

Safe Fleet

SFV9-HD DVR Monitor



Installation and Setup Guide

Contents

Introduction	4
Specifications	4
Kit Contents	5
Included Components	5
Hardware and Its Functions	6
Installation Instructions	10
Installing the Mounting Bracket	10
Making Connections	11
Recommended Camera Locations and Settings	13
Residential Front-Load (Curotto-Can)	13
Commercial Front-Load	13
Roll-off and Rear-Load	14
Residential Side-Load	14
System Configuration	15
System Menu Hierarchy	15
Accessing the System Configuration Menus	15
Setting Date/Time and Operating Language	17
Setting Video Parameters	18
Specifying Record Settings	21
Specifying Alarm Settings	23
Specifying Camera Settings	25
Specifying Monitor Display Settings	26
Specifying Vehicle Information	28
Specifying G-Sensor Settings	29
Specifying Power Management Settings	30

User Management	32
System Information, Disk and File Management	34
System Info	34
File Backup	35
Restore Default	36
Encode Overview	36
Format	37
Adjusting On-Screen Display Settings	38
Updating the Firmware	39
Playing Back Videos	41
Viewing Videos Directly on SFV9-HD DVR Monitor	41
Accessing Video Playback Control Panel	44
Viewing Videos on Windows PC	46
Troubleshooting	47
LED Signals	47
Startup and Runtime	47
Touch Screen and Cameras	48
Service & Support	49
Documentation and Warranty	49
Technical Support	49

Introduction

This document introduces the SFV9-HD six-channel DVR monitor and provides instructions for its installation and system configuration.

The SFV9-HD DVR monitor:

- Supports up to 6 HD cameras for simultaneous display and recording.
- Contains a built-in G sensor.
- Supports an external GPS receiver.
- Supports up to 2 SD cards with maximum capacity of 256 GB each.



Specifications

Item	Description
Panel size	9" LED digital panel
Resolution	1280 x 720 x 3 (RGB)
Brightness	450 cd/m ²
Contrast ratio	500:1
Display format	16:9
Video inputs	6CH
Power input	DC 9-36 V / Automatic Power On/Off by ACC
Operating temperature	-4°F ~ +140°F (-20°C ~ +60°C)
Storage temperature	-22°F ~ +185°F (-30°C ~ +85°C)
Weight	1lb 5 1/8 oz (600 g)
Trigger inputs	6CH
External dimensions (not including the mounting bracket)	L 9.45" x W 6.46" x D 3.27" (L 240 mm x W 164 mm x D 83 mm)

DVR monitor parameter		Description
System	Main processor	RV1126
	Operating system	Embedded Linux OS
	Operating language	Chinese, English (default), French, Russian
	Operating interface	Touch screen
	Password security	User password/Admin password
Audio and video	Image resolution (recorded video)	720P / 1080P
	Camera configurations	<ul style="list-style-type: none"> Up to 6 (six) 720P AHD video inputs -OR- A mix of up to 2 (two) 720P AHD and up to 4 (four) 1080P AHD video inputs.
	Frame rate	<ul style="list-style-type: none"> Up to 30 FPS for 720P Up to 25 FPS for 1080P
	Audio compression	G.711U
	Audio recording	Audio and video synchronized recording
Interface	Camera inputs	6 GX12 4-pin socket connectors
	Storage	<ul style="list-style-type: none"> Up to 2 SDXC Class 10 SD card (maximum capacity 256 GB each) 2 keys are included for the SD card door lock
	USB interface	1 USB 2.0 (support U disk/download); USB Type A connector
	Ignition input	1 ACC signal

i NOTE: Audio features

Audio only applies to local live view and local playback. Audio for playback of exported clips is not supported.

Kit Contents

Included Components

Component	Part number
SFV9-HD DVR monitor (includes a mounting bracket and one 128 GB SD card pre-inserted)	080-5501
GPS receiver with a 59" (1.5 m) cable, magnetic base, and adhesive tape	080-5440
Camera harness	060-5424
Power and trigger harness	060-5422

Hardware and Its Functions

Front Panel



Controls and Indicators



BUTTON	FUNCTION
CH1/2/3	Cycles through camera channels 01, 02 and 03 one by one in full screen.
CH4/5/6	Cycles through camera channels 04, 05 and 06 one by one in full screen.
2-split screen	Cycles through camera channels 01 and 02; 03 and 04; 05 and 06; 03 and 02; 02 and 04.
4-split screen	Cycles through camera channels 01, 02, 03 and 04; 03, 04, 05 and 06.
6-split screen	Displays all six camera channels.

Right Side

USB port is located on the right side.



Bottom Panel Connectors



GPS Receiver

Safe Fleet P/N 080-5440



Camera Connection Harness

Safe Fleet P/N 060-5424

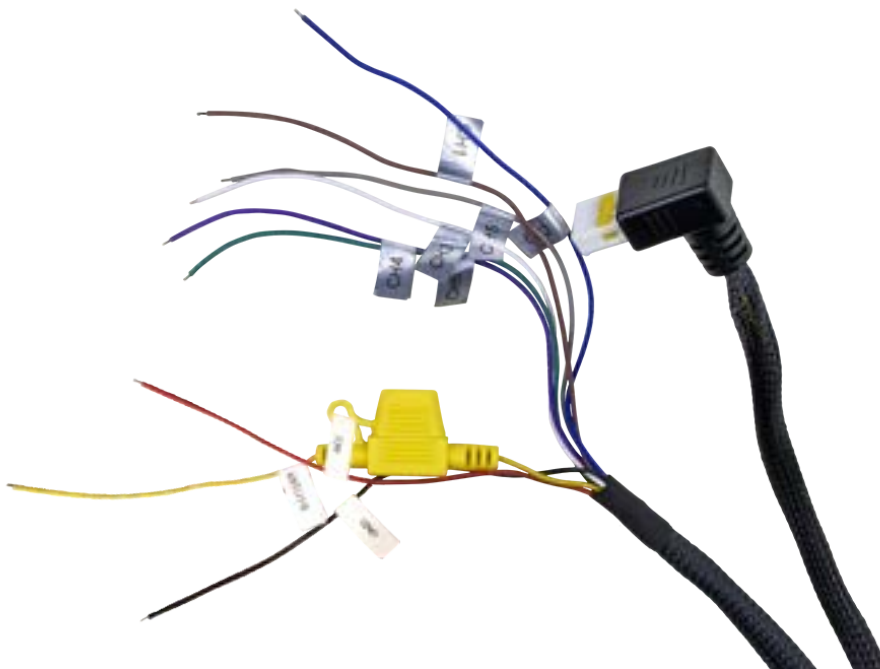


ⓘ CAUTION: Camera harness compatibility

AHD 720P & AHD 1080P cameras require a special Analog High Definition (AHD) camera harness. These camera harnesses can be identified by a blue band present in front of the connectors on both ends of the camera harness. Failure to use these types of camera harnesses may result in degraded video performance.

Power and Trigger Harness

Safe Fleet P/N 060-5422



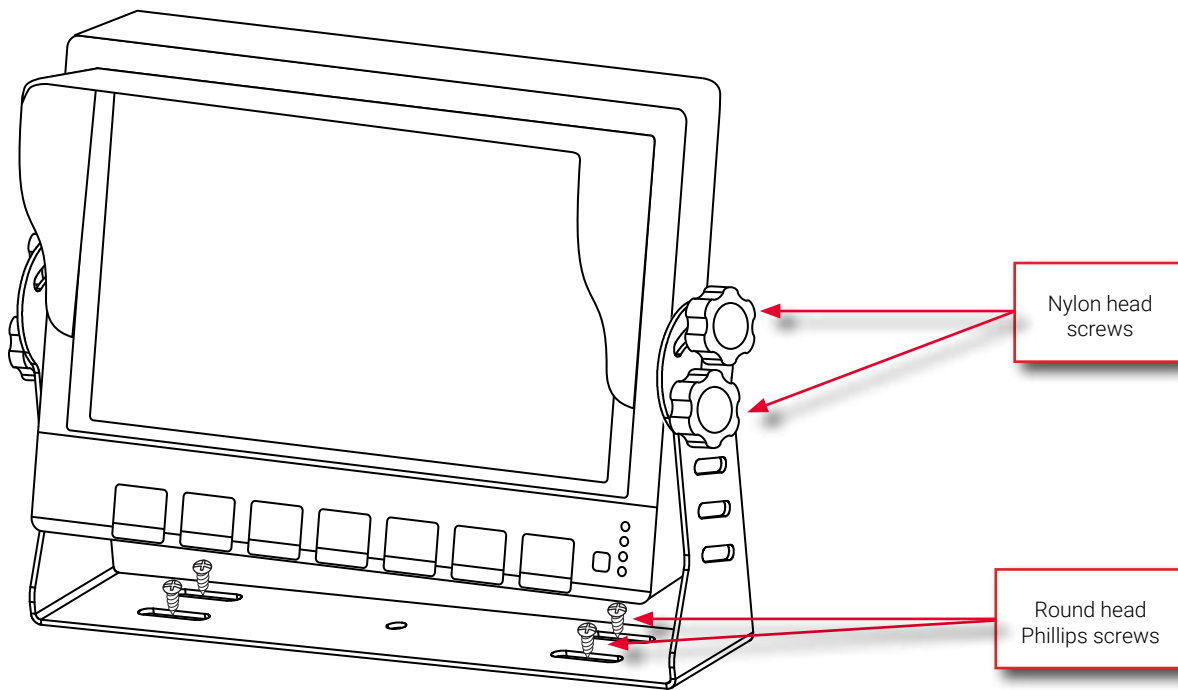
Trigger Functions

Trigger	Wire color	Function when trigger is activated	Delay when trigger is off
CH1	Brown	Display Channel 1 camera.	None
CH2	Blue	Display split screen : Channel 3 camera on left and Channel 2 camera on right.	None
CH3	White	Display Channel 3 camera.	5 seconds
CH4	Purple	Display Channel 4 camera.	5 seconds
CH5	Grey	Display Channel 5 camera.	None
CH6	Green	Display Channel 6 camera.	None

Installation Instructions

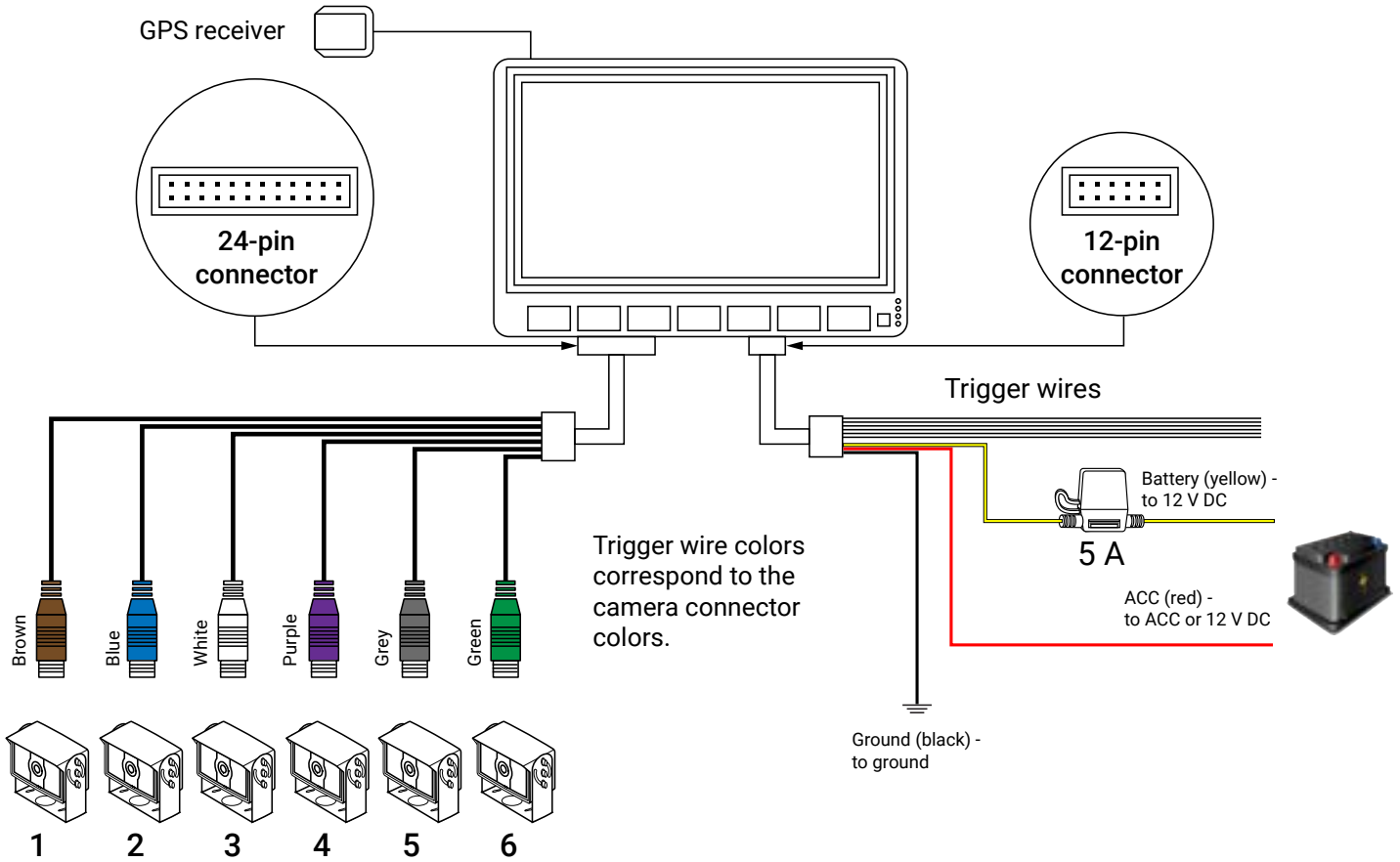
Installing the Mounting Bracket

1. Choose a suitable location for the DVR monitor.
2. Install the mounting bracket in a preferred location on the vehicle's dashboard using the provided round head Phillips screws.
3. Secure the monitor on the mounting bracket with the provided nylon head screws.



Making Connections

Wiring Diagram




Connecting Cameras

Connect up to 6 cameras to the SFV9-HD using the camera harness and camera connectors **CH1** through **CH6**.

NOTE: Camera channels

Channels 2, 3, and 4 are special purpose cameras. To ensure full functionality, assign these channels appropriately, as defined in the legend in the table on the following page.

CAMERA TRIGGER SIGNALS (DIGITAL INPUTS) LEGEND	
Channel	Camera Purpose
1, 5, 6	General purpose cameras.

2	<p>Reverse. Color guides are superimposed on the back-up view.</p> 
3	<p>Left turn signal. Delayed cancellation of image display/record.</p>
4	<p>Right turn signal. Delayed cancellation of image display/record.</p>

Connecting Trigger Wires

See the **Power and Trigger Harness** section for functionality of all triggers.

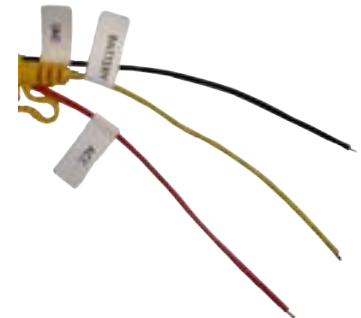
Trigger wires must be connected to the vehicle's outputs.

Ensure that cameras with special associated trigger signals (i.e., Reverse, Left Turn, Right Turn) are connected to the output terminals receiving the appropriate vehicle input signals to the terminal block.

Connecting Power

There are three wires in the power harness that control how the DVR monitor boots up:

- **Yellow** – Battery
- **Red** – ACC or Battery
- **Black** – Ground



If it is required that the monitor stay on even when the ignition is off, the red wire can be connected to the same tap point as the yellow wire.

It is recommended that the 12 V tap is after the battery disconnect. (i.e., turning the battery disconnect off eliminates 12 V to the mobile platform; turning the battery disconnect on reapplies 12 V). Other names for the battery disconnect are night switch and kill switch.

⚠ CAUTION: Do not connect to ignition!

The 12 V yellow power wire should not be connected to the vehicle's ignition key switch.

Connecting GPS Receiver

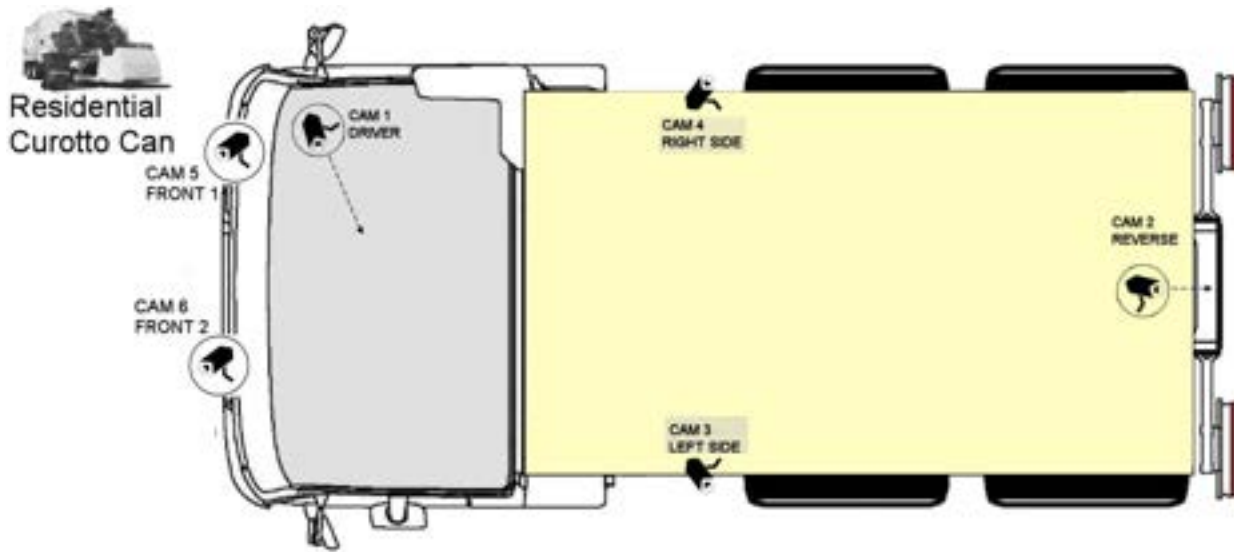
Screw the GPS connector onto the antenna port on the back of the DVR monitor, then position the receiver on the dashboard and secure it using the double-sided adhesive tape on its back. Make sure the receiver is not obstructed and has a good view of the sky.

Recommended Camera Locations and Settings

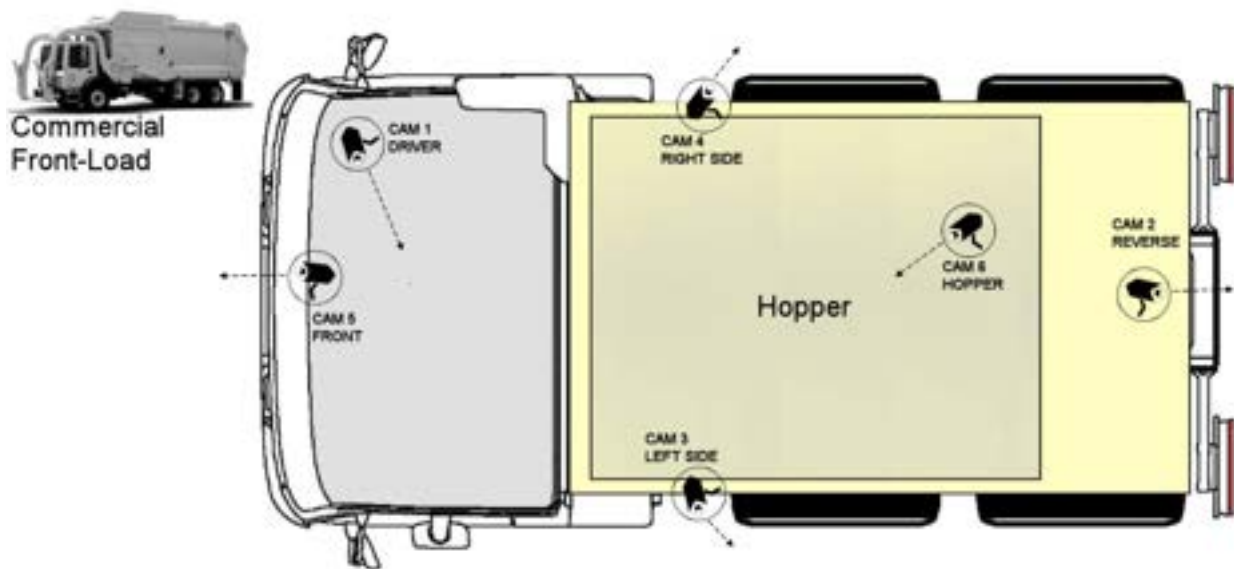
Optimal camera configuration will ultimately depend on customer preference and the requirements involved for the various types of waste collection. As a guideline, Safe Fleet proposes the following configurations based on actual installations performed by our installation team.

The configurations presented here are “minimal” configurations, i.e., not all 6 cameras need be used in each scenario. You can use as many cameras as you deem appropriate for your particular application.

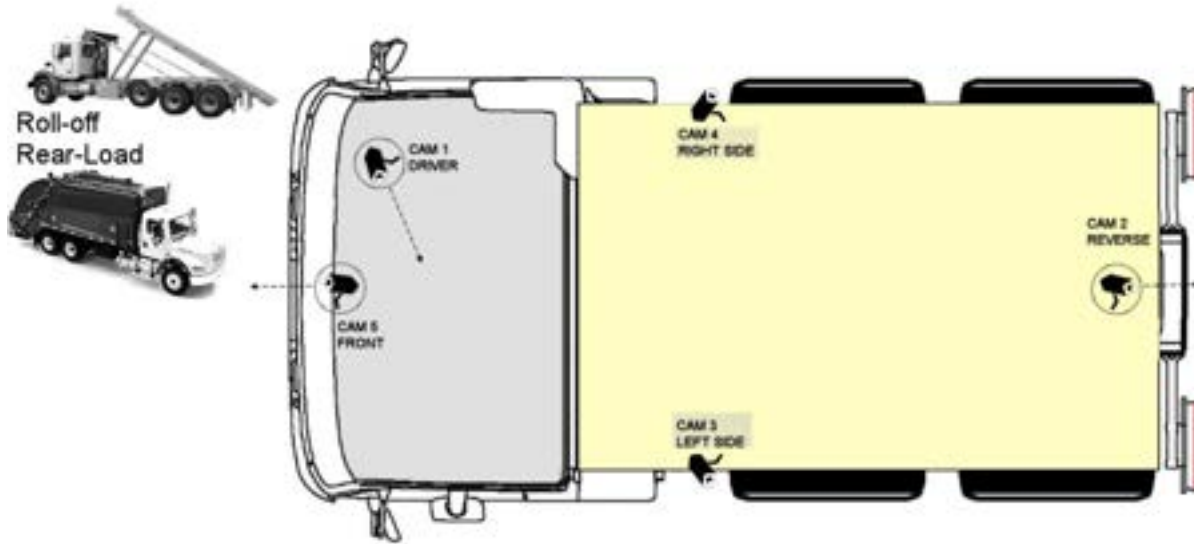
Residential Front-Load (Curotto-Can)



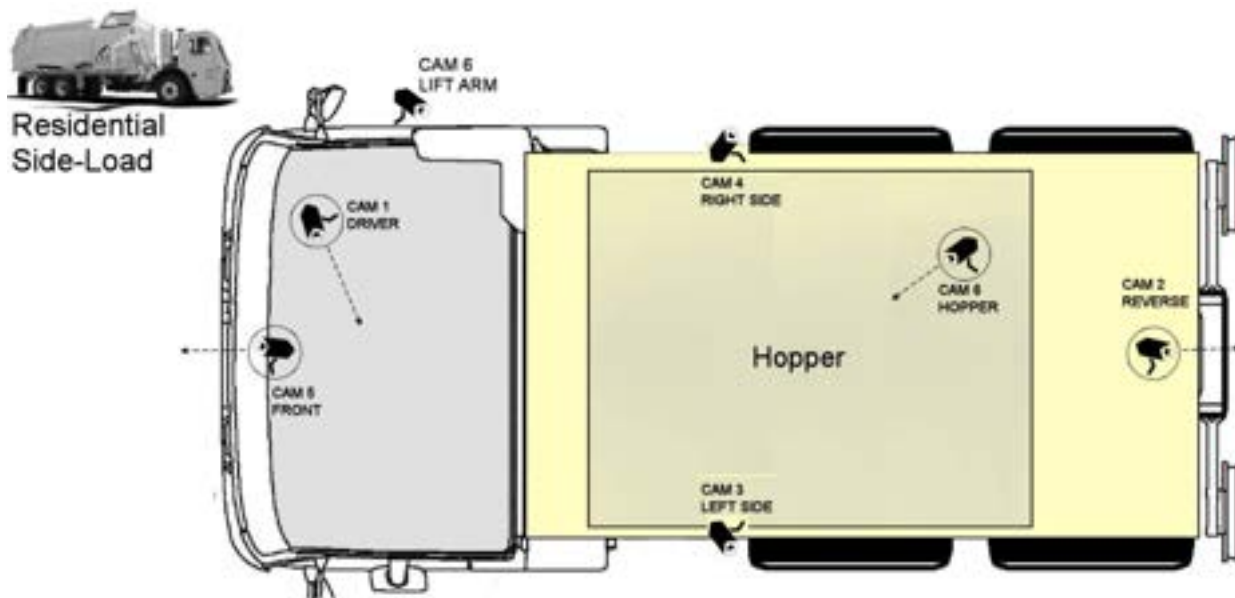
Commercial Front-Load



Roll-off and Rear-Load

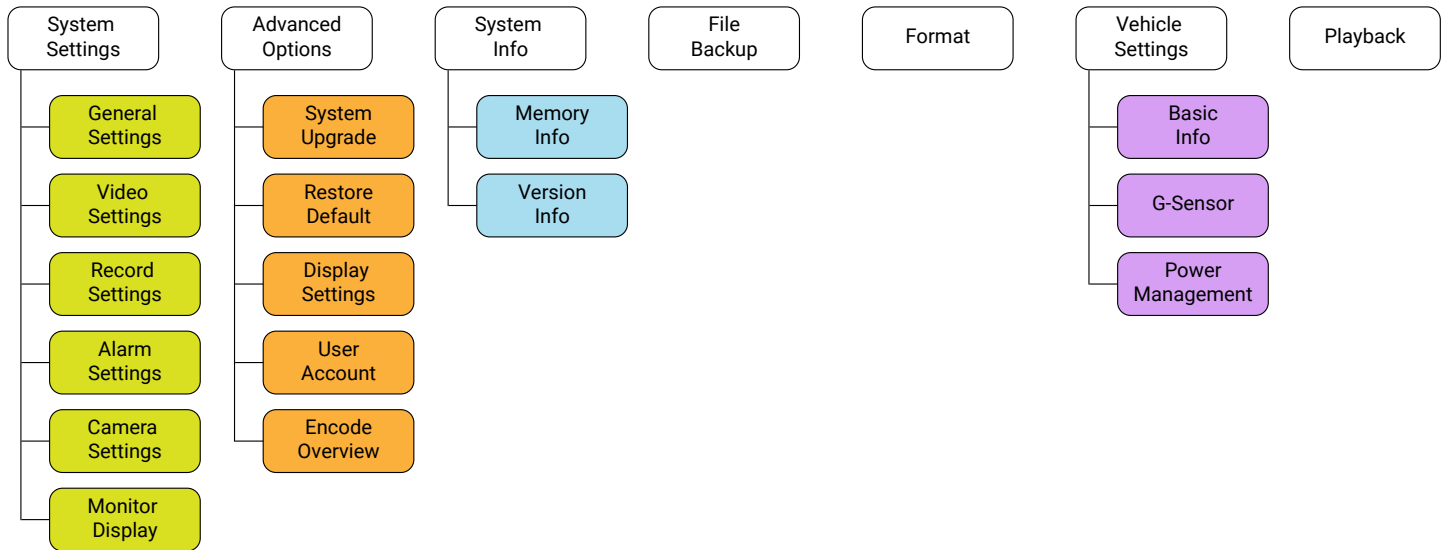


Residential Side-Load



System Configuration

System Menu Hierarchy



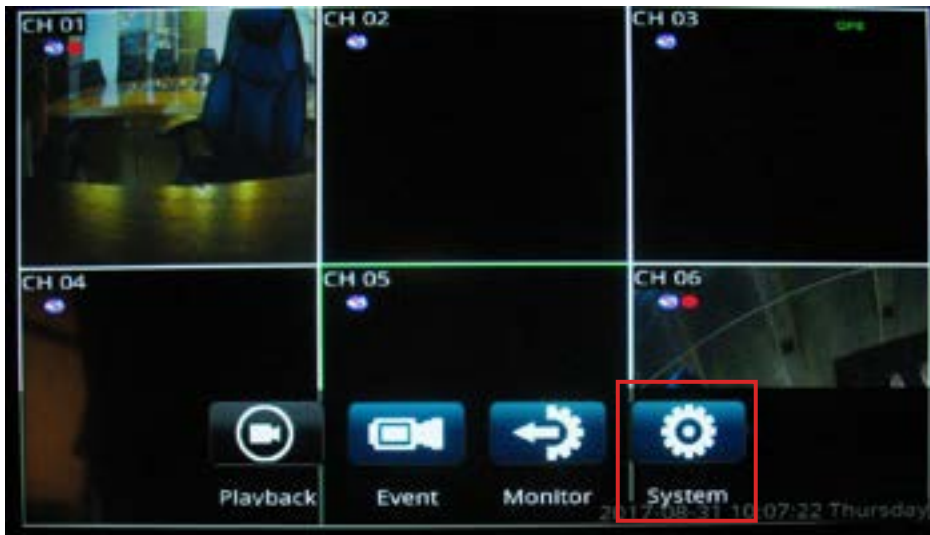
Accessing the System Configuration Menus

In order to set up system configuration parameters, you must use the system menus.

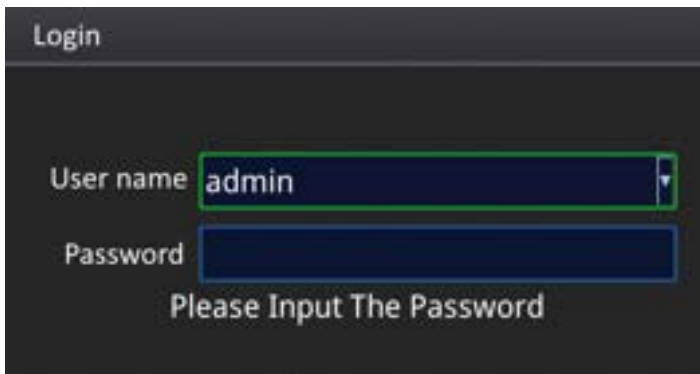
1. Touch and hold the lower area of the screen to display the control panel.



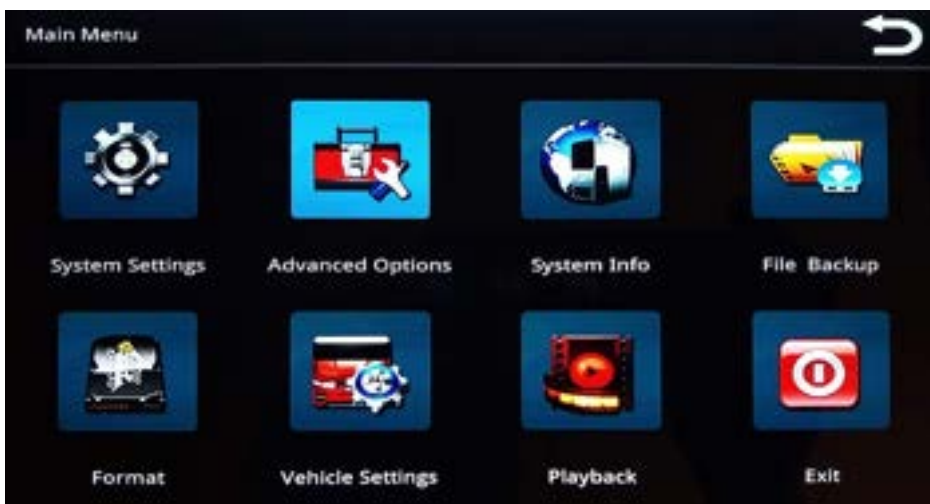
2. Press **System**.



3. Use the **admin** user name and, if required, enter the password.
For first-time access, the default password **456789** is defined. You can change the password later using the **User Accounts** menu.



The **Main Menu** is displayed.



Setting Date/Time and Operating Language

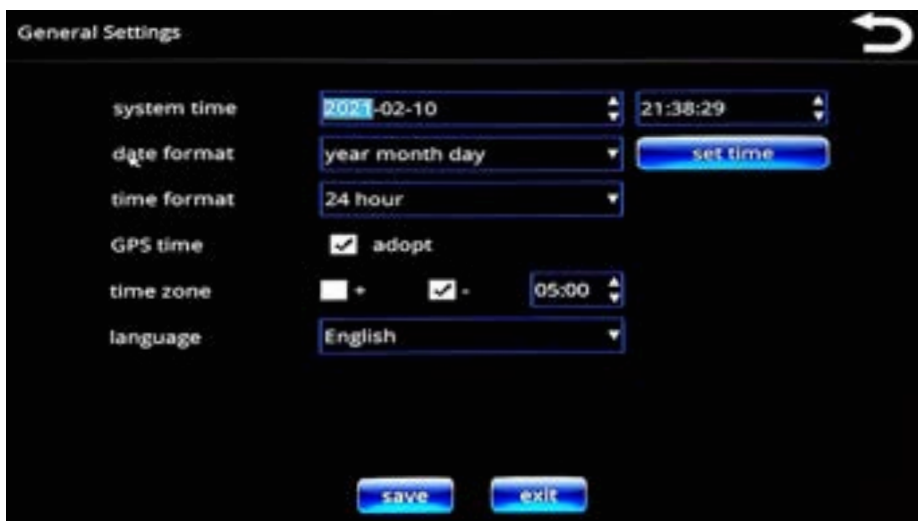
1. From the main menu press **System Settings**.

The **System Settings** menu is displayed.



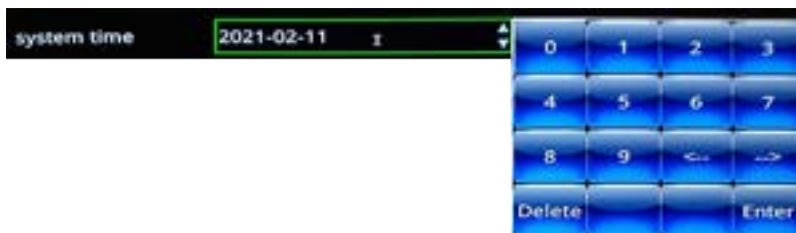
2. Select **General Settings**.

The **General Settings** menu enables you to set date and time parameters and choose an operating language.



3. You can set the date and time manually or automatically.

- To set date and time manually:
 - i. Touch their respective fields to display the numeric keypad.



- ii. Use the keypad to specify new values; use the arrow keys to move the cursor position forward and backward.
- iii. Press **Enter** when done.

- To set date and time automatically using UTC time (Coordinated Universal Time, formerly Greenwich Mean Time, or GMT) reported by the GPS:
 - Select the **GPS time adopt** checkbox.



The time on the SFV9-HD DVR monitor will be coordinated with UTC time.

- To display local time for your current time zone, you must use the plus or minus checkboxes and the hours/minutes numeric menu to specify the deviation from UTC.



For example: USA Eastern time is either UTC -5 or UTC -4, depending whether DST is in effect.

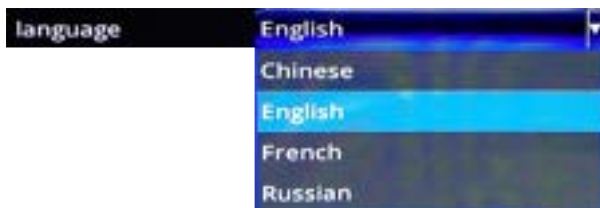
- Select a date format.



- Select a time format.



- Select a language.



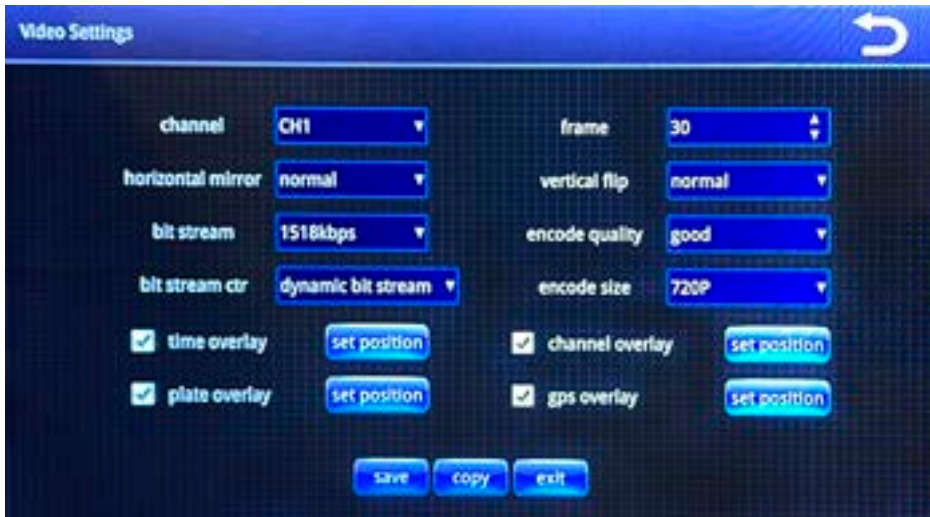
- To save your changes, press **save**, or, to leave this screen without saving, press **exit**.

Setting Video Parameters

- From the **System Settings** menu, select **Video Settings**.

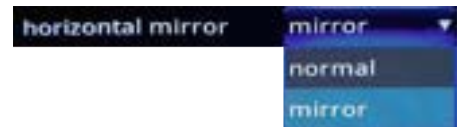


The **Video Settings** menu enables you to specify video properties for each of the six channels, which are selectable from the **channel** drop-down list.



After you select a channel from the list, you can apply properties for that channel as described in the following steps.

- 2. Select the frame rate: this is the number of frames per second (FPS). Generally, the higher the FPS, the smoother the motion appears.
- 3. Select a view option from the horizontal mirror drop-down list (normal or mirror).
- 4. Select the desired option from the vertical flip drop-down list (normal or flip).



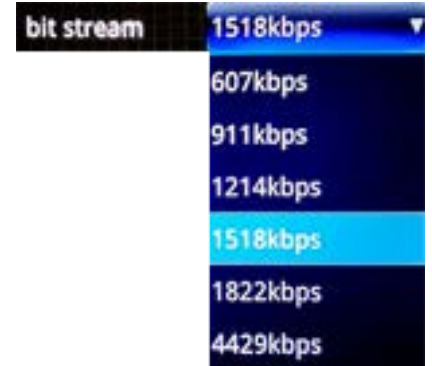
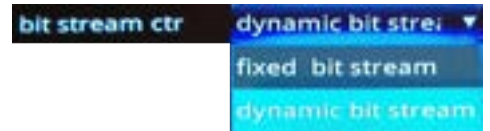
NOTE: Horizontal mirror and vertical flip settings

These settings become effective after a reboot and apply only to live view. A normal image will be displayed during video playback.

- 5. Select the video encoding quality.
- 6. Set the video encoding size, which determines the level of video compression.



7. Select the type of bit stream, either fixed or dynamic, according to your requirements. Dynamic can be used to adapt to changing network conditions in order to provide playback with fewer stalls and/or re-buffering.
8. Set the bit stream rate.



9. Set overlay positions. SFV9-HD provides 4 overlays for video that can be turned on or off and repositioned on the screen:

- time
- channel
- (license) plate
- GPS



- a. Use the checkboxes to turn the overlays on or off.
- b. To reposition the overlays on the display:
 - i. Press **set position**. The screen refreshes, showing a preview image.
 - ii. Touch a new position on the screen. The overlay moves to the new position.




- iii. Press the back button to return to the **Video Settings** screen.



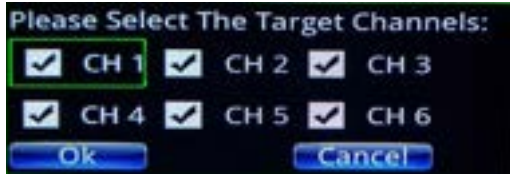
10. Once you have finished specifying all settings, press **save**, or, to leave this screen without saving, press **exit**.

Copying Your Video Settings to Other Channels

To copy your settings from one channel to one or more of the other ones:

1. Press the **Copy** button. 

A dialog is displayed prompting you for target channel(s).



2. Select your target channels, and then press **Ok**.

Specifying Record Settings

1. From the **System Settings** menu, select **Record Settings**.



The **Record Settings** menu enables you to set recording properties for each of the six channels, which are selectable from the **channel** drop-down list.



After you select a channel from the list, you can apply properties for that channel as described in the following steps.

- 2. With loop recording, the video files are stored on the memory card, with the newest video continuously replacing the oldest video.

Select **Yes** or **No** from the **loop recording** drop-down list.



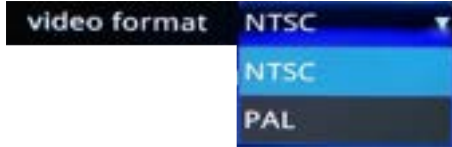
- 3. Select a **loop length** (in minutes) for each video segment.



- 4. Select a video format, **NTSC** or **PAL**.

- NTSC is the most commonly used video system or standard used in North America and most of South America
- PAL is common in Europe and parts of Asia.

Select the standard appropriate to your regional or technical requirements.



- 5. Select one of the following checkboxes: **stop rec**, **manual rec**, or **auto rec**.



- **Stop rec** stops all recording. **Stop rec** allows to configure periods of time when the recording should not be active.
- **Manual rec** sets manual mode recording. In this mode you can set up to 4 schedules daily.
- **Auto rec** sets automatic mode recording. In this mode, recording is on at all times.

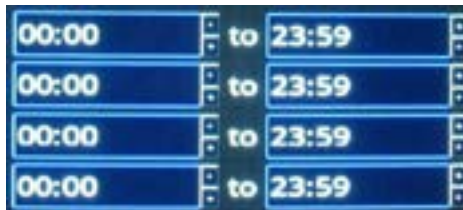
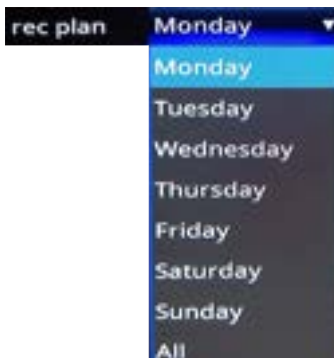
- 6. Select a recording plan.

NOTE: Manual recording

For manual recording only. This option is not available for auto recording.

The recording plan defines a schedule for manual mode recording.


Use the day-of-the-week menu below in conjunction with the hourly schedule menus to define up to 4 different schedules per day.



- 7. Once you have finished specifying all settings, press **save**, or, to leave this screen without saving, press **exit**.

Copying Your Record Settings to Other Channels

To copy your settings from one channel to one or more of the other ones:

1. Press the **Copy** button. 

A dialog is displayed prompting you for target channel(s).



2. Select your target channels, and then press **Ok**.

Specifying Alarm Settings

1. From the **System Settings** menu, select **Alarm Setting**.



The **Alarm Control** menu that is displayed, enables you to set alarm properties for each of the six trigger channels, which are selectable from the **alarm input** drop-down list.



After you select a channel from the list, you can apply properties for that channel as described in the following steps.

2. Select/deselect the **Enable Status** checkbox to enable and disable alarms.



3. Alarm triggers can be either high voltage (high level) or GROUND (low level). Select the desired option from the **dev type** drop-down list.



4. Select **alarm delay** (seconds).



Alarm delay is the length of time the alarm channel is displayed in full-screen mode and with a recorder.

5. Select the **rec channel** checkboxes as needed to specify which channels are going to record when an alarm occurs on the specified input channel.



6. Select **periods of time** for alarm settings to be active.



7. Specify **alarm output**.




Both options can be selected. I/O output can be used, for example, to send a signal to an additional device such as a beeper.

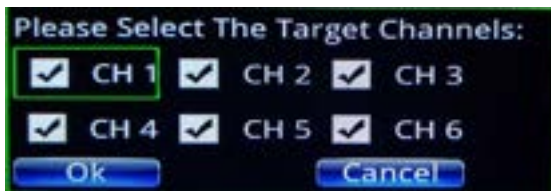
NOTE: Alarm settings applicability

Alarm settings do not apply to the automatic recording mode. If you want to record alarm events, you must select the **manual rec** checkbox on the **Record Settings** menu, as described in step 5 of the **Specifying Record Settings** section.

Copying Your Alarm Settings to Other Channels

To copy your settings from one channel to one or more of the other ones:

1. Press the **Copy** button.  A dialog is displayed prompting you for target channel(s).



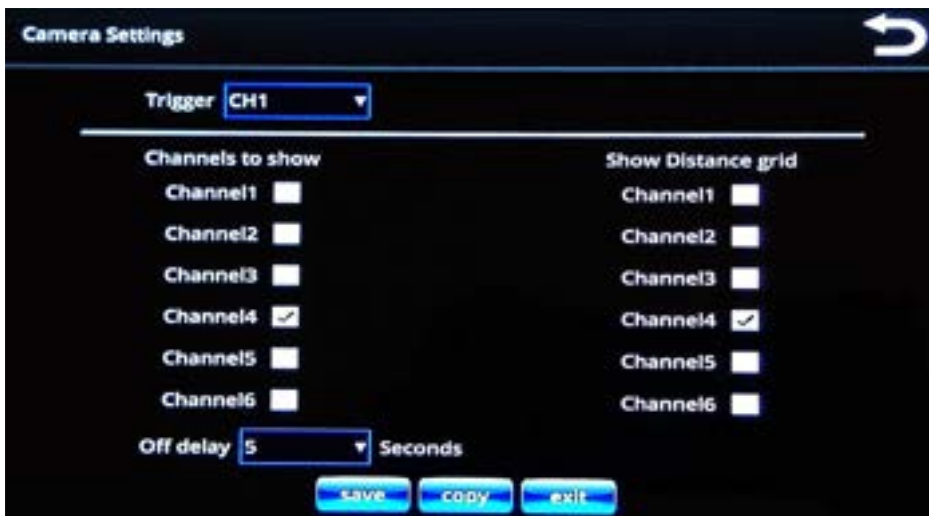
2. Select your target channels, and then press **Ok**.

Specifying Camera Settings

1. From the **System Settings** menu, select **Camera Settings**.



The **Camera Settings** menu enables you to define, on a per-trigger basis, which camera channels are shown, along with the option to display a distance grid on the image.



After you select a trigger channel from the **Trigger** drop-down list, you can apply properties for that trigger's display, as described in the following steps.

2. **Channels to show:** use the checkboxes to enable and disable display for the channels.
3. **Show Distance grid:** use the checkboxes to specify whether a distance grid should be overlaid on the channel's display.



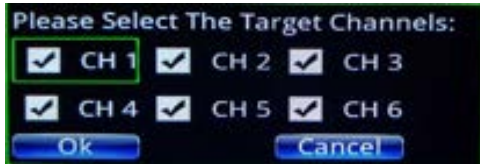
4. **Off delay:** use the drop-down menu to choose a delay (in seconds) before turning off the channel displays.

Copying Your Camera Settings to Other Channels

To copy your settings from one channel to one or more of the other ones:

1. Press the **Copy** button. 

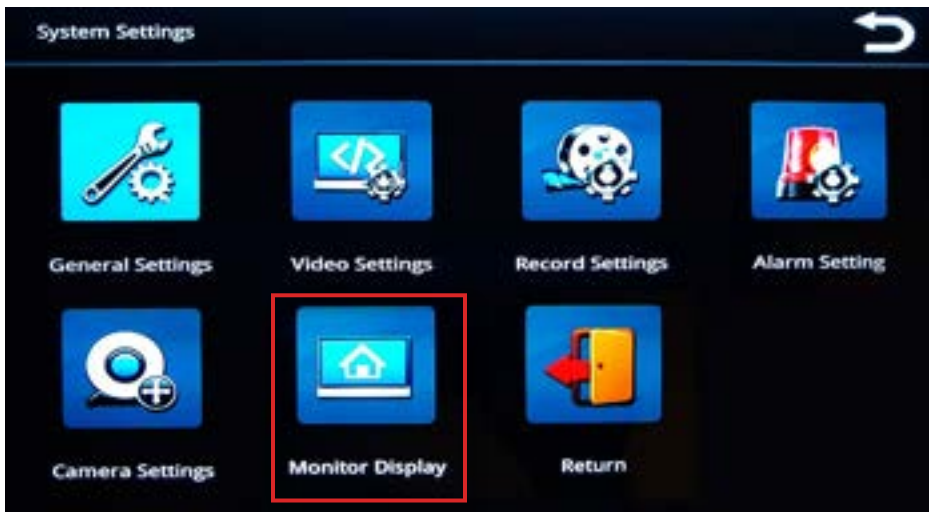
A dialog is displayed prompting you for target channel(s).



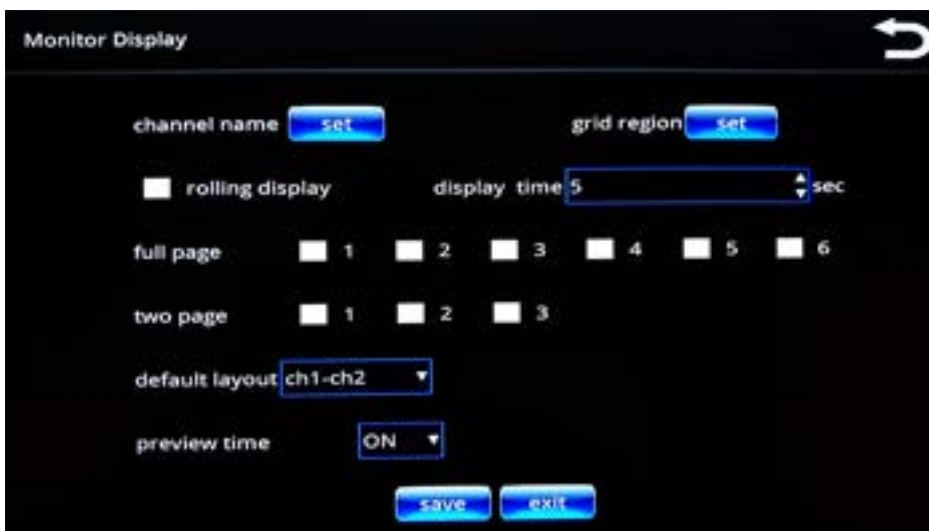
2. Select your target channels, and then press **Ok**.

Specifying Monitor Display Settings

1. From the **System Settings** menu, select **Monitor Display**.



The **Monitor Display** screen enables you to specify the format for displaying the images from the system's six camera channels.



- 2. **Channel name:** press the **set** button to display a window with names of the channels.



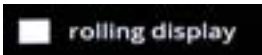
Press the desired channel to display an on-screen keyboard, then specify a name for each camera channel (for example, "Rearcam" instead of the default "CH02") and press **Save**, or, to leave this window without saving, press **Exit**.



- 3. **Grid region:** press the **set** button to display a grid overlay screen where you can specify the distance grid for each camera channel. To do so, press and drag a circle to the desired position. To exit the grid screen, press the return button on the monitor.



- 4. **Rolling display:** selecting this checkbox cycles the display automatically among all the selected channels for the interval specified in Display time below.



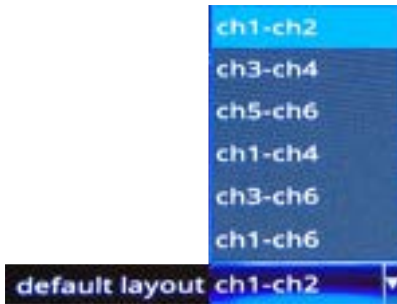
- 5. **Display time:** controls how long each channel is displayed.



- 6. **Full page/two page:** specifies selected channels display in a full-screen or two-up fashion.



- 7. **Default layout:** select from available options to specify the default camera channel layout that will be displayed when your SFV9-HD is powered on.



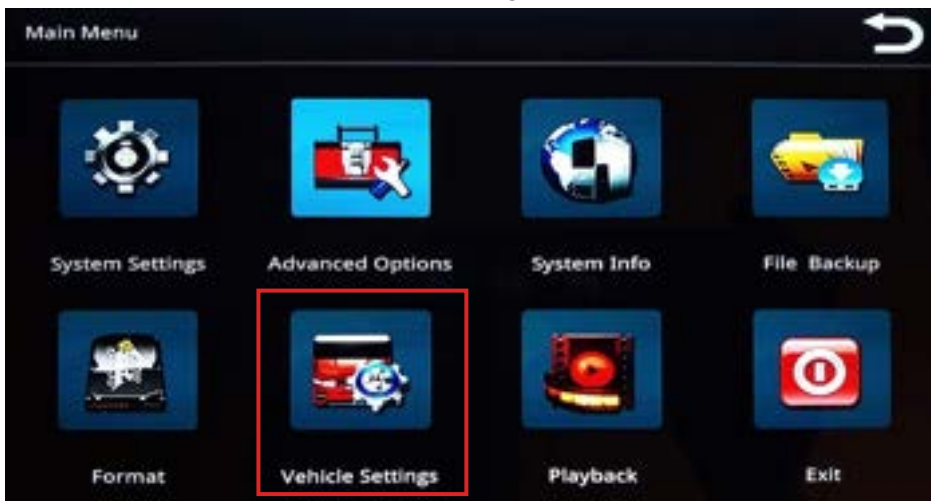
8. **Preview time:** select on or off.



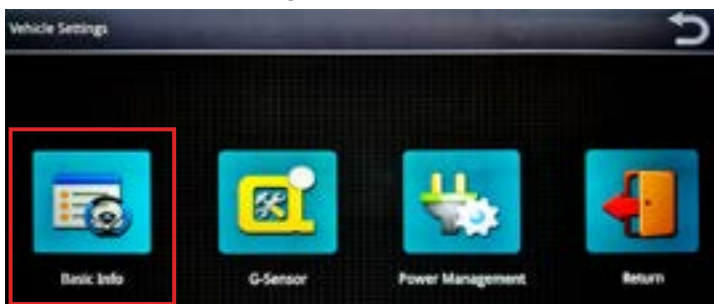
Specifying Vehicle Information

Specifying vehicle and driver information is useful for data collection and for keeping records.

1. From the **Main Menu**, select **Vehicle Settings**.



2. From the **Vehicle Settings** menu, select **Basic Info**.



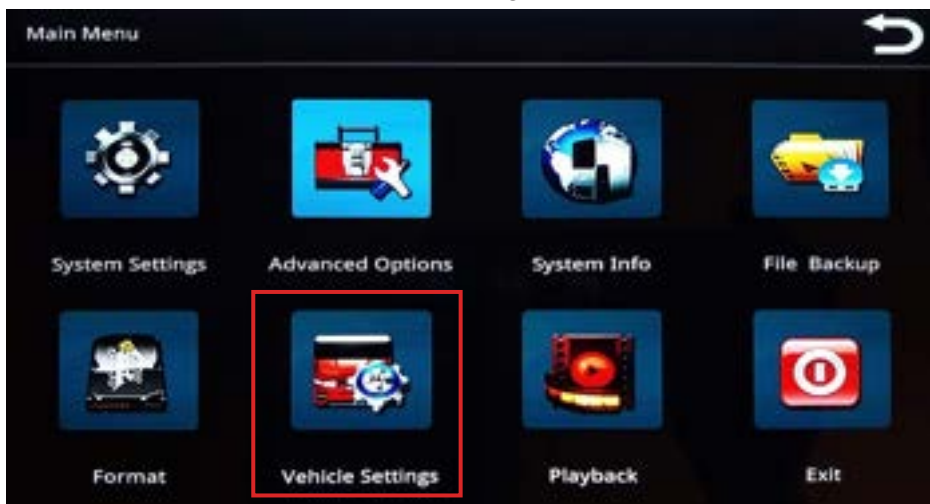
3. Enter all information in the text fields.



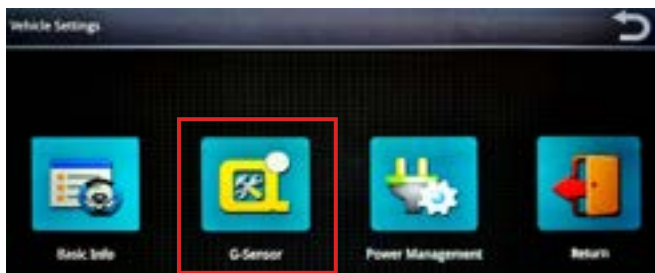
4. To save your changes, press **Save**, or, to leave this screen without saving, press **Exit**.

Specifying G-Sensor Settings

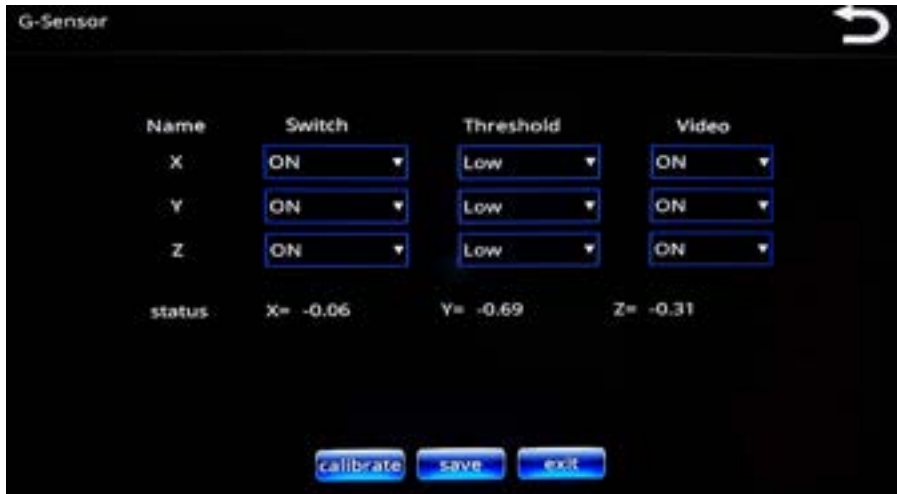
1. From the **Main Menu**, select **Vehicle Settings**.



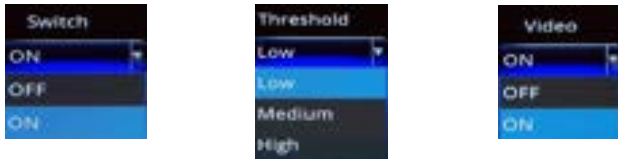
2. From the **Vehicle Settings** menu, select **G-Sensor**.



The **G-sensor** menu enables you to specify accelerometer thresholds for the X, Y, and Z axes. These are the thresholds at which the cameras will detect a sudden change in direction that could be caused by hard braking or impact from collision.



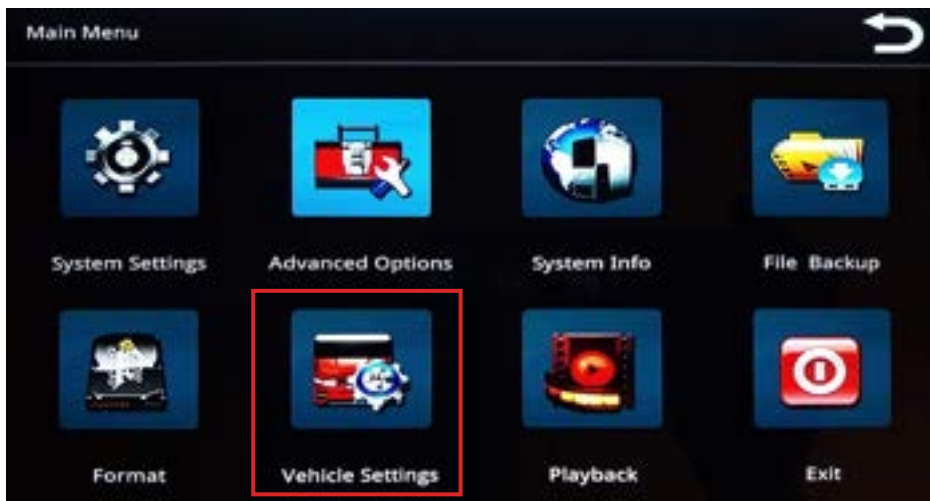
3. Make your choices from the menus, and then press **save**, or, to leave this screen without saving, press **exit**.



4. To reset the axes' positions, press the **calibrate** button. Use this button after your SFV9-HD has been securely installed in the vehicle.

Specifying Power Management Settings

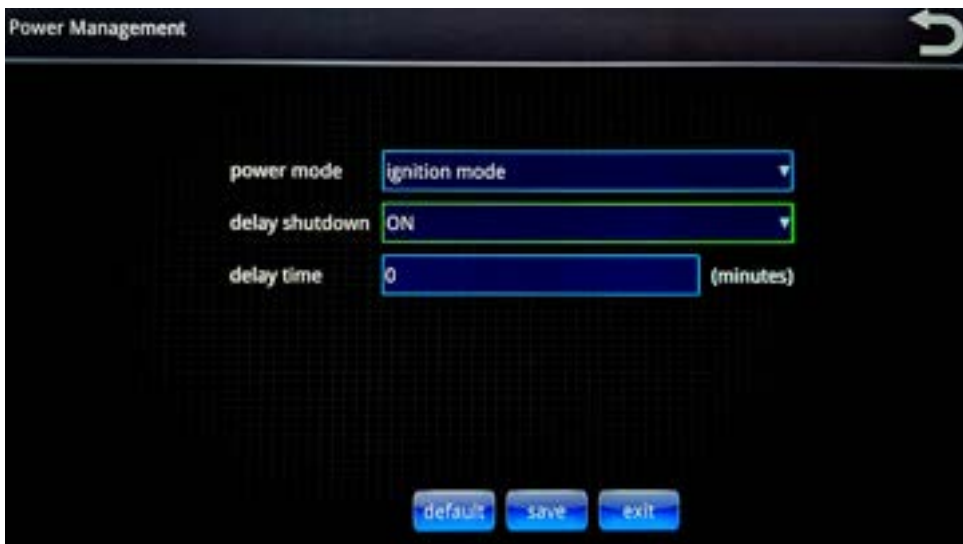
1. From the **Main Menu**, select **Vehicle Settings**.



- From the **Vehicle Settings** menu, select **Power Management**.



The **Power Management** menu enables you to specify the settings related to whether and how long the SFV9-HD will stay on after the vehicle is powered off.



- Make your choices from the available drop-down lists.



- If you selected ON in the previous step, enter the desired value (in minutes) that defines the delay of the DVR monitor's shutdown after the ignition is off.
- To revert to default values, press **default**.
- To save your changes, press **save**, or, to leave this screen without saving, press **exit**.

User Management

SFV9-HD provides two built-in user accounts, neither of which can be deleted:

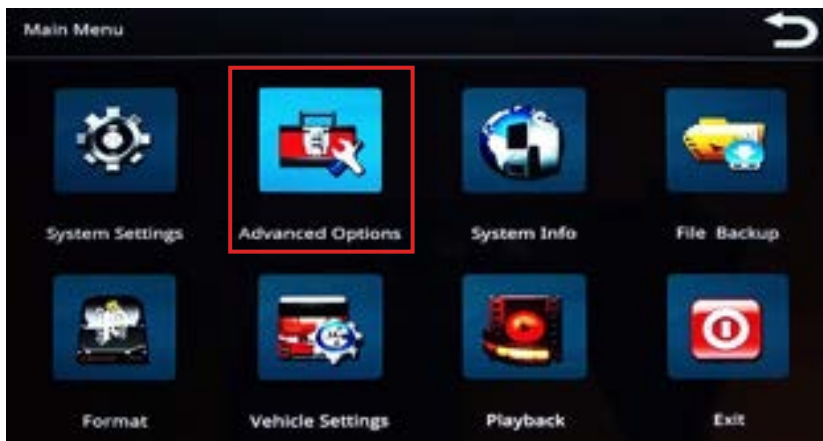
- **Admin**, a full-privilege administrator account. Privileges for this user account cannot be modified.
- **Default**, an account whose access privileges can be limited to certain functions.

NOTE: No additional user accounts

In the current software version, it is not possible to add further user accounts.

You perform user management for SFV9-HD using the **User Account** menu.

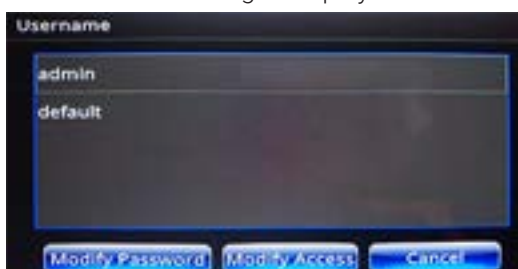
1. From the **Main Menu**, select **Advanced Options**.




2. From the **Advanced Options** menu, select **User Account**.



The **Username** dialog is displayed.



3. Select a user name from the list.
4. To modify or create a password, press **Modify Password**. Make your required changes, and then press **Ok**.



Modify Password

Username default

Current Password

New Password

Confirm PassWord

Ok Cancel

NOTE: Default password

The SFV9-HD is configured before shipping with the default password 456789.

5. To modify access privileges (for **default** account only), press **Modify Access**.



Modify Access

Username default

<input checked="" type="checkbox"/> Enter Mainmenu	<input checked="" type="checkbox"/> General Settings
<input checked="" type="checkbox"/> Video Settings	<input checked="" type="checkbox"/> Record Settings
<input type="checkbox"/> Alarm Setup	<input checked="" type="checkbox"/> Monitor Display
<input checked="" type="checkbox"/> System Maintenance	<input checked="" type="checkbox"/> Playback
<input checked="" type="checkbox"/> Video Adjust	<input checked="" type="checkbox"/> Harddisk Management
<input checked="" type="checkbox"/> File Backup	<input type="checkbox"/> Restore Default
<input type="checkbox"/> System Upgrade	<input checked="" type="checkbox"/> Basic Infor
<input checked="" type="checkbox"/> ACC Setup	<input checked="" type="checkbox"/> Wireless Setup
<input checked="" type="checkbox"/> WIFI Setup	<input checked="" type="checkbox"/> CMS Setup

Ok Cancel

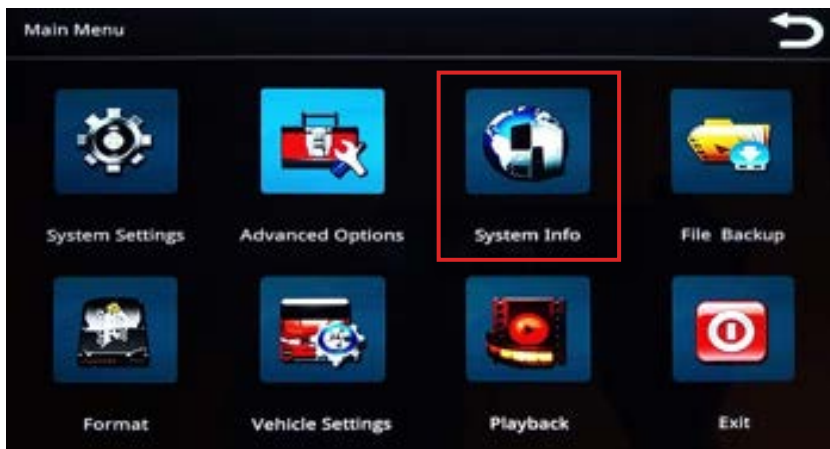
6. Make your required changes, and then press **Ok**.

System Information, Disk and File Management

System Info

The **System Info** menu gives you read-only access to system information for the SFV9-HD.

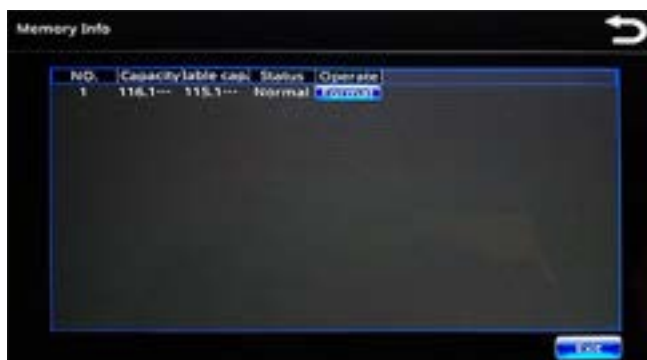
1. From the **Main Menu**, select **System Info**.



2. Select **Memory Info** or **Version Info** to review this information.



Memory Info



Version Info



NOTE: You can format SD cards directly from the **Memory Info** screen. To do so, press **Format** beside the SD card you want to format, then follow system prompts to complete the task. Note that formatting will erase all the data from the SD card!

File Backup

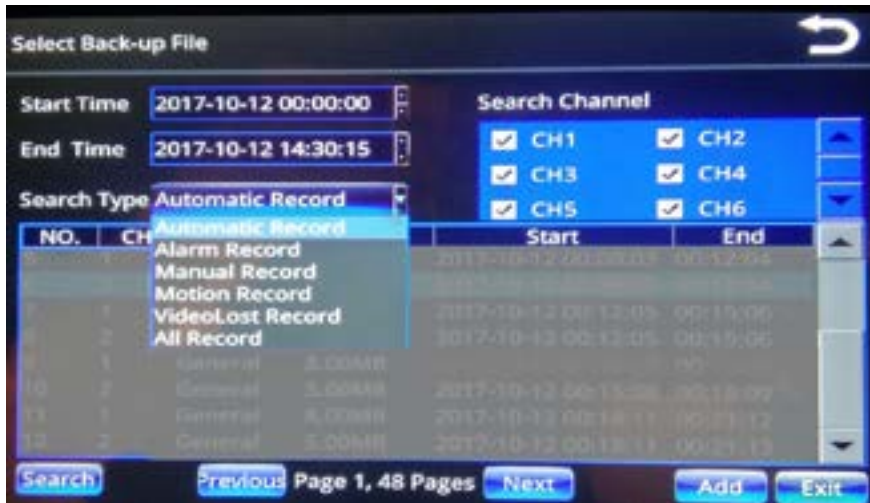
The **File Backup** menu enables you to back up the video files stored on the SFV9-HD. This menu is found on the main screen.

- a. **Upper panel.** Displays system memory information.
- b. **Lower panel.** Displays and allows selection of video files located after adding and searching.
- c. **Detection.** When new SD card or USB device is inserted, select this button to refresh the upper panel.
- d. **Remove.** Removes selected partition from the list.
- e. **Stop.** Stops detection.
- f. **Add.** Displays a search window.
- g. **Delete.** Deletes selected file(s) from the list.
- h. **Clear.** Clears the list.
- i. **Backup.** Starts the backup after file(s) selected.

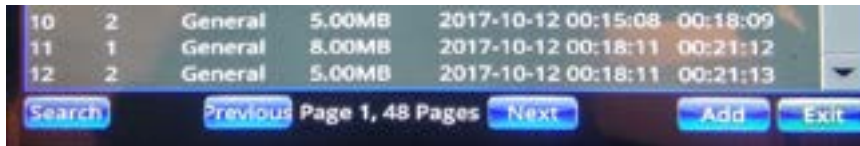


To begin a backup:

1. To back up the files to an external USB drive, first insert it in the USB port on the right side of the DVR monitor and press **Detection**.
2. Select the desired backup location from the upper panel, and then press **Add**. A search window is displayed in full-screen mode.



3. Select a date range, channel(s), and type(s) of records to search, and then press **Search**. Results are displayed in the lower panel.



- Select each item you wish to back up, pressing **Add** for each selection.
- Press **Backup**. The files that you added are saved in the selected backup location. This may take a few minutes. If you need to interrupt the backup process, press **STOP** in the displayed window.

Restore Default

The **Restore Default** menu enables you to restore various system configuration settings to their default values. You can also back up the current values to an external USB drive, and then resume the back up settings if needed. This menu is accessed from **Advanced Options** on the **Main Menu** screen.



To restore the default values:

- Select the checkboxes for the desired settings, then press **OK** and follow system prompts to reboot the DVR monitor for the default values to take effect.

To back up the current settings:

- Insert a USB drive into the USB port on the right side of the DVR monitor, then select the checkboxes for the settings you want to back up and press **backup**. The backup file is saved on the USB drive.

To restore the backed up settings:

- Insert a USB drive that contains your backup file into the USB port on the right side of the DVR monitor, then press **resume** and follow system prompts to reboot the DVR monitor for the values to take effect.

Encode Overview

The **Encode Overview** menu enables you to review the status of each camera channel, and then edit some of the settings that were selected from the **Video Settings** menu. This menu is accessed from **Advanced Options** on the **Main Menu** screen.

Channel	Camera	Resolution	Frame fps	Bit kbps	Size GB/h
CH1	connect	1080P	30	1518	0.64 GB
CH2	disconnect	720P	30	911	0
CH3	disconnect	720P	30	911	0
CH4	disconnect	1080P	30	2429	0
CH5	disconnect	720P	30	911	0
CH6	disconnect	720P	30	911	0
Total					0.64 GB

NOTE: Encode Overview screen

You can also access the **Encode Overview** screen by pressing the **details** button on the **Format** screen.

Press the desired camera channel to select it, and then press **edit** to display the screen from which you can change the channel's settings. Refer to the **Setting Video Parameters** section for more information about these settings.

Main Stream

channel: CH 2

encode size: 720P

bit stream ctr: dynamic bit stream

encode quality: good

bit stream: 1518kbps

frame: 15

Format

The **Format** menu enables you to review the information about available memory cards installed in your SFV9-HD DVR monitor and format the desired cards to free up the storage space. This menu is accessed from the **Main Menu** screen.

Format

memory: SD card0

percentage used: 39%

harddisk capacity: 116 GB

available capacity: 70 GB

record time remaining: 110.48 hours

total time remaining: 110.48 hours

CAUTION: Prevent data loss

Formatting will erase the entire contents of your SD card(s). Exercise caution when using this option!

You can review the status of each camera channel, and edit some of the settings selected from the **Video Settings** menu. To do so, press **details**, then **edit** and follow the relevant steps described in the **Encode Overview** section.

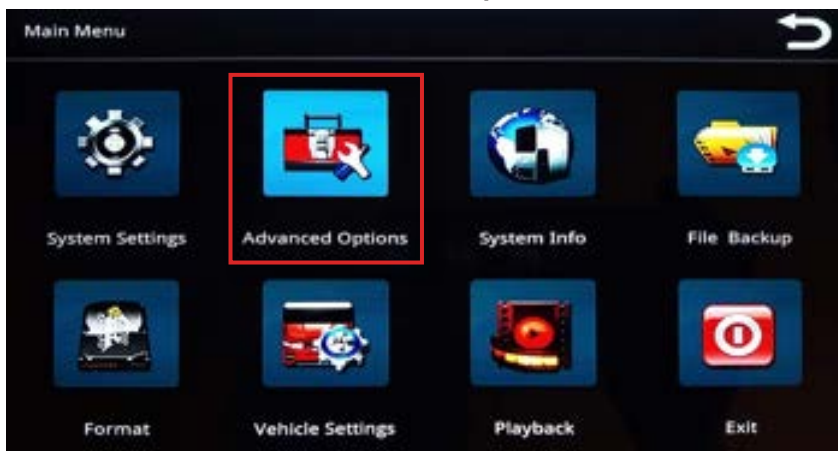
To proceed with formatting:

1. Select the desired memory card from the **memory** drop-down list.
2. Press the **format** button to initiate the formatting process.
3. Follow system prompts to complete the process.

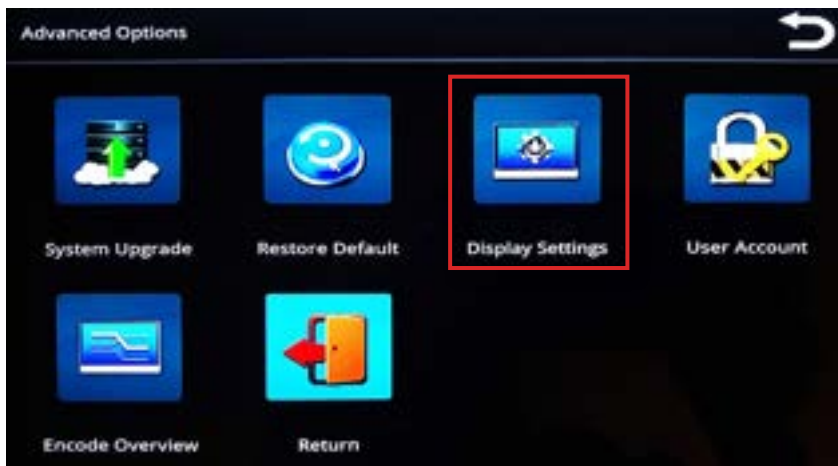
Adjusting On-Screen Display Settings

You can adjust the settings that determine the quality of the on-screen display.

1. From the **Main Menu**, select **Advanced Options**.



2. From the **Advanced Options** menu, select **Display Settings**.



3. Adjust the on-screen display options as desired.

NOTE: Display Settings screen

You can also access the **Display Settings** screen by pressing the **Monitor** button on the control panel menu, as described in step **1** of the **Accessing the System Configuration Menus** section.



4. Press **Ok** when done.

Updating the Firmware

This section describes how to update your SFV9-HD DVR monitor's firmware.

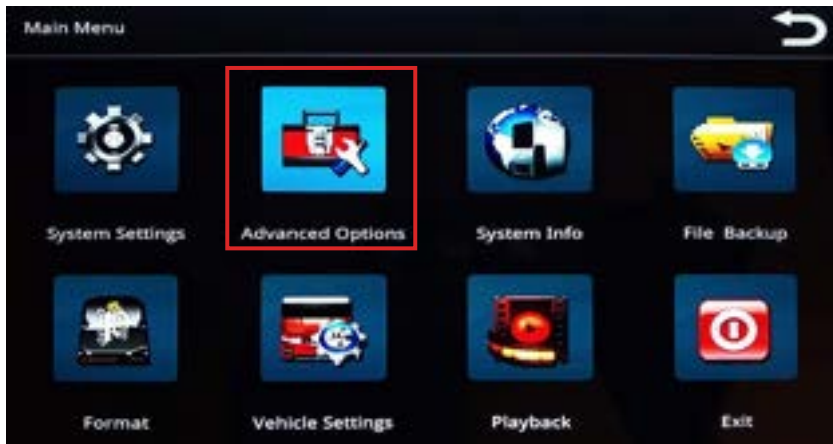
i NOTE: Requirements to complete this procedure

To complete this procedure you must have:

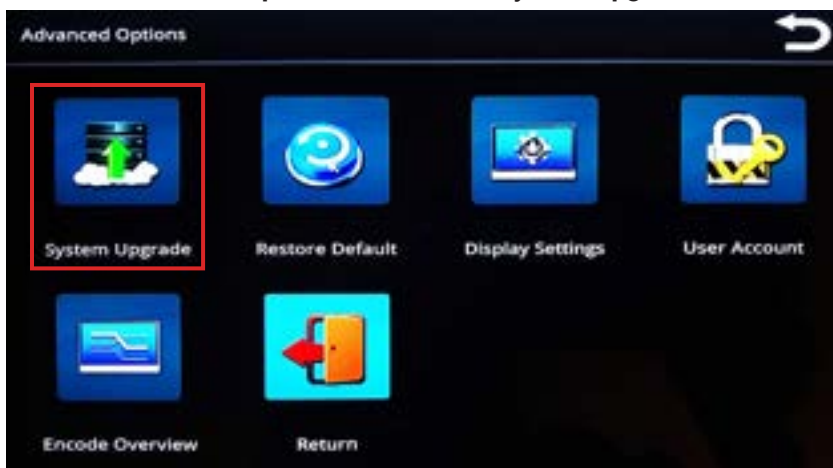
- The SFV9-HD DVR monitor connected to a stable power source. **NOTE:** Power must not be interrupted during the firmware update process.
- A firmware file saved to a folder on your PC. **NOTE:** In order for your SFV9-HD DVR monitor to recognize the firmware file, it is important to ensure that the exact name of the file is **ms796software.bin**
- A USB drive. You can use a USB drive included with your SFV9-HD DVR monitor, or any other USB drive with the following specifications:
 - FAT32 file system
 - Capacity of 4 GB to 256 GB
 - Enough free space to accommodate the firmware file.

To update the firmware:

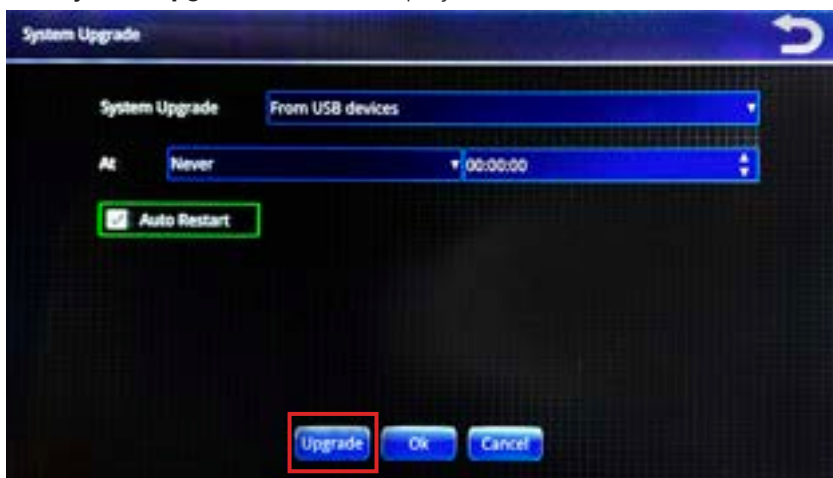
1. Insert the USB drive into the available USB port in your PC.
2. Navigate to the location of the firmware file on your PC, and then transfer the file to the USB drive.
3. Safely remove the USB drive from your PC, then insert it into the USB port on the SFV9-HD DVR monitor.
4. Turn on the SFV9-HD DVR monitor.
5. Follow the steps to access the SFV9-HD DVR monitor's configuration menu. See **Accessing the System Configuration Menus**.
6. From the **Main Menu**, select **Advanced Options**.



7. From the **Advanced Options** menu, select **System Upgrade**.



The **System Upgrade** screen is displayed.



8. Make sure that the **From USB devices** option is selected from the **System Upgrade** drop-down, then press **Upgrade**. The update process is initiated. Once it's finished, the SFV9-HD DVR monitor reboots and the splash screen is displayed.

Playing Back Videos

Viewing Videos Directly on SFV9-HD DVR Monitor

1. Touch lower area of screen to display the control panel.



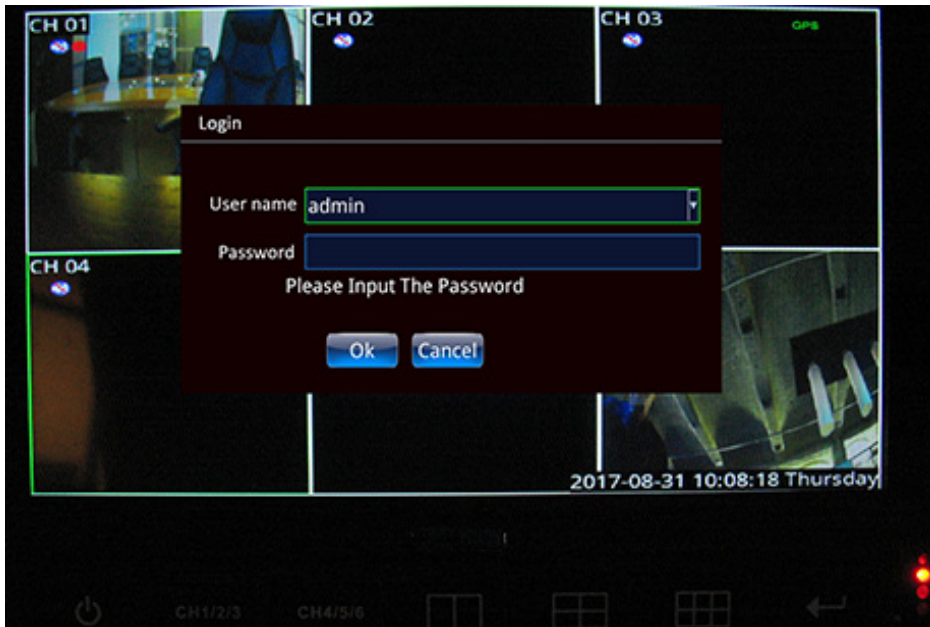
NOTE: Video playback access

You can also access the video playback screen from the **Main Menu** by pressing the **Playback** button.

2. Press the **Playback** button.



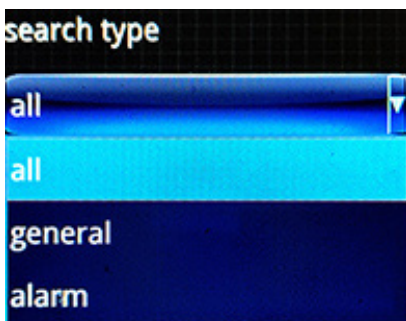
3. Enter a user name and password, if required.



4. Select a date/time range .



5. Select the type of video from the **search type** drop-down list.



6. Select the desired channel's checkbox(es).
7. Press **search**.
8. Select a saved video from the displayed list, then press **play**.



Video plays in the currently selected view (i.e.,two/four/six-panel view or full-screen).



Accessing Video Playback Control Panel

Full-screen view



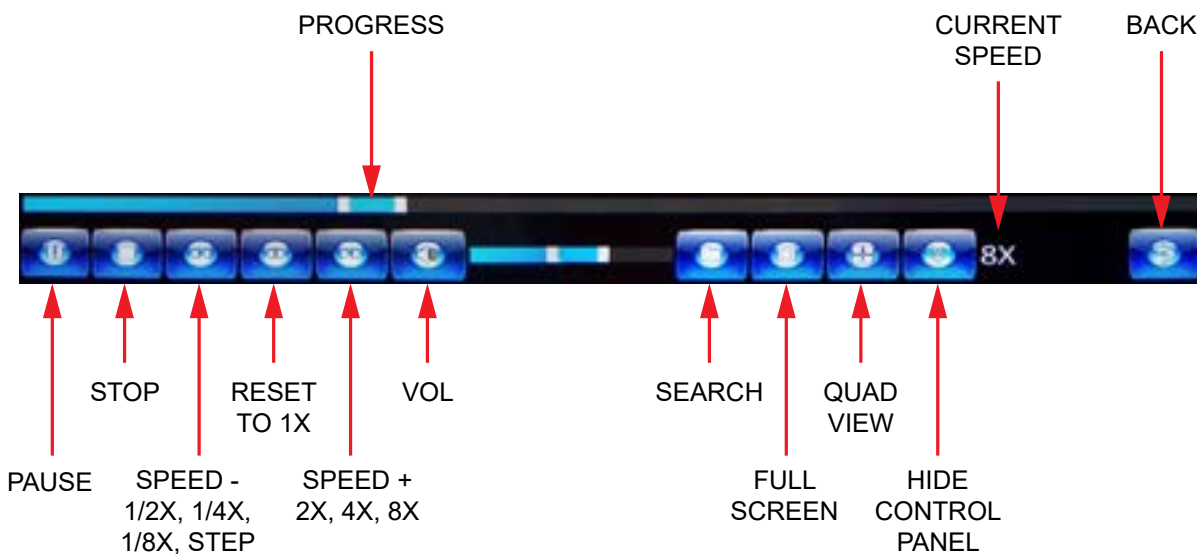
Control panel hidden



To display the control panel, tap the lower area of the screen and select the **SHOW CONTROL PANEL** option.



Video Playback Controls



Viewing Videos on Windows PC

Recorded videos saved to one of the installed SD cards can be viewed on a Windows PC using the Windows Media Player application. To do so:

1. Remove the SD card from your SFV9-HD DVR monitor and insert it into your PC's SD card reader.
2. Navigate to the SD card's folder and double-click the video you want to view. Follow system prompts to open the video file in the Windows Media Player application.

ⓘ CAUTION: SD card format

Windows will change the format of the SD card in order to display videos on the PC. Once the format has changed, the SD card will not work in the SFV9-HD DVR monitor until it is reformatted. It is recommended to save a copy of the recorded videos on the PC for future viewing.

3. Once you have finished viewing the videos, remove the SD card and place it back in your SFV9-HD DVR monitor.
4. Reformat the SD card by following the instructions found in the **Format** section.

Troubleshooting

The material presented in this section provides troubleshooting tips for the SFV9-HD DVR Monitor.

LED Signals

The front panel of the DVR monitor comprises three LED status indicators:

- **REC** – Blinks when a recording is in progress.
- **SD** – Blinks when the SD card is detected and can be used by the system.
- **RUN** – Blinks when the system starts and runs.



Scenario	Step 1	Step 2
REC remains off	SD card is present and properly installed: <ul style="list-style-type: none"> • Format the SD card. See the Format section. 	SD Card Formatted: <ul style="list-style-type: none"> • Set video recording in “Auto” mode. See the Specifying Record Settings section.
SD remains off	SD card is present and properly installed: <ul style="list-style-type: none"> • Format the SD card. See the Format section. 	SD Card Formatted : <ul style="list-style-type: none"> • Replace SD Card.
RUN remains off or DVR monitor does not start	Refer to the Startup and Runtime section.	

NOTE: Replacing SD cards

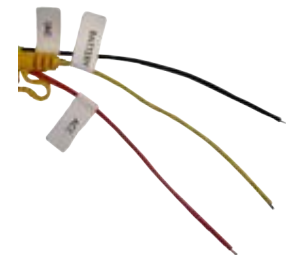
It is recommended to replace SD cards every 90 days to ensure consistent video recording.

Startup and Runtime

Normally the SFV9-HD DVR should complete loading and be operational within 60 seconds after powering on.

Q.1 DVR monitor does not start. The screen remains black and all LEDs are off.

- Check connection to the power source and that each wire is connected properly.
 - **Yellow** – Battery,
 - **Red** – ACC or Battery,
 - **Black** – Ground.
- Disconnect power cable from the DVR monitor and then reconnect it. When inserting the connector, push it until the connector lock is closed. You should hear a light clicking sound.





- c. Try to power on the DVR monitor. If the RED wire is connected to **ACC**, turn the ignition key to the ACC position.
- d. If all connection are solid, ensure that the 5 A fuse is intact and measure voltage at the power source. It should be between 9 and 36 volts

Q.2 DVR monitor starts but “MDVR is starting” message remains on the screen and no camera feeds shown.

- Follow instructions from the first question (Q.1)

Q.3 DVR monitor starts, operates correctly within certain time and reboots. Same repeats over and over again.

- a. Ensure that the SD card is properly installed and format the SD card. See the **Format** section.
- b. If the symptoms persist, replace the SD card.

Touch Screen and Cameras

Q.1 The touch screen is not responsive.

- a. Check for scratches and dust on the screen.
- b. To access the DVR monitor menu tap on the middle bottom part of the screen. Touch screen is capacitive. Use your finger pads. The screen will not react on the touch of the nails.



Q.2 Part of the screen remains black or white

- Contact Safe Fleet Technical Support.
The DVR monitor must be repaired or replaced.

Q.3 Picture from one of the cameras not shown.

- a. Ensure the CAMERAS harness is properly connected to the screen.
- b. Disconnect non-working camera from the camera harness and connect to another (known working) channel to check whether the camera is functional



Service & Support

If your **SFV9-HD DVR monitor** is to be returned for service, please contact the Safe Fleet technical support team, provide the part and/or serial # of your unit, and ask for a **Return Merchandise Authorization (RMA)** number. An **RMA #** allows the support team to better track your product when it comes in for service. Please show the RMA # on the **outside** of the package.

ANY PRODUCT SENT WITHOUT AN RMA # MAY BE REFUSED!

Documentation and Warranty

Additional copies of this guide along with other documentation and product warranty can be found on the Safe Fleet Community website: <https://community.safefleet.net>

Technical Support

Phone: 1.888.514.7443 opt. 3

Email: fmsupport@safefleet.net