

Orion® eView™ 8x32 LCD Digital Camera-Binocular

#9459



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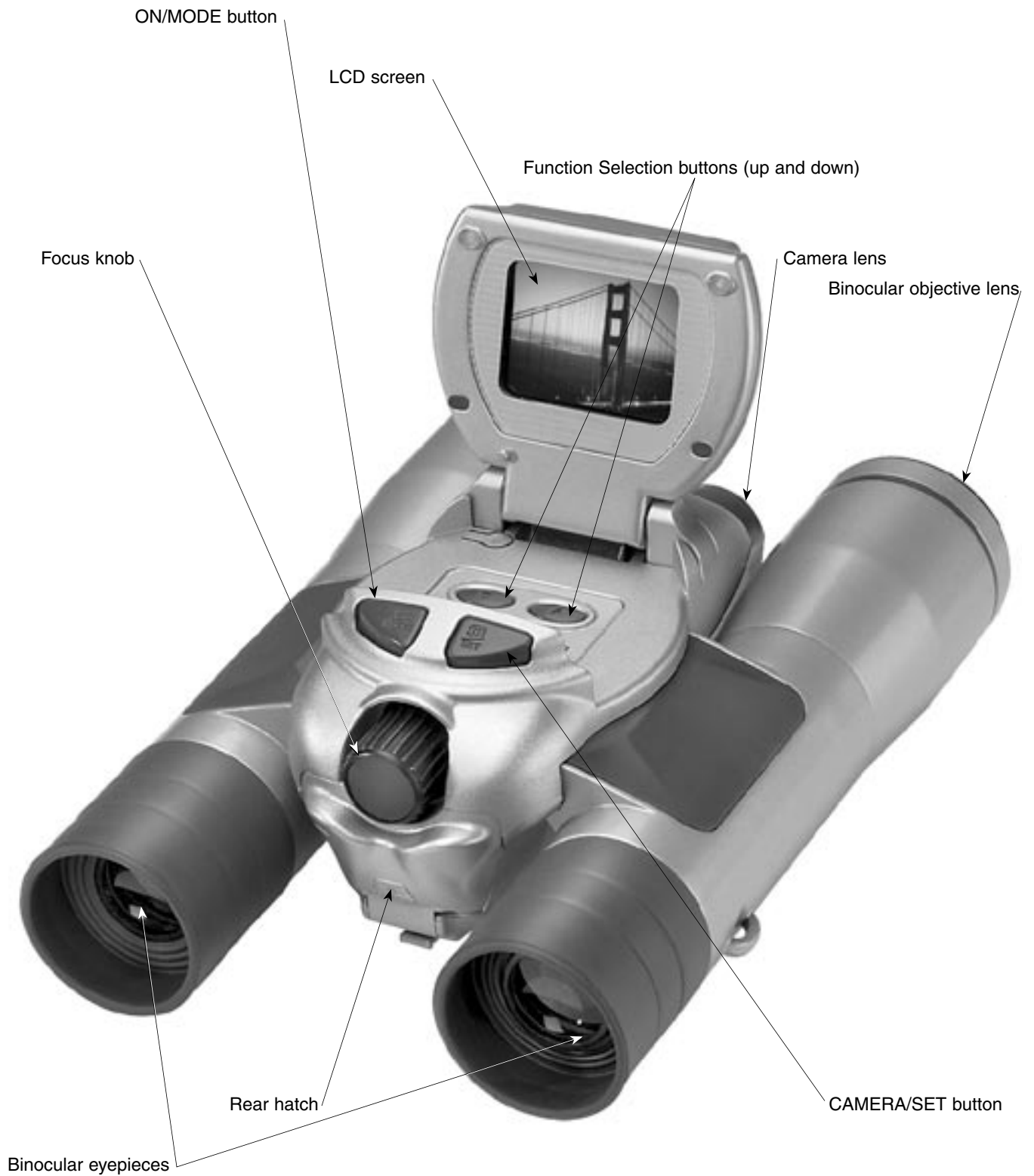


Figure 1. The eView 8x32 LCD digital camera-binocular.

Introduction

The eView is a full-featured binocular with an integrated digital camera. The camera's field of view matches what you see in the binoculars, so you can keep the sights and scenes for later. Great for travel, concerts/sporting events, or wildlife activities, you'll find the eView to be an effective and fun tool for exploring and documenting the world around you. Share your views with your friends and family by downloading images from the camera to your computer.

Getting Started

Parts List

eView 8x32 LCD Digital Camera-Binocular

Carry case

Neck strap

CD-ROM

SD card

USB cable

WARNING: *Never look directly at the Sun through your telescope—even for an instant—without a professionally made solar filter that completely covers the front of the instrument, or permanent eye damage could result. Young children should use this telescope only with adult supervision.*

Installing the Batteries

Four AAA batteries are required. For best performance, we recommend using high-quality alkaline batteries.

1. From underneath the binocular, open the battery cover (Figure 2).
2. Install four AAA batteries into the battery compartment. The batteries should be oriented as indicated in the plastic mold in the bottom of the battery compartment.

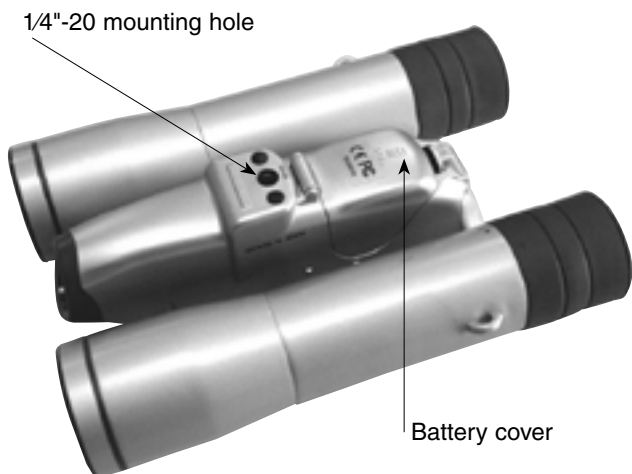


Figure 2. Underside of the eView.

3. Close the battery cover.

The eView has a battery level display in the upper right corner of the LCD status screen (appears when the eView is turned on). When the battery is too low, you will hear a long beep and the eView will turn off after 10 seconds.

Using the Binocular

Adjusting the Distance Between Your Eyes

Hold each barrel firmly and move the two barrels together to match the distance between your eyes. You should see a single round field when looking through the binocular with both eyes. Make this adjustment before you focus.

Focusing

The small knob between the two barrels is for focusing the binoculars. The knob focuses both barrels simultaneously. Turn the knob until the image is clearest. The left eyepiece does not rotate; the right one does. The rotating right eyepiece is called the diopter adjustment.

Diopter Adjustment

Because all eyes are slightly different, the eView features a right eye diopter adjustment. The purpose of this is to compensate for slight focus differences between a person's two eyes. With both eyes open, cover the right objective lens with your hand. Turn the focus knob until the image in the left side is sharp. Now, cover the left objective lens with your hand and focus the right side by rotating the right eyepiece until the image is sharp. The binocular is now adjusted to your eyes. Make a note of the diopter adjustment and turn the right eyepiece to that diopter adjustment whenever you look through the binoculars. Once you make this adjustment, you do not have to touch the diopter adjustment again. Simply focus both sides by turning the focus knob.

Use of a Tripod

The eView can be attached directly to a photo tripod. The mounting hole on the underside of the eView (Figure 2) accepts the 1/4"-20 mounting stud that is standard on most photo tripods. Simply thread the tripod's 1/4"-20 mounting stud into the hole in the bottom of the eView until secure.

Roll-Down Eyecups

The eView features roll-down eyecups. The eyecups are usually left in the up position for use without eyeglasses. To use the binocular with eyeglasses, simply roll down the eyeguard by folding down one side, then slide your fingers around to the opposite side of the eyepiece.

Using the Camera

System Requirements

In order to view and download images from the camera to your computer, your PC must meet the following system requirements:

Windows 98SE/2000/ME/XP

Pentium 233MHz or higher

128MB SDRAM

Video (VGA) card with 2MB RAM for minimum 16-bit (high color) display

CD-ROM

USB port

600MB of free hard drive space

Installing the eView Driver

To install the necessary driver for the computer to acquire images from the camera, insert the included CD-ROM into your computer. When the introduction screen appears, choose "Driver Installation" from the selection menu, and follow the prompts through the installation process.

Installing Photo Explorer

The CD-ROM also includes Photo Explorer, which is a handy image processing software program. While you can use many other software packages to manipulate images on your computer, Photo Explorer has many applications and is very easy to use.

To install Photo Explorer, insert the CD-ROM into your computer, and choose "Photo Explorer" from the introduction screen choices. Then follow the prompts to install the software.

We recommend viewing and/or printing Photo Explorer's instruction manual before attempting to use the program. To do this, choose the "User Manual of Photo Explorer" from the CD-ROM's introduction screen choices; it will copy a file to your computer which can then be read or printed. If you do not have Adobe Reader 5.0 or greater, you must download it from www.adobe.com in order to read the manual.

The SD Card

To use the camera functions, the included SD card must be installed in the eView. This allows images to be saved in the camera for subsequent viewing and downloading later.

To install the SD card:

1. Remove the SD card from its plastic case.
2. Open the rear hatch on the eView (Figure 1). This is the cover located directly below the binocular focus knob.
3. Insert the SD card into the SD card slot in the eView. The SD card should be oriented so the printing on the card faces downward.
4. Close the rear hatch on the eView.

Taking a Picture

Taking a picture with the eView is simple to do. Once you have identified the object you wish to take a picture of in the binoculars, simply follow these instructions to capture the image with the camera:

1. Flip up the eView's LCD screen (Figure 1).
2. Turn the eView on by pressing the ON/MODE button for 3 seconds.
3. You will hear two "beeps", and the status screen will appear briefly (Figure 3). On the first line of this screen, "HI" will indicate the camera is currently set to high resolution. The full battery icon will show your batteries are fresh. The second line of the status screen will display the number of images currently in memory, which should be zero at this point. The bottom line indicates the camera is ready to take pictures, and the SD card is installed.

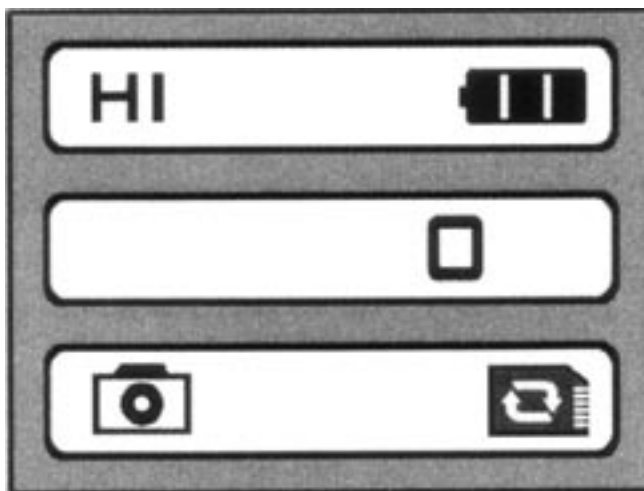


Figure 3. The eView status screen lets you know the resolution setting, battery life, and number of images currently stored in the SD card.

4. After the status screen disappears, you will hear another "beep", and the LCD screen is now in preview mode. It now displays, in "real time", what is currently within the camera's field of view. Frame the picture you wish to take on LCD screen.
5. Press the CAMERA/SET button. You will hear a "beep", and the LCD screen will go blank. The camera is now taking the picture. It takes a couple of seconds to actually capture the image, so be sure to hold the eView steady during this time. When the camera is done taking the picture, you will hear two "beeps", and the status screen will again briefly appear. Note that on the second line of the status screen, the display now shows "1", indicating that one image is currently stored in the SD card.

The eView will now revert back to preview mode. Frame and take another picture, if you wish. When no action is performed with the camera functions, the eView will automatically turn off after 90 seconds. Also, the close focus distance for the camera is about 50 feet, so make sure the picture you have

framed is at least that distance away, or the focus of the image will not be sharp.

Reviewing Images on the LCD Screen

After you have taken several pictures, you may want to review the images stored in the SD card to determine which ones you want to discard and which ones you want to keep.

1. With the camera in preview mode, press the ON/MODE button. This will take you to the eView's internal menu.
2. Use the up and down Function Selection buttons to scroll to the "Review" menu selection. Press the CAMERA/SET button to enter the review mode.
3. Use the up and down buttons to scroll through the images currently stored in the SD card.
4. Select the image you wish to delete. Press the ON/MODE button. You are now on the eView's delete screen (Figure 4).

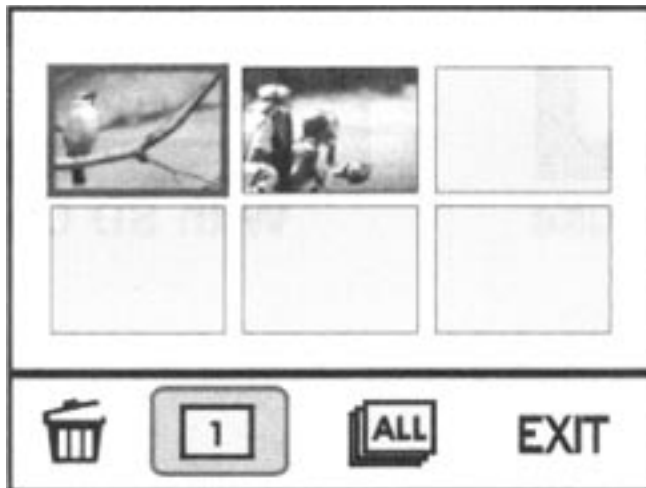


Figure 4. The eView delete screen allows you to select one or all images in the SD card for deletion.

5. Use the up and down arrows to select "1" from the choices at the bottom of the screen and press the CAMERA/SET button. The image selected is now deleted from the SD card. If you want to delete all images currently stored in the SD card, select "ALL" instead of "1".
6. To exit the review mode, press the ON/MODE button, and select "EXIT" from the choices on the bottom of the delete screen. Press the CAMERA/SET button to exit. This will take you back to the eView's internal menu. To get back to regular preview mode, use the up and down arrow keys to select "EXIT" from this menu, and press the CAMERA/SET button.

Another easy way to review images is to simply press either the up or down button when the eView LCD is in preview mode. You can then scroll through full screen images to see what your pictures currently stored in the SD card look like. You cannot delete images when reviewing in this way, however. To exit, press the ON/MODE button to return to the eView's internal menu, select "EXIT", and press the CAMERA/SET button.

Turning the eView Off

With the camera in preview mode, press the ON/MODE button. This will take you to the eView's internal menu. Then use the up and down Function Selection buttons to scroll to the "Power Off" menu selection. Press the CAMERA/SET button, and the eView will turn off.

Downloading Image Files

Transferring images from the SD card to your computer is quite easy. The eView acts as an external hard drive, so you can easily "click and drag" image files from the eView to your PC. But first you'll need to connect the eView and computer with the USB cable.

1. Make sure the eView is off, and open its rear hatch (Figure 1). Plug the USB cable into the jack near the SD card slot.
2. Plug the other end of the USB cable into your computer. You will hear two "beeps" indicating the eView is now actively connected to the computer.
3. Click on the "My Computer" icon on the PC's desktop screen.
4. Click on the "Removable Disk" icon under the heading of "Devices with Removable Storage".
5. Click on the folder "DCIM".
6. Click on the folder "100Image". The image files (and/or video files) will now be displayed. You can now use image processing software (such as the included Photo Explorer) to manipulate and save the images. Or you can just "click and drag" the images to your PC desktop for processing later.

Other Camera Functions

Besides taking pictures, the eView is also capable of making movies and acting as a webcam. In addition, there are several other built-in functions designed to give you flexibility in adjusting camera settings for your specific usage.

Making a Movie

The eView is capable of recording video up to 80 seconds in length.

1. With the camera in preview mode, press the ON/MODE button. This will take you to the eView's internal menu.
2. Use the up and down Function Selection buttons to scroll to the "Movie" menu selection. Press the CAMERA/SET button to select this function.
3. Use the up and down buttons to scroll to "EXIT", and press the CAMERA/SET button to return to preview mode.
4. Press the CAMERA/SET button to begin taking the movie. You will hear a single "beep" when the camera begins to record the video. The small green LED light on the front of the LCD screen will be shining. The LCD screen itself will still appear in preview mode.
5. When done making the movie, press the CAMERA/SET button again.

To view the movie, you must download the video to your computer (see “Downloading Image Files” section). You can then use a variety of video viewing programs, such as Windows Media Player, to watch your movie.

Using the eView as a Webcam

Another handy feature of the eView is its ability to be used as a simple webcam. When in webcam mode, the eView will deliver live real-time images from the camera directly to a computer screen for virtually simultaneous viewing. This feature is especially useful for security purposes. Of course, you will need to connect the eView to a computer to use the webcam functionality.

1. With the camera in preview mode, press the ON/MODE button. This will take you to the eView’s internal menu.
2. Use the up and down Function Selection buttons to scroll to the “PC Camera” menu selection. Press the CAMERA/SET button to select this function, and the eView will “beep”, confirming the selection.
3. Use the up and down buttons to scroll to “EXIT”, and press the CAMERA/SET button to return to preview mode.
4. Connect the eView to your computer using the supplied USB cable.
5. Click on the Windows “Start” menu at the bottom left hand side of your computer screen. Choose “Program”, then “DBC”, then “PC Cam”. In the “Options” menu, select “Preview”, and you should now be viewing live images from the eView on your computer screen.

To exit the webcam, close the “PC Cam” program on your computer, and disconnect the USB cable.

Selecting Resolution

There are two image resolutions available for the eView’s camera. The “HI” resolution (1600x1200 pixels) setting should be used for most applications where high image quality is required, especially if the image will be enlarged. However, if only minimal image quality is required (i.e. the final image size will be kept small), the SD card can hold more pictures if the “LO” resolution (640x480 pixels) is used. To select image resolution:

1. With the camera in preview mode, press the ON/MODE button. This will take you to the eView’s internal menu.
2. Use the up and down Function Selection buttons to scroll to the “Resolution” menu selection. Press the CAMERA/SET button to enter this function.
3. Use the up and down buttons to select “HI” or “LO”. Press CAMERA/SET button to enable the setting.
4. Use the up and down buttons to scroll to “EXIT”, and press the CAMERA/SET button to return to preview mode.

The “HI” resolution is the default setting, so if no changes are made, the camera will take high resolution images.

Indoor Fluorescent Frequency

This feature can be used when taking pictures indoors under fluorescent lighting. For best image quality and contrast, you

can select between 50Hz and 60Hz, depending upon the frequency of the lighting used.

1. With the camera in preview mode, press the ON/MODE button. This will take you to the eView’s internal menu.
2. Use the up and down Function Selection buttons to scroll to the “Hz” menu selection. Press the CAMERA/SET button to enter this function.
3. Use the up and down buttons to select “50Hz” or “60Hz”. Press CAMERA/SET button to enable the setting.
4. Use the up and down buttons to scroll to “EXIT”, and press the CAMERA/SET button to return to preview mode.

Format

The format function essentially deletes all images and movies stored in the SD card. Make sure you have downloaded anything you wish to keep onto your computer before reformatting the SD card. To format the SD card:

1. With the camera in preview mode, press the ON/MODE button. This will take you to the eView’s internal menu.
2. Use the up and down Function Selection buttons to scroll to the “Format” menu selection. Press the CAMERA/SET button.
3. Use the up and down buttons to select “YES”. Press the CAMERA/SET button.

Once the SD card has been reformatted, the eView will go back into its internal menu. Use the up and down keys to select “EXIT” and press the CAMERA/SET button to get back to preview mode.

Basic Maintenance

Usage Guidelines

To avoid damage, do not use the eView under the following conditions:

- Temperature is lower than 41° or higher than 104°F.
- Very damp or dusty environments.
- Areas emitting strong electromagnetic fields (i.e. under power lines or power stations).

Storing and Transporting

When not in use, the eView should be kept in its case with the caps on. The instrument should be stored in a cool dry place; storing it in a moist environment will result in mold growth and destroy the optics. This is not covered by warranty. If the eView is stored long-term, we recommend removing the batteries.

When transporting the eView, common sense prevails. Avoid excessive bumping or rough handling, as the binoculars’ optical alignment may be affected. Do not bring the eView out in the rain, but if water does get on the exterior, wipe it off immediately with a soft cloth or towel. When bringing the instrument from the cold outdoors back inside a warm house, leave it in a cool, dry area for a couple of hours. It is important to then open up the case, remove the instrument, remove the caps, and let everything dry out.

Cleaning and Care of Binoculars

The lens surfaces of the eView are coated with anti-reflection coatings that can be damaged with careless handling. Avoid touching lens surfaces with fingers or any coarse material. All optics, even if stored, must be cleaned approximately twice a year or whenever they are dirty. The dust that builds up on coatings promotes mold growth, which etches glass and destroys coatings. Avoid over-cleaning; it can damage the coatings. Always use lens cleaning tissue and fluid that are specifically designed for multi-coated lenses. Do not use fluids or tissue that is for eyeglasses or household use. Most binoculars and camera lenses are cared for in a similar manner.

To clean the binocular and camera lenses, first make sure your hands are clean. Blow off the lens with a blower bulb or compressed air to remove the larger particles. Have several pieces of tissue ready. Put two drops of lens cleaning fluid on a piece of lens cleaning tissue (never on the lens). Gently wipe the lens. Quickly wipe the excess fluid with a new, dry piece of lens cleaning tissue. On larger lenses, clean only a small area at a time, using new tissue each time. On excessively dirty lenses, wipe across using one stroke for each tissue, alternating wet and dry. The more fresh, clean lens tissue you use, the less likely you are to scratch your lenses. Always avoid excessive pressure or rubbing. It is better to leave a tiny amount of dirt on the lens than to use too much pressure and damage the coatings.

Never disassemble the camera or binocular for any reason, or the warranty will be void.

Specifications

Binocular Specifications

Aperture: 32mm

Magnification: 8x

Coatings: Fully coated with multi-coatings

Focusing: Center focus with right-eye diopter adjustment

Eyeguards: Rubber, fold-down

Prisms: Roof prisms

Field of view: 6.3°

Close focus distance: 16 feet

Eye relief: 17mm

Weight: 14.4 oz

Tripod attachment: 1/4"-20 threaded socket on underside of binocular

Camera Specifications

Image sensor: 2.1 megapixel CMOS

Resolution: 1600x1200 pixels in high resolution mode, 640x480 in low resolution mode

Exposure control: Automatic

White balance: Automatic

Indoor fluorescent frequency: Can select 50 Hz or 60 Hz
Digital video: Up to 80 seconds in length
Video resolution: 320x240, 12 Fps AVI format
Web cam: "Real-time" images and video can be acquired by PC
Aperture: 9mm
Focal ratio: F/5.1
Near focus: 18m
Memory: Requires SD card
Computer connection: USB 1.1
Power: Requires 4x AAA batteries
LCD screen: 31mm x 23mm, color

U.S. Patent No. 6,088,053. Other patents pending.

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.

Changes of modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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 output on a circuit different from that to which the receiver is connected.

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

A shielded cable must be used when connecting a peripheral to the serial ports.

One-Year Limited Warranty

This Orion eView™ 8x32 LCD Digital Camera-Binocular is warranted against defects in materials or workmanship for a period of one year from the date of purchase. This warranty is for the benefit of the original retail purchaser only. During this warranty period Orion Telescopes & Binoculars will repair or replace, at Orion's option, any warranted instrument that proves to be defective, provided it is returned postage paid to: Orion Warranty Repair, 89 Hangar Way, Watsonville, CA 95076. If the product is not registered, proof of purchase (such as a copy of the original invoice) is required.

This warranty does not apply if, in Orion's judgment, the instrument has been abused, mishandled, or modified, nor does it apply to normal wear and tear. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state. For further warranty service information, contact: Customer Service Department, Orion Telescopes & Binoculars, P. O. Box 1815, Santa Cruz, CA 95061; (800)-676-1343.

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