VORTEX®

QUICK START MANUAL

RAZOR® HD 4000 GB

BALLISTIC LASER RANGEFINDER

Specifications

MAGNIFICATION	7x		
OBJECTIVE LENS	25mm		
	MAX REFLECTIVE RANGE	**TREE RANGE**	**DEER RANGE**
NORMAL MODE	Up to 2400 yds. (2195m)	Up to 1800 yds. (1646m)	Up to 1600 yds. (1463m)
NORMAL MODE (SCAN)	Up to 2400 yds. (2195m)	Up to 2200 yds. (2012m)	Up to 2000 yds. (1829m)
ELR MODE	Up to 4000 yds. (3658m)	Up to 2500 yds. (2286m)	Up to 2200 yds. (2012m)
MINIMUM RANGE	5 yds. (4.5m)		
ACCURACY	± 0.5 yds. @ < 200 yds.		
	± 1 yd. @ ≥ 200 yds. & ≤ 1000 yds.		
	± 2 yds. @ > 1000 yds.		
MAXIMUM ANGLE READING	± 70°		
FIELD OF VIEW	Linear @ 1000 yds.		341'
	Angular		6.5°
EYE RELIEF	19mm		
BATTERY TYPE	CR2		
LENGTH, HEIGHT, WIDTH	4.4" (111.8mm),	3.2" (81.3mm),	1.9" (48.3mm)
WEIGHT W/ BATTERY	10.1 oz. (286.3g)		

RAZOR® HD 4000 GB BALLISTIC LASER RANGEFINDER

The Razor® HD 4000 GB is an essential companion for the extreme hunter, and shooter. The angle compensated ballistic laser rangefinder features four targeting modes (Normal, First, Last, and ELR) and two ranging modes, Horizontal Component Distance Mode (HCD) and Ballistics Mode (BAL), for any ranging environment. Using an array of built-in environmental sensors in conjunction with the state-of-the-art GeoBallistics® solver and patented Vortex® Wind Bearing Capture Mode, the Razor® HD 4000 GB will raise your level of long-range precision shooting ability to a new height.

The Razor® HD 4000 GB pairs, via Bluetooth®, with your mobile device and the GeoBallistics® App. Scan QR code on the next page to download the GeoBallistics® App with your Apple or Android device.

In order to have accurate compass readings with your Razor® HD 4000 GB, it is highly recommended to calibrate the Razor® HD 4000 GB during initial setup and should be re-calibrated every time you significantly change location, typically 30 miles or more. Calibration must be performed outside and away from large metal structures or objects. See the Product & Ballistic Manual via the QR code for more information on how to calibrate your Razor® HD 4000 GB using the GeoBallistics® App.

Scan the QR code below to access the Product & Ballistics Manual and instructional videos.

MANUALS AND INSTRUCTIONAL VIDEOS

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

BASIC OPERATION

Battery Installation and Replacement

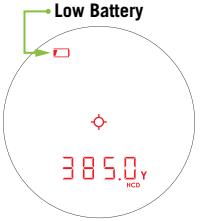
To insert a new battery, flip up the finger tab on the Battery Cap and unscrew, counterclockwise, to remove. Insert a CR2 battery with the positive side (+) facing outwards. Reinstall Battery Cap and ensure it is tightly closed.

Power Up

Once the battery is installed, the Razor® HD 4000 GB is in ready condition – the normal power-off condition when not ranging. To power up the Razor® HD 4000 GB from ready condition, press and release the "Measure" button. The HCD or BAL ranging screen will display. The auto-shutoff feature can be adjusted to 30, 45, 60, or 180 seconds. See the Auto-Shutoff section on page 16.

Low Battery Icon

The Low Battery Icon displays once the battery reaches 25% life and stays on until there is no power or the battery is replaced.



Adjust the Eyecup

The Adjustable Eyecup on the Razor® HD 4000 GB twists in and out so any viewer can see the full field and enjoy comfortable viewing and ranging – with or without eyeglasses. When not using eyeglasses or sunglasses, it is recommended to keep the eyecup fully extended. For best viewing when wearing eyeglasses, twist eyecup in to allow closer contact to your glasses.

Focus

Adjust the Diopter until the image is sharp. Make note of this Diopter setting in case you need to set it again.

Attaching the Wrist Lanyard

The Lanyard provides a secure way to carry your rangefinder.

Loop Lanyard through one of the Attachment Sockets

Utility Clip

The Razor® HD 4000 GB comes with a Utility Clip on the unit's left-hand side. You can switch the side of the Utility Clip by unscrewing the 2mm hex screws on the left-hand side, and the 2mm hex screws on the right-hand side of the unit. Reinstall the Utility Clip on the right-hand side of the unit and the Utility Clip Plate on the opposite side of the unit with the 2mm hex screws.

Utility Clip

2mm Hex Screws

MODE SELECTION

Changing Modes on the Razor® HD 4000 GB

The Razor® HD 4000 GB is factory set to the angle compensating HCD Range Mode, Normal Target Mode, Brightness Level 4, default Auto-Shutoff at 30 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 for at least four seconds. Once the Mode Selection screen displays, release the button.

Use the "Menu" button to activate the Mode/Display Selection displays.

Use the "Measure" button to toggle through each Mode Selection options.

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 unit will then return to the power-up condition.

Target Mode Selection

The Razor® HD 4000 GB provides four target modes: Normal Mode, First Mode, Last Mode, and Extended Laser Range (ELR) Mode.

After activating the Mode Selection, press the "Measure" button to toggle between Normal Mode, First Mode, Last Mode, and Extended Laser Range (ELR) Mode. Press the "Menu" button to save your desired choice and continue through to the Ranging Mode Selection screen.

Normal Mode

The Razor® HD 4000 GB 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 panning and scanning. It is ideal for ranging a smaller target in front of other larger or more reflective objects.

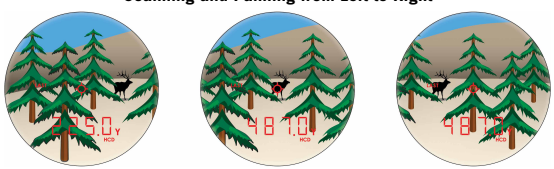
Scanning and Panning from Left to Right

Initial range captured on trees. | **Range captured on closer elk.** | **Scanned to further trees. Range remains locked on closer elk.**

Last Mode

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

Scanning and Panning from Left to Right



Initial range captured on trees. | **Range captured on farther elk.** | **Scanned to closer trees. Range remains locked on farther elk.**

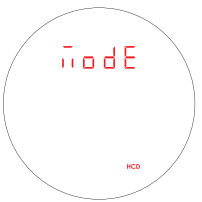
Extended Laser Range (ELR) Mode

This mode allows for ranging smaller, less reflective targets at extended distances. It is ideal for ranging when Normal Mode is unable to obtain a desired range. A longer response time may be required to receive the desired range. For best results, it is recommended to be used on a tripod.

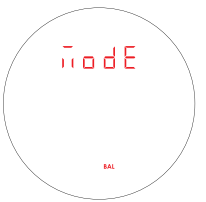
Ranging Mode Selection

Choose Between the HCD and BAL Modes

Press the "Measure" button to toggle between the HCD and BAL displays. Press the "Menu" button to save your desired choice and continue through to the Range Unit Selection screen.



HCD Mode

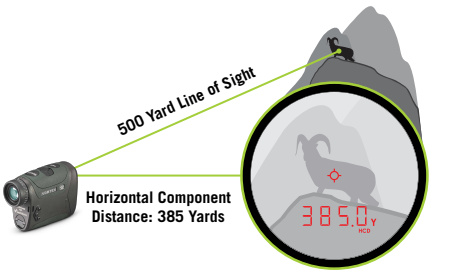


BAL Mode

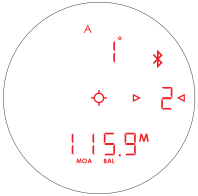
HCD Mode

The Horizontal Component Distance Mode (HCD) will be your primary mode when not using the on-board ballistic solver. The yardage number displayed is the critical horizontal component distance. 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 for the range displayed and shoot. Archers use the appropriate level ground sight pin for the range displayed.

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 arrow or bullet travels to the target. This can be achieved using the BAL Mode.



BAL Mode

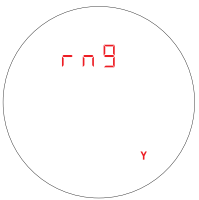


When in Ballistics (BAL) Mode, an additional number is displayed above the range number. This number is slope incline shown in degrees.

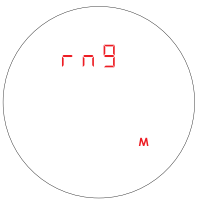
This number is automatically calculated into the wind/drop solution provided in the display and in the GeoBallistics® App. If you are not using the on-board solver, enter the slope incline number into ballistic programs or field cards to help calculate precise bullet drop in mountainous terrain. To use the Razor® HD 4000 GB on-board ballistic solver, you need to be in BAL Mode.

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.



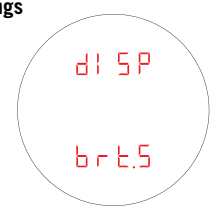
Yards



Meters

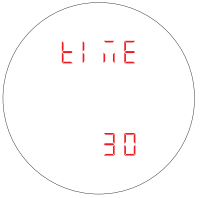
Brightness Selection

Choose Between Five Brightness Settings



The Razor® HD 4000 GB features five Brightness Settings. Press the “Measure” button to toggle through the five Brightness Settings. Press the “Menu” button to save your desired setting and move to the Auto-Shutoff screen.

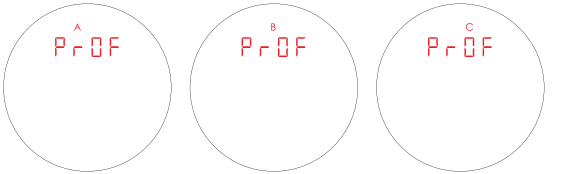
Auto-Shutoff



The Razor® HD 4000 GB offers four Auto-Shutoff program options: 30 seconds, 45 seconds, 60 seconds, and 180 seconds. Press the “Measure” button to select the Auto-Shutoff time. If you are in HCD Mode, this will be the last Mode Selection. Press and hold the “Menu” button for four seconds to save and exit Mode Selection. Press the “Menu” button to save your desired choice and return to Target Mode Selection or continue through to Profile Selection screen (BAL Mode only).

Ballistic Profile Selection (Only Available in BAL Mode)

Select the Ballistic Profile for the wind/drop solution to be displayed when in BAL Mode. Press the “Measure” button to toggle between the three different profile selections: “A”, “B”, or “C”. See Ballistic Profile Information in the Product & Ballistics Manual via the QR code on the next page for more information and how to set up and select a Ballistic Profile. Press the “Menu” button to save your desired choice and continue through to the Bluetooth® Selection screen (BAL Mode only).



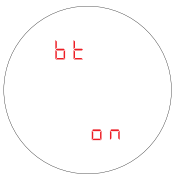
Profile A **Profile B** **Profile C**

PRODUCT & BALLISTICS MANUAL

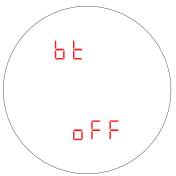
Bluetooth® Selection (Only Available in BAL Mode)

The Razor® HD 4000 GB is equipped with a Bluetooth® chip to allow the unit to wirelessly pair with Kestrel® wind meters and the GeoBallistics® App. Navigate to the Bluetooth® display in the menu and press the "Measure" button to turn Bluetooth® on/off. Press the "Menu" button to save your desired choice and continue through to the Temperature Selection screen (BAL Mode only).

Note: The Bluetooth® icon (✱) will blink when looking for a connection and remain on when connected to a compatible peripheral device once you exit the menu.



Bluetooth® On

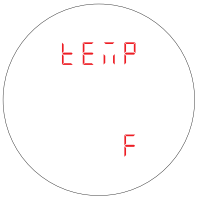


Bluetooth® Off

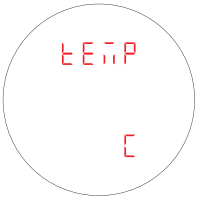
Bluetooth® On Example

Temperature Selection (Only Available in BAL Mode)

Temperature can be displayed in Celsius (˚C) or Fahrenheit (˚F). Navigate to the Temperature display in the menu and press the "Measure" button to select "C" or "F." Press the "Menu" button to save your desired choice and continue through to the Pressure Selection screen (BAL Mode only).



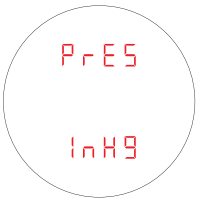
Fahrenheit



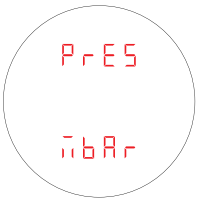
Celsius

Pressure Selection (Only Available in BAL Mode)

Pressure can be displayed in inches of mercury (inHg) or millibars (MBar). Navigate to the Pressure display in the menu and press the “Measure” button to select “inHg” or “Mbar”. Press the “Menu” button to save your desired choice and continue through to the Wind Speed Selection screen (BAL Mode only).



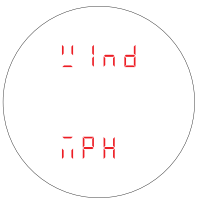
Inches of Mercury (inHg)



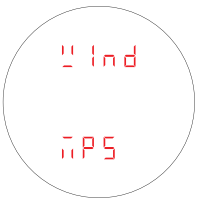
Millibars (MBar)

Wind Speed Selection (Only Available in BAL Mode)

Wind Speed can be displayed in miles per hour (MPH) or meters per second (MPS). Navigate to the Wind display in the menu and press the “Measure” button to select “MPH” or “MPS”. Press the “Menu” button to save your desired choice and return to Target Mode Selection. Press and hold the “Menu” button for four seconds to save and exit Mode Selection.



MPH



MPS

Wind Modes

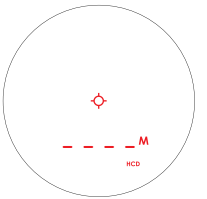
The Razor® HD 4000 GB uses two methods to manually input wind data: Full Cross Wind Mode and Vortex® patented Wind Bearing Capture Mode. For more information, reference the Ballistic Section in the Product & Ballistics Manual. To access, scan the QR code below.

PRODUCT & BALLISTICS MANUAL

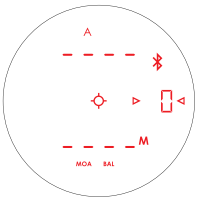
Wind modes cannot be changed within the menu of the Razor® HD 4000 GB.

RANGING

With the Razor® HD 4000 GB 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 because the target is too close, you will see a display similar to that shown below. To range a new target, simply re-aim and press the "Measure" button again.

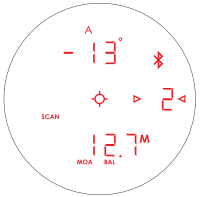


No Range Returned (HCD Mode)



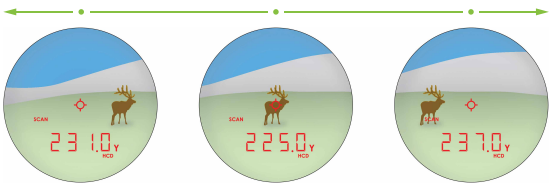
No Range Returned (BAL Mode)

Scan Feature



Activate the Scan Feature by pressing and holding the "Measure" button. Keeping the button depressed will continuously measure for 10 seconds before displaying the last measurement as you pan back and forth across the target objects. The word "SCAN" will blink on the left-hand side of the display as you pan. Both HCD and BAL Modes will offer a Scan Feature.

Note: For best results, use a tripod while attempting to range targets past 1,000 yards.



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

VIEW DATA SCREENS

When your Razor® HD 4000 GB is in BAL Mode, you will have access to five data screens: Range Ready, Temperature, Pressure, Target, and Wind.

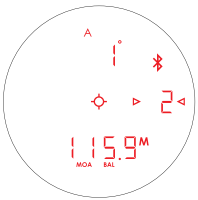
Range Ready Data Screen

When your Razor® HD 4000 GB first powers on, the screen you see is called the Range Ready Data Screen. This will display:

- Ranged distance (yards or meters)
- Shot angle (degrees)
- Wind speed (miles per hour or meters per sec), see the Wind Modes section in the in the Product & Ballistics Manual for more information on how to set your wind speed and direction. To access, scan the QR code on page 27.
- Ballistic solution (elevation correction on top of screen and windage correction on the bottom of the screen)

- Rifle profile selection, the Rifle & Ammunition Profiles section in the in the Product & Ballistics Manual for more information on how to set your rifle profile selection. To access, scan the QR code on page 27.
- MRAD or MOA as the units based on your selection

Every two seconds, the screen will change its display to show either ranged distance and shot angle or your ballistic solution.



Ranged Distance & Shot Angle

Ballistic Solution

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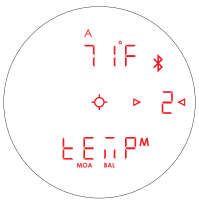
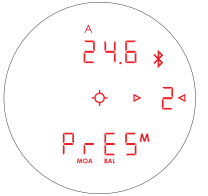
Temperature Data Screen

This will display the ambient temperature (°F or °C) measured from the on-board Environmental Sensors in your Razor® HD 4000 GB. Press the “Menu” button to continue to the Pressure Data Screen.



Note: The Environmental Sensors in your Razor® HD 4000 GB take time to acclimate to your current environment. Acclimation time can vary depending on your current conditions.

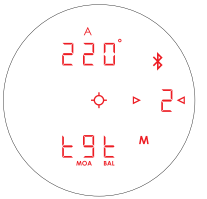
Pressure Data Screen



This will display the atmospheric pressure (inHg or mbar) measured from the on-board Environmental Sensors in your Razor® HD 4000 GB. Press the "Menu" button to continue to the Target Data Screen.

Note: The Environmental Sensors in your Razor® HD 4000 GB take time to acclimate to your current environment. Acclimation time can vary depending on your current conditions.

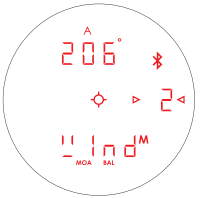
Target Data Screen



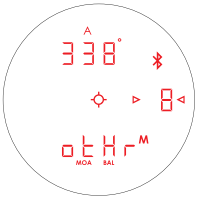
This will display the direction of the target you ranged in relation to north in degrees. Press the "Menu" button to continue to the Wind Data Screen.

Wind Data Screen

If the bottom of the screen displays "Wind", the data screen will display wind direction and speed based on your inputs using the Full Crosswind Mode or the Wind Bearing Capture Mode. If the bottom of the screen displays "other", the data screen will display wind direction and speed based on data measured from your connected Kestrel® device. See the Wind Modes section in the Product & Ballistics Manual for more information. Scan the QR code on the next page to access. Press "Menu" again to return to the Range Ready Data Screen.



From Full Crosswind Mode or Wind Bearing Capture Mode inputs.



From Connected Kestrel®

PRODUCT & BALLISTICS MANUAL

Scan the QR code to access the Wind Modes section in the Product & Ballistics Manual for more information.

GENERAL INFORMATION FOR GEOBALLISTICS® APP

Go to your device's app store and download the GeoBallistics® App.

From the main screen of the GeoBallistics® App, you will see these main icons:

ICON	NAME	FUNCTION
	Account	On the Account page you may log into your account to access your rifle profiles and range cards.
	App Settings	On the App Settings page you may customize your app experience by selecting preferences, units, and more.
	Rifles	On the Rifles page you may create, edit, delete, and sort rifle profiles to be used for your ballistic solutions.
	Atmospherics	On the Atmospherics page you may view and input weather data, connect to a Kestrel® device, or select a nearby airport to pull weather data from.
	Range Cards	On the Range Cards page you may save your range card data created in the GeoBallistics® App.
	Manage Devices	On the Manage Devices page you may connect compatible devices to the GeoBallistics® App and edit your preferences with each device.

CONNECTION SCENARIOS

=	Ballistic Solution using environmental data from the Razor® HD 4000 GB (must first sync Rifle Profiles with GeoBallistics® App) displayed in Razor® HD 4000 GB.
+ =	Ballistic Solution using environmental data from the Razor® HD 4000 GB and GeoBallistics® App displayed in both Razor® HD 4000 GB and GeoBallistics® App.
+ + =	Ballistic Solution using environmental data from the Razor® HD 4000 GB or a compatible Kestrel® device displayed in both Razor® HD 4000 GB and GeoBallistics® App.
+ =	Ballistic Solution using environmental data from a compatible Kestrel® device displayed in the GeoBallistics® App.

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 object.

- Light colors will usually reflect better than dark ones.
- Snow, rain, air quality, and fog will have adverse effects on ranging ability.
- Dull or textured surfaces will not reflect as well as a hard, shiny surface.
- Ranging under cloud cover can improve laser performance compared to bright, sunny conditions.
- Solid objects, such as rocks, will reflect better than bushes.
- Flat surfaces perpendicular to the laser will reflect better than curved surfaces or surfaces angled in relation to the laser.
- Ranging over water can sometimes cause false reflections and readings.

- At longer distances, larger objects will be easier to range than smaller objects.
- Using a tripod to steady the Razor® HD 4000 GB 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, or switch to ELR Mode.

MAINTENANCE

Cleaning

Your Razor® HD 4000 GB 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 small amount of water or pure alcohol, can help remove stubborn dried water spots.

Lubrication

All components of the Razor® HD 4000 GB are permanently lubricated, so no additional lubricant should be applied.

Note: Other than to remove the Battery Cap, Utility Clip and Wrist Lanyard, do not attempt to disassemble any components of the rangefinder. Disassembling of rangefinder may void warranty.

Storage

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

GEOBALLISTICS® APP

The Razor® HD 4000 GB pairs, via Bluetooth®, to your mobile device and the GeoBallistics® App. Scan the QR code below to download the GeoBallistics® App with your Apple or Android device.

Scan the QR code below to access the Product & Ballistics Manual and instructional videos.

GeoBallistics®

DOWNLOAD THE APP

COMPLIANCE

United States

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.

Contains FCC ID: T7V1760A

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.

Canada

CAN ICES-3B/NMB-3B

Contains IC: 216Q-1760A

Australia and New Zealand

Japan

Class B ITE

この装置は、クラスB 情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。
取扱説明書に従って正しい取り扱いをして下さい。 ＶＣＣＩ－Ｂ

Translation:

This is a Class B product based on the standard of the VCCI Council. If this is used near a radio or television receiver in a domestic environment, it may cause radio interference. Install and use the equipment according to the instruction manual.

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.

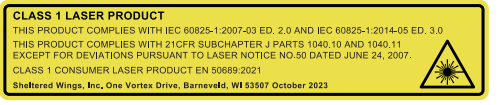
Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate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

VIP® WARRANTY

OUR UNCONDITIONAL PROMISE TO YOU.

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

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

You do not have to register, save the box,
or a receipt for the Warranty to be honored.

Learn more at VortexOptics.com

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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**

M-00326-1
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