VORTEX®

PRODUCT MANUAL

RANGER® HD 3000

LASER RANGEFINDING BINOCULAR

SPECIFICATIONS

MAGNIFICATION	10x	
OBJECTIVE LENS DIAMETER	42mm	
MAX REFLECTIVE RANGE	Up to 3000 yds. (2743m)	
TREE RANGE	Up to 1800 yds. (1646m)	
DEER RANGE	Up to 1500 yds. (1372m)	
MINIMUM RANGE	6 yds. (5.5m)	
ACCURACY	± .1 yd. @ < 100 yds.	
	± 1 yd. @ ≥ 100 yds. & ≤ 1000yds.	
	± 1 yd. @ > 1000 yds.	
MAXIMUM ANGLE READING	± 60°	
FIELD OF VIEW	Linear @ 1000 yds.	335'
	Angular	6.4°
CLOSE FOCUS	6.0' (1.8m)	
EYE RELIEF	17.0mm	
INTERPUPILLARY DISTANCE	56mm - 75mm	
DIOPTER RANGE	± 3.0	
BATTERY TYPE	CR123	
HEIGHT	6.7" (170.2mm)	
WIDTH	5.1" (129.5mm)	
WEIGHT W/ BATTERY	32.4 oz. (918.5g)	

RANGER® HD 3000 LASER RANGEFINDING BINOCULAR

The Ranger® HD 3000 is an extremely effective angle-compensated laser rangefinding binocular intended for hunters, archers, and shooters. The primary HCD (Horizontal Component Distance) mode provides key angle compensated range information required by the vast majority of rifle and bow shooters in a simple, quick-to-read display.

Images are for representation only.
Product may vary slightly from what is shown.

BASIC OPERATION

Adjust the Eyecups

The Eyecups on a Ranger® HD 3000 twist up and down allowing anyone to obtain a full field of view and comfortable viewing despite differences in facial structure and for use with or without glasses.

When not using glasses, generally the Eyecups will be fully extended. When using glasses, generally the Eyecups will be fully collapsed.

Adjust the Interpupillary Distance

The interpupillary distance (IPD) is the distance between the centers of the left and right eye pupils. Match the IPD of your eyes to the binocular so that you see a single image free of edge distortion.

Distance between the centers of the ocular lenses.

Rotate the binocular barrels inward or outward to line your eyes up with ocular lenses.

Battery Installation and Replacement

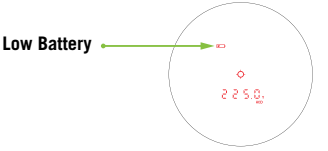
To insert a new battery, flip up the tab on the Battery Cap located on the bottom of the unit and unscrew, counterclockwise, to remove. You may need to utilize a tool such as a flat head screwdriver to help flip up the tap on the Battery Cap. Insert a CR123 battery with the positive side (+) facing outwards. Reinstall Battery Cap and ensure it is tightly closed.

Power Up

Once the battery is installed, the Ranger® HD 3000 is in ready condition – the normal, power-off condition when not ranging. To power up the Ranger® HD from ready condition, press and release the “Measure” button. The HCD or LOS ranging screen will display. The auto-shutoff feature can be adjusted to 15, 30, or 60 seconds. See the Auto-Shutoff section on page 13.

Low Battery Icon

The Low Battery Icon comes on at 25% and stays on until there is no power or the battery is replaced.



Focus Reticle Display and Binocular

For the best views, follow this process to properly adjust the Reticle Focus, Center Focus, and Diopter Focus. Choose an object about 20 yards away from you and stay in the same spot until you have adjusted the binocular for your eyes.

1. Power up the binocular and close your left eye or cover the left Objective Lens with your hand.
2. While viewing the reticle with your right eye, focus your right eye on the object and adjust the Center Focus wheel until the object is in focus. Leave the Center Focus in this position.
3. Then, using the Reticle Focus ring, bring the reticle into focus. Once this is done, you will not have to refocus the reticle.
4. Close your right eye or cover the right Objective Lens with your hand. Looking at the object with your left eye, adjust the Diopter Focus ring till your object is in focus. From this point on, you will only need to use the Center Focus.

MODE SELECTION

Changing Modes on the Ranger® HD 3000

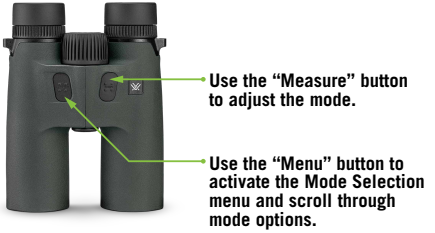
The Ranger® HD 3000 is factory set to the angle compensating HCD Range Mode, Normal Target Mode, Brightness Level 3, Auto-Shutoff at 15 seconds, and distance to the target displayed in Yards.

To Change Modes

Press and release the “Measure” button to power on the unit, and then press and hold the “Menu” button until the Mode Selection screen appears (about 5 seconds).

Scroll through the mode options by clicking the “Menu” button. To adjust a mode, click the “Measure” button.

To save your settings and exit the Mode Selection screen, press and hold the “Menu” button for at least three seconds.



TARGET MODE EXPLANATIONS

Choose Between Three Target Modes:

Normal Mode, First Mode, and Last Mode.

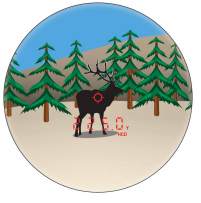
Press the “Measure” button to toggle between Normal Mode, First Mode, and Last Mode. Press the “Menu” button to save your desired choice and continue through to the Range Mode Selection screen.

Normal Mode

The Ranger® HD 3000 comes preset to Normal Mode. This is the standard mode providing the target’s range with the strongest range result. Normal Mode is the recommended target mode for most situations.

First Mode

This mode displays the closest distance when ranging. It is ideal for ranging a smaller target in front of other larger or more reflective objects.



Range captured on closer elk.

Last Mode

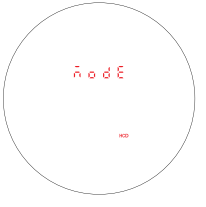
This mode displays the farthest distance when ranging. It is ideal for ranging a specific target behind a group of objects, such as rocks, trees, brush, etc.

Range captured on farther elk.

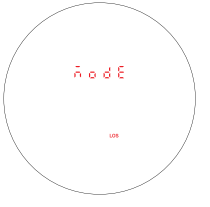
RANGING MODE SELECTION

Choose between HCD and LOS Modes.

After activating the Range Mode Selection, press the “Measure” button to toggle between the HCD and LOS displays. Press the “Menu” button to save your desired choice and continue through to the Range Unit Selection screen.



HCD Mode



LOS Mode

HCD Mode

The Horizontal Component Distance (HCD) range display is intended to be your primary mode, used for most rifle and archery shooting applications. The yardage number displayed is the critical horizontal component distance.

The displayed HCD yardage is corrected for shot angle and needs no extra user input; shooters simply use the appropriate level ground bullet drop for the range displayed. Archers use the appropriate level ground sight pin for the range displayed.

Use the HCD Range Mode in the following situations:

- Rifle shooting on level ground at any range.
- Rifle shooting out to ranges of 800 yards with mild slopes (less than 15 degrees).
- Rifle shooting out to ranges of 400 yards with moderate slopes (15 to 30 degrees).
- For all archery shooting.

Note: To correctly account for wind, you need to know the Line of Sight distance to the target as it is based on how far the bullet travels to the target. This can be achieved using the LOS Mode.

LOS Mode

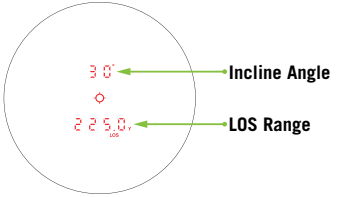
The LOS (Line of Sight) Mode is intended for rifle shooters who are using slope correcting ballistic drop data cards, ballistic cell phone applications, or other devices with ballistic programs and who are shooting at distances beyond 500 yards and with slopes greater than 15 degrees.

The range number displayed in LOS Mode is the actual line of sight range with no ballistic correction for slope. Most of the commonly used ballistic devices can provide independent slope correction for bullet drop data and require actual line of sight range input. Using the LOS range when calculating bullet wind drifts under these steep slope/long range conditions will provide a higher degree of accuracy than using the HCD range.

To use, simply input the LOS range number into the electronic device or use the LOS range when referencing ballistic drop cards with slope correction.

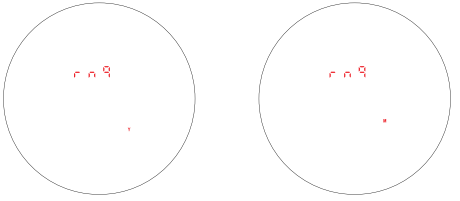
When in LOS Mode, an additional number is displayed above the range number. This number is slope incline shown in degrees.

The slope incline number can be entered into ballistic programs or field cards to help calculate precise bullet drops in mountainous terrain.



Range Unit Selection

Press the “Measure” button to toggle between the Yards and Meters display. Press the “Menu” button to save your desired choice and move to the Brightness Selection screen.

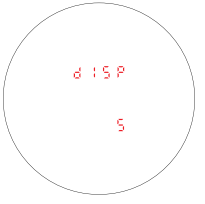


Choose between yards and meters.

Brightness Selection

Choose Between Five Brightness Settings

The Ranger® HD 3000 provides five brightness settings. Press the “Measure” button to toggle through the brightness settings. Press the “Menu” button to save your desired choice and move to the Auto-Shutoff Selection screen.

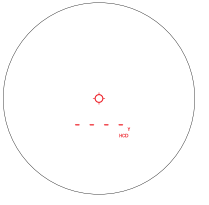


Auto-Shutoff

The Ranger® HD 3000 offers three Auto-Shutoff program options: 15 seconds, 30 seconds, and 60 seconds. Press the “Measure” button to toggle through the different Auto-Shutoff times. Press the “Menu” button to save your desired setting. Press and hold the “Menu” button for five seconds to save and exit Mode Selections.

RANGING

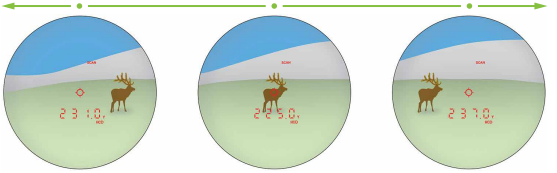
With the Ranger® HD 3000 powered up, position the reticle on the target object you wish to range, then press and release the “Measure” button to get the distance measurement. If the laser is not able to range due to the reflectivity of the target object, or being too close, you will see a display similar to that shown here. To range a new target, simply re-aim and press the “Measure” button again.



No Range Returned

Scan Feature

Activate the Scan Feature by pressing and holding the "Measure" button. Keeping the button depressed will continuously measure as you pan back and forth across the target objects. "SCAN" will flash in the upper right-hand corner of the display while scanning.



Scan back and forth, watching for yardage number to display or change.

Tripod Use For Ranging

Using a tripod to steady the rangefinder will increase your ability to range small targets at longer distances. If the Ranger® HD 3000 is used on a tripod, the reticle may appear tilted depending on tripod level.

Tripod Adapter Socket

Rangefinding Tips

Rangefinding binoculars work by emitting a brief pulse of light aimed at a target object. Distance is determined by the amount of time taken for the light to emit and return to the laser's internal receiver. A laser's ability to read range can be affected by many things—mostly relating to the target objects.

- Light colors will usually reflect better than dark ones.
- Be aware that snow, rain, and fog will have adverse effects on ranging ability.
- Shiny, reflective surfaces will usually reflect better than dull, textured surfaces. Animal hair will not reflect as well as a hard surface.
- Ranging under cloud cover can improve laser performance compared to bright sunny conditions.
- Solid objects, such as a rock, will reflect better than bushes.
- Flat surfaces perpendicular to the laser pulse will reflect better than curved surfaces or surfaces angled in relation to laser pulse.
- Ranging over water can sometimes cause false reflections and readings.
- At longer distances, large objects will be easier to range than small objects.
- Using a tripod to steady the Ranger® HD 3000 will greatly increase your ability to range small targets at longer distances.
- If you are having difficulty ranging an animal or object, try ranging a different nearby object, or use the Scan feature to pan back and forth while watching for changes in range number.

ACCESSORIES

GlassPak™ Binocular Harness

The GlassPak™ Binocular Harness stores and protects your binoculars while keeping them close at hand for quick deployment. Tethers attach to your binocular for added security against accidental drops while the fully adjustable straps create a comfortable fit.

Follow these steps to attach the Binocular Tether Straps.

1. Thread the wide end of the Binocular Tether Straps through the Harness Strap buckles.

2. Size to fit by adjusting the one-size-fits-all Harness Strap.

3. Thread the Binocular Tether Straps through the strap attachments on binocular.

4. Thread the Binocular Tether Straps back through the tether strap buckles to secure.

Lens Covers

The Ranger® HD 3000 comes with tethered Objective Lens Covers and a Rainguard for the Ocular Lenses. Use these covers to protect the lenses whenever you are not using your binocular.

Neck Strap

Attach the Padded Neck Strap in these three simple steps:

1. Push a few inches of the strap through the strap attachment on the binocular.

2. Hold the buckle and thread the end of the strap through the buckle.

3. Adjust the overall length, then pull tight until the strap is secured within the buckle.

Note: If using another type of strap, never attach metal o-rings directly onto the strap attachment.

MAINTENANCE

Cleaning

Your Ranger® HD 3000 requires very little routine maintenance other than periodically cleaning the exterior lenses. The exterior may be cleaned by wiping with a soft cloth. When cleaning the lenses, be sure to use products that are specifically designed for use on coated optical lenses.

- Be sure to blow away any dust or grit on the lenses prior to wiping the surfaces.
- Using your breath, or a very small amount of water or pure alcohol, can help remove stubborn dried water spots.

Lubrication

All components of the Ranger® HD 3000 are permanently lubricated, so no additional lubricant should be applied.

Note: Other than to remove the Battery Cap, Rainguards, Objective Lens Covers, and Tripod Adapter Socket Cap, do not attempt to disassemble any binocular components. Disassembling of binocular may void warranty.

Storage

If possible, avoid storing your binoculars in direct sunlight or any very hot location for long periods of time.

Caution: Binoculars are not intended for looking at the sun, or any other intense light source. Such viewing could damage the retina and cornea of your eyes – even to the point of causing blindness.

FCC REQUIREMENTS

The user's manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

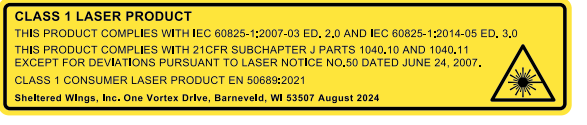
Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate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

SAFETY AND PRECAUTIONS

Do not stare into beam or view directly without laser eye protection. Staring continuously into beam for prolonged periods of time could cause harm to your eyes. If used properly, this device is safe for your eyes and laser eye protection is not needed.

- Use the correct battery (CR123) and proper battery orientation.
- Do not look at sun.
- Do not activate Menu or Measure buttons while aiming at eye or looking into objective lens.
- Do not disassemble.
- Do not allow children to play with unit.
- Consumer laser product EN 50689:2021



CAUTION: Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous laser radiation exposure.

NOTICE

Virtual Patent Marking Notice By Vortex Optics

This product may be protected by patents in the U.S. and elsewhere for Vortex Optics. **http://vtx.legal** website is provided to satisfy the virtual patent marking provisions of various jurisdictions including the virtual patent marking provisions of the America Invents Act and provide notice under 35 U.S.C. §287(a). Please visit **http://vtx.legal** to view list of products that may be covered by one or more U.S./ Foreign patents or published patent applications.

VIP® WARRANTY

OUR UNCONDITIONAL PROMISE TO YOU.

We promise to repair or replace
the product. Absolutely free.

- **Unlimited.**
- **Unconditional.**
- **Lifetime Warranty.**

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or a receipt for the Warranty to be honored.

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Note: *The VIP® Warranty does not cover loss, theft, deliberate damage, or cosmetic damage not affecting product performance.*

For the most up to date manual visit **VortexOptics.com**

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