



**synthesis
technology**

**MOTM-120 Sub-Octave Multiplexer
Assembly Instructions
and User's Guide**

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MOTM-120 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 18 parts:

3ea 10mfd, 50V Electrolytic	C3, C4, C6
3ea 220pf ceramic axial	C12, C15, C18
1ea 0.47mfd (470N) yellow box polycarbonate	C7
11ea 0.1mfd (104) ceramic axial	C1, 2, 5, C8-11, C13, 14, 16, C17

Resistor bag, containing the following 23 parts:

8ea 100K 5% (brown, black, yellow)	R4 - R9, R11, R12
7ea 10K 5% (brown, black, orange)	R1, R2, R3, R16, R17, R21, R22
3ea 1K 5% (brown, black, red)	R13, R14, R19
2ea 2M2 5% (red, red, green)	R18, R23
2ea 4M7 5% (yellow, violet, green)	R15, R20
1ea 33K 5% (orange, orange, orange)	R10

IC bag, containing the following 8 parts:

2ea 74HC161 counter	U1, U2
1ea 74HC08 quad AND gate	U3
1ea 74HC157 quad 2:1 mux	U5
2ea LM311 comparator	U7, U8
1ea TL072 dual op amp	U6
1ea LM78L05 5V voltage regulator	U4

Misc #1 bag, containing the following 6 parts:

2ea Axial ferrite beads (plain, gray things)	L1, L2
3ea SPDT toggle switch	SW1, SW2, SW3
1ea MTA-156 power connector	JP1

Knobs, 6ea, ALCO PKES90B1/4

Jacks, 3ea Switchcraft 112A

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Pots, containing the following:

4ea 100K linear, Spectrol 149	VR1-4
2ea 100K linear, Bourns 91 (panel mount)	VR5 & VR6

Front panel

Mounting bracket

Wire bag, containing the following 10 wires:

2ea RG-174 coax, 4 1/2 inches
1ea RG-174 coax 7 inches
4ea red/black twisted pair
1ea orange/white twisted pair
1ea yellow 3 1/2 inches
1ea blue wire 2 inches

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 heatshrink tubing
5ea small tie-wraps

Organic Solder

No-clean Solder

PC Board, MOTM-120 REV A

Power cable