

## QuickWriter™ Dual VPP Modification Instructions

### Description:

Due to changes in programming specifications, some PICmicro® MCU microcontrollers require a reduced VPP during High Voltage programming. If the modification described in this document is performed, older versions of QuickWriter hardware can be upgraded for Dual VPP operation.

After the modification is completed, a simple test can be performed from QuickWriter software version 2.6.7 (or higher). If the test is successful, the hardware version will be updated to indicate Dual-VPP functionality.

This upgrade applies to all versions of hardware from 1.0 through 2.1

To perform the upgrade, you will need the following:

- Resistor (axial, 15.4K, 1/4W, ±1%)
- Replacement LED (T-1 3/4 [5mm])
- Wire (2", 24-30 AWG)
- Small, flat blade screw driver.
- Soldering Iron with solder.

The following section describes the modification procedure in simple illustrated steps.

### Solution:

1. Find the two notches on the side of Quickwriter's case (in the ribbed area) and select a small, flat blade screw driver that will fit within the notched area as shown below.



2. Insert the screw driver in the notch and apply forward pressure.

3. Slightly twist the blade counter clockwise.

4. Repeat steps #1 and #2 for the second notch, then apply a slight downward force that will finish separating the case into two sections.



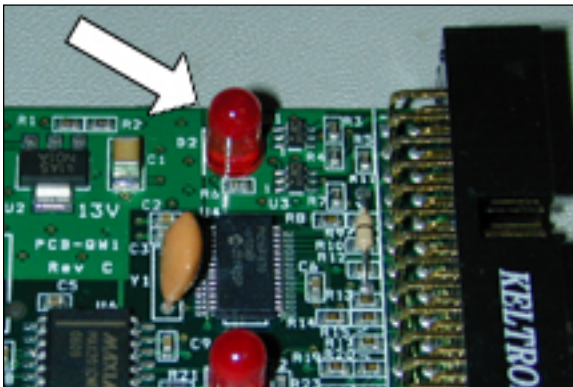
5. Remove the PC board from the case.

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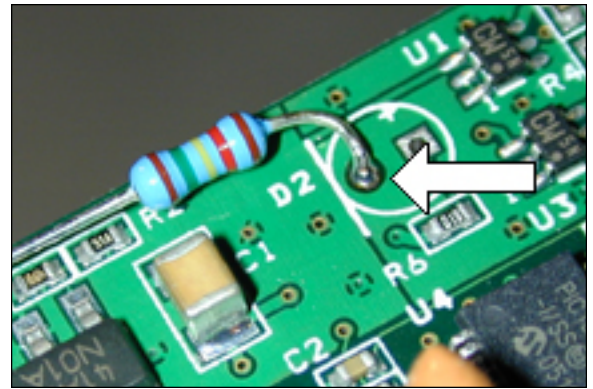
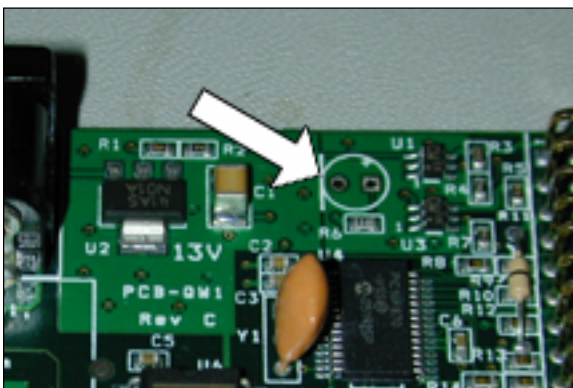
6. Locate and remove the POWER LED (D2) as identified by the arrow in the picture below.

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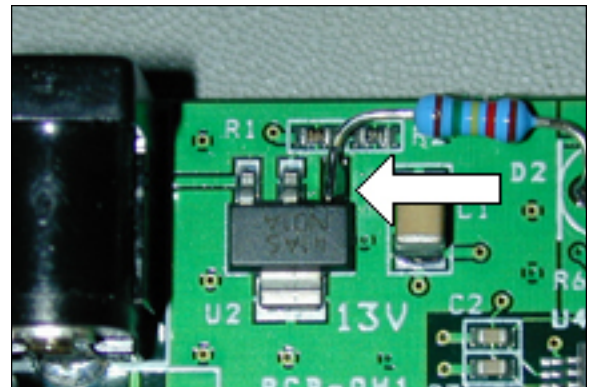
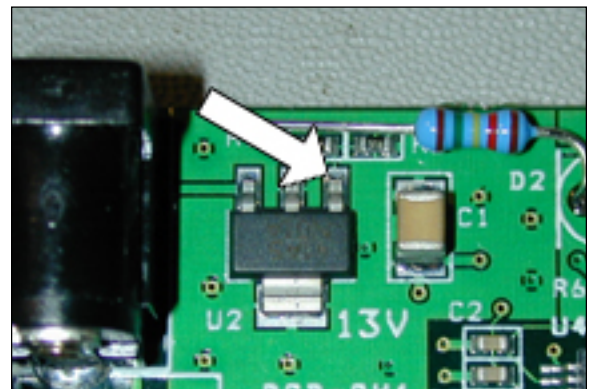
7. Solder 1 lead of the axial resistor in the round hole previously occupied by the LED near the D2 indicator. CAUTION: DO NOT connect to the hole with the square pad near the "+" indicator (this position will be used to power the replacement LED).

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8. Trim and bend the other lead of the resistor so that it can be soldered to the regulator (U2) pin identified below. CAUTION: Closely inspect the exposed resistor lead and avoid any contact with other components.

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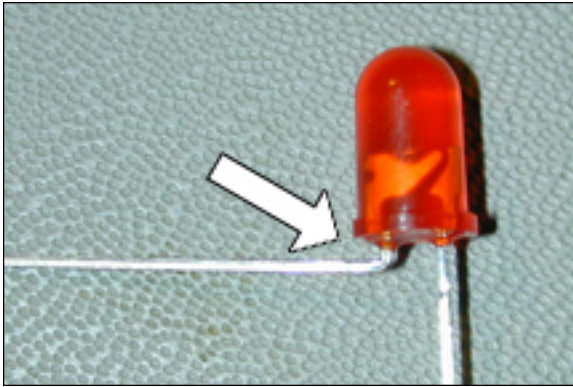


9. Bend the cathode lead (near the flat edge of the LED) perpendicular to its base, so that it will protrude out from the side of the LED. Keep this bend flat against the bottom of the LED to prevent it from sitting too high when soldered in place. If the LED is too high it will interfere with the programmer's case on re-assembly.

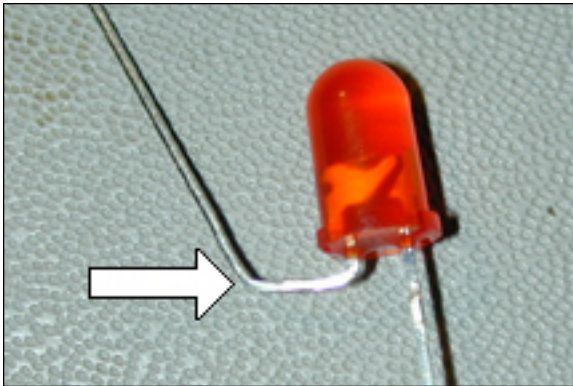
10. Now bend the same lead upward. This lead will be used to attach the wire to a grounding point, so leave enough space between the lead and the side of the LED for soldering.

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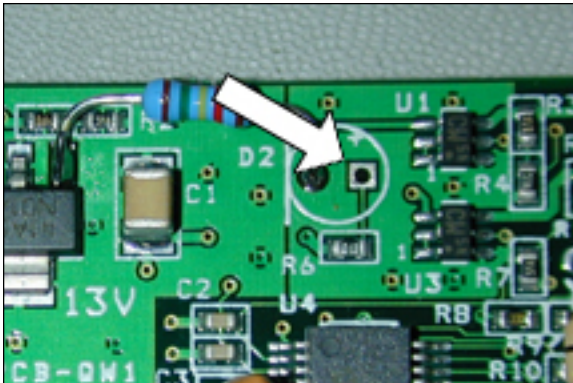


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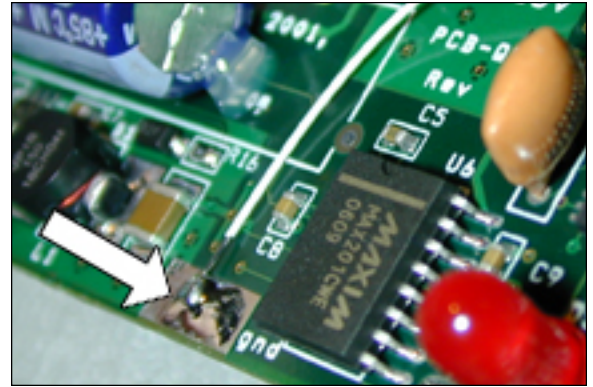
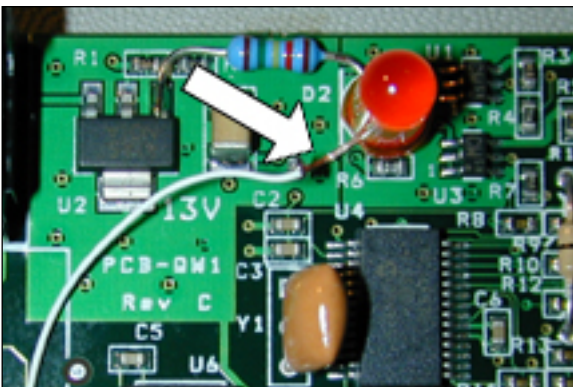
11. Solder the LED in the remaining hole of D2, making sure to turn the LED slightly away from the resistor connection.

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12. Attach the wire between the free lead of the LED and the ground point (gnd) as shown below.

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13. Now that the soldering is complete, closely inspect all connections before re-assembling the programmer. If all connections pass the visual inspection, Insert the PC board in the case and snap the case halves together.

14. Connect the power adapter and serial cable, then launch the QuickWriter software (Version 2.6.7 or above).

15. After the software has loaded, you need to run the Dual-VPP test utility (Help - Dual-VPP Test). This utility will switch the VPP voltage to its HIGH RANGE and perform measurements. The measured voltage will be displayed while this operation is being performed. If the high range is within acceptable limits, the test will proceed to LOW RANGE testing. If any failure occurs you will be notified, otherwise the utility will proceed to update the hardware version stored in the programmer.

16. The modification is now complete. With the newly modified hardware you can safely program newer PICmicro MCUs that require the reduced VPP programming. The hardware will now automatically switch to the proper voltage range for the selected MCU when used with software version 2.6.7 (or greater) and firmware version 10.6 (or greater).

## Version Chart

Old Version = Dual-VPP Version (MOD 3)  
 1.0 = 3-0 (MOD 3-user)  
 1.1 = 3-1 (MOD 1-user, MOD 3-user)  
 2.0 = 3-2 (MOD 1-factory, MOD 3-user)  
 2.1 = 3-6 (MOD 1,2-factory, MOD 3-user)  
 NA= 3-E (MOD 1,2,3-factory)

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