Accessories

OTA	x1
Telescope Mounting	x1
HandSet (Depend on Config)	x1
Tripod	x1
Red Dot Finder	x1
Diagonal Prism	x1
Eyepiece K20mm	x1
Eyepiece K10mm	x1
Battery Holder	x1
Bubble Compass	x1

Specifications

DS-20081 / DS-20081-L / DS-20081-H

Optical design	Achromatic Refractor
Clear aperture	80 mm
Focal length	900 mm
Focal ratio	f/11.2
Resolving power	1.2 arc secs
Mounting	Single-arm, motorized Alt-Az
Alignment	Altazimuth
Slew Speeds	1x sidereal to Max DC motor in 8 increments
Tripod	Aluminum, full-length; adjustable w/accessory tray
Optical Tube Dimensions	3.25" x 34"
Batteries (user-supplied)	8 x AA, or 12VDC Adapter (Option)
Controller	HandSet (Depend on Config)

DS-20090 / DS-20090-L / DS-20090-H

Optical design	Refractor
Clear aperture	90 mm
Focal length	900 mm
Focal ratio	f/10
Resolving power	1.3 arc secs
Mounting	Single-arm, motorized Alt-Az
Alignment	Altazimuth
Slew Speeds	1x sidereal to Max DC motor in 8 increments
Tripod	Aluminum, full-length; adjustable w/accessory tray
Optical Tube Dimensions	3.5" x 34"
Batteries (user-supplied)	8 x AA, or 12VDC Adapter (Option)
Controller	HandSet (Depend on Config)

DS-20090DI / DS-20090DI-L / DS-20090DI-H

Optical design	Refractor
Clear aperture	90 mm
Focal length	900 mm
Focal ratio	f/10
Resolving power	1.3 arc secs
Mounting	Single-arm, motorized Alt-Az
Alignment	Altazimuth
Slew Speeds	1x sidereal to Max DC motor in 8 increments
Tripod	Aluminum, full-length; adjustable w/accessory tray
Optical Tube Dimensions	3.5" x 34"
Batteries (user-supplied)	8 x AA, or 12VDC Adapter (Option)
Controller	HandSet (Depend on Config)

DS-20102 / DS-20102-L / DS-20102-H

Optical design	Refractor
Clear aperture	102 mm
Focal length	800 mm
Focal ratio	f/7.8
Resolving power	1.2 arc secs
Mounting	Single-arm, motorized Alt-Az
Alignment	Altazimuth
Slew Speeds	1x sidereal to Max DC motor in 8 increments
Tripod	Aluminum, full-length; adjustable w/accessory tray
Optical Tube Dimensions	3.5" x 31"
Batteries (user-supplied)	8 x AA, or 12VDC Adapter (Option)
Controller	HandSet (Depend on Config)

Astronomical Telescope Start Guide

DS-20081 / DS-20018-L / DS-20081-H
DS-20090 / DS-20090-L / DS-20090-H
DS-20090DI / DS-20090DI-L / DS-20090DI-H
DS-20102 / DS-20102-L / DS-20102-H

Never use a Astronomical Telescope to look at the Sun!

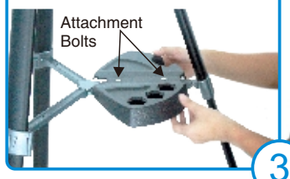
It's the best to set up the telescope in twilight or before sunset the first time you use telescope. Set the telescope in a large open area. Make sure the ground is stable and is approximately level.

1

Adjust leg height, make sure the top of the tripod is approximately level.

2

Place the accessory tray on any one of the three tripod struts.



3

Secure the tray to the tripod struts with wing nuts and bolts.

4

Place the telescope mounting arm into the tripod base, secure with attached mounting knob.

5

Remove the factory-mounted cradle ring from the optical tube.

6

Remove the four screws on the mounting arm and attach the cradle ring.

7

Fasten the cradle ring using the four screws.

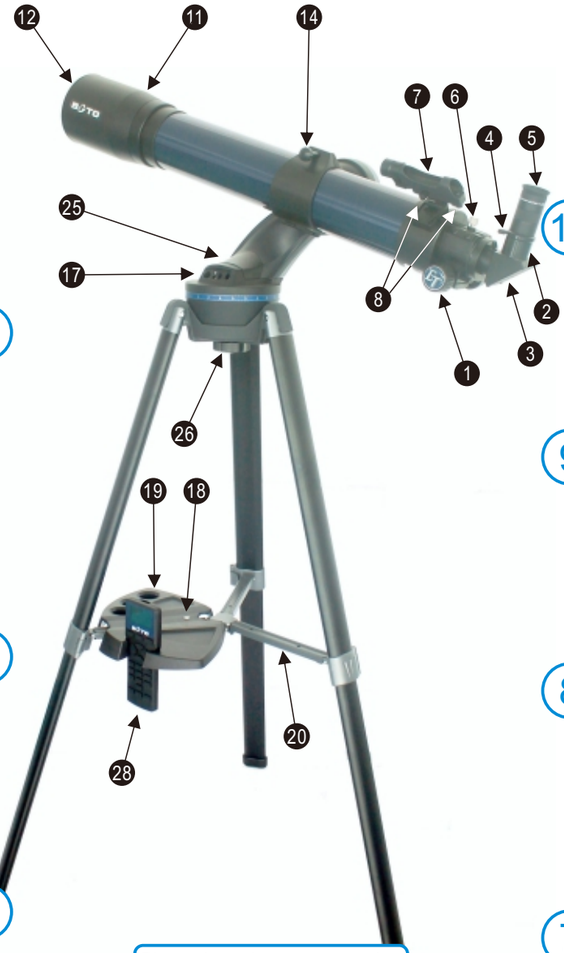
8

Remove the dust cover from dew shield.

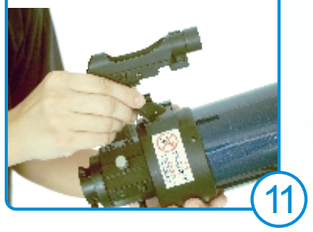
9

Insert batteries as below and return or plug the DC adaptor.

10



Attach red dot finder to the telescope tube.



11

Attach diagonal prism and secure with set-screw.

12

Insert 25mm eyepiece and secure with set-screw.

13

Attach HandSet plug to HBX port. Turn power ON.

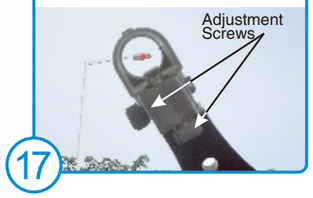
14

Control Panel
A. HandSet port
B. DC port
C. Switch
D. Aux port

Remove the eyepiece and replace with compass

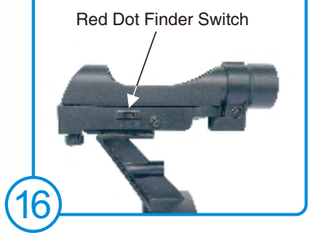
18

Center distant object using only the adjustment screws.



17

Turn on red dot finder. Note location of adjustment screws.



16

Move to center the distant object in the eyepiece.

15

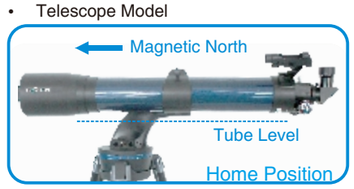
1. Focus Knob
2. Eyepiece Holder
3. 90°Diagonal Prism
4. Eyepiece Holder Thumbscrew
5. Eyepiece
6. Focus Lock Knob
7. Red Dot Viewfinder
8. Alignment Screw
9. Bubble Compass
10. Altitude Lock
11. Dew Shield
12. Dust Cap
13. Optical Tube
14. Cradle Ring Lock Knob
15. Cradle Ring
16. Mounting Arm and Shaft
17. Interface Panel
18. Attachment Bolts
19. Accessory Tray
20. Inner Support Struts
21. Tripod Leg Locks
22. Tripod Legs
23. Tripod Base
24. Azimuth Setting Circle
25. Battery Compartment
26. Base Lock Knob
27. Altitude Setting Circle
28. HandSet
(Depend on Config)

9

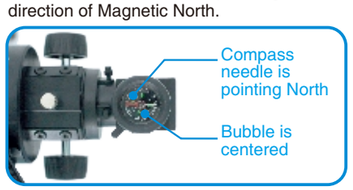
Alignment

BCTO HandSet will ask to input the following information when you power on the first time or after reset. In addition, it is better to confirm the date and time which are set in manufactory.

- Location
- Daylight savings or standard time
- Telescope Model



Point the telescope tube to Home position, Magnetic North and Level, by losing the Base Lock Knob(26) and Altitude Lock(10). Refer to the bubble compass(9) to verify that tube is level and pointing to the direction of Magnetic North.



When confirm that you have achieved the “Home” position, replace with the 25mm eyepiece in eyepiece holder. Power on the telescope and access the “Easy Align” menu. HandSet selects the first of two alignment stars, and will emit an audible “beep” when it has completed slewing. Look through the red dot finder, a bright star will be in the field of view. Use the arrow keys to put the red dot on the star. Looking through the eyepiece, focus to see the object. Center that star, using the arrow keys. Press <ENTER> key when completed. If an object obstructs the view of <DOWN SCROLL> key and HandSet will slew to another alignment star.

Repeat for the second alignment star.

When you have successfully center two alignment stars, HandSet will display “Alignment Successful”.

Refer to HandSet Instruction Manual for more detail.