

**SMOKE AND MIRRORS**  
**SERIAL NUMBER: SM0045**  
PLEASE REGISTER THIS PRODUCT AT  
[WWW.AUXILIARYWORKSHOP.COM](http://WWW.AUXILIARYWORKSHOP.COM)

## **Auxiliary Workshop Smoke And Mirrors Owners Manual v1.02**

Congratulations on purchasing the Auxiliary Workshop Smoke And Mirrors effect pedal. I am confident your purchase will have you creating luscious spacious sounds for years to come. Please register your pedal at [www.auxiliaryworkshop.com](http://www.auxiliaryworkshop.com) as soon as possible to validate the 1 year warranty. You can also join the mailing list on the "contact us" page if you would like to be kept in the loop on new products, future special editions, competitions and freebies.

I went into the Smoke And Mirrors circuit design with one intention. I wanted a subtle phaser that could transport you to another place. A slightly bent reality with your feet still on the ground. I didn't want that heavy tripped out phase effect that is the main feature of most phasers. To achieve this I had to make multiple modifications to the classic phaser design.

### **CLASSIC PHASE SHIFTING DESIGN THEORY**

If you make a duplicate of an original signal and then mix it back in on the original signal, the two signals will null each other out. Silence.

If you make a duplicate of an original signal, slightly time delay the duplicate signal and then mix the duplicate signal back in on the original, only certain frequency's will get nulled.

If you make a duplicate of an original signal, set a shifting time delay on the duplicate signal and mix the duplicated time shifting signal back in on the original, various frequency's will get nulled dependant on the duplicate signals time relativity to the original signal.

The audio result of phase shifting is akin to someone sitting at your amp modifying the EQ knobs in a rhythmic pattern while you play.

### **SMOKE AND MIRRORS - AN ALTERATION TO PHASE SHIFTING DESIGN THEORY**

Two changes were made to the classic phase shifting design for the Smoke And Mirrors Pedal.

1. More original signal gets through the circuit unphased.
2. The duplicated time shifted signal has filters applied to it before it is mixed back in with the original signal.

What do these changes achieve?

1. By passing more of the original signal unphased we get a much more subtle effect.
2. By filtering the duplicated time shifting signal we can modify the frequency range of the phase sweep.

The Smoke And Mirrors pedal has two modes. Green mode and Red mode. In "Green mode" the phase sweep ranges from 100hz to 2Khz. In "Red mode" the phase sweep ranges from 300hz to 5Khz. Green mode will phase sweep lower guitar strings up to lower high strings. Red mode will phase sweep higher medium strings up to very high strings. So if you want the effect to be strongest on lower strings then use Green mode, if you want the effect to be strongest on higher strings then select Red mode. Personally Red mode is my favorite, you can play open chords and have a fantastic shimmer on the high strings without the message getting lost on the lower strings.

### **PLUGGING IT ALL IN**

The INPUT JACK is on the right hand side of the pedal. Plugging a mono cable into the INPUT JACK will turn the unit on and the TEMPO LED will begin to flash, regardless of whether the unit is in BYPASS mode. You can connect either the mono output from your instrument, from the mono output from another effect or from a mono FX send from a mixing desk.

The OUTPUT JACK is on the left hand side of the pedal. You can use the OUTPUT JACK to connect a cable to the input of your amplifier, to the input of another effect or to an FX receive input on a mixing desk.

The POWER JACK is a standard 9V barrel style power jack common to most guitar effect pedals. The dimensions of the jack are 2.1mm internal diameter, 5.4mm external diameter. It is recommended that you use an official Boss 9v regulated PSU. If you are running multiple pedals it is highly recommended that you use a PSU designed to power multiple pedals like the MXR DC Brick.

The 9V battery power clip is located on the inside of the pedal. Carefully remove all 4 screws on the base of the pedal. The battery sits behind the footswitch.

There is no need to remove the batteries when using a PSU as the battery is automatically bypassed when the PSU is plugged in. Never try to remove a battery by pulling on the battery

clip wires as this will damage the battery clip. Do not over tighten the screws when screwing them back in or you risk breaking them.

### **CONTROLS OVERVIEW**

The TEMPO LED flashes to show you the current speed of the internal low frequency oscillator. As you adjust the SPEED knob you will see the TEMPO LED adjust to the speed of the internal low frequency oscillator.

Use the MODE switch to change the phase mode. The TEMPO LED will change colour between Green and Red depending on the phase mode you are in. The TEMPO LED is Green in lower frequency phase mode and Red in higher frequency phase mode.

Use the BYPASS footswitch to switch the effect between on and bypass. When the effect is active the ON LED will turn on. When the ON LED is off the effect is true bypassed. Unlike most mass manufactured pedals, the Smoke And Mirrors pedal will not affect (or load) the signal of your instrument whilst in bypass. Your instrument will therefore retain its natural sound when the pedal is in bypass.

### **NOTES ON POWER**

The Smoke And Mirrors circuit is voltage sensitive. The phase will not be as pronounced with an incorrect voltage. The Smoke And Mirrors pedal will phase best when it is given exactly 9 volts.

It is recommended that you use an official Boss 9V power supply Unit with the Smoke And Mirrors pedal. If you have used guitar pedals before you will have likely heard this advice plenty of times. I see a lot of players that spend a fortune on their guitars, amps and pedals but buy a cheap PSU for their pedals to save 20 bucks. This is primarily because they don't know there is a difference. 9 volts is 9volts, right? Wrong. I have tested many 9 Volt PSU's over the years and I can tell you that hardly any of them deliver anywhere near 9 volts. They say 9 volts on the sticker, but they deliver 10 or 12 or in some cases 14 volts. Your pedals will work, but probably not as they should. The official boss 9V PSU delivers 9.02 volts and it's the closest PSU to 9 volts that I have seen. Do yourself a favour, buy a decent PSU and listen to your pedals as they were designed to function.

If you are running multiple pedals on a pedal board I highly recommend that you purchase a PSU designed to power multiple 9 volt effect pedals. The MXR DC Brick is a good example. The MXR DC Brick can power up to 10 pedals making sure each pedal is receiving the correct 9 volts.

If you use a PSU that we have not recommended and you blow up the pedal we will not cover the repair under the 1 year warranty. You will do irreversible damage to the circuit if you plug in a PSU that is the wrong polarity or the wrong voltage.

A 9 volt battery will only deliver 9V for a short period of time and then the voltage will slip, gradually delivering less and less voltage until it is completely dead. If you must gig with a battery, make sure it is a fresh one. When you plug in a PSU the PSU will override the battery and your battery will not be used.

### **DISCLAIMER/LEGAL**

Auxiliary Workshop shall not be liable for any direct indirect or consequential loss, howsoever caused, resulting from the use of this product. Please ensure that associated equipment e.g. amplifiers (particularly of the valve variety) and any other equipment connected to this product is safely earthed. Always use high quality cables, connectors and power supplies. Auxiliary Workshop cannot be held responsible for misuse of this product due to associated equipment being faulty, unsafe or poorly maintained. This product is guaranteed by Auxiliary Workshop for one year from the initial date of shipment by Auxiliary Workshop to a distributor, dealer or end user. Auxiliary workshop will at its discretion repair or exchange for a new one free of charge, any faulty or defective product returned to it within the above period except where the product: a: is deemed by Auxiliary Workshop to have suffered unreasonable misuse or abuse. b: has been damaged by a faulty PSU or has been damaged by a PSU with the incorrect voltage or polarity. c: has been tampered with or modified in any way without express permission in writing from Auxiliary Workshop. If this product is found to be defective or develops a fault please contact us first by submitting a fault via our website on the contact us page. Please do this before sending it back to us as most problems can be sorted out via email. Auxiliary Workshop products are subject to continuous refinement and improvement. Auxiliary workshop reserves the right to change the specifications of its products without notice. Auxiliary Workshop is under no obligation to retrofit any such changes or improvements to earlier models.