

## Appendix-4: Preparations for Observing/Syncing the Mount and Telescope to the Sky

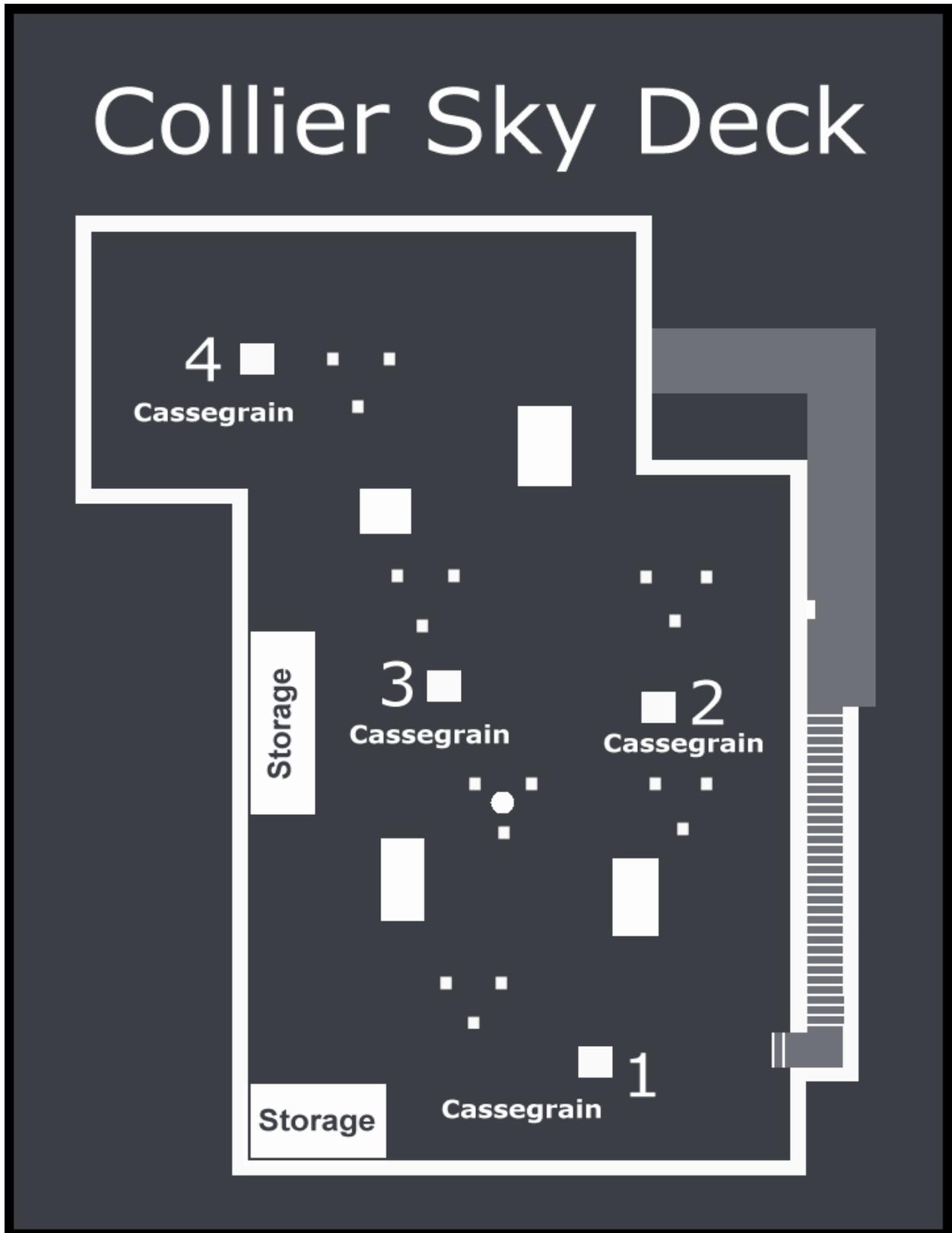
1. **Remove the waterproof covering protecting your scope.** Note that the red tape is forward. This is a two-person procedure.
2. **Carefully remove the bungee cord** if there is one stabilizing your mount.
3. **Remove all caps and plastic covers on your telescope.** Store the smaller caps in one of the protective plastic covers protecting the finder scope or the diagonal.
4. **Attach the ultra-widefield, Rigel, quick finder** to your telescope tube. The buttons of the unit are positioned forward.
5. **Connect the battery and the hand controller to your mount.**
6. **Turn on the battery.**
7. **Turn on the power switch of the telescope.** The hand controller will brighten and give you instructions. There is a picture of the hand controller on the last page of this document.
8. **Align both axis indicators.** These are found on your mount.
9. **Set the time and date:** Follow the instructions displayed on the hand controller to set the time and date. We are Eastern USA/Daylight Saving between the second Sunday in March to the First Sunday in November. Your latitude and longitude are already inputted into the system.
10. **Download to your smartphone an atomic time application for best precision. Search for "Atomic Time."**
11. **The hand controller will display "2-star alignment."** Press ENTER, and it will pick a star. Press ENTER again, and the telescope will begin slewing (moving) to that object.
12. **Center the star in the finder scope:** When the scope stops and the **propeller on the right side of the hand controller stops twirling**, look through the finder. Move the telescope using the Up-Down-Right-Left arrow keys near the top of the hand controller, so that the bright alignment star is centered on the crosshairs of the finder telescope. When centered, **press ENTER.**

13. **Center the same star in the main telescope:** Perform the identical procedure with the hand controller; but this time, look through the main telescope. The telescope will move more slowly. When the star is positioned in the center of the eyepiece, **press ALIGN.**
14. **With the alignment star centered on the crosshair of the main telescope, make sure that the finder scope and the ultra-widefield, Rigel Quick Finder are also centered on the star.** All three units need to be pointed in the same direction. If there is a glitch in the alignment procedure and you must reboot your hand controller, it will simplify the next alignment process.
15. **The hand controller will suggest a second alignment star.** Press ENTER. The telescope will slew to that star. The procedure for the first star alignment, initially using the finder scope will be repeated. When centered in the finder, press ENTER. Center the star in the eyepiece of the main telescope and then press ALIGN.
16. **Calibration stars:** The hand controller will then ask if you would like to repeat the procedure for four calibration stars. You will continue the alignment procedure by Pressing ENTER. The hand controller will automatically select the stars for you. Follow the same procedure for each star. Press ENTER for the finder scope alignment. Press ALIGN when the star is centered in the main telescope. This will be repeated for three more stars.
17. **Telescope ready:** If the internal computer believes the telescope to be properly calibrated after the fourth alignment star, the hand controller will display “CGEM ready” or “Advanced VX.” You are now set to take control of the universe.

## Computerized Hand Control

The Advanced VX uses the NexStar+ hand control that is designed to give you instant access to all the functions your mount has to offer. With automatic slewing to over 40,000 objects and common sense menu descriptions, even a beginner can master its variety of features in just a few observing sessions. Below is a brief description of the individual components of The NexStar+ hand controller:





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## Portable Telescope Observations in a Nutshell

1. The post onto which the mount is attached to your tripod must point north.
2. Vibration suppression pads must be in alignment with the white circles on the Sky Deck.
3. Level your tripod using the circular level.
4. Check to make sure that your telescope is balanced.
5. Set the alignment markers. Use the azimuth knobs (right-left) and altitude knobs (up-down) on your telescope to center Polaris in your finder and main scope.
6. Don't turn the telescope on until you find Polaris (North Star) and have it aligned in the center of your finder and main telescope.
7. Turn on the telescope.
8. Input atomic time into the hand control when asked.
9. Find and center two alignment stars then find and align four calibration stars using the **“Enter”** button for the finder alignments and the **“Align”** button when object is centered in your main scope.
10. When hand control says Advance VX or CGEM ready, you are set to discover the universe.
11. If the moon is bright, concentrate on finding double stars.

### NOTES

## **NOTES**