



Go2Nova[®] 8408 Hand Controller Firmware Upgrade

The firmware of a Go2Nova[®] 8408 hand controller can be upgraded by the customer. Please check iOptron's website, www.iOptron.com, under Support Directory, for the most up to date firmware.

To upgrade the firmware, you need some or all of the following software/hardware, depends on the upgrading you are performing:

- iOptron Upgrade Utility Program
- 8408 hand controller firmware
- RJ9 serial port to RS232 cable
- USB to RS232 converter and driver. If your computer does not equip a RS232 port (9-pin D-shape connector) except the USB port, you need to buy a USB to RS232 converter, form a computer hardware store or on-line.

1. Prepare the hardware

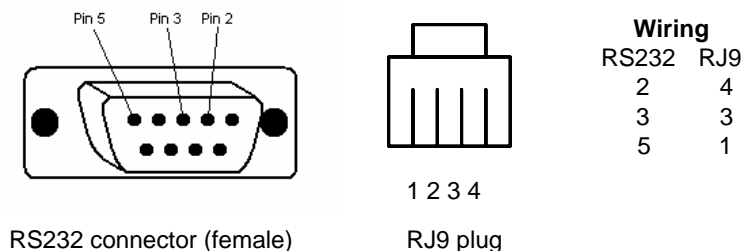
In order to perform the firmware upgrade, as well as to use planetarium software to control the mount via a 8408 hand controller, the communication between the PC and hand controller or mount has to be established.

RJ9 to RS232 cable

The firmware upgrade and computer controller is through a RJ9 serial port on a Go2Nova[®] 8408 hand controller. You need a cable to connect this port to the serial port of a computer. Here is a sample of a RJ9 to RS232 serial cable.



If you are making your own cable, here is the wiring instruction:



USB to RS232 converter

If you are using a computer only has USB ports, like most laptops do, you need a USB to COM converter to convert one USB port to a COM (RS232) port. Here are two examples of USB2COM converters.

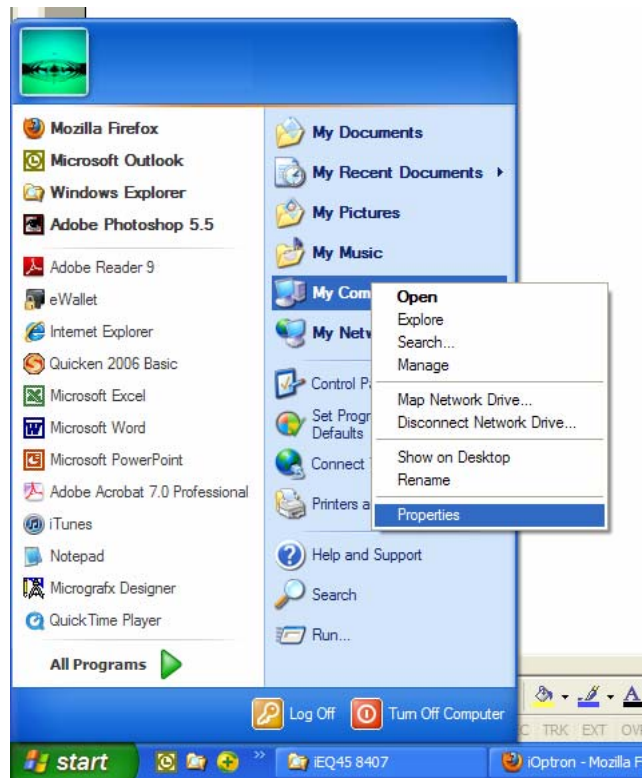


2. Find the serial port (COM port) number from your computer:

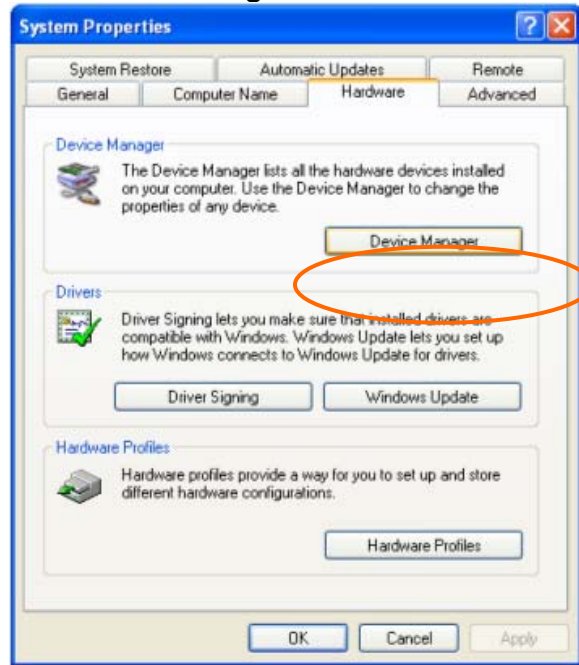
The first step is to find the COM port number. If your computer has a serial port (9-pin D-shape male connector on the back, next to the 25 pin printer connector), the default assigned number is COM1.

If you are using a USB to COM converter to convert one USB port to a COM port, you can find the computer assigned COM port number.

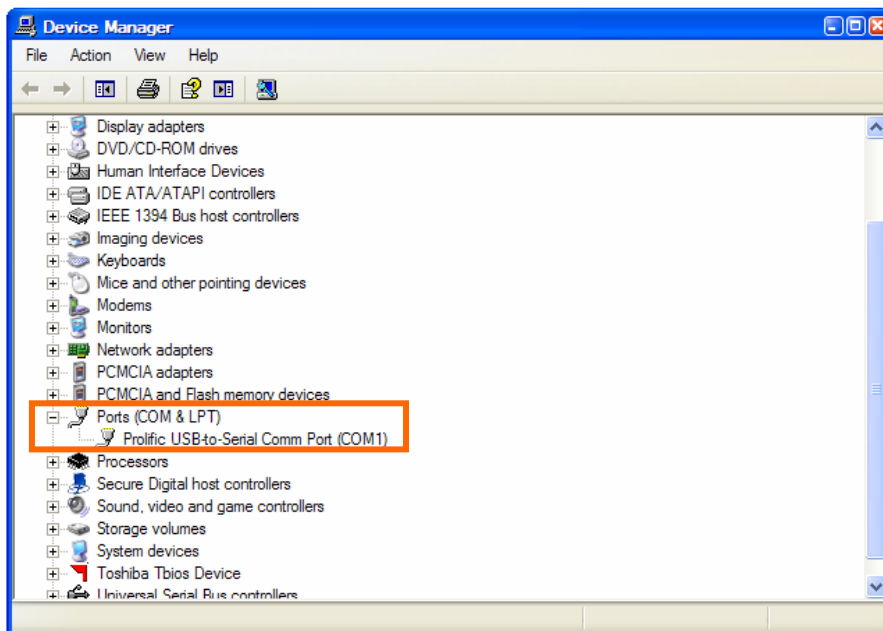
After install the USB2COM driver that comes with the device, click on **Start** located on the left bottom corner of your compute screen. Move the mouse to **My Computer** and right click on it. Move the mouse down and click on **Properties**.



Click on **Hardware** and select **Device Manager**.



Double click on **Ports(COM & LPT)**, find out the COM number and write it down (in the following figure, the USB2COM converter uses a Prolific chipset and the assigned port number is COM1)



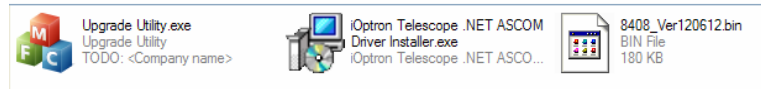
3. Download software and firmware from iOptron website:

Go to iOptron website, www.iOptron.com, click on **Download** tab. Locate **iEQ Mount Firmware** under **Software/Firmware Upgrades** catalog on the left part of the screen, and click on it.

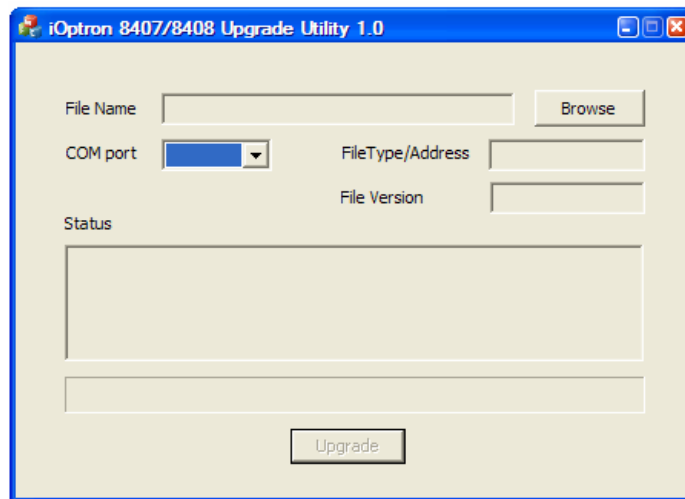
Download and save Upgrade Utility software and Go2Nova 8408 Hand Controller firmware.

4. Upgrade 8408 hand controller firmware:

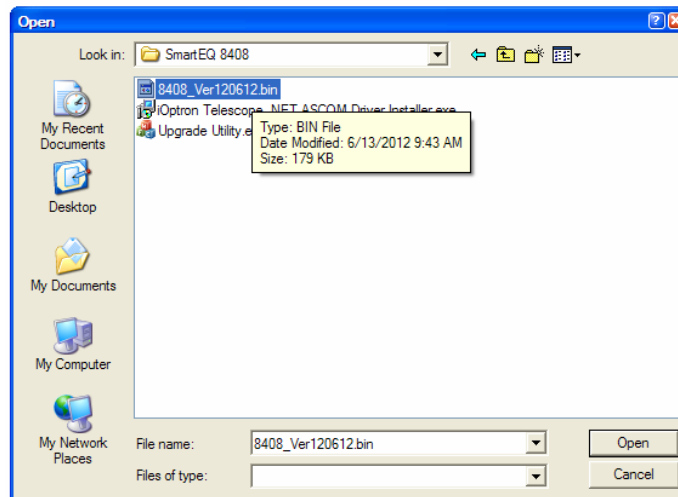
- (1) Connect 8408 hand controller to the HBX port of a SmartEQ mount. Make sure the mount power is OFF;
- (2) Connect RJ9 plug into the serial port of a 8408 hand controller and the 9-pin RS232 connector to your computer's RS232 port (or RS232 port of the USB2COM converter);
- (3) Hold **ENTER** button of the hand controller while switch the ON/OFF button to turn the mount power on;
- (4) Locate download software and click on **Upgrade Utility.exe**:



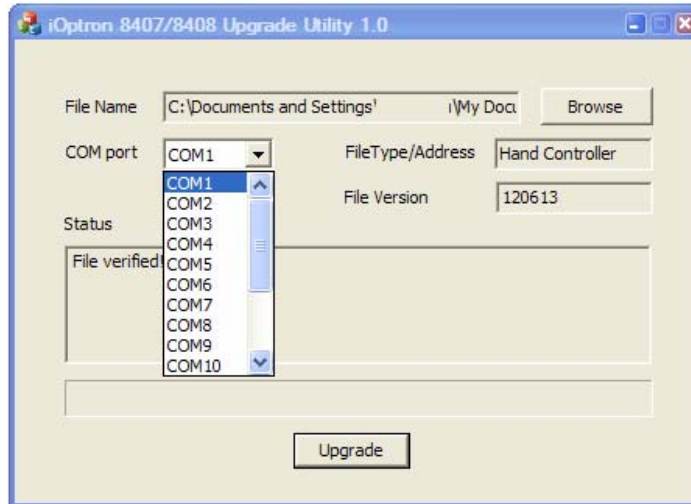
- (5) An iOptron Upgrade Utility window will display. Click on **Browse**:



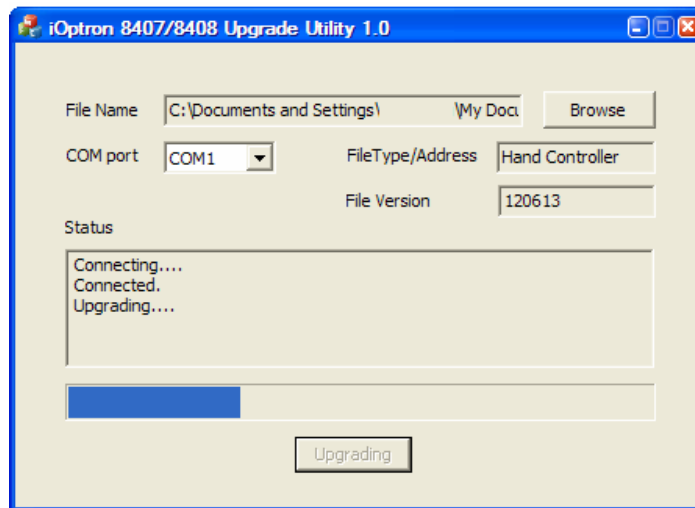
- (6) Select hand controller firmware 8408_VerXXXXXX and click **Open**




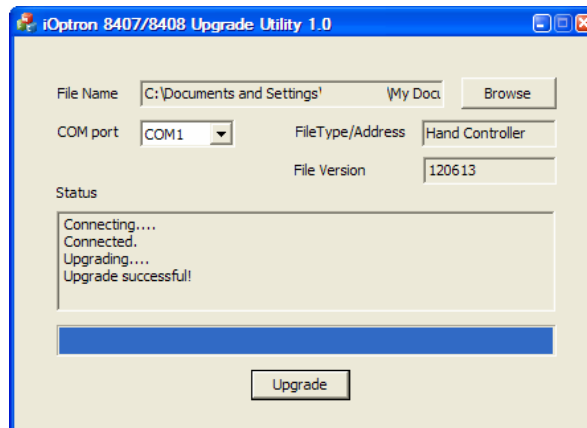
- (7) The **FileType** and **Version** will be verified and displayed. Click on pull down menu of the COM port and select the COM port number. Here is **COM1**.



(8) Click on **Upgrade** button to start the process;



(9) After the firmware upgraded successfully, exit the Upgrade Utility program by click on .



If the upgrade process was disrupted, wrong firmware is loaded, or the firmware does not successfully, just start over it again. Make sure a correct COM port is selected.