



# **Operation and Installation Guide**



Wireless Link for First and DVM systems

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#### **Section - 1: Before you Begin**

#### Overview of Features

- Automatically start recordings on your Firstvu HD using the same triggers as vehicle video systems, regardless of whether the unit is mounted or worn
- Simultaneously start recordings with your vehicle video system, whether started manually on either system or automatically triggered
- > Eliminate distraction, need to continuously record or remember to press record
- Link recordings from both systems into the same incident in VuVault™ management & reporting software

#### Installation Tools Needed

- Wire Strippers
- Tools to remove vehicle trim
- Wire Crimpers
- **Digital Volt Meter**

#### **Cautions and Notes**

Please read and follow the instructions and precautions in this installation guide when installing VuLink.

- 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.
- 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 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.
- 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

# **Parts and Optional Accessories List**

# VuLink Standard Package (pn#001-0950-00)

The diagram and table below outline the parts that are included with the VuLink Package.

Part Number	Image	Description
006-08257-00		Assembly, VuLink
008-01456-00		Cable, VuLink Base, 15ft
006-0050		Relay with harness, 12VDC
860-00198-00	Company of the Compan	VuLink Operation and Installation Guide
860-00199-00	The interest of the second of	VuLink Quick Reference Guide
008-0100	19	USB Cable
050-10148-10		Mounting Kit, Velcro qty 2 1"x1.5"
914-00001-00	The state of the s	Electronic Files (preloaded on VuLink device)

#### **Section - 2: VuLink Configuration**

# Using VuVault to Configure your VuLink and FirstVuHD

Prior to installation, VuLink must be configured either through the *Mini Configuration Manager* Software installer supplied on the VuLink internal memory **or** by using Digital Ally's optional  $VuVault^{TM}$  back-office software. If you have purchased  $VuVault^{TM}$ , follow the instructions on this page to configure and activate your VuLink.



If you have NOT purchased VuVault, skip to page 2-4 to configure your device.



You must upgrade VuVault to version 4.4 (minimum) to configure and activate a VuLink device. VideoManagerII and previous versions of VuVault will not work with VuLink.

VuVault is used to manage VuLink settings as well as activate your device for use within the system.

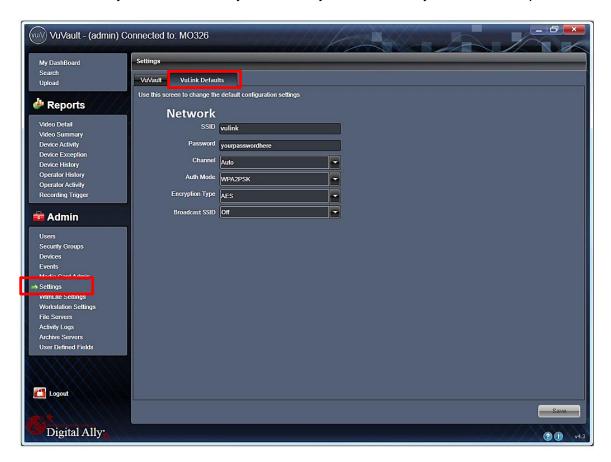
 Before you can configure your device for use within VuVault, the serial numbers for VuLink and associated FirstVuHD devices must be added into the system. Select Admin>Devices>Add Device to add your devices into VuVault. Type in your device serial numbers and assign a name within the system. When done, press Save (for more information consult the VuVault User's Guide "Adding Devices" section).



A configuration field will be available in the *Admin>Settings* tab within VuVault once a valid VuLink serial number has been added into the system. These global settings will define how your FirstVu HD's will connect to VuLink.

# **Configuring VuLink**

VuLink acts as an 802.11n wireless access point which your FirstVu HD's will use to communicate with your in-car video system. After you have made your selections, press Save.



#### **Network**

#### **SSID**

The SSID is the wireless network name. This parameter specifies the VuLink SSID that your FirstVu HD's are authorized to connect to.

#### **Password**

This parameter specifies the password or security phrase required to connect to VuLink.

#### Channel

This parameter specifies the wireless channel that your FirstVu HD's will use to connect to the VuLink.

Settings: 1 to 11, Auto [default]

# **Authentication Mode**

This parameter specifies the security authentication required by VuLink.

Settings: WPAPSK, WPA2PSK [default]

#### **Encryption Type**

This parameter specifies the wireless encryption protocol required by VuLink. If selecting WPA2PSK as the authentication mode, choose AES as the encryption type. If selecting WPAPSK as the authentication mode, choose TKIP as the encryption type.

Settings: TKIP, AES [default]

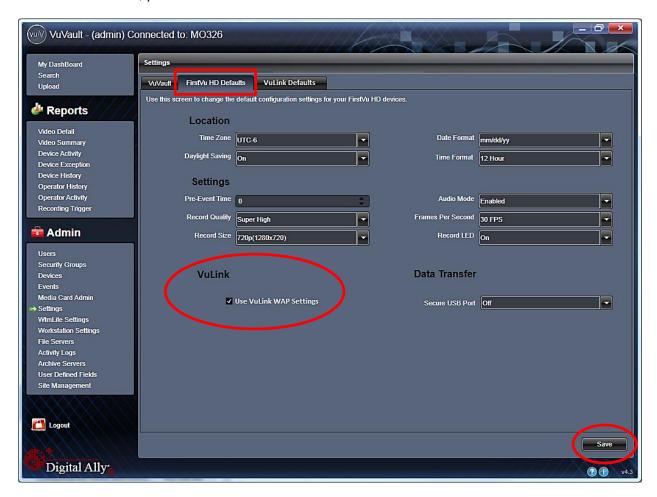
#### **Broadcast SSID**

Choose whether or not to broadcast the SSID. Broadcasting allows computers with wireless cards to find the network by browsing. Disabling the broadcast of the SSID prevents browsing to find the network.

Settings: On, Off [default]

# Configuring your FirstVu HD

Go to the FirstVu HD settings tab and check the "Use VuVault WAP settings" box as shown below. When done, press *Save*.



# Activating VuLink & FirstVu HD within VuVault

After you have saved your desired configuration, proceed to *Admin>Media Card Admin* to activate each device.

#### FirstVu HD Activation

- 1. Turn on your FirstVu HD & plug it into your computer using the supplied USB cable.
- Select FirstVu HD as the device type. Click Refresh and the FirstVu HD will be displayed as a removable drive.
- 3. Highlight the drive with your mouse.
- 4. Select Activate and unplug your FirstVu HD.

### **VuLink Activation**

- 5. Plug in your VuLink into your computer using the supplied USB cable.
- Select VuLink as the device type. Click Refresh and VuLink will be displayed as a removable drive.
- 7. Highlight the drive with your mouse.
- 8. Select Activate.
- 9. All done! Proceed to Section 3 to install your VuLink.

# Using the Configuration Manager to Configure your VuLink and FirstVuHD

VuLink must be configured prior to use. Configuration for VuLink is determined by the configuration files that are downloaded to the device from the *Mini Configuration Manager* supplied on the internal memory, **or** by using Digital Ally's optional VuVault™ back-office software.



If you have **NOT** purchased VuVault<sup>™</sup>, follow the instructions in this section to configure and activate your device using the stand-alone *Mini Configuration Manager* software.

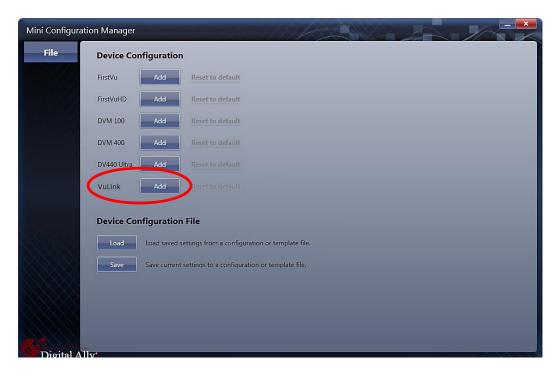
# **Installing the Software**

- Your VuLink is preloaded with software and documentation files located on its internal memory. Plug VuLink into a computer using the included USB cable to access these files.
- 2. The **Documentation** folder contains the Operation Guide and Quick Start Guide. The Software folder contains the Digital Ally *Mini Configuration Manager* and *Basic Viewer* software. If you purchased the optional VuVault™ back office software, it will be located separately on a DVD.
- 3. Open the **Software** folder and run the *Digital Ally Viewer* installer. This will install all necessary files to your computer.

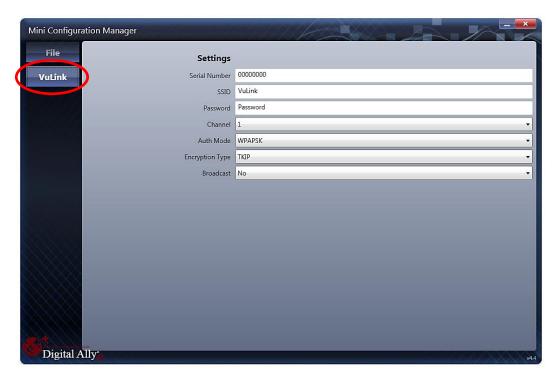


# **Configuring VuLink**

Press the *Add* button to display the list of available options for VuLink.



Select the *Vulink* tab. VuLink functions as an 802.11n wireless access point which your FirstVu HD's will use to communicate with your in-car video system. After you have made your selections, return to the *File* tab to save your settings.



#### **Settings**

#### **Serial Number**

This is the serial number printed on your VuLink device. Type in your serial number here. (Example 09500061).

#### **SSID**

The SSID is the wireless network name. This parameter specifies the VuLink SSID that your FirstVu HD's are authorized to connect to.

#### **Password**

This parameter specifies the password or security phrase required to connect to VuLink.

#### Channel

This parameter specifies the wireless channel that your FirstVu HD's will use to connect to the VuLink.

Settings: 1 to 11, 1 [default]

#### **Authentication Mode**

This parameter specifies the security authentication required by VuLink.

Settings: WPAPSK, WPA2PSK [default]

# **Encryption Type**

This parameter specifies the wireless encryption protocol required by VuLink. If selecting *WPA2PSK* as the authentication mode, choose AES as the encryption type. If selecting *WPAPSK* as the authentication mode, choose TKIP as the encryption type.

Settings: TKIP, AES [default]

#### **Broadcast**

Choose whether or not to broadcast the SSID. Broadcasting allows computers with wireless cards to find the network by browsing. Disabling the broadcast of the SSID prevents browsing to find the network.

Settings: On, Off [default]

# Saving your VuLink Settings

- Connect VuLink to your computer through the supplied USB cable. Your computer will recognize it as a removable drive and the serial number will be displayed.
- From the File Tab, Select Save. You'll be prompted to select the location of your Vulink device. You may also wish to back up the configuration file to a location on your computer's hard drive. The configuration file named "deviceconfig" will be written to VuLink.

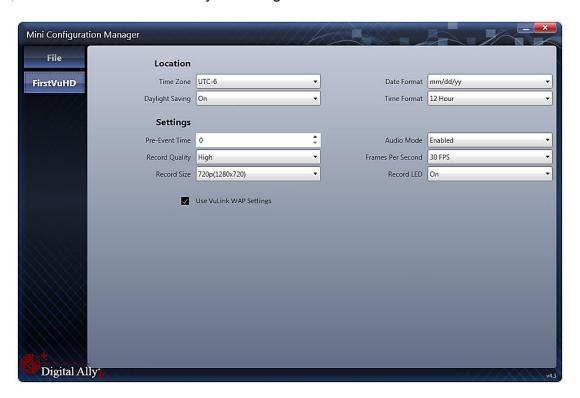




3. All Done! VuLink is now ready to be installed in your vehicle. Proceed to Section 3.

# Configuring your FirstVu HD

Go to the FirstVu HD tab and check the "Use VuLink WAP settings" box as shown below. When done, return to the *File* tab to save your settings.



#### Saving your FirstVu HD Settings

- 1. Plug in your FirstVu into the computer using the supplied USB cable.
- From the File Tab, Select Save. You'll be prompted to select the location of your FirstVu HD device. You may also wish to back up the configuration file to a location on your computer's hard drive.





3. The configuration file will be placed on your FirstVu HD. Reboot your FirstVu HD. The FirstVu HD is now ready to be used with VuLink.

# DVM-800, DVM-250, and DVM-250Plus Device Configuration

From your *VuVault* or *Configuration Manager* Settings tab, enable the desired sensor to be used with VuLink. Using this configuration, the FirstVu HD will be enabled to trigger device recordings and have a customized trigger name. This customized name will become a searchable parameter if using VuVault.

1. Go to the IF Box Input Sensors tab. Select the Sensor 5 row and press Edit.



2. Select a name for the Sensor #5 VuLink trigger. Change *Type* to *Event Trigger*. When done, press *Save*.



3. You will need to re-activate your DVM with the new device configuration. Consult your device Operation Guide for instructions.

# **Section - 3: Installation Instructions**

# Step 1: Remove Body Trim

1. Remove front passenger side threshold



2. Pull the door seal away and remove any side trim pieces





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



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

# Step 2: Power Ignition, and Ground Connections

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 Blue 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. Secure all cables and in-line fuse housing using Velcro or standard tie wraps as required.

 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.



NOTE It is recommended that these connections are made directly to the engine compartment battery wiring harness for best results.

# Step 3: VuLink Trigger Connections

Consult the <u>Section 4</u> diagrams for your specific video system or generic input trigger connection. In some installations, you will use the supplied relay to connect to your desired input trigger. When the trigger is active, the relay will be energized and VuLink will be triggered. If the input trigger is not active, the relay will not be energized.

If a relay is required for your installation, located the light trigger input wire from the DVM and connect it directly to the WHITE wire on the VuLink Base Cable using a butt splice connector. Connect the light trigger from the light bar controller to the relay.

Make the connections as shown in the tables below:

VuLink Base Cable Connections		
Wire Color	Connection	
WHITE	Consult diagrams in <u>Section 4.</u> Do not connect directly to light bar controller output.	
BLACK	Chassis ground	
RED	+12VDC Battery terminal	
BLUE	+12VDC Switched ignition	
BROWN	For DVM-800/DVM-LIVE/DVM-250, connect to BROWN wire of I/O box harness. For all other installations connect to RED wire from included relay.	

Relay Connections Check <u>Section 4</u> to verify if your installation requires a relay		
Wire Color	Connection	
WHITE	Connect to +12DVC when emergency lights are active.	
WHITE	Chassis ground	
RED	Connect to BROWN wire on VuLink Base Cable	
YELLOW	Chassis ground	

# Step 4: VuLink Installation

Plug the base cable into the connector on the side of VuLink. Prep the windshield glass with alcohol to remove any dirt or debris. Using the included double-sided tape, attach VuLink to an unobstructed location on the windshield below the roofline. To avoid possible interference from other vehicle equipment, do not mount VuLink near other vehicle antennas.

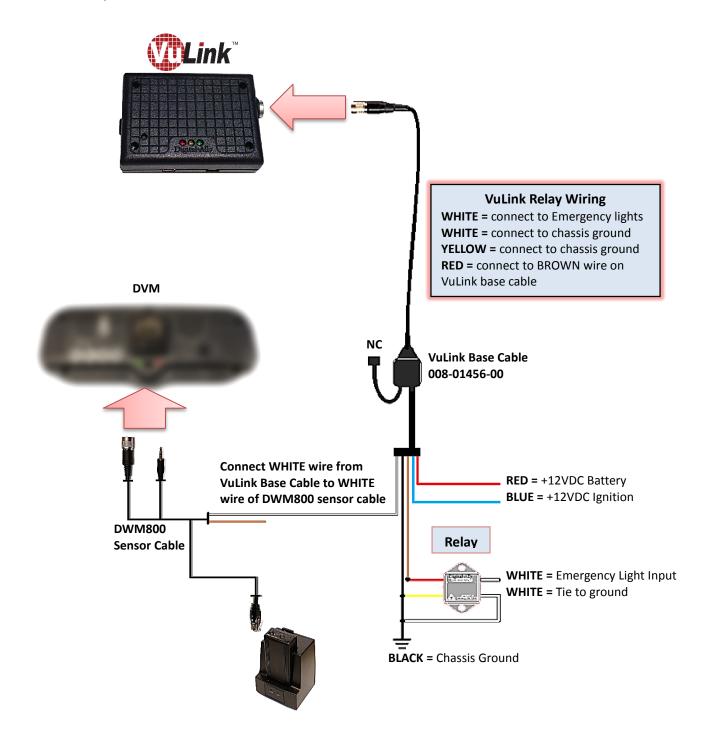
NOTE

The GREEN power LED will be illuminated as long as it is receiving battery power, regardless of the ignition switch position.

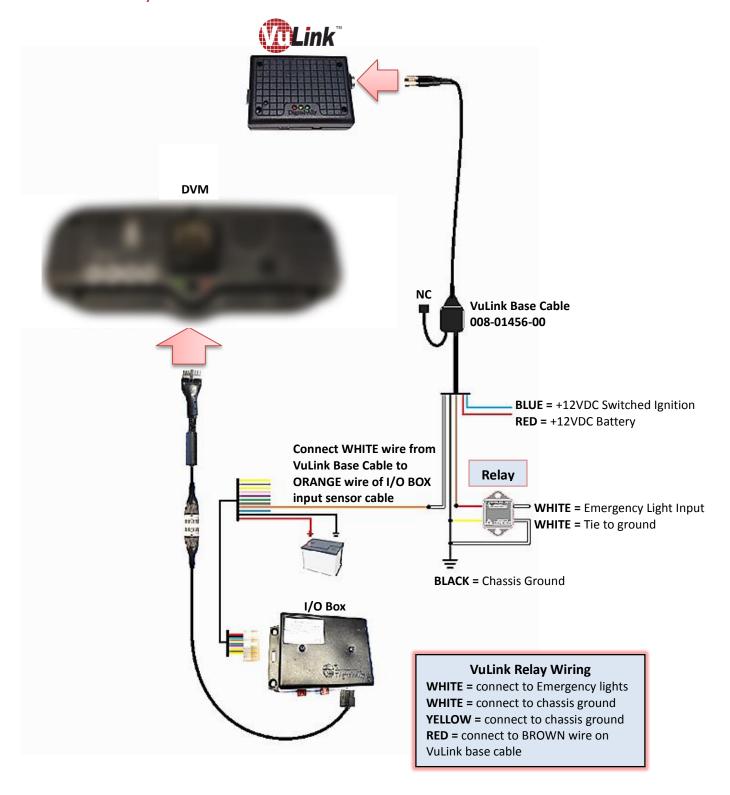


# **Section - 4: Model-Specific Wiring Diagrams**

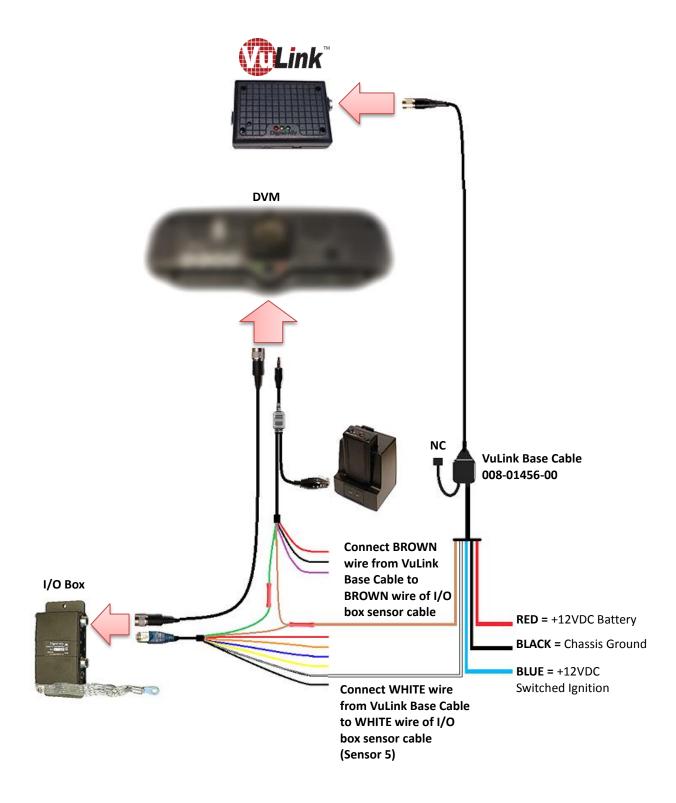
# **DVM-100 / DVM-400**



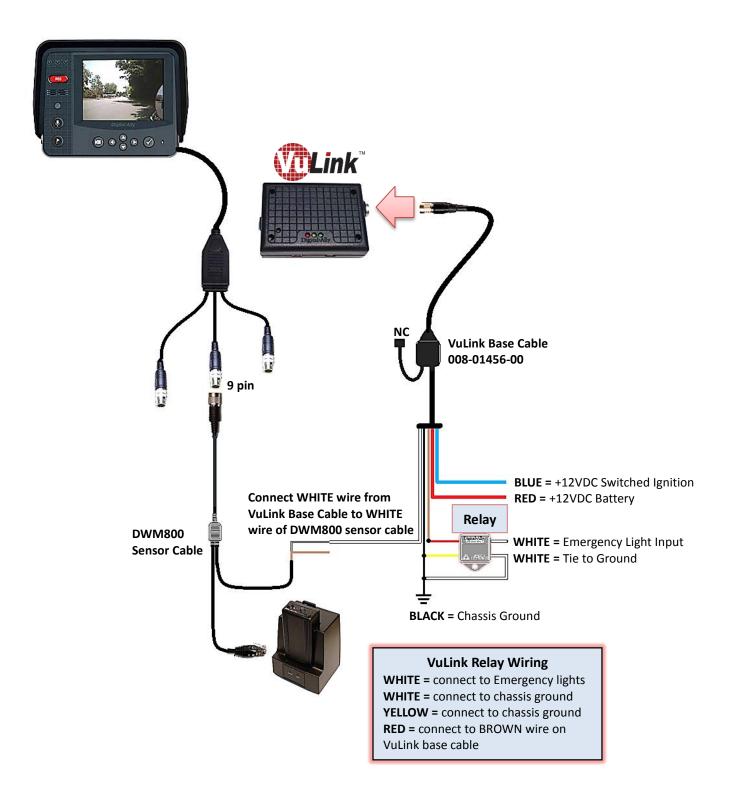
# **DVM-500Plus / DVM-750**



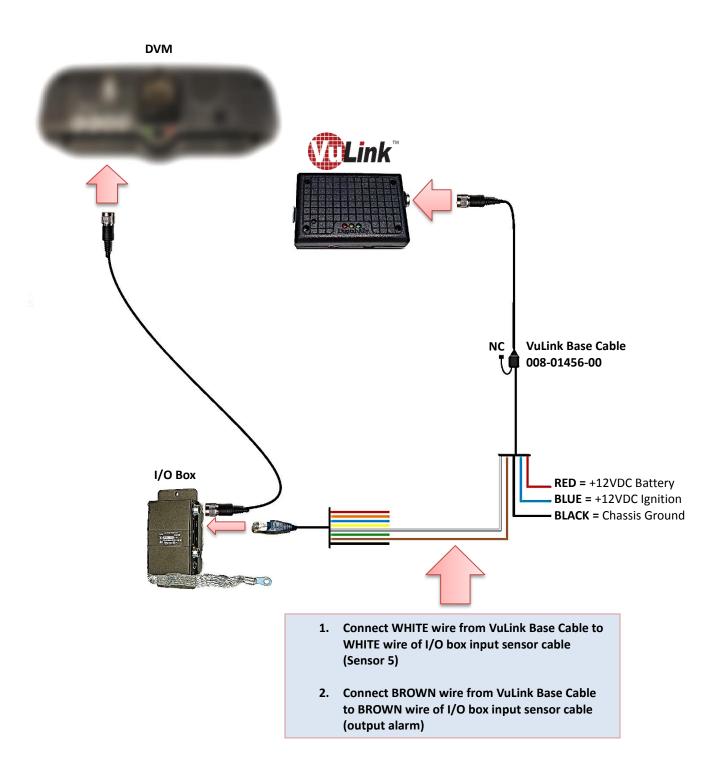
# DVM-800 / DVM-LiVE



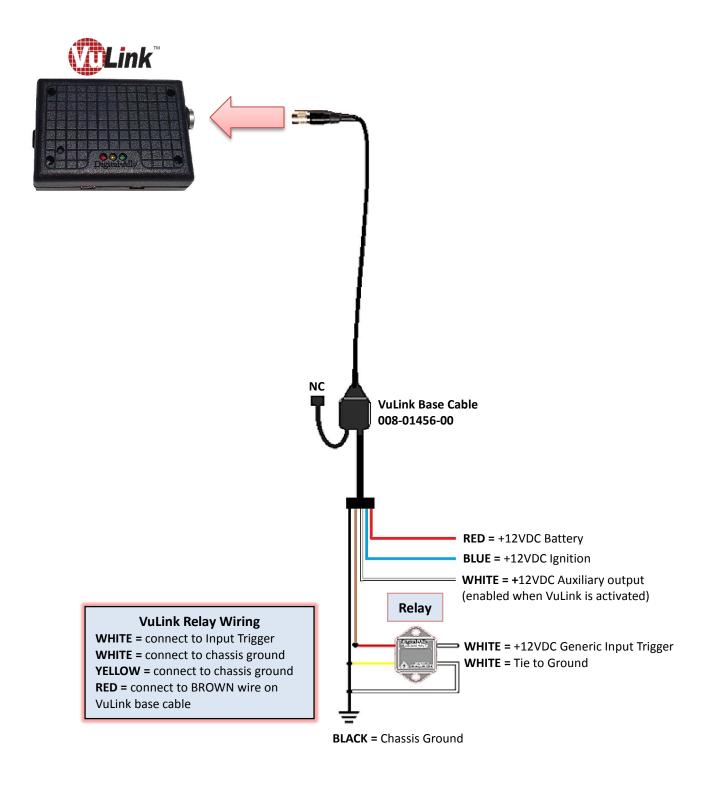
# DV-440Ultra



# DVM-250Plus or DVM250 (with interface box)



# **Generic Input Source**



#### **Section - 5: Operation**

#### **Power Control**

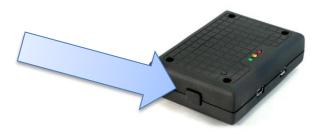
Power to VuLink is controlled through your vehicle's ignition. There are no manual controls for powering the unit on and off. When ignition is cycled, the VuLink boot-up process will begin. The red and green status indicators will flash in unison until boot up is complete. When ignition is turned off, the VuLink will enter low power standby and will then power off. No LED's will be illuminated when ignition is off.

# **Testing the System**

- 1. The Green status indicator will be illuminated whenever battery power is present, regardless of the ignition switch position.
- 2. Turn on your vehicle's ignition. The yellow and red status indicators will blink in unison as the VuLink is booting up.
- 3. Once the boot-up process is complete, the Yellow status indicator will flash as VuLink tried to establish a wireless connection with your configured FirstVuHD's.
- 4. When a wireless link is established, the Yellow status indicator on VuLink will remain lit as long as the FirstVu is within range. Typical range is 40ft.
- 5. The Yellow status indicator will also remain illuminated to the FirstVu HD. Typical range is 40ft.
- 6. Power on your in-car video system (ICV).
- 7. Start an event recording by activating your emergency lights.
- 8. The Red status indicator on the VuLink will turn on to indicate the event is being recorded. The Red status indicator on the FirstVuHD and ICV should also turn on indicating that they are also recording.
  - Whenever VuLink is connected to a FirstVu HD and the system is actively recording, all 3 status indicators will remain illuminated.
- 9. After 10 seconds, press the RECORD Stop button on your ICV to stop the event record. All Red status indicators on the ICV, VuLink, and FirstVuHD will turn off.
- 10. Press the record button on your FirstVuHD to start a new recording. All Red status LED's on VuLink, FirstVuHD, and ICV will illuminate to indicate the system is recording.
- 11. Press the RECORD Stop button on your ICV to stop the event record. All Red status LED's on the DVM, VuLink, and FirstVuHD will turn off.

#### **Covert Mode**

Pressing the covert button on the left side of VuLink will temporarily turn off all status LED's until the next power cycle.



# **VuLink™ LED Status Indicators**

	GREEN	YELLOW	RED
<b>Battery Power</b>			
present to	ON		
VuLink			
Power-on	ON	Flash ii	n unison
Sequence		Trasirii	r umsom
Searching for		Flash	
Wireless Link		Tiusii	
Wireless Link		ON	
Established		ON	
Record in			011
Progress			ON
Covert Mode	OFF	OFF	OFF
Ignition Off	ON	OFF	OFF
Firmware Upgrade	ON	Alternat	ing flash

# FirstVuHD™ LED Status Indicators

The FirstVuHD yellow status LED will be on whenever a wireless link is established with VuLink. For a complete list of status indicators, consult the FirstVu HD Operation Guide.

	GREEN	YELLOW	RED
		-	-
Wireless Link Established		ON	

#### **Section - 6: Support**

#### **Software Updates**

Log on to <a href="https://www.digitalallyinc.com/tech-support.php">www.digitalallyinc.com/tech-support.php</a> 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. After a reset occurs, VuLink will determine if a firmware file is present and read the deviceconfig for changes.



#### **Troubleshooting**

Symptom	Resolution	
	Verify the power cable connector is connected to VuLink.	
Green Status indicator not lit	<ul> <li>Verify there are no breaks, pinches, or cuts in the wiring or cable harness.</li> </ul>	
	<ul> <li>Check the wiring and voltage levels to the red and black wires on the VuLink cable harness. Should be constant 12vdc measured across these two wires.</li> </ul>	
	Verify the power cable connector is connected to VuLink.	
Red/Blue status indicators	<ul> <li>Verify there are no breaks, pinches, or cuts in the wiring or cable harness.</li> </ul>	
do not blink in unison when ignition is applied	<ul> <li>Check the wiring and voltage levels to the red and black wires on the VuLink cable harness. Should be constant 12vdc measured across these two wires.</li> </ul>	
	FirstVu HD is out of range.	
Yellow light is always blinking / FirstVu HD will not	<ul> <li>FirstVu HD and/or VuLink not properly configured. Recheck device configurations in <u>Section 3</u>.</li> </ul>	
connect to VuLink	Reset the system.	
	<ul> <li>Contact technical support if problem persists.</li> </ul>	
Poor wireless range	<ul> <li>Ensure Vulink is properly mounted to windshield and no other vehicle antennas or obstructions are nearby.</li> </ul>	
J	FirstVu HD battery may be low. Replace FirstVu HD battery.	

#### **Product Repair**

VuLink should be returned to Digital Ally for service. The warranty may be voided if the device is opened by any unauthorized individual. Please contact Digital Ally to obtain a 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 VuLink.

#### **Section - 7: Warranty Information**

We warranty that our wireless link, Model VuLink™, will be free from defects in workmanship and material for a period of 12 months from the date of purchase by the original purchaser. If any defect is discovered through normal and proper use of the unit during this period, the defect will be repaired or the unit will be replaced at our factory or at one of our authorized service centers at no cost to the purchaser. The purchaser must return the defective unit to the factory or one of our authorized service centers, freight prepaid. We will pay for shipping charges for the return of the unit.

This warranty applies only to defects in a unit's internal electronic components and circuitry, and is void as to units that have been opened without prior authorization, have experienced unauthorized repairs, or have had unauthorized modifications. This warranty does not cover the following:

- Normal wear and tear on the unit such as batteries, frayed cables or wires, broken connectors, or scratched or broken cases.
- Damage caused by operator abuse or neglect.
- Damage caused by incorrect use of the unit, carelessness, unauthorized alterations to the unit, improper storage of the unit or unauthorized service, installation or repairs made to the unit.
- Damage caused by fire, flood, lightning, vandalism, collision, acts of God, or other events beyond the reasonable control of Digital Ally, Inc. or the purchaser.
- Damage to external parts of the unit such as buttons, wires, and cables, etc.
- Damage from use of the unit in hostile operating environments.

We reserve the right to charge for repairs to a unit during the warranty period made necessary because of any of the foregoing causes at our standard rates for repair of units not under warranty.

The purchaser assumes all risk of use from its purchase and use of the unit. Harmful personal contact with a unit might occur in the event of violent maneuvers, collisions, or similar circumstances, even if the unit was properly installed and used. We are not responsible for, and we specifically disclaim any liability for injury caused by a unit in such circumstances.

THIS WARRANTY IS GIVEN IN LIEU OF ALL OTHER WARRANTIES. THERE ARE NO WARRANTIES THAT EXTEND BEYOND THIS STATEMENT. ALL IMPLIED WARRANTIES ARE DISCLAIMED, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY, NON-INFRINGEMENT, FITNESS FOR A PARTICULAR PURPOSE, AND WARRANTIES IMPLIED FROM A COURSE OF DEALING, COURSE OF PERFORMANCE OR USAGE OF TRADE. THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY FOR A WARRANTY CLAIM WILL BE THE REPAIR OR REPLACEMENT OF A UNIT.

# **Section - 8: Contact Information**



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Lenexa, KS 66219

Website: www.digitalallyinc.com

Support E-Mail: support@digitalallyinc.com

Sales E-Mail: sales@digitalallyinc.com

Phone: 913-814-7774

Fax: 913-814-7775

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



<sup>\*</sup> Specifications subject to change without notice.

#### **Section - 9: Regulatory**







This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the user equipment and VuLink.
- Connect the user equipment into an outlet on a circuit different from that to which VuLink is connected.
- Contact Digital Ally technical support.

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

The CE Mark is a European marking of conformity indicating that a product complies with the essential requirements of the applicable European laws or Directives with respect to safety. health, environment, and consumer protection.

Changes or modifications not expressly approved by Digital Ally, Inc. could void the user's authority to operate the equipment.