

# Miniwave Expander Assembly Instructions

## Power

Power is supplied to the PCB by a standard MOTM / Blacet AMP .156 MTA connector at 15V. The on board regulator brings the voltage to +5V necessary to run the circuitry.

## Sockets

I would recommend the use of sockets for the 9 EPROM locations to allow removal of the EPROMS. The board has been designed with the EPROMS fairly close together, so some ZIF sockets may not fit. The Aries Lo-Pro ZIF, and the Aries Lock/Eject DIP Socket (same as the Miniwave "B" socket) will fit with no problems.

The socket for J1 which receives the DIP28 plug to connect to the main Miniwave board **must** be of the screw machined variety such as the Mill-Max 110 series. The DIP28 plug will not reliably stay connected to a leaf socket.

This also means that the "A" socket on the Miniwave needs to be dealt with as it is a leaf socket and the DIP28 plug needs to plug into that socket. What seems to be the best approach is to plug a Mill-Max 110 series socket into the Miniwave "A" socket, and then plug the DIP28 plug into the Mill-Max socket.

## Modification To The Miniwave

In order for the switching to work with 10 EPROMS, it is necessary to remove the A / B bank switch on the Miniwave by de-soldering S1-1, S1-2, and S1-3. Then run a jumper from S1-1 to S1-3. This will allow the remaining EPROM in the "B" socket to be selected by the expander board switch as EPROM 0. Remove resistors R26 and R27 from the Miniwave, they are no longer needed.

## Switching Circuit

- Solder in 100K resistors R0-R9.
- Install a MTA .100 10 pin header at J3 for the rotary switch to connect to. The switch could be wired directly to the board if desired. Connect the common lug on the switch to the ground pad on the expander.

Do **not** install J4 header, or the 74C42 at U10. These components were intended for BCD switching which proved to not operate correctly.

## **Power Section**

- Solder a MTA .156 header at J2.
- Solder a ferrite bead at L1.
- Solder the 10uF electrolytic capacitors at C1 and C2. Observe their polarity. The parts list shows them to be 100V, but they can be anywhere from 25V TO 100V. The lead spacing on the listed capacitor fits well into the pads on the board.
- Solder the 78L05 +5V Voltage Regulator at U1. **Note:** The silkscreen legend is backwards on the PCB. Mount the regulator opposite the silkscreen, or with the flat towards the MTA .156 connector.

Location	Part Description	Mouser Part#
C1, C2	10uF 100V Electrolytic Radial Capacitor	140-XRL100V10
L1	Ferrite Bead	623-2743001112
R0-R9	100K 1/4 Watt Resistor	271-100K
U1-U9	User Supplied 27C512 EPROM	
U11	78L05 +5V Voltage Regulator	511-L78L05ACZ
J1	Mill-Max DIP28 Socket	575-193628
J2	AMP .156 MTA 4 Pin Header	571-6404454
J3	AMP .100 MTA 10 Pin Header	571-16404540
	Aries ZIF Socket	535-28-526-10
	Lorlin 12 Position Rotary Switch	105-14571
	Mill-Max DIP28 Socket	575-193628
	DIP28 Plugs	Jameco #99670