VORTEX®

RANGER® 1800

LASER RANGEFINDER

PRODUCT MANUAL

SPECIFICATIONS

Reflective Range	10-1800 yd. (9-1646m)	
Deer Range	10-900 yd. (9-823m)	
Accuracy	+ / - 3 yd. @ 1000 yd.	
Max Angle Reading	+ / - 60° (INC 50)	
Magnification	6x	
Objective Lens Dia.	22mm	
Field of View	**Linear**	315 ft/1000 yd.
	Angular	6°
Eye Relief	17mm	
Operating Temperature	14° to 131°F (–10° to 55°C)	
Diopter	+/- 3 diopters	

Images in this manual may vary from actual product.

The Ranger® 1800 Rangefinder

The Ranger® 1800 is an extremely effective angle-compensated laser rangefinder intended for both archer and rifle shooter. Using the primary HCD (Horizontal Component Distance) mode, the Ranger® 1800 provides the key angle compensated range information required by the vast majority of rifle and bow shooters in a simple, quick to read display.

The Ranger® 1800 also provides LOS (Line of Sight) mode and Scan feature along with adjustments for reading in yards or meters and setting the brightness of the display.

Please be sure to read entire manual prior to using the Ranger® 1800.

The Ranger® 1800 Rangefinder

Battery Installation

Open the battery compartment and install the CR2 battery included with the Ranger®.

Powering On/Off

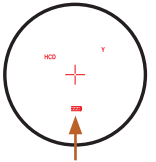
Once the battery is installed, the Ranger® 1800 is in *Ready Condition*—the normal power-off condition when not ranging. To power up the Ranger® 1800 from Ready Condition and prepare for ranging, ***press and release*** the Measure button. The HCD or LOS ranging screen will display. The Ranger® 1800 will power down automatically after ten seconds of non-use.

Focus

Turn the eyecup in or out until image is sharp.

Remove battery compartment cover.

Install battery with positive side facing outwards.



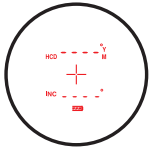
Battery Power Indicator

Mode Selection

Your Ranger® 1800 is factory set to the angle compensating HCD mode, yards, and medium brightness. For most users, these are the preferred settings.

To change modes, after the Ranger® 1800 is powered up activate the Mode Selection by ***pressing and holding*** the Menu button for at least four seconds. Once the Mode Selection screen displays, release the button.

As you progress through Mode Selection, you may exit at any time and save your settings by ***pressing and holding*** the Menu button for at least four seconds—the Ranger® 1800 will then return to power-up condition.



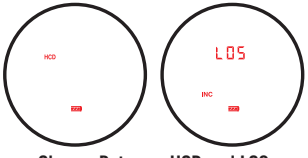
Mode Selection Display

Use the Menu button to activate the Mode Selection displays.

Use the Measure button to toggle through each Mode Selection option.

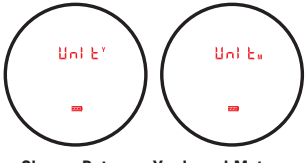
Set and Save Mode Selections in 3 Steps

1. **Choose between the HCD and LOS Modes.** After activating the Mode Selection, ***press*** the Measure button to toggle between the HCD and LOS displays. ***Press*** the Menu button to save your desired choice and move to the Yards/Meters selection screen.



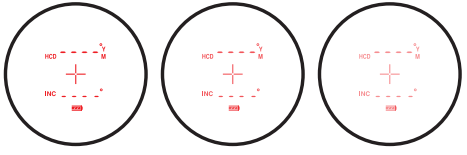
Choose Between HCD and LOS

2. **Choose between Yards and Meters Display.** ***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

3. **Choose the Brightness Setting.** The Ranger® 1800 provides three illumination settings. ***Press*** the Measure button to toggle through the three Brightness settings. ***Press*** the Menu button to save your desired setting and move back to HCD/LOS selection screen.

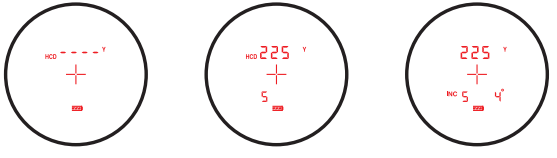


Choose Between One of Three Brightness Settings

To exit Mode Selection and save settings, ***press and hold*** the Menu button for four seconds. Settings will also save when Ranger® 1800 powers down automatically.

Ranging

With the Ranger® 1800 powered up, position the crosshair on the target object and ***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, 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 **HCD Scan** **LOS Scan**

Scan Ranging

With the Ranger® 1800 powered up, activate Scan Ranging by ***pressing and holding*** the Measure button down. A blinking "S" will appear in the lower left corner.

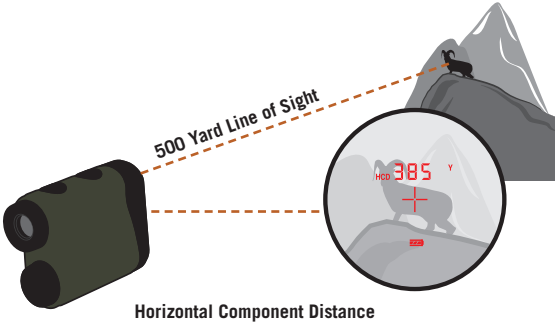
Keeping the button depressed will continuously measure distance as you pan the crosshair back and forth across target objects. ***Releasing*** the Measure button will return laser to the Power Up Condition.

Ranging Mode Explanations

The Ranger® 1800 provides two range modes: HCD (Horizontal Component Distance) and LOS (Line of Sight). Both modes offer a Scan feature.

HCD Mode

The Ranger® 1800 HCD range display is intended to be the primary mode—used for most all rifle and archery shooting conditions. The yardage number displayed is the critical horizontal component distance.



Horizontal Component Distance
385 Yards

Using the HCD Mode

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: See page 13 for method of reading slope degree in LOS mode.

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

Use 525 yard level ground drop data to make shot.

LOS Mode

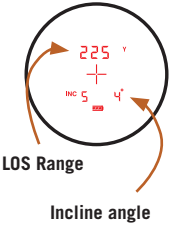
The Ranger® 1800 LOS (Line of Sight) mode is intended for rifle shooters who are using slope correcting ballistic drop data cards, ballistic cell phone applications, or other devices with ballistic programs and who are shooting at distances beyond 500 yards and with slopes greater than 15 degrees.

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.

LOS Mode – Using the Incline Number

When in LOS mode, an additional number is displayed below the yardage number. This number is slope shown in degrees.

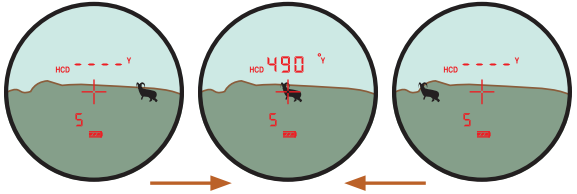


The slope incline number can be used with drop charts or field cards to calculate precise bullet drops in mountainous terrain.

Scan Feature

The Scan feature can be used to range moving targets or help range smaller targets on uniform backgrounds in either HCD or LOS modes. Once powered up, ***press and hold*** the Measure button and scan laser back and forth, watching for changes in the yardage number as crosshairs move across the target object. A blinking "S" display indicates Scan Ranging is activated.

Scanning to get range:



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® 1800 is used on a tripod, the reticle may appear tilted depending on tripod level.

Lanyard

When not using a tripod, the lanyard provides a secure way to carry your rangefinder.

Loop lanyard through attachment sockets.

Maintenance

- Use lens brush to remove dust or grit from lenses.
- Use a clean lens cloth or tissue to remove smudges or smears from lenses.
- Store rangefinder in a dry location away from direct sunlight.

Rangefinding Tips

Laser rangefinders 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. Under ideal conditions, the Ranger® 1800 can be expected to range a large reflective object out to 1800 yards and deer-sized game out to 900 yards.

- Light colors will usually reflect the laser pulse better than dark ones. An exception would be snow, which can be difficult to range.
- Shiny, reflective surfaces will usually reflect the laser pulse better than dull, textured surfaces. Animal hair will not reflect as well as a hard surface.
- Ranging while under cloud cover can improve laser performance compared to ranging while under bright sunny conditions.
- Solid objects, such as rock piles, will reflect the laser pulse better than less dense items such as 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, larger objects will be easier to range than small objects.
- 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.

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.

Laser 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 (CR2) 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.

AVOID EXPOSURE LASER RADIATION IS EMITTED FROM THIS APERTURE
LASER RADIATION AVOID EYE EXPOSURE CLASS 1 LASER PRODUCT
THIS PRODUCT COMPLIES WITH IEC 60825-1:2014-05 Ed.3.0 AND IEC 60825-1:2007-03 Ed.2.0
THIS PRODUCT COMPLIES WITH 21CFR SUBCHAPTER J PARTS 1040.10 AND 1040.11
EXCEPT FOR DEVIATIONS PURSUANT TO LASER NOTICE NO.50 DATED JUNE 24, 2007.
Sheltered Wings, Inc. One Vortex Drive, Barneveld, WI 53507 August 2017

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

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

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