

## Overview

Many 4tronix devices (AstroHubs, MiniHubs and EQMod cables) can connect to SkyWatcher (and Orion) mounts using a standard RJ45 network cable with the 4tronix device containing the necessary USB to serial converter. This makes it a very simple wiring job to control your mount using the EQMod and ASCOM control software.

1. Download ASCOM from <https://ascom-standards.org/>
2. Download EQMod from <http://eq-mod.sourceforge.net/eqaindex.html>
3. Connect your hardware to the mount and switch it on
4. Check which COM port it is using – see steps below
5. Run EQMod Toolbox to setup EQMod to use the selected COM port
6. Run your application that uses ASCOM/EQMOD. Eg APT  
<https://astrophotography.app/downloads.php>

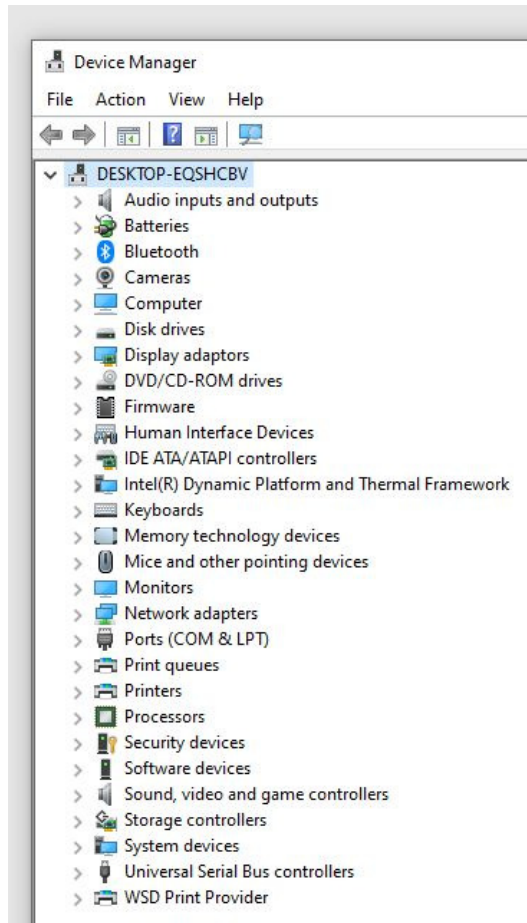
There are many guides on the internet dealing with installing these software items, such as:

- <https://astrocookbook.com/2018/07/20/setting-up-a-skywatcher-mount-with-ascom-platform-and-eqmod/>
- <https://www.lightvortexastronomy.com/tutorial-setting-up-an-equatorial-mount-on-ascom-with-eqmod-stellarium-and-cartes-du-ciel.html>
- <https://www.youtube.com/watch?v=dHexD5aLDGM>

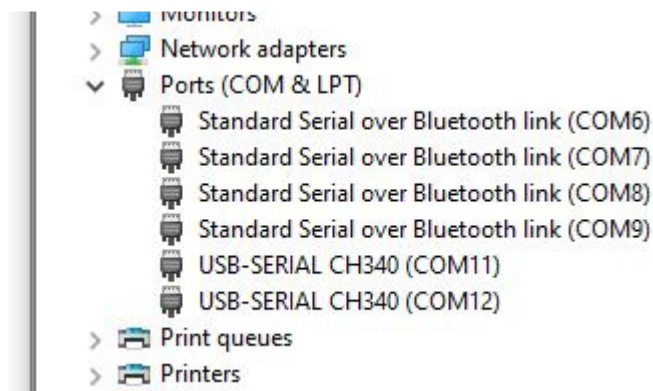
## Identify the COM Port

Ensure your hardware is connected and powered up.

A simple way to check which COM port is required is to look on Windows Device Manager. Press the Windows key and start typing “Device Manager” and it should appear as an option. This is what you will see:



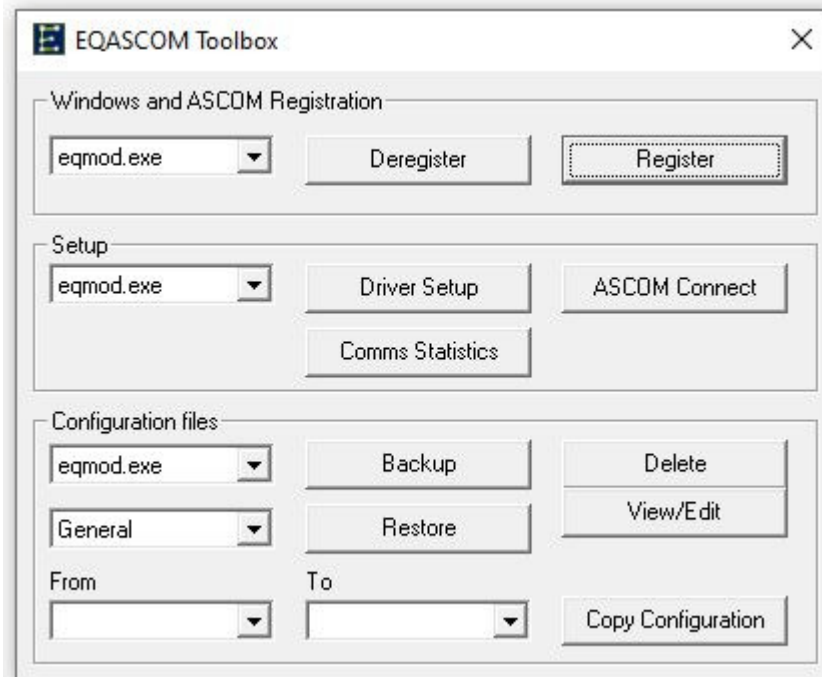
Then click on the item labelled “Ports (COM & LPT)”, to see all the connected Ports:



All 4tronix products use the CH340 USB to serial converter chip, so when identifying a COM port, you only need to check the ports that have this name. In the list above, you can see COM11 and COM12 are both showing CH340 as the connection. The correct Port is one of these two.

## Check the Port with EQASCOM Toolbox

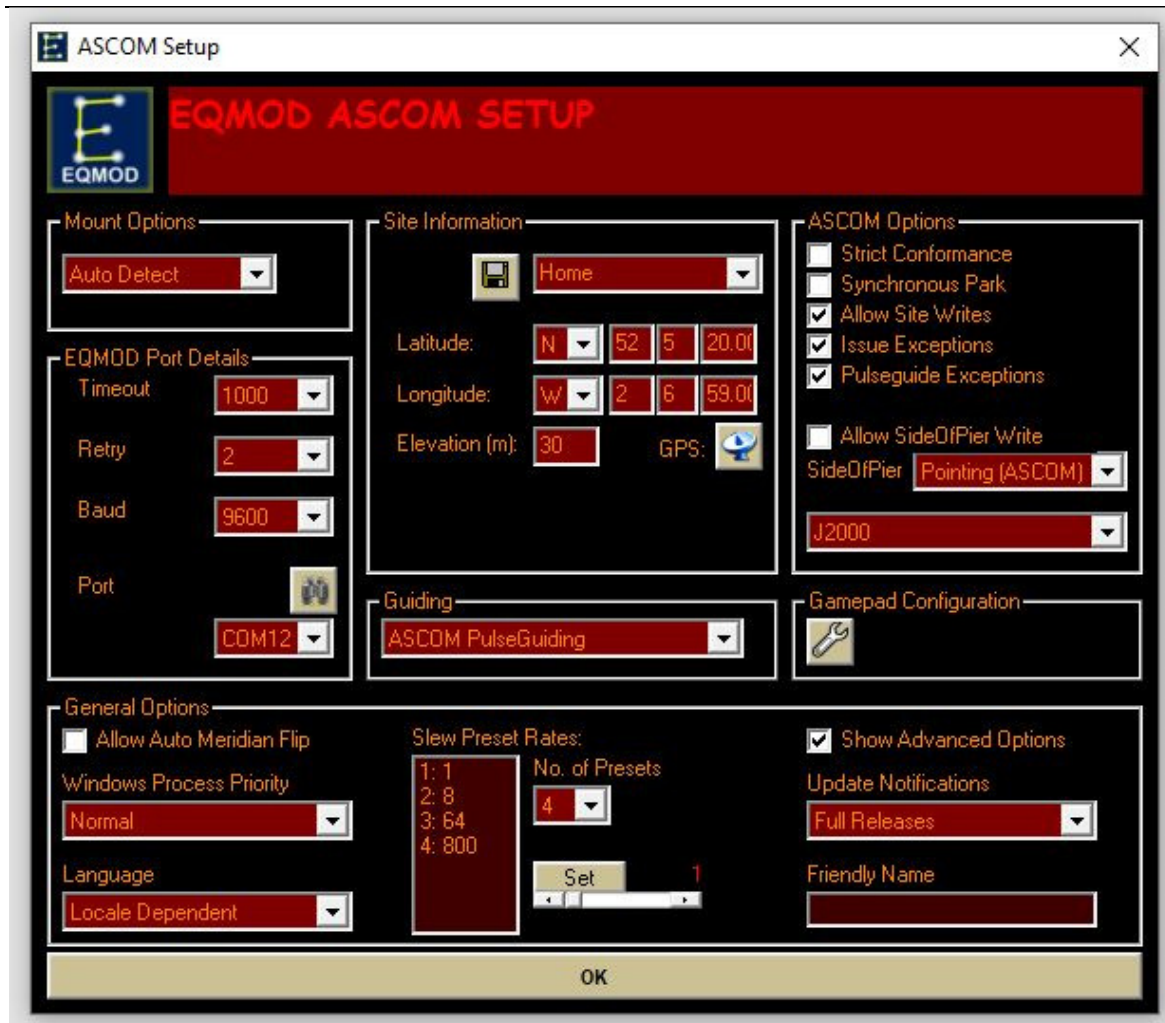
Load the EQMod Toolbox that you installed earlier, by entering the Windows Start menu (press the Windows key) then scrolling to the EQMod folder and opening it. The “Toolbox” will be near the bottom of this EQMod folder. Alternatively, start typing Toolbox and it should come up:



In the Setup box, ensure eqmod.exe is shown and then click on Driver Setup. The EQMod ASCOM setup box will appear.

In the box on the left, labelled “EQMOD Port Details” set the following information:

- Timeout: 1000
- Retry: 2
- Baud: 9600
- Port: Enter the port name you identified above. Eg COM12  
\*\*\* If the Port is not visible, see below
- Then press the large button across the bottom labelled OK



Now you are back at the Toolbox screen. Press the “ASCOM Connect” button and Toolbox will try connect to the Mount. If it is unsuccessful, you will see a Timeout error (Left), otherwise you will be getting live mount information (Right).



In either case you need to press the “ASCOT Disconnect” button on the (grey) Toolbox screen to close the EQM... Window – pressing the Cross to close it will not work.

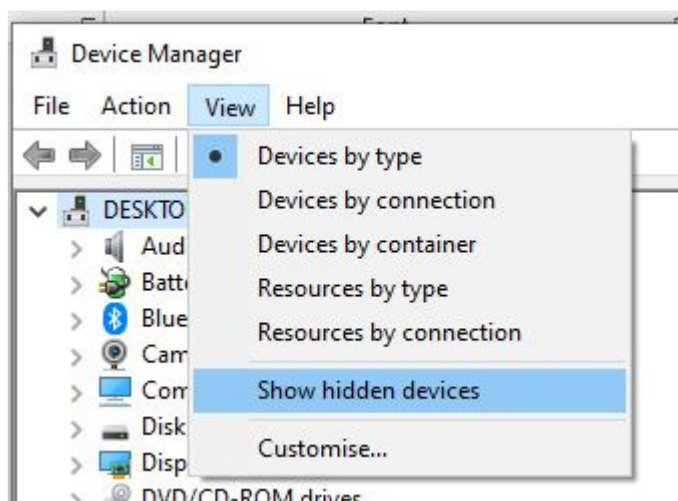
If you chose the wrong Port on the first attempt, then try the other one and it should work.

Future connections will continue to use the same port names as long as the cables are connected to the same USB sockets on the laptop and/or USB hubs.

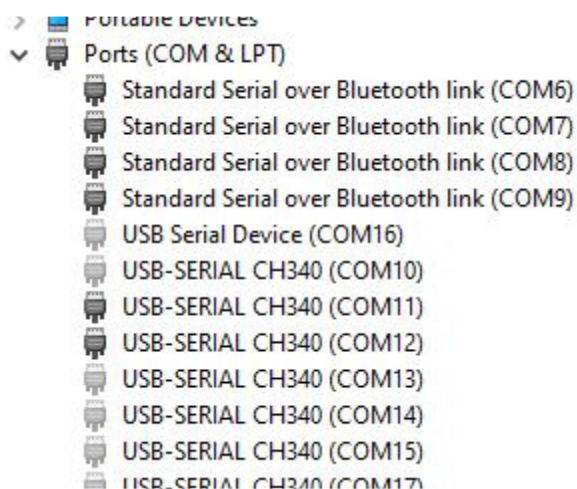
## **\*\*COM Port not visible in EQMOD ASCOM Setup**

This is usually because Windows has allocated a port name that is higher than the 16 COM ports that EQMOD ASCOM Setup can use. The drop down port selection box only allows port names from 1 to 16, but Windows can allocate much higher numbers. This probably means that Windows has already allocated a lot of the lower numbers to devices which are not currently connected, so the fix is to delete these hidden port allocations.

First remove your device, then in Device Manager, select the menu: View / Show hidden devices



Under the Ports (COM & LPT) section you will now see the hidden devices in a lighter grey:



You can now right click on the hidden devices and remove them by selecting “Uninstall device”. Windows will ask if you want to also remove the driver – don’t do that as we only need to remove the device name allocation. Leave the checkbox empty and click “Uninstall”.



Delete a few of the hidden devices (or all of them if you like).

Now when you connect the device, it will select lower numbers that the EQMod setup can work with