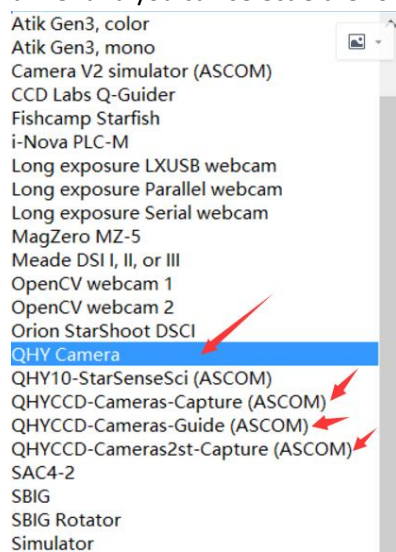


## How to avoid camera hang issue (QHY5L-II)

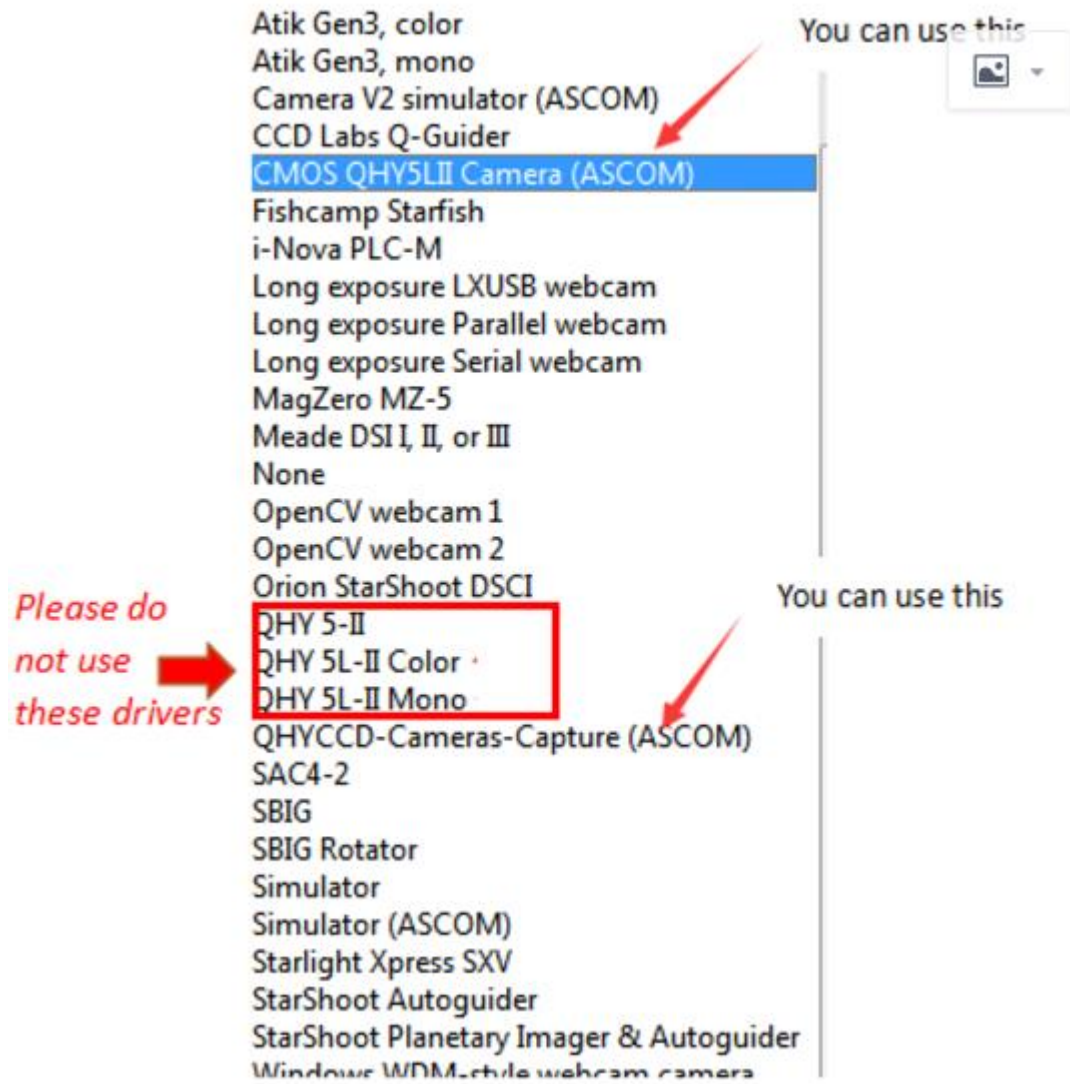
### Conditions 1:

In old PHD2 software, there are some old directly QHY5L-II drivers. Using these driver may cause the camera to hang and cause the "timeout" issue. Please use our standard ASCOM driver. (CMOS QHY5L-II ASCOM) Or QHYCCD-Cameras-Capture/QHYCCD-Cameras2st-Capture/QHYCCD-Cameras-Guide.

This screenshot below shows PHD2 connections with QHYCCD cameras. The "QHY Camera" works by using the current QHYSDK (qhyccd.dll), and it can be used. The QHYCCD-Cameras-Capture, QHYCCD-Cameras-Guide, QHYCCD-Cameras2st-Capture are all the QHYCCD all-in-one ASCOM driver and you can select either one to use.



In older version of PHD2 you will find drivers listed in the following screenshot. The CMOS QHY5LII Camera (ASCOM) is the standard QHY5L-II ASCOM driver, and it can be used.



Summary

Display Name in list	Suggestion
QHY5-II	Don't use
QHY5L-II Color	Don't use
QHY5L-II Mono	Don't use
CMOS QHY5LII ( ASCOM )	Can be used
QHYCCD-Cameras-Capture(ASCOM)	Can be used
QHYCCD-Cameras2st-Capture(ASCOM)	Can be used

QHYCCD-Cameras-Guide(ASCOM)	Can be used
-----------------------------	-------------

**Conditions 2:**

When using the all-in-one ASCOM of QHYCCD

QHYCCD-Cameras-Capture (ASCOM)  
QHYCCD-Cameras-Guide (ASCOM)  
QHYCCD-Cameras2st-Capture (ASCOM)

If the camera hangs, please try to increase the USB bandwidth (USB traffic) in the QHYCCD ASCOM Setup window.

**Conditions 3:**

In SharpCap, if the camera hangs, please check the USB traffic setting. You can increase the USB traffic and see if frame rate changes, which is zero when the camera hangs. You can also set the Speed to 1 or 0 to slow down the camera clock to get the data rate slower and to avoid the hang. The reason that causes the camera to hang is due to the large amount of frames dropped when the receiving speed of computer cannot catch up with the data output of CMOS sensor. Because QHY5L-II has no on-camera DDR/SDRAM memory, so if CPU is very busy, or computer is slow, or the mainboard chipset has a high USB packet drop ratio, the small FIFO in the camera will get full but the CMOS sensor cannot pause to wait for the camera FIFO to make room for it. So some data are dropped. Then one frame will not be intact. The camera SDK will filter this frame out. If a large amount of frames are dropped, it looks like the camera is hang. In fact, camera does not hang, the frame rate is zero just because all the frame are not intact and been thrown away.

In this case, the best way is to limit the operating speed of the CMOS sensor. Increasing the USB bandwidth (USB traffic), slowing down the CMOS clock to 0(slowest) or 1(medium speed) setting will solve this problem.

**Conditions 4:**

The power leak will increase the chance of USB communication errors and cause the camera to hang. So please make sure all the device is well grounded. (The power leak may also damage the EMI shielding components of the camera).

**Conditions 5:**

USB socket without enough power or enough high voltage make the camera easier to hang. In this condition you can use the powered USB hub.

e.g. <http://qhyccd.com/bbs/index.php?topic=3951.0>

**Conditions 6:**

USB cable that's too long will cause a lot USB communication errors and cause the camera to hang.

If you need to use long USB cable. You can select the USB cable with signal amplifier.

**Conditions 7:**

Some USB hub is not very good and easy to cause the communication errors and make the USB communication easy to be hang. You can try to replace the USB hub.

**Conditions 8:**

Wrong/old driver/qhyccd.dll may not be compatible with each other and cause problems. Please use QHYCCD Updatecheck software to check it and ensure that your drivers are latest.

If you are still unable to solve the problem with the instructions above, please contact QHYCCD technology support to use the remote assistant to help you solve the problem.