

DC Jack - Located on the upper bout of the pedal. Happiness accepts the industry standard 9 volt center negative plug. This power supply is converted internally to a bipolar 12 volt supply, for seamless integration with Eurorack synthesizer systems. The Happiness draws 110mA. Power your pedals accordingly!

BYPASS - This control is not labeled, but it's the big silver stomp switch.

STATE - Selects between three filter modes. Up is high pass, which cuts off low frequencies. Middle is band pass, which cuts off high and low frequencies. Down is low pass, which cuts off high frequencies.

RATE - Controls the speed of the modulating LFO

SHAPE - Controls the shape of the LFO's wave form. 12 O'clock is a symmetrical triangle wave. Turning either direction will skew the triangle into a ramp or saw wave shape.

SPEED - Controls the rate of the "scramble" effect. Scramble is a smoothed sample and hold circuit, which essentially pauses the LFO at regular intervals.

SCRAMBLE - Engages the scramble effect on the internal LFO.

FREQ - Defines the cutoff frequency for the filter

REZ - Controls the resonance of the filter. ***CAUTION***: When the Rez knob is turned past 12 O'clock the filter will self oscillate at a high volume. This is intended behavior, but we suggest turning the "MASTER" (volume) control all the way down before experimenting with self-oscillation.

DEPTH - This is an attenuverter, controlling the depth and direction of the LFO modulation. A 12 O'clock setting will cancel out modulation, rotating from there will introduce modulation. The LFO or a suitable CV input can be fully inverted on this knob.

MASTER - The volume control.

LFO XP - Expression pedal input jack used to control the rate of the internal LFO. A 50k expression pedal is recommended, but 10k will provide some useable effects. The expression pedal works in parallel with the RATE knob. I suggest setting the minimum rate with the knob while the expression pedal is in heel down position. Rocking the pedal up will increase the LFO rate.

FILTER XP - Expression pedal input for the filter cutoff. A 50k expression pedal is recommended, but 10k will provide some useable effects. The expression pedal replaces the FREQ knob in the circuit, allowing a full frequency sweep via the expression pedal.

IN - Plug your audio to be filtered into this jack!

OUT - This is where the sound comes out!

FILTER CV IN - Happiness will accept a variety of control voltage signals via this side jack. The CV fed into this jack will also be processed but he depth knob. While the pedal uses this "substitute" voltage, the internal LFO will be available for other devices via the LFO OUT jack.

LFO OUT - The internal LFO is always available to be tapped via this side jack

SCRAMBLE CV IN - Allows you to substitute another control voltage signal for timing of the scramble effect.

VIDEO - Guitar https://www.youtube.com/watch?v=8v0FZd-FKQY
Bass https://www.youtube.com/watch?v=YYpAdRHirgM
Making a song https://www.youtube.com/watch?v=pqREcoIkyqk

NOTE: The Happiness pedal is designed to function best with a +/-12V standard. Most other effects pedals are going to send/receive 0-5v, which means that some of them will work, but in a limited capacity. Our pedals were designed to work with other Dwarfcraft gear and eurorack systems primarily.