

# Bushnell®

## EQUINOX™



### DIGITAL NIGHT VISION

### *OWNER'S GUIDE*





**PARTS AND CONTROLS GUIDE**

- A. Battery Compartment Cover
- B. USB Port/Card Slot Cover
- C. Power Switch
- D. Select Button
- E. Keypad (Up/Down/Left/Right)
- F. Record Button
- G. Eyepiece w/Diopter
- H. Objective Lens
- I. Lens Cap
- J. Main Focus Ring
- K. Infrared (IR) Illuminator
- L. Wrist Strap



**Batteries Installed**  
*(observe polarity marks inside compartment when installing batteries as shown here)*

**USB Port and Micro SD Card Slot**



## ABOUT BUSHNELL® EQUINOX Z2™ DIGITAL NIGHT VISION

Congratulations on the purchase of your Bushnell® Equinox Z2™ Digital Night Vision. Comprised of high quality electronics and optics, the Bushnell Equinox Z2 is a hand-held digital night vision viewing system that utilizes an infrared sensitive CMOS sensor, providing edge-to-edge resolution and outstanding image quality. Fully multi-coated optics increase light transmission and decrease glare. The Equinox Z2 3x30, 4.5x40 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. Not only can you view your subject at night, you can also record its image as a still photo or video clip, and store it on micro SD card.

## HOW DIGITAL NIGHT VISION WORKS

Bushnell Digital Night Vision products collect existing light through the objective lens. The image is then processed through a digital CMOS sensor module and transferred to the micro liquid crystal display (LCD). Images viewed on the LCD are magnified 3.0, 4.5 or 6 times (depending on model). Equinox Z2 Digital Night Vision models are equipped with a built-in powerful IR (infrared) illuminator that enables clear viewing in low ambient light conditions or even total darkness.

## BATTERY AND SD CARD INSTALLATION

### 1. Install Fresh Batteries

- Remove the Battery Compartment Cover cap **(A)** by turning it counter-clockwise. Insert 4 AA size batteries (alkaline or lithium), noting the polarity as marked inside the Battery Compartment (*also see photo, "Batteries Installed"*).

### 2. Install Micro SD Card

- Open the rubber flap **(B)** covering the USB Port and Card Slot, and insert a micro SD card (up to 64 GB, class 10 or greater for best results with video files) into the Card Slot (*metal contacts facing down, see card icon left of slot for correct orientation*). The Equinox Z2 has no internal memory and will not capture photos and/or videos unless a card is inserted.
- If you will only be using Equinox Z2 for "live" viewing and do not wish to use it for photos/videos, the unit will function normally without a card.

## BASIC OPERATION



**WARNING: NEVER LOOK AT THE SUN THROUGH THIS NIGHT VISION UNIT (OR ANY OTHER OPTICAL INSTRUMENT). IT MAY PERMANENTLY DAMAGE YOUR EYES AS WELL AS THE UNIT.**

### 1. Switch Power On

- Press and hold the Power Switch **(C)** for 2 seconds to turn the unit on (the LCD display can be seen in the eyepiece).
- To turn the Equinox Z2 off, press and hold the Power Switch. The message "Power Off?" is displayed, with YES highlighted by default. Press the Select Button to confirm and switch power off.
- An Auto Power Off feature will automatically switch power off to extend battery life if no button has been operated, for a user selected time interval from 10 to 60 minutes (default is 10 min.), with the option to override Auto Power Off completely by selecting "Never" (*see "Settings Menu Reference"*).

### 2. Check Lens Cap (remove for night and indoor operation)

- When using the Equinox Z2 for daylight operation outdoors, it may be necessary to keep the Lens Cap **(I)** in place so it covers the Objective Lens **(H)**. A small pinhole is provided in the center of the Lens Cap which will permit only a minimal amount of light to enter the lens, strike the digital sensor and become amplified. As the Equinox Z2 uses a digital sensor rather than a gas filled tube (traditional "analog" night vision), it is unlikely that you will damage any internal components in sunlight, but the image may be too bright to view or record unless the cap remains in place. The cap may be removed when using the Equinox Z2 in normally lit interior areas.
- When operating the Equinox Z2 at night or in low light conditions, remove the Lens Cap **(I)** from the Objective Lens **(H)**. An attached strap prevents accidental loss of the Lens Cap when the lens is uncovered.

### 3. Adjust Eyepiece (diopter) and Main Focus Ring

- While viewing through the Eyepiece **(G)**, rotate the rubber eyecup in either direction until the text and icons on the LCD display screen appears sharp to your eye. This is an adjustable diopter feature, used only to assure that the display will appear in focus to any user (eyeglass users may need to wear their glasses for best results).
- Next, while viewing an object at a distance of 5 feet or greater, rotate the large rubber Main Focus Ring **(J)** around the Objective Lens until the subject appears in focus.
- Always use the Main Focus Ring if your subject appears blurry, only turning the Eyepiece if the characters and icons of the display itself appear blurry.

#### 4. (Optional) Adjust Digital Zoom

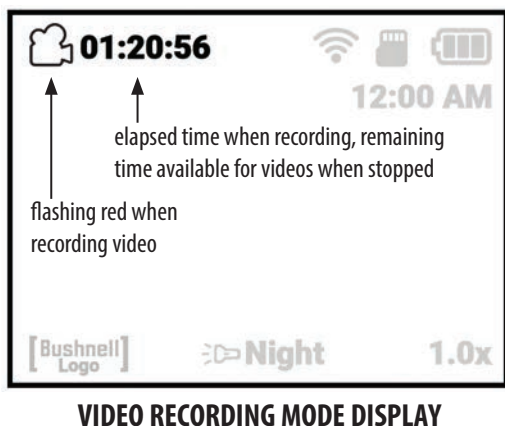
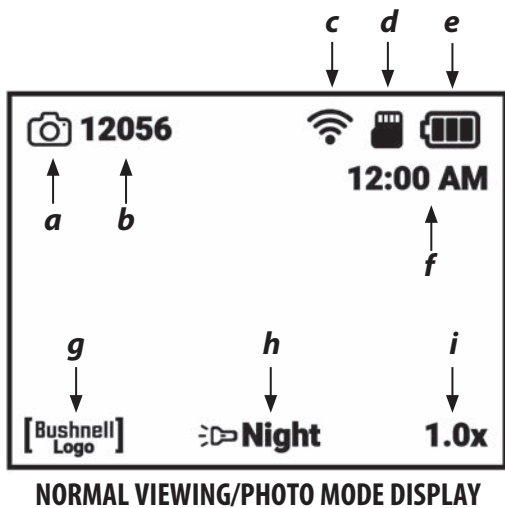
- A digital zoom feature is provided. While viewing normally, tap the Up arrow button on the 4-way Keypad (**E**) to zoom in 0.1x increments, up to 3x (3 times normal) as indicated at the lower right corner of the display. Hold the button down to zoom in continuously. To zoom back out, tap or hold the Down arrow button on the Keypad.

#### 5. Select Day or Night Vision Mode and IR (Infrared) Illuminator Level

- To change the Equinox Z2's mode from the default "Day" (for viewing and capturing images outdoors or in bright areas indoors) to "Night" vision mode (night operation or dimly lit interiors), briefly press and release the Left arrow button on the Keypad (**E**). Text at the bottom center of the display changes to "Night", and the flashlight icon left of the text indicates the IR Illuminator (**K**) beam is at full power (High). Press the Left button again to select half power (Low) on the IR Illuminator, then again to turn off the IR beam. One more press of the Left button and you are back to daytime viewing/image capture mode (display indicates "Day").
- Using the Left (or Right) arrow buttons is a shortcut method for selecting Day/Night modes and IR Illumination level. Night mode can also be enabled, and IR level set, by entering the Settings Menu system then selecting the "Enable" or "IR Illumination" options in the Night Vision submenu. See "Navigating the Menus..." for more details.

### DISPLAY ICONS AND INDICATORS ("HUD")

After powering on the Equinox Z2, multiple icons and text will be visible at the top and bottom of the display as viewed through the eyepiece. These overlaid icons and text are referred to as the "HUD" (heads up display) in the display submenu, which provides options to change their color (default is green) and timeout interval (default is 10 seconds for the HUD icons to switch off in the display). After the HUD display icons timeout, press the Select button once to view them again. Pressing Select again while the HUD icons are visible will enter the Settings Menu, which is described in the next section. First, here's a look at the HUD overlay on the display, with a description of the function of each icon and phrase:



#### DISPLAY ICONS

	Icon	Function
a	Recording Mode	Indicates photo or video capture mode
b	Remaining # of Photos	Estimated photos available based on SD card free space. Will read "00000" if no SD card is inserted.
c	Wi-Fi Status	Hidden=WiFi disabled, Dot only=enabled but disconnected, Full bars=enabled, connected (see Wi-Fi Setup)
d	Micro SD Card	Solid=card installed, Flashing=no card
e	Battery Level	Full solid=full power, 2/3 solid=two thirds power left, 1/3 solid=one third power left, Flashing=empty (replace)
f	Time	Current time as set (12 or 24 hr format, can be hidden via Camera Setup menu)
g	Watermark	Visible=watermark on, Hidden=watermark off (per Camera Setup menu)
h	IR Brightness Level & Night Vision Indicator	Indicates Infrared Illuminator Setting: Off=Day, Full IR=Full IR setting (Night), Half IR=1/2 power IR (Night), On=Night
g	Digital Zoom	Range 1.0x to 3.0x

In Photo Mode, press the Record Button (F) to take a photo. In Video Mode, press the Record Button to start shooting a video. Press Record again to stop. Shortcut: hold the Record Button down for 1.5 sec to switch between Photo and Video Recording Modes.

**WARNING: DO NOT WALK, RUN, OR USE ANY FORM OF TRANSPORTATION (BICYCLE, MOTORCYCLE, AUTOMOBILE, ETC.) WHILE VIEWING THROUGH THE EQUINOX Z2, AS THIS MAY PREVENT YOU FROM BEING FULLY AWARE OF YOUR SURROUNDINGS, INCLUDING ANY POTENTIAL OBSTACLES OR OTHER DANGERS IN YOUR PATH. USE ONLY WHILE STATIONARY, NEVER WHEN IN MOTION.**

## NAVIGATING THE MENUS WITH THE KEYPAD AND SELECT BUTTONS

While viewing normally with the Equinox Z2, pressing the Select Button (**D**) will activate the display icons (“HUD”), allowing you to check battery level, recording mode, day/night and IR illuminator settings, etc. After about 5 seconds, the display will return to the normal view, with no visible icons. Pressing the Select Button twice (or once if display icons are shown) will enter the Settings Menu. The menu will allow you to optimize the Equinox Z2 for the way you plan to use it, and to your personal preferences by selecting an option (within a Sub Menu or category) and then changing its setting.

### To select the menu option you want and change its setting:

1. Use the Down key (or Up) on the 4-way Keypad (**E**) to highlight the Sub Menu that has the option you want to change. *Both main and Sub Menus as well as the settings within “wrap around”, meaning that continuing to press Down after the last item will then move to the first item on the list. You can also press Up when the first item is highlighted to jump to the last item (“Return” for example).*
2. Press the Select Button (**D**) at the center of the Keypad to enter the Sub Menu and view its available options.
3. Use the Up/Down keys to highlight the desired option.
4. Press the Select button to view the available settings for that option (the highlighted setting is the default, or currently selected setting).
5. Use the Up/Down keys to highlight the setting you want, then press Select to confirm the new setting.
6. You will then be returned to the Sub Menu. To exit the Sub Menu and return to the top level “Settings” menu (showing all Sub Menus), use the Up/Down keys to highlight “Return” and press the Select button. Repeat steps 1-5 to enter another Sub Menu and make changes to other settings if desired.
7. To exit the top level menu, use the Down key to scroll down all the way to “Exit Settings” (keep going down after “Wi-Fi Setup” to see the 2nd screen) and press Select with Exit highlighted.  
*Shortcut: from any menu screen, pressing the Record Button (F) will exit all menus and return you to the normal view with display icons.*

### As an example, and to practice using the menu system, let’s try setting the Equinox Z2 up for video recording at 1080p:

1. With the unit powered up, while looking into the Eyepiece, press the Select button twice to enter the Settings menu.
2. Press the Down button once to highlight “Camera Settings”, then press the Select button to enter that Sub Menu.
3. The first option, “Recording Mode” is already highlighted (and “Photo” is shown as the current setting), so press the Select button once to view all available settings.
4. “Photo” is highlighted, as that is the current (default) setting. Press the Down button on the Keypad to highlight “Video”.
5. With “Video” highlighted, press the Select button to change to that setting for the Recording Mode.
6. You are back in the Night Vision Sub Menu. Press the Down button twice to highlight “Video Resolution”, then press Select.
7. Highlight “1080p” (highest available resolution) using the Down button, then press Select to confirm the new setting.
8. From the Camera Settings Sub Menu, press the Record Button (**F**) to quickly exit the entire Settings Menu.

### Setting Date and Time:

In the Camera Setup Sub Menu, you should set the current date and time, so these will be correct as seen in the HUD display, as well as on the Timestamp for recorded videos (if you choose to enable it). The steps to set the date and time are as follows:

1. Press the Select Button (**D**) once or twice to enter the Settings Menu. Press the Down button until “Camera Setup” is highlighted, then press the Select button to enter the Camera Setup Sub Menu.
2. Press the Down button to highlight “Setup Date”, then press Select.
3. The month field will be blinking. Use the Up/Down buttons to set it to the current month if necessary, then press Select to confirm the change.
4. Press the Right button to move to the day field. Press the Select button to edit the day (field will blink). Use the Up/Down buttons to set the current date, then press Select to confirm.
5. Follow the same procedure to select, edit and change the year field if necessary. When finished setting the current month/date/year, press the Down button to highlight “Confirm” and press the Select button.
6. Back in the Camera Setup Sub Menu, select “Setup Time” and use the Keypad and Select buttons (same process as used to set the date) to set the current time (including AM/PM if Time Format is set to the default 12 hr format). When finished setting the current time, press the Down button to highlight “Set” and press the Select button.
7. The next item in the Camera Setup Sub Menu gives you the option to display the time in 12 hrs or 24 hrs (military time) format.

The next page shows all options and their settings for each item in the Settings Menu, within its various Sub Menus.

## SETTINGS MENU REFERENCE

(default factory settings indicated in bold)

SUB MENU (CATEGORY)	OPTIONS/ITEMS	DESCRIPTION	SETTINGS
<b>Night Vision</b>	Enable	Set to "On" for night/low light operation	On, <b>Off</b>
	IR Illumination	Set infrared illuminator level or switch off the IR light	Off, Low, <b>High</b>
	Frame Rate	Select image frame rate	Slow, <b>Medium</b> , Fast
	Night Filter Color	Select image appearance for night	Green, <b>B&amp;W</b>
<b>Camera Setup</b>	Recording Mode	Select photo or video image capture	<b>Photo</b> , Video
	Photo Resolution	Select still photo resolution	Low, <b>High</b>
	Video Resolution	Select video resolution	420p, <b>720p</b> , 1080p
	Setup Date	Set current date for video timestamp	use Keypad+Select buttons
	Setup Time	Set local time for video timestamp	use Keypad+Select buttons
	Time Format	Set time format preference	<b>12 hrs</b> , 24 hrs
	Video Timestamp	Enable/disable video timestamp	On, <b>Off</b>
	Bushnell Watermark	Enable/disable watermark stamp on photos/videos	<b>On</b> , Off
<b>Gallery</b>	n/a	Review photos, playback videos, delete unwanted files.	
<b>Display Settings</b>	Day Brightness	Select viewing brightness for daytime	1 ~ 15 ( <b>8</b> )
	Night Brightness	Select viewing brightness for night	1 ~ 15 ( <b>8</b> )
	HUD Color	Select preferred color for display icons and characters	<b>Green</b> , White, Red, Yellow, Cyan, Magenta
	HUD Timeout	Select time before display turns off	<b>10 sec</b> , 15 sec, 30 sec, Never
	Display Time	Enable/disable displayed time	<b>On</b> , Off
<b>Wi-Fi Setup</b>	Wi-Fi (enable)	Enable/disable Wi-Fi operation	On, <b>Off</b>
	SSID	ID for Wi-Fi network (default is "Equinox Z2" for wi-fi from phone app.)	use Keypad+Select buttons
	Password	Password for Wi-Fi network (default is "bushnell" for wi-fi from phone app.)	use Keypad+Select buttons
	WPA2 Security	Enable/disable Wi-Fi security (disable only if sharing with others is needed)	<b>On</b> , Off
<b>Auto Power Off</b>	n/a	Select time for automatic power off after last control operation (button press)	<b>10 min</b> , 15 min, 30 min, 60 min, Never
<b>Advanced Settings</b>	Format SD Card	Erase all files on card via quick format (FAT32). <b>CAUTION-back up all files first.</b>	<b>Yes</b> , No
	Factory Reset	Restore all menu settings to original defaults	<b>Yes</b> , No
	Software Version	Display installed software version	Press Select to display
<b>Exit Settings</b>	n/a	Exit all menus, return to normal viewing	Press Select button to exit

NOTE: All Sub Menus with more than one option also include "Return" as the last listed option. Select this to return to the main Settings Menu. Or, as a shortcut, press the Record button (F) to exit the entire menu system at any time and return to normal viewing.

## IR ILLUMINATION, FRAME RATE AND DISPLAY BRIGHTNESS

Two different options in the Settings Menu can affect the brightness of the image when using the Equinox Z2 in Night Vision mode (Night Vision “Enable” option set to “On” via Menu system, or by pressing Left/Right button during normal viewing), with “Night” indicated at the bottom center of the display.

The first of these, “IR Illumination”, changes the intensity of the invisible infrared light emitted by the IR Illuminator **(K)** next to the lens at the front of the Equinox Z2. The default setting is High, which will provide the brightest level of illumination and the ability to view objects at greater distances at night or in dimly lit interiors. However, if the High setting seems too bright, or you are viewing at short range and want to extend battery life, the IR Illumination can be changed to the Low setting. The IR Illuminator can also be switch off entirely, while the unit remains in Night Vision mode (rather than Day). This is useful for viewing or recording in interiors with adequate light levels, or outdoors at night near streetlights or other sources of strong illumination.

Instead of using the Menu system, a shortcut for changing the IR Illumination level is available while viewing normally. Pressing the Left or Right buttons on the Keypad **(E)** will cycle through the settings (*order depending on setting used as starting point which button is pressed*) : Night (High IR)>Night (Low IR)>Night (IR Off)>Day (IR Off).

Frame Rate is the second option which will affect the brightness of the image that is viewed or recorded while in Night Vision mode. It affects the speed of the shutter controlling the amount of light reaching the sensor after it enters the lens. This can only be selected through use of the Settings Menu (under Night Vision>Frame Rate)-no shortcut is provided. The default setting is Medium (15 fps), which is a good compromise for normal viewing under typical conditions where you might use a night vision unit. If the image is too bright to view or record without excessive glare or bright flashes, setting the Frame Rate to “Fast” (25 fps) should help. Or, if the image is too dim, try setting the Frame Rate to “Low” (8 fps)-this provides a slower shutter speed, allowing more light to strike the digital sensor. *Note: the frame rate in Day mode is fixed at 30 fps, with no optional settings.*

If you are recording photos or videos at night, and the images are not over or underexposed (the Gallery Sub Menu can be used to review recorded files and confirm this), but the view through the eyepiece is brighter or dimmer than you would like, select “Display Settings” from the Settings Menu, then highlight the “Night Brightness” option, press the Select button, and choose a setting from 1 (dimmiest view) to 15 (brightest view)-the default value is “8”. This will not affect the recorded images (does not change IR level or shutter/sensor operation), only the brightness of the display itself. Another option, “Day Brightness” is also available in the Display Settings Sub Menu, which only changes the display brightness when the unit is operated in Day mode (“Day” indicated at the bottom of the HUD screen).

## RECORDING PHOTOS OR VIDEOS

Before using the image capture (recording) feature, a micro SD card must be installed (up to 64GB capacity, class 10 or higher speed recommended for video). If you are using a card which was previously used in another device, it is recommended that you format the card before recording with the Equinox Z2. **As this will erase all files currently on your card, be sure you have backed up anything you wish to keep before formatting the card.** This can be done by entering the Settings menu, going down to the “Advanced Settings” Sub Menu, choosing the first option “Format SD Card” and confirming the setting “Yes”.

You can capture a high resolution photo of what you are viewing through the Equinox Z2 by simply pressing the Record Button **(F)**. The Equinox Z2 is set by default to record still photos (.jpg files), at high resolution (8MP). The “Photo Resolution” option in the Camera Setup also provides a low resolution setting (6MP). Higher resolution settings provide better quality, but the files will be larger in size. To record video clips (.mov format) instead of photos, change the Recording Mode (first option under Camera Setup) setting to “Video”. You also have a choice of three resolution settings for videos, with a default of 720p (medium quality/file size).

## REVIEWING AND DELETING PHOTOS OR VIDEOS

After photos and/or videos have been recorded by the Equinox Z2, they can be viewed or played back from the micro SD card by entering the Settings Menu, highlighting “Gallery” and pressing the Select button. Use the Left/Right buttons to move through the stored photos/videos. Press Select to play a video, press again to pause, press Down to stop. Press Left/Right buttons to fast forward or rewind video during play.

To delete a photo, or a video (while viewing thumbnail image, not during play), press the Down button. A pop-up screen will ask you to confirm you want to delete the photo or video. Highlight “Yes” and press Select to delete the file from the card.

Photos and videos may also be reviewed by removing the micro SD card from the Equinox Z2 (power it off first) and inserting it in a compatible card reader connected to your computer. You can also connect the Equinox Z2 to your computer (PC or Mac) with a USB cable (*not provided*), and view the files stored on the card, without removing it from the unit. Be sure to



power on the Equinox Z2 before plugging the other end of the USB cable into the computer. The connected Equinox Z2 will be recognized and accessed by your computer the same way an external storage device (portable hard drive or flash drive) would be, as it conforms to the “USB Mass Storage” protocol.

Your photo and video files can be found in the DCIM>\_MEDIA” folder. The file names start with “DNVM...” followed by a number, in the order they were captured. Photo files use the standard JPEG format, video files use the .MOV format, which can be played on any computer with the QuickTime player (app available via free download if not pre-installed on your computer). “Eject” the Equinox Z2 properly when you are finished reviewing the files on the card before disconnecting it.

## WI-FI OPERATION AND FEATURES

The Equinox Z2 can stream the image captured by its digital sensor to a smartphone or table via Wi-Fi, using a Bushnell Equinox app available through Google Play (for Android devices) and the App Store (for Apple devices). This is ideal for remotely monitoring and controlling a tripod mounted Equinox Z2 unit. All of the menu options relevant to remote operation are available through the app, such as changing the IR Illumination intensity, frame rate, and recording mode/resolution. The recording of photos or videos can be triggered remotely as well.

### To operate the Equinox Z2 remotely via Wi-Fi:

1. Download and install the app “Equinox Z2” on your mobile device.
2. In the Settings Menu on the Equinox Z2, select “Wi-Fi Setup”, then “Wi-Fi Enable” and change the setting to “On”.
3. Do not change the default settings for SSID and Password. You can change and enter a new password later if you like.
4. Launch the app on your device (“EquinoxZ2” w/Bushnell icon). You are using the network “Equinox Z2” established by the app and shown at the bottom of the screen on your mobile device.
5. Tap the mobile device screen to connect as prompted. The Wi-Fi status icon in the Equinox Z2 display will confirm the unit’s Wi-Fi option is enabled and the unit is connected to the app (*single dot but no bars=enabled but disconnected*).
6. You can now view the live image streaming from the Equinox Z2. A battery level indicator is shown at the top right.
7. To see the available remote controls on the mobile device, tap the live view area. At the top left, you can scroll through Day or Night Mode (*with High, Low and Off levels for the IR Illuminator*) by tapping the screen. On the top right, tap the “+” and “-” symbols to adjust the Digital Zoom.
8. Below the live view area (from left to right) are icons for viewing your stored photos/videos, recording a new photo or video (*with numbers indicating the # of photos or videos that have been captured and stored on the card in the Equinox Z2*), and changing settings in the Equinox Z2’s menu system. To record a new photo or video, tap the “Photo” or “Video” icon below the live view area (tap Video again to stop recording).
9. Tap the “3 squares” icon to view the Settings Menu. You have access to these Sub Menu options and their settings (*see “Settings Menu Reference” in this manual for details*):
  - **Night Vision** Sub Menu: Frame Rate (Motion Speed), Night Filter Color
  - **Camera Setup** Sub Menu: Photo Resolution, Video Resolution, Setup Date, Setup Time, Time Format, Video Timestamp, Watermark
  - **App Display** Sub Menu (affects appearance of app screen only, not the Equinox Z2): Text Overlay Color, Overlay Timeout
  - **System**: Disconnect from Camera (tap to disconnect the Equinox Z2 from the app-the Z2 can be reconnected later as long as Wi-Fi remains enabled on the unit.)
10. Tap the “Live View” orange box at the top left of the Settings Menu screen to exit the menu and return to a live view.

*Note: the “Equinox Z2” Wi-Fi network uses WPA2 security to prevent unauthorized persons from viewing the live feed from your Equinox Z2. Security is enabled by default on the Equinox Z2. After the initial setup and confirmation the app is working with your Equinox Z2, you should change the Wi-Fi password (using the Wi-Fi Setup sub menu on the Equinox Z2) from the default “bushnell” (12 characters max) and only share it with others that you want to be able to see the images from the Equinox Z2 via Wi-Fi. Once changed, be sure to enter the new password for the “Equinox Z2” Wi-Fi network on your mobile device, so the app can connect with the night vision unit. Do not change the SSID from “Equinox Z2” to a different network, and do not rename it, to ensure the unit will function with the app.*

## CARE AND MAINTENANCE

Your Bushnell Equinox Z2 was designed to provide many years of reliable service. To ensure that you get the most enjoyment out of your digital night vision device, follow these recommendations, guidelines 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) and below +48°C (118° 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.
- 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.
- Do not attempt to remove 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.

## TROUBLESHOOTING

### Unit does not turn on

1. Reinstall the batteries, making sure of the correct polarity (+/- terminals) orientation (*refer to "Batteries Installed" photo on the Parts and Controls Guide page*).
2. Replace all batteries. Make sure the Battery Cap is tight (but do not over-tighten).
3. Clean the battery compartment, especially the contact points.

### Observed image is too bright

The ambient light level is too high, and/or the IR Illumination level is higher than needed, or frame rate is too low.

1. (*Night mode only*): Use the Settings Menu (*pg. 5-6*) or Left/Right Keypad buttons **(E)** to change the IR Illuminator level from "High" to "Low" or "Off".
2. (*Night mode only*): Use the Settings Menu to select a higher Frame Rate (Slow>Medium or Medium>Fast)
3. (*Day or Night mode*): Use the Settings Menu to reduce the Display Brightness (for Day or Night). This only affects the viewed image, not photo or video recordings.
4. (*Day mode*): Place the lens cap over the lens. A pinhole opening allows minimum light to enter the lens.

### Observed image is too dark

The ambient light level is too low, and/or the IR Illumination level is lower than needed, or frame rate is too high.

1. (*Night mode only*): Use the Settings Menu (*pg. 5-6*) or Left/Right Keypad buttons **(E)** to change the IR Illuminator level from "Off" or "Low" to "High".
2. (*Night mode only*): Use the Settings Menu to select a lower Frame Rate (Medium>Slow or Fast>Medium)
3. (*Day or Night mode*): Use the Settings Menu to increase the Display Brightness setting (for Day or Night). This only affects the viewed image, not photo or video recordings.
4. (*Day mode*): Remove the lens cap if it covers the lens.

### Image is blurry

1. Re-focus by adjusting the Main Focus Ring **(J)**.
2. Adjust the diopter setting if necessary by rotating the Eyepiece **(G)** until the display icons appear sharp.
3. Check the condition of the objective lens surface and eyepiece and clean if necessary.
4. In low light conditions, make sure you are in Night mode and activate the IR Illumination.

### 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 unit away from the light source; visibility will return momentarily.

See also "**Observed image is too bright**".

## Image at night is black and white

Viewed or recorded images at night appear black & white with no colors.

1. This is normal, colors cannot be reproduced under dim conditions using IR illumination as the main source of light.
2. Set Night Vision>Night Filter Color in the Settings Menu to "Green" as alternative to black and white images.

## TECHNICAL SPECIFICATIONS

Specification	260230	260240	260250
Magnification (optical)	3x	4.5x	6x
Max. Magnification (via digital zoom)	9x	13.5x	18x
Objective Size	30mm	40mm	50mm
Battery Type	4x AA, lithium, alkaline or NiMh		
IR Illuminator Power/Wavelength	1W / 850nm		
IR Illuminator Beam Width Angle	5-7 degrees		
Max. Viewing Distance *	200 yds / 183 m	300 yds / 274 m	300 yds / 274 m
Field of View (degrees)	7.29	5.98	4.24
Field of View (ft@1000yds)	382.7	314.0	222.6
Field of View (m@1000m)	127.6	104.7	74.2
Dimensions (H x W x L)	58 x 105 x 200 mm	58 x 105 x 200 mm	62 x 105 x 208 mm
Weight	15 oz / 425 g	22 oz / 624 g	27 oz / 765 g
Tripod Mountable	Yes		
Water Resistance Standard	IPX4		

\* Night mode, with IR Illumination level set to "High". Distance range is subjective and varies with subject viewed, ambient light intensity and other factors.



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](http://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:

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

IN CANADA Send To:

Bushnell Outdoor Products  
Attn.: Repairs  
140 Great Gulf Drive, Unit B  
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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***Note: failure to follow the warnings and precautions as stated in this manual may damage the unit and void the manufacturer's warranty.***

## FCC Statement

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.
- 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.



*App Store is a trademark of Apple Inc.  
Google Play is a trademark of Google Inc.*

### Industry Canada Statement :

This device complies with ISED's license-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.

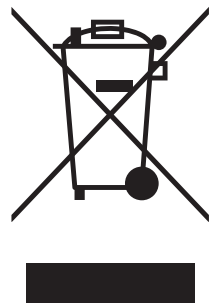
Le produit est sûr pour un fonctionnement tel que décrit dans ce manuel. La réduction aux expositions RF peut être augmentée si l'appareil peut être conservé aussi loin que possible du corps de l'utilisateur ou que le dispositif est réglé sur la puissance de sortie la plus faible si une telle fonction est disponible.

### 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.



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