Northern Lights Electronic Design

www.NLEDShop.com/bootloader www.NorthernLightsElectronicDesign.com

Updating NLED Controllers Using The USB H.I.D. Bootloader

Most NLED controllers offer bootloader support, a bootloader allows the device's firmware to be updated over a USB(or serial in some cases) cable and a small program. Updating the firwmare allows bugs to be fixed and features to be added. Check your devices webpage for update information or contact Support@NLEDshop.com if you found a bug or have any questions about usage.

Find the most recent device updates at www.NLEDshop.com/deviceupdates & in the NLED Aurora Control software folder in /deviceupdates/

Required Hardware and Software:

- **Compatible NLED Controller and Compatible Power Adapter**
- **USB Type A to Type B Cable or Mini USB(see device datasheet)**
- **Computer with Windows, Mac OSX, or Linux**
- **The firmware update file(.HEX) downloaded from the device webpage**
- **Microchip HID Bootloader Software for your OS download from www.NLEDshop.com/bootloader**

Instructions:

- **Power Off Controller**
- **Connect the device to the computer USB Port**
- **Start the Software(shows as Fig. 1) If it won't start, read the included Readme**
- **Hold down the bootloader button (see device datasheet for specific info)**
- **Power up the controller by plugging in the power adapter or flipping the power switch.**
- **Once the device is powered, it will take a second for the software to connect, Fig. 2 Some devices will indicate bootloader mode by blinking or on the LED display.**
- **Release the device bootloader button**
- **Use the open file dialog button and select the firmware update file(.HEX)**
- **Then Click the Program/Verify button**
- **It will take a few seconds to write the firmware when it is finished, restart the controller by either power cycling the device or pressing the reset button. On some devices it may state that the upload did not properly verify, but it actually did. Ignore Error.**

Fig. 1

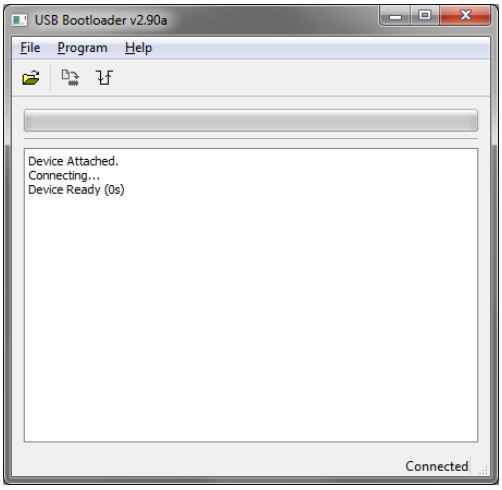
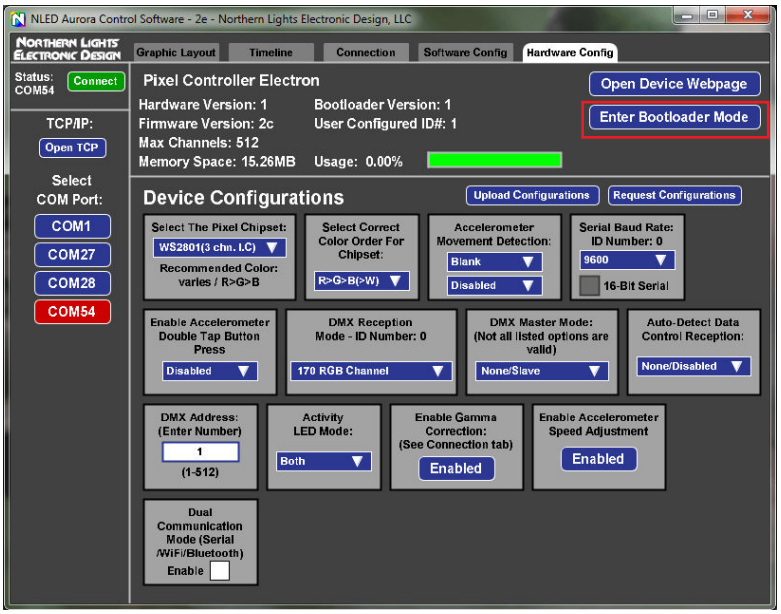


Fig. 2

Revision: 3

Bootloader Entry Through Software Or Commands



Aurora Method:

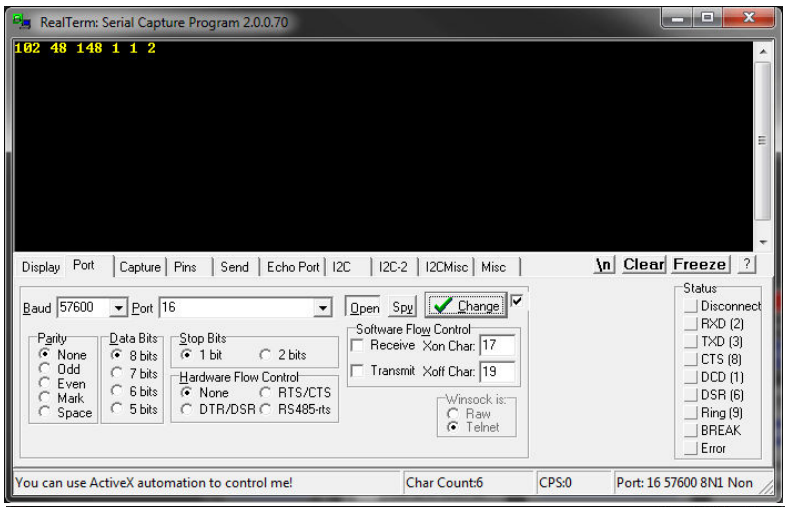
► **Connect the controller to the software.**

► **Click the Enter “Bootloader Mode” button.**

► **Not all controllers have this capability.**

► **If it successfully enters bootloader mode the software will close the serial port connection.**

► **Open the booloader software and follow the instructions on page 1.**



Command Method:

► **Open a serial terminal, used here is Realterm(no affilation)**

► **Open the correct COM port**

► **Select any baud rate, doesn’t matter**

► **Send as ASCII “NLED11”**

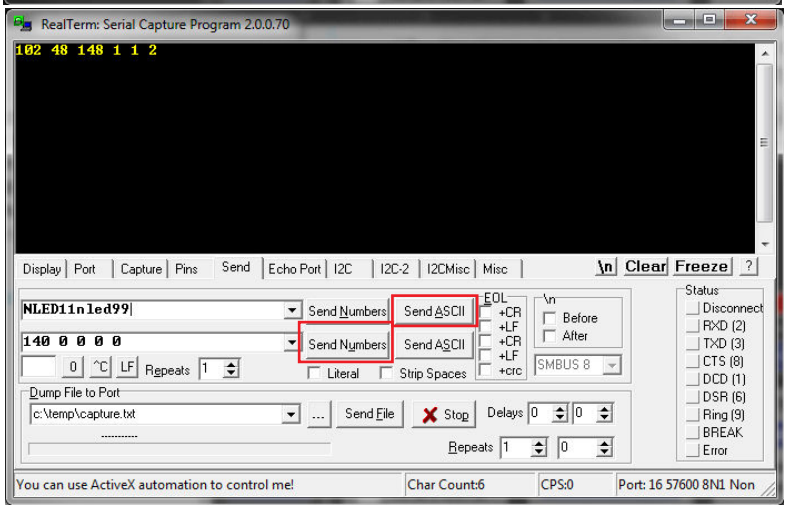
► **Device will respond with “a9”**

► **Send as ASCII “nled99”**

► **Device will respond with “f0”**

► **Send as Numbers “140 0 0 0 0”**

► **Device will then enter bootloader mode**



Revision: 3