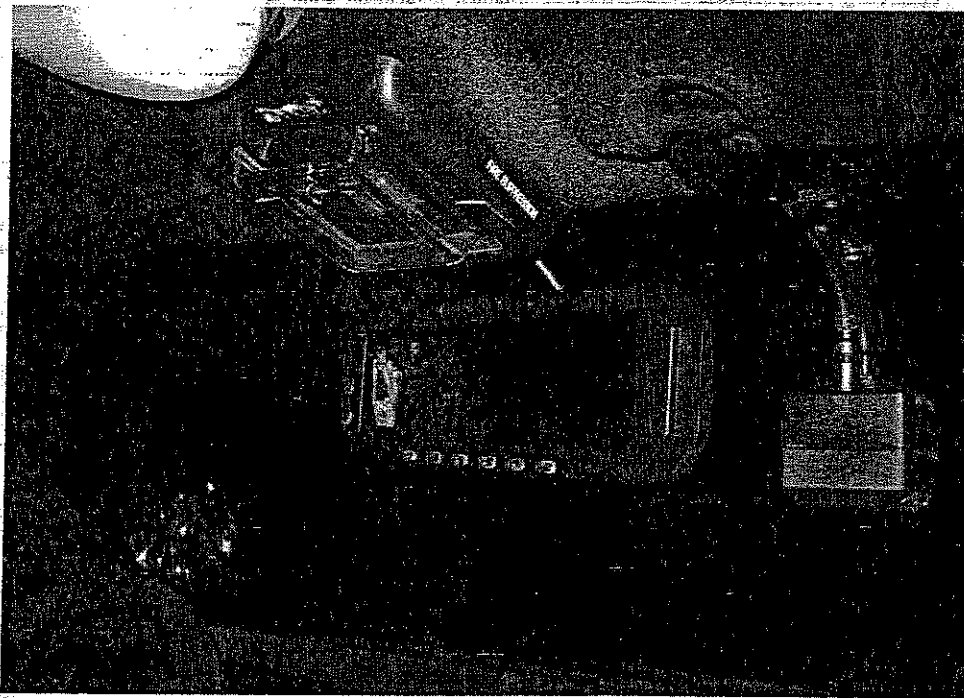




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Digital Ally™

## DVM-500 User's Guide



### In-Car Digital Video System

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## DVM-500 System – Initial Setup

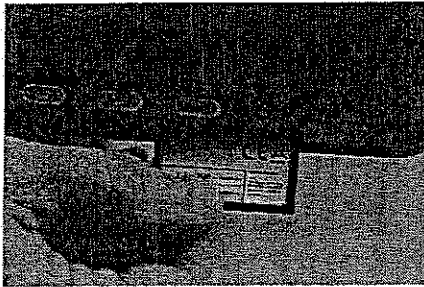
1. VideoManager should be installed and configured on a computer running Windows XP SP2 before using the DVM for the first time. Vehicles, Users, and Event IDs are defined during the initial setup of VideoManager. Please refer to the VideoManager User's Guide for instructions.

2. The DVM's CF card comes with 2 default login settings already configured, and they are as follows:

**User1** – Password = 22222

**Admin** – Password = 11111

3. The DVM has been shipped with a 4GB CF card already installed. The memory card must be fully inserted before powering up the unit or a message "initializing CF card" will appear on the screen and the unit will fail to start up. Please note that the DVM requires high-speed memory cards: SanDisk brand Ultra II and Extreme III cards are the only CF cards approved for use in the DVM.



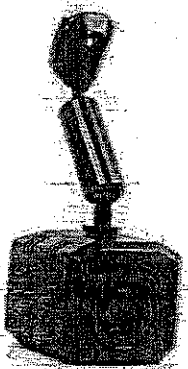
**Important: Do not force the CF card into the slot. Doing so may permanently damage the DVM.** The card only goes in one way, with the back side of the card towards the front of the DVM and the colorful label side facing the back of the DVM. The memory card should slide in easily with slight resistance as the card seats into the slot. If the card is difficult to insert, pull it back out and make sure it is facing the right direction and align it carefully with the slot as the card is reinserted. The white label side should be facing towards the back of the vehicle, as seen in the picture to the left.

✓ **Important: Do not insert or remove the CF card while the DVM is powered on!**

4. The main camera must be connected to the DVM using the included cable. If it is not connected, the DVM will display the message "Power down and connect camera" after logging in.

5. The wireless microphone (RMT) must be fully charged before using it with the DVM. The RMT can be charged using the in-car charging cradle or the desktop charging cradle. Two charging cradles are included in the DVM-500 kit: one for vehicle use and one for desktop use.

✓ **Important: Charge the RMT for 12-16 hours before using it for the first time. Failure to fully charge the RMT may result in permanent loss of battery capacity. After an initial charge, the RMT should fully recharge in approximately 4-5 hours.**



(Steps continue on next page)

6. In order to use the wireless microphone (RMT), an antenna must be attached to the DVM. The DVM ships with a small "rubber duck" antenna attached to the left side. An external roof antenna is also included to enable greater transmission range, if needed. If using the external antenna, please mount it forward of any light bar on the roof of the vehicle for a clear line-of-sight to the RMT.

**Important: When installing the external antenna, do NOT use a wrench to tighten the cable to the mirror. This connection should be Finger Tight only. Over tightening the connection can potentially cause damage to the connector inside the DVM.**

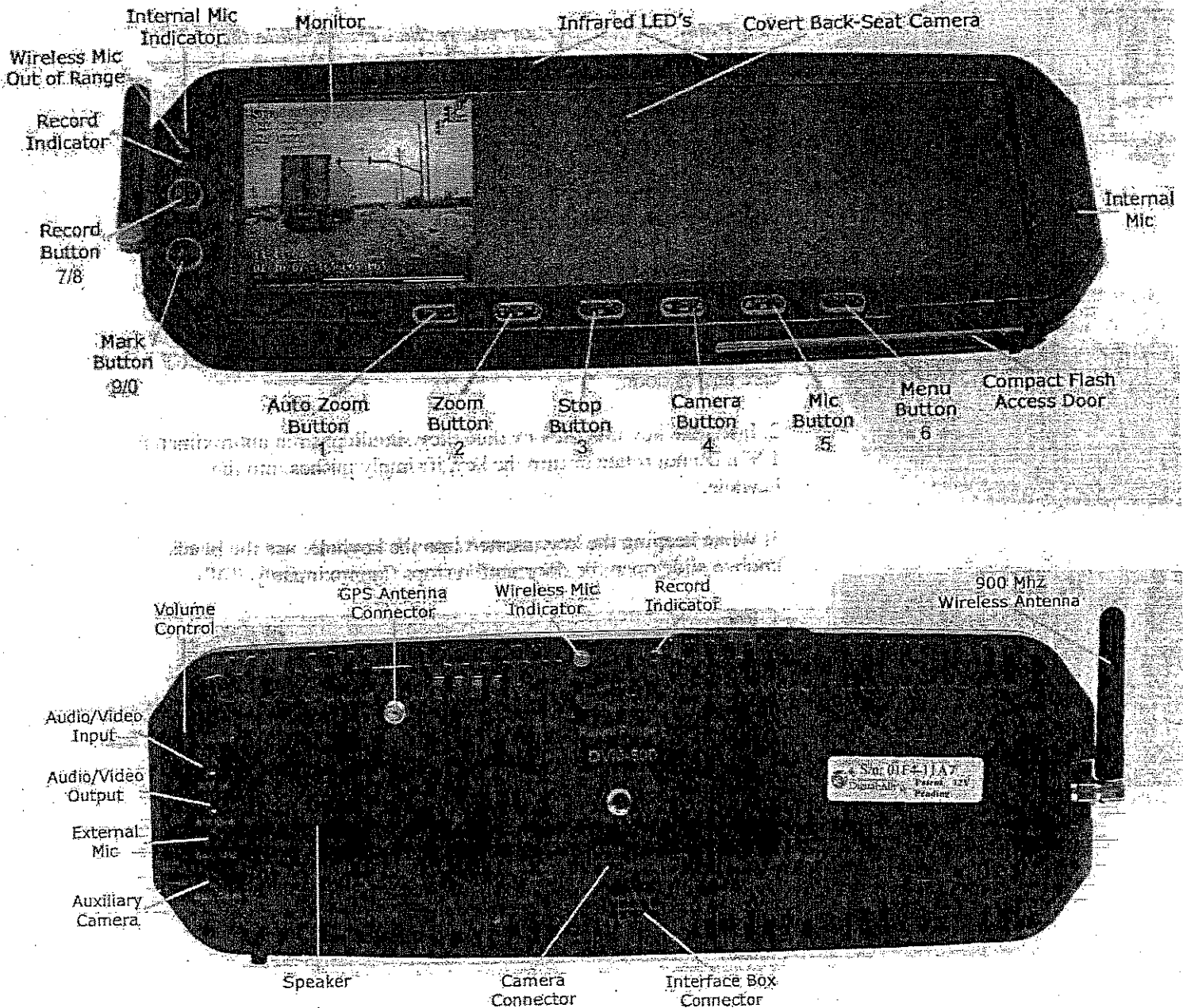
Please note that the RMT must be within three feet of the antenna during the synchronization process. Please refer to the section "Synching Wireless Microphone to the DVM" (page 5) for the procedure on synchronizing the RMT to the DVM prior to recording videos.

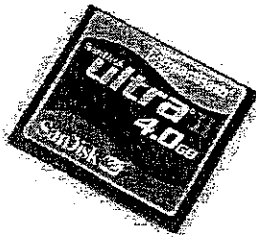
7. Attach the GPS antenna to the rear of the DVM. This antenna can be mounted on the dash or magnetically attached to the roof to receive GPS signals. Signal reception can be verified by enabling the GPS display text; please refer to Display Text Menu (page 20) for this option.

(End of initial setup steps)

## System Components

### Digital Video Mirror (DVM)

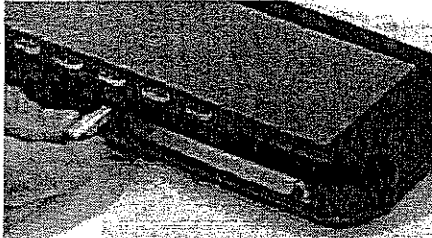




All recordings are stored on the Compact Flash (CF) card. Before the DVM-500 system can be operated, an activated CF card must be installed in the DVM.

### Inserting or Removing the Compact Flash Card

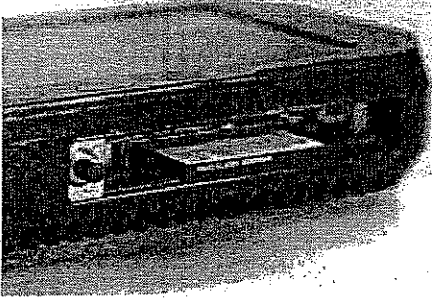
The DVM has a special access door that must be opened with the included key before the CF card can be accessed.



**Important:** Do not insert or remove the CF card while the unit is powered on. Briefly press the MENU button before removing the card and look for any activity on the LCD screen. The CF card may be safely removed from the DVM if no activity is notice on the LCD screen.

**NOTE:** This procedure may require two hands and should not be attempted while driving the vehicle.

#### How to unlock and open the access door:

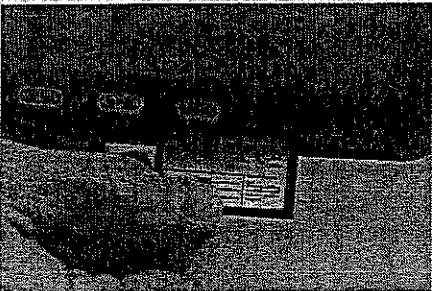


1. Align the end of the key with the slots and stud of key hole. The key hole is located on the bottom of the unit, next to the metal CF card access door.

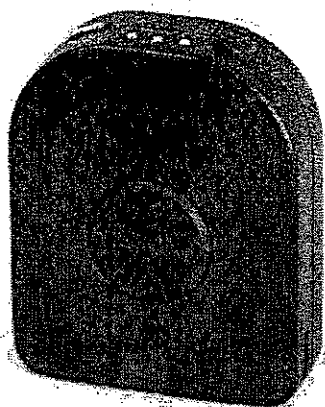
2. Insert the key into the key hole (key should push in approximately 1/8"). Do not rotate or turn the key, it simply pushes into the keyhole.

3. While keeping the key inserted into the keyhole, use the black knob to slide open the door until it stops (approximately 1/4").

4. Remove the key from the key hole and then slide the door open the rest of the way to access the CF card.



**Note:** The white label on the back side of the CF card should be visible when inserting the CF card into the DVM. Please refer to the picture on the left.



## Wireless Microphone (RMT)

The Wireless Microphone (RMT) can be worn on a belt or other location. The RMT contains a condenser mic built into the face of the unit. A lapel mic can be attached to the input port located on the top of the RMT. The RMT also features a large RECORD button that is used to remotely start and stop a recording on the DVM.

### Synching the Wireless Microphone (RMT) to the DVM

Prior to first use, the wireless microphone must be synchronized with the Digital Video Mirror (DVM). Please note that the RMT must be within 3 feet of the antenna during the synchronization process.

1. Select Synch Wireless Microphone from the Main Menu.
2. Select Wireless Mic #1 or #2
3. Remove the Wireless Mic from the charging cradle.
4. Hold down the Record button while turning it on until the Red, Yellow and Green LEDs begin to flash.
5. Press the MENU Button on the DVM to begin searching for the Wireless Mic.

Repeat the above procedure for Wireless Mic #2 if synching a second RMT to the same DVM.

### Power On/Off

The PWR (power) button toggles the RMT ON and OFF. To power ON, press and hold the PWR button (located on the top of the RMT) until the Green LED starts blinking. The LED will begin flashing every 3 seconds to indicate that it is powered ON and in Standby Mode. To power OFF the RMT, press and hold the PWR button until the Green LED lights steady and then turns off.

### Start Transmitting Audio (Recording)

Transmit mode is entered by pressing and holding the RECORD button on the RMT for a several seconds while it is in standby mode (Green LED flashes periodically). The Red LED will begin flashing at 4 times per second as it searches for the DVM unit on a clear channel. Release the RECORD button, and if communication is established with the DVM, the Red LED will be on steady. If the RMT is unable to establish communication with the DVM in approximately 4-6 seconds, then it will return to standby mode.



## LED Indicators

LED indicators are used to indicate the operational status of the RMT. LEDs are laid out left to right from the PWR button as: Red, Amber, Green.

### While Operating

**Red LED** – On steady indicates that it is transmitting audio.

**Amber LED** - On steady if out of range while it is transmitting audio. The Amber LED will flash slowly when battery has 25% charge left and will flash rapidly at 15% remaining.

**Green LED** - Flashes every 3 seconds to indicate Power On Standby mode.

**Ready to Sync** - All three LEDs flash quickly. Waiting for in car transceiver to attempt sync.

**During Sync** - alternately flash Red and Green LEDs.

**Sync Finished** - All LEDs on steady for 1 second to indicate Sync Finished, then unit will revert to Standby mode.

### While Charging

**Battery 25%** -- 1 flash of the Amber LED

**Battery 50%** -- 2 flashes of the Amber LED

**Battery 75%** -- 3 flashes of the Amber LED

**Battery 100%** -- 4 flashes of the Amber LED

**Important:** The RMT is automatically powered down during charging. It must be powered back on by the user after removing it from the cradle or audio will not be recorded while the DVM is recording.

### Covert Mic Mode

Covert mode disables all three LED lights on the top of the RMT. Pressing the RECORD button quickly two times will enable Covert Mode. Pressing the RECORD button quickly two more times will disable Covert Mode.

### Record Lock Mode

Record lock disables the PWR and RECORD buttons on the RMT so that it remains on during recording. Record Lock Mode is enabled via the Settings Menu on the DVM and may require an optional upgrade to existing DVM hardware. Please contact Digital Ally, Inc. for more details.



## Charging the RMT in a vehicle

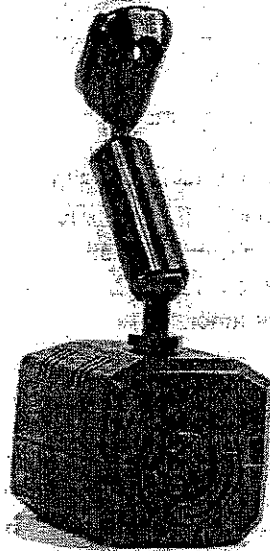
Plug the DC auto adapter into the vehicle's 12VDC receptacle (cigar lighter socket). Insert the other end of the adapter into the left side of the charging cradle, and then insert the RMT into the cradle. The RMT will power down and begin flashing the amber light (center LED). Please refer to the "LED Indicators" section (page 6) for more information.

Please note: In some vehicles, the 12VDC receptacle may be controlled by the position of the ignition switch. In such cases, the RMT will only charge when the ignition switch is in the "On" position. For optimal performance, the DC auto adapter should be attached to a 12VDC, constant-on socket, or hard-wired to a 12VDC battery junction.

## Charging the RMT on the desktop

Plug the AC adapter into a wall outlet (120VAC 60Hz) near the desktop. Insert the other end of the adapter into the left side of the charging cradle, and then insert the RMT into the cradle. The RMT will power down and begin flashing the amber light (center LED). Please refer to the "LED Indicators" section (page 6) for more information.

## Main Camera



The DVM-500 can accommodate two cameras, one covert rear seat camera for recording the inside of the vehicle and the main camera for recording outside the vehicle. The Main camera is a high quality ultra compact color video camera. The camera mounting bracket allows the camera to easily pivot left and right or up and down.

### Camera Modes

Although the camera offers auto iris and other automation to achieve the best picture, we have fine-tuned the camera using software to help optimize it during various conditions.

The camera modes are shown in the upper right corner of the LCD screen when the DVM is displaying live video. Please refer to the "Camera Controls" (page 12) and "Camera Menu" (page 15) sections for more information about selecting camera modes.

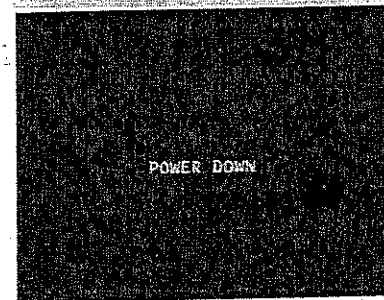
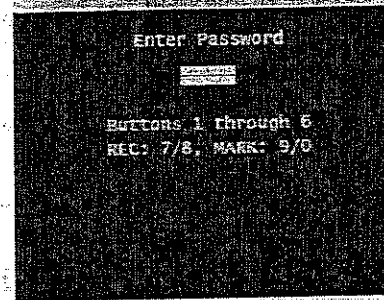
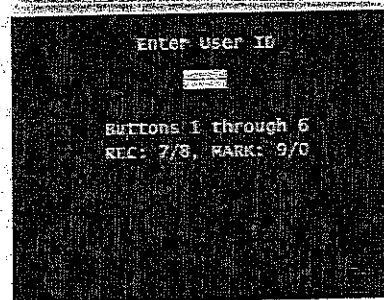
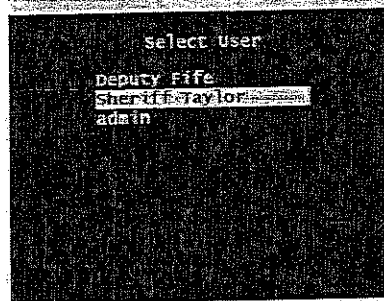
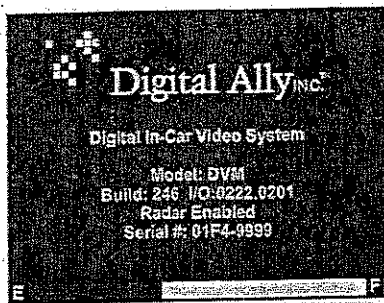
### Auto Adjusting Day/Night Modes

- **D-Day/Normal:** Camera automatically adjusts to daylight conditions.
- **N-Night Auto:** Camera automatically adjusts to nighttime conditions.

### Night Modes for specific lighting conditions:

- **N1 – Night 1:** High amount of ambient light is present. The parking lot of a brightly lit convenience store may offer this lighting condition.
- **N2 – Night 2:** Medium amount of ambient light is present. A brightly lit city street may offer this lighting condition.
- **N3 – Night 3:** Low amount of ambient light is present. A dimly lit side street or highway may offer this lighting condition.
- **N4 – Night 4:** No ambient light is present. A dark highway without any lights may offer this lighting condition.

## Operating Mode



The DVM has three operation modes: *Operating Mode*, *Menu Mode* and *Playback Mode*. Operating Mode is the mode that is used most frequently. The DVM is in this mode when it is standing by ready to record (Pre-Event) and while it is recording.

### Powering Up the DVM



1. Press and Hold the MARK button for 2-3 Seconds.
2. Select a User or Enter User ID
3. Enter Password

The MARK button acts as the ON/OFF switch for the DVM. Press and release the MARK button to power up the DVM. Power up sequence:

1. "INITIALIZING CF CARD" message
2. Digital Ally Inc. logo with version info
3. Select User, or Enter User ID login screen

### Logging into the DVM

Note: VideoManager 1.6.2 allows an administrator to assign a numerical Userid for each user of the DVM (requires DVM Build 246 or greater).

**Select User** - Use the DOWN/4 and UP/5 buttons to select a user, and then press ENTER/2 to select the user.

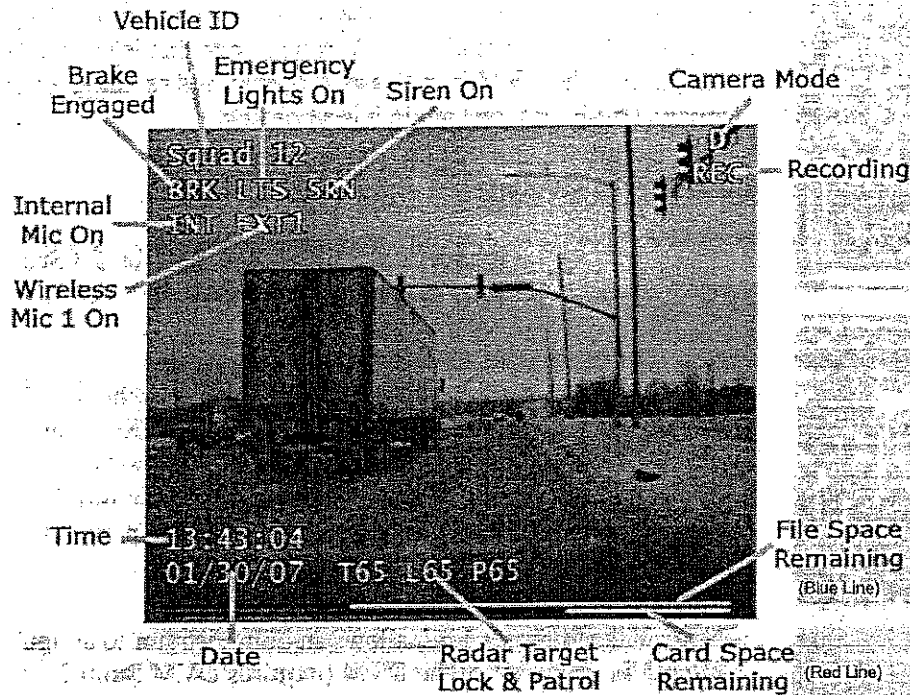
**Enter User ID** - Key in the Userid by using the buttons 1 through 6, the REC/7/8 button, and the MARK/9/0 button. Userids can consist of any combination of the digits 0-9. Please refer to the VideoManager User's Guide for more information on configuring Users.

**Enter Password** - After the user has been selected, or after the Userid has been entered, the "Enter Password" screen will appear. Enter the password using buttons 1-6 and the REC/7/8 and MARK/9/0 buttons. Passwords may contain any combination of the digits 0 through 9. Users and Passwords are established during the initial setup of VideoManager. "Preparing New Video File" will display for a few seconds, and then the main camera image will appear on the screen. This is the normal Pre-Event Record mode for the DVM. Note: If the Monitor is set to AUTO, then live video will only appear on the LCD screen during recordings.

### Powering Down the DVM (the unit must be in MENU Mode)

First, stop any active recording session. Next, enter Menu Mode by briefly pressing the MENU/6 button. Press and hold the MARK Button until "POWER DOWN" is displayed on the monitor, and then release the MARK button.

## Internal LCD Monitor



The internal LCD monitor can be configured to display a variety of information. Most of the display text can be configured by accessing Settings Menu> Display Text Menu.

### Recording Space Available

At the bottom of the monitor there are two bars. The top bar displays the amount of space available in the current file. Blue represents the space used and white represents the space available. The lower bar represents the space available on the card. Red represents the space used and white represents the space available. Each video file is limited to a maximum size of 2GB.

### Low Space Available Alerts

**(30) minutes of record time remaining** – All LEDs on the DVM will blink every 30 seconds and the approximate record time remaining will be displayed in minutes.

**(5) minutes of record time remaining** – All LEDs on the DVM will blink every 10 seconds and “Low Space” will be displayed.

**(0) minutes of record time remaining** – “Disk Full” message will be displayed briefly, and then the DVM will enter Menu Mode. Video Mode will not be available until the user powers down the DVM, and then inserts a blank, activated CF card. Videos can be uploaded into VideoManager to free up space on the CF card. Please refer to the *VideoManager User's Guide* for more information on uploading a CF card.

## Recording Video

### Initiating a Recording

#### On Demand



Manually press the REC button on the DVM to begin recording.

#### Wireless Microphone (RMT)

Press the RECORD button on the RMT.

#### Record Trigger Activated

Turn on emergency lights, siren, or exceed a user-defined speed. Please refer to the "Record Triggers Menu" section (page 19) for more information about configuring record triggers.

### Marking Events



Once a recording has been initiated, markers can be placed in the recording to indicate when important events take place. For example, the MARK button on the DVM can be pressed to tag the longitude and latitude of the point at which contraband was thrown from a suspect's vehicle during a pursuit. The GPS readout on the DVM can then be used to return to the location for efficient evidence retrieval.

### Audio Controls

The DVM is capable of simultaneously recording audio from the internal microphone and the 900 MHz Wireless Microphone (RMT).

#### Internal Microphone Recording



The DVM can be used with either the integrated internal microphone or an external rear seat microphone. When the external rear seat microphone is connected, the integrated microphone is disabled. The microphone can be turned ON and OFF by pressing the MIC/5 button on the DVM. When the internal microphone is activated, the green LED in the upper left corner of the DVM will illuminate.

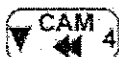
#### 900 MHz Wireless Microphone (RMT)

The Wireless Microphone (RMT) is used to record audio outside of the vehicle. It can also be used to activate recordings on the DVM. In Record mode, the DVM can automatically activate the RMT. Please refer to the "Wireless Microphone Menu" (page 21) section for more information about configuring this feature.

## Camera Controls

The DVM-500 includes a Main (forward facing) camera for recording video outside the vehicle, and an internal (rear facing) covert rear seat camera for recording video inside of the vehicle. Vehicles that contain a protective rear seat shield may benefit from the installation of the optional external rear seat camera. If the external rear seat camera is connected, then the internal rear seat camera will be disabled.

### Camera Button



Pressing and releasing the Camera Button will switch between the Main (forward facing) camera and the rear seat camera. Pressing and holding the CAM/4 Button will scroll through the Day/Night modes for the Main camera.

### Auto Zoom



Pressing the AUTO ZOOM/1 button will cause the camera to zoom in to a predefined zoom level, auto focus, hold for five seconds and then zoom back out. This function can be useful for quickly capturing license plates. The zoom level of the auto focus can be set on the Camera Menu. Please see the Menu Mode section of this User Guide for instructions on how to set the auto zoom level. Pressing and holding the AUTO ZOOM/1 button will put the camera in Near Focus mode; to exit Near Focus, simply release the AUTO ZOOM/1 button. In Near Focus mode the camera will focus on objects close to the lens such as a driver's license.

### Manual Zoom



To use the manual zoom, press and hold the ZOOM/2 button. When the zoom reaches the desired level, simply release the ZOOM/2 button. To zoom out, press and quickly release the ZOOM/2 button. Auto Zoom can be used while in Manual Zoom to zoom to the user defined auto zoom level and then zoom back out. ***Auto Zoom and Manual Zoom do not apply to the integrated covert rear seat camera, or the optional external rear seat camera.***

### Covert Mode



The DVM can be placed in Covert Mode by pressing and holding the MENU/6 Button for 2-3 seconds. In Covert Mode, all LED lighting and the LCD screen will be turned off. To return to normal operation, press any button on the front of the DVM.

***IMPORTANT!*** Do not remove the CF card from the DVM while it is in covert mode. Please refer to Appendix B "How to Use Covert Mode" for more information about this feature.

## Menu Mode

Menu Mode provides access to DVM functions and features. The DVM-500 system can be manually powered off only while it is in Menu Mode.



To access Menu Mode while in Operating Mode, press the MENU/6 button. In Menu Mode, the MENU/6 button acts as a back button while navigating sub-menus. Pressing the MENU/6 button in the "Main Menu" will exit Menu Mode and cause the DVM to enter Live Video (Pre-Event) mode.



To access Menu Mode from Playback mode, press the STOP/3 button.



To power the DVM off while in Menu Mode, press and hold the MARK button.



While in Main Menu Mode, the current or active menu item will be highlighted. To move to a different menu item, use the DOWN/4 and UP/5 buttons.

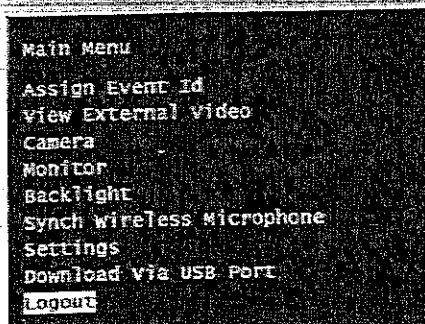
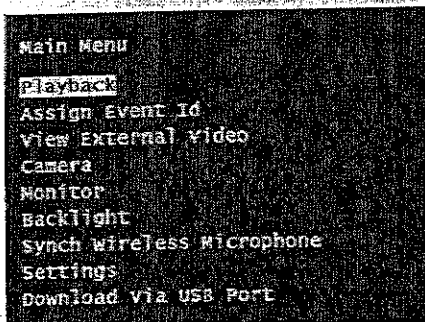


To select an item use the ZOOM/2 button.

To change the setting of a selected menu item, use the DOWN/4 and UP/5 buttons. To select the new setting press the ZOOM/2 button.

## Main Menu

The Main Menu is the first screen displayed when entering Menu Mode. Main Menu provides access to many useful DVM features and settings. The Main Menu contains the following items:



playback  
 Assign Event ID  
 View External Video  
 Camera  
 Monitor  
 Backlight  
 Synch wireless Microphone  
 Settings  
 Download via USB Port  
 Logout



## Playback Menu

The Playback menu is used to playback recorded videos on the DVM.

Videos can be viewed on the DVM in the Playback Menu. To access the Playback Menu, select Playback from the Main Menu. Select a video from the list and press the Play button to playback on the built in LCD screen.

Free: 1319040 of 3993378 KB			
DATE	TIME	SIZE	MARKS
01/31/07	10:58:08	11820	0
01/30/07	13:39:10	54629	0
01/30/07	13:29:52	15648	0
01/30/07	13:28:40	15916	0
01/30/07	05:26:00	20276	0
01/30/07	05:01:12	28544	0
01/30/07	00:08:14	1713236	0
01/27/07	09:20:04	2720	0
01/27/07	09:18:20	2112	0

## Playback Controls

During playback, a video can be controlled with the following buttons:

### Play

The Play/2 button can be used to toggle the recording between play and pause.



### Stop

The Stop/3 button will stop playback and return to the Main Menu.



### Rewind

The Rewind/4 button will rewind the video during playback. Pressing the Rewind/4 button multiple times will increase the speed of reverse playback: 2x, 4x, 8x, 16x, 32x.



### Fast Forward

The Fast Forward/5 button will fast forward the video during playback. Pressing the button multiple times will increase the speed of forward playback: 2x, 4x, 8x, 16x, 32x.

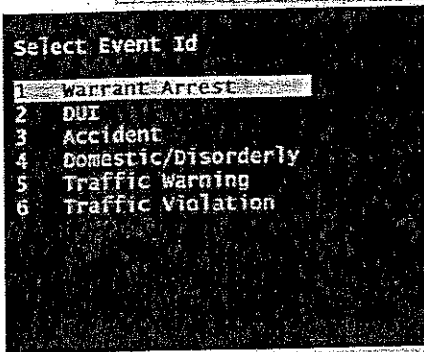


### Mark Menu

The Menu/6 button will open the Mark Menu. This menu can be used to go to a marked point in the recording. Simply select a Mark from the list and the recording will move to the point in the recording where that mark is located.



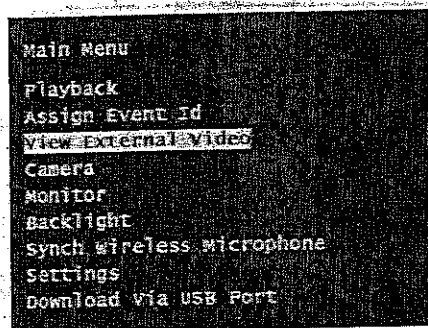
## Assign Event ID Menu



Event IDs allows a user to classify recordings into categories, such as: Traffic Stop, DUI, Accident, etc. Event IDs can be assigned on the DVM by accessing the Assign Event ID Menu option. To use this option, Event IDs must first be setup in VideoManager. (Once Event IDs are defined in VideoManager, they are transferred to the CF card and then they will be available on the DVM. Event IDs are updated on the card every time recordings are uploaded from the CF card, when a card is Formatted or when a card is activated from the Utilities menu in VideoManager.)

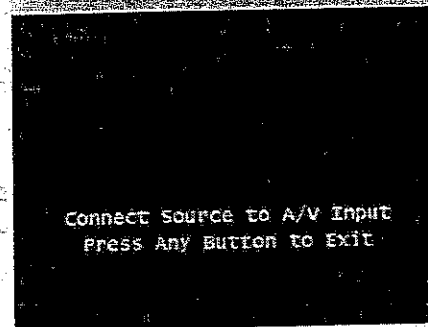
To assign an event ID, simply select the recording from the Assign Event ID Menu and then select the desired event ID from the list.

## View External Video



The DVF-500 (Digital Video Flashlight), can be attached to the A/V In port on the DVM by using a 3.5mm male to male A/V cable. Please contact Digital Ally, Inc. for pricing and availability of this cable.

External Video mode is entered by selecting the View External Video menu item from the Main Menu. To exit External Video mode, press any button to bring up the onscreen message, and then press the button again.



## Camera Menu

Camera Menu		
Day/Night	D-Day/Normal	
AUTO FOCUS	OFF	
Infrared Night LEDs	ON	
Auto Zoom	10	
Auto Night Switch	OFF	
Switch Day Time hh:mm	8:00	
Switch Night Time hh:mm	18:00	
Default Night Mode	N-Night Auto	
Night 1 -> Night 4: Brightest Light to the Lowest Light conditions.		

Menu Item	Settings	Default
Day /Night	D-Day/Normal, N-Night Auto, N1-Night 1, N2-Night 2, N3-Night 3, N4-Night 4	D-Day/Normal
Auto Focus	ON, OFF	OFF
Infrared Night LEDs	ON, OFF	ON
Auto Zoom	1 to 10	10
Auto Night Switch	ON, OFF	OFF
Switch Day Time hh:mm	Time (hh:mm)	8:00
Switch Night Time hh:mm	Time (hh:mm)	18:00
Default Night Mode	N-Night Auto, N1---Night 1, N2---Night 2, N3---Night 3, N4 ---Night 4	N-Night Auto

### Day/Night

This setting adjusts the camera exposure for different lighting conditions. Use Day/Normal for daylight conditions. For low light conditions use Night Auto. See "Camera Modes" (page 7) for a complete description of Night 1, Night 2, Night 3 and Night 4.

### Auto Focus

It is recommended that Auto Focus be set to OFF. This will prevent the camera from focusing on items on the windshield. (Main camera automatically uses Auto Focus for Auto Zoom and Manual Zoom.)

### Infrared Night LEDs

Turn on/off the infrared LED's that are mounted in the DVM.

### Auto Zoom

This setting controls the level of magnification that is used when the Auto Zoom button is pressed.

### Auto Night Switch

Camera will automatically switch between Day and Night modes based on the Switch Day Time, Switch Night Time, and Default Night Mode settings.

### Switch Day Time

Camera exposure will automatically be set to Day/Normal when the time in the Switch Day Time is reached on the internal clock.

### Switch Night Time

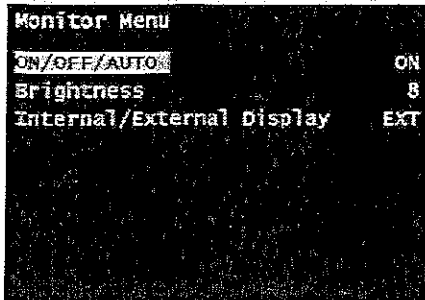
Camera exposure will automatically be set to the user-configured Default Night Mode once the time in the Switch Night Time setting is reached on the internal clock.

Note: If the camera is already in N-Night Auto, or N1-Night 1 through N4-Night 4 when this time is reached, it will remain in that mode and not change to the Default Night Mode.

### Default Night Mode

Select the preferred night mode that the Main Camera will enter once the user-configured Switch Night Time setting is reached on the internal clock. Please refer to the Camera Modes section (page 8) for more information about the various night modes.

## Monitor Menu



Menu Item	Settings	Default
ON/OFF/AUTO	ON, OFF, AUTO	ON
Brightness	1 to 9	8
Internal/External Display	INT, EXT	INT

### ON/OFF/AUTO

This setting controls whether the built-in monitor is on or off when in Operating Mode. When set to ON, the monitor will always be on. When set to OFF, the monitor will always be off. When set to Auto, it will turn on automatically when recording. (This setting also applies to the output for the external monitor if enabled.)

While recording, the monitor can be toggled off and on by briefly pressing the MENU Button.

### Brightness

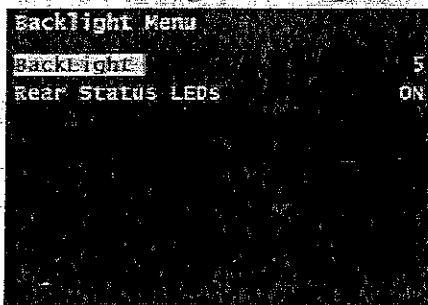
The brightness of the internal monitor can be adjusted with this setting.

### Internal/External Display

When EXT is selected, external output is turned on and internal monitor is disabled.

✓ *Important: If EXT is selected by accident, and an external display is not connected to the DVM, then the built-in display can be turned back on by pressing the MENU/6 button when the Digital Ally splash screen is displayed during system startup.*

## Backlight Menu



Menu Item	Settings	Default
Backlight	0 to 9	5
Rear Status LEDs	ON, OFF	ON

### Backlight

This setting controls the brightness of the backlit buttons on the front of the DVM. A setting of 0 turns backlighting off, 9 is the brightest setting.

### Rear Status LEDs

The two status lights on the back of the DVM are turned ON and OFF by this setting.

## Synch Wireless Microphone Menu

The Wireless Microphone (RMT) must be synchronized with the DVM to operate properly. Please refer to the "Wireless Microphone" section (page 5) for the synchronization process.

## Download Via USB Port

READY TO DOWNLOAD FILES

Start the download process  
from the connected computer.

Press STOP key once download  
is completed to return  
to normal operation.

This menu option can be used to download recordings directly from the DVM to a Laptop or MDT in the vehicle. *This option must first be enabled on the settings menu before it can be used.* To use this option, a USB cable must be connected from the computer to the DVM. The USB connection on the DVM is a 5 pin Mini-B connector. To transfer recordings, select the Download Via USB Port option from the Main Menu. The DVM will appear on the computer as a removable disk drive. Use VideoManager to upload the recordings. When the download has completed, press the STOP button to return to normal operation.

**Note: The DVM cannot record audio/video while it is in Download mode.**

## Logout

The Logout Menu can be used to switch users without having to power down the DVM. It is not necessary to log out of the unit before powering off, as the user will automatically be logged off at shutdown. To Logout of the DVM, select the Logout option. The next user can now Login to the DVM.

## Settings Menu

**Note:** User access to the Settings Menu is assigned in VideoManager. The Settings Menu contains the following user-selectable options:

Date/Time	Set the date/time and view Internal Temperature of DVM
Display Text	Text displayed on screen while recording
Record Mode	Video recording quality
Record Triggers	Inputs that will start a recording
Internal Microphone	Setup when this mic records
Wireless Microphone	Setup wireless mic recording
Radar Interface	Setup radar interface
Power Control	Ignition off power control setup
Speedometer	Setup vehicle speed input
USB Port	Enable USB port
GPS Configuration	Set the appropriate GPS mode
Accelerometer Sensor	G-Force sensor setup
Front Camera Focus	Adjust default zoom and focus
Reset to Factory Defaults	Apply default settings to DVM
Reset Application Verification	Used during final testing of DVM

## Date/Time Menu

Menu Item	Settings	Default
Date Format	mm/dd/yyyy, yyyy/mm/dd, dd/mm/yyyy	mm/dd/yyyy
Date mm/dd/yyyy	Enter date	NA
Time hh:mm:ss	Enter time	NA
Automatic DST Adjust	Enable, Disable	Enable
Internal Temperature	Dynamic display of DVM's temp.	NA

### Date Format

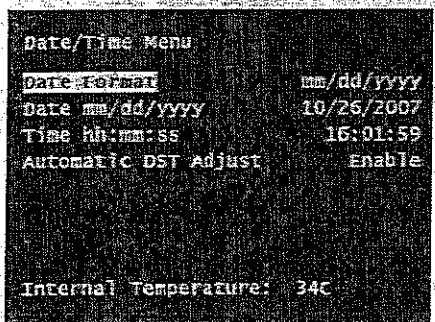
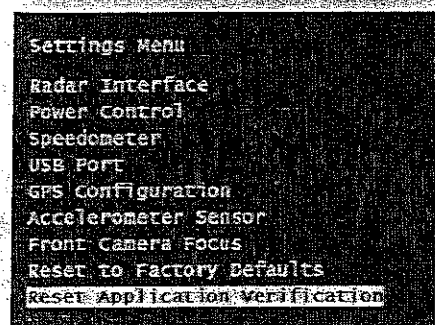
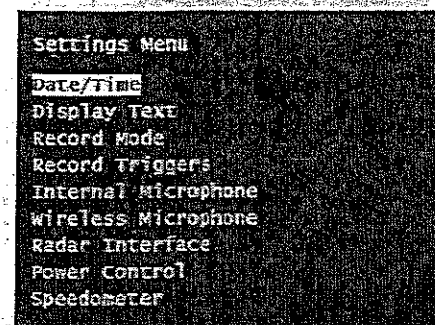
Choose the appropriate date format for your local area.

### Date mm/dd/yyyy and Time hh:mm:ss

Enter the local date (selected format) and time (24-hour format).

### Automatic DST Adjust

Time is automatically adjusted for daylight savings when enabled.





## Display Text Menu

Display Text Menu	
Vehicle Text	ON
Camera	ON
Date/Time	ON
GPS	ON
Radar Speed	OFF
Vehicle Speed	OFF
Lights	ON
Brake	ON
Siren	ON

Display Text Menu	
Vehicle Speed	OFF
Lights	ON
Brake	ON
Siren	ON
Turn Signals	OFF
Mark	ON
Internal Microphone	ON
Wireless Microphone	ON
Wireless Microphone Monitor	ON

Menu Item	Settings	Default
Vehicle Text	ON, OFF	ON
Camera	ON, OFF	ON
Date/Time	ON, OFF	ON
GPS	ON, OFF	ON
Radar Speed	ON, OFF	OFF
Vehicle Speed	ON, OFF	OFF
Lights	ON, OFF	ON
Brake	ON, OFF	ON
Siren	ON, OFF	ON
Turn Signals	ON, OFF	OFF
Mark	ON, OFF	ON
Internal Microphone	ON, OFF	ON
Wireless Microphone	ON, OFF	ON
Wireless Microphone Monitor	ON, OFF	ON

Each item on the Display Menu can be set to ON or OFF. If an item is set to ON, it will be displayed on the monitor while in Video Mode. All information is still recorded and can be viewed in VideoManager regardless if it is turned on or off in the Display Text Menu.

## Record Mode Menu

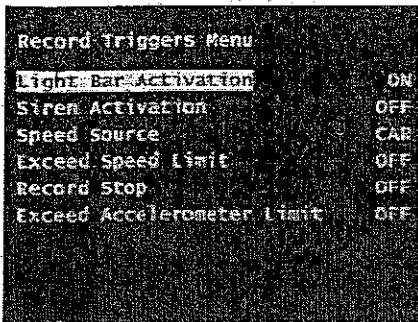
Record Mode Menu	
Record Mode	HIGH

Menu Item	Settings	Default
Record Mode	HIGH, MED, STD	HIGH

### Record Mode

This setting controls the video quality of recordings. The HIGH setting provides the highest resolution, but also uses the most storage space on the CF card. STD provides a lower resolution of video, but requires the least amount of storage space on the CF card.

## Record Triggers Menu



Menu Item	Settings	Default
Light Bar Activation	ON, OFF	ON
Siren Activation	ON, OFF	OFF
Speed Source	CAR, GPSMPH, GPSKPH, NONE	NONE
Exceed Speed Limit	10 to 250, OFF	OFF
Record Stop	ON, OFF	OFF
Exceed Accelerometer Limit	0 to 5.9	OFF (0)

**Important:** The light bar, siren, and vehicle's speed sensor must be connected to the interface box to enable these record triggers. Some sirens may require an adapter to send out the correct 12VDC signal to the DVM.

### Light Bar Activation

When this setting is set to ON, turning on the light bar will trigger the record mode on the DVM.

### Siren Activation

Turning the vehicle siren on will trigger the record mode on the DVM.

### Speed Source

To enable vehicle speed on the DVM, select the appropriate source. The car's vehicle speed sensor must be connected to the interface box for the "CAR" setting. GPS speed can be used when the GPS antenna is mounted on the car and receiving a GPS signal.

### Exceed Speed Limit

To turn this setting on, enter the speed at which the DVM should start recording. To turn this setting off, enter 000. Configure the Speedometer Menu before enabling this feature.

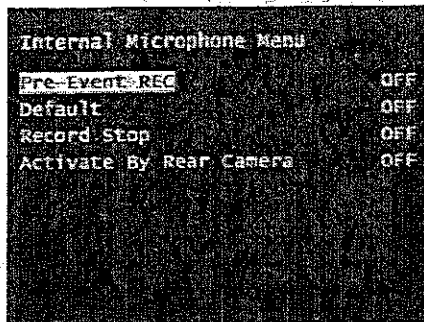
### Record Stop

This setting affects all items listed above the words "Record Stop". Pressing the STOP/3 button on the DVM will not stop a recording when this option is enabled while one, or more, of the above trigger conditions is active.

### Exceed Accelerometer Limit

The Accelerometer measures G forces applied to the vehicle. Recording can be triggered when the G force exceeds a pre-determined level. To enable this option enter the G force limit in this setting. To turn this option off, set the limit to 0.

## Internal Microphone Menu



Menu Item	Settings	Default
Pre-Event REC	ON, OFF	OFF
Default	ON, OFF	OFF
Record Stop	ON, OFF	OFF
Activate By Rear Camera	ON, OFF	OFF

### Pre-Event REC

When this setting is set to ON and the Internal Mic is turned off, audio from the Internal Mic is recorded during the Pre-Event portion of a recording. When this is set to OFF and the Internal Mic is turned off, Pre-Event video will be recorded without audio from the Internal Mic. (If the Internal Mic is turned on, audio will be recorded regardless of the Pre-Event REC setting.)

### Default

When Default is set to ON, the Internal Mic will automatically be turned on when a recording is started and will be turned off when the recording stops.

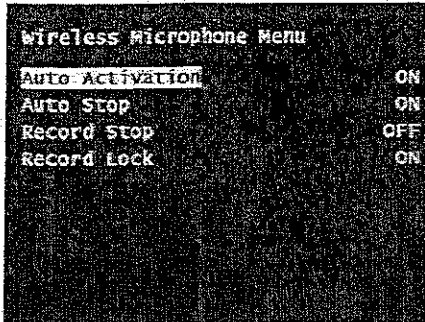
### Record Stop

When this setting is set to ON, a recording cannot be stopped while the Internal Mic is on. When this setting is on, the Internal Mic will have to be turned off before a recording can be stopped.

### Activate By Rear Camera

When this setting is ON, switching to the rear facing camera will automatically turn on the internal microphone if it was off.

## Wireless Microphone Menu



Menu Item	Settings	Default
Auto Activation	ON, OFF	ON
Auto Stop	ON, OFF	ON
Record Stop	ON, OFF	OFF
Record Lock	ON, OFF	OFF

### Auto Activation

If Auto Activation is set to ON, the DVM will command the Wireless Microphone (RMT) to record audio when a video recording is started.

### Auto Stop

If Auto Stop is set to ON, the DVM will command the RMT to stop recording audio when the video recording is stopped.

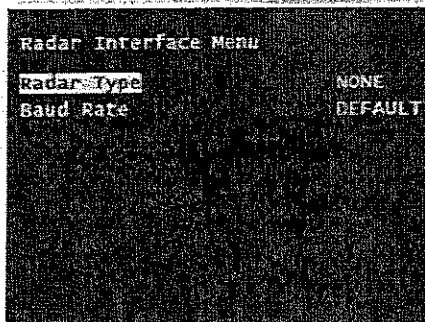
### Record Stop

If Record Stop is set to ON, an active recording can not be stopped by pressing the STOP/3 button on the DVM while the RMT is still transmitting audio. Audio transmission must be stopped on the RMT before the video recording can be stopped on the DVM.

### Record Lock

If Record Lock is set to ON, the RMT can not be powered off and an active recording can not be stopped by pressing the RECORD button (this function may require an optional upgrade on older DVM units). The recording must be stopped on the DVM to return control RMT.

## Radar Interface Menu



Menu Item	Settings	Default
Radar Type	NONE, DEI, KUSTOM, MPH, STALKER	NONE
Baud Rate	DEFAULT, 110, 300, 600, 1200, 2400, 4800, 9600, 14400, 19200, 33400, 56000, 57600, 115200	DEFAULT

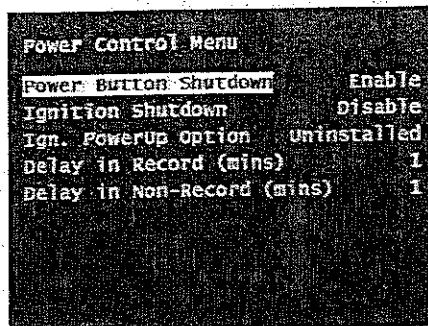
### Radar

Select the manufacturer of the radar unit.

### Baud Rate

Use DEFAULT unless the radar requires a specific Baud Rate.

## Power Control Menu



Power Control Menu	
Power Button Shutdown	Enable
Ignition Shutdown	Disable
Ign. PowerUp Option	uninstalled
Delay in Record (mins)	1
Delay in Non-Record (mins)	1

Menu Item	Settings	Default
Power Button Shutdown	Enable, Disable	Enable
Ignition Shutdown	Enable, Disable	Disable
Ign. PowerUp Option	Installed, Uninstalled	Uninstalled
Delay in Record (mins)	1 to 240	1
Delay in Non-Record (mins)	1 to 480	1

### Power Button Shutdown

If Power Button Shutdown is set to Enable, then the DVM can be turned ON/OFF by pressing and holding the MARK button while in Menu mode. If Power Button Shutdown is set to Disable, then the MARK button will not longer turn the DVM OFF, and Ignition Shutdown will automatically be set to Enable. The DVM will then power down using the Ignition Shutdown feature after the user-configured delay time has elapsed.

**Important:** If the Blue wire from the Interface box is not connected to the vehicle's ignition switch, then the DVM will act as if the ignition switch is in the OFF position, and will power down after the user-configured delay time has elapsed (regardless of the actual ignition switch position).

### Ignition Shutdown

If Ignition Shutdown is set to Enable, and the vehicle's ignition switch is turned to the OFF position, then the DVM will automatically power down after the user-configured delay times.

**Important:** The Blue wire from the Interface Box should be connected to the vehicle's ignition switch before enabling Ignition Shutdown. Please see the DVM-500 Installation Instructions for more information.

### Ign. PowerUp Option

**Installed** - Turning the vehicle's ignition switch to the ON position will automatically power up the DVM. Turning the vehicle's ignition switch to the OFF position will cause the DVM to automatically power down after the user-configured time has elapsed.

**Note:** This function requires a hardware modification. The DVM-500 system must be ordered with the Ignition PowerUp option installed. Please contact Digital Ally, Inc. for more information.

(Power Control options continue on the next page)

*Uninstalled* – Choose this setting for DVM units without the Ignition PowerUp option installed. The DVM can be powered up/down by using the MARK button.

#### **Delay in Record (mins)**

A user-configured amount of time that must elapse before the DVM can power down automatically after the vehicle's ignition switch is turned to the OFF position, while the DVM is recording a video. This setting only applies if Ignition Shutdown is set to Enable.

#### **Delay in Non-Record (mins)**

A user-configured amount of time that must elapse before the DVM can power down automatically after the vehicle's ignition switch is turned to the OFF position, while the DVM is idle (not recording). This setting only applies if Ignition Shutdown is set to Enable.

## Speedometer Menu

Speedometer Menu	
Speedometer Type	FORD
Pulses/Unit Distance	8000
Input Waveform	Square
Automatic Calibration	
Radar Patrol Speed:	0
Calculated Speed:	20
Pulses per Second:	44

Menu Item	Settings	Default
Speedometer Type	FORD, GM, CUSTOM	FORD
Pulses/Unit Distance	100 to 99999	8000
Input Waveform	Square, Sine	Square
Automatic Calibration	NA	NA
Radar Patrol Speed:	Displays vehicle speed from the radar unit	NA
Calculated Speed:	Calculated vehicle speed based on the VSS input	NA
Pulses per Second:	Pulses received from the VSS input each second	NA

### Speedometer Type

This setting should be set to the make of the vehicle. If the vehicle make is not available, use the Custom setting.

### Pulses/Unit Distance

Use this setting to enter the number of pulses per unit distance output from the vehicle speed sensor (VSS) on the vehicle. The unit distance is typically miles but can vary depending on vehicle.

### Input Waveform

Enter the waveform type that is output from the VSS.

### Automatic Calibration

To automatically calibrate the speed of the vehicle, select this option and follow the on screen instructions. Maintain a vehicle speed of 60 MPH (or 60 KPH for international cars) to complete calibration.

### Radar Patrol Speed

This is the vehicle's speed as read from the radar interface. Radar Patrol Speed can be used to verify that attached radar equipment is communicating with the DVM.

### Calculated Speed

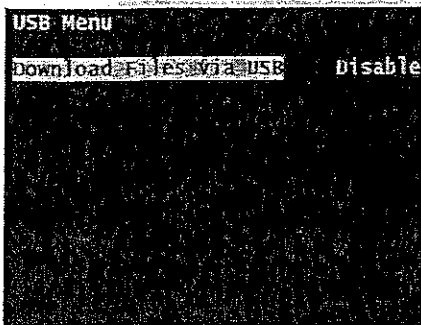
The DVM will calculate vehicle speed based on the number of pulses received from the vehicle's VSS.

### Pulses per Second

Pulses received from the vehicle's VSS. This can be used to verify that the DVM is communicating with the vehicle's VSS.



## USB Menu

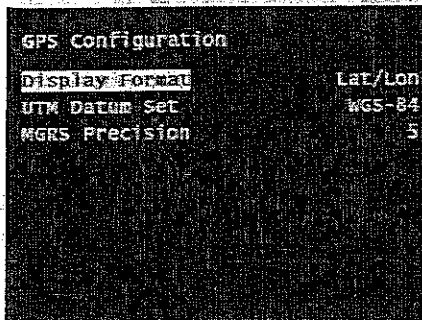


Menu Item	Settings	Default
Download Files via USB	Enable, Disable	Disable

### Download Files via USB

When this setting is enabled, files can be downloaded directly from the DVM by accessing the Download from USB Port on the Main Menu.

## GPS Configuration



Menu Item	Settings	Default
Display Format	Lat/Lon, MGRS	Lat/Lon
UTM Datum Set	WGS-84, WGS-72	WGS-84
MGRS Precision	2, 3, 4, 5	5

### Display Format

Lat/Lon is the standard latitude & longitude reading of the GPS coordinates. MGRS (Military Grid reference system) is a military-style mapping system that uses the UTM grid designation.

### UTM Datum Set

The UTM (Universal Transmercator system) datum set is the mathematical model for the shape of the Earth. This model is used to determine a location of an object within a UTM grid, based on its latitude and longitude.

### MGRS Precision

MGRS (Military Grid reference system) precision defines the length of the grid elements that compose the world map. The length of the grid elements can be defined by choosing one of the following four numbers: 5 = 1 Meter, 4 = 10 Meters, 3 = 100 Meters, 2 = 1000 Meters.

## Accelerometer Sensor Menu

Accelerometer Sensor Menu	
Reset Max G Reading	0.0
Reset Max G Since Menu Start	0.0
Set Zero G Reference	
Current Relative G Reading:	0.0
Trigger Threshold in G:	OFF

Menu Item	Settings	Default
Reset Max G Reading	Dynamic reading	NA
Reset Max G Since Menu Start	Dynamic reading	NA
Set Zero G Reference	NA	NA
Current Relative G Reading:	Dynamic reading	NA
Trigger Threshold in G:	OFF, ON	OFF

The Accelerometer (G-Force) sensor measures the force that the Interface Box experiences in a Vehicle where 1G is 32 ft/sec<sup>2</sup> or 9.8 m/sec<sup>2</sup>.

### Reset Max G Reading

Use this option to reset the maximum G force reading since the last time DVM was turned on or since this setting was reset.

### Reset Max G Since Menu Start

Use this option to reset the maximum G force reading since the last Menu Mode was entered or since this setting was reset.

### Set Zero G Reference

Before using the Accelerometer Sensor, the Zero G Reference needs to be set. The vehicle should be stationary and on level ground, then select the Set Zero G Reference option.

### Current Relative G Reading

Displays non-interactive dynamic feedback from the G-Force sensor.

### Trigger Threshold in G:

Setting is read from the Record Triggers Menu. This value represents the maximum force that a vehicle can experience before a recording is triggered on the DVM. Refer to the "Exceed Accelerometer Limit" section (page 19) for configuration instructions.

## Front Camera Focus

Press AUTOZOOM to AutoFocus  
Hold UP/DOWN to Focus Near/Far

Press ZOOM to Adjust Default:2x  
Press MENU to Save Settings  
Press STOP to Cancel and Exit

Menu Item	Settings	Default
AutoFocus	AUTO ZOOM/1	NA
Manual Focus (Near/Far)	DOWN/4 and UP/5	NA
Save Settings	MENU/6 Button	NA
Default Zoom	1x, 2x, 3x, 4x, 5x	2x
Cancel and Exit	STOP/3 Button	NA

### AutoFocus

Aim the main camera at a target approximately (30) feet away, and then press the AUTO ZOOM/1 button to engage AutoFocus. Press the MENU/6 button to save the setting, or press the STOP/3 button to cancel and exit.

### Manual Focus

Set the main camera focus manually by using the DOWN/4 and UP/5 buttons. Press the MENU/6 button to save the setting or press the STOP/3 button to cancel and exit.

### Default Zoom

The factory default zoom level for the Main camera is 2x. This enables the Main camera to resolve details in the video with higher clarity (such as a license plate number). Set the zoom level by pressing the ZOOM/2 button until the desired number is displayed onscreen, and then press the MENU/6 button to save the setting, or press the STOP/3 button to cancel and exit.

## Reset to Factory Defaults

Use this option to reset all system settings to factory defaults. Turn the DVM off/on for the new settings to take affect.

Press MENU to Reset Settings  
Press STOP to Exit

## Troubleshooting

Problem	Resolution
Unit "locks up"; will not respond to any button input.	Reset the system. If the problem persists, then please contact Product Support.
"No I/O Box detected" displayed onscreen during system boot up.	Reset the system. If the problem persists, then please contact Product Support.
System will not power up.	Visually inspect the 3 Amp fuse on the Red wire to see if it is blown. Call Product Support, or have your installer verify that 12VDC can be read in the following locations: entering and exiting the I/O Box; at the junction between the grey cable and the 24" black cable segment leading from the I/O Box up to the DVM (mirror). If 12VDC can be verified all the way up to the mirror, then please call Product Support.
Unit powers up, but the screen turns black before the login screen is displayed.	Power down the system. Power up the system and briefly press the MENU/6 button when the Digital Ally logo screen appears. This will force the DVM to use the built-in LCD.
Unit powers up, but will not display the login screen, and will not accept input from any button. May be accompanied by a general color tint to the screen with no visible text onscreen.	Reset the system. If the condition is still present, then Refresh the system software. Please contact Product Support if this does not resolve the problem.
"No Valid Users Found" is displayed onscreen during system boot up. User can not log in.	<p><i>If the Digital Ally logo screen reports Build 222 or earlier, then update the DVM software to the latest build.</i></p> <p><b>Important: VideoManager must have at least one user, vehicle, and event ID configured prior to activating a CF card.</b></p> <p>Power down the system, remove the CF card from the DVM, insert the CF card into the reader on the VideoManager computer, log into VideoManager as a user with administrative access, and select Activate CF Card from the Utilities menu. Reinstall the newly-activated CF card back into the DVM.</p>
Display Text can be seen, but no video is displayed after switching to the Main Camera or the Rear Facing Camera.	Reseat camera cable(s). Make a note if wiggling a cable causes the DVM to display video intermittently. If the problem persists, then please contact Product Support.
Audio breaking up during recording while using the RMT.	<ol style="list-style-type: none"> <li>1. Check the battery level by inserting RMT into the charger. If 25% or less, then charge RMT to 100%.</li> <li>2. If using "rubber duck" antenna, then remove it and install the External 900MHz magnetic-mount antenna.</li> <li>3. Synch a known-good RMT to the DVM and record a test video. Check audio quality during playback.</li> <li>4. Synch suspect RMT to a known-good system and record a test video. Check audio quality during playback.</li> <li>5. Contact Product Support for further assistance.</li> </ol>

## How to Reset the DVM-500 System

1. Remove power from the Interface (I/O) Box for 30-60 seconds by disconnecting the white, 10-position connector from the end of the small, black box located in the vehicle (location will vary). Alternatively, power can be removed from the system by pulling the 3 Amp blade-type fuse from the inline fuse holder located on the Red wire (+12VDC from the vehicle battery) leading into the I/O Box. The I/O Box, DVM, and the Camera(s) will reset automatically.
2. Reapply power to the I/O Box and power up the system using the MARK button, or by turning the vehicle's ignition switch to the ON position (if the DVM was ordered with the Ignition Power Up option).

### Possible locations for the I/O Box:

- Under the dash on the passenger side.
- Behind the kick panel on the passenger side (or driver side).
- Screwed into the transmission hump below the dash (for Accelerometer Enabled I/O Boxes).
- Under the rear seat on some SUV-type vehicles.
- Behind a panel on the right hand side of the dash (nearest to the door).
- Inside of the center console.

### Possible locations for the inline 3-Amp fuse:

- On the red wire leading to the vehicle's main battery (under the hood, or in the trunk).
- On the red wire leading from the 12VDC junction point to the I/O Box.

## How to Refresh the DVM-500 System Software

On occasion, the DVM Build Software may need to be updated or refreshed. This is a quick and simple process that is detailed in *Appendix C -- Upgrading/Refreshing the DVM-500 Software*.

## Protecting the DVM-500 System when Jump-starting

**Warning:** Remove the 3 Amp fuse from the inline fuse holder attached to the Red wire (12VDC from the vehicle battery) leading into the I/O Box **BEFORE** jump-starting the vehicle. This will prevent potentially damaging voltage spikes from entering the DVM-500 System. Reinsert the fuse after jump-starting.

## Product Repair

**Notice:** The DVM-500 Digital Video Mirror should be returned to the manufacturer for service. The warranty is void if opened.

**Important:** 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, Camera(s), I/O Box, or RMT charging equipment. RMT batteries are user serviceable.



**LIMITED WARRANTY**  
**DIGITAL ALLY MODEL DVM-500**  
**REAR VIEW MIRROR IN-CAR DIGITAL VIDEO SYSTEM**

Digital Ally, Inc. Rear View Mirror In-Car Digital Video System is guaranteed to be free from defects in workmanship and material for a period of twenty four (24) months from the date of purchase to the original purchaser. If any failure, resulting from either workmanship or material defects should occur under normal and proper usage during this period, such failure will be repaired or replaced due to defective materials or workmanship at the Digital Ally, Inc. factory or its authorized service center at no cost to the purchaser. Purchaser shall return the failed unit to the factory or its authorized service center freight prepaid. Digital Ally, Inc. will pay for shipping charges for the return of the equipment.

This warranty applies only to internal electronic components and circuitry. Warranty excludes normal wear and tear such as frayed cords, broken connectors, scratched and/or broken cases and other items due to physical abuse. Manufacturer reserves the right to charge for defects and/or damages resulting from abuse or extraordinary environmental damage to the unit during the warranty period at rates normally charged for repairing such units not covered under warranty.

As a further limit on warranty, and as an expressed warning, the user should be aware that harmful personal contact may be made with seller's in car video system in the event of violent maneuvers, collisions, or other circumstances, even though said equipment was installed and used according to instructions. Digital Ally, Inc. specifically disclaims any liability for injury caused by the product in all such circumstances.

**Warranty Does Not Cover the Following:**

- Damages caused by operator abuse or neglect.
- Damages caused by incorrect use, carelessness, unauthorized alterations, improper storage or unauthorized service, installation or repairs.
- Damages caused by fire, flood, lightning, vandalism, collision, Acts of God, or other events beyond the control of Digital Ally, Inc.
- Physical damage to external parts such as cabinets, buttons, microphones, wires, cables, etc.
- Damages resulting from loss of use, loss of time or inconvenience, property damage caused by this unit or its failure to work, or any other incidental or consequential damages.
- Hostile operating environments.
- In-transit damage claims, improper handling by common carriers, UPS, Federal Express, DHL, US Post office, etc.
- **Notice: The DVM-500 Digital Video Mirror should be returned to the manufacturer for service. The warranty is void if opened.**

**Extended Warranty Plan:**

Any and all Warranties must be purchased prior to the expiration of any previous warranties. These must be purchased directly from Digital Ally, Inc for a period no less than one year and not to exceed three years.

## Contact Us

Digital Ally, Inc.

7311 West 130th Street, Suite 170

Overland Park, KS 66213

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)

## Support Hours of Operation

**Monday-Friday: 8AM-5PM (Central) (excluding holidays)**

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



## Appendix A – DVM-500 Installation Kit



DVM-500 with "rubber duck"  
antenna and CF Card Installed



Main Camera 10X Zoom



Interface (I/O) Box



Remote Mic (RMT)



Desktop Charging Cradle with AC  
Power Adapter



In Car Charging Cradle  
with DC Auto Adapter



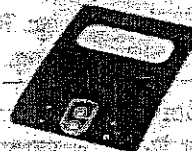
Plastic Belt Clip for Remote  
Mic (RMT)



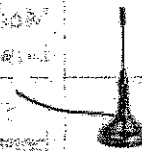
Clip-on Style  
Lapel Mic



Mirror Mount



Visor Mount for Main Camera



External 900 MHz Antenna



GPS Antenna



CF Card Access Door Key



Covert Rear Seat Microphone



Main Camera Cable



Siren Interface



I/O Box to DVM  
Wiring Harness



Vehicle to I/O Box  
Wiring Harness



Power Supply Inline Fuse  
Kit with 3Amp Fuse

## Appendix B – DVM-500 System Specifications

<b>Model</b>	DVM-500
<b>Dimensions of DVM (mirror)</b>	11.00" x 3.75" x 1.50" ~ (279 mm x 95 mm x 38 mm)
<b>Dimensions of Main Camera</b>	2.25" x 2.25" x 2.625" ~ (57 mm x 57 mm x 67 mm)
<b>Weight of DVM (mirror)</b>	1.81 lbs. (28.96 oz.) ~ (0.821 kg)
<b>Weight of Camera</b>	0.61 lbs. (9.76 oz.) ~ (0.277 kg)
<b>Body Shell/Construction</b>	100% Poly Carbonate
<b>Supply Power Required</b>	10.0-16.0VDC supplied by vehicle's main battery
<b>Maximum Current Draw</b>	1.0 amp
<b>Recording Current Draw</b>	0.9 amp
<b>Standby Current Draw</b>	0.5 amp
<b>Power Off Current Draw</b>	0.06 amp
<b>Operating Temperature Range</b>	-4°F to +167°F (-20°C to +75°C)
<b>Pre-Event Recording Time</b>	Up to 60 seconds while in Video Mode
<b>Media Storage Capacity</b>	4GB Compact Flash (CF) Card Storage Times: HIGH - 1hour/GB MED - 2hours/GB STD - 4hours/GB
<b>Recording Modes</b>	High 640x240 (full resolution), 30fps, MPEG-4 (.asf file) Med 320x240 (CIF) 1M bits/sec, 30fps, MPEG-4 (.asf file) Low 320x240 (CIF) 512k bits/sec, 30fps, MPEG-4 (.asf file)
<b>Internal LCD Monitor</b>	3.5" (diagonal) Color TFT LCD with 640x480 resolution. Mounted behind mirror glass. Monitor is invisible while DVM is powered down or while it is in Covert Mode.
<b>Main Camera (front facing)</b>	Color CCD Sensor NTSC 768x484 Pixels 470 Lines Resolution 10X Optical Zoom, 12X Digital Zoom; Total 120x Zoom Auto Focus (manual via menu) 1 LUX Standard Mode 0.1 LUX Low Light (Night) Mode 50 dB S/N View Angle – 50.7 to 5.4 degrees (At an approximate distance of 35 feet, the camera has a viewing area that is approximately 24 feet wide if the zoom level is set to 1x.)
<b>Internal Camera (rear facing)</b>	510x492 B&W CMOS Sensor (TV resolution) 0.01 LUX Sensitivity 140 degree 4-Element Coated Glass Lens Aux Cam jack enables input from an optional external video camera which disables the Internal Camera while it is connected to the DVM.

<b>Wireless Microphone (RMT)</b>	<p>Integrated 900MHz, Spread Spectrum, Dual Receiver Capable Remote Microphone System.</p> <p>Transmit Time: 8.5 hrs typical (1 KHz audio output)</p> <p>Receive Time: 8.5 hrs typical</p> <p>Standby Time: 134 hrs typical</p> <p>Battery Life: 54 hours typical (based on 10% transmit/receive and 90% standby)</p> <p>Initial Battery Charge: 12 hrs</p> <p>Charge Time after initial charge: 4 to 5 hours</p> <p>Two officer-worn remote mics can be used at the same time</p> <p>Nominal range of the system is 1000 feet</p> <p>Automatically finds a clear channel utilizing automatic frequency hopping.</p> <p>Automatic Activation when Record Mode is activated.</p> <p>Low Battery/Operating State/Out of Range Indicators</p> <p>On/Off/Standby Operation</p> <p>Internal Microphone with external mic jack option</p> <p>NiMH Re-chargeable battery pack</p> <p>12V DC Auto Adapter with charging cradle (in-car charging)</p> <p>120V AC to DC power adapter with charging cradle (desktop charging)</p>
<b>Internal Microphone</b>	<p>A fixed microphone is mounted inside the Mirror body for interior audio recording.</p> <p>An optional rear seat microphone jack is provided and the unit comes with an optional rear seat microphone if interior built in microphone is not sufficient.</p> <p>The wireless microphone(s) and internal microphone are recorded on separate audio channels.</p>
<b>GPS Receiver</b>	<p>The unit includes an integrated GPS receiver and antenna so that the recorded video may be marked with real-time (LAT/LONG) position data.</p> <p>Accuracy: Up to 2.5m</p>

## Appendix C – Upgrading/Refreshing the DVM-500 Software

**Important:** Power off the DVM before removing or inserting the CF card.

1. Verify that the DVM is powered off by briefly pressing the MENU/6 button. If no activity is noticed on the DVM, then you may safely remove the CF card.
2. Insert the CF card into the CF card reader on the VideoManager computer.
3. Log into VideoManager as an admin level user, upload all videos from the CF card.
4. Run Erase/Format CF Card under the Utilities menu to clear the CF card and reactivate it.
5. Obtain the latest DVM-500 Build file from Digital Ally, Inc. It will be a .zip archive file.
6. Locate the .zip file on your computer. Expand the file by right-clicking on it, and then selecting Extract All from the pop-up menu. Click **Next** in the window that appears. Click **Next** again, and then click **Finish** to complete the process.
7. Open the folder containing the DVM Build file, and then right-click on the file RearView.hex. Select Copy from the pop-up menu.
8. Open the CF card in "My Computer", then right-click in the white area of the window and select Paste from the pop-up menu. RearView.hex should now appear on the CF card.
9. Remove the CF card from the CF card reader.
10. Insert the CF card into your DVM while the DVM is powered off.
11. Power up the DVM by pressing and holding the MARK button for 2-3 seconds. Upon power up the following message will be displayed:

Press up button to update firmware.

Press down to continue without updating firmware.

12. Press the UP/5 button to continue with the upgrade. It will take a few seconds for the new software to install. After the DVM has finished updating, it will automatically re-boot. The Digital Ally logo screen will display (showing the new build number), and then the login screen will appear.
13. Power down the DVM by pressing and holding the MARK button for 2-3 seconds.
14. Remove the CF card from the DVM and insert it into the CF card reader on the computer. Access the CF card and erase the RearView.hex file. Alternatively, an admin level user can log into VideoManager, and then run Erase/Format CF Card under the Utilities menu.

(Note: If the RearView.hex file is not erased from the CF card, the DVM will prompt the user with upgrade instructions each time it is powered on.)

## Appendix D – How to Use Covert Mode

Covert Mode allows an operator to record audio and video without attracting attention to the DVM. In Covert Mode, the LCD screen and all illumination on the DVM is shut off, causing the unit to appear to be powered down. Covert Mode can be useful for recording occupants inside the vehicle or for stealth recording of suspects in low-light areas.

### **\*IMPORTANT\***

When approaching a DVM that appears to be powered down, briefly press any button on the DVM to verify that it is not in **Covert Mode** before removing or inserting the CF card. [Briefly means about a ¼ second stroke of the button.]

### **To Enter Covert Mode:**

Press and hold the MENU/6 button for 2 to 3 seconds. The LCD screen and all LED lights will turn off, while the DVM remains powered on.

NOTE: The operator must exercise care to ensure that the DVM is completely powered off and not in Covert Mode before removing the CF card. If the CF card is removed or inserted while the unit is powered on it may cause invalid files to be created on the CF card. If the DVM is recording when the CF card is removed, then the recorded file may become invalid. The CF card may contain an .asf and .mtd file that appear to contain 0 KB of data. It will also create a Power.txt file that will display a message to the operator the next time the DVM is powered on to indicate that it was improperly shutdown.

Example of files that may appear on a CF card that has been removed from the DVM while it is still powered on:

01F4999902007041602323501.asf files (video) - (0 KB file) - Invalid file  
01F4999902007041602323501.mtd files (metadata) - (0 KB file) - Invalid file  
Power.txt - DVM was improperly shutdown - (0 KB file) - Warning file

### **Uploading a CF card with invalid files into VideoManager:**

If a CF card contains invalid files, then VideoManager will skip those files during the upload process. VideoManager will not erase any files from the CF card in this situation. It will be necessary to run the Erase/Format CF card process in VideoManager to remove the files. This process must be run by an administrator or a user with the proper access rights in VideoManager.

### **To Exit Covert Mode:**

Briefly press any button on the DVM. The LCD screen will turn on and all of the buttons on the front of the DVM may be illuminated (depending on the BackLight setting).