

## iOptron Commander and ASCOM Driver

iOptron ASCOM driver provides a connection between an iOptron mount and a computer through serial cable or wireless adapter. It also includes a full functional control panel, iOptron Commander, with which one can set up and control the mount. iOptron ASCOM driver uses the latest iOptron Mount RS232 Command language 2014.

- Currently supported mounts are:
- CEM60/CEM60-EC
- iEQ45 Pro/iEQ45 Pro AZ
- iEQ30 Pro
- CEM25/CEM25-EC

The new supported mounts will be added into the list.

The following hardware and software are needed to perform the job:

- ASCOM Platform 6.1 or later. Download and install it from <http://www.ascom-standards.org>.
- Microsoft .NET Framework 4 or later to match ASCOM Platform 6.1 requirement. (Windows XP users should install .NET Framework 4. We recommend Windows Vista and Windows 7 users install .NET Framework 4.5.2, Windows 8 and later users do not need to install any additional .NET Framework.)
- Mainboard firmware version 150228 or later.
- iOptron Commander and ASCOM Driver Installer 4.0 or later. Download and install it from <http://www.ioptron.com>, under Support directory. An iOptron Commander shortcut



will be created on the desktop.

- Buy/download planetarium software and install it.
- RS232-RJ9 serial cable if connecting via RS232 port (included), or optional StarFi wireless adapter if via Wi-Fi connection (part #8434)
- Optional USB to RS232 converter and driver, if your computer does not equip a 9-pin D-shaped RS232 port except the USB port. You may buy a USB to RS232 converter from a computer hardware store or online. **We highly recommend buying a reliable USB to RS232 converter, such as one using FTDI chipset,**

**even your computer equipped a native RS232 port.** iOptron also carry a fully tested converter (#8435).

### 1. Connect your mount to a computer

In order to enable planetarium software to control the mount, the communication between the PC and the mount has to be established.

#### 1.1 Connect the mount to computer via a serial cable

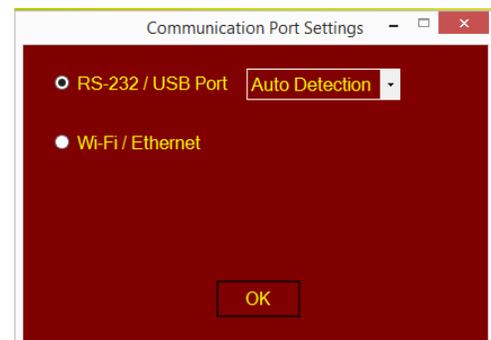
If the computer has a 9-pin, D-shape male serial port (*i.e.*, COM port or RS232 port), just connect the supplied serial cable between the computer RS232 port and the mount RS232 port.

If the computer only has USB ports, like most laptops do, a USB to COM converter is needed to convert one USB port to a COM port. Here are two examples of USB2COM converters. **iOptron suggests you to acquire one with FTDI chipset.**

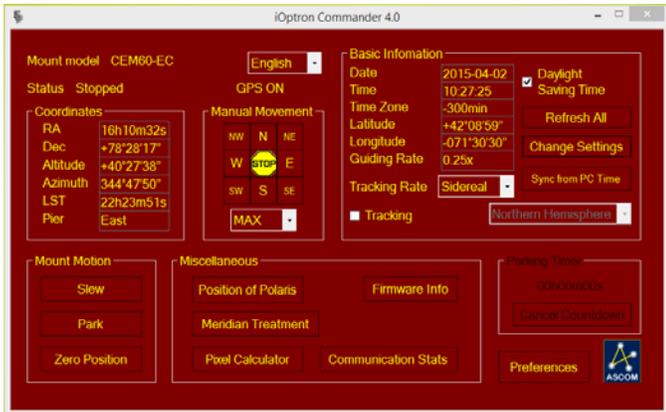


Follow the instruction comes with the converter to install the driver. Plug the converter into one of the available USB port of the computer. Then connect the serial cable between the RS232 ports of the converter and the mount.

Click on the iOptron Commander shortcut on the desktop screen to bring up the Communication Port Settings manual. Select **RS-232/USB** Port with **Auto Detection**, and click **OK**.

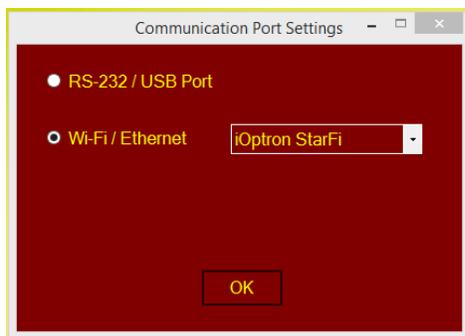


The iOptron Commander center will be displayed. Now you can setup, control and check the status of the mount.



## 1.2 Connect the mount to computer via a Wi-Fi connection

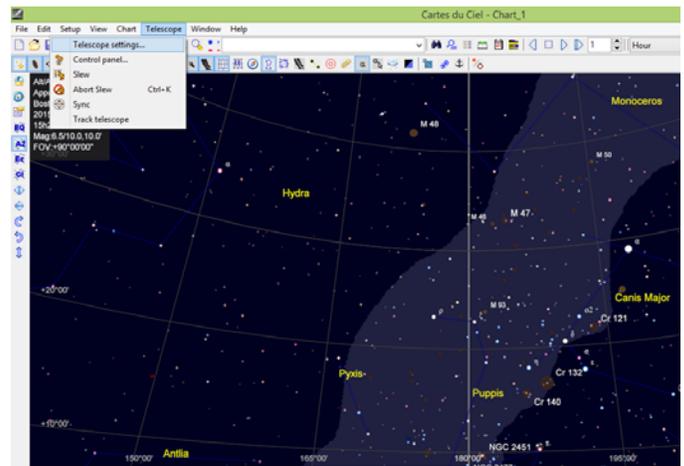
Now with iOptron Wi-Fi adapter, StarFi (#8434), you can convert an iOptron mount to a wireless controllable mount. Please refer to StarFi manual for detailed information.



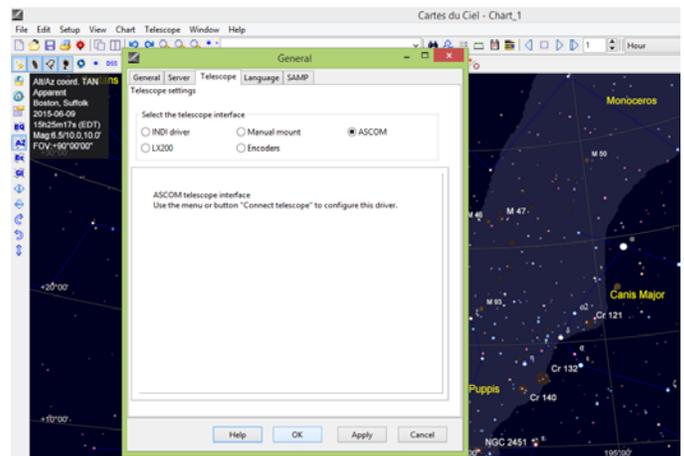
## 2. Establish the ASCOM connection between the mount and the planetarium software:

As a general instruction, freeware planetarium software, *Cartes du Ciel*, is used as an example. Please refer to your own software manual for detailed operation.

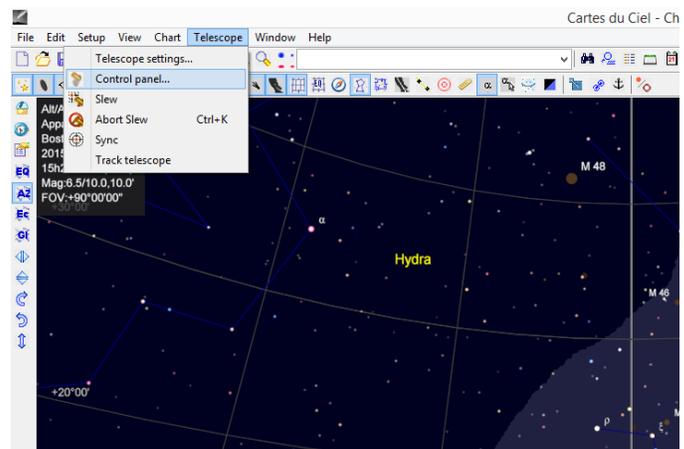
(1) Open *Cartes du Ciel*. Select **Telescope settings** in **Telescope** pull-down manual.



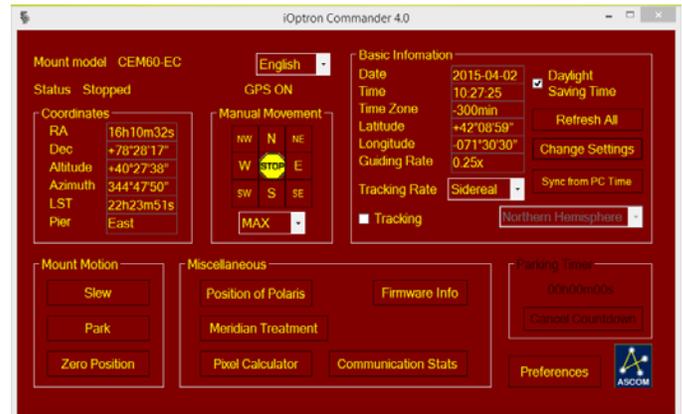
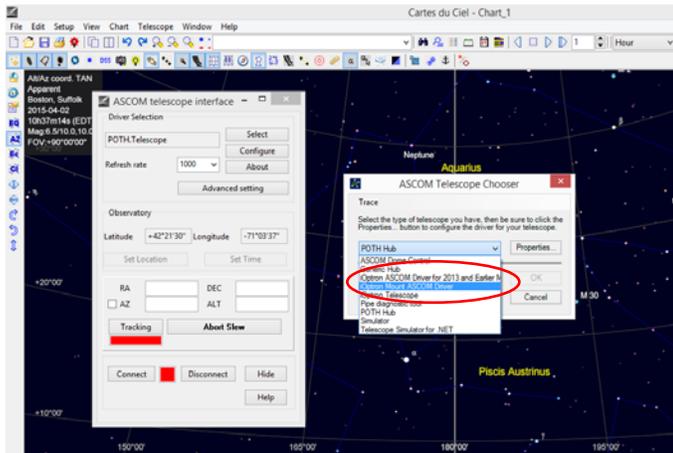
(2) Select **ASCOM** as the telescope interface and click **OK**.



(3) Select **Control panel** in **Telescope** pull-down manual.

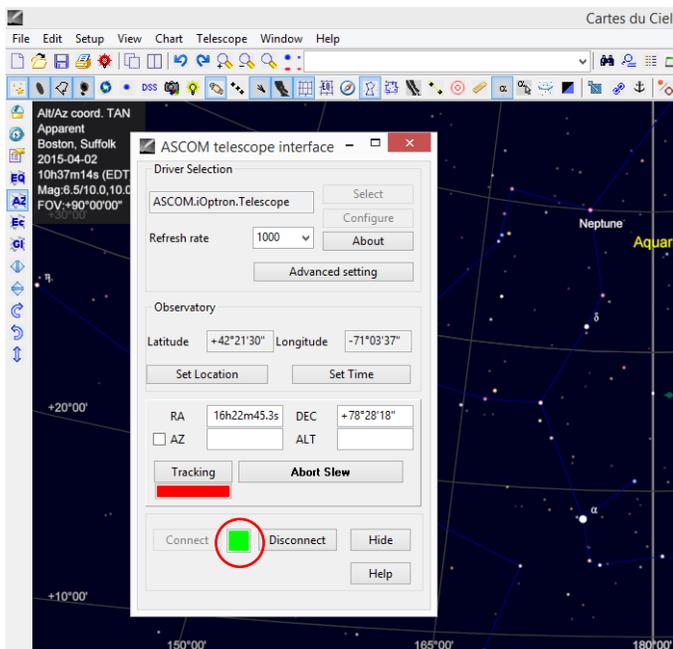


- (4) Click on **Select** button, an **ASCOM Telescope Chooser** window will pop-up. Click on the pull-down menu to select **iOptron ASCOM Driver**, then click **OK**.



The Commander displays mount model is CEM60-EC, with GPS ON but not connected to the satellite and is not slew or tracking. You may click on the related button to perform the mount settings and movements.

- (5) Click **Connect** button. The **RED** status square will change to **GREEN**. Now you are ready to GOTO and tracking.



### 3. Use iOptron Commander:

You also can use the iOptron Commander panel to set and control the mount. The iOptron Commander is always available when the mount is connected.