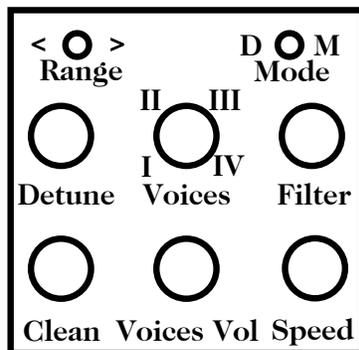
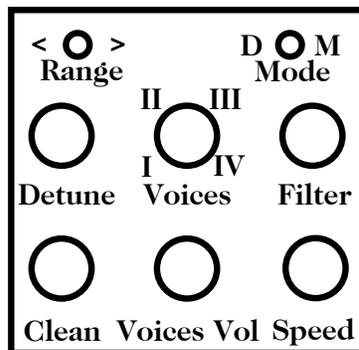
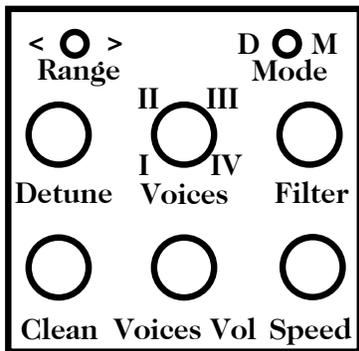
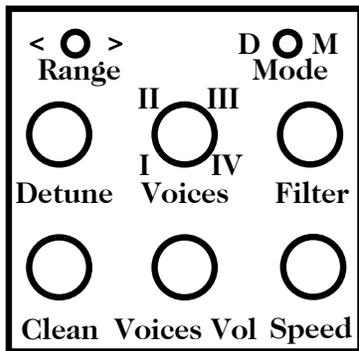


## Settings templates

use these blank templates to write down  
your favorite settings



# Iron Ether Polytope user's manual

Create massive, multi-faceted and shimmering sounds with the Polytope four-voice detuner. The Polytope creates up to four copies of the input signal which can be detuned in pitch from subtle thickening to huge multi-voice detuned synth sounds. The detuned voices maintain the timbre of the input and respond well to polyphonic signals. In addition to the static detune mode, the included LFO (low frequency oscillator) can be used to sweep the pitches of all four voices to create wide and deep chorus ensembles when combined with the clean signal.

Removing the clean signal allows for true pitch vibrato, from slight wavering to tape-style wow and flutter, slow seasick wobbles and high speed FM synth-style modulation. A highpass filter allows the user to apply the detuning only to high frequencies. The controls are extremely wide-ranging, covering classic sounds and extending into spaced-out madness.

## Quick Start/A Tour of Sounds

Begin with Clean and Voice volumes centered, all other knobs all the way down (counter-clockwise), with both switches set to the left.

Slowly begin turning up Detune as you play at each stop along the dial. In this smaller range, the max amount of detuning is less than one semitone. Now begin adding additional voices by turning up the Voices control. Each additional voice will be gradually turned up in the mix, so you can continuously control the level of each new voice. Increase this all the way clockwise to hear the full ensemble sound of 4 detuned voices plus your original signal.

Leaving the other controls where they are, turn the Filter knob up to increasingly cut bass from the detuned signal. Note that the clean signal is not filtered and will allow full bass through even with the Filter knob up.

Switch the Mode over to M for modulation. The pitch will now begin sweeping up and down at a very slow rate, as the Speed knob is all the way down.

Voice vol – Controls the volume of the detuned voices.

Speed – In modulation mode, this controls the speed of the LFO which sweeps the pitch up and down. Ranges from very slow, one cycle over many seconds, up to low audio frequencies.

Mode – This switch chooses between static Detuner mode or Modulation mode, which applies the LFO to the detune amount.

## Controls:

**Detune** – Controls the amount of pitch shift away from the original note. The Range switch sets the range of this knob; the lower setting covers under a half-step for thick, multi-voice synth sounds. The higher setting allows the pitch to be shifted multiple semitones up and down (in multi-voice modes). In modulation mode, this controls the depth of the pitch sweeping.

**Voices** – This knob fades up the volume of each detune voice in sequence, starting with one voice shifting up from the original pitch, then adding a down-shifting voice. Voices 3 and 4 are additional upward and downward voices, respectively, which are twice as far from the original note as 1+2.

**Filter** – This control sets the cutoff frequency of a high-pass filter before the detuning. This can be used to remove beating that can happen with bass-heavy detuning, or to apply the detuning only to upper harmonics of a signal, as well as for creating unique special effects.

**Clean** – Controls the volume of the clean signal. Adding the clean signal in creates detune or chorus sounds – removing it creates vibrato.

## Power supply

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

## Quick Start continued

Turn the Voices down to 1 and the Detune amount to about 10 o'clock on the dial. Begin increasing Speed to get a sense of just how fast it can go. Note that when using more than one voice, voices 2 and 4 will sweep up when voices 1 and 3 are sweeping down, and vice versa. This can seem to double the rate of modulation when extra voices are added.

## IMPORTANT NOTE:

The highpass filter can be set so high that it removes the "meat" of your signal and just leaves the high frequency components. The detuning function then is only copying the high frequencies, and it will let you add up to 4 copies of this in addition to volume boost with the Voices Vol control. The result is that you can set the pedal in a way that copies and boosts all the noise and fret clank in your signal but little else, making for a very noisy sound. The solution is simply to be more moderate with the Filter so you're duplicating your notes and not just the noise. The Polytope itself is a low noise design, but it will boost your noise if you ask it to. Keep this in mind when experimenting.

## Finish

Each Polytope is individually machine-engraved, then painted by hand. As a result, each one has individual variations - no two will look identical.

## Warranty

Your Polytope 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.

**Bypass:** The Polytope 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, this 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.