

## 3149A, 3149B, 3150v1 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 3149-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).

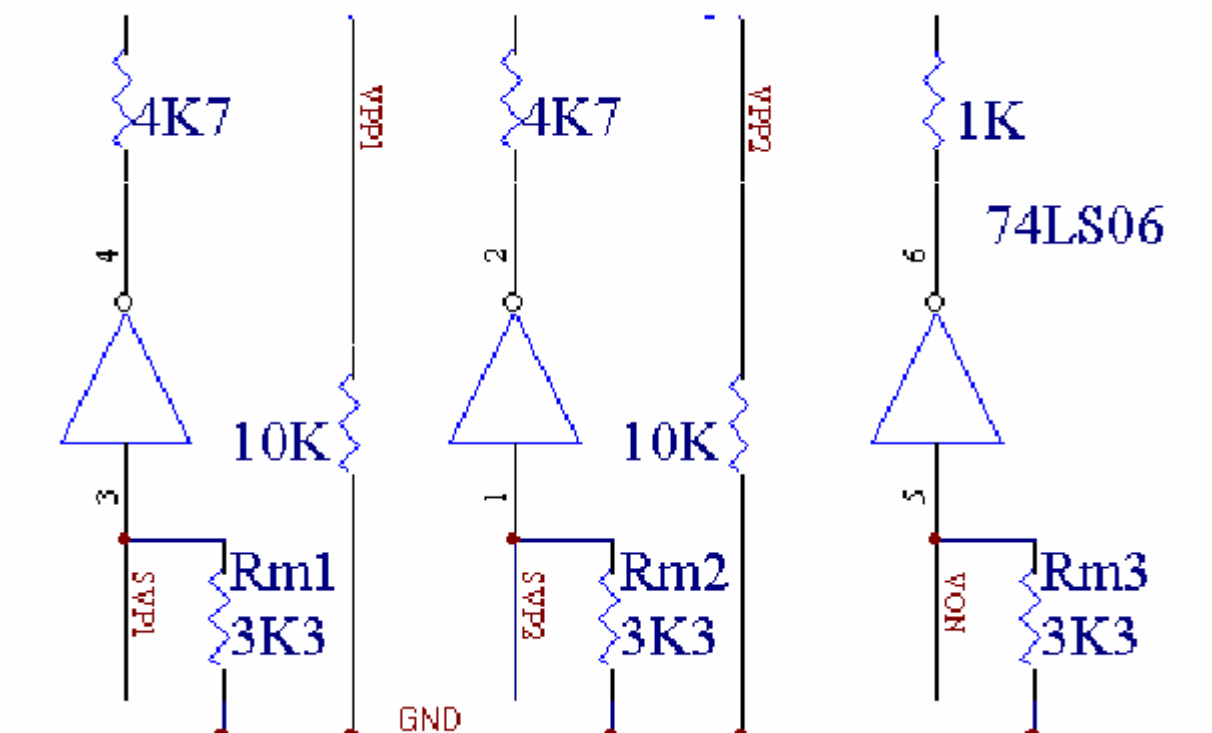
For 3150v1, one resistor end is soldered to each of the PIC socket pins 11, 12 and 13. The other ends are soldered to ground (pin 5).

**Please note that 3150v2 and 3149C PCBs do NOT need this modification.**

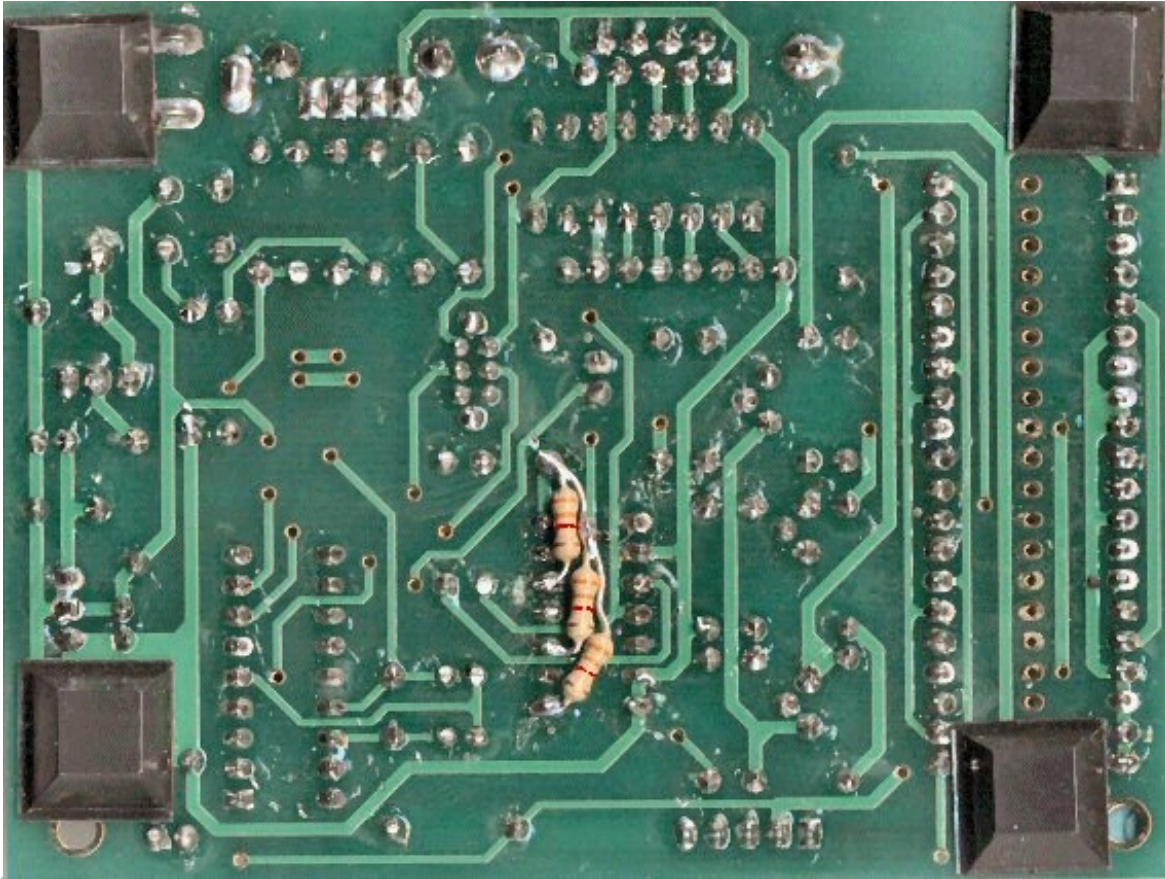
See the diagram below.

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.



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### 3149B Board Modification

#### **WARNING!**

To avoid damaging your programmer, please ensure that devices are placed in the programming socket with the correct orientation and position as indicated by the Micropro software interface.

The programming socket should be empty when powering the programmer up or down or applying a reset.