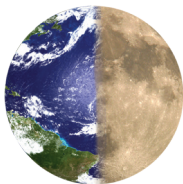


Bushnell®

4x40 / 6x50

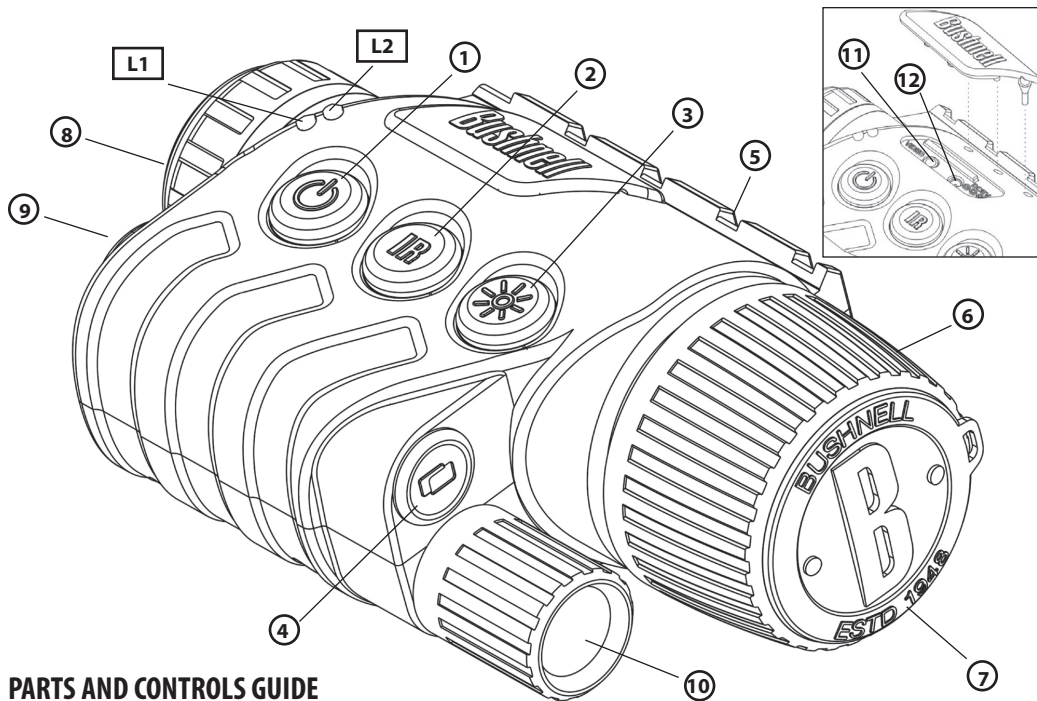


EQUINOX™

INSTRUCTION MANUAL

Model #s: 260440/260650/260441/260651

Lit. #: 98-2067/03-13



PARTS AND CONTROLS GUIDE

ABOUT BUSHNELL® EQUINOX™ DIGITAL NIGHT VISION

Congratulations on the purchase of your Bushnell® Equinox™ Digital Night Vision. Comprised of high quality electronics and optics, the Bushnell Equinox is a hand-held digital night vision viewing system that utilizes a low-light charge-coupled device (CCD) sensor, providing edge-to-edge resolution and image quality equal to or exceeding "Gen 2" analog units, at any range. Fully multi-coated optics increase light transmission and decrease glare. The LCD micro display screen features user-selectable monochrome or "traditional" green viewing modes. Both Equinox models are 20% more energy efficient than other digital night vision units, resulting in a battery life of over 6 hours (without IR). The Equinox 4x40 and 6x50 Digital Night Vision monoculars are versatile enough for many applications including hunting, camping, boating/fishing, caving, paintball, stargazing, rescue/recovery, security surveillance, law enforcement, and video recording in continuously changing light conditions – from dawn to absolute darkness. The Equinox 4x40 model has a 10 yard field of view at an observation distance of 100 yards, ideal for viewing moving objects. The Equinox Digital Night Vision units also include a video output port which allows connection to video or computer equipment for recording or "live" monitoring. A built-in accessory mounting rail (**5**) enables the user to attach a laser (for aiming purposes) or other compatible accessories.

HOW DIGITAL NIGHT VISION WORKS

Bushnell Digital Night Vision products collect existing light through the objective lens. The image is then processed through a 1/3" near infra-red sensitive CCD sensor module and transferred to the micro liquid crystal display (LCD). Images viewed on the LCD are magnified 4 or 6 times (depending on model). Equinox Digital Night Vision models are equipped with a built-in powerful IR (infrared) illuminator (**10**) that enables clear viewing in low ambient light conditions or even total darkness.

BATTERY INSTALLATION

1. Open the battery compartment (9) by unscrewing the tightening bolt (counter-clockwise). Remove the battery cap.
2. Install two CR123 lithium batteries, inserted with polarity in the direction shown on the internal wall of the battery compartment.
3. Replace the battery compartment cap and secure it by tightening the screw bolt, turning clockwise until tight.

NOTE: Do not mix old and new batteries together. Replace both batteries at the same time. Do not mix battery types.

POWER ON

Remove the protective objective lens cover (7) from the objective lens (6). Press the ON button (1) until the green LED indicator (L1) turns on. The LCD screen inside the eyepiece (8) will power on.

FOCUSING

Point the Equinox night vision unit at the object you wish to observe. To focus, first rotate the diopter setting ring of the eyepiece (8) until the edges of the rectangular LCD screen appear as sharp as possible to your eye. Then rotate the objective lens focusing collar (6) until the observed image is sharp. To focus on another object at a different distance, you will only need to adjust the objective lens focusing collar (6), as the diopter setting is already optimized for your individual eyesight. You may need to readjust the diopter setting the next time you use the Equinox unit or if the eyepiece is moved accidentally.

POWER OFF

To turn the unit off, press and hold the ON button (1) for approximately 2 seconds until the green LED indicator (L1) turns off. Replace the protective objective lens cap cover (7) before storing or transporting the unit.

USING THE IR ILLUMINATOR

When using the unit under conditions of total darkness, turn on the IR illuminator (10) by pressing the IR button (2). When the IR illuminator is on, the red LED indicator (L2) will turn on.

NOTE: *The IR light source is invisible to the unaided eye, but can be seen by other people equipped with night vision devices (be aware of this if using the unit for surveillance or law enforcement applications).*

To turn the IR illuminator off, hold the IR button (2) for approximately 3-4 seconds until the red LED indicator (L2) turns off. (Note that the IR illuminator does not cut off instantly, it will "fade out"). The IR illuminator will also turn off when the unit's power is turned off by pressing and holding the ON button (1).

The IR illuminator is at the maximum brightness setting when it is first switched on. To decrease the brightness, hold the IR button (2) until the desired level of illumination is reached, then release the button. To increase the brightness of the IR illuminator if you turn it down too far, repeat the process by turning the IR on (to restart from the maximum setting) and again hold the IR button briefly (if necessary) to adjust the brightness to the desired setting.

ADJUSTING THE LCD DISPLAY BRIGHTNESS

To increase and decrease LCD screen brightness, press and hold the LCD brightness button (3). To reverse the direction of the brightness adjustment, release the LCD brightness button (3) and then press and hold the button until the desired level of brightness achieved to allow comfortable viewing experience.

NOTE: *When the unit is turned on again, the LCD screen brightness setting will be at the same level as previously set.*

SWITCHING THE LCD DISPLAY COLOR

To switch the LCD screen color from green to white or from white to green, quickly press the LCD backlight color mode button (4).

LOW BATTERY INDICATOR

The green LED (L1) starts flashing when the battery power is less than approximately 15% of full capacity. Replace both batteries as directed in "Battery Installation".

VIDEO OUT JACK

The device is equipped with an analog (composite) video out jack. Connect the video cable between the video output jack (11) and a compatible device (VCR, camcorder, video monitor, computer video interface, etc) to remotely observe or record the image produced by the Equinox digital night vision unit. A standard tripod mounting socket is provided. *Refer to "Specifications" regarding NTSC/PAL video system compatibility for your Equinox model number.*

EXTERNAL DC POWER IN JACK

To connect the device to a vehicle's DC outlet ("cigarette lighter socket"), plug the vehicle power adapter included with the device, into the 5V DC power input jack (12) and connect the other end to the vehicle power outlet

WARNING: *The voltage produced by a vehicle's electrical system may vary from 12V to 24V depending on the model. The Equinox night vision units are designed for a DC input voltage of 5V, therefore do not plug the device into the vehicle outlet using an aftermarket 12V adapter. Use only the supplied power adapter, which is equipped with a 12V-24V to 5V converter and safety fuse.*

NOTE: To connect the device to 120V household AC outlet, you may use any commercially available AC adapter (NOT INCLUDED) which meets the requirements listed in the **Specifications** list in this manual.

WARNING: *The batteries installed in the battery compartment of the device cannot be charged when the device is connected via external DC or AC power sources/adapters.*

TROUBLESHOOTING

Unit does not turn on

1. Reinstall the batteries, making sure of the correct polarity (+/- terminals) orientation.
2. Replace both batteries.
3. Clean the battery compartment, especially the contact points.

Observed image is too bright

The ambient light level is too high (*e.g. observation during bright sun conditions*).

1. Turn off the unit or place the objective lens cover (7) over the lens. The unit will function normally in light conditions below 25,000 Lx (day light).
2. Adjust the LCD screen brightness (see "**Adjusting the LCD Display Brightness**" in this instruction manual).

Image is missing or not focused

1. Re-focus by adjusting the objective lens (6). Adjust the diopter setting if necessary by rotating the eyepiece (8) until the edges of the LCD display appear sharp (see "**Focusing**" in this instruction manual).
2. Check the condition of the objective lens (6) surface and eyepiece (8) and clean if necessary.
3. Replace the batteries.
4. In extreme low light conditions, activate the built-in IR illuminator (10).

Image disappears or its quality is reduced

Bright light sources (*e. g. street lights at night time*) may cause decreased visibility or reduced contrast.

1. Turn the monocular away from the light source; visibility will return momentarily.
2. Readjust the LCD display brightness setting.

Small black dots are visible on the screen

Small dots are normal, minor cosmetic blemishes resulting from the LCD manufacturing process and are not a defect or quality control error. These dots do not interfere with the reliability and performance of the monocular.

CARE AND MAINTENANCE

Your Bushnell Equinox Digital Night Vision device was designed to provide many years of reliable service. To ensure that you get the most enjoyment out of your Digital Night Vision device, always obey the following warnings and precautions.

- Keep the device away from any heating and air conditioning vents or other heating devices, direct sunlight, and moisture.
- Always store the unit in its carrying case in a dry well ventilated space in temperature above +15°C (60° F). Do not store near heating devices. Do not store in direct sunlight or high humidity conditions (higher than 70 %).
- Clean the optical lens with camera lens cleaning supplies.
- Clean the exterior of the device with a soft clean cloth.
- Remove the batteries if the device will not be used for longer than a few weeks.

WARNING AND PRECAUTIONS

- Avoid dropping or otherwise shocking the unit. Although designed for rugged outdoor use, this device incorporates sophisticated digital circuitry which could be damaged in extreme cases of misuse.
- Do not open the body of the device or otherwise attempt to service this device.
- Never pour alcohol or any other liquids directly onto the lens surfaces.
- Do not clean lenses and unit surfaces with paper based products, such as newspaper, textbook paper, etc. as it can damage the coating.
- Avoid removing the eyepiece as the LCD display could become damaged.
- Do not leave the device in direct sunlight or rain. The unit is water resistant, but is not designed for prolonged exposure to moisture and cannot be submerged in water.
- After the unit is operated in temperatures below zero, wait at least 3 hours at room temperature, to avoid condensation accumulating on the internal lens surfaces and the consequent fogging caused by extreme temperature differences.

Specification	260440 / 260441	260650 / 260651
Magnification	4x	6x
Objective Size	40mm	50mm
Battery Type	(2) CR-123 Lithium	
Viewing Range	738 ft / 225 m	984 ft / 300 m
Field of View @ 100 yds/m	32 ft / 10m	23 ft / 14 m
Operating Temperature Range	+14 ~+113 F / -10 ~ +45 C	
Dimensions (H x W x L)	65 x 100 x 164 mm	65 x 100 x 198 mm
Weight	13.0 oz / 370 g	19.9 oz / 564 g
Tripod Mountable	Yes	
Water Resistance Standard	IPX4	
AC Adapter requirements	4.5-6.5V DC output, 500-600 mA, 3.5mm diameter plug polarity=positive tip	
Video Out	NTSC (Model#s 260440/260650) or PAL (Model #s 260441/260651)	

Note: failure to follow the warnings and precautions as stated in this manual may damage the unit and void the manufacturer's warranty.

FCC NOTE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Shielded interface cable 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.

Specifications and designs are subject to change without any notice or obligation on the part of the manufacturer.



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.



ONE-Year LIMITED WARRANTY

Your Bushnell® product is warranted to be free of defects in materials and workmanship for one year after the date of purchase. In the event of a defect under this warranty, we will, at our option, repair or replace the product, provided that you return the product postage prepaid. This warranty does not cover damages caused by misuse, improper handling, installation, or maintenance provided by someone other than a Bushnell Authorized Service Department.

Any return made under this warranty must be accompanied by the items listed below:

- 1) A check/money order in the amount of \$10.00 to cover the cost of postage and handling
- 2) Name and address for product return
- 3) An explanation of the defect
- 4) Proof of Date Purchased
- 5) Product should be well packed in a sturdy outside shipping carton, to prevent damage in transit, with return postage prepaid to the address listed below:

IN U.S.A. Send To:

Bushnell Outdoor Products
Attn.: Repairs
9200 Cody
Overland Park, Kansas 66214

IN CANADA Send To:

Bushnell Outdoor Products
Attn.: Repairs
25A East Pearce Street, Unit 1
Richmond Hill, Ontario L4B 2M9

For products purchased outside the United States or Canada please contact your local dealer for applicable warranty information. In Europe you may also contact Bushnell at:

Bushnell Germany GmbH
European Service Centre
Mathias-Brüggen-Str. 80
D-50827 Köln
GERMANY
Tél: +49 221 995568-0
Fax: +49 221 995568-20

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