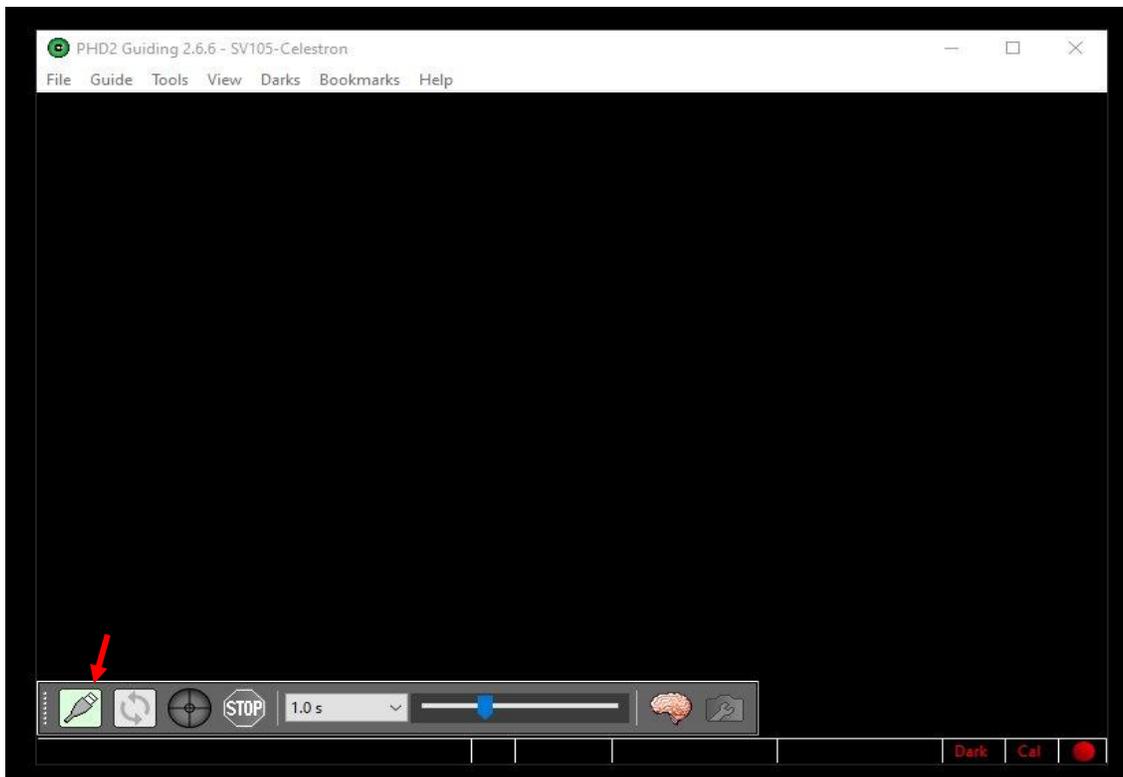


# Using the SV105 and SV205 as a Guide Camera with PHD2

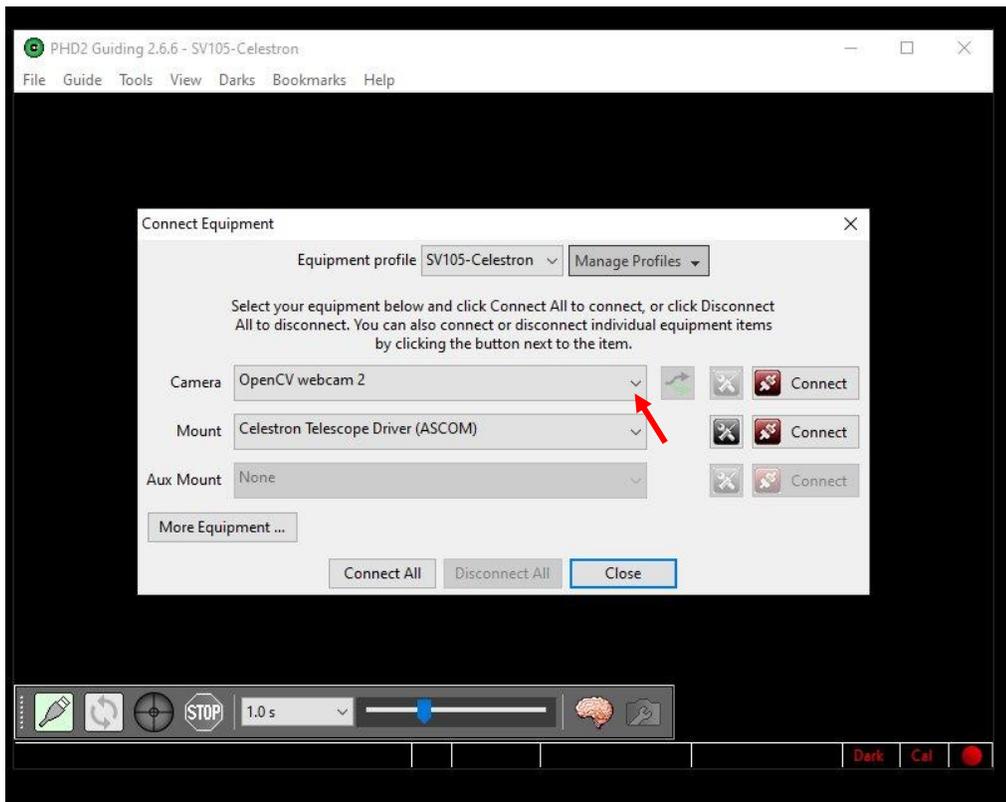
Kevin Cobble Z-Field Observatory  
December 16, 2019

The SvBony SV105 and SV205 cameras, while intended for planetary astrophotography, can also be used as a guide camera. The main limitation is that they do not have long exposure times and are not real sensitive so they can only guide on brighter stars. More about this later. Both of these cameras use the UVC (USB Video device Class) format that is recognized by both Windows and Mac OS. In windows it is also known as OpenCV. As of this writing the SV305 cannot be used with guiding software as it does not use the UVC format, instead having its own driver. It will need either a specific driver written for PHD2 or MetaGuide or have an ASCOM driver. This document assumes you have a GOTO mount with a computer connection. The SV105 and SV205 do not have ST-4 connectors so cannot connect to the mount directly. In reality, since you need a computer to run the software it is actually better to connect to the mount through its driver rather than an ST-4 port.

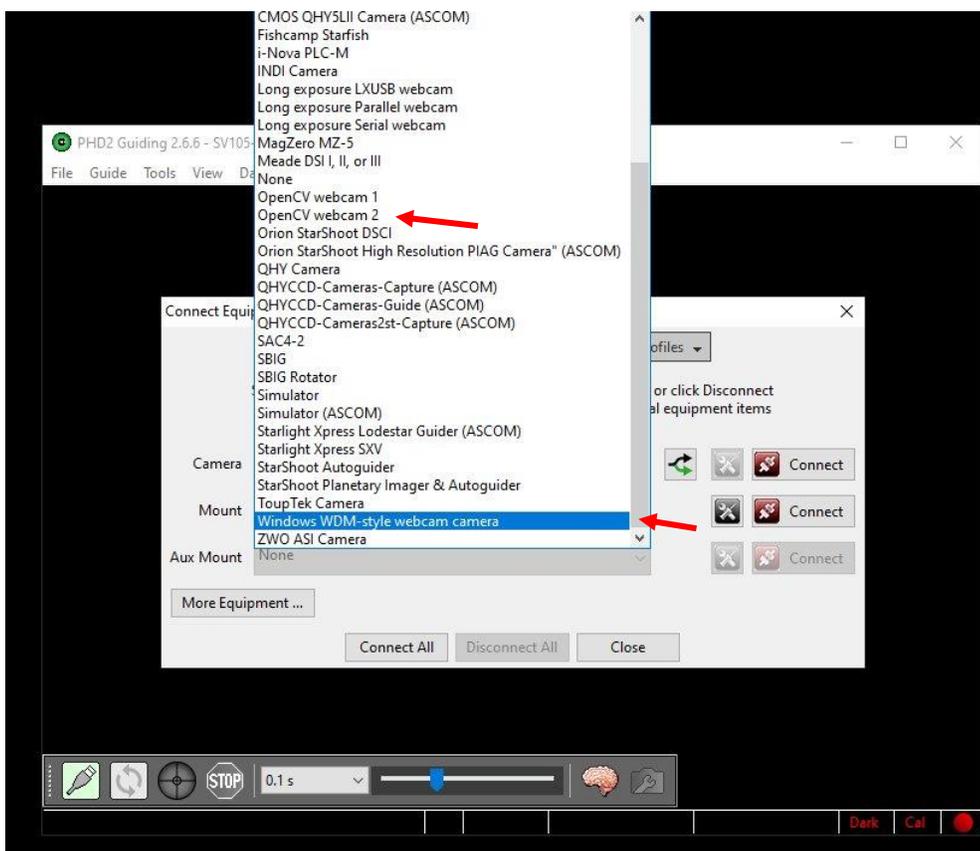
## Connecting to PHD2



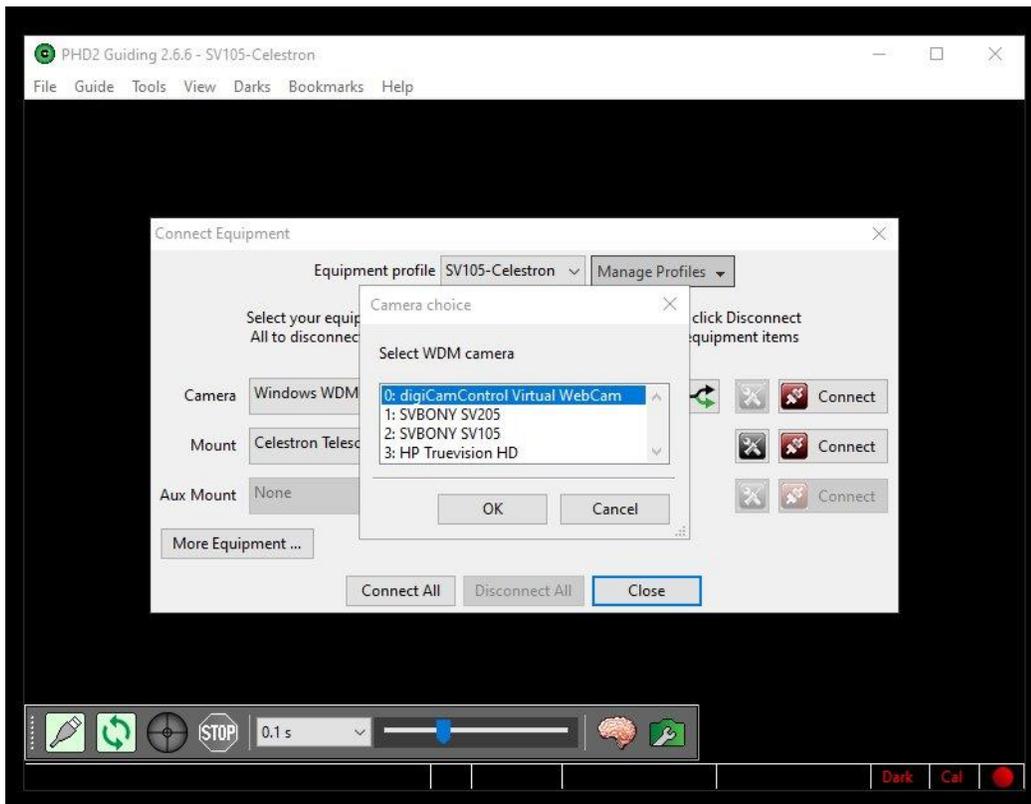
When you start PHD2 you will see the screen above. Press the USB setup button (arrowed) to get to the equipment setup screen.



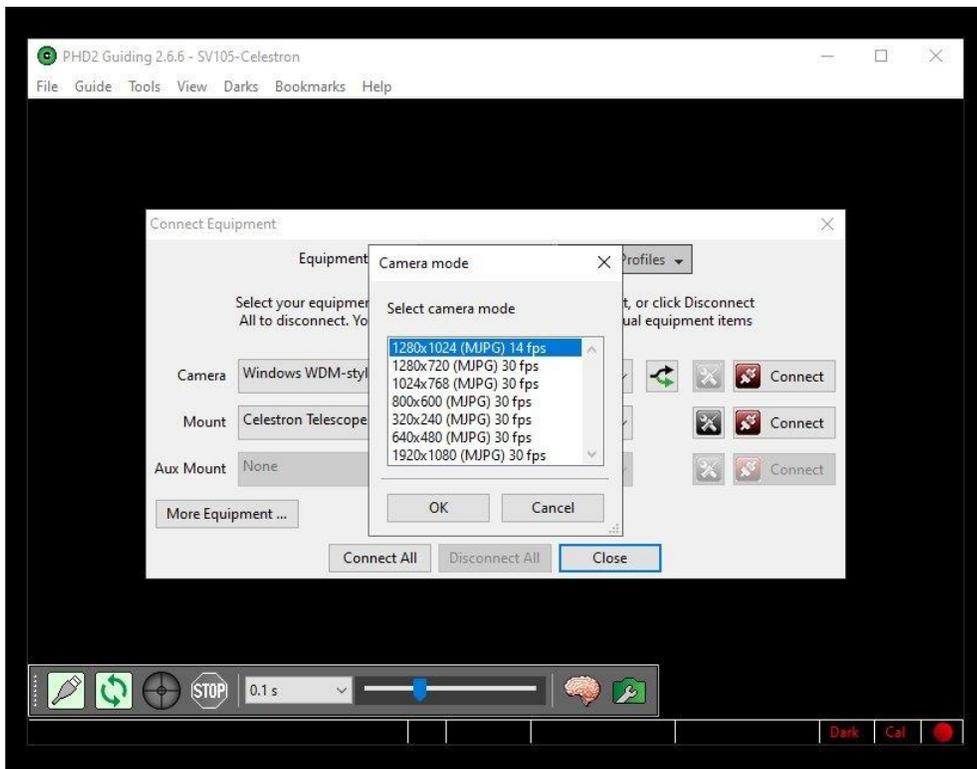
When you do you will get the Connect Equipment Dialog Box shown above. This allows you to connect both the camera and the mount. Press the down arrow (shown arrowed) to go to the camera connect screen.



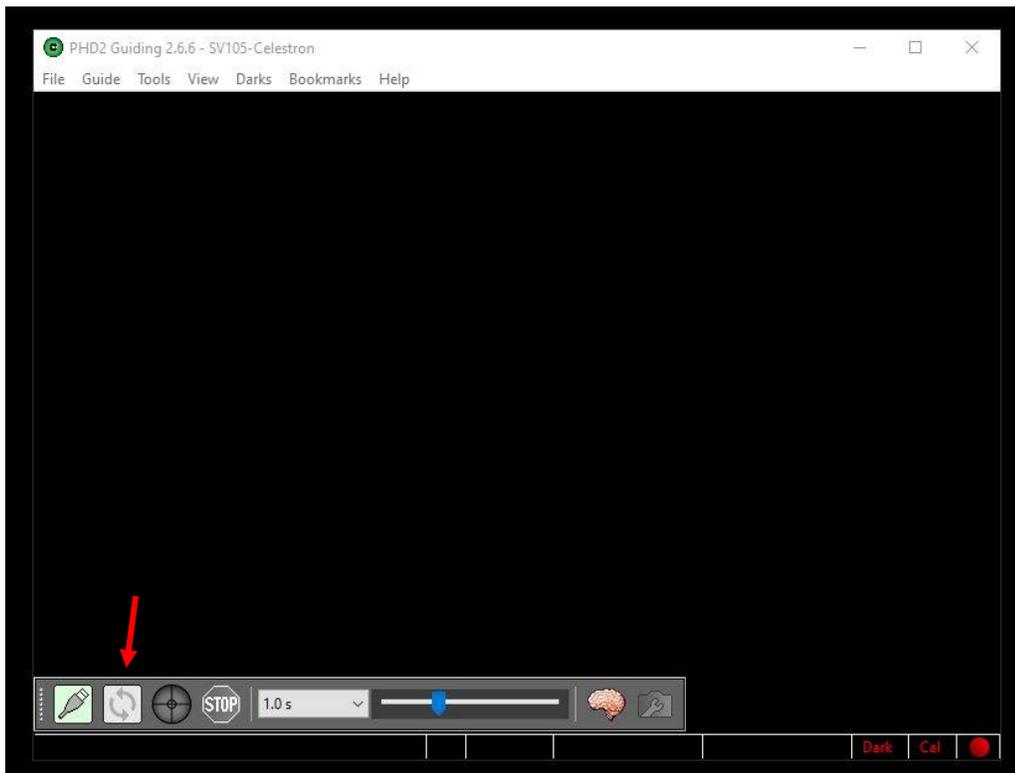
There are actually two cameras you can select. Open CV webcam (1 or 2 depending on your system). On a Mac this is probably your only choice. On Windows scroll on down to the Windows WDM-style webcam camera and select it.



A Camera choice window should appear where you can select your camera. (On the OpenCV selection you will not get this window) On my system I had both the SV105 and SV205 connected. You would choose the camera you want to guide with. On my system the digiCamControl is a frame grabber that can be used with standard NTSC video cameras. The HP Truevision HD is the webcam built into my laptop.



After selecting the camera you will get a Camera mode window. Select the top one and click OK. This should take you back to the Connect Equipment window and you can select and setup your mount connection (Celestron in my case). After your finished press the Close button to get back to PHD2.



Now that your camera and mount are setup press the button (arrowed) to start the camera. You should see some stars if they are bright enough for your camera/guide scope configuration. From this point onward you will need to consult the PHD2 instructions as to setting up guiding.



This is a screen grab of PHD2 working with the SV105 camera on a Celestron 70mm Travelscope. Obviously Polaris would make a good guide star. In this case I've selected HD5914, which at 6.5 magnitude is about as dim a star as PHD2 could probably guide on. While HD1685 (8.12 mag) is visible, it is too dim to guide on.

You can also use MetaGuide instead of PHD2. It will ask on startup which camera you would like to use and your camera (SV105 or SV205) should show up.



This is my setup showing the SV105 attached to the Celestron 70mm Travelscope. The camera and the Celestron CGEM mount are both attached to a laptop.