TANGOINNOS

TOMAHAWK2000B
AB Sportsman

RANGEFINDER

APPLIED BALLISTICS
THE SCIENCE OF ACCURACY

Product standard configuration: hang rope, lens cloth, Battery cover wrench，Cloth bale

This manual will help you optimize your viewing experience, explaining how to take advantage of the ballistic rangefinder's features and how to take care of it. Read the instructions carefully before using your rangefinder.

Warning: As with any laser device, it is not recommended to use a magnified lens to view radiation directly for long periods of time. Your rangefinder is an ultra-compact, high-end laser rangefinder with the latest digital technology that provides accurate range readings from 1-2200 yards /1-1999 meters. This provides very fast target acquisition, with +/ -1 yard accuracy from 5-1000 yards. This laser rangefinder features a new rangefinder engine, faster, more consistent response and readings, a vivid LCD display, higher light transmission and waterproof (IP54) construction, and a high-grade coating on the optics. The applied ballistics data in the rangefinder can communicate via Bluetooth with the BOSS Ballistics app on your smartphone/tablet to relay updated display information and Settings, as well as configure ballistics data for near-perfect stay and wind adjustment.

* Note: You will get longer and shorter maximum distances depending on the reflective characteristics of a particular target and the environmental conditions when measuring the object's distance. The color, surface finish, size, and shape of the target all affect reflectivity and range. The brighter the color, the longer the range. For example, white is highly reflective, allowing for a longer range than black, which is the least reflective color. A glossy finish has a wider range than a matte finish. Small targets are harder to aim at than big ones. The Angle with the target also matters. Firing at a 90-degree Angle (the target surface is perpendicular to the flight path that emits the energy pulse) provides good range, while a steep Angle provides only limited range. In addition, lighting conditions (such as the amount of sunlight) will affect the ranging ability of the device. The less light there is (e.g. on a cloudy day), the farther the unit's maximum range. Conversely, very clear weather will reduce the maximum range of units.
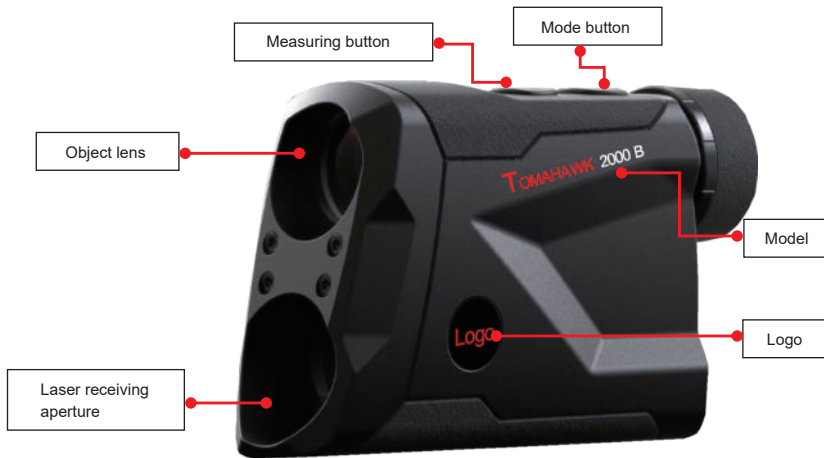
How does our digital technology work
Laser rangefinder emits invisible, eye-safe, infrared energy pulses. The rangefinder's microprocessor results in instantaneous and accurate readings every time. Sophisticated digital technology calculates the distance instantaneously by measuring the time it takes for each pulse to travel from the rangefinder to the target and back.
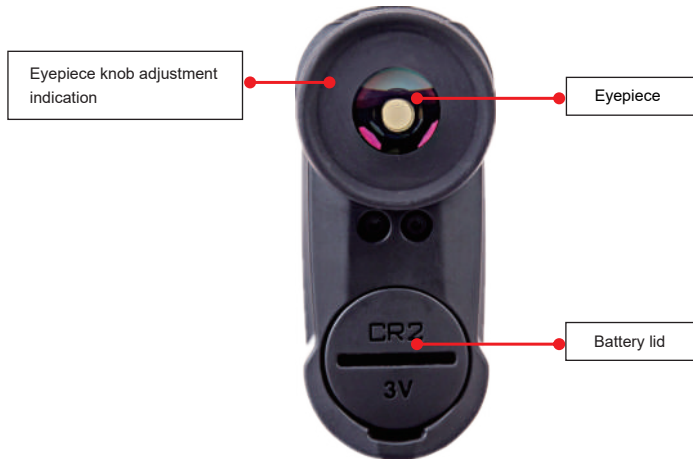
Battery activation/battery life indicator

The rangefinder uses CR3-3V lithium battery. Before the first use, first unscrew the battery cover counterclockwise, install the battery compartment with the positive electrode inward according to the instructions of the battery compartment of the rangefinder (positive electrode inward, negative electrode outward), and then rotate the battery cover clockwise. Note: It is recommended that CR2 3-volt lithium batteries be replaced at least every 12 months.

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
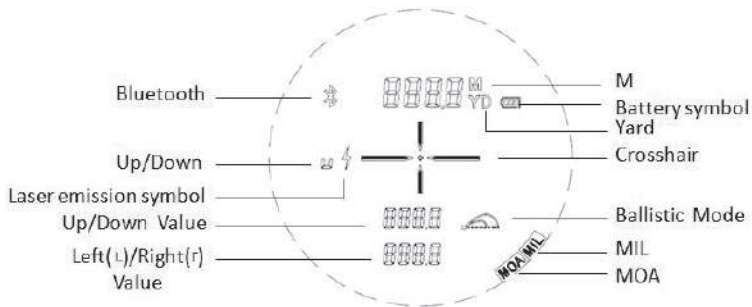
Measuring button

Mode button

Object lens

Tomahawk 2000 B

Model

Logo

Logo

Laser receiving aperture

Eyepiece knob adjustment indication

Eyepiece

Battery lid

Basic operation

• When viewing the laser Range finder, press the "Range" button once to activate the display.

• If the display displays blurry, rotate the rubber eye mask/diopter adjustment in any direction until the display is clear to your vision.

• Place the aiming circle on the target at least 1 yard away (in the center of the screen), press and hold the launch button until the range is displayed above the aiming cross.

• Once you get a Range, you can release the Range button. The "lightning" pointing outside the circle will go out, indicating that the laser is no longer fired. The display will remain on and display the last distance measurement for approximately 20-30 seconds until the display automatically shuts off to extend battery life.

• You can press the Range button again at any time to check the distance of the new target. Press the button again to refire.

• Hold down the MODE key for 2 seconds to enable or disable Bluetooth

• Press the MODE key to switch M/Y units

Bluetooth

Up/Down

Laser emission symbol

Up/Down Value

Left(ʟ)/Right(r) Value

M

Battery symbol

Yard

Crosshair

Ballistic Mode

MIL

MOA

Ballistic mode

The ballistic rangefinder provides the operation of the ballistic targeting mode, which is the default mode. In order to operate the rangefinder more easily and meet the field requirements of long range shooting or long range hunting, we only set a target mode and simply press the mode button to enter the ballistic mode.

Specifications

Technical Data	Performance parameter
Model	TOMAHAWK 2000B AB Sportsman
Measuring Range	0 - 2000YD
Accuracy	±1YD
Function of measuring height and angle	Yes
Angle measuring accuracy	±0.5°
Angular range	±90°
Bluetooth	optional
Scan	yes
Laser Wavelength	905nm（laser class 1)
Telescope Magnification	6x
Eyepiece lens diameter	16mm
Object lens diameter:	26mm
Field angle	5°
Battery	CR2-3.0V Measuring up to 5000 times.
Weight	195g
Waterproof	IP54
Dimensions	125mm*80mm*35mm
Operating Temperature	-10℃ to 50℃
Blacklit	Red

Download APP
Apple user searches for "**AB Synapse-BOSS**" in the App Store and downloads the installation.
Android users can search for "**AB Synapse-BOSS**" in Google Play to download and installation.
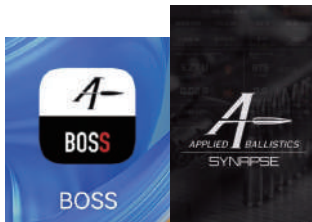

1.Download the free BOSS Ballistics app from Google Play (Android mobile) or app Store(Apple Mobile).
2.As shown in the figure, turn on the rangefinder, click BOSS APP to enter the BOSS connection interface, and click BULETOOTH LRF-0000 to enter the device selection interface. Select a matching device. Then the PIN code is displayed under the rangefinder LCD. Input the PIN code into the BOSS interface. At this time, the BOSS enters the working mode and the rangefinder is successfully connected to the BOSS

Or (2) Click the BOSS APP to enter the connection interface, at which point the APP searches for the rangefinder through Bluetooth, as shown in the figure. Turn on the rangefinder and set the Bluetooth MODE (long press the MODE key for 2 seconds) until the Bluetooth flag appears on the display interface of the rangefinder. Press the RANGE key to measure, and the ballistic activation code appears at the bottom of the screen. The BOSS enters the working mode. The rangefinder is connected to the BOSS successfully.
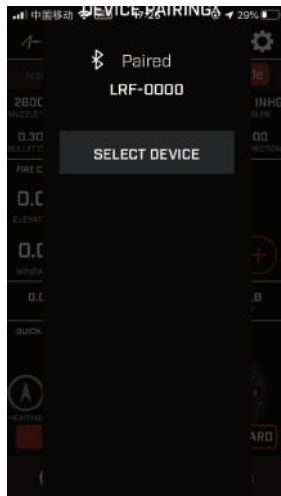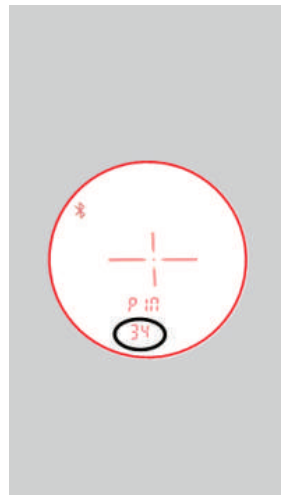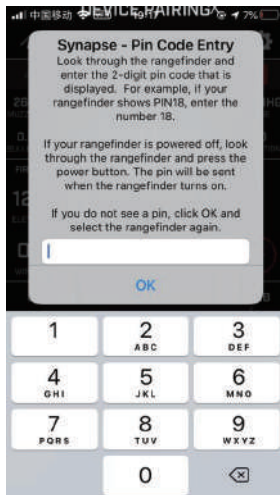
3. Open the application. Log in using your BOSS account or create an account (if you don't already have one).

4. User setting: Click the setting symbol on the upper right of the screen to enter the user setting interface, and enter the distance unit, sight unit, bullet speed unit and other configuration UNITS used by individuals. The MOA/MIL display unit on the screen of the rangefinder is also set by SCOPE UNITS, and then click "X".
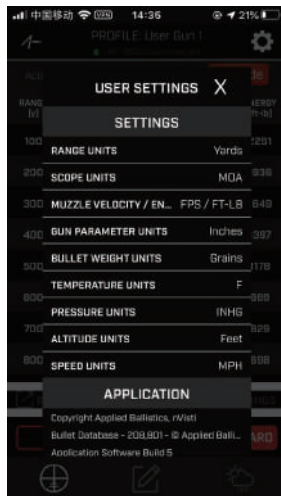
5. You will create a "profile", which is a complete data set including bullet loading, gun, range, and all the details you will use. Click on "USER GUN 1" and select "USER GUN 1" (you can rename it at any time by clicking on the current active profile name). When you type in bullet, gun, range, etc., it automatically saves to the current active profile at the bottom of the screen. Note: If you plan to use different payloads (and/or different guns and ranges), each data can be entered and saved to a separate user profile (applications can store multiple profiles, however, the BOSS Rangefinder can only synchronize and save one set of profile data at a time). When the BOSS rangefinder is powered on (the display is visible) and connected to the app, any changes you make to the Settings in the current configuration file (on the app) are automatically synchronized, so they can affect the range information displayed in the BOSS. If you change the unit of yard to meter distance (and vice versa), this will also automatically change the application. Applications that edit the Settings profile on shutdown (do not actively connect) will be automatically transmitted to the next startup.

Click the pen Input symbol at the bottom center of the screen and select USE GUN 1 or another option to define your GUN and bullet data. Enter all information about the rifled mirror, gun, and bullet you will use. Next, under "Gun Specifications", click on the fields "Muzzle speed", "Zero Range" and use the numeric keypad to enter the details of the gun. To change the reference units for speed, distance/distance, weight, etc., click the corresponding number and change the user Settings to your preferences. Once done, the data for the current setup is saved.
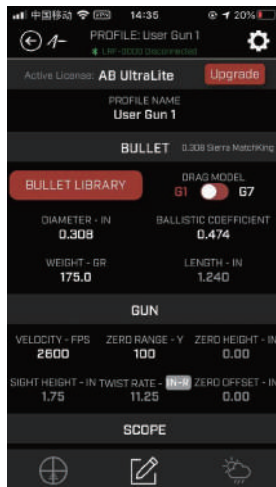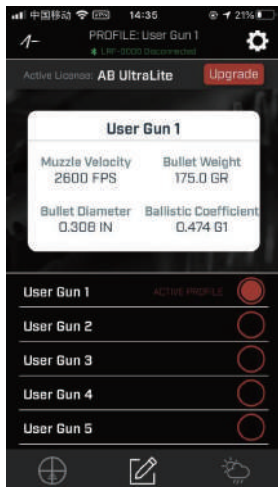
6. Under "BULLET LIBRARY", click on the BULLET LIBRARY icon and select from the list of common calibers. Click on the line that lists the caliber and select bullets from the next list. Note: If you use custom loading, you can edit specific project description details later.
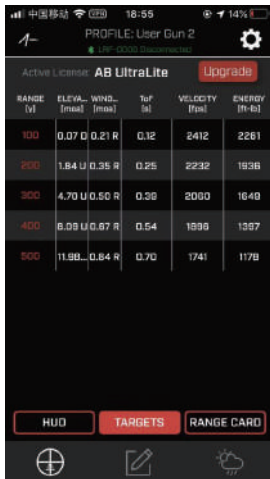
7. Click the "Environment" icon in the lower right corner of the screen to enter the details of the current shooting position. These numbers also affect bullet drop/compensation distance. Select Internet and slide weather Sources to get local temperature, wind speed, pressure, and humidity data from the nearest national Weather Service. Wind direction must be manually entered as it frequently changes position. Note that the wind direction is "based on the clock dials" rather than "based on the compass", where 12:00 represents

the direction you are pointing your gun and 6:00 is right behind you. You can manually enter the altitude of the shooting location or select Mobile on the Altitude Source switch to automatically obtain data from your smartphone. Under the "target" of "environment" interface, click on the "Angle" black Numbers, Angle of Angle input for the unit target (tilt/down), or click on the "measure" from my phone, using a smartphone or tablet internal inclinometer - just put the equipment of the front end up or down a target (relative to the Angle when shooting guns). Cosine data can also be entered. Note: Some items in the application may be grayed out, indicating that there are no user-selectable Settings. For grey environmental factors, check the weather source Settings (when set to "Internet", all weather data except wind direction is provided automatically). The grayed ballistics parameters can be unlocked by upgrading.
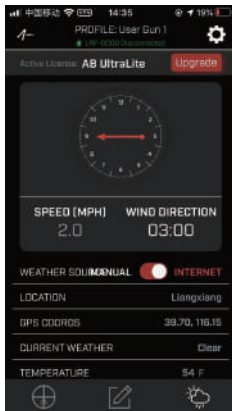
8. Click "Range Card", then click "Range Card Settings". Click the minimum distance (number) repeatedly to set the distance to the nearest target (in yards, unless you modify it to meters in User Settings). Click the distance increment (number) loop and set the interval between multiple targets (if applicable to your range). Click "X" to return to the main screen of the range card. The main screen will be updated whenever the range card Settings are changed. You can email your custom Range card data by clicking "Export Range Card"
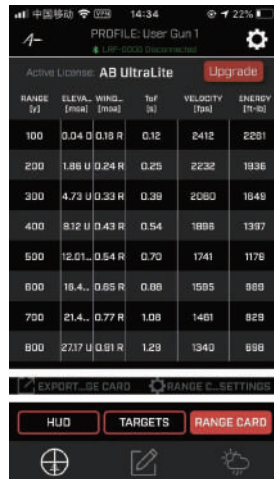
9. Click on the "Cross" in the bottom left corner of the screen to view the details of the cross within your range (if your cross contains the bullet drop/residue reference mark, the distance will be displayed according to your target and range card information). However, your range finder may be set to MOA or MIL units. If the compensation range numbers on the rangefinder display and application differ, check to make sure you have the application and rangefinder set to match the units (MOA or Mil).

10. After entering all the relevant data in the Ballistics app, the data stored in the current "Active profile" will be uploaded to the rangefinder (click on a different name for the previously used profile if you want to upload it). Make sure your rangefinder is powered up (press the shoot button) and set its mode to "ballistic mode." In the app, click "Profile," then click "Bluetooth" to search for compatible devices, and when it appears, click to select the rangefinder with the serial number. The app activates the Bluetooth on the rangefinder (the Bluetooth icon is on the display, as shown in the upper left) and sends a 2-digit PIN code, which is displayed on the rangefinder's display after a period of time (see photo). Enter the PIN number in the app to complete the connection (the app confirms at the bottom of the screen that your range finder is connected) and transfer your current profile data to the range finder.

11. After modifying any parameters in the application, click "DONE" and the updated data will be sent to the rangefinder (if still connected, or next time it pairs with the application). When ranging with a connected rangefinder, its range reading is sent to the application and can be seen on the solution screen (network cable, target, range card). Note: After the initial Bluetooth pairing, when the app is opened, the rangefinder will automatically reconnect as soon as it is turned on.

12. At present, the rangefinder cannot be connected to other external devices, such as anemometer or ballistic computer, etc. We are actively communicating with other instrument manufacturers, and it is expected that our rangefinder can be connected to other anemometer and other application devices soon.

Cleaning and general care

The lens of your laser rangefinder is fully multi-coated for the highest light transmission. As with any multi-coated optical product, special care must be taken when cleaning the lens. Here are tips for cleaning your lenses properly:

Blow dust or debris off your lenses (or use a soft lens brush).

• To remove dirt or fingerprints, wipe in circular motion with the microfiber cloth provided. Using rough cloth or unnecessary friction can scratch the surface of the lens and eventually cause permanent damage. The included washable microfiber cleaning cloth is ideal for regular cleaning of your optics. Simply breathe gently on the lens to provide a small amount of moisture, then wipe the lens gently with a microfiber cloth.

• For a more thorough cleaning, use photographic lens paper towels and photographic lens cleaning fluid or isopropyl alcohol. Apply the

liquid to a cleaning cloth, not directly to the lens.

troubleshooting

Do not disassemble your laser rangefinder. Irreparable damage may result from unauthorized service attempts, which also voids the warranty. If the unit is not opened, the display is not lit:

• Press the power/fire button.

• Check and replace the battery. If the unit does not respond when the button is pressed, replace the battery with a good quality CR2 3-volt lithium battery. If the unit power drops (display blank when trying to power the laser):

• Batteries are either of poor quality or poor quality. Replace the battery with a new 3-volt lithium battery (CR2). If target distance cannot be obtained:

• Make sure the monitor is lit.

• Make sure the power/fire button is pressed.

• Make sure nothing, such as your hand or finger, is blocking the lens on the front end of the rangefinder that emits and receives laser pulses.

• Make sure the unit remains stable while pressing the power/fire button.

Note: The final range reading does not need to be cleared before ranging on another target. Simply aim at the new target using the display cable, press the power button and hold until the new range reading is displayed.

My company rangefinder is ready to use the Ultralite level of applied ballistics engine, but if you need more range and advanced data (spin drift and Coriolis correction, aiming altitude, etc.) in your ballistics solution upgrade. The Ballistic engine can be upgraded from Ultralite to Sportsman or Elite through the BOSS Ballistic App (for iOS and Android). Standard edition, Ultralite version can be upgraded to any level, the Athlete version can be upgraded to elite.

FIELD NOTES

Tango Innovations Inc

www.tangoinnos.com