



Instruction Manual

E

Laser Rangefinder

Thank you for purchasing the Nikon Laser 800.

This high-spec laser rangefinder has a waterproof design in order to be used for sports, leisure and other outdoor situations. The Nikon Laser 800 also supports the measuring accuracy of existing Nikon Laser Rangefinders.

Please observe the following guidelines strictly so you can use the equipment properly and avoid potentially hazardous problems. Before using this product, read thoroughly the "SAFETY PRECAUTIONS" and instructions on correct usage accompanying the product. Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Keep this manual within reach for easy reference.

- Specifications and design are subject to change without notice.
- No reproduction in any form of this manual, in whole or in part (except for brief quotation in critical articles or reviews), may be made without written authorization from NIKON VISION CO., LTD.

Key Features

- Measuring range: 10m-730m/11 yards-800 yards
- Distance measurement display: 0.5m/yard
- Easy-to-aim 6x optical observation system
- Backlight LCD for situations with little or no light.
- Target Priority Switch System allows you to easily match the measuring situation with one of the two Priority Systems provided
- Waterproof design (NOT designed for underwater usage)
- Invisible/Eyesafe FDA Class I Laser
- 8-second results display
- Compact, ergonomic design
- Automatic shut-off (after approx. 8 sec. unattended)
- Default to "Last Use" settings
- 20-second continuous measuring function
- Diopter adjustment function

The Nikon Laser 800 emits invisible, eyesafe, infrared energy pulses that reflect off the selected target back to its optical receiver. Sophisticated precision charge circuitry is used to instantaneously calculate distances, by measuring the time it takes for each pulse to travel from the rangefinder to the target and back. The maximum range of the instrument depends on the reflectivity of the target, its color, surface finish, size and shape.

The following factors ensure best range and accuracy:

- Nighttime use
- Cloudy weather
- Bright-colored targets
- Targets with highly reflective surfaces
- Targets with shiny exteriors
- Large-size targets
- Shooting targets facing at 90 degrees

Measurement may result in inaccuracy or failure in the following cases:

- Slender or small target
- Target has diffusing reflective surface
- Target does not reflect the laser beam (glass, a mirror, etc.)
- Black target
- Target has pronounced depth
- In snow, rain or fog
- Target measured through glass
- Reflective surface measured from diagonal direction
- Moving target
- Obstacle moving in front of the target
- When targeting the surface of water

CAUTIONS BEFORE USE

Please observe the following guidelines strictly so you can use the equipment properly and avoid potentially hazardous problems. Before using this product, read thoroughly the "SAFETY AND OPERATION PRECAUTIONS" and instructions on correct usage accompanying the product. Keep this manual within reach for easy reference.

⚠ WARNING

This indication alerts you to the fact that any improper use ignoring the contents described herein can result in potential death or serious injury.

⚠ CAUTION

This indication alerts you to the fact that any improper use ignoring the contents described herein can result in potential injury or material loss.

SAFETY AND OPERATION PRECAUTIONS

⚠ Warning

- Never look directly at the laser beam or directly at the sun when using the Nikon Laser 800.
- Do not depress the POWER button while aiming with the eye or looking into the optics from the objective side.
- Do not operate the unit with other additional optical elements, such as lenses or binoculars. Using an optical instrument together with the Nikon Laser 800 increases the danger of damaging the eyes.
- Do not disassemble the Nikon Laser 800. A product that has been disassembled is not guaranteed by the manufacturer.
- If the Laser 800's body cover is damaged, or if it emits a strange sound due to dropping or for some other cause, immediately remove the battery and stop using.

⚠ Cautions

- When not using the Nikon Laser 800, do not push the POWER button.
- Do not leave the Nikon Laser 800 within the reach of small children.
- Rain, water, sand or mud should be removed from the rangefinder body surface as soon as possible, using a soft, clean, dry cloth.
- Although the Nikon Laser 800 is waterproof, it is not designed for use underwater.
- Do not swing the Nikon Laser 800 by its strap. It may hit someone and cause injury.
- Do not leave the Nikon Laser 800 in an unstable place, as it may fall and cause injury, or damage the equipment.
- Do not look through the Nikon Laser 800 while walking. You may walk into something and get hurt.
- Do not leave the Nikon Laser 800 in a car on a hot or sunny day, or near heat-generating equipment. This may damage or negatively affect it.
- Do not leave the Nikon Laser 800 in direct sunlight. Ultraviolet rays and excessive heat may negatively affect or even damage the unit.
- When the Nikon Laser 800 is exposed to sudden changes in temperature, water condensation may occur on lens surfaces. Do not use the product until the condensation has evaporated.
- Do not use alcohol for cleaning the main body.

- Do not leave the polyethylene bag used for packaging within the reach of small children.
- Be careful that small children do not inadvertently swallow the eyecup. If it does happen, consult a doctor immediately.
- If you use the rubber eyecup for a long period of time, you may suffer skin inflammation. If you develop any symptoms, consult a doctor immediately.
- When carrying the Nikon Laser 800, store it in the soft case.
- If your Nikon Laser 800 should fail to operate correctly, discontinue use immediately and consult the Troubleshooting Table. If you are unable to fix the problem, contact your local dealer for instructions on where to send it for repair.

CARE AND MAINTENANCE

Lenses

- When removing dust on the lens surface, use a soft oil-free brush.
 - When removing stains or smudges like fingerprints from the lens surface, wipe the lenses very gently with a soft clean cotton cloth or quality oil-free lens tissue.
- Use a small quantity of pure alcohol (not denatured) to wipe stubborn smudges. Do not use velvet cloth or ordinary tissue, as it may scratch the lens surface. Once the cloth has been used for cleaning the body, it should not be used again for the lens surface.

Main body

- Clean the body surface with a soft, clean cloth and a dry cloth. Do not use benzene, thinner, or other organic agents because they may cause discoloration or rubber degeneration.

Storage

- Water condensation or mold may occur on the lens surface because of high humidity. Therefore, store the Nikon Laser 800 in a cool, dry place.

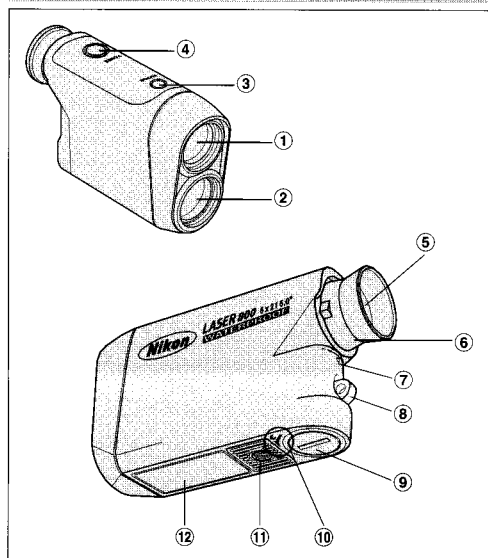
After use on a rainy day or at night, thoroughly dry it at room temperature, then store in a cool, dry place.

NOTES ON LITHIUM BATTERY

If handled incorrectly, battery may rupture and leak, corroding equipment and staining clothing. Be sure to observe the following:

- Install battery with the + and - poles positioned correctly.
- Battery should be removed when exhausted or during extended periods of non-use.
- Use the same type of battery.
- If battery fluid contacts eyes or skin, rinse well with water. If swallowed, consult a doctor immediately.
- Do not short-circuit battery chamber terminals.
- Do not carry batteries together with keys or coins in a pocket or bag. This may overheat and short-circuit batteries.
- Do not put batteries in fire or water. Never disassemble batteries.
- Do not charge batteries.
- Do not subject stored batteries to extremes in temperature.
- Do not subject batteries to strong vibrations or shock.

Nomenclature



- ① Monocular objective lens/Laser emission aperture
- ② Laser detector aperture
- ③ MODE button
- ④ POWER button
- ⑤ 6x monocular eyepiece
- ⑥ Eyecup/diopter adjustment ring
- ⑦ Diopter index
- ⑧ Strap eyelet
- ⑨ Battery chamber cover
- ⑩ Battery chamber cover "Open/Close" indication
- ⑪ Tripod socket
- ⑫ Product number/explanatory label



Status of the Internal Display

1. [] — **Reticle (aiming system)**
Use to take aim at the target. Position the target at the center of the reticle, which will always appear in the display.
[] — **Laser applying mark**
Appears at the same position as the reticle, indicating that the laser is being applied for a measurement. (Also remains present during continuous measuring.)
[] — **Appears while measuring.**
2. [] — **Distance/measurement status display**
Digitally indicates measured distance in meters/yards. Also indicates measuring status such as "Measurement in progress", "Measurement unsuccessful" or "Unable to measure".
Display of results: (<100m/yards) e.g. 55.5 yards = [55.5yd]
Display of results: (>100m/yards) e.g. 576.5m = [576.5m]
[] — Now measuring
[] — Failure to measure or unable to measure distance
3. [] — **Indicates distance being measured in meters.**
4. [] — **Indicates distance being measured in yards.**
5. [] — **First Target Priority display**
Appears when the First Target Priority is selected. Does not appear when Distant Target Priority is selected.
6. [] — **Indicates battery condition.**
(See "Changing Batteries")



Although the LCD was produced using the most advanced technology, it is impossible to eliminate dust completely. When using this product, the LCD is magnified by high magnification of the eyepiece lens and dust may appear as a defect. It will not, however, affect measurement accuracy.

Changing Battery

- **Type of battery:** 3V CR2 lithium battery

- **Battery condition indicators**

: Battery has enough charge for use.

: Battery charge is getting low.

- flashing: Battery charge is low and battery should be replaced.

disappears: Battery is exhausted and should be replaced.

flashing in the LCD indicates that the battery should be replaced.

- ① **Open the battery chamber cover**

Insert a coin or similar item into the slot in the battery chamber cover, and rotate it following the "Open/Close" indication. The cover may not open easily due to its O-ring seal for water and dust resistance.

- ② **Replace the old battery with a new one**

Install new battery with the [+] and [-] correctly positioned following the "Battery installation" indication seal in the battery chamber. (Insert battery positioning the [+] pole towards the inside of the chamber.) [The Laser 800 will not operate if the battery is installed incorrectly.]

- ③ **Close the battery chamber cover**

Screw the cover back in place using a coin or similar item. The cover may not close easily due to the O-ring seal for water and dust resistance. Confirm that the cover is correctly closed.

- **Battery life**

Continuous operation: Approx. 4,000 times (at 20°C)

Target focusing, measurement, and automatic power off are included in a single cycle. This figure may differ according to temperature, and other factors such as target shape, color, etc.

The Laser 800 comes with a 3V CR2 lithium battery. However, due to natural electric discharge, the life of the battery will likely be shorter than that noted above.

Replace battery if the Laser 800 is ever submerged in water or if water enters the battery chamber.

Operational Summary

Caution — use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure

1. Install a battery in the battery chamber. (See "Changing Batteries")

2. Rubber eyepiece cup

Eyeglass wearer: Collapse the eyepiece cups.

Non-eyeglass wearers: Do not collapse the eyepiece cups.

3. Diopter adjustment

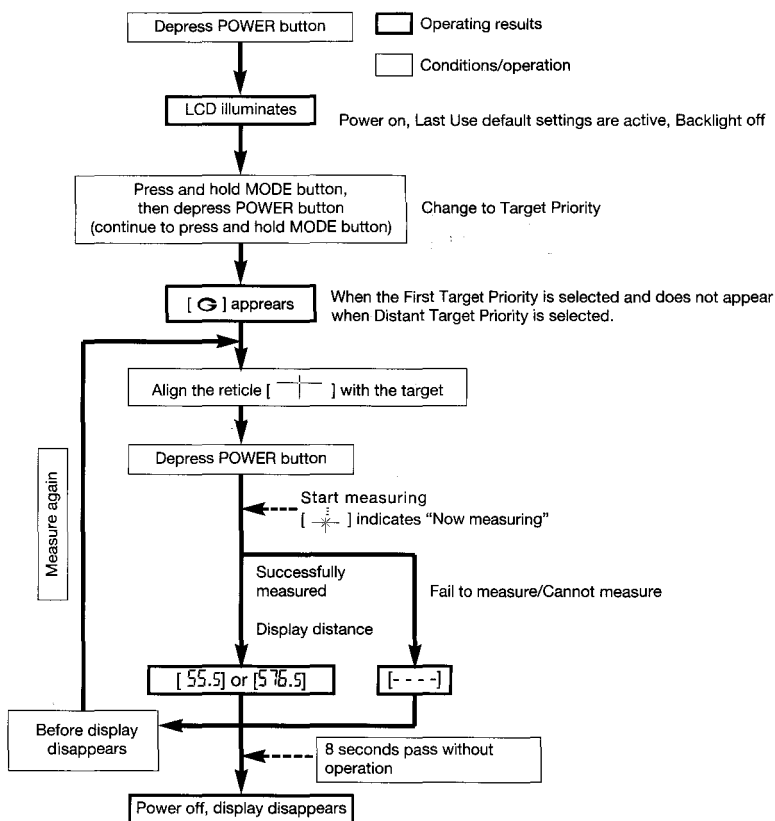
Adjust diopter to obtain a clear image in the LCD.

First, rotate the diopter adjustment ring counterclockwise until it comes to a complete stop. Next, turn on the power to activate the LCD when you look through the Laser 800. Rotate the diopter adjustment ring clockwise until the display comes into focus.

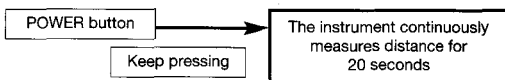
If the diopter is not adjusted to correspond to your eyesight, you may not be able to clearly focus your subject.

4. Measuring

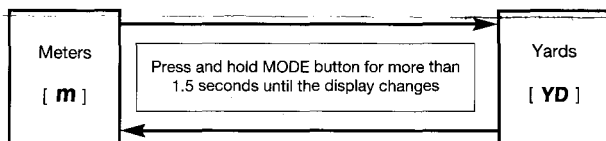
Note: Depressing and holding down the POWER button causes all symbols to be displayed in the LCD panel. After you remove your finger from the POWER button, the last-used setting is displayed. (If you *briefly* press the POWER button then remove your finger, the LCD panel may display the last-used setting without displaying all of the symbols. This is not a malfunction or other problem.)



• Continuous measurement



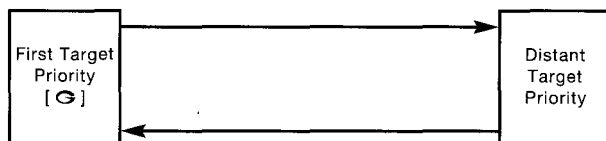
5. Select unit of measurement: **M** (meter) or **YD** (yard)



* Depress MODE button to change the measurement unit.

6. Selecting target priority

Target Priority Switch System allows you to select display mode from First Target Priority and Distant Target Priority.



Switching procedure

1. LCD panel should be on.
2. Press and hold MODE button, then depress and hold POWER button within one second, and continue to press and hold both buttons. (If buttons are not pressed in the correct order, switching will not take place.)
3. Hold both buttons (approx. two seconds) until "G" appears or disappears (depending on current target priority), to confirm switching. Then release buttons.

[Deciding which Target Priority to use]

When obtaining different results from a single measuring operation, the Laser 800 will display the distance to the farthest target on the LCD panel when using Distant Target Priority mode, while First Target Priority mode will show the range to the nearest target.

ex.) When measuring a tree standing in front of a house;

	Tree	House
Distance to target	135m	157m

"135m" (distance to the tree) will be displayed in First Target Priority mode, and "157m" (distance to the house) in Distant Target Priority mode.

[Deciding which Target Priority to use]

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ex.) When measuring a tree standing in front of a house;

	Tree	House
Distance to target	135m	157m

"135m" (distance to the tree) will be displayed in First Target Priority mode, and "157m" (distance to the house) in Distant Target Priority mode.


First Target Priority mode, for example, has applications for golf, while Distant Target Priority is useful when hunting in heavily wooded areas.

7. Backlight

Use the backlight to see the LCD panel in dark conditions.

By pressing MODE button briefly (less than 1.5 seconds) while the power is on, the backlight can be turned ON and OFF. The backlight can also be turned off by turning the Laser 800's power off. In this case, the backlight will be off when the Laser 800's power is turned on again.

8. Low battery indication

Flashing  indicates that the battery charge is low and battery should be replaced. (See "Changing Battery")

Specifications

The Nikon Laser 800 features a Roof-prism monocular optical system for viewing your target. A liquid crystal display (LCD) is mounted within the optical system that when activated, displays a reticle for targeting, meter/yard and Target Priority and a target quality gauge, as well as precision and low battery indicators. It is also equipped with a built-in backlight.

Optical system	
Type	Roof-prism monocular
Magnification	6x
Effective diameter of objective lens	ø21mm
Angular field of view (real)	6.0°
Eye relief	18.0mm
Exit pupil	ø3.5mm
Diopter adjustment	±4m ⁻¹
Laser	
Class	FDA Class I
Wavelength	870nm
Pulse duration	14 ns
Output	2.7W (FDA)
Beam Divergence	V: 5°-8°, H: 25°-36°
Others	
Measuring range	10m-730m/11 yards-800 yards
Distance display	0.5m/yards step
Structure	Body: Waterproof (maximum depth of 2 meters for up to 5 minutes).* Battery chamber: Water resistant**
Operating temperature	-10°C - +50°C
Operating humidity	80% RH (without dew condensation)
Power source	CR2 lithium battery x 1, 3V DC
Dimensions (W x H x D)	126 x 37 x 72mm
Weight	Approx. 210g (without battery)
Safety	21CFR 1040. 10 and 1040. 11 FCC Part 15 Subpart B Class B

*** Waterproof models:**

The Laser 800 is waterproof, and will suffer no damage to the optical system if submerged or dropped in water to a maximum depth of 2 meters for up to 5 minutes.

The Laser 800 offers the following advantages:

- Can be used in conditions of high humidity, dust and rain without risk of damage.
- Nitrogen-filled design makes it resistant to condensation and mold.

Observe the following when using the Laser 800:

- As the unit does not have a perfectly sealed structure, it should not be operated nor held in running water.
- Any moisture should be wiped off before adjusting movable parts (focusing knob, eyepiece, etc.) of the Laser 800 to prevent damage and for safety reasons.

To keep your Laser 800 in excellent condition, Nikon Vision recommends regular servicing by an authorized dealer.

**** The battery chamber is water resistant, not waterproof. Water may enter the device if the Laser 800 is submerged in water. If water enters the battery chamber, wipe out any moisture and allow time for the chamber to dry.**

Troubleshooting/Repair

If your Nikon Laser 800 should require repair, please contact your local dealer for details regarding where to send it. Before doing so, you are advised to consult the Troubleshooting Table below.

Symptom	Check Points
Unit does not turn on — LCD fails to illuminate	<ul style="list-style-type: none"> • Depress POWER button. • Check and replace battery if necessary.
Target range cannot be obtained	<ul style="list-style-type: none"> • Be sure that nothing, such as your hand or finger, is blocking the laser emission aperture and laser detector. • Be sure that the laser emission aperture and laser detector are clean. Clean them if necessary. • Be sure that the target shape and condition is appropriate to reflect the laser beam. • Replace battery.
[- - -] ("Cannot measure") appears	<ul style="list-style-type: none"> • Be sure to hold the unit steady while depressing the POWER button. • Be sure the target is within measuring range (10 - 730m/ 11 - 800 yards)
Closer target cannot be measured	<ul style="list-style-type: none"> • Be sure that nothing, such as leaves or grass, is between the Laser 800 and the target.
Target beyond a certain distance cannot be measured	<ul style="list-style-type: none"> • Be sure that nothing, such as leaves or grass, is between the Laser 800 and the target.
Measurement result is unstable	<ul style="list-style-type: none"> • Replace battery. • Be sure that the target shape and condition is appropriate to reflect the laser beam. • Be sure to hold the unit steady while depressing the POWER button. • Be sure that nothing, such as leaves or grass, is between the Laser 800 and the target.
Incorrect result is displayed	<ul style="list-style-type: none"> • Replace battery. • Be sure that the target shape and condition is appropriate to reflect the laser beam. • Be sure that nothing, such as leaves or grass, is between the Laser 800 and the target.

If problems persist after consulting the Troubleshooting Table, please contact your local dealer to check/repair the Laser 800. Never let anyone other than the official representative of the product manufacturer check or repair the Laser 800. Failure to follow this instruction could result in injury, or damage to the product.

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.

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.
- Consult the dealer or an experienced radio/TV technician for help.

Do not use the Laser 800 for purposes beyond the limits of its stated accuracy.