

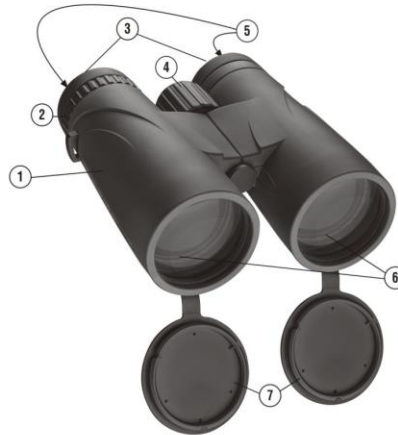
West Marine



SHORELINE 10X50 BINOCULARS | MODEL 16730533

Owner's Manual

FEATURES



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BINOCULAR INFORMATION AND SPECIFICATIONS

Optical Performance

Several factors determine the optical performance of binoculars. They perform to the maximum only when all these parameters are optimally calibrated and in harmony with each other.

Magnification: The value indicates how much closer an object appears through the binocular. The higher the magnification, the closer the object appears. However, similar to a photographic zoom lens, a higher magnification narrows the field of view. With a 10 x 50 binocular, objects will appear to be ten times closer than with your naked eyes.

Objective lens diameter: This number affects the objective lens surface area through which light enters the binocular. The larger the objective lens, the more light that is able to get into the binocular. Your image will be brighter in low light conditions with a larger objective lens. For 10 x 50 binoculars, the objective lens diameter is 50 millimeters.

Field of view: The size of a binocular's field of view is stated in feet or as an angle and uses the value of reference at 1,000 yards. If your binoculars offer you a field of view of 289, then you will be able to see a 289 feet-wide image at the distance of 1,000 yards.

Exit pupil: Look through your binoculars and then move them about 12 inches away from your eyes. You will see a bright circle within the oculars. This dictates how much light gets to your eye. The exit pupil is measured in millimeters (mm) and is a crucial indicator for low-light performance of a binocular. A human pupil can open up to 7 mm in low light and accordingly, binoculars that are used in low-light conditions should offer a large exit pupil.

Formula for exit pupil:

$$\text{exit pupil} = \frac{\text{objective lens diameter}}{\text{magnification}}$$

Multi-Coated Lenses: How They Work

Most binoculars have antireflection coatings on their air-to-glass surfaces. These coatings assist light transmission, the amount of light that ultimately reaches the human eye. In low light conditions such as in rain, dusk, or dawn, a higher light transmission can make a decisive difference. Optical lens coatings are used to improve light transmission. Conventional binoculars tend to use optical coating on only some parts of the lens, delivering limited peak values at a certain wavelength (for example: blue) but losing transmission for other colors (for example: red) by up to 30%. The result of such individual transmission peaks is color distortion, which is counterproductive for a true bright color image. Your Shoreline Binoculars are equipped with multiple layers of optical lens coating that, together, result in high light transmission, high image sharpness and high color fidelity.

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GENERAL OPERATION

How to Adjust Distance Between Eyepieces

For best viewing, the binoculars should be adjusted for the individual user so that the eyepieces line up with the user's eyes:

1. Hold the binoculars in a normal viewing position.
2. Grasp each barrel firmly. While looking through the binoculars, move the barrels until you see a single circular field of view. Reset the binoculars to this position each time you use them.

Diopter Setting and Center Focusing

The diopter setting corrects for vision differences between each of the user's eyes, so the binoculars can be focused correctly for both eyes. To adjust the diopter:

1. Close your right eye and look through the left side of the binoculars.
2. Look at a distant object and turn the center focus knob until the object appears sharp and clear.
3. Close your left eye and look through the right side of the binoculars.
4. Turn the diopter setting until the distant object is sharp and clear.
5. The diopter is now adjusted for your eyes. Note the position for future reference.
6. Once the diopter setting is adjusted, the center focus knob will focus both eyes simultaneously.

Twist-up Eyecups

Twist the eyecups in a counter-clockwise direction to extend them. Depending on the shape of your face, you may find that an intermediate position offers the most complete view.

Eyeglass Wearers

Twist the eyecups clockwise until they are in their shortest (retracted) position. By wearing glasses you have already created the necessary distance between the binoculars' ocular lenses and your eyes; this distance allows you to see the full field of view. When looking through your binoculars you can put your glasses directly onto the eyecups—the soft rubber material prevents scratching.

Important!

Never look directly into the sun with your binoculars or any optical instrument.

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Objective Lens Caps

The lens caps will protect your binocular from moisture and prevent dirt from collecting on the objective lenses. Using the caps will result in less frequent cleaning of the lenses.

Rubber Armor

All Shoreline Series Binoculars come standard with rhino tough rubber armor. Not only does this protect the binoculars from shock and damage, but it is also soft and comfortable in your hands. Clean all rubber armor only with damp cloth.

Ocular Lens Caps

To prevent rainwater or dirt from collecting on the ocular lenses in adverse weather conditions, our binoculars are equipped with a removable rainguard. Installing the rainguard will also increase your binoculars' protection when stored. The rainguard should be installed before installing the strap to the binoculars. Simply thread the strap through the attachments on the rainguard and then attach the strap. The closed loop on one side will prevent loss of the part. As you attach the carrying strap make sure that it goes through the rainguard's loop. This way you can carry the strap around your neck and keep the ocular lenses dry.

Attaching the Carrying Strap

Your binoculars are equipped with a carrying strap. To attach the strap, refer to illustration at right.



Storage

When not using your Shoreline Binoculars you should store them in a cool dry spot. Avoid storage in spaces exposed to direct sunlight (i.e. in a car) or with extreme temperature changes.

Cleaning

Clean your binocular lenses with a soft, lintless cloth when needed. Any remaining dirt or smudges can be removed by adding a drop or two of isopropyl alcohol to the cloth. Never use any acid based cleaning solutions.

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Specifications

Magnification	10x
Objective Lens Diameter	50mm
Type of Focus	Center
Waterproof	Yes
Prism Type	Compact Roof Prism
Field of View	28°
Eye Relief	18mm
Lens Coatings	Fully Multi-Coated
Weight	1 lb. 8 oz (675g)

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West Marine Limited Lifetime Warranty

What Does This Limited Warranty Cover?

West Marine warrants to the original retail purchaser of the West Marine product, where the purchase is made in the United States, that the product will be free from defects in materials and craftsmanship with only the limitations or exclusions set out below.

How Long Does This Limited Warranty Last?

This limited warranty is valid for the life of the product from the date of the original retail purchase from West Marine within the United States (the "Limited Warranty Term").

The warranty period is not extended if we repair or replace a warranted product or any parts. West Marine reserves the right to change the availability of limited warranties, at its discretion, but any changes will not be retroactive and will only apply to subsequent purchases.

What Does This Limited Warranty Not Cover? This limited warranty does not cover:

- Commercial or industrial use or operation.
- Normal maintenance items or normal wear and tear.
- If the product was damaged, modified or altered by you.
- If the product was used as part of any conversion kits, subassemblies, or any configurations not appropriate or contemplated for this product or its use.
- If damage or loss occurring during return shipment of the product to West Marine or its authorized service representative.
- If the product was subject to improper service, repair, installation, storage, maintenance, alteration or application.
- Problems that result from accident, neglect, abuse, misuse or issues with electrical power.
- Problems caused by accessories, parts or components added to the product that are not appropriate for this product or its use.

THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE (OR JURISDICTION TO JURISDICTION). WEST MARINE'S RESPONSIBILITY FOR MALFUNCTIONS AND DEFECTS IN HARDWARE IS LIMITED TO REPAIR OR REPLACEMENT AS SET FORTH IN THIS WARRANTY STATEMENT. ALL EXPRESS AND IMPLIED WARRANTIES FOR THE PRODUCT INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES AND CONDITIONS OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN TIME TO THE LIMITED WARRANTY TERM (AS SPECIFIED ABOVE). NO WARRANTIES, WHETHER EXPRESS OR IMPLIED, WILL APPLY AFTER THE LIMITED WARRANTY TERM HAS EXPIRED. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

WE DO NOT ACCEPT LIABILITY BEYOND THE REMEDIES PROVIDED FOR IN THIS LIMITED WARRANTY OR FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES INCLUDING, WITHOUT LIMITATION, ANY LIABILITY FOR THIRD-PARTY CLAIMS AGAINST YOU FOR DAMAGES, FOR PRODUCTS NOT BEING AVAILABLE FOR USE, FOR PERSONAL INJURY AND/OR FOR LOST PROPERTY, DATA OR SOFTWARE. OUR LIABILITY AND THE MAXIMUM AMOUNT FOR WHICH WE ARE RESPONSIBLE WILL BE NO MORE THAN THE AMOUNT YOU PAID FOR THE PRODUCT THAT IS THE SUBJECT OF A CLAIM. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

What Must I Do To Keep the Warranty in Effect?

- You must keep your receipt or other appropriate documentation as proof of the date of sale and purchase.
- You must use, install, maintain and operate the product in accordance with published specifications and the user's manual.

What Do I Do If I Need Warranty Service?

- Before the warranty expires, please call us at 1-800-BOATING. Please also have the model number of your West Marine product available.
- When you contact us, we will issue a Return Material Authorization Number for you to include with your return. We will also provide you the address of where to ship the product.
- You must return the product to us in its original or equivalent packaging, prepay shipping charges, and insure the shipment or accept the risk if the product is lost or damaged in shipment.

What Will West Marine Do?

If the product you return to us proves to be defective in materials or workmanship and not for the reasons which would otherwise disqualify it (as explained above), and is covered under this warranty, we will refund you your money or replace your product by shipping to you to the address you provide us in the United States (excluding Puerto Rico and U.S. possessions and territories).

Maintenance is the Owner's Responsibility Cleaning, polishing, lubricating, replacing filters, tuning, replacing worn parts, using your purchased product according to the user's manual, and regularly maintaining your purchased product is your responsibility.

What if I purchased a Plus Protection Plan? Service will be provided to you under the terms of the Plus Protection Plan contract. Please refer to the contract for details on how to obtain service.

How State Law Relates to the Warranty This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

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