



CYCLE VISION™ *Installation Guide*

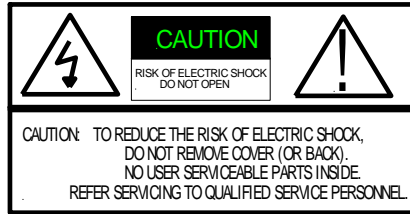



Table of Contents


Important Safeguards	2
Unpacking	Error!
Bookmark not defined.	
Installation	4
Precautions	4
Component Mounting	6
Electrical Connections	8
Bullet Camera	9
Monitor Console (Weatherproof)	10
VLP2	11
GPS/WLAN Antenna	12
Rear Panel Connections	13
DVR Pin Outs	14
Front Panel	14
Rear Panel	14
Radar Interface Option	17
Remote Stop Switch Option	17
Cable Schematics	20
Camera Extension Cable	21
Monitor Console/DVR Adapter Cable	22
Radar Interface to DVR Cable	22
Contact Information	23

Important Safeguards

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.

Packing List

The following is a packing list of system components included in the CycleVision System shipping container. This list may vary slightly depending on the options your agency has purchased. Unless otherwise noted, quantity of each component is 1.

CycleVision Digital Video System (MVD-FB2DVS)

- 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
- VoiceLinkPlus 2 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
 - CycleVision Installation

Installation

Precautions

Important:

The L-3 Communications Mobile-Vision Flashback Motorcycle Video System should be installed by a trained vehicle equipment installer, carefully following all instructions in this manual.

Before Installation:

Test all vehicle functions – such as Brake Lights, Siren, Strobe Head Lights, etc. – for proper operation, since these functions will be used to activate the CycleVision System.

NOTE: When installing Flashback on BMW motorcycles, contact BMW Customer Service for available special mounting options.

Warnings:

- ⚠ 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.

Component Mounting

- Important Precaution Before Installing DVR -
Disconnect motorcycle battery Ground cable (Negative) first, then the Positive battery cable.

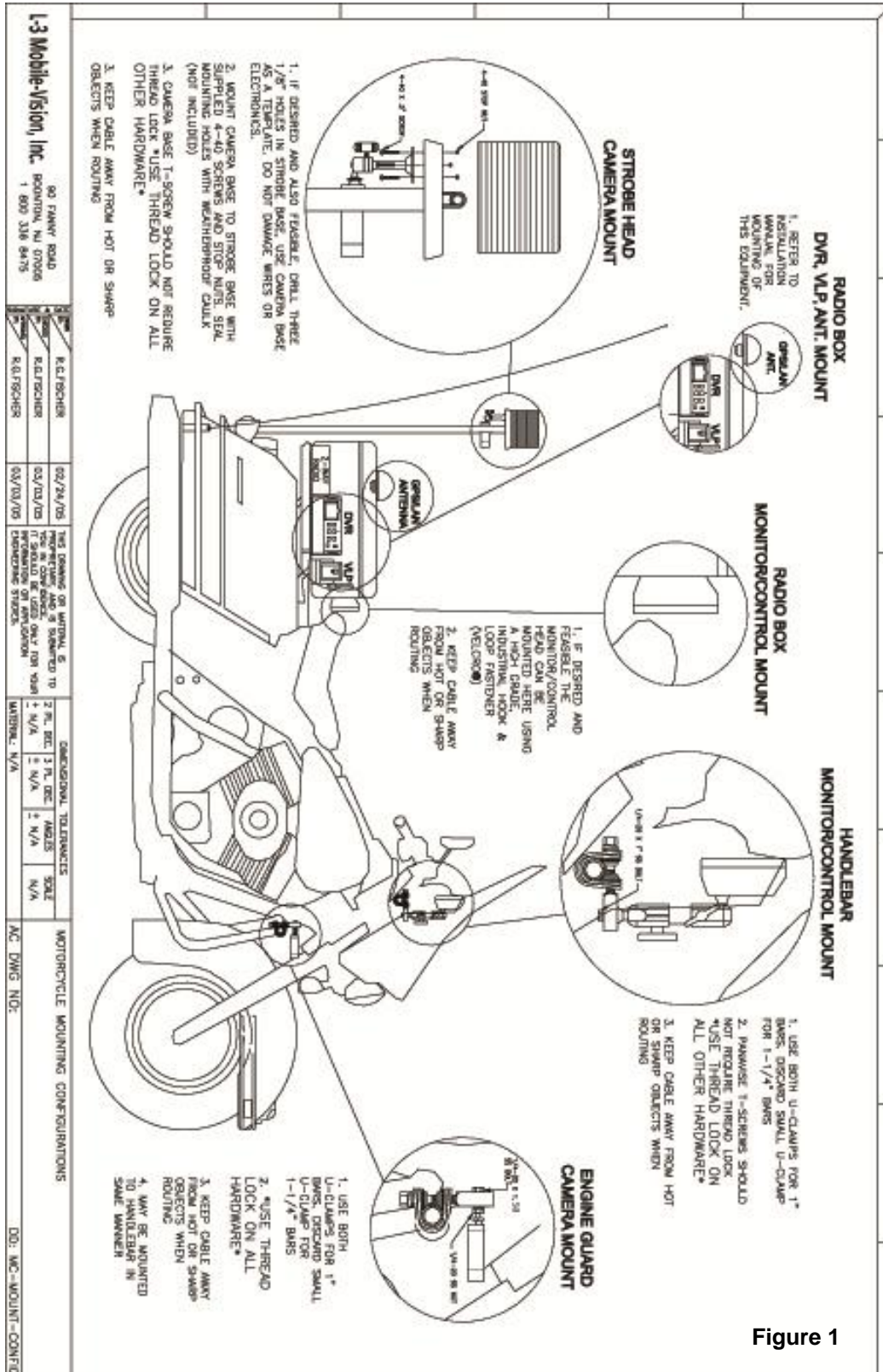


Figure 1

NOTE: The DVR must be located in a dry protected environment.

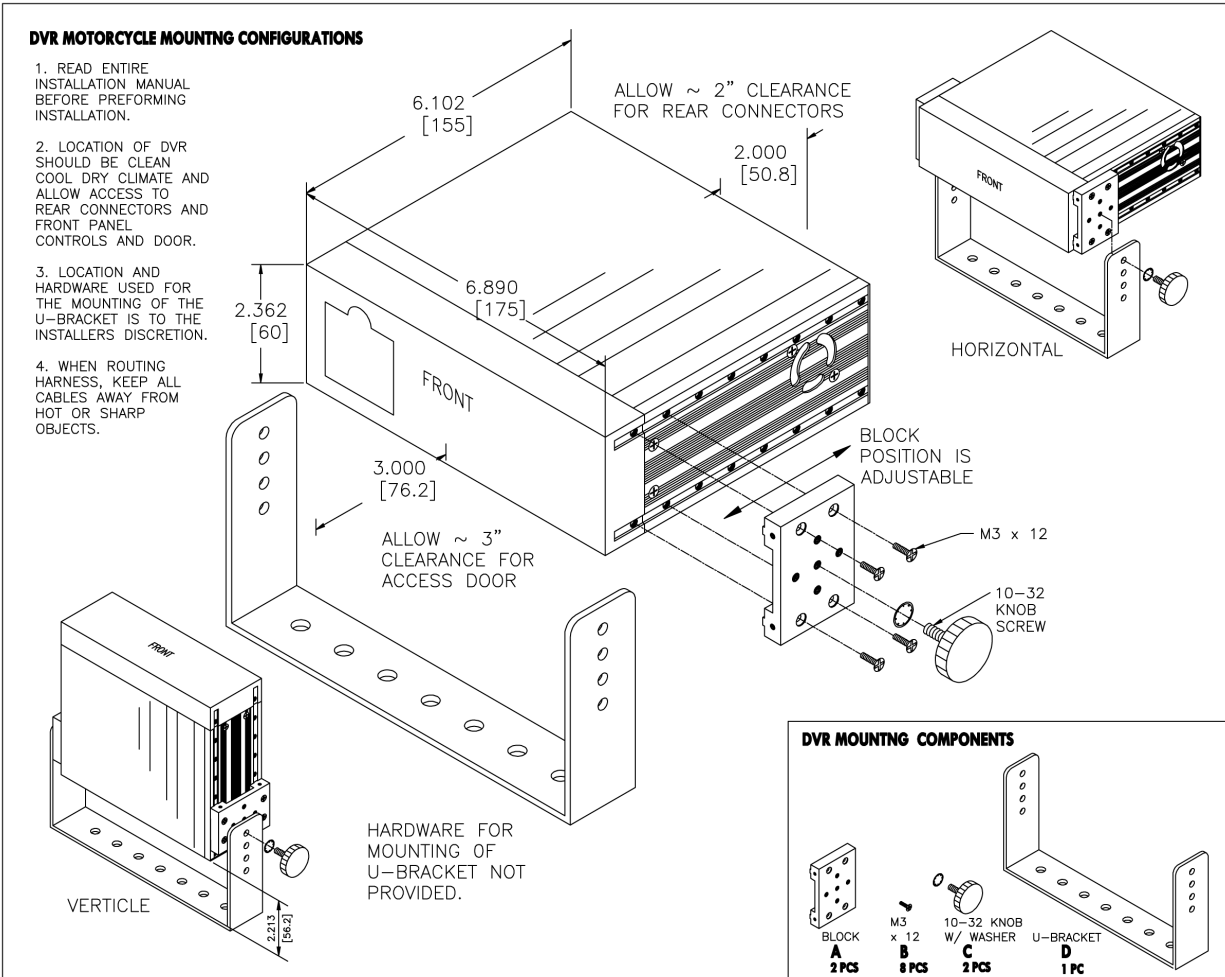


Figure 2

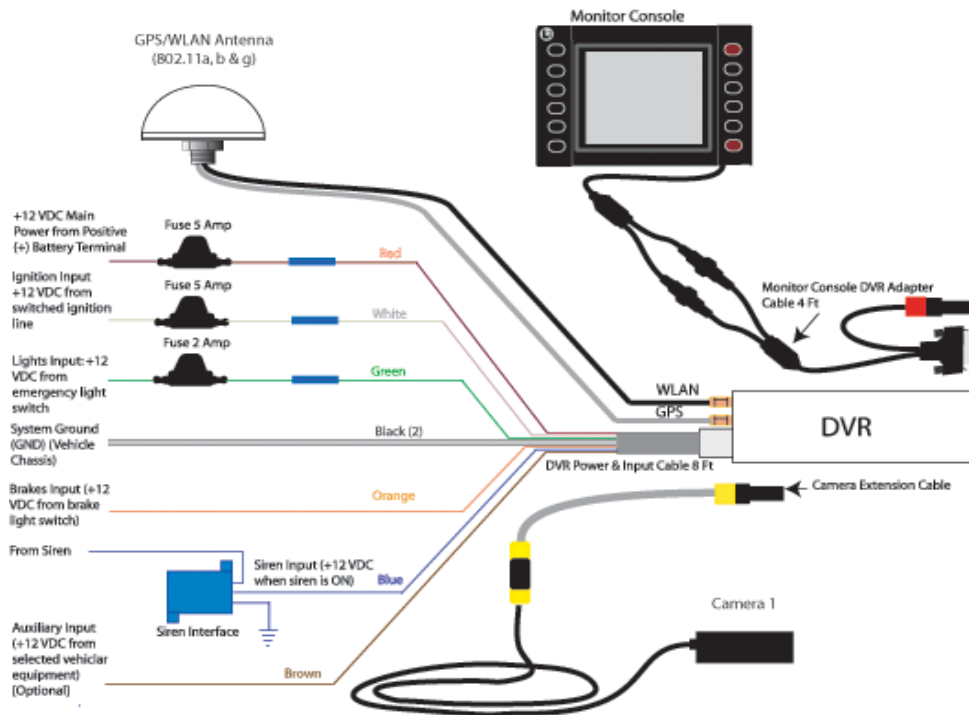
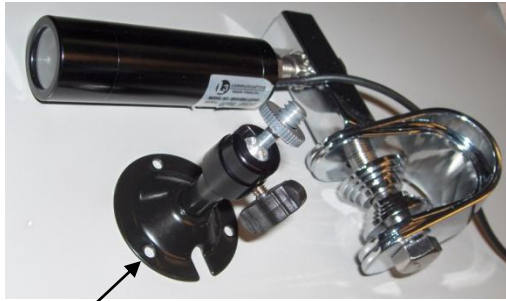
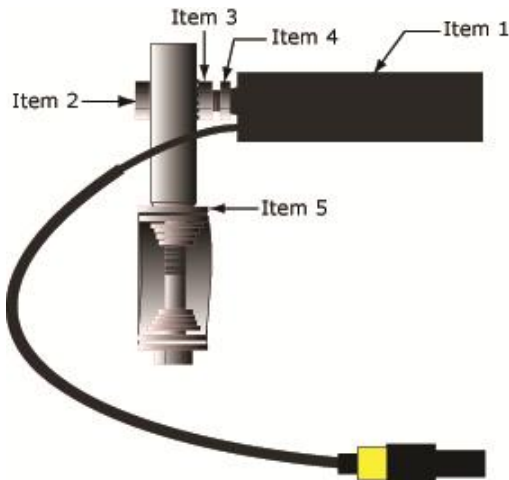


Figure 3

Electrical Connections

Power/Input Cable Harness

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.
- ⚠ Warning: 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.

Bullet CameraSwivel
Mount**Figure 4****Figure 5****Installation of Bullet Camera**

There are two methods of mounting the Bullet Camera. You can mount the camera using the Swivel Mount to the Strobe Head or Engine Guard using the Motorcycle Universal Mount. Refer to Figures 1, 4, & 5.

Strobe Head Mount –

1. Install the Swivel Mount (Figure 4), 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.
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 1/4-20 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 5

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 1/4-20 x 1-1/2" L Hex Head Screw (Item 2) through hole in Universal Motorcycle Mount (Item 5).
3. Install Hex Nut 1/4-20 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 1/4-20 Hex Nut (Item 4) to Lock camera (Item 1) on the 1/4-20 x 1-1/2" L screw (Item 2).
6. After mounting the complete assembly on the motorcycle, position the camera view and tighten the 1/4-20 Hex Nut w/locking washer (Item 2) to lock camera position.

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

The Bullet camera may also be mounted to the handlebar.

Monitor Console (Weatherproof)

Figure 6



Figure 7

Monitor Installation

There are two methods of mounting the Monitor Console. It can be attached to a PanaVise® mounting arm, allowing the user to adjust the monitor's position and angle for convenient access and optimum viewing. Or it can be mounted to the outside of the radio box using an industrial grade Hook and Loop fastener (Velcro®). Refer to Figures 1, 6 & 7.

Handlebar Mount—

NOTE: Use supplied Loctite® 243 Thread Locker on all hardware.

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 ¼-20 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 1.

IMPORTANT:

Monitor Console mounting location **MUST** be inside the motorcycle fairing to protect it from driving rain.

VLP

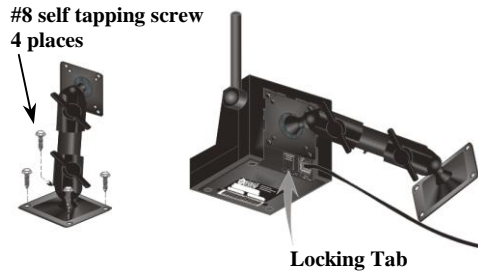


Figure 8

VLP2

Item 1

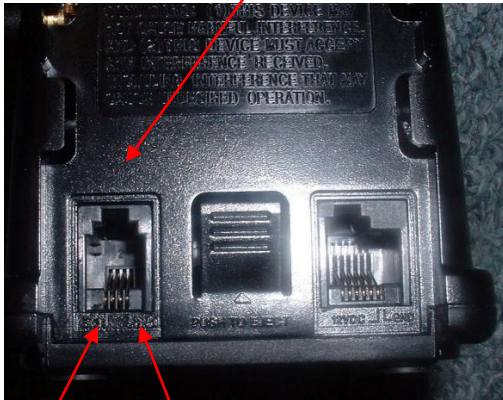
Pin 1
SignalPin 4
S-GND

Figure 9



Battery

Battery
PlugAntenna
Plug

Figure 10

Installing the *VoiceLink Plus™* Wireless Microphone Base Unit

NOTE: The VLP must be located in a dry protected environment.

Method 1 - Install the VLP Base Unit inside the motorcycle Radio Box using the supplied PanaVise® mount.

Method 2 – Install the VLP Base Unit inside the motorcycle Radio Box using industrial grade Hock and Loop fastener (Velcro®).

IMPORTANT:

To determine lead connections, refer to the VLP Transformer Matching Cable's transformer box Label. Side marked **D-ICV** lead plugs in the DVR rear panel VLP port and side marked **VLP** lead plugs in the VLP Docking Station.

Installing the *VoiceLink Plus™ 2* Wireless Microphone Base Unit

In addition to the Docking Station mounting and audio connection to the DVR described in the previous VLP installation procedure, VLP2 has an additional Emergency feature. Item 1, pictured in **Figure 9**, is the Emergency Port output 4-pin modular connector, which is located on rear panel of the VLP2 Docking Station. Pin-1 is the active state high Emergency Signal (+12 VDC @ 1 Amp) and pin-2 is Signal Return Ground.

Transmitter Battery Replacement Procedure

1. Remove the four Allen Screws that secure the rear transmitter cover
2. Remove rear cover and unplug Battery Cable from PCB Battery Power Connector.
3. Remove rear cover and unplug Battery Cable from PCB Battery Power Connector.
4. Remove battery from the inside of rear transmitter cover.

Caution: Do not touch the Internal RF Antenna, which could affect RF link performance between Transmitter and Docking Station.

GPS/WLAN Antenna

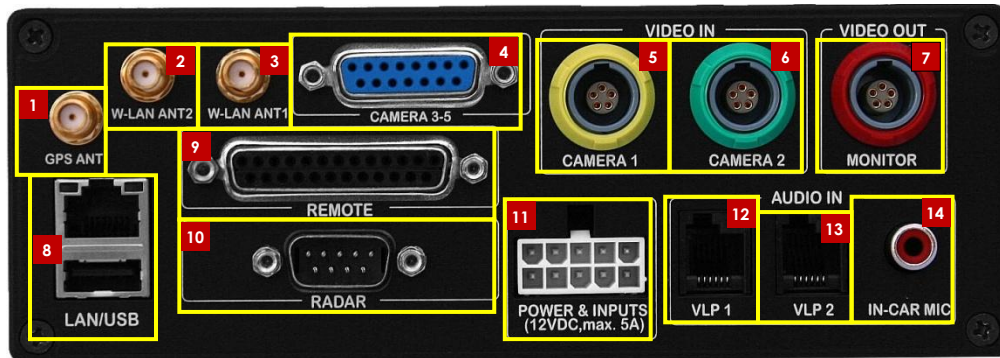
5. Secure battery to inside of cover with supplied strip of double sided tape
6. Plug the cable connector of the replacement battery into the transmitter circuit board
7. Place rear cover with battery on transmitter and secure with the four Allen screws removed in Step 2

Installing the GPS/WLAN Antenna

Method 1 – Magnetically mount the GPS/LAN antenna to a ferrous metal surface. If a good metal surface is not available, it is the responsibility of the installer to provide and mount a metal plate for magnetic mounting of the GPS/WLAN antenna.

Method 2 – Surface mount the antenna using industrial grade, weatherproof, double-sided tape.

Rear Panel Connections



- 1** GPS ANT. Input for GPS wire on antenna.
- 2** W-LAN ANT2. *Not currently used in this application.*
- 3** W-LAN ANT1. Input for the W-LAN wire.
- 4** CAMERA 3-5. *Not used in this application.*
- 5** CAMERA 1. Input for Bullet camera
- 6** CAMERA 2. Input for second Bullet camera
- 7** MONITOR. Input for Flashback3 monitor
- 8** LAN/USB. Input for ethernet LAN cable (top) and USB drive (bottom).
- 9** REMOTE. Remote connector for optional overhead control console. This console provides an up-to-date GPS vehicle longitude and latitude location.
- 10** RADAR. Input for radar unit
- 11** 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*
- 12** VLP1. Input for VLP2 charging station.
- 13** VLP2. Input for second VLP2 charging station.
- 14** IN-CAR MIC. *Not used in this application.*

DVR Pin Outs**Front Panel****USB**

(2.0 Type A Plug)

Pin	Description
1	+5 Volts
2	- Data
3	+ Data
4	GND

Rear Panel**POWER & INPUTS**

(Female Mini Fit 5569)

Pin	Description
1	Battery (+12vdc)
2	GND
3	Light Bar Input (DI_EMLIGHT)
4	Siren Input (DI_SIREN)
5	Brake Input (DI_Brake)
6	Ignition (DI_IGN)
7	GND
8	Cooling Module
9	Aux 2 Input (DI_AUX2)
10	Aux 1 Input (DI_AUX1)

LAN

(100Base-T 8-Pin Modular Plug)

Pin	Description
1	Transmit +
2	Transmit -
3	Receive +
4	NU
5	NU
6	Receive -
7	NU
8	NU

RADAR
(Male DB9)

Pin	Description
1	+12vdc
2	RX
3	TX
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	Shield

REMOTE

Pin (Female DB25)	Description
1	Power (12vdc)
2	FF Switch
3	REWInd Switch
4	PLAY/PAUSE Switch
5	RECOrd Switch
6	PLAY Led
7	REC Led
8	NU
9	STOP Switch
10	MENU Switch
11	TRACE Switch
12	GND
13	GND
14	NC
15	Grill Light (MIC Led)
24	RXDIO
25	TXDIO

W LAN ANT
(Female SMA)

Center Pin	Signal
Ring	GND (Shield)

GPS ANT
(Female SMA)

Center pin	Signal
Ring	GND (Shield)

IN-CAR-MIC
(Female RCA)

Center Pin	Signal (+)
Ring	GND (-)

VLP 1/VLP2

(Keyed 6-Pin Modular Plug)

Pin	Description
1	Audio Signal (In)
2	Record Status (Out)
3	Signal Ground
4	Record Trigger (In)
5	+12vdc (Out)
6	Power Ground

Monitor (Red Lemo)

Pin	Description
1	Video
2	GND
3	Audio
4	Power
5	GND

Camera 1 / Camera 2

(Yellow/Green Lemo)

Pin	Description
1	Video
2	Shield/GND
3	Power (+12VDC)
4	RXD (RS232)
5	TXD (RS232)

CAM3-5

(Female DB15)

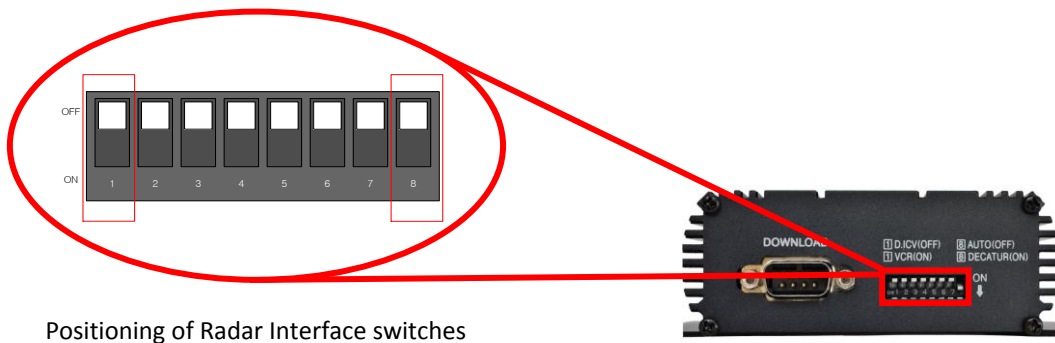
Pin	Description
1	CAM 3 Video Shield
2	CAM 3 Video Shield
3	CAM 3 GND
4	CAM 4 Video Input
5	CAM 4 +12vdc
6	CAM 5 Video Shield
7	CAM 5 Video Shield
8	CAM 5 GND
9	CAM 3 Video Input
10	CAM 3 +12vdc
11	CAM 4 Video Shield
12	CAM 4 Video Shield
13	CAM 4 GND
14	CAM 5 Video Input
15	CAM 5 +12vdc

Radar Interface Option

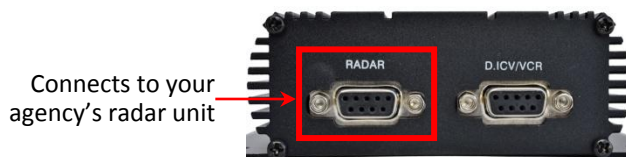
NOTE: The Radar Interface must be located in a dry protected environment.

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.



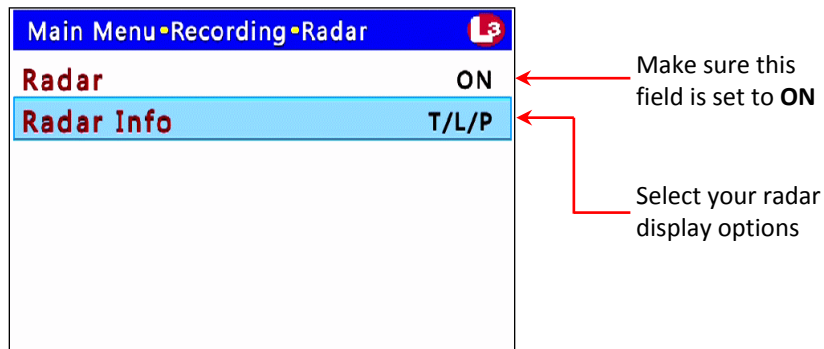
- 3 Using the four mounting screws provided, secure the Radar Interface to a flat surface in your vehicle within five feet of the DVR.
- 4 Using the Radar Interface Cable, connect the **RADAR** port on the Radar Interface unit to the appropriate port on your radar device.



- 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.



- 6 Program the DVR to Work with the Radar Interface. To do so, first go into the Radar menu and set the *Radar* field to the **ON** position. Next, select your radar display options in the *Radar Info* field.



For specific instructions, see “Turning the Radar Display On” in the *Flashback3 User’s Guide*.

Remote Stop Switch Option

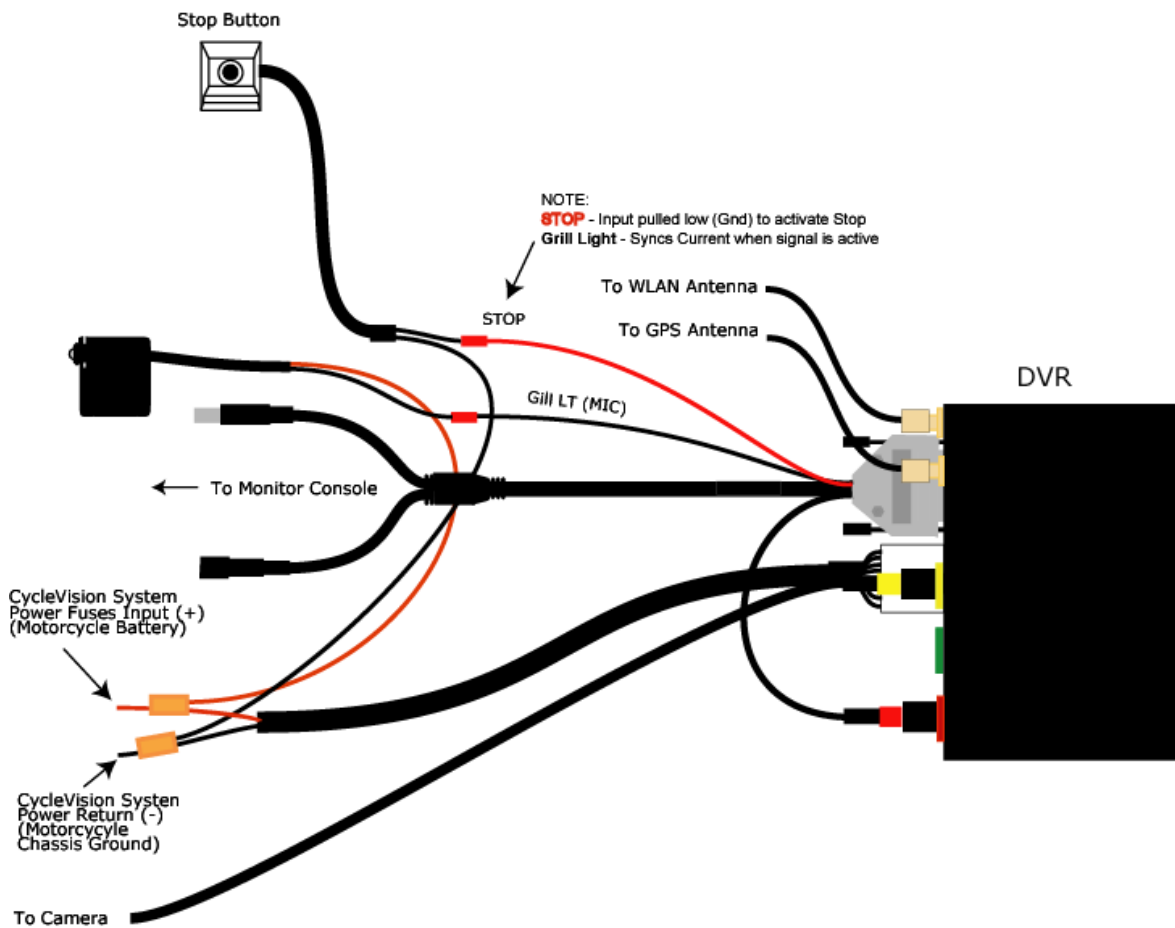
The Remote Stop Switch option was design for departments that do not wish to mount the system Monitor Console within eye site of the officer due to possible distractions. In these cases, most departments mount the system monitor in the motorcycle radio box. One major problem with this approach, however, 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 12 shows how this option's components are connected in to the CycleVision system.

Connecting Remote Stop Switch Components

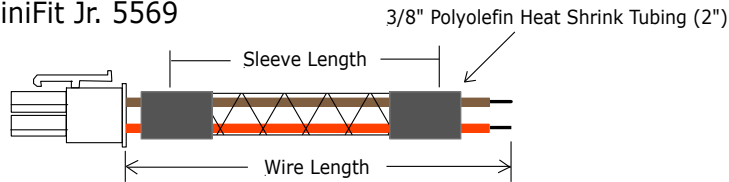
Figure 13



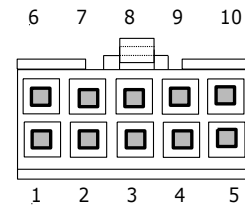
Cable Schematics

DVR Input Cable

MiniFit Jr. 5569



Front View



Pin Out

Pin	Signal	Wire Color (18 AWG)	Lengths (FT)
1	Battery	Red	15 - 25
2	GND	Black	8 - 18
3	Lights Input (DI_EMLIGHT)	Green	8 - 20
4	Siren Input (DI_SIREN)	Blue	8 - 18
5	Brake Input (DI_BRAKE)	Orange	8 - 20
6	Ignition (DI_IGN)	White	8 - 18
7	GND	Black	8 - 18
8	Cooling Module	Gray	NC
9	Aux. 2 input (DI_AUX2)	Violet	NC
10	Aux. Input (DI_AUX)	Brown	8 - 18
		Sleeve Lengths	4 - 12

Rear View

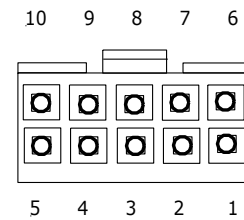


Figure 16

Camera Extension Cable

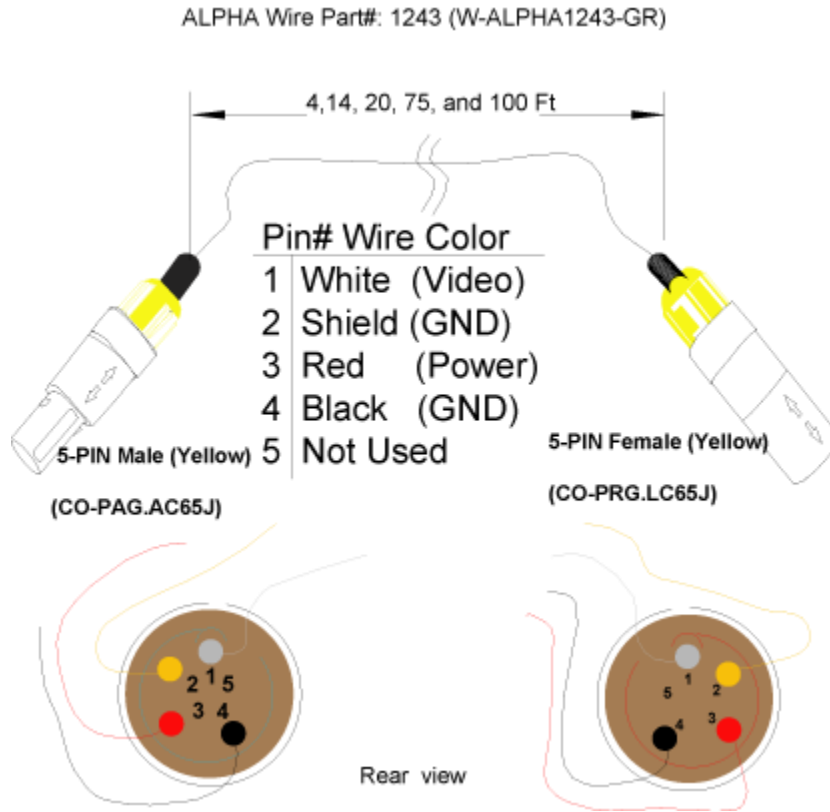


Figure 17

Monitor Console/DVR Adapter Cable

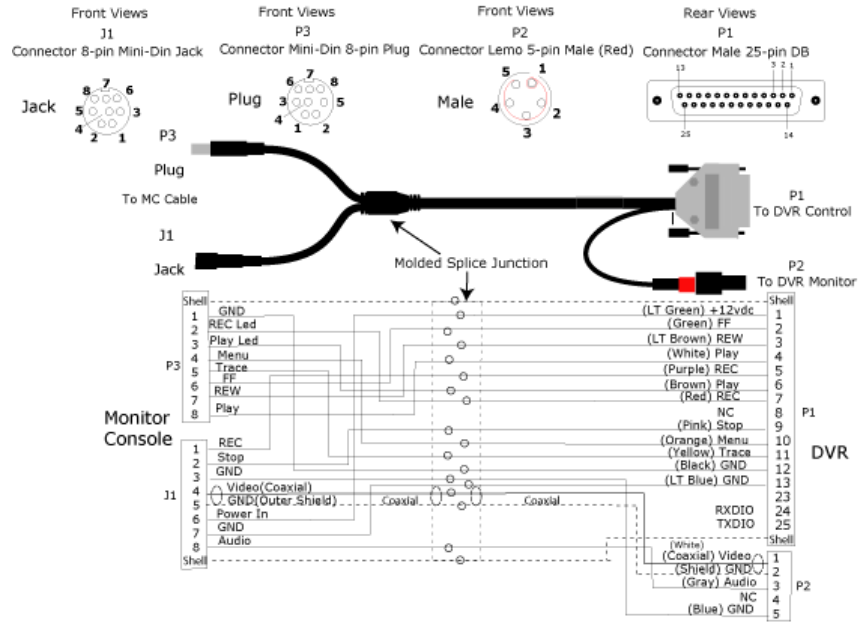


Figure 18

Radars Interface to DVR Cable

DVR back panel RADAR connector (9-pin Female D) 5 FT Cable (2 Pair Shielded Cable w/Drain) Radar Interface D-ICV/VCR Connector (9-pin Male D)

- | | | |
|------------|-------|------------|
| 1 - +12vdc | Red | +12vdc - 1 |
| 2 - RX | White | TX - 3 |
| 3 - TX | Green | RX - 2 |
| 5 - Ground | Black | Ground - 5 |
| NC | Drain | NC |

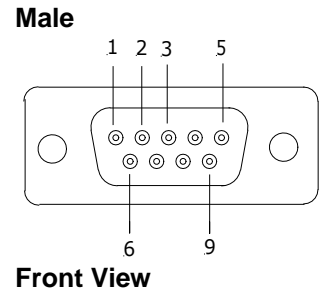
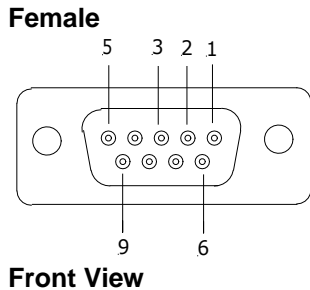


Figure 19

Contact Information

Our goal at L-3 Mobile-Vision, is to provide you with the most dependable, rugged equipment for your mobile workforce. To ensure that you get the most from your investment, L-3 Mobile-Vision technical experts are available for training and any questions. We take pride in our ability to provide you with the most comprehensive support available so you minimize any downtime and allow your workforce to concentrate on their task at hand.

Technical Support

(800) 336-8475 ext. 3

E-Mail Support:

For support on Digital Evidence Series (Tracker- Pro or DEV) in-agency software or server:

DESsupport.MVI@L-3Com.com

Service

(800) 336-8475 ext. 3

fax: (973) 316-9509

service.MVI@L-3Com.com

End of Document