Bushnell®

IMAGE ⟲ VIEW

DIGITAL SPOTTING SCOPE

Magnify   Capture   Save

**5MP CAMERA WITH
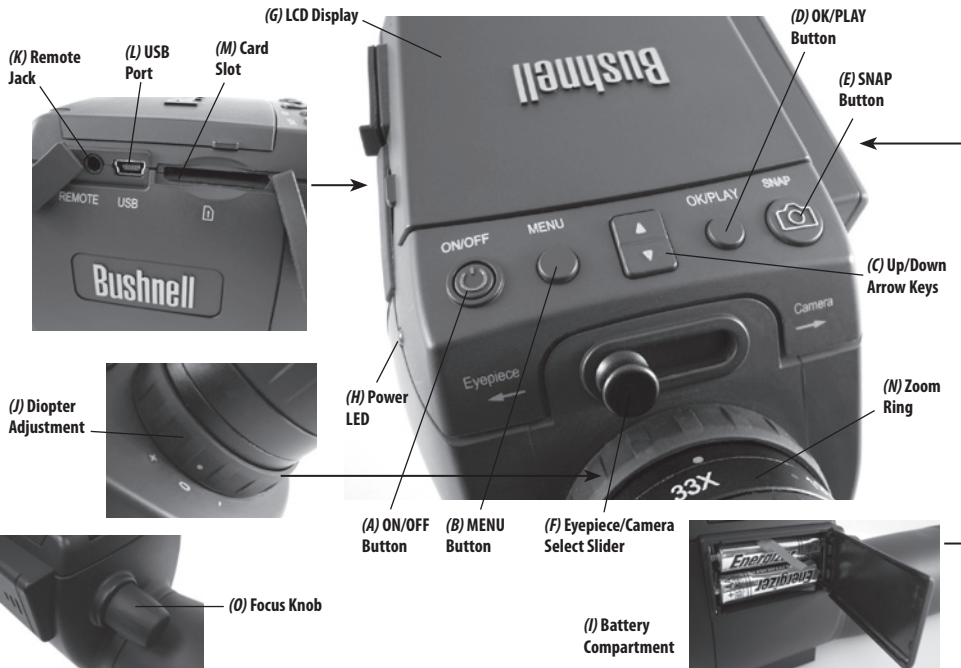22X MAGNIFICATION**

User Manual

Model: 111545
LIT. #: 98-1411 / 02-12

English 3

(G) LCD Display

(D) OK/PLAY Button

(E) SNAP Button

(K) Remote Jack

(L) USB Port

(M) Card Slot

REMOTE   USB

Bushnell

ON/OFF   MENU

OK/PLAY   SNAP

(C) Up/Down Arrow Keys

(H) Power LED

Eyepiece

Camera

(N) Zoom Ring

(J) Diopter Adjustment

33X

(A) ON/OFF Button

(B) MENU Button

(F) Eyepiece/Camera Select Slider

(O) Focus Knob

(I) Battery Compartment

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Loading Batteries

Slide the battery cover *(I)* open in the direction indicated by the arrow, then swing it out to the right. Insert two "AAA" Alkaline or Lithium batteries into the compartment in the direction indicated inside, then replace the cover, sliding it back into place until it clicks. *Note: Rechargeable NiMh type batteries may also be used, but some may not deliver adequate current to power the camera and display.*

By default, the ImageView scope will automatically power off if no buttons or controls have been pressed for two minutes. This helps save power and extend battery life when the camera is accidently left on. However, when you are first learning to use your ImageView you may want to keep the power on as you become familiar with the features and controls. This can be done by changing the "Auto Power Off" option in the Setup menu to "Off" *(please refer to the "Main Menu-Options and Settings" section of this manual)*.

Inserting An SD Card

The camera has no internal memory, and must be used with an SD or SDHC memory card (not included, up to 32GB capacity). If no card is inserted, the display will indicate "No SD Card" when the ON button is pressed. Insert your SD card into the slot *(M)* on the left side of the scope (*move the rubber cover flap out of the way-see "Parts & Controls Guide"*), label side up with the "notched" corner on the right as indicated by the card icon below the slot. *Note: be sure the power is turned off before inserting or removing cards to prevent possible loss of files or damage to the card.* A new card will not require formatting, but a card that has been previously used in other devices (cameras, mp3 players, etc) should be formatted by the ImageView scope before you start taking photos (*see "Format" in "Main Menu-Options and Settings"*). **Note that formatting will erase all files previously stored on the card, so be sure they have been downloaded and saved on your computer first if you wish to keep them.**

Setting the Diopter Adjustment

Before you begin taking photos, a simple one-time adjustment may be made to ensure that you can switch over to "Camera" mode and take a sharp photo of any subject once you have it focused in the scope's eyepiece. This process will compensate for any variations in the eyesight or vision of the individual user:

1. Leave the rubber eyecup in its "up" position if you are not wearing glasses, or roll it down if you are.
2. Raise the LCD display *(G)* and move the slider *(F)* to the "Camera" position. Point the scope at a distant object with fine detail such as a tree or sign, and adjust the Focus knob *(O)* until it appears as sharp as possible on the display screen.
3. Move the slide lever back over to the "Eyepiece" position, and set the Zoom ring *(N)* so the green dot (just left of 15x) is lined up with the red index dot. This is roughly the same magnification as what the camera captures (about 22x). Look through the eyepiece. **DO NOT READJUST THE FOCUS KNOB**. If the subject does not appear sharp to your eye, rotate the rubber diopter adjustment ring *(I)* at the base of the eyepiece. *This compensates for any difference in between your vision and the correct focus for the camera's digital sensor and LCD display.*

Once set, note the position of the silver dot on the diopter adjustment ring relative to the "+ /0 / -" scale on the scope. With the diopter adjustment set to this position, you should be able to get sharp photos/videos of a subject at any distance by simply adjusting the main focus knob while you look through the eyepiece, then switching over to "Camera". There is no need to re-adjust the diopter adjustment, unless you share the ImageView scope with another user, or if your eyes become tired over a long period of use.

For important shots, you may want to take the precaution of double checking focus on the LCD display too. If you are having trouble fine tuning focus when viewing the LCD, try pressing the **UP** arrow key *(C)* to zoom in (up to 4x digital zoom is available), then focus. Be sure to use the **DOWN** key to zoom back to 1.0x (no digital zoom, optical magnification only) after you adjust the focus if you do not want to use digital zoom when you take the photo.

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Taking Still Photos

After completing the basic setup as described on the previous pages, you are ready to take a photo:

1. With the ImageView scope securely mounted on a tripod, raise the LCD display *(G)* and briefly press and release the **ON/OFF** button *(A)*-the power LED *(H)* lights and the startup screen is displayed, followed by the live image from the camera lens. The display also shows the battery condition, number of photos remaining, and the current resolution/quality settings. *(Fig. 1, DISPLAY ICONS/MENU SCREENS)*

2. The ImageView scope is already set up for high resolution and quality, as well as automatic exposure and color balance when it is turned on for the first time, so you're ready to take photos under most conditions with no need to change anything. For more details regarding the various available options and how to change the settings from their defaults, please refer to the "Main Menu-Options and Settings" section in this manual.

3. When the **Eyepiece/Camera** *(F)* select slider is in the "Eyepiece" position, the image formed by the objective (front) lens is directed to the eyepiece rather than the digital camera sensor, so the LCD display will not let you see the "live image". In other words, the ImageView operates just like any conventional spotting scope with no camera. The scope's zoom eyepiece provides optical zoom from 15x to 45x magnification, while the camera's magnification is fixed at approximately 22x. If you want to preview the framing of your subject as you are looking through the eyepiece prior to taking a photo, rotate the zoom ring so that the green dot on the ring is opposite the red index dot (this sets the eyepiece to about 22x magnification). **When you are ready to take a photo, be sure to move the slide lever over to "Camera"-otherwise your photo will be partially or entirely black**. Also, you will then be able to use the LCD display for preview and review as you take photos-however, it is possible to take photos/videos without raising or viewing the display, as long as the slider is in the Camera position.

4. Although the **SNAP** button *(E)* on the scope may be used to take photos, it is highly recommended that

you plug the supplied remote shutter cable into the "Remote" jack (*K*) to obtain sharper results, free of vibration. Press the button on the remote to take a photo. The display will black out briefly, before showing the captured image for a second or two. The "blackout" is normal as the image is being stored on the SD card, especially with high resolution images that generate large files. When the display icons reappear, you're ready to shoot again.

5. The "remaining photos" counter at the top of the screen will drop by one number after each photo (or two, depending on your subject and settings) is taken. When the display indicates "Disk full" when **SNAP** is pressed, you are out of card memory (file storage space), and will need to download the photos you have taken so they can be deleted to make room in the memory for new photos, or you may remove the SD card and install a new card if you are on a trip away from your computer.

6. For additional magnification while taking photos, digital zoom is available. Press the **UP** arrow key to zoom in. You will see the result on the live preview display screen, as the digital zoom indicator increases (in 0.2x increments up to 4.0x). Press the **DOWN** arrow key to zoom back out. To turn off all digital zoom (22x optical magnification only), keep pressing or hold the **DOWN** key until the zoom indicator goes back down all the way to "1.0x".

7. To review a photo after you take it, press the **OK/PLAY** button twice to enter Review mode. To see previous photos, press the **UP** arrow key-each press takes you back one photo, and pressing the **DOWN** arrow key moves forward towards more recent photos. Press the **OK/PLAY** button again to return to the Still Photo mode (live preview). See the section "Review Menu-Options and Settings" for details on deleting photos and protecting important photos.

NOTE: Use care during handling to avoid touching the exposed lenses of the ImageView spotting scope to prevent degrading the image quality. Clean the lenses only with camera lens cleaning tissue or microfiber cloth, after removing loose dust or dirt with a blower brush or "canned air". Camera lens cleaning fluid may be used if necessary (lightly moisten the lens tissue, do not apply directly to the lens), avoid the use of other liquids of any type.

Shooting Videos

To switch from Still Photo to Video mode, press **OK/PLAY** once. The Video mode icon (movie camera) will appear at the top left corner of the LCD *(Fig.3, DISPLAY ICONS/MENU SCREENS)*, indicating you are in Video Mode. Press the **SNAP** button (preferably on the remote cable) to start recording a new video clip, and press it again to stop recording. The recording time is limited only by the amount of memory currently available on the SD card. You may record a single long video until you run out of memory or multiple shorter videos by stopping and starting recording whenever you wish by pressing **SNAP**. The counter at the top of the display shows the time elapsed since the recording was started.

Videos are recorded as ".avi" format files, with VGA resolution (640x480 pixels per frame, 30 fps rate). Note that the "Quality" and "Image Size" settings in the Main menu do not affect videos, only still photos. See "Video Menu-Options and Settings" if you would rather shoot lower resolution (320x240) videos for a reduced file size.

Press the **OK/PLAY** button to enter Review mode if you wish to watch a video after you shoot it. Press the **SNAP** button to begin playback, press it again to stop playback. During playback, the counter at the top of the LCD displays elapsed time. Press the **UP** arrow key to review previous video or still photo files. Press the **OK/PLAY** button once to exit Review mode and return to Still Photo mode, or press it twice to enter Video mode again if you want to shoot more videos.
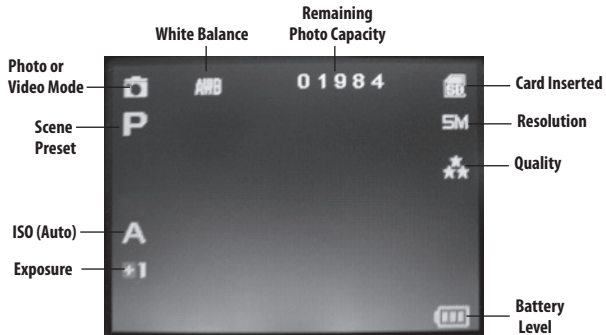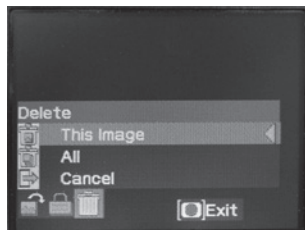
Fig. 1
**Still Photo Mode
(Live Preview
Screen)**

White Balance
Remaining Photo Capacity
Photo or Video Mode
Scene Preset
ISO (Auto)
Exposure

01984

Card Inserted
Resolution
Quality

Battery Level

Fig. 2 **Main
(Setup) Menu**

Setup
- Exposure
- ISO
- White Balance
- Sharpness
- Quality
- Date

MP [O]Exit

Fig. 3 **Video Mode
(Live Preview)**

00:16:10

AWB

VGA

03/28/2011

Fig. 4 **Review Menu**

Delete
- This Image
- All
- Cancel

[O]Exit

The Main Menu-Options and Settings

As mentioned earlier in this manual, your ImageView spotting scope is already set for high resolution and quality right out of the box. Exposure, white balance, and other variables are set automatically. This means that you will get good results for most subjects and lighting without the need to go into the menu to change any settings. However, we recommend that you become familiar with the options available in the Setup Menu *(Fig.2, DISPLAY ICONS/MENU SCREENS)* so that you can improve your photos if, for example, you decide they are coming out too dark (common for snow scenes with most cameras), or too blue (on an overcast day or in the shade). Here are the steps for changing the settings of some of the most commonly used options:

Setting the Menu Display Language

(English, French, Spanish, German, Italian, Portuguese, Chinese 1, Chinese 2)

This option allows you to select your preferred language for all menu screens. Raise the LCD display *(G)* and press the **ON/OFF** *(A)* button. Press the **MENU** button *(B)* to enter the Setup Menu. Press the **UP** arrow key *(C)* 3 times to highlight "Language", press **OK/PLAY** *(D)*, select your language with the **UP**/**DOWN** arrow keys, then press **OK/PLAY** to confirm the setting. Press **MENU** to return to Still Photo mode (live preview screen).

Setting the Date and Time/Imprint Option

This setting will ensure that the date and time will be correct, and provides the option to imprint it on your photos/videos. After pressing **MENU** to enter the Setup menu, use the **UP**/**DOWN** arrow keys to highlight "Date", and press the **OK/PLAY** button. Select "Set Date", press **OK/PLAY**. Set the date and time, using the **UP**/**DOWN** arrow keys to make changes, and pressing the **SNAP** button to lock in each setting and move to the next field. *Note: the time setting uses the 24 hour format (2 PM=14).* Finally, select the date format you prefer (e.g., MM/DD/YY).

After you finish setting the date & time, press the **OK/PLAY** button to return to the live preview screen (still photo mode). If you want the date and time to be imprinted on your photos and videos, change the setting under "Date" in the Setup menu from "Off" to "On" by selecting "On" with the **UP** arrow key, then pressing **OK/PLAY**.

Changing the Auto Power Off Time

By default, the ImageView scope will automatically turn off after two minutes of inactivity (no buttons pressed). This helps to extend the battery life. However, when you are first learning to use the camera you may want power to remain on longer, while you get familiar with the features and controls. To change this, press **MENU** to enter the Setup menu, use the **UP**/**DOWN** arrow keys to highlight "Auto Power Off", and press the **OK/PLAY** button. Select "Off" if you want the power to remain on until you turn it off manually with the **ON/OFF** button *(4)*. Press **OK/PLAY** to confirm your setting, then exit the Setup menu by pressing **MENU**.

Formatting an SD Card

Before you begin using an SD card that was previously used in other devices, you should prepare it to store the ImageView camera's files by formatting it. Note that the "Format" operation **will erase all files** on your card -make sure you have first backed up any files you wanted to keep. Press **MENU** to enter the Setup menu. Press the **UP** arrow key twice to select "Format", then press **OK/PLAY**. Press the U**P** arrow key to highlight "OK", then press OK/PLA**Y**. Press **SNAP** to highlight "Yes" *(this extra step helps prevent accidently erasing all your photos-just stay on "No" and press OK/PLAY to avoid formatting)*, then press **OK/PLAY** to format the SD card. You will then be returned to the Still Photo mode live preview screen.

Using the Other Menu Options and Settings

Press the **MENU** button to enter the Main menu. Use the **UP**/**DOWN** arrow keys to highlight an option within the menu, then press **OK/PLAY** if you wish to change the settings for that option. Use the **UP**/**DOWN** keys to select the setting you want, then press **OK/PLAY** to confirm this setting. Press **SNAP** to move to the next section of the menu (Scene>Image Size>Setup). Press **MENU** at any time to exit the menu and return to the live preview screen. Here are all the options and settings available in the Main menu, along with descriptions of what they do *(default settings are indicated in* **bold**):

OPTION	SETTINGS	DESCRIPTION
SETUP Submenu (Use Up/Down arrow keys to highlight desired option, then press OK/PLAY to select it)		
Exposure	-3 to +3 EV (**default=0**)	Provides manual under/over exposure adjustment . Minus values produce darker photos, plus values lighter. When a subject is mostly bright (snow scene), you may need to add some "+" EV to avoid underexposure.
ISO	**Auto**, 100, 200, 400	Sets the sensor's sensitivity to light. "Auto" will automatically select lower ISO in bright light, higher ISO in lower light.
White Balance	**Auto**, Daylight, Cloudy, Incandescent, Fluorescent	Sets the reference for neutral white, so that colors are reproduced correctly. If "Auto" does not provide good results, try the setting that matches the light source.

OPTION	SETTINGS	DESCRIPTION
Sharpness	**Normal**, Sharp, Soft	Sets the amount of sharpening applied by the internal processor. You may want to select "Soft" if you prefer to add sharpening later using photo software on your PC.
Quality	**Super**, Fine, Normal	Sets the amount of .jpg file compression, which affects the quality of the photo and the size of the file it creates. This can be used independently of Image Size to store more photos with lower quality if you choose. "Super" produces the highest quality, but also generates larger files that fill available memory quicker.
Date	On, **Off**, Set Date	Set Date and then select "On" to imprint date & time on photos.
Auto Power Off	1 minute, **2 minutes**, 3 minutes, Off	Sets the interval after the last action (pressing any button) before the camera turns off to conserve battery power. Select "Off" to prevent auto shutoff altogether. Default setting is power off after three minutes elapses.
Language	**English**, Spanish, French, German, Italian, Portuguese, Chinese 1, Chinese 2	Selects preferred language for all menu display screens.
Frequency	50 Hz, **60 Hz**	Set to the AC line frequency for your country. Mainly affects videos shot under fluorescent lighting.

OPTION	SETTINGS	DESCRIPTION
Format	OK, **Cance**l	Press the **UP** arrow key to highlight "OK" and press **OK/ PLAY**. Press **SNAP** to highlight "Yes", then press **OK/PLAY** to erase all files on the SD card and return to the live preview screen. When an SD card is inserted that has been used previously in other devices, formatting it before starting to take photos is recommended (be sure any files you want to keep have been downloaded and backed up first).
Default Setting	OK, **Cancel**	Select "OK" and press **OK/PLAY** to restore all settings for all options (in all menus) to their original factory default settings.
IMAGE SIZE *(press SNAP from Setup Menu)*	8M*, 7M*, **5M**, 3M, 2M, VGA ** via software interpolation. Actual sensor resolution is 5MP.*	Sets resolution for still photos in pixels/megapixels. Higher resolution settings produce sharper/larger prints but require more space on the SD card. Use lower settings to store more images on the SD card, or for email.
SCENE *(press SNAP from Image Size Menu)*	**Auto**, Scenery, Sport	"Scenery" preset increases depth of field for landscapes. "Sport" preset sets shutter speed as high as possible for the current light level.

The Video Menu-Options and Settings
To view the Video menu, the ImageView scope must first be in Video mode. From Still Photo mode (regular camera icon at top left of the screen), press **OK/PLAY** once. The video camera icon appears at top left, and the scope is now ready to shoot videos (press **SNAP** to start/stop a video recording). To enter the Video menu from this preview screen, press **MENU**. The Video menu has just two options, white balance and image size (choice of two video resolution settings). Within each option, use the **UP/DOWN** arrow keys to highlight the setting you want, then press **OK/PLAY** to confirm. To move from White Balance to Image Size, press **SNAP**. Press **MENU** to exit the Video menu and return to the video mode live preview screen.

OPTION	SETTINGS	DESCRIPTION
White Balance	**Auto**, Daylight, Cloudy, Incandescent, Fluorescent	Sets the reference for neutral white, so that colors are reproduced correctly. If "Auto" does not provide good results, try the setting that matches the light source.
Image Size	**640x480**, 320x240	Set the video clip resolution (pixels per frame)

The Review Menu-Options and Settings

The Review menu contains has three options related to reviewing your stored photos or videos. First, enter Review mode-press **OK/PLAY** twice (the first press switches to Video mode). Use the **UP/DOWN** arrow keys to step through your photos. Once you are already in Review mode, press **MENU** to enter the Review menu *(Fig.4, DISPLAY ICONS/MENU SCREENS)*. As described previously, use the **UP/DOWN** keys to select the setting you want, then press **OK/PLAY** to confirm this setting. To move from Rotation>Protect>Delete, press **SNAP**. Press **MENU** to exit the Review menu and return to the review mode screen. When finished reviewing images, press **OK/ PLAY** to return to the still photo mode live preview screen.

OPTION	SETTINGS	DESCRIPTION
Delete	**Single,** All >*(Cancel, Execute)*	Select "This Image" to delete only the currently displayed photo/ video, or select "All" to delete all photos saved on the SD card (be sure you have downloaded any that you wanted to keep first). After pressing OK to confirm, you can still select "No" (if you change your mind or selected the wrong option) or highlight "Yes" (press **SNAP**), then press OK to delete the current photo or all photos, depending on which selection you made in the first step. **Note: photos that have been "locked" cannot be deleted *(see "Protect")*.**
Protect	**Lock**, Unlock	Lets you protect the displayed photo or video from being accidently deleted. See "Delete"
Rotation	**90°**, 180°, 270°, Cancel	Allows rotating photos that were taken with the scope oriented in non-horizontal positions so they may be viewed more easily.

FCC Compliance Statement:

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.

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 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.

The device does not contain any user-serviceable parts. Repairs should only be made by an Authorized Bushnell repair center. Unauthorized repairs or modifications could result in permanent damage to the equipment, and will void your warranty and your authority to operate this device under Part 15 regulations. The shielded interface cable which is provided 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.

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IMAGE VIEW

DIGITAL SPOTTING SCOPE

For further questions or additional information please contact:

Bushnell Outdoor Products
9200 Cody, Overland Park, Kansas 66214
(800) 423-3537 • www.bushnell.com