

iPano AllView Pro Mount Firmware Upgrade

The firmware of an iPano AllView Pro Camera Mount (iPano) control board can be upgraded by a customer. Please check iOptron's website, www.iOptron.com, under **Support**, for the most up to date firmware.

To upgrade the firmware, you need the following software/hardware:

- iPano Upgrade Utility Program
- iPano control board firmware
- iOptron RS232 to RJ9 serial cable #8421 (included with an iPano mount)
- USB to RS232 converter and driver. If your computer does not equip a RS232 port (9-pin D-shaped connector) except the USB port, you need to buy a USB to RS232 converter, form a computer hardware store or on-line. **We recommend using a converter with a FTDI chipset.**

1. Prepare the hardware

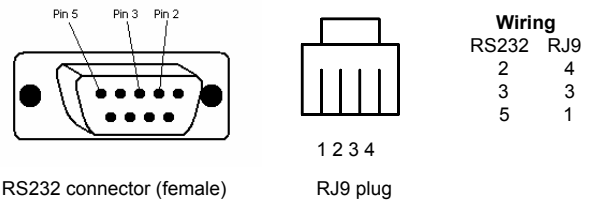
In order to perform the firmware upgrade, the communication between the PC and the iPano mount has to be established.

RS232 to RJ9 serial cable

The firmware upgrade is through the RS232 port on the mount. You need a cable to connect this port to the serial port of a computer. Here is a sample of a RS232 to RJ9 serial cable. **Please do not use other brand cable other than iOptron. They may look exactly same but wired differently.**

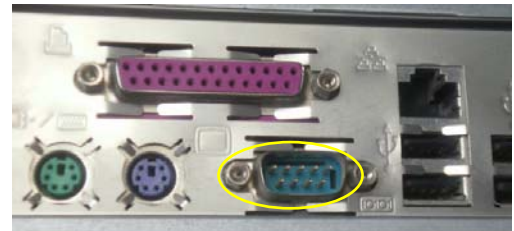


If you are making your own cable, here is the wiring instruction:



Serial (RS232) Port on a Computer

The first step is to find if your computer has a serial port (or RS232 port). The following photos show a native (built-in) serial port on a laptop (left) and a desk top (right). It is a 9-pin D-shaped (DB9) connector. The assigned port number usually is COM1. Minimum 5.0VDC output power at serial connector is needed to ensure reliable data transmission.



USB to RS232 converter

If your computer only has USB ports, like most late PC and laptops do, or the native RS232 port does not perform, you need a USB to COM (RS232) converter to convert one USB port to a RS232 port. Here are two examples of USB2COM converters. Here are two examples of USB2COM converters. We recommend having a converter that uses high quality chipset, such as one from FTDI or Silicon Labs, to ensure a reliable operation.



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

If your computer has a serial port (9-pin D-shape male connector on the back), the default assigned number is COM1.

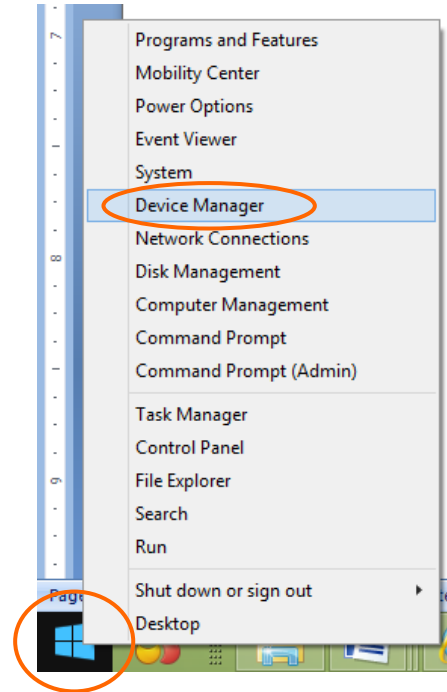
If you are using a USB to COM converter to convert one USB port to a COM port, you can find the computer assigned COM port number.

Set up you mount. Connect the hand controller to the HBX socket on the mount.

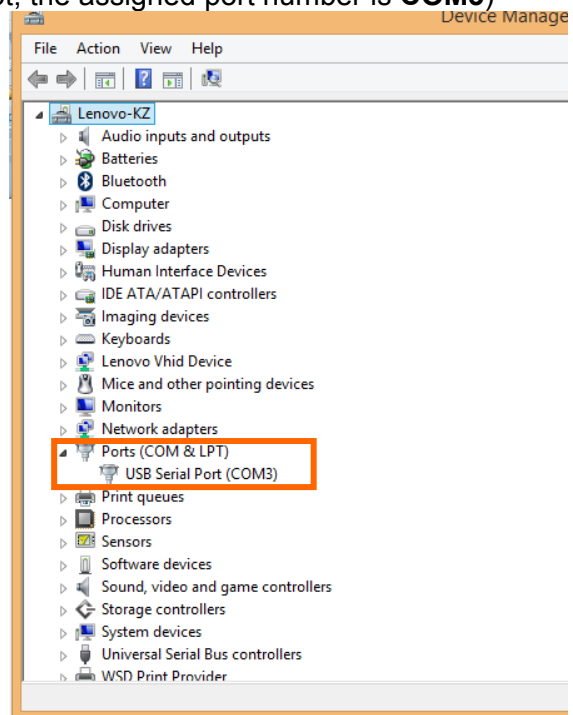
Plug the USB to RS232 converter into one of available USB port and connect the RS232-RJ9 serial cable onto the serial port of the converter.



After install the USB2COM driver that comes with the device, use your mouse' right button to click on **Windows** sign located on the left bottom corner of your computer's screen (Windows 8 as an example). This will bring up a list of tasks as shown in the screen shot below. Move the mouse to **Device Manager** and click onto it.



Click on **Ports (COM & LPT)**, find out the COM number and write it down (in the following screen shot, the assigned port number is **COM3**)



3. Download software and firmware from iOptron website:

Go to iOptron website, www.iOptron.com, click on **Support** tab. Locate **iPano AllView Pro Camera Mount** under **Firmware/Software** catalog and click on it. You may also find the information in iPano AllView Pro Camera Mount product page.

Download and save iPano Upgrade Utility program and iPano control board firmware.

If the upgrade process was disrupted, wrong firmware was loaded, or the upgrade was failed, just start this process over again. Make sure a correct COM port is selected and the RJ9 cable is plug into the mount serial port.

4. Upgrade firmware:

- (1) Connect 4-pin RJ9 plug into the serial port of iPano and the 9-pin RS232 connector to your computer's RS232 port (or RS232 port of the USB2COM converter);



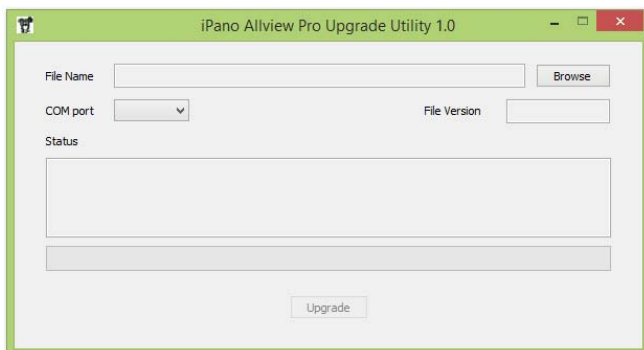
- (2) Hold **OK** button of the iPano while switch the power button (I/O) to turn the mount power on. The mount will enter firmware upgrade mode;
- (3) Locate download software and click on **Upgrade Utility.exe**:

AVP_20151029.bin

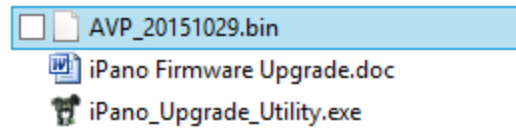
iPano Firmware Upgrade.doc

iPano_Upgrade_UTILITY.exe

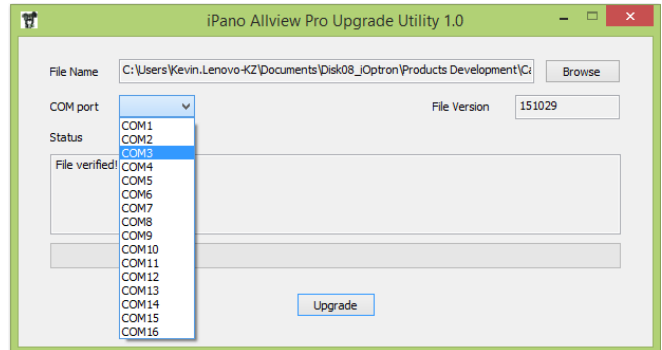
- (5) An iPano Allview Pro Upgrade Utility window will display. Click on **Browse**:



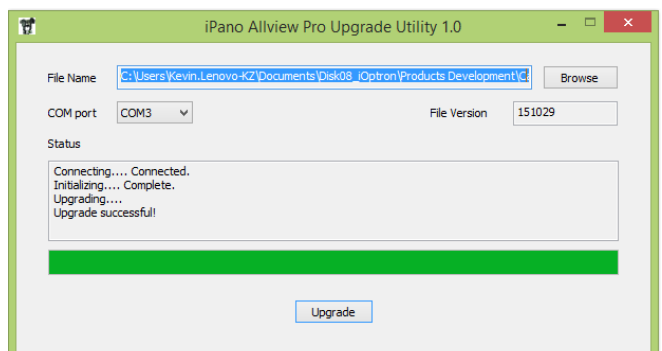
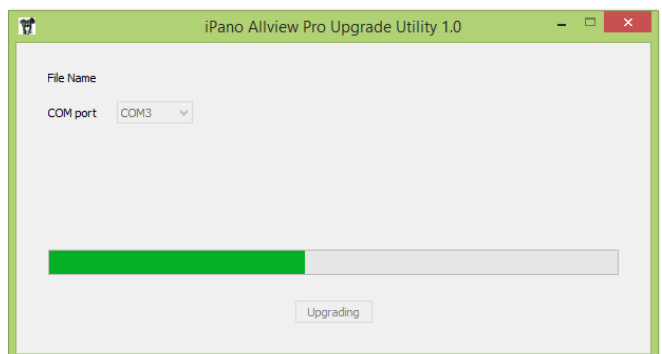
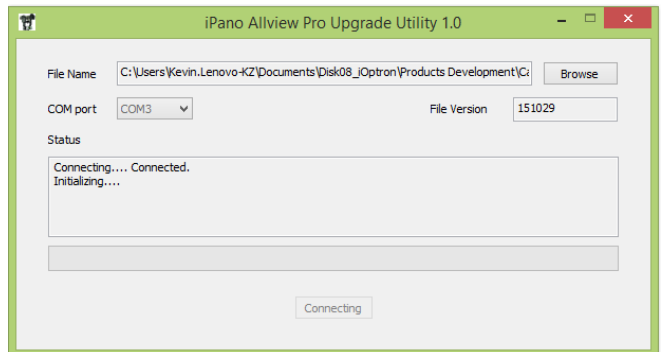
- (4) Select iPano firmware AVP_YYYYMMDD.bin and click **Open**.




- (5) The **File Version** will be verified and displayed. Click on pull down menu of the COM port and select the COM port number. Here is **COM3**.



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



(7) After the firmware upgraded successfully, power cycle the mount. Click on  to exit the Upgrade Utility program.

6. Common Errors During Firmware Upgrade:

(1) Can not open COM port:

- Wrong COM port is selected;
- A mount is not connected;
- A USB to RS232 converter driver is not installed or corrupted;
- A USB to RS232 converter does not work properly.

(2) Connection failed:

- Mount power is not turned on;
- COM port conflict or used by other program. Close other program and try it again;
- Serial cable is not connected to the hand controller;
- Broken RJ9 to RS232 cable;
- A USB to RS232 converter does not work properly;
- Malfunctioned control board;

(3) Upgrade stopped in the middle or failed:

- Cable not plugged in firmly;
- Broken RJ9 or RS232 cable;
- A USB to RS232 converter does not work properly.