

# POPULAR SCIENCE™

BY  **CELESTRON®**

OUTLAND X  
**12X42 BINOCULAR**  
WITH SMARTPHONE ADAPTER AND BLUETOOTH REMOTE



## INSTRUCTION MANUAL

MODEL #72349



## OUTLAND X 12X42 BINOCULAR

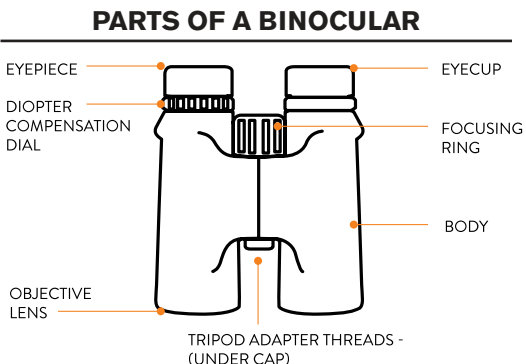
WITH SMARTPHONE ADAPTER AND  
BLUETOOTH REMOTE

Thank you for choosing this Popular Science™ by Celestron® binocular. We hope they bring you many years of enjoyment. To maximize the use of your new binoculars, please read these instructions on use and care before using them.

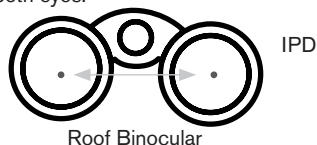
### ADJUSTING THE INTERPUPILLARY DISTANCE (IPD)

Since the distance between the eyes (specifically, the distance between the centers of the pupils) varies among individuals, the two eyepieces of the binoculars must be correctly aligned (adjusted).

This is called adjusting the interpupillary distance. To adjust this distance, using both hands, lift the binoculars up to your eyes and look through them at an object in



the distance. Move the two halves of the binoculars about the hinge until you see one clear circle of image through both eyes.



### SETTING THE DIOPTRER COMPENSATION FOR A CENTER FOCUS BINOCULAR WITH A RIGHT OPTICAL CHANNEL DIOPTRER COMPENSATION DIAL

As most people have a difference in visual acuity between their right and left eyes, modern binoculars incorporate a mechanism that allows compensation to be adjusted between the left and right optical channels so that each eye is presented with an image that is accurately focused for it. This compensation mechanism should always be set using the following procedure whenever a new user takes up a new binocular, and should be repeated if a different user changes this compensation setting or if the compensation setting is noticed by the user to no longer be appropriate for his or her own visual requirements.

**NOTE:** If you normally wear eyeglasses for normal daily activities (not just reading glasses but “full time” eyeglasses) it is recommended that you also wear them while using binoculars. Simply twist the binoculars’ eyecups down to their lowest position to allow the proper eye relief to be achieved while wearing the eyeglasses.

1. Pick a subject to observe approximately 50 yards or meters in the distance.
2. Cover the right objective lens with the binocular’s own objective cover or with your hand.

3. View the selected subject through the binocular as you normally would but do not attempt to focus upon it yet.
4. Keeping both eyes open, use the binoculars’ center focus dial to bring the image seen through the binocular into focus.
5. Without touching the center focus dial, uncover the right objective lens of the binocular and cover the left objective lens.
6. View the selected subject through the binocular as you normally would once again but do not touch binoculars’ center focus dial.
7. Keeping both eyes open, determine if the subject is still in clear focus. If it is not, use the binoculars’ diopter compensation dial to bring the image seen through the binocular into focus.
8. Uncover the left objective lens and view the selected subject through the binocular as you normally would. It should be clearly in focus to both eyes. If it is not, repeat this process.
9. Once the diopter compensation has been satisfactorily set for the user, the center focus dial will change the focus appropriately for the user.

If you ever notice that while using the binocular you feel a “pulling” sensation in either eye, the diopter compensation dial may have been moved. The above

procedure should be used to return it to the correct balance for your eyes.

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## **SET THE TWIST UP RUBBER EYECUPS**

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Twist the rubber eyecups up if you do not wear eyeglasses or twist them down if you do wear eyeglasses to obtain the maximum field of view.

Now you are ready to use your binoculars – enjoy the view!

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## **TRIPOD ADAPTABILITY**

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These binoculars feature a built-in tripod adapter fitting which is a threaded screw hole underneath a cap. To attach a binocular tripod adapter, remove the cap and then thread the screw from the binocular tripod adapter into the threaded screw hole. The other end of the

binoculars' tripod adapter attaches to a photographic tripod. Mounting binoculars this way allows for added stability and comfort. allows for added stability and comfort.

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## **CARE AND CLEANING**

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Binoculars do not need routine maintenance other than making sure that the objective lenses and eyepieces are kept clean. If repairs become necessary, they should be serviced by the manufacturer or a qualified binocular repair company. Collimation (optical alignment) is the biggest concern with binoculars. If your binoculars are roughly handled or dropped, there is a good chance that the collimation will be out, and they should be serviced. Dirty objectives and/or eyepieces mean less light transmission and loss of brightness as well as unsharp images. Keep your optics clean! When not using your binoculars, store them in the case provided. Avoid touching the glass surfaces, however, if fingerprints (which contain mild

acid) do get on the glass, they should be cleaned as soon as possible to avoid damaging the coatings. To clean the optical surfaces, we recommend the Celestron Lens Cleaning Kit (#93576), available at most photo or optical shops. Follow the instructions provided with the kit closely for best results. If you have a lot of dust or dirt accumulated, brush it off gently with a camel's hair brush and/or utilize a can of pressurized air before using the cleaning kit. Alternately, you could use the Celestron LensPen (#93575) made especially for cleaning binoculars. Never attempt to clean your binoculars internally or try to take them apart!

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## **CAUTION!**

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Viewing the Sun may cause permanent eye damage. Do not view the Sun with your binoculars or even with the naked eye.

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## **PROBLEMS OR REPAIR**

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If warranty problems arise or repairs are necessary, contact the Celestron customer service department if you live in the U.S.A. or Canada. If you live elsewhere,

please contact the Celestron dealer you purchased the binoculars from or the Celestron distributor in your country (listings are available at [celestron.com](http://celestron.com)).

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## **WARRANTY**

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Your binocular has the Celestron Limited Lifetime Warranty for U.S.A. and Canadian customers. For complete details of eligibility and for warranty information on customers in other countries visit the Celestron website.

This product is designed and intended for use by those 14 years of age and older.

Product design and specifications are subject to change without prior notification.

**For complete specifications and product information, visit [celestron.com](http://celestron.com)**

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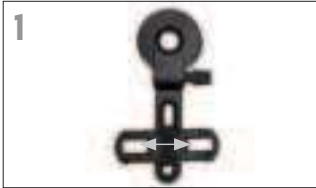
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# USING THE SMARTPHONE ADAPTER



With the eyecup of the binocular twisted down to it's lowest position:



Pull outward on the spring clamp arms and place the smartphone into the space between the clamp arms so that it is securely grasped by the tension of the arms.



Loosen the smartphone clamp position knob (if not already loose) and position the eyecup of the adapter so that its aperture aligns with the camera lens of the smartphone



Tighten the smartphone clamp position knob and check that the position of the adapter's eyecup aperture stays centered over the smartphone camera lens



Loosen the eyecup cuff tension knob



Fit the eyecup cuff over the eyecup of the binocular and tighten the eyecup cuff tension knob until the adapter is held firmly in place



Activate the smartphone camera and check that the image seen through the binocular is centered in the smartphone's viewing screen. If it is not, use the adapter's clamp position knob to make adjustments until it is.



«IMPORTANT: always be certain the eyecup cuff tension knob is sufficiently loosened before attempting to remove the adapter from the binocular's eyepiece.

NOTE: the image will be vignitted (shows as a circle inside a black border area - this is normal. Simply use the smartphone camera's zoom to expand the image until the vignetting disappears.

**CAUTION:** Do not carry the binocular with the smartphone adapter in place as it may be accidentally bumped and fall off, potentially damaging the smartphone as a result.

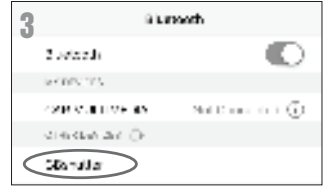
# USING THE BLUETOOTH REMOTE



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.



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.



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



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



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