

Iron Ether Xerograph Deluxe Owner's Manual

The Xerograph Deluxe is a 4-pole resonant lowpass filter, with capabilities to sweep the cutoff frequency of the filter using the instrument's playing dynamics, an expression pedal, or both simultaneously.

Controls

Frequency knob: Sets the base cutoff frequency of the filter. When using an expression pedal, this knob will set the minimum frequency from which the expression pedal will sweep (heel down position) - the maximum frequency (toe down position on the expression pedal) is set by the Exp knob.

When used as an envelope filter, this sets the base frequency from which the dynamics will sweep up or down.

Resonance knob: Adds feedback around the filter, boosting a narrow band of frequencies around the cutoff, intensifying the effect of the filter. Set this low for more subtle tone-shaping effects, to the center for "quacky" sounds, or up to around 3 o'clock for a wet synth sound. Turning the knob to maximum sends the filter into self-oscillation.

Filter Vol knob: Controls the output volume of the filtered signal.

Clean Vol knob: Controls the volume of the unfiltered signal, mixed in with the filter.

Sensitivity knob: Controls how much the playing dynamics will sweep the filter cutoff; all the way counter-clockwise will turn the envelope follower off completely, so the filter is controlled only by the Freq knob and expression pedal.

Exp knob: Sets the maximum frequency to which the connected expression pedal can sweep.

Env stomp switch: Turns the envelope follower off (LED lit blue) or on (LED lit turquoise). When off (blue), the filter's frequency will not respond to your playing dynamics, which can be useful as a static filter or for sweeping with the expression pedal.

Up/Down switch: Controls the direction of sweep for the envelope follower. In Up mode, the filter frequency starts at a low point selected by the Frequency knob, and sweeps higher with increasing dynamics. In Down mode, this is reversed - the Frequency knob selects the highest frequency and sweeps down from this point.

S/F switch: Selects slow or fast envelopes.

2/4 switch: Selects between 2-pole and 4-pole modes. 2-pole is a more mellow, classic sounding filter with a wide, vocal-like resonance peak. 4-pole mode is more synth-like, with a steeper cutoff and a sharper resonance peak.

Range and interactivity

The Xerograph Deluxe is designed to be a powerful, versatile tool for creating classic, modern, and unique sounds. The controls have a wider range than is commonly found in effects pedals, so that the user is not limited to a small subset of possible sounds and techniques. At first this range can be tricky to harness, and it's quite possible to set the pedal in a way that filters out all audible frequencies and lets no sound through at all, but with use these controls should become quite intuitive, and the increased range will be useful in sculpting unique new sounds.

In the Xerograph Deluxe, the cutoff of the filter can be modulated by three separate sources - the Freq knob, the input dynamics, and the expression pedal. Since these are all mixed together to control the cutoff, by necessity they will interact with each other.

Quick start/a tour of sounds

Start with all switches to the right, and all knobs down all the way (counter-clockwise). Turn up the filter volume halfway, and begin turning up the Frequency knob slowly while playing. You will hear frequencies gradually becoming audible, from low to high.

Leaving Freq at about 9 o'clock, begin turning up Sensitivity so that you can hear the filter sweep up and down with each note plucked on your instrument. Leave Sens at a spot that gives a medium sweep with your instrument's volume level, and begin turning up Resonance. You will hear how this emphasizes certain frequencies and makes the sound more synthy or "funky."

Switch S/F to slow mode and get a feel for how this reacts to your playing. The amplitudes of multiple notes in quick succession will be averaged out, so that instead of sweeping up and down with every note, the filter can be smoothly played up and down by playing notes

closer together or more sparsely.

Switch to Down mode - in this mode you'll generally want to turn Freq much higher than it would be in up mode, and you may want a higher Sensitivity setting in this mode as well since we want to sweep far down from the maximum.

Use with other pedals

The XD is great for carving up and accentuating harmonics. Feeding it a signal with plenty of harmonic complexity will give it much more material to work with, and lead to stronger sounds. Iron Ether pedals such as the FMeron, Oxide, Subterranea, QF2, and FrantaBit are all designed to add different varieties of harmonic richness and therefore work well preceding the XD. Try your favorite fuzzes and overdrives in front of it. Note that the output level of the pedal(s) preceding the XD will impact the way the envelope follower responds.

Expression pedals

The Moog EP-3 is recommended to control Iron Ether pedals. Other expression pedals with a resistance between 10k to 50k will work, if they are wire with wiper to tip.

Bypass

The XD features a relay-based true bypass system. When the pedal is bypassed, the signal is connected directly from the input jack to the output jack via a mechanical switch, and does not pass through any buffers, electronic (FET) switching, or other circuitry that could have an effect on sound fidelity. It's different from the more common true bypass in that instead of a 3PDT stomp switch, the XD uses a mechanical relay designed specifically for low-voltage audio-type signals. This makes for a quieter switch, greater reliability, and the bonus of automatically going into bypass if power to the pedal is lost.

Power supply

The XD is powered by the industry-standard 9 volt DC center-negative power supply (2.1mm jack). It draws 85 mA of current. Use a power supply that can source at least this much current.

Warranty

Your Xerograph Deluxe is warranted for materials and manufacturing for one year from the date of purchase. The warranty is void if you use the wrong type of power supply, take it apart, attempt to modify it, or use it in a way not intended.