



Installation Guide

DV-440 Ultra

860-00195-00 Rev C

All Weather Digital Video System and Digital Camera

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Section - 1: Before you Begin

This document covers the installation of the DV-440Ultra system.

Tools Needed

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



Camera Options

Your DV-440Ultra system has shipped with either the *motorcycle kit* or the *vehicle kit*. The motorcycle kit includes a waterproof bullet style camera. The vehicle kit includes a 12XC front camera and a backseat auxiliary camera. If you have received the motorcycle kit, the camera Y-cable (008-01436-00) is not needed and may be discarded. See [section 3](#) for more information.

Cautions and Notes

Please read and follow the instructions and precautions in this installation guide when installing DV-440Ultra products.

- For assistance, a qualified installation technician or mechanic should be consulted.
- 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 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.
- Use tie-wraps to safely secure all cabling and help minimize vibration.
- For more information, consult the *DV-440Ultra Operation Guide*.

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

Section - 2: Available Parts, Cables and Accessories

Motorcycle Kit (001-05137-00)

The *Motorcycle Kit* is equipped with a bullet camera which can be mounted to the motorcycle frame or flat surface. See mounting options on page 2-3.

Part Number		Description
006-08213-00		DV-440Ultra Main Module
002-05095-00		DWM-800 2.4Ghz Wireless Microphone System
566-00043-00		Waterproof Bullet Camera with Cable
008-01433-00		Power Cable Assembly
008-01437-00		Cable, DWM-800 to DV-440Ultra
008-01436-00		Cable, CAM1/CAM2 Y-Cable (not used for motorcycles)
025-00004-00		DWM-800 External Antenna
008-01271-00		USB Cable
860-00191-00		Quick Start Guide
860-00195-00		Installation Guide

Vehicle Kit (002-05138-00)






The *Vehicle Kit* is equipped with a 12XC front camera and auxiliary camera. There are four auxiliary camera options for you to choose from. See mounting options on page 2-3.

Part Number		Description
006-08206-00		DV-440Ultra Main Module
566-00138-00		12XC Camera with Built-In Controls
008-01433-00		Power Cable Assembly
566-00134-00		Auxiliary Camera, Surface Mount, with Reverse Image Switch
008-01433-00		Power Cable Assembly
008-01437-00		Cable, DWM-800 to DV-440Ultra
008-01436-00		Cable, CAM1/CAM2 Y-Cable
025-00004-00		DWM-800 External Antenna
004-09058-00		Cable, Backseat Microphone to DWM-800
008-01271-00		USB Cable
006-08255-00		Visor Plate for 12x front camera
860-00191-00		Quick Start Guide
860-00195-00		Installation Guide

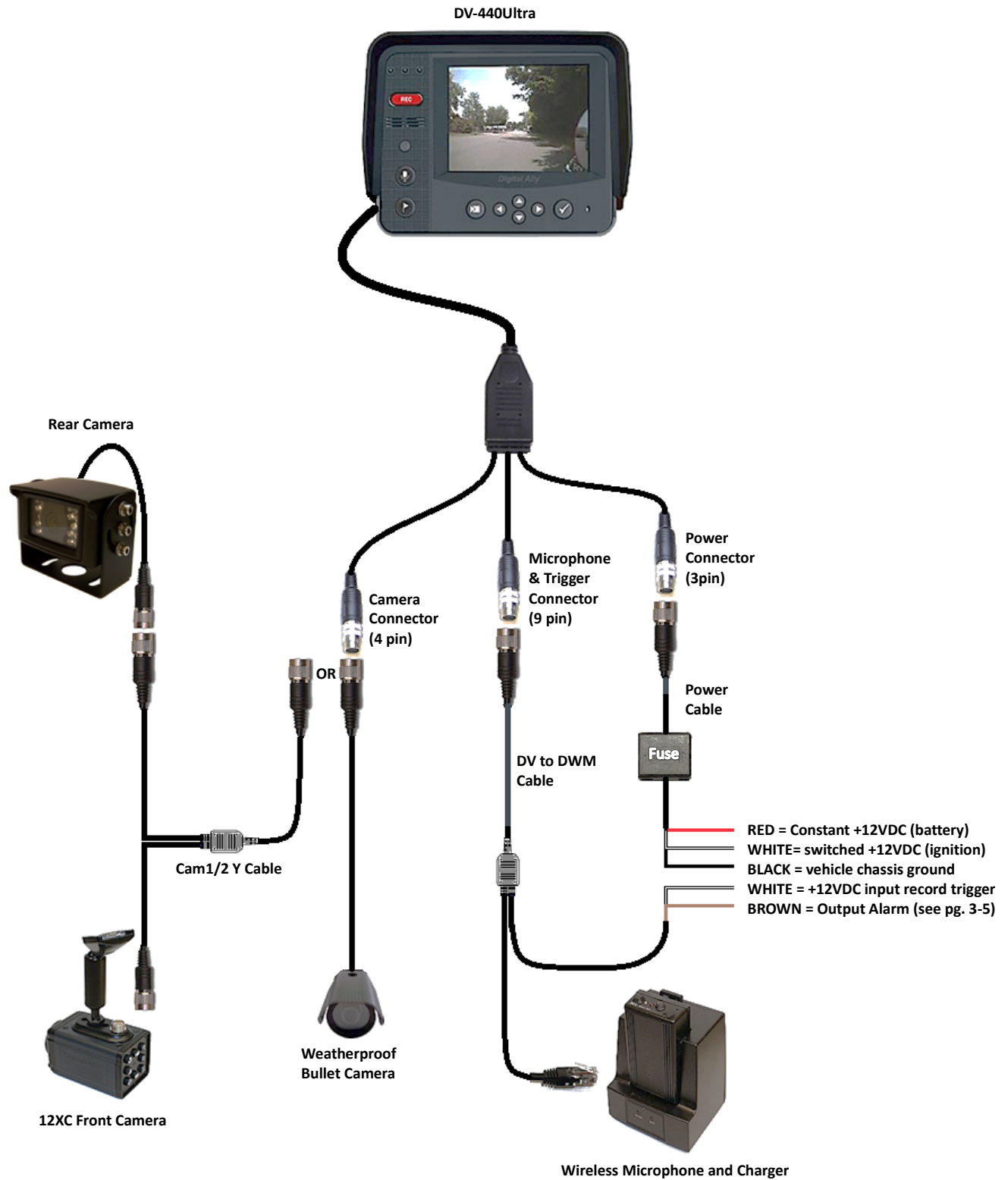
Mounting Options

Part Number		Description
002-05139-00		Monitor - Solid Surface Mount
002-05026-01		Monitor – Handlebar Mount
002-05029-00		Bullet Camera - Rail Mount
002-05028-00		Bullet Camera – Solid Surface Mount
006-08255-00		12XC Camera – Visor Plate

Optional Items

Part Number		Description
008-01382-00 008-01382-01 008-01382-02 008-01382-03		Aux Camera 25ft Extension Cable Aux Camera 40ft Extension Cable Aux Camera 60ft Extension Cable Aux Camera 15ft Extension Cable
002-05091-00		Charger, RMT Desktop Charger 120Vac
860-00151-00		VuVault™ Stand Alone Software DVD
860-00152-00		VuVault™ Server/Client Software DVD
860-00153-00		VuVault™ Enterprise Software DVD

Wiring Diagram



Section - 3: Installation Instructions

Step 1: Remove Factory Body Trim

Determine a suitable mounting location for the DV-440Ultra. For motorcycles, we recommend installing the Main Module on the handlebars. We offer several different mounting options for all types of motorcycles and vehicles.

Next, remove the seat so to gain access to the vehicle battery. For most Harley Davidson motorcycles, the cabling can be run over the fuel tank, underneath the tank bezel. Loosen the fuel tank bezel to route cabling from the front to rear. Plan a safe route for cabling along the chassis.



Step 2: Install the DV-440Ultra Module

The waterproof controller can be mounted in a number of locations using the hardware included with your order, such as on the handlebars of a motorcycle. Attach the mount (002-05026-01) to the controller using the supplied hardware. Optional hardware is available for in-car installations. Examples are illustrated below.

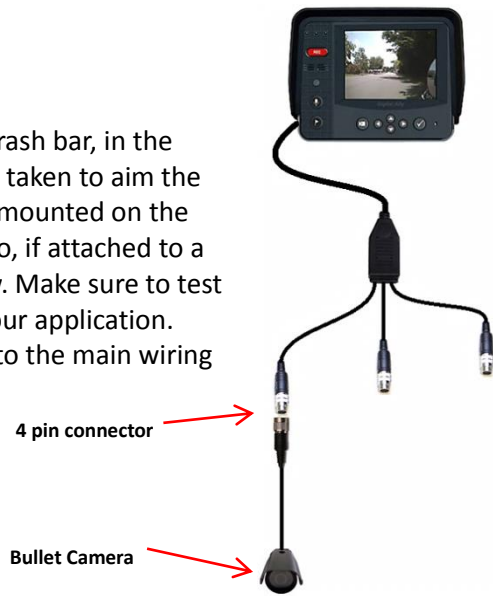
If using the vehicle kit, attach the monitor mount (002-05139-00) to a solid surface such as the center console.



Step 3: Camera Installation

Waterproof Bullet Camera (Motorcycle Kit)

The bullet camera can be installed on a motorcycle crash bar, in the fairing, or other locations, as desired. Care should be taken to aim the camera to facilitate recording the best picture, i.e. if mounted on the crash bar; you may need to aim the camera “up”. Also, if attached to a motorcycle, parking the vehicle may change the view. Make sure to test the camera aim to find the best position that suits your application. Secure all cabling neatly with tie wraps and connect to the main wiring harness.



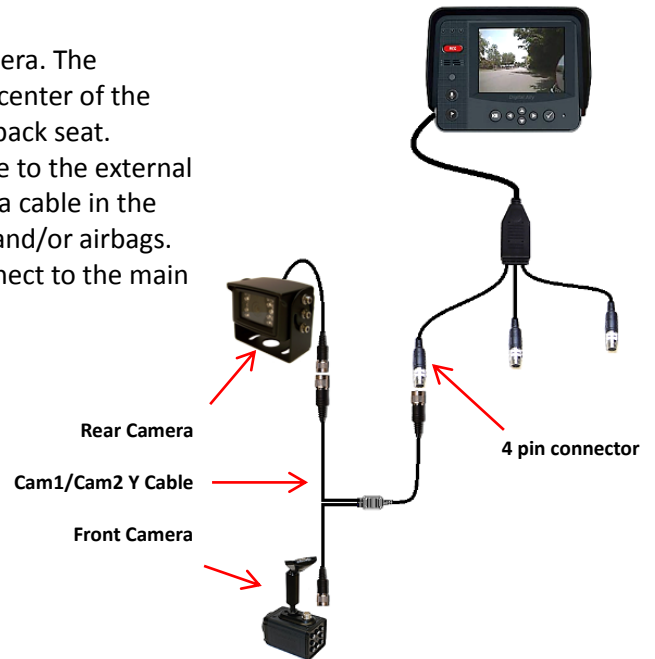
12XC Front Camera (Vehicle Kit)

Attach the visor mount through the visor clip and attach front camera to the mounting plate. Route the cable down the vehicle passenger A-pillar and connect to the DV-440Ultra monitor. Secure all cabling neatly with tie wraps.



Auxiliary Rear Camera (Vehicle Kit)

Determine a 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 airbags. Secure all cabling neatly with tie wraps and connect to the main wiring harness.



Step 4: Power, Ignition, & Ground Connections

Remove 6 to 7 inches of the outer jacket at the bare end of the power cable. The **RED** wire of the 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 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.
- Secure all cabling neatly with tie wraps and connect to the main wiring harness.



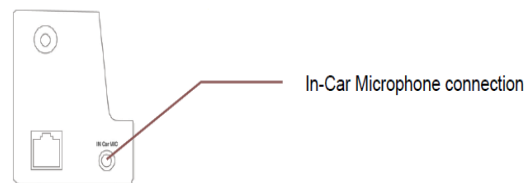
It is recommended that these connections are made directly to the police package accessory harness or engine compartment battery wiring harness for best results. These wires should be used ONLY for the DVM system and not be tapped into for installation of any other equipment in the vehicle. Doing so could result in possible radio frequency interference from the other equipment.

Step 5: Wireless Microphone and Trigger Connections

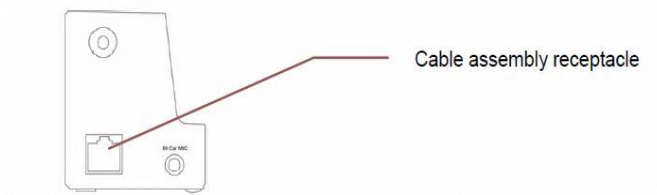
Mount the DWM-800 charging cradle in an easily accessible moisture-free location.



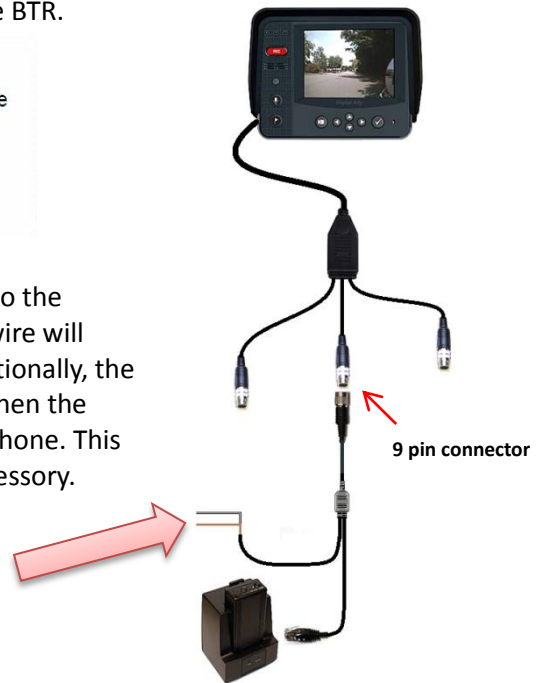
1. Attach the mounting bracket to the back of the BTR (base transceiver cradle); the assembly can then be mounted at your preferred location, such as the side of the center console. For motorcycle installations, mount the BTR800 in the trunk or saddlebag away from moisture.
2. Attach the antenna. If 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.



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



4. 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 +12VDC output alarm when the *Emergency button* is pressed on the RMT wireless microphone. This could be connected to a police radio or other remote accessory.

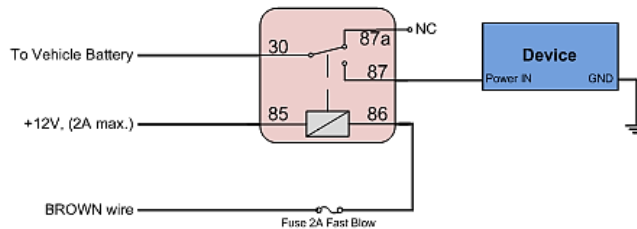


5. If your order included an external wired microphone and/or external antenna, attach them to the DWM800 and route to your desired location. It is recommended that the external antenna be placed on the front windshield glass below the headliner, away from other antennas.

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.



An optional 110 Volt AC Wall charger is also available for charging outside the vehicle.

Section - 4: Testing the Installation

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 REC Start/Stop button. 
5. The Red status indicator will turn on to indicate the event is being recorded.
6. After 10 seconds, press the REC button to stop the event record.
7. The Red status indicator will extinguish, indicating the DVM has returned to standby mode.
8. Turn on the vehicle’s emergency lights.
9. The Red status indicator will turn on again to indicate the event is being recorded.
10. After 10 seconds, press the REC button to stop the event record.
11. The Red status indicator will extinguish, indicating the DVM has returned to standby mode.
12. Remove the wireless microphone from the charging cradle and press the record button.
13. The Red status indicator will turn on again to indicate the event is being recorded.
14. After 10 seconds, press the REC button to stop the event record.
15. The Red status indicator will extinguish, indicating the DVM has returned to standby mode.
16. Press the Play/Pause button and the event will playback on the DV-440Ultra display.
17. For operational instructions and configuration options, please consult the *DV-440Ultra Operation Guide*.



Post Installation Checklist

DV-440Ultra serial number	
Camera serial number	
Vehicle Make & Model	
Vehicle license plate number	
VIN number	
Date of Installation	
Installer Signature	

Section - 5: Support

Software Updates

Log on to 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

To perform a reset, remove the two screws to the access panel on the rear of the unit. 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. Be sure to re-tighten the panel screws securely to ensure that the unit is water-tight.



Troubleshooting

Symptom	Resolution
<i>System will not power up.</i>	<ul style="list-style-type: none"> • Verify the power cable connector is connected to the back of the DVM. • Check the power cable fuses located in the in-line fuse housing on the power cable. • Verify there are no breaks, pinches, or cuts in the wiring or cable harness. • Check the wiring and voltage levels to the vehicle power and ignition switch wiring.
<i>Red/Blue/Green status indicators blink in unison</i>	<ul style="list-style-type: none"> • Memory is full, upload event files from the DV-440Ultra
<i>DV powers up but doesn't record</i>	<ul style="list-style-type: none"> • Check the LED status indicators for possible error conditions • Reset the system.
<i>DV powers up and goes directly to an event record (Red indicator flashes)</i>	<p>An event record has been triggered from either an accessory or the record button is stuck</p> <ul style="list-style-type: none"> • Check the DV record button to make sure it is freely moving • Disconnect the camera and microphone cables and reset the DVM. If the problem doesn't re-occur, refer to the accessory item documentation for further troubleshooting.
<i>DV-440Ultra is unresponsive</i>	<ul style="list-style-type: none"> • Verify the cables and cable connections. • Verify vehicle power. • Press the reset button.

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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Sales E-Mail: sales@digitalallyinc.com

Phone: 913-814-7774

Fax: 913-814-7775

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



Section - 7: 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.

NOTE: 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 DV-440Ultra.
- Connect the user equipment into an outlet on a circuit different from that to which the DV-440Ultra is connected.
- Contact Digital Ally technical support.

This device complies with Industry Canada license-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.