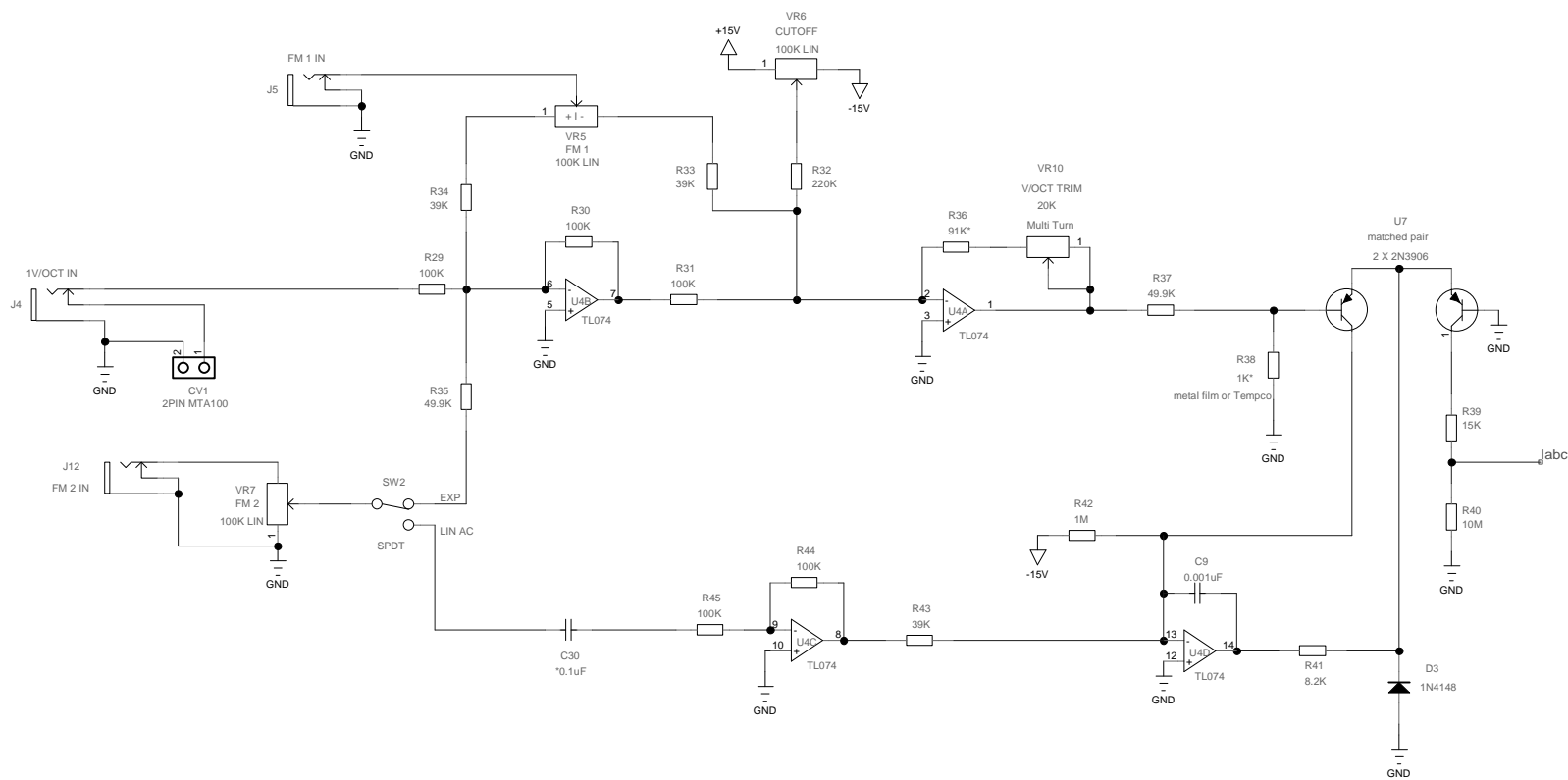
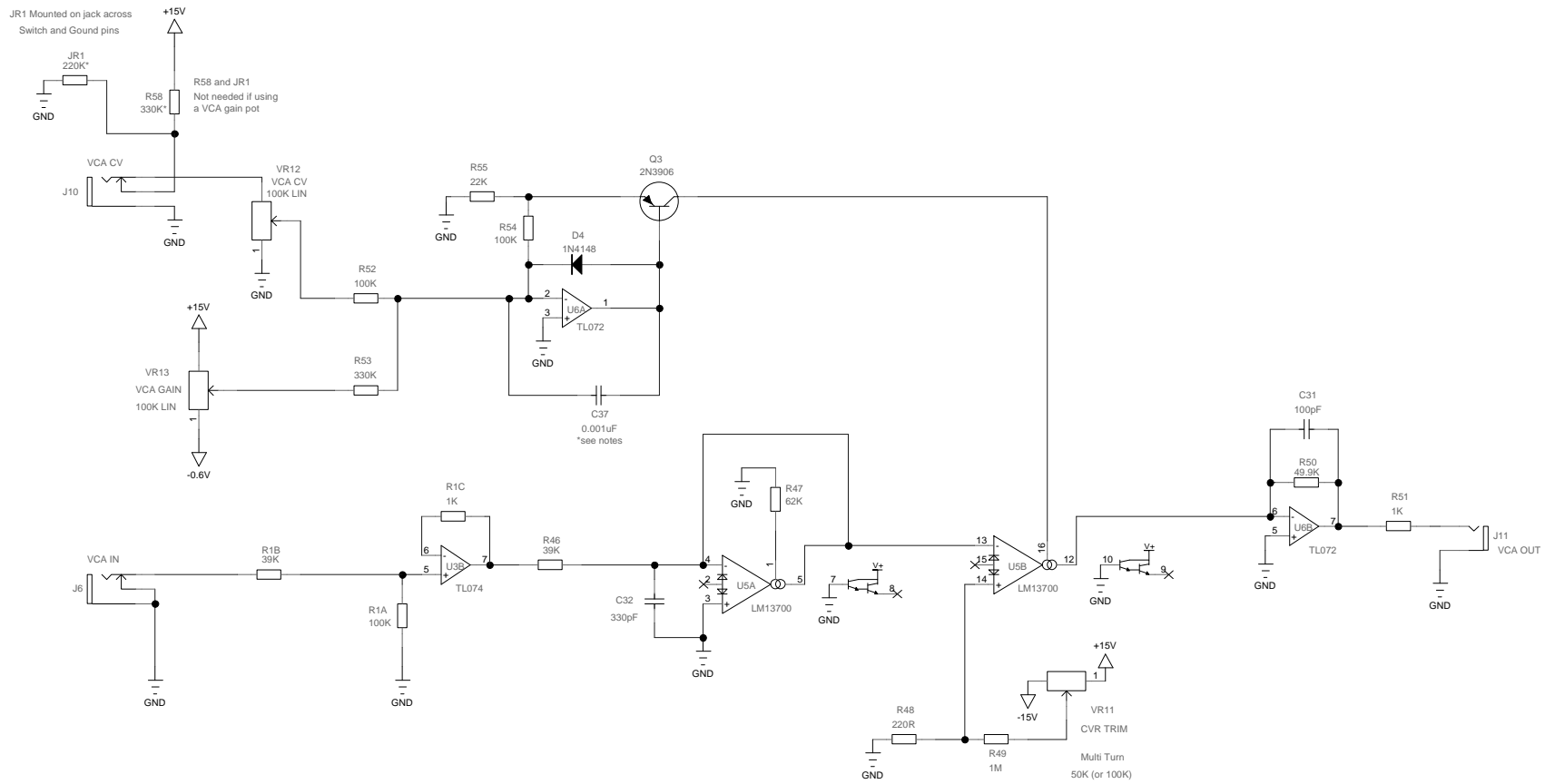


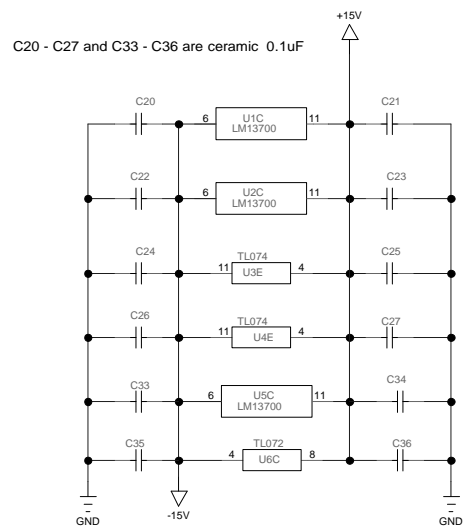
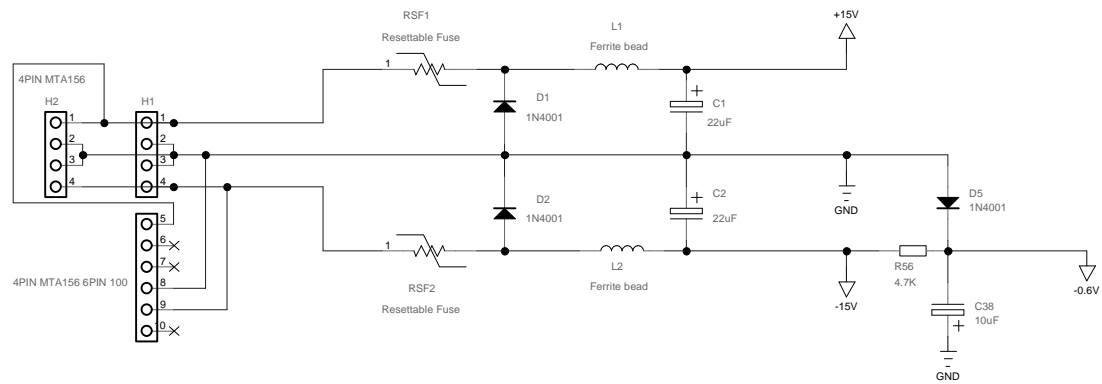
Title		DELTA VCF v.2	
Author		Megahm Audio	
File	Program Files\TinyCAD\Delta VCF Ver2SDIY.dsn	Document	
Revision	1.0	Date	JUNE 22, 2008
		Sheets	1 of 1



Title		VCF CURRENT SOURCE	
Author		Megaohm Audio	
File	Program Files\TinyCAD\Delta VCF Ver2SDIY.dsn	Document	
Revision	1.0	Date	JUNE 22, 2008
		Sheets	2



Title			VCA		
Author			MegaOhmAudio		
File		Program Files\TinyCAD\Delta VCF Ver2SDIY.dsn		Document	
Revision		Date		Sheets	
1.0				4	



Title POWER	
Author Megaohm Audio	
File Program Files\TinyCAD\Delta VCF Ver2SDIY.dsn	Document
Revision 1.0	Date JUNE 22, 2008 Sheets 3

Delta VCF BOM - pcb v.2

RESISTORS

220R - (9) - R3, R4, R8, R9, R13, R14, R18, R19, R48
1K - (5) - R1C, R24, R51, R38* (can be 1K tempco, UNTESTED)
4.7K - (1) - R56
8.2K - (1) - R41* (perhaps 10K will work? UNTESTED)
10K - (7) - R5, R7, R10, R12, R15, R17, R20
15K - (5) - R6, R11, R16, R21, R39
22K - (2) - R26, R55
39K - (7) - R22, R25, R33, R34, R43, R46, R1B
47K - (3) - R2, R28, R50* (see below)
49.9K - (2) - R35, R37*, R50* (VCA i to V, 47K is about right. 49.9K - slight gain (~1V))
62K - (1) - R47
91K - (1) - R36
100K - (10) - R1A, R101, R102, R29, R30, R31, R44, R45, R52, R54
220K - (3) - R23, R27, R32, JR1* (not needed if using a GAIN pot)
330K - (1) - R53, R58* (not needed if using a GAIN pot)
1M - (2) - R42, R49
10M - (1) - R40

CAPACITORS

100pF ceramic - (1) - C31
330pF ceramic - (1) - C32* (not critical, 220pF, or 470pF work fine)
0.1uF ceramic - (12) - C20-27, C33-36
0.001uF - (2) - C9, C37 (use film cap; polyester, mylar, etc. Don't waste quality caps here!)
0.12uF - (1) - C38 (AC coupling cap for FM 2 LIN input)non-critical. Use what you got around this value (0.1uF is fine. So is .22uF).
0.001uF polypropylene or polystyrene - (4) - C5, C6, C7, C8
10uF electro - (1) - C38
22uF electro - (2) - C1, C2

IC

TL072 - (1) - U6
TL074 - (2) - U3, U4
13700 - (3) - U1, U2, U5

SEMI

1N4148 - (2) - D3, D4

1N4001 - (3) - D1, D2, D5

ZENER - (2) - Z1, Z2 (use your choice of zener for the limit on input summer, or leave out)
2N3906 PNP - (5) - Q1, Q2, Q3, U7 (two matched PNP, or use SSM2220 or similar)

TRIMMERS

10K single turn - VR9 (OUT limiter trim) (5K is good, too)

20K multi turn - VR10 (V/OCT trim)

50K multi turn - VR4 (RES trim)

100K multi turn - VR11 (VCA CV rejection trim)

POTS

10K linear - VR3 (RES pot)

100K linear - (7) - VR1, VR2, VR5, VR6, VR7, VR12, VR13

SWITCHES

SPDT (ON-ON) - (2) - S1, SW2

JACKS

1/4" - (9)

MISC

Ferrite bead - (2) - L1, L2

Resettable Fuse - (2) - RSF1, RSF2 (Bourns MF-R010-0-99 or equivalent)

Hardware:

6-32 screws, nuts, washers, and standoffs

This is a quick list of sources that helped make up this VCF. This will be expanded with links at a later time. The following info should be sufficient for searching.

The power entry protection circuit is from Blacet. It provides reverse polarity and over current protection. If you feel this is unnecessary, leave out D1, D2, RSF1, and RSF2. Make sure to put in links for RSF1 and RSF2 if you choose to leave these out. DO NOT put links in for the diodes!!!

VCF core is a Korg design from the Delta polysynth.

The VCA core is based on a design published in EDN magazine by Mike Sims.

The VCA CV circuit was derived from W. Jung Op Amp Cookbook “Negative Input VCCS with current gain”. I first came to know this circuit through the T. Henry book 3080 Cookbook. The addition of the feedback cap is my own and it serves to soften sharp CV signals. The cap can be left out if desired.

Audio input and output limiting circuits are derived from W. Jung Op Amp Cookbook

Please do not redistribute this guide without my consent.
Thanks.