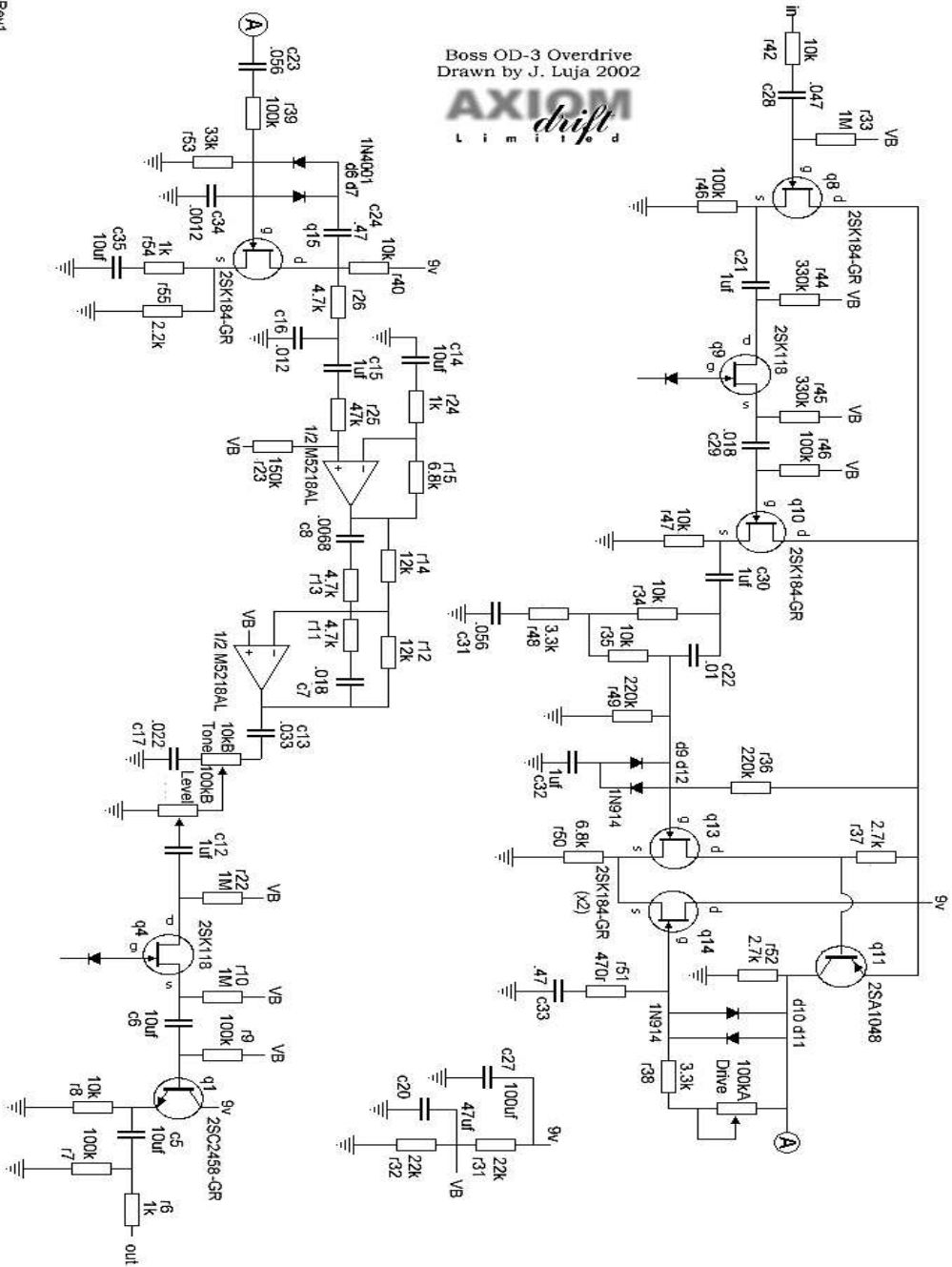


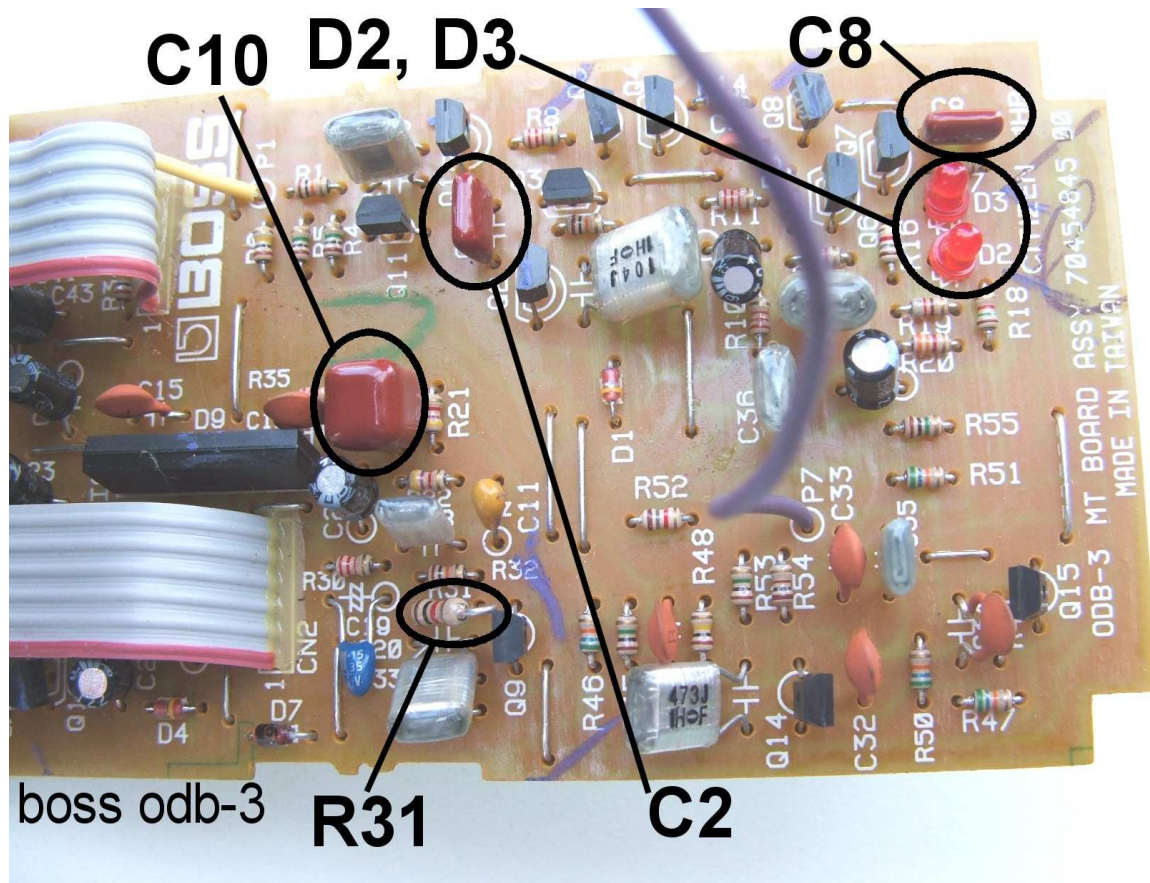
Boss OD-3 Overdrive
Drawn by J. Luja 2002

AXIOM
drift
E E E



Boss odb-3 bass overdrive

Location	Stock value	Mod value	What it effects
C10	.033 uf	1uf or 2.2 uf	Adds mids, warmth, and fullness
R31	3.3k	1k	Adds low mids
C8	300 pf	.001 uf	Remove shrill highs
OPTION d2, d3	Led's	1n4148	Changing diodes to 4148 will yield less distortion, and more clean tone coming through, though a bit smoother.
C2	.1uf	.001uf	For guitar only, this will make the pedal much better for guitar.





Boss OS-2 Mod

Big/Full/Fat Mod

Location	Mod value
Overdrive circuit:	
D8	LED
R2	6.6K
R39	1K
C27	.008UF
R37	10K
Distortion Circuit:	
R30	1K
C18	.1UF
D3	1N4148 + 1N4148 CONNECTED IN SERIES
D4	LED
R23	10K
C19	.47UF
C16	.0047UF
C20	.047UF
R32	47K

"Marshall" type tones

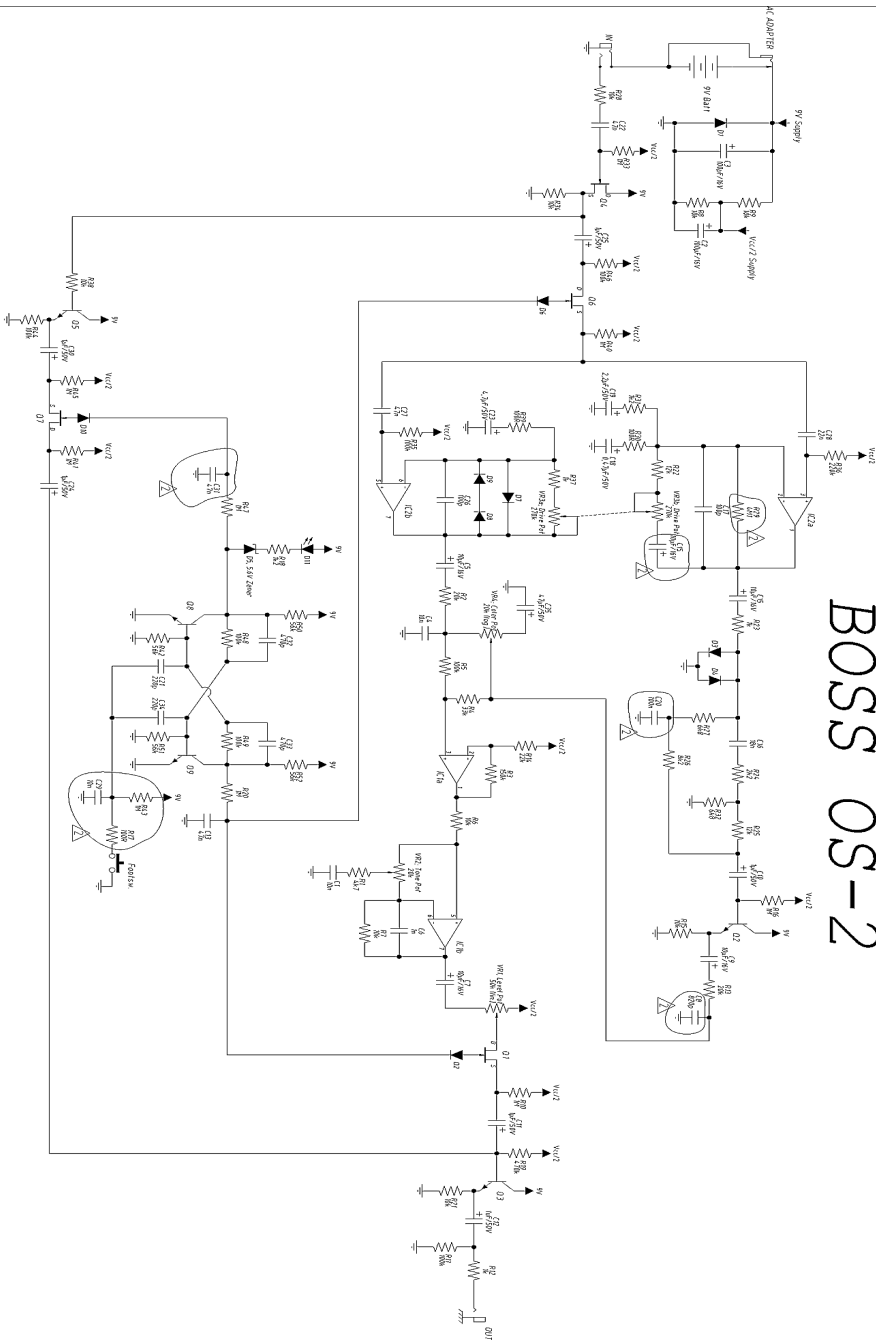
Location	Mod value
C28	.22UF AND 1K CONNECTED IN PARALLEL
D8	LED
D3	LED
C27	.047UF
C23	10UF
C18	.47UF

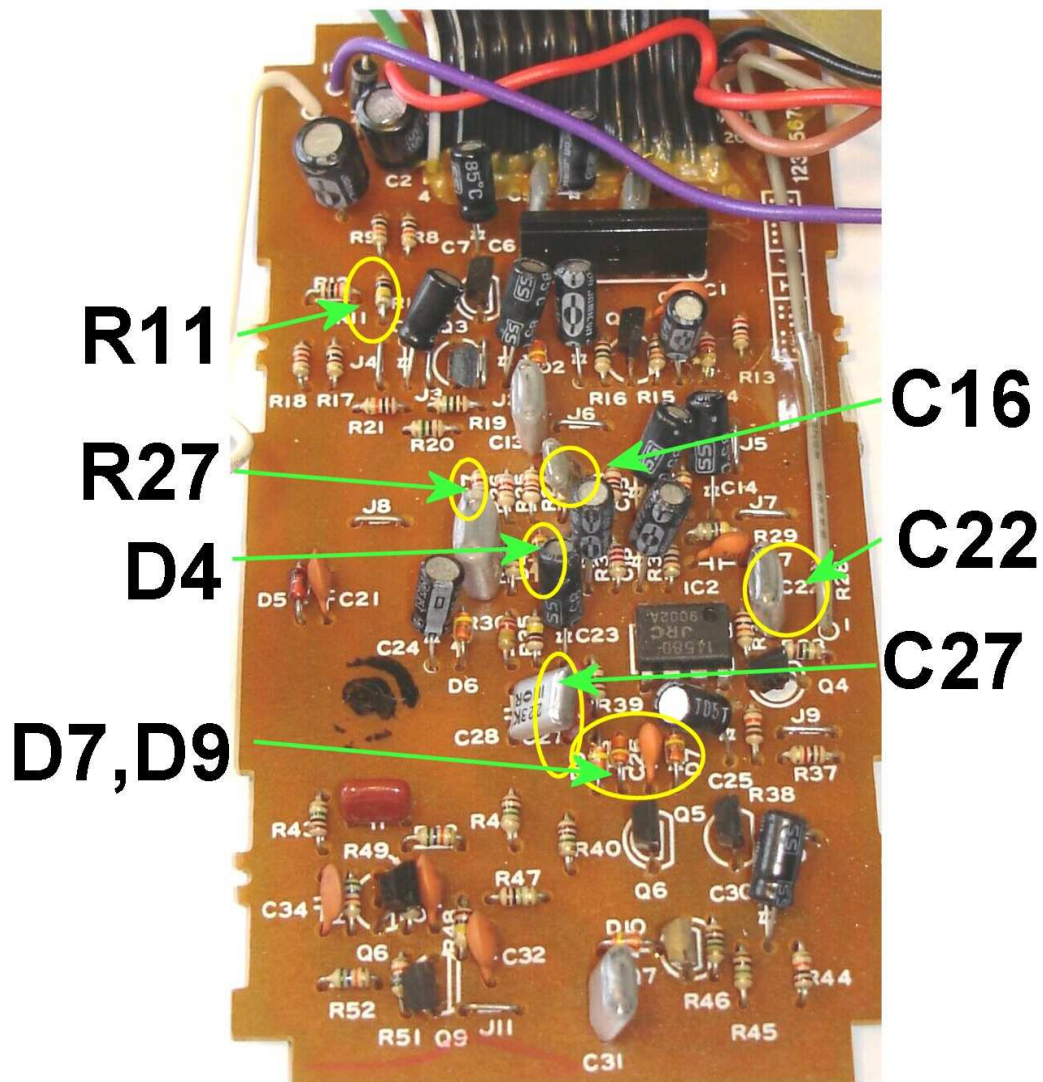
For fun, experiment with these changes:

Location	Mod value	What it effects
Clipping diodes:	Led's *, germaniums, or 1n4001s	Led's will make it a bit fuller, louder, and more bass. Germaniums will give it more of a tube flavor, 1n4001's will increase the distortion/overdrive capability.
C27	.22uf /.15UF/.1UF/ FOR BASS GUITAR, MAKE 1UF	Adds bass on od side
C16	(experiment with .022 uf, .033 uf, .047uf, .068 uf, .1uf or higher)	Increase value for more mids on dist side
R27	1-22k, or you could install a pot in it's place to control mids	Lower value for mid increase on dist side

*ANY SIZE/TYPE/COLOR OF LED WILL WORK ABOUT THE SAME IN THIS CIRCUIT WHEN USED AS A CLIPPING DIODE

BOSS OS-2





BOSS SD-1 Mods

Circuit explanation

The signal enters and passes through R1 and C1 while going past R2, which helps bias Q5, a transistor buffer. After going through the buffer, the it passes through C2 and into the clipping stage. R4 is biasing the opamp. The signal enters into pin 3.

The signal is boosted through pins 6 and 7 and is controlled by the value the gain pot plus the resistance of R5, in conjunction with C3 and R6. This means that R5 controls the amount of gain with the gain pot at its minimum.

Since C3 and R6 set what frequencies we are boosting and clipping, changing these values will change that frequency as well as alter the gain a bit. If you go to <http://www.indyguitarist.com/filter.htm> you can input the values of C3 and R6 (resistance and capacitance) and figure out what frequencies you want to clip. As you'll see, adding resistance adds a bit of bass but also makes the gain a bit less.

D4, D5, and D6 are diodes that 'soft clip' the signal, helping to give it's trademark sound.

After leaving this first gain stage, the signal goes through R7 and passes C4. This combination (R7 and C4) form a 'low pass filter' which shaves off highs.

Next, the signal enters into pin 3. R9 provides enough of a gain boost (or signal boost) to make the tone control an 'active' tone control, meaning it not only cuts highs, it boosts them as well without losing volume or signal. This is an interesting tone control, however – as the tone pot is turned down, it shaves off more highs since it is tied back into the signal after R7. When turned up, it boosts highs since it has a capacitor and resistor (C5 and R8) going to ground, whichs once again controls gain and the frequencies being boosted. C6 filters out highs.

The signal leaves pin 1 and passes through C7 and R10 before going into the volume control. The signal leaves the volume control through lug 2 then passes Q1 (which is used for switching on/off), passes through R14 and C8. Next, it goes into the last stage, an output buffer, which is setup just like Q1. The signal leaves this output buffer and goes through R16, C10, and passes R17 and then goes to the output.

*For more volume, change the volume pot to a 500k, audio taper.
 If more volume is still needed, raise the value of R9 – try a 47k – 100k.

CUERVO MOD	
Location	Mod value
c2	.047 uf
c3	.047 uf , for more bass, use .15 uf
c10	1 uf
c6	remove
d6	1n4001
d4	1n4001

Sd-1 Mod 2	
Location	Mod value
c2	.047 uf
c3	.1 uf , for more bass, use .15 uf
c6	remove
d6	LED
d4	1n4001

Sd-1 Fallclone sound-alike*	
Location	Mod value
C2	.022 uf
C3	.1 uf
R6	2.2K resistor
C6	.022 uf
C10	1 uf film
D4	1n34a germanium And 1n4001 series
D5	1n4001
D6	1n34a germanium And 1n4001 series
* We are not affiliated in any way with Fulltone, this modification just gives a sound similar to a popular pedal.	

Sd-1 blues mod	
Location	Mod value
C2	.1 uf
C3	.1 uf
C6	remove
C10	1 uf film
D4	1n34a germanium And 1n4001 in series
D5	1n4001
D6	1n4001 and led in series

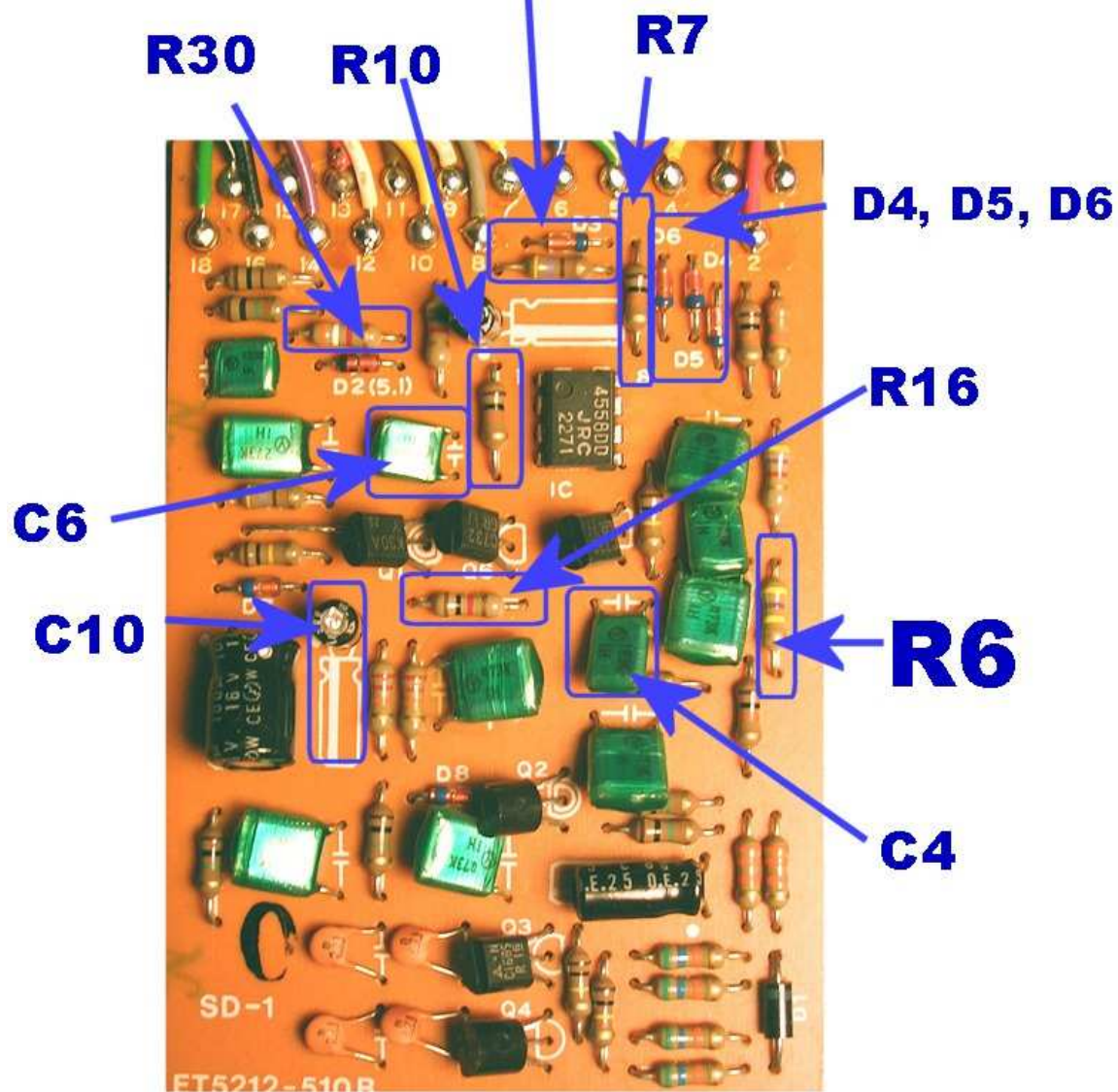
Sd-1 chocolate mod	
Location	Mod value
C2	.1 uf
C3	.1 uf
C6	Remove – don't connect with a jumper, remove only. This eliminates a filter.
D6	Germanium (1n34a)
D5	1n4001
D4	led

Sd-1 tubescreamer on steroids mod	
Location	Mod value
D6	LED
D4	1n4001
C12	.1 uf
C2	.047uf
C3	.047uf
C10	1uf
R16	470 ohm
C6	Remove, don't jumper

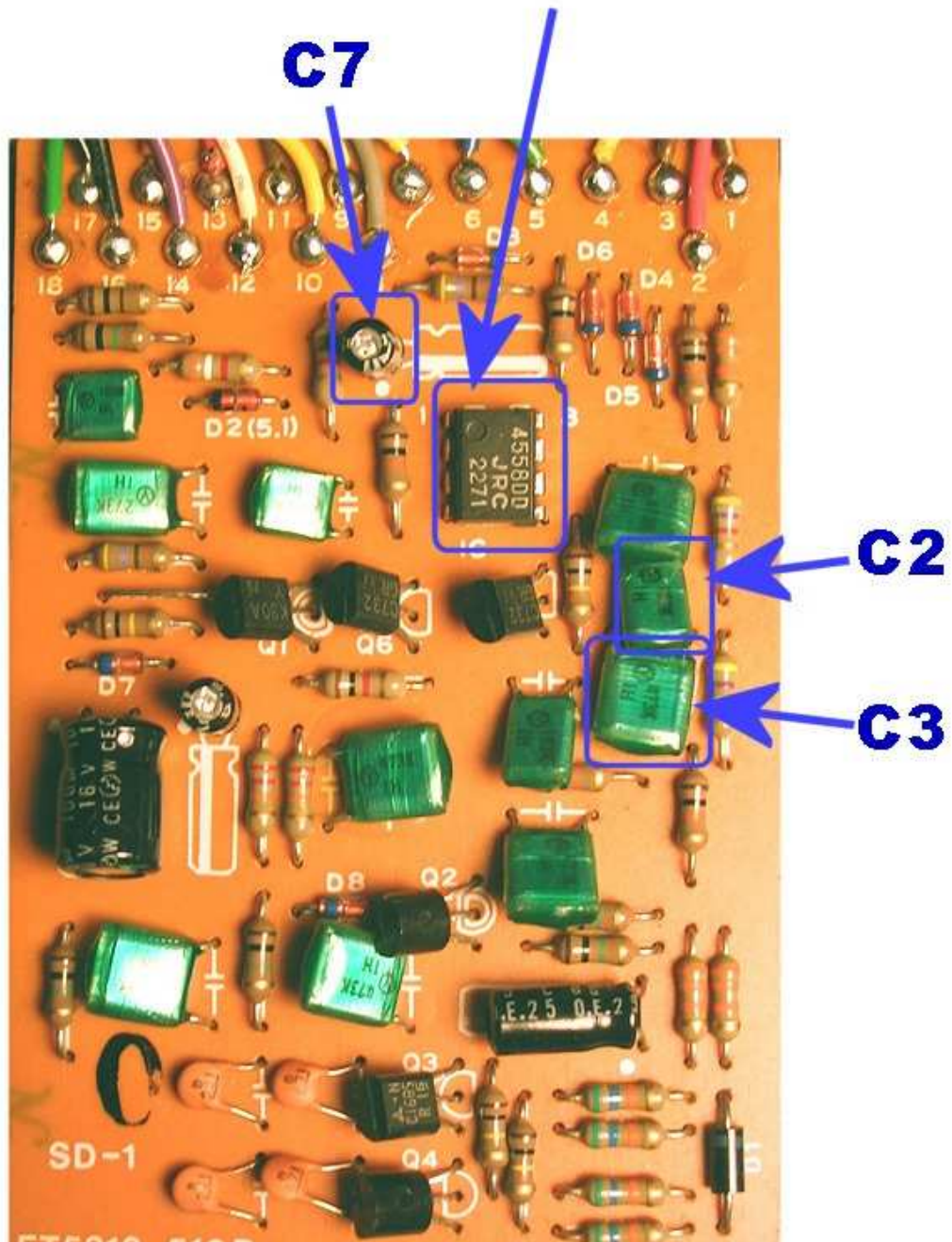
Sd-1 bass od mod	
Location	Mod value
C2	1UF
C3	1UF
C6	REMOVE, DON'T JUMPER
D4	1N4148+1N4148 DIODES IN SERIES
C5	.1UF

Sd-1 Mosfet Mod	
Location	Mod value
C2	.22 UF CAP
C3	.33 UF CAP (I USE A .22 AND A .1 UF CONNECTED IN PARALLEL)
R6	2.2K resistor
C6	REMOVE (DON'T JUMPER OR CONNECT ANYTHING, JUST REMOVE)
C10	1 uf film CAP
D4	MPF102 TRANSISTOR
D5	1N34A +1N34A (1N34A GERMANIUM DIODES) IN SERIES
D6	MPF102 TRANSISTOR

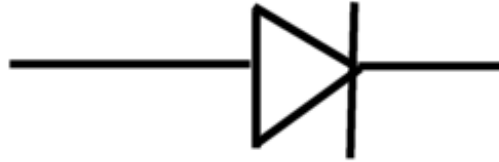
JUMPER BOTH THE RESISTOR AND DIODE



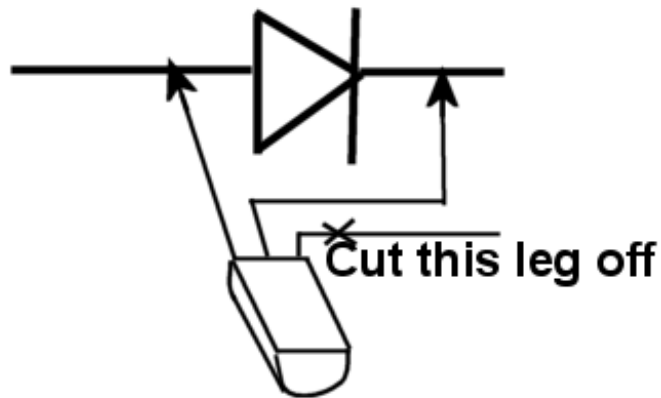
IC CHIP (OP AMP)



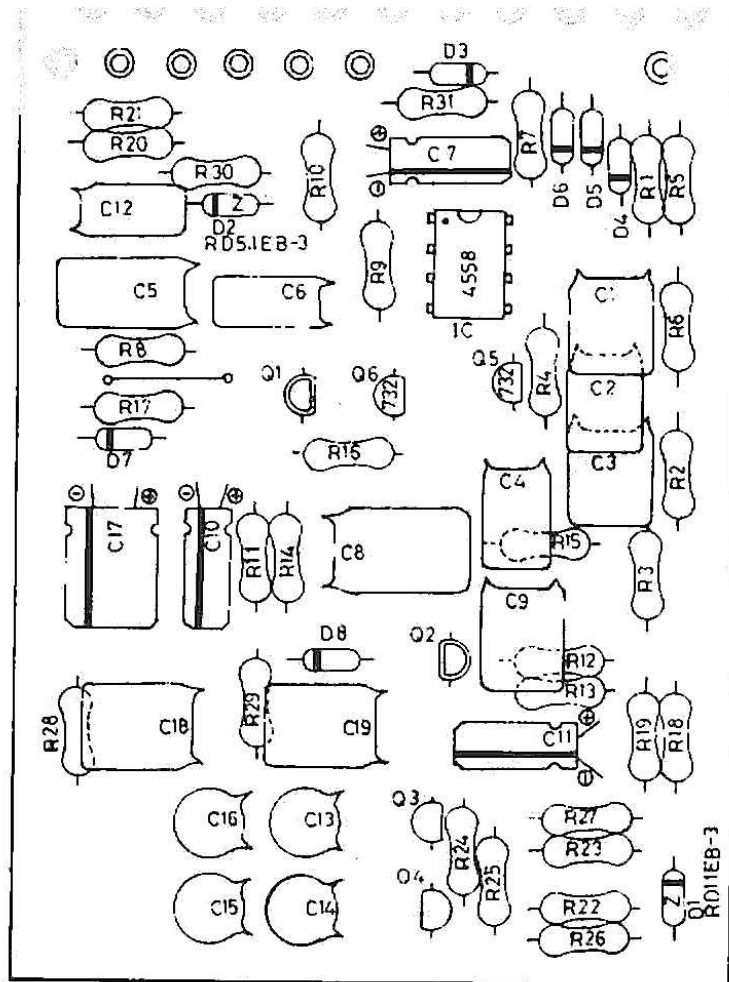
MPF-102 TRANSISTOR
Schematic/circuit board symbol:



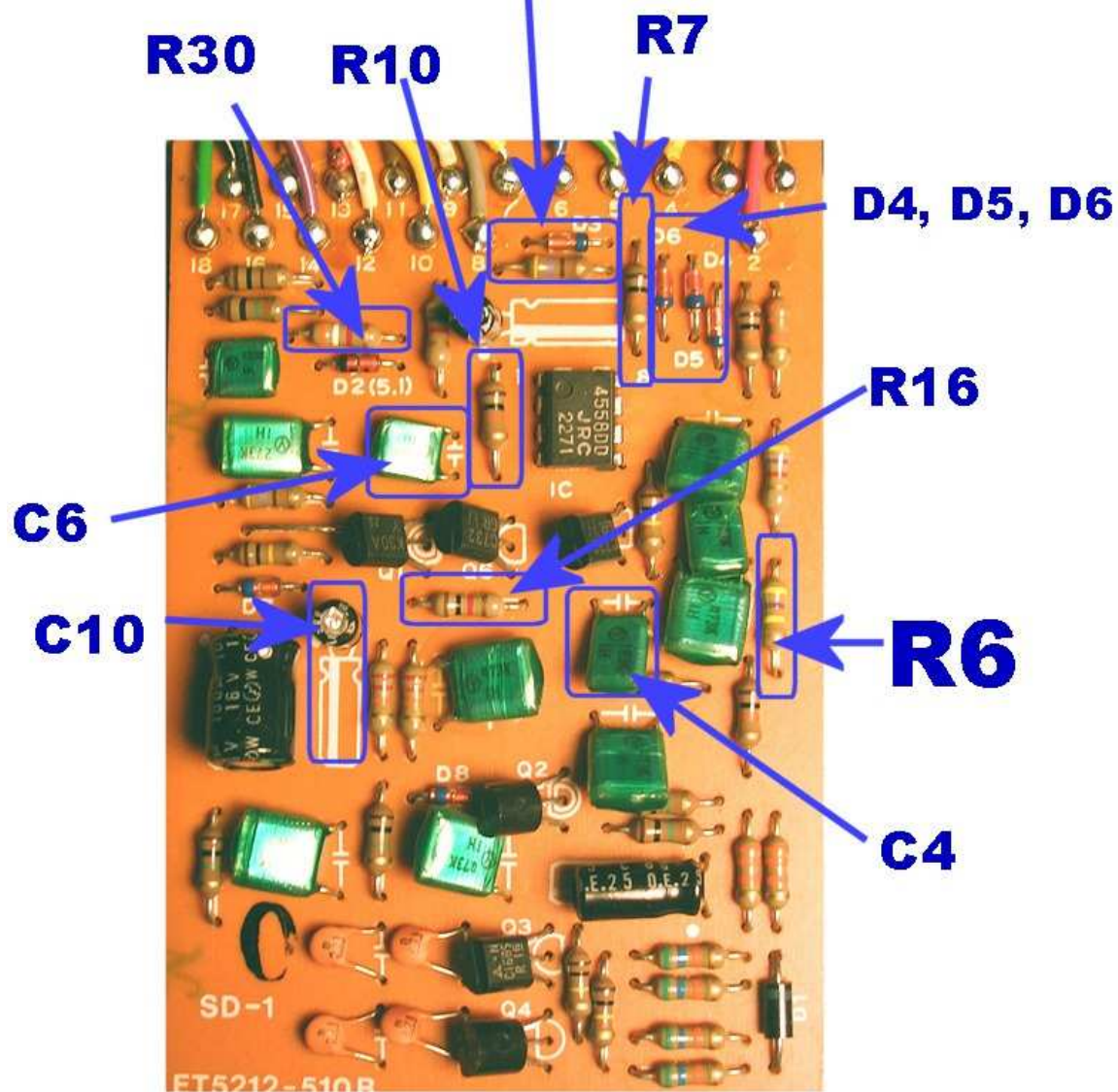
Connect like this:



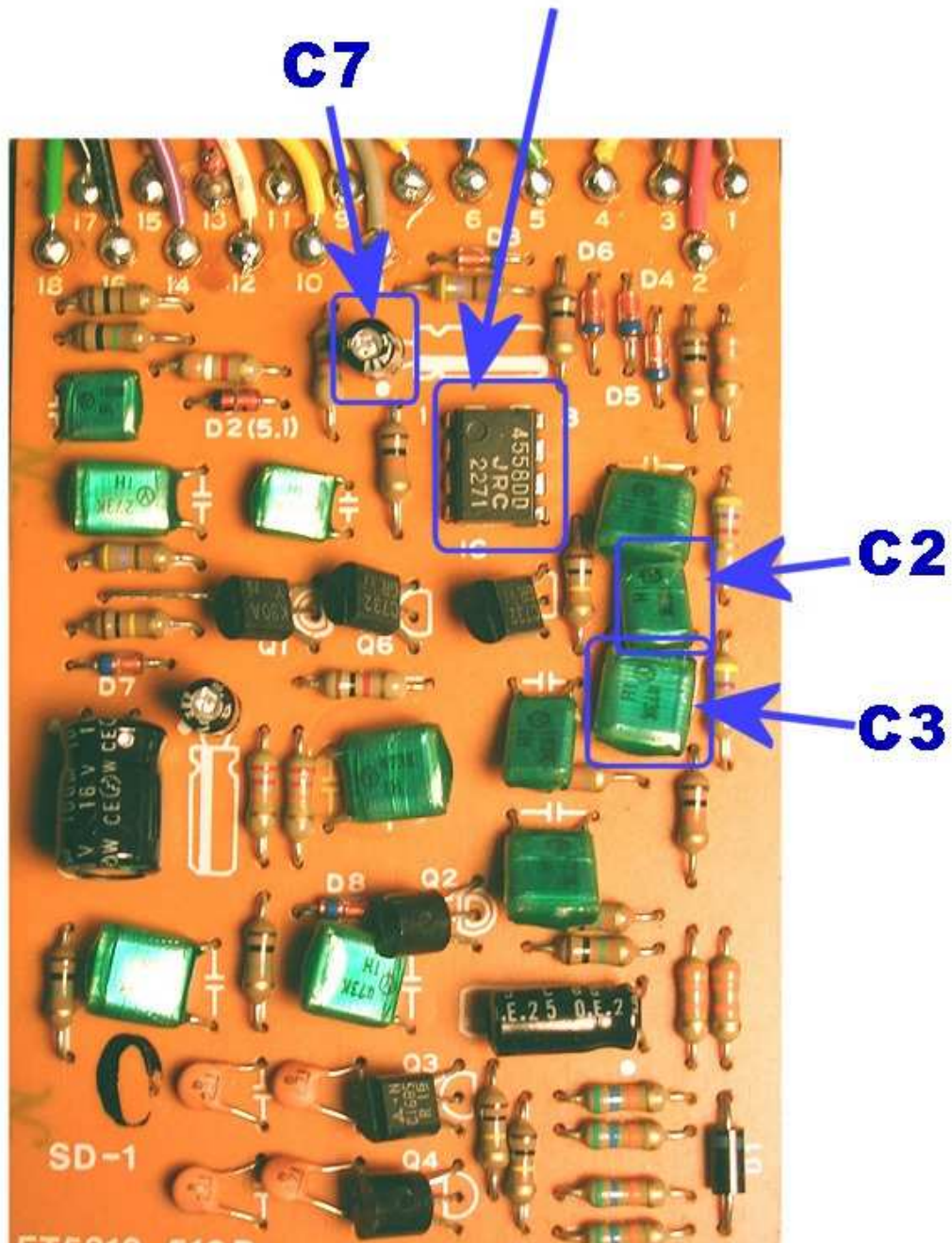
Note: This image show you how to connect the transistors for the mosfet mod -- there are 3 legs on them, and only two of the legs are used. I simply cut and remove the unused leg.



JUMPER BOTH THE RESISTOR AND DIODE

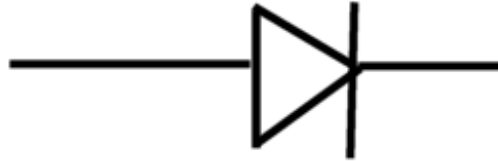


IC CHIP (OP AMP)

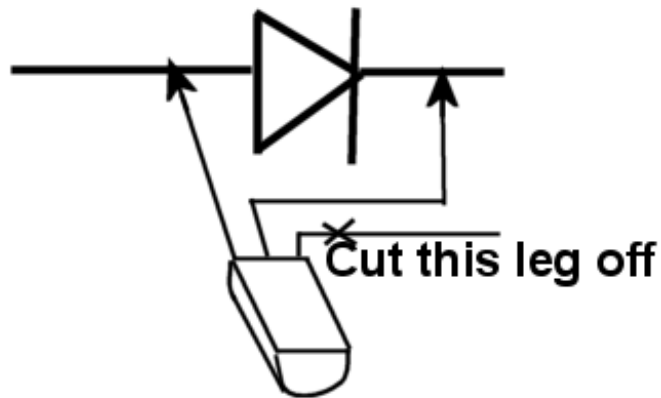


MPF-102 TRANSISTOR

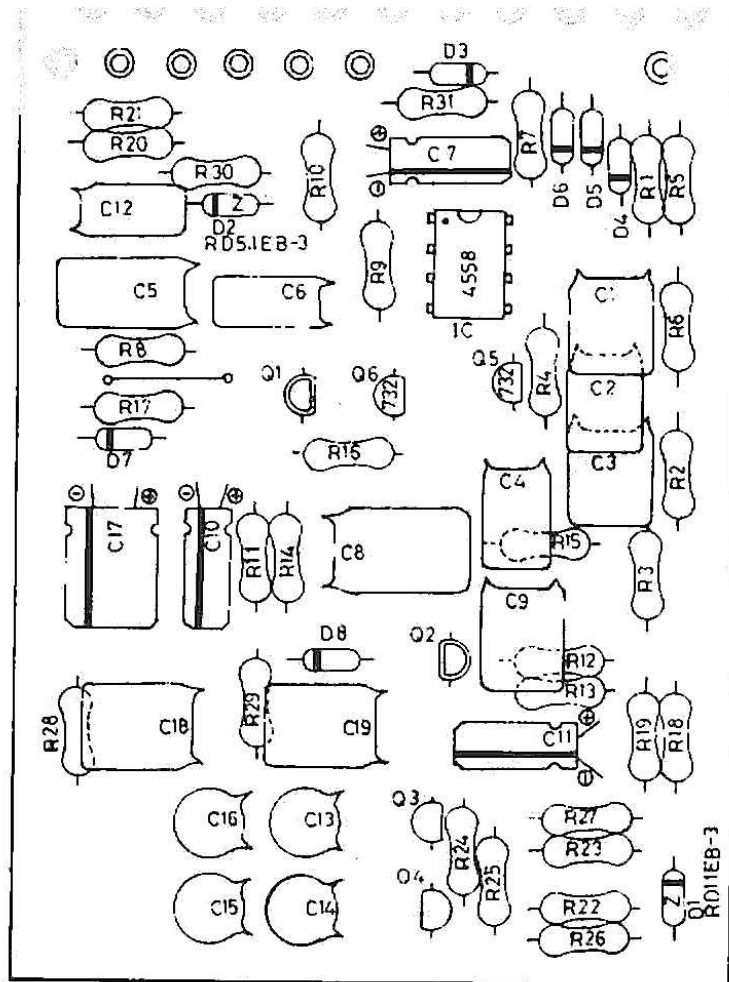
Schematic/circuit board symbol:

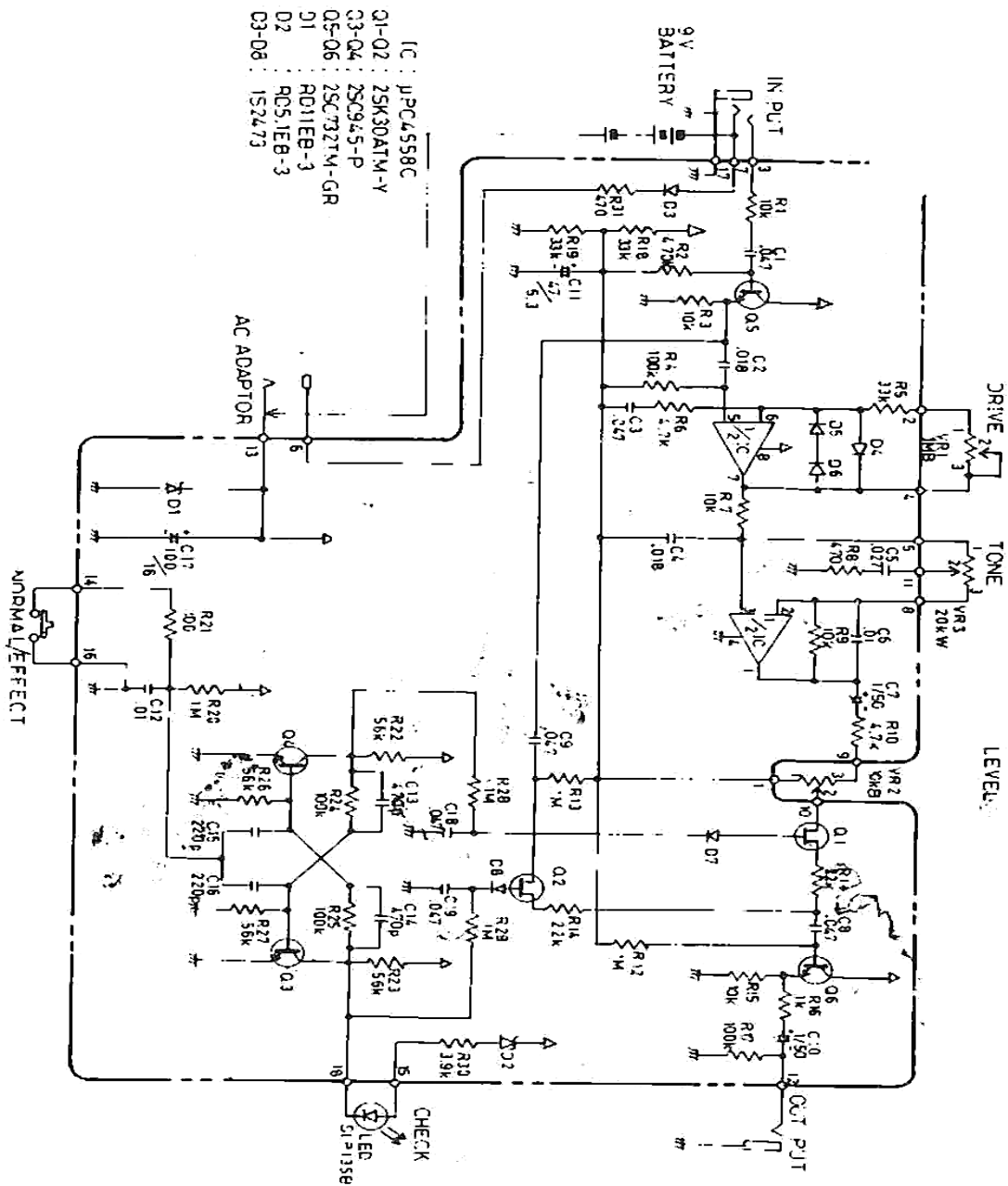


Connect like this:

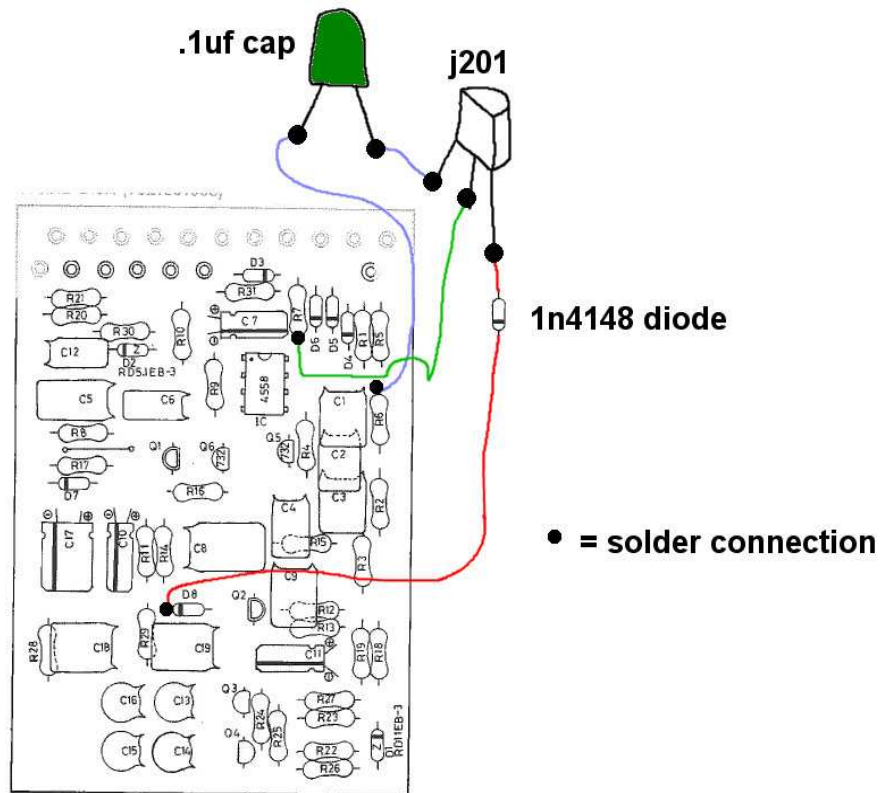


Note: This image show you how to connect the transistors for the mosfet mod -- there are 3 legs on them, and only two of the legs are used. I simply cut and remove the unused leg.





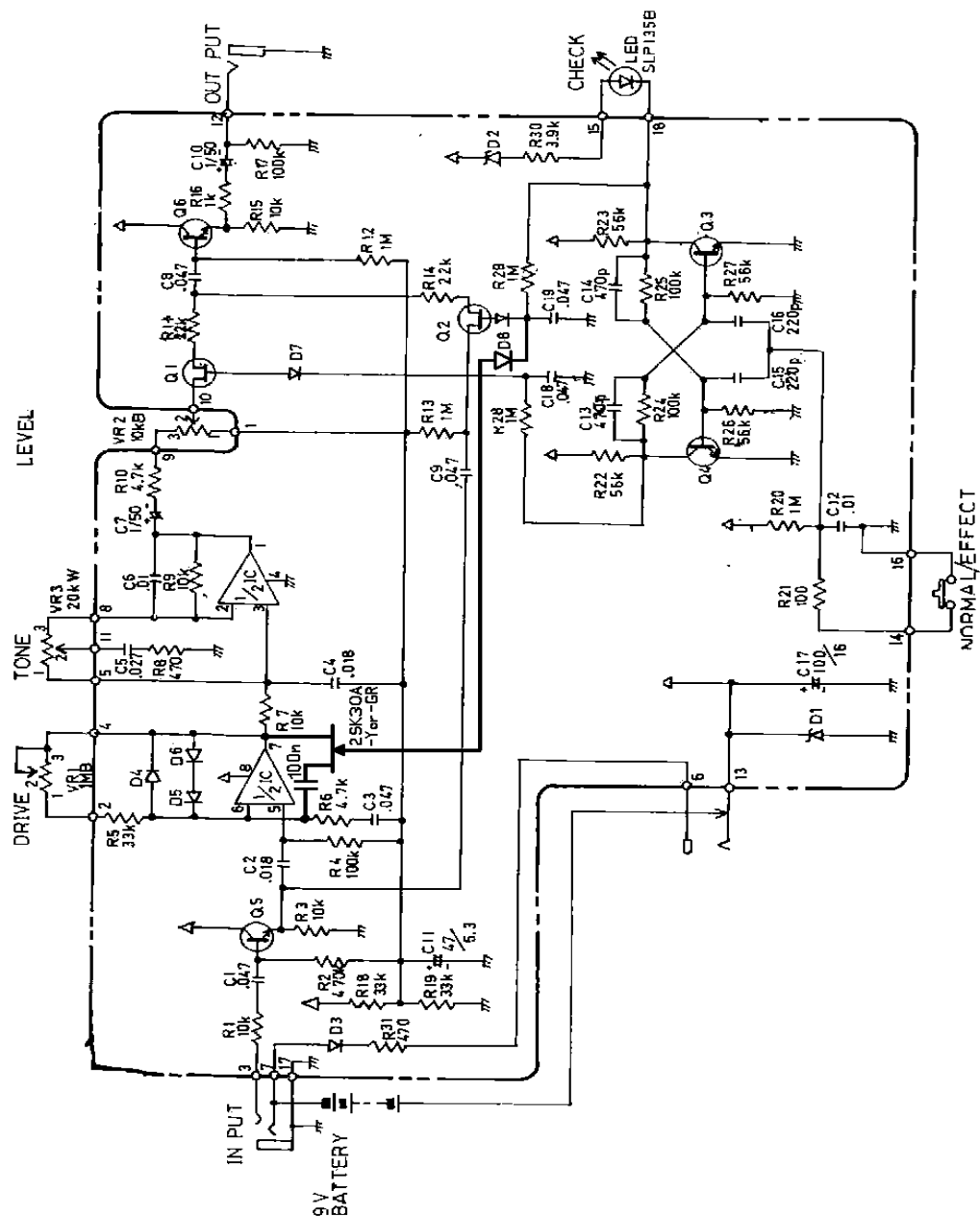
Many sd-1's have a 'bypass bleed' problem when the pedal is off. You will notice there is a hint of the dirty signal still present, especially after any modification. Here is a fix, courtesy of my friends at diystompboxes.com.



SD1- HOW TO FIX THE BYPASS PROBLEM!

*thanks to those at www.diystompboxes.com for their hard work in figuring this out
 image copyright 2006 Indyguitarist.com / Guitartone.net

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Boss sd-2 Dual Overdrive

General mods

Location	Stock value	Mod value	What it effects
C10	.082 uf	.22 uf	Lead-Adds bass
D15	Led	Germanium 1n34a	Lead—adds to 'tube tone'
D7	Led	1n4001	Crunch—adds to 'tube tone'
D6	1n914	2 -- 1n4148's connected in series	crunch—adds to 'tube tone'
C12	.022 uf	.22uf	Crunch-adds bass

Better Low Gain

Location	Mod value
R28	1K
C10	.38 OR AS CLOSE AS POSSIBLE (.33UF IS OK)
R29	250K
R52	10K
D14	1N4148 + 1N4148 CONNECTED IN SERIES
D15	1N4001
C43	1UF

Crunchy, warm and dynamic overdrive

Location	Mod value
C47	REMOVE (DON'T REPLACE WITH ANYTHING)
C36	JUMPER
C28	.68UF
R36	4.7K
D4	1N4001 + 1N4001 CONNECTED IN SERIES
D6	1N4001 + 1N4001 + 1N4001 ALL CONNECTED IN SERIES
C24	.047UF
C12	1UF

Thick Overdrive

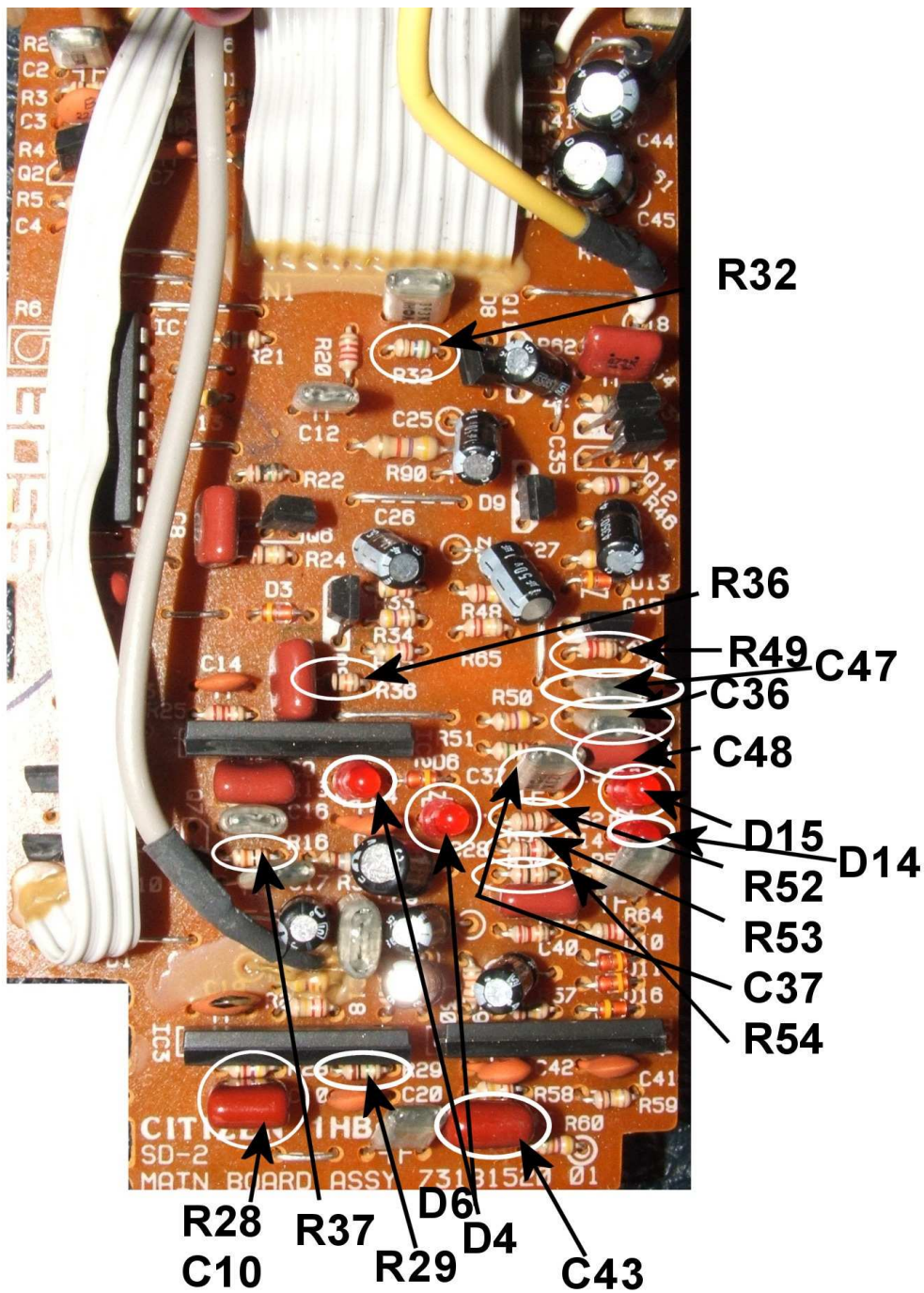
Location	Mod value
D4	1N4148
D6	1N4148
D7	1N4148
C36	JUMPER
C47	REMOVE, DON'T REPLACE WITH ANYTHING
R32	1K
C24	.08UF
C12	JUMPER
R37	470 OHM
C28	1UF
R32	.01 (LOCATED ON CIRCUITBOARD THAT POTS ARE MOUNTED ON
R36	1K

Thick Distortion

Location	Mod value
R38	10K AND .022UF CONNECTED IN PARALLEL
R29	100K
R28	1K
C10	.47UF
R64	4.7K

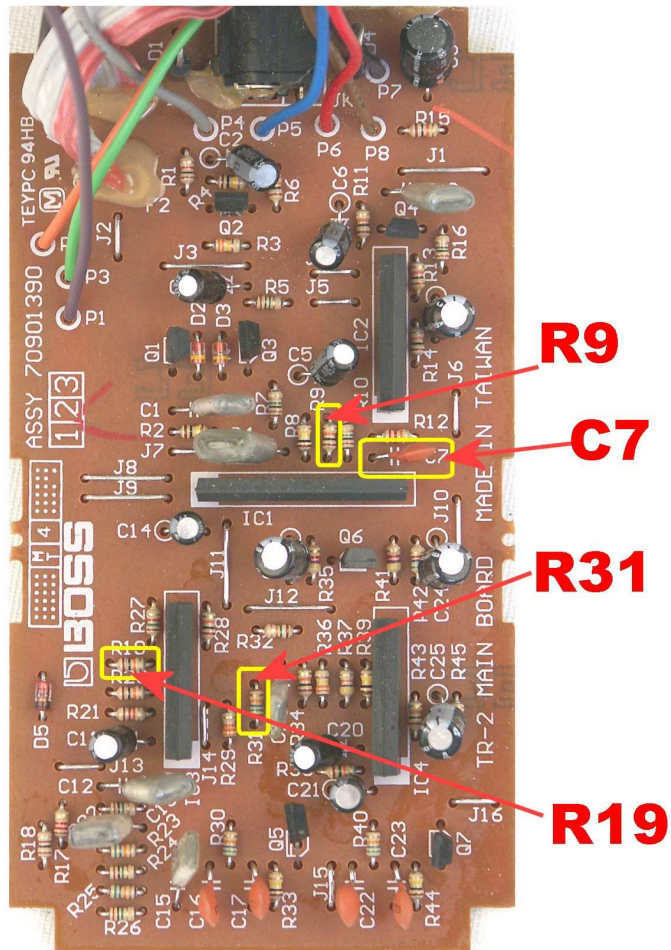
Option:

- * For more bass on distortion, raise the value of C31
- * "Marshally" tone, change R52 to a .22uf cap and 1k resistor in parallel. Remove R54



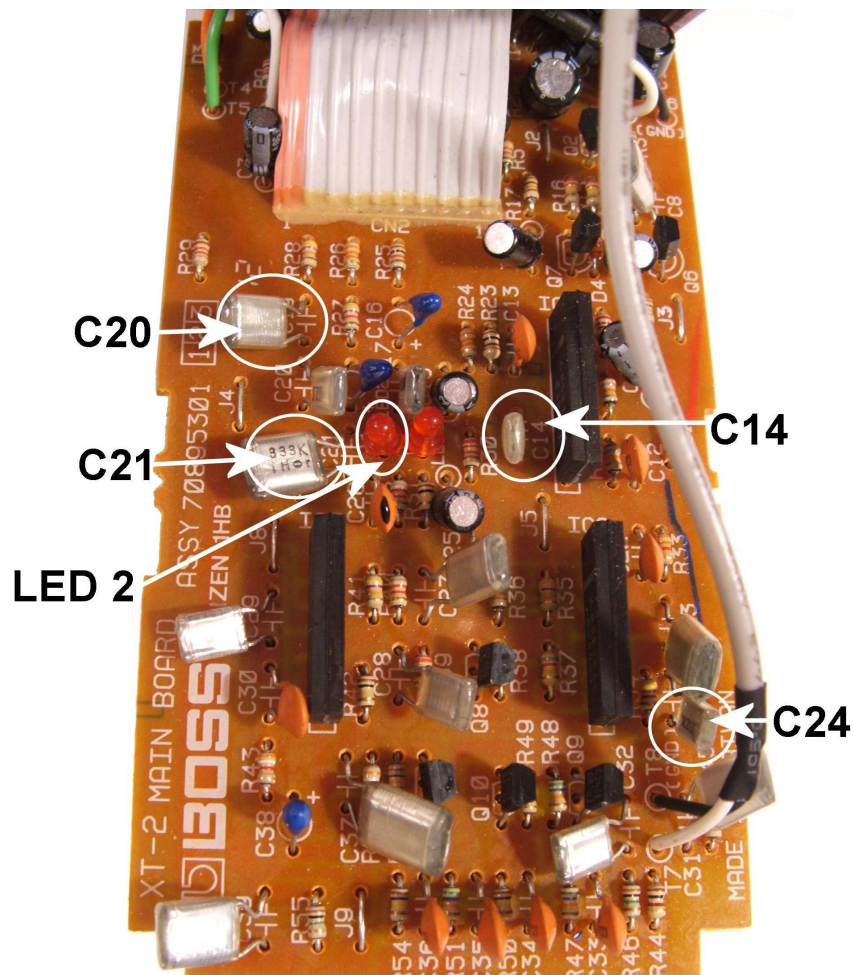
Boss TR-2 Tremolo

Location	Stock value	Mod value	What it effects
R9	10k	4.7k, (if needs to be louder, go 3.3k)	Controls the volume.
C7	10pf	Remove (DON'T jumper)	Adds high end sparkle
R31	50k	10k sounds good	Lower the value, the faster the rate. Jumper for insane rate!
R19	10k	3.3k –4.7k	Changes the wave form, can be quite dramatic



Boss Xtortion XT-2

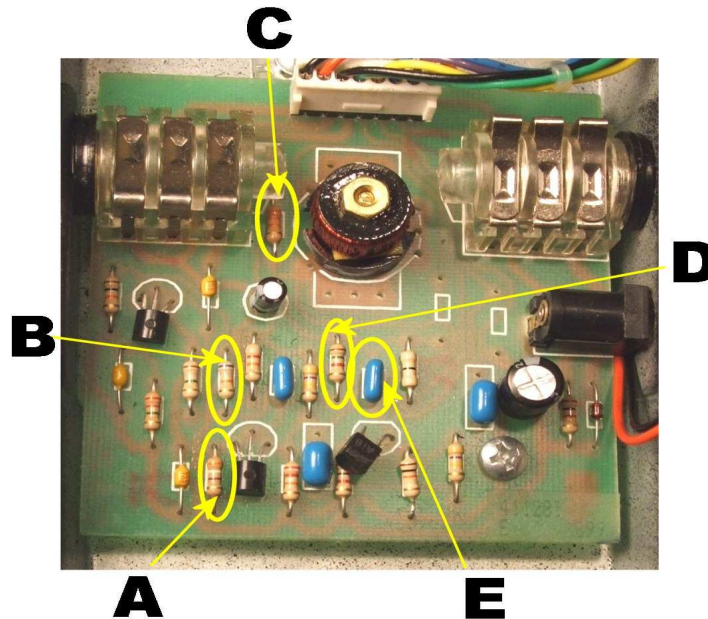
Location	Stock value	Mod value	What it effects
C20	.001uF	220pf	Makes the highs sound better, and not as harsh
C21	.033uF	.047uF	Filters out some of the brittle highs
C24	.0033uF	.0047uF	Changes the frequency of the mids a bit.
C14	.0056uF	.1uF	Tames the nasally mids, makes the pedal much fuller and richer
LED 2	Led	1n4148	Makes the clipping more complex, adds dynamics and better responsiveness



Crybaby gcb-95 wah mod

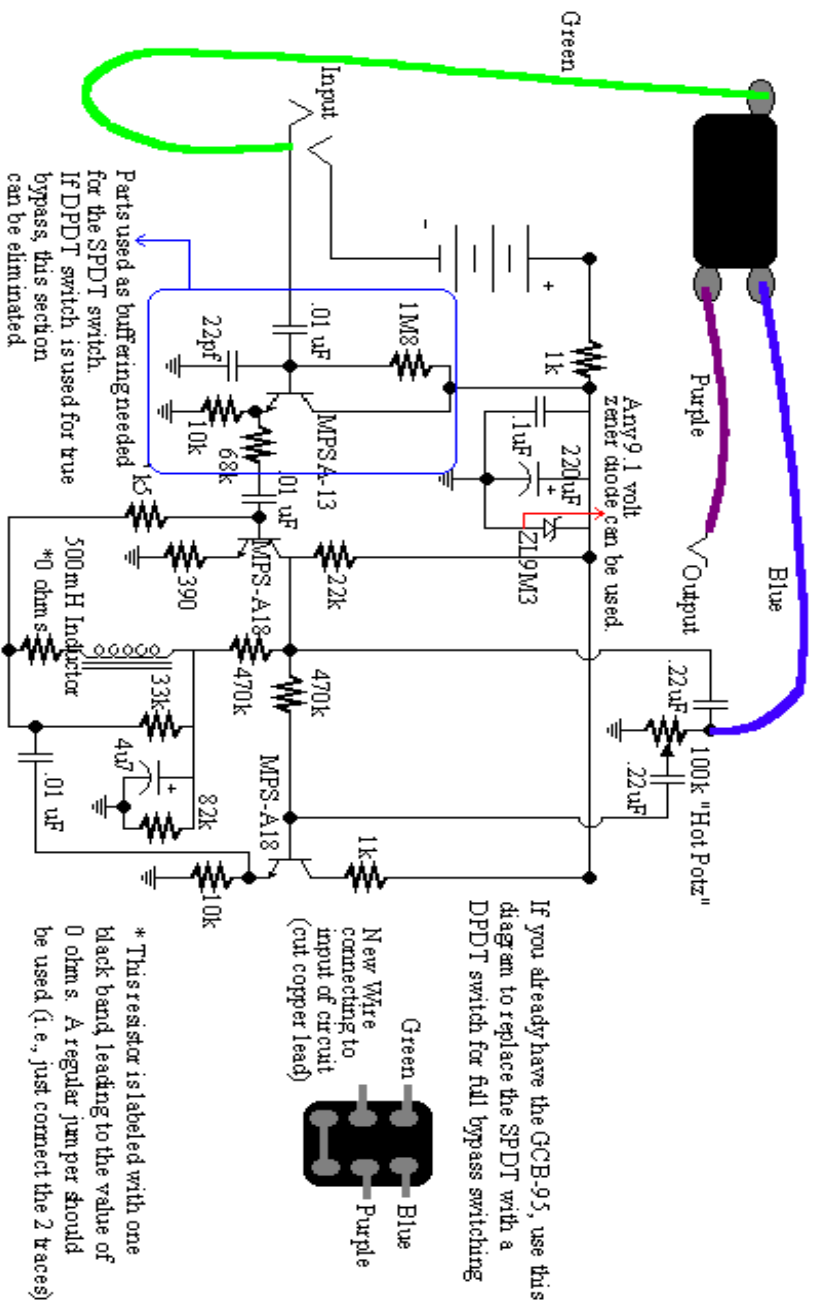
Location	Stock value	Mod value	What it effects
A	390 ohm	300 ohm	This increases gain. The bass response is also increased. Too low a value here may introduce some distortion and make the wah sound muddy. Try 270 - 330 ohms to start with.
B	68k	47k	Input resistor – volume boost
C	33k	47k, 68k, or 100k	This gives a more vocal quality to the wah. Some Vox Clyde McCoy wahs had 100K resistors here.
D	1.5k	2.2k	This increases the midrange and helps if your wah sounds dull and muted when you rock the pedal back. Try 1.8k to 2.7k. Higher values than stock also smooth out the bass-treble transition.
E	.01	optional	A smaller value will make the wah sweep more trebly and and a larger value more bassy. Try 0.068uf or 1uf for a bass wah.

Also, check out http://www.indyguitarist.com/mods_new for more wah modifications listed on other websites.



Dynalop GCB-95 "Original" Crybaby

SCHEMATIC FOUND ON WEB



Danelectro Daddy-o

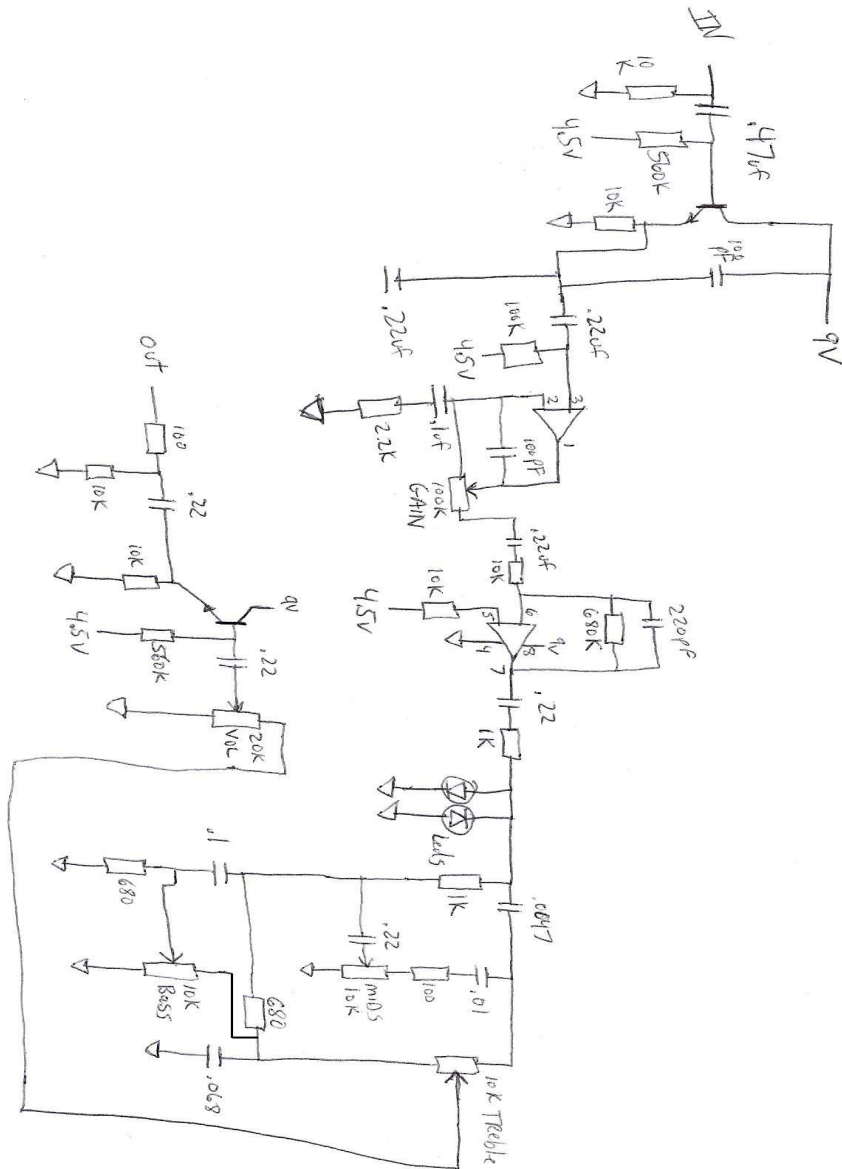
More aggressive sounding, more dynamic:

Location	Stock value	Mod value	What it effects
C14	.068	.047 uf	Less value=less midrange, more value=more midrange
C10	.0047	.01 uf	More value=more highs/high mid potential
C5	.1	.1 uf	
C13	.1	.022	
Changing Led's in the clipping section will change the tone dramatically-feel free to experiment!			
Led 2		1n4148 + 1n4148 in series is optional, Indyguitarist mod now uses 1n4001	More Assymetric clipping, and more aggressive distortion.

Smoother, warmer tone, yet still very pick responsive:

Location		Mod specs
C14	.068	.1uf
C5	.1uf	.47 or 1uf for more bass
C9	.22uf	1uf
C13	.1uf	.056uf
Led 2	led	1n4001

Daddy-o Schematic



Daddy-o
©2006 Brian Wampler, Indystar.com

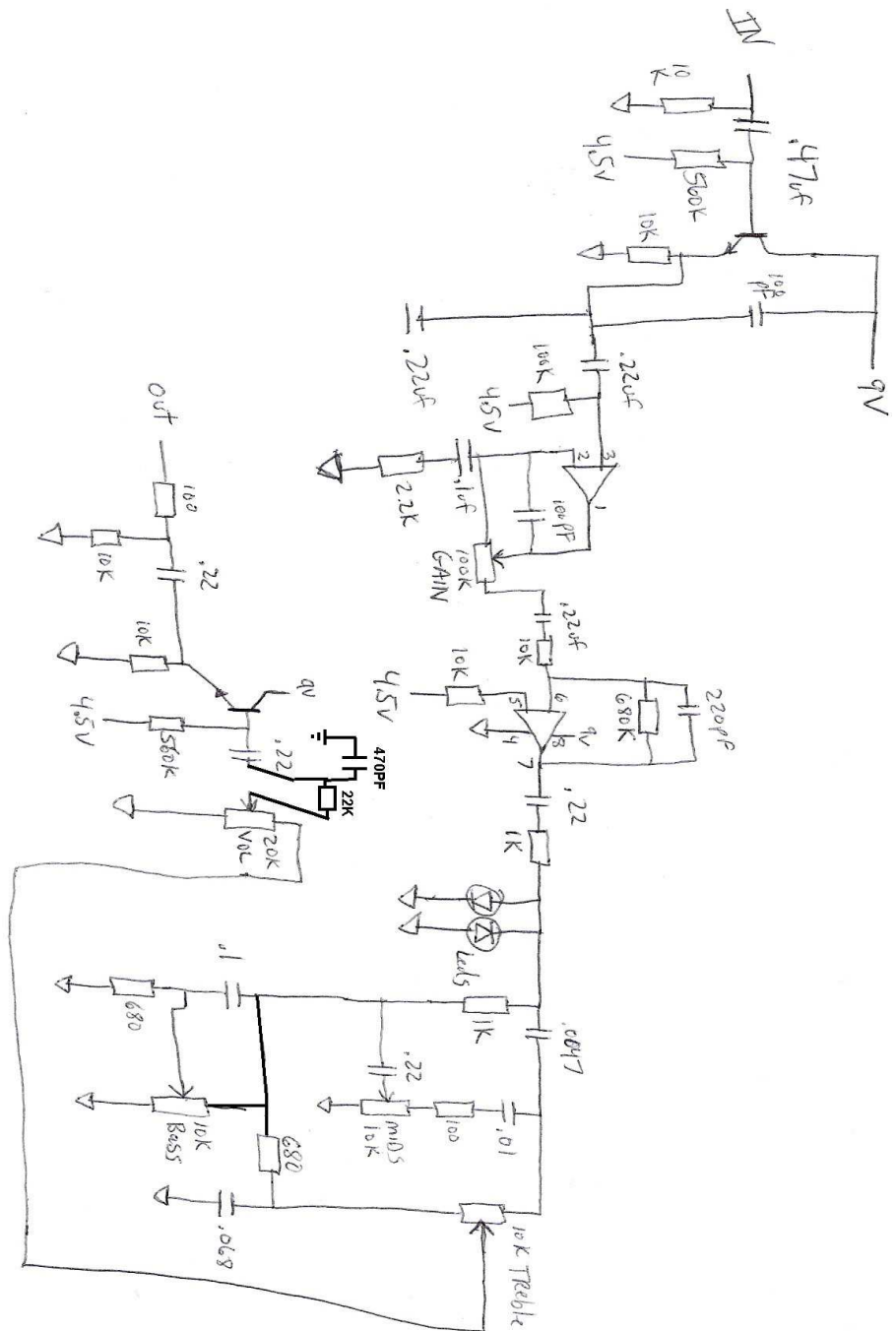
The Daddy-o is basically the exact same circuit as an original 'black box' Marshall Guv'nor, except that the Danelectro has input and output buffers (the Guv'nor does not), the Guv'nor has an

additional low pass filter at the end of the circuit which the Dano does not, and the bass control on the Daddy-o connects in a slightly different spot.

We can actually convert the Daddy-o to guv'nor specs by doing those changes, though this is a much more advanced type of modification and is something that most companies that modify pedals would never want to do. These changes involve cutting the traces and wiring components in 'point to point' style.

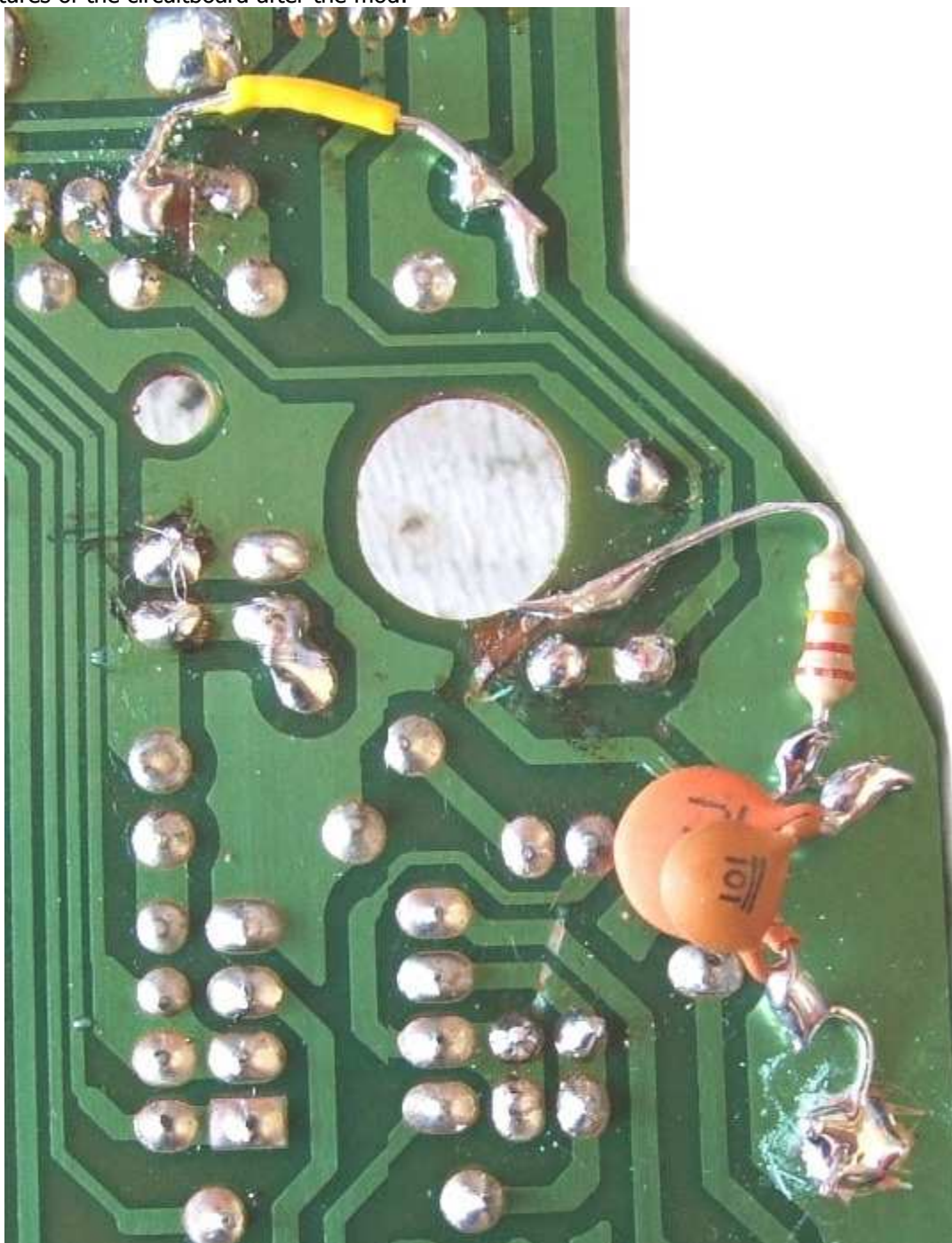
Over the next couple of pages, I'll do these changes except I will keep the input and output buffer. This is because without it, we would need to rehouse the Dano and install True bypass switching on it.

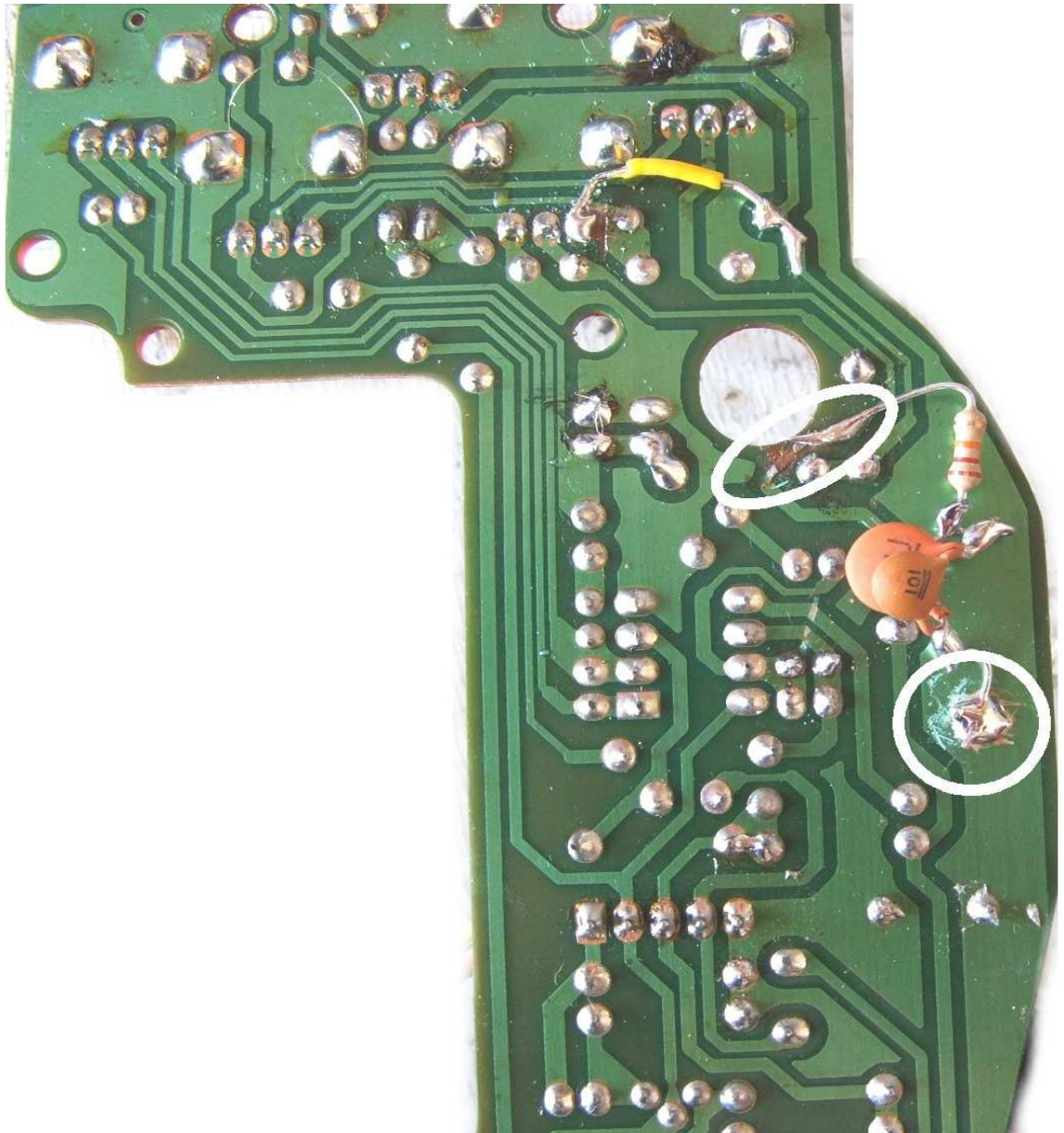
See the next page for a schematic of the Daddy-o after the mod.

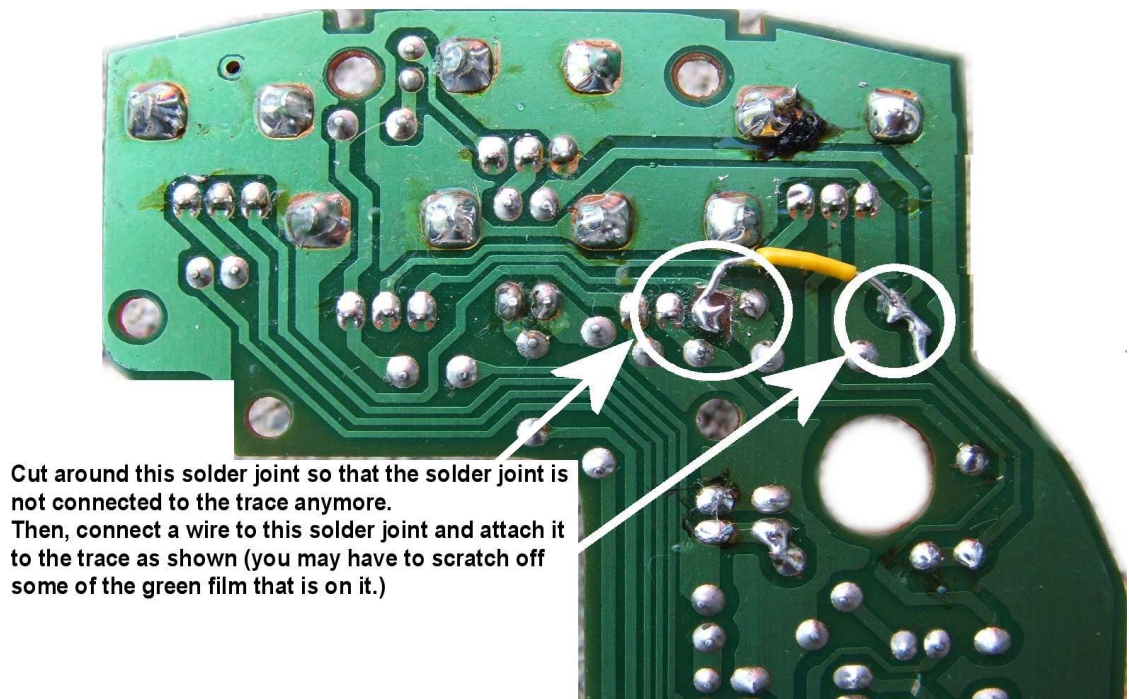


Dave - Daddy-O
©2006 Brian Wampler, Indylustrous.com

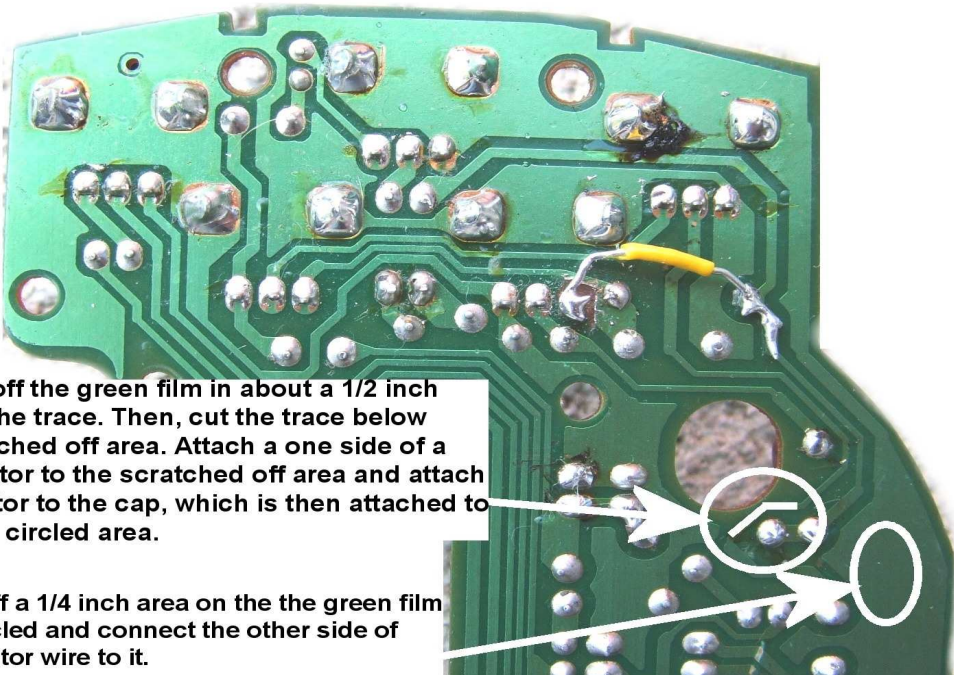
Pictures of the circuitboard after the mod:







Cut around this solder joint so that the solder joint is not connected to the trace anymore. Then, connect a wire to this solder joint and attach it to the trace as shown (you may have to scratch off some of the green film that is on it.)

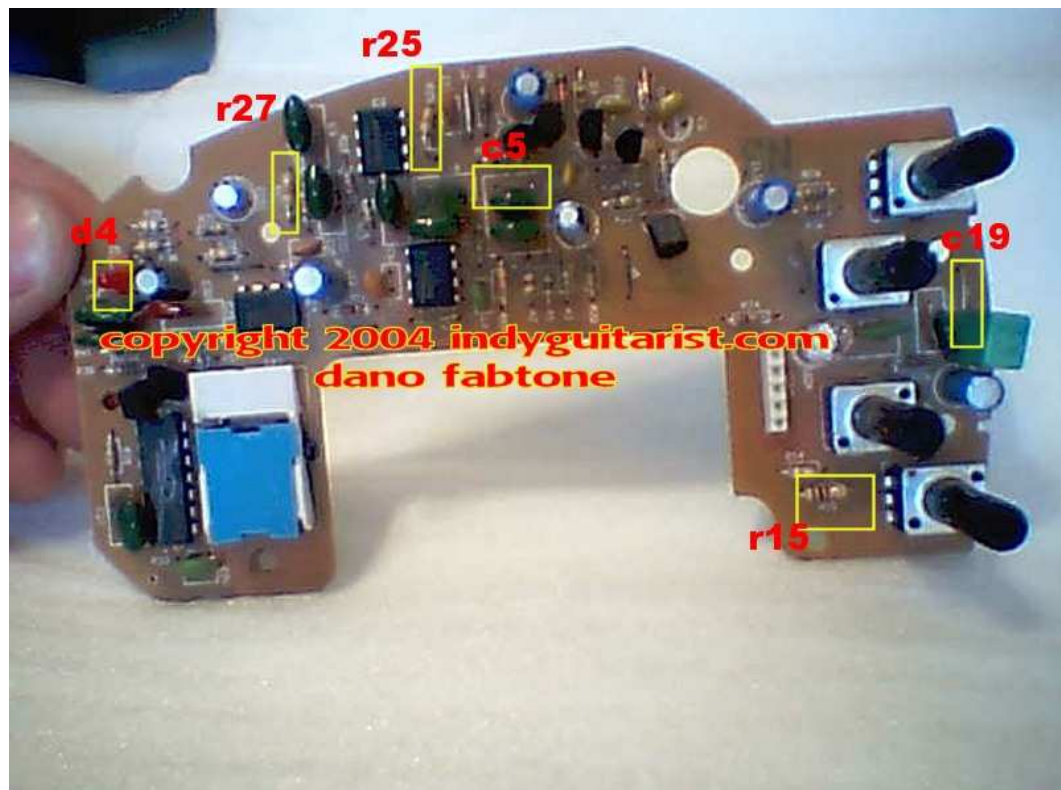


Scratch off the green film in about a 1/2 inch area on the trace. Then, cut the trace below the scratched off area. Attach a one side of a 22k resistor to the scratched off area and attach the resistor to the cap, which is then attached to the other circled area.

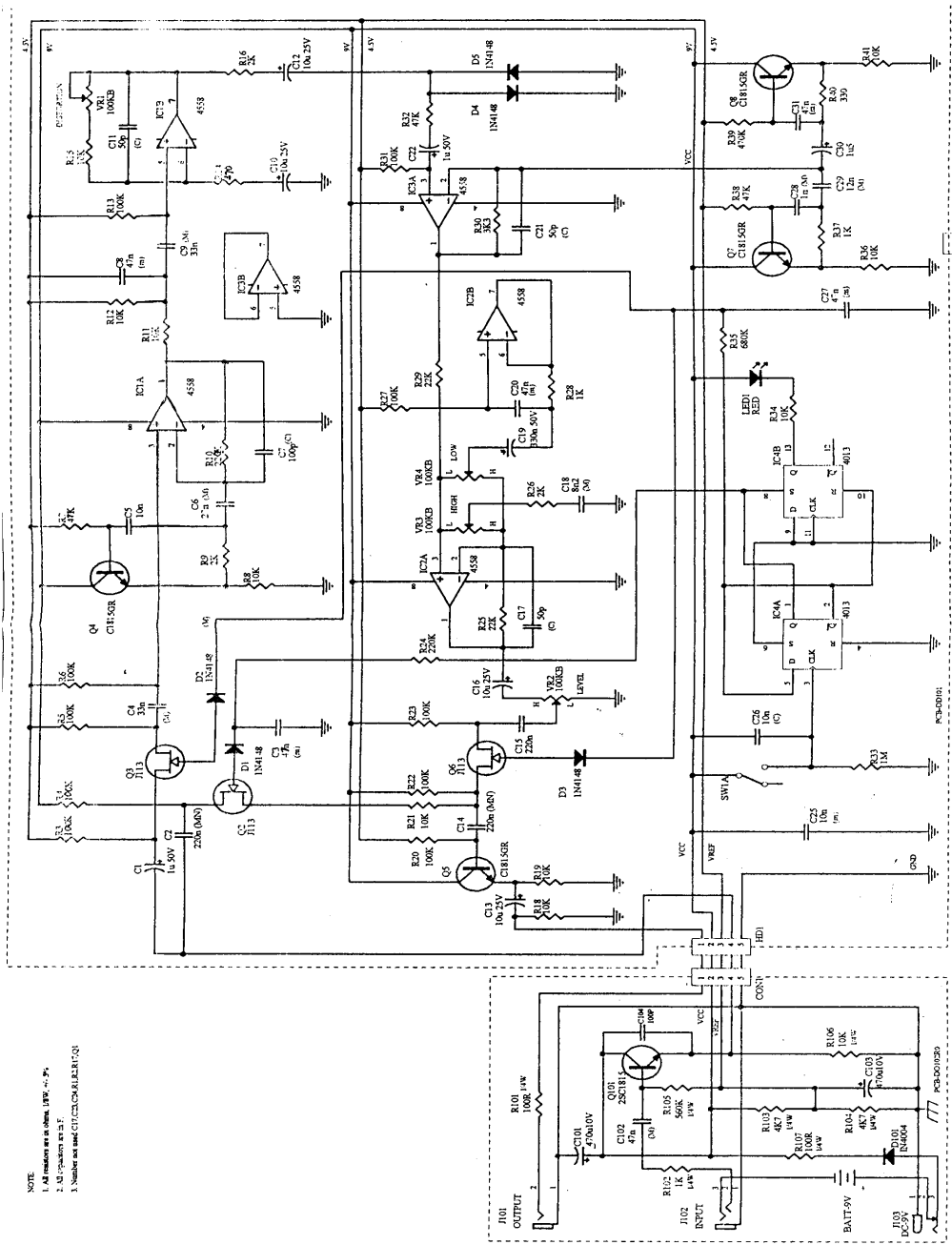
Scratch off a 1/4 inch area on the the green film that is circled and connect the other side of the capacitor wire to it.

Danolectro Fabtone Mod

Location	stock value	Mod
r25	(22k stock)	10k
r27	100k stock	47k
c5	.01 stock	Remove, don't jumper
R15	10k stock	1k—allows pedal to be cleaner when gain is turned down
C19	.33uf elec	1 uf, makes bass control centered around 100 hz or so, rather than 200 hz (stock)
D4	Optional	For Assymetrical clipping, use a 4148 + led in series.
Other options:		
R9	2K	4.7K → 5.5K lowers resonant frequency
R10	220K	470K--- allows for more gain potential

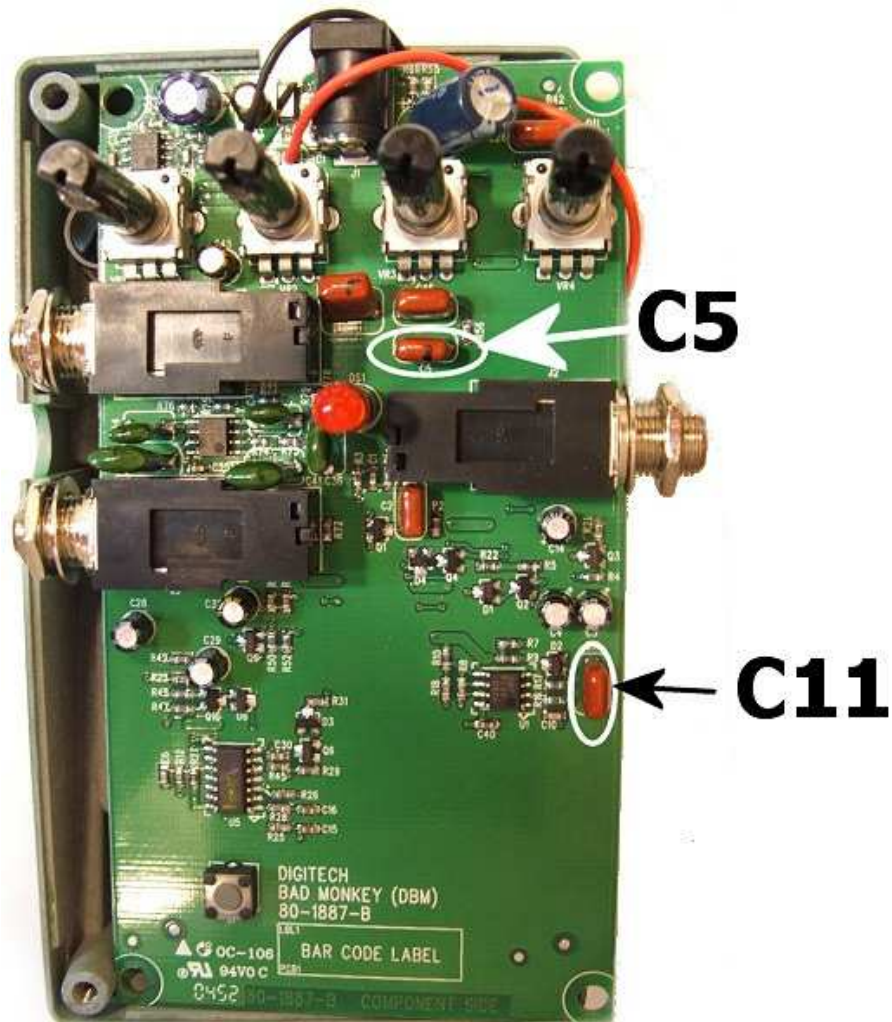


- NOTE
1. All resistors are 1% tolerance, 1/8W, unless noted.
 2. All capacitors are 5% tolerance.
 3. Switches and relays are 100V, 1A, unless noted.



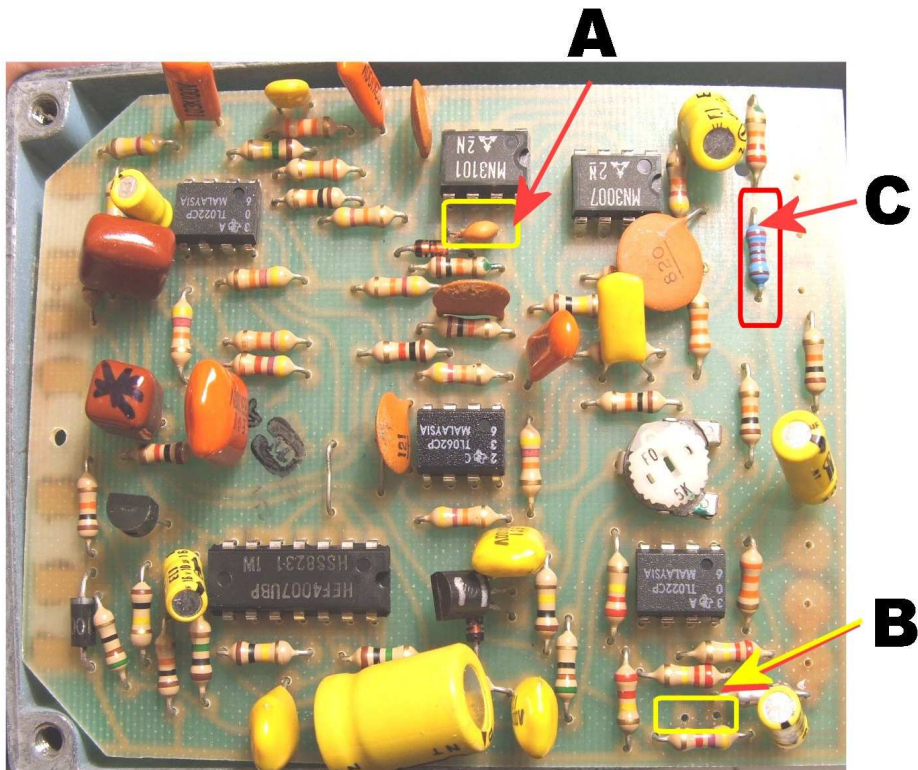
Digitech Bad Monkey

Location	Stock value	Mod value	What it effects
C5	.047uf	.1uf	Makes pedal more transparent, less mids , use a .15uf for even LESS mids.
C11	.22uf	1uf	Increases available bass, will allow pedal to be used with a bass guitar



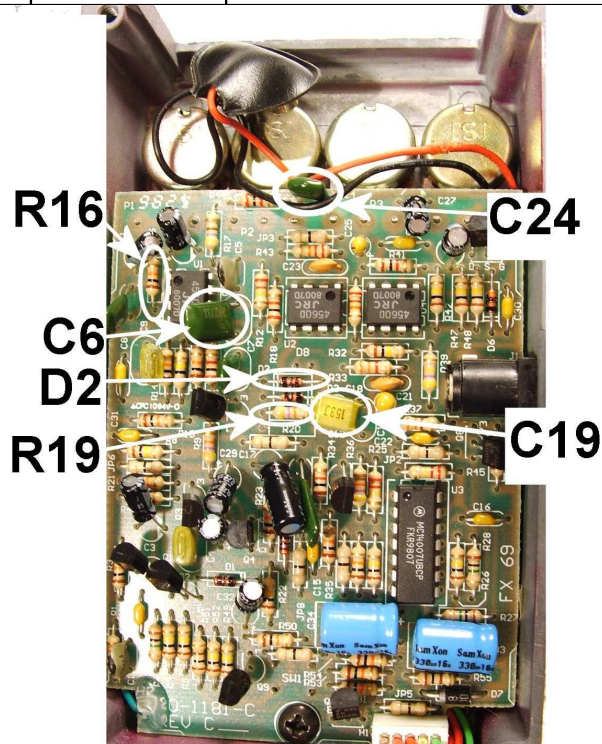
DOD FX60 Chorus

Location	Stock value	Mod value	What it effects
A (capacitor)	25 pf	100 pf	Increases depth of chorus
B (capacitor)	.01 uf	Remove	Allows speed to increase much more
C (resistor)	22k	10k, 15k, or 20k	Will add a nice 'flavor' to the chorus, almost like a bit of vibrato. Try the different values, and see which one you like best.
C (resistor)	OPTIONAL!	100 ohm	Will turn the chorus into a crazy noise maker! OPTIONAL!



DOD Grunge

Location	Stock value	Mod value	What it effects
C19	.015 Uf	REMOVE, DO NOT JUMPER	Adds mids and body
R16	10K	1k	Allows pedal to clean up better with the gain knob down low.
R19	47K	22K	Gives a bit more saturation to the pedal with the gain knob maxed
C24	.0082uF	.0047uF	Makes high knob operate a higher frequency range – better highs instead of mid-highs when turning the “high” knob.
D2	1n4148	Led	Gives a more complex clipping structure – makes the pedal more responsive and dynamic
For bass guitar, add:			
C6	.027uF	1uF	Works excellent for a bass guitar distortion, or guitar fuzz.



SCHEMATIC FOUND ON WEB

DOD od250/YJM308

Location	Stock value	Mod value	What it effects
C1	.047	.22uf	Bass, higher value=more bass, works in conjunction with R1
R8	10k	Lower value for a more compressed tone, raise value to give a more "open" tone	
R1	4.7k	1k	More distortion, in conjunction with C1. This controls the frequency of the clipping. See http://www.indyguitarist.com/filter.htm for more info.
R2	1 meg	Diodes	Add parallel (in opposite directions) diodes for a smoother more compressed overdrive type of distortion. Your diodes of choice.
C3	.01/.001uf	Input cap. Raise value for a more "open" tone, lower value for a smoother tone.	
D1		1n4001	

*R8 and C6 form a low pass filter. See <http://www.indyguitarist.com/filter.htm>

Fuzz:

Location	Mod value
D1	Germanium 1n34a
D2	Led
C1	1uf capacitor

Warm:

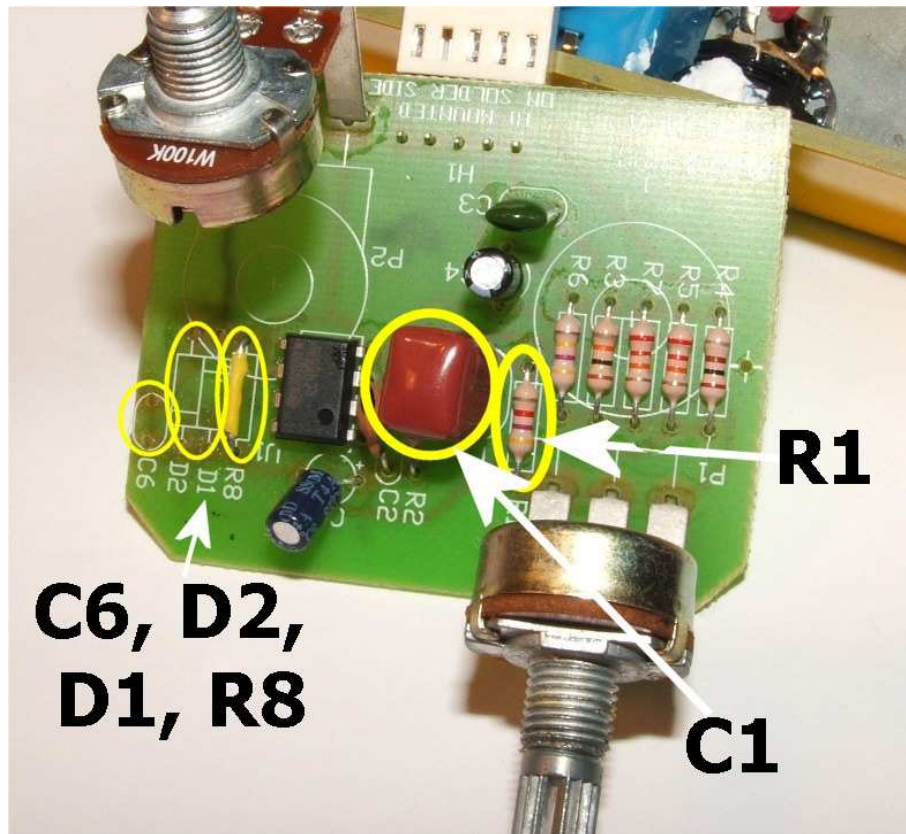
Location	Mod value
D1	led
D2	led

Clean boost:

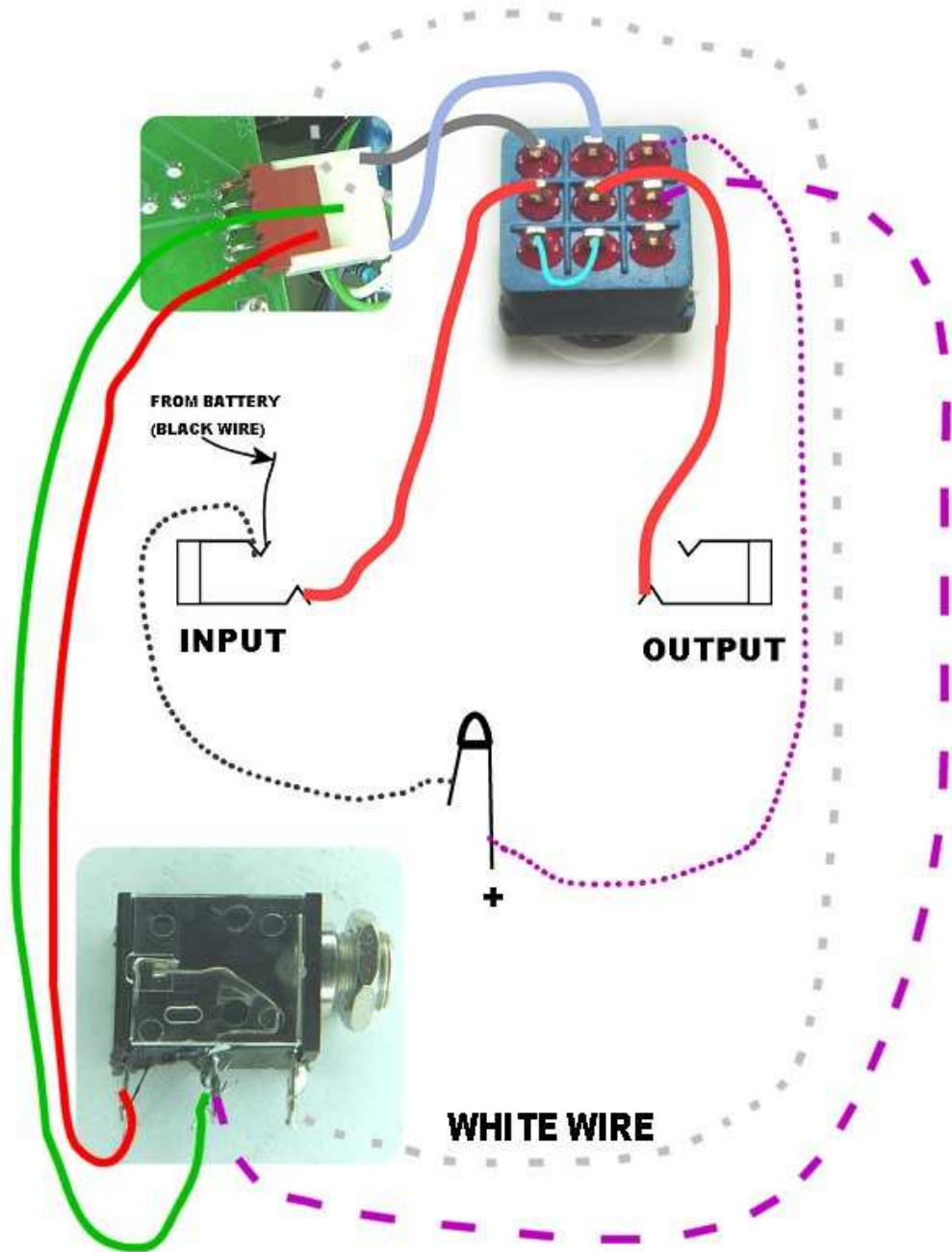
Location	Mod value
D1	Remove (don't jumper)
D2	Remove (don't jumper)
C1	1uf capacitor

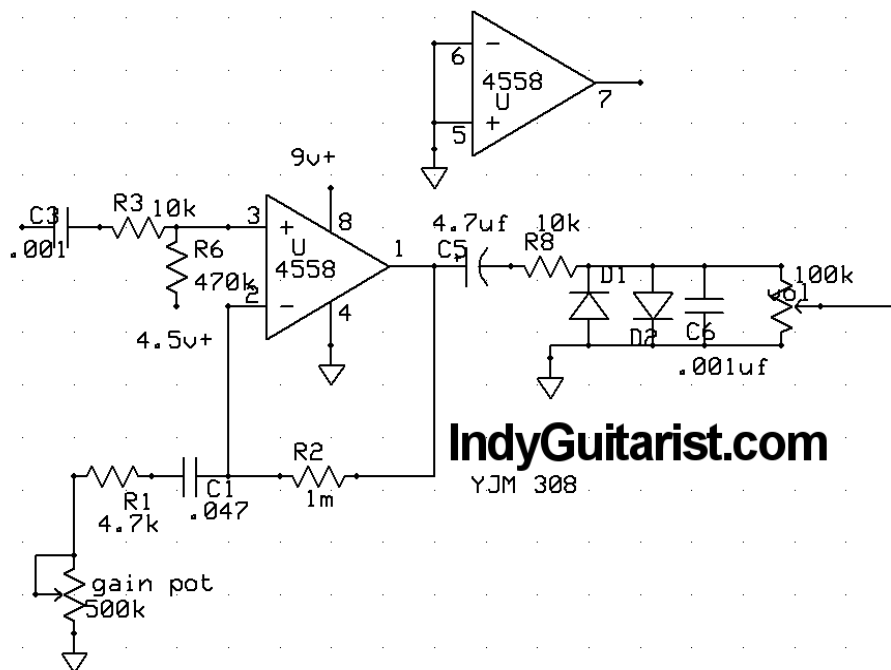
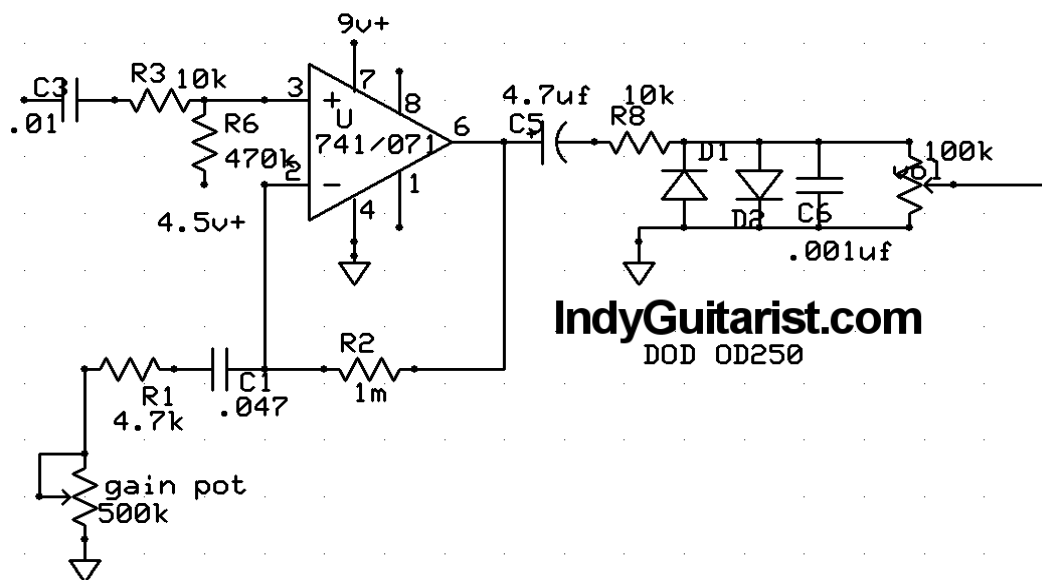
Sputtering Fuzz:

Location	Mod value
D1	Germanium 1n34a + Germanium 1n34a in series
D2	Germanium 1n34a + Germanium 1n34a + Germanium 1n34a in series (all three connected end to end, in series)
R8	Jumper wire
R1	Jumper wire
R2	Install two 1n34a germanium diodes in PARALLEL (not series), both pointing opposite directions (instead of the same direction like we do with the series connections). Install these diodes WITH the stock resistor, so you are actually NOT removing the stock resistor.
C1	1uf capacitor



True Bypass with LED mod for DOD OD250





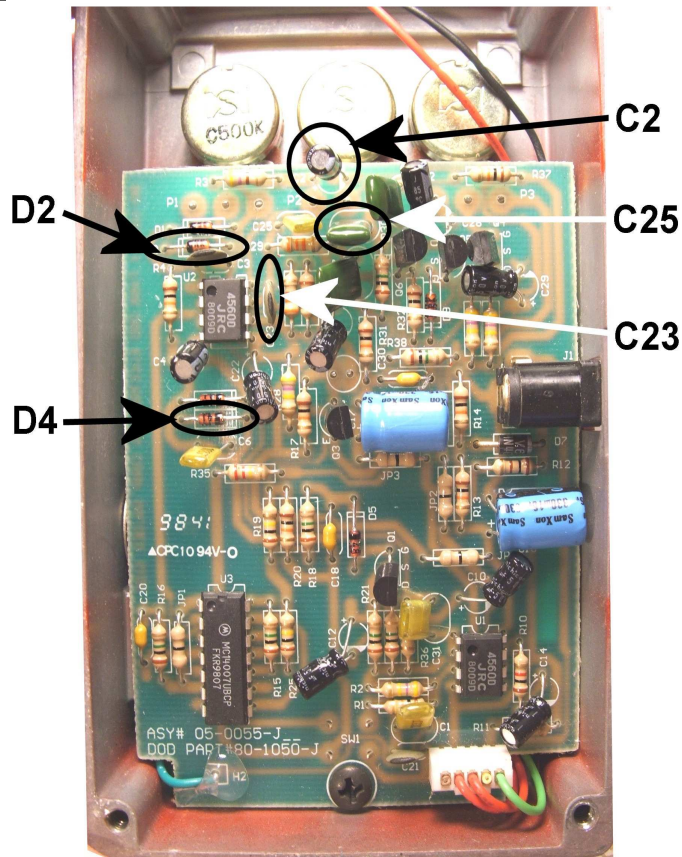
Supra distortion FX-55B older style

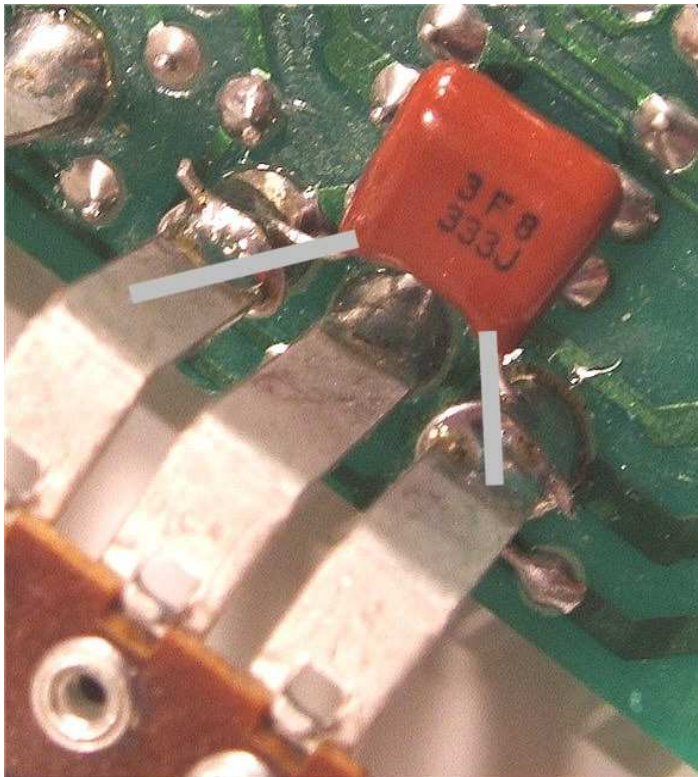
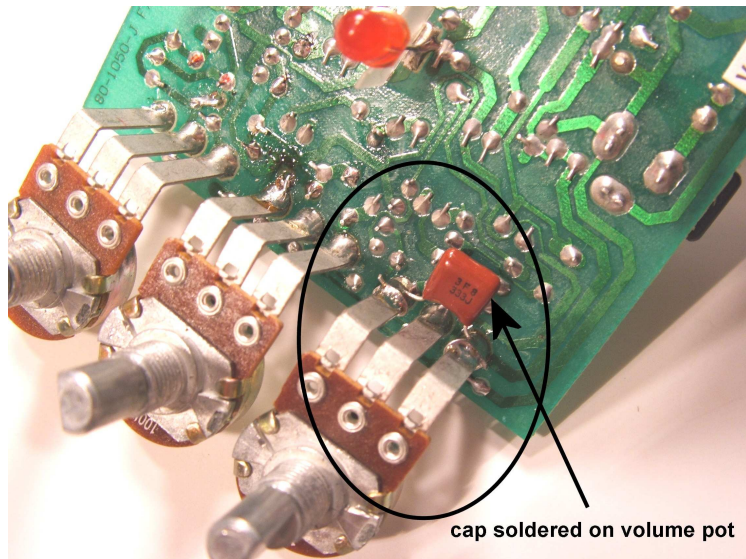
Location	Mod value	Effect
A	1uf	More Lows
B	2 X LEDS	Thicker Distortion
C	1 LED in either spot.	Thicker Distortion



Supra Distortion FX55C mod – newer style pedal

Location	Stock value	Mod value	What it effects
C25	.001Uf	.1uF	Warmer mids
C23	100pf	.0047uF	Less brittle highs
C2	1uF	10uF Tantalum	Adds bottom end Make sure you put the positive led of the cap where the circuit board has a `+` sign.
D2	1n4148	LED	Makes clipping thicker, more dynamic and responsive
D4	1n4148	LED	Makes clipping thicker, more dynamic and responsive
Add .022uf OR .033uf capacitor to outside lugs of volume pot (see picture). The higher the value, the more highs are filtered.			



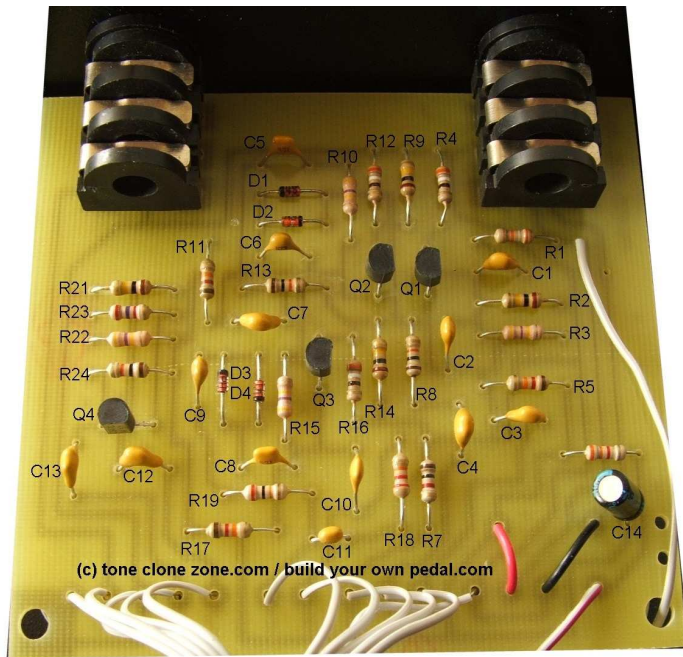


Close up of capacitor connected to the volume pot (outside lugs of pot)

[illegible]

(newer black box)

While it is a good sounding pedal in stock form, as a DIY'er we have to ask ourselves... how can it be improved? What are its shortcomings? What kind of modifications would turn this great fuzz into an **amazing** fuzz?



The signal comes in and passes through R1 and C1 before hitting the first stage, a basic transistor signal boosting stage. Once the signal is boosted it goes through C3 and uses a potentiometer connected as a volume pot would be in order to control the gain.

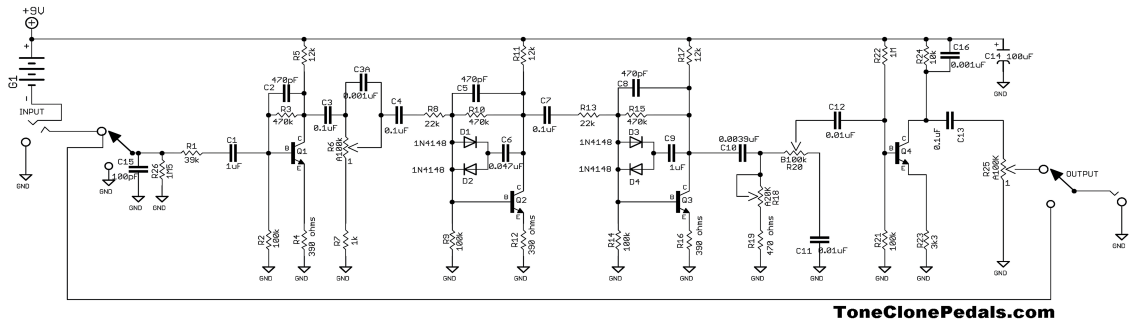
The signal goes through C4 and R8 before hitting the next stage which is boosting the signal but also clipping the signal quite a bit via the diodes (D1 and D2) in conjunction with C6. The signal exits and then goes through C7 and R13 before hitting the next stage which is nearly identical to the preceding stage.

After this stage, the signal goes into the tone control, which is a type of control that pans between a high cutting section and a low cutting section. This explains why when you turn the tone control down the sound is very bassy while turning it to the right makes the bass cut out and it gets very bright sounding.

After leaving the tone control the signal exits and goes through C12 and enters into the final signal boosting stage before exiting through C13 and going out of the volume control into the pedal's output.

Modifications

A common complaint I hear is that the stock big muff tone control takes out too many mids. In a band situation this can make the guitar tones seem to 'disappear' a bit. In order to bring the mids back in I like to change the tone stack so it is more similar to a traditional high cut type of tone control. In addition, I like to control the bass frequencies so they aren't so overwhelming. Here are the changes I would do in that instance.



Included changes would be these:

C1: 1uF

R8: 22k

R13: 22k

Remove R19 completely, do not replace with anything

In place of R18, connect a 20ka potentiometer as shown in the above schematic. This requires drilling a hole and mounting the new pot, however – alternatively you can wire in a 20k trimpot and just set the pot to taste. This modification will allow you to have separate bass and treble controls.

C12: .01uF (make larger if you need more bass)

R22: 1M

C9: 1uF

This will make it nice, big and full – something closer to what I hear with a “Queens of the Stone age” type of tone.

We can also make the gain control more useful in lower gain applications – simply connect a .001uF cap between lugs 2 and 3.

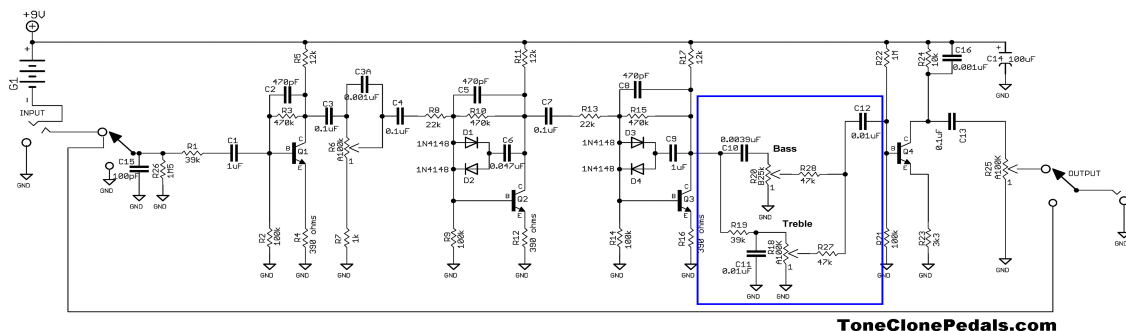
For a creamier Gilmour-ish tonality, Jumper R1, and connect a .001uF cap in parallel with R24.

If you want more of a higher gain open sounding distortion, we can do all the same changes except make C1 a .01uF and C12 a 1uF.

For an extra bit of creaminess, replace R12 and R16 with jumpers.

Note that for capacitors, I prefer poly film or metal stack film caps whenever possible. This isn't absolutely necessary, but just a tonal preference. If you use electrolytics, make sure you get bipolar electrolytics. You can get any of these parts from www.smallbearelec.com, www.mouser.com, or www.digikey.com, among other places. I do not recommend Radio Shack type caps though – sometimes the parts are so large they can have trouble fitting in the pedal.

If you happen to like the scooped mid sound of the big muff but still want a separate bass and treble, I would do the following modification, which is something similar to what Jack Orman has on his big muff tonestack page at www.muzique.com



Several years ago, a small company built a version called the 'creamy dreamer'. It was rumored to be used by Billy Corgan of the Smashing Pumpkins. To turn your Russian Big Muff into a creamy dreamer type fuzz, simply do the changes below.

Creamy Dreamer Mod

- C2: 560pf
- R5: 22k
- R4: Jumper
- R2: 82k
- R8: 15k
- C5: 560pf
- R9: 82k
- R13: 15k
- R11: 22k
- R17: 22k
- R12: Jumper

R16: Jumper
R14: 82k
C8: 560pf
R18: 39k
R24: 22k
R23: 390 ohms

Another modification that some DIY'ers like to do is to experiment with other types of NPN transistors – different transistors do indeed give a bit of a different sound and they are inexpensive as well so it can be a very fun modification to do.

These modifications can be done to any big muff style pedal, just cross reference the schematics shown here with the particular schematic you have for your pedal (for all you BYOC fans!) and I guarantee you'll have a killer sounding tonal twist on a classic fuzz pedal.

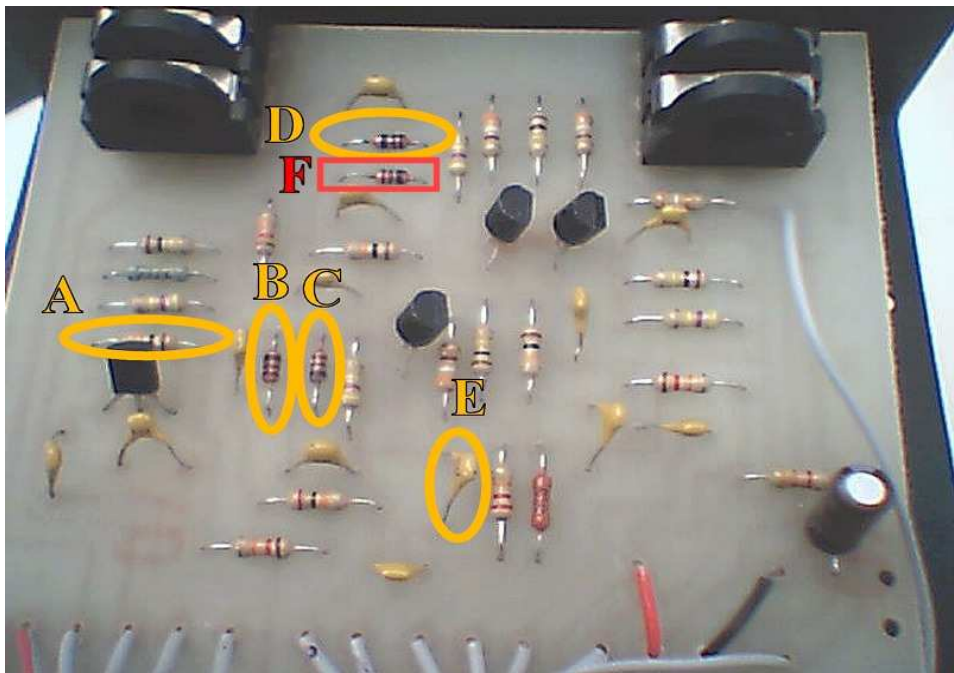
Voodoo Chile Mod:

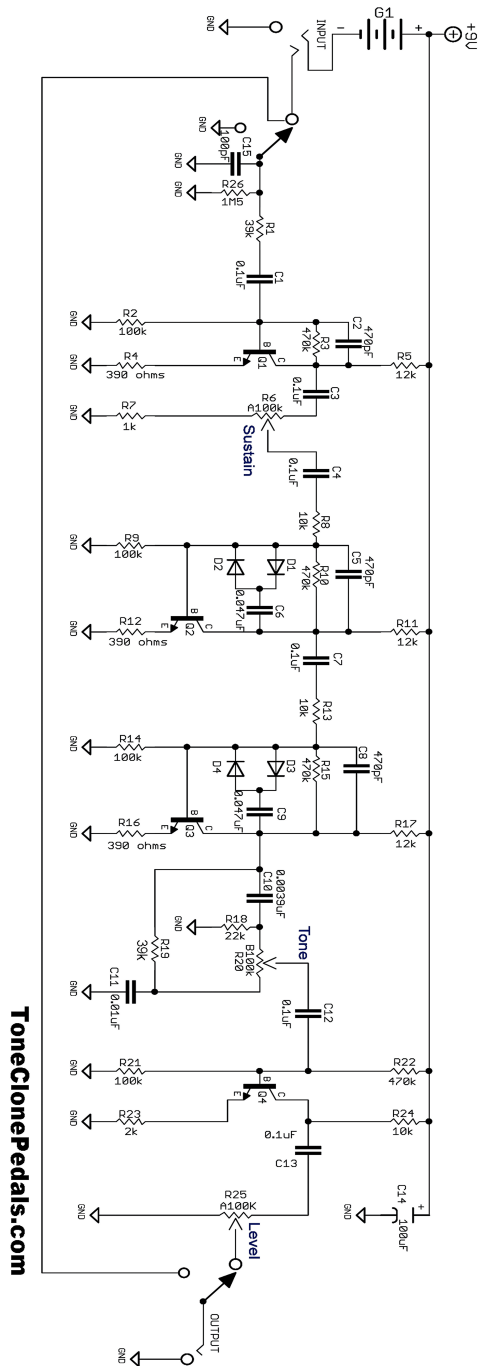
Location	Mod value	What it effects
A	20k resistor	Better response
B	2n3906 + 2n3906 transistors, connected in series	Fuller clipping
C	1n4001 + LED connected in series	Fuller clipping
D	2n3906 + 2n3906 transistors, connected in series	Fuller clipping
E	.47 uf cap	Better bass, better tone control

Notes: Some changes alone don't have any effect, but with the other parts changed at the same time, there is a cumulative effect. This is why on some parts there is nothing under 'what it affects'.

Low-fi Mod:

Location	Mod value	What it effects
A	20k resistor	Better Response
B	Germanium 1n34a + 1n4148 in series	Smoother Clipping
C	Germanium 1n34a + 1n4148 + 1n34a germanium in series (3 diodes connected together in series)	Smoother Clipping
D	Germanium 1n34a + 1n4148 in series	Smoother Clipping
E	.47 uf cap	Better bass, better tone control
F	Germanium 1n34a + 1n4148 + 1n34a germanium in series (3 diodes connected together in series)	Smoother Clipping

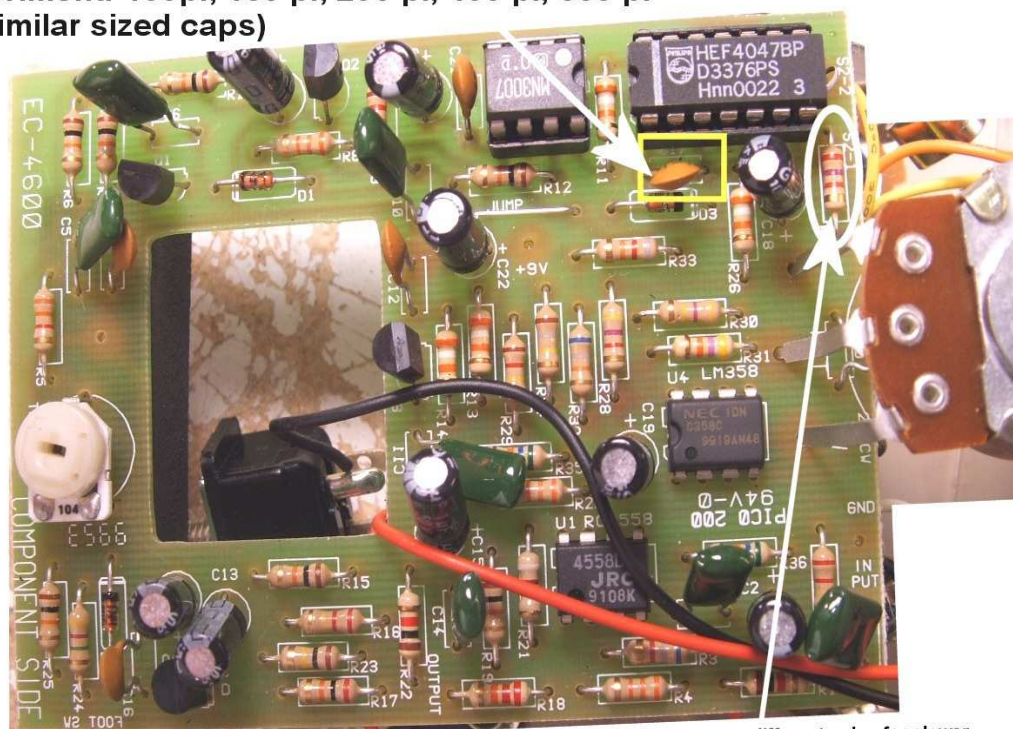




Electro Harmonix Smallclone Chorus

Location	Stock value	Mod value	What it effects
Capacitor shown		100pf, 150 pf, 200 pf, 400 pf, or 550 pf	Will make the chorus much deeper the larger you make the capacitor.
Resistor shown		Led	Connect a 10k mini-pot as shown in picture below.

For deeper chorus, change this ceramic capacitor to a larger value.
Experiment: 100pf, 150 pf, 200 pf, 400 pf, 550 pf
(or similar sized caps)



IndyGuitarist.com / GuitarTone.net

Change resistor to a different value for slower or faster speeds. I recommend connecting a 10k mini-trim pot to find what speeds you like most.

Connecting a trim pot in place of where a resistor once was. Note that this picture just shows you how to hook the mini-pot up – you will need to remove the resistor and connect wires to the legs of the mini-pot.

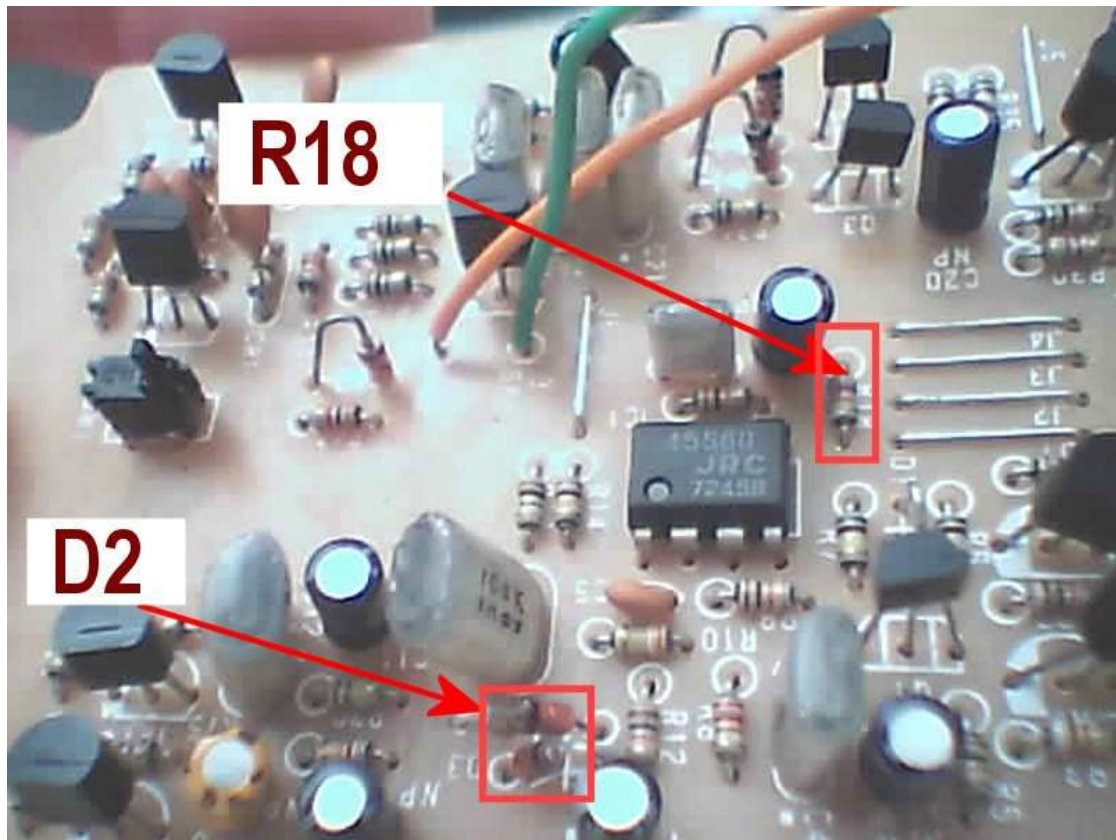


To see a schematic of the smallclone, please go to:
<http://www.tonepad.com/project.asp?id=8>

Ibanez CM-5 Distortion

classic metal mod

Location	Stock value	Mod value	What it effects
R18	4.7k	470 ohm	Adds bass
D2	1n914	Led	Better distortion
D3 (NEXT TO D2)	1N914	1N4001 AND 100 OHM RESISTOR IN PARALLEL	Makes clipping/distortion much more responsive, more like tube clipping.

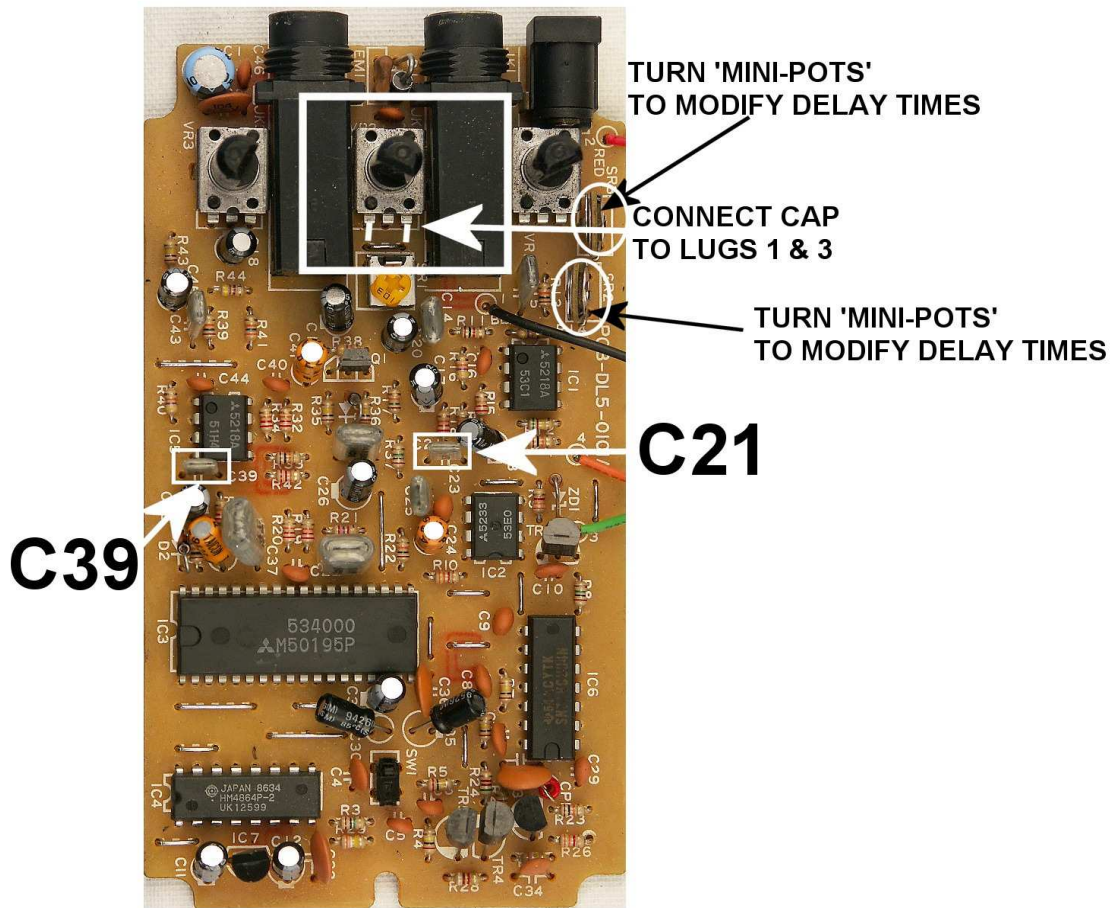


See Schematic at <http://www.indyguitarist.com/schematics>

Ibanez DL-5 Delay Mod

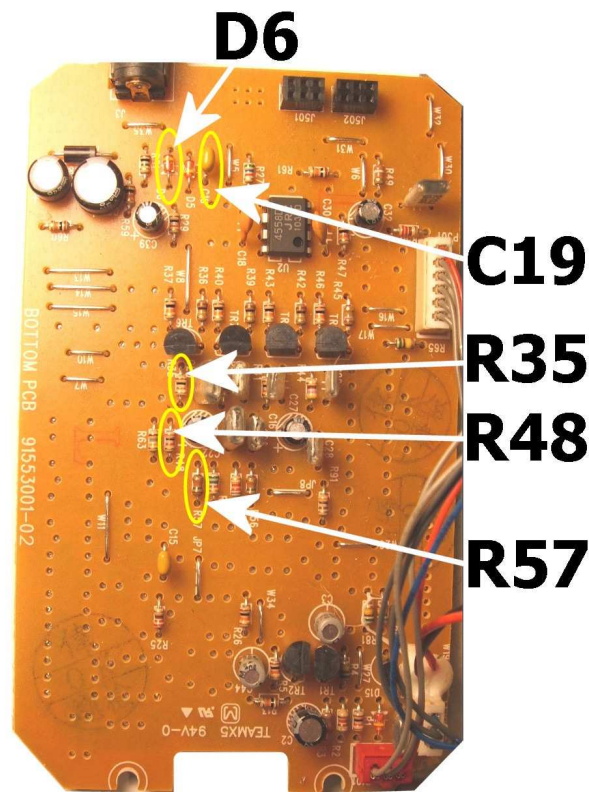
Location	Mod value	What it effects
C21	.1 uf	Star trek mod
C39	.1 uf	
Connect to 'feedback' pot	1 uf or experiment	For analog tone—high cut mod. If 1uf is too much, try .1uf, .22uf, or .47uf instead. Make sure you use a film capacitor, and not anything 'polarized' (no positive or negative)
Mini-pots	Turn with small screwdriver	These mini-pots control the length of delay time possible. One of them controls how long it can be, the other controls how short it will be. You will notice that if you turn them to far, the quality of echoes will lessen.

See Schematic at <http://www.indyguitarist.com/schematics>



Ibanez DS-7 Distortion

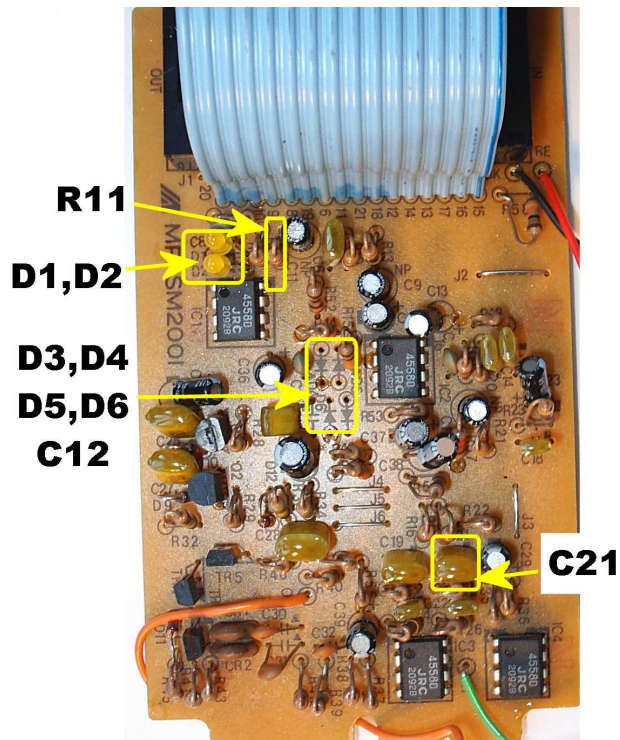
Location	Stock value	Mod value	What it effects
C19	.1uF	.47uF or 2.2uF for bass guitar use	Adds bottom end
D6	1n914	Germ 1n34a + 1n4001 in series	
R48	2k	Jumper	Adds bass
R35	1k	470 ohm	Adds warm mids
R57	15k	Remove, no jumper. For less mids, install a capacitor (not a resistor), such as .022uf, .047uf, .1uf, .22uf	Warms up the tone.
R57 (optional)	15k	Jumper	Scoops the mids



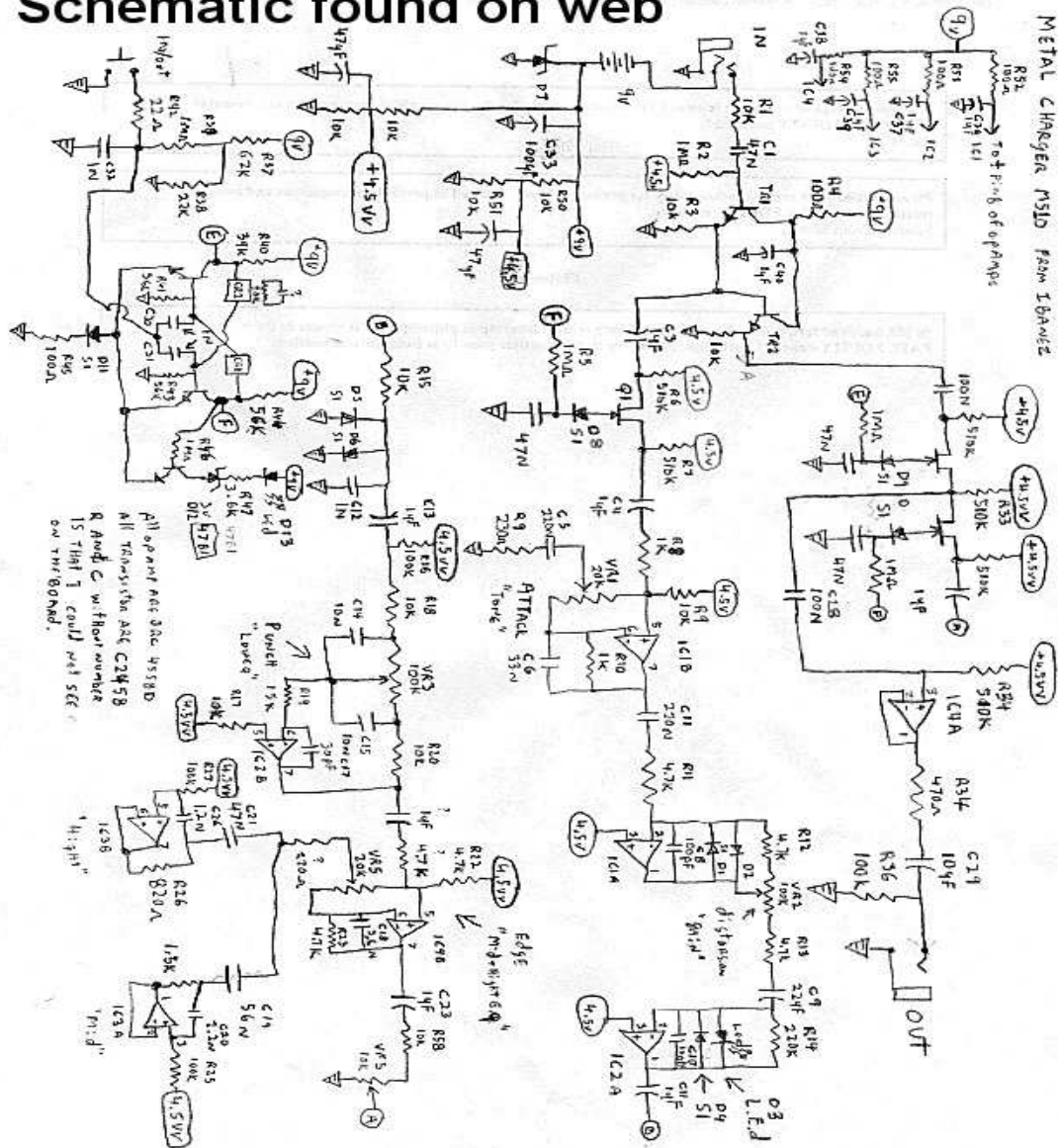
See Schematic at <http://www.indyguitarist.com/schematics>

Ibanez MS-10 mod

Location	Stock value	Mod value	What it effects
D1	4148	4148--4148	Will make the pedal into a much better overdrive, better clipping, fuller and thicker.
D2	4148	4148—1n5001--4148	
D3	4148	Remove, don't jumper	Remove these diodes to get rid of the harsh distortion
D4	4148	Remove, don't jumper	
D5	4148	Remove, don't jumper	
D6	4148	Remove, don't jumper	
C12	.001 UF	Remove, don't jumper	
C21	.047 uf	.44 uf	
R11	4.7k	1k	Allows for more overdrive, and a clearer, punchier tone



Schematic found on web

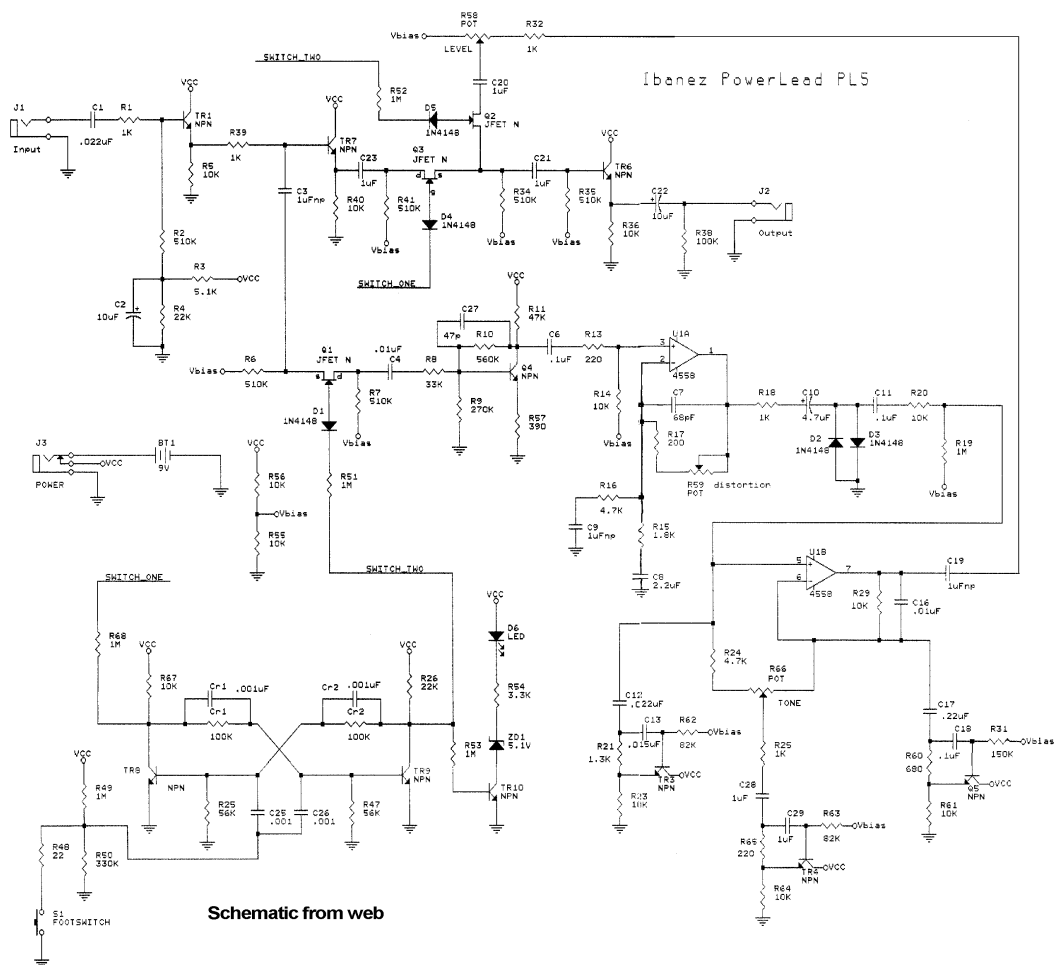


Ibanez Powerlead PL-5

Thicker, warmer distortion, cleans up better

Location	Mod value
R18	10k
D2	Led + 1n4148 in series
R10	220k
R13	1k
R14	100k
R16	1k
C9	.047uf

A fairly simple circuit, the signal goes through a buffer, into a single transistor boost circuit. From here it goes into an opamp clipping circuit, diodes to ground, and exits into an eq section. From there it goes out.

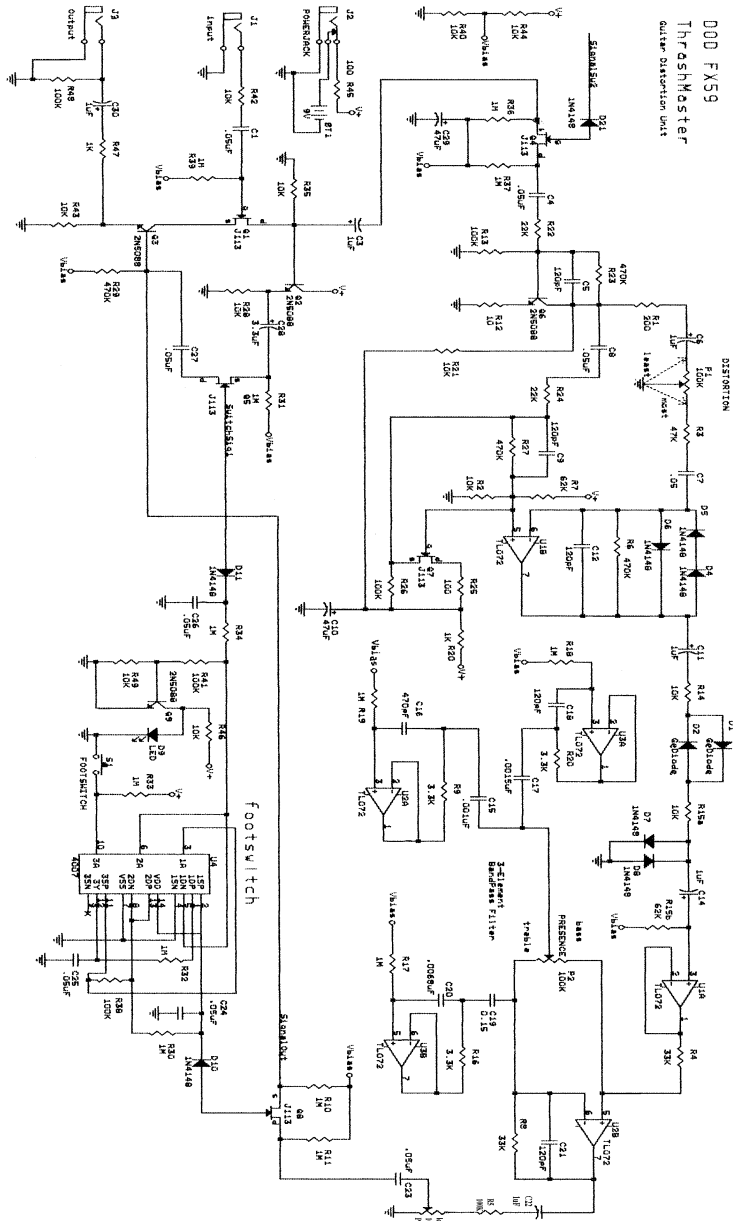


Dod FX59 Thrashmaster

Most think that the thrashmaster is pretty bad for almost anything except a tax writeoff. These mods will make it much more usable and can be made into a distortion pedal that does light gain AND heavy gains very well, all tailored to your tastes.

Location	Mod value	Notes
Stock Distortion Potentiometer	Remove	We will install a new 500k pot in its place
C6	Remove	Don't replace with anything
R1	Remove	Don't replace with anything
R23	100k	
R6	Remove...	Install new 500k pot, connect this location to lugs 1 and 2 of new 500k potentiometer
R3	1k	
C7	.22uf - 1uf	.22uf for smoother distortion, for more "open" distortion, raise value from .33uf – 1uf
D4	Red led	
C7	.1uf	
R14, d1, d2	Jumper	
C9	Remove	remove for warmer clipping tone
D7	1n4148 + red led in series	

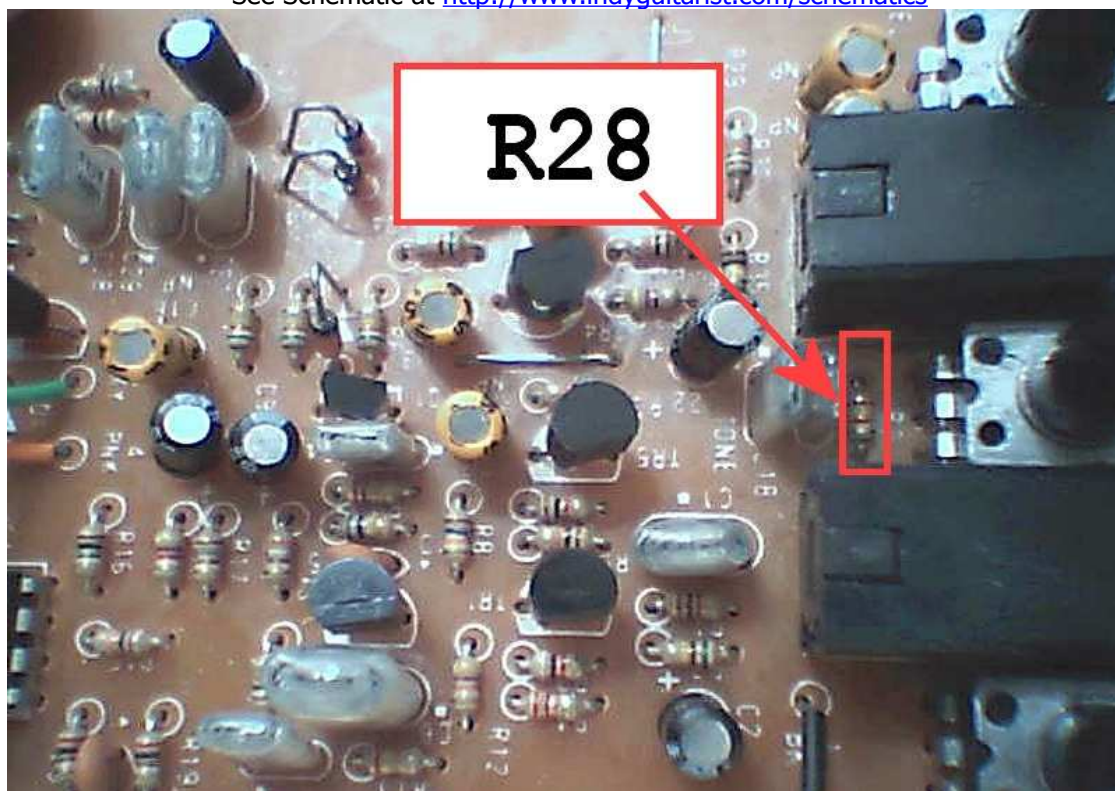
000 FMS9 ThashMaster Audio Distortion Unit

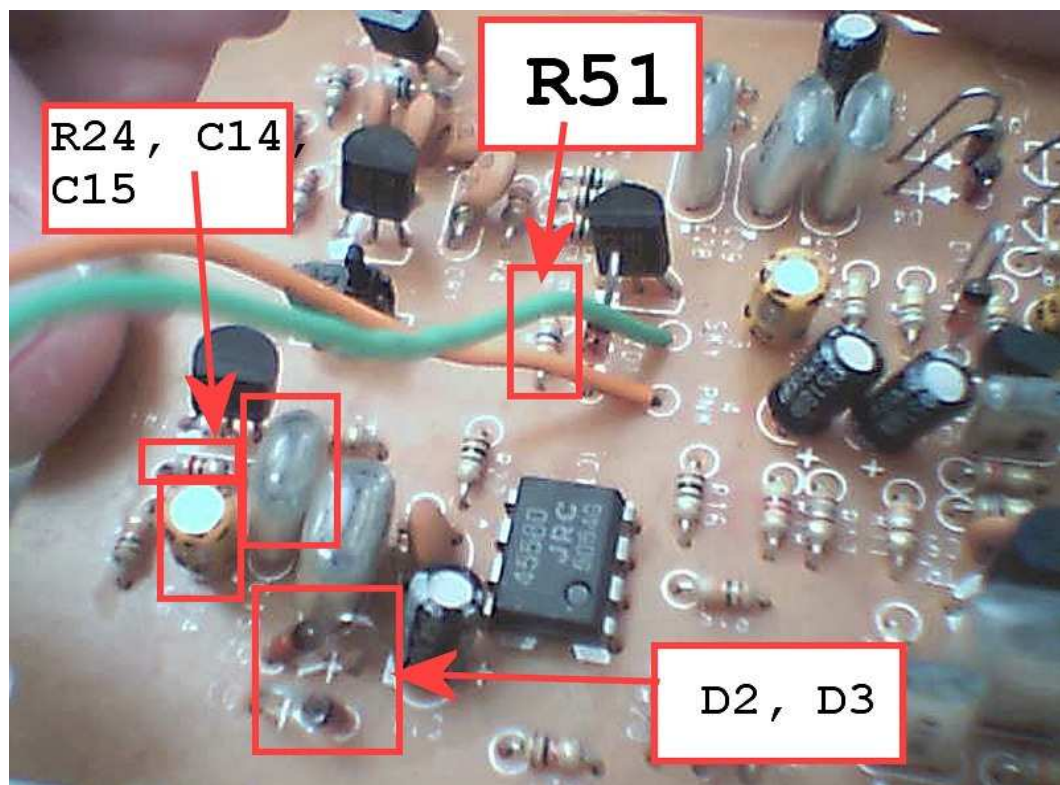


Ibanez TM-5 Thrashmaster

Location	Mod value	What it effects
D2, D3	Germ 1n34a + 1n4148 in series	Fuller clipping, better distortion
R24	Remove resistor, install a jumper	MORE BASS
R 28 (TONE POT)	470 OHM	LESS HIGHS, SMOOTHER TONE
C14	2.2 Uf	More bass
C15	.01, .022, .047uf	Filter out some highs. For more mids, use either a .022uf or .01uf

See Schematic at <http://www.indyguitarist.com/schematics>





Ibanez FZ-7 fuzz

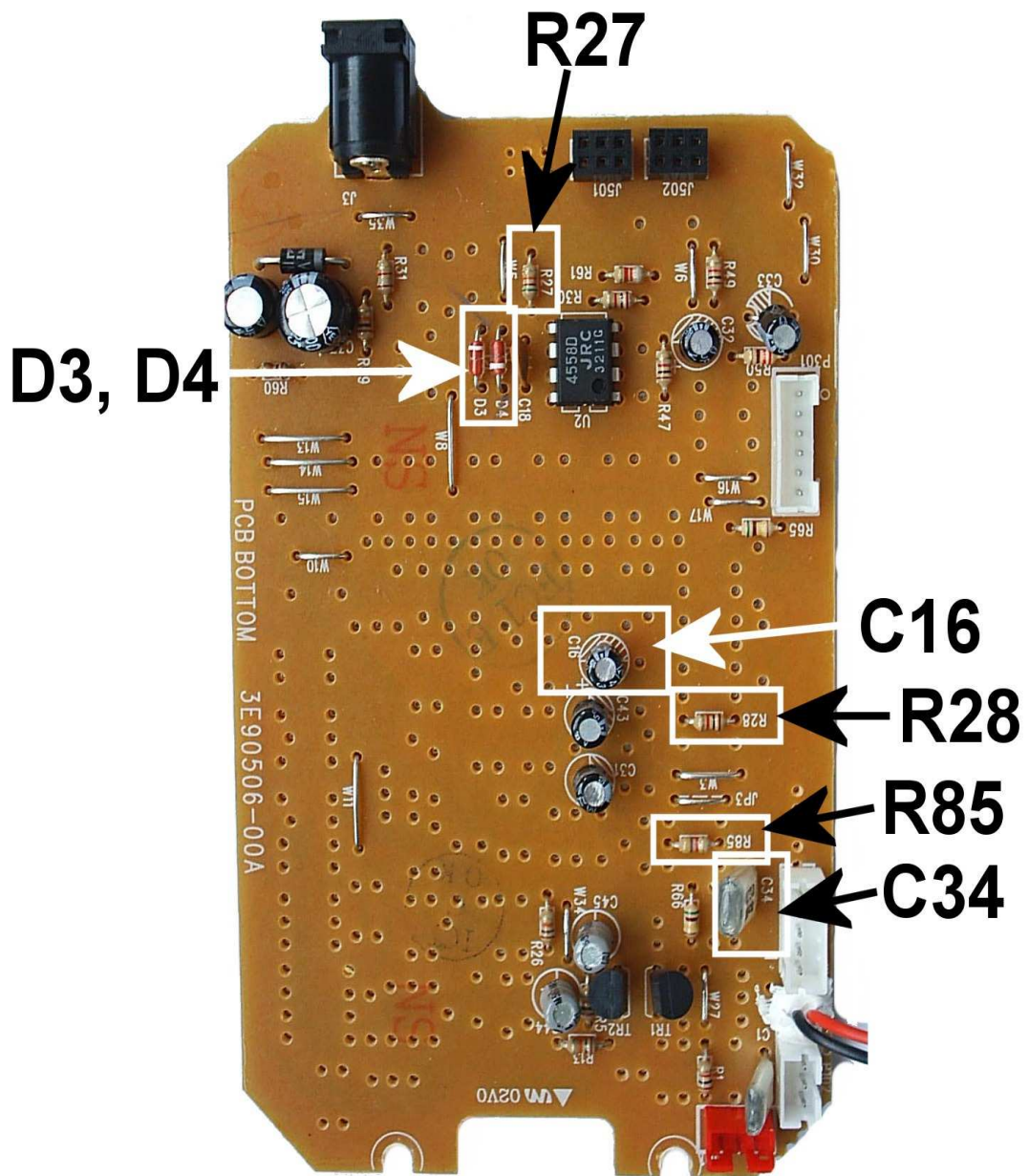
Location	Stock Part	Mod value	What it effects
D6	1n4148	1n4001 & germanium 1n270 in series	Thicker clipping, and changes tonality of fuzz a bit.
R48	5k	1k	Lower resistor value for more bass
OPTIONS FOR EQ:			
R57	12.8k	Try: 6.8k, 4.7k, 2.2k, 1k, 100 ohm	Controls mids (lower resistor value for less mids)
R56	12.8k	Try: 6.8k, 4.7k, 2.2k, 1k, 100 ohm	Controls mids (lower resistor value for less mids)
R52	6.8k	Try: 4.7k, 2.2k, 1k, 100 ohm	Controls mids (lower resistor value for more high-mids)
R51	6.8k	Try: 4.7k, 2.2k, 1k, 100 ohm	Controls highs (lower resistor value for more highs)

See Schematic at <http://www.indyguitarist.com/schematics>

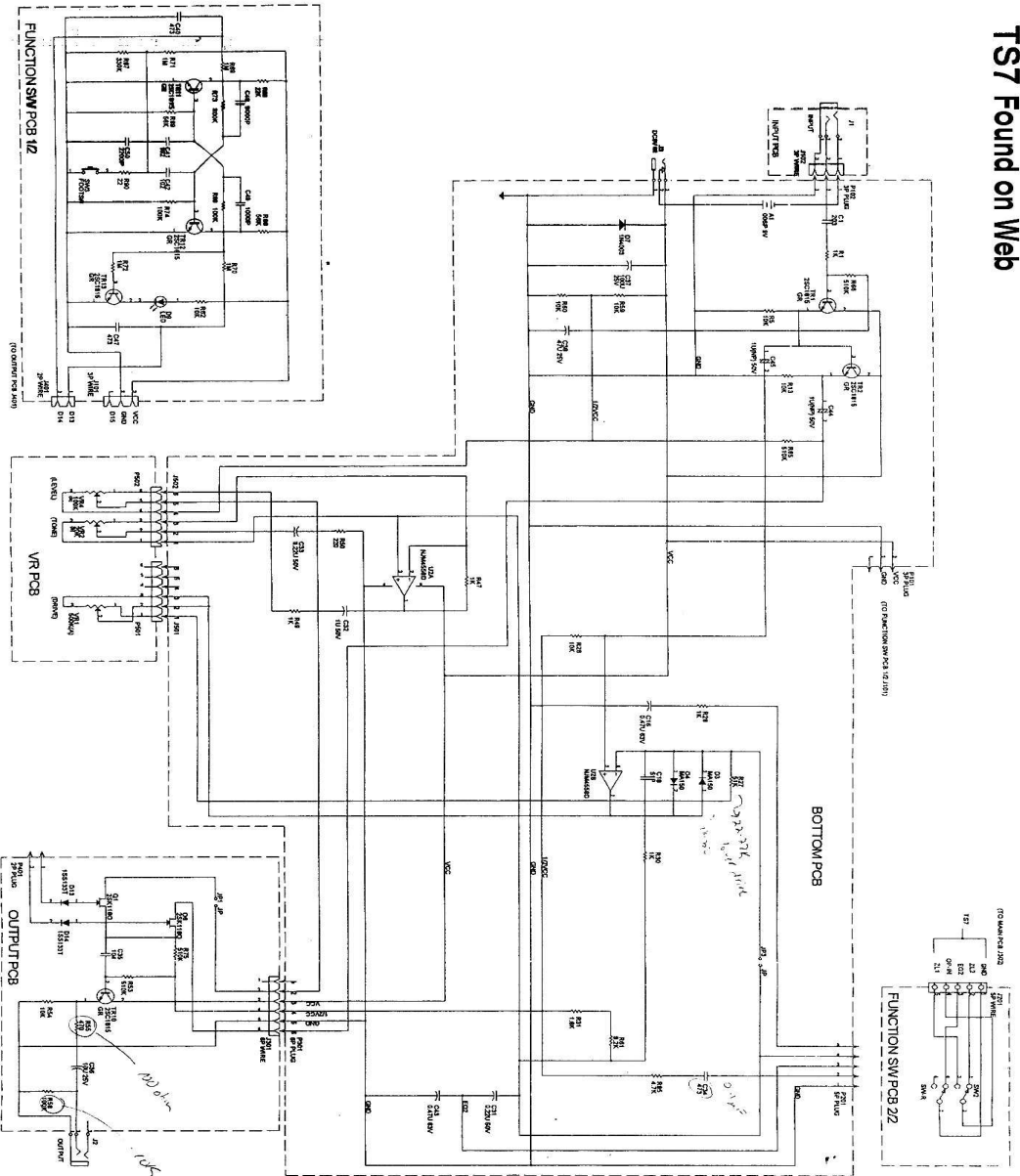


Ibanez TS-7 MOD

Location	Mod value	What it effects
NORMAL CHANNEL		
R85	2.2K RESISTOR	WILL ADD GAIN TO THE NORMAL CHANNEL
C34	.1UF	WILL ADD BASS TO THE NORMAL CHANNEL
D3	LED + 1n4148 SERIES	Will make the clipping much fuller
D4	LED + 1N4001 SERIES	
R27	22k	Lower value of resistor let's the pedal clean up better when the gain knob is low
"HOT" CHANNEL		
R28	Optional, use a value lower than the stock resistor for more gain	WILL ADD GAIN TO THE HOT CHANNEL
C16	Optional, use a value LARGER than the original for more bass.	WILL ADD BASS TO THE HOT CHANNEL



TS7 Found on Web



Ibanez TS-5 Tubescreamer

BSM (Brent Mason) MOD

R18	1K RESISTOR
C10	.22UF x 2 in parallel CAP
R19	10K RES
D2	1N4001
D3	1n4001 + 1n4001 SERIES
C11	.15 uf or .047 + .1 uf in parallel (results in the same thing)

Ibanez TS-5 316 MOD

R18	1K RESISTOR
C10	.22UF
R19	10K RES
D2	LED
D3	LED + 4148 SERIES

Ibanez TS-5 standard Mod

Location	Mod value	What it effects
C10	.1 uf	Adds bottom end. For more, go .22 uf
D3	LED & germanium in series	Adds fullness, depth, and dynamics
D2	1N4001	
R18	3.3k	The lower the value, the more distortion available.

Ibanez TS-5 Extra's

R19	10k	Will allow pedal to clean up when gain knob is turned down
C11	Change value – .44uf - .1 uf	Raising value will decrease the highs. Alternatively, lessen the value to bring more highs in (.15uf, .1 uf)
C10	Raise value for more bass	.1, .22, .44, .1 uf – works in conjunction with # 6 resistor
D2, D3	Clipping diodes	Experiment—it will shape the tone and overdrive considerably!
R18	Gain resistor	Lower value for more gain, and clarity. 2.2k, 1k, works in conjunction with #4.
All cap values are in uf (microfarad)		