



# ZVEX EFFECTS

Model: Vibrophase™

**Congratulations!** You're the proud owner of a ZVEX Effects Vibrophase™!

Based on the electronics from the Candela Vibrophase™, the world's first candle-powered guitar effect

Back in the late '70s my older brother James was the first person in my family to purchase an electric guitar, a Strat, and his pedals were an MXR Distortion+ and MXR Phase 45. I remember asking him why he chose the Phase 45 over the more popular Phase 90 or Phase 100, and he laughed and said that everyone seemed to be making the same mistake, in an effort to sound even more like Hendrix, in choosing the phasers with more stages. He insisted that the Phase 45 was the closest thing to the expensive (and rare) Univibe that Jimi used because it had four stages like the Univibe and that gave it a natural, watery swirl that didn't have too strong of a voice of its own, pleasantly coloring the sound of the guitar rather than announcing its presence aggressively like the Phase 90 and other multi-staged phasers of the time. Mutron had the huge Bi-Phase which was 12 stages, I believe, as well as the fascinating Pearl PH-44, and when you turned one of those on your immediate reaction was "Jeepers! That's a lotta phase!" My brother's ideal phaser sound was that simple 4-stage texture of a gently spinning/sliding speaker moving around in front of you while you concentrated on the delicate nuances of the guitar itself. So, impressed with his opinion, I designed my first phaser, the Candela Vibrophase™, as a four-stage phaser using Super Hard-On™ phase-shifting stages and a candle illuminating the photoelectric cells through a rotating painted disc. The sound in that unit is lovely and subtle, and I've been asked repeatedly to install it into a smaller pedal that runs on normal power instead of a candle, and in the process of designing this unit I diverged from the rather pure path and added a bunch of features that, frankly, leave me in the position of having to apologize to my brother. I mean, you can still get the original simple watery four-stage sound, but you can also make it get kinda crazy. Sorry, James. Deal with it. I can't be tamed. [Editor's note: the MXR® Phase 45 is actually only 2 stages and the 90 is 4 stages, one of our customers pointed out.]

**How to use the Vibrophase:** It runs on a 9V battery or a typical 9VDC power supply, center negative on a standard barrel connector. It draws less than 50mA, in fact, most settings are less than 20mA. Just plug it in and turn the knobs until you're happy.

**Speed:** This control feeds an input on a micro controller that's programmed to generate a sine wave output to drive an LED over a very wide range of frequencies. It can completely crawl or zip off like a hummingbird. This is the only digital part of the effect. All of the audio path is entirely analog. All audio components are devices which existed in the 70s or earlier.

**Vibrato/Phase:** This control adjusts the mix from Vibrato (counter-clockwise) to Phase (clockwise). Phasing occurs when the Vibrato signal coming from the sweeping phase shift networks is blended with some original dry guitar.

**Feedback:** This control takes the output signal and leaks some of it

back into the input of the four phase shifters. In a way it's like adding more stages, but not really, because feedback of this nature also can cause some whistling, which can add a bit of drama to the sound. Always use this knob tastefully, except when the power of rock compels you. This control can make the Vibrophase™ think it's more important than your guitar.

**High Bias:** This control interacts with the Low Limit control so if you set it and then adjust the Low Limit you may have to come back and set it again. It essentially sets the highest voltage that can be sent to the LED so it determines the high point of the sweep. It's completely analog so if you're running off a battery and it's going flat, your sweep may drop off.

**Low Limit:** This control interacts with High Bias so if you set it and then adjust the High Bias you may have to come back and set it again. It essentially sets the lowest voltage that is sent to the LED. It can be used in conjunction with the High Bias to keep the sweep range confined to a very vocal (or wah-like) zone that can be very musical. Or you can set these two controls for the widest possible sweep, or for a sweep in the bass range, or a sweep only up in the wispy treble zone.

**Battery life:** This pedal has average battery life. We also recommend a high-quality isolated power supply.

**Warranty:** Your Vibrophase™ is warranted for 1 year from date of purchase, or 2 years if you register your pedal on ZVEX.com. Please visit [www.zvex.com/repairs](http://www.zvex.com/repairs) for any repair questions or more information.

**Recommendation:** Enjoy!

**Suggested settings in o'clock** (these are approximate and may vary from pedal to pedal):

**Bread "if":**

Speed: Noon | Mix: Counter-clockwise | Feedback: 2 o'clock | High Bias: 1:30 | Low Limit: 1:30

**Slow Phase:**

Speed: Counter-clockwise | Mix: Clockwise | Feedback: 2 to 3 o'clock  
High Bias: Noon | Low Limit: Noon

**Midrange Phase:**

Speed: 8:30 o'clock | Mix: Clockwise | Feedback: 2 to 3 o'clock, higher for more vocal tone | High Bias: Noon | Low Limit: 4 o'clock to remove low end

**Vibrato:**

Speed: 10:30 o'clock | Mix: Counter-clockwise | Feedback: Counter-clockwise | High Bias: One o'clock | Low Limit: 2:30

**Spacey:**

Speed: 2 o'clock | Mix: Counter-clockwise | Feedback: Clockwise | High Bias: Start fully-clockwise and lower all the way } Low Limit: Start high and lower as High Bias reaches the bottom, then turn both Low Limit and High Bias back up.



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