Blender V2

Sometimes one signal is just not enough

Important notes

If you're using any of our footswitch daughterboards, DOWNLOAD THE DAUGHTERBOARD DOCUMENT

- Download and read the appropriate build document for the daughterboard as well as this one BEFORE you start.

- DO NOT solder the supplied Current Limiting Resistor (CLR) to the main circuit board even if there is a place for it. This should be soldered to the footswitch daughterboard.

POWER SUPPLY

Unless otherwise stated in this document this circuit is designed to be powered with 9V DC.

COMPONENT SPECS

Unless otherwise stated in this document:

- Resistors should be 0.25W. You can use those with higher ratings but check the physical size of them.

- Electrolytics caps should be at least 25V for 9V circuits, 35V for 18V circuits. Again, check physical size if using higher ratings.

LAYOUT CONVENTIONS

Unless otherwise stated in this document, the following are used:

- **Electrolytic capacitors:**
  Long leg (anode) to square pad.

- **Diodes/LEDs:**
  Striped leg (cathode) to square pad. Short leg to square pad for LEDs.

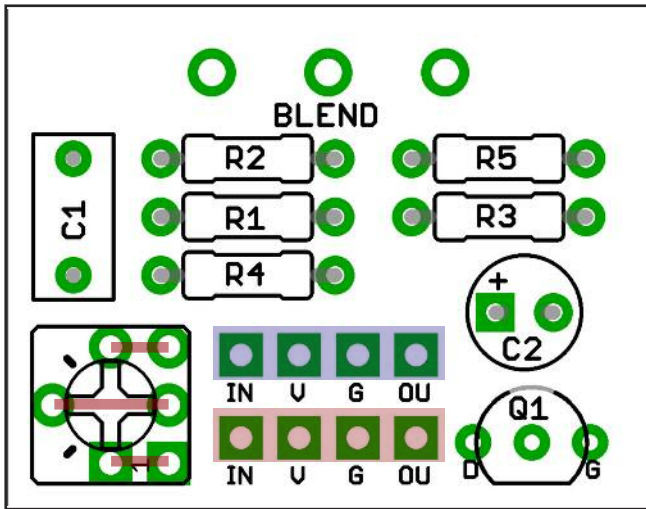- **ICs:**
  Square pad indicates pin 1.

Schematic + BOM
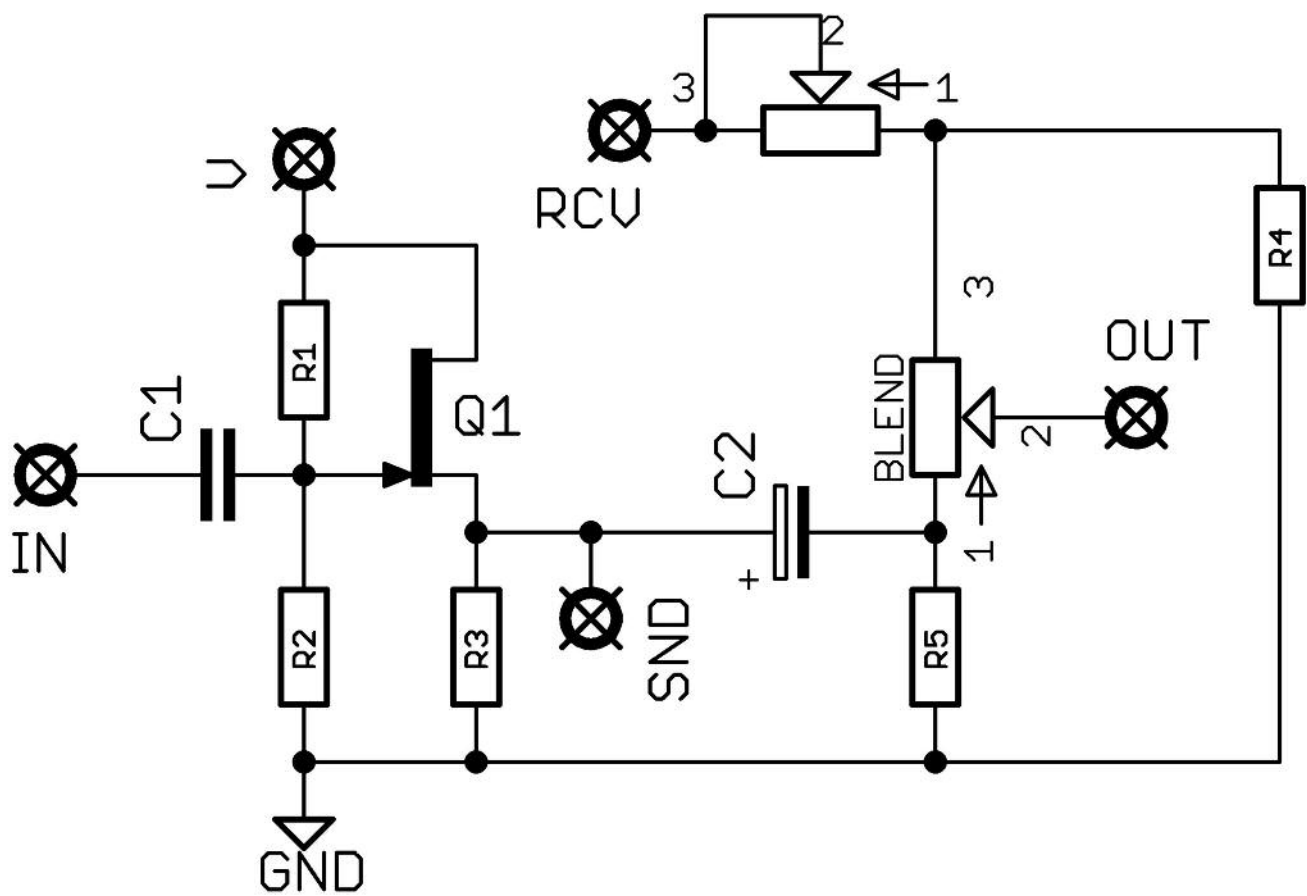
R1   1M
R2   1M
R3   3K3
R4   100K
R5   100K

C1   1u
C2   10u elec

Q1   2N5457 - Other FETs should work fine, but this is what we use.

BLEND   100KA
LEVEL   100K trim

The power and signal pads on the PCB conform to the FuzzDog Direct Connection format, so can be paired with the appropriate daughterboard for quick and easy offboard wiring. Check the separate daughterboard document for details.

Be very careful when soldering the FET. They're very sensitive to heat. Use some kind of heat sink (crocodile clip or reverse action tweezers) on each leg as you solder them. Keep exposure to heat to a minimum (under 2 seconds).

Snap the small metal tag off the pot so it can be mounted flush in the box.

The timmer sets the level of the signal coming back into the Blender from the main circuit (i.e. Receive). There are extra pads to enable the use of different trimmer types. The pads are linked by traces on the PCB as shown above, so you only need one leg inserted per line.

MORE INVOLVED STUFF

There are two sets of I V G O pads

We've designed this board to make it very easy to use with the rest of our PCBs utilising the Direct Connect format for the power and signal connections. Of course you don't have to use these with ribbon cables, or even use the Blender with our PCBs, but the option is there.

The set of pads marked in red here are your main connections. Your main input should go to this IN pad, and your main output should go to this OUT pad. You also need to get power to these V and G pads. The next page shows how the boards will connect if using one of our footswitch daughterboards.

The set of pads in blue is your Send and Receive connections for the circuit you want to blend in.

IN is Send, i.e. it connects to the IN of the second circuit. OUT is Receive, and connects to the OUT of the second circuit. You can use the V and G pads to power the second circuit if you want to. Both sets of V and G pads are directly connected on the PCB.
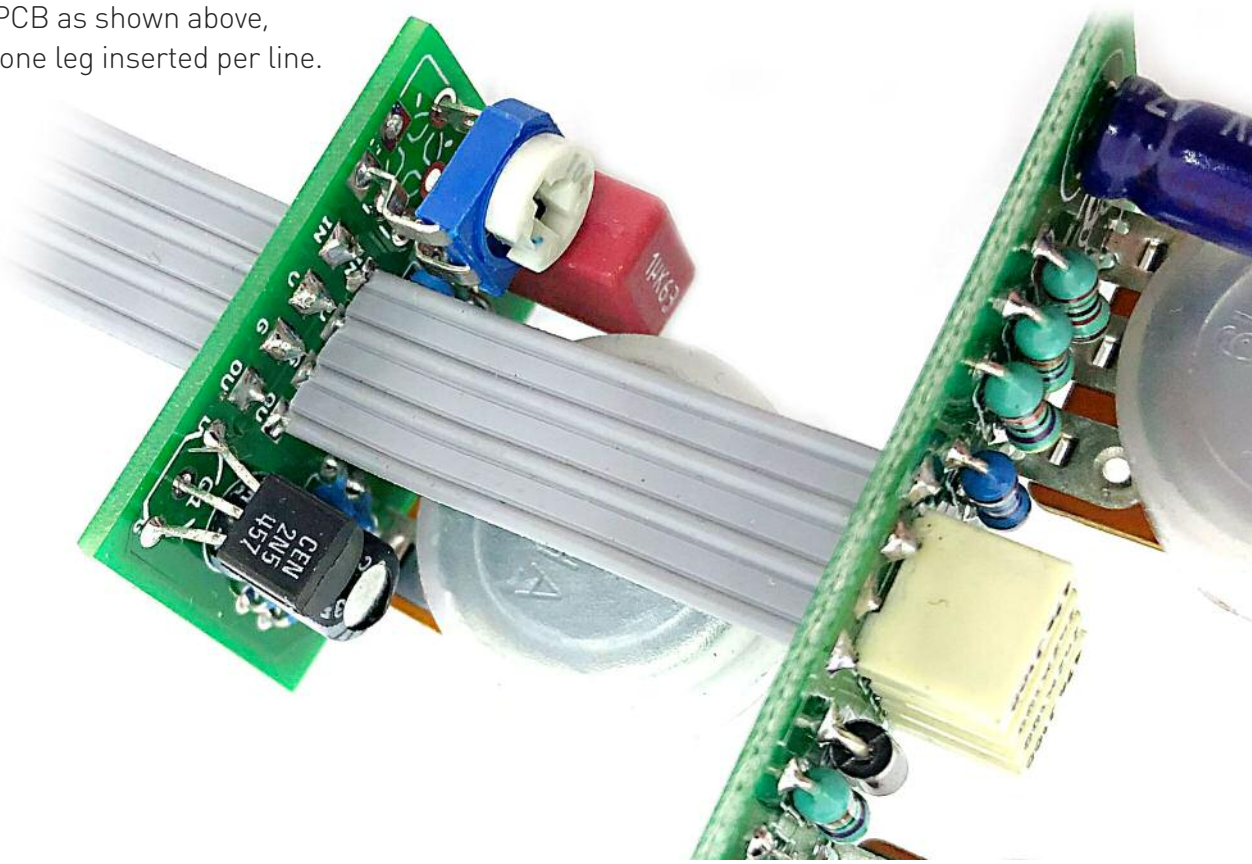
CONNECTING THINGS UP

The Blender circuit just slots in between your main circuit and whatever that would have been connected to normally.

You don't have to use the second set of V and G pads on the Blender to power your main circuit, it's entirely optional. You should however ensure there is a shared ground connection between the two.

Example - in a normal pedal setup:

Input Jack > footswitch
Footswitch > Circuit In
Circuit Out > Footswitch
Footswitch > Output jack

Becomes:

Input Jack > footswitch
Footswitch > Blender In
Blender SND (IN2) > Circuit In
Circuit Out > Blender RCV (OU2)
Blender Out > Footswitch
Footswitch > Output jack
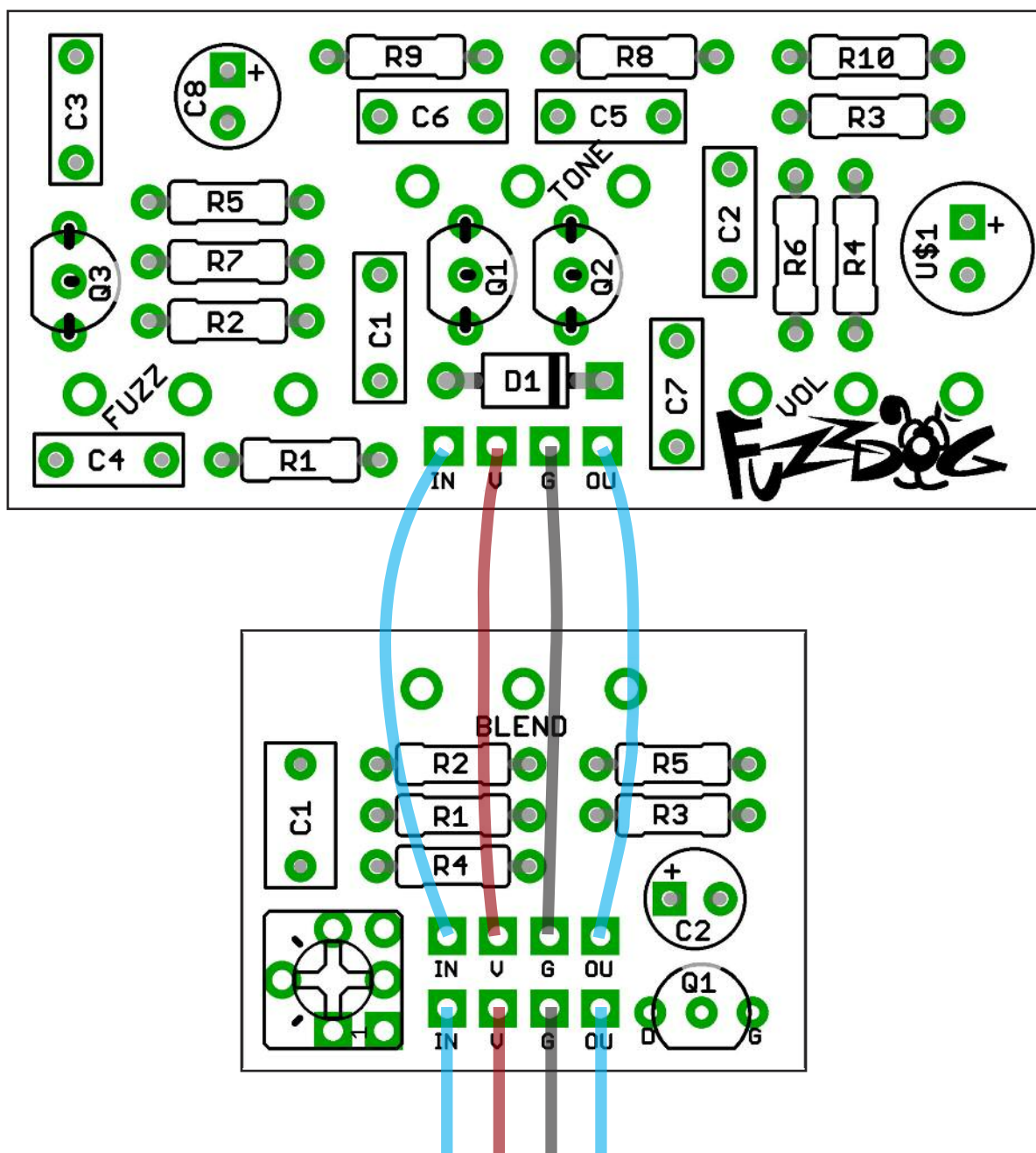
Your normal in/out and power connections

BLENDER PEDAL SETUP

You can use the blender to make a self contained
blend pedal. Why not?

SEND

RECEIVE

BLEND

R2   R5

C1   R1   R3

R4

+
C2

IN V G OU

Q1

IN V G OU   D   G

OUT

IN

JI CI V G CO JO

JI G

JO G

V

CLR

G