

**POPULAR  
SCIENCE™**  
BY  **CELESTRON®**

ASTROMASTER  
**80AZS** REFRACTOR  
TELESCOPE  
WITH SMARTPHONE ADAPTER AND BLUETOOTH REMOTE



# POPULAR SCIENCE™

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## ASTROMASTER 80AZS REFRACTOR TELESCOPE

WITH SMARTPHONE ADAPTER AND BLUETOOTH REMOTE

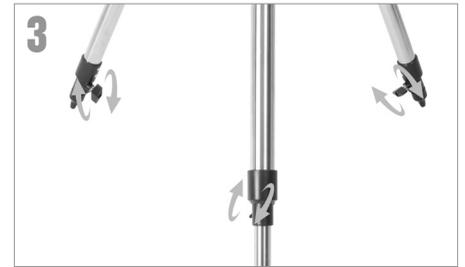
#21182



Unpack your telescope and verify that all parts are present. Your AstroMaster 80 AZS includes: a telescope tube, a tripod and mount head, two eyepieces, a 2x Barlow lens, a red dot finderscope, an erect image diagonal, a smartphone adapter, a Bluetooth shutter remote, and a Moon filter.



To set up the tripod, spread the legs outward until they are fully extended. Extend each of the three tripod legs down 6-12".



Use the three tightening screws located at the bottom of each leg to secure the extended legs in place.



All three legs should be the same length to provide a level platform for the telescope.



To attach the accessory tray, line up notches and turn clockwise until tray tabs lock into place with the tripod brackets.



Properly assembled, the accessory tray should appear as pictured above.



Here is how the fully assembled tripod and mount should appear.



Next, slide telescope tube into the mount. Be sure to back out fastening screws to allow enough clearance for the dovetail.



Center dovetail in the mount and tighten fastening screw. For added security tighten the angled lock down screw next to the fastening screw.



Loosen the set screw on the focuser. Remove the plastic cap covering the end of the focuser.



Insert the diagonal into the focuser and tighten the set screw.



Loosen the set screw on the diagonal, then insert the chrome barrel of the 20mm eyepiece into the diagonal and tighten the set screw.



To install the finderscope, loosen the finger screw on the dovetail mount on the top left of the focuser. Slide the dovetail slider on the bottom of the finder bracket into the dovetail mount on the focuser. Tighten the finger screw to secure it in place.



Remove the small plastic tab under the battery cover by pulling it straight out. For longer battery life be sure to turn off finderscope when not in use.



Remove the lens cap from the front of the telescope before you begin observing.



You are now ready to start using your AstroMaster telescope.

For more information on this product or to download the instruction manual, please visit the respective product page on [celestron.com](http://celestron.com)



**SOLAR WARNING:** Never attempt to view the sun through any telescope without a proper solar filter.

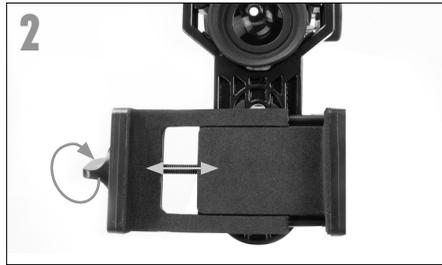
#### NEED ASSISTANCE?

Contact Celestron Technical Support  
[celestron.com/pages/technical-support](http://celestron.com/pages/technical-support)  
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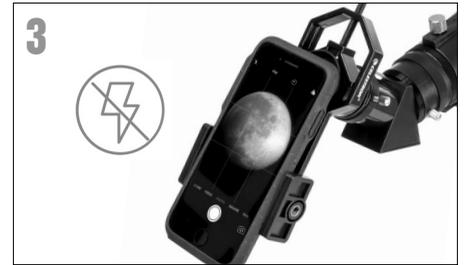
# USING THE SMARTPHONE ADAPTER



Open the eyepiece clamp and place it around the body of the eyepiece. Tighten the clamp until it's secure.



Use the phone clamp knob to open the phone holder so that your phone fits inside. Tighten it to secure your phone in place.



Turn on the phone and open your camera app. Make sure the flash is turned off.



Loosen the knob on the bottom of the adapter that secures the phone clamp to the eyepiece clamp. Slide the phone clamp up and down and rotate it left and right until your camera is looking down through the eyepiece of the telescope. Tighten the knob on the bottom of the adapter to secure it in place.



Use the telescope's focuser to adjust focus of your camera. Snap the image using your app.

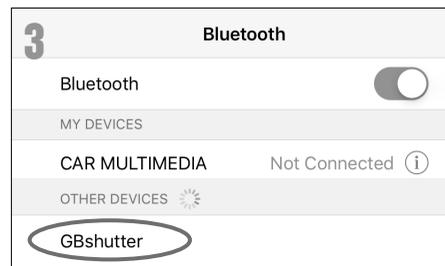
# USING THE BLUETOOTH REMOTE



1 To insert or replace the battery, place your thumb in the center of the back cover, pressing inward and sliding downward remove the battery door. The CR2032 battery should be inserted with the positive (+) side facing upward. Replace the cover.



2 Press and hold the button on the remote for 5 seconds. A blue light will turn on and, after a few seconds, start to blink. The remote is now in pairing mode.



3 Using the Bluetooth settings on your phone, pair the device called "GBshutter".



4 Open your camera app. Press the button on the remote to trigger the shutter on your phone.



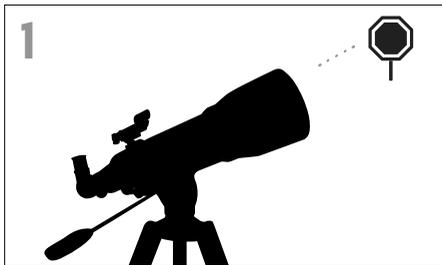
5 If your camera is in video mode, you can press the button once to start recording and again to stop the recording.

# ALIGNING THE FINDERSCOPE

The finder is one of the most important parts of your telescope. It helps you locate objects and center them in the eyepiece. The first time you assemble your telescope, you need to align the finder to the telescope's main optics. It's best to do this during the day\*.

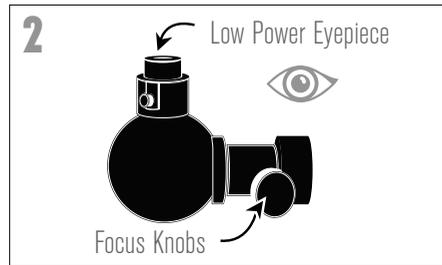


\* **SOLAR WARNING!** Never attempt to view the Sun through any telescope without a proper solar filter!



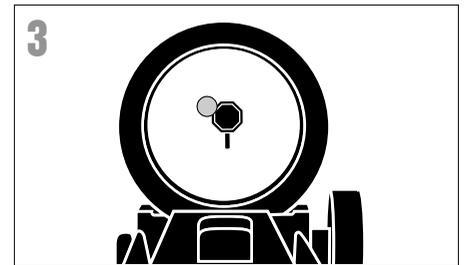
## 1 CHOOSE A TARGET

Take the telescope outside during the day and find an easily recognizable object, like a streetlight, license plate or sign. The object should be as far away as possible, but at least a quarter mile away.



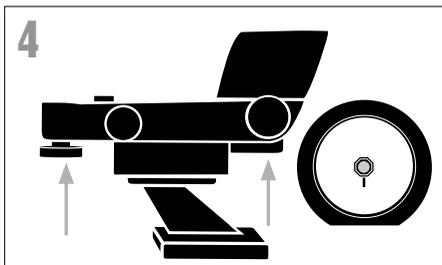
## 2 CENTER THE TARGET IN THE EYEPIECE

Look through the telescope using your lower powered eyepiece. Move the telescope until the object you chose lies in the center of the view. If the image is blurry, gently turn the focus knobs until it comes into sharp focus.



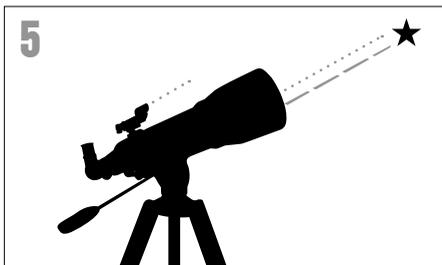
## 3 LOOK THROUGH FINDERSCOPE

Once the object is centered in your 20 mm eyepiece, look through the finderscope and locate the red dot.



## 4 ADJUST THE FINDERSCOPE

Without moving the telescope, use the two adjustment knobs to move the finder around until the red dot appears over the same object you are observing in the telescope's 20 mm eyepiece.



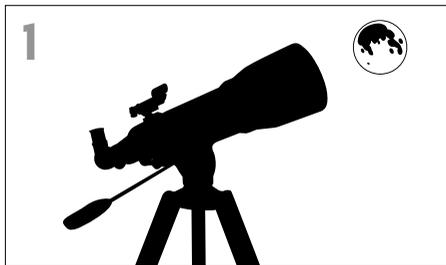
## 5 YOUR FINDERSCOPE IS NOW ALIGNED!

It should not require realignment unless it is bumped or dropped.

# YOUR FIRST NIGHT OUT- THE MOON



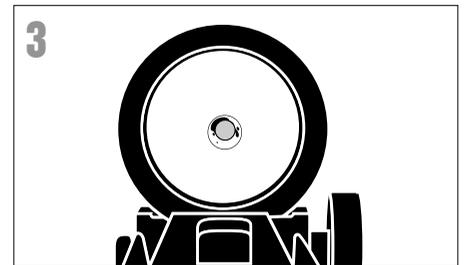
The best and easiest target for you to try to view first is the Moon. Try observing the Moon at different points in its phase cycle. The best time to view the Moon is from two days after a New Moon up to a few days before a Full Moon. During this period, you will be able to see the most detail in the craters and lunar mountain ranges.



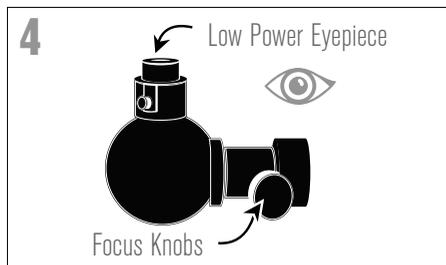
1 With the Moon visible in the sky, set up your telescope with the 20mm eyepiece installed.



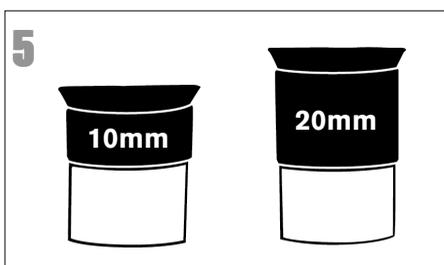
2 Move the telescope so that it is roughly pointing toward the Moon.



3 Turn on and look through the finderscope and locate the red dot. Continue moving the telescope until the red dot appears over the Moon.



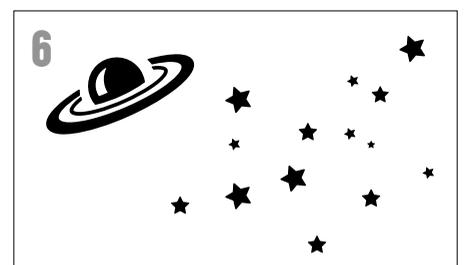
4 Look through the telescope's 20mm eyepiece. Gently turn the focus knobs to adjust the sharpness of the image.



**CONGRATULATIONS!**  
YOU HAVE NOW OBSERVED YOUR  
FIRST CELESTIAL OBJECT!

To get a closer view of the Moon, loosen the set screws on the focuser and remove the 20mm eyepiece. Replace it with your 10mm eyepiece and tighten the set screws to secure it in place. The 10mm eyepiece will give you significantly more magnification, making the Moon appear much larger.

**NOTE:** You may need to adjust the focus knobs when you change eyepieces, to make sure you are getting the sharpest image possible.



You can view many other celestial objects, such as planets, star clusters and nebulae using this same technique if you know where to find them in the night sky.

**CELESTRON**  
**SkyPORTAL™**



Celestron's free SkyPortal app for iOS and Android can help you locate and identify a wide array of celestial objects quickly and easily.

## SAFETY INSTRUCTIONS

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- Risk of explosion if battery is replaced by an incorrect type.
- The included battery is not rechargeable.
- Please use the battery in its original purpose to avoid causing the battery to short circuit. When the conductive material is connected directly to the battery positive and negative will cause a short circuit.
- Do not use a damaged battery.
- Keeping the battery in an extremely cold or very hot location can result in shortened battery life.
- When replacing the battery, please refer to the instruction manual and pay attention to the positive and negative direction of battery.
- Do not put the battery in the fire. Dispose of the battery according to local regulations.

### FCC IDENTIFIER: **2A2FG-X9**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**CAUTION:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Product design and specifications are subject to change without prior notification. This product is designed and intended for use by those 14 years of age and older.



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