



**synthesis
technology**

**MOTM-320 Voltage-Controlled LFO
Assembly Instructions & Owner's Manual**

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MOTM-320 PARTS LIST

Please carefully check that all parts are in your kit. If you have a suspected shortage, please call or email. If you get free extra stuff, keep it for next time.

Capacitor bag, containing the following 12 parts:

2ea 10mfd Electrolytic (16V or 50V)	C1, C2
1ea 0.01mfd film cap (reddish-brown)	C8
2ea 1000pf yellow box (marked 1N or 102)	C5, C10
7ea 0.1mfd (marked 104) ceramic axial	C3, C4, C6, C7, C9, C11, C12

Resistor bag, containing the following 80 parts:

11ea 10K (brown, black, orange)	R1, R13, R17, R19, R21, R30, R38, R46, R47, R58, R59
8ea 1K (brown, black, red)	R44, R52, R53, R64, R66, R73-75
6ea 220K (red, red yellow)	R23, R24, R32, R43, R78, R79
5ea 51K (green, brown, orange)	R27, R56, R68, R69, R77
5ea 20K (red, black, orange)	R16, R33, R37, R60, R61
4ea 4K7 (yellow, violet, red)	R12, R31, R45, R51
3ea 1M (brown, black, green)	R22, R42, R67
3ea 33K (orange, orange, orange)	R35, R39, R63
3ea 100K (brown, black, yellow)	R20, R41, R57
2ea 62K (blue, red, orange)	R36, R62
2ea 47 ohms (yellow, violet, black)	R48, R49
2ea 2K (red, black, red)	R50, R55
2ea 13K (brown, orange, orange)	R54, R76
2ea 1K3 (brown, orange, red)	R70, R72
1ea 7K5 (violet, green, red)	R11
1ea 27K (red, violet, orange)	R14
1ea 6K8 (blue, gray, red)	R15
1ea 150K (brown, green, yellow)	R18
1ea 5K1 (green, brown, red)	R25
1ea 510K (green, brown, yellow)	R26
1ea 3K6 (orange, blue, red)	R28
1ea 1K8 (brown, gray, red)	R29
1ea 39K (orange, white, orange)	R34
1ea 300K (orange, black, yellow)	R40
1ea 2K7 (red, violet, red)	R71
5ea 100K 1% (brown, black, black, orange)	R2, R3, R4, R7, R80
2ea 243K 1% (red, yellow, orange, orange)	R5, R6
1ea 54K9 1% (green, yellow, gray, red)	R9
1ea 1M 1% (brown, black, black, yellow)	R10
1ea 412K 1% (yellow, brown, red, orange)	R65
1ea 1K 1% 3W TEMPCO	R8

IC bag, containing the following 23 parts:

1ea TL074ACN quad op amp	U1
1ea LM393N dual comparator	U2
3ea TL072 dual op amp	U3, U6, U7
1ea NE5517 dual OTA	U4
1ea OP275GP dual op amp	U5
1ea CA3080AE OTA	U8
5ea BC560C PNP transistor	Q2, Q3, Q7, Q8, Q14
7ea BC550C NPN transistor	Q1, Q4, Q5, Q10-Q13
2ea BF245A JFET	Q6, Q9
4ea 1N4148 signal diodes	D1, D2, D3, D4

Misc #1 bag, containing the following 4 parts:

2ea Axial ferrite beads (plain, gray things)	L1, L2
1ea MTA-156 power connector	JP1
1ea 4x2 header strip w/shunt	{for LED SELECT}
1ea bi-color LED with leads	
2ea really tiny turret posts	in JP2 position

Knobs, 3ea, ALCO PKES90B1/4

Jacks, 8ea Switchcraft 112A

Pots, 3ea containing the following:

3ea 100K cermet Spectrol 149	VR1 – VR3
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Front panel

Mounting bracket

Wire bag, containing the following 9 wires:

3ea RG-174 coax, 4 ½ inches	
1ea RG-174 coax, 7 inches	
4ea 2-wire set, 22ga, 6.5 inches (white/orange)	
1ea Power Cable, 20"	

Hardware bag, containing:

4ea #8-32 x 3/8 black screws (for mounting module to rack)

4ea #6-32 x 1/2 zinc screws (for attaching pc board to bracket)

4ea 1/4 inch aluminum spacers

6ea #6 KEPS nuts (2 for attaching bracket to front panel, 4 for pc board)

6ea small tie-wraps

Organic Solder

No-clean Solder

PC Board, MOTM-320