Midiverse Modular

MVM018 – Dual VCA Build Guide

Thanks for supporting Midiverse Modular! This guide provides basic instructions to build your MVM018 Dual VCA module.

Size: 8HP
Depth: 40mm
Draws 22mA from the +12V rail and 22mA from the -12V rail

This module is recommended for experienced builders only. You must have previous experience with building DIY modules. This guide provides a list of the parts needed to complete the build and some key instructions for success.

Parts needed to complete the build:

Reference	Qty	Value	Notes
VCA Panel	1		
VCA Control Board	1		
VCA Main Board	1		
Control Board BOM			
R5, R7	2	510R	1/4W 1% Metal film resistors
R9, R14	2	1K	1/4W 1% Metal film resistors
R8, R13	2	20K	1/4W 1% Metal film resistors
R2, R3, R11, R12	4	22K	1/4W 1% Metal film resistors
R1, R4, R6, R10	4	100K	1/4W 1% Metal film resistors
LEVEL1, LEVEL2	2	B100K	ALPHA 9mm potentiometer, vertical
CV1, CV2 (plastic shaft)	2	B100K	9mm trimmer potentiometer, vertical
IN1, CV1_1, CV2_1, OUT1, IN2, CV1_2, CV2_INV, OUT2	8	3.5mm Jacks	THONKICONN (PJ398SM)
LED1, LED2	2		3mm red
A, B, C, D	4	1x5 pin header	2.54mm 5 pin single row male header
Knobs	2		White, Davies (1900H)
Main Board BOM			
R4, R11	2	510R	1/4W 1% Metal film resistors
R5, R10	2	12K	1/4W 1% Metal film resistors
R1, R2, R3, R6, R7, R8, R9, R12	8	100K	1/4W 1% Metal film resistors

D1, D2	2	1N5817	
C1, C2, C3, C4, C5, C6, C7, C8	8	0.1uf	Multilayered ceramic capacitor
C11, C12	2	47pf	Multilayered ceramic capacitor
C9, C10	2	10uf	Polarized electrolytic, 35V
IC3, IC4	2	TL074CN	
IC1, IC2	2	LM13700N	LM13700N/NOPB
IC Socket	1	14 pin Socket	14 Pin DIP IC Socket
IC Socket	1	16 pin Socket	16 Pin DIP Socket
A, B, C, D	4	1x5 pin header	2.54mm 5 pin single row female header
J1	1	2x5 pin header	2.54 mm 10 pin shrouded header
Screws	4		M3 Screw 6mm
Standoff	2		M3 Standoff 11mm

Build Instructions:

Populate and solder the resistors, diodes, capacitors, IC sockets, and power header. **DO NOT** solder the jacks, potentiometers, and LEDs on the control board yet.

Once all the above-mentioned parts have been soldered on the control and main boards, connect the 5 pin male and female headers together, and then position them between the boards (A with A, B with B, etc.). Carefully solder in the connectors, making sure that the boards are connected evenly. I usually solder in one pin on all connectors, double check the positioning, and if everything looks good, solder in the remaining pins.

If there are anti-rotation tabs on the potentiometers, be sure to break those off now. Pull apart the two boards, populate the control board with the jacks, potentiometers, and LEDs, add the M3 screws and standoffs, and attach the front panel. Now solder these components, reconnect the two boards, and secure the boards with the back screws.


DUALVCA
LEVEL
CV1
IN CV1 CV2 OUT
LEVEL
CV
IN CV CV OUT
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