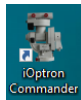# Connect a CEM120 mount to a Computer

There are 4 ways to connect a CEM120 mount to a computer: RS232, USB, Wi-Fi or LAN (Ethernet). You may need a cable and/or converter to make the connection work.

Connect to a Windows computer is via ASCOM Platform (please refer to http://www.ascom-standards.org for detailed info.) The software/firmware needed:
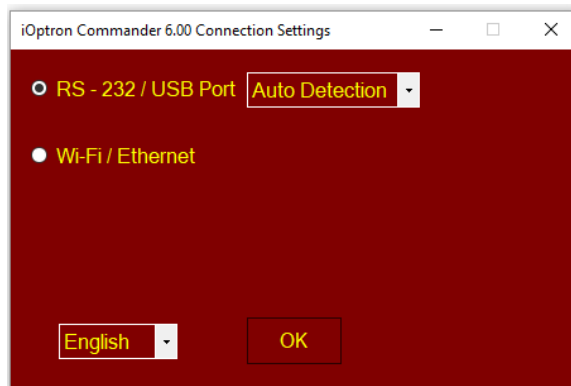
- Windows XP/ Vista/ 7 /8 /8.1 /10 with .NET (dotNET) Framework 4.0 installed;
- Latest ASCOM Platform. Download and install it from http://www.ascom-standards.org;
- iOptron Commander and ASCOM Driver Installer 6.0 or later. Download and install it from iOptron CEM120 product page;
- Latest mount firmware
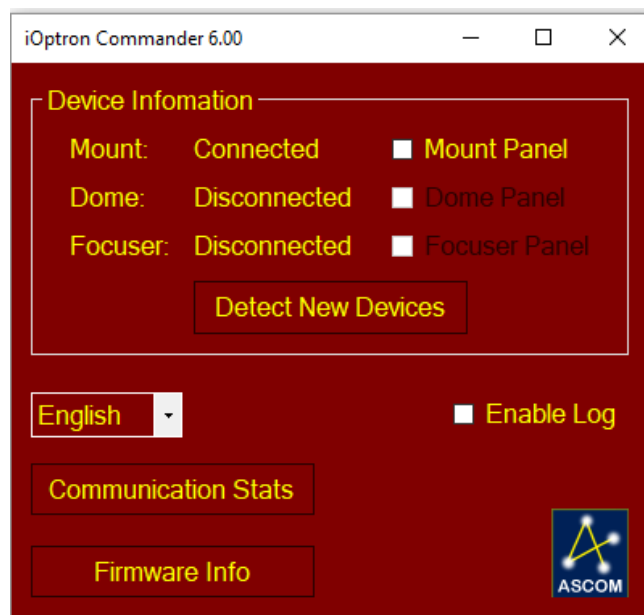
1.1. Connect via RS232

Plug 4-pin RJ9 plug into mount RS232 port. Connect the D-shaped 9-pin RS232 plug to a computer, either directly to a COM port or via a USB-RS232 converter.
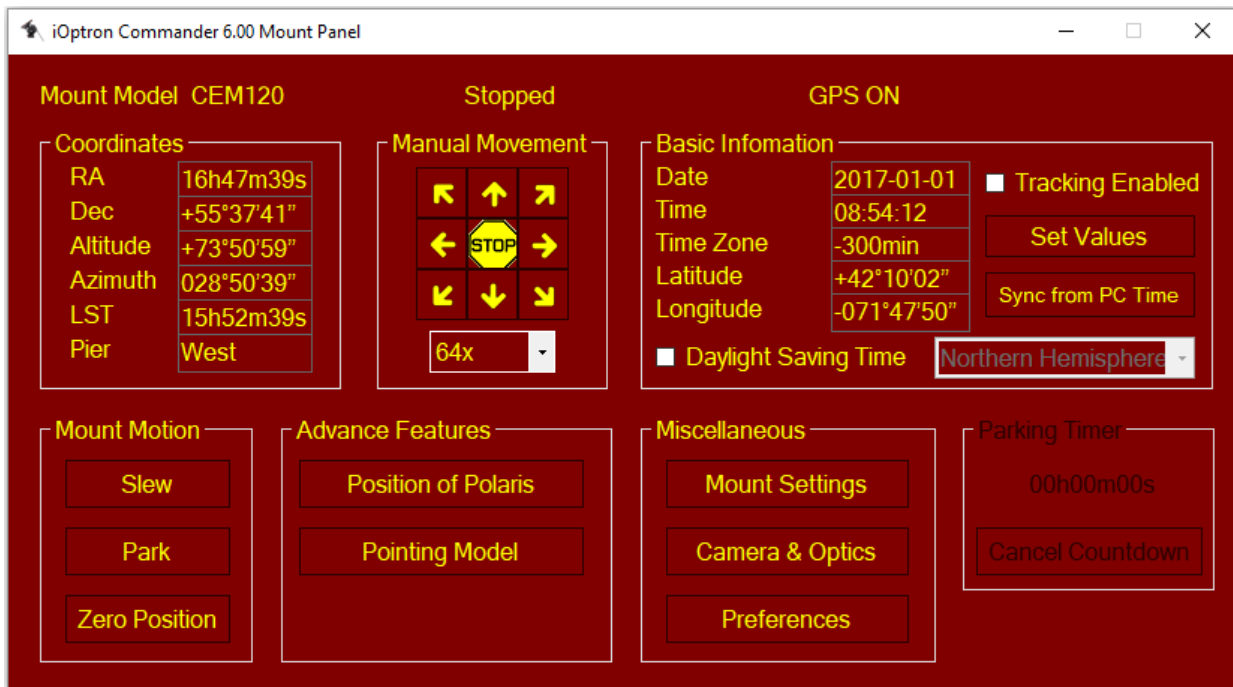
Click on iOptron Commander . An iOptron Commander Connection Setting window will open:

Select "**RS-232/USB Port**" with "**Auto Detection**" (or you can choose a port with the pull down button). Click OK. A device selection window will show.

Check Mount Panel to bring up the **iOptron Commander Mount Panel**.

Now you can control the mount via iOptron Commander, or connect your favorite planetarium software and select "**ASCOM.iOptron.Telescope**" for software configuration.
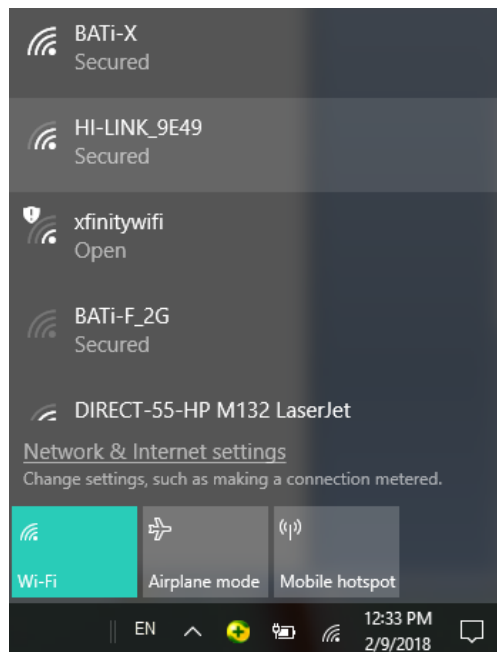
1.2. Connect via USB

Plug USB B plug of a USB cable into the USB port on CEM120 base. Plug the USB A plug into any available USB port of the computer.
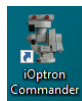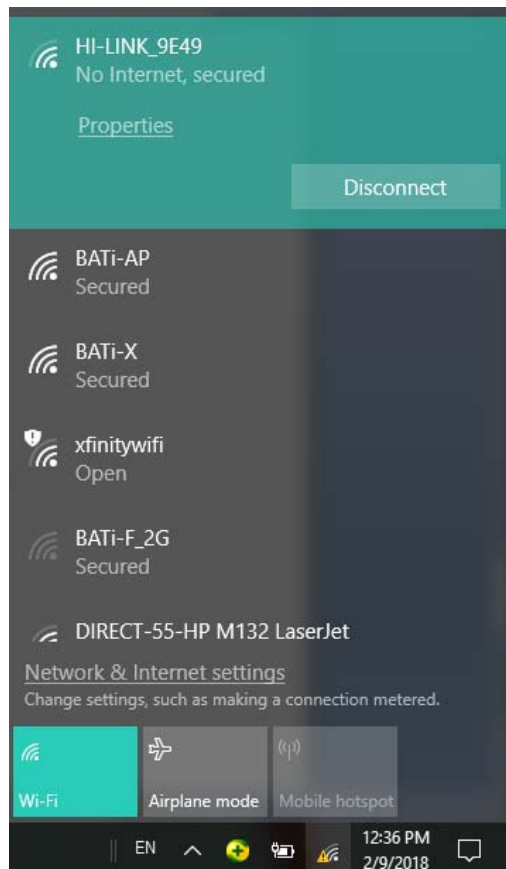
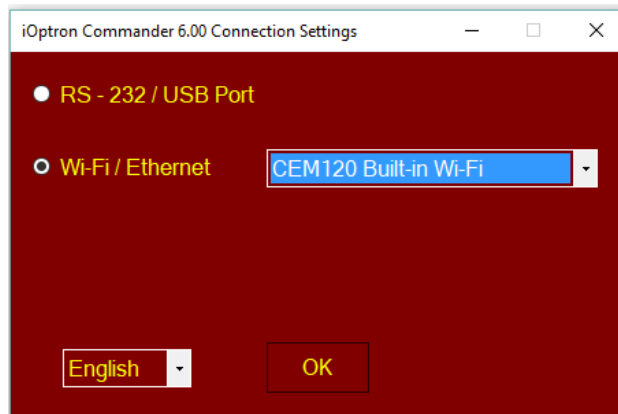Follow the steps described in *1.1 Connect via RS232*

1.3. Connect via Wi-Fi

The mount Wi-Fi SSID is in a form of HI-LINK_XXXX. The default password is 12345678. To connect it, power the mount first. Click on the Wi-Fi sign located on left bottom corner to bring up Wi-Fi network menu.

Select the CEM120 Wi-Fi network, here is HI-LINK_9E49. Click and enter password to connect to it.

Click on iOptron Commander .

Select "**Wi-Fi/Ethernet**" and choose "**CEM120 Built-in Wi-Fi**" from pull down menu. Click OK will bring up the device selection window.
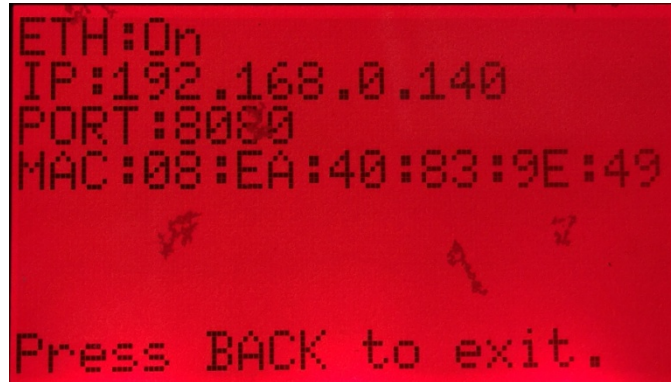
1.4. Connect via LAN

Plug one end of a network cable into mount's LAN port. Plug another end of the cable into an available LAN port of your network router. Make sure that the computer and the mount are in the same network.

Power the mount on. Check the IP address of the mount either through network router (you need to know how to log into the router), or from your hand controller.

To view the CEM120 IP address via hand controller, press **MENU=>***Settings=>Network Options=>Manual Refresh*. After the hand controller display "***Connected***," press **BACK** to exit.
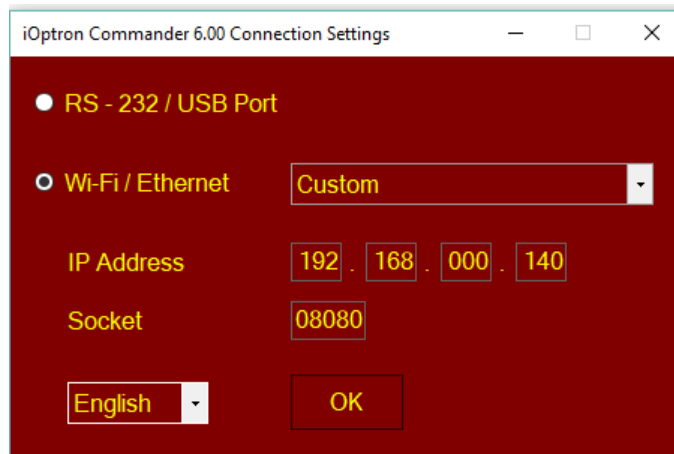
Then select "***Wired Status***" to check the IP address and Port number. In this example, it is IP: 192.168.0.140, PORT:8080.

Click on iOptron Commander .

Select "***Wi-Fi/Ethernet***" and choose "***Custom***" from pull down menu. Enter IP address and Port (Socket) number. Click OK will bring up the device selection window.

For a Mac OS, it depends on if the planetarium software has the iOptron CEM120 drive embedded.