

**60-220003  
USER GUIDE**

**SAFETY  
VISION<sup>®</sup>**

## Important Notices

Title: 60-220003 User Guide  
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## Components

### Exterior

**1 - Dome** - Shields the camera lens while providing a wide viewing angle.

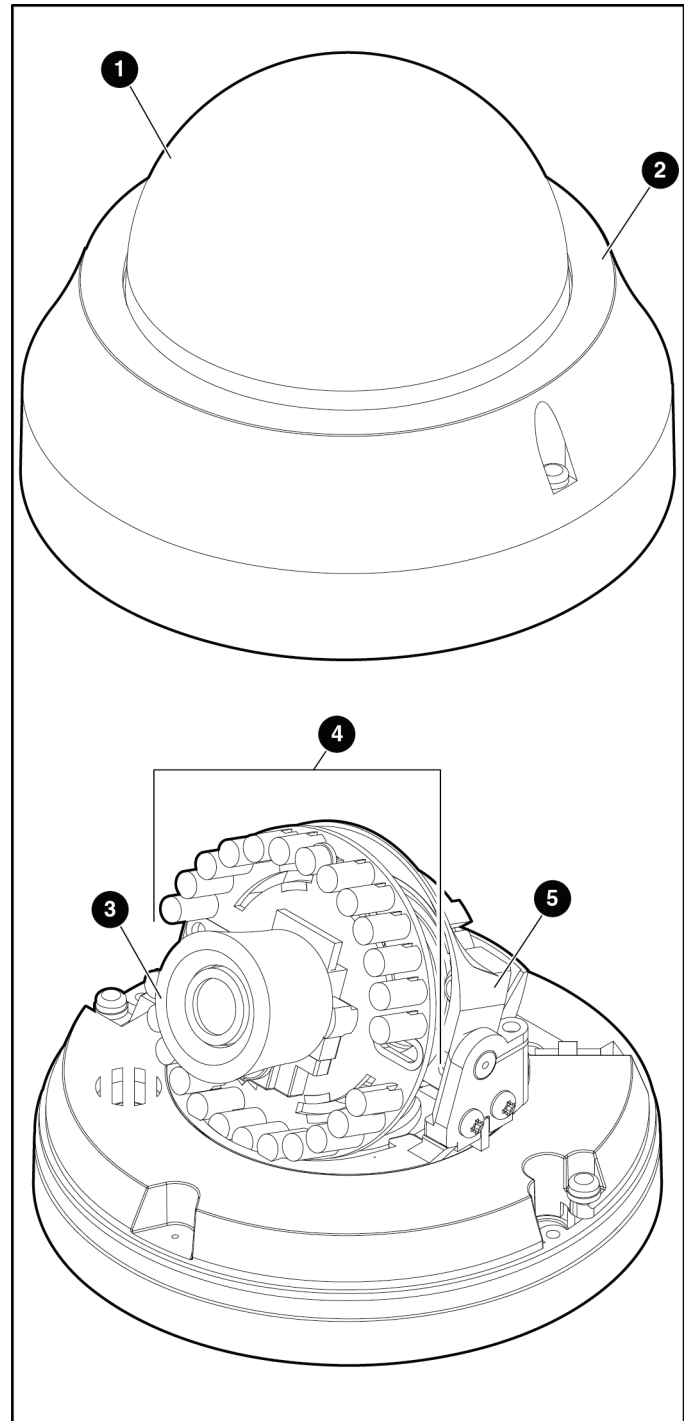
**2 - Unit Cover** - Protects the camera module from environmental hazards.

### Interior

**3 - Camera Lens** - Captures images.

**4 - IR Illuminators** - Provide clear images in low light conditions.

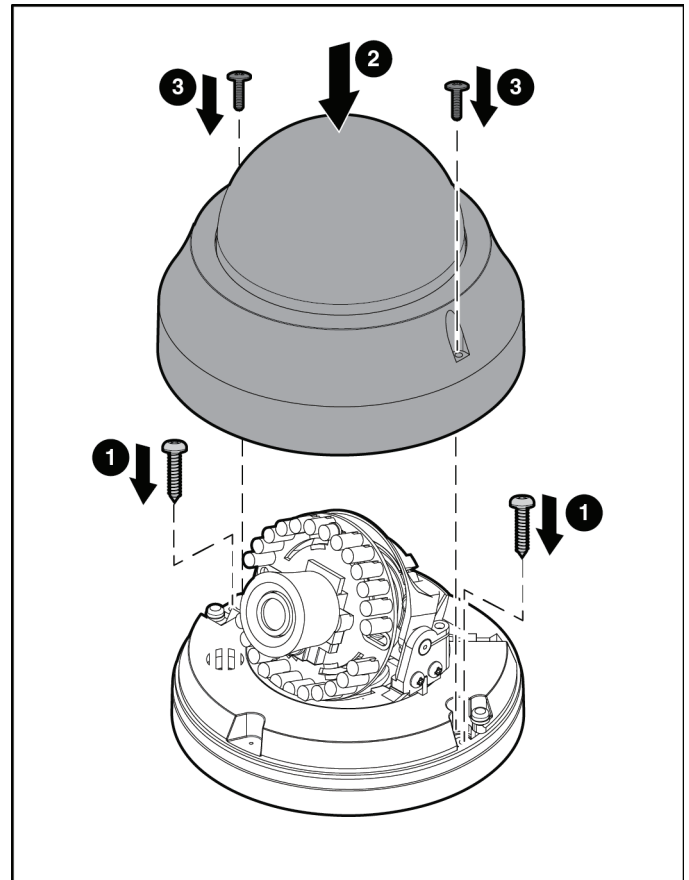
**5 - Gimbal** - Adjusts the camera lens angle for the optimal field of view.



## Installation

Use the following procedure to install the 60-220003:

1. Clean the area where the camera is to be installed.
2. Apply the included adhesive template, or use it to mark two screw holes and cable hole in the desired mounting location.
3. Use a hole saw or appropriate drill bit to drill a 1.181 inch hole where marked for the cable and apply a grommet.
4. Drill two screw holes where marked if not using self-tapping screws.
5. Thread the cable through the hole and secure the camera base to the mounting surface. Do not use larger than a size #6 fastener to avoid damage to the camera housing.
6. Connect the 60-220003 to one of the camera inputs on front of the NVR.
7. Using a laptop, access the camera's live view as described in the *Live View and Image Adjustment* section.
8. Use a small Phillips head screw driver to loosen the security screws on the camera gimbal to adjust the camera angle to the desired field of view. Once completed, tighten the security screws in place.
9. Secure the enclosure over the camera and base with the supplied tamper-resistant screws with a size T10 TORX™ wrench. Ensure the urethane washers are in place to ensure a waterproof seal.
10. Apply silicone sealant around the base to ensure a waterproof seal.
11. Refer to the NVR User Guide to properly configure the camera parameters.
12. (Optional) Connect the co-axial cable to an external monitor to display a live video feed from the camera without the use of a decoder.



### Warnings:

- To reduce the risk of electrical shock, disconnect the battery from the electrical system of the vehicle before starting the installation.
- Before inserting fasteners into the mounting surface, ensure that the underside of the mounting surface is clear of equipment that might be damaged by the screws.

## Configuration

The 60-220003 can be configured through the on-board web interface, which must be accessed with a PC and web browser. The interface can be accessed through a RoadRecorder® series NVR.

### Connecting

Use the following procedure to access the 60-220003's configuration web server while connected to a RoadRecorder NVR:

1. Connect the PC to the NVR's Ethernet LAN RJ-45 port with a standard Ethernet cable.
2. Ensure the NVR and PC are receiving power and have started up.
3. Open the Internet Protocol (TCP/IP) Properties window for the LAN connection you are using.

*In Windows, open Network Connections. Right-click the LAN connection and select Properties. In the list of items, select Internet Protocol (TCP/IP) and then click Properties.*

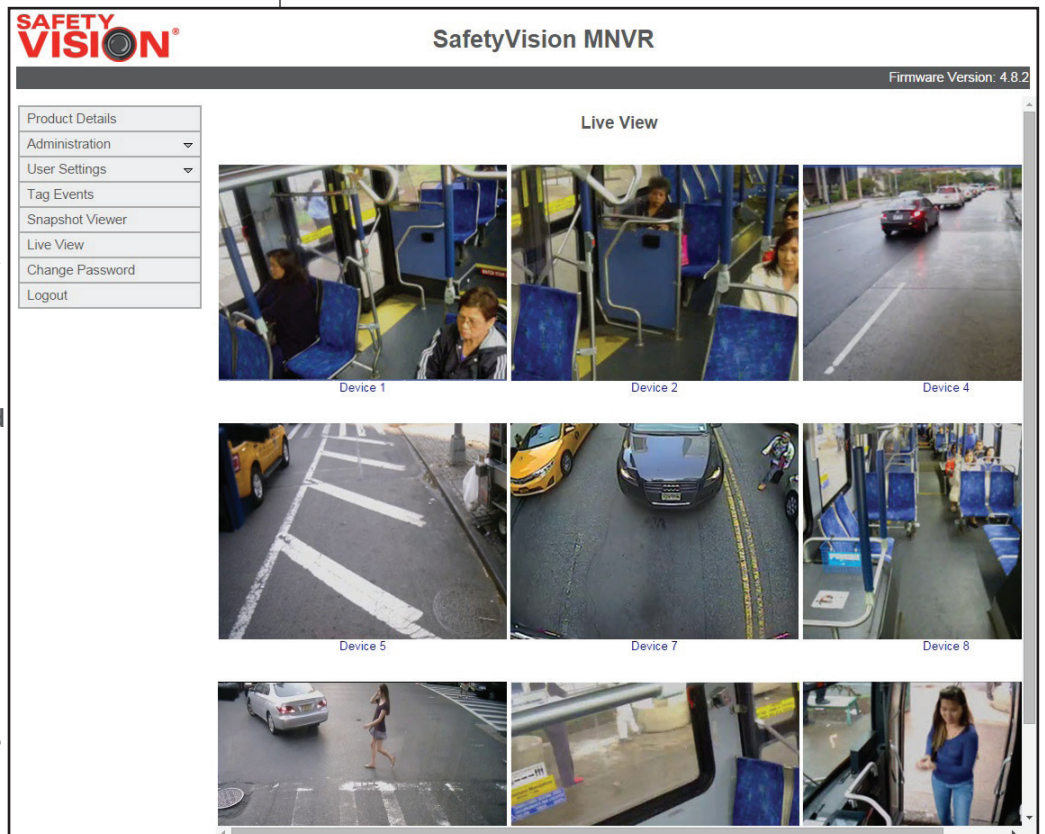
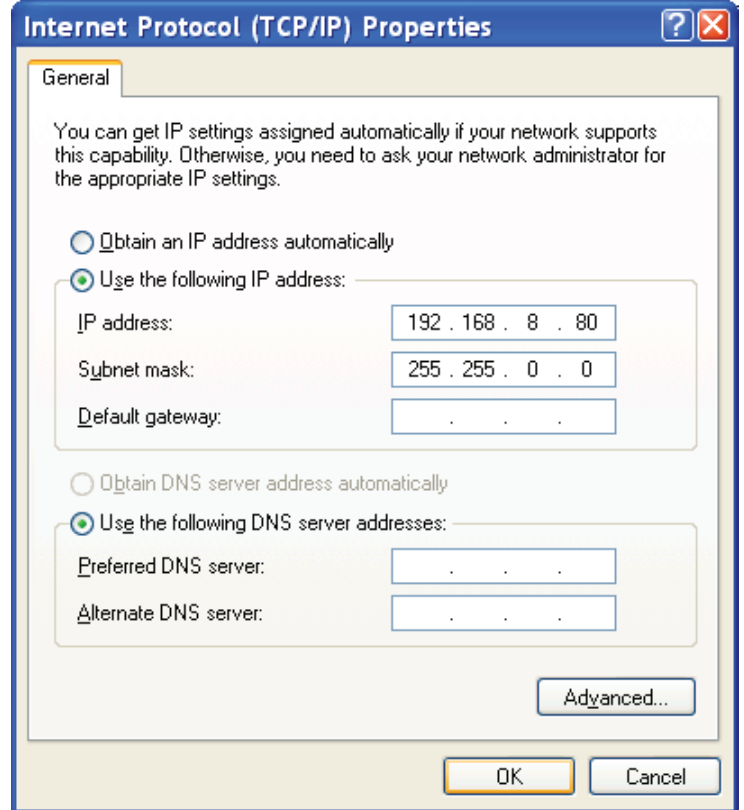
4. Select the Use the following IP address option.
5. Enter 192.168.8.80 in the IP address field.
6. Enter 255.255.0.0 in the Subnet mask field.

*This field normally defaults to 255.255.255.0. Ensure the correct 255.255.0.0 subnet is entered.*

7. Leave all other fields blank.
8. Click OK on the Internet Protocol (TCP/IP) Properties window and then click OK on the Local Area Connection Properties window.

*Your PC's IP address and subnet mask are now configured.*

9. On a web browser, navigate to 192.168.8.70.
10. Enter the user name and password and login.
11. Click the Live View tab.
12. Select the camera(s) you want to view and/or configure and click View Selected Device(s).
13. After a short period the selected cameras display. Adjust the camera image, or click on the camera name at the bottom of the image to access the configuration page.

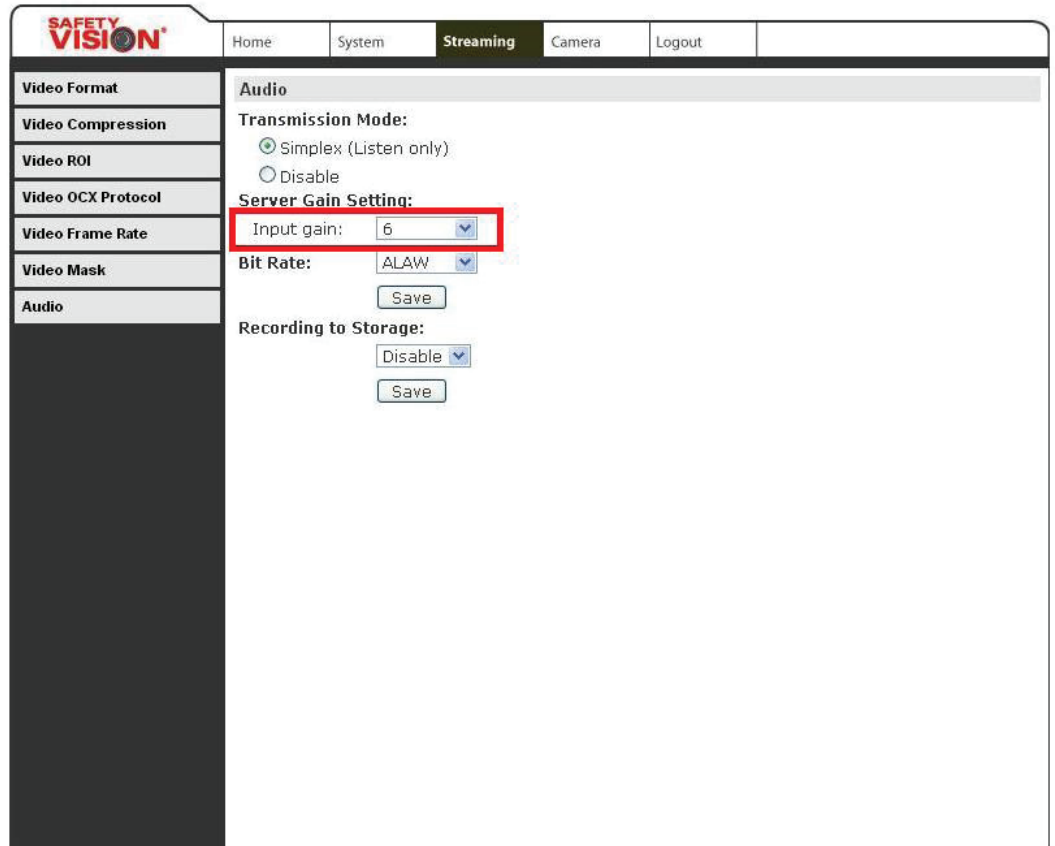


## Audio Adjustment

To adjust the stream, first click **Streaming** at the top of the configuration page, then **Audio** on the menu on the left.

Certain installations may cause undesirable audio noise. In some cases, adjusting the **Input gain** field down alleviates these issues. After adjusting this field, click **Save**.

If audio problems persist, contact Safety Vision Technical Support.



The screenshot displays the Safety Vision configuration interface. The top navigation bar includes 'Home', 'System', 'Streaming', 'Camera', and 'Logout'. The left sidebar contains a menu with 'Video Format', 'Video Compression', 'Video ROI', 'Video OCX Protocol', 'Video Frame Rate', 'Video Mask', and 'Audio'. The main content area is titled 'Audio' and contains the following settings:

- Transmission Mode:**  Simplex (Listen only),  Disable
- Server Gain Setting:** Input gain: 6 (highlighted with a red box)
- Bit Rate:** ALAW (dropdown menu), Save button
- Recording to Storage:** Disable (dropdown menu), Save button

***Safety Vision does not recommend adjusting settings other than those described in this User Guide without the advice of Safety Vision Technical Support.***



## Live View and Image Adjustment

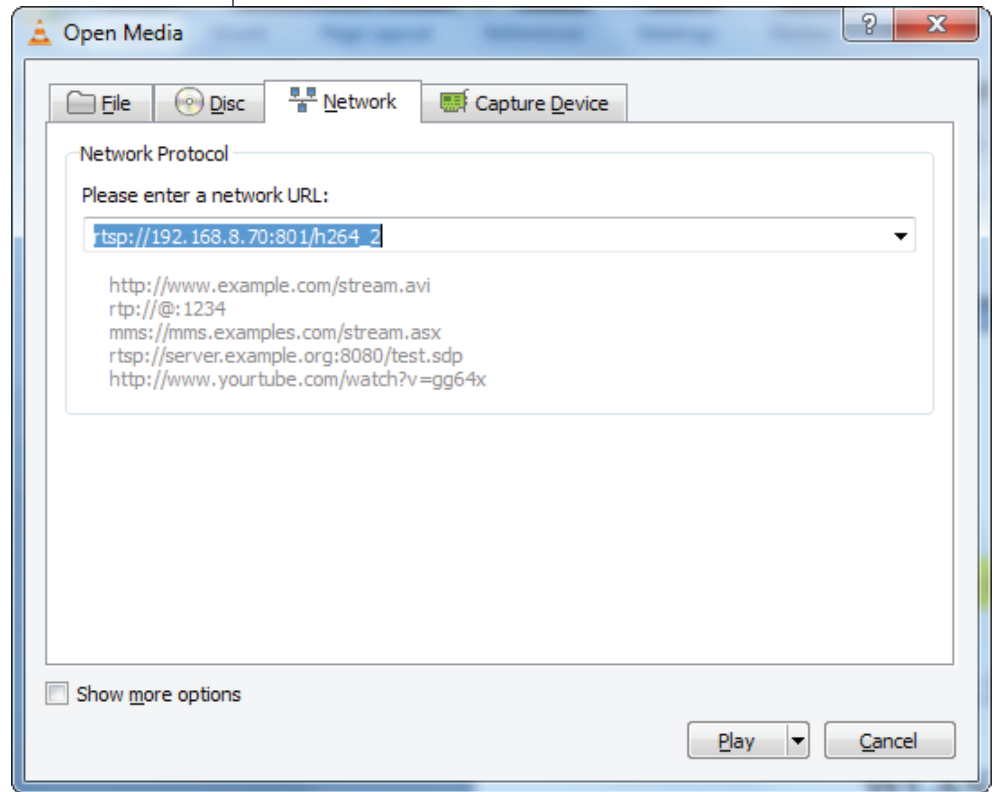
After the 60-220003 is installed, the image's field of view can also be confirmed with the VLC Media Player application.

VLC Media Player is available from the Video LAN Organization for free.

Use the following procedure to view a live image from the 60-220003 using VLC Media Player:

1. **Connect the PC to the NVR's Ethernet LAN RJ-45 port with a standard Ethernet cable and configure it as described in steps 1 - 8 of the Connecting procedure on page 4.**
2. **On the PC, open the VLC Media Player application.**
3. **In VLC Media Player, select **Open Network Stream...** from the Media menu.**  
*The Open Media window appears.*
4. **In the Network URL field, enter **rtsp://192.168.8.70:8XX/h264\_2**, where XX is the NVR port the 60-220003 is connected to.**  
*For example, if you want to view the 60-220003 connected to port 8, you would enter **rtsp://192.168.8.70:808/h264\_2**.*
5. **Click Play.**  
*The VLC Media Player appears displaying a live image of the camera selected.*

With the live view displayed, you can adjust the image's field of view by adjusting the gimbal. Remove the enclosure from the base plate. Using an appropriate screwdriver, loosen the screws on the gimbal and carefully move the camera unit until satisfied. Retighten the screws on the gimbal and replace the enclosure.

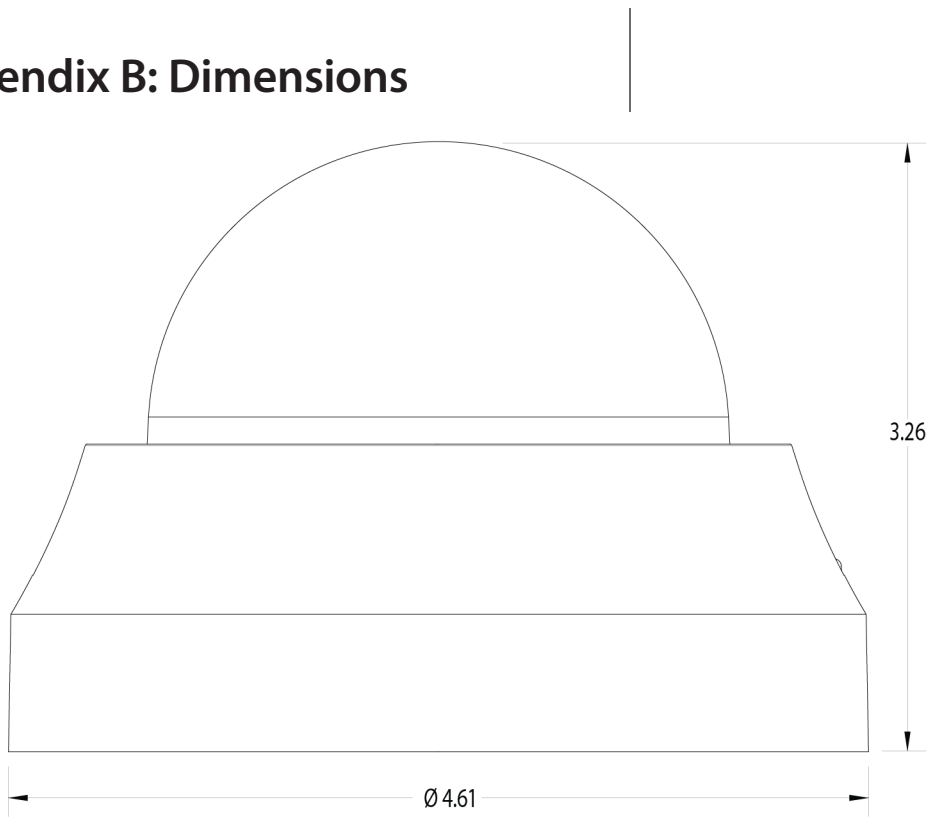




## Appendix A: Specifications

SPECIFICATIONS	
Image Sensor	1/2.8" Sony Progressive CMOS
Effective Pixels	2048(H) x 1536(V)
Minimum Illumination	Board 3.6 mm - 0.2 lux (Color) / 0.02 lux (B/W) Board 2.8 mm / Vari-focal 3~6 mm - TBD
Lens	Board / Vari-focal Lens
Focal Length	Board - 2.8 mm / 3.6 mm Vari-focal - 3~6 mm
FOV	Board 3.6 mm - 75.3° Board 2.8 mm - 94.36° Vari-focal 3~6 mm - 100.8°
Interface	RJ-45, 10/100Mbps
Video Compression	H.264 (MPEG-4 Part 10/AVC) / MJPEG
Video Resolution	H.264- 2048 x 1536 (3M) / Full HD 1080P / SXGA / HD 720P / XGA / SVGA / D1 / VGA / CIF MJPEG- Full HD 1080P / SXGA / HD 720P / XGA / SVGA / D1 / VGA / CIF
Frame Rate	Dual Streams : 1080p (30/25 fps) + D1 (30/25 fps)
Protocol	ARP, IPv4/v6, TCP/IP, UDP, RTP, RTSP, HTTP, HTTPS, ICMP, FTP, SMTP, DHCP, PPPoE, UPnP, IGMP, SNMP, QoS, ONVIF
IR	Yes, 24 LEDs
Power Source	PoE
Operating Temperature	-10°C to approx 50°C
Dimensions (w × h)	4.6 in. × 3.36 in.

# Appendix B: Dimensions



## Limited 1-Year New Product Warranty

Safety Vision, LLC ("SV") makes the following limited warranty, which is effective at the time of the original end-user purchase.

*Note: Optional warranty products are available for all SV products and may be purchased at the time of the original end-user purchase or any time during the original Limited 1-Year New Product Warranty period.*

SV warrants this product against defects in materials for a period of 1 year after the date of purchase. During this period, SV will repair or replace a defective product or part without charge to the customer. The customer must send the defective product or part to SV or an authorized SV dealer. The customer must pay for all transportation and insurance charges for sending the unit to be repaired. SV's total liability is limited to the original product cost.

### User Guide

The customer should thoroughly read this guide before operating this product.

### Customer's Responsibility

The above warranty is subject to the following conditions:

- Customer must notify SV within 10 days of discovering the defective product or part and provide a description of the defect and complete information about the manner of its discovery.
- All warranty servicing of this product must be performed by SV or an authorized servicing agent.
- Warranty extends only to defects in materials as limited above. Warranty does not extend to any product or part that has been lost or discarded by the customer; to damage to products or parts caused by misuse, accident, improper installation, improper maintenance, or use in violation of instructions furnished with the product; to units that have been altered or modified without authorization of SV; to damage to products or parts thereof that have had the serial number removed, altered, defaced, or rendered illegible; or to any failure of the product to function caused by burglary, fire, flood, war, riot, civil commotion, Acts of God, or any other condition beyond the control of SV.

### Obtaining Warranty Service

To obtain warranty service, the customer must contact the SV Service and Warranty Manager at 713.896.6600 or 800.880.8855 to report a defective product. (The customer must report the model number and serial number if available.) The Service and Warranty Manager will assist in troubleshooting the problem and, if necessary, issue a return material authorization (RMA) number. The customer must include this number on the outside of each package shipped to SV.

## Important Packing and Shipping Instructions

When a product requires service, only the affected component must be returned. The customer must use proper packing material to ensure against damage during shipping. Any shipping damage caused by improper packing is not covered under this warranty. In addition, the customer must include a return material authorization (RMA) number on the outside of each package shipped to SV and a letter explaining the defect with the product.

## FCC Compliance Statement

### NOTE

This device has been tested and found to comply with the limits for a *Class B computing device*, pursuant to subpart B of part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at his/her own expense will be required to take whatever measures may be required to correct the interference.

### CAUTION

Any changes or modifications in construction of this device which are not expressly approved by the party responsible for the compliance could void the user's authority to operate the equipment.

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