

1. Set the telescope in “Home Position” and “Go To” M13.
2. Put the illuminated Eyepieces (12mm) in “90 eyepiece holder”, rotate the focus knob and use arrow keys to center the M13 in the telescope’s field of view
3. Go to Setup menu: Telescope/Tracing Rate/Sidereal.
4. Enjoy the view. More info, open Star Walk
5. Next, we want to take a photo of M13, first we set Eyepiece (8-24mm, zoom) in the “90 eyepiece holder rotate the Focus knob to achieve precise image focus.
6. Next, we want to take a photo of M13. Put DSI in “90 eyepiece holder” and connect camera to USB port.
7. Load Autostar Suite, connect the telescope and choose Image/DSI Imaging from the Menu.
8. Click on the Live tab
9. Set the Live Exp spin button to 1,0 s and click Mono box.
10. Rotate the focus knob clockwise to focus the distant object (M13)
11. You should see bright stars on the Live screen, you will also see some noise and hot pixels
12. Create a folder on your hard drive (C:\MO 06072014). The images will be saved in this folder.
13. Create a folder for the Dark Frames (C:\MO 06072014\Dark).
14. Before taking the first shot of the evening, leave the camera sit for 30 minutes to allow stabilizing the temperature. You can save time if you put the camera a few minutes in the refrigerator
15. In the Image Process dialog box, select “Take Darks”. Use the default values. Click Start button. Be patient, the procedure takes more than 8 minutes
16. Cover the end of telescope so no light can get in (read the warning)
17. When the Dark Frame exposures are completed, uncover the telescope (read the warning)
18. The Dark Subtract box should be checked now
19. The star in M13 should be visible on the Live Tab Screen, without noise.
20. Adjust the focus by looking at the magic eye focus box (3D plot of the intensity)
21. Check the Long Exp box. Set the exposure to 15 seconds. This will allow you to take a preview of a single image to view an example of how the camera is imaging.
22. Click Preview. The countdown timer counts down from 15 to zero seconds
23. You can now tweak the image. Unlock mono box.
24. Click Color to bring the color control dialog. Then click “Auto WB”
25. Adjust Autocontrast and Shadow Enhance
26. In the Image Process menu, choose “Deep Sky”. Use the default values.
27. Type in a name in the Object Name box (M13-)
28. Click Start (the button is then displayed as “Stop”) The imager begins taking pictures.
29. The imager now takes 15 second images. Be patient. Take a number of pictures until image looks good and click Stop to abort.
30. Experiment with Contrast, Shadow Enhance, Histogram sliders and Dark Subtract. Then you take pictures like an expert.

31. Play a little with the Dark Frame Subtraction, the “hot” pixels go on and off.

32. M13, globular Cluster in Hercules



DeepSky M13-0001.jpg (Quality 40%) and Auto Stretch MaxIm

Single shot  
FITS format  
EXPTIME 1,4 second  
ETX 70 telescope  
CCD-temp: 28,5 Celsius  
Time 20:37:43 UT  
Date 2014-07-06

33. M13, Sky Map Pro 10

