## K149A, K149B, K150 Hardware Modification

When these kits are placed into a reset state, all the programming voltages appear in the programming socket and ICSP pins. This will happen when the board is turned on and MicroPro is not connected, and when MicroPro resets the board.

To stop this from happening it is suggested to use the modification as shown below.

This requires the addition of three (3) 3K3 1/4W resistors - Rm1, Rm2, and Rm3.

These can be soldered underneath the PCB.

Disconnect power and carefully remove the PIC16F628 chip from its socket before attempting to solder the resistors in place.

For K149-A(B), one resistor end is soldered to each of the 74LS06 chip on pins 1, 3 and 5. The other ends are soldered to ground (pin 7).

For K150, one resistor end is soldered to each of the PIC socket pins 11, 12 and 13. The other ends are soldered to ground (pin 5).

See the diagram below.

After soldering the resistors, replace the PIC chip and after verifying that it is inserted correctly, apply power. With the negative lead of a multimeter connected to ground, use the positive lead to make sure that there are no voltages present in the programming socket.

Run MicroPro and test your board by trying to program any chip.

