

GS1-O version 1.2.A 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](#) are on the upper control board.

Value	Count	Location	Mouser	Alternatives	Notes
Resistors					
0.1% or matched 1% 1/4W					
10K	5	R44,R45,R46,R47,R48	YR1B1K0CC		0.1% are costly, if you have 1%, measure your parts and use 5 with the same value as close to 10K as possible
1% 1/4W					
1.8K	1	R35	MFR-25FRF52-1K8		Search "1/4w 1% mfr 1.8k"
5% Carbon 1/4W					
470R	2	R32, R36	Search "CFR 470R 1/4w" etc		e.g. CFR-25JT-52-470R
820R	1	R3			
1K	6	R6,R13,R17,R21,R24,R34			
1.2K	2	R22, R49			
5.6K	1	R2			
10K	5	R5,R23,R26,R27,R28			
12K	1	R4			
22K	3	R1,R7,R18			
39K	1	R10			
47K	2	R15, R50			
100K	14	R8,R9,R11,R12,R14,R16,R20,R25,R29 R30,R38,R39,R42,R51			
150K	1	R43			
180K	1	R19			
330K	2	R31,R37			
680K	1	R33			
1M	2	R40,R41			

JUMPER

1 JUMPER

Use a resistor leg to connect the jumper

Capacitors**Ceramic - basic or MLCC**

22p	4 C2,C3,C4,C5	e.g. K220J15C0GF5TH5	5mm leg spacing
56p	1 C6	e.g. K560J15C0GF5TH5	5mm leg spacing

MLCC

10n	1 C305	e.g. K103K10X7RF5UL2	2.5mm leg spacing
100n	2 C303,C304	e.g. K104K10X7RF5TL2	2.5mm leg spacing

Polyester (Nichicon QYX or Panasonic Red or 'greenies')

1n	1 C1	e.g. QYX1H102KTP	5mm leg spacing
10n	5 C8,C9,C9,C10,C11	e.g. QYX1H103JTP	5mm leg spacing * there are two C9 by mistake, one on each board!

Polystyrene

470p	1 C7	23PS147	
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Electrolytic

0.33/25	1 C302	e.g. UFG1HR33MDM1TD	11mm max height, lay flat, or try a low profile
47u/25	2 C3,C4	e.g. UFW1H102MHD	11mm max height, lay flat, or try a low profile

Diodes

1N5817	2 D1,D2	511-1N5817	
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IC

78L05	1 IC1	621-AS78L05ZTR-E1		Any TO92-3 5v reg
CEM3340	1 IC2	CEM3340	AS3340	Either CEM3340 revG from Thonk etc or the AS3340 clone
TL072	1 IC3	TL072IP		
TL074	4 IC4,IC5,IC6,IC7	TL074CN		

Trimmer

10K	1 WIDTH	652-3362P-1-103LF	3362
20K	3 LINEARITY,SAW-OFFSET,TRI-OFFSET	652-3362P-1-203LF	3362
50K	1 TUNE-TM	652-3362P-1-503LF	3362

Misc

2P5T	1 S1	INCLUDED IN KIT		https://www.aliexpress.com/item/1005003505887887.html
ON-ON	1 SW1-SYNC	612-200MSP1T1B1M2RE	Thonk cheaper etc	Sub-mini on-on switch
PJ301M	10 U1-U10	Thonk etc		Thonkiconn
B20K	1 PW	Thonk etc		Alpha 9mm
B100K	1 TUNE	Thonk etc		Alpha 9mm
B100K	2 PW-CV-LVL,X-MOD-LVL	Thonk etc		Song-heui Tall Trimmer Pot (can use an Alpha if prefer with a small trimmer cap)
PWR	1 SV1			10pin euro power header or 2x5 pin header

1x2	1 JP7	2.54mm male pin header
1x3	2 JP3,JP5	2.54mm male pin header
1x4	2 JP2,JP4	2.54mm male pin header
1x5	1 JP1	2.54mm male pin header
1x6	1 JP6	2.54mm male pin header
1x3	2 JP3,JP5	2.54mm female pin header
1x4	2 JP2,JP4	2.54mm female pin header
1x5	1 JP1	2.54mm female pin header
11mm	4 Standoff	
3mm	8 Screws for standoff	