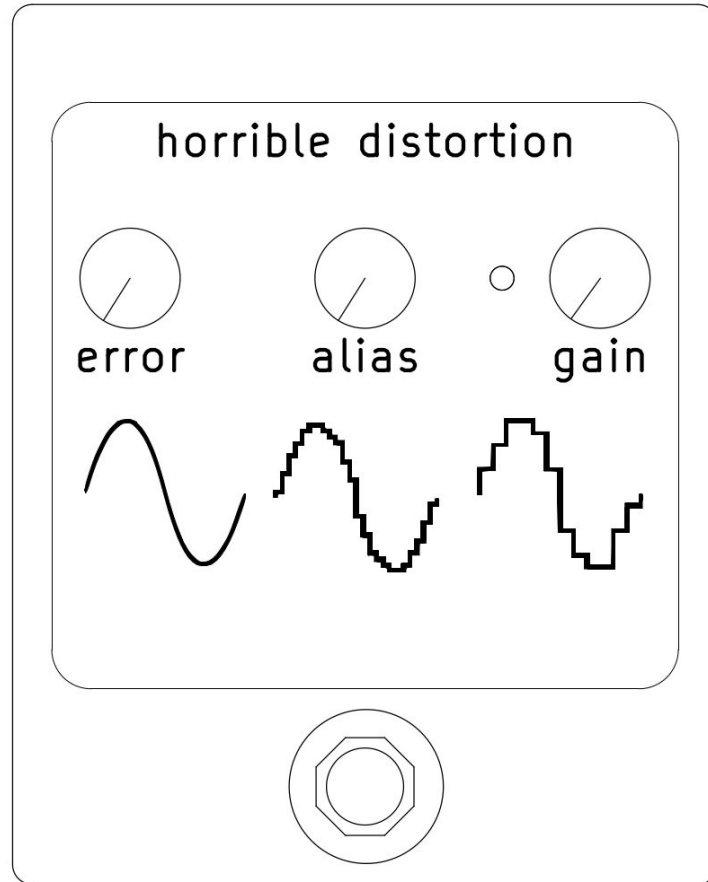


horrible distortion

- *bit-crusher/sample-rate-reducer effects pedal* -

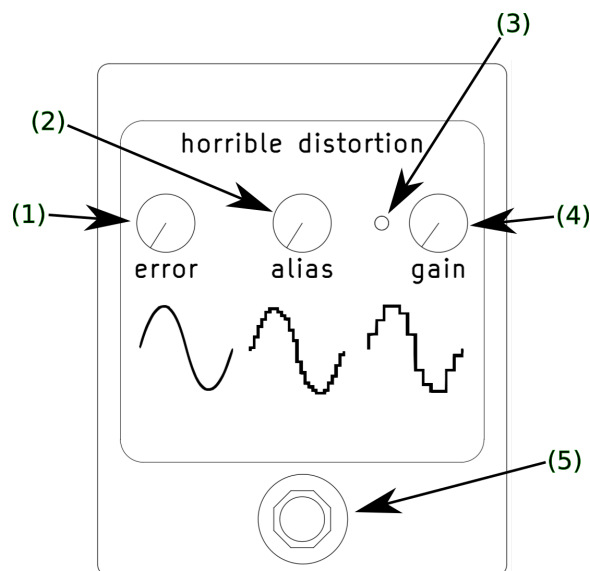


More docs and open source files at: github.com/JordanAceto/bit_crusher_pedal

Overview:

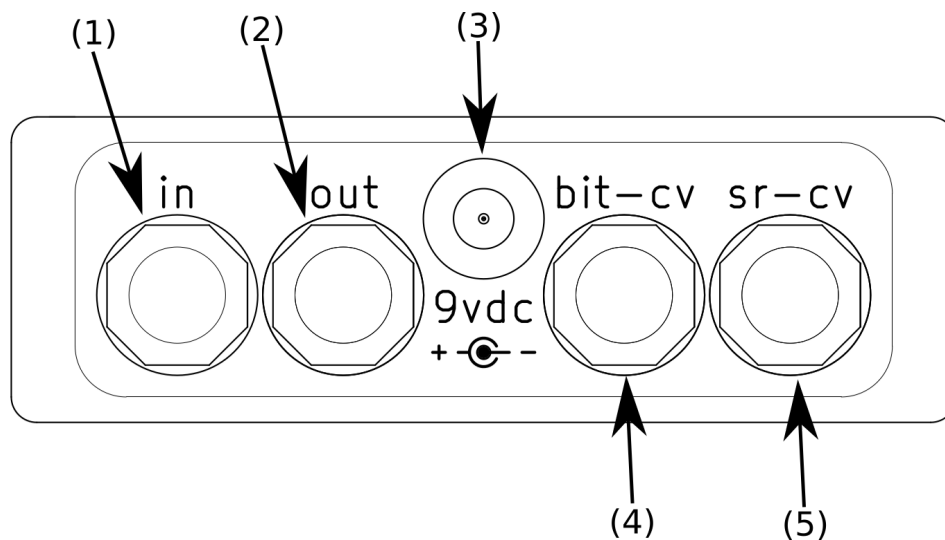
The horrible distortion pedal creates digital distortion and aliasing effects. Variable bit-depth and sample-rate parameters cause quantization noise, distortion, and harsh alias frequencies. How gauche.

Front panel controls



- 1) Error control which sets the bit-depth. As the control is advanced clockwise, the bit-depth resolution is decreased and harsh noise and distortion are introduced.
- 2) Alias control which reduces the sample-rate. Advancing this control clockwise adds alias frequencies and causes the frequency of the input signal to become unintelligible.
- 3) The signal level indicator gives a visual indication of the signal strength. The LED will be green when the signal level is in the healthy range, orange when approaching clipping, and red when clipping.
- 4) Gain control which sets the signal level. Adjust this control so that the LED is green most of the time while playing and the output volume is at the desired level.
- 5) True-bypass stomp switch which turns the effect on and off.

IO Jacks



- 1) Audio signal input. Connect a guitar/synth/voice/drums/other instrument here.
- 2) Audio signal output jack. Connect this to an amplifier.
- 3) Plug a standard guitar pedal style 9-volt DC center-negative power supply here to energize the pedal.
- 4) The bit-cv jack accepts control voltages or expression pedals. Control signals injected into this jack modulate the bit-depth parameter in conjunction with the **error** rotary control.
- 5) Likewise, the sr-cv jack is the control voltage input for the sample-rate parameter. Control signals injected here modulate the sample-rate parameter in conjunction with the **alias** rotary control.

Control voltage input range

The **bit-cv** and **sr-cv** jacks expect control voltages between 0 volts and +5 volts. Control voltages outside this range will not harm the pedal, but will not modulate the parameters further.

Expression pedal calibration

The **bit-cv** and **sr-cv** jacks can accept either control voltages or expression pedals. Expression pedals come in a variety of potentiometer values, and the pedal can be calibrated for the specific expression pedal you chose to use. You will need a multi meter and some basic electronics skills to carry out the calibration.

To calibrate the **bit-cv** expression pedal input:

- Connect the expression pedal you intend to use to the **bit-cv** jack.
- Remove the back cover with a screwdriver.
- Monitor across the outer terminals of the expression pedal potentiometer with a multimeter set to measure DC volts.
- Adjust the trimpot on the main circuit board labeled “bit-CV trim” until you read +5 volts across the expression pedal potentiometer.

Calibration of the **sr-cv** input is identical. Plug the expression pedal into the **sr-cv** jack and adjust the “rate-CV trim” trimpot.

If you do not have access to a multi meter, then the expression pedals can be calibrated by ear as well. Simply plug in an expression pedal and rock it through its range with various settings of the front panel controls and adjust the trim pots until the range of the expression pedal feels good.

The goal of the calibration is to make the sweep of the expression pedal feel right for your playing style and setup, so if it sounds good, it is good.

Current Consumption

The pedal consumes approximately 50 mA from the 9 vdc power supply.