

GS1-L version 1.3.1 BOM

Part substitution is fine, if you have lots of 1% resistors, then go for it.

The only thing to watch is the height of electrolytics, low profile ones can be used (an example Mouser part is provided)

However standard 11mm electrolytics can be used, just lay them flat against the board (where space permits) or place them at 45degrees to the board.

Voltages also not an issue, anything over 16v should be good, maybe 25v for the 47uF in the power filtering.

Standard 11mm clearance between the two boards, so just keep that in mind.

If you are sourcing your own transistors, Aliexpress has loads of modern 1015,1815 etc, I've tested these and they work fine

In the Mouser column, I've either placed a part number or search terms. Due to part shortages etc, using that string will find you suitable parts to choose from what is in stock etc.

Components in blue, numbers 300+ are on the upper control board.

Value	Count	Location	Mouser	Alternatives	Notes
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Resistors

5% Carbon 1/4W

1K	9	R5,R8,R9,R16,R36,R37,R311,R312,R315	Search "CFR 1K 1/4w" etc		
3.3K	1	R13			
4.7K	1	R3			
10K	4	R1,R2,R11,R14			
15K	2	R10,R27			
22K	4	R7,R309,R310,R313			
33K	1	R17			
39K	1	R31			
47K	5	R12,R23,R29,R32,R307			
56K	1	R26			
82K	3	R21,R25,R306			
100K	12	R6,R15,R18,R20,R22,R28,R30,R33,R34, R303,R305,R308			
150K	2	R35,R304			
180K	1	R24			
270K	1	R300			
330K	2	R38,R314			
390K	1	R302			
470K	1	R301			
820K	1	R4			

Capacitors

MLCC

100n	2	C1,C2	mlcc leaded 0.1uf		2.5mm leg spacing
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Polyester (Nichicon QYX)

47n	1	C5	qyx 47nf 50v		5mm leg spacing
100n	1	C6	qyx 100nf 50v		5mm leg spacing

Electrolytic

47u/25	2	C3,C4			Low profile, but normal 11mm will fit laying flat as marked
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Diodes

1SS133M	4 D3,D4,D5,D6	1SS133M	
1N5817	2 D1,D2	511-1N5817	
3mm LED	1 D300	Blue	Any standard 3mm LED

IC

4558	1 IC3	RC4558P	Any variant of the 4558 op amp	DO NOT use a socket for IC2, clearance for rotary switch
TL082	2 IC1,IC2	TL082CPE4	Any variant of the TL082 op amp	
BA6110	2 IC4,IC5	BA6110 NOS	Included in partial DIY kit	
BA662	2 IC4,IC5		Only need to populate either BA6110 or BA662 noth both!	

Transistors

2SK30A-GR	2 Q3,Q4	NOS rare part	2SK30A	Most variants will work
2SA1015	2 Q2,Q302	NOS rare part	2SA733,2SA1115	
2SC1815	2 Q1,Q301	NOS rare part	2SC945,2SC2603	

These are provided in the partial kit option.

Trimmer

100K	3 VR2,VR3,VR4	652-3362P-1-104LF	3362
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Misc

2P5T	1 S1	INCLUDED IN KIT		https://www.aliexpress.com/item/1005003505887887.html
ON-OFF-ON	1 SW1	612-200MSP3T1B2M7RE	Thonk cheaper etc	Sub-mini on-off-on switch
ON-ON	1 SW2	612-200MSP1T1B1M2RE	Thonk cheaper etc	Sub-mini on-on switch
PJ301M	2 U1-U2	Thonk etc		Thonkiconn
B100K	1 VR1-FREQ	Thonk etc		Alpha 9mm
PWR	1 SV1			10pin euro power header or 2x5 pin header
1x4	1 JP1			1x4 male header
1x6	2 JP2,JP3			1x6 male header
1x2	1 JP4			1x2 male header
1x4	1 JP1			1x4 female header
11mm	4 Standoff			
3mm	8 Screws for standoff			