VONGON

paragraphs II

USER MANUAL

VERSION 1.0

FRONT PANEL

sens - sensitivity of the envelope generator for follower and trigger modes

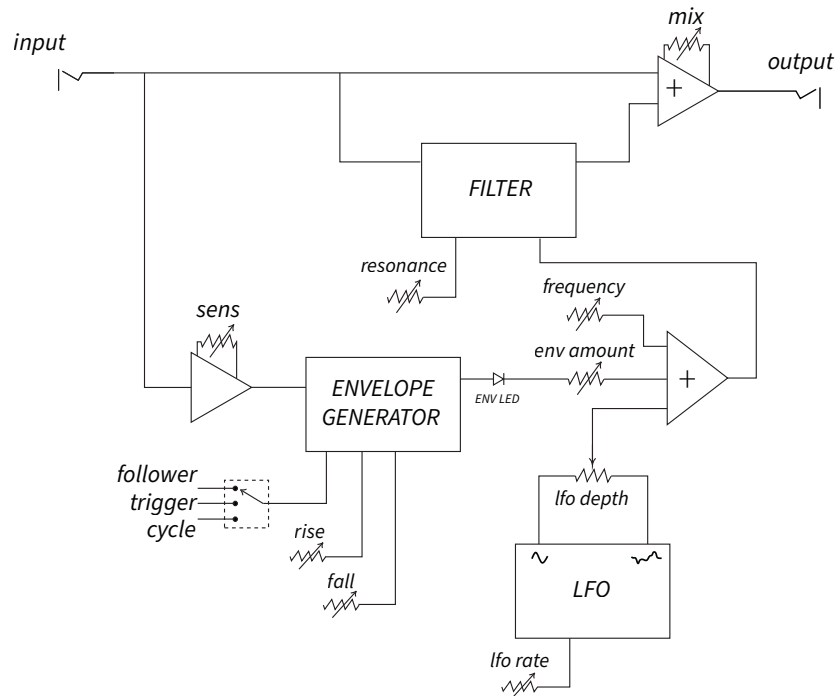**LED** - brightness indicates envelope shape

ENV MODE - toggle mode of the envelope generator

follower - envelope follows amplitude of input signal

trigger - one-shot envelope triggered when input passes sensitivity threshold

cycle - envelope loops

env amount - bipolar envelope modulation on the filter frequency. left side decreases the filter frequency, right side increases the filter frequency

lfo rate - frequency of LFO

lfo depth - LFO modulation on filter frequency. left side sine waveform, right side smoothed random waveform

POWER INPUT - 9VDC center negative, 200mA

AUDIO JACKS - ¼" TS jacks, instrument or line level compatible

cv/exp - 3.5mm input jack for control voltage or expression control of filter frequency (0 → 3.3V)

midi - 3.5mm Type B MIDI input

mix - balance between the dry (unprocessed) and wet (processed) signals

NOTE: hold "ENV MODE" for 1 second then adjust this knob to fine tune output level

resonance - filter resonance, self-oscillates above 80%

frequency - cutoff frequency of the filter

rise - length of time it takes for the envelope to rise to maximum level

fall - length of time it takes for the envelope to fall to minimum level

BYPASS - toggle effect on or off

OUT L mono   OUT R   9V DC   IN L mono   IN R
cv/exp   midi
follower   trigger   cycle   ENV MODE
sens
env amount   – +
rise   fall
lfo rate   0.1 hz   100 hz
lfo depth
460 hz   1.2 khz
220 hz   2.1 khz
84 hz   3.9 khz
40 hz   8.8 khz
20 hz   12 khz
frequency
mix   0 %   100 %
resonance   self oscillate   0 %   100%
FILTER
paragraphs II   resonant low pass filter with stereo modulators
by VONGON

VONGON
paragraphs II

SIGNAL FLOW DIAGRAM

VONGON   2

VONGON

INTRO

paragraphs II is the latest generation of **VONGON**'s four-pole resonant low-pass filter effect. It now features stereo inputs and outputs, with a focus on modulation functions that respond to your playing dynamics and add stereo depth.

At the core of **paragraphs II** is the same rich **ladder-style filter** found in our **replay** synthesizer, offering exceptional harmonic tone shaping with precise control. This low-pass filter excels at adding character to harmonically complex, fuzzed, and distorted signals. Its improved signal-to-noise ratio also ensures a clean, clear tone for more pristine sources like clean guitar, bass, or electric keyboards.

The bipolar **envelope generator** can dynamically open or close the filter based on your playing dynamics, processing the left and right inputs separately to create a complex stereo field. With independent rise and fall controls spanning from 5 milliseconds up to 4 seconds, you can achieve everything from sharp, percussive accents to slowly evolving swells and fades. In **follower** mode, track or inversely track the filter frequency to your playing volume, generating dynamic auto-wah and ducking effects. The **trigger** mode delivers a one-shot envelope when your playing surpasses an adjustable threshold, offering a percussive pluck or smooth fade at the onset of your sound. Additionally, the **cycle** mode provides rhythmic, pulsing modulation.

The **LFO (Low Frequency Oscillator)** operates 180° out of phase between the left and right channels, creating a natural widening effect. With 0.1Hz to 100Hz of sine wave or smoothed random-style modulation, it offers everything from slow, subtle motion to rapid tremolo and ring modulation style effects.

The effect connects to your instrument with standard ¼" jacks, adjustable to be optimized for instrument or line-level inputs. The **control voltage (cv/exp)** input modulates the filter cutoff frequency for integrating modular gear or expression pedals. The **MIDI** input enables remote control of every pedal parameter and

access to 9 onboard preset slots. The pedal is powered by standard 9-volt, center-negative style power supplies.

FEATURES

- four-pole resonant low-pass filter with stereo inputs and outputs
- rich ladder-style filter for harmonic tone shaping
- improved signal-to-noise ratio for clean, clear tones
- bipolar envelope generator with rise and fall controls (5 ms to 4 seconds)
- dynamic auto-wah and ducking effects with follower mode
- one-shot envelope triggers with adjustable threshold in trigger mode
- rhythmic pulsing modulation with cycle mode
- LFO inverted between left and right channels for natural widening effect
- LFO with sine wave or smoothed random-style modulation (0.1Hz to 100Hz)
- CV input for filter cutoff modulation, supports audio rate signals
- MIDI input for control of every parameter and access to 9 onboard presets
- adjustable for instrument or line-level inputs
- standard 9-volt, center-negative power supply compatibility
- housed in a single block of walnut, CNC routed, hand sanded & polished

SPECIFICATIONS

- 165mm x 140mm x 45mm
- ¼" TS Jacks
- input impedance: 1MΩ
- output impedance: <1kΩ
- power supply: 9 VDC, center-negative
- current draw: 200mA
- 3.5mm control voltage input (0-3.3 Volts)
- 3.5mm MIDI input (Type B)
- buffered bypass
- soft-touch foot switch

GETTING STARTED

POWER CONNECTION

Power **paragraphs II** with a standard effect pedal power supply that provides at least 200mA of current. The power input is protected from reverse polarity and over-voltage power supplies.

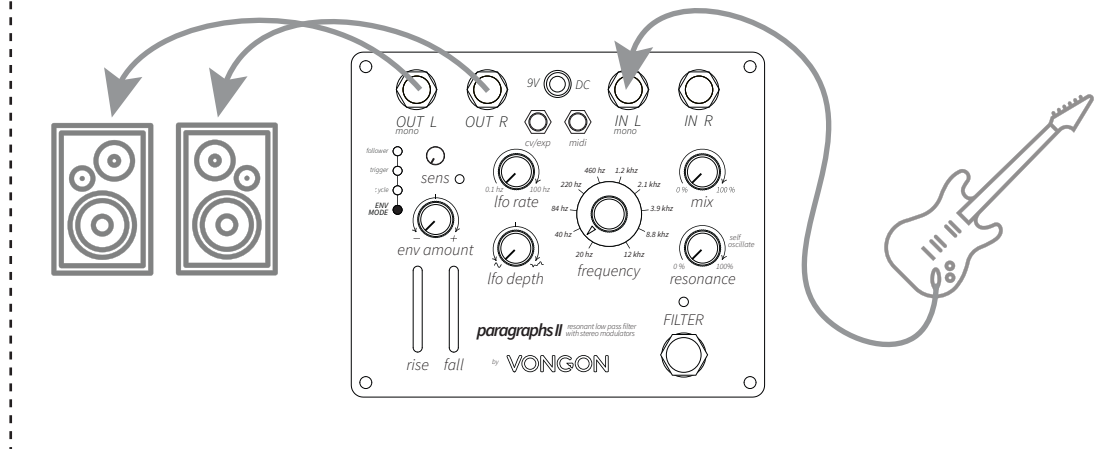Power Requirements:
9 VDC, Center Negative, 200mA or greater

AUDIO CONNECTIONS

Connect your instrument with ¼" TS cables. **paragraphs II** is compatible with both mono and stereo sources.
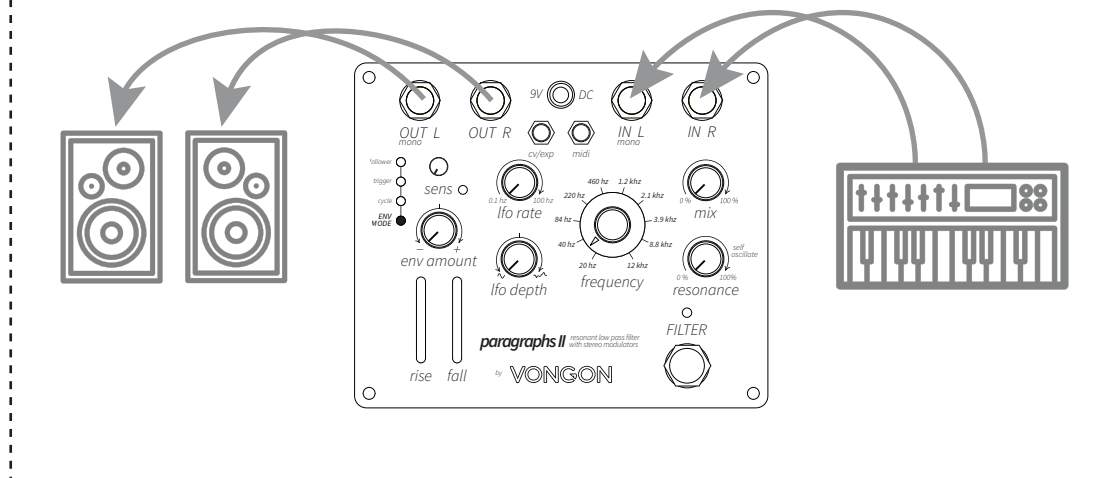

MONO IN / MONO OUT
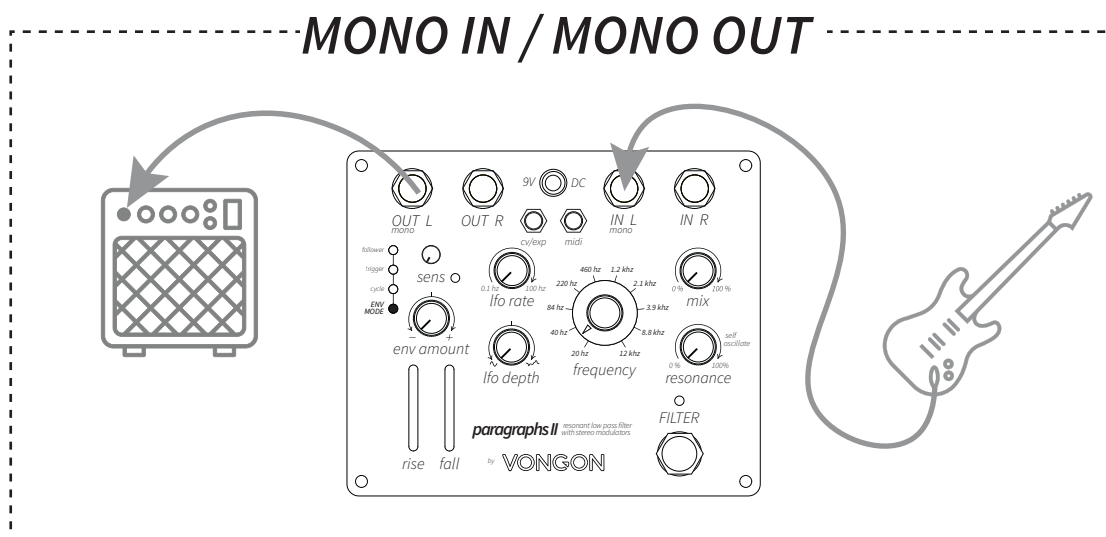
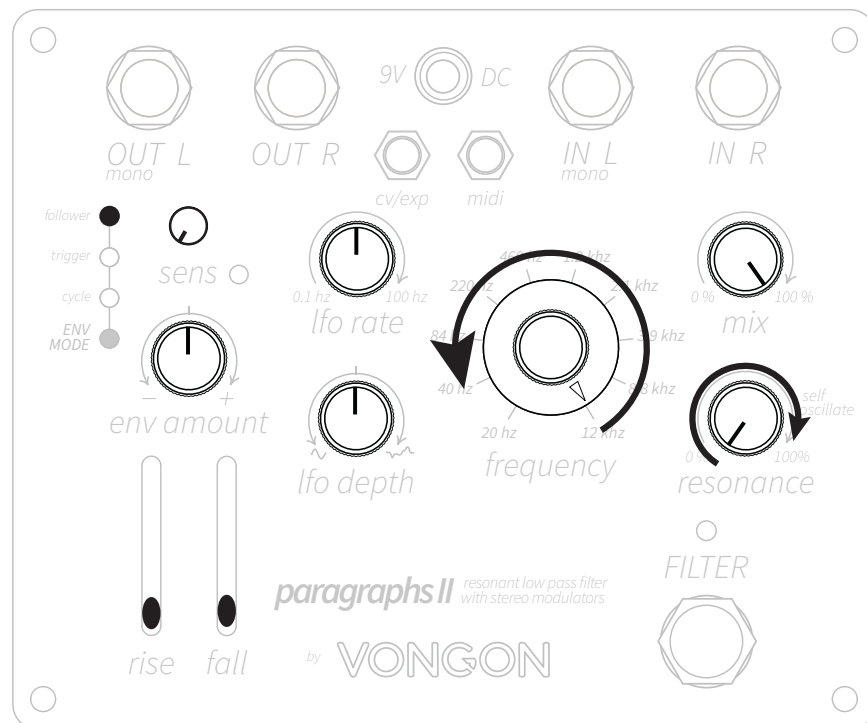# AUDIO CONNECTIONS (continued)

MONO IN / STEREO OUT

STEREO IN / STEREO OUT

SOUND DESIGN WALKTHROUGH

This section explores various ways to use *paragraphs II* and helps you familiarize yourself with the available parameters.

1. LOW PASS FILTER WITH NO MODULATION

This is a great starting point to hear how the sound is affected by the filter. All modulation from the envelope generator and LFO is disabled.

When the *frequency* control is fully clockwise, you should hear your instrument very clearly. As you turn the knob counterclockwise, the sound will get increasingly darker until there is no volume at all.

Try sweeping the *frequency* knob as you increase the *resonance*. You should hear the frequency sweep become sharper and more pronounced. If you

increase the *resonance* to about 80%, the filter will begin to self-oscillate, producing a pure sine wave at the cutoff frequency.

NOTE: When the mix is set to 100%, you may notice a small volume bump when engaging the pedal. This occurs because we apply a slight gain boost to the filter to help minimize volume drops when the filter reduces a significant portion of the signal. You can fine-tune the overall output level of the pedal by holding down the **ENV MODE** button and adjusting the *mix* control. For more details, refer to the **OUTPUT LEVEL** section on page 15.

2. LFO MODULATION
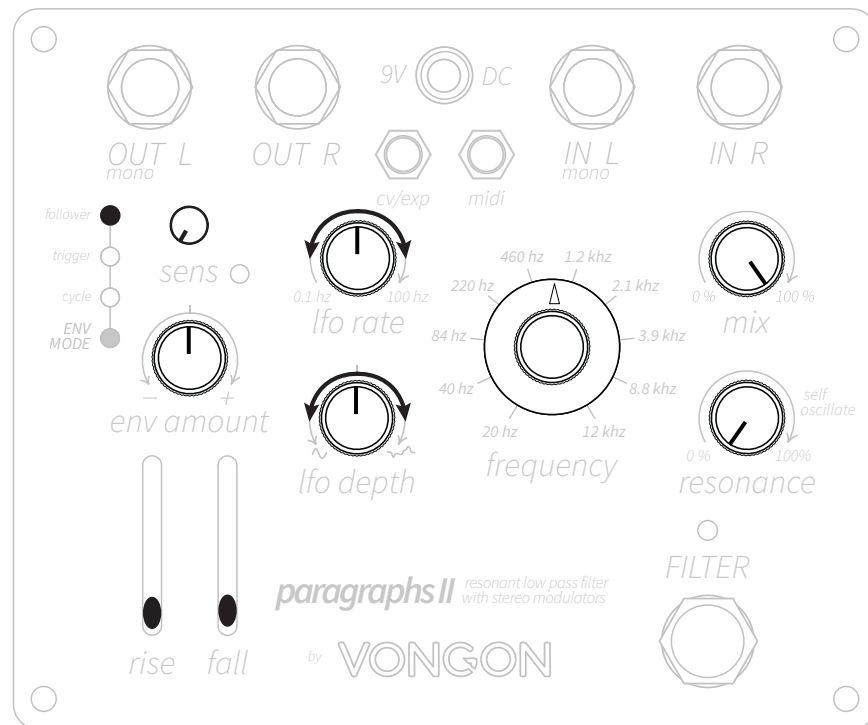
As you turn the *lfo depth* to the left, you will hear the sine wave modulation create a tremolo-style effect. If you are listening in stereo, the sound will start smoothly bouncing between the left and right speakers. If you turn the *lfo depth* to the right, you will hear the smoothed random wave modulation move your signal around the stereo space in an unpredictable way.

The *lfo rate* has a very large range. On the left side, you will get very slow movement, which can be useful to keep things from sounding too static. As you move the *lfo rate* toward the right, you will start to get into audible frequencies and hear ring modulation-style and noise effects, adding new textures to your instrument.

3. ENV FOLLOWER
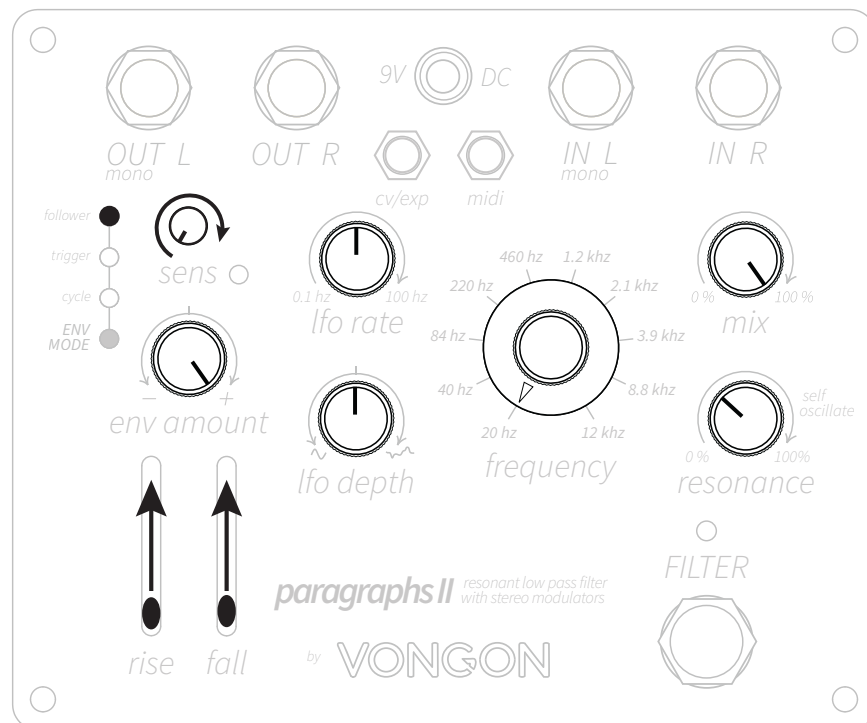
The **ENV FOLLOWER** mode uses your instrument's volume envelope to modulate the filter. The *sens* control affects how sensitive the pedal is to your instrument; the goal is to find a sweet spot where you can easily control the filter by playing your instrument.

Start with the controls as shown; you shouldn't hear anything yet. As you increase the *sens* control, you will start to hear your signal get brighter as you raise your instrument's volume or play louder. Once you can fully open the filter (hear your signal clearly and brightly, and the LED next to *sens* fully illuminates), stop increasing the *sens* control. This is the ideal setting for your instrument.

Next, adjust *rise* and *fall* to add smoothness to the envelope modulation. Increasing *rise* will make the filter rise more slowly, which can act like an auto-swell effect. As you increase *fall*, let a note ring out on your instrument, and you should hear the filter frequency decrease more smoothly.

Use the *env amount* to make fine-tuning adjustments to the frequency response, or move it fully to the left to create ducking effects, where the filter makes your instrument darker as you play louder.
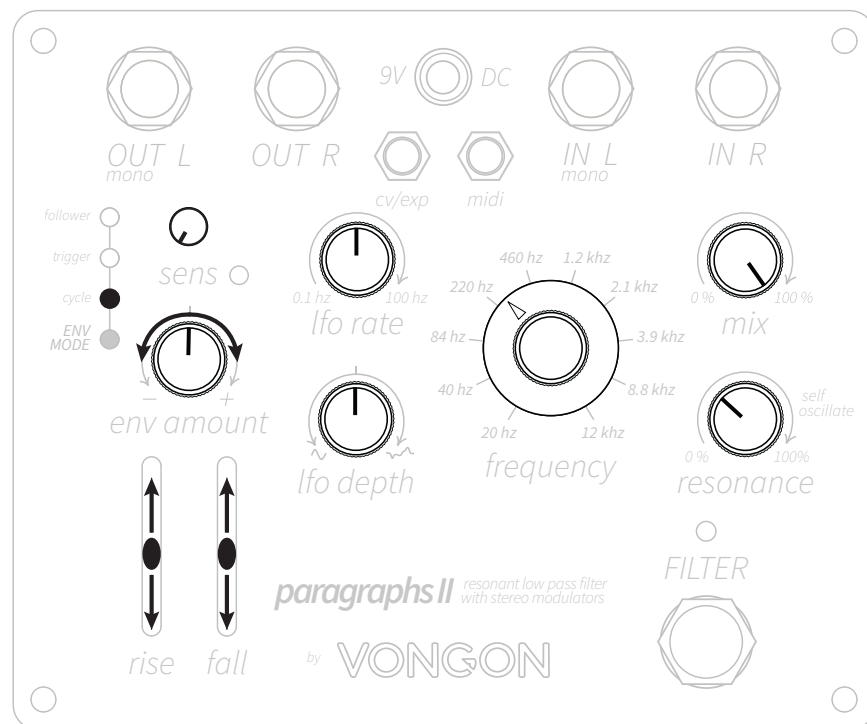
4. ENV TRIGGER
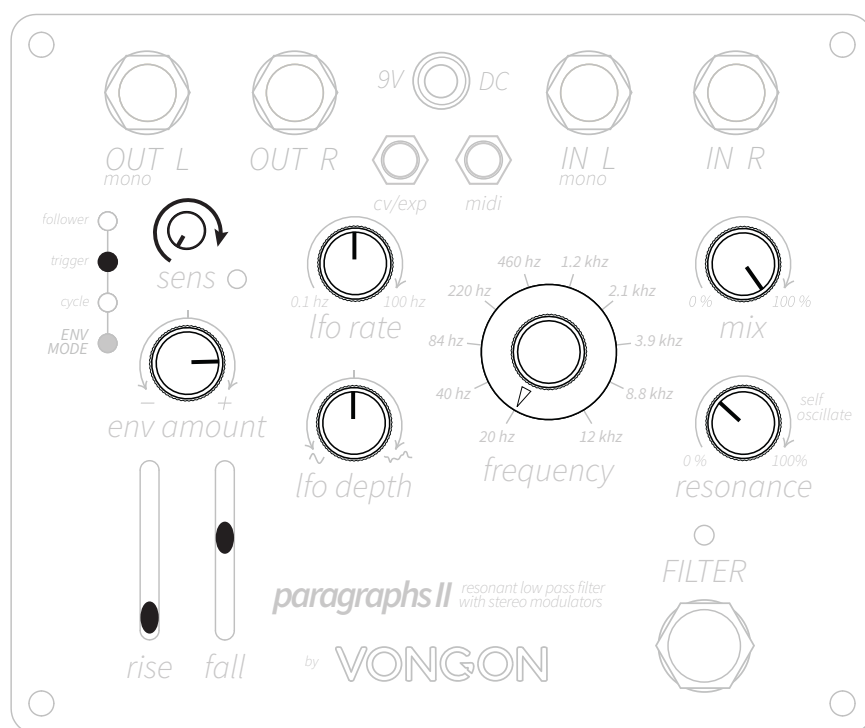
The **ENV TRIGGER** mode produces an envelope at the moment when your instrument passes a volume threshold set by the *sens* control. Using the settings shown, start to slowly increase *sens* as you play your instrument. You should be able to find a spot where you can easily trigger the envelope by playing. If the *sens* is too low, it may not trigger at all, while if it's too high, it may produce false triggers during play.

Once you can trigger the envelope, use the **env amount** control to adjust the brightness of each trigger. Experiment with different settings on the **env amount** and **frequency** controls to create percussive plucking and ducking-style effects.

The **rise** and **fall** controls will change the envelope shape. If you increase **fall** to the maximum level, the envelope will stay open as long as your input signal is above the **sens** threshold. This allows you to create smooth volume fading effects from your playing by increasing **rise** and setting **fall** to maximum.
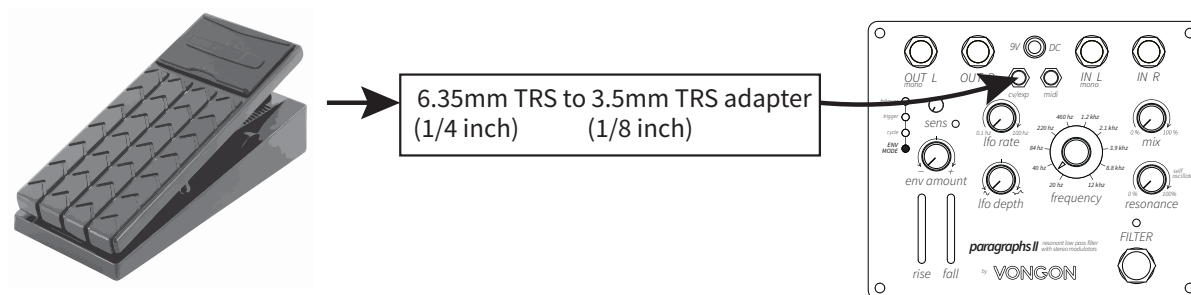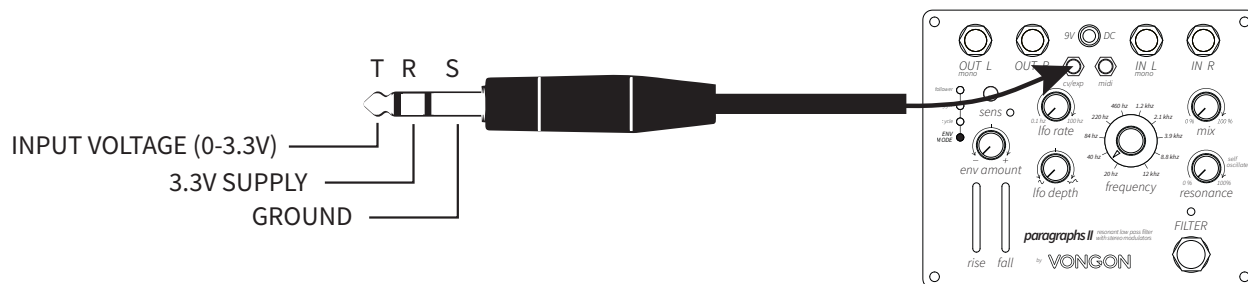
5. ENV CYCLE

The **ENV CYCLE** mode will continuously loop the envelope. The **rise**, **fall**, and **env amount** controls function the same way as they do in the **ENV TRIGGER** mode.

CV / EXP INPUT

The *cv/exp* input enables voltage control of the filter *frequency*. This input is compatible with expression pedals as well as modular control voltage based devices. The pedal responds to voltages from 0 to 3.3 volts and is protected from under and over voltage levels.
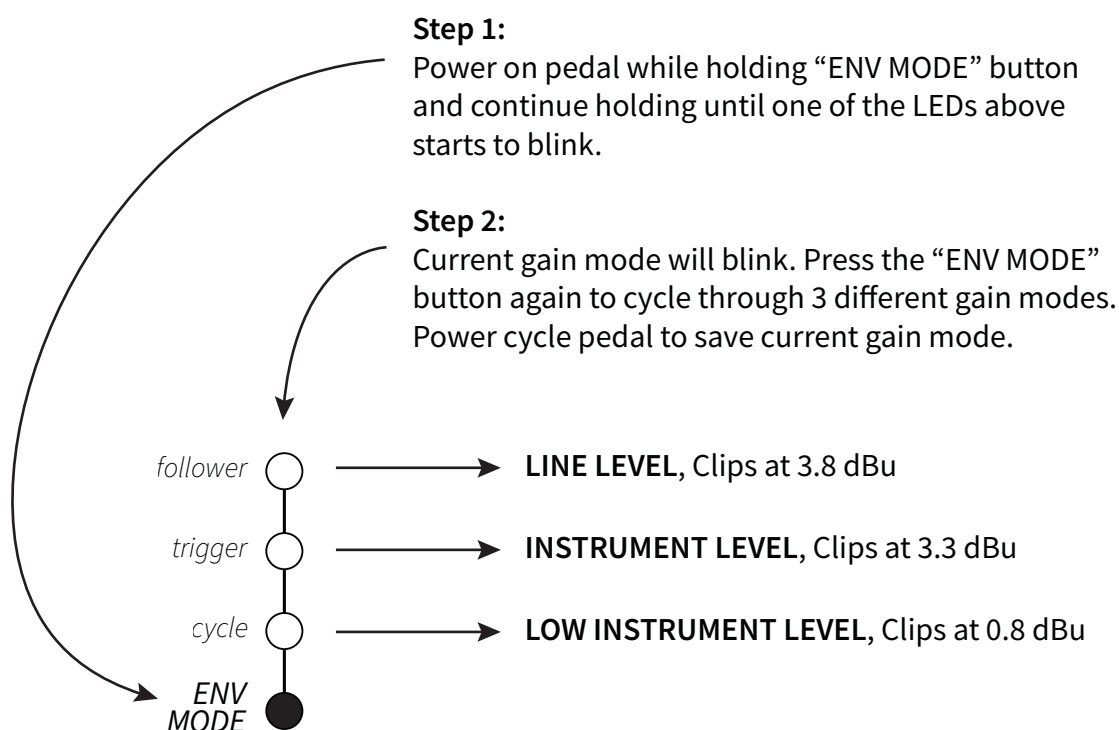
The voltage level at this input will be added to the *frequency* level. To fully sweep the frequency range, set the *frequency* knob to the minimum value.

T R S

INPUT VOLTAGE (0-3.3V)

3.3V SUPPLY

GROUND

6.35mm TRS to 3.5mm TRS adapter
(1/4 inch)   (1/8 inch)

GAIN MODES

paragraphs II supports three gain configurations, making it compatible with different audio sources. By default, the pedal is set to **INSTRUMENT LEVEL** mode. If your input signal is clipping or if you hear too much noise, try adjusting the mode by following the steps below. The pedal will always remember the most recently used mode.

Note: The **LINE LEVEL** mode may still clip with particularly loud audio sources. If you hear any clipping, you might be able to make fine-tuning adjustments by decreasing the **OUTPUT LEVEL** (PAGE 18).

Step 1:
Power on pedal while holding "ENV MODE" button and continue holding until one of the LEDs above starts to blink.

Step 2:
Current gain mode will blink. Press the "ENV MODE" button again to cycle through 3 different gain modes. Power cycle pedal to save current gain mode.

follower ⟶ **LINE LEVEL**, Clips at 3.8 dBu

trigger ⟶ **INSTRUMENT LEVEL**, Clips at 3.3 dBu

cycle ⟶ **LOW INSTRUMENT LEVEL**, Clips at 0.8 dBu

ENV MODE

OUTPUT LEVEL

The **OUTPUT LEVEL** control is designed to provide a fine-tuning adjustment of the overall volume level when the pedal is engaged, allowing you to achieve a consistent volume whether the pedal is activated or bypassed.

Hold the **ENV MODE** button for 1 second; the currently selected **ENV MODE** LED will begin to blink rapidly. While the LED is blinking, adjusting the mix knob will adjust the overall output level. The default value is 50%. Turning the knob to the left decreases gain, while turning it to the right increases gain.

1. Hold **ENV MODE** for 1 second, you will see the current **ENV MODE** LED start blinking quickly
2. While holding **ENV MODE**, adjust **mix** to fine tune output level.
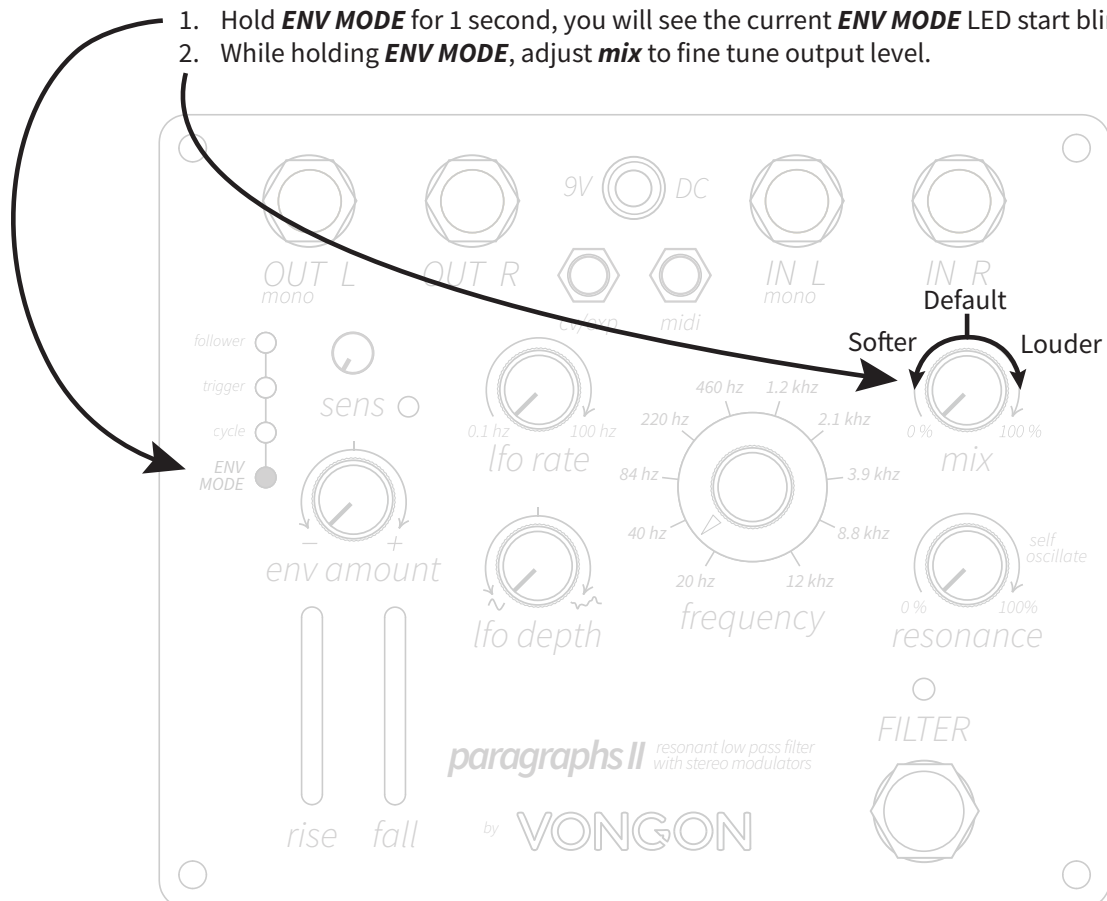
MIDI

The **MIDI** input provides remote control of all parameters on the faceplate, and access to 9 onboard user preset slots. See implementation details below.

MIDI ADAPTER

Use a 3.5mm **TYPE B** style MIDI adapter. If you're unsure which type of adapter to use, you can purchase one directly from **VONGON** on our website.

MIDI CHANNEL

By default, *paragraphs II* listens to MIDI channel 1. You can change the MIDI channel by following the steps below.

1. Power on the pedal while holding the bypass foot switch and continue holding until the purple LED starts blinking.
2. Now send a midi CC message on the desired channel. The purple LED will stop blinking and the pedal will now listen to messages on that midi channel. This setting will be remembered between power cycles.

MIDI PRESETS

paragraphs II has 9 onboard user preset slots that can be read and written to via MIDI PROGRAM CHANGE (PC) messages.

EXAMPLE SAVE/LOAD PRESET 1:
- **SAVE PRESET 1:** Adjust pedal to desired sound, send a MIDI PC# 11. That sound is now saved into preset slot #1.
- **LOAD PRESET 1:** Send a MIDI PC#1 message, the pedal will recall the sound stored in preset slot #1.

PRESET	LOAD PRESET	SAVE PRESET
1	PROGRAM CHANGE #1	PROGRAM CHANGE #11
2	PROGRAM CHANGE #2	PROGRAM CHANGE #12
3	PROGRAM CHANGE #3	PROGRAM CHANGE #13
4	PROGRAM CHANGE #4	PROGRAM CHANGE #14
5	PROGRAM CHANGE #5	PROGRAM CHANGE #15
6	PROGRAM CHANGE #6	PROGRAM CHANGE #16
7	PROGRAM CHANGE #7	PROGRAM CHANGE #17
8	PROGRAM CHANGE #8	PROGRAM CHANGE #18
9	PROGRAM CHANGE #9	PROGRAM CHANGE #19

MIDI CONTROL CHANGE (CC) PARAMETERS

When the pedal receives MIDI CONTROL CHANGE (CC) messages on its assigned MIDI channel, it will internally set parameters to the new CC value. Manually adjust the faceplate parameter to reset the value to the physical faceplate control.

MIDI MESSAGE	PARAMETER	VALUE
MIDI CC #80	FREQUENCY	0-127
MIDI CC #81	RESONANCE	0-127
MIDI CC #82	MIX	0-127
MIDI CC #83	SENS	0-127
MIDI CC #84	RISE	0-127
MIDI CC #85	FALL	0-127
MIDI CC #86	ENV AMOUNT	0-127
MIDI CC #87	LFO RATE	0-127
MIDI CC #88	LFO DEPTH	0-127
MIDI CC #89	TRIGGER ENVELOPE *ENV MODE must be trigger or cycle	ANY VALUE WILL TRIGGER ENV
MIDI CC #90	OUTPUT LEVEL	0-127
MIDI CC #13	BYPASS	0-63: OFF 64-127: ON
MIDI CC #14	ENV MODE	0-43: FOLLOWER 44-87: TRIGGER 88-127: CYCLE

EXTENDED WARRANTY & SUPPORT

VONGON will repair or replace any malfunctioning product within one year from the purchase date. Problems resulting from modification or misuse may void this warranty. This warranty applies only to the original owner of the product— proof of purchase is required. We will happily diagnose and repair any **VONGON** product, even if it is out of warranty (shipping and repairs are at the owner's expense).

CONTACT

Please feel free to reach out with any questions or concerns
support@vongon.com

CHANGE LOG

VERSION	DATE	DESCRIPTION
V1.0	AUG 1, 2024	Initial commit

VONGON