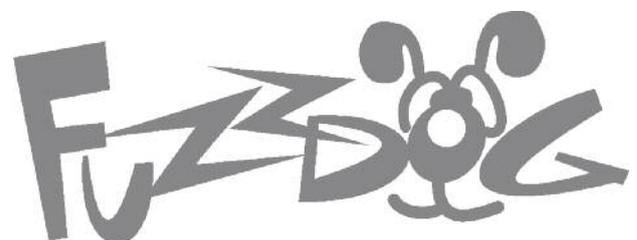
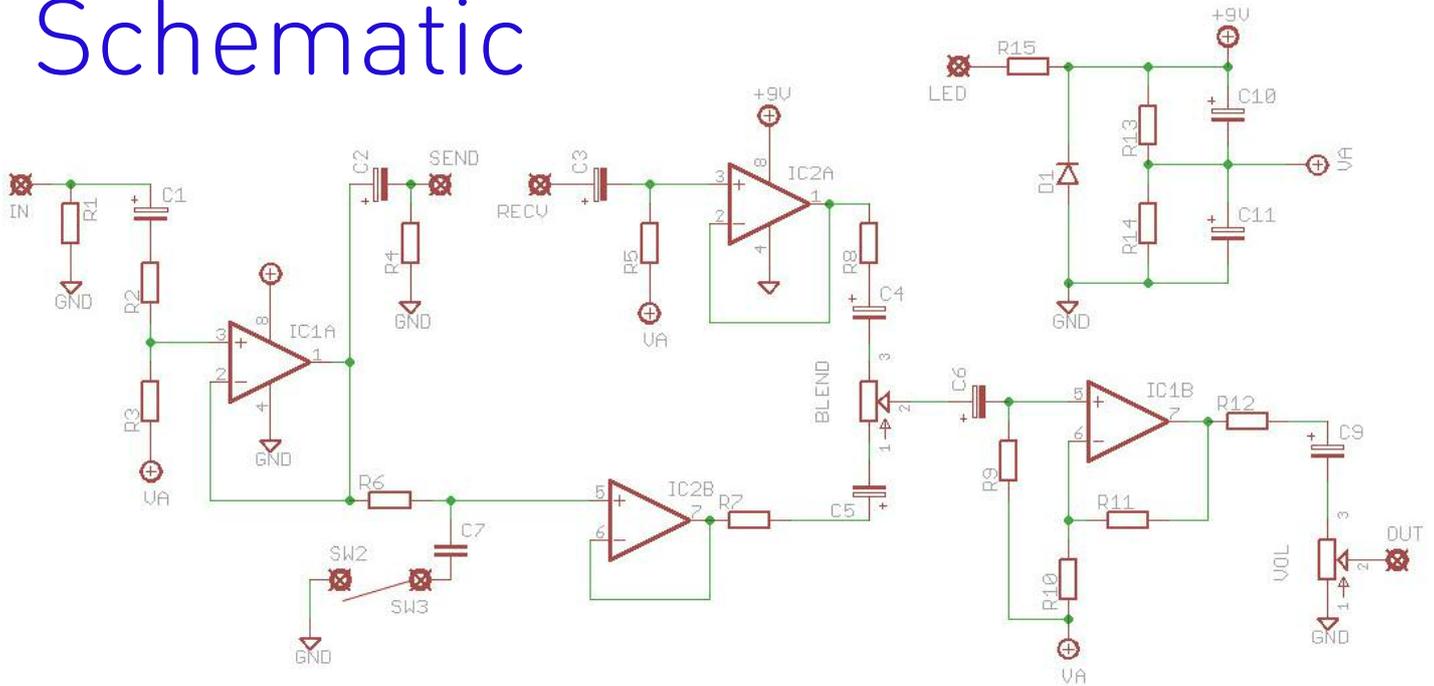


Fat-Ass Blooper

Blender/Looper with
Low-Pass Filter Switch



Schematic



Blend a signal from the SEND-RECEIVE loop with your dry signal. Nice.

BOM

SW1-2 kicks in a low-pass filter which will take out some top-end out of the dry signal, letting all the bass through.

R1	1M
R2	10K
R3	1M
R4	470K
R5	1M
R6	2K2
R7	1K
R8	1K
R9	1M
R10	10K
R11	10K
R12	1K
R13	10K
R14	10K
R15	2K2 (CLR)

C1	10u elec
C2	10u elec
C3	10u elec
C4	10u elec
C5	10u elec
C6	1u elec
C7	47n
C9	1u elec
C10	100u elec
C11	100u elec

SW1-2	SPST
D1	1N4001
IC1	TL072
IC2	TL072
BLEND	100KB
VOL	100KA

A brief note about phase...

...in basic terms.

Your guitar signal is a waveform. It has peaks (high points) and troughs (low points) that all cross a zero-point in the middle.

When your signal passes through various stages of an effect this wave may be inverted due to the way components amplify that signal (summing it with a voltage).

The signals to the right are now 'out of phase'. If we combine these signals to any degree they will begin to cancel each other out. (+2 summed with -2 is zero, yes?)

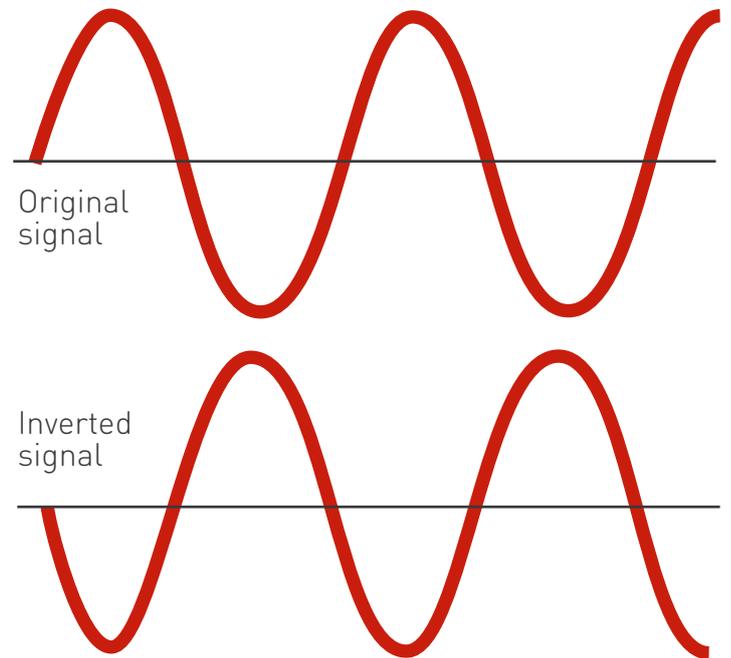
This is a consideration when adding a blender to a circuit. If the end result signal of that circuit is inverted, then blending it with your original signal will result in cancellation, which means volume drop.

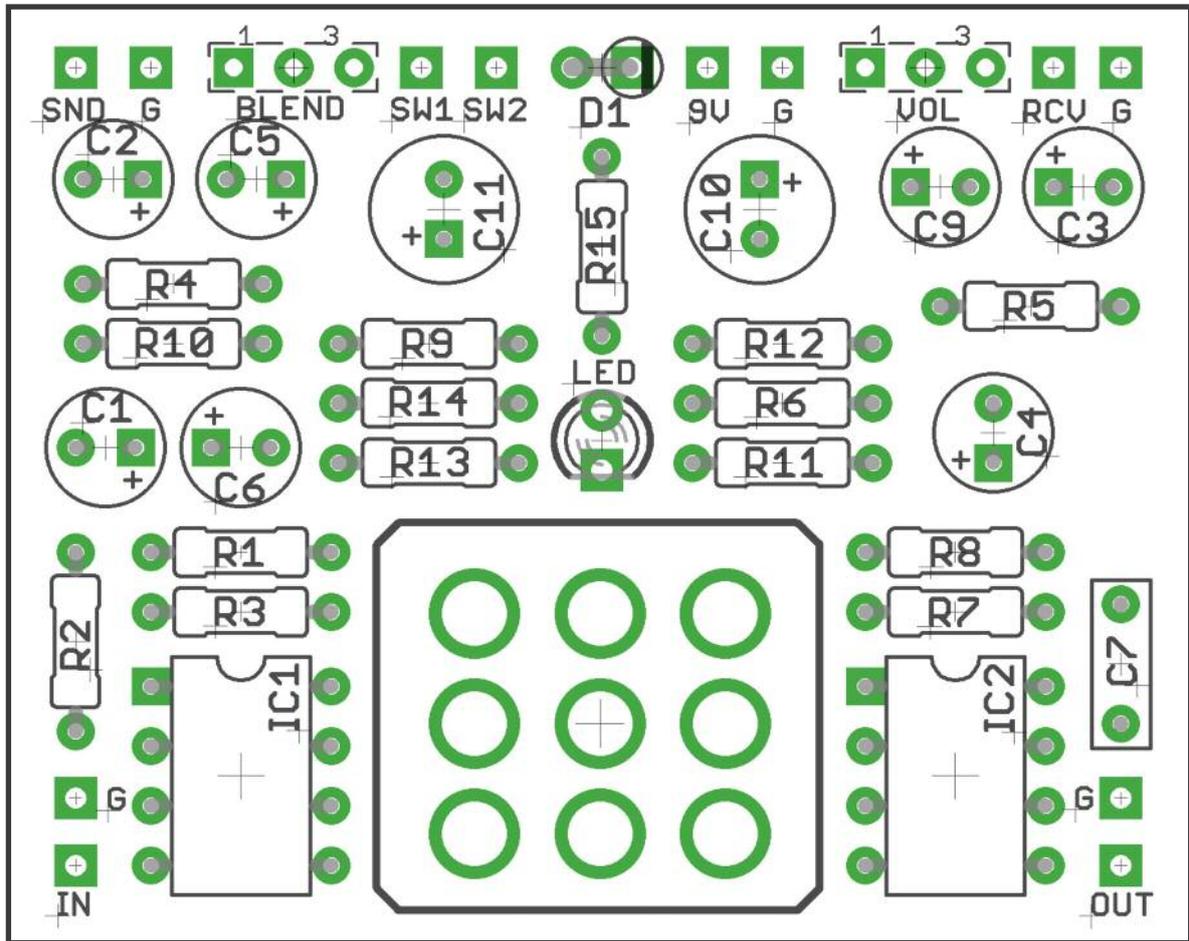
So how do you know whether your circuit produces an inverted phase? Unfortunately there's no easy way. You can check it with an oscilloscope or try to work it out using the schematic, which requires some electronic knowledge.

Another way is to try it! If you get volume drop when you blend the circuits, you're probably out of phase.

I'm out of phase - how do I fix it?

The only way to do it is to run the signal through another inverting stage, which means more circuitry. Sorry. If you're using the Fat-Ass as a looper (i.e. attaching external pedals to the blended chain) you could try adding different pedals which may give an inverted signal.





The PCB is designed to mount on the 3PDT bypass switch, which is routed as true-bypass.

Snap the little metal tag off the pots to mount them flush in the box.

Use some kind of heat sink on the legs the LED when soldering. They aren't keen on heat. Any more than 2 seconds of iron and its toast.

It's a good idea to attach all the off-board wiring to the opposite side of the board to the components. This will make it easier to route it away from jack sockets etc when boxing up.

The board-mounted LED means you don't need a bezel. Leave the LED out until you're boxing up, then place it in the holes and hold it while fitting the footswitch into the hole in the box. Once in place, feed the LED down and position into its box hole. Once in place, solder. Sweet.

BOOB ALERT:

The IN, OUT, SND and RCV pads were all placed without considering the board would be mounted upside down in the enclosure, so they are at the opposite side to where they should logically be. It just means longer wires when boxing up.



Wiring it up

...well, it depends what you're doing with it.

Let's say, for instance, you're building a Big Muff, and you want to add the blend circuit to mix some dry signal with the Muff signal, all inside one pedal.

For your switch wiring, just replace the Muff IN and OUT wires with the Fat-Ass IN and OUT wires. Then connect Fat-Ass SND to Muff IN, and Fat-Ass RCV to Muff OUT.

Fat-Ass 9v and GND just connect to the same as the Muff.

To wire it as an effects loop pedal with a blend control, connect up your SND and RCV pads to your effects loop jacks (including GND connections).

