



**synthesis
technology**

**MOTM-190 μ VCA
Assembly Instructions & Owner's Manual**

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Dec. 10, 2002

MOTM-190 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 22 parts (there is **NO** C1-C8):

4ea 10mfd, 50V Electrolytic	C9, C10, C14, C17
2ea 3M3, 50V non-polar Electrolytic	C18, C23
4ea 1N (0.001uf) yellow box cap	C13, C27, C28, C29
10ea 0.1mfd (marked 104) ceramic axial	C11, C12, C15, C16, C19-21
	C24, C26, C30
2ea 22pf (marked 22P, 22J or 220) ceramic	C22, C25

Resistor bag, containing the following 45 parts (all are 5% tolerance):

6ea 100K (brown, black, yellow)	R4, R26, R33, R34, R35, R37
4ea 10K (brown, black, orange)	R11, R21, R25, R45
4ea 20K (red, black, orange)	R18, R19, R22, R24
3ea 15K (brown, green, orange)	R16, R29, R43
3ea 180 ohm (brown, gray, brown)	R20, R27, R36
2ea 4K7 (yellow, violet, red)	R3, R42
2ea 12K (brown, red, orange)	R8, R31
2ea 220K (red, red, yellow)	R9, R10
2ea 1K (brown, black, red)	R12, R32
2ea 1M (brown, black, green)	R13, R28
2ea 27K (red, violet orange)	R17, R30
1ea 130K (brown, orange, yellow)	R1
1ea 47K (yellow, violet, orange)	R2
1ea 2K (red, black, red)	R5
1ea 150K (brown, green, yellow)	R6
1ea 100 ohm (brown, black, brown)	R7
1ea 68K (blue, gray, orange)	R14
1ea 56K (green, blue, orange)	R15
1ea 5K1 (green, brown, red)	R23
1ea 7K5 (violet, green, red)	R38
1ea 3K3 (orange, orange, red)	R39
1ea 75K (violet, green, orange)	R40
1ea 43K (yellow, orange, orange)	R41
1ea 680 ohm (blue, gray, brown)	R44

IC bag, containing the following 22 parts:

4ea TL072A dual op amp	U1, U3, U6, U8
1ea CA3280 dual OTA	U4
2ea OP275GP dual op amp	U5, U7
1ea LM78L05 voltage regulator	U2

7ea 1N4148 diodes	D1-D7
4ea BC560C PNP transistors	Q1-Q4
3ea BC550C NPN transistors	Q5-Q7

Misc #1 bag, containing the following 8 parts:

2ea Axial ferrite beads (plain, gray things)L1, L2	
1ea MTA-156 power connector	JP1
1ea DPDT toggle switch	SW1
1ea SPDT toggle switch	SW2
1ea Bourns 3296 10K 25-turn trimmer	TP1
2ea Bourns 3386 100K trimmer	TP2, 3

Knobs, 3ea, ALCO PKES90B1/4

Jacks, 6ea Switchcraft 112A

Pots, 3ea containing the following:

3ea 100K cond. plastic Spectrol 148	VR1-3
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Front panel

Mounting bracket

Wire bag, containing the following 10 wires:

2ea 3-wire set 22ga. (orange/white/gray) short
4ea RG-174 coax, 5 inches
3ea 2-wire set, 22ga, 3 ½ inches (red/black)
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
4ea #6 KEPS nuts
5ea small tie-wrap

Organic Solder

No-clean Solder

PC Board, MOTM-190