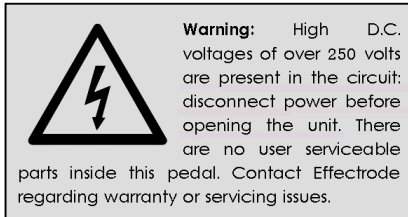


# Specifications

- Input Impedance: greater than  $1M\Omega$
- Output Impedance: less than  $1K\Omega$
- Controls: Shape, Width, Speed and Blend
- Features: Vacuum tube phase-shifter circuitry
- Expression Pedal: Roland EV-5 or EV-7.
- Peach LEDs: pulsate with modulation speed for visual song tempo matching.
- Mixed-Wave Modulator: Triangle, sine, sawtooth, square, pulse and sequenced wave shapes.
- Power Requirements: 12VDC @ 1Amp
- Dimensions: width 7.5" depth 4.8" height 1.3"
- Weight: 2lb (on Earth); 0.3lb (Titan)
- Construction: solid die-cast aluminum box
- Finish: Pastel-blue powder coat



## Owner's Manual



Serial #

PM-3B



12 Broughton Crescent, Barlaston,  
Staffs, England. ST12 9DB  
[www.effectrode.com](http://www.effectrode.com)

# Introduction

The *Phaseomatic Deluxe™* vacuum tube phaser generates true pitch-shift vibrato, shimmering chorus and deep, intense “tunnel” phasing effects. This all-tube phaser pedal employs the same one- and two-stage “Cathodyne” tube vibrato circuitry found in those gorgeous vintage *Magnatone®* amps. However, the *Phaseomatic* has two additional Cathodyne stages, which create a much richer, deeper vibrato. Further, the hi-fidelity tube circuitry is super-quiet with stacks of headroom.

But there’s more to the *Phaseomatic* than just being a studio-quality phaser—a lot more. Its twin LFO modulators can produce dreamy, randomly varying chorus and celeste effects. What’s more, this marvellous modulation machine can also do warped vinyl, stretched-tape, swept-wah and comb filter effects; it can even self-oscillate! So climb aboard to explore a host of retro-cool, spacious, sound effects heard on 1950’s B-rated sci-fi movie soundtracks. The *Phaseomatic* will take you to strange new worlds; where no transistorised phaser has gone before!

We wish you many years of musical enjoyment from this very special, hand-crafted, all-tube pedal—it’s engineered to become a classic of the future!



*Phil Taylor — Designer*

# Tubes

The 12AU7 tube in the *Phaseomatic* can be swapped with other 9-pin double triode tubes such as the 12AX7, 12AY7, etc. These substitutions yield higher gain and mild overdrive for a “Leslie” style growl as well as tonal differences depending on the tube type, manufacturer, etc. *Sylvania* Mil-Spec NOS tubes are highly recommended.



To extend tube life, it is recommended that the unit be allowed to warm-up for at least one minute after being switched on. This is to allow the heater filament in the tube to heat the cathode, which is coated with a layer of barium and strontium oxide. This oxide layer gets torn off the cathode, a process known as cathode stripping, if the cathode has not reached its correct operating temperature. If operated well within their ratings, good quality signal tubes can last 100,000 hours or more: that’s well over 11 years of continuous use. If you use your pedal for only 4 hours a day, they should last over 25 years. (We can’t warranty tubes for this period, however experience shows that such lifetimes are probable.)

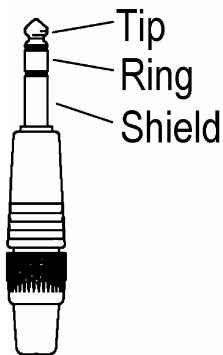
# Pots

This pedal is fitted with custom British made *Omeg* potentiometers. These are sealed units to prevent drying out or dust entering them, which means they never require periodic cleaning or lubrication. Additionally, a unique pot bushing system protects the pot from mechanical damage (i.e. being stepped on!)

The sweep modulation rate can also be set accurately using an external tap tempo controller such as the *Time Traveler™* pedal or any controller pedal that features a normally open momentary footswitch. Connection is made via the RCA phono socket on the rear panel of the *Phaseomatc*. **Note:** Adjusting the “Speed” knob overrides the tap tempo modulation rate settings.

**Bypass** footswitch allows selection between “effectified” (tube buffered phasing) and ‘non-effectified’ (true bypassed “dry”) signal.

**CV1 and CV2 (Control Voltage)** inputs allow the speed and width to be controlled with an expression pedal, such as the Roland EV-5 or EV-7. Other expression pedals may be used if their potentiometer has a resistance in the range of 10K to 250K and are wired as shown below.



Tip: wiper (pin2)  
Ring: +5V (pin 3)  
Shield: GND (pin 1)

Phasing speed & sweep can be controlled using an external VCO (Voltage Controlled Oscillator).

**VOLTAGE RANGE MUST  
BE IN THE RANGE OF 0  
TO 5 VOLTS.**

## Controls

**Normal/Skewed/Scattered** 3-position toggle switch on the rear panel selects the shape of the phase sweep contour. Select “Normal” for symmetrical crossover, triangular, sinusoidal and soft-edged square waveforms; “Skewed” for asymmetrical rising and falling sawtooth waveforms; “Scattered” for hard-edged square, stepped and pulse waveforms.

**Shape** knob modifies the phase sweep contour (selected with the “Normal/Skewed/Scattered” switch). Wave shapes are continuously variable, morphing seamlessly from one into another as the knob is rotated.

**Width** knob adjusts the sweep range. In counter-clockwise positions pitch-detuning is subtle, creating natural-sounding, useable phase-chorused and vibrato effects. Rotating the knob clockwise widens the sweep range to introduce severe pitch-detuning for warped vintage vinyl and stretched-tape effects. Width has a pronounced effect on stepped, rising and falling waveforms, creating some deliciously funky and chewy sound textures.

**Speed** knob sets the modulation rate. Rotating this knob counter-clockwise slows down the notch sweep rate across the audio spectrum, a.k.a. phasing. When fully counter-clockwise, stationary notches are created—this mid-scoop enhances those “nasal”, out of phase *Strat* sounds.

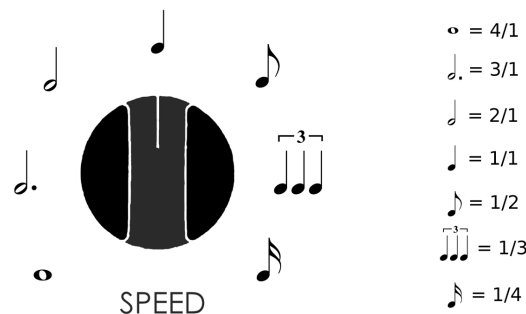
**Blend** knob adjusts the mix of “dry” and phase-shifted signals. Fully counter-clockwise is 100% dry signal, and fully clockwise is 100% phase-shifted signal (true vibrato). Set the “Blend” knob centrally to create a deep, rich phase-chorused effect. The phasing intensity (notch-depth) can be fine-tuned by adjustment around the centre position. Rotating the knob clockwise will add vibrato into the phasing.

**Colour** 3-position toggle switch introduces resonance (feedback). With the switch set “down”, feedback is routed from the 4<sup>th</sup> phase-shift stage. **Note:** the action of the “Blend” knob is reversed. Phasing becomes liquid and funky, like a wah or envelope filter—think back to the 1970s! When the switch set “up”, feedback is routed from the 2<sup>nd</sup> phase-shift stage, which is subtler. **Tone Tip!** This works well with acoustic guitar at slower sweep rates adding movement and texture. With the switch set in the “centre” position no feedback is introduced.

The “Shape”, “Width” and “Speed” knobs have secondary functions when the “Tap/Sync” footswitch is pressed and held down. When the internal jumper **Link** is removed, the three knobs operate as “Shape”, “Width” and “Speed” knobs for the second “Slave” LFO. With the link in place, the “Master” LFO directly controls the shape, width and speed of the Slave. The secondary functions of the “Shape”, “Width” and “Speed” knobs become “Wow” (speed variation), “Dither” (wave shape dithering) and “Phase” (variable from 0°-180°) controls.

So, rotating the “Shape” (“Wow”) knob clockwise causes increasing cyclic speed variation of the Slave LFO. And rotating the “Width” (“Dither”) knob clockwise increases the randomness of each successive wave cycle so the phasing contour shifts and changes, creating natural chorus and celeste effects.

**Tap/Sync** footswitch sets the sweep rate. Use the “Speed” knob to dial-in the tempo divide/multiply factor—at 12 o’clock the divide/multiply factor is one-to-one (quarter notes). Rotating clockwise multiplies the tempo, and rotating counterclockwise divides the tempo (as shown in the diagram below). Then tap along to the beat on the “Tap/Sync” footswitch—two or more successive presses (taps) set the modulation rate (tempo) according to the foot tapping rate.



A single press of the footswitch resets the sweep to the beginning of its cycle, allowing resynchronisation with the beat when playing in a live situation.