo Series pedal has a few user settings stored in memory. These settings include the function of the MultiJack on the left side of the pedal, LED brightness, and others.

To enter setup, power on the pedal and then hold down the center Select button. Release the button when you see the center LED turn violet.
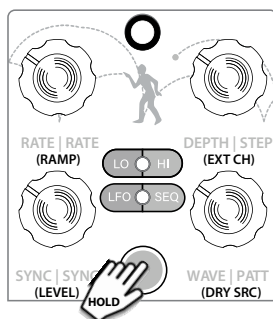
Tap the center Select button to assign the MultiJack function. The upper small LED will change to show this function.

Blue: Expression Pedal Input
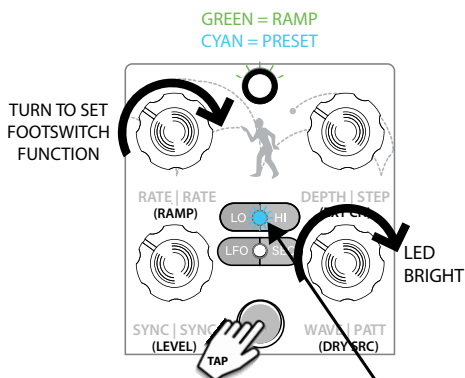Violet: Footswitch Input
Red: MIDI Input

Turn the upper left knob to set the function of the external footswitch, if configured. The upper large LED will change to show this function.

Green: Trigger Ramp
Cyan: Advance One Preset
Blue: Tap Tempo

Turn the lower right knob to set the brightness of the main and lower LEDs.

GREEN = RAMP
CYAN = PRESET

TURN TO SET FOOTSWITCH FUNCTION

LED BRIGHT

TAP TO SELECT MULTIJACK FUNCTION
UPPER PROGRAM LED WILL SHOW
BLUE = EXPRESSION PEDAL
VIOLET = FOOT SWITCH
RED = MIDI

Hold the center Select button to save and exit setup.

If you have changed the function of the MultiJack, we recommend you power the Neo Series pedal off and back on in order to ensure the jack is configured properly.
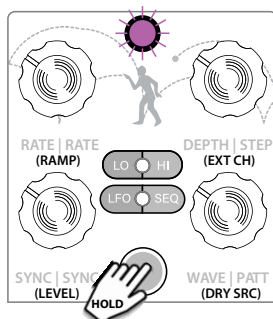
HOLD TO SAVE AND EXIT

Expression Pedal

Superball supports most types of expression pedals for performance control.

We recommend the Roland EV-5 and Moog EP-3, but just about any expression pedal that uses a TRS cable should work. The supported expression wiring is **SLEEVE = 0V, RING = 3.3V, TIP = 0-3.3V.**

Before connecting your expression pedal, make sure that you have set up the MultiJack to read expression! The instructions are covered in the **Setting Up Your Pedal** section on page 6.

The expression pedal will allow you to manually sweep between the LO and HI ranges of the delay effect. If you're using the LFO, moving the expression pedal will disable the modulation until you reload the current preset. You should set the LO and HI ranges as normal whether you're using the expression pedal or the LFO.

Global Controls

In addition to the controls for each range and modulation source, the Superball also has a few controls that affect the whole pedal regardless of what else may be happening.

To adjust the global controls, hold down the center button until the upper LED changes then turn the knobs. Release the center button to return to the previous control mode. The global controls are saved for each preset.

(RAMP)

Controls how quickly the ramp function enters and exits the HI range.

(LEVEL)

Controls the overall volume level of the pedal.

YEL = ANALOG TRAILS
ORANGE = ANALOG
RED = DSP

RATE | RATE
(RAMP)
DEPTH | STEP
(EXT CH)
LO | HI
LFO | SEQ
SYNC | SYNC
(LEVEL)
WAVE | PATT
(DRY SRC)

(EXT CH)

Sets the MIDI channel on which Superball sends external control messages.

(DRY SRC)

Selects the dry signal source type. The main LED changes to show this setting.

External Control

Superball can control your other MIDI based pedals. Superball will send the current LFO value out as MIDI CC 100 on the channel selected by the EXT CH global setting. This message will control the expression in all Alexander and Chase Bliss pedals, as well as many more including some Strymon models.

Neo Footswitch

Superball also supports our Neo Footswitch for preset Select or warp functions.

To use the Neo Footswitch, you'll need to configure Superball to use its MultiJack for footswitch input. Consult the instructions on page 6, Setting Up Your Pedal.

Connect the Neo Footswitch to your Superball using the provided TRS cable.

If you have configured the pedal correctly, you should see the LED on the Neo Footswitch light up and change as you tap the footswitch.
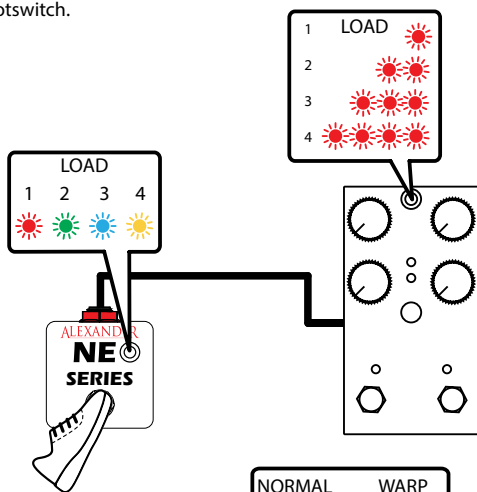
PRESET:

Tap the Neo Footswitch to advance one preset. The presets will load in sequence, 1, 2, 3, 4.

The LED on the Neo Footswitch will change to indicate the current preset:
RED = 1, GREEN = 2, BLUE = 3, YELLOW = 4.

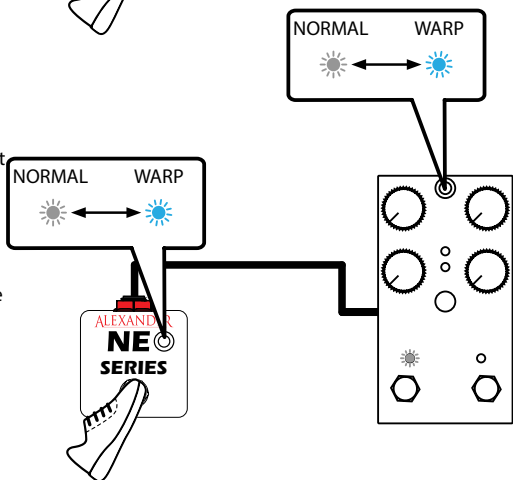Hold the Neo Footswitch to go back one preset.

RAMP:

Tap the Neo Footswitch to trigger the WARP effect.

The LED on the Neo Footswitch will change to indicate the current WARP state.

You can also fire the ramp for a moment, by holding the Neo Footswitch down. The ramp will fade back down when you release the Neo Footswitch.

TAP TEMPO (not shown):

Tap the Neo Footswitch to set the delay tempo, LFO or sequencer rate, or trigger the bounce / step function.

The Neo Footswitch will work the same as the built-in tap switch in this configuration.

You can also use any momentary normally-open (NO) footswitch in place of the Neo Footswitch, but you won't get the super-cool LED stuff.

MIDI Configuration

All Neo Series pedals support full control using MIDI. In order to use your Superball with a MIDI controller, you'll need to follow these instructions to configure its MultiJack and set up the MIDI channel.

First, you'll need a way to connect your MIDI controller to the MultiJack.

If you're using a **Disaster Area Designs** controller, you should be able to use one of its MultiJacks to send MIDI. We recommend the qCONNECT controller, since it's made to interface with multiple 1/4" MIDI devices. Consult your MIDI controller's manual for details on how to configure its output.

If you are using another type of MIDI controller, you'll need an interface box or adapter cable.

We support the following interfaces and cables:

Alexander Neo Link
Disaster Area Designs MIDI Box
Empress MIDI Box (1 or 2)

Alexander Neo MIDI Cable
Chase Bliss Audio MIDI Box
Meris MIDI I/O

Next, connect your Neo Series pedal to your MIDI controller or interface box using a standard 1/4" cable or adapter cable. Make sure that your controller is powered on.

Power on the Neo Series pedal while holding its center Select button.
Release the button when the main LED turns violet.
Tap the center Select button until the upper small LED is red, then hold Select to save.
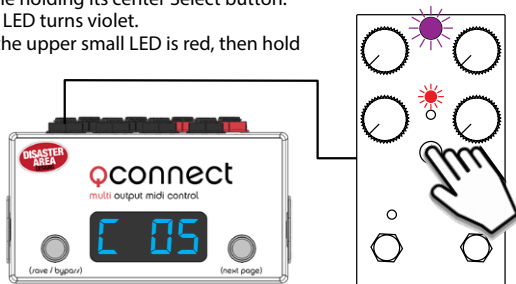
Power the Neo Series pedal off and back on, again holding the center Select button until the upper LED turns violet.

Finally, send a program change message from your controller on the MIDI channel you would like to use. When you see the upper small LED flash, hold the Select button to save and exit.

Your Neo Series pedal is now configured!
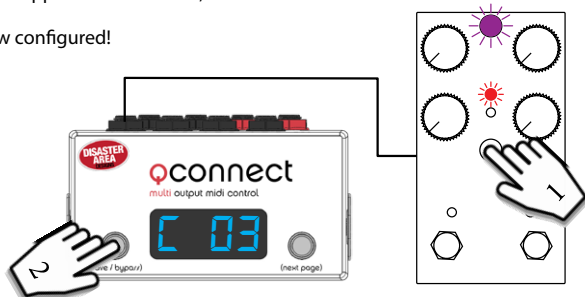
MIDI Commands

All of the functions of your Neo Series pedal may be controlled with MIDI messages.
The following commands are accepted by Superball:

MIDI Program Change: Load Presets 0-15
>   0-3 are the Red bank, also accessible by holding the Bypass / Preset footswitch
>   4-7 are the Green bank
>   8-11 are the Blue bank
>   12-15 are the White bank

MIDI Continuous Controller 93: Tap Tempo
>   Superball responds to CC93 if Tap Tempo is selected for either LFO or sequencer sync, or if No
Sync is selected for both.

MIDI Continuous Controller 97: Ramp
>   Send any value to trigger the ramp

MIDI Continuous Controller 100: Expression Pedal
>   Value 0 = Heel down, Value 127 = Toe down

MIDI Continuous Controller 102: Bypass
>   Value 0-63 = Bypass, Value 64-127 = Engage

MIDI Continuous Controller 50-57: LFO / Expression / Ramp Range
>   CC 50 = Filter Lo   CC 54 = Filter Hi
>   CC 51 = Time Lo   CC 55 = Time Hi
>   CC 52 = Repeat Lo   CC 56 = Repeat Hi
>   CC 53 = Mix Lo   CC 57 = Mix Hi

MIDI Continuous Controller 58-65: LFO / Sequencer Controls
>   CC 58: LFO Shape   CC 62: Sequencer Pattern
>   CC 59: LFO Rate   CC 63: Sequencer Rate
>   CC 60: LFO Depth   CC 64: Sequencer Steps
>   CC 61: LFO Sync   CC 65: Sequencer Sync
>   *(0-42 No Sync, 43-87 Tap, 88-127 Bounce / Step)*

MIDI Continuous Controller 66-69: Alt Controls
>   CC 66: Dry Source *(0-42 Analog w/ Trails, 43-87 Analog, 88-127 DSP)*
>   CC 67: Ramp Rate
>   CC 68: External Control Channel
>   CC 69: Level

MIDI Clock: Superball responds to MIDI clock if Tap Tempo is selected for either LFO or sequencer sync
(clock controls selected sources,) or if No Sync is selected for both (clock controls delay time.)

MIDI Notes: Superball accepts notes from C2 to C5 to control the sequencer clock rate. Set Sequencer
Pattern to 127 to enter up to 8 notes to create your own sequence.

Specifications

Input Impedance: 1M ohm
Output Impedance: 560 ohm

Power Supply: 9V DC, 80mA or greater, center negative
Bypass: Buffered analog bypass
Dry Signal   Analog or DSP (selectable)
DSP: 24-bit + 32-bit controller
Sampling Frequency: 36kHz -> 6.66kHz

We recommend the use of an isolated power supply with your Neo Series pedal.