<u>nonlinearcircuits</u>

Timbre & Timbre build & BOM

This is based on the Buchla Timbre circuit, except there are 2 of them and it is all smd O

The only changes to the original version are to fit the signal levels to Eurorack standard. The circuit will deliver some noise when there is no input signal so it is best to patch it directly to a VCO or patch a VCA downstream. The original Buchla Timbre was the waveshaping section of a VCO so there was **always** an input signal.

BOM

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choice)or 771-PMBFJ309215 or 512-MMBFJ309 (marked J108 on PCB – DO NOT USE J108)BC8572PNP SOT-23 Tayda: A-1345 (marked bc557 on PCB)10 Pin 2.54mm Single Row Pin Header Strip2Tayda: A-197 (cut to size)10 Pin 2.54mm Single Row Female Pin Header2Tayda: A-197 (cut to size)10 Pin 2.54mm Single Row Female Pin Header2Tayda: A-130610 Pin 2.54mm Single Row Female Pin Header2Tayda: A-19811 Cor similar, optional - for reverse voltage protection2SMD, standard power diode 200-600V 1A, dot on PCB indicates CATHODE (stripe) SEE NOTES #3LL41484SOD-80 Mouser Part No: 512-LL4148	1112 1308 or 1309 (get 1112 as 1 st	2	SOT-23 Mouser #s: 512-MMBEI112 or 863-MMBEI3001 T1G
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HeaderImage: ConstructionEurorack 10 pin power connector1S1JL or similar, optional - for reverse voltage protection2SMD, standard power diode 200-600V 1A, dot on PCB indicates CATHODE (stripe) SEE NOTES #3LL41484SOD-80 Mouser Part No: 512-LL4148	Strip		-
Eurorack 10 pin power connector1Tayda: A-198S1JL or similar, optional - for reverse voltage protection2SMD, standard power diode 200-600V 1A, dot on PCB indicates CATHODE (stripe) SEE NOTES #3LL41484SOD-80 Mouser Part No: 512-LL4148		2	Tayda: A-1306
S1JL or similar, optional - for reverse voltage protection2SMD, standard power diode 200-600V 1A, dot on PCB indicates CATHODE (stripe) SEE NOTES #3LL41484SOD-80 Mouser Part No: 512-LL4148		1	Tayda: A-198
LL4148 4 SOD-80 Mouser Part No: 512-LL4148	S1JL or similar, optional - for reverse	2	SMD, standard power diode 200-600V 1A, dot on PCB indicates
100k POT 6 Tayda: A-1848	LL4148	4	SOD-80 Mouser Part No: 512-LL4148
	100k POT	6	Tayda: A-1848
100k trimpot 2 Tayda: A-2506	100k trimpot	2	Tavda: A-2506

3.5MM SOCKET Kobiconn style	6	Tayda: A-865 or preferably get
		Thonkiconn Jacks (PJ301M-12) from Thonk or Modular Addict
10-11mm stand-off and screws to suit	1	

Additional shopping notes:

- 1. The prices for these capacitors drops to approx. 10c each when buying more than 10....and you should always get plenty of spares, it is easy to drop and lose smd parts.
- 2. S1JL Power diode for Reverse voltage protection Mouser Part No: 821-S1JL. Any similar rectifier with at least 1A rating should be okay.

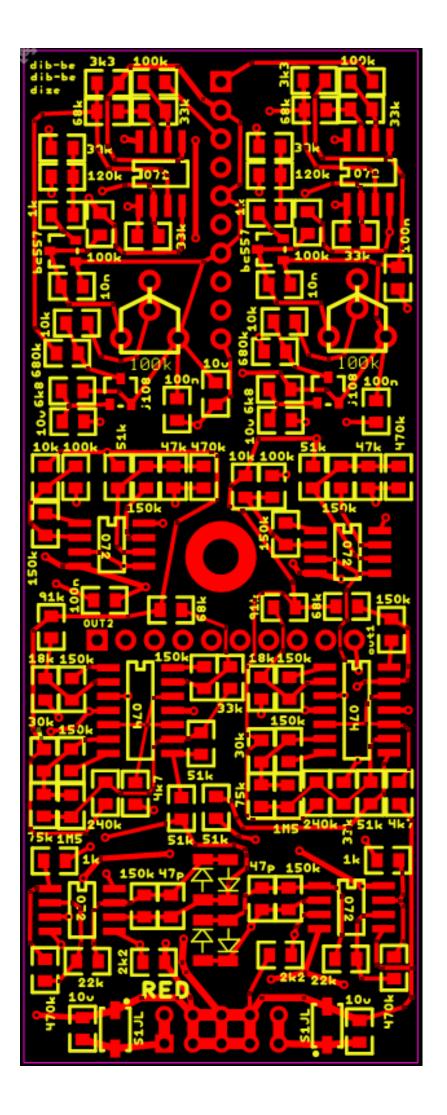
Some errors on the PCB silkscreen (noted in the BOM):

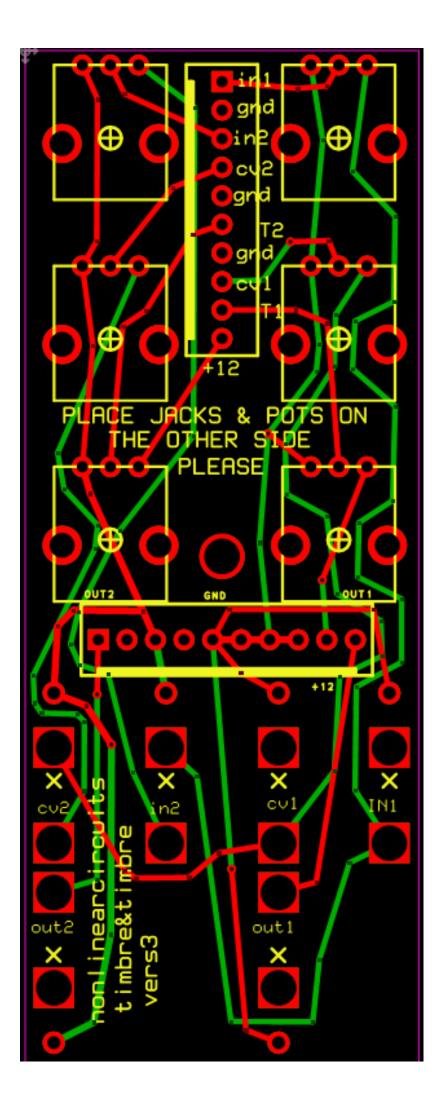
The 'bc557' printed on the PCB should be BC857, which is the SOT-23 version. The 'j108' for the 2 FETs should be 'j112', for whatever reason the thru-hole version of J108 works on the thru-hole single Timbre, but the SOT-23 version does not work properly, so just use J112.

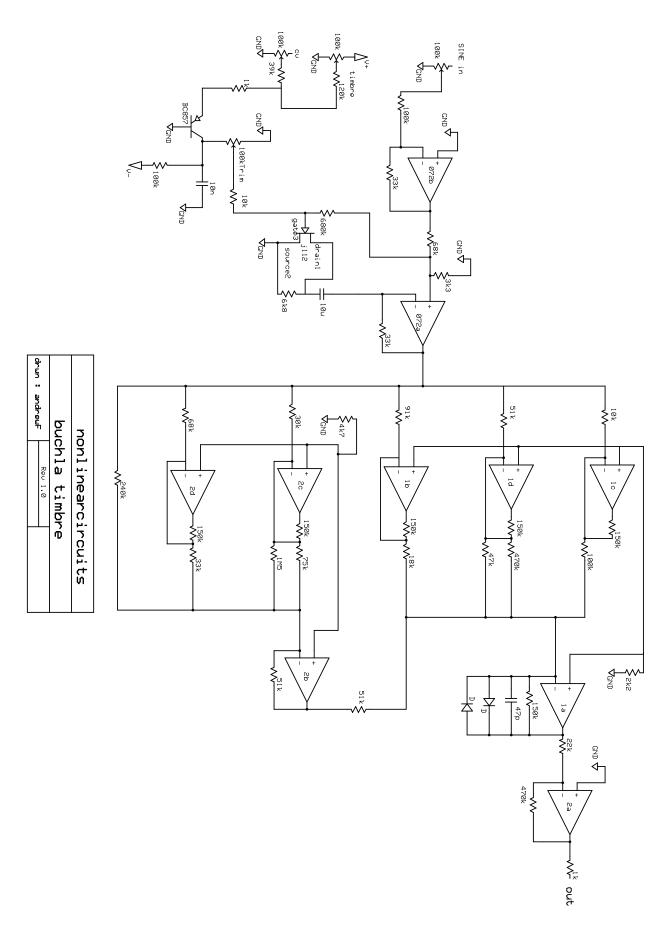
SETUP

Patch in a sinewave, monitor the output with an oscilloscope or just listen to it if you don't have a 'scope. Turn the CV and Timbre pots to zero and adjust the trim-pot to the point JUST BEFORE the sinewave starts to distort.

If listening to it, adjust the trim-pot so you can hear a clean sinewave, turn it up a little bit until you hear the sinewave start to change, then wind it back to just before this point.







One Timbre shown, two circuits on the PCB.