

Mt. Stony Brook Meade 14-inch Set Up and Operations Manual

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This document includes instructions on how to set up and operate the Meade 14-inch telescope atop Mt. Stony Brook.

1. Checklist

Make sure that you have all of the equipment you need to perform observations:

- laptop running CCDSoft, Cartes du Ciel and SiTechExe
- power supply for laptop
- USB cable to connect laptop to telescope mount
- manuals for the telescope, the mount, and the software
- eyepieces (if conducting eyepiece observations)

If conducting CCD observations, then bring:

- large briefcase with SBIG STL-1001e CCD camera and accessories

If conducting spectroscopy, then bring:

- briefcase with SBIG ST402ME CCD camera and accessories
- spectrograph
- Orion StarShoot guider camera (with USB cable)

2. Dome Start-Up

1. DO NOT OPEN THE DOME IF IT IS RAINING, SNOWING, OR IF THERE ARE STRONG WINDS.
2. Open both doors, use rope to keep them open in order to cool down the dome.

3. Switch on the power to the dome drives: big ON / OFF handle on northern inside wall of the dome.
4. Use the dome remote to open the top shutter: press "start", then "open" top shutter.
5. Use the dome remote to open the lower shutter: press "start", then "open" lower shutter. Press "stop" before the lower shutter is all the way open to avoid tangling its cable.

3. Telescope Start-Up

1. Remove the dust cover from the telescope.
2. After the top dome shutter has opened completely, remove the cap from the front of the telescope, as well as caps from the finder scope, eyepiece holder etc.
3. Attach your observing equipment. To do so:
 - (a) Make sure both the R.A. and Dec. axes are locked with the two "hooks", see Fig. 1.
 - (b) Attach the observing equipment (eyepiece holder or SLT-1001e or spectrograph + ST402ME camera).
 - (c) **Move the counterweights to the indicated positions.** (see Fig. ??).
 - (d) **Unlock the two hooks.**
4. Plug in the power supply for the mount and turn it on (red switch on the mount controller).

4. Controlling the Telescope with the Handpad

The telescope can be slewed with the handpad (Fig. 2), which you'll find velcro-ed to the pier. To do so, press the direction keys. The central "SPD" button can be used to change the slew speed. LEDs on the mount control indicate the currently selected speed: red is the fastest, yellow the intermediate, and green the slowest setting.

5. Controlling the Telescope with the Laptop

1. Attach the USB cable from the mount controller to the laptop.



Fig. 1.— The mount has two of these “hooks” that are used to lock the axes when not in use. Figure from Mesu 200 Mount Quick Guide.

2. Open Cartes du Ciel (CdC).
3. In the *Telescope* menu, select *Connect Telescope*. In the GUI that opens up, click *Connect*.
4. This should prompt the box next to the *Connect* button to turn green, and the SiTech GUI to open up.
5. Un-park the telescope (click the *UnPrk* button in the SiTech GUI).
6. If the *Tracking* box is still red, press *Start* in the SiTech GUI.
7. Select a bright, currently well visible star in CdC, right-click it and select *Slew (star name)*.
8. Wait for the telescope to slew to the target. Move the dome accordingly.
9. **IF** the star is not at the center of the FOV in the eyepiece / the CCD camera, right-click the star in CdC, select *Sync (star name)*, and select *Offset Init* in the GUI that then appears.
10. The scope is now ready for accurate GoTo pointing through CdC.
11. While you’re at it, use the bright star to focus the main mirror of the telescope. Unlock the primary mirror, then use the focus knob to move the primary mirror up and down. One focused, re-lock the mirror.

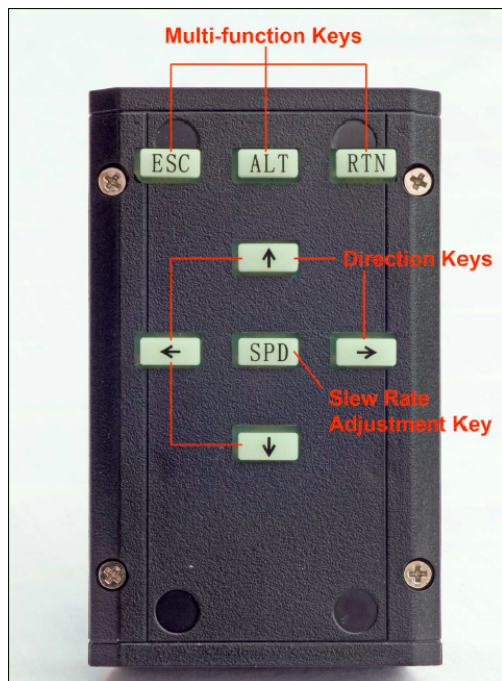


Fig. 2.— The handpad used for manual mount control. There are 3 speed settings; the one currently in use is indicated by an LED on the mount controller (not shown). Figure from Mesu 200 Mount Quick Guide.

6. Shut-Down Procedure

1. Move the telescope to the **park** position by clicking **Park** in the SiTechExe GUI. This should also turn off the tracking; if not, click **Stop** in the SiTechExe GUI.
2. Lock the two hooks. It may be necessary to tweak the telescope position with the handpad.
3. Turn off the mount controller (red button). Un-plug it.
4. Detach the observing equipment. Return the counterweights to the “eyepiece” position.
5. Replace the telescope front cap, as well as finderscope and eyepiece caps.
6. Cover the telescope with the grey canvas cover.
7. Rotate the dome so that the dome slit is over the entrance door.
8. Close the lower dome shutter.
9. Close the top dome shutter.
10. Shut off the power to the dome.
11. Fill out the telescope logbook.

12. Collect the CCD, laptop, eyepieces, manuals, your personal belongings, and any trash before leaving.
13. Turn off all lights and close both doors.
14. **If any problems were encountered with the telescope or with the CCD** during the night, notify Prof. von der Linden.

References