

## N.E.W. – DIY MT-2 Build guide

---

The N.E.W. DIY MT-2 is as much an EQ pedal as it is a distortion pedal. In addition to the 3 band EQ with parametric mids, there are also several fixed EQ sections in the circuit providing pre-emphasis and post-emphasis EQ curves which give the MT-2 its characteristic sound. With careful planning, off-board switches could be added to remove or modify the fixed EQ's. Also, if desired, the variable tone controls can be modified to produce an HM-2-like response.

This guide is intended for people who have some experience building pedals. Component sourcing, component identification, assembly techniques, wiring stomp switches, etc. is not covered. The GCI Brutalist Jr. assembly guide has helpful information for less experienced builders. That guide can be found here: <http://www.kurtballou.com/brutalistjr/>

Don't forget to connect the ground pad of the PCB to the ground lug of the input, output, and DC power jacks!

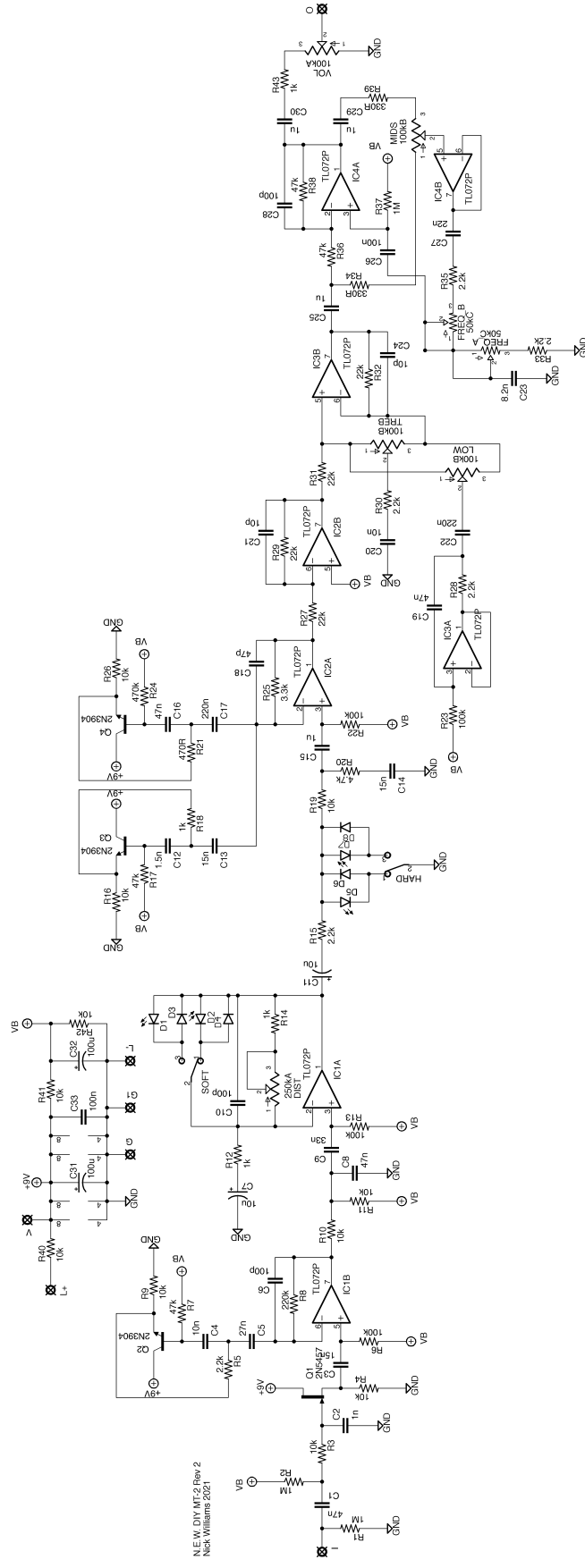
Due to the scope of this project, technical support is not available. However, consider joining the GCI DIY PCB Builders group on Facebook to get advice from and share your work with other builders. We require that all group members agree to the rules before being accepted into the group. <https://www.facebook.com/groups/2454786551255317/>

Component values for the PCB as well as some alternate values are listed below. This is a BOM for the PCB only. Resistors and diodes are 6.3mm leg spacing, film and ceramic capacitors are 5.08mm leg spacing, and electrolytic capacitors are 2.54mm leg spacing. I/O jacks, DC jack, switches, enclosure, and knobs are not listed. The schematic and a drill template for a 125BB (1590BBM) sized enclosure are also attached.

<b>Part</b>	<b>Value</b>	<b>Device</b>	<b>Package</b>	<b>Description</b>
R1	1M	6MM.3	R0207/3	6mm Resistors
R2	1M	6MM.3	R0207/3	6mm Resistors
R3	10k	6MM.3	R0207/3	6mm Resistors
R4	10k	6MM.3	R0207/3	6mm Resistors
R5	2.2k	6MM.3	R0207/3	6mm Resistors
R6	100k	6MM.3	R0207/3	6mm Resistors
R7	47k	6MM.3	R0207/3	6mm Resistors
R8	220k	6MM.3	R0207/3	6mm Resistors
R9	10k	6MM.3	R0207/3	6mm Resistors
R10	10k	6MM.3	R0207/3	6mm Resistors
R11	10k	6MM.3	R0207/3	6mm Resistors
R12	1k	6MM.3	R0207/3	6mm Resistors
R13	100k	6MM.3	R0207/3	6mm Resistors
R14	1k	6MM.3	R0207/3	6mm Resistors
R15	2.2k	6MM.3	R0207/3	6mm Resistors
R16	10k	6MM.3	R0207/3	6mm Resistors
R17	47k	6MM.3	R0207/3	6mm Resistors
R18	1k	6MM.3	R0207/3	6mm Resistors
R19	10k	6MM.3	R0207/3	6mm Resistors
R20	4.7k	6MM.3	R0207/3	6mm Resistors
R21	470R	6MM.3	R0207/3	6mm Resistors
R22	100k	6MM.3	R0207/3	6mm Resistors
R23	100k	6MM.3	R0207/3	6mm Resistors
R24	470k	6MM.3	R0207/3	6mm Resistors
R25	3.3k	6MM.3	R0207/3	6mm Resistors
R26	10k	6MM.3	R0207/3	6mm Resistors
R27	22k	6MM.3	R0207/3	6mm Resistors
R28	2.2k	6MM.3	R0207/3	6mm Resistors
R29	22k	6MM.3	R0207/3	6mm Resistors
R30	2.2k	6MM.3	R0207/3	6mm Resistors
R31	22k	6MM.3	R0207/3	6mm Resistors
R32	22k	6MM.3	R0207/3	6mm Resistors
R33	2.2k	6MM.3	R0207/3	6mm Resistors
R34	330R	6MM.3	R0207/3	6mm Resistors
R35	2.2k	6MM.3	R0207/3	6mm Resistors
R36	47k	6MM.3	R0207/3	6mm Resistors
R37	1M	6MM.3	R0207/3	6mm Resistors
R38	47k	6MM.3	R0207/3	6mm Resistors
R39	330R	6MM.3	R0207/3	6mm Resistors
R40	10k	6MM.3	R0207/3	6mm Resistors
R41	10k	6MM.3	R0207/3	6mm Resistors
R42	10k	6MM.3	R0207/3	6mm Resistors
R43	1k	6MM.3	R0207/3	6mm Resistors
D1	LED3MM	LED3MM	LED3MM	LED3MM

D2	1n4148	DO35.2	DO35-2	DO-35 Package
D3	LED3MM	LED3MM	LED3MM	LED3MM
D4	1n4148	DO35.2	DO35-2	DO-35 Package
D5	LED3MM	LED3MM	LED3MM	LED3MM
D6	LED3MM	LED3MM	LED3MM	LED3MM
D7	1n4148	DO35.2	DO35-2	DO-35 Package
D8	1n4148	DO35.2	DO35-2	DO-35 Package
C1	47n	072X0252	072X025	1000pF - 0.47uF
C2	1n	072X0252	072X025	1000pF - 0.47uF
C3	15n	072X0252	072X025	1000pF - 0.47uF
C4	10n	072X0252	072X025	1000pF - 0.47uF
C5	27n	072X0252	072X025	1000pF - 0.47uF
C6	100p	072X0252	072X025	1000pF - 0.47uF
C7	10u	5mm	050_020_1	0.22 - 100uF
C8	47n	072X0252	072X025	1000pF - 0.47uF
C9	33n	072X0252	072X025	1000pF - 0.47uF
C10	100p	072X0252	072X025	1000pF - 0.47uF
C11	10u	5mm	050_020_1	0.22 - 100uF
C12	1.5n	072X0252	072X025	1000pF - 0.47uF
C13	15n	072X0252	072X025	1000pF - 0.47uF
C14	15n	072X0252	072X025	1000pF - 0.47uF
C15	1u	072X0352	072X035	0.15 - 1.0uF;
C16	47n	072X0252	072X025	1000pF - 0.47uF
C17	220n	072X0252	072X025	1000pF - 0.47uF
C18	47p	072X0252	072X025	1000pF - 0.47uF
C19	47n	072X0252	072X025	1000pF - 0.47uF
C20	10n	072X0252	072X025	1000pF - 0.47uF
C21	10p	072X0252	072X025	1000pF - 0.47uF
C22	220n	072X0252	072X025	1000pF - 0.47uF
C23	8.2n	072X0252	072X025	1000pF - 0.47uF
C24	10p	072X0252	072X025	1000pF - 0.47uF
C25	1u	072X0352	072X035	0.15 - 1.0uF;
C26	100n	072X0252	072X025	1000pF - 0.47uF
C27	22n	072X0252	072X025	1000pF - 0.47uF
C28	100p	072X0252	072X025	1000pF - 0.47uF
C29	1u	072X0352	072X035	0.15 - 1.0uF;
C30	1u	072X0352	072X035	0.15 - 1.0uF;
C31	100u	6.3mm	063_025	33 - 220uF
C32	100u	6.3mm	063_025	33 - 220uF
C33	100n	072X0252	072X025	1000pF - 0.47uF
IC1	TL072P	TL072P	DIL08	OP AMP
IC2	TL072P	TL072P	DIL08	OP AMP
IC3	TL072P	TL072P	DIL08	OP AMP
IC4	TL072P	TL072P	DIL08	OP AMP
Q1	2N5457	2N5457	TO92-	N-CHANNEL JFET

Q2	2N3904	2N3904	TO92-	NPN Transistor
Q3	2N3904	2N3904	TO92-	NPN Transistor
Q4	2N3904	2N3904	TO92-	NPN Transistor
DIST	250kA	POT16MM	16MM	Potentiometers
FREQ	50kC	DUALGANG16MM_DUAL	16MM_DUAL	Potentiometers
LOW	100kB	POT16MM	16MM	Potentiometers
MIDS	100kB	POT16MM	16MM	Potentiometers
TREB	100kB	POT16MM	16MM	Potentiometers
VOL	100kA	POT16MM	16MM	Potentiometers
SOFT		SPDT	SPDT	TOGGLE SWITCH
HARD		SPDT	SPDT	TOGGLE SWITCH
V	9v input	PAD	SQUARE	PAD
G	ground	PAD	SQUARE	PAD
G1	ground	PAD	SQUARE	PAD
I	in	PAD	SQUARE	PAD
L+	LED +	PAD	SQUARE	PAD
L-	LED -	PAD	SQUARE	PAD
O	out	PAD	SQUARE	PAD



N.E.W. DIY MT-2 Rev 2  
Nick Williams 2021

