

## Quick Start Guide



### **AstroBoy® -70e Computerized Telescope With Electronic Eyepiece**

#9102 (Astro Blue)

#### **FEATURES**

- Alt-Azimuth Mount with GoToNova® computer control technology
- Computerized automatic pointing and tracking
- 4,000+ object database with 256 user-definable objects.
- 4 line, 21-character LCD hand controller with backlit LED buttons for easy operation
- Dual-axis servomotor with optical encoders
- Drive motor with 5-speed setting for precise tracking
- Push-to alignment
- 70mm achromatic refractor telescope for land and celestial objects observation
- Aluminum tripod
- Electronic eyepiece for viewing & capturing video and photos with a computer.

#### **PACKAGE CONTENTS**

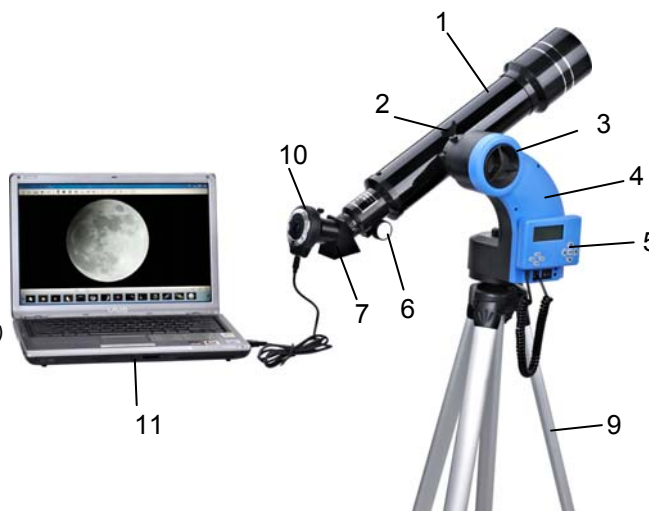
- AstroBoy® Telescope mount
- 70mm Refractor telescope
- 1-inch aluminum tripod
- #8404 Hand Controller
- Two eyepieces: 10mm & 25mm
- Electronic Eyepiece
- 1.25" 45° erect prism diagonal

#### **ONLINE CONTENTS** (click under "Support" menu button) [www.iOptron.com](http://www.iOptron.com)

- Full manual (you can refer to the full manual for more details on set-up and operation).
- Tips for operating
- Reviews and feedback from other customers.
- Connect with other users on our Facebook page (Search "Astroboy-70e").
- Accessories information (including AC adapter, tripod, and more)

#### **Assembly Terms**





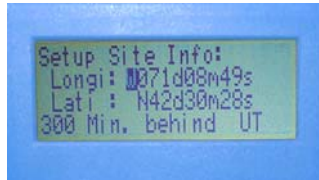
1. Telescope Tube
2. Dovetail Lock
3. Altitude Lock
4. Mount
5. 8404 Hand Controller
6. Focuser
7. Diagonal
8. Optical Eyepieces (not shown)
9. Tripod
10. Electronic Eyepiece
11. Computer (not included)







**NEVER USE A TELESCOPE TO LOOK AT THE SUN DIRECTLY! Looking at or near the Sun will cause instant and irreversible damage to your eye. Children should always have adult supervision while observing.**

# Quick Start Guide for AstroBoy® Computerized Telescopes

	<p><b>Step 1. Preparing the Tripod</b>          Unlock the tripod leg locks.          Extend tripod legs.          Lock the leg locks afterwards.</p>
	<p><b>Step 1a.</b>          Pull tripod legs apart to a fully opened position.          Tighten the center tripod lock knob to a firm feel to secure the tripod legs.  <b><i>Caution: Make sure you loosen this lock knob before collapsing the tripod to store away.</i></b></p>
	<p><b>Step 2.</b>  <b>Attach to tripod.</b> Attach mount to tripod by aligning base of mount onto screw on top of tripod and then hand tightening until secure.</p>
	<p><b>Step 3. Install Batteries</b>          Lift the battery cover. Carefully pull out the battery holder from the compartment. Be sure not to accidentally disconnect the wires.</p>
	<p><b>Step 3a.</b>          Insert 6 AA batteries (not included) in the holder. Refer to the diagram on the holder to orient the batteries properly. Replace the holder back into the battery compartment and replace the lid.           Use only fresh batteries. Using old or low batteries may cause error messages. An optional AC adapter and 12V car plug cable are also available for purchase at <a href="http://www.iOptron.com">www.iOptron.com</a>.</p>
	<p><b>Step 4. Attach the telescope</b>          Slide the telescope into the dovetail slot on mount along the <b>arrow</b> direction on the slot and secure the telescope using dovetail lock knob (#2). Note that the dovetail is tapered and slides in one direction only (see arrow in photo). <b>Don't force the telescope into the dovetail slot!</b></p>
	<p><b>Step 5. Attaching Optics</b>  <b>Insert 45° diagonal:</b> Insert diagonal (#7) into the eyepiece side of the telescope. Tighten the thumbscrews to a firm feel only.</p>

 <p>Eyepiece (#8)</p> <p>Focus knob (#6)</p>	<p><b>Step 5a</b>  <b>Insert the eyepiece:</b> Remove the supplied 25mm eyepiece (#8) from its container and slide it into the open end of the diagonal. Tighten the thumbscrews to a firm feel only.  Remove the round dust cover lid from the end of telescope.</p> <p><b>Use the focus knob (#6)</b> to bring objects into focus. You may need to turn the focus knob quite a few turns to focus your telescope for the first time. Always start observing using a lower power eyepiece (such as the 25mm eyepiece) to get a wider field of view. Later on you can change to higher powers. (Eyepieces of higher powers have narrower field of views; it's more difficult to locate objects using high-power eyepieces.)</p>								
	<p><b>Step 6.</b>  Plug hand controller into the HBX port on the mount. The hand controller can also attach magnetically to the mount arm.</p> <p><i>If you are using the telescope for land object observing, turn the mount on by press the I/O switch. Use the arrow key to slew the mount.</i></p>								
	<p><b>Step 7. Telescope Initial Setup</b></p> <ol style="list-style-type: none"> <li>(1) Loosen the altitude clutch; point the telescope tube directly up at the zenith. Tighten the clutch (see left photo).</li> <li>(2) Level the mount using the bubble on the mount by adjusting the height of the mount base or tripod legs. Position mount so it faces South (you can simply pick up mount with tripod to position "S" to face South).</li> </ol>								
	<p><b>Step 8. Hand Controller Initial Setup</b>  Press the I/O power switch to turn the mount on (controller will light up).</p> <p>Now "Set Local Time:" is displayed at the top. A blinking cursor is on the second line.  Use ▲/▼ keys to change the numbers. Use ◀/▶ keys to scroll through the fields.  The last field of this screen is for setting "DaylightTime saving".  Use ▲/▼ keys to switch between "Y" (yes) and "N" (no).  Press ENTER when finished.</p>								
	<p><b>Step 9.</b>  Now "Setup Site Info:" is displayed at the top. A blinking cursor is on the second line. ("Longi" means longitude; "Lat" means latitude). You can search the internet for your latitude and longitude or visit <a href="http://www.iOptron.com">www.iOptron.com</a> and click "support" for help finding this information. Use ▲/▼ keys to change the numbers and letters. Use ◀/▶ keys to scroll through the fields.</p> <p>The last line of this screen is for setting time zone information (<i>add or subtract 60 minutes (Mins.) per time zone</i>).</p> <p><b>Examples: minutes "behind" UT or "ahead of" UT (UT for Universal Time)</b></p> <table style="margin-left: 40px;"> <tr><td>New York:</td><td>300 Mins. "behind" UT</td></tr> <tr><td>Los Angeles:</td><td>480 Mins. "behind" UT</td></tr> <tr><td>Rome:</td><td>60 Mins. "ahead of" UT</td></tr> <tr><td>Sydney:</td><td>600 Mins. "ahead of" UT</td></tr> </table> <p>Press ENTER when finished.</p> <p><b>The mount is now ready to observe</b>  Use the 4 Arrow keys (▲▼◀▶) to rotate the scope Up, Down, Left, and Right.  Use the SPEED key to change the slew rate from the slowest (2X) to the fastest (MAX).</p>	New York:	300 Mins. "behind" UT	Los Angeles:	480 Mins. "behind" UT	Rome:	60 Mins. "ahead of" UT	Sydney:	600 Mins. "ahead of" UT
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	<p><b>Step 10. Initial Alignment</b></p> <p>Press the Menu button. Scroll to “Align” and press ENTER. Select “Solarsys Align” and press ENTER. Then select an alignment object, such as “Moon” and press ENTER.</p> <p>The telescope will automatically move and point to the correct altitude of the Moon. Next, push the mount by hand or turn the mount left or right using the arrow keys (◀▶) to center the Moon in the eyepiece. Use (▲▼) as needed. Then press ENTER. The mount is now aligned and ready to GoTo and track objects.</p> <p><i>(If there is no Moon please use One Star Align or Sync to Target to do the initial alignment)</i></p>
	<p><b>Step 11. Find (GoTo) and Track Objects.</b></p> <p>Press Menu button. Scroll to “Select and Slew” Press ENTER.</p>
	<p><b>Step 12.</b></p> <p>Select a category (ex. “Planets, Sun, Moon”) by scrolling with the arrow keys. Press ENTER.</p> <p>Then select an object (ex. “Moon”) by scrolling with the arrow keys. Press ENTER.</p> <p>The telescope will automatically slew to the object and lock on. It will automatically begin to track once it locks on to the object.</p>
 <p>Plug USB connector into your computer.</p>	<p><b>Step 13. Use Electronic Eyepiece. (Optional)</b></p> <p>Remove cap from end of electronic eyepiece and insert electronic eyepiece into the telescope tube opening (Remove optical eyepiece first). Next, plug each end of the USB cable into the electronic eyepiece and your computer.</p> <p>Your computer will detect the electronic eyepiece as new hardware and install the camera driver automatically. Next, you can open a movie program such as Window Movie Maker (or other webcam program), select the right camera and begin to view a live feed from the telescope.</p> <p><i>An electronic eyepiece works just as a short focal length (few mm) eyepiece. Therefore, you need to start the observation with the longer focal length eyepiece. In most cases, directly replace an optical eyepiece with an electronic eyepiece will not bring an image onto the computer screen immediately.</i></p> <p>If your PC does not have a webcam application software installed, you may download one of the following programs: ArcSoft’s Webcam Companion at <a href="http://www.arcsoft.com">www.arcsoft.com</a> or Future WinJoe at <a href="http://www.ioptron.com/future.rar">www.ioptron.com/future.rar</a>.</p>

## IOPTRON ONE YEAR TELESCOPE, MOUNT, AND CONTROLLER WARRANTY

A. iOptron warrants your telescope, mount, or controller to be free from defects in materials and workmanship for one year. iOptron will repair or replace such product or part which, upon inspection by iOptron, is found to be defective in materials or workmanship. As a condition to the obligation of iOptron to repair or replace such product, the product must be returned to iOptron together with proof-of-purchase satisfactory to iOptron.

B. The Proper Return Authorization Number must be obtained from iOptron in advance of return. Call iOptron at 1.866.399.4587 to receive the number to be displayed on the outside of your shipping container.

All returns must be accompanied by a written statement stating the name, address, and daytime telephone number of the owner, together with a brief description of any claimed defects. Parts or product for which replacement is made shall become the property of iOptron.

The customer shall be responsible for all costs of transportation and insurance, both to and from the factory of iOptron, and shall be required to prepay such costs.

iOptron shall use reasonable efforts to repair or replace any telescope, mount, or controller covered by this warranty within thirty days of receipt. In the event repair or replacement shall require more than thirty days, iOptron shall notify the customer accordingly. iOptron reserves the right to replace any product which has been discontinued from its product line with a new product of comparable value and function.

This warranty shall be void and of no force of effect in the event a covered product has been modified in design or function, or subjected to abuse, misuse, mishandling or unauthorized repair. Further, product malfunction or deterioration due to normal wear is not covered by this warranty.

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Some states do not allow the exclusion or limitation of incidental or consequential damages or limitation on how long an implied warranty lasts, so the above limitations and exclusions may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

iOptron reserves the right to modify or discontinue, without prior notice to you, any model or style telescope.

If warranty problems arise, or if you need assistance in using your telescope, mount, or controller contact:

iOptron Corporation  
Customer Service Department  
6F Gill Street  
Woburn, MA 01801  
Support@iOptron.com  
Tel. (866)399-4587  
Fax. (781)935-2860  
Monday-Friday 9AM-5PM EST

NOTE: This warranty is valid to U.S.A. and Canadian customers who have purchased this product from an authorized iOptron dealer in the U.S.A. or Canada or directly from iOptron. Warranty outside the U.S.A. and Canada is valid only to customers who purchased from an iOptron Distributor or Authorized iOptron Dealer in the specific country. Please contact them for any warranty service.