

poly



JOSH SMITH FLAT V

Dynamic Gain.

Flat V is a collaboration between Josh Smith and Poly Effects.

Flat V is a gain pedal with 2 channels. Channel A is transistor based with selectable diodes. Channel B is amp style gain circuit with cascaded JFETs replacing valves. Synth style resonant filters shape the tone of channel B.

All presets have 2 sides that allow you to blend between 2 values of each slider. You can blend with the waveshapes, or an envelope that reacts to your playing.

Diode Choices

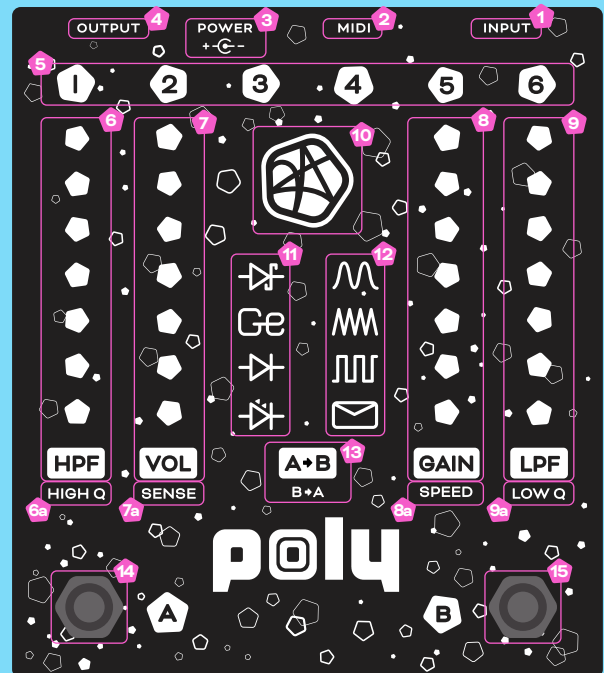


Channel A only has 1 control, Diode selection.

None of the other parameters are active unless you switch on channel B.

LED Sliders

Each slider has a secondary function. You can access the secondary slider functions by pressing any of the slider title buttons and all of the sliders will go to their secondary settings.



1. Input Jack
2. Midi input + output (input is on the right). TRS Type A. More midi details on Page 3
3. Power Input
Requires 9V DC negative center power and consumes 120mA. Do not use more than 9V DC
4. Output Jack
5. Preset Banks 1 - 6 (See Presets on Page 2)
6. HPF: High Pass Filter Cutoff Frequency
- 6a. High Q: High Pass Filter Resonance Level
7. Volume: Effects the overall loudness of the output
- 7a. Sense (Sensitivity): Envelope attack time or shape spread
8. Gain: Effects the tone of the output
- 8a. Speed: LFO Speed or envelope decay time.
9. LPF: Low Pass Filter Cutoff Frequency
- 9a. Low Q: Low Pass Filter Resonance Level
10. Signature Button: Used to Change sides and save presets
11. Diode selection.
12. Waveshape Selection (See page 2)
13. A -> B Button
Switches which channel comes first.
14. Footswitch A
Tap to turn switch on/off Channel A. Hold to go back a preset.
15. Footswitch B
Tap to turn switch on/off Channel B. Hold to go to next preset.

SWITCH OFF BOTH CHANNELS TO BYPASS PEDAL.

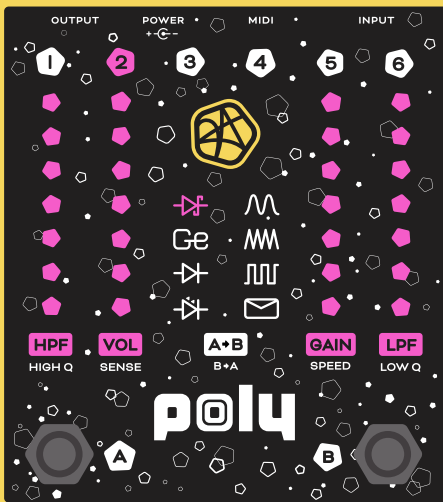
PRESETS

There are 6 banks of 6 presets.

In essence, presets are represented by the signature button colour being that of the bank and the preset number colour, that of the preset.



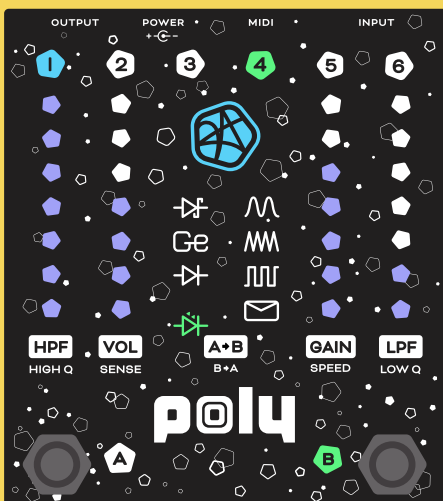
To change preset, press the preset number you want, or hold the foot switches to go up or down. The colour of the sliders reflects which preset you're on so it's easy to see at a glance on stage.



BANK 3 PRESET 2

To change banks hold the number down for the bank you want. The colour of the signature will change to the same colour as the bank you are in.

For example preset 3 is yellow, when you hold 3 you'll change to bank 3 and the signature will be yellow to show that.



SIDE 2 OF BANK 1 PRESET 4

To save a preset, hold the signature, then, with the signature still touched, press the bank you want to save into for example, 2. The preset numbers will then all light up. Press the number you would like to save the preset into.

SO HOLD, BANK, PRESET.

If you hold, then press 3 and then 2 you'll save into bank 3 preset 2.

Sides 1 + 2



To switch between the two sides of each preset press the signature button. The colour of the sliders will change to the **secondary colour** when side 2 is active.

Otherwise the sliders will be the colour of the current preset.

The sides only effect Channel B.

Waveshapes + Blending

The blend is controlled by waveshapes, either an LFO (Low Frequency Oscillator) or an envelope follower.



Sine



Square



Triangle



Envelope Follower

Speed controls the frequency of the LFO or the decay time of the envelope, that is, how long it takes to blend back to Side 1 after your playing volume decreases.

Sense controls the attack of the envelope follower which is how quickly it changes to side 2 depending on your playing volume. For the wave shapes this control is spread. Spread controls how far to the values of the A and B side the waveshape blends. Use this to make a blend more subtle.

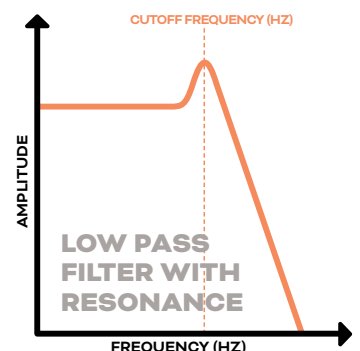
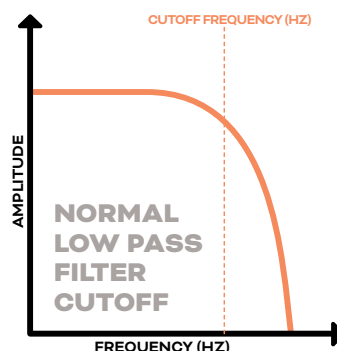
To stop a blend and return to normal, press the active waveshape. The waveshape buttons control the shape of the LFO. The Sine wave blends smoothly, whereas the squarewave is a sudden blend.

Resonant Filters

Synth style 24dB/octave 4 pole resonant analog filters replace the traditional EQ found in most pedals, as you've got an EQ on your amp anyway. A high pass filter lets through all frequencies above the cutoff frequency. A low pass filter lets through all frequencies below the cutoff frequency. Resonance is what gives the filter character. Resonance is a boost that occurs at the cutoff frequency.

If you turn the resonance to maximum, the filters will self oscillate. The cut off frequency will then control the frequency of the synth the pedal has become. This can be pretty intense and loud. A little more resonance on the lows can sound great on bass especially.

For envelope filter sounds turn up the resonance on side 1 and 2, and make the cut off frequency different between side 1 and 2.



MIDI

Midi Channel



To set the MIDI channel, tap the LED diode icon (pictured) three times quickly.

The preset number buttons will light, press one of these to set a MIDI channel from 1-6.

Changing presets from MIDI

Send a program change message to change presets from MIDI.
 PC 5 will change to preset 5 bank 1,
 PC 7 will change to preset 1 bank 2.
 The PC number is (bank number - 1) * 6 + preset number.

Midi Control Change For Channel B

Parameter	Active Side	Side 1	Side 2
HPF Frequency	14	22	30
Volume	15	23	31
Gain	16	24	32
LPF Frequency	17	25	33
HPF Resonance	18	26	34
Sense	19	27	35
Speed	20	28	36
LPF Resonance	21	29	37

Global Midi Control Change

Parameter	Any Side
Set Diode Schottky: 0-31, Germanium: 32-63, Silicon: 63-95, LED: 96-127	38
Set LFO Sine: 0-31, Triangle: 32-63, Square: 63-95, Envelope: 96-127	39
Side 1 Or Side 2 Side 1: 0-63, Side 2: 63-127	40
A Or B Channel On Bypass: 0-31, A on: 32-63, B on: 63-95, Both on: 96-127	41
A To B Routing A to B: 0-63, B to A: 63-127	42
Visualisation Mode	43
Battery Mode	44
Is Blending	45
Dump Presets	85
Blend Override 0-127 is A to B blend. Use this connected to an expression pedal or mod wheel.	1

Pedal Dimensions

102 mm WIDTH

112 mm DEPTH

40 mm HEIGHT

(60mm WITH FOOTSWITCHES)

Battery Mode

Battery mode reduces how much power is used by only showing values when your finger is in contact with the pedal.

To enable or disable battery mode tap the envelope button 3 times quickly.

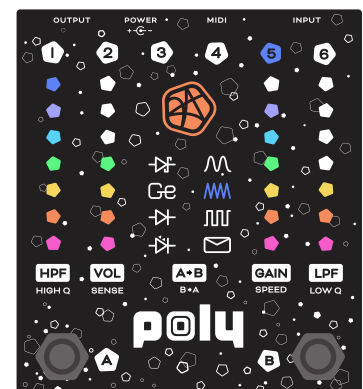


FLAT V CANNOT USE AN INTERNAL BATTERY.

VU Mode

VU mode swaps showing the current value of each control on the sliders for showing the input level across the sliders.

IT MIGHT BE HANDY, BUT IT IS ALSO PRETTY.



VU MODE ON BANK 6 PRESET 5

Access VU mode by double tapping the signature.