## How to use a computer to control an iOptron mount



In general you need the followings to use a PC to control the mount,

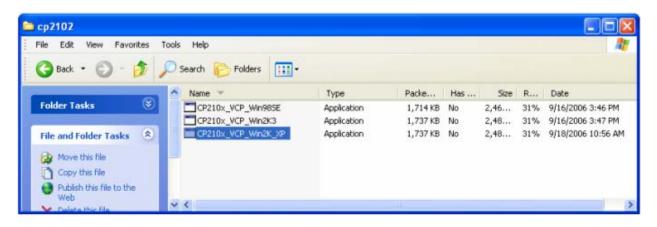
- 1. Download USB2COM driver (cp2102.zip file for 8401 and 8402A, or pl2303.zip for 8402G) http://www.ioptron.com/support.aspx?catalog=28;
- 2. Install USB2COM and establish the connection between the mount and the PC;
- Download and install ASCOM platform (download from http://ascomstandards.org/);
- 4. Download and install iOptron ASCOM drive (download it from iOptron website http://www.ioptron.com/Files/File/iOptronAscomSetupV1.02.rar); and
- 5. Planetarium software.

Some company integrated iOptron's products into their planetarium software, such as Voyage and The Sky X Pro. Therefore ASCOM plug-in will not be needed. Most planetarium software can be used to control iOptron's product via ASCOM.

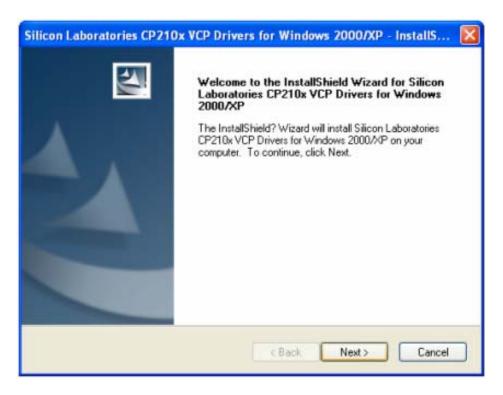
Some other ASCOM drivers, such as LX200 Generic ASCOM driver and AstroPhysics GTO driver, are also compatible to SmartStar<sup>®</sup> mount.

## iOptron SmartStar<sup>®</sup> USB PC Connection For Controllers #8401 and #8402A Step-By-Step Instruction

1. Install cp2101(usb2com) driver



Choose the appropriate driver for your OS. In this case is a Windows XP operation system. Double click on it, and you will see:



Click "Next".

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END-USER LICENSE AGREEMENT IMPORTANT: READ CAREFULLY BEFORE AGREEING TO TERMS THIS PRODUCT CONTAINS CERTAIN COMPUTER PRO	OGBAMS AND OTHER THIRD
PARTY PROPRIETARY MATERIAL (HICENSED PRODUC SUBJECT TO THIS END-USER LICENSE AGREEMENT. IN CONSTITUTES YOUR AND (IF APPLICABLE) YOUR COMP ACCEPTANCE OF THIS END-USER LICENSE AGREEMENT "AGREEMENT"). IF YOU DO NOT AGREE WITH ALL OF	TT?, THE USE OF WHICH IS NDICATING YOUR AGREEMENT PANY'S ASSENT TO AND (THE "LICENSE" OR
<ul> <li>I accept the terms of the license agreement</li> <li>I do not accept the terms of the license agreement</li> <li>Shield</li> </ul>	Print

Select "I accept the terms of license agreement", and click "Next"

Choose [	boratories CP210x VCP Drivers for Windows 2000/XP Destination Location older where setup will install files.	
	Install Silicon Laboratories CP210x VCP Drivers for Windows c:\SiLabs\MCU\CP210x	Change
stallShield -	< Back Next >	Cancel

Using the default installation path, c:\SiLabs\MCU\CP210x, or specify your own path by click "Change". Click "Next". Then click "Install".

Silicon Laboratories CP210	0x VCP Drivers for Windows 2000/XP - InstallShiel
	InstallShield Wizard Complete The InstallShield Wizard has successfully installed Silicon Laboratories CP210x VCP Drivers for Windows 2000/XP. Click Finish to exit the wizard.
	c Back Finish Cancel

When finished installation, click "Finish"

2. Plug the USB cable to the USB port on your PC, plug the other end of the USB cable to hand controller. Turn on the power on the mount.

## 3. Install the Hardware

The computer will find a new hardware and show the following screen

Found New Hardware Wizard						
	Welcome to the Found New Hardware Wizard Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission). Read our privacy policy					
	Can Windows connect to Windows Update to search for software?					
	Yes, this time only					
	<ul> <li>Yes, now and every time I connect a device</li> </ul>					
	No, not this time					
	Click Next to continue.					
	< Back Next > Cancel					

Select "No, not this time" and click "Next".

Found New Hardware Wiza	ard
	This wizard helps you install software for: CP2102 USB to UART Bridge Controller
	If your hardware came with an installation CD or floppy disk, insert it now.
	What do you want the wizard to do? Install the software automatically (Recommended) Install from a list or specific location (Advanced)
	Click Next to continue.
	KBack Next> Cancel

Select "Install from a list or specific location" and click "Next".

Found New Hardware Wizard	Browse For Folder	2 🔀
Please choose your search and installation options.	Select the folder that contains drivers for your hardware.	
<ul> <li>Search for the best driver in these locations.</li> <li>Use the check boxes below to limit or expand the default search, which includes lo paths and removable media. The best driver found will be installed.</li> <li>Search removable media (floppy, CD-RDM)</li> <li>Include this location in the search:</li> <li>C:</li> <li>Browse</li> <li>Don't search. I will choose the driver to install.</li> <li>Choose this option to select the device driver from a list. Windows does not guarant the driver you choose will be the best match for your hardware.</li> </ul>	My Music     My Music     SiLabs     MCU     C2210x     Wn2C_VP      Software	8
<back next=""> Ca</back>		incel

Select "Search for the best driver in these locations," and check "Include this location in the search."

Click on "Browse" and select the cp210x driver from directory c:\SiLabs\MCU\CP210x\Win2K\_XP, click OK.

Found New Hardware Wizard
Please choose your search and installation options.
<ul> <li>Search for the best driver in these locations.</li> </ul>
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM)
Include this location in the search:
C:\SiLabs\MCU\CP210x\\Win2K_XP Browse
O Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back Next> Cancel

Click "Next". The computer will start to install the driver for the USB2COM. When the installation is done, click "Finish".

Found New Hardware Wizard						
	Completing the Found New Hardware Wizard The wizard has finished installing the software for: CP210x USB Composite Device					
	K Back Finish Cancel					

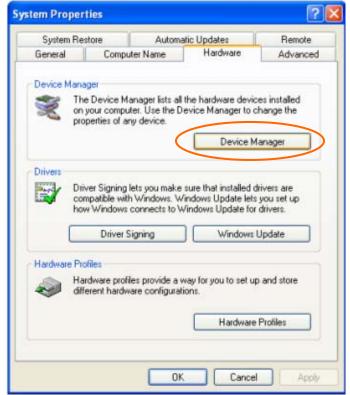
Then another window popped up saying there was new hardware to find a driver for. Repeat step 3 again to finish the installation.

Now you computer should be ready for Firmware Upgrading, computer communication with the mount via ASCOM platform and planetarium software applications. However,

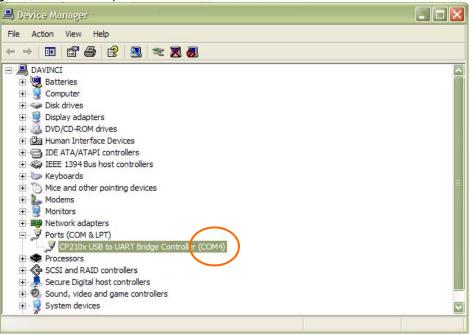
you need to find assigned COM port number for the USB connection. To do so, right click "My Computer", and click "Properties"

Mozilla Firefox       Image: Search,         My Computer       Search,         Microsoft PowerPoint       Set Program Ac         ICS Viewer       Set Program Ac         WinRAR       Whetwork Filter	
WinRAR Map Network Drive	) Pro Studio
Adobe Reader 8 Paint Shop Photo Album 5 Paint Pa	ive

Click "Hardware", click "Device Manager"

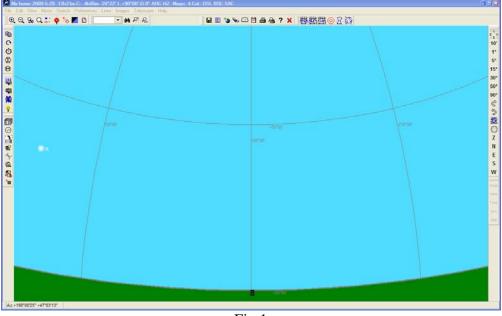


Double click "Ports(COM & LPT)", find out the COM number and write it down (in the following figure, it is COM4)



## An Example on How to Setup GOTONOVA ASCOM Driver in a Planetarium Software (Cartes du Ciel)<sup>1</sup>

- 1. Install the planetarium software, such as Cartes du Ciel (CDC).
- 2. Click on the software to open it.





3. Click on Telescope. A drop down menu will open. Move the cursor to Select Scope Interface and select Ascom.

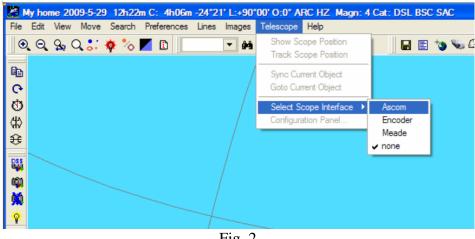


Fig. 2

<sup>&</sup>lt;sup>1</sup> This is not for commercial release. There is no guarantee it will work for any software or on any computer, nor all the software function will be supported.

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4. An ASCOM Telescope Interface window will pop up.



5. Click on Configure and select GTOTONOVA(GOTOSTAR) in ASCOM Telescope Chooser.

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Fig. 4

6. Click on Properties...

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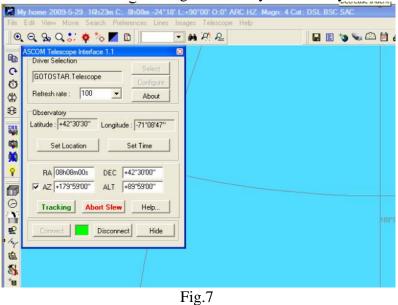
Fig. 5

7. A GOTONOVA(GOTOSTAR) ASCOM Driver window will display. Select a correct Serial Port as you find in USB2COM setup (Here is COM4). Leave the other part as is. Click Apply button. If the ASCOM is installed right and talking to the hand controller, Current Status and Site Information should be same as those displayed on the hand controller. Click OK.

Software Ver. V1.00	Mou	int Local Time :	12h32m17s
Side of Pier: West	Mou	int Time Zone :	W 5
RA: 04h17m00.0s	DEC:	42d30m26s	
ALT: 90.00d	AZ:	179.83d	
Setup			
Serial port:	COM4	<b>.</b>	Å
Tracking Rate:	Sidereal	•	K
Guide Speed:	1.0x	•	ASCOM
Site Information			
Latitude: N 4	2d30m29s		
Longitude: W 71	d8m49s	ſ	Get Lat/Long
Park/UnPark Control			
C AP0 C AP1	C AP	2 C AP3	C AP4
		Set Park	UnPark

Fig. 6

8. Click on Connect button. The **RED** status square will change to **GREEN**. The previous inactive Tracking button will be active and in green. Now you are ready to GOTO and tracking.



Note: As some users found out, some of the functions, such as Sync to Target, are only work using hand controller, even the mount is connected to a computer. Please check iOptron yahoo group for more information.

You may also try AstroPhysics GTO or Meade LX200 genetic ASCOM driver.