

KStars for Mac Quick Start Guide

1. After mounting the DMG, drag the KStars.app application bundle to your /Applications folder or anywhere you would like to put it on your Mac. If you would like to run Astrometry to plate-solve images, please do not put it in a folder that has a space anywhere in the file path.
2. Double click on the KStars.app. On the first run, several things will happen that should not happen later if you run it again.
 - a. A dialog box might pop up saying it is from an unidentified developer. You should be able to right-click (ctrl-click) and select "Open" from the top of the contextual menu to get KStars to open. If you still cannot run it, then you may need to change your security setting in System Preferences.
 - b. A dialog box might pop up saying that KStars was downloaded from the Internet. Click ok to run it.
 - c. If you have not had KStars installed before, then KStars will need to copy the data directory into your Library folder. The wizard will help you do this.
3. KStars should now be working well. The rest of these steps are optional.

GSC

If you want to run gsc to get "stars" in the CCD simulator, you can use the downloader in the startup wizard or you can download and unzip this file <http://www.indilib.org/jdownloads/Mac/gsc.zip> into the KStars Data directory ~/Library/Application Support/kstars

Astrometry.net

If you want to run astrometry to plate-solve images, you need to make sure the target machine has python installed, has pip, has pyfits, and has netpbm. The easiest way to get all of this is with home-brew. <https://brew.sh> You can get started by copying and pasting the following command into the terminal:

```
ruby -e "$(curl -fsSL raw.githubusercontent.com/Homebrew/install/master/install)" < /dev/null 2> /dev/null
```

The startup wizard can help you with the rest of them after homebrew is installed.

See the next page for information about astrometry index files.

Astrometry.net configuration

If you would like to run Astrometry on your Mac, as I mentioned you will need to copy some index files into ~/Library/Application Support/Astrometry/. The exact index files will vary depending on your needs, but I have listed some possible scenarios below.

1. If you just want to try out Astrometry on KStars using the fake gsc based images using the CCD simulator, then be sure to follow all of the instructions above, and then download this zip file to get the 4205 index files, which is the main index files you will need for this purpose. You can get them from this link: <http://data.astrometry.net/4200/>. You will just need to copy the index files inside to ~/Library/Application Support/Astrometry/ and then you should be able to plate solve the simulator images in KStars.
2. If you instead want to use a real telescope and imager, the exact index files you need will depend on your field size. In the Ekos Align Module, the astrometry options will make some recommendations based on your field size. Also, the Astrometry Readme file explains this well astrometry.net/doc/readme.html. However, I have found that the easiest way to determine what you will need is to just take a few images using your system and upload them to nova.astrometry.net/upload. Pay attention to which index files solve your images. Then download those series of index files. There are a couple of ways to download them. You can get the index files yourself as explained in the Astrometry readme. Or you can use the CloudMakers Astrometry program www.cloudmakers.eu/astrometry/ which has a very nice index file downloader built into it. It puts the files in the same folder in ~/Library/Application Support/Astrometry/.