Fonitronik VC Modulator

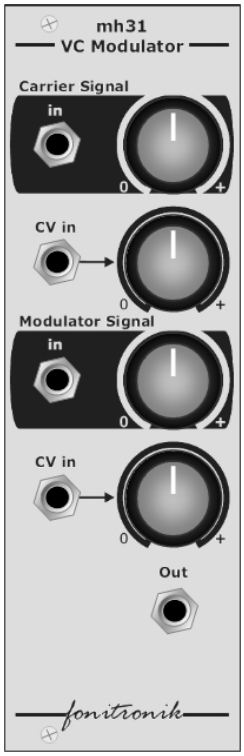
10/28/2010

Resistors		
2	22R/ferrite	F1, F2
7	1k	R2, R4, R6, R8, R17, R22, R35
5	10k	R11, R12, R13, R14, R36
4	33k	R9, R10, R19, R24
18	100k	R1, R3, R5, R7, R15, R16, R18, R20, R21, R23, R25, R26, R27, R28, R29, R31, R32, R33
2	200k	R30, R34
4	100k	P1, P2, P3, P4 (Potentiometer)
2	100k	T1, T2 (Trimmer)

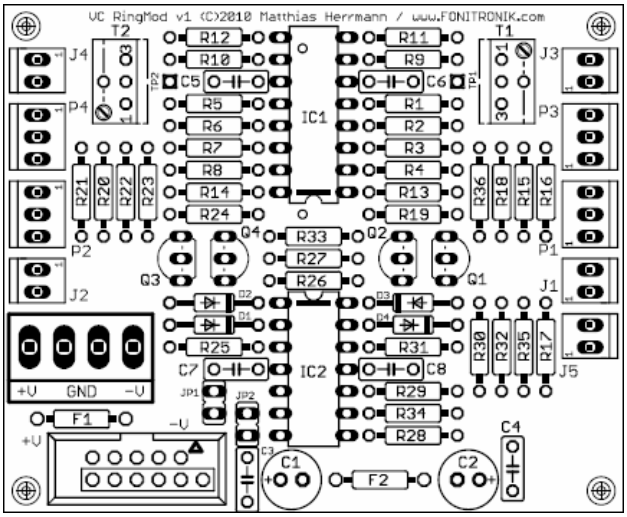
Capacitors		
6	100n	C3, C4, C5, C6, C7, C8
2	10uF	C1, C2

Semi's		
4	1N4148	D1, D2, D3, D4
4	2N3906	Q1, Q2, Q3, Q4
1	LM13700	IC1
1	TL074	IC2

Connections		
1	Carrier CV	J1
1	Modulator CV	J2
1	Carrier In	J3
1	Modulator in	J4
1	Output	J5
2	Jumpers	JP1, JP2 (close if spare OpAmp not used)
1	VCA Carrier	TP1
1	VCA Modulator	TP2



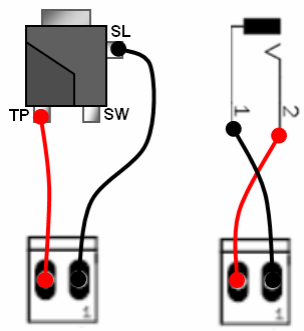
This VC Modulator is based on an article in Robert G. Irvine's "Operational Amplifier Characteristics and Applications"-book. His unique idea uses an OpAmp for a Ring Modulator (or frequency mixer).
This Ring Modulator is DC-coupled, and works fine for audio and/or control voltages. This module provides one additional VCA for each input channel.
IMHO it sounds quite interesting. I had a lot of fun setting up a common bell-sound patch (ADSR+ LPF with some resonance), and the modulating the VCAs…



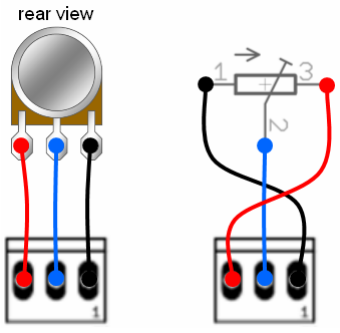
Watch out for the alignment/direction of the IC's!

Wiring Help

Sockets:



Potentiometer:



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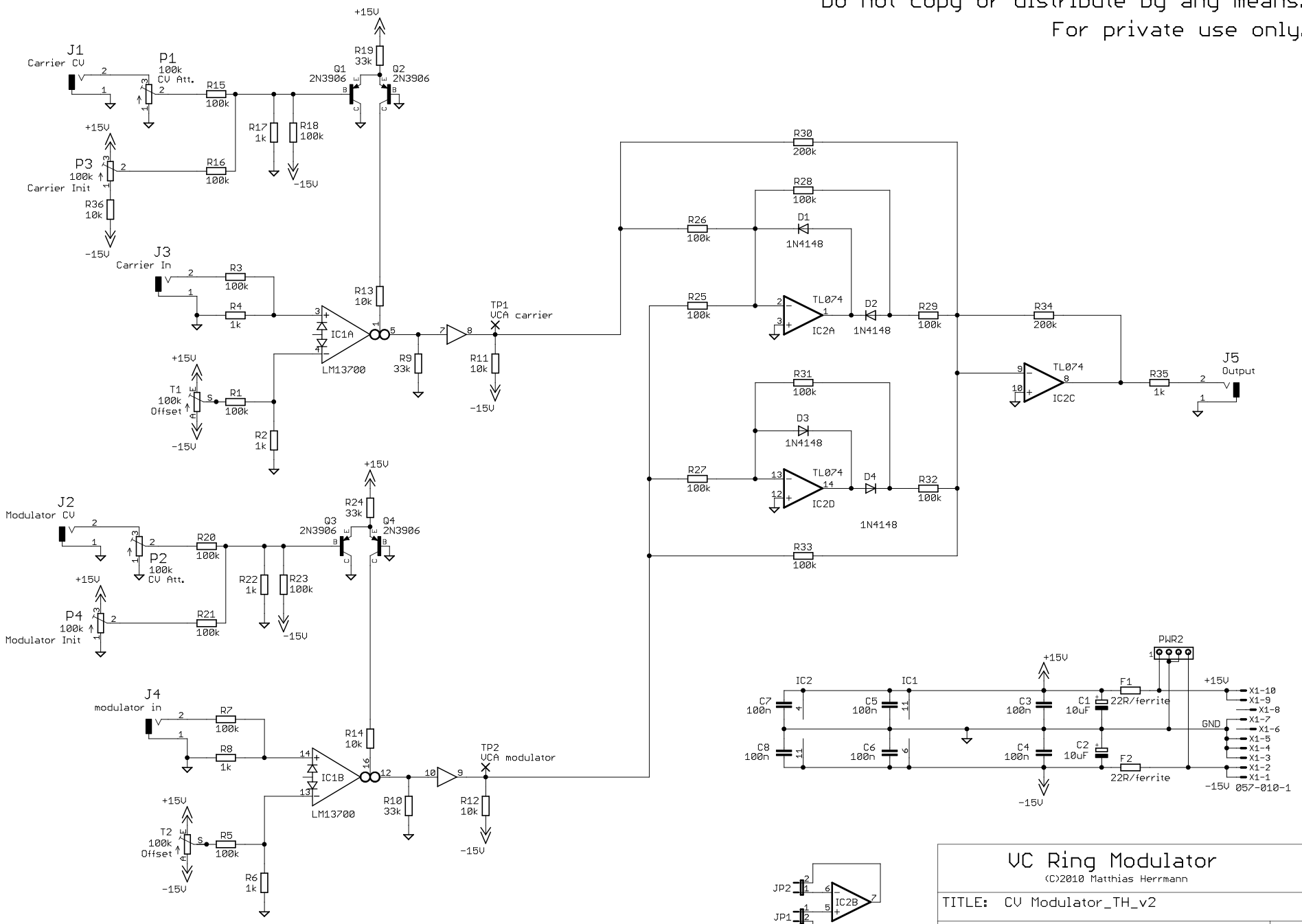

VC Ring Modulator

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