

Pigtronix™

EP-1 Envelope Phaser

User's Guide



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WELCOME!

Thank you for entering the realm of Pigtronix. Your EP-1 is a professional quality, 100% analog, 4-stage phase-shifter that can be controlled by **EITHER** a triangle-wave **low frequency oscillator (LFO)**, **OR** an **envelope follower (EF)**.

The EP-1 circuit has been tuned to provide the fattest possible tone and widest sweet spot. Its user-friendly interface will allow you to tap into a wealth of expressive sonic possibilities.

EP-1 will accept instrument or line level signals, making it a suitable effect for guitars, basses, keys, turntables, laptops, studios, amplified wind instruments... you name it. **EP-1** was born out of a passion for versatile, expressive, analog musical effects; it is built to last and designed to inspire. We hope it will provide you with years of creative satisfaction.

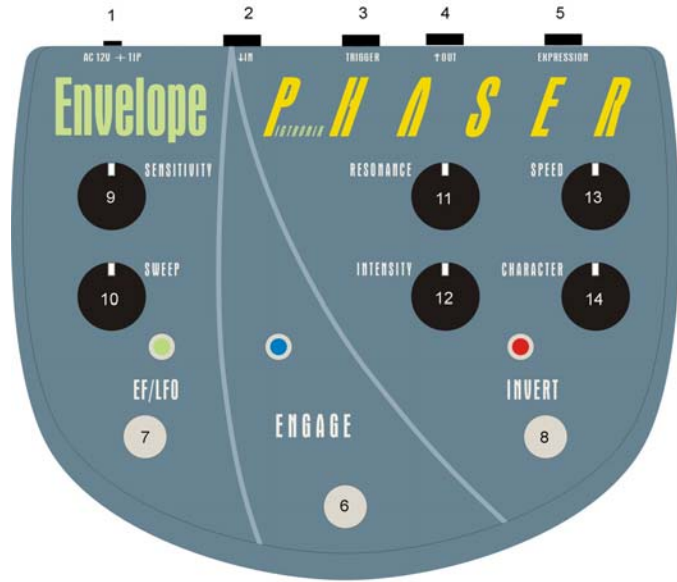
Peace,

Pigtronix



ANATOMY OF THE EP-1

The Interface



Jacks

1. AC POWER 12VOLTS – Power input. Please use only the power supply that came with your Pigtronix EP-1. Using the wrong power supply will result in a damaged pedal.
2. IN – Effect Input - Plug instrument in here
3. TRIGGER – EF trigger input. (See page 9)
4. OUTPUT – Effect output – to amp, mixer, etc.
5. EXPRESSION – LFO speed pedal input. Requires a Pigtronix expression pedal and a hi-fi, ¼" mono cable. (See page 10)

Switches/LEDs

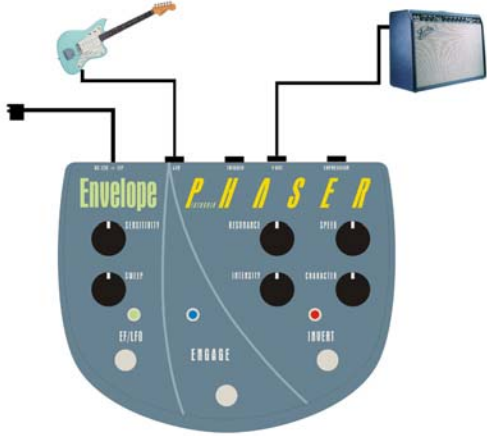
6. ENGAGE – master bypass switch. Blue LED indicates that the effect is engaged.
7. EF/LFO – phase shift control. Determines which control element will cause the phase shifting to occur. In LFO mode, this green LED corresponds to the speed of the LFO. In EF mode, it responds to the strength of the input/trigger signal.
8. INVERT – phase shift add/subtract. Determines whether the phased signal will be added to or subtracted from the clean input signal. In *add* mode, the LED is red. In *subtract* mode, the LED is a yellowish green color.

Dials

9. SENSITIVITY – Controls the responsiveness of the EF.
10. SWEEP – Determines the range of the EF.
11. RESONANCE – Controls the amount of feedback in the phase shifter circuitry.
12. INTENSITY – Controls the amount of effect that is blended with the original signal.
13. SPEED – Controls the rate of the LFO.
14. CHARACTER – Controls the wave shape of the LFO.

GETTING STARTED

Basic Hook Up



1. Unpack your EP-1 and place it on a flat, stable surface. If the pedal was shipped to you and feels physically cold, let it warm up to room temperature before plugging it in.
2. **Make sure you are using the 12 Volt power supply that came with your Pigtronix EP-1.** Using an incorrect AC adaptor will result in poor sound quality and is likely to damage the circuit.

Plug the cord into the AC 12V jack on the back of the EP-1 and then plug the power adaptor into an electrical socket.

The EP-1 is now "ON." To turn the device "OFF," unplug it from the wall or turn off the power going to the socket that the power supply is plugged into.

The bi-color LED on the far right will always be lit when the unit is powered up.

We recommend that you do not leave your EP-1 powered up for long periods of time when it is not in use.

GUIDED TOUR

The following steps guide you through the sonic palette of **EP-1** and show you how to get at the range of tones that it has to offer.

1. Set all of the control dials to the 12:00 position.
2. If the LED on the left is off, click the left footswitch (EF/LFO) to turn on the LFO. The LED on the left will now begin pulsing.

If the right LED is green, click the right footswitch (INVERT) so that it turns red.

Click the center footswitch (ENGAGE) so that the blue LED is lit.

Phase Shift Controls – Dialing in the tone

3. Turn up the INTENSITY control dial to 3:00. This will make the effect more pronounced.
4. Turn up the RESONANCE control dial to 3:00. This introduces harmonics into the sound that help define the musical travel of the effect.

*Note – when the effect is engaged, both the INTENSITY and RESONANCE controls are always active when EP-1 is engaged.

LFO Controls

- Turn up the CHARACTER control dial to about 2:00-3:00. This produces the sound, which many people find to be the "LFO sweet spot". Adjusting the CHARACTER control changes the wave shape or "voicing" of the LFO. Turn this dial all the way down then all the way up to get a sense of what it does.

Counterclockwise gives you a rhythmic, pulsing wave, while clockwise smoothes out the triangle wave to the point where there is no gap in its travel.

- Turn the SPEED dial to its extremes in order get a sense of the speed range of the LFO. Turning up the SPEED control increases the rate of the LFO. EP-1 sounds particularly good at slower speeds, imparting a sense of three-dimensional space and motion to the sound. Bring the dial back to 10:00. Notice that the LED on the left pulses faster as you turn the speed knob clockwise.

*Note - When the LFO is engaged, the EF controls (SENSITIVITY and SWEEP) are disengaged and do not affect the sound.

**Note - directly above the SPEED control, at the back of the unit, is an expression pedal jack. When a cable is inserted into this jack, the SPEED dial is disengaged. *We highly recommend using an expression pedal with the Pigtronix EP-1 in order to get the most out of the LFO side of this effect.* With an expression pedal it is easy to manipulate the tempo of the phase shifting in order get some incredible rotating speaker effects, match song tempos live, and freak people out in general.

Invert – Subtractive or Additive Phase Shifting

***Note - The INVERT function operates independently of the EF/LFO switch.

- Press the footswitch to the far right marked INVERT. The LED will turn green. This changes the way that the phased signal combines with the normal signal in the output section of the circuit. In RED mode, the phased sound is ADDED to the original sound, producing a classic whooshing spacey phase tone. In GREEN mode, the phased sound is SUBTRACTED from the original sound producing a darker, deeper sound.
- Check out how the GREEN (-) mode and then click the right footswitch again to put EP-1 back in RED (+) mode.

EF Controls

There are two ways to dial in the EF. It can be done visually, with the help of green LED on the left, or purely by sound.

Understand that dialing in a killer EF sound takes practice, so be patient and you will be rewarded. There are many sounds that can be coaxed out of EP-1's envelope follower.

- Turn both the SWEEP and SENSITIVITY dials all the way down.
- Click the left footswitch to engage the Envelope Follower (EF); the LED above the left footswitch should turn off. The EF controls (SWEEP and SENSITIVITY) are now engaged.
- Turn the SWEEP control up as you play your instrument. Eventually, the phase effect will become apparent. At this point, the LED will be solid green. Bring the SWEEP control back to the point where the effect began to become apparent, the point just before the LED lights up.
- Now turn up the SENSITIVITY control while you play your instrument. Eventually, you'll notice your input signal triggering the phase effect. The harder you play, the higher the phase shifter rises. Notice, the left LED now tracks you input signal, getting brighter as you play harder.
- With both EF controls at the 1:00 position, you will get a responsive sound, so use this as a starting point. You will find that the two EF controls have an inverse relationship. At lower sweep values, a higher sensitivity value is needed to trigger the effect. Inversely, at higher sweep values, you can get away with a lower sensitivity setting. Play around with the EF controls to get a feel for this effect that dynamically responds to your playing style, creating vowel-like sounds that are full of individual personality.
- With the EF still engaged, click the right footswitch (INVERT), putting the EP-1 in subtract (-) mode. The LED should turn green. This tone sounds more like an auto wah with strange overtones and bass to spare.

EF Tips:

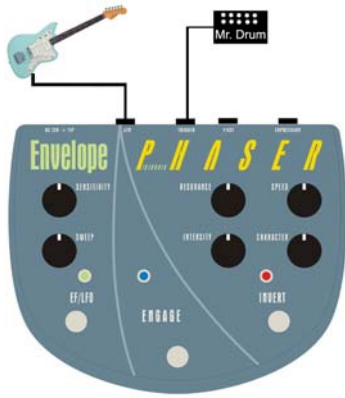
- Turning up the RESONANCE will make the EF more pronounced.
- EP-1 likes a hot input signal; so don't be afraid to drive it!

****Note - When the EF is engaged, the LFO controls (SPEED and CHARACTER) are disengaged and do not affect the sound.

Advanced Operations

EF "Trigger" Input

When a plug is inserted in the "TRIGGER" jack, the signal from the input jack is disconnected from the envelope follower (EF). This will allow you to modulate the instrument input signal with an external audio source such as a drum machine or a beat from your laptop. LFO operation will be unaffected by the trigger input source.

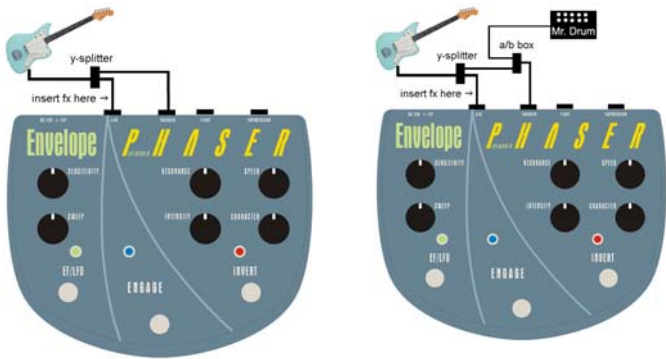


FX Loop Operation

By splitting your guitar signal before it enters EP-1, you can make use of the "TRIGGER" jack to form an FX loop.

By sending a clean guitar signal into the "trigger" jack, while running the other guitar signal through whatever effects you desire and then into the "input" jack, you allow the pure instrument signal to trigger the EF, while the instrument signal carrying the effects is modulated.

You may also use an A/B splitter to select between multiple trigger sources.



Pigtronix will have small, high quality, custom y-splitters and a/b boxes available on our website, www.pigtronix.com, in order to allow you to fully take advantage of all that EP-1 has to offer.

Expression Pedal Speed Control

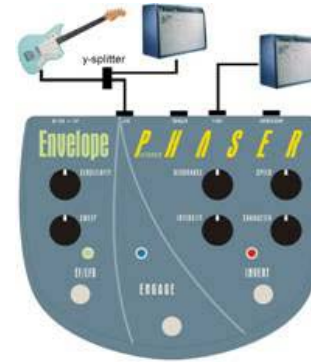
To utilize the Expression pedal feature of the Pigtronix EP-1, you must use a Pigtronix expression pedal. A Pigtronix expression pedal is available from your local Pigtronix retailer or online at www.pigtronix.com.



In order to insure correct expression pedal operation, make sure that the phone plugs on the expression pedal cable do not touch any metal (i.e. other pedals, phone plugs, or miscellaneous gear). If this happens, the signal will go to ground, causing an audible clicking sound. To minimize any audible "clicking," we recommend using a short, high-quality instrument cable with insulated (plastic coated) phone plugs.

Going Stereo

Due to the sonic nature of phase shifting, when a dry (non-phased) signal is run through a second amplifier, the effect appears to travel between the two sound sources, creating a mesmerizing stereo field effect, particularly at slow to medium LFO speeds. This can be achieved by splitting your signal before it hits the EP-1, sending one signal to the effect input and the other to another amp.



LIMITED WARRANTY

Your Pigtronix EP-1 effect pedal comes with a 1 year limited warranty on parts and workmanship. During the warranty period we will repair or replace, at our option, defective parts or pedals free of charge, and return them to the owner. Warranty service does not include damaged, modified, or misused EP-1s, and such pedals will be subject to a standard repair charge.

What we will not do: Pay for shipping or transportation charges from you to us, or pay for any international shipping charges.

What you must do: First, contact us directly via email and describe the problem to us. If the problem cannot be resolved we will have you send your EP-1 directly to us for servicing.

How to contact us for warranty service:

Email: tech@pigtronix.com

Warranty Limitations: This warranty does not cover defects resulting from improper or unreasonable use, accident, unauthorized tampering or modifications; and, warranty shall be considered void if EP-1 chassis has been opened. Please consult the instructions and warnings in this manual for proper use. Warranty is only valid if your EP-1 has been properly registered within 30 days of original purchase date, and upon warranty registration, will be valid for 12 months from original purchase.

To validate your 1-year, limited warranty, please register your EP-1, **within 30 days of purchase**, on the web at:

www.pigtronix.com/warranty

SAFETY PRECAUTIONS

Please be sure to observe these precautions. The safety precautions listed below are intended to ensure your safety whenever you use the equipment.

NEVER OPEN THE CASE – Never try to separate the two pieces of the chassis from one another and/or modify the equipment. Opening this device will effectively void the warranty.

STOP USE IN CASE OF PROBLEM – Stop using the equipment if ever you should notice smoke or a strange odor coming from it. Contact your original dealer or nearest authorized service provider for service.

AVOID HIGH TEMPERATURES & HEAT BUILD UP – Never cover AC adaptor with cloth or other objects. Built up heat creates a danger of equipment deformation and fire. Do not expose the EP-1 to direct sunlight, heating devices, or other extreme temperatures.

USE SPECIFIED AC ADAPTOR ONLY – Be sure to use only the 12 Volt AC Adaptor that came with your Pigtronix EP-1 and is specified in this user's guide.

DO NOT EXPOSE TO WATER/BEER – To reduce the risk of fire or electric shock, do not expose your EP-1 to rain or moisture. If water gets inside the unit, turn off the power supply and consult your dealer or nearest authorized service provider.

Final Notes

Years of work have gone into making this project a reality. We would like to thank the following people for their help along the way:

Daniel (Pigpen) Graham, Scott Gramlich, Verne Andru, Steve Spano, William Bethke, Peter Koltai, Lisa Rickmers, Maroon 5 and crew, Matt Smith, The Grift and B-Dawg.

That is it folks, now go have fun with your new Pigtron.

Peace,

Dave Koltai & Brian Bethke

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