

0.61m TELESCOPE INITIALIZATION PROCEDURE

INITIAL PREPARATIONS

Before starting, take a few moments to familiarize yourself with these instructions, especially the EXCEPTIONS and WARNINGS section.

1. Open the dome and uncover the telescope using existing procedures.
2. Turn on the lower power bar located on the lower right hand telescope base.
3. Turn on both switches located on the lower telescope base panel.
 - The left hand switch controls power to the reticules and telescope circulating fans. If you don't want the circulating fans on, turn off the fan switch located to the left of the 4 shooter on the rear panel of the scope box.
 - The right hand switch controls power to the servo controller. Automatic telescope tracking is initiated immediately.
4. Turn on the observation deck monitor and move the mouse.
5. If the computer isn't already on, make it so. The computer is located in the control room on the desktop and is labeled Alcyone.
6. Double click the Planetarium program desktop icon of your choice. These instructions are for SkyMap Pro 10.
7. Click **OK** when the CD ROM location window appears.
8. At the top of the screen click on **TELESCOPE** and then click on **OPEN CONNECTION**. It takes a few moments for the connection to be established. A message stating that the telescope is under computer control etc. appears. The telescope is now under the control of the planetarium program, and automatic tracking is initially set to OFF.
9. Click **TELESCOPE** again and click **UPDATE TIME**. Click **YES** in the SkyMapPro v10 window. The window will disappear. This step is not required if you're using Cartes du Ciel or The Sky6.

TELESCOPE PREVIOUSLY ALIGNED

Under normal circumstances, the telescope will have already been aligned to several reference stars and placed in the 'Parked' position. Simply click '**Unprk**' on the virtual handpad's Scope tab. The virtual hand pad is minimized on the task bar. You can now use the planetarium program to Go-To your choice.

If the telescope has not been aligned, carry out the following instructions.

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GUIDE STAR ALIGNMENT

For Go-To pointing accuracy, it is necessary to align the telescope to at least two known stars. Each star should be approximately 60 degrees east and west of the meridian, preferably at the same declination. You can use the screensaver to determine what stars to use. Click the Show Desktop icon to the right of the Start button located on the lower task bar. Right click on the desktop/Properties/Screen Saver/Preview. You may need to do this a couple of times before the screensaver appears. Moving the mouse will cause the image to disappear from the screen. Click Cancel to remove the Screen Properties window.

10. A virtual hand pad designated as V0.*** appeared on the right hand side of the screen and then minimized to the task bar. Click on it.

11. Using the virtual hand pad click on the **GO/TO SYNC** tab located on the right edge of the hand pad.

12. Click the **STAR** button. When the menu appears, click on the star of your choice. Using the **physical** hand pad, move the telescope to the first star. Once it is centred, click **SYNC** on the virtual hand pad. A window labeled INIT POINT will appear. Ignore any warning windows that appear.

13. Before it counts down and disappears, click the **SIMPLE OFFSET INIT** button. This will initiate tracking and enable you to centre your guide stars in the eyepiece.

14. Click **LOAD CAL STAR #1**. If necessary re-centre the star and press **RELOAD CAL STAR #1**. Click **OK**. The INIT POINT window will disappear.

15. For the second and subsequent star(s), use the **physical** hand pad to centre the star of choice, click the **STAR** button on the virtual hand pad, click on the star of your choice, and when the INIT POINT window appears, click **LOAD CAL STAR #2 (or 3 or more)**. Allow the button to count down and then click **OK**. When the INIT POINT window disappears, the telescope is now initialized for Go-To operation. The number of guide stars you use will determine how accurate the GoTo function will be.

GO-TO OPERATION

There are several ways to move the telescope to a selected object.

- Type your object's designation into the small window located near the top of the screen and press Enter. The object doesn't need to be initially visible on the screen. Once Enter is pressed, your choice will then be visible on the screen, a yellow box appearing at the location of your selected object on the sky chart. Click on the yellow box and the scope will move to that location.

- Right click on the object of your choice and when a small window appears, click **Slew to [your chosen object]**.

- Using the options on the SCOPE tab of the virtual hand pad, click on Star, Messier, or type in the NGC or IC number. Click on your choice and then click GoTo.

If the object is lower than 10 degrees declination, a warning message will appear. You will need to use the **physical** hand pad to point the telescope at the object. An easy way to do this is to watch the blinking cross on the screen while you are manually slewing the telescope. You can also right click on the object and click About [*your chosen object*]. Scroll down to determine the apparent RA and DEC, and referring to the coordinates showing at the bottom of the virtual hand pad, use the physical hand pad to move the telescope to those coordinates.

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REMOVAL OF ALL INIT POINTS

Sometimes there are so many guide stars loaded that the telescope loses its ability to Go-To properly. On the virtual handpad's Scope tab, click the 'PointXP Telescope Model' button. This will take you to the window to clear all INIT points. Click 'Clear Terms & Cal Stars' and then 'Okay'. Once the Init points are cleared you can do a fresh alignment using steps 10-15 of the Guide Star Alignment procedure. You will also need to redefine the park position when you're finished using the telescope. Refer to instructions 17 to 19 of the Shutdown Procedure for that information.

SHUTDOWN PROCEDURE

16. Using the virtual hand pad, click **STOP** on the Scope tab and then click **Park**. The scope will move to the predefined park location. If this does not happen go to step 17.
17. Using the physical hand pad, move the telescope to a convenient park location.
18. On the virtual hand pad, click **STOP** and then click the **Setprk** button on the Scope tab.
19. Click the **Prk** button.
20. On the SkyMap Pro 10 screen, click on **TELESCOPE** and then **CLOSE CONNECTION**. Close the V0.*** virtual handpad window.
21. To close the planetarium program click **FILE** and then **EXIT**. This will save the current configuration for the next user.
22. **LOG OFF** only, do not select Turn Off Computer.
23. Turn off the monitor.
24. Turn off the two switches located on the lower telescope base panel.
25. Turn off the two power bars located on the lower right hand telescope base.
26. Replace all telescope covers and close the dome.

EXCEPTIONS and WARNINGS

Ensure that all covers, especially the plywood covering the main mirror, have been removed from the telescope before powering up the servo controller. If the telescope is unbalanced and when slewing at high speed, it will jerk strongly enough that permanent damage to the gear train is possible.

Because the planetarium program controls telescope movement, it is essential that there are no physical obstructions in the telescope's path. This includes ladders and people. Warn people EVERY time you are about to initiate a Go-To function and ask them to stand clear. If it looks like the telescope is on a collision course, quickly press the STOP button on the virtual hand pad. If it doesn't appear that's going to work, turn the servo controller power off located on the scope base panel. The telescope will need to be re-initialized.

Ensure that people don't hold onto the telescope or eyepiece while they are viewing.

It is very easy to stall the motors by inadvertently blocking the motion of the telescope. To recover from this situation, press the ESC and RTN buttons on the telescope hand pad simultaneously.