

# LightLEEDer Firmware Up-Date Technical Bulletin

LightLEEDer panel controllers have an internal firmware program that can be up-dated in the field when required. These up-dates are done by an ILC technician and require a firmware programming tool and copy of the current revision of firmware. The LL panel controller board should have a label that states its current firmware level.

## Firmware confirmation

The LightLEEDer panel firmware can be confirmed by looking for the label on the CPU listing the Rev number when the product was shipped. If the firmware is up-dated, this label should be revised. If no label is found the operator can use the Keypad to confirm the firmware revision.

1. From the home screen, press ► EDIT (**Networked Panels connect to the Network Controller Node 00 as shown in Section 3.0**)
2. Scroll ▼ until SPECIAL FUNCTIONS appears
3. Press ► to select SPECIAL FUNCTIONS
4. Press ► and select FIRMWARE REVISION

Contact ILC Technical Support for confirmation of the current firmware for your board and assistance in the up-dating process.

## Tools for up-dating the LightLEEDer panel firmware

You will need a **PE micro USB Multilink Interface Flash Programmer** with the PE micro software installed on a laptop PC (PROG12Z – 68CH12 Flash Programmer), This device will require a USB cable for connection to your PC and 2x3 (6 pin) header interface for the ribbon cable, see Figure 1.



Figure 1

Note: When up-dating the firmware in the field, you may need to power down the board and remove the keypad to gain access to the programming port on the boards left side. In our example photos we are showing the board only, you do not need to remove the board to up-date the firmware, and the current operating program in the LightLEEDer panel will be retained during the firmware up-date process.

### Firmware up-date process

- 1) Plug the USB cable into your computer. Connect the other end of the USB cable to the PE micro programmer. The blue LED on the PE micro programmer should turn on, see Figure 2.

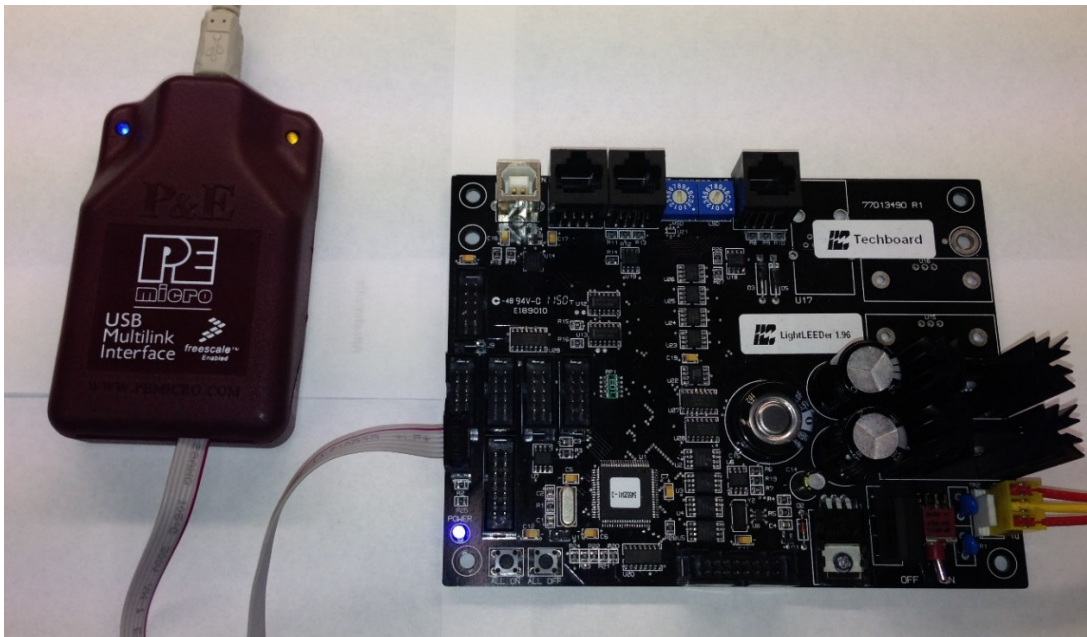


Figure 2

- 2) Plug the 6-pin male header from the PE micro flash programmer into the programming port on your board. Align the Red wire on the programmer to pin-1 on the programming port. For a LightLEEDer controller board (97013490) the red line on the cable should be on the top with the wire running to the left, see Figure 3.

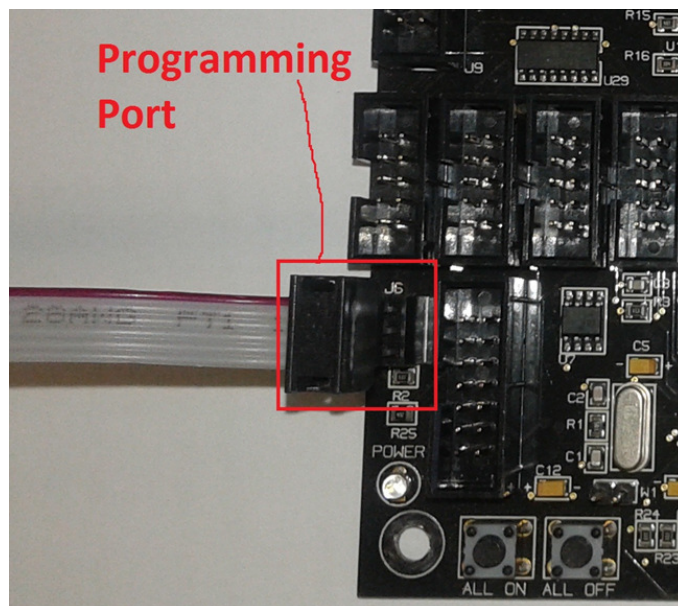


Figure 3

- 3) Power up the LightLEEDer control board to be programmed. The yellow LED on the PE micro flash programmer should light up, see Figure 2.
- 4) Open the PE micro program “**PROG12Z - 68HC12 Flash Programmer**” on your computer.
- 5) Do not change any of the standard settings and Click “**OK**”
- 6) If the “**PEMICRO Connection Manager**” screen appears, the *Interface* and *Port* boxes should be auto populated, the *Target CPU* “HC12/HCS12” should be Autodetected, Click the “**Connect (Reset)**” button, see figure 4.

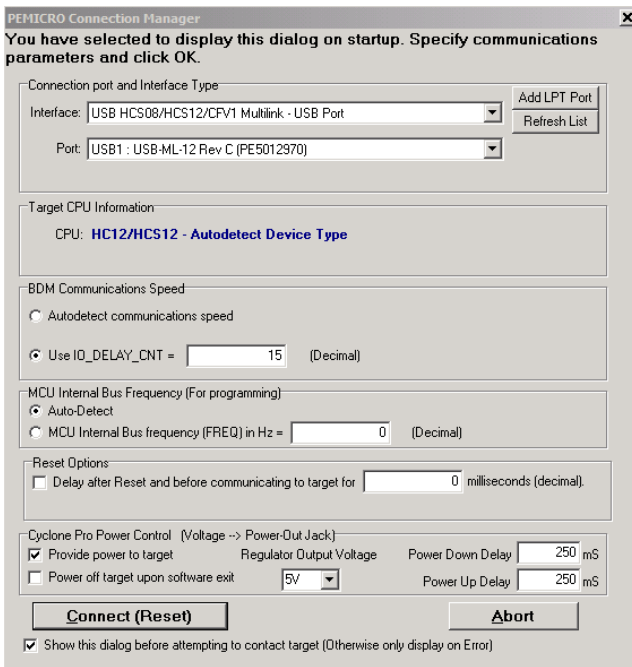


Figure 4

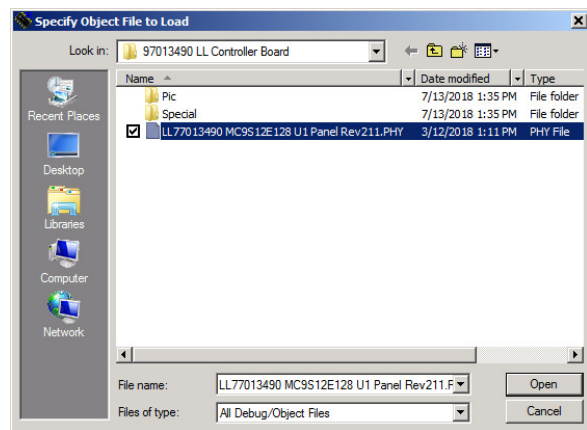


Figure 5

- 7) When prompted to “*Specify Programming Algorithm to use*” select “**Freescale\_MC9S12E128\_1x16x64k\_128k\_Linear\_16k\_page.12P**” and Click “**Open**”.
- 8) In the *Configuration and display command* screen double click “**SS Specify Object File**” and when prompted, browse to the folder location on your PC that has your copy of the firmware. Select the firmware file for your LightLEEDer board and Click “**Open**”, see Figure 5.
- 9) Double click “**EM Erase module**”. Wait for the module to be erased.
- 10) Double click “**Program module**”. Wait for the module to be programmed.
- 11) Double click “**Quit**” this will exit you from the program and close the PE micro software.
- 12) Power down the board that you were programming, then disconnect the PE micro programming header from the board.
- 13) Restart the LightLEEDer controller board and use the keypad to confirm the firmware revision.
- 14) Up-date the label to reflect the new revision of firmware.

You should now be able to continue using the LightLEEDer panel.