

The Meat Sphere is an envelope filter pedal which is based on a popular boutique filter pedal. That pedal was itself based on the old Mutron III filter, and all of these are examples of the "state-variable filter" (SVF) topology, which can produce highpass, lowpass, and bandpass filter outputs from a single circuit.

Besides the funky, wet sound, this design offers a wide variety of control, as well as an effects loop. The function of the effects loop is to avoid a common pitfall of using pedal filters: they sound more interesting when fed a harmonically-rich signal, as from a distortion or fuzz unit, but these distortion pedals also by their nature compress the dynamics of the signal, giving the envelope follower less material with which to work. The effects loop solves this by taking your clean signal, using that to drive the envelope follower, then sending your clean signal to your fuzz or other effects, and then taking this fuzzed signal and applying the filtering to it.

Controls:

- Blend
- Intensity
- Colour (resonance)
- Decay
- Attack
- Sensitivity

- Highpass/Bandpass/Lowpass switch
- Range switch
- Up/down switch
- Bandwidth switch

Thanks to Joep and Moosapotamus.

Quantity - part [notes]

Resistors

1 - 100k
2 - 330R [330 OHMS]
3 - 10k
1 - 220k
3 - 22k
1 - 120k
3 - 100R [100 OHMS]
2 - 1M8 [1.8M]
3 - 1K5 [1.5K]
2 - 4K7 [4.7K]

Capacitors

-non-polarized (film or ceramic can be used here - box film recommended to fit properly, but any non-polarized capacitor type will work for these)

2 - 15n [.015uf]
2 - 3n3 [3.3n, aka .0033uf]
2 - 6n8 [6.8n, aka .0068uf]
3 - 2n2 [2.2n, aka .0022uf]
2 - 470n [.47uf]
2 - 22n [.022uf]

-polarized electrolytic

4 - 10uf
2 - 47uf

Diodes

4 - 1n914 [1n4148 is equivalent]
1 - 1n4001

ICs/optocouplers

1 - LM1458 [MUST be LM1458 - standard dual opamps will not work]
1 - TL074 [any standard quad opamp with the same pinout will work]
2 - VTL 5C3 [any standard optocoupler (Vactrols or NSL-32 for example) will work here]

Potentiometers

2 - B10K
1 - B1K
1 - B100K
1 - A100K
1 - B5K

Switches

4 - 3 pole 4 throw rotary switches - Alps or Alpha plastic enclosed type. Do not use the open metal type, as the pins are connected in a different sequence and will not work properly. These can be purchased at smallbearelec.com, SKU: 0226. Also available at mouser.com and musikding.de.

