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 5.7-ounce Nitro™ delivers extremely fast target acquisition, with +/- 1 yard accuracy from 5-1000 yards. The Nitro laser rangefinder features Bushnell’s patented ARC™ (Angle Range Compensation with Ballistics Intelligence), a new 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. Applied Ballistics data in the rangefinder (upgradeable-see “Upgrade Options”, pg. 8) can communicate via Bluetooth with the Bushnell Ballistics app on your smartphone/tablet 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 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.

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 (2):

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 20-30 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 includes these elements:

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 AbU/AbE Mode
- MOA holdover units selected (8)
- MIL (holdover units selected (9)

Range (Distance) Units (10): Y=Yards, M=Meters

Secondary Numeric Display
- True Horizontal Distance in Bow mode (11), Elevation/Windage Values (alternating 1.5 sec each) in AbU mode (12)

SETUP Mode (13)

Angle Indicator (each bar=approx. +/-5° incline) (14)

Bluetooth Active (15)

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 2,000 yards. Used for moderately reflective targets that are typical of most distancing situations. The minimum distance in the standard mode is 5 yards. To use the Automatic SCAN feature, simply press and hold the Fire button, 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. Crosshair lines flash while scanning.

- **Bullseye™ Mode with Automatic SCAN** (LCD Indicator (S) - ⊕) This advanced mode allows easy acquisition of small targets and game without inadvertently getting distances to background targets that have stronger signal strength.
When more than one object has been acquired, only the distance of the closest object will be displayed.

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. If the laser beam recognized more than one object (deer and background trees), distance of the closer object (deer) will be displayed in the LCD.

**Brush™ Mode with Automatic SCAN (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. When more than one object has been acquired, only the distance of the farthest object will be 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. If the laser beam recognized more than one object (closeup tree branch and a deer in the background), distance of the further object (deer) will be displayed.

_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 Operating 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 OPERATING 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 -52° 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 Operating Mode (Bow, AbU, 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 Operating 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 Operating 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 Operating Modes are provided in the next section.

**OPERATING (SHOOTING) MODES**

- **REGULAR Mode (ﬂ):** 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 "rE9" 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 (ﬂ)):** 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 horizontal distance is shown near the bottom of the display (13), along with the tilt angle in degrees (15). In the example shown below, a bowhunter in a tree stand may be aiming at a deer that is downhill at a -52° 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.
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.

• **AbU and AbE Mode:** unlike other Bushnell laser rangefinders that have a Rifle Mode with “data input” via manual selection of letter codes from a list of popular ammo, the Nitro allows you to create a custom user Profile (“User Gun 1”, etc.) that includes your specific load data, firearm, riflescope, and weather/environment details. This Profile is built using the Bushnell Ballistics app on your smartphone or tablet, then uploaded into the Nitro via Bluetooth, with the Nitro set to the “AbU” (Applied Ballistics Ultralite) Operating Mode. Be sure you have “AbU” selected via the Nitro’s Setup menu and visible in the display before you connect to a smartphone or tablet using Bluetooth.

Another Operating Mode, “AbE” (Applied Ballistics External) allows syncing to an external device such as a Kestrel to obtain ambient environmental data. For details regarding use of external devices in “AbE” mode, consult the manual provided with that product. The next section goes through the necessary steps for using the Bushnell Ballistics app to build a custom user profile for your ammo load and firearm and then upload that data into the Nitro rangefinder.

• **Reticule Select:** The last option available in the Nitro’s Setup menu allows you to select your preference of Reticle Pattern for the center of the display (for all modes). Press the Mode button to cycle through Circle, Dot, and Circle with Dot (the default) options. Press the Fire button to confirm the selection of the reticle you prefer, and exit the Setup menu.

**USING THE BUSHNELL BALLISTIC APP TO UPLOAD YOUR AMMO LOAD DATA (NITRO IN AbU MODE)**

1. Download the free Bushnell Ballistics app from the Google Play (Android mobile devices) or App Store (Apple mobile devices).
2. Open the app. Sign in using your Bushnell account log in or create an account if you don’t already have one.
3. You will be creating a “profile”, which is a complete set of data including all the details for the bullet load, gun, scope, etc. you will be using. Tap “Profile” and select “User Gun 1” ([Fig. 1, next page](#)) (you can rename this at any time by tapping the current active profile name). As you enter the data for your bullet, gun, scope, etc. as outlined in the next steps, it will be automatically saved to the current active profile as shown at the bottom of the screen. **Note:** if you plan to use different loads (and/or different guns and scopes), the data for each can be entered and saved to a separate user profile (the app can store multiple profiles, however, the Nitro rangefinder can only sync and save one set of profile data at a time). While the Nitro is powered on (display is visible) and connected to the app, any changes you make to settings in the current Profile (on the app) are automatically synced, so they can affect the displayed ranging information in the Nitro. If you change the distance units on the Nitro from yards to meters (or vice versa), this will also automatically change in the app. Edits made to settings of the Profile in the app while the Nitro is powered off (not actively connected) will be automatically transmitted to the Nitro the next time it is powered on.
4. Tap “Gun & Bullet” at the bottom center of the screen ([Fig. 2](#)) and enter all information for the riflescope, gun and bullet you will be using. If you have a Bushnell brand riflescope, tapping below “Riflescope” will let you select it from a list by scope line group and then model and/or reticle option ([Fig. 3,4](#)). Next, under “Gun Specs”, tap the field under Muzzle Velocity, Zero Range, etc. and use the number keypad to enter the details for your firearm ([Fig. 5](#)).** Note:** to change the reference units for velocity, distance/range, weight, etc., tap the 3 dots (Settings) at the top right of the screen and change the User Settings to your preferences ([Fig. 6](#)). Tap “X” when finished.
5. Under “Bullet Specs” ([Fig. 7](#)), tap the Bullet Library icon to choose from a list of common calibers ([Fig. 8](#)). Tap the line
listing the caliber to select a bullet from the next list. Note: you can edit specific bullet spec details later if you are using a custom load.

6. Tap “Environmental” to enter details about the current local conditions at your shooting location (Fig. 9). This data has an impact on bullet drop/compensated distance as well. You can get local temperature, wind speed, air pressure and humidity data from the nearest national weather service station (Fig. 10) by selecting “Internet” with the “Weather Source” slide switch. Wind Direction must be entered manually as it varies frequently by location. Note that wind direction is “clock dial based” rather than “compass based”, with 12:00 representing the direction you are pointing your firearm, and 6:00 being directly behind you. To enter all weather data manually, select “Manual” as the Weather Source and use the pop-up keypad. Once you have all weather data, tap the checkmark (bottom right corner) to confirm and exit Environment (Fig. 11). Note that wind direction is “clock dial based” rather than “compass based”, with 12:00 representing the direction you are pointing your firearm, and 6:00 being directly behind you. The altitude at your shooting location can be manually entered, or select “Phone” on the Altitude Source switch to automatically obtain the data from your smartphone. Under “Target” on the Environment screen, tap the black number under “Inclination-Deg” to enter the angle (incline/decline) to your target in degrees, or tap “Take Measurement From Phone” (Fig. 10) to use your smartphone or tablet’s internal inclinometer-just point the front edge of the device up or down towards the target (relative to the angle of the firearm when shooting). Cosine data may also be entered. Note: some items within the app may appear grayed out, indicating that no user selectable settings are available. For grayed out Environmental factors, check the Weather Source setting (when set to “Internet”, all weather data except Wind Direction is automatically provided). Grayed out ballistics related parameters can be unlocked with an upgrade (see “Upgrade Options”, pg. 8).

7. (Optional-provides useful data within the app, but not necessary for integration with the Nitro rangefinder display) Tap the “Solution” icon and select “Targets” (just above the current Profile name) to enter the distance to your intended target(s) in yards (Fig. 12) by tapping the orange number (under “RNG”) for any of 5 different targets. Enter the distance with the pop-up number keypad, then tap the checkmark (bottom right corner) to confirm the range.

8. (Optional-see note for previous step) Tap “Range Card” (Fig. 13) and then tap “Range Card Settings” (Fig. 14). Tap the Min Distance (number) repeatedly to cycle through and set the closest target’s distance (units are yards unless you’ve changed it to Meters in “User Settings” mentioned earlier). Tap the Distance Increments (number) to cycle through and set the spacing between multiple targets (if that applies to your range). Tap “X” when finished to return to the main Range Card screen, which will update per any changes in the Range Card Settings. You can email your custom Range Card data by tapping “Export Range Card”.

9. (Optional-see note for previous step) Tap “Reticile” for a detailed look at the reticle in your scope (including corresponding ranges based on your target and range card info if your reticle includes bullet drop/holdover reference markings) (Fig. 15). Note: selecting a Bushnell riflescope model within the app will automatically select MOA or Mil units based on that scope’s reticle. However, your Nitro rangefinder may be set to different units. The Nitro will automatically convert data received from the app from MOA to Mil or vice versa. If the compensated range numbers on the Nitro display and on the app are different, check to make sure you have both app and Nitro set to matching units (MOA or Mil), using the Setup Menu in the Nitro.

10. After you’ve finished entering all relevant data into the Ballistic app, tap the name of the current Profile (lower center of screen, above “Gun & Bullet”). The data stored in the current “Active Profile” (Fig. 16) is the one which will be uploaded to the Nitro (tap the name of a different, previously used profile if you wish to upload it instead). Make sure your Nitro rangefinder is powered on (press the Fire button) and has its mode set to “AbU” (see photo, top right). In the app, tap “Profile”, then “Bluetooth” to search for compatible devices, then tap to select the Nitro w/serial number you wish to connect with when it appears (Fig. 17). The app will activate Bluetooth on the Nitro (Bluetooth icon is seen in the display, as shown in top right photo) and send it a 2-digit PIN code which will be shown in the rangefinder’s display after a short time (see photo, lower right). Enter this PIN# in the app to complete the connection (Fig. 18) (app confirms your Nitro is connected at bottom of screen-see Fig. 19) and transmit your current Profile’s data to the Nitro.

11. After changing any parameter in the app, click “DONE” and the updated data will be sent to the Nitro (if still connected, or next time it is paired with the app). When ranging with the connected Nitro, its distance readings will be sent to the app and can be seen in the Solution screens (Reticile, Targets, Range Card) (Fig. 19). Note: After the initial Bluetooth pairing, the Nitro will automatically connect again anytime the rangefinder is powered on while the app is open. However, If you last connected the app with a Kestrel or other external device, you may need to pair the app and Nitro again before using them together.

12. To connect the Nitro to a compatible external device hardware (rather than the Ballistics app), first make sure the Nitro is set to AbE mode (enter Setup Menu, then press Mode until “AbE” is displayed). Power the Nitro on by pressing Fire/Power. See the owner’s manual for your device for details regarding its Bluetooth pairing procedure. Note: for some compatible devices, such as various Kestrel models, you will need to make sure your preferred units (yards/meters, moa/mil,mph/kph, etc) are set up identically on both the external device and the Nitro to ensure they match. Most devices only transmit “raw data” (numbers) and will not automatically set the units on the Nitro display to be the same (these assume you are using same units on all your products).
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 lenses at the front of the rangefinder 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.

UPGRADE OPTIONS
The Nitro is ready to use out of the box with Applied Ballistics engine at the Ultralite level, but is upgradeable if you ever need more distance and advanced data (spin drift and coriolis correction, sight height, etc) in your ballistic solutions. Through the Bushnell Ballistics app (available for iOS and Android), the ballistics engine can be upgraded from Ultralite to Sportsman or Elite. The standard, Ultralite version may be upgraded to either level, and the Sportsman version may be upgraded to Elite. More information about the available upgrades, including specific features and ranging capability, is available at www.bushnell.com and through the Ballistics app.
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.
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.