



## Installation Guide DVM-100 and DVM-400

860-00187-00 Rev B

### Digital In-Vehicle Event Recorder Video System

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## Section - 1: Before you Begin

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This document covers the installation of the DVM-100 and DVM-400 systems only.



### Tools Needed

- #2 Phillips head screwdriver
- #20 Torx screwdriver or bit
- 1/8" (4 mm) flat-blade screwdriver
- Digital Volt Meter

### Cautions and Notes

Please read and follow the instructions and precautions in this installation guide when installing DVM-100 and DVM-400 products.

- For assistance, a qualified installation technician or mechanic should be consulted.
- Do not use excessive force when removing the mirror from the windshield. The mirror mounting plate may become separated from the windshield and/or the windshield may break if excessive force is used. If you are unfamiliar with rearview mirror removal seek professional assistance.
- Do not route wiring and cabling over sharp metal edges where they may become damaged or cut.
- To prevent electrical shorts or breakage in the wiring and cabling, do not allow wiring and cabling to be pinched behind trim pieces, panels, or other physical objects.
- Do not run wires or cables in areas where they may become damaged by heat from the engine or the exhaust system.
- Do not install any DVM components or wiring in the deployment path of the air bag(s).
- When installing the cables or making wire connections, it is recommended you leave a little 'slack' in the cable connections to allow for service loops and for movement of the mirror so the connections do not get pulled or accidentally disconnected.
- Where possible, avoid running cables parallel to other wiring and/or antenna coax that may be installed in the vehicle.
- Where possible, do not leave excessive cable above the headliner.
- We recommend at least 2 feet of distance between our cabling and that of other systems which may carry a signal for transmit and/or receive.

*Additional precautions within this document are denoted with  and notes are designated with *

## Section - 2: Parts, Cables and Accessories

### DVM-100

#### Parts and Accessories List

The diagram and table below outline the parts that are included with the DVM-100 Package.





**Note**

*Cables and optional accessories are not included in the base DVM-100 package and are ordered separately. Refer to page 2-2 for a list of these items.*

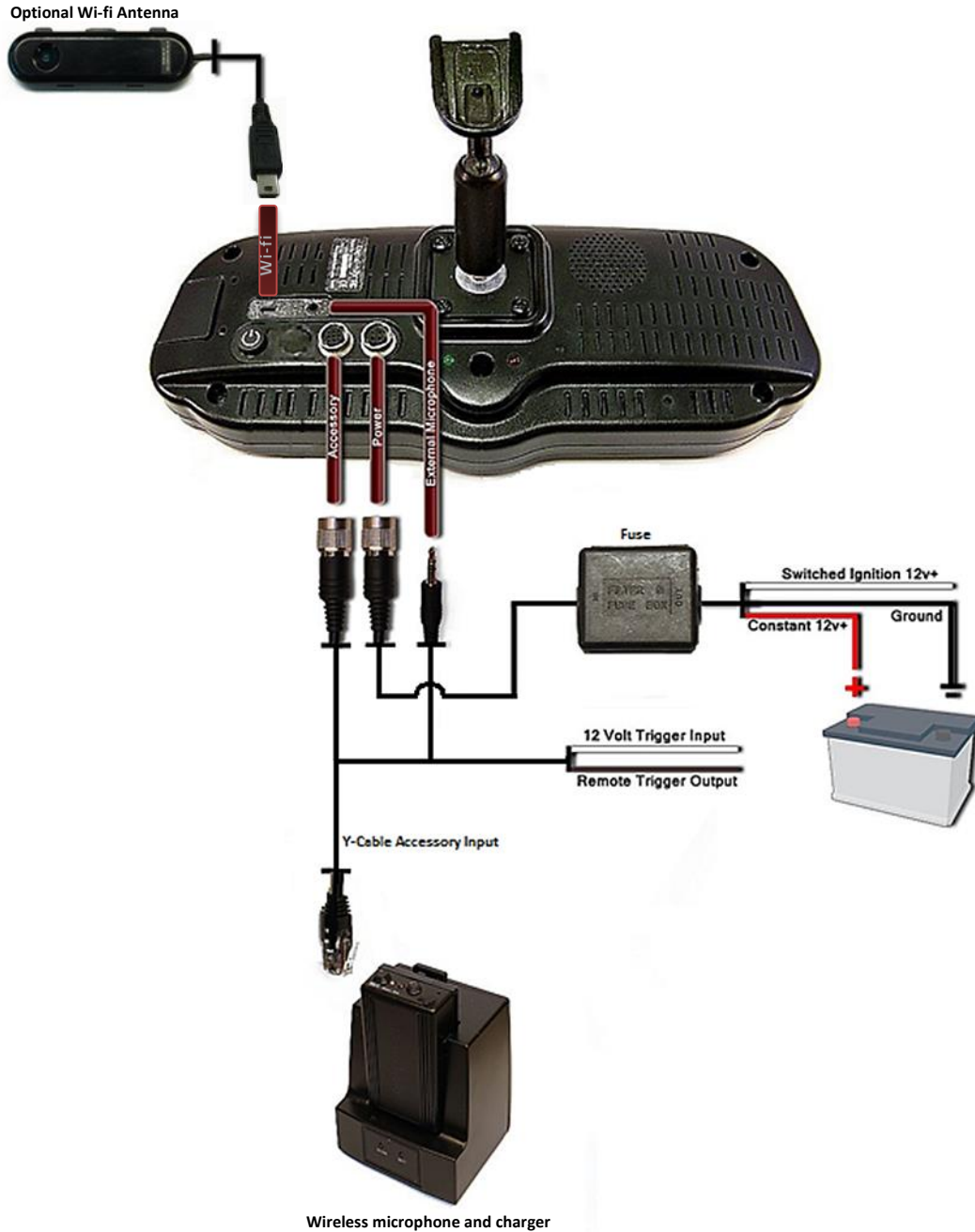
Part Number	Image	Description	Quantity
006-08163-00		DVM-100 Base mirror with mount & 8GB SD card	1
002-05095-00		DWM-800 Wireless Microphone System	1
008-01372-01		Cable Assembly, BTR800 to DVM-100	1
008-01373-01		Power Cable Assembly	1
002-00028-00		Card Reader	1
008-01271-00		USB Cable	1
259-00176-00		Security Key Kit	1
363-00046-00		8 GB Memory Card	1
004-09058-00		Covert Rear Seat Microphone	1

## Cables and Optional Accessories

The table below outlines cables and optional accessories for the DVM-100 package.

Part Number	Image	Description
001-00010-00	 A black, elongated rectangular device with a USB-A connector on one end and a small antenna on the other.	Wi-Fi Assembly
002-05030-00	 A white, rectangular plastic mounting bracket with four mounting holes and a central slot.	Drop Mount
002-05102-00	 A black, complex mechanical mounting bracket with a large ball joint and a camera mount.	Big Ball Mirror Mount
002-05112-00	 A black, circular windshield mount adapter with a central lens and a mounting ring.	Windshield Mount Adapter Kit ( 2011-2012 Dodge Charger only)

## DVM-100 Wiring Diagram



## DVM-400

### Parts and Accessories List

The diagram and table below outline the parts that are included with the DVM-400 Package.





**Note**

*Cables and optional accessories are not included in the base DVM-400 package; these items are ordered separately. Refer to page 2-5 for a list of these items.*

Part Number	Image	Description	Quantity
006-08177-00		DVM-400 Base mirror with mount & 8GB SD card	1
566-00127-00		Main Camera 10X Zoom	1
566-00039-00		External or Backseat Camera with mounting hardware	1
002-05095-00		DWM-800 Wireless Microphone System	1
006-0030		Visor Mount for Main Camera	1
008-01372-01		Cable Assembly, BTR800 to DVM400	1
008-01393-00		Camera Cable, DVM400 to CAM1 and CAM2	1
008-01373-01		Power Cable Assembly	1
002-00028-00		Card Reader and USB cable	1
004-09058-00		Covert Rear Seat Microphone	1

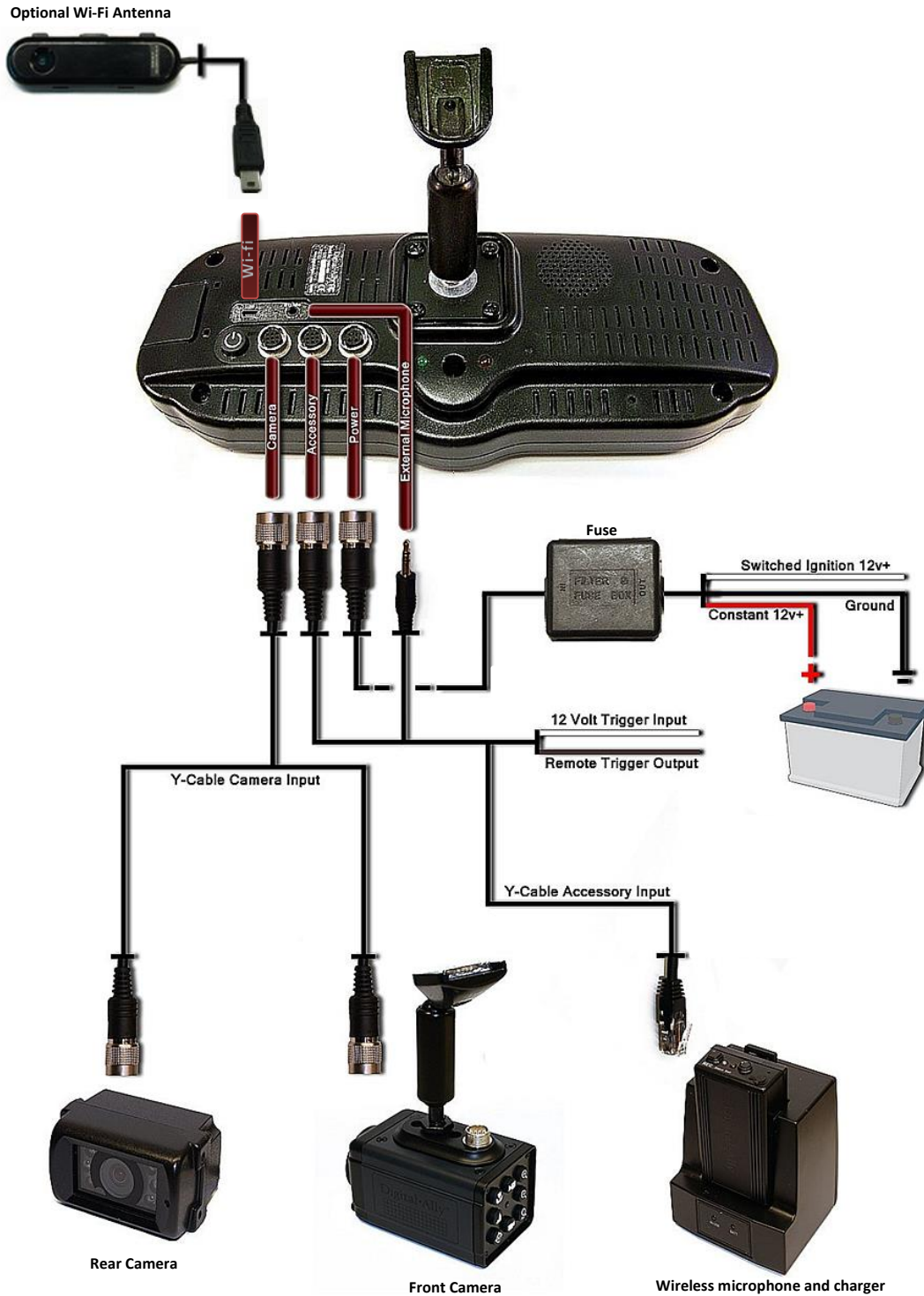
## Cables and Optional Accessories

The table below outlines cables and optional accessories for the DVM-400 package

Part Number	Image	Description
001-00010-00	 A black Wi-Fi assembly device with a USB cable attached.	Wi-Fi Assembly
002-05030-00	 A white plastic drop mount with several screws and a small metal component.	Drop Mount
002-05102-00	 A black plastic mirror mount with a ball joint and a mounting bracket.	Big Ball Mirror Mount
002-05112-00	 A black circular windshield mount adapter kit.	Windshield Mount Adapter Kit ( 2011-2012 Dodge Charger only)



### DVM-400 Wiring Diagram



## Section - 3: Installation Instructions

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### Step 1: Factory Mirror Removal

The current factory rearview mirror must be removed from the windshield mounting plate. There are several versions of mirror mounting systems. Below are the most common methods of rearview mirror removal. If you are unfamiliar with rearview mirror removal, seek professional assistance.



*Be very careful and do not use excessive force when removing the mirror from the windshield. The mirror mounting plate may become separated from the windshield and/or the windshield may break if excessive force is used.*

Use one of the following methods below that matches the mirror mounting configuration of your vehicle:

#### Screw Mount Rearview Mirror Removal

1. Using a Philips screwdriver or #20 Torx bit, loosen the screw in the base of the mirror.
2. After loosening the screw, gently lift upward to slide mirror off of mirror mount.
- 3.

#### Wedge (screw-less) Mount Rearview Mirror Removal

1. Using a small 1/8" (4 mm) flat-blade screwdriver, insert the flat end into the opening at the bottom of the mirror mount next to the windshield.
2. Slide the screwdriver into the center of the mirror mount until resistance is felt.
3. Gently apply a small amount of additional upward force to lift away the locking spring inside the mount.
4. While still applying upward pressure with the screwdriver, grasp the mirror bracket and wiggle side to side. Lift the mirror up toward the headliner and off the windshield mount button.

#### Cam Lock Rearview Mirror Removal

1. With your right hand, grip the mirror and keep it stabilized.
2. With your left hand, grip the base of the factory mount where it meets the glass.
3. Apply a small amount of inward pressure toward the glass and rotate the base clockwise.
4. The spring loaded factory mount should release from the windshield puck. See picture below.



**Step 2: DVM Installation**

1. remove front passenger side threshold



2. pull the door seal away and remove side trim piece



3. remove the passenger side front interior A-pillar cover



4. remove the passenger visor clip with #20 Torx screwdriver



5. remove the passenger side kick panel & pull back the carpet to expose the vehicle chassis

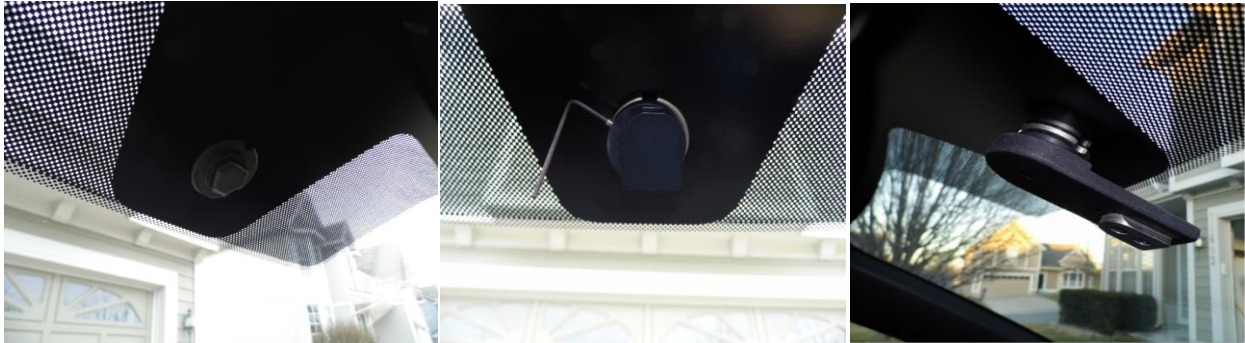


### Step 3: Mirror Connections

1. Attach the ACC and PWR IN cables to the back of the mirror. For DVM-400, attach the CAM IN cable. Attach the ground strap to the vehicle roofline above the headliner.



- Secure your DVM to the vehicle windshield. For 2011 or 2012 Dodge, attach and orientate the adapter to factory windshield as shown. Use Loctite™ to secure the adapter to the factory windshield mounts. Attach drop down bracket as shown.



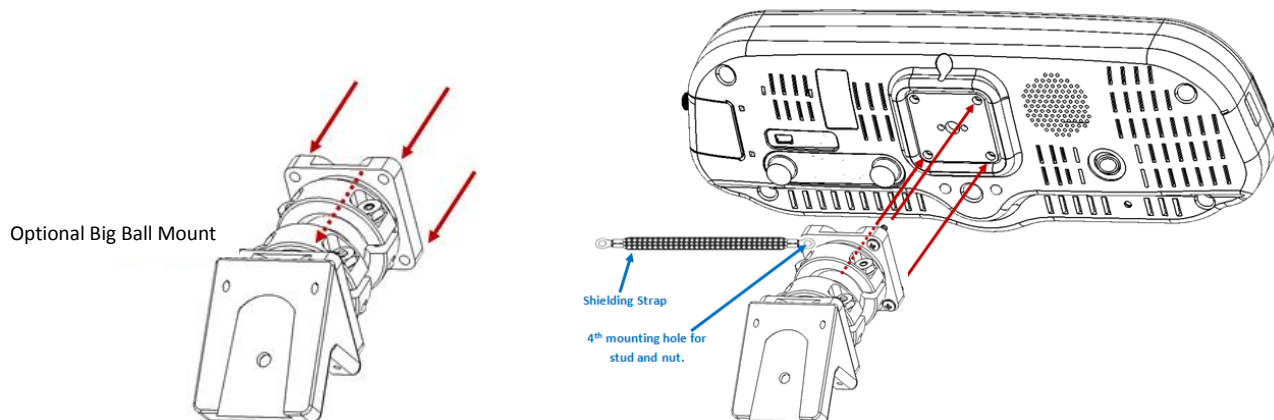
*In some vehicles, the factory position of the manufacturer's windshield mounting plate may not allow for proper rearview DVM adjustment. The mounting plate included with the DVM package can be glued to the windshield in a location that will allow proper adjustment. We recommend Loctite 03346 for installation of the mounting plate. DO NOT glue mounting plates to the black coated portion of the glass.*

- For added RFI protection, attach the DVM shielding strap to the mirror. The DVM shielding strap should be securely attached to the vehicle chassis (metal structure) above the windshield.



**Note**

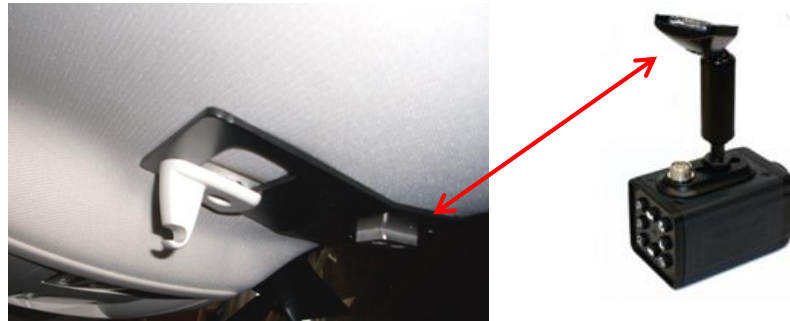
*The shielding strap must be connected to a metal surface of the vehicle chassis to prevent interference. Failure to properly connect the shielding strap may cause operation issues.*



- Route cabling along the roofline and down the A-pillar**

Leave enough slack in the 3 cables as a service loop for the rearview mirror adjustment. Then you can begin routing the cables under the front edge of the headliner towards the passenger side of the vehicle. Continue routing the cables down the windshield pillar below the dash. Secure the cables together with tie wraps. To conceal the cable it may be necessary to loosen the sun visor mounting bracket and/or other trim pieces to allow the cable to be tucked in behind the headliner.

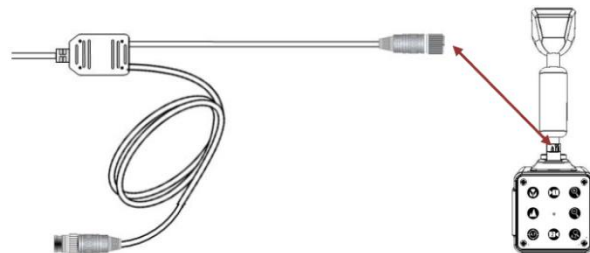
- **Attach the visor mount through the visor clip and attach front camera to the mounting plate (DVM-400 only)**



**Step 4: Camera Installation (DVM-400 Only)**

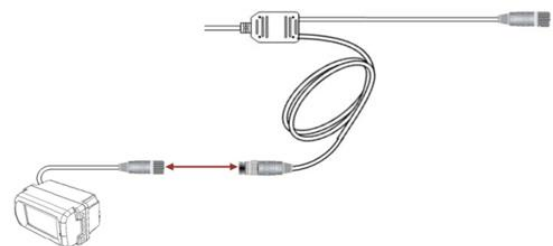
**Front Camera**

- Route the cable toward the 10x camera and connect to the CAM-10XC. Attach the camera to the visor mounting plate. (The DVM-100 front camera is embedded in the rear of the unit).



**Rear Camera**

- Determine a suitable mounting location for the rear camera. The example below has the camera mounted in the center of the cage. This gives a wide angle view of the entire back seat. Route the remaining portion of the camera cable to the external surface mount camera and connect. Secure extra cable in the headliner away from any other existing cabling and/or airbag.

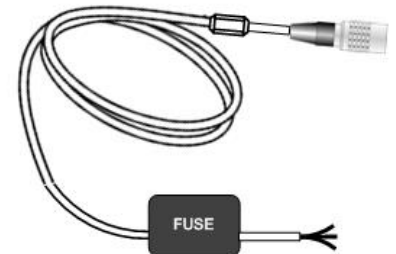


### Step 5: Power, Ignition, and Ground Connection

Remove 6 to 7 inches of the outer jacket at the bare end of the power cable. The **Red** wire of the DVM power cable should be connected to the vehicle constant +12Vdc. Connect the **White** wire to the ignition switch where +12vdc is only present when the vehicle ignition key is in the ON position. The **Black** wire of this power cable connects directly to the vehicle's chassis. Separate the braided shield from the individual conductors, attach an electrical terminal to the end of the braided shield, and attach the terminal to the chassis of the vehicle. Secure all cables and in-line fuse housing using Velcro or standard tie wraps as required. If the accessory connector cannot be found, use an alternate source of battery power.

- It is required that this power wire be tied directly to vehicle power with no obstructions to the vehicle battery such as a cutoff switch or charge guard system.
- The power cable contains an in-line filter and 3A fuse.

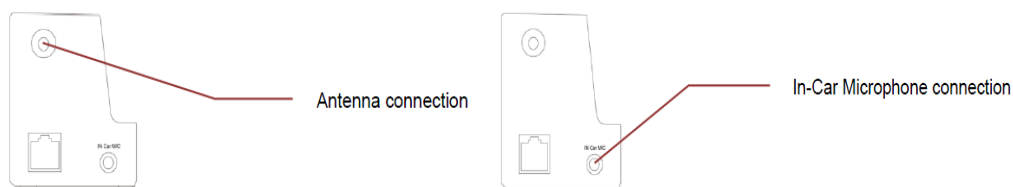
**Note** It is required that these connections are made directly to the police package accessory harness or engine compartment battery wiring harness for best results.



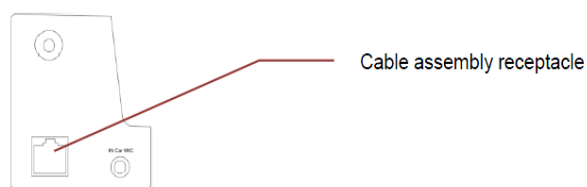
### Step 6: DWM-800 Installation and Trigger Connection

1. Attach the mounting bracket to the back of the BTR (base transceiver cradle); the assembly can then be mounted at your preferred location, such as the side of the center console.
2. Attached the antenna. If you are using the optional In-Car Microphone, connect it to the BTR In-Car Microphone jack and route the microphone to your preferred location in your system.

**Important: if not using an external microphone, do NOT attach the microphone input on the back of the DVM mirror. The DVM will then use the built-in microphone located next to the record button on the front of the mirror.**

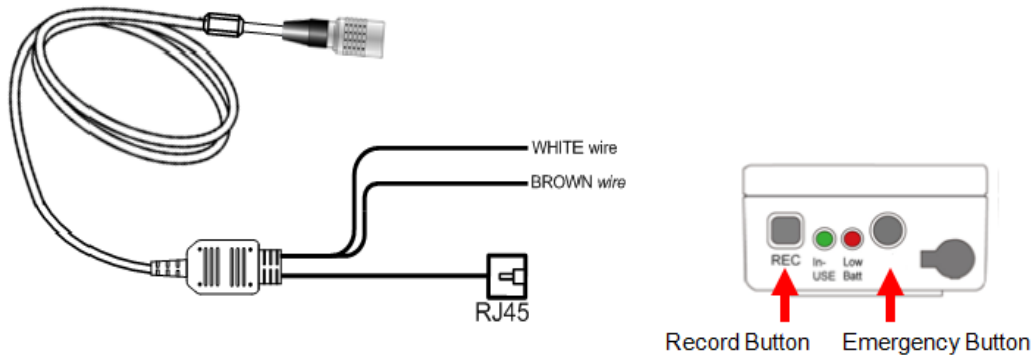


3. Connect the BTR cable assembly to the RJ-45 input on the BTR.



- On the BTR800 cable assembly, connect the **White** wire to the emergency lights or other +12VDC positive trigger. This wire will trigger the system to record when in the active state. Optionally, the **Brown** wire is designed to be a 12V output alarm when the Emergency button is pressed on the RMT. This could be connected to a police radio or other remote accessory.

**Note** Pressing the Emergency button will not trigger a record event.

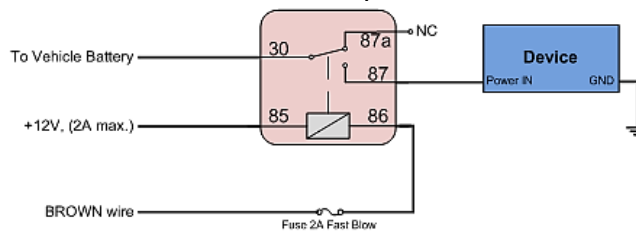


Below is a general outline showing how the BROWN wire can be wired using an interposing relay.

The device, relay, and fuse are optional customer provided items. Be sure to select a relay which can handle the power requirements of your device.

Example wiring diagram:

To activate low power devices when the Emergency Button is active, the example diagram below shows how to connect it to the BTR800 cable assembly. When the Output alarm is active the relay will be energized and the device will be powered on. If the Output Alarm is not active, the relay will not be energized and the device will not be powered.



### Step 7: Wi-Fi Antenna (optional)

Plug the Wi-Fi antenna into the USB port on the back of the DVM. Using the included double-sided tape, attach the antenna to an unobstructed location on the windshield below the roofline.



Refer to the DVM-100 or DVM-400 *Operation Guide* for configuration of the wireless transfer feature.

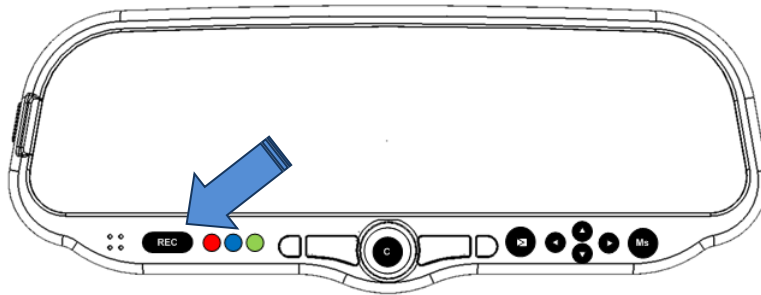




## Section - 4: Testing the Installation

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1. Turn the vehicle ignition switch to the ON position, the vehicle does not have to be running.
2. Press and release the DVM power button and the DVM boot-up process will begin; all 3-status indicators will flash in sequence until boot up is complete.
3. Once the boot-up process is complete the Blue status indicator will be lit, indicating the DVM is powered on and in standby mode.
4. Press the RECORD Start button.



5. The Red status indicator will turn on to indicate the event is being recorded.
6. After 10 seconds, press the RECORD Stop button to stop the event record.
7. Remove the wireless microphone from the charging cradle and press the record button.
8. The Red status indicator will turn on again to indicate the event is being recorded.
9. After 10 seconds, press the RECORD Stop button to stop the event record.
10. The Red status indicator will extinguish, indicating the DVM has returned to standby mode.
11. Press the Play/Pause button and the event will playback on the LCD display.

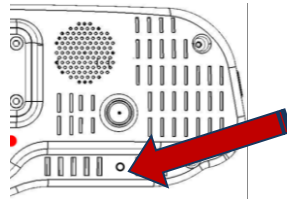
## Section - 5: Support

### Software Updates

Log on to [www.digitalallyinc.com/tech-support.php](http://www.digitalallyinc.com/tech-support.php) and Register for an Account to be an Authorized User. By registering you will be able to download all the latest software updates and be notified of future updates.

### Performing a Reset

Using a small device such as a paper clip or eye-glass screwdriver, press the recessed reset button that is located as shown to the right.



### Troubleshooting

Symptom	Resolution
<b><i>System will not power up.</i></b>	<ul style="list-style-type: none"> <li>• Verify the power cable connector is connected to the back of the DVM.</li> <li>• Check the power cable fuses located in the in-line fuse housing on the power cable.</li> <li>• Verify there are no breaks, pinches, or cuts in the wiring or cable harness.</li> <li>• Check the wiring and voltage levels to the vehicle power and ignition switch wiring.</li> </ul>
<b><i>Red/Blue/Green status indicators blink in unison</i></b>	<ul style="list-style-type: none"> <li>• Memory is full, upload event files from the DVM or replace the external memory storage device.</li> </ul>
<b><i>DVM powers up but doesn't record</i></b>	<ul style="list-style-type: none"> <li>• Check the LED status indicators for possible error conditions</li> <li>• Reset the system.</li> </ul>
<b><i>DVM powers up and goes directly to an event record (Red indicator flashes)</i></b>	<p>An event record has been triggered from either an accessory or the record button is stuck</p> <ul style="list-style-type: none"> <li>• Check the DVM record button to make sure it is freely moving</li> <li>• Disconnect the Accessory cable from the back of the DVM and reset the DVM. If the problem doesn't re-occur, refer to the accessory item documentation for further troubleshooting.</li> </ul>
<b><i>DVM is unresponsive</i></b>	<ul style="list-style-type: none"> <li>• Verify the cables and cable connections.</li> <li>• Verify vehicle power.</li> <li>• Press the reset button.</li> </ul>

### Product Repair

The Digital Video Mirror should be returned to the manufacturer for service. The warranty may be voided if the device is opened by any unauthorized individual. Please contact Digital Ally to obtain an authorized Return Materials Authorization (RMA). It is helpful and will expedite the process if you have your unit's serial number available at the time of your call.



*All In-Warranty and Out-of-Warranty service must be performed by Digital Ally, Inc. There are no user serviceable parts inside of the DVM. Any user serviceable items can be purchased directly through Digital Ally.*

**Section - 6: Contact Information**

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9705 Loiret Blvd

Lenexa, KS 66219

**Website:** [www.digitalallyinc.com](http://www.digitalallyinc.com)

**Support E-Mail:** [support@digitalallyinc.com](mailto:support@digitalallyinc.com)

**Sales E-Mail:** [sales@digitalallyinc.com](mailto:sales@digitalallyinc.com)

**Phone:** 913-814-7774

**Fax:** 913-814-7775

**Sales / Support Toll Free:** 1-800-440-4947



\* Specifications subject to change without notice.