Bushnell®

RZR RANGING ENGINE
FAST & CONSISTENT · RESPONSE & READINGS

ARC ANGLE / RANGE COMPENSATION
BALLISTICS INTELLIGENCE & COMPENSATION

VIVID
INTUITIVE INTERFACE & DATA DISPLAY

NITRO™

LASER RANGEFINDER OWNER'S GUIDE

Thank you for purchasing your new Bushnell® Nitro™ Laser Rangefinder.

This manual will help you optimize your viewing experience by explaining how to utilize the rangefinder's features and how to care for it. Read the instructions carefully before using your rangefinder.

⚠️ **WARNING: As with any laser device, it is not recommended to directly view the emissions for long periods of time with magnified lenses.**
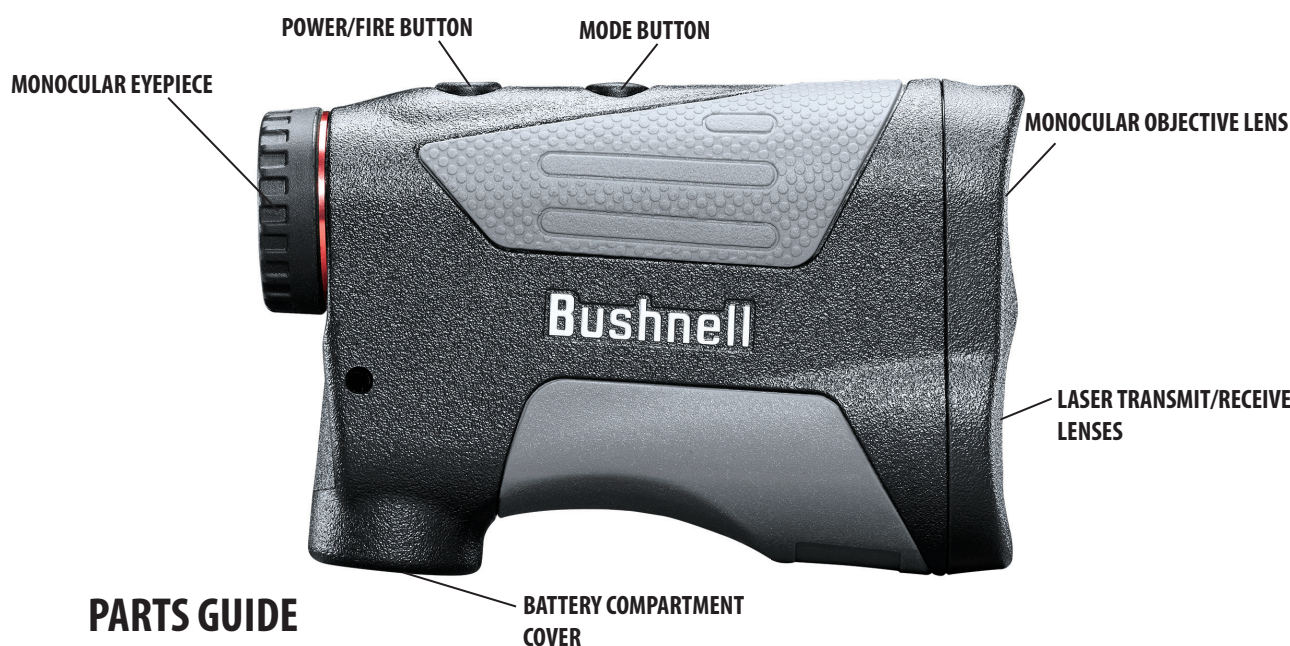
INTRODUCTION

Your Bushnell® Nitro™ is an ultra compact, premium laser rangefinder with the latest Digital Technology, providing precise range readings from 5-2000 yards/5-1829 meters. Measuring 1.3 x 4.2 x 2.9 inches, the 6-ounce Nitro™ delivers extremely fast target acquisition, with ½ yard accuracy at ranges under 200 yards, and +/- 1 yard accuracy from 200 yards to the maximum range. The Nitro laser rangefinder features Bushnell's patented ARC™ (Angle Range Compensation with Ballistics Intelligence), a new RZR Ranging Engine for faster, more consistent response and readings, a Vivid LCD display with higher light transmission and water resistant (IPX4) construction along with EXO™ Barrier Coating on the optics. Bluetooth and Applied Ballistics data in the rangefinder connect to the Bushnell app on your smartphone to relay updated display information and settings as well as configure ballistics data to get near perfect holdovers and wind adjustment.

Note: You will get both longer and shorter maximum distances depending on the reflective properties of the particular target and the environmental conditions at the time the distance of an object is being measured. The color, surface finish, size and shape of the target all affect reflectivity and range. The brighter the color, the longer the range. White is highly reflective, for example, and allows longer ranges than the color black, which is the least reflective color. A shiny finish provides more range than a dull one. A small target is more difficult to range than a larger target. The angle to the target also has an effect. Shooting to a target at a 90 degree angle (where the target surface is perpendicular to the flight path of the emitted energy pulses) provides good range while a steep angle on the other hand, provides limited ranging. In addition, lighting conditions (e.g. the amount of sunlight) will affect the ranging capabilities of the unit. The less light (e.g. overcast skies) the farther the unit's maximum range will be. Conversely, very sunny days will decrease the unit's maximum range.

HOW OUR DIGITAL TECHNOLOGY WORKS

The Nitro laser rangefinder emits invisible, eye safe, infrared energy pulses. The Nitro rangefinder's microprocessor and ASIC chip (Application-Specific Integrated Circuit) results in instantaneous and accurate readings every time. Sophisticated digital technology instantaneously calculates distances by measuring the time it takes for each pulse to travel from the rangefinder, to the target, and back.

POWER/FIRE BUTTON   MODE BUTTON

MONOCULAR EYEPIECE

MONOCULAR OBJECTIVE LENS

LASER TRANSMIT/RECEIVE LENSES

PARTS GUIDE

BATTERY COMPARTMENT COVER

F.P.O.

BATTERY ACTIVATION / BATTERY LIFE INDICATOR

Before first use: Remove the battery compartment cover by lifting the battery cover tab and then rotating the cover counter-clockwise. Remove and discard the red plastic disc covering the positive battery terminal, then replace the battery cover. *NOTE: It is recommended that the CR2 3-volt lithium battery be replaced at least once every 12 months. Insert it into the compartment negative end first.*

Battery Level Indicator Icon *(3)*:

Full charge 🔋

3/4 battery level remaining 🔋

1/2 battery level remaining 🔋

1/4 battery level remaining 🔋

Battery icon blinks - battery needs to be replaced and unit will not be operable.

BASIC OPERATION

- While looking through the laser rangefinder, depress the Power/Fire button once to activate the display.
- If the display appears blurry, rotate the rubber eyecup/diopter adjustment in either direction until the display is sharp for your vision.
- Placing the aiming circle (located in the center of the display) on a target at least 5-6 yards away, depress and hold the Fire button down until the range reading is displayed below the aiming circle.
- Once a range has been acquired, you can release the Fire button. The four "crosshairs" just outside the aiming circle will go out, indicating the laser is no longer being transmitted. The display will remain on and display the last distance measurement for about 15 seconds, until the display automatically switches off to extend battery life.
- You can depress the Fire button again at any time to check the range to a new target. To re-fire, press the button down again.
- To scan the laser across an area and get continuously updated range readings, simply continue to hold the Fire button down and sweep the rangefinder over multiple targets. The crosshairs outside the aiming circle will flash to indicate scan operation.

DISPLAY INDICATORS/ICONS

The Nitro rangefinder's display incorporates the following illuminated indicators:

Angle Range Compensation Modes
- Bow Mode (1)

Battery Level Indicator (2)
Aiming Circle/Dot (3)
Active/Scan Laser Indicator (4)

Targeting Modes
- BullsEye Mode (5)
- Brush Mode (6)

Primary Numeric Display displays Line-of-sight Distance (7)

Holdover / Bullet-drop Horizontal Distance indicators for Rifle Mode
- MOA holdover units selected (8)
- MIL (holdover units selected (9)
- IN (inch) or CM (centimeter) holdover units selected (10)
- SD = Variable Sight-In Distance (11)

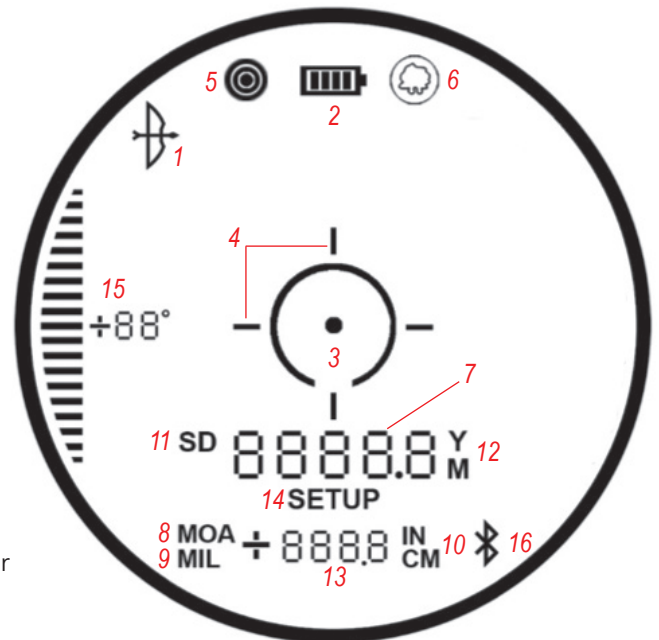Range (Distance) Units (12): Y=Yards, M=Meters
Secondary Numeric Display (13)
   (Holdover / bullet drop for Rifle mode, True Horizontal Distance for Bow Mode)

SETUP Mode (14)

Pitch Angle Indicator (15)

Bluetooth Active (16)

TARGETING MODES

The Nitro laser rangefinder can be operated in one of three available targeting modes, with Standard mode as the default. To select a different targeting mode, press the Mode button briefly until the desired indicator (BullsEye or Brush) appears. To return to Standard mode, press Mode one more time after the Brush mode indicator is seen. The targeting modes are:

- **Standard Mode with Automatic SCAN** (LCD Indicator – none) This setting allows most targets to be ranged, up to 2000 yards. Used for moderately reflective targets that are typical of most distancing situations. The minimum distance in the standard mode is 10 yards. To use the Automatic SCAN feature, simply hold down on the Fire button for approximately 3 seconds, then move the rangefinder from object to object while keeping the Fire button depressed. Automatic SCAN will allow the range to be continuously updated as multiple objects are targeted.

- **BullsEye™ Mode** (LCD Indicator *(5)* - ◎) This advanced mode allows easy acquisition of small targets and game without inadvertently getting distances to background targets that have stronger signal strength. <u>When more than one object has been acquired, only the distance of the closest object will be displayed</u> and a crosshair will surround the BullsEye™ indicator informing the user that distance to the closer object is being displayed in the LCD.

  With the rangefinder in BullsEye mode, align the aiming circle onto the object (i.e. deer) that you want distance to. Next, press and hold the Fire button and move the Aiming Circle slowly over the deer until crosshairs surround the BullsEye indicator *(5)*. If the laser beam recognized more than one object (i.e. deer and background trees), distance of the closer object (i.e. deer) will be displayed and crosshairs will surround the BullsEye indicator informing the user that distance to the closer object is being displayed in the LCD. There may be times when only the laser beam only sees one object in its path. In this case, the distance will be displayed, but because more than one object was not acquired, crosshairs will not surround the BullsEye indicator.

- **Brush™ Mode** (LCD Indicator *(6)* - ♣): This advanced mode allows objects such as brush and tree branches to be ignored so that distance only to background objects are displayed. <u>When more than one object has been acquired, distance of the farthest object will be displayed</u> and a circle will surround the Brush indicator *(6)* informing the user that distance of the farthest object is being displayed in the LCD.

  With the rangefinder in Brush mode, align the aiming circle onto the object that you want distance to. Next, press and hold the Fire button and move the Aiming Circle slowly over the object until a circle surrounds the Brush indicator. If the laser beam recognized more than one object (i.e. closeup tree branch and a deer in the background), distance of the further object (i.e. deer) will be displayed and a circle will surround the brush indicator informing the user that distance to the farther object is being displayed. There may be times when only the laser beam only sees one object in its path. In this case, the distance will be displayed, but because more than one object was not acquired, the circle will not surround the Brush indicator.

  TIP: While pressing the Fire button, you can move the device slowly from object to object and intentionally force the laser to hit multiple objects to ensure that you are only displaying the furthest of the objects recognized by the laser. Once the device has shut off, the unit will always default back to the last targeting mode used.

ANGLE RANGE COMPENSATION (ARC)

The Nitro Laser Rangefinder with ARC™ was especially designed with hunters in mind. Your Nitro rangefinder features a built-in inclinometer that solves a problem hunters have been faced with for years. Bow and rifle hunters have struggled with extreme uphill and downhill angles because of how these angles alter true horizontal distance to your target. The ARC™ solution: an integrated inclinometer provides angular data to a processor chip when targeting objects that are either uphill or downhill. This data is then combined with internal algorithmic formulas. The user selectable ARC modes allow you to adjust the performance parameters of the unit to suit your specific situation and environment. Along with the standard "line of sight" distance, when the Fire button is released, the Nitro laser rangefinder's display can also show you the true horizontal distance (in Bow Mode-see the ARC MODES section) near the bottom of the display *(13)*, along with the angle of incline in degrees, indicated at the left side of the display *(15)*. For example, a bowhunter in a tree stand may be aiming at a deer that is downhill at a -44° relative to his position. The line of sight distance is 32 yards, but he is likely to "overshoot" the target based on that. The THD distance (compensated for the angle) reads 23 yards. That is the distance the hunter should base his shot upon.

USING THE SETUP MENU

The Setup Menu is used to select various options, such as the ARC Mode (Bow, Rifle, etc.) and distance units (Yards or Meters) of your preference. To enter the Setup Menu after powering on the unit, hold the Mode button down until "SETUP" appears in the display *(14)*. You will remain in the Setup Menu until you change or confirm all possible settings (varies depending on selected ARC mode), and "SETUP" is no longer displayed. Once in the Setup Menu, press the Mode button to scroll through or toggle the available items. Press the Fire button to confirm and save the currently displayed option/setting.

The first item you can select from the Setup Menu is the ARC Mode. Press the Mode button until the icon for the mode you want is displayed, then press the Fire button to confirm and continue selecting other related options/settings. More details regarding the various ARC modes are provided in the next section.

ARC (ANGLE RANGE COMPENSATION) MODES

- **REGULAR Mode** (ᵣE6): This mode does not provide any degree of elevation or compensated distance information (no secondary range display *(13)*, only the line of sight distance *(7)*. Select this mode (press Fire button with "rE6" displayed while in Setup) for general purpose use, or when not using the rangefinder for bow or rifle hunting applications. After confirming your selection of Regular mode, the only other item in the Setup Menu is the Unit of Measure option *(12)*. Pressing the Mode button will toggle the Units from the default "Y" (yards) to "M" (meters). Press the Fire button to confirm your selection (leave units set to Yards, or change it to Meters) and exit the Setup Menu, returning to normal operation.

- **BOW Mode** (⊹): Calculates and displays the degree of incline, and the resulting true horizontal distance in yards or meters, in addition to the line of sight distance. Select this mode (press Fire button with the bow icon *(1)* displayed while in Setup) for bowhunting, or other use if you don't need bullet drop/holdover information. After confirming your selection of Bow mode, the only other item in the Setup Menu is the Unit of Measure option *(12)*. Pressing the Mode button will toggle the Units from the default "Y" (yards) to "M" (meters). Press the Fire button to confirm your selection (leave units set to Yards, or change it to metric) and exit the Setup Menu, returning to normal operation.

Bow Mode Example

The true horizonal distance is shown near the bottom of the display *(13)* , along with the tilt angle in degrees *(15)*. In the example shown on the right, a bowhunter in a tree stand may be aiming at a deer that is downhill at a -44° relative to his position. The line of sight distance is 32 yards, but he is likely to "overshoot" the target based on that. The THD distance (compensated for the angle) reads 23 yards. That is the distance the hunter should base his shot upon. If he was to shoot as if the target was 32 yards away, he would shoot over the top of the deer because of the severe angle.

32 Yds
Line of Sight

-44°

23 Yds
True Distance
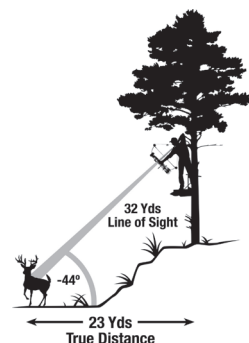
If in BOW mode, the line of sight distance will display in the primary numeric display and the inclination and horizontal distance will display in the secondary numeric displays. Bushnell® determined through extensive testing and interviews with high-profile bow hunting experts that multiple bow ballistic groups were not necessary. Bow-hunters want to know true horizontal distance because that is how they practice shooting, and once they confidently know that, they can make any necessary adjustments. Giving the bow-hunter anything else other than horizontal distance creates additional confusion and uncertainty.

Many people mistakenly believe that uphill shots perform differently from downhill shots because of gravity. However, it is not due to gravity, but more of an aberration of the sighting system used on bows. The sighting pin on a bow resides several inches above the mechanical axis of the arrow. For example, when one is aiming 23 degrees up an incline, the arrow is at a different angle.

BLUETOOTH CONNECTIVITY/BUSHNELL BALLISTIC APP

1. During initial connection between the mobile device app and laser rangefinder, a pin code will be generated by the Mobile Device App and transmitted to the laser rangefinder which then displays the code. The laser rangefinder must be in "ABU" (Applied Ballistic Ultralite) mode to connect to the app, this shall be the default setting,
2. When the laser rangefinder is connected to a mobile device app or external device the Bluetooth icon in the laser rangefinder display shall be illuminated.,
3. When the mobile device app is connected to the laser rangefinder, the laser rangefinder shall remain turned on until the app is disconnected. It will supersede the default 60 second sleep mode/Time out in the laser rangefinder
4. When connecting the laser rangefinder to an external device such as a Kestrel, the laser rangefinder must be set in the connect implement to "ABE" (Applied Ballistic External).

F.P.O. (details pending, per new sample)

CLEANING AND GENERAL CARE

The lenses of your Bushnell Nitro laser rangefinder are fully multi-coated for highest light transmission. As with any multi-coated optics, special care must be taken in cleaning the lenses. Follow these tips for proper lens cleaning:

- Blow away any dust or debris on the lens (or use a soft lens brush).
- To remove dirt or finger prints, clean with the supplied micro-fiber cloth rubbing in a circular motion. Use of a coarse cloth or unnecessary rubbing may scratch the lens surface and eventually cause permanent damage. The included washable microfiber cleaning cloth is ideal for the routine cleaning of your optics. Simply breathe lightly on the lens to provide a slight amount of moisture, then gently rub the lens with the microfiber cloth.
- For a more thorough cleaning, photographic lens tissue and photographic-type lens cleaning fluid or isopropyl alcohol may be used. Always apply the fluid to the cleaning cloth – never directly on the lens.

All exterior lens surfaces have our new EXO Barrier™ coating (in addition to full multi-coating). EXO Barrier, quite simply, is the best protective lens coating technology Bushnell has ever developed. Added at the end of the coating process, EXO Barrier molecularly bonds to the lens and fills the microscopic pores in the glass. The result is an ultra-slick coating that repels water, oil, fog, dust and debris - rain, snow, fingerprints and dirt will not stick. EXO Barrier is built to last: the bonded coating will not fade with the passage of time or normal wear and tear.

The rangefinder is manufactured and tested to withstand water exposure up to IPX4 standards. It is water resistant, but should not be submerged.

TROUBLESHOOTING

Never disassemble your laser rangefinder. Irreparable damage can result from unauthorized service attempts, which also void the warranty.

If unit does not turn on, display does not illuminate:
- Depress Power/Fire button.
- Check and if necessary, replace battery. If unit does not respond to button presses, replace the battery with a good quality CR2 3-volt Lithium battery.

If unit powers down (display goes blank when attempting to power the laser):
- The battery is either weak or low quality. Replace the battery with a new 3 -volt lithium battery (CR2).

If target range cannot be obtained:
- Make sure the display is illuminated.
- Make sure that the Power/Fire button is being depressed.
- Make sure that nothing, such as your hand or finger, is blocking the objective lenses (lenses closest to the target) that emit and receive the laser pulses.
- Make sure unit is held steady while depressing Power/Fire button.

  NOTE: The last range reading does not need to be cleared before ranging another target. Simply aim at the new target using the display reticle, depress the power button and hold until new range reading is displayed.

Technical Specifications

SKU	Mag x Obj Lens Diam.	Max Range (Y/M) (Reflective Target)	Range to Tree (Y/M)	Range to Deer (Y/M)	Ranging Accuracy	Optical Coatings	Length (in/mm)	Weight (oz/g)
LN625IGG	6x 24mm	2,000/1,829	900/823	500/457	+/- 0.5 yds	Fully-multi coated, EXO Barrier™	4.2/106	5.8/165

Bushnell® IRONCLAD WARRANTY
ENGINEERED TO LAST

Products manufactured on or after April 2017 are covered by the Bushnell Ironclad Warranty. The Ironclad Warranty is a full lifetime warranty that covers the lifetime of this Product. Each Product has a defined lifetime; lifetimes can range from 1 to 30 years. This Product's lifetime can be found at the website listed below and/or on the Bushnell webpage specific to this Product.

We warrant that this Product is free from defects in materials and workmanship and will meet all represented performance standards for the lifetime of this Product. If this Product isn't working properly due to a covered defect, we will, at our option, either repair or replace it and ship it back to you at no charge. This warranty is fully transferable and does not require a receipt, warranty card, or product registration. This warranty does not cover the following: electronic components; batteries; cosmetic damage; damage caused by failing to properly maintain the product; loss; theft; damage as a result of unauthorized repair, modification, or disassembly; intentional damage, misuse, or abuse; and ordinary wear and tear. This Warranty will be void if the date stamp or other serialization codes have been removed from the Product.

To view the full warranty and find details on how to request service under the warranty, go to our website at **www.bushnell.com/warranty**. Alternatively, you can request a copy of the warranty by calling us at 1-800-423-3537 or writing to us at one of the following addresses:

IN U.S.A. Send To: IN CANADA Send To:
Bushnell Outdoor Products   Bushnell Outdoor Products
Attn.: Repairs   Attn.: Repairs
9200 Cody   140 Great Gulf Drive, Unit B
Overland Park, Kansas 66214   Vaughan, Ontario L4K 5W1

For products purchased outside the United States or Canada please contact your local dealer for applicable warranty information.

This warranty gives you specific legal rights.
You may have other rights which vary from country to country.

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⚠ **WARNING: This product uses a Lithium based battery. Lithium batteries can overheat and cause damage if physically abused. Do not use batteries that are damaged or show signs of physical wear.**

FCC Statement

This device complies with Part 15 of the FCC interference limits for Class B digital devices FOR HOME OR OFFICE USE. These limits are designed to provide reasonable protection against harmful interference in a residential installation, and are more stringent than "outdoor" requirements.

Operation of this device is subject to the following 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.

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.

The device does not contain any user-serviceable parts. Repairs should only be made by an Authorized Bushnell repair center. Unauthorized repairs or modifications could result in permanent damage to the equipment, and will void your warranty and your authority to operate this device under Part 15 regulations.

The shielded interface cable which is provided must be used with the equipment in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

FCC RF Radiation Exposure Statement
1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. For body worn operation, this device has been tested and meets FCC RF exposure guidelines. When used with an accessory that contains metal may not ensure compliance with FCC RF exposure guidelines.

FCC ID:2ASQI-LN1800
IC: 24886-LN1800

FDA SAFETY
Class 1 laser product in accordance with IEC 60825-1:2007.
Complies with 21 CFR 1040.10 and 1040.11 for laser products except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007.

Caution: There are no user controls, adjustments or procedures. Performance of procedures other than those specified herein may result in access to invisible laser light.

Industry Canada Statement :
This device complies with ISED's licence-exempt RSSs. 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.

Le présent appareil est conforme aux CNR d' ISED applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

Radiation Exposure Statement / Déclaration d'exposition aux radiations :
This device complies with the Industry Canada portable RF exposure limit set forth for an uncontrolled environment and is safe for the intended operation as described in this manual. Further RF exposure reduction can be achieved if the product can be kept as far as possible from the user's body or if the device is set to a lower output power if such function is available.

Le produit est conforme aux limites d'exposition pour les appareils portables RF pour les Etats-Unis et le Canada établies pour un environnement non contrôlé.
Le produit est sûr pour un fonctionnement tel que décrit dans ce manuel. La réduction aux expositions RF peut être augmentée si l'appareil peut être conservé aussi loin que possible du corps de l'utilisateur ou que le dispositif est réglé sur la puissance de sortie la plus faible si une telle fonction est disponible.
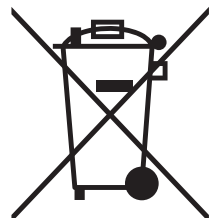
Patent #'s: 6,445,444 | 5,612,779 | 6,057,910 | 6,226,077 | 5,652,651 |
7,920,080 | 7,619,548 | 7,658,031 | 8,081,298

Disposal of Electric and Electronic Equipment
(Applicable in the EU and other European countries with separate collection systems)

This equipment contains electric and/or electronic parts and must therefore not be disposed of as normal household waste. Instead, it should be disposed at the respective collection points for recycling provided by the communities. For you, this is free of charge.

If the equipment contains exchangeable (rechargeable) batteries, these too must be removed before and, if necessary, in turn be disposed of according to the relevant regulations (see also the respective comments in this unit's instructions).

Further information about the subject is available at your community administration, your local waste collection company, or in the store where you purchased this equipment.

Bushnell®