SAFE FLEET

Driving Safety Forward™

Safe Fleet

9-inch AHD and SD Quad Monitor

Installation and Setup Guide

September 2022 | Part #: 700-5006 R1

Contents

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About This Document

This document introduces the portable 9" TFT LCD Quad View color monitor, intended for use on waste collection vehicles, and provides instructions for its installation and system configuration.

Please read all of the installation instructions carefully before installing the product. Improper installation will void manufacturer's warranty.

About the Monitor

The 9" TFT LCD Quad View color monitor features built-in speakers and supports up to four cameras: standard definition or 720p AHD. **NOTE**: The monitor cannot support both resolutions at the same time.

It is compatible with NTSC/PAL video standards and can display anywhere between one and four images simultaneously.

CAUTION! Safe use of the monitor

In some jurisdictions, it is unlawful for a person to drive a motor vehicle equipped with a TV viewer or screen if it is located in driver's view, directly or indirectly, while the vehicle is in operation.

Specifications

Feature	Specification
Screen size	9"
Resolution	1024 x 600 x 3 (RGB)
Display format	16:9/500:1
Display brightness	500 cd/m^2, 400 nits
Viewing angle	U:50° /D:60° /R:70°
Video input	4 channel
Video source	1Vp-p, 75Ω
Power supply/Supply voltage	DC 10 V - 32 V
Power consumption	6 W
Operating temperature	-20°C ~ +70°C
Video system	Auto NTSC/PAL
Weight	600 g
Impact rating	5 G
Dot pitch	0.2175 H x 0.2088 V
Sync system	Internal
Response time	30 ms

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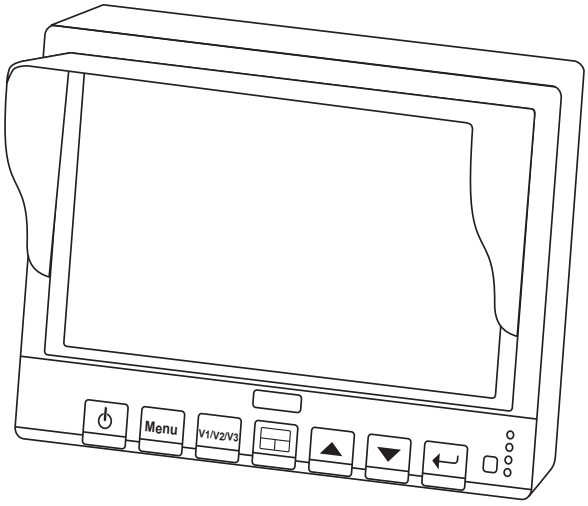
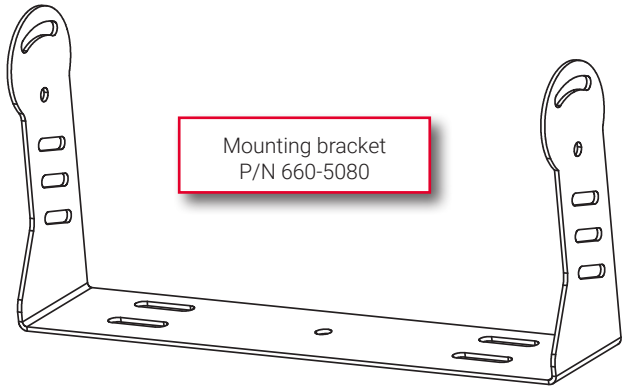
Monitor Kit Contents



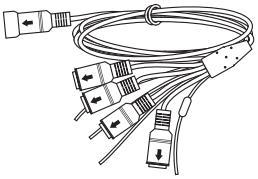
9” TFT LCD Quad View color monitor
P/N WR9M4C-MON



Mounting bracket
P/N 660-5080

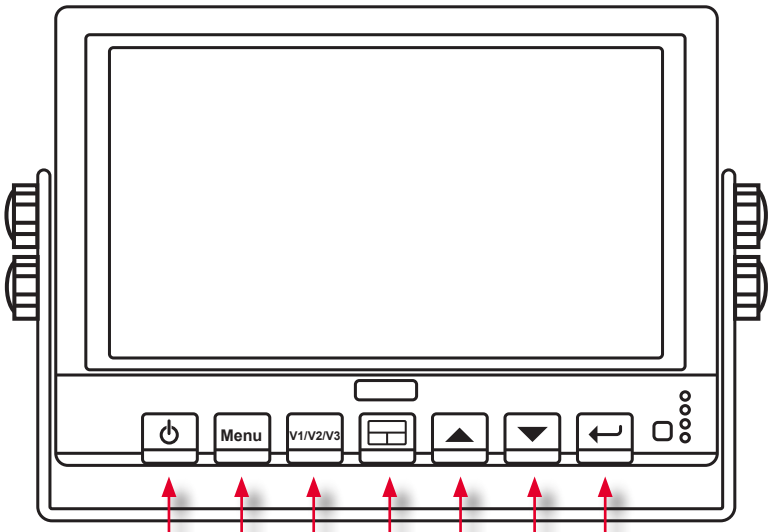
Round head Phillips screw x 4
P/N 600-5109

Nylon head screw M5 x 4
P/N 600-5110



Power and camera harness
P/N 060-5476

Monitor Controls Overview



On/Off button

Camera selection

Volume/ Menu item selection controls

Menu item selection

Split image view

Rotate image/ Exit (when in Menu mode)

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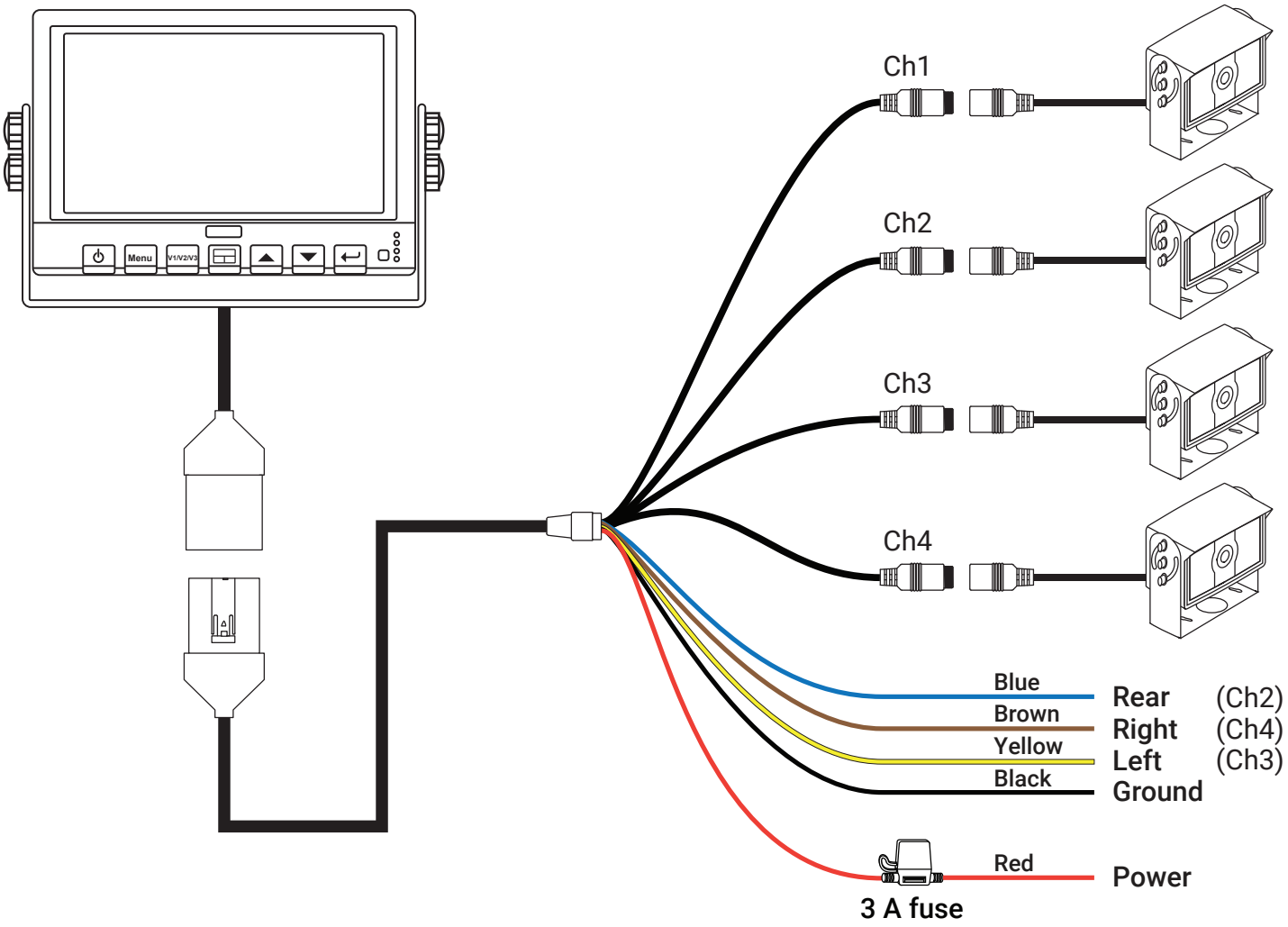
Installation

Wiring Diagram



Installation Instructions

NOTE: Testing components before installation

We recommend doing a bench test before installation in a vehicle to insure that all components are working properly.

Installing the Hardware

1. Choose suitable locations for the monitor and the cameras.
2. Route the cables, drilling holes where necessary.
3. Install the mounting bracket for the monitor in a preferred location on the vehicle's dashboard using the provided round head Phillips screws.
4. Secure the monitor on the mounting bracket with the provided nylon head screws.
5. Install the cameras on the vehicle as required.

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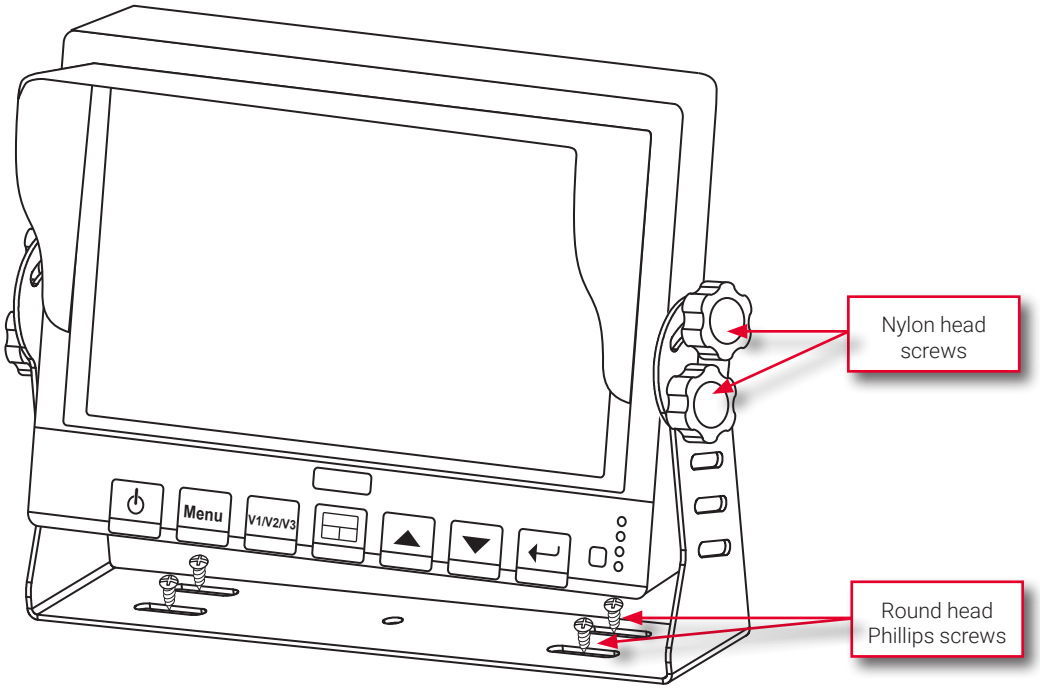

Connecting the Harness

Refer to the wiring diagram to review the connections described in this section.

1. Connect the 4 camera connectors to the cameras. Each camera should be connected to its corresponding port.
2. Connect the power and trigger wires as follows:
   - **Black** to ground, typically a dedicated ground stud or the screw tapped into the chassis as ground
   - **Blue** to the back camera trigger, typically the rear door switch
   - **Brown** to the right camera trigger, typically the right-turn signal
   - **Yellow** to the left camera trigger, typically the left-turn signal
   - **Red** to power, typically after the battery kill switch.
3. Connect the other end of the harness to the monitor's connector.

Performing the Power-On Test

1. Start the vehicle.
2. Turn on the monitor, using the **On/Off** button.
3. If video sources are connected, cycle through camera views to ensure that video from each camera channel is displayed. To do so, press the camera selection button V1/V2/V3 repeatedly.
4. If trigger wires are connected, activate the triggers to check that the cameras turn on as expected and corresponding video from them is displayed. See the ***Activating or Deactivating Camera Triggers*** procedure.
5. Check that cameras have audio and that the volume controls are working.

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Configuring the Monitor

NOTE: Supported cameras/resolution and how to change them

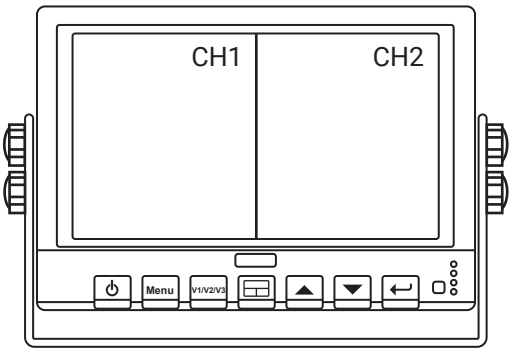
Note that this monitor can support the standard definition cameras, as well as the 720p AHD cameras. However, it cannot support both resolutions at the same time.

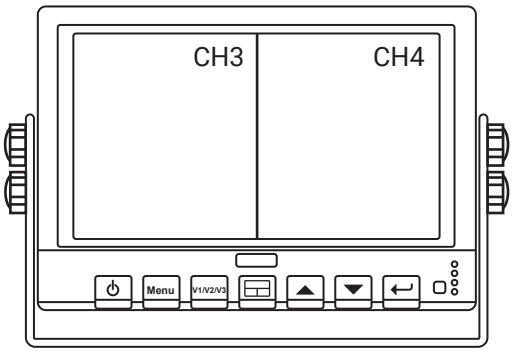
To change the camera/resolution using the on-screen menu, see the ***Selecting the Camera Type*** procedure.

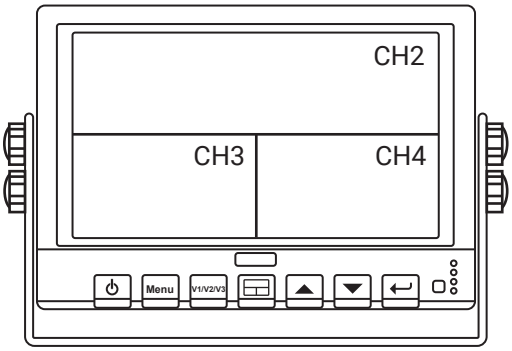
Setting up the Default Channel Display

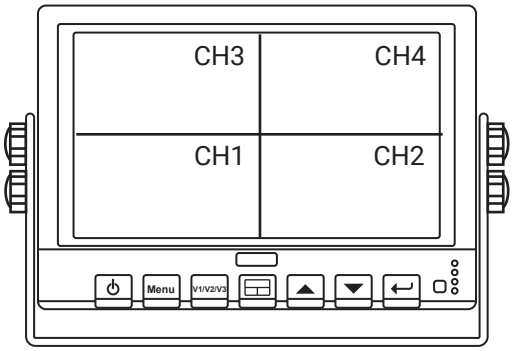
You can choose which camera channels will be displayed on the monitor screen by default. To do so, press the split view selection button repeatedly, until the view that you prefer is displayed.

The following options are available:









Configuring the Monitor Using the On-Screen Display Menu

Using the on-screen display (OSD) menu, you can perform a number of configuration tasks, such as:

- Adjust the quality of displayed video for connected cameras
- Select the language of the OSD menu
- Flip the displayed video images for each or all connected cameras
- Display and adjust the distance grid overlay
- Activate or deactivate the day/night mode
- Select the type of cameras connected to the monitor
- Activate or deactivate the trigger source for each connected camera.

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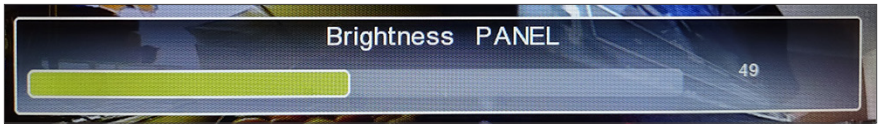
Accessing and Navigating the OSD Menu

- To access the OSD menu, power on the monitor, then press the **Menu** button. The menu is displayed.

- To navigate between menu and submenu items, or to adjust the level of the selected menu item, use the up and down arrow buttons.
- To select a menu item, or to access the item's level adjustment bar, press the **Menu** button.
- To exit out of the menu, or navigate up to the previous menu level, press the exit button.

Adjusting Contrast, Brightness, Saturation, and Volume

1. Access the OSD menu, then use the up/down arrow buttons to select the **Contrast**, **Brightness**, **Saturation**, or **Volume** option as needed. The selected option is highlighted.
2. Press the **Menu** button again, then use the up/down arrow buttons to select either the desired camera channel (left, right, front, or back), or the **PANEL** option to adjust the display for the entire screen. The selected option is highlighted.
3. Press the **Menu** button. The level adjustment bar for the selected option is displayed.



4. Use the up/down arrow buttons to adjust the level, then either press the exit button or wait for the on-screen display to clear.
5. Repeat steps **1** - **4** to adjust other parameters.

Selecting the OSD Menu Language

1. Access the OSD menu, then use the up/down arrow buttons to select the **Language** option. The selected option is highlighted.
2. Press the **Menu** button, then use the up/down arrow buttons to select the desired language from available options, and press the **Menu** button again. The OSD menu is displayed in the selected language.
3. Press the exit button or wait for the on-screen display to clear.

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Flipping the Displayed Images

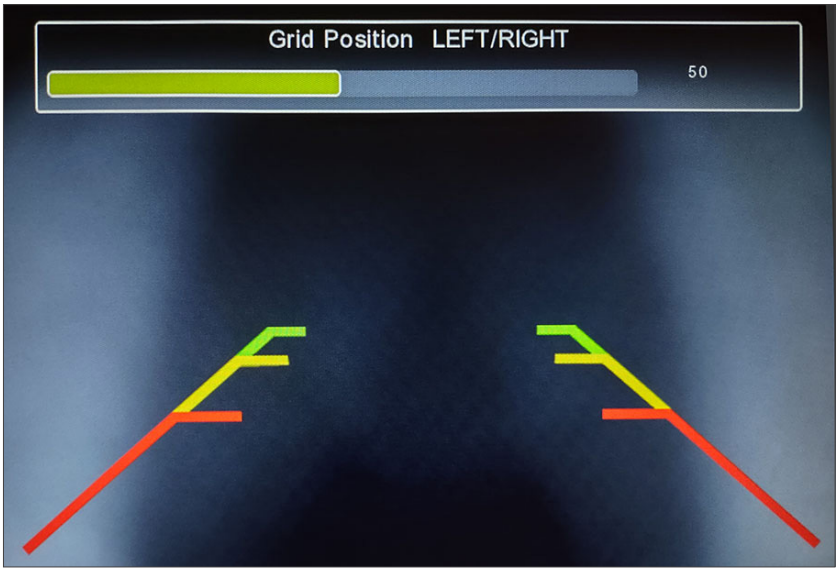
1. Access the OSD menu, then use up/down arrow buttons to select the **Turn** option. The selected option is highlighted.
2. Press the **Menu** button again, then perform one of the following tasks:

To...	Do this...
Flip the selected camera image horizontally	1. Use the up/down arrow buttons to select the desired camera channel (left, right, front, or back), then press the **Menu** button. The **Turn BACK** adjustment bar for the selected camera channel is displayed. 2. Press the up or down arrow button. Observe that the image for the selected channel is mirrored.
Flip all images vertically	1. Use the up/down arrow buttons to select the **ALL** option, then press the **Menu** button. The **Turn BACK** adjustment bar for all camera channels is displayed. 2. Press the up or down arrow button. Observe that all the images are displayed upside down.

3. Press the exit button or wait for the on-screen display to clear.

Displaying and Adjusting the Distance Grid Overlay

The distance grid is intended to assist the driver in judging the proximity of objects when backing up the vehicle. Using the OSD menu, you can display the distance grid for the rear-facing camera channel, and adjust its on-screen position and width. **NOTE**: For best results, perform this procedure with the rear camera channel view displayed on the screen and the vehicle in reverse gear.



1. Access the OSD menu, then use the up/down arrow buttons to select the **Distance Grid** option. The selected option is highlighted.
2. To display the distance grid:
   i. Press the **Menu** button, then use the up/down arrow buttons to select the **ON** setting, and press the **Menu** button again.
   ii. Press the exit button or wait for the on-screen display to clear. The distance grid will be displayed on the screen when the vehicle is backing up.
3. To adjust the on-screen position or width of the distance grid:
   i. Press the **Menu** button, then use the up/down arrow buttons to select the **Grid Position** option. The selected option is highlighted.

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ii. Perform the following tasks:

To...	Do this...
Move the grid's position to the left or to the right	1. Use the up/down arrow buttons to select the **LEFT/RIGHT** option, then press the **Menu** button. The grid and the level adjustment bar are displayed. 2. Use the up/down arrow buttons to adjust the position of the grid.
Move the grid's position up or down	1. Use the up/down arrow buttons to select the **UP/DOWN** option, then press the **Menu** button. The grid and the level adjustment bar are displayed. 2. Use the up/down arrow buttons to adjust the position of the grid.
Increase or decrease the width of the grid	1. Use the up/down arrow buttons to select the **WIDTH** option, then press the **Menu** button. The grid and the level adjustment bar are displayed. 2. Use the up/down arrow buttons to adjust the width of the grid.

iii. Press the exit button or wait for the on-screen display to clear.

Activating or Deactivating the Day/Night Mode

1. Access the OSD menu, then use the up/down arrow buttons to select the **Day/Night** option. The selected option is highlighted.
2. To activate the day/night mode, press the **Menu** button, then use the up/down arrow buttons to select the **ON** setting, and press the **Menu** button again.
   -OR-
   To deactivate the day/night mode, press the **Menu** button, then use the up/down arrow buttons to select the **OFF** setting, and press the **Menu** button again.
3. Press the exit button or wait for the on-screen display to clear.

Selecting the Camera Type

1. Access the OSD menu, then use the up/down arrow buttons to select the **Camera type** option. The selected option is highlighted.
2. Press the **Menu** button, then use the up/down arrow buttons to select the type of cameras connected to the monitor (720p 25fps, 720p 30fps, CVBS PAL, or CVBS NTSC), and press the **Menu** button again. The following message is displayed:
   The system will restart after 3s!
   The monitor is rebooted.

   NOTE: If you selected the wrong camera type, the images will be discolored and distorted. Repeat the procedure and select a different camera type.

Resetting the Configuration Values

1. Access the OSD menu, then use up/down arrow buttons to select the **Reset** option. The selected option is highlighted.
2. To reset the configuration values to default settings, press the **Menu** button, then use the up/down arrow buttons to select the **YES** setting, and press the **Menu** button again. The values are restored to defaults.
3. Press the exit button or wait for the on-screen display to clear.

Activating or Deactivating Camera Triggers

1. Access the OSD menu, then use the up/down arrow buttons to select the **Trigger Source** option. The selected option is highlighted.
2. Press the **Menu** button, then use the up/down arrow buttons to select the desired trigger (left, right, or back), and press the **Menu** button again. The ON/OFF button for the selected trigger is displayed.

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To activate the trigger, press the **Menu** button, then use the up/down arrow buttons to select the **ON** setting.
-OR-
To deactivate the trigger, press the **Menu** button, then use the up/down arrow buttons to select the **OFF** setting.

3. Press the exit button or wait for the on-screen display to clear.

Troubleshooting

Issue	Resolution
Blue screen or no signal	• Unplug all cables for 1 minute, then reconnect them and try again. • Ensure all the connections are tight.
Will not power up	• Check the fuse, the power connection and the ground connection.
No image on screen	• Check all camera connections and that cameras are connected to the correct cables. • To eliminate defective cameras, try connecting a camera that is known to be functional.

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Service & Support

If your **9” LCD Quad View Monitor** is to be returned for service, please contact the Safe Fleet technical support team, provide the part and/or serial # of your unit, and ask for a **Return Merchandise Authorization (RMA)** number. An **RMA #** allows the support team to better track your product when it comes in for service. Please show the RMA # on the **outside** of the package.

ANY PRODUCT SENT WITHOUT AN RMA # MAY BE REFUSED!

Documentation and Warranty

Additional copies of this guide along with other documentation and product warranty can be found on the Safe Fleet Community website: https://community.safefleet.net

Technical Support

Phone: 1.888.514.7443 opt.3

Email: FMsupport@safefleet.net

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