

General Notes:

- The PCB contains two identical circuits separated by a vertical white line. Each value in the "Reference" column appears twice (2x) on the PCB. The "Total" column reflects this.

Resistors (1/4 watt, +/- 5%)

Value	Reference	Total	Description	Mouser # (or option)
2R2	R1	2	1/2 watt	660-CF1/2CT52R2R2J
10R	R14	2		660-MF1/4LCT52R100J
220R	R43	2		660-MF1/4LCT52R221J
470R	R17	2		660-MF1/4LCT52R471J
900R	R8	2		594-5073NW910R0J
1K	R15	2		660-MF1/4LCT52R102J
1K5	R39, R40	4		660-MF1/4LCT52R152J
2K2	R16, R19, R22, R24, R28, R42	12		660-MF1/4LCT52R222J
3K6	R2, R9	4		594-5073NW3K600J
4K7	R6, R33, R35	6		660-MF1/4LCT52R472J
10K	R20, R23, R25, R26, R27, R29, R30, R32, R44	18		660-MF1/4LCT52R103J
15K	R3, R41	4		71-CCF0715K0JKE36
22K	R21, R31, R45	6		660-MF1/4LCT52R223J
47K	R7, R34	4		660-MF1/4LCT52R473J
68K	R37, R38	4		279-RR02J68KTB
220K	R5	2		279-RR01J220KTB
330K	R46	2		71-CCF07330KJKE36
1K	R4, R10, R18, R36	8	3296 trimmer	652-3296W-1-102LF
A50K	R11, R13	4	potentiometer	https://www.taydaelectronics.com/b10k-ohm-linear-taper-potentiometer-round-shaft-pc-mount-l.html
B10K	R12	2	potentiometer	https://www.taydaelectronics.com/b10k-ohm-linear-taper-potentiometer-round-shaft-pc-mount-l.html

Capacitors

Value	Reference	Total	Description	Mouser # (or option)
47pf	C5	2		75-1C20C0G470J050B
100pf	C11, C12	4		594-K101J15C0GF53L2
1nf	C4,C6, C7, C8	8		75-1C20C0G102J050B
2.2nf	C3	2		75-1C20C0G222J050B
1uf	C9	2	tantalum	581-TAP105M035SCS
15uf	C1, C2	4	tantalum	581-TAP156K016SCS
56uf	C10	2	tantalum	80-T322D566K006

Diodes

Value	Reference	Total	Description	Mouser # (or option)
1N457	D1, D2, D3,D4, D5	10	<i>1n4148 also work</i>	512-1N457

Transistors

References in parentheses [()] are matched pairs.

Value	Reference	Total	Description	Mouser # (or option)
2N3904	(Q1, Q2), Q4, Q7, Q8, Q9, Q10, Q11, Q12	18		610-2N3904
2N3906	Q3, Q5	4		610-2N3906
2N5020	Q6	2	<i>J175 may work</i>	106-2N5020 (or Little Diode)

Miscellaneous

	Total	Description	Mouser # (or option)
Banana jacks (black)	2	Ext. CV inputs	530-108-0903-1
Switchcraft Tini Jax	8	Audio inputs, Audio outputs	502-41
DPDT ON-NONE-ON	1	Ext. / Int. CV	633-M202203
Standoffs	4	14mm, M3	855-R30-3011402
Small Davies knobs	4		5164-1610AA (or Thonk)
Large Davies knobs	2		5164-1600BM (or Thonk)
EDAC power connector	1	<i>optional</i>	587-306-50-010

Mouser Cart

**NB: potentiometers, screws, EDAC power connector are not included in the Mouser Cart.*

**Some items may be backordered.*

<https://www.mouser.com/ProjectManager/ProjectDetail.aspx?AccessID=31d4ebe985>

Calibration:

1. Adjust R18 so that oscillation is within audible range. The circuit can oscillate at super high frequencies, or not at all, so you may have to adjust R18 quite a bit.
2. R4 sets the low frequency and R10 sets the high frequency. These two trimmers interact to some degree, so you may have to go back and forth some. Re-adjust R18 if you cannot get reasonable lowest/highest frequencies.
3. R36 sets the amplitude and also affects the AM. I set mine for the lowest amplitude (~1.8v pk-pk in my case) to try and match the 158 as closely as possible. AM still responds well.

I was able to get a range of 5hz to 15khz on these. They can oscillate at higher frequencies, but you lose low end extension.