



CycleVision

Digital Video Recorder



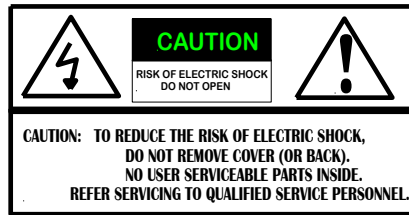
Installation Guide


version 3.2.x


Table of Contents

| | |
|---|----------|
| Introduction | 2 |
| Basic Components | 2 |
| Front Panel of DVR..... | 2 |
| Rear Panel of DVR..... | 2 |
| Packing List | 2 |
| Installation | 2 |
| Review Installation Diagram | 2 |
| Disconnect Motorcycle's Battery | 2 |
| Mount the DVR | 2 |
| Install the Power/Input Cable Harness | 2 |
| Install the Bullet Camera | 2 |
| Strobe Head Mount..... | 2 |
| Engine Guard Mount | 2 |
| Install the Monitor Console | 2 |
| Install the VLP2 Docking Station..... | 2 |
| Connect the Charging Station to your Agency Radio (optional)..... | 2 |
| Install the GPS/WLAN Antenna | 2 |
| Install the Radar Interface (optional)..... | 2 |
| Install the Remote Stop Switch (optional)..... | 2 |
| Check All Rear Panel Connections | 2 |
| Contact Information..... | 2 |

Important Safeguards



 This symbol indicates important operating and maintenance instructions.

 This symbol indicates un-insulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to a person.

Caution: This system is designed to operate in 12 volt DC negative ground vehicles only. All system components must be operated only when properly connected to the DVR.

Attention: To reduce the risk of electric shock, do not perform any servicing other than that contained in this User Manual unless you are qualified to do so. Refer all servicing to qualified personnel.

DO NOT block ventilation openings.

DO NOT allow liquids to enter the DVR or any other component of the CycleVision Digital Motorcycle Recording System. This could cause electrical shorts, fire, or other damage.

CycleVision should be installed by a qualified technician and must conform to SAE Requirements.

If, for any reason, you need to jump start the vehicle, make sure the system power switch, located behind the media access door, is in the Off position

Warning: Ground Wires (Black) must be connected to the motorcycle’s chassis. Never connect ground wires directly to the motorcycle’s battery.

Notice: Drilling Precautions—When drilling holes, check the area in which you are drilling to be sure you do not damage vehicle components. All drilled holes should be deburred and all sharp edges should be smoothed. All wire routings going through drilled holes should be protected by a grommet or convolute/split loom tubing.

Introduction

The CycleVision Flashback3 is a digital video recorder that is installed on a motorcycle. The Flashback recorder collects video evidence and stores it temporarily on an SD card until the video can be transmitted to a storage server or PC back at your precinct. The CycleVision Flashback3 is part of Mobile-Vision's *Digital Evidence Collection System*. This system is comprised of multiple motorcycle and back-office components, as described below.

Flashback's **motorcycle components** include the DVR, DVR monitor, Bullet camera(s), and VoiceLink Plus™ wireless microphone (VLP2).

Flashback's **back office** components are housed in or around the precinct building and typically include a storage server, robotic disc burner, PC workstation (used to control the disc burner), Digital Evidence Series software, and one or more access points.*

The manner in which you manage your CycleVision Flashback3 videos depends on the type of Digital Evidence software that you purchased. Some systems, such as Digital Evidence Pro (DEP), communicate wirelessly with a Linux storage server at your precinct. Other systems, such as Digital Evidence Viewer (DEV), require that you manually upload your videos to a Windows PC using an SD card.

This installation manual describes how to install a CycleVision Flashback3 on a motorcycle. For more information on the Flashback's functions, features, and menu options, refer to the *CycleVision User's Guide*. For information on the back office components, refer to the software documentation that came with your digital evidence collection system. For example, if you are using Digital Evidence PRO, see the *DEP User's Guide* and/or *DEP Administrator's Guide*.

Basic Components



* A hardware component that facilitates data transmission from vehicle to storage server.

Front Panel of DVR

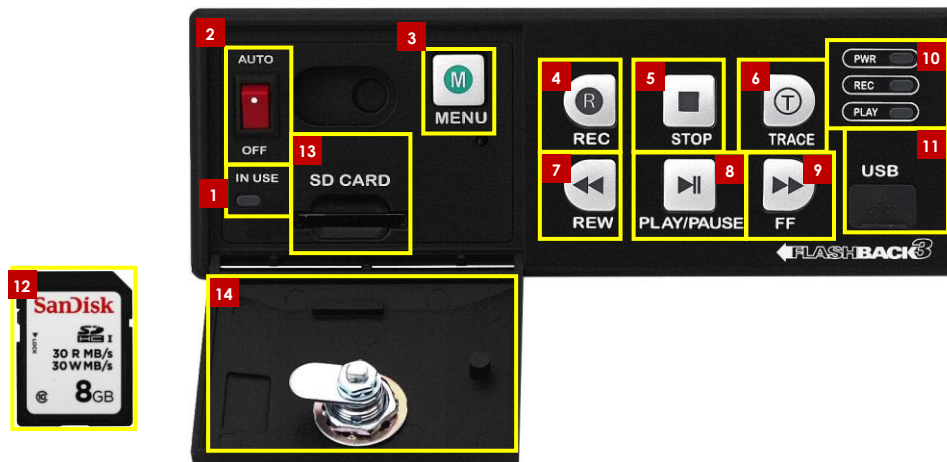









Figure 1: Front Panel of DVR

- 1** **IN USE** display. An LED light that denotes DVR activity. When this light is on, **do not** remove the SD card or your files may be lost!
- 2** **AUTO/OFF**. The manual power switch. Because the Flashback3 is designed to automatically power on and off, this switch is normally left in the **AUTO** position. **Do not** turn this switch off unless instructed to do so by an Mobile-Vision procedure or Service Technician.
- 3** **MENU**. The *Menu* button, used to access the DVR programming options. You can also access this menu by pressing the  button on your Flashback monitor when the DVR door is open.
- 4** **REC**. The *Record* button. If you are in *Idle* mode, this button is used to initiate a recording session. If you are in *Menu* mode, this button is used to select the high-lighted menu item or field. You can also perform these tasks by pressing the  button on your Flashback monitor.
- 5** **STOP**. The *Stop* button. If you are in *Record* mode, this button is used to stop a recording. If you are in *Play* mode, this button is used to stop a video playback session. If you are in *Menu* mode, this button is used to move the cursor *up*. You can also perform these tasks by pressing the  button on your Flashback monitor.
- 6** **TRACE**. The *Trace Point* button. If you are in *Idle* mode, this button is used to display the Login/Logout menu. If you are in *Record* mode, this button is used to mark a position, or point, in a recording. If you are in *Play* mode, this feature is used to quickly advance to a previously marked Trace Point. You can also set or advance to a Trace Point by pressing the  button on your Flashback monitor.

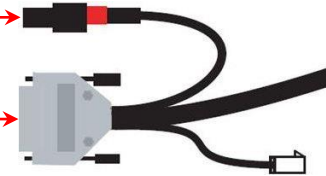
- 7** **REW.** The *Fast Rewind* button. If you are in *Play* mode, this button is used to rewind slowly (press *once*) or quickly (press *twice*). If you are in *Pause* mode, this button is used to rewind one frame at a time. If you are in *Menu* mode on a field value, this button is used to display the previous field value. You can also perform these functions by pressing the  button on your Flashback monitor.
- 8** **PLAY/PAUSE.** The *Play/Pause* button. If you are in *Idle* mode, this button is used to display the *Playlist* directory. If you are in the *Playlist* directory, this button is used to select the highlighted video. If you are in *Play* mode, this button is used to either toggle the video *pause* function on/off (press and release button) *or* display the Select Source menu (press and **hold** button). If you are in *Menu* mode, this button is used to move the cursor *down*. You can also perform these functions by pressing the  button on your Flashback monitor.
- 9** **FF.** The *Fast Forward* button. If you are in *Play* mode, this button is used to advance slowly (press *once*) or quickly (press *twice*). If you are in *Pause* mode, this button is used to advance one frame at a time. If you are in *Menu* mode on a field value, this button is used to display the next field value. If you are in *Menu* mode on a menu screen, this button is used to select the highlighted menu option. You can also perform these functions by pressing the  button on your Flashback monitor.
- 10** **PWR, REC, and PLAY indicators.** LED lights used to indicate if there is currently power to the unit (PWR), a recording session in progress (REC), or a playback session in progress (PLAY).
- 11** **USB.** The input port for the *USB login key*—a memory stick that contains the user’s name. For instructions on logging into the DVR, see “Logging into a DVR Using Your USB Login Key” in chapter 1 of the *DEP User’s Guide*.
- 12** The Secure Digital (SD) card, used to temporarily store your Flashback videos until they can be transmitted to your agency’s application server.
- 13** **SD CARD.** The input slot for the SD storage card.
- 14** **DVR DOOR.** The access door for the DVR’s manual power switch, SD card, and Flashback menu. This door can only be opened with a key. Depending on your agency’s policies, only a limited number of supervisors and/or IT personnel may have access to this key. To access the DVR menu options, this door must be *open*. To record or play back a video, this door must be *closed* and *locked*.

Rear Panel of DVR



Figure 2: Rear Panel of DVR

- 1** GPS ANT. Input for GPS wire on antenna.
- 2** W-LAN ANT1. Input for the *W-LAN* wire
- 3** CAMERA 1. Input for Bullet camera
- 4** CAMERA 2. Input for second Bullet camera (optional)
- 5** MONITOR. Connection for Flashback monitor (from REMOTE connector)
- 6** (LAN)/USB. Input for USB drive. *The LAN port is not used in this application.*
- 7** REMOTE. Connection for Flashback monitor
- 8** RADAR. Input for optional radar unit
- 9** POWER & INPUTS (12VDC, max 5A). Connection for main harness, which houses the following wires: *power, ground, lights, siren interface, brakes input, ignition input, chassis ground, and auxiliary inputs*
- 10** VLP1. Input for VLP2 charging station
- 11** VLP2. Input for second VLP2 charging station



Packing List

This list may vary slightly depending on the options your agency has purchased.

- Flashback Digital Video Recorder w/Media Door Key
- Compact Flash Card
- Bullet Camera and Mounting Hardware
- Weather Proof Monitor Console and Mounting Hardware
- WLAN/GPS Antenna
- VoiceLinkPlus2 Wireless Mic Assembly with Microphone w/battery, Belt Clip, 2 Lapel Microphones and Docking Station (2.4GHz)
- VLP 6-pin Modular Cable with matching transformer
- VLP2 Charging Station with AC adapter
- Two Panavise[®] Mounts
- Siren Interface Module
- One 2 Amp Fuse
- Two 5 Amp Fuses
- Three Fuse Holders
- Cables Assemblies:
 - One DVR Power & Input Cable 8'
 - Monitor Console Cable 8'
 - Camera Extension Cable 8'
- DVR Mounting Components:
 - Two Mounting Blocks
 - One U-Mount DVR Bracket
- Manuals:
 - CycleVision User's Guide
 - CycleVision Installation Guide

Installation

The Mobile-Vision Flashback Motorcycle Video System should be installed by a trained vehicle equipment installer. For optimal results, carefully follow all instructions in this manual.

Before installation, test all vehicle functions for proper operation (brake lights, siren, strobe head lights, etc.), as these functions are be used to activate a CycleVision recording.

When installing a CycleVision Flashback on a BMW motorcycle, contact BMW Customer Service for information on special mounting options available.

While installing a CycleVision system, please follow the following safety guidelines:

- For proper operation, the Ground (GND) wire terminal of the CycleVision System must be firmly screwed down to the motorcycle's metal frame. Do *not* connect to battery!
- Do *not* run wires or cables in areas where they may become damaged by heat from the engine or the exhaust system.
- Do *not* run wires or cables over sharp metal edges, which could eventually cut through the insulation and short-circuit a wire to frame ground.
- Mount the Flashback System Monitor Console in a place where the driver can easily reach it, and where it will not obstruct other accessories that the driver must reach.
- When drilling or inserting self-drilling screws through any point in the motorcycle, be careful not to puncture any vehicle components such as hoses, lines, cables, gas tank, etc.
- Do *not* run wires or cables in a parallel group or bundle with other vehicle wiring. This may induce electrical "cross talk" between the bundled wires and can degrade the performance of the CycleVision System.



NOTE: Only use cables supplied by Mobile-Vision. The use of third-party cables is not supported and may adversely affect the operation of your in-car video system.

1

Review Installation Diagram

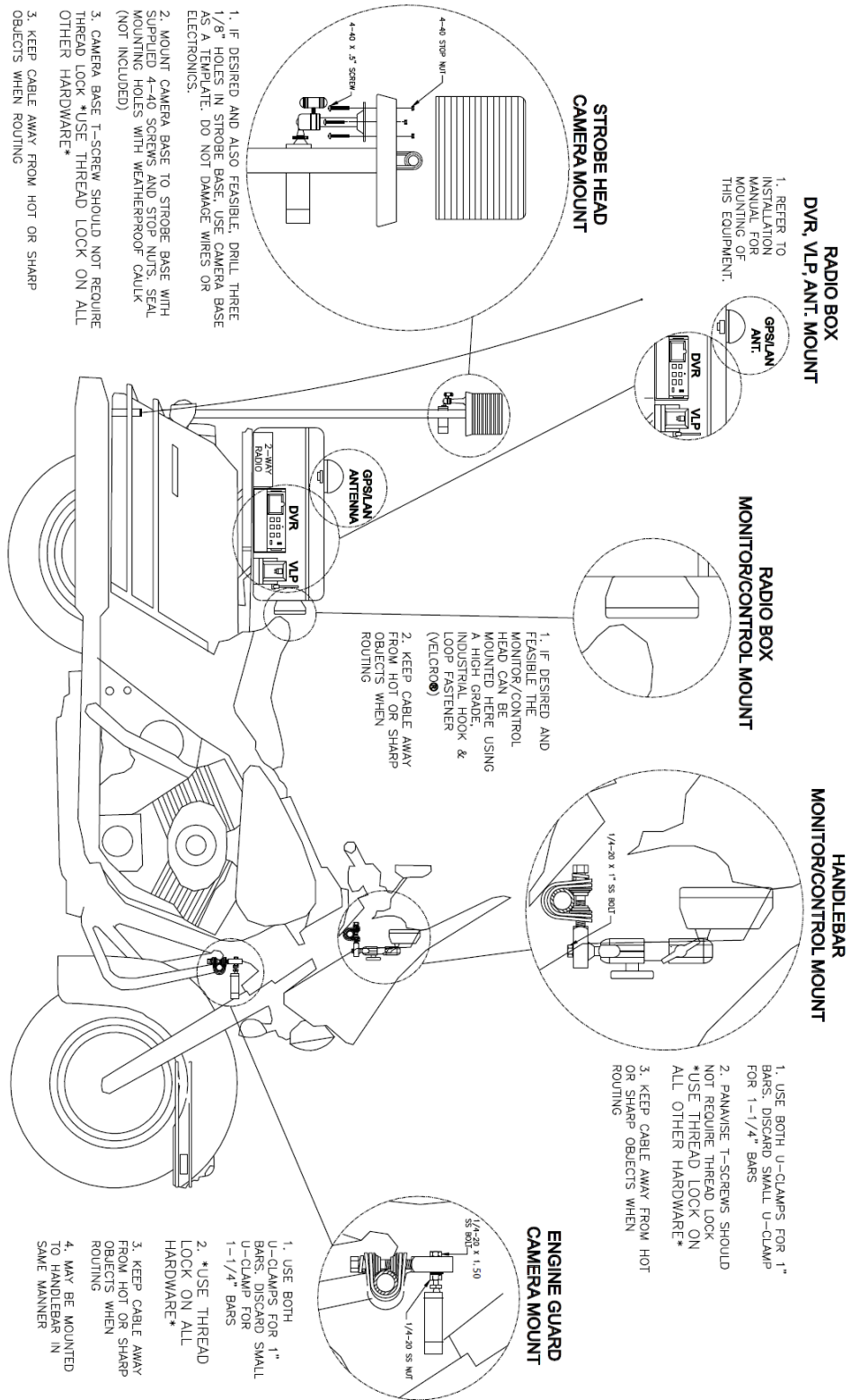


Figure 3: Installation Overview

2

Disconnect Motorcycle's Battery

First disconnect the groundable (negative) battery cable first, then the positive battery cable.

3

Mount the DVR

Select a clean, dry, protected environment on which to mount the DVR. It should allow access to the DVR's rear connectors and front panel controls. The location and hardware used for the mounting of the U-bracket is at the installer's discretion.

The possible mounting configurations are outlined in Figure 4 below.

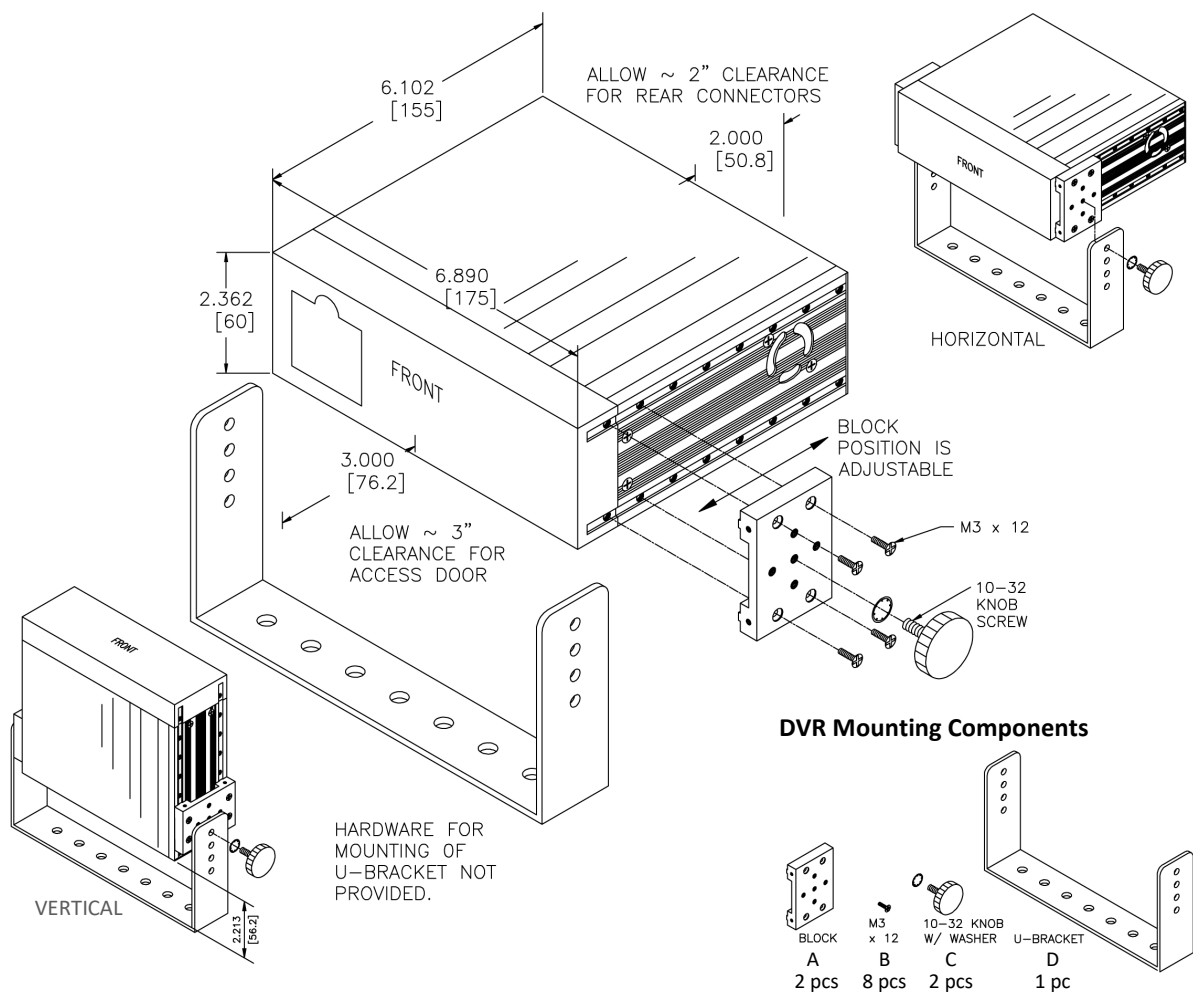


Figure 4: DVR Mounting Configurations

4

Install the Power/Input Cable Harness

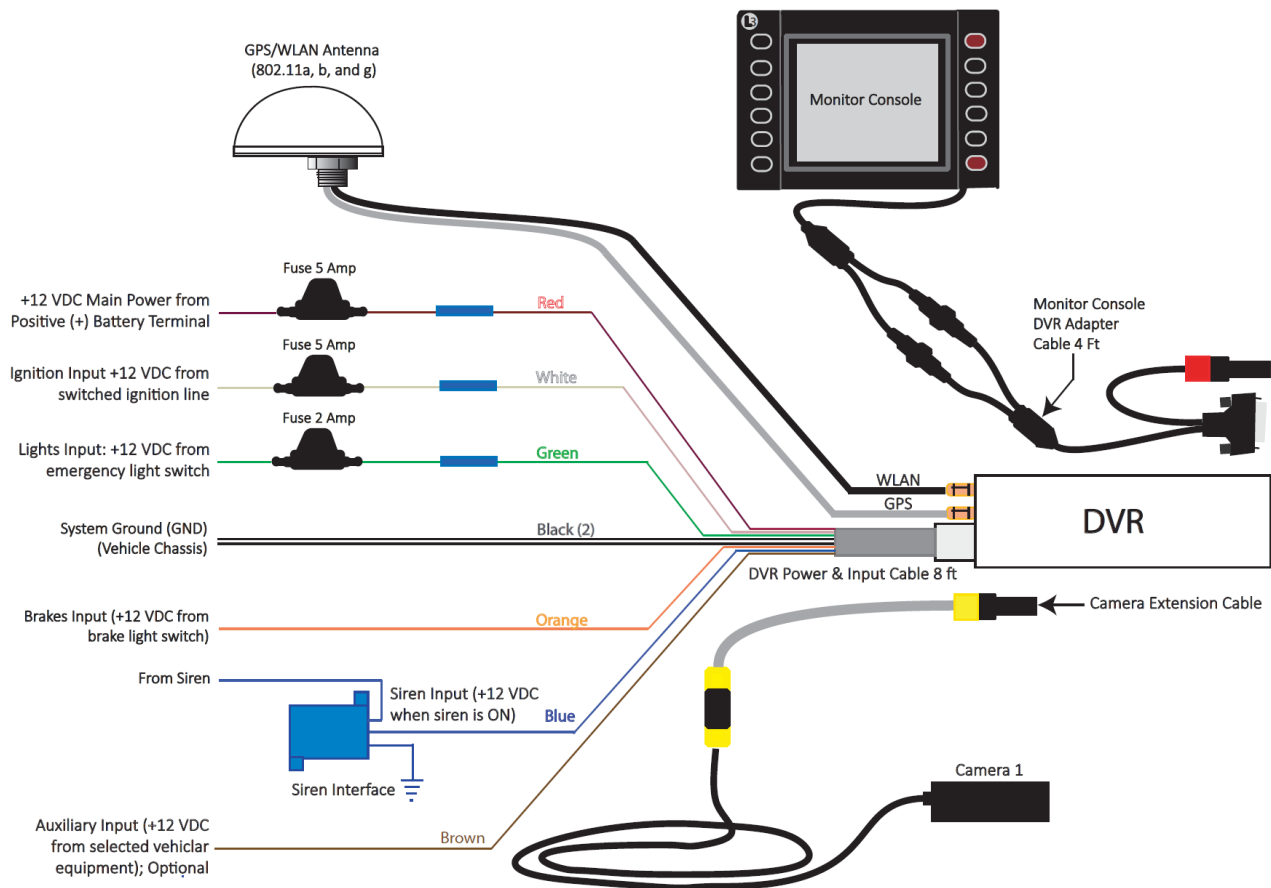


Figure 5: Electrical Connections

- 1 Connect the cable harness Lights input wire (green) to the butt-splice connector on the supplied 2 Amp fuse (with green tag). Connect the other end of the fuse to a wire or terminal that is +12 volts (hot) when the Emergency lights are ON.
- 2 Connect the cable harness Siren input wire (blue) to the blue wire of the supplied Siren Interface Unit (cube).
- 3 Locate the two siren speaker wires. T-Tap each of the siren speaker wires to each of the zip wires (brown) on the siren interface unit. It does not matter which zip wire goes to which speaker wire.
- 4 Connect the siren interface unit's ground wire (black) and the cable harness system ground wire (black) to the Motorcycle Frame (ground). ⚠ Do not connect directly to the battery

- 5 Connect the cable harness Brakes input wire (orange) to a wire or terminal in the brake lights circuit that is +12 volts (hot) when the brakes are applied. ⚠ Follow the motorcycle manufacturer's recommendations for connecting to Brake wires. ⚠ Never cut any wires in the brake circuit when making connections!
- 6 Connect the cable harness 12VDC Main input wire (red) to the butt-splice connector on the supplied 5 Amp fuse (with yellow tag). Connect the other end of the fuse to a wire or terminal that is the +12 volt Battery.
- 7 Connect the cable harness Ignition input wire (white) to the butt-splice connector on the supplied 5 Amp fuse (with yellow tag). Connect the other end of the fuse to a wire or terminal that is the +12 volts (hot) when the ignition key is in the ON position.

5 Install the Bullet Camera

There are two typical methods used to mount the Bullet Camera:

- Use the Swivel Mount to mount the camera to the Strobe Head, or
- Use the Universal Mount to mount the camera to the Engine Guard

If you have a BMW motorcycle, the manufacturer can provide you with alternative installation locations, if desired.

Please refer to Figures 3, 5, 6, and 7 for more details.

Strobe Head Mount

- 1 Install the Swivel Mount (Figure 6), supplied with camera, to the underside of the Light Strobe. Drill three 1/8" holes in strobe base. Use camera Swivel Mount base as a template.

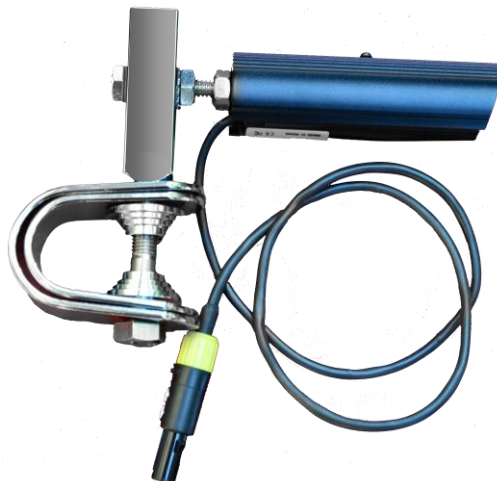


Figure 6: Bullet Camera with Swivel Mount

- 2 Mount camera Swivel Mount base to strobe base with supplied 4-40 screws and stop nuts. Seal mounting holes with weatherproof caulk (not included).
- 3 Apply supplied Loctite® 243 Thread Locker Adhesive to base ¼-20 swivel stud and screw camera onto assembly. Thumb screw should not require thread lock.

⚠ When routing, keep cable away from hot or sharp objects.

Engine Guard Mount

Use supplied Loctite 243 Thread Locker on all hardware. See Figure 7 below.

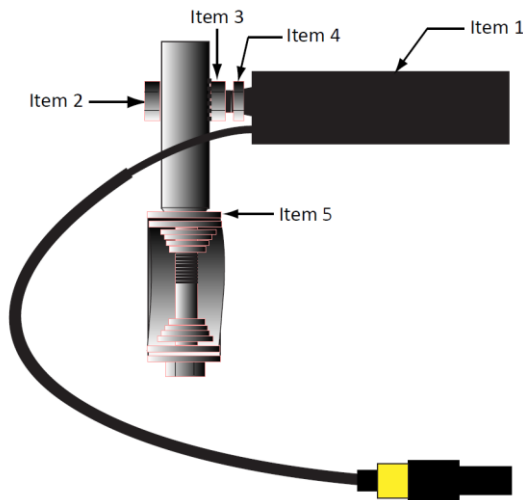


Figure 7: Engine Guard Mount

- 1 Install the Universal Bar Mount to the engine guard. Use both U-clamps for 1" bars. Discard small U-clamp for 1-1/4" bars.
- 2 Insert ¼-20 x 1-1/2" L Hex Head Screw (Item 2) through hole in Universal Motorcycle Mount (Item 5).
- 3 Install Hex Nut ¼-20 with locking washer (Item 3) on previously installed screw and hand tighten against Universal Motorcycle Mount (Item 5) square bar.
- 4 Screw the CycleVision Camera (Item 1) onto Hex Head Screw (Item 2) until screw shaft bottoms out. Tighten until camera is locked in place on screw shaft.
- 5 Tighten ¼ - 20 Hex Nut (Item 4) to Lock camera (Item 1) on the ¼-20 x 1-1/2" L screw (Item 2).
- 6 After mounting the complete assembly on the motorcycle, position the camera view and tighten the ¼-20 Hex Nut w/locking washer (Item 2) to lock camera position.

⚠ When routing, keep cable away from hot or sharp objects.

6

Install the Monitor Console

There are two methods of mounting the Monitor Console.

- ❑ Attach the monitor to the handlebar using the included PanaVise mounting arm. This method has the advantage of allowing the user to adjust the monitor's position and angle for convenient access and optimum viewing.
- ❑ Attach the monitor to the outside of the radio box using an industrial grade Hook and Loop fastener (i.e., Velcro).

This section describes how to install the monitor console using the supplied *PanaVise* mounting arm.

For more details, refer to Figures 3 (page 2) and 8 (below).



NOTES: Use the supplied Loctite 243 Thread Locker on all hardware. Also, the Monitor Console mounting location must be inside the motorcycle fairing to protect it from driving rain.

- 1 Install the Universal Bar Mount to the handlebar. Use both U-clamps for 1" bars. Discard small U-clamp for 1-1/4" bars.
- 2 Attach the PanaVise ball to the mount using the 1/4-20 x 1" bolt.
- 3 Mount the Monitor Console by sliding its back slot onto the PanaVise endplate. Use the supplied screw to lock it in place.
- 4 Install assembly as illustrated in Figure 3 on page 2.

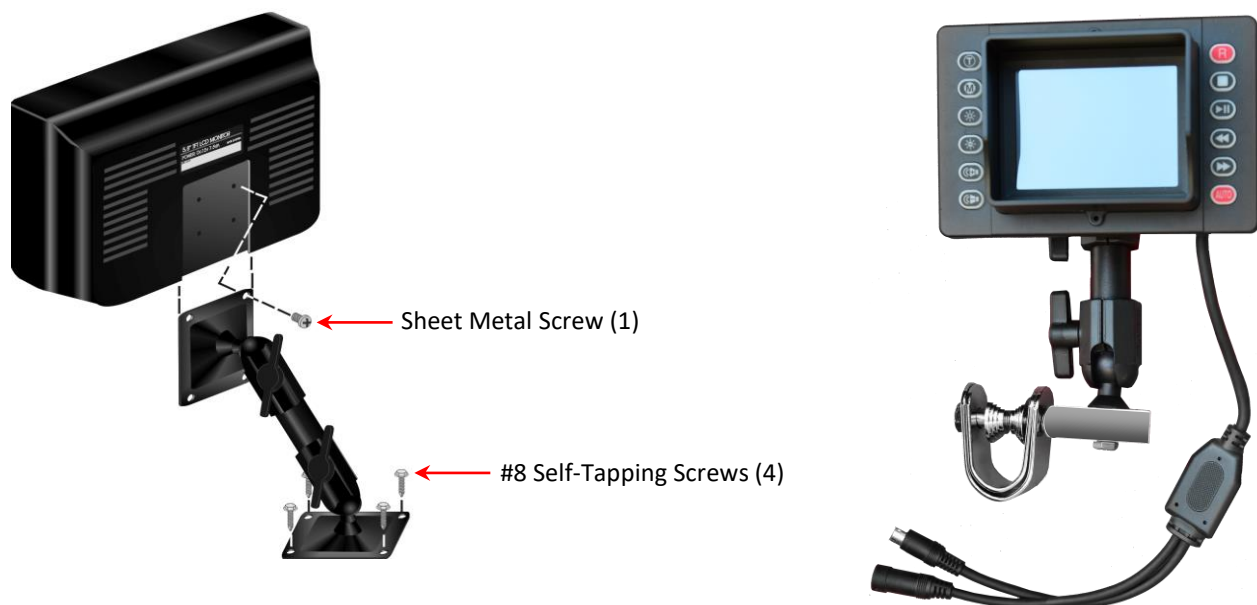


Figure 8: Monitor with Mounting Arm

7

Install the VLP2 Docking Station

The docking station for the VLP2 wireless microphone is installed inside the motorcycle's radio box using either the supplied PanaVise mounting arm or industrial grade Hock and Loop fastener (i.e., Velcro). This section describes how to install the docking station using the *PanaVise* mount.

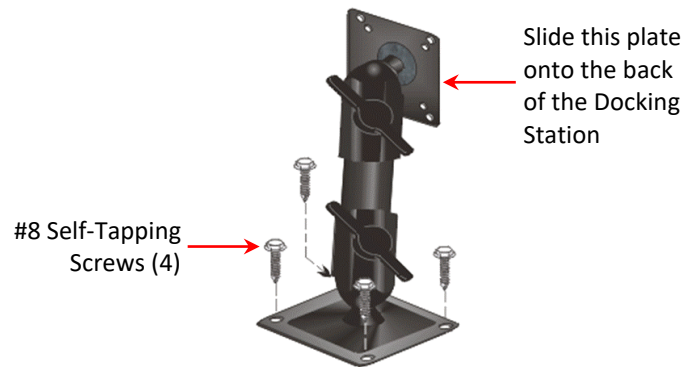


Figure 9: PanaVise Mount for Docking Station

- 1 Select a mounting position inside the motorcycle's radio box.
- 2 Using the mount's larger endplate as a template, mark the position of the four screw holes on the selected mounting surface.
- 3 Affix the mount to the selected location the using four #8 self-tapping screws.
- 4 *Attach the Docking Station to the mount:* Slide the slot on the back of the Docking Station onto the endplate of the mount. When the endplate is fully seated into the slot, it will lock into place. (To *remove* the Docking Station, depress the locking tab in the slot and slide the endplate out.)
- 5 Connect the Docking Station to the DVR using the VLP Transformer Matching Cable. The cable end marked **D-ICV** plugs into the DVR's VLP 1 or VLP 2 port, and the cable end marked **VLP** plugs into the Docking Station's communications port, as pictured below in red.



Figure 10: VLP2 Connections

8**Connect the Charging Station to your Agency Radio (optional)**

If your agency has chosen to use the Emergency button feature, use the *Emergency* port to connect the Docking Station to your agency radio via a phone jack cable.



Figure 11: Emergency Port

9**Install the GPS/WLAN Antenna**

There are two methods of mounting the GPS/WLAN antenna:

- Magnetically mount the antenna to a ferrous metal surface. If a good metal surface is not available, the installer is responsible for providing and mounting a steel metal plate suitable for this application.
- Surface-mount the antenna using industrial grade, weatherproof, double-sided tape (i.e., Velcro).



Figure 12: GPS/WLAN antenna with Magnet Mount

10**Install the Radar Interface (optional)**

If your agency has purchased the optional Radar Interface, you'll need to connect it to both the DVR and your radar unit.

- 1 Make sure switch **1** is in the **OFF** position (default).
- 2 If you are using a Decatur radar device, set switch **8** to the **ON** position.

– OR –

If you are using a Stalker, Kustom, or MPH radar device, set switch **8** to the **OFF** position.

See Figure 13 on the next page.

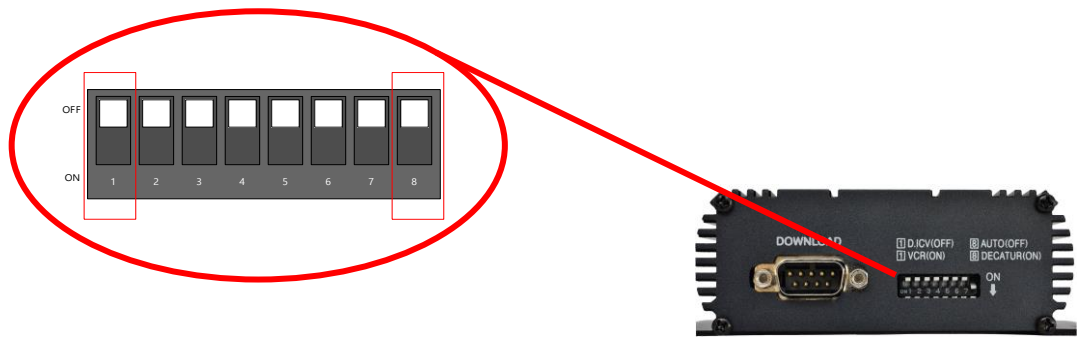


Figure 13: Positioning of Radar Interface Switches

- 3 Using the four mounting screws provided, secure the Radar Interface to a flat surface in your vehicle within five feet of the DVR.
- 4 Using the Radar Interface Cable, connect the **RADAR** port on the Radar Interface unit to the appropriate port on your radar device. See Figure 14 below.



Figure 14: Connection for your agency's radar unit

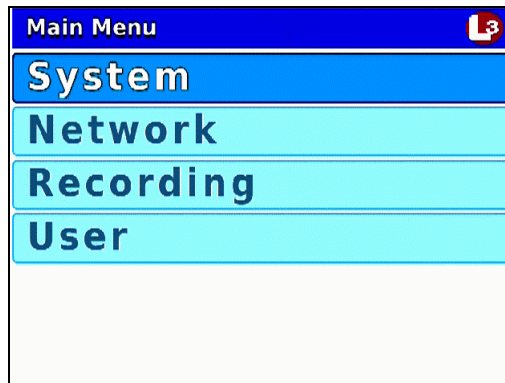
- 5 Using the 5 FT DVR Cable (W-FB-RDRDVR-CA5), connect the **D.ICV/VCR** port on the Radar Interface unit to the **RADAR** port on the DVR. See Figure 15 below.



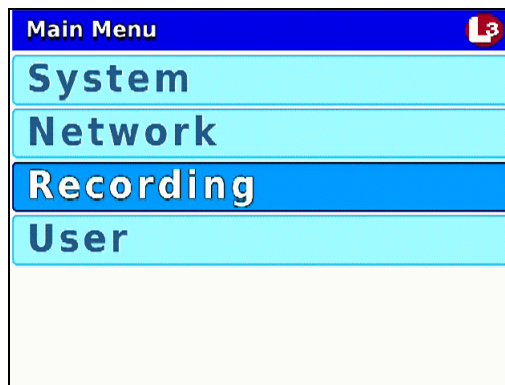
Figure 15: Connection from radar unit to DVR

- 6 Program the DVR to work with the Radar Interface, as described in steps 7 - 20.
- 7 Make sure the door to your DVR is open and Auto mode is *off*. (If necessary, press the **AUTO** button until the **AUTO** light turns *off*.)

- 8 Press **M**. The Main Menu displays.



- 9 Press the **Left Arrow** or **Right Arrow** button until **Recording** is highlighted.



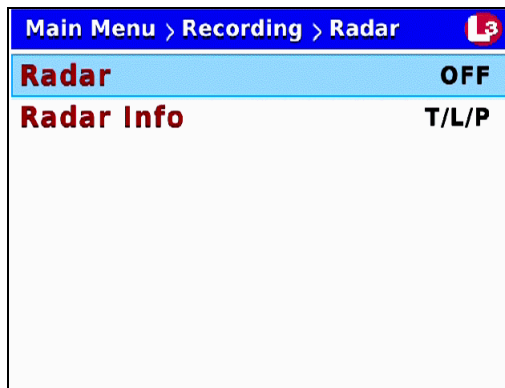
- 10 Press **R** to select the Recording option. The Recording menu displays.



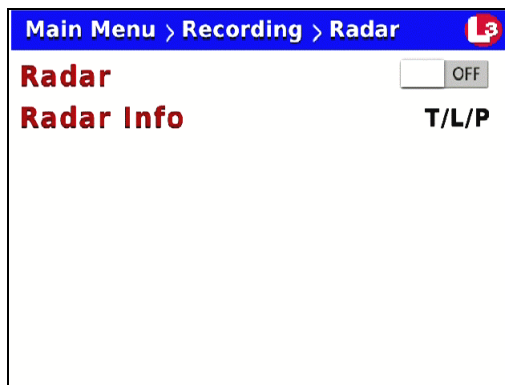
- 11 Press **Left Arrow** *twice* to advance to the **Radar** option.



- 12 Press **R** to select the **Radar** option. The Radar screen displays.



- 13 Press **R** to select the *Radar* field.



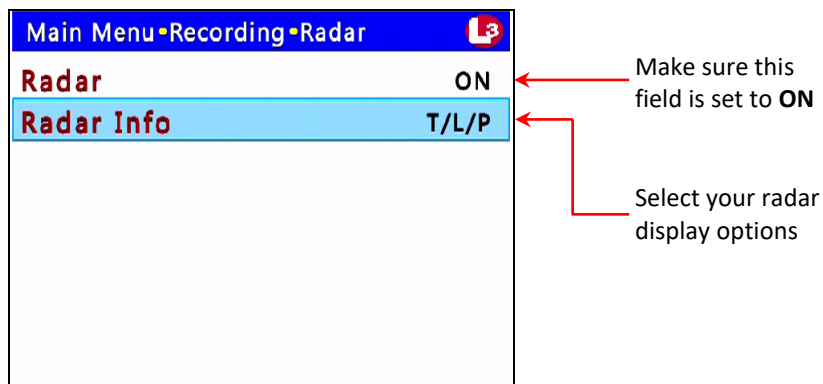
- 14 Press **▶** to toggle the field value from **OFF** to **ON**.
- 15 Examine the current radar settings in the *Radar Info* field, as described in the table on the next page.

| Available Radar Displays | |
|---|---|
| T | Target Speed. The MPH or KPH reading of a speeding vehicle. |
| L | Lock Speed. The minimum MPH or KPH reading that you're looking for when you aim your radar device at a speeding vehicle. |
| T/L | The target <i>and</i> lock speeds, as described above. |
| T/L/P <i>(system default)</i> | The target, lock, and patrol speeds. The patrol speed is the MPH or KPH reading of your patrol car at the time a radar reading is obtained. |

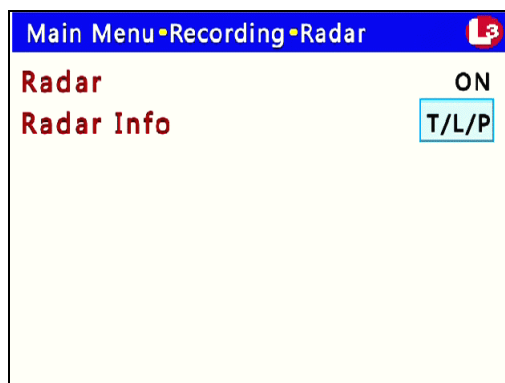
- ⇒ To *keep* the current setting, skip to step 20.
- ⇒ To *change* the current setting, proceed to the next step.

16 Press **M**.

17 Press **▶** to advance to the *Radar Info* field.



18 Press **R** to select the *Radar Info* field.



19 Use the **▶** button to select the radar information you wish to display.

20 Press **M** *four times* to save your changes and exit this option.

11

Install the Remote Stop Switch (optional)

The Remote Stop Switch option was design for departments that do not wish to mount the system Monitor Console within eye site of the officer due to possible distractions. In these cases, most departments mount the system monitor in the motorcycle radio box. One major problem with this approach, however, is whenever the officer is required to terminate a recording, he must stop, park, and open the radio box to access the system controls. A second problem is that it provides no external indicators of the system’s recording status. The Remote Stop Switch Option addresses these limitations. It provides the following:

- ❑ An external Record Status Led indicator, which lights whenever system recording is active
- ❑ A handle bar mounted Remote Stop Button, used to manually stop a system recording

Figure 16 below shows how this option’s components are connected in to the Cycle-Vision system.

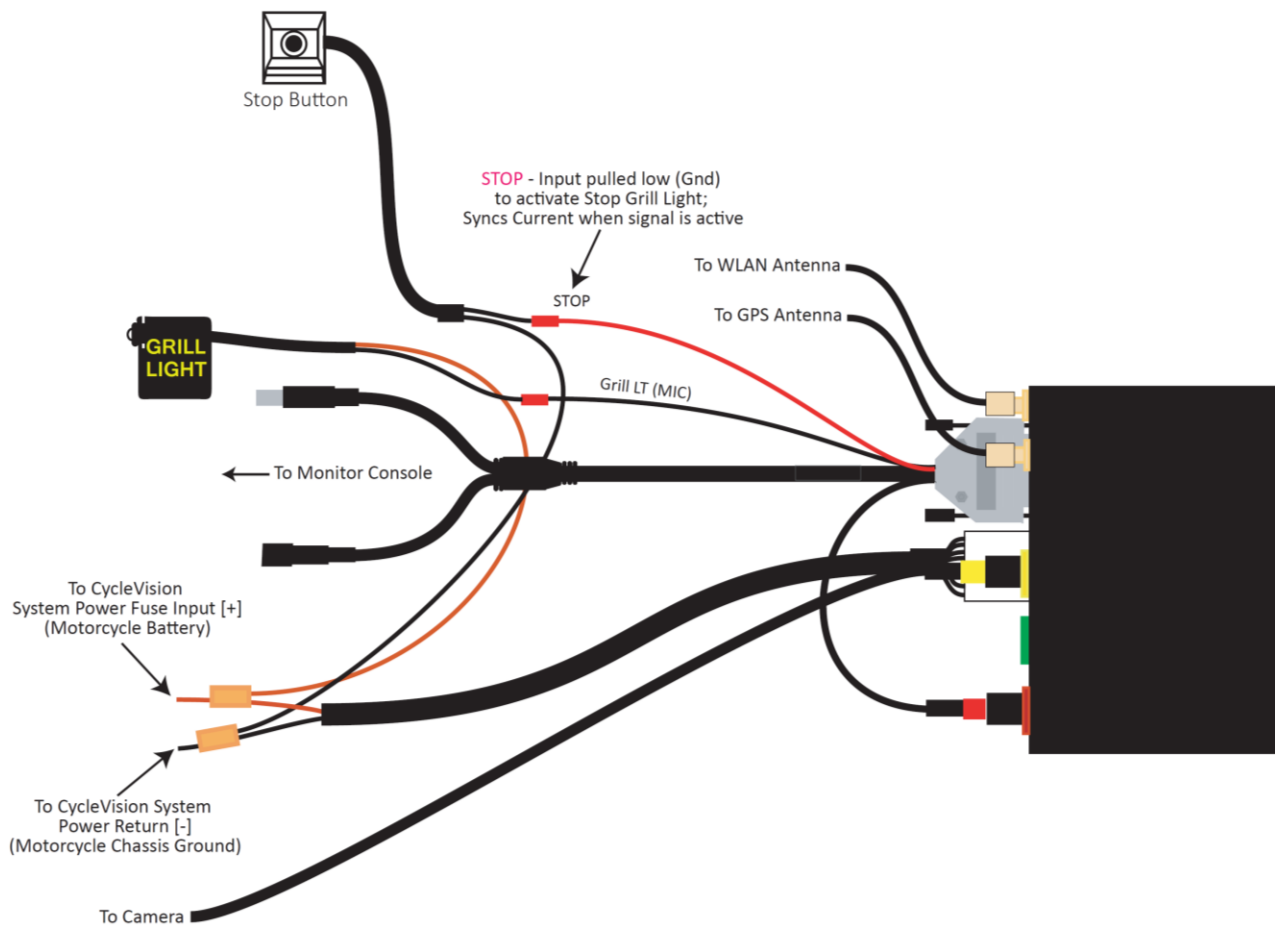


Figure 16: Remote Stop Switch Connections

12

Check All Rear Panel Connections

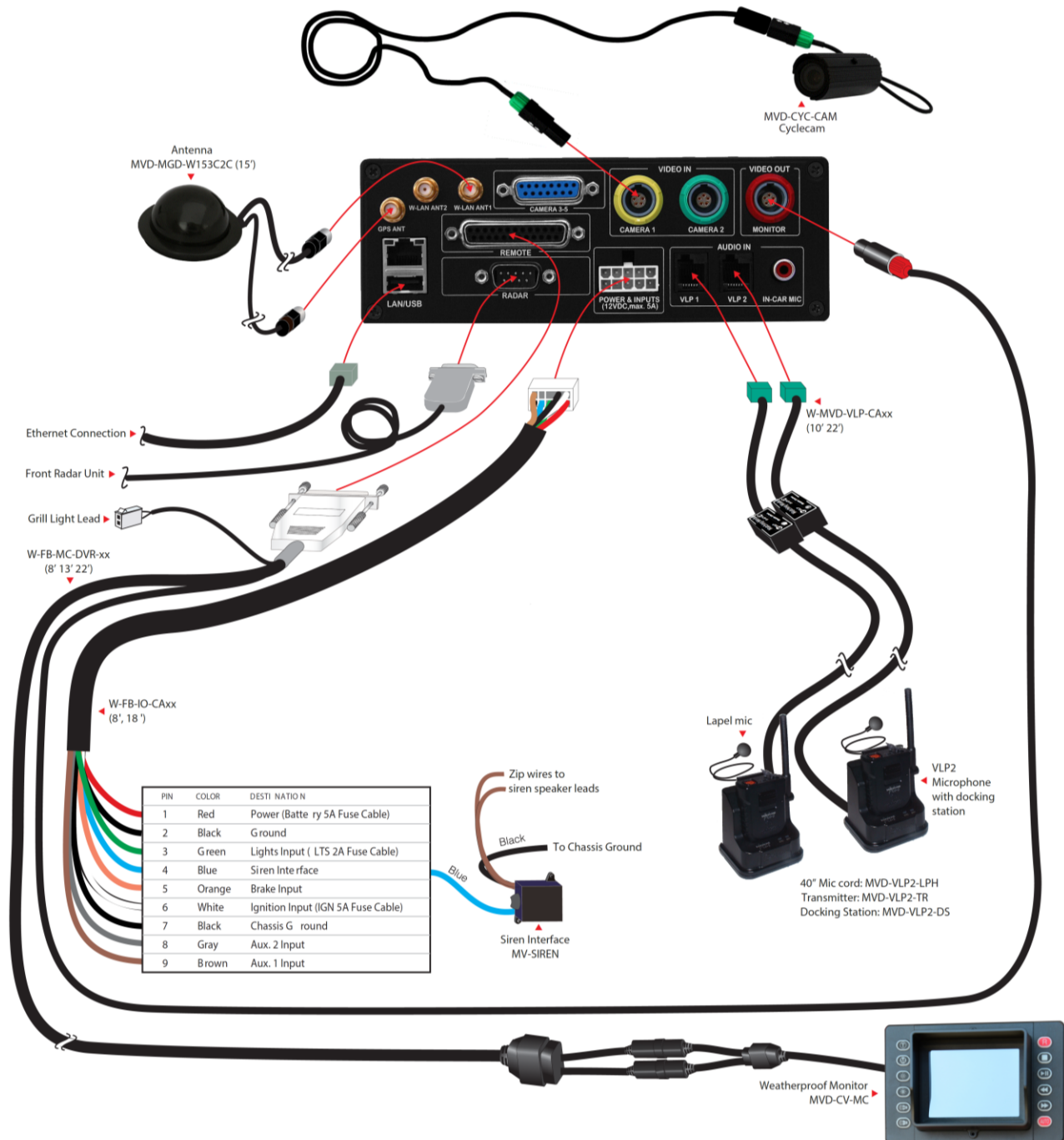


Figure 17: Rear Panel Connections

Contact Information

Phone: (800) 336-8475
Email: servicedepartment.mvi@safefleet.net
Address: Safe Fleet Mobile-Vision
400 Commons Way, Suite F
Rockaway, NJ 07866