

SkySolve Setup Guide.

SkySolve on the Raspberry pi comes configured with a default WIFI hotspot. It can also be setup by you to use your house wifi as well as the hotspot one at a time. There is a switch on top that once it knows your house wifi it can be forced to boot up using it or forced to boot up using the hotspot.

To begin with it can only boot up on it's own WIFI hotspot and it will create a network SSID called skypixxxx. Where the xxxx is a number. Each skysolve has a different number so that many can be close to one another on the field. Once power is applied it takes 2 to 3 minutes for the network to show up on your wifi list of networks on your computer, tablet or phone that has wifi.

Once the network shows up switch your computer you are going to use to talk to it to that wifi network. Login to the Pi first with an SSH client or a VNC client. Both are enabled. I will discuss the VNC way to do it first.

VNC to set home network

1. Open your computer that has VNC client app on it. Switch it to the skypixxxx using your wifi network setup. The password for the skypixxxx network is 1234567890.
2. Open your VNC client app and connect to 192.168.50.5. User name "pi" password "pi". Both lower case.
3. If all went well then you can open a terminal window on the RPI GUI desktop screen.
4. Use the terminal window and type: "cd skysolve/AutoHotspot"
5. type "sudo ./autohotspot-setup.sh" or sudo./auto(tab key) and let it fill in the file name.
6. When the script runs press 5 key return key. In a few seconds it should list all the wifi networks it finds. Select your house wifi and enter your password. You done. Press 8 to exit.
7. Find your skysolve wifi on your house network. First on some machine on the network use arp -a to see what ip address are there before the rpi boots. Reboot the RPI with the switch in House position. This may take a few minutes for it to boot up. Usually 2 or less. Now you have to find out what ip address it was given by your router. Use apr -a again until the new IP address shows up. Then I try to use a browser to connect to that IP:5000 . That should bring up the skysolve web page.

8. Option to change the SSID and password.

At this point you can also change the network SSID and password skysolve uses at the Field.

It defaults as explained above to skypixxxx. Where xxxx is a unique number. You can change that to what ever you like and change the password as well. When the script asks you to select a function you can use “7” as the selection to change it’s SSID and password.

At this point skysolve is up and running and listening for SkySafari to ask it position info. It has the position of the last solve image I did on it. (Polaris). Image #5 in the history of skysolve. So once you get skysafari configured and connected it should show polaris in the center of the screen.

How to configure SkySafari to talk to SkySolve.

On skysafari select settings and then telescope settings.

Set the telescope type to StellarCat Cat and mount type push to.

Set it to use WIFI

Do not check Auto-Detect SkyFI

set IP address to your skysolve IP address .

Set the port number to 5005.

close the setup and press the connect on the telescope icon.

Using SSH to set Home network

Both windows and Mac have an SSH app. This will discuss the window 10 version.

1. Start up a command prompt window.
2. Type ssh [pi@192.168.50.5](ssh:pi@192.168.50.5)
3. Enter “yes” and the “pi” that should give you a linux prompt on the RPI.
4. Now follow the VNC step 4. from above.

Trying out SKYSOLVE indoors.

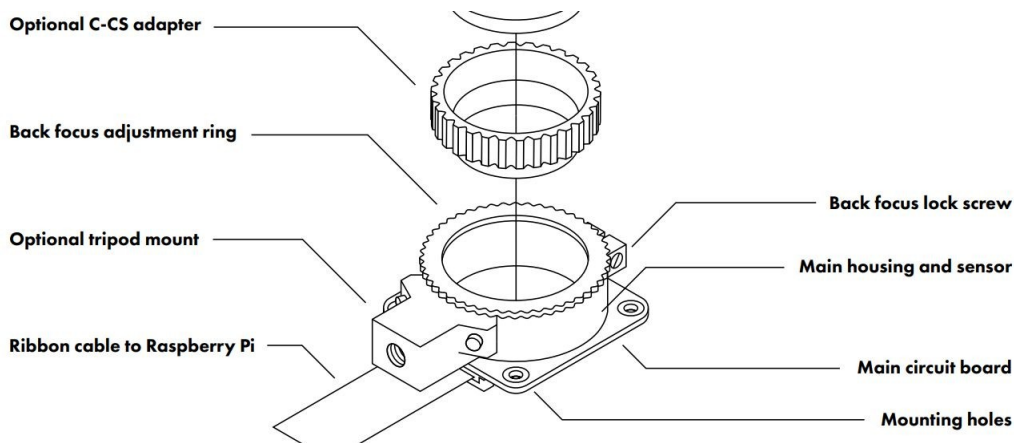
Watch the youtube video about skysolve. <https://www.youtube.com/watch?v=IewMli4AJLw>

Now you can play with the skysolve web interface. I would try out the replay history images and solve them using the solvethis button. Fun to watch skysafari track those.

In normal use you do not need to know much about or use skysolve web interface. It can help if you need to focus the camera (already focused correctly if you don't play with it).

To focus the camera stop the solving to get faster camera response by pressing the "Align" button. It takes a couple seconds to stop solving the current image. When it stops solving it will display a frame count in the status field that should count up at about 1 per second as it takes images if the current shutter is set to less than one second

Camera Infinity (Back Focus) adjustment.



For star focus the lens has been set to infinity at about 1/8 of an inch back turn from infinity stop I think. You can refine it if needed. You may have some far away mountain you can focus on during the day. I don't so I have to wait for darkness. The infinity stop is adjustable and you can loosen the tiny screw at the top of the lens holder. See RPI Hi Quality camera online manual. The tiny screw driver is supplied by RPI people just for that purpose. Then you can adjust the knurled knob of the lens holder as desired. A fun thing to play with but a bitch to get just right.