

**I. GENERAL RULES**

- A. When setting up, first take note of how many telescope parts, eyepieces, flashlights. Etc. that you are using – you should end up with the same number of each at the end of the evening.
- B. Place dust cover and extra eyepieces in safe place.
- C. After initial set-up, set telescope on distant horizon light to adjust focus.
- D. Minimize motion and walking on roof when viewing through telescopes.

**II. SETTING UP ASTROSCAN 2000 (Dobsonian Alt/Az Mount)**

- A. Carry telescope and eyepiece(s) to desired location.
- B. Unscrew bolt at bottom to release mount from telescope and place telescope on top of mount on top of table or flat stand.
- C. Remove Dust cover, do I.C. and point and look at celestial objects.

**III. SETTING UP CELESTRON OR MEADE 8" (Equatorial Fork Mount)**

- A. Carry telescope, tripod, 3 tripod bolts, power supply, paddle wheel and eyepiece(s) to desired location. (Note: for long trips, use telescope carrying case.)
- B. With two people, attach telescope base to wedge on tripod with the three bolts, starting with top bolt that has a slip slot at top of wedge.
- C. Arrange tripod base so that top of fork (open end) is facing due North on horizon (directly below Polaris in tail of Little Dipper).
- D. Attach Power Supply to telescope base (battery pack for Celestron and plug-in power supply for Meade with extension cord from lab plugged into wall inside roof door.)
- E. Remove Dust cover and do I.C.
- F. Also use horizon light to check alignment of finder telescope with main scope eyepiece. Adjust finder telescope, if necessary, using the three adjustment screws on it.
- G. Precision alignment (required for minutes-long camera exposures): Use leveler on tripod top base (flat surface below wedge) to make sure tripod base is level with horizon. Set declination to  $90^\circ$  and see if Polaris is in sight of telescope. (A  $2^\circ$  finder chart showing Polaris and Celestial North Pole at correct time and location from Starry Night software allows even more precise alignment with Polaris.) Adjust tripod legs so that Polaris is offset from center of finder view similar to offset from Celestial North Pole in finder chart.

- H. Find and center a bright star with Dec. and R.A. coordinates known in advance. Set R.A. circle to R.A. of centered star.
- I. Use R.A. and Dec circles to find other object of known coordinates.
- J. For minutes-long camera exposures, use finder (already aligned) to center target object and then readjust finder crosshairs to near-by star. Start exposure and use paddle wheel to keep crosshairs centered on star during exposure.

#### **IV. SETTING UP MEADE AUTOSTAR 5.5" GOTO SCOPE (Alt/Az Mount)**

- A. Place on level table and hook up paddle wheel. Remove dust cover and put in low power eyepiece. The next three steps put the telescope in "home position".
- B. Release the Altitude lock and turn the tube so it points horizontally. Relock the altitude.
- C. Release the Azimuth lock and turn the telescope counter-clockwise until it stops. Next, turn telescope clockwise until center of fork arm is directly above computer control panel. Relock the Azimuth.
- D. Pick the telescope up and place back down so front of tube faces due north.
- E. On paddle wheel, press mode or press "5" to start main menu. Use scroll buttons at bottom and "enter" button to select: "Setup", then "Align", then "Easy Align". (It will show the instructions above at this point.)
- F. Once in Easy Align, with the telescope in "home position". Press "Enter" button – the paddle will display the name of a bright star and the telescope will slew to this bright star in the sky. Use the paddle wheel direction buttons to center the star first in the finder and then in the eyepiece.
- G. Then press enter again – a new bright star is displayed and the telescope slews to this star. Use paddle wheel to center this new star. Now when you press "Enter", the display should say "Align successful" If not, restart with step B.
- H. Use Mode button to return to top menu. Select "Object" menu or "guided tour" and scroll sub menus for objects of interest and press "enter" to slew to an object.

#### **NOTES on 5.5" goto telescope:**

Use "Mode" button to go to higher menu

Use "Enter" button to go to enter submenu.

When guiding telescope with paddle wheel (to center star for example), you can type any number from 1 to 9 to change the slew rate (9 is fastest).