



# TEETH

## instructions

Thankyou for purchasing a Horrothia pedal! Many many hours went into its development, and many sleepless nights went by obsessing over tiny details. Long may you enjoy it!

The Horrothia Teeth is a low gain overdrive pedal. It has an entirely discrete, transistor based signal path - there are no IC operational amplifiers. Instead, it has two op-amps made from carefully chosen transistors, much like in high-end esoteric pro audio or hi-fi. The benefits of this are greater signal clarity and better phase coherence. The overdrive breakup of the pedal is more graceful, and softer. Much less high-mid frequency harshness. Inside it has a voltage doubler, so internally it works from around 16.5V for greater headroom before breakup.



### Saturation control.

The saturation control has two functions, it is a dry / wet balance and also a gain control. At full anti-clockwise, the balance is nearly fully clean, and what overdrive is present is at its lowest gain. Full clockwise, the opposite; almost entirely overdriven, and at maximum gain.

### Gain Stage control.

This sets the maximum amount of gain that the Saturation control works within.

### Clipping control.

Controls how hard the clipping on the overdrive path is. Towards HARD the wave is clipped in a squarer, more abrupt way for a more distorted sound. Towards SOFT the top of the waveform is squashed and limited - more like a compressor.

### Breath switch.

This is a high-mid frequency boost around 1.2 - 1.5kHz, to bring some 'air' or 'breath' to the signal. Works brilliantly in out of phase settings to cut through the band mix.

### Volume control.

Output level. Beware, at full it is very loud.

### DC input.

The Teeth is powered by 9V DC. The socket is a 2.1mm jack, centre negative, compatible with most guitar effects power supplies. Do not connect a supply greater than 10V to the pedal as it could potentially damage the unit.

The Teeth has power supply filtering, but we would always suggest using a high quality linear power supply. Cheap, low quality power supplies can introduce buzz, noise and potential intermittency to the signal.

### Instrument and Amplifier jacks

Input and output jacks are high quality ¼" / 6.35mm. Plug your guitar / synth / theremin in here, and the rest of pedal chain / amplifier here.

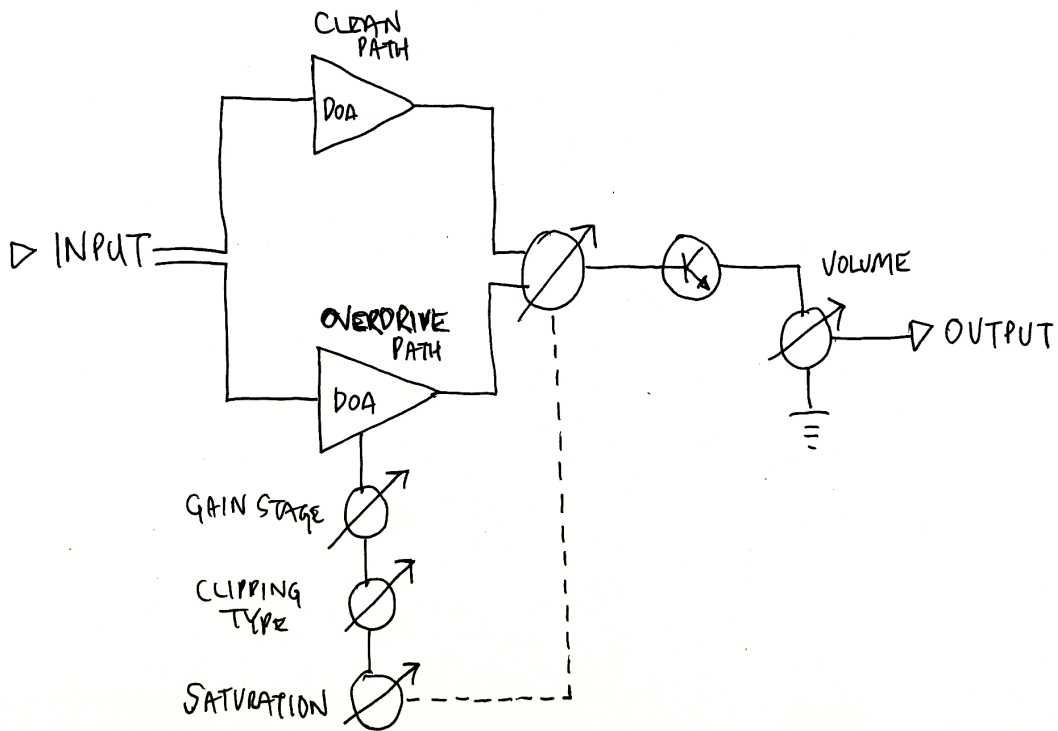
### Engage LED.

When the LED is on, the pedal is engaged, and the effect is on. When the LED is off, the effect is bypassed.

### Footswitch.

The footswitch toggles the effect on and off. When the effect is off, it is bypassed with a relay, so entirely out of the signal path.

## Block diagram of the Teeth



## Horrothia Teeth specifications

Input impedance: 1Mohm  
Output impedance: ~1k ohm  
Power supply: 2.1mm / 5.5mm, centre negative barrel.  
Current draw: 55mA

## Some thoughts...

- Use high quality, low impedance, low capacitance guitar cables with a braided screen for optimum signal to noise and most uncoloured / transparent tone. We use Sommer SC-Spirit LLX to test.
- High quality parts are used throughout. PCBs are high quality for long life and to give high quality, low resistance solder joints.
- If you have any questions, please contact us at [horrothia.effects@gmail.com](mailto:horrothia.effects@gmail.com).