



Motorola Solutions 4RE In-Car Video User Guide v4.0.7

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Revision G

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In accordance with the requirements of Radio Equipment Directive 2014/53/EU, Annex III, Module B, section 3 (c), WatchGuard Video declares that the radio equipment has been designed in accordance with harmonized standards and a full review of the equipment against the requirements of the following standards has been conducted. We confirm that the equipment is fully within the scope of these standards.

EN 55024:2010

EN 55032:2012/AC:2013 IEC

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Per European Union (EU) Waste of Electrical and Electronic Equipment (WEEE) directive and United Kingdom (UK) The Waste Electrical and Electronic Equipment Regulations 2013, we operate take-back programs on our own and in partnership with carriers, customers, retailers and recyclers.

We accept all WatchGuard braded equipment for recycling. This includes the 4RE DVR system, on-body cameras, transfer stations and all WatchGuard branded products. Customers can use an online booking system to request collection of equipment. Please visit the following URL for more information:

https://www.motorolasolutions.com/en_us/about/company-overview/corporate-responsibility/governance-and-policies/recycling.html

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Introduction

In this chapter ...

- Welcome ([page 12](#))
- About this document([page 13](#))
- Related documents ([page 13](#))
- About the 4RE system ([page 14](#))
- What's new in release 4.0.7 ([page 15](#))

Welcome

Welcome to the *Motorola Solutions 4RE In-Car Video User Guide 4.0.7*. This guide walks you through the basics of using the Motorola Solutions, Inc. 4RE® DVR 4.0.7 system. The guide also covers what you need to know about working as an **Administrator** of the system.

About this document

The *Motorola Solutions 4RE In-Car Video User Guide 4.0.7* covers the following topics:

- Using the 4RE DVR
- Associating 4RE DVR with a recorded event
- Understanding the 4RE DVR display and control panel
- Understanding the 4RE DVR system peripherals
- Performing administrator tasks for 4RE
- Errors and troubleshooting



Note: *This guide covers the basic use of the 4RE DVR system. It is not a comprehensive manual for every possible action or situation you could experience when using 4RE. If you have a question about 4RE that is not covered in this guide, contact your Motorola Solutions, Inc. Video representative.*

Related documents

- *Evidence Library 4 Web User Guide*
- *Evidence Library Express 3.6 User Guide*
- *Vista HD Wearable Camera User Guide*
- *HiFi Microphone User Guide*
- *4RE® Interview Room Video System User Guide*
- *Watch Commander 1.4 User Guide*

Prerequisites

These IP addresses are reserved for Motorola Solutions products:

- **192.168.99.x**
- **192.168.98.x**
- **192.168.97.x**

If you assign your in car network any of these IP address ranges, you may have communication issues.

About the 4RE system

The Motorola Solutions, Inc. 4RE DVR system consists of:

DVR: The base Digital Video Recorder (DVR) is mounted in your vehicle and is the central component of the 4RE system. The DVR processes and stores evidence collected through the connected 4RE cameras and microphones.

USB: The USB thumb drive is locked behind the DVR door and requires a key to access. The USB thumb drive stores your recorded events until you upload them to the 4RE DVR.

Display: The display provides direct access buttons for common functions. You use the display to input information to the DVR while on your shift.

Cameras: Three High Definition (HD) camera options offer multi-camera split screen viewing on the display. You can connect one HD camera and up to five Standard Definition (SD) cameras.

VISTA WiFi: One or more VISTA WiFi or VISTA XLT cameras can participate with 4RE in a recording group to provide different views on the same incident.

HiFi Wireless Microphone: The microphone captures audio during event recording.

Wireless Radio: The wireless radio connects the DVR to the wireless network for video upload.



Prerequisite



Important! You can upgrade 4RE from any 4.0.x version. If you are running a 3.5 or earlier version, you must upgrade to version 3.6 first, then upgrade to version 4.0.7.

What's new in version 4.0.7

- Upload evidence over cellular connection "[Upload evidence over a cellular connection](#)"
- Upload tested on:
 - Sierra Wireless® Airlink MG90 Vehicle router
 - Cradlepoint COR IBR900 router

What was new in version 4.0.6

- 4RE shows when an upgrade is staged on the SPS or WiFi base
- Press the REC STOP button twice (when configured to do so) when stopping a recording to confirm that the first STOP was not accidental
- A Full Format option is available in Maintenance for the 4RE hard drive that erases all data from the drive
- Group event that enables:
 - Recording group: in-car 4RE and body-worn VISTA WiFi and XLT cameras collaborate in the recording of a single incident by multiple devices
 - 4RE shares Event Tags with VISTA; VISTA can choose whether to use a 4RE event tag
- 4RE supports low-bandwidth uploads of events, such as over an LTE network

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Using In-Car 4RE DVR

In this chapter...

- Overview ([page 18](#))
- Starting your shift ([page 20](#))
- During your shift ([page 24](#))
- Ending your shift ([page 34](#))

Overview

The 4RE DVR, an icon-driven user interface with direct access buttons, is the central component of the 4RE system. The 4RE DVR processes and stores evidence collected through other components that connect to it. Shown here is a high-level summary of your tasks during a shift. This is a suggested workflow. The tasks can vary depending on how your system is configured. You may perform some of the tasks every time you work a shift and others just once.



Important! Avoid using the **Power** control to power ON and OFF the 4RE. You can damage or lose data doing this. We recommend that you use the vehicle ignition to power on and off. See [Powering off your vehicle on page 39](#).

Recommended shift workflow

Starting your shift

- Powering on your vehicle and 4RE([page 20](#))
- Pairing the wireless microphone with base ([page 21](#))
- Pairing the VISTA camera with base ([page 21](#))
- Logging in to the 4RE DVR ([page 22](#))

During your shift

- Adjusting your cameras ([page 24](#))
 - Changing and locking the Live View on-screen camera view "[Changing and locking the Live View on-screen camera view](#)" on [page 25](#)
 - Changing a camera state ([page 26](#))
- Creating recorded events ([page 27](#))
- Starting and stopping a recorded event ([page 28](#))
- Tagging a recorded event ([page 28](#))
- Using Covert mode ([page 30](#))
- Creating a recorded event using Record-After-the-Fact® (RATF) ([page 31](#))

Ending your shift

- Uploading evidence via wireless ([page 34](#))
- Uploading evidence using the USB thumb drive ([page 35](#))
 - Removing the USB thumb drive using the STOP control ([page 36](#))
 - Removing the USB thumb drive using the Transfer function ([page 37](#))

- Logging out of the 4RE DVR([page 38](#))
- Powering off your vehicle ([page 39](#))

Starting your shift

This section explains:

- Powering on your vehicle and 4RE ([page 20](#))
- Pairing the wireless microphone with base ([page 21](#))
- Pairing the VISTA camera with base ([page 21](#))
- Logging in to the 4RE DVR ([page 22](#))



Important! Avoid using the **Power** control to power ON and OFF the 4RE. You can damage or lose data doing this. We recommend that you use the vehicle ignition to power on and off. See [Powering off your vehicle on page 39](#).

Powering on your vehicle and 4RE

To get started:

- Start your vehicle.

Typically, the 4RE DVR powers on automatically with vehicle ignition. This is configured by your agency.

The lights on the control panel flash when the 4RE DVR starts. As the 4RE DVR boots up, the Display screen shows its progress with a number of boot progress bars.

The boot-up process takes less than a minute. A tone sounds when the process is complete.



Pairing the wireless microphone with base

Several different types of wireless microphones can be included with the 4RE system. For specific information about your microphone, see the manufacturer manual that is packaged with your microphone.



Note: *Microphones that stay in the same vehicle remain synchronized.*

To synchronize the wireless microphone with its base:

1. Power on the wireless microphone.
2. Place the wireless microphone in the base to synchronize it.

Syncing takes only a few seconds. After the wireless microphone and base are synced, either the green LED turns on or the red LED starts flashing (the microphone battery needs charging). After you remove the microphone it remains synced with the base and can record audio to the 4RE DVR.



Important! *You can use only one wireless microphone with one microphone base at one time.*

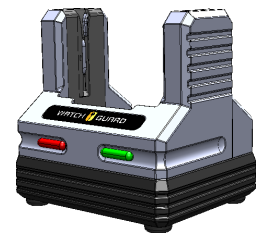
For more information ...

See *Microphones* on [page 87](#)

See the *Motorola Solutions, Inc. Wireless Microphone User Guide*

Associating the VISTA camera and base with 4RE

Dock the VISTA WiFi camera with the WiFi base base and connect the base to the SPS. Docking the VISTA WiFi with the base lets VISTA associate with 4RE as part of a recording group. As the videos from the camera and 4RE are uploaded to the Evidence Library software, the videos from the same event are linked on import.



Note: *Not all VISTA Wearable Cameras or VISTA bases have the Wi-Fi® feature. If you are not sure about your equipment, contact your Motorola Solutions, Inc. representative.*

For information about VISTA and 4RE working as a group, See *Associating 4RE with a group event* on [page 44](#).

For information about using the VISTA WiFi, see the *VISTA HD Wearable Camera User Guide*.

Logging in to the 4RE DVR

Log in to the 4RE DVR at the beginning of each shift to ensure your name is associated with the events recorded in your vehicle.

To log in to the 4RE DVR:

1. Press **Menu** on the control panel and touch the **Officer** button.

The **Select Officer** screen opens and shows a list of names.



2. Select your name from the list, then touch **Login**.

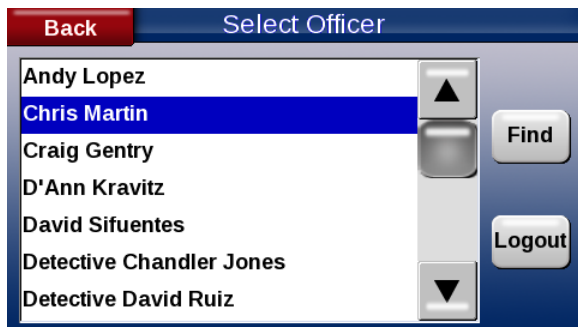
Your name shows as the logged in officer on the bottom right corner of the Display screen Live View.



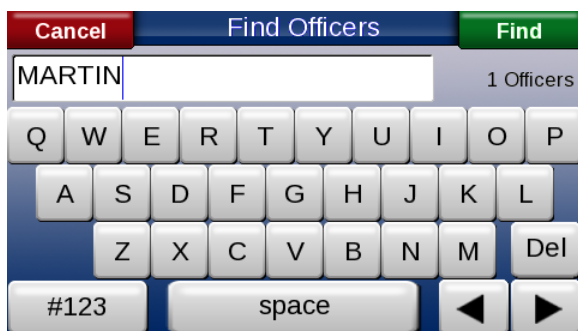
Tip: To remove the user and status information from the foreground of the Display screen, touch **Hide** in the upper right corner.

To search for your name:

1. Touch **Find** to open the **Find Officers** screen.



2. Enter your name.



3. Select the correct name.

4. Touch Find.

If you do not find your name in the list, contact your supervisor or system administrator.

For more information, See *Officer log in or log out* on [page 53](#)

During your shift

During your shift, you create, stop, tag, and categorize recorded events. This section explains the following procedures:

- Adjusting your cameras ([page 24](#))
 - Changing and locking the Live View on-screen camera view ([page 25](#))
 - Changing a camera state ([page 26](#))
- Creating recorded events ([page 27](#))
- Starting and stopping a recorded event ([page 28](#))
- Tagging a recorded event ([page 28](#))
- Using Covert mode ([page 30](#))
- Creating a recorded event using Record-After-the-Fact® (RATF) ([page 31](#))

Adjusting your cameras

The standard 4RE system can record and display three cameras simultaneously. With the optional 4RE Expansion Card, the system can record and display six cameras simultaneously. This includes one HD (high definition) and five SD (standard definition) cameras. The system automatically senses which cameras are installed and numbers them.



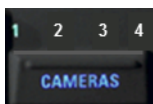
Important! The 4RE DVR requires that one camera always be active.

To adjust your camera settings:

1. Press **Cameras** on the control panel to see which cameras are active (depends on your set up).



The LED lights on the control panel tell you which cameras are active and displayed on the screen.



2. Touch the screen when the camera Live View is on.

The **Settings** button appears.



3. Touch **Settings**.

The camera zoom, focus, Backlight, and Night View buttons appear.



4. Adjust the screen to set your camera views as needed.



Note: Not every camera has these settings and available settings may vary between cameras.

Camera states

The cameras can be in one of 3 states:

On — visible on screen and always part of the recorded event

Background — visible on screen, can be added to the recorded event when tagging your event (if configured to allow)

Off — no active camera streams are included in the event (if configured to allow turning off the camera)

Changing and locking the Live View on-screen camera view

If you have multiple cameras, you can see multiple camera views on your Display screen, including background. You can choose what you want to show on the 4RE screen.



You can lock the view from one camera on the screen so that it is the one that displays.



Note: *What displays on the screen does not determine what is being recorded.*

To select and lock the **Live View** on the Display screen:

1. Touch a view on the screen to select it.

The view shows on the Display screen by itself for 10 seconds. The **Lock** icon appears as unlocked.



2. Touch the **Lock** icon to lock the view on the screen.

The view remains on the screen until you touch the lock icon again. Then the screen returns to the split screen.



Important! *Changing how the camera views show on the Display screen does not affect which camera streams are included in a recorded event. Unless you deactivate a camera, all streams are still included in an event.*

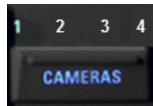
Changing a camera state



Note: *[[[Undefined variable Variables.Company Name Short]]] recommends setting the panoramic camera to **Background**.*

To change a camera state:

1. Press **Cameras** on the control panel.



The active camera buttons appear on the Display screen.



2. Touch the button for the camera whose state you want to change.
3. When you want to reactivate the camera stream, press **Cameras** on the control panel, then touch the camera button for the deactivated stream.



Important! You can only deactivate a camera stream on a recording if you have more than one camera. The 4RE DVR requires that one camera always be on.



Note: The permission to let you turn off a camera (deactivate a stream) must be configured in your Evidence Library.

For more information, See *Cameras* on [page 86](#).

Creating recorded events

A recorded event is a unique, protected segment of recorded:

- Video
- Audio
- Subtitles

Recorded events are typically started by an auto-start trigger, such as emergency lights or the siren. But, you can start an event manually by pressing the **Record** control on the display control panel.

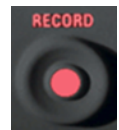


Important! If the 4RE DVR is powered on, it is continuously recording to the hard drive. Pressing the **Stop** control does not stop this continuous recording—it only marks the end of the recorded event.

To manually start and stop a recorded event:

1. Press **Record** on the control panel.

The **Record** control turns red when it is recording. It stays red until the **Stop** control is pressed.



2. Press **Stop** to stop a recording.

The 4RE DVR protects the video and audio segment between start and stop as a recorded event.



Note: If the 4RE DVR is configured to enable pre-event and/or post-event video [page 80](#), a recorded event also includes those times.

Recording group

If you are using VISTA WiFi, an event can be started by any VISTA WiFi camera or the 4RE system. If a VISTA WiFi starts an event, 4RE can choose to start an event also. This creates a group that collaborates on the recording of a single incident by multiple devices.

For more information . . .

See your Evidence Library software documentation.

See *Associating 4RE with a group event* on [page 44](#)

Starting and stopping a group event

When you press **Record** on the control panel, the 4RE DVR begins a recorded event. Most recorded events are started by the auto-start settings (triggers) ([page 90](#)). The 4RE DVR sends the status to members of a multi-peer recording group. 4RE DVR marks the segment between pressing the **Record** control and pressing the **Stop** control as protected. You can stop the recorded event by pushing the **Stop** control.



Important! If the 4RE DVR is powered on, it is continuously recording to the hard drive. Pressing **Stop** does not stop this continuous recording—it only marks the end of the protected recorded event.

For more information . . .

See *Creating recorded events* on [page 27](#)

See *Tagging a recorded event* on [page 28](#)

See *Associating 4RE with a group event* on [page 44](#)

Tagging a recorded event

After you press **Stop** for an event 4RE then asks you to tag the event, depending on your 4RE configuration. Tagging associates each recorded event with a category. The event tags can make the event easier to find when searching the Evidence Library software and can affect retention of the event. The category you tag the event with determines the quality of the video from the front camera.

Event categories and other event tag questions are determined by your agency and configured in your Evidence Library software. For more information on configuring the 4RE DVR, see your Evidence Library software documentation.



Important! Because the Event Category Tag affects data retention, setting its value incorrectly or not setting it at all can cause a recording to be improperly purged or archived. For information on your agency purge and archive criteria, contact your system administrator.

To tag a recorded event:

1. Press **Stop** on the control panel to stop a recording.



Note: You may need to press a Record Stop button a second time within 5 seconds to confirm the event stop in EvidenceLibrary.com, depending on your configuration.

The **Event Tag** screen appears.

2. Select a category for the event.

Categories are defined in your Evidence Library software. The category is either Required or Optional. For more information, See *Event tag category* on [page 81](#)

3. Change the **Resolution** of the video you are saving, if needed.



Note: The presence of the **Resolution** button depends on your 4RE DVR configuration. You cannot downgrade the resolution.

For more information, See *Resolution* on [page 82](#)

4. Change the **Server Retention** if the time the video should remain on the server is longer than your default time.



Note: The value changes based on what is configured in your Evidence Library software.

5. Choose whether to include **Background** video when the event is saved to the Evidence Library software.

Any camera that is in background state shows the background state icon  in the bottom right corner of the camera's view.



Note: *Whether you have the permission to include (or exclude by default) background video depends on your 4RE configuration.*

6. Touch **Save** in the upper right corner of the screen after you choose your category.
Other event tag screens can appear. Answer each event tag question and touch **Save** or **Skip** after each question.
7. Complete the remaining Event Tag screens.

If the 4RE DVR is waiting for you to categorize a recorded event and you start a new event, the 4RE DVR saves the first event without an event category and uploads it to the Evidence Library. You can categorize the uncategorized event later in Evidence Library using the event properties feature.

For more information about editing event tags in Evidence Library, see the *Evidence Library* documentation.

Tagging in a Recording group

In a recording group, 4RE shares event tag information with all recording group members. If a member of the group does not receive the event tag information or chooses to enter its own tag, then that member uses its own tag. The member event tag overrides the 4RE DVR tag.

For more information, See *Associating 4RE with a group event* on [page 44](#).

Using Covert mode

Covert mode lets you record activities without suspects in the vehicle being aware you are recording.

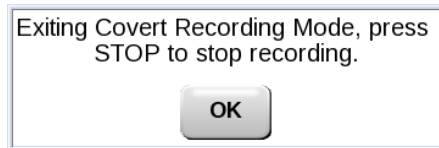
To put 4RE into **Covert** mode:

- Press and hold the **Power** on (|) control for three or more seconds.
 - A tone sounds when you enter **Covert** mode
 - A recorded event starts
 - The screen goes dark and the front and cabin cameras are turned on
 - The control panel and camera lights fade out
 - All microphones are automatically turned on and become part of the event

To exit **Covert** mode:

1. Press **Stop** on the control panel.

A tone sounds when you exit **Covert** mode and the following message appears:



2. Touch **OK**.

The cameras and microphones continue to record.

3. Press **Stop** on the control panel to stop recording.



Note: *Covert mode differs from **Dark** mode. Dark mode temporarily dims the system display and turns off the LEDs.*

For more information, See *Dark Mode* on [page 85](#).

Using Covert mode in a recording group

4RE shares with all members of a recording group that it is entering or exiting **Covert Mode**. The VISTA WiFi can choose to follow this state. For more information about covert mode with VISTA, see the VISTA WiFi User Guide.

Creating a recorded event using Record-After-the-Fact[®] (RATF)

The 4RE DVR is always recording. An RATF event is typically video that was not initially included as part of a recorded event.

You may want to make a recorded event of a recording that is not part of a recorded event. If the video resides on the hard drive, you can retrieve it and make an **RATF** event.

You can also use RATF to make a video if an event description was removed from the DVR. If the video is still there, you can recreate that event.

Creating an RATF event

To create an RATF event:

1. Press **Menu** on the control panel and touch the **Record After The Fact** button on the screen.



The **Record After the Fact** screen appears.

The screen has a header with three buttons: "Back" (red), "Record After The Fact" (blue), and "Create" (green). Below the header is a form with two sections. The first section is "Start Date/Time:" with a label "MM/DD/YY hh:mm:ss". The date is "03/16/15" and the time is "16:47:39". The time field is highlighted in blue, and there is an up arrow button to its right. The second section is "End Date/Time:" with a label "MM/DD/YY hh:mm:ss". The date is "03/16/15" and the time is "17:02:39". There is a down arrow button to its right.

2. Set the start and end date/time for the event you want to create.
 - a. Touch the field you want to change.
 - b. Use the up and down arrows to change the numbers in the highlighted field.
3. Touch the **Create** button to create the **RATF** event.

The confirm message box opens.

A message box with a white background and a blue border. It contains the text: "The recording will be 0 hr 15 min 0 sec long. Are you sure you wish to create this recording?". At the bottom are two buttons: "Yes" and "No".

4. Touch **Yes**.

The **Event Tag** screen opens.

The screen has a header with three buttons: "Required" (red), "Event Tag 1 of 4" (blue), and "Save" (green). Below the header is a list of event tags: "Traffic Warning", "Traffic Citation", "Traffic Accident", "Assault", "Domestic", and "Drug Charge/Seizure". The "Traffic Warning" tag is selected and highlighted in blue. To the right of the list are three buttons: "Resolution" (with "Standard" selected), "Server Retention" (with "Default" selected), and "Background" (with "Exclude" selected).

5. Choose an **Event Tag** ([page 28](#)).

Answer the questions on the screen, the same as you would when tagging an event during any event recording.

Ending your shift

After you complete your shift, follow the procedures in this section before leaving your vehicle. Your recorded events must be uploaded either via wireless or from the USB thumb drive.

- Uploading evidence via wireless ([page 34](#))
- Uploading evidence using the USB thumb drive ([page 35](#))
 - Removing the USB thumb drive using the STOP control ([page 36](#))
 - Removing the USB thumb drive using the Transfer function ([page 37](#))
- Logging out of the 4RE DVR ([page 38](#))
- Powering off your vehicle ([page 39](#))

Uploading evidence via wireless

You don't have to do anything to upload your evidence via wireless. When your car is within range of the agency network, the 4RE DVR automatically starts uploading. You should look for the Upload icon on the screen.

1. Verify the 4RE DVR is not actively recording.



REC is not visible on the screen.



Tip: *REC* shows on the screen if 4RE is actively recording. The Record control and LEDs on the control panel are lit.

2. Ensure your evidence is transferring to your Evidence Library software.

Verify the Upload and Signal icons appears on the screen.



3. Log out of the 4RE DVR.
4. Turn off the vehicle ignition.

The 4RE DVR will continue to upload recorded events for an extended time, even after the ignition is turned off. This is the **Wireless transfer shutdown timer** setting that you define in the Evidence Library 4RE configuration. How long the recorded events continue to upload depends on your agency settings.

For more information, see your Evidence Library documentation.



Important! Avoid using the **Power** control to power ON and OFF the 4RE. You can damage or lose data doing this. We recommend that you use the vehicle ignition to power on and off.

Upload evidence over a cellular connection

You can upload video over 3G or 4G cellular and WiFi (via VPN) connection to the Evidence Library server. The upload was tested on:

- Sierra Wireless Airlink MG90 Vehicle router
- CradlePoint COR IBR900 router



Note: Motorola Solutions, Inc. recommends that you contact support before setting up the system to upload over cellular.

Uploading evidence using the USB thumb drive



Note: If your agency does not use the USB thumb drive to upload evidence, typically you do not remove the thumb drive.

The USB thumb drive functions primarily as a backup storage device for the hard drive. [[[Undefined variable Variables.Company Name Short]]] Video provides a 16 GB USB thumb drive, but you can use any size thumb drive with the DVR.

You can remove the USB thumb drive safely in two ways:

- Use **Transfer** on the **Main Menu** Display screen
- Use **Stop** on the **Display Control Panel** ([page 36](#))

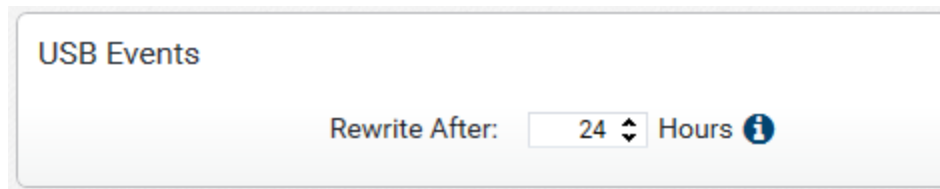
After you transfer the evidence to the USB thumb drive, manually upload the evidence to your Evidence Library software. When that completes, re-insert the USB thumb drive into the *same* 4RE DVR.

Re-inserting the USB thumb drive confirms to the 4RE System that the video was successfully transferred to Evidence Library. This frees up the event record space on the USB thumb drive and on the 4RE DVR.



Warning! If you do not remove the USB thumb drive safely, you risk losing or corrupting evidence ([page 36](#)).

If your agency has an extended time before you can upload your data, that is set in the Evidence Library software. The extended time lets you load a new USB thumb drive in the DVR and continue to record.



For more information, see your *Evidence Library* documentation.

Removing the USB thumb drive using the STOP control



Warning! If you do not remove the USB thumb drive safely, you risk losing or corrupting evidence.

To safely remove the USB thumb drive using the **Stop** control:

1. Insert the key and turn clockwise to open the door on the 4RE DVR.

The door opens and the USB thumb drive pops out.

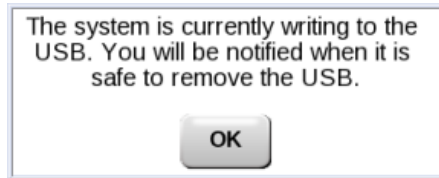
2. Press and hold the **Stop** control for three seconds.

The following message appears:



3. Touch **Yes**.

If the system is writing to the device, the following message can appear.



4. Touch **OK** and wait until it is safe to remove the device.



5. Touch **OK** and remove the USB thumb drive from the 4RE DVR.

Take your USB thumb drive to your Evidence Library server and upload your files.



Tip: After you upload your evidence to your Evidence Library software, reinsert the USB in the 4RE DVR it came from. 4RE recognizes that the events have been uploaded and releases the space on the DVR. The space is available but is not written over until all other space is used. If it does not get a confirmation that the events have been uploaded, it rewrites the events to the USB thumb drive ([page 35](#)).

Removing the USB thumb drive using the Transfer function

To safely remove the USB thumb drive:

1. Insert the key and turn clockwise to open the door on the 4RE DVR.

The door opens and the USB thumb drive pops out.

2. Touch **Transfer** on the **Main Menu** Display screen.

The **Transfer** screen appears.

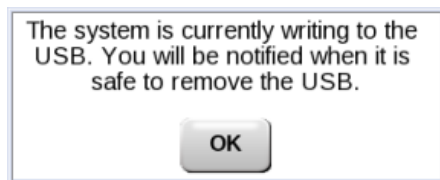


3. Touch **USB**.



4. Touch **Safely Remove**.

If the system is writing to the device, the following message appears.



5. Touch **OK** and wait until it is safe to remove the device.



6. Touch **OK** and remove the USB thumb drive from the 4RE DVR.

Take your USB thumb drive to your Evidence Library server and upload your files.

The time delay for writing unconfirmed events back to the USB thumb drive is configurable ([page 35](#)). See your Evidence Library documentation for more information.



Note: You must return the same USB thumb drive to the same 4RE DVR for 4RE to free up space on your thumb drive. If you do not return the same thumb drive all events will be rewritten.

Logging out of 4RE DVR

Log out of the 4RE at the end of your shift. Recorded events are associated with the officer who is logged in. After an officer logs in, the previous user is logged out automatically.

1. Press **Menu** and touch **Officer** on the **Main Menu** screen.

The **Select Officer** screen appears.



2. Verify your name is selected then touch **Logout**.



Note: If you do not log out, when the next officer logs in you are automatically logged out. If the next officer forgets to login, your name will remain on the recordings until someone else logs in or someone logs you out.

Powering off your vehicle

The last step in the process is to power off your vehicle. If you are uploading evidence via wireless, the upload from the 4RE DVR continues for a specified amount of time. The amount of time it continues to run is defined in your Evidence Library software.

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Understanding the 4RE system

In this chapter ...

- 4RE DVR overview ([page 42](#))
- Associating 4RE with a recording group ([page 44](#))
- Main Menu screen ([page 48](#))
- Display control panel ([page 74](#))

4RE DVR overview

The 4RE DVR (Digital Video Recorder) is the central component of the 4RE system. The DVR processes and stores evidence collected through the connected cameras and microphones. The DVR offers storage capacity of an industrial grade 64 GB solid state hard drive or a full automotive grade 200 GB hard drive.

The system also has a 16 GB USB thumb drive that serves as redundant storage for recorded events.



Note: The key to the USB thumb drive compartment is typically kept by the in-vehicle supervisor.

Some functions on the 4RE DVR are beyond the scope of in-vehicle users. Access to these functions requires an administrator password. As an administrator, you can assign supervisor passwords to other users for some functions.



Important! Motorola Solutions, Inc. recommends that you configure your 4RE DVR in the Evidence Library software to customize it for your agency before first use.

For more information ...

See *Overview: setting up and maintaining a 4RE DVR system* on [page 96](#)

See the Evidence Library software documentation

4RE DVR display

The 4RE DVR display lets you:

- View live video coming into the system
- Create recorded events and categorize them
- Review recorded events and other video stored on the system
- Control and monitor 4RE DVR functions

The 4RE DVR display has two parts:

Display screen: Touch screen to make functional choices or view live video

Control panel: Press controls to perform basic 4RE DVR functions



Display screen

The Display screen work areas includes:

Live View ([page 75](#))

Main Menu ([page 48](#))

Display Control panel

The Display Control Panel contains the following controls:

Power ([page 78](#))

Menu ([page 79](#))

Record ([page 28](#))

Stop ([page 80](#))

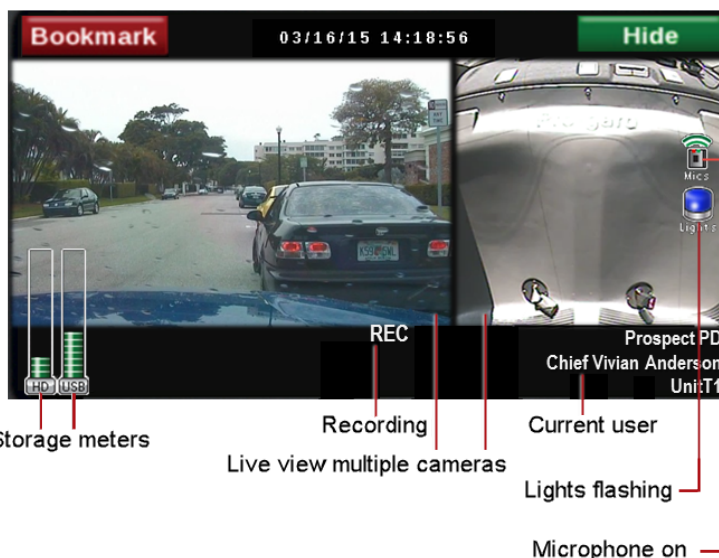
Review ([page 84](#))

Volume ([page 84](#))

Display ([page 85](#))

Cameras ([page 86](#))

Microphones ([page 87](#))



Associating 4RE with a group event

A **Group Event** enables in-car 4RE and body-worn VISTA WiFi cameras to collaborate in the recording of a single event by multiple devices. A recording group is typically linked to a vehicle. Starting a recorded event on one device alerts the other devices in the group that there is a change in status. The decision to join the recording group is made by each individual, according to their configuration.



Note: Not all VISTA Wearable Cameras and VISTA bases have the Wi-Fi feature. If you are not sure whether your equipment has the Wi-Fi feature, contact your Motorola Solutions, Inc. representative.

Smart Power Switch

The SPS fulfills the role of power management. As a required member of a local group event network, the Smart Power Switch:

- Functions as the central connection point

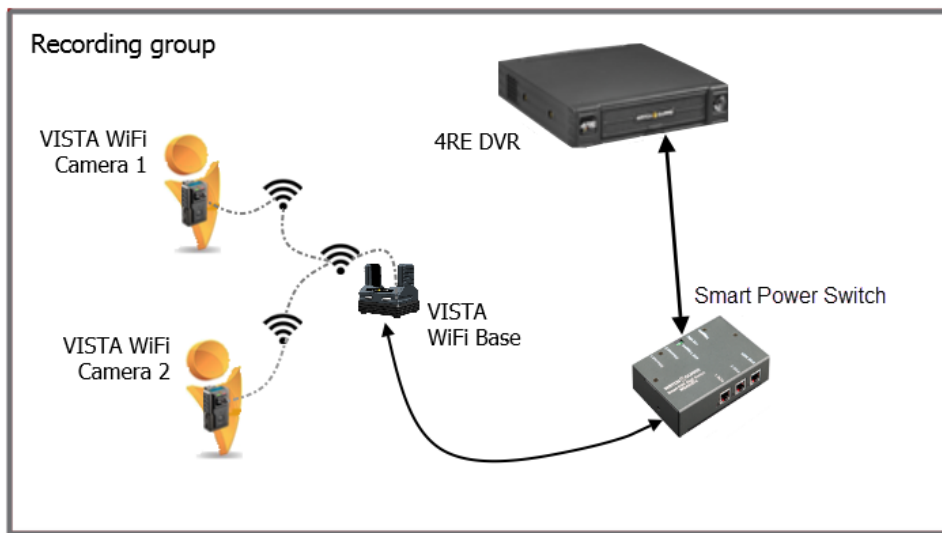
The SPS connects all of the members of a group event. The SPS allows the 4RE DVR and VISTA WiFi and VISTA XLT cameras to communicate with each other. The SPS has an open port that you can use with the Mobile Data Computer (MDC).

- Manages power intelligently

The Smart Switch detects the status of the devices in the network, whether powered on or off. When the Switch detects that the devices in the recording group no longer need power, it powers down any remaining devices connected to the local network, including itself.

- Functions as the local network DHCP server

The Smart Power Switch serves as the DHCP server for the devices, providing the IP address for the recording group members.



Members of the recording group

A recording group is a network of associated devices communicating with each other when one of them changes its event status. A recording group joined with either wired or wireless connections includes:

- One Smart Power Switch ([page 44](#)) (required)
- One or more VISTA WiFi or VISTA XLT cameras (required, two or more cameras if group does not include a 4RE)



Important! *The VISTA WiFi and VISTA XLT cameras do not receive notifications of group event starts, stops, and categorizations when they moves out of range of the recording network.*

For information on the VISTA WiFi cameras in a group event, see the VISTA Wearable Camera User Guide.

- One VISTA (required)
- One 4RE DVR, firmware version 4.0 or later (not required)

The members of the recording group are aware of the others in the group. Any member can start a recorded event and send its status to all other members. The others, sensing a change in status, can choose to begin recording.

Only 4RE can stop a group event. The other members of the group sense when this happens and can choose to stop recording. Each member of a group can stop on its own, if configured, but only 4RE can stop them as a group.

Synchronized recordings

4RE and VISTA devices can capture video and audio within the same time frame and at the same scene. These events are linked to each other automatically at import.

If another vehicle joins an incident, the new vehicle group event members cannot join the existing group but can collaborate in their own group event. You can manually link the recorded events for each group in the Evidence Library software.

For more information ...

See the *VISTA Wearable Camera User Guide*

See the Evidence Library 4 Web online documentation

See the Evidence Library Express online documentation

4RE role in a group event

Only one 4RE can be in a group event. If another 4RE recording group is at the same incident, the recordings can be manually linked and played back synchronized in Evidence Library.

As part of the recording group network, the 4RE DVR:

- Initiates group events

4RE uses the group event network to inform the other group members when it starts an event. The other members can join by starting their own recorded events.
- Stops group events

4RE uses the group event network to inform the other group members when it stops an event. Only the 4RE can stop all recorded events that are part of the group event at the same time.
- Responds to group event starts by other group members

Through the group event network, the 4RE is informed by other group members when they start a recorded event. 4RE can then join the group by starting its own recorded event.
- Shares all event tags with other group members

The category you assign on the 4RE to a recorded event is passed to other group members' recorded events. The other group members can choose to categorize their own recorded events, overriding any category passed to them by 4RE.
- Shares **Covert Mode** entry and exit with other group members

Other members can choose to enter or exit **Covert Mode**.

VISTA WiFi Camera role in a group event

As part of the group event network, the VISTA WiFi:

- Communicates with the local recording group.
- Initiates group events

VISTA WiFi or VISTA XLT cameras notify other group members that it has started an event. The other group members can join the group event by starting their own recorded events.

- Responds to group event starts or stops by other group members

The VISTA WiFi and VISTA XLT cameras can start or stop their own recorded event manually, if configured to do so.

Multiple VISTA WiFis can belong to a recording group.

VISTA WiFi and VISTA XLTs can provide a wireless hotspot for the SmartControl

For more information, see the *Evidence Library* documentation or the *VISTA WiFi User Guide*.

VISTA WiFi base

The WiFi base acts as a Wi-Fi hot spot for the VISTA WiFis

The WiFi base connects to the group event network with a wired connection into the SPS. It also connects to a windshield antenna that lets it connect wirelessly with a VISTA WiFi.



Main menu screen

When you press **Menu** on the **Display Control Panel**, you access the Motorola Solutions, Inc. 4RE **Main Menu**. This replaces the Live View camera feed, although the *cameras are still recording*. The Live View camera feed is the default view of the 4RE DVR.

You typically use this screen at least twice per shift—for officer log in and log out of the 4RE DVR.



Tip: To return to the Live View when on the Main Menu screen, press **Menu** again.

The Main Menu contains the following functions:

- **Review** ([page 48](#))
- **Status** ([page 51](#))
- **Officer log in or log out** ([page 53](#))
- **Transfer** ([page 54](#))
- **Record After the Fact**® ([page 58](#))
- **Audio** ([page 58](#))
- **Display** ([page 60](#))
- **Settings** ([page 62](#))

Review

You can review recorded event details and access playback from the **Review** button on the **Main Menu**.



Note: Only the **Front**, **Cabin**, or **Panoramic** cameras can record while you play back video on 4RE. All other cameras are disabled until you finish playing back the video.

Review By Event

To review and play back an event:

1. Touch the **Review** button on the **Main Menu** screen.

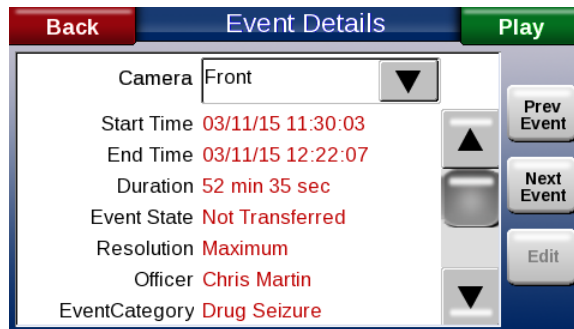


Playback Selection screen opens, showing the **By Event** list.



2. Select a recorded event to review.
3. Touch the **Details** button in upper right corner to review the details of the event.

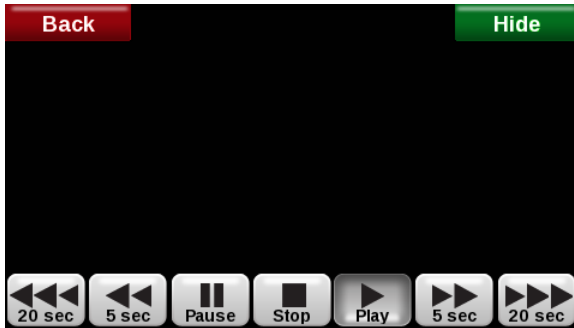
The **Event Details** screen opens.



- a. Touch the **Camera** down arrow to choose an alternate camera view, if you have multiple cameras.
- b. Touch the **Prev Event** button to see an event that occurred before the one you selected.
- c. Touch the **Next Event** button to see an event that occurred after the one you selected.

4. Touch **Play** in the upper right corner to play back the event you selected.

The Playback screen opens.



- a. Touch **Pause** to stop the playback without exiting.
- b. Touch the back arrows to go back **5 seconds** or **20 seconds**.
- c. Touch the forward arrows to skip ahead **5 seconds** or **20 seconds**.
- d. Touch **Stop** or **Back** to exit the playback.

Review By Time

To review and play back an event **By Time**, follow these steps:

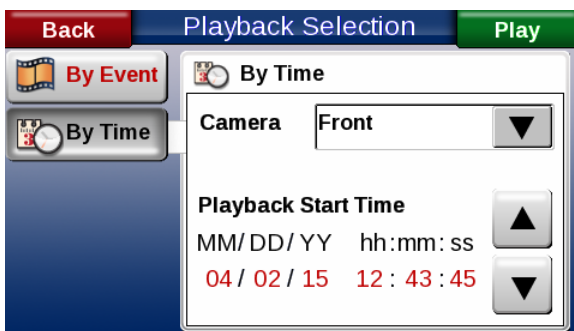
1. Touch the **Review** button on the **Main Menu** screen.



The **Playback Selection** screen opens.

2. Touch the **By Time** button.

The **Playback Selection By Time** screen opens.

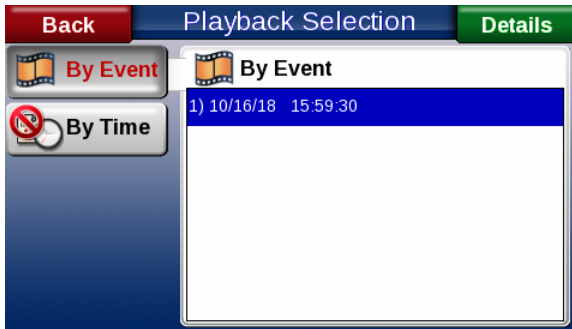


- a. Touch the **Camera** down arrow to choose an alternate camera view, if you have multiple cameras.
- b. Touch the **MM/DD/YY** and/or **hh:mm:ss** field you want to change. Use the arrows to move forward or backward in time.

3. Touch **Play** in the upper right corner to play back the stored video **By Time**.

The **Playback Screen** opens. It is the same screen that opened in Review by Event. Follow [Step 4 in Review by Event](#).

If your agency chooses to block **Review by Time**, you will see this Playback Screen:



The  means you cannot review an event by time.

Status

Access information about video storage, the current logged-in user, device status, and VISTA ID and status from the **Status** button on the **Main Menu**.

To access information about the state of the 4RE DVR:

1. Touch the **Status** button on the **Main Menu** screen.



The video **Storage** screen opens.



Storage status is shown for the DVR hard drive and the USB thumb drive.

Understanding the 4RE system

2. Touch the **User** button.

The **User Info** screen opens.



Shows the officer logged into the DVR.

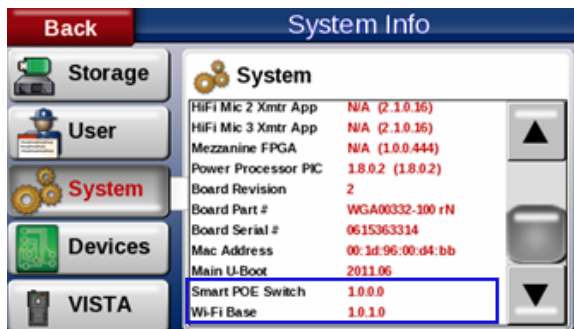
3. Touch the **System** button.

The **System Info** screen opens.



Shows the version information for the system elements.

If you do a group event the last two lines on the **System Info** screen show you what versions of the `[[[Undefined variable Variables.SPSOfficial]]]` and VISTA WiFi base you are running.



Note: Motorola Solutions, Inc. Customer Service is the main user of these screens.

The version numbers shown in the pictures are examples. The version information on your 4RE DVR may be different.

4. Touch the **Devices** button.

The **Device Status** screen opens.

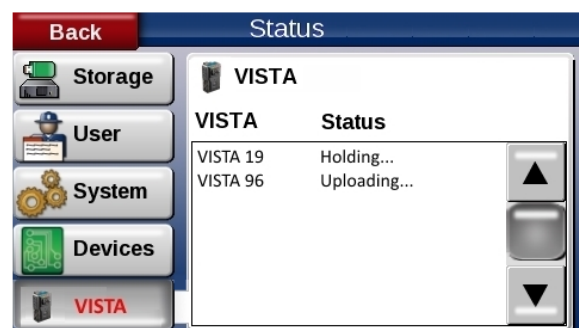


Shows the status of devices contained in or connected to the 4RE DVR.



Note: A device that has ⚡ next to it is configured as a record-start setting.

5. Touch the **VISTA** button.



The VISTA Status screen opens showing the status of the cameras in the group. The cameras are listed in alphabetical order with the following possible status messages:

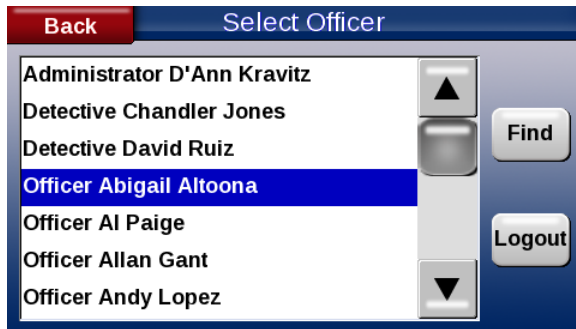
- Docked
- Connected
- Upload Complete
- Out of Range
- Uploading...
- Holding...

Officer log in or log out

You can log in ([page 22](#)) or log out ([page 38](#)) of the 4RE DVR by touching the **Officer** button on the **Main Menu**.



If you are already logged in, your name will be selected.



Important! Log in to the DVR at the beginning of every shift. The previous user will be logged out. All video recorded during a shift is associated with the officer who is logged in during that shift.

Saving officer preferences

The 4RE DVR automatically tracks certain preferences you set after you log in. The 4RE DVR associates these preferences with your login name. The officer preferences tracked by the system include:

- Display settings
 - Screen and Control Panel button brightness ([page 60](#))
 - Screen saver ([page 61](#))
 - Dark mode ([page 85](#))
- Camera settings ([page 62](#))
- Volume levels ([page 58](#))

Transfer

Use the **Transfer** button on the **Main Menu** screen to access information about the transfer of recorded events from the 4RE DVR to your Evidence Library software.

When you touch the **Transfer** button, the **Transfer** screen opens with buttons to access information about



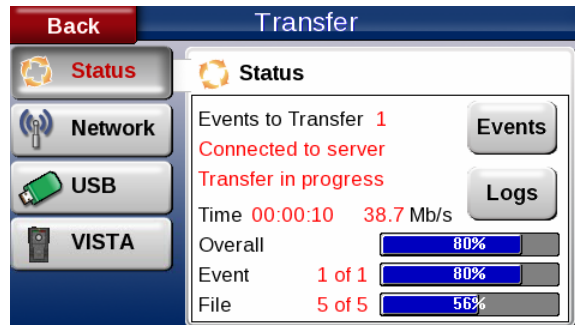
- Status
- Network ([page 56](#))
- USB ([page 57](#))
- VISTA ([page 57](#))

Status

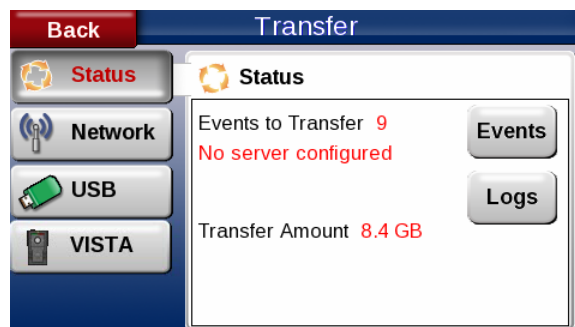
The **Status** screen shows information about the state of the transfer and of the event data remaining to be transferred.

Depending on which Evidence Library software your agency uses and where in the transfer process your 4RE DVR is, the **Status** screen provides different information.

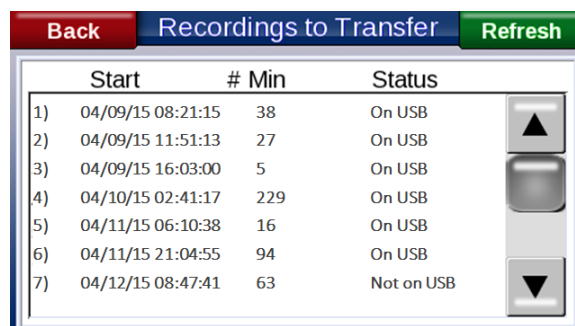
For example, if your DVR is connected wirelessly to your Evidence Library server, and in the process of transferring recorded events to the server:



If no network connection has been set up between the 4RE DVR and the Evidence Library server, the **Transfer Status** screen shows that no connection is present.



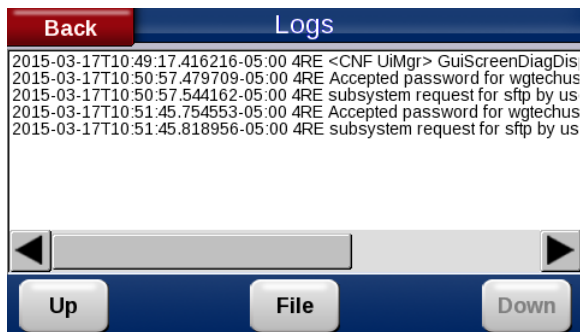
Touch the **Events** button to bring up a status of the events on the **Recordings to Transfer** screen.



The **Recordings to Transfer** screen lets you know what events are on the 4RE DVR and which have been copied to the USB thumb drive.

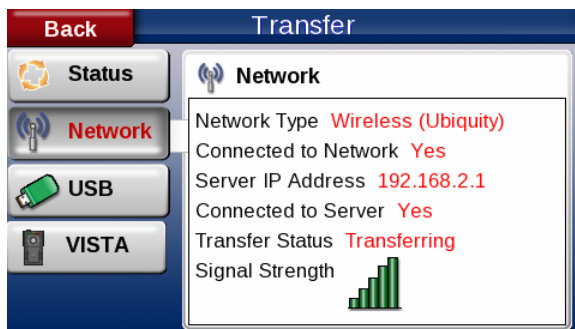
Understanding the 4RE system

Touch the **Logs** button to access logs of the transfer process.



Network

The **Network** screen shows information about the network connection between the 4RE DVR and Evidence Library, if one exists. It also shows basic information about any transfer that is in process.



If no network connection has been set up between the 4RE DVR and Evidence Library server, the **Transfer Network** screen shows that no connection is present.



USB

The **USB** screen shows storage information about the USB thumb drive if it is present.



The **Transfer USB** screen lets you safely remove the USB thumb drive from the 4RE DVR. For instructions about how to safely remove the USB thumb drive, ([page 35](#)).



Warning! Only remove a USB thumb drive from a 4RE DVR when it is safe to do so ([page 36](#)). Removing the USB thumb drive too early can result in loss of evidence or other unexpected results when data is imported from the USB thumb drive.

VISTA

The **Transfer VISTA** screen shows which VISTA (by Device ID) is transferring data. The Transfer in progress shows which server is the target of the transfer.



The **Events** and **Logs** buttons work the same as described under Status ([page 51](#)).

For more information about transferring data from VISTA, see the *VISTA WiFi User Guide*.

Record After The Fact[®] (RATF)

RATF



With RATF, you will never miss an incident, even when the Record control wasn't pressed. The camera is always recording. If the video resides on the 4RE DVR hard drive, you can retrieve it with RATF and make a recorded event.

See *Creating a recorded event using Record-After-the-Fact[®] (RATF)* on [page 31](#)

RATF disabled

RATF Off is configured in your Evidence Library software by your agency. When the red-circle backslash symbol appears, RATF is disabled.



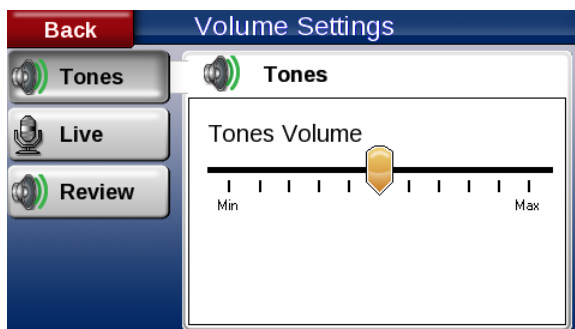
Audio

The **Audio** button lets you adjust the volume level of tones, live audio, and playback. This button does not affect the volume level of the recorded audio. Typically, live is turned off or muted, but it can be useful if you want to monitor the audio of an officer outside the vehicle. For example, in a training situation monitoring through the wireless microphone.

1. Touch the **Audio** button on the **Main Menu** screen.

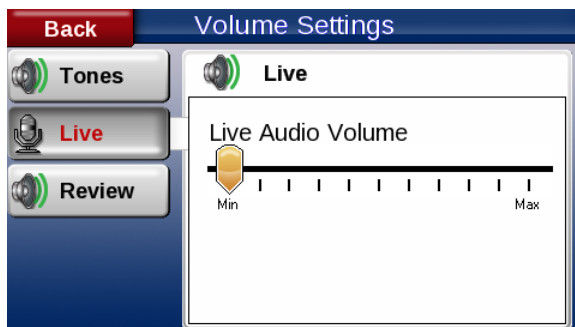


The **Volume Settings** screen opens.

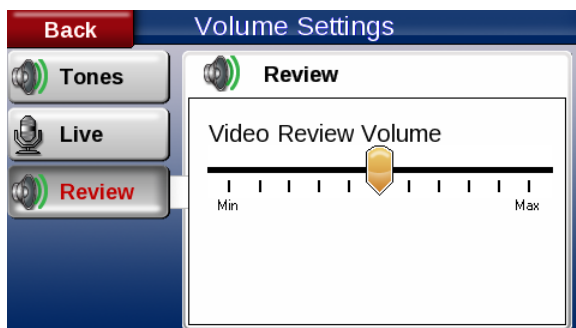


Note: You can also set the volume level from the **Volume** control on the control panel.

2. Set the volume level for **Tones**—the sound 4RE makes when it finishes a process, issues an alert, etc., such as when a recording starts or stops.
3. Set the volume level for **Live**—the audio coming live from the wireless microphone.



4. Set the volume level for **Review**—the volume of the playback on the DVR



Display

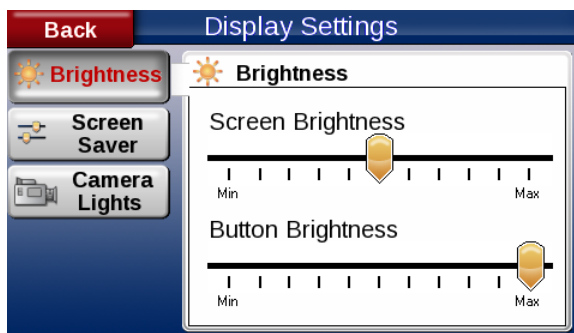
Adjust screen brightness, screen saver settings, and camera lights from the **Display** button on the Main Menu.

To change the Display settings:

1. Touch **Display** on the **Main Menu** screen.



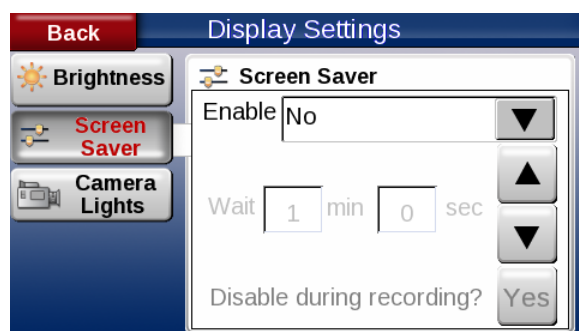
The **Display Settings Brightness** screen opens.



- a. Move the  control on Screen Brightness all the way to the Min (minimum) to make the screen barely visible. (This is not the same as Dark Mode)
- b. Move the  control on Button Brightness all the way to the Min (minimum) to make the buttons on the control panel barely visible.

2. Touch the **Screen Saver** button.

The **Display Settings Screen Saver** screen opens.



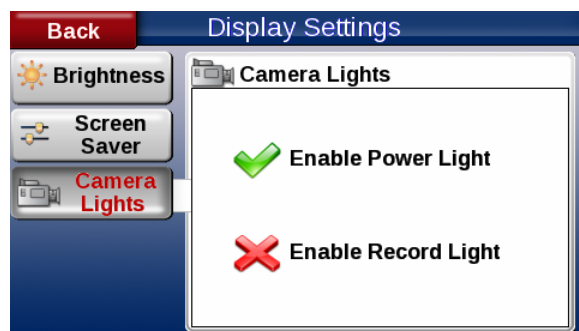
Based on your choices, the **Screen Saver** makes your screen go dark when you are in **Live View** (page 75). Touching the screen or pressing the **Menu** control brings the screen back to the **Live View**.

If you select **Night View Only** (page 76), the screen saver activates only when **Night View** is on. You set the amount of time to wait before activating.

Choose **Yes** to activate your screen saver while the 4RE DVR is running. If you select **Yes**, you set the amount of time before the screen saver activates. If you select **No**, the display remains active at all times. Any changes you make are saved automatically.

3. Touch the **Camera Lights** button.

The **Display Settings Camera Lights** screen opens. These are the green and red LEDs that some Motorola Solutions, Inc. cameras have. All front Motorola Solutions, Inc. HD cameras have these lights. No cabin or auxiliary cameras have these lights.



The  indicates on. The  indicates off.



Note: When the camera is recording the red light shows on the front of the camera. The green light shows the power is on (unless you turned them off or are using **Covert Mode**).

4. Touch **Back** when you are finished.



Note: 4RE DVR will remember your settings the next time you log into the system.

For more information ...

See *Dark Mode* on [page 85](#)

See *Display* on [page 85](#)

Settings

On the Settings screen you can adjust the camera auto-zoom (if present), radar, crash sensitivity, and system date/time settings. You can also access system diagnostic options using the **Settings** button.



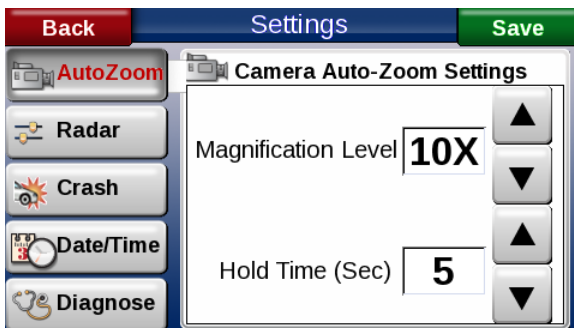
Important! Motorola Solutions, Inc. recommends that you talk with your system administrator before changing the settings and options on the **Settings** screen

To access the **Settings** screen:

- Touch the **Settings** button on the **Main Menu** screen.



The **Settings** screen opens, showing **Camera Auto-Zoom Settings**.



AutoZoom

When you press the **AutoZoom** button on the back of the Motorola Solutions, Inc. Auto-Zoom enabled front camera, you initiate the auto-zoom process. **AutoZoom** lets you set the front camera magnification level and how long to hold that level. If your **Front Camera** does not have a zoom feature, the **AutoZoom** screen shows a **Magnification Level** of **1X**. You cannot adjust the level.

To adjust the front camera:

1. Touch the **AutoZoom** button.
2. Touch the up or down arrows next to Magnification Level to change zoom level (max is 18X).
3. Touch the up and down arrows next to Hold Time (Sec) to set the amount of time you want to hold that zoom level (max is 10 seconds).
4. Touch **Save** in the upper right corner of the screen.

Radar

The **Radar** screen lets you choose the type of radar you have in your vehicle, as applicable.



Note: Permissions to set or change the **Radar** settings must be configured in your Evidence Library software.

To set your vehicle radar type:

1. Touch the **Radar** button.

The **Radar** screen opens.



2. Select the model of the radar in your vehicle.

If you have a radar system in your vehicle, you must select the radar type for the 4RE system to use the data from the radar.

3. Touch **Save**.



Note: You must configure the radar settings in your Evidence Library software.

Crash

The **Crash Sensitivity** screen lets you set the sensitivity triggers to start a recorded event. When the force reaches that level a recorded event is automatically started.

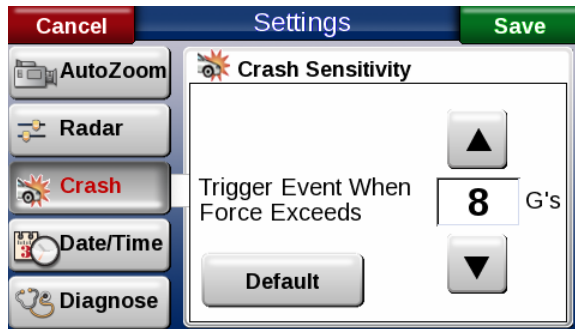


Note: Permissions to set or change the **Crash Sensitivity** settings must be configured in your Evidence Library software.

To adjust the crash sensitivity of your 4RE DVR:

1. Touch the **Crash** button on the control screen.

The **Crash Sensitivity** screen opens. The default sensitivity is 8 Gs.



2. Adjust the crash sensitivity of your 4RE system using the up and down arrows.



Tip: Under normal circumstances, a setting of 8 (medium sensitivity) is sufficient. If your system repeatedly detects false crashes, raise the setting (lower the sensitivity). If your system did not detect a true crash, lower the setting (raise the sensitivity).

3. Touch **Save** in the upper right corner, as needed.

Date/Time

The **Date/Time** is typically set automatically in the 4RE unit by the GPS unit. It is maintained during power off periods by an internal battery. You may need to set the **Time Zone** if your territory crosses time zone boundaries. The default time zone is America/Chicago. To change some of these settings requires an Admin or supervisor password.

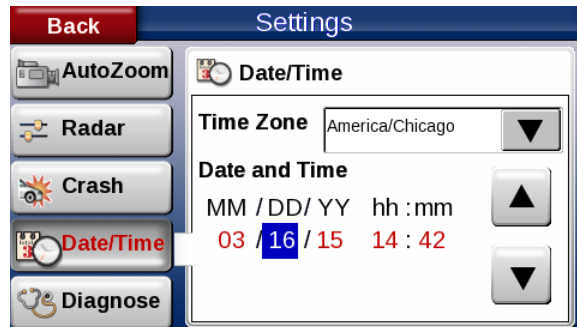


Note: Permissions to set or change the **Date/Time** settings must be configured in your Evidence Library software.

To set the date and time for your 4RE DVR:

1. Touch the **Date/Time** button.

The **Date/Time** screen opens.



2. Set the **Time Zone** where your agency is located.
 - a. Touch drop-down arrow for **Time Zone**.
 - b. Touch the up and down arrows to scroll the time zone list.
3. Set the local **Date/Time**.
 - a. Touch the date and time field you want to change.
 - b. Touch the up and down arrows to change the values in each field.



Note: You can also set the time zone in your Evidence Library software.

4. Touch **Save**.

Diagnose and troubleshoot issues

If an issue occurs with the 4RE DVR, Motorola Solutions, Inc. Customer Service may ask you to access diagnostic information. This can include information such as temperatures, voltages, and GPS information. This section presents a summary of all the buttons on the **Diagnose** screen.

Understanding the 4RE system

1. Touch the **Settings** button on the **Main Menu Screen**.



2. Touch the **Diagnose** button.



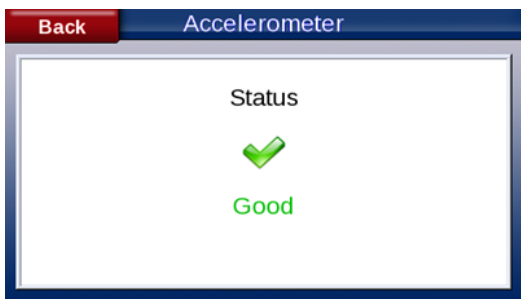
Use the up and down arrows to move up and down in the **Diagnostics** screen.

3. Touch each button under **Diagnostics** to retrieve information about the system.

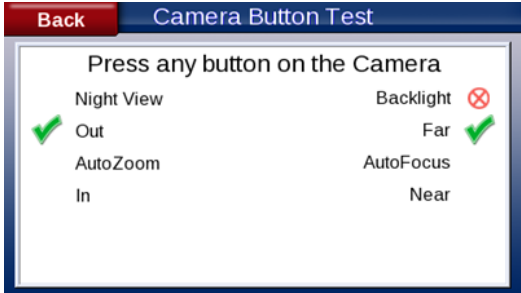
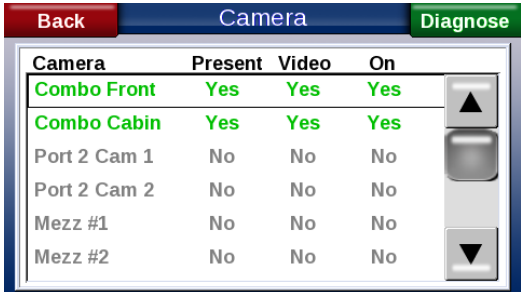


Important! Some of the diagnostics options available from the **Diagnostics** screen are only accessible with a supervisor or administrator password. After you enter a password, you can access the protected areas on the **Settings** screen as long as you do not return to the Live View in between accessing those areas.

Diagnostics options

Button	Purpose	
Accelerometer	Accelerometer runs a self-test and shows the status.	

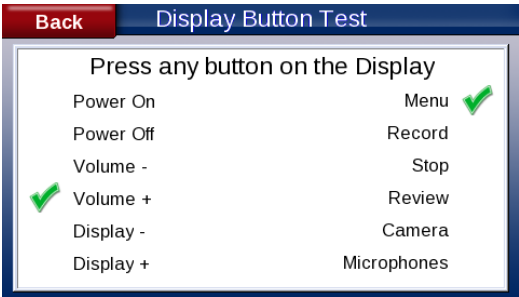
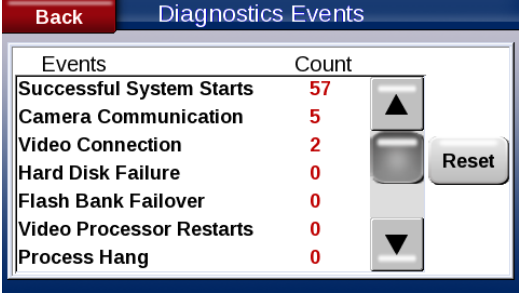
(continued)

Button	Purpose	
Cam Buttons (if applicable)	Ensures that function buttons on your camera are working. Press the button on the camera and if the function works a ✓ appears on the screen. If the function does not work, a ✗ appears.	
Camera	Provides details about the cameras in your system. Select the Front camera and touch Diagnose. The Camera Diagnostics screen opens for the Front camera. Select any camera, other than the Front camera, and the Camera Details screen opens for the selected camera. See <i>Adjusting your cameras</i> on page 24	
	Camera Diagnostics	

(continued)

Button	Purpose																									
	Camera Details Provides information about the selected camera. If a tested element is down or not working correctly  appears. The  means it is working correctly. Also provides camera frame rates.	BackCamera DetailsRefresh Single Front Frame Sync Video Sync Lines/Frame Change Line Sync Changed Line Sync Sample Interlaced H Sync Switched V Sync Switched Clock Alarm Frequency Count36002 Line Rate Counter22502 Lines Per Frame749 Line Length1280 Frame Rate Counter30																								
Capture State	Lets you capture system details on the USB thumb drive. Motorola Solutions, Inc. Customer Service may ask for this information for troubleshooting.	BackCapture State This will capture various system details and, if a USB device is present, write the data on the USB device. This may take several minutes to complete. Press Capture when ready to proceed. Capture																								
Configuration	An administrator sets up the Configuration file in the Evidence Library software. Use the up and down arrows to scroll through the list of configuration items. You can see the complete list of items in the Evidence Library software.	BackConfiguration <table><thead><tr><th>Item</th><th>Value</th><th></th></tr></thead><tbody><tr><td>Display Gps Coord</td><td>Yes</td><td></td></tr><tr><td>Display Patrol Speed</td><td>Yes</td><td></td></tr><tr><td>Display Wireless Mic</td><td>Yes</td><td></td></tr><tr><td>Display Lights Status</td><td>Yes</td><td></td></tr><tr><td>Display Siren Status</td><td>Yes</td><td></td></tr><tr><td>Display Brakes Status</td><td>Yes</td><td></td></tr><tr><td>Display Aux Status</td><td>Yes</td><td></td></tr></tbody></table>	Item	Value		Display Gps Coord	Yes		Display Patrol Speed	Yes		Display Wireless Mic	Yes		Display Lights Status	Yes		Display Siren Status	Yes		Display Brakes Status	Yes		Display Aux Status	Yes	
Item	Value																									
Display Gps Coord	Yes																									
Display Patrol Speed	Yes																									
Display Wireless Mic	Yes																									
Display Lights Status	Yes																									
Display Siren Status	Yes																									
Display Brakes Status	Yes																									
Display Aux Status	Yes																									

(continued)

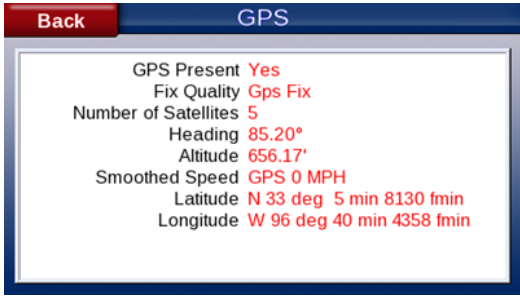
Button	Purpose	
Delete Event	Requires an administrator password. See <i>Deleting an event from the 4RE DVR</i> on page 105	
Display Button Test	Lets you troubleshoot the buttons on the control panel. Press a button on the control panel that matches an item on the screen. If the function is working, ✓ appears on the screen. If there is an issue, ✗ appears.	
Display	Lets you test the LEDs, screen brightness, and button brightness on the control panel.	
Events	Lets you view details about key system events. Requires an administrator password.	

(continued)

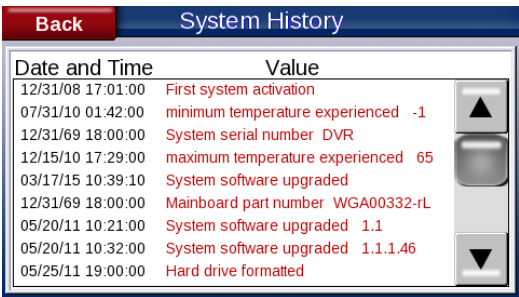
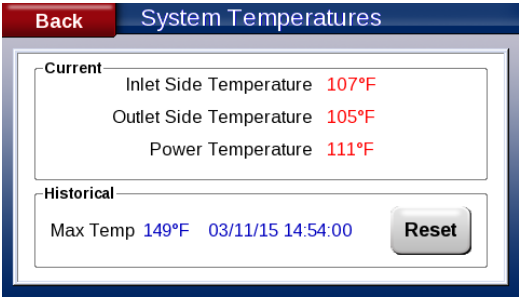
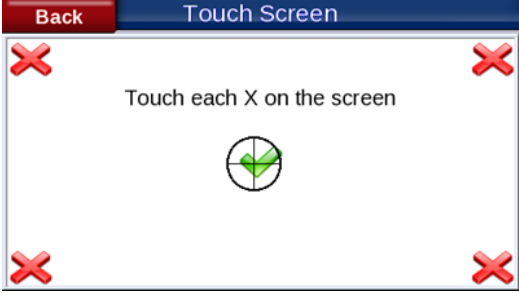
Button	Purpose	
Format USB	Lets you format the USB thumb drive. See <i>Formatting the USB thumb drive</i> on page 104	



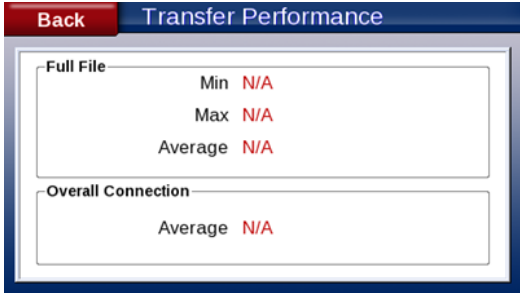
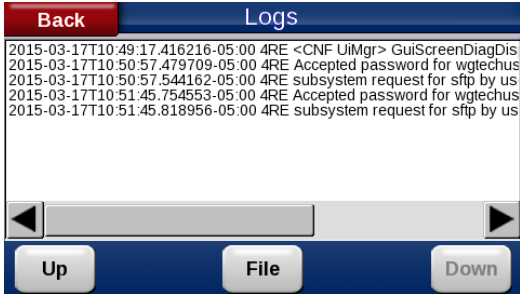
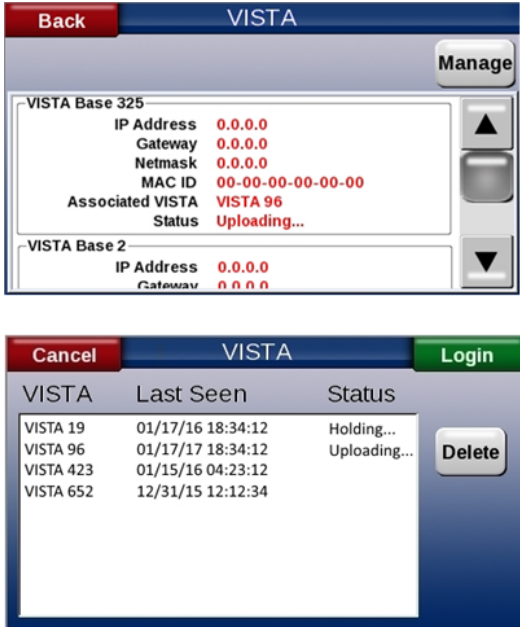
Warning! You lose all events on the USB thumb drive when you reformat

GPS	Lets you see the system GPS information.	
HiFi Wireless Mic	Lets you upgrade a Motorola Solutions, Inc. HiFi Wireless Microphone. For more information, see the <i>Motorola Solutions, Inc. HiFi Microphone User Guide</i>.	

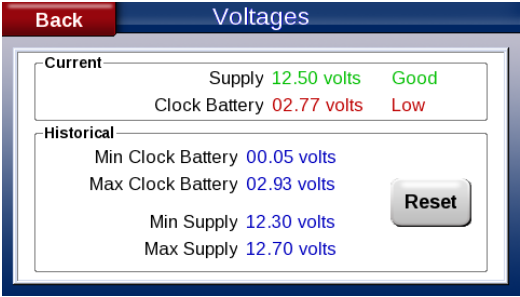
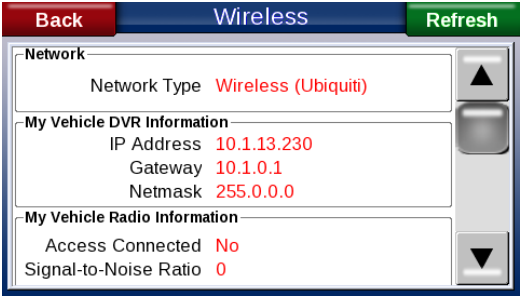
(continued)

Button	Purpose	
ReExport Event	Lets you re-export a recorded event to the USB thumb drive. See <i>Re-Exporting a recorded event</i> (page 106). Requires an administrator password.	
System History	Provides historical system information for troubleshooting purposes. Requires an administrator password.	
Temperatures	Provides the current temperatures of your system and the historical maximum temperature.	
Touch Screen	Lets you troubleshoot your DVR touch screen. As you touch each X on the screen, the X changes to a ✓. If it does not change, your touch screen may have an issue. Contact Customer Service for help.	

(continued)

Button	Purpose	
Transfer	Displays the transfer bit rate when you are transferring events from 4RE to Evidence Library. Primarily used for troubleshooting. See <i>Transfer</i> on "Transfer " on page 54	
View Logs	Helps Customer Service troubleshoot system issues. See <i>View logs</i> on page 108 Requires an administrator login.	
VISTA	Lets you manage any VISTA WiFi associated with the local recording group. For more information, see the <i>VISTA HD Wearable Camera User Guide</i> .	

(continued)

Button	Purpose	
Voltages	Provides the current and historical voltage supply for the 4RE Supply and Clock Battery. The operating range is from 8V to 18V.	
Wireless	Shows information about the 4RE system network (wired or wireless) and the DVR address on the network. This screen is typically used by Customer Service to troubleshoot networking issues.	

Display Control Panel

Use the controls on the **Display Control Panel** to perform basic 4RE DVR functions.



The **Display Control Panel** contains:

Power up (I) control to power on the 4RE DVR; press **Power** down (O) control to power off the 4RE DVR; See *Power* on [page 78](#)



Important! Avoid using the **Power** control to power ON and OFF the 4RE. You can damage or lose data doing this. We recommend that you use the vehicle ignition to power on and off. See *Powering off your vehicle* on [page 39](#).

Menu: access or exit the system **Main Menu** ([page 79](#))

Record: start a recorded event ([page 28](#))

Stop: stop the recorded event ([page 80](#))

Review: play back a recorded event ([page 84](#))

Volume+ Volume -: increase or decrease the volume of the 4RE DVR tones or to access the **Advanced** volume controls. ([page 84](#))

Display+ Display -: increase or decrease the brightness of the 4RE DVR display screen or to access further display options. ([page 85](#))

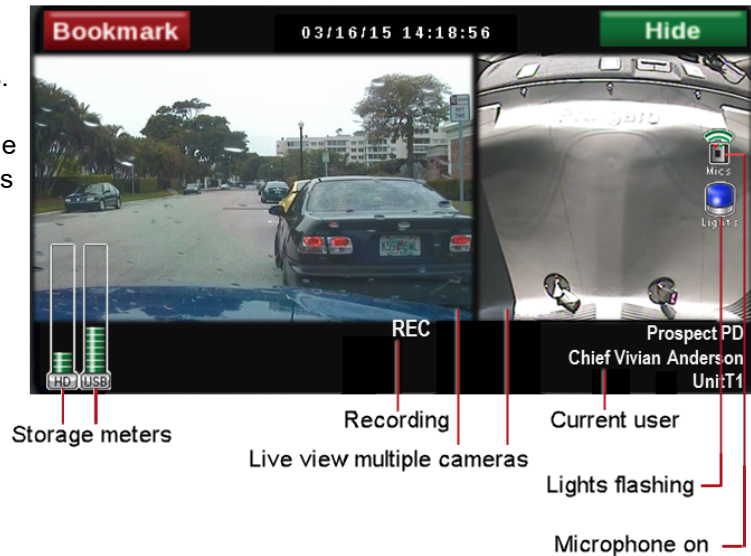
Cameras: list all of the cameras in the 4RE system ([page 86](#))

Microphones: list all of the microphones in the 4RE system ([page 87](#))

Live View

The Display screen Live View shows one or more live video streams from the system cameras. The video streams on the Live View are the same streams that the 4RE DVR is recording. Live View is the default mode for the Display screen. The Display screen can show:

- Active record-trigger icons
- Upload status icons
- Lock/unlock icons
- Camera Settings
- Name of agency, officer, and unit
- Storage meters
- Bookmark
- Date and time
- Radar speeds
- GPS coordinates



Tip: To remove the user and status information from the foreground of the Display screen Live View, touch **Hide** in the upper right corner. The **Hide** button changes to **Show**. To add the user and status information back to the Live View, touch **Show**.

Active record-setting icons

Recorded events are typically started by an auto-start setting, such as emergency lights, siren, or the wireless microphone. See *Auto-start record* on [page 90](#).

Upload status icons

The Upload status icon is visible on the display screen when your system is uploading evidence to the Evidence Library. The Signal strength icon is also visible.



Lock/unlock icons

On the Live View, when more than one camera view is shown, you can lock a single view on the Display screen.

See *Changing and locking the Live View on-screen camera view* on [page 25](#).



Camera settings

After you lock a Live View, if the camera associated with the view has features that can be adjusted by a user, a **Settings** button shows on the bottom right corner of the screen.

The **Settings** button gives you access to user-adjustable functions for the selected camera. For example, **Zoom** and **Focus**.



Night View

The **Night View** feature adjusts the camera so that video coming from it is better suited to nighttime conditions. The feature can be ON, OFF, or set to automatically transition to ON when it gets dark, and automatically transition to OFF when it gets light (AUTO).



Note: *[[[Undefined variable Variables.Company Name Short]]] Video recommends that you keep the **Night View** feature set to **Auto** so the camera adjusts automatically.*

Backlight

Activating the **Backlight** feature brightens the overall exposure of the video when the subject in the foreground would otherwise appear dark because of strong backlighting (due to sunrise, sunset, or other bright lights in the background).



Note: *Some of the available cameras do not have user-adjustable settings.*

Name of agency, officer, and unit

The name of the agency, the officer logged into the system, and the vehicle ID displays on the lower right corner of the display screen.



Tip: To remove the user and status information from the foreground of the Display screen Live View, touch **Hide** in the upper right corner. The **Hide** button changes to **Show**. To add the user information back to the Live View, touch **Show**.

Storage meters

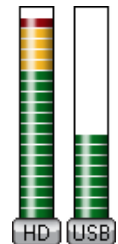


Note: Whether the storage meters appear on the Live View depends on the configuration of your 4RE DVR. The USB meter only appears when a USB thumb drive is installed in the DVR.

The storage meters show how much video has been recorded to the hard drive and the USB thumb drive. The meters show data only for recorded events. 4RE records continuously to the hard drive, but protects only recorded events. (For more information, ["Creating recorded events" on page 27.](#))

As the Hard Drive (HD) or USB thumb drive fills up, the color of the meter goes from:

- Green (0-70 percent full) to
- Yellow (70-90 percent full) to
- Red (90-100 percent full)



When either drive is greater than 95 percent full of recorded events, the 4RE DVR alerts you that it is nearing full.



Warning! If the DVR hard drive fills completely, the DVR stops recording.

Bookmark

If you want to review a specific place in a recorded event, use the **Bookmark** to mark that place. You can see the **Bookmark** flag during playback.

Bookmark

A red flag icon is displayed briefly on the screen to mark that spot. To see it at a later time, playback the recordings to find it. See *Review* on [page 48](#) or use the Evidence Library software player.



Date and Time

The **Date and Time** is shown across the top of the Live View display screen. The GPS provides this information. See *Date/Time* on [page 64](#).

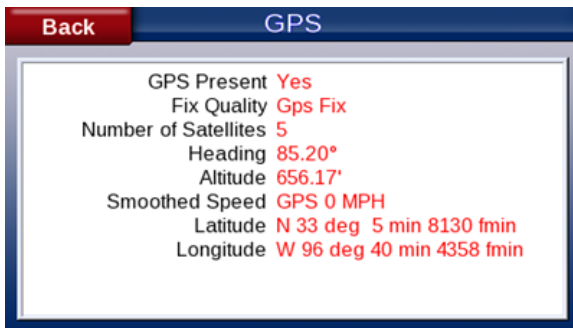


Radar speeds

If a radar is connected to the 4RE System, the types of radar are configured in the Evidence Library software. You select the type of radar for 4RE to recognize and use the data from the radar. You can also configure the radar settings on the Settings screen ([page 63](#)).

GPS

The GPS displays the GPS settings on the screen. The GPS is configured in the Evidence Library software.



The settings include:

- **Location** indicated by Latitude and Longitude
- **Time** shown at the center top of the Live View screen
- **Patrol speed** indicated by Smoothed Speed; can also be configured to show on the Live View screen

Power

The main function of the **Power** control is to power on and off the system. You can also use the **Power** control to:

- Place the screen into **Covert** mode
- Disable the shut-down timer with the **POWER ON** control



Important! Avoid using the **Power** control to power ON and OFF the 4RE. You can damage or lose data doing this. We recommend that you use the vehicle ignition to power on and off. See [Powering off your vehicle on page 39](#).

Entering Covert mode

See [Using Covert mode on page 30](#)

Menu

Menu, on the control panel, provides access to the Motorola Solutions, Inc. 4RE tasks window. This closes the live camera feed.



Tip: Although not showing on the display screen, the cameras are still recording.

Pressing the **Menu** control exits most screens and returns you to the **Live View** screen.

See [Main menu screen on page 48](#).

Record

You can start a recorded event using the **Record** control, but an event is typically started by auto-triggers.

If the 4RE DVR is powered on, it is continuously recording video to the hard drive. When you start a recorded event and then press the **Stop** control, the 4RE DVR protects the video and audio segment between the two button presses as a **Recorded Event**. 4RE continues to record after you press the **Stop** control.

Only recorded events are uploaded to your Evidence Library.



Note: The 4RE DVR can be set up to start recorded events automatically [page 90](#). These automatic triggers are configured in your Evidence Library.

Recording to the video loop and recorded events

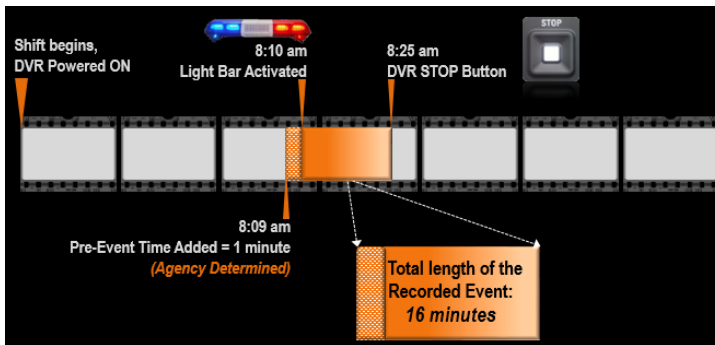
The 4RE DVR captures video all the time in a video loop. The video segment between pressing the **Record** control and the **Stop** control is a recorded event. No other recordings are saved unless you press **Record After the Fact** (RATF).



Note: If the 4RE DVR is configured to enable pre-event video, a recorded event also includes that pre-event time.

Pre-event time

An agency can set up a recorded event so that it includes a set time before the actual record started. The graphic below is an example of the timeline, with the pre-event time at one minute. That one minute is included in the official recorded event. Although the event started at 8:10 am by auto-trigger, the recorded event will officially start at 8:09 am.



Pre-event video time can be 15 seconds up to 10 minutes.

For more information . . .

See *Auto-start record* on [page 90](#)

See *Creating a recorded event using Record-After-the-Fact® (RATF)* on [page 31](#)

See *Creating recorded events* on [page 27](#)

See *Starting and stopping a group event* on [page 28](#)

Stop

Use **Stop** on the **Display Control Panel** to stop a recorded event. Recorded events can be auto-stopped ([page 90](#)), but are typically stopped by pressing the **Stop** control once or twice, depending on your configuration. If you are in a multi-peer recording group, the **Stop** status is passed on to the other members.

4RE DVR marks the segment between pressing the **Record** control and pressing the **Stop** control as protected. If the 4RE DVR is configured to use event tags, when you press the **Stop** control, the DVR prompts you to provide additional event details.



Important! If the 4RE DVR is powered on, it is continuously recording to the hard drive. Pressing the **Stop** control does not stop this continuous recording—it only marks the end of the protected recorded event.

For more information . . .

See *Creating recorded events* on [page 27](#)

See *4RE role in a group event* on [page 46](#)

See *Tagging a recorded event* on [page 28](#)

Event tags

Event categories and other event tag questions are determined by your agency and configured in your Evidence Library software.

For information about how to tag a recorded event, See *Tagging a recorded event* on [page 28](#). For information about configuring the 4RE DVR using your Evidence Library software, see your *Evidence Library User Guide* or Online Help.

Event tag category

The **Category Event Tag** is a list of categories that you use to classify a recorded event. The categories are determined by your agency. Each category tag was designated in your Evidence Library software as a **Critical** or **Routine** category.

The screenshot shows the 'Event Tag 1 of 2' screen. At the top, there is a red 'Required' button, a blue header 'Event Tag 1 of 2', and a green 'Save' button. Below the header, the text 'Event is' is followed by a list of categories: 'Traffic Warning' (highlighted in blue), 'Traffic Citation', 'Traffic Accident', 'Assault', 'Domestic', and 'Drug Seizure'. To the right of the list are three configuration buttons: 'Resolution' with a green 'Standard' button below it, 'Server Retention' with a green 'Default' button below it, and 'Background' with a red 'Exclude' button below it.

Required and optional event tag options

Event tags are required or optional depending on how your agency classifies them.

A **Required Event Tag** remains on the display screen until you enter an answer. The **Required** button shows in the upper left corner of the **Event Tag** screen.

An **Optional Event Tag** remains on the screen for a configured amount of time, then disappears automatically. The **Skip** button shows in the upper left corner of the **Event Tag** screen. With an optional event tag, you can:

- Answer the event tag
- Touch the **Skip** button to skip the event tag
- Do nothing and allow the **Event Tag** screen to disappear automatically

A countdown timer in the upper right corner of the Event Tag screen shows how much time you have left before the screen disappears.



Note: You can trigger another recorded event while a required event tag is on the Display screen. The system interrupts the tagging process and starts recording a new event. You can tag the first recorded event in your Evidence Library software after you import it.

Event Tag categories defined by your agency

The screen prompts you to select an answer from a listing of **Event Tag Categories**, defined by your agency. Select the category you want to tag the recorded event with.

Depending on the configuration that was applied to the 4RE DVR, the screen can have up to three buttons to the right of the categories: **Resolution**, **Server Retention**, and **Background**.

Resolution

Resolution is the resolution of the camera and is either SD (standard definition) or HD (high definition).



Note: Whether you have permission to upgrade the resolution depends on your 4RE configuration. You cannot downgrade the resolution.

With **Resolution** you can manually upgrade the quality of the saved video for a recorded event. If the event tag answer that best applies to the recorded event would typically save video at a lower (**Standard**) quality, but you think the video needs to be saved at a higher (**Maximum**) quality, you can manually choose to save the video at the higher quality.

For example, you make a traffic stop. When you select an event category for the recorded event on the 4RE DVR, you select the Traffic Citation category, which is normally saved at the **Standard** resolution. But, in this case, you feel that something happened during the traffic stop that merits a higher quality recording. You can use the **Resolution** button to manually make a one-time change from **Standard** resolution to **Maximum** resolution for this recorded event tagged with the Traffic Citation category.

Server Retention

Server Retention represents the time you want the video to remain on the server if different from your default time.



Note: The value changes based on what is configured in your Evidence Library software. You cannot decrease the time the video remains on the server.

From **Server Retention**, you can manually indicate that a recorded event should be kept on the server longer. The category you select for an event normally determines how long a recorded event should be retained. With Server Retention, you can mark the event to be kept on the server past its normal retention period. For information about setting **Server Retention** policies, see the Evidence Library documentation.

For example, using the traffic stop scenario, the Traffic Citation category is normally purged automatically after 90 days; but, you want this particular recorded event to be kept longer than that. You can use the **Server Retention** button to manually choose to keep this recorded event past the normal 90-day retention period.

Background



Note: The presence of the **Background** button depends on your 4RE DVR configuration.

The **Background** button lets you manually include video from cameras that are in a background state when a recorded event is imported into your Evidence Library software. For example, if you want to include the panoramic video when the camera is in the background state, select **Include** under **Background**. The default is to **Exclude**.



Note: You can identify whether a camera is in background state on the Live View. Any camera that is in background state shows the background state icon  in the bottom right corner of the camera's video.



A camera that is in background state is active and recording to the 4RE DVR hard drive. When you tag a recorded event, depending on your DVR configuration, you have the option to include the video from that camera or not. If you do not need the video, do not import it. This saves storage space in your Evidence Library software. If you need the video, use the **Background** button and click **Include** when you import the recorded event.



Note: Video from cameras in the background state is always included in a Record-After-the-Fact® (RATF) event.

For information on how to tag an event, ["Tagging a recorded event" on page 28](#)

Recording group event tags

The 4RE DVR does not guarantee delivery of event tag information with members of the recording group. If the event tag information is not received by a member, then that member uses its own event tag answers. The member event tag overrides the 4RE tag.

For more information, ["Associating 4RE with a group event" on page 44](#)

Review

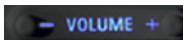
Access playback using the **Review** control. You can review events by time or by event.

See *Review* on [page 48](#)



Volume

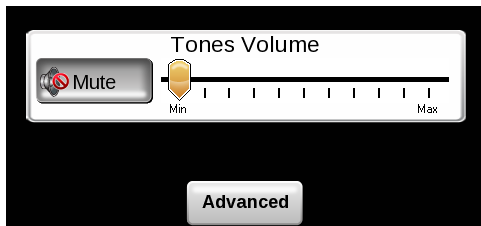
You can adjust the tones volume and access more volume controls using the **Volume** control.



To use the Volume control:

1. Press the **+** or **–** on the **Volume** control.

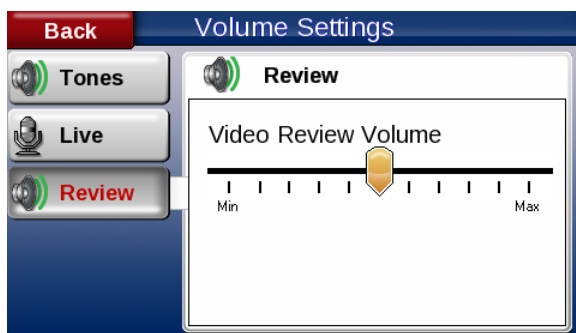
The **Tones Volume** screen appears.



2. Press the **+** or **–** to increase or decrease the **Tones Volume**.

Or drag the  control on the **Tones Volume** bar to increase or decrease the volume.

3. Touch **Advanced** to bring up the **Volume Settings** screen.



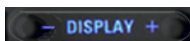
You can also access the **Tones Volume** and other audio using the **Main Menu Audio** button.

See *Audio* on [page 58](#)

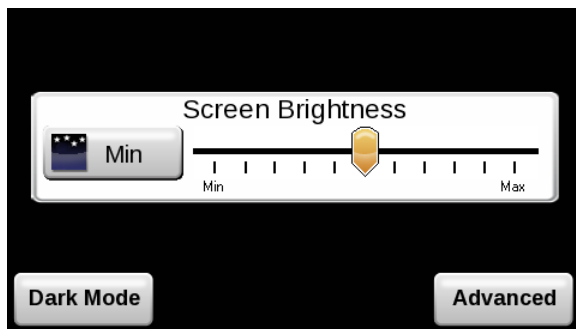
Display

You can adjust the screen brightness with the **Display** control on the control panel.

1. Touch the **+** or **-** on the **Display** control.



The **Screen Brightness** screen appears.



2. Adjust the brightness of the screen.

Press the **+** or **-** on the control to increase or decrease screen brightness or drag the  control on the screen.

3. Touch **Advanced** to access the **Display Settings** screen [page 60](#).

Dark Mode

Dark Mode makes the screen, front panel, and camera keypad fade to black. The screen remains in **Dark Mode** until you press a control or touch the screen. The system exits **Dark Mode** when any message box appears, such as notices or warnings.

Dark mode does not remain in effect if the system is rebooted.

All cameras continue to capture video even though the screen is black.

1. Press the **+** or **-** on the **Display** control.
2. Touch **Dark Mode** to make the screen go dark immediately.



Note: *Dark Mode is not the same as Covert mode [page 30](#).*

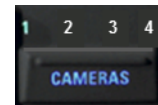
Dark screen with movement

If your configuration allows, the 4RE DVR goes dark when the vehicle starts to move. See your Evidence Library software documentation.

Cameras

You can review (or change, if configured) the state of the cameras connected to the 4RE system using the **Cameras** control.

The LED numbers above the **Cameras** control show which camera connections are active (the LED number is lit):



Front camera, high definition (HD)

This is Camera 1.

Cabin camera, standard definition (SD), or **Panoramic camera**, SD

If present, Camera **2** is the first SD camera in the 4RE system.

Rear camera, SD

If present, Camera **3** is the second SD camera in the 4RE system. Camera **3** is only present if the Camera **4** connection is not used.

Auxiliary (**Aux**) cameras, SD

If present, Camera **4** can be connected to between one and four auxiliary cameras.

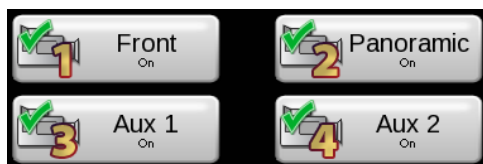


Note: *Each 4RE system can contain a maximum of six cameras.*

To see which cameras are connected to the system and their current state:

- Press the **Cameras** control

Buttons appear on the Display screen representing each camera. Each button shows the camera name and its state.



The available states depend on how the DVR is configured and what each camera supports. The possible states are:

On: The camera is active and recording to the hard drive (✓).

Off: The camera is inactive and NOT recording (✗).

Background: The camera is active and recording to the hard drive. You may have the option to include (or exclude, by default) while tagging an event [page 83](#). (✓).

If the 4RE DVR has been configured to allow it, you can change the state of a camera by touching the corresponding camera button.



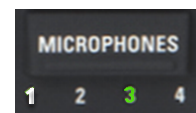
Important! The 4RE DVR requires that one camera always be active.

See *Adjusting your cameras* on [page 24](#)

Microphones

You can use the **Microphones** control to review or change the states of the microphones connected to the 4RE system.

Lit LED numbers below the **Microphones** control show which microphone connections are active in the system.



To see which microphones are connected to the system and their current state:

- Press the **Microphones** control

Buttons appear on the Display screen representing each microphone.



The available states for each microphone depend on how your 4RE DVR is configured. The possible states include:

Active: The microphone is recording to the hard drive (✓)

Inactive: The microphone is NOT recording to the hard drive (✗)

If your configuration allows access, you can change the state of a microphone by touching the button on the screen.



Note: *Motorola Solutions, Inc. recommends that you set microphone states in the configuration file.*

For more information ...

See *Pairing the wireless microphone with base* on [page 21](#)

See the *Motorola Solutions, Inc. Wireless Microphone User Guide*

4RE DVR System Peripherals

In this chapter ...

- Auto-start record settings ([page 90](#))
- Auto-stop record settings ([page 90](#))
- USB thumb drive ([page 91](#))
- Wireless Radio ([page 93](#))

Auto-start record

Auto-start record settings automatically start a recorded event when activated. Your agency can configure which settings start an event recording. Activating one or more of the following settings can start a recorded event:



Emergency lights



Emergency siren



Crash detection



Wireless microphone



Auxiliary input



Patrol vehicle reaches or exceeds a certain speed

When a **record-start** setting is activated, the corresponding icon appears on the control panel Display screen.

Auto-stop record

An **Auto-stop record** setting prompts you when all of the **auto-start record** settings have been inactive for a designated time period. If you are alerted you can stop the recording, if you have not already done so. The recording does not stop automatically.

If you set a **Maximum Recorded Event Time** in the EL 4RE configuration file, the recording stops then. Otherwise, the camera continues to record.



Note: The **Auto-stop record** settings only work when a recording was initiated by one of the **Auto-start record** settings.

For more information, see 4RE Recording Properties in the Evidence Library software documentation.

USB thumb drive



Important! To preserve your evidence you must remove your USB thumb drive safely ([page 36](#)).

The USB thumb drive functions primarily as a backup storage device for the hard drive. Motorola Solutions, Inc. Video provides a 16 GB USB thumb drive, but you can use any size thumb drive with the DVR. The DVR remains fully functional with no USB thumb drive.



On the front of the DVR is a locked door panel. When you unlock the door panel, a red arm extends outward holding the USB thumb drive. All DVR keys are identical.



Note: In-vehicle supervisors typically keep the key to the USB thumb drive compartment.



Using an optional USB thumb drive with the 4RE System provides the following benefits:

- Creates a backup copy of all recorded events, providing an extra level of security and minimizing the chance of losing important video evidence
- Directly delivers firmware and configuration upgrades if no wireless network is available
- Stores 4RE System Capture State (when user-initiated)

Multiple updates on one USB thumb drive

You can put multiple configuration and upgrade files on a single USB thumb drive. But, you cannot have recorded events on the same USB thumb drive.

To use the USB thumb drive to run multiple updates:

1. Remove the USB thumb drive in the DVR ([page 35](#)).



Warning! If you do not remove the USB thumb drive safely, you risk losing or corrupting evidence.

2. Insert the new USB thumb drive, with the upgrade and configuration files, to upload to the 4RE DVR.

The **USB Updates** screen appears prompting you to select the available updates.

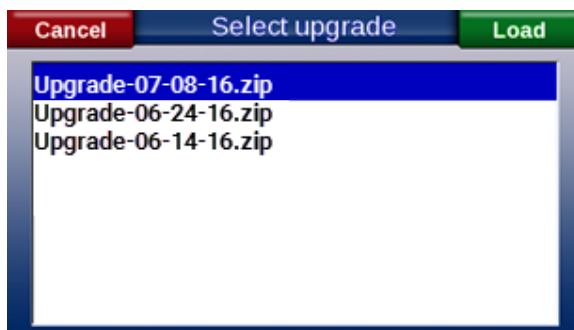
The system skips this step and goes ahead and runs the upgrade, if it only finds one file.



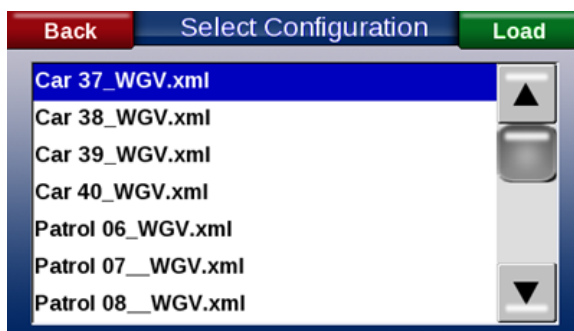
3. Select the update you want to perform.
4. Touch either **OK** or **Cancel**.

If you don't select anything and touch **OK**, that is the same as **Cancel**. If you touch **Cancel**, the USB thumb drive is unmounted and you can remove it.

- a. Touch **Upgrade** and the **Select upgrade** screen appears.



- b. Touch an upgrade file and touch **Load** or **Cancel**.
- c. Touch **Configuration** and the **Select Configuration** screen appears.



- d. Touch a configuration file and touch **Load** or **Cancel**.

Wireless radio

Motorola Solutions, Inc. 4RE DVR uses a wireless radio to upload your recorded events to the Evidence Library server. Because the radio has no power source, it draws power from 4RE DVR through one of three sources.

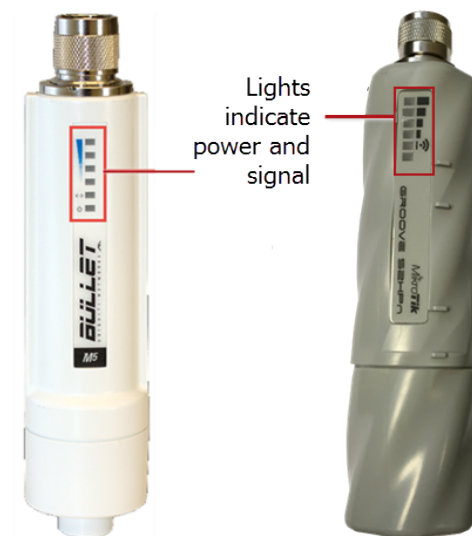
To get power to your radio, you need one of the following:

- POE adapter (WGA00383)
- GB Ethernet Switch (WGA00391)
- Smart Power Switch (WGA00574)

This switch is needed for group events.

If your recorded events are not uploading to your Evidence Library, ensure that your wireless radio has power. If that is not the problem, contact Customer Service.

See the 4RE Installation Guide for more information about the battery and switches.



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Working as 4RE DVR Administrator

In this chapter . . .

- Setting up and maintaining a 4RE DVR system ([page 96](#))
- Understanding Passwords ([page 97](#))
- Deploying a configuration ([page 98](#))
- Updating 4RE software ([page 98](#))
- Configuring a DVR with the USB thumb drive ([page 100](#))
- Verifying configuration settings ([page 102](#))
- Verifying 4RE DVR network information ([page 103](#))
- Formatting the USB thumb drive ([page 104](#))
- Deleting an event from the 4RE DVR ([page 105](#))
- Re-Exporting a recorded event ([page 106](#))
- Performing Maintenance ([page 108](#))

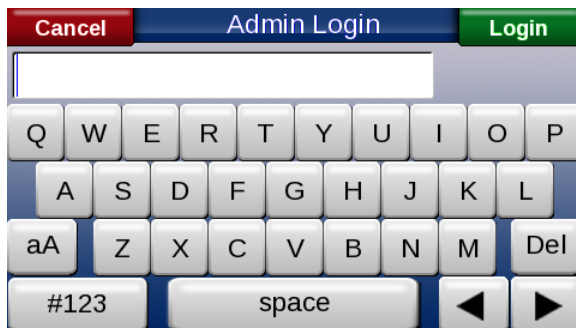
Overview: setting up and maintaining a 4RE DVR system

As Administrator, you may set up the 4RE DVR configuration in the Evidence Library software. You can assign supervisors to deploy the configuration to the 4RE DVR. You can also be responsible for maintaining the system. Some of your tasks would include:

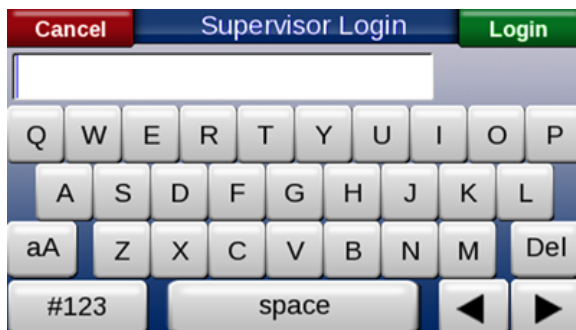
- Controlling who has access passwords ([page 97](#))
- Deploying the configuration file to the DVR ([page 98](#))
- Performing maintenance ([page 108](#))
- Keeping the software up-to-date ([page 98](#))
- Deleting an event from Evidence Library ([page 105](#))

Some functions on the DVR are beyond the scope and use of normal users. Permission to access administrative functions requires a password. As an administrator, you can assign supervisor passwords to users for some functions.

The **Admin Login** screen appears for any administrative function that requires an admin password.



The **Supervisor Login** screen appears for any function that requires a supervisor password, assigned by an admin.



See the Evidence Library software documentation for information about setting up a 4RE DVR system. The Administrator creates the Officer Lists in the Evidence Library software.

Officer Lists

The maximum number of officers is limited by the programmable storage on the 4RE. Typically more than a thousand officers can be supported.

Tip: *The number of officers you can store in the Officer List depends on multiple factors, including:*



- The length of officers' names
- The number of Event Tags

When you reach the limit, try removing the titles of officers or creating configuration groups, such as Patrol East, Patrol West, and Traffic.

Also, adding a large list of officers can affect performance with the QuickConnect Mobile App. It may take longer to load.

Understanding passwords

Typically, administrative functions require a password. The 4RE DVR uses two types of passwords:

- Administrator
- Supervisor

Administrator password

The 4RE DVR uses *only one* administrator password. This password comes from the factory with the default value **ABCDE1**. Change this password when you log into the Evidence Library software the first time. This password provides *full access* to all 4RE DVR features, including:

- Assigning supervisor passwords
- Maintenance ([page 108](#))
- Adjusting network settings ([page 103](#))



Warning! *After changing your administrator password, keep it private and secure. Do not lose your administrator password.*

Supervisor password

As an administrator, you can assign a supervisor password to one or more users. You set the password in your Evidence Library software. With this password, users can access mid-level DVR features like:

- Modify date/time ([page 62](#))
- Modify radar type ([page 62](#))
- Setting camera auto-zoom ([page 62](#))
- Modify crash sensitivity ([page 62](#))
- Verify 4RE DVR network information ([page 103](#))
- Install the 4RE configuration file

See your Evidence Library software documentation.

Deploying a configuration

Deploy a 4RE configuration manually or automatically. Always deploy manually in the following situations:

- First time a configuration is loaded on a 4RE DVR
- Your agency does NOT use a wireless network to connect to its fleet of 4RE DVRs

In all other situations, you deploy a 4RE configuration automatically through your wireless network, if available. Anyone with a supervisor password can deploy the 4RE configuration. For instructions about how to deploy a 4RE configuration manually, See *Configuring a DVR with the USB thumb drive* on [page 100](#)

Updating 4RE firmware

As new hardware and software features are developed, you may need to update your systems. Motorola Solutions, Inc. Customer Service can tell you the latest software version available.



Note: *Motorola Solutions, Inc. recommends that you maintain the same level of firmware across your 4RE fleet.*

You can update the 4RE system in two ways, depending on your agency setup:

- Install the updates wirelessly
- Install the updates with the USB thumb drive

Anyone with a Supervisor password can update the software.

Updating wirelessly

Updates can be stored in Evidence Library and then transferred to the 4RE DVR as a unit comes into wireless range. This update takes place automatically if the Evidence Library software is set up to push the updates out to the vehicle 4RE DVRs. The officer needs to do nothing and the update takes effect the next time the unit is rebooted. When successfully updated, the system displays a message at start-up that it has been upgraded to a new version.

See your Evidence Library software documentation for instructions about automatically installing a 4RE DVR software update.

Updating with USB thumb drive

Use the USB thumb drive to install 4RE DVR updates directly. To update the DVR firmware using the USB thumb drive:

1. Remove the existing USB thumb drive from the DVR.
See *Removing the USB thumb drive using the STOP control* on [page 36](#).
2. Insert the USB thumb drive containing the firmware update into the USB port. After about 10 seconds, a message is displayed asking if you want to update your system.
3. Touch **Yes** to upgrade the system or **No** to cancel the upgrade.
4. Touch **OK** when the message: *It is now safe to remove the USB thumb drive* is displayed on the screen.
5. Remove the USB thumb drive.

While the firmware update continues, you can re-insert the original USB thumb drive.

The system automatically reboots the 4RE DVR after the upgrade and informs you that it has been successfully upgraded.

See *Multiple updates on one USB thumb drive* on [page 91](#)

Upgrades to 4RE DVR and VISTA WiFi

In-car systems that include both a 4RE DVR and the VISTA WiFi can deliver upgrades to the DVR and the VISTA Camera. The Smart POE Switch (SPS) and the VISTA Wi-Fi base provide the structure for the upgrades.

Upgrades for the DVR are still delivered with the USB thumb drive or from the Evidence Library server. Upgrades to the VISTA Wi-Fi base and the SPS are delivered through the VISTA Camera from the Evidence Library server using the Wi-Fi base.

After the VISTA Camera is docked in the Base, the upgrades are transferred to the Base. The upgrades take about five minutes. The 4RE **Status > System** screen provides the status of the upgrades. This screen shows the software version for both products.



Letter	Stands for	Description
S	Staging	Upgrade package is being installed
P	Pending	Upgrade package was installed successfully and can be rebooted to apply the upgrade

If 4RE reboots during Staging, the upgrade needs to be reapplied

If 4RE reboots during Pending, the upgrade is applied safely.

Reboot your system after the upgrade. Or if you left the WiFi base docked overnight or for longer than 5 minutes, the system reboots itself when it turns back on.

See the *VISTA HD Wearable Camera User Guide* for instructions on how to update the software for these products.

Configuring a DVR with the USB thumb drive

As an administrator, you configure the 4RE DVR System using your Evidence Library. This configuration step lets the 4RE DVR and Evidence Library communicate with each other.



Important! The first deployment of the configuration must be done manually with the USB thumb drive on each 4RE DVR.

You create a configuration file and load it onto the 4RE DVR. The configuration file delivers key information to the 4RE DVR.

For information about how to provision a 4RE System, see your Evidence Library documentation.

Deploy a configuration manually



Important! Use one USB thumb drive for importing recorded events from the 4RE DVR and a separate USB thumb drive for configuring and updating the 4RE DVR.

To deploy a configuration manually to the DVR using the USB thumb drive:

1. Use a USB thumb drive with the configuration file or files on it.

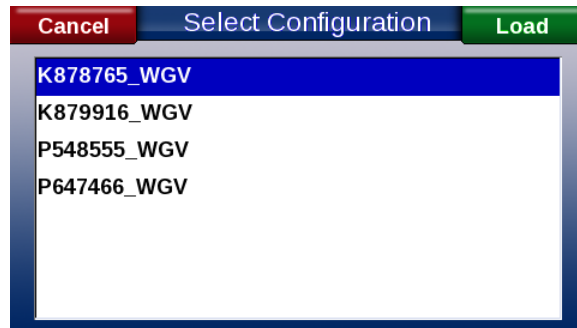
The deployment USB thumb drive can have multiple configuration files, upgrade files, and scripts on it. But, the USB thumb drive *cannot* have recorded events on it.

See the Evidence Library software documentation for information about how to deploy your software.

2. Go to a vehicle and power on the 4RE DVR.

3. Eject the USB thumb drive already in 4RE. See *Removing the USB thumb drive using the STOP control* on [page 36](#).
4. Plug the USB thumb drive containing the configuration file into the 4RE DVR.

The **Select Configuration** screen appears on the DVR Display screen.

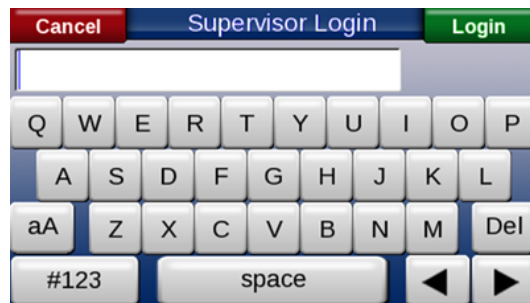


5. Select the configuration file you want to deploy, then touch **Load**.



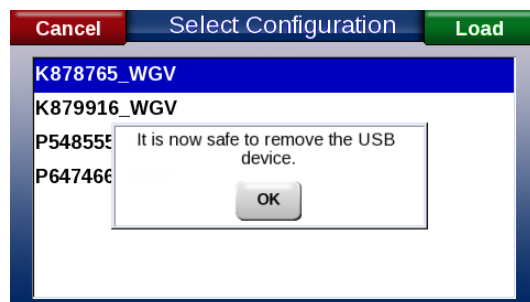
Tip: Each configuration listed on the **Selected Configuration** screen corresponds to a specific 4RE DVR listed in your Evidence Library software. Select the configuration file appropriate to the vehicle DVR you are working on.

The **Supervisor Login** screen appears.



6. Enter supervisor password, then touch **Login**.

The **It is now safe...** message appears.



7. Touch **OK** and remove the USB thumb drive containing the configuration file from the DVR.



Note: If a message appears on the DVR Display screen instructing you to reboot the DVR, touch **OK**, then **AFTER** removing the configuration file USB thumb drive, power the 4RE DVR off, wait 10 seconds, then power it back on.

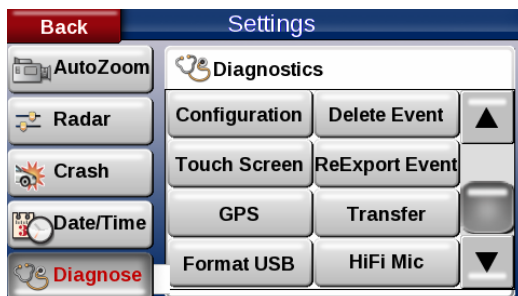
9. Replace the USB thumb drive containing recordings in the 4RE DVR.

Verifying configuration settings

Access the configuration settings on the **Diagnostics** screen. You can check to see that all the settings are as you intended.

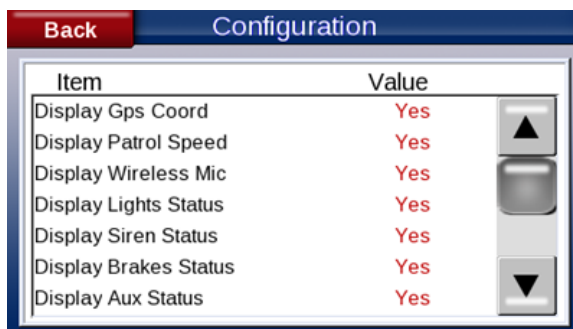
To verify the 4RE DVR configuration settings:

1. Press **Menu**.
2. Touch **Settings** on the **Main Menu** screen.
3. Touch the **Diagnose** button.



4. Touch the **Configuration** button.

On the **Configuration** screen you verify that the settings are what you specified in your Evidence Library software configuration file.



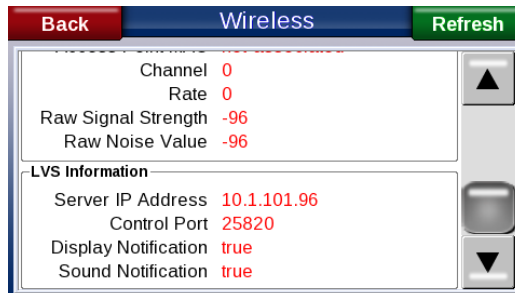
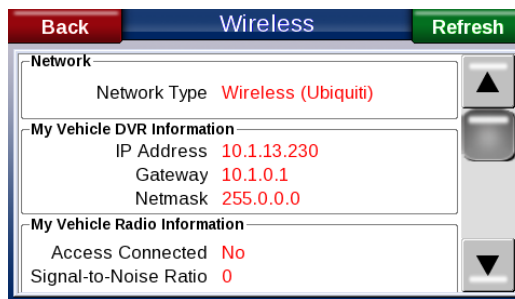
See the Evidence Library software documentation for a list of all the settings.

Verifying 4RE DVR network information

Access the network information through the **Diagnostics** screen.

To access the network:

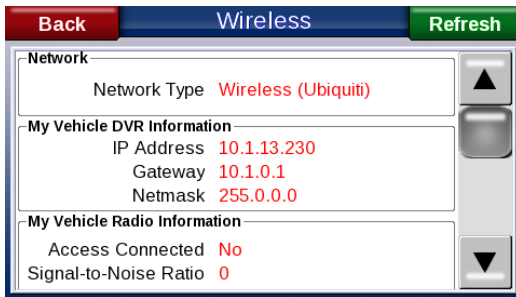
1. Press **Menu**.
2. Touch **Settings** on the **Main Menu** screen.
3. Touch the **Diagnose** button.
4. Touch the **Wireless** button to view your network information.



Motorola Solutions, Inc. Customer Service may ask you for this information when troubleshooting the network.

Wired connection

If you do not have a wireless connection, the following screen appears.



The screenshot shows a web-based interface for the 4RE DVR Administrator. At the top, there are three buttons: 'Back' (red), 'Wireless' (blue), and 'Refresh' (green). Below these buttons, the interface is divided into three sections: 'Network', 'My Vehicle DVR Information', and 'My Vehicle Radio Information'. The 'Network' section shows 'Network Type' as 'Wireless (Ubiquiti)'. The 'My Vehicle DVR Information' section shows 'IP Address' as '10.1.13.230', 'Gateway' as '10.1.0.1', and 'Netmask' as '255.0.0.0'. The 'My Vehicle Radio Information' section shows 'Access Connected' as 'No' and 'Signal-to-Noise Ratio' as '0'. On the right side of the interface, there are two vertical scroll bars.

The IP Address is the address of your 4RE DVR.

Formatting the USB thumb drive

You should only reformat the USB thumb drive when working with Motorola Solutions, Inc. Customer Service.



Warning! When you format the USB thumb drive, you lose the recorded events on the USB thumb drive.

When the USB thumb drive is reinserted, 4RE searches to see if the recorded events were uploaded to the Evidence Library software. Since everything on the USB thumb drive was erased in reformatting, 4RE rewrites the events to the USB thumb drive. You should upload the recorded events before reformatting.

To format the USB thumb drive:

1. Press **Menu**.
2. Touch the **Settings** button on the **Main Menu** Screen.
3. Touch the **Diagnose** button.
4. Touch the **Format USB** button.
5. Follow the instructions on the screen as they appear.

Deleting an event from the 4RE DVR

Deleting an event from the 4RE DVR requires an administrator password.

To delete an event:

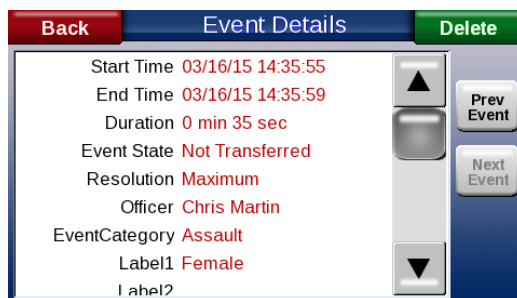
1. Press **Menu**.
2. Touch **Settings** on the **Main Menu** screen.
3. Touch the **Diagnose** button.
4. Touch the **Delete Event** button.
5. Enter the administrator password and touch **Login**.

The **Recordings** screen appears. These are recorded events on the DVR.



6. Touch the recorded event you want to delete and touch **Details**.

The **Event Details** screen appears.



Note: *Prev Event* shows events that were recorded before this event.
Next Event shows events that have been recorded since this event.

7. Touch **Back** to return to the **Recordings** screen.
8. Touch **Delete** to delete the event on the screen from the DVR hard drive.

A confirmation message appears.



9. Touch **Yes** to delete the event or **No** to remain on the **Event Details** screen.

The video of this event is not deleted from the hard drive. The *event* designation is deleted from the video on the DVR. This provides unprotected space on the DVR. 4RE DVR no longer treats the video as part of an event. The video is still there and you can recreate the event using **Record After the Fact (RATF)**.



Important! *Until the video is overwritten on the DVR, you can recreate it using **RATF** (page 31).*

Re-exporting a recorded event

ReExport lets you copy an event from the 4RE DVR to the USB thumb drive. You might have to re-export, for example, if your USB thumb drive is damaged or lost or you need a separate copy for someone.

To copy an event from the 4RE DVR to the USB thumb drive:

1. Touch **Menu**.
 2. Touch **Settings** on the **Main Menu** screen.
 3. Touch the **Diagnose** button.
 4. Touch the **ReExport Event** button.
- Requires an administrator password.
5. Sign in with the required administrator password.

The **Recordings** screen appears listing all of the event recordings on the 4RE DVR.



6. Select the event you want to re-export.

7. Touch the **Details** button.

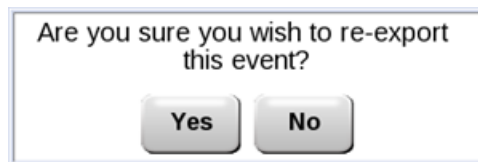
The **Event Details** screen appears.



Note: *Prev Event* shows events that were recorded before this event.
Next Event shows events that have been recorded since this event.

8. Verify this is the event you want to re-export.
9. Touch **ReExport**.

The following message screen appears.



10. Touch **Yes** to re-export or **No** to return to the **Event Details** screen.

Performing maintenance

If you need to perform certain maintenance procedures on your 4RE system, you can access the 4RE **Maintenance Mode**. This mode is only accessible with an administrator password. The boot progress bar appears right after you power on the DVR. Maintenance mode is the first item in the progress bar. You only have 5 seconds to access **Maintenance Mode**.

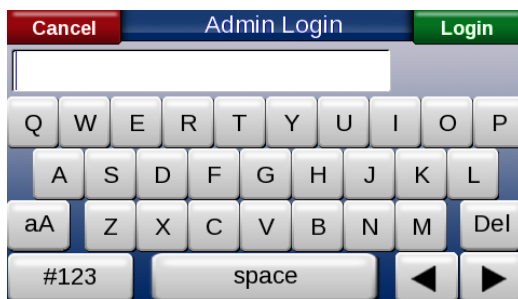


Caution: Only use this feature if you are instructed to by Motorola Solutions, Inc. Customer Service.

To access the 4RE **Maintenance Menu**:

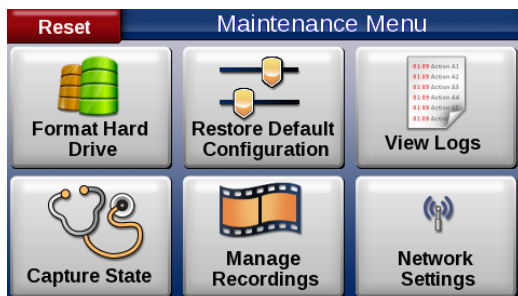
1. Press **Power** on the control panel.
2. Press **Stop** on the control panel when you see the boot progress bar that says **Checking for Maintenance Mode...**

The **Admin Login** screen appears.



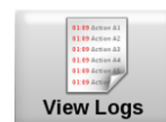
3. Enter your administrator password and touch **Login**.

The **Maintenance Menu** appears.



View logs

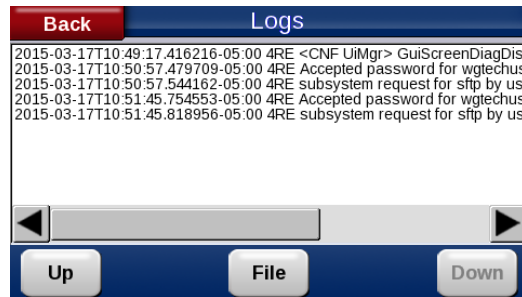
This option is used by Motorola Solutions, Inc. Customer Service to debug your system or troubleshoot system issues. You can also access the Logs screen from **Main Menu > Settings > Diagnose > View Logs**. See *View Logs* on [page 72](#)



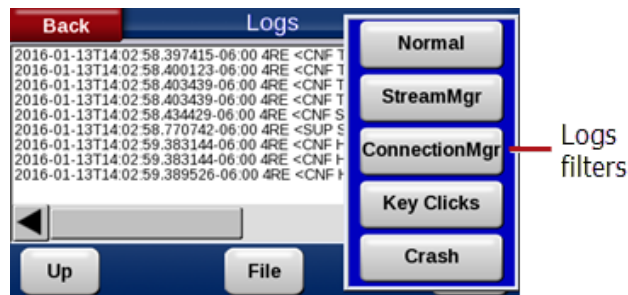
To access the system logs:

1. Touch **View Logs** on the **Maintenance Menu** screen.

The **Logs** screen appears.



2. Use the **Up** and **Down** buttons to view the log files.



3. Touch the **File** button to bring up the filters.
4. Select a filter and the log files for that filter appear.
5. Touch **Back** to return to the **Maintenance Menu** screen.

Capture state

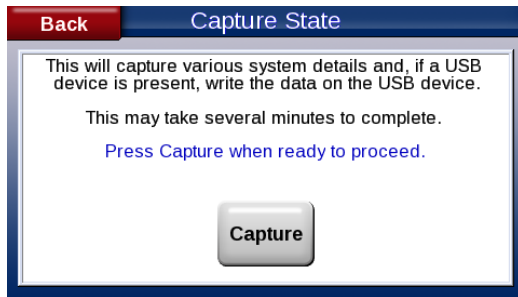
Capture State information can help Motorola Solutions, Inc. Customer Service troubleshoot system issues. This option captures system information and writes it to the USB thumb drive. You may need to send Customer Service a copy of the file this option generates. You can also access the Capture State screen from **Main Menu > Settings > Diagnose > Capture State** ([page 68](#)).



To generate a **Capture State** file, follow these steps:

1. Touch **Capture State** on the **Maintenance Menu** screen.

The Capture State screen appears.



2. Touch **Capture** to copy the file to a USB thumb drive or **Back** to return to the **Maintenance Menu** screen.

The system creates a wgv\state folder with the log files listed under the state folder in a zip file. Motorola Solutions, Inc. Customer Service may ask you to send the USB thumb drive or send the zip file electronically.



Note: You can also pull a Capture State file from **Settings > Diagnostics > Capture State** ([page 68](#)).

Manage Recordings

Manage Recordings lets you **Reset Recordings** and **Copy all Video to USB**.



Reset Recordings

Reset Recordings removes event descriptions without removing the video from the hard drive. If you want to recreate an event, use **RATF** [page 58](#).

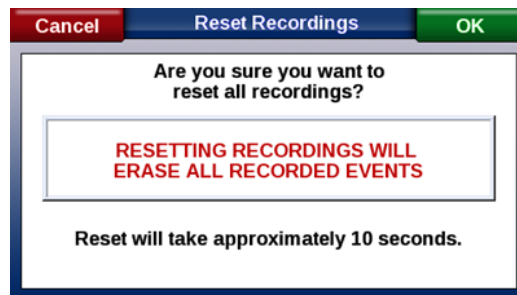
Typically you remove event recordings from the device that do not need to be transferred to Evidence Library software. No video is removed from the device.



To remove event descriptions from the system:

1. Touch **Reset Recordings** on the **Maintenance Menu** screen.

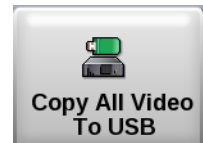
The **Reset Recordings** screen appears.



2. Touch **OK** to proceed or **Cancel** to return to the **Maintenance Menu** screen.

Copy All Video to USB

Copy All Video to USB lets you copy raw video that is on the DVR hard drive to a USB thumb drive. The copy does not remove all the videos on the hard drive. To do that you need to Format the disk after you have done a **Copy All Video to USB**.



1. Insert a blank USB thumb drive into the 4RE DVR.

Ensure that the USB thumb drive is blank and that it is large enough to hold everything that is on the 4RE DVR.

To determine what size USB thumb drive to use, See *Status* on [page 51](#)

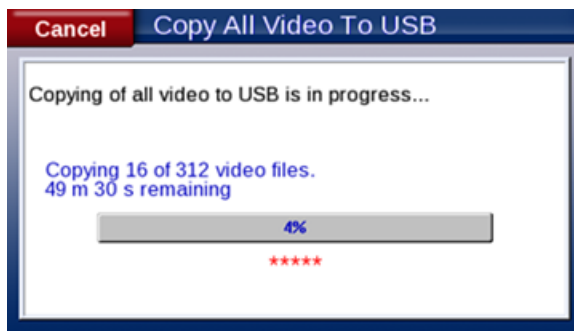
2. Select the **Copy All Video to USB** button.

Copying all the video takes a while. The following screen appears:



- Click **OK** to start the copy or **Cancel** to return to the **Manage Recordings** screen.

The following screen appears that provides the status and gives you the approximate time needed for the copy. This time will change as the copy proceeds.



If the system doesn't recognize the USB thumb drive:

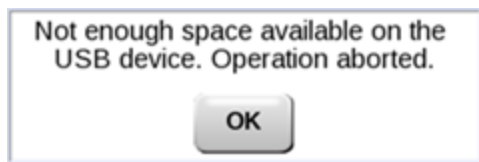
Try a new USB thumb drive.

- Click Cancel to stop the recording at any time.

To restart the copy and use the same USB thumb drive, you will have to delete everything on the USB drive.

The following screens can appear:

If the USB thumb drive does not have enough space:



If the system doesn't recognize the USB thumb drive:



If all the files are copied, the following screen appears:



- Click OK and then remove the USB thumb drive.

The system reboots itself after you click OK and remove the USB thumb drive.



Note: Remember, there is only a copy. All of the videos are still on the 4RE DVR. You must **Format** [page 104](#) the hard drive to remove all of the videos.

Network settings

This option lets you adjust the **Network Settings** of the 4RE DVR. Typically, the most common setting to be reset is the IP address on DVRs that are used in Interview Room mode. Other settings you can edit include Netmask and Gateway.



If you need to adjust any settings, contact Motorola Solutions, Inc. Customer Service.



Warning! Do not set the 4RE DVR IP address to 192.168.1.X. The 4RE system will not boot when set to this address and the system will have to be returned to Motorola Solutions, Inc..

See *Verifying 4RE DVR network information* on [page 103](#)

Format hard drive

Check with Motorola Solutions, Inc. Customer Service before you consider formatting the hard drive [page 113](#).

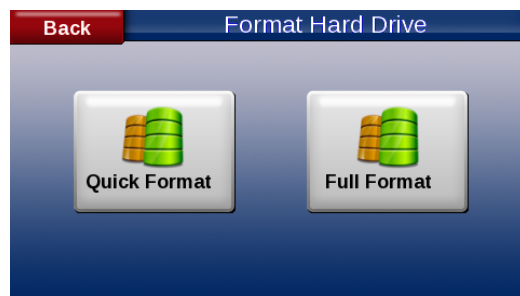


Warning! Formatting the hard drive erases all data from the hard drive. Formatting does not erase the configuration data.

To format the hard drive:

1. Touch **Format Hard Drive** on the **Maintenance Menu** screen.

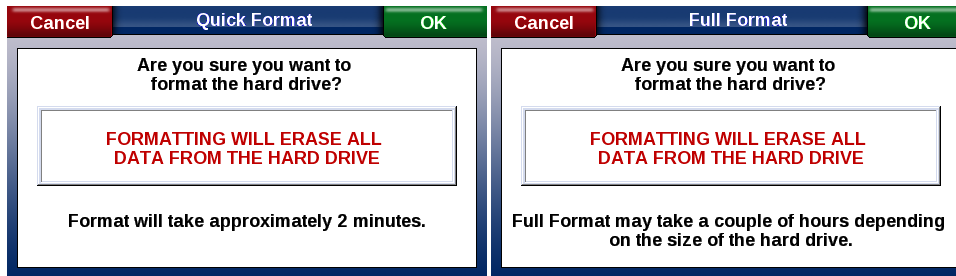
The **Format Hard Drive** screen appears.



Touching the **Back** button returns you to the **Maintenance Menu** screen.

2. Choose the Quick or Full Format button.

Depending on which button you choose, a message appears.



The Full Format is checking the media for bad blocks. Doing this can take up to 1 hour per 100 Gb of hard drive data. The Quick Format does not check for bad blocks and the hard drive can eventually return an error 26 causing you to have to format the hard drive again.

3. Touch **OK** to reformat the hard drive or **Cancel** to return to the **Format Hard Drive** screen.



Warning! If you have questions about this step, contact Motorola Solutions, Inc. Customer Service.

4. Touch **OK** on the **Completed** message box to return to the **Maintenance Menu** screen.
5. Touch the **Reset** button to reboot the DVR.
6. Redeploy your 4RE DVR configuration file to the DVR.

See *Configuring a DVR with the USB thumb drive* on [page 100](#).

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