



ADDENDUM TO PRODUCT MANUAL

NexStar[®] 8i
Special Edition

Your Celestron NexStar 8i Special Edition now comes with many new enhanced features including the patented SkyAlign alignment procedure. SkyAlign is the easiest way to get your NexStar aligned and ready to observe. Even if you do not know a single star in the sky, the NexStar will have you aligned in minutes by asking for basic information like the date, time and location. Then you simply need to aim the telescope to any three bright celestial objects in the sky. Since SkyAlign requires no knowledge of the night sky it is not necessary to know the name of the stars at which you are aiming. You may even select a planet or the moon. The NexStar is then ready to start finding and tracking any of the objects in its 40,000+ object database.

In addition to SkyAlign, the NexStar has other advanced features like SolarSystem align, One-Star Align and added functions like *Sun Menu*, *Scrolling Menu* and *Constellation Tour*.

Please use this addendum in conjunction with your owner's manual as reference for all your telescope's new and existing features. To download a copy of the most current manual for this telescope, please go to the NexStar i series product page at www.celestron.com

Alignment Procedure

In order for the NexStar to accurately point to objects in the sky, it must first be aligned to known positions (stars) in the sky. With this information, the telescope can create a model of the sky, which it uses to locate any object with known coordinates. There are many ways to align the NexStar with the sky depending on what information the user is able to provide: **SkyAlign** uses your current date, time and city to create an accurate model of the sky. Then the user can simply point the telescope to any three bright celestial objects to accurately align the telescope with the sky. **One-Star Align** is the same as the Two-Star Alignment method described in your owner's manual, however only requires you to align to one known star. Although not as accurate as the other alignment methods, One-Star Align is the quickest way to find and track bright planets and objects in Altazimuth mode. Finally, **Solar System Align** will display a list of visible daytime objects (planets and the moon) available to align the telescope. Each alignment method is discussed in detail below.

Definition

"Altazimuth" or "Alt-Az" refers to a type of mounting that allows a telescope to move in both altitude (up and down) and azimuth (left and right) with respect to the ground. This is the simplest form of mounting in which the telescope is attached directly to a tripod.

SkyAlign

SkyAlign is the easiest way to get your NexStar aligned and ready to observe. Even if you do not know a single star in the sky, the NexStar will have you aligned in minutes by asking for basic information like the date, time and location. Then you simply need to aim the telescope to any three bright celestial objects in the sky. Since SkyAlign requires no knowledge of the night sky it is not necessary to know the name of the stars at which you are aiming. You may even select a planet or the moon. The NexStar is then ready to start finding and tracking any of the objects in its 4,000+ object database. Before the telescope is ready to be aligned, it should be set up in an outside location with all accessories (eyepiece, diagonal and finderscope) attached and lens cover removed as described in the Assembly section of the manual. To begin SkyAlign:

1. Power on the NexStar by flipping the switch located on the side of the fork arm, to the "on" position. Once turned on the hand control display will say **NexStar SE**. Press ENTER to choose *SkyAlign*. Pressing the ALIGN key will bypass the other alignment options and the scrolling text and automatically begins *SkyAlign*.
2. Once *SkyAlign* has been selected, the hand control will display "Enter if OK", "Undo to edit" and "Saved Site". The bottom line of the LCD will display either the current time or the time when you last used the telescope. Since this is your first time using the NexStar, press UNDO to enter current time/site information.

The hand control display will then ask for the following information:

Location - The NexStar will display a list of cities to choose from. Choose the city from the database that is closest to your current observing site. The city you choose will be remembered in the hand controls memory so that it will be automatically displayed the next time an alignment is done. Alternatively, if

you know the exact longitude and latitude of your observing site, it can be entered directly into the hand control and remembered for future use as well. To choose a location city:

- ❑ Use the Up and Down scroll keys to choose between *City Database* and *Custom Site*. *City Database* will allow you to select the closest city to your observing site from a list of either international or U.S. location. *Custom Site* allows you to enter the exact longitude and latitude of your observing site. Select *City Database* and press ENTER.
- ❑ The hand control will allow you to choose from either U.S. or international locations. For a listing of U.S. locations by state and then by city, press ENTER while **United States** is displayed. For international locations, use the Up or Down scroll key to select **International** and press ENTER.
- ❑ Use the Up and Down Scroll buttons to choose your current state (or country if International locations was selected) from the alphabetical listing and press ENTER.
- ❑ Use the Up and Down Scroll buttons to choose the closest city to your location from the displayed list and press ENTER.

Time - Enter the current time for your area. You can enter either the local time (i.e. 8:00), or you can enter military time (i.e. 20:00).

- ❑ Select PM or AM. If military time was entered, the hand control will bypass this step.
- ❑ Choose between Standard time or Daylight Savings time. Use the Up and Down scroll buttons (10) to toggle between options.
- ❑ Select the time zone that you are observing from. Again, use the Up and Down buttons (10) to scroll through the choices. For time zone information, refer to the Time Zone map in the appendix of this manual.

Date - Enter the month, day and year of your observing session. The display will read: mm/dd/yy .

- *If the wrong information has been input into the hand control, the UNDO button will act as a backspace allowing the user to re-enter information.*
- *The next time that your NexStar is aligned, the hand control will automatically display the last location (either a city or longitude/latitude) that was entered. Press ENTER to accept these parameters if they still apply. Pressing the UNDO button will allow you to go back and select a new city location or longitude/latitude.*

3. Use the arrow buttons on the hand control to slew (move) the telescope towards any bright celestial object in the sky. Align the object with the red dot of the finderscope and press ENTER.
4. If the finderscope has been properly aligned with the telescope tube, the alignment star should now be visible inside the field of view of the eyepiece. The hand control will ask that you center the bright alignment star in the center of the eyepiece and press the ALIGN button. This will accept the star as the first alignment position. (There is no need to adjust the slewing rate of the motors after each alignment step. The NexStar automatically selects the best slewing rate for aligning objects in both the finderscope and the eyepiece).
5. For the second alignment object, choose a bright star or planet as far as possible from the first alignment object. Once again use the arrow button to center the object in the finderscope and press ENTER. Then once centered in the eyepiece press the ALIGN button.
6. Repeat the process for the third alignment star. When the telescope has been aligned to the final stars, the display will read "Match Confirmed". Press UNDO to display the names of the three bright objects you aligned to, or press ENTER to accept these three objects for alignment. You are now ready to find your first object.



Tips for Using SkyAlign

Remember the following alignment guidelines to make using SkyAlign as simple and accurate as possible.

- Be sure to level the tripod before you begin alignment. The time/site information along with a level tripod will help the telescope better predict the available bright stars and planets that are above the horizon.
- Remember to select alignment stars that are as far apart in the sky as possible. For best results make sure that the third alignment star does not lie in a straight line between the first two stars. This may result in a failed alignment.
- Don't worry about confusing planets for stars when selecting alignment objects. SkyAlign works with the four brightest planets (Venus, Jupiter, Saturn and Mars) as well as the Moon. In addition to the planets, the hand control has over 80 bright alignment stars to choose from (down to 2.5 magnitude).
- Rarely SkyAlign will not be able to determine what three alignment objects were centered. This sometime happens when a bright planet or the Moon passes near one of the brighter stars. In situations like these it is best to try to avoid aligning to either object if possible.
- Be sure to center the objects with the same final movements as the direction of the GoTo Approach. For example, if the scope normally finishes a GoTo with the front of the scope moving right and up, you should center all three alignment objects in the eyepiece using the right and up arrow buttons (the up/down arrows reverse at slew rates of 6 or lower). Approaching the star from this direction when looking through the eyepiece will eliminate much of the backlash between the gears and assure the most accurate alignment possible.

One-Star Align

One-Star Align requires you to input all the same information as you would for the Two-Star Align procedure (see owner's manual). However, instead of slewing to two alignment stars for centering and alignment, the NexStar uses only one star to model the sky based on the information given. This will allow you to roughly slew to the coordinates of bright objects like the moon and planets and gives the NexStar the information needed to track objects in altazimuth in any part of the sky. One-Star Align is not meant to be used to accurately locate small or faint deep-sky objects or to track objects accurately for photography.

To use One-Star Align:

1. Select One-Star Align from the alignment options.
2. Press ENTER to accept the time/site information displayed on the display, or press UNDO to enter new information.
3. The SELECT STAR 1 message will appear in the top row of the display. Use the Up and Down scroll keys (10) to select the star you wish to use for the first alignment star. Press ENTER.
4. NexStar then asks you to center in the eyepiece the alignment star you selected. Use the direction arrow buttons to slew the telescope to the alignment star and carefully center the star in the finderscope. Press ENTER when centered.
5. Then, center the star in the eyepiece and press ALIGN.
6. Once in position, the NexStar will model the sky based on this information and display **Align Successful**.

Note: Once a One-Star Alignment has been done, you can use the Re-alignment feature (later in this section) to improve your telescope's pointing accuracy.

Solar System Align

Solar System Align is designed to provide excellent tracking and GoTo performance by using solar system objects (Sun, Moon and planets) to align the telescope with the sky. Solar System Align is a great way to align your telescope for daytime viewing as well as a quick way to align the telescope for night time observing.



Never look directly at the sun with the naked eye or with a telescope (unless you have the proper solar filter). Permanent and irreversible eye damage may result.

1. Select *Solar System Align* from the alignment options.
2. Press ENTER to accept the time/site information displayed on the display, or press UNDO to enter new information.

3. The SELECT OBJECT message will appear in the top row of the display. Use the Up and Down scroll keys (10) to select the daytime object (planet, moon or sun) you wish to align. Press ENTER.
4. NexStar then asks you to center in the eyepiece the alignment object you selected. Use the direction arrow buttons to slew the telescope to the alignment object and carefully center it in the finderscope. Press ENTER when centered.
5. Then, center the object in the eyepiece and press ALIGN.

Once in position, the NexStar will model the sky based on this information and display **A l i g n S u c c e s s f u l**.

Tips for Using Solar System Align

- For safety purposes, the Sun will not be displayed in any of the hand control's customer object lists unless it is enabled from the Utilities Menu. To allow the Sun to be displayed on the hand control, do the following:
 1. Press the UNDO button until the display reads "NexStar SE"
 2. Press the MENU button and use the Up and Down keys to select the *Utilities menu*. Press ENTER.
 3. Use the UP and Down keys to select *Sun Menu* and press ENTER.
 4. Press ENTER again to allow the Sun to appear on the hand control display.

The Sun can be removed from the display by using the same procedure as above.

To improve the telescope pointing accuracy, you can use the Re-Align feature as described in your owner's manual.

Constellation Tour

In addition to the Tour Mode, the NexStar telescope has a Constellation Tour that allows the user to take a tour of all the best objects within a particular constellation. Selecting *Constellation* from the LIST menu will display all the constellation names that are above the user defined horizon (filter limits). Once a constellation is selected, you can choose from any of the database object catalogs to produce a list of all the available objects in that constellation.

- To see information and data about the displayed object, press the INFO key.
- To slew to the object displayed, press ENTER.
- To see the next tour object, press the Up key.

Sun Menu

For safety purposes the Sun will not be displayed as a database object unless it is first enabled. To enable the Sun, go to the *Sun Menu* and press ENTER. The Sun will now be displayed in the Planets catalog as can be used as an alignment object when using the Solar System Alignment method. To remove the Sun from displaying on the hand control, once again select the Sun Menu from the Utilities Menu and press ENTER.

Scrolling Menu

This menu allows you to change the rate of speed that the text scrolls across the hand control display.

- Press the Up (number 6) button to increase the speed of the text.
- Press the Down (number 9) button to decrease the speed of the text.