

TB-Valhalla v1.2 BOM

BOM notes etc in individual BOMs for each module - this provides simple "ALL COMPONENTS" for ordering purposes.

these are included in the partial DIY kit

Value	Count	Mouser	Alternatives	Notes
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Resistors

TEMPCO

1K	2			Thonk
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Resistors

5% Carbon 1/4W

22R	1	Search "CFR 1K 1/4w" etc		
100R	4			
330R	4			
560R	3			
1K	15			
1.5K	2			
2K2	15			
2K4	3			
3.3K	1			
4K7	1			
6.8K	1			
8.2K	1			
10K	44			
15K	10			
22K	21		R325 = R299 on early boards	
27K	2			
33K	8			
47K	26			
56K	2			
68K	6			
100K	51			
150K	4			
180K	3			
220K	7			
560K	2			
1M5	2			
1M5	1			

Capacitors

MLCC

47p	1 mlcc leaded 47pf	Any 47p ceramic	2.5mm leg spacing
10n	3 mlcc leaded 0.01uf		2.5mm leg spacing
100n	17 mlcc leaded 0.1uf		2.5mm leg spacing

Tantalum

1uF/35	2 581-TAP105K035SRS		2.5mm leg spacing
3.3uF	2 TAP335K035CCS		1uF, 2.2uF - Vary this for different "speed" of overall envelope < = faster up to 10uF for a slow/longer release

Polybox

1uF	10 80-R82DC4100CK60K		5mm leg spacing, no taller than 10mm
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Polyester (Nichicon QYX)

1n	2 qyx 1nf 50v		5mm leg spacing
10n	5 qyx 10nf 50v		5mm leg spacing
12n	8 qyx 12nf 50v		5mm leg spacing
18n	1 "qyx 18nf 50v"		5mm leg spacing
33n	4 "qyx 33nf 50v"		5mm leg spacing
47n	3 "qyx 47nf 50v"		5mm leg spacing
100n	3 "qyx 100nf 50v"		5mm leg spacing

The "missing" 4th pole - could try 33n here to make 4pole?!

Electrolytic

0.33u/25	3 50NW50R33MEFC4X5		Low profile, but normal 11mm will fit laying on an angle towards top of board
1u/50	1 ESS105M050AB2AA		Must be low profile!
1u/50	17		Low profile, but normal 11mm will fit laying on an angle towards spaces, between transistors etc
10u/25v	4		Must be low profile!
10u/16	6		
10u/25 BP	2 UVP1E100MDD1TD		BI-POLAR!!!
47u/25	10		Low profile, but normal 11mm will fit laying on an angle towards each other
3300uF/25	6 667-EEU-FK1E332S		low height, must be ~20mm or lower and 15-18mm diameter

Diodes

1SS133M	18 1SS133M		
1N4004	6		1N4004-1N4007 any will work
1N4148	10 512-1N4148		
1N5817	12 511-1N5817		
3mm LED	1 Red		Any standard 3mm LED
3mm LED	3 Blue		Any standard 3mm LED

IC

78L05	3 511-L78L05ABZ		
AN6562	4 926-LM358N/NOPB	LM358	AN6562 NOS rare part searchinv, or LM358 is fine.

BA662	1	OML BA662 Clone	The Open Music Labs BA662 clone is required, can get from SynthCube, Dinsync, MSW etc
BA6110	1		
4066	1	595-CD4066BE	MC14066B,HD14066BP
4013	1	595-CD4013BE	
4558	5		
7812T	1	511-L7812CV	
7912T	1	511-L7912CV	
TL072	1		
TL074	2	595-TL074ACN	

Transistors

2SA733P	13	NOS rare part	2SA1015,2SA608**	
2SC945P	29	NOS rare part	2SA1815,2SC536F**	If you use Q26A and Q26B then leave Q26 empty
2SK30A-O	2	NOS rare part	2SK118-O***	
2SK30A-Y	1	NOS rare part		
2SK30A-GR	1	NOS rare part	2SK30A	Most variants will work
2SA1015	10	NOS rare part	2SA733,2SA1115	
2SC1815	22	NOS rare part	2SC945,2SC2603	

These are provided in the partial kit option.

Trimmer

1M	1	652-3362P-1-105LF	3362
100K	3	652-3362P-1-104LF	3362
20K	1	652-3362P-1-203LF	3362
5K	2	652-3362P-1-502LF	3362

Misc

B5K	1	Thonk etc	9mm alpha	See notes re R97A - can use B10K with different resistor at R97A
B50K	5	Thonk etc	9mm alpha	Can get 2x center detent for VCO Tune pots, and 3x normal
B50K-DUAL	1	Thonk etc	9mm alpha dual	
B500K	1	Thonk etc	9mm alpha	
A10K	2	Thonk etc	9mm alpha	
A50K	2	Thonk etc	9mm apha	
A100K	1	Thonk etc	9mm alpha	
A1M	3	Thonk etc	9mm alpha	
A100K	7	Thonk etc	Song Heui tall trimmer pot	
A500K	2	Thonk etc	Song Heui tall trimmer pot	
B10K	2	Thonk etc	Song heiu tall trimmer pots	
B100K	6	Thonk etc	Song Heui tall trimmer pot	
PJ301M	44	Thonk etc		Thonkiconn

1/4" jack	1	550-20311		Solder on underside of PCB!
1/4" jack nut	1	550-1005		
NC/NO	2	Momentary push switch		https://www.aliexpress.com/item/32918173433.html
ON-ON	3	612-200MSP1T1B1M2RE	Think cheaper etc	Sub-mini on-on switch
DPDT Mini	1	642-5646A9	Think cheaper etc	Dual mini toggle switch (on-on) 320-938
PWR	8			10pin euro power header or 2x5 pin header
DC	1	992-CON-SOCJ-2155		DC 2.1mm power jack
1x3	3			1x3 male header
1x4	8			1x4 male header 2.54mm
1x5	1			1x5 male header
1x10	1			1x10 male header 2.54mm
2x3	6			2x3 pin male header - can use 2x6 for SV3/4
1x3	3			1x3 female header
1x4	8			1x4 female header
1x5	1			1x5 female header
1x10	1			1x10 female header 2.54mm
2x3	6			2x3 female header - can use 2x6 for SV3/4
11mm	14			
3mm	32			4 to attach panel to case
10mm/3mm	2	In kit		Plastic 3mm bolt
3mm	4	In kit		Plastic 3mm nut
CASE	1	1441-16BK3	1441-16BK3CWW	The one with wooden sides is nice, but pricey! Need to put sides on upside down to fit around panel.
WALL WART	1			12v AC OUTPUT! MUST BE AC/AC
Panel	1			
Euro power cable	2			Daisy chain cables included in kit

PSU

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

The only thing to watch is the height of big electrolytics.

These parts are included in the previous list in this document!

Value	Count	Location	Mouser	Alternatives	Notes
Resistors					
5% Carbon 1/4W					
2.4K	2	R1,R2			Any value between 1 and 5K is fine.
Diodes					
1N4004	4	D1,D2,D3,D4		1N4005-1N4007	
Capacitors					
Electrolytic					
1uF/50	4	C4,C5,C9,C10			standard 11mm
3300uF/25	6	C1,C2,C3,C6,C7,C8	667-EEU-FK1E332S		low height, must be ~20mm or lower and 15-18mm diameter
IC					
7812T	1	IC1	511-L7812CV		
7912T	1	IC2	511-L7912CV		
Misc					
PWR	2	SV1,SV2			10pin euro power header or 2x5 pin header
DC	1		992-CON-SOCJ-2155		DC 2.1mm power jack
10mm/3mm	2			In kit	Plastic 3mm bolt
3mm	4			In kit	Plastic 3mm nut

Mixer Type1

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

The only thing to watch is the height of big electrolytics.

These parts are included in the previous list in this document!

Value	Count	Location	Mouser	Alternatives	Notes
Resistors					
5% Carbon 1/4W					
10K	4	R601,R602,R603,R604			Any value between 1 and 5K is fine.
Capacitors					
MLCC					
100nF	2	C601,C602	mlcc leaded 0.1uf		2.5mm leg spacing
IC					
TL072	1	IC601	595-TL072IP		
Misc					
1/4" jack	1	J1-LINE-OUT	550-20311		Solder on underside of PCB!
1/4" jack nut	1		550-1005		
B10K	2	VR1,VR2		Thonk etc	Song heiu tall trimmer pots
DPDT Mini	1	S601	642-5646A9	Thonk etc	Dual mini toggle switch (on-on) 320-938 thonk etc WAY cheaper!