

FleetMind SSV9 DVR Monitor



Installation and Setup Guide

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Introduction

This document introduces the SSV9 Six-Channel DVR Monitor and provides instructions for its installation and system configuration.

The SSV9:

- Enables you to connect and record up to 6 cameras simultaneously.
- Supports NTSC and PAL standards.
- Comprises a built-in GPS receiver and G-sensor
- Supports 2 micro SD cards up to 128GB each.



Specifications

Item	Description
Panel Size	9" LED Digital Panel
Video system	NTSC / PAL Automatic detection
Resolution	1280 X 3 (RGB) X720
Brightness	450 cd/m ²
Contrast ratio	500:1
Screen mode	16:9
Field of view	Top 85° / Bottom 85° / Left 85° / Right 85°
Video Inputs	6CH
Audio output	0.5W speaker
Dot pitch	0.15525(H) × 0.15525(V) mm
Active area	198.72(H) × 111.78(V) mm
Power supply	DC9-36V / Automatic Power On/Off by ACC
Operating temperature	(-20°C ~ +75°C)
Storage temperature	(-30°C ~ +85°C)
Weight	600g
Trigger	6CH
External Dimensions	L236.5XW 182XD35.9

ITEM	DEVICE PARAMETER	PERFORMANCE
System	Main processor	Hi3520DV300
	Operating system	Embedded Linux OS
	Operating language	English
	Operating interface	Touch screen/ support mouse
	Password security	User password/Admin password
Audio & Video	Video standard	PAL/NTSC
	Video compression	H.264
	Image resolution	1080N/720P/960H/D1/CIF
	Playback quality	1080N/720P/960H/D1/CIF
	Compound mode	A variety of ways
	Image display	Single/split/QUAD/2ch display optional
	Audio Compression	G.711A
	Audio recording	Audio & Video synchronized recording
Recording & Playback	Recording mode	Manual/Alarm/Auto
	Video bit rate	Full frame 4096Mbps 6 classes image quality optional
	Audio bit rate	8KB/s
	Storage media	SD card + SSD storage
	Video inquiry	Inquiry by channel/Recording type
	Local playback	Playback by file
Firmware upgrading	Upgrading mode	Manual/Automatic
	Upgrading method	USB disk
Interface	AV input	6ch aviation interface
	SSD	1SSD
	SD card	2 SDXC High speed card (up to 256GB)
	USB interface	1 USB 2.0 (support U disk/mouse/download)
	Ignition input	1 ACC signal
	UART	1 LVTTTL Level
	Disk lock	1

Kit Contents

Front Panel



Controls and Indicators



BUTTON	FUNCTION
CH1/2/3	Cycles through Camera Channels 1, 2 and 3 one by one in full screen
CH4/5/6	Cycles through Camera Channels 4, 5 and 6 one by one in full screen
2-SPLIT screen	Cycles through Camera Channels "1 and 2", "3 and 4", "5 and 6", "3 and 2", "4 and 2"
4-SPLIT SCREEN	Cycles through Camera Channels "1,2,3 and 4", "3,4,5 and 6"
6-SPLIT SCREEN	Displays all six camera channels

Back Panel

Showing GPS connector, lock, SD compartment open.



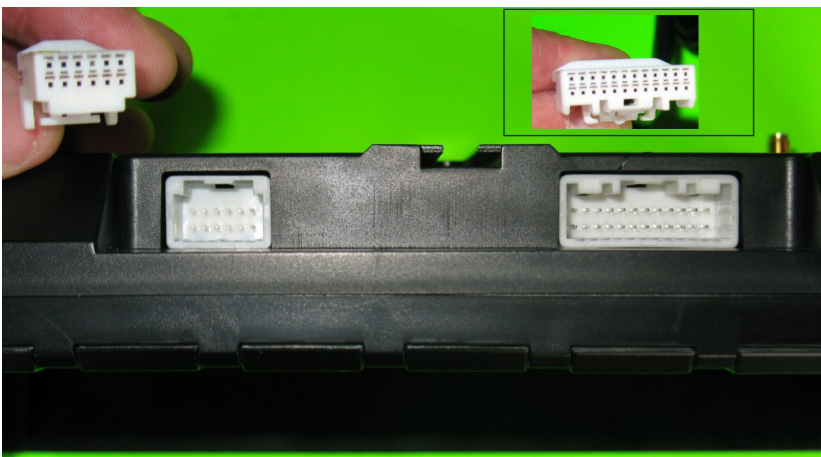
SD Compartment



Right Side - USB Port



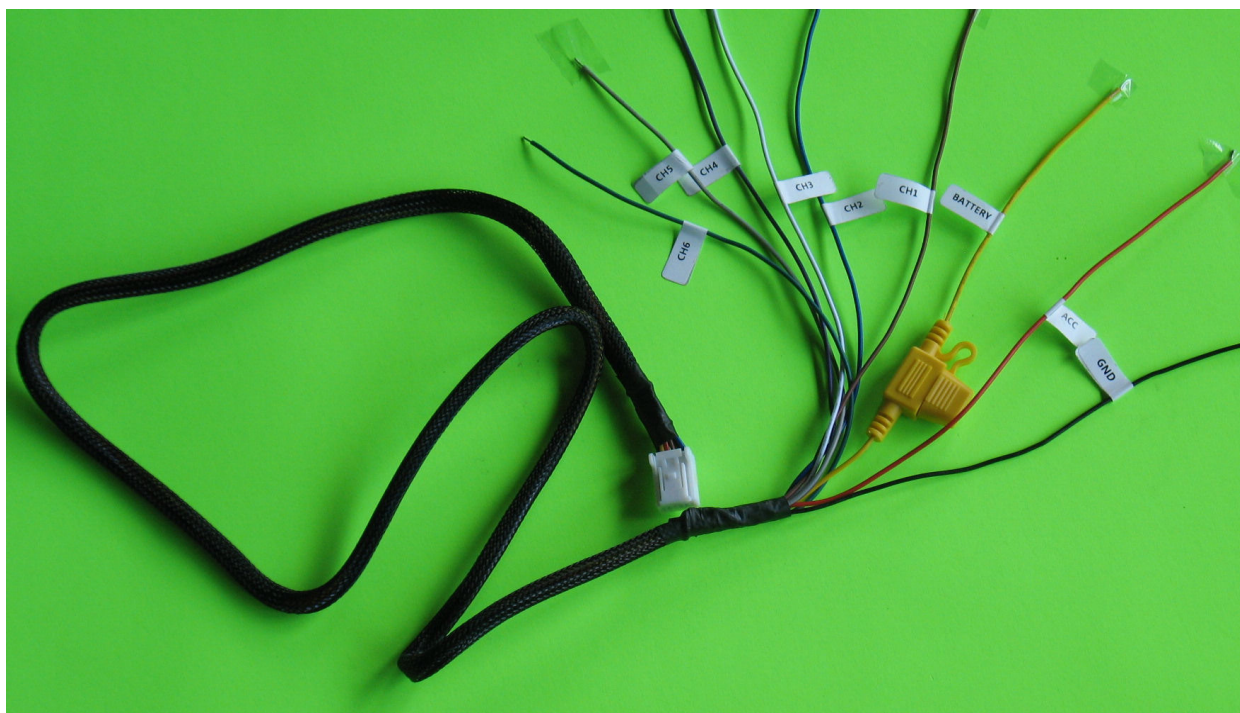
Bottom Panel Connectors



Camera Connection Cable



Power and Trigger Cable

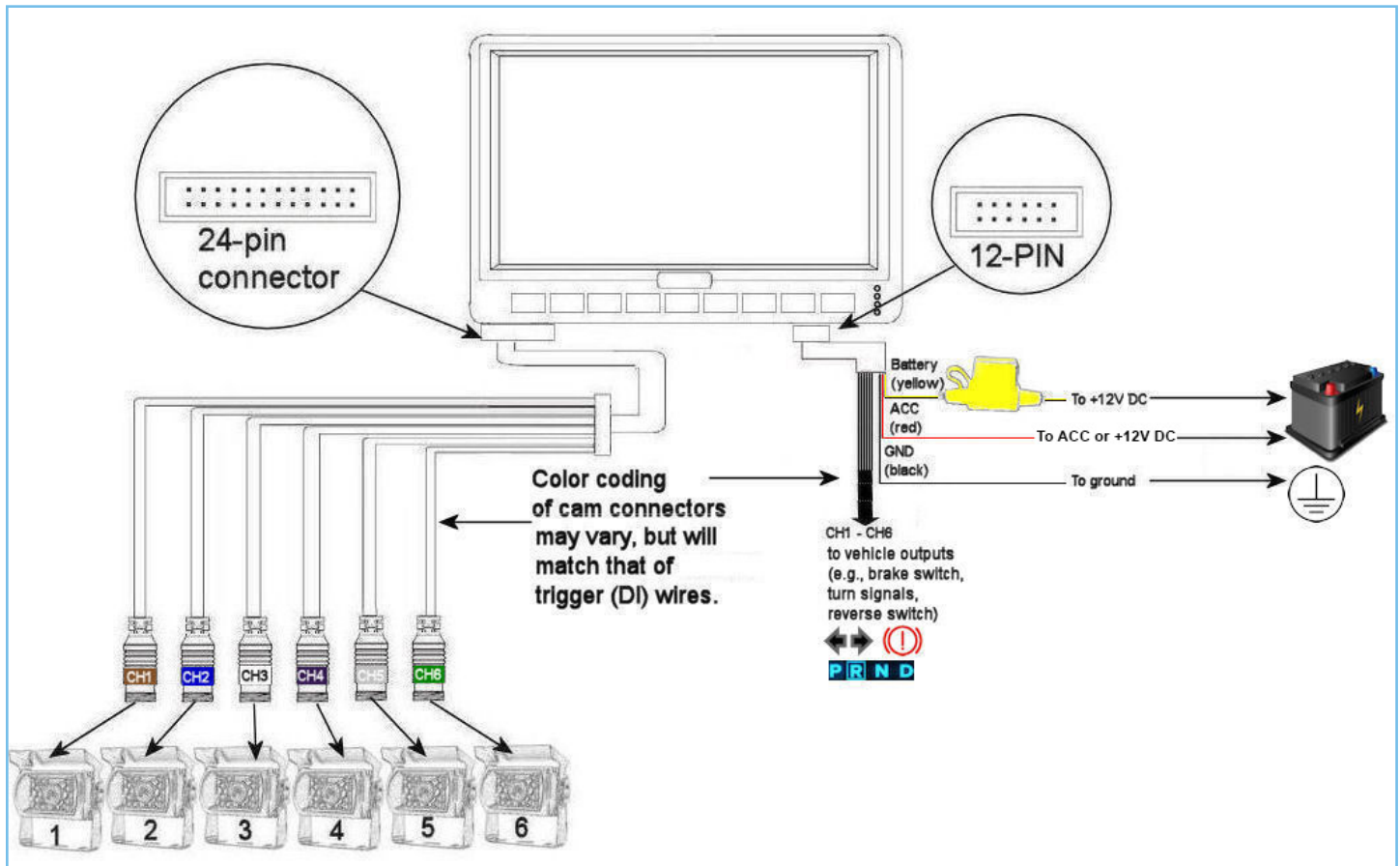


Trigger Functions

TRIGGER	FUNCTION
CH1	When trigger is activated: Display Channel 1 camera, no delay when trigger off.
CH2	When trigger is activated: Display Channel 2 camera with color guides , no delay when trigger off.
CH3	When trigger is activated: Display Split Screen Channel 3 camera on left and Channel 2 camera on right with grid, 5 second delay when trigger off.
CH4	When trigger is activated: Display Split Screen Channel 2 camera on left with grid and Channel 4 camera on right 5 second delay when trigger off.
CH5	When trigger is activated: Display Channel 5 camera, no delay when trigger off.
CH6	When trigger is activated: Display Channel 6 camera, no delay when trigger off.

Making Connections

Connections Overview




Camera Connection

Connect up to 6 cameras to the SSV9 using 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	Reverse. Color back-up guides superimposed on view. 
3	Left turn signal. Delayed cancellation of image display/record.
4	Right turn signal. Delayed cancellation of image display/record.

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

Trigger Connections

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.

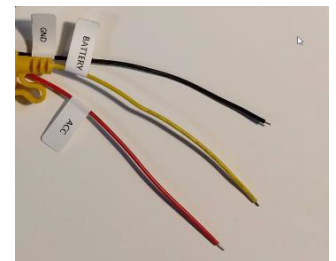
Power Connection

There are three wires in the power harness that control how the device boots up.

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

If it is required that the unit 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 battery disconnect off eliminates 12 V to the mobile platform; turning battery disconnect on reapplies 12 V). Other names for the battery disconnect are night switch and



⚠ CAUTION: Do not connect to ignition!

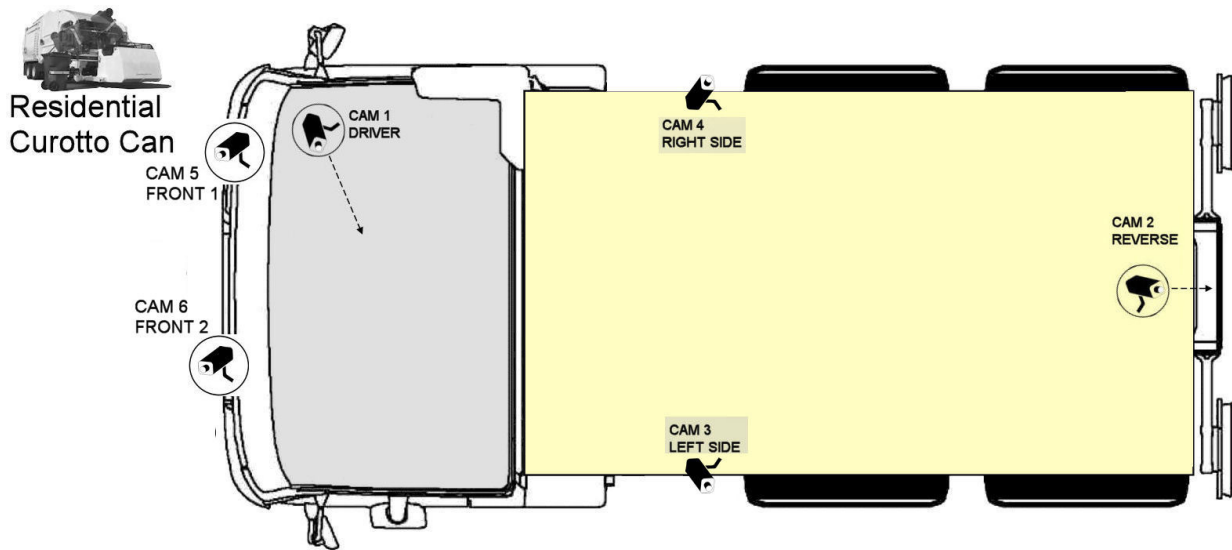
The 12 V yellow power wire should not be connected to the vehicle's ignition key switch.

Recommended Camera Locations and Settings

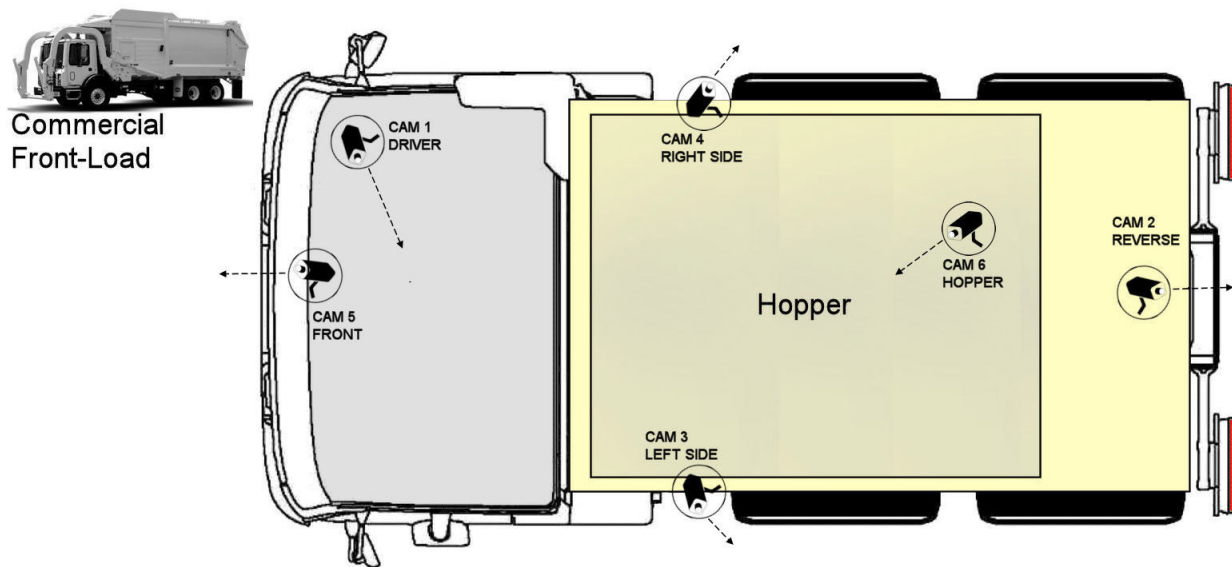
Optimal camera configuration will ultimately depend on customer preference and the requirements involved for the various types of waste collection. As a guideline, FleetMind proposes the following configurations based on actual installations performed by our installation team.

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.

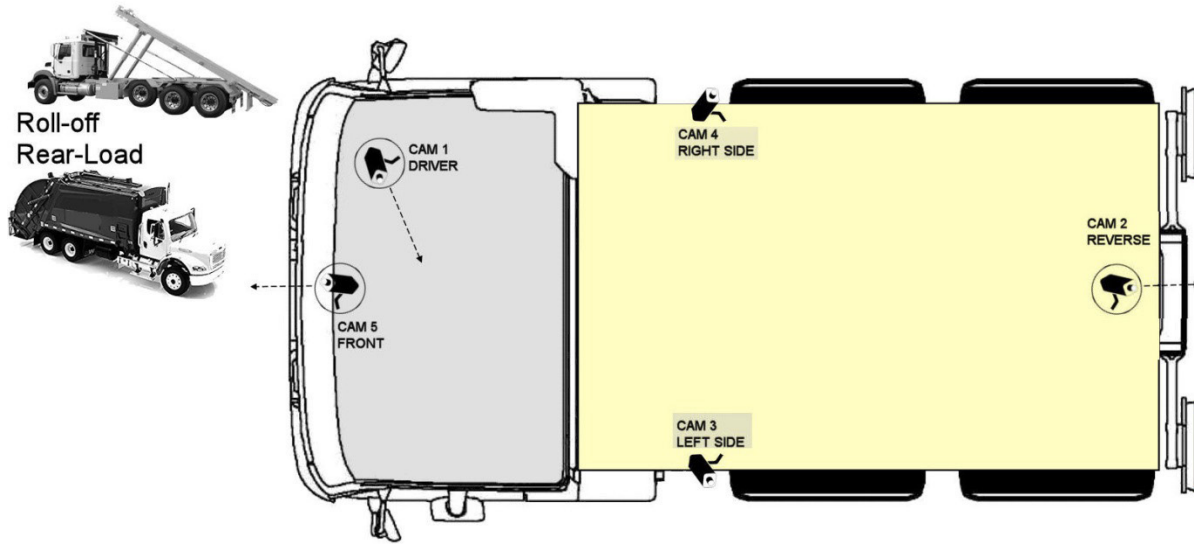
Residential Front-Load (Curotto-Can)



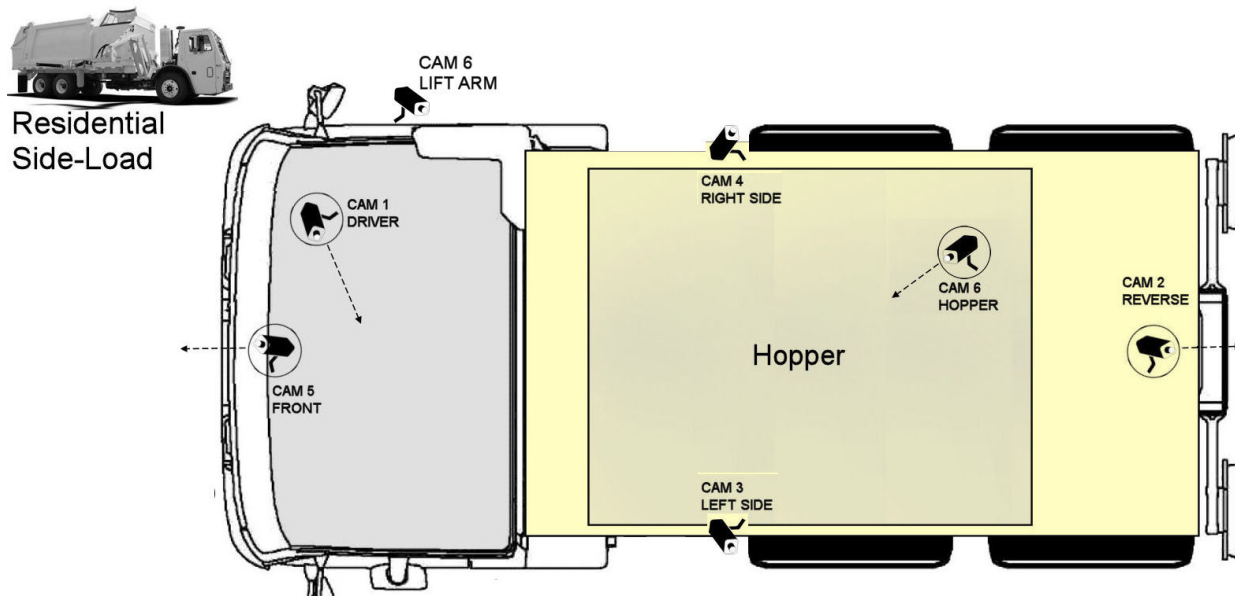
Commercial Front-Load



Roll-off and Rear-Load

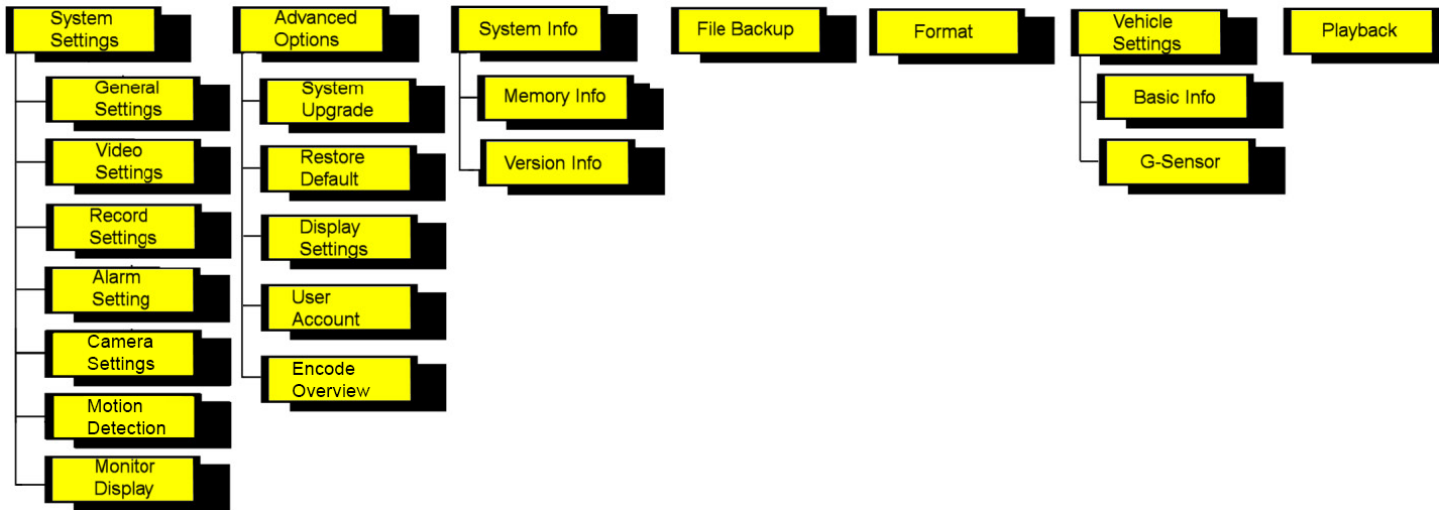


Residential Side-Load



System Configuration

System Menu Hierarchy



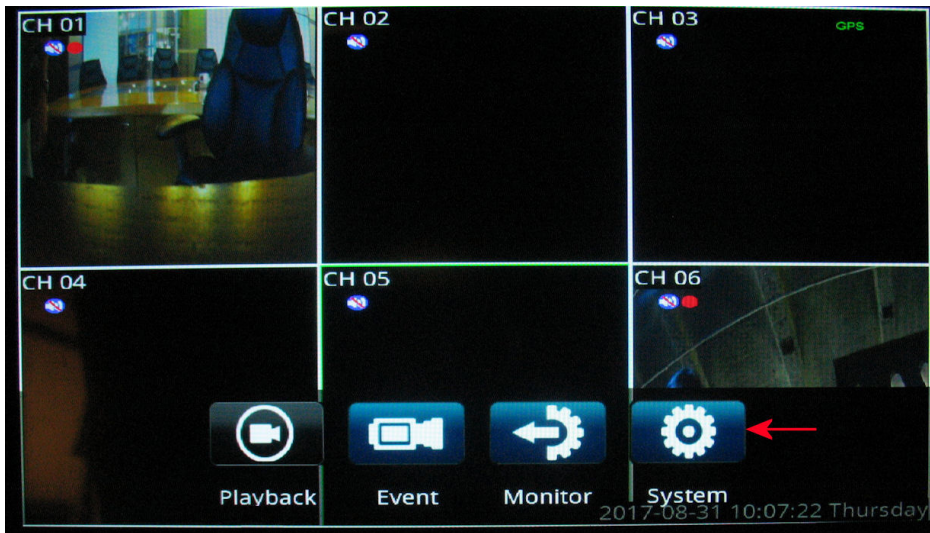
Accessing the System Configuration Menus

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

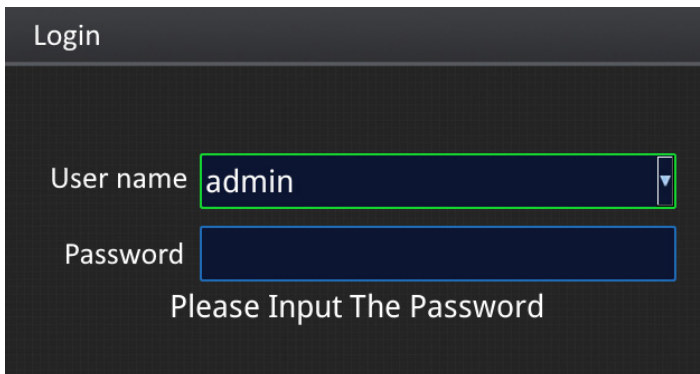
1. Touch and hold the lower area of the screen to display the control panel.



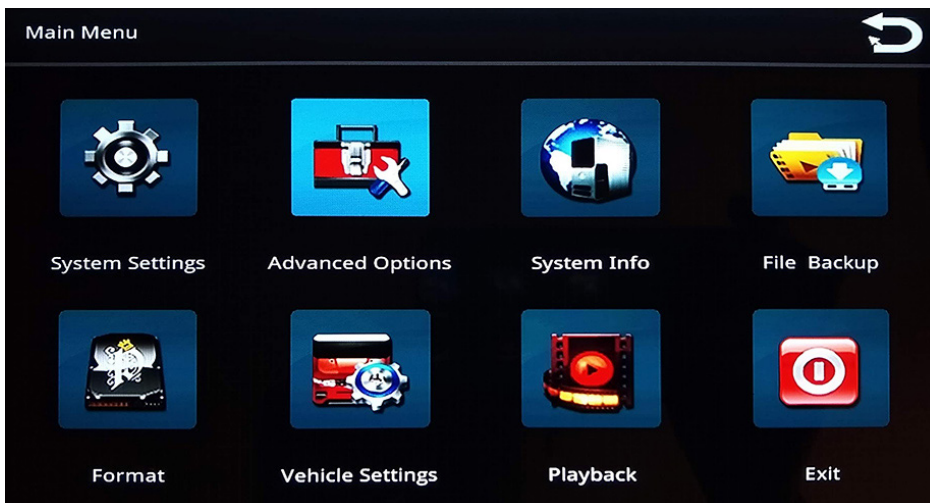
2. Press **System**.



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.

A screenshot of the Login screen. The title is 'Login'. There are two input fields: 'User name' with the text 'admin' and a dropdown arrow, and 'Password' which is empty. Below the fields, the text 'Please Input The Password' is displayed.

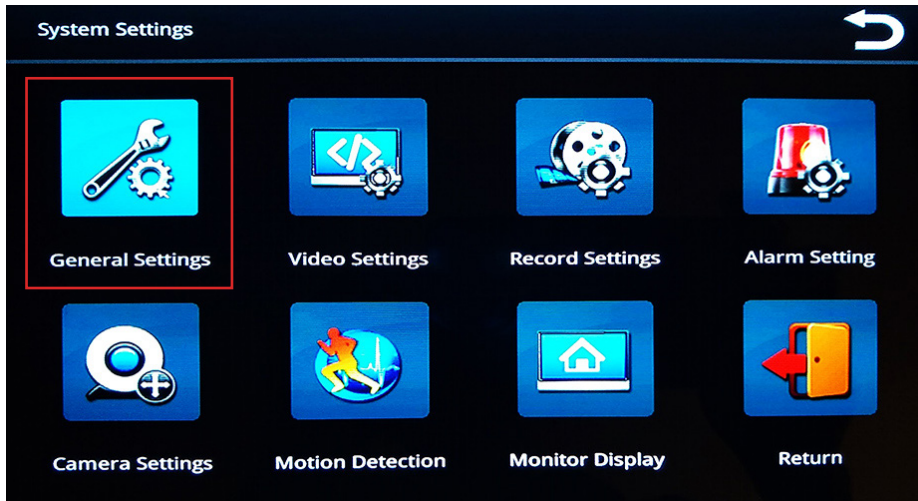
The **Main Menu** displays.



Setting Date/Time and Operating Language

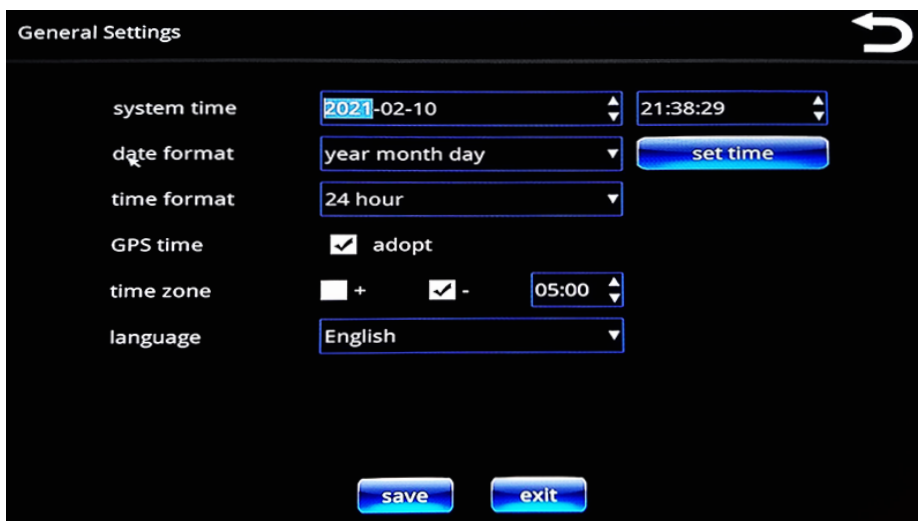
1. From the main menu press **System Settings**.

The **System Settings** menu displays.



2. Select **General Settings**.

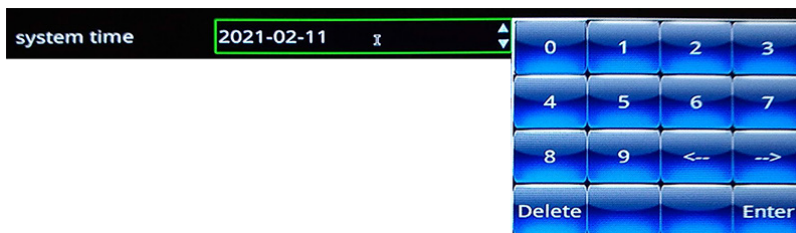
The **General Settings** menu enables you to set date and time parameters and choose an operating language.



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.



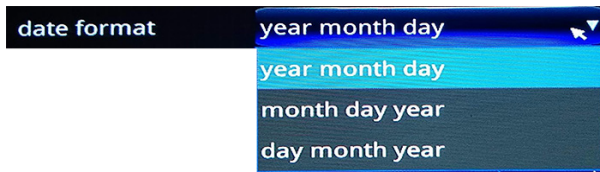
The time on the SSV9 unit is coordinated with UTC time.

- 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.

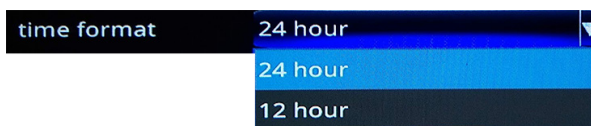


For example: USA Eastern time is either UTC -5 or UTC -4, depending whether DST is in effect.

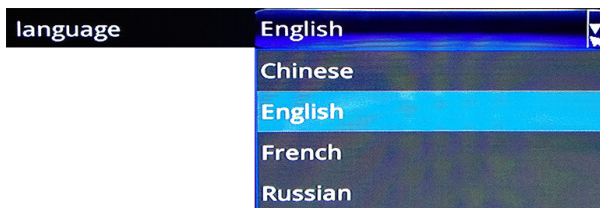
- Select a date format.



- Select a time format.



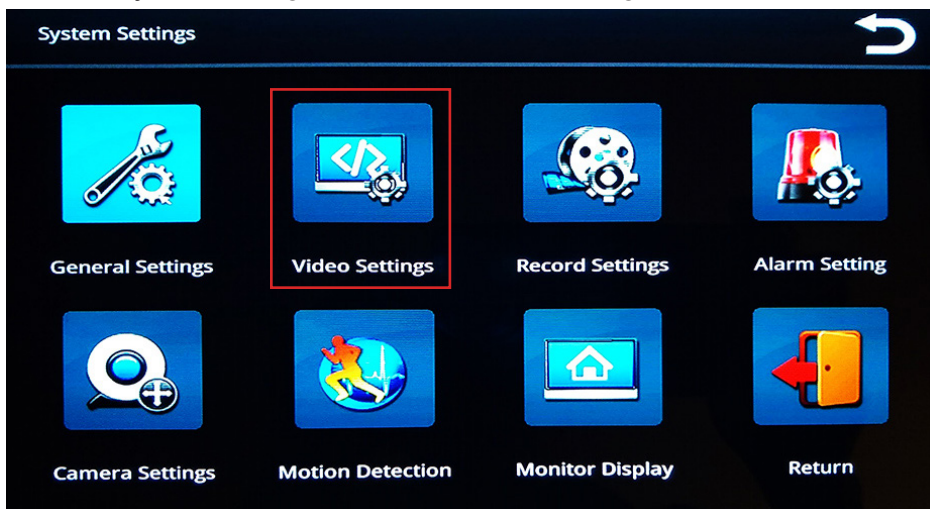
- Select a language.



- To save your changes, press **Save**.

Setting Video Parameters

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

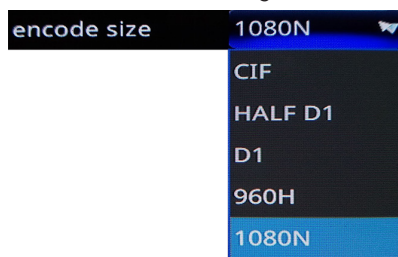


The **Video Settings** menu enables you to specify video properties for each of the six channels, which are selectable from the **channel** drop-down list.

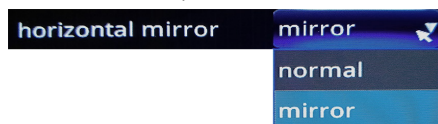


After you select a channel from the list, you can apply properties for that channel as described in the following steps.

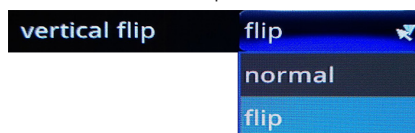
2. Set the video encoding size, which determines the level of video compression.



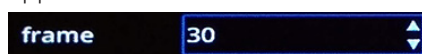
3. Select a view option from the **horizontal mirror** drop-down list (normal or mirror).



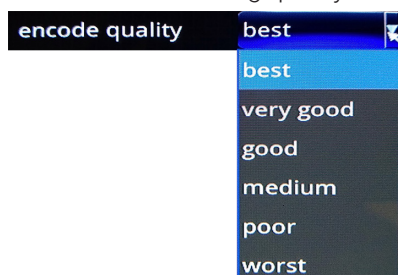
4. Select a desired option from the **vertical flip** drop-down list (normal or flip).



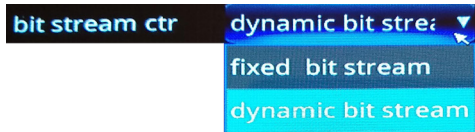
5. Select the frame rate—number of frames per second (fps). Generally, the higher the FPS, the smoother the motion appears.



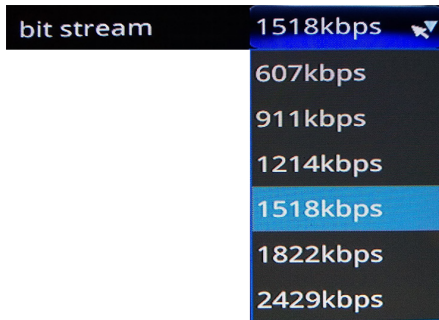
6. Select video encoding quality.



7. Select a 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. SSV9 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 on or off the overlays.
- b. To reposition the overlays:
 - 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.



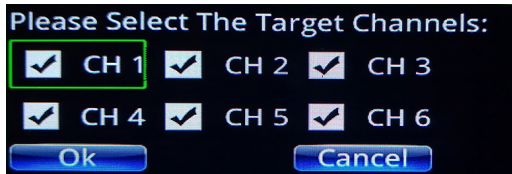
10. Once you have finished specifying all settings, press **Save**.

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. 

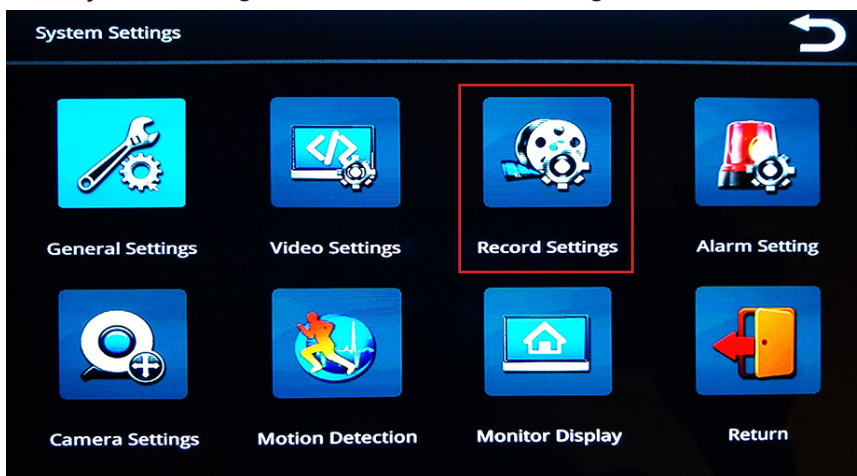
A dialog displays prompting you for target channel(s).



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

Specifying Record Settings

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



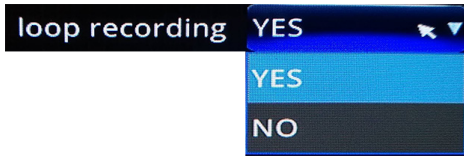
The **Record Settings** menu enables you to set recording properties for each of the six channels, which are selectable from the **channel** drop-down list.



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

- 3. 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.



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



- 5. 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.



- 6. Select **stop rec**, **manual rec**, or **auto rec** checkboxes as needed.



- **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.

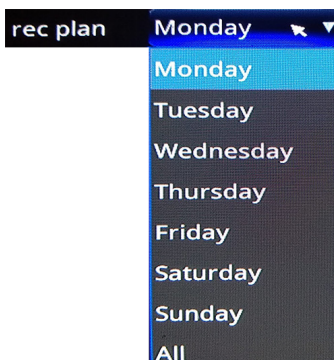
- 7. Select a recording plan.

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.



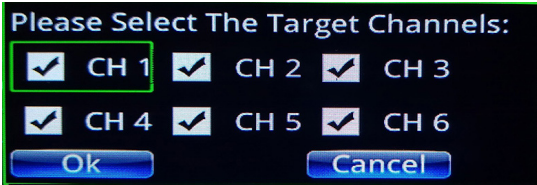
- 8. Once you have finished specifying all settings, press **Save**.

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. 

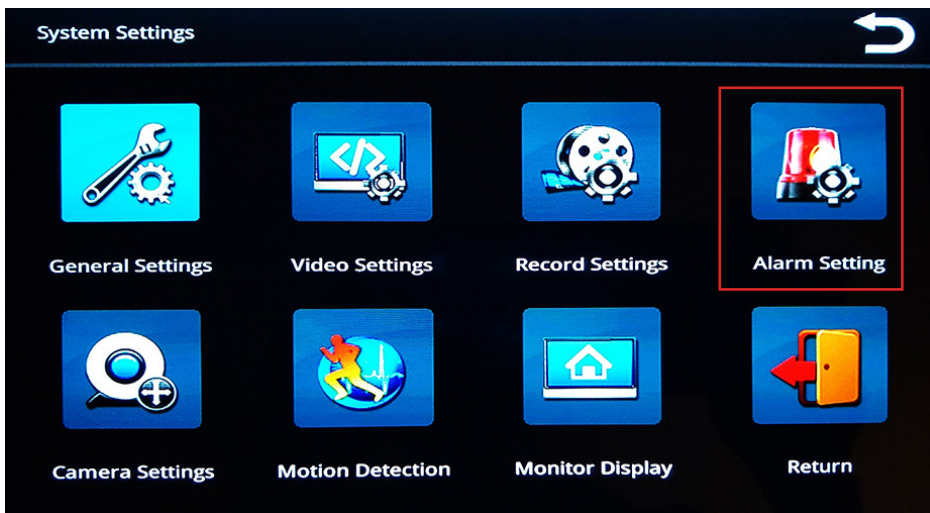
A dialog displays prompting you for target channel(s).



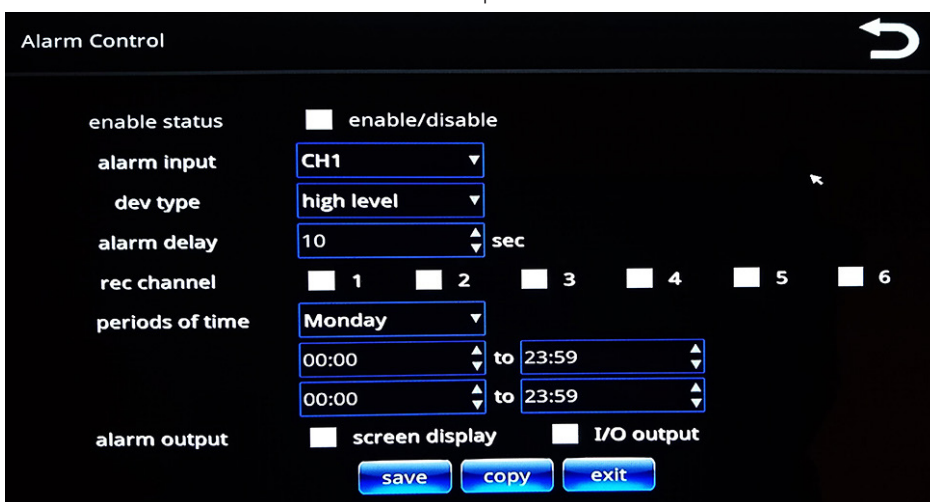
2. Select your target channels, and then press **Ok**.

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 **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. **Enable Status:** use the checkbox to enable and disable alarms.

enable status **enable/disable**

3. **Dev type:** choose high level or low level from the drop-down list.

dev type high level
high level
low level

Alarm triggers can be either high voltage (high level) or GROUND (low level).

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

alarm delay 10 sec

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

5. **Rec channel:** use the checkboxes to specify which channels to record when an alarm occurs on the specified input channel.

rec channel 1 2 3 4 5 6

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

periods of time Monday
00:00 to 23:59
00:00 to 23:59

7. Specify **alarm output**.

alarm output **screen display** **I/O 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.

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 displays prompting you for target channel(s).

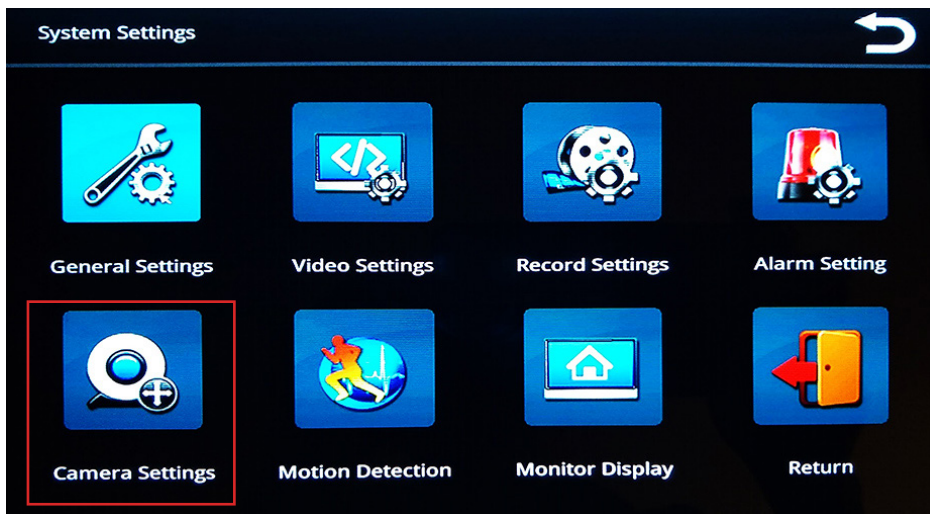
Please Select The Target Channels:

CH 1 CH 2 CH 3
 CH 4 CH 5 CH 6

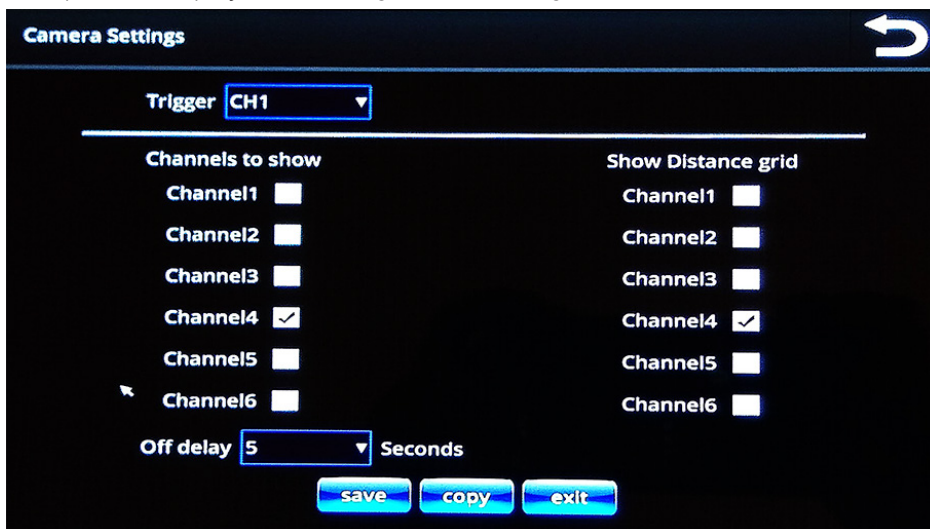
2. Select your target channels, and then press **Ok**.

Specifying Camera Settings

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

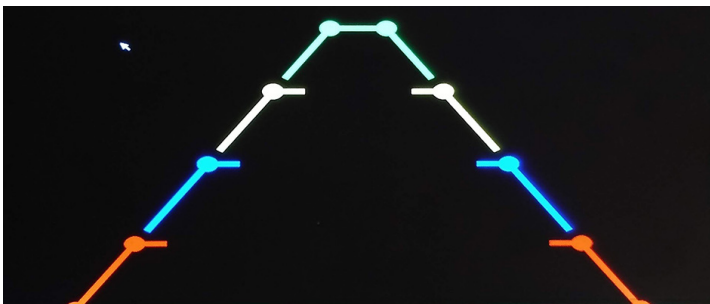


The **Camera Settings** menu enables you to define, on a per-trigger basis, which camera channels are shown, along with the option to display a distance grid on the image.



After you select a trigger 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.



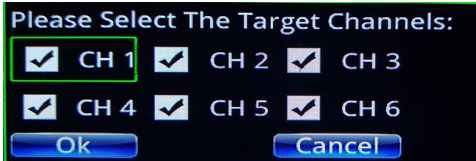
4. **Off delay:** use the pull-down menu to choose a delay (in seconds) before turning off the channel displays.

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. 

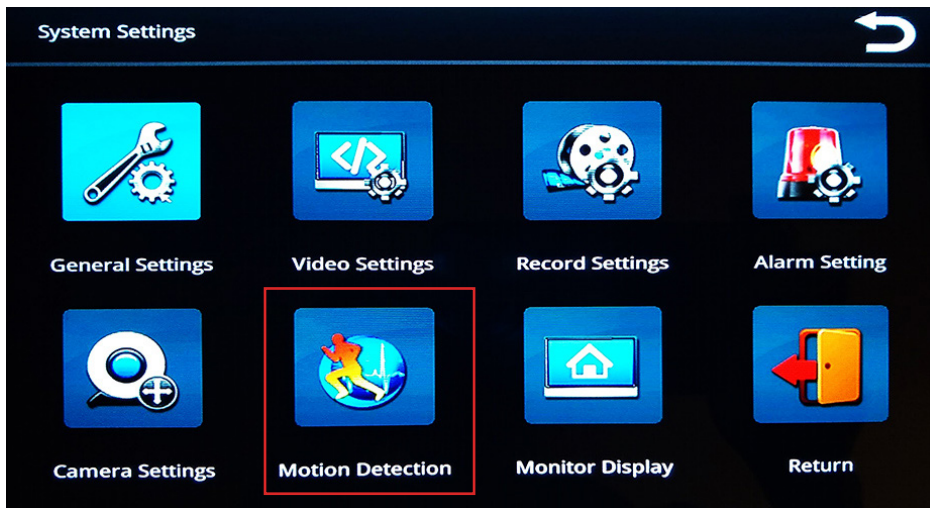
A dialog displays prompting you for target channel(s).



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

Specifying Motion Detection Settings

1. From the **System Settings** menu, select **Motion Detection**.

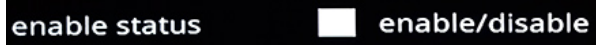


The **Motion Detection** menu enables you to set motion detection properties for each of the six channels, which are selectable from the **channel** drop-down list.

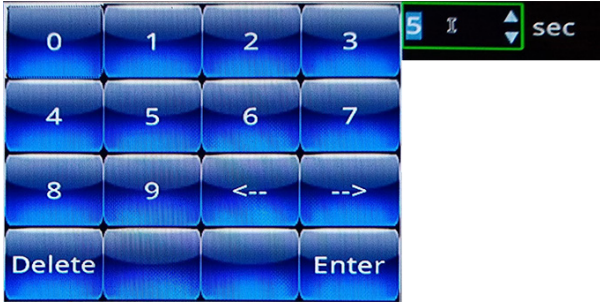


After you select a channel from the list, you can apply properties for that channel as described in the following steps.

- 2. **Enable status:** use the checkbox to enable and disable motion detection.



- 3. Select the **alarm delay** (in seconds) by pressing in the field and using the numeric keypad. Press **Enter** when done.

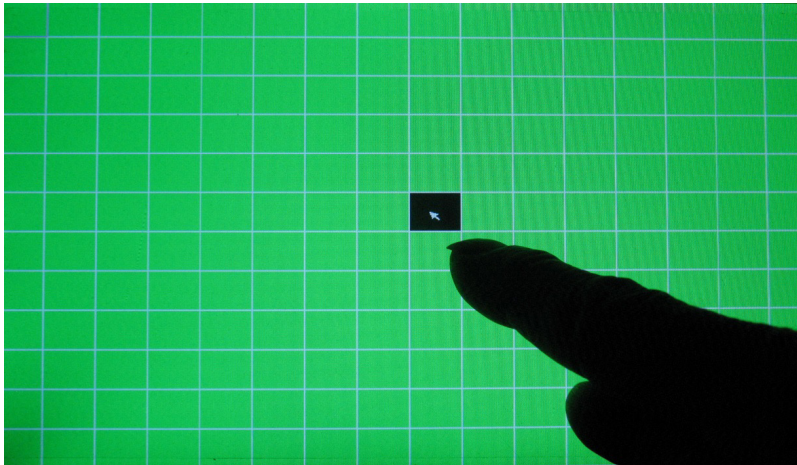


Alarm delay is the length of time the alarm channel displays in full-screen mode and with a recorder.

- 4. Set detection region(s) for the channel:

- i. Press the **set** button beside **region**.

A grid displays on a green screen, where you can select detection regions by touching squares on the grid.



- ii. After making your selection (one or multiple squares), press the **[X]** button at the right bottom corner of the screen

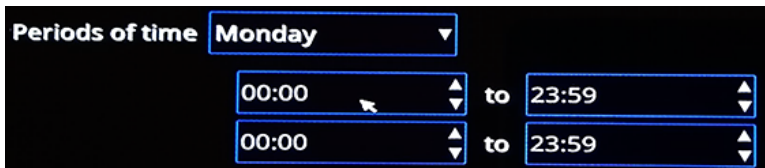
- 5. Sensitivity: select a detection sensitivity level.



- 6. Use the checkboxes to select channel(s) for recording when motion is detected.



7. Select **Periods of time** during which motion detection will be active



8. Select the **alarm output**.

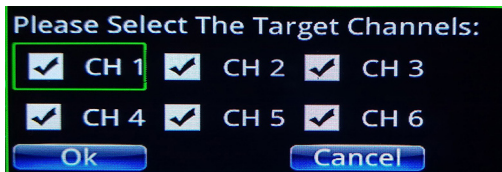


As with alarms, both options can be selected. I/O output displays a yellow "motion" icon on the screen.

Copying Your Motion Detection Settings to Other Channels

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

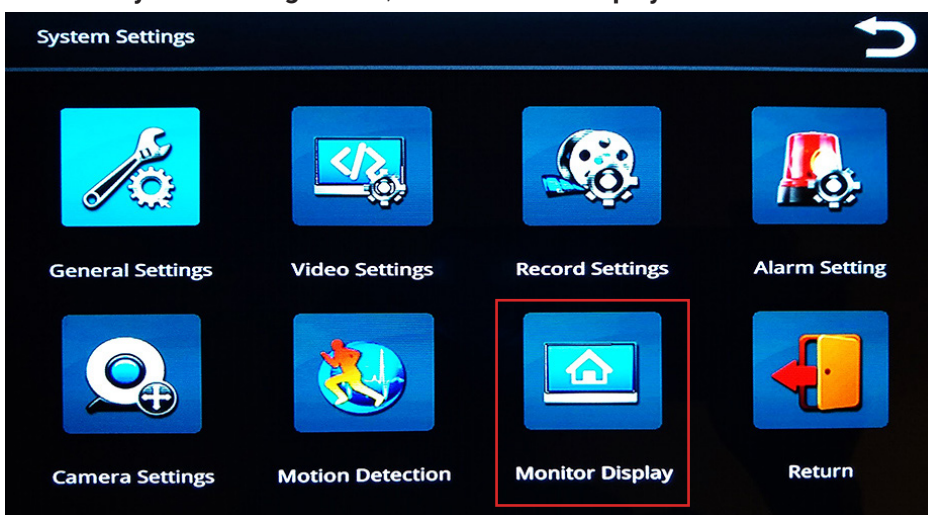
1. Press the **Copy** button.  A dialog displays prompting you for target channel(s).



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

Specifying Monitor Display Settings

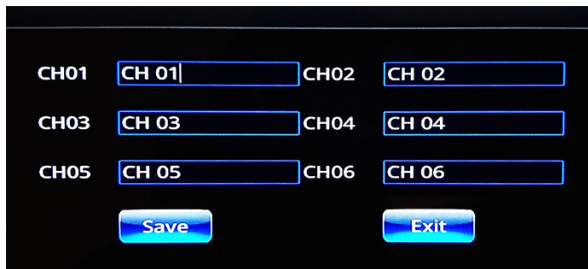
1. From the **System Settings** menu, select **Monitor Display**.



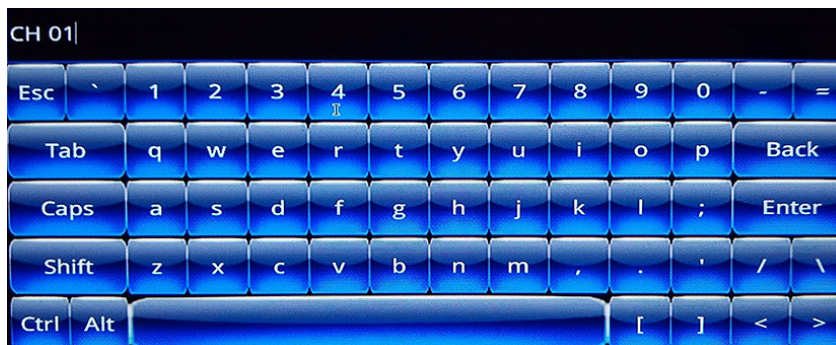
The **Monitor Display** screen enables you to specify the format for displaying the images from the system's six camera channels.



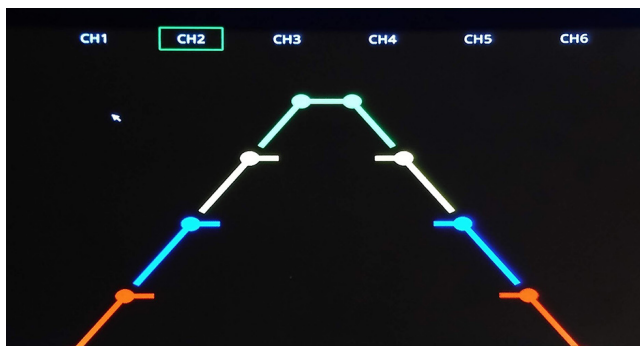
2. **Channel name:** press the **set** button to display a window with names of the channels.



Press the desired channel to display an on-screen keyboard where you can specify a name for each camera channel (for example, "Rearcam" instead of the default "CH02").



3. **Grid region:** press the **set** button to display a grid overlay screen where you can specify the distance grid for each camera channel.



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

rolling display

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

display time sec

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

full page 1 2 3 4 5 6

two page 1 2 3

7. **Default layout:** select from available options to specify the default camera channel layout that will be displayed when your SSV9 is powered on.

ch1-ch2
ch3-ch4
ch5-ch6
ch1-ch4
ch3-ch6
ch1-ch6

default layout ch1-ch2

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

preview time

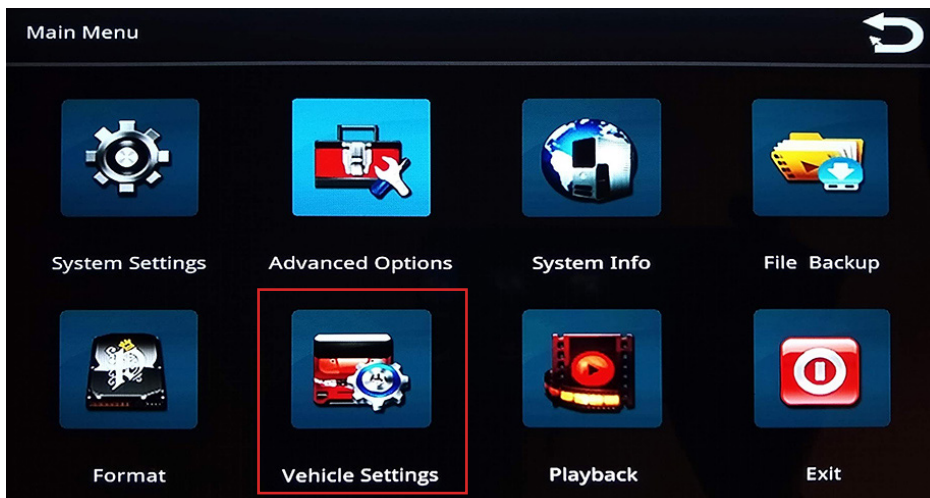
OFF

ON

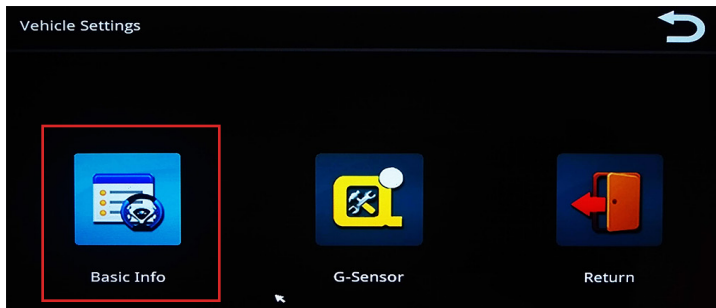
Specifying Vehicle Information

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

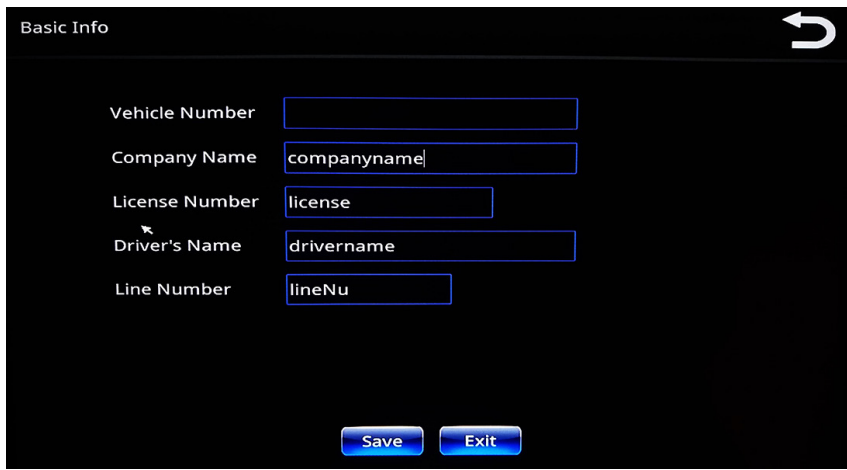
1. From the **Main Menu**, select **Vehicle Settings**.



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



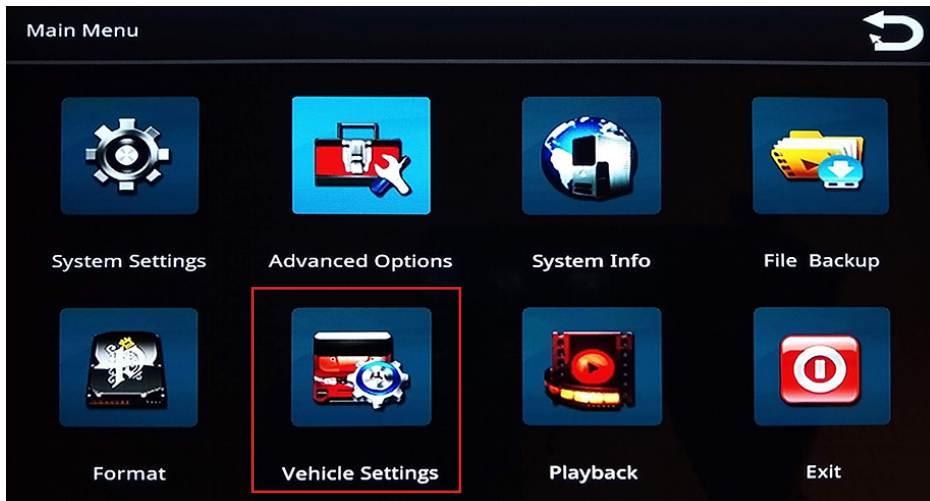
- Enter all information in the text fields.

A screenshot of the 'Basic Info' form. The form is titled 'Basic Info' at the top left and has a back arrow icon at the top right. It contains five text input fields, each with a label to its left: 'Vehicle Number' (empty), 'Company Name' (containing 'companyname'), 'License Number' (containing 'license'), 'Driver's Name' (containing 'drivename'), and 'Line Number' (containing 'lineNu'). At the bottom of the form, there are two buttons: 'Save' and 'Exit'.

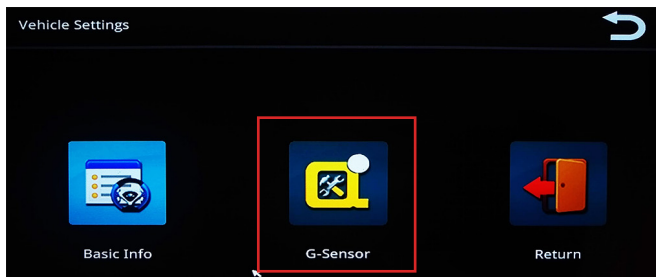
- Press **Save** when done.

Specifying G-Sensor Settings

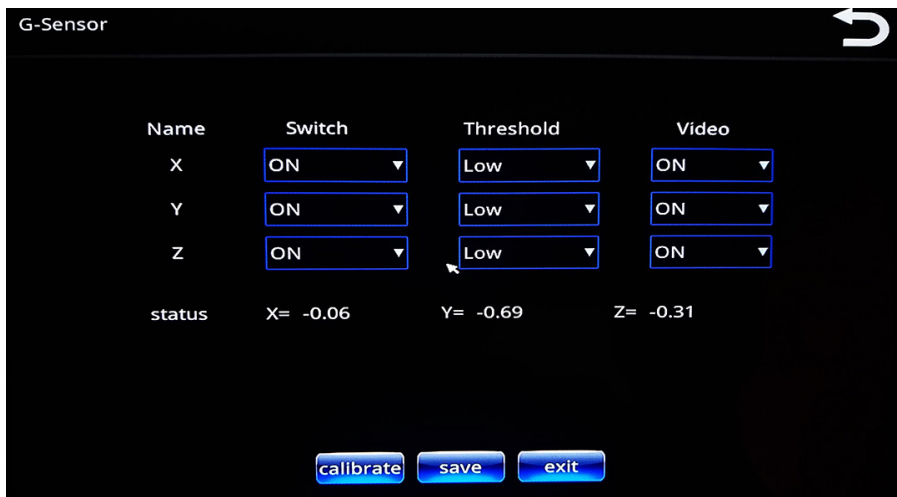
- From the **Main Menu**, select **Vehicle Settings**.



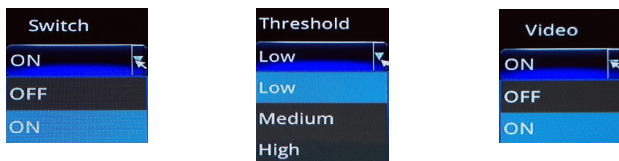
- From the **Vehicle Settings** menu, select **G-Sensor**.



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, which could be caused by hard braking or impact from collision.



- Make your choices from the menus, and then press **Save**.



- To reset the axes' positions, press the **calibrate** button. Use this button after your SSV9 has been securely installed in the vehicle.

User Management

SSV9 provides two built-in user accounts, neither of which can be deleted:

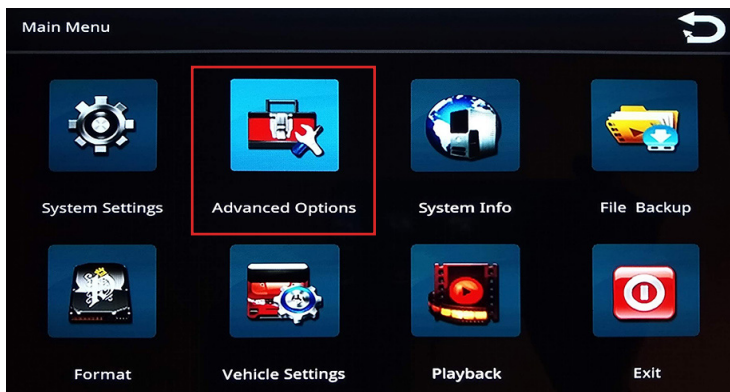
- **Admin**, a full-privilege administrator account. Privileges for this user account cannot be modified.
- **Default**, an account whose access privileges can be limited to certain functions.

NOTE: No additional user accounts

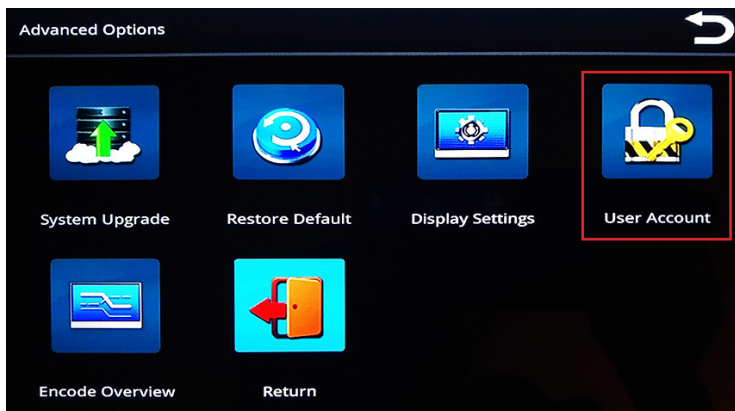
In the current software version, it is not possible to add further user accounts.

You perform user management for SSV9 using the **User Account** menu.

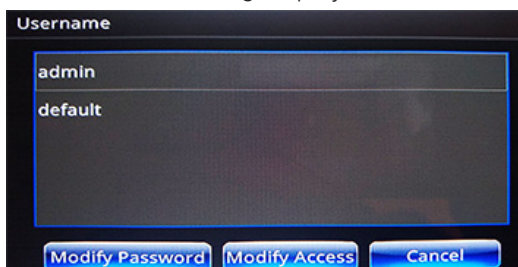
1. From the **Main Menu**, select **Advanced Options**.



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

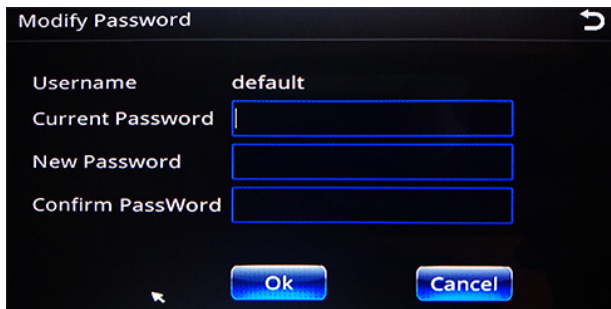


The **Username** dialog displays.



3. Select a user name from the list.

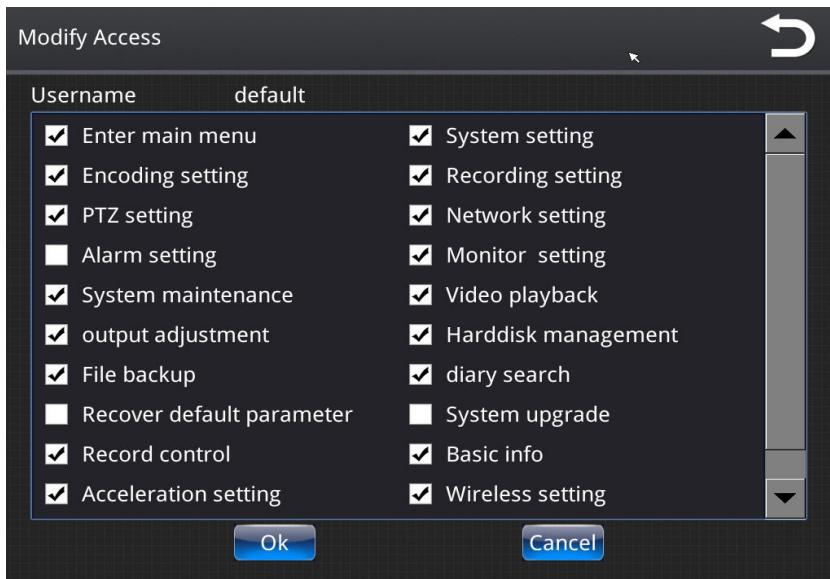
4. To modify or create a password, press **Modify Password**. Make your required changes, and then press **Ok**.



NOTE: Default password

The SSV9 is configured before shipping with the default password 456789.

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



Username	default
<input checked="" type="checkbox"/> Enter main menu	<input checked="" type="checkbox"/> System setting
<input checked="" type="checkbox"/> Encoding setting	<input checked="" type="checkbox"/> Recording setting
<input checked="" type="checkbox"/> PTZ setting	<input checked="" type="checkbox"/> Network setting
<input type="checkbox"/> Alarm setting	<input checked="" type="checkbox"/> Monitor setting
<input checked="" type="checkbox"/> System maintenance	<input checked="" type="checkbox"/> Video playback
<input checked="" type="checkbox"/> output adjustment	<input checked="" type="checkbox"/> Harddisk management
<input checked="" type="checkbox"/> File backup	<input checked="" type="checkbox"/> diary search
<input type="checkbox"/> Recover default parameter	<input type="checkbox"/> System upgrade
<input checked="" type="checkbox"/> Record control	<input checked="" type="checkbox"/> Basic info
<input checked="" type="checkbox"/> Acceleration setting	<input checked="" type="checkbox"/> Wireless setting

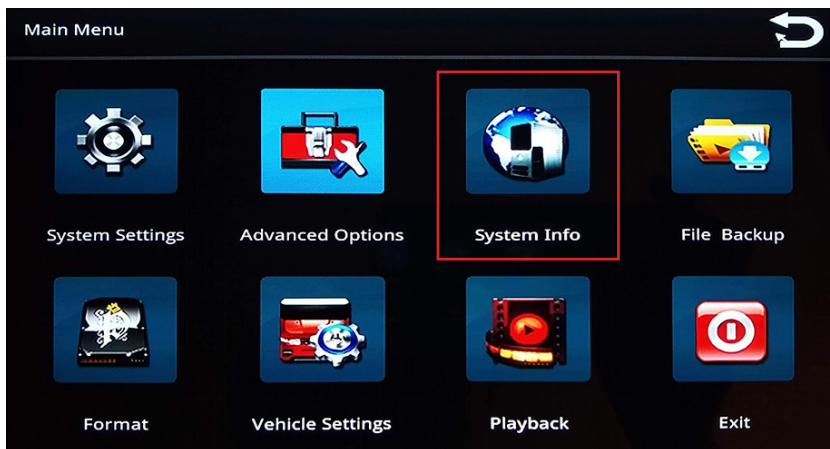
6. Make your required changes, and then press **Ok**.

System Information, Disk and File Management

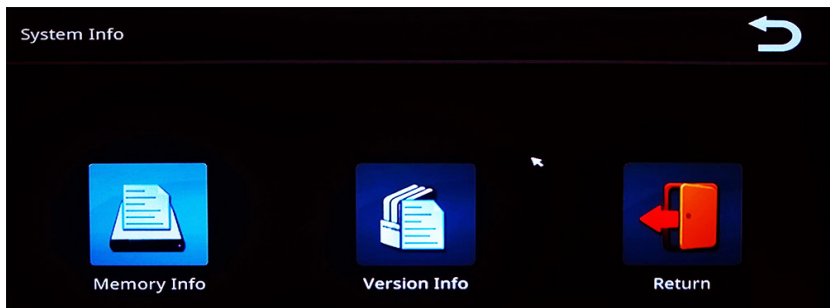
System Info

The **System Info** menu gives you read-only access to system information for the SSV9.

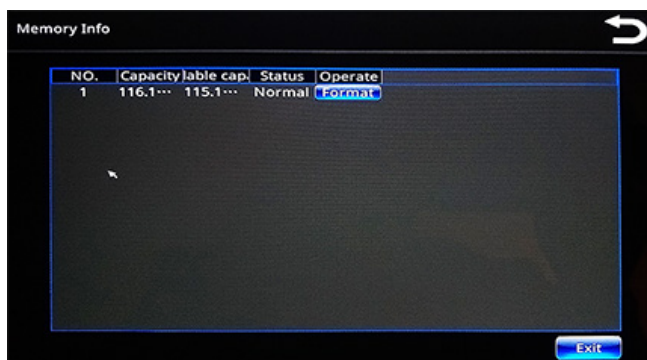
- From the **Main Menu**, select **System Info**.



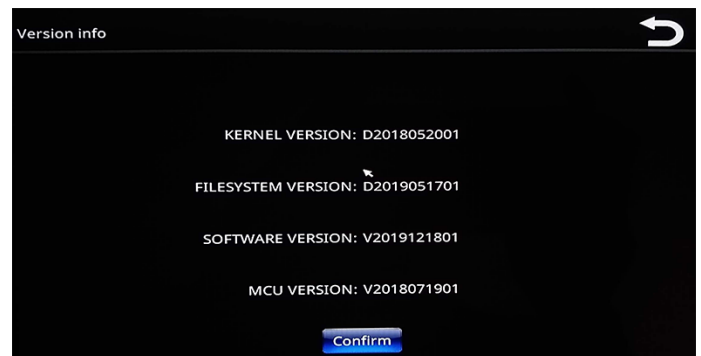
Select **Memory Info** or **Version Info** to review this information.



Memory Info



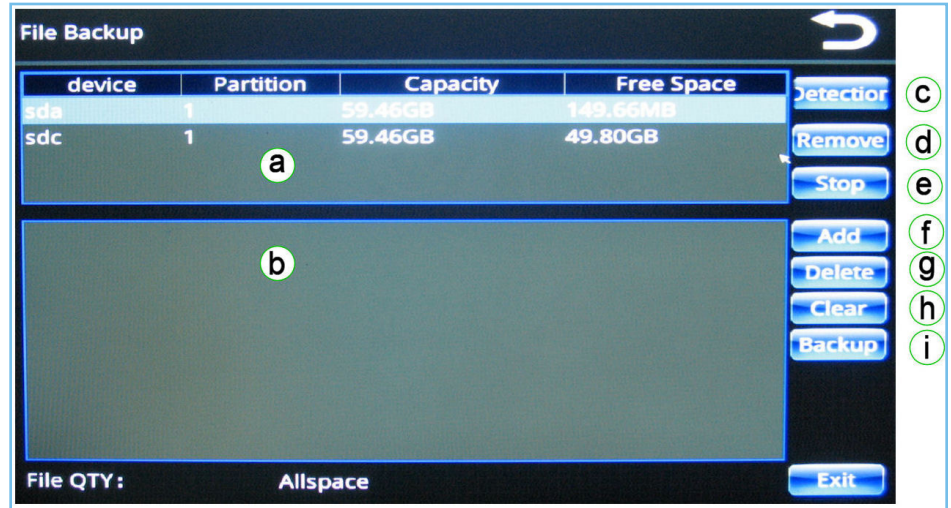
Version Info



File Backup

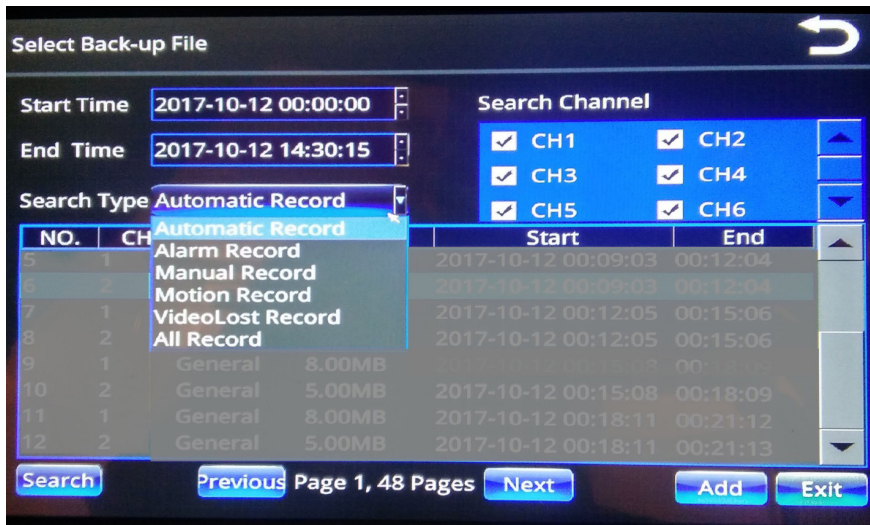
The **File Backup** menu enables you to back up the video files stored on the SSV9. This menu is found on the main screen.

- 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.

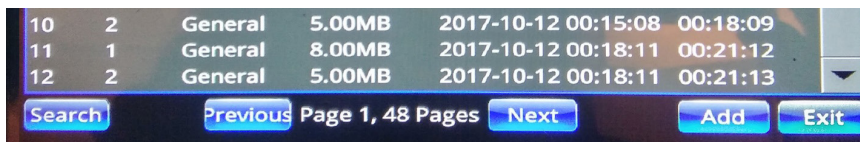


To begin a backup:

1. Select a partition from the upper panel, and then press **Add**. A search window is displayed in full-screen mode.



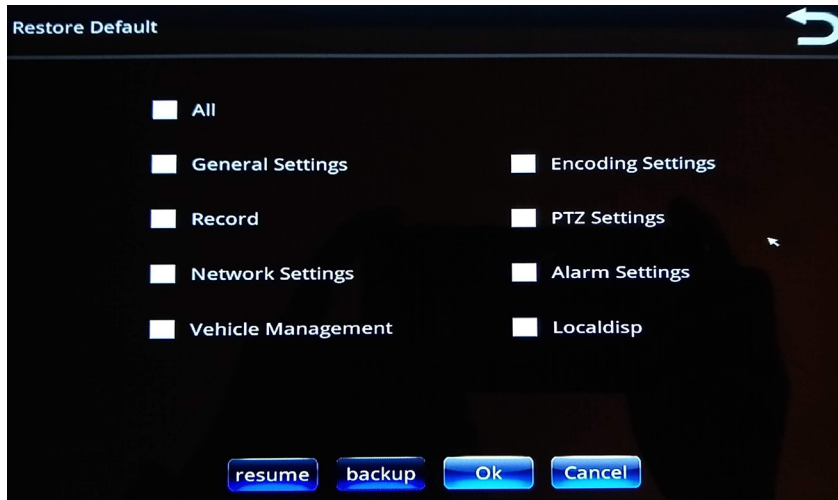
2. Select a date range, channel(s), and type(s) of records to search, and then press **Search**. Results are displayed in the lower panel.



3. Select each item you wish to back up, pressing **Add** for each selection.
4. Press **Backup**.

Restore Default

The **Restore Default** menu enables you to restore various system configuration settings to their default values. This menu is accessed from **Advanced Options** on the **Main Menu** screen.



Use the checkboxes to make your selection(s), and then press **OK**.

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	Cameral	Resolution	Frame fps	Bit kbps	Size GB/h
CH1	connect	1080N	30	1518	0.64 GB
CH2	disconnect	D1	30	911	0
CH3	disconnect	D1	30	911	0
CH4	disconnect	1080N	30	2429	0
CH5	disconnect	D1	30	911	0
CH6	disconnect	D1	30	911	0
Total					0.64 GB

i NOTE: Encode Overview screen

You can also arrive at the **Encode Overview** screen by pressing the **details** button from 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.



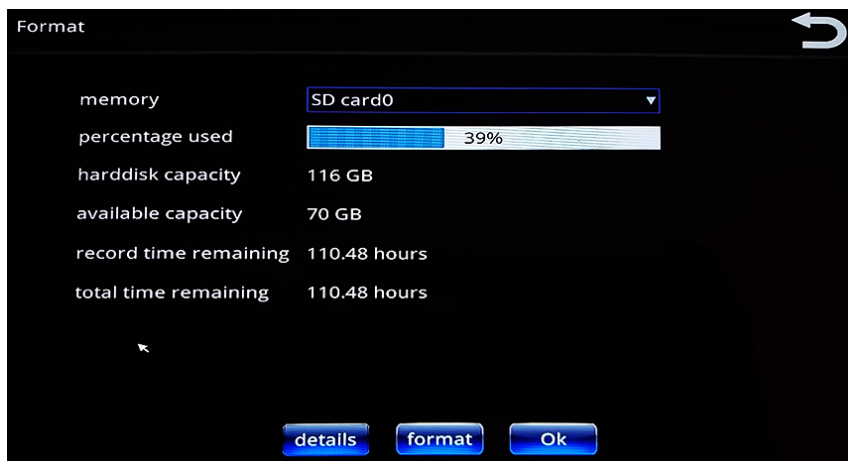
Refer to the **Setting Video Parameters** section for more information.

Format

The **Format** menu enables you to review the information about available memory cards installed in your SSV9 unit and format the desired cards to free up the storage space. This menu is accessed from the **Main Menu** screen.

⚠ CAUTION: Prevent data loss

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

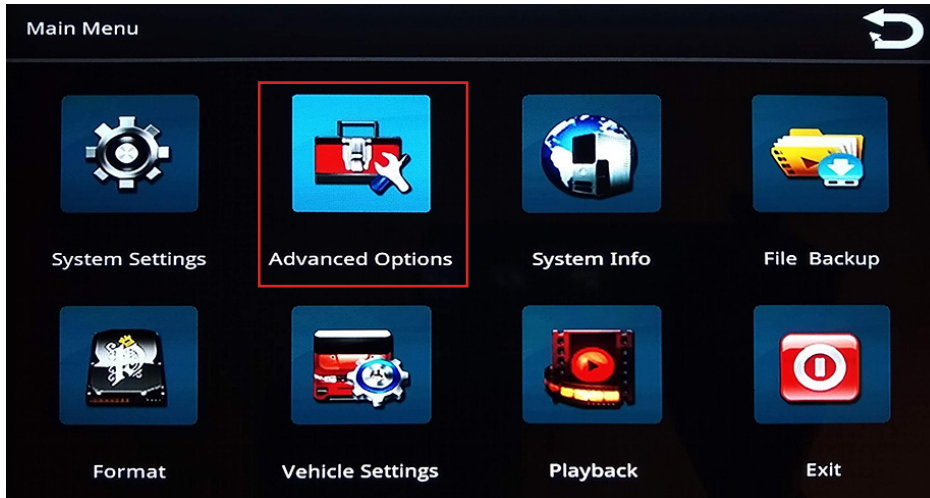


1. Select the desired memory card from the **memory** drop-down list.
2. Press the **format** button to initiate the formatting process.
3. Follow system prompts to complete the process.

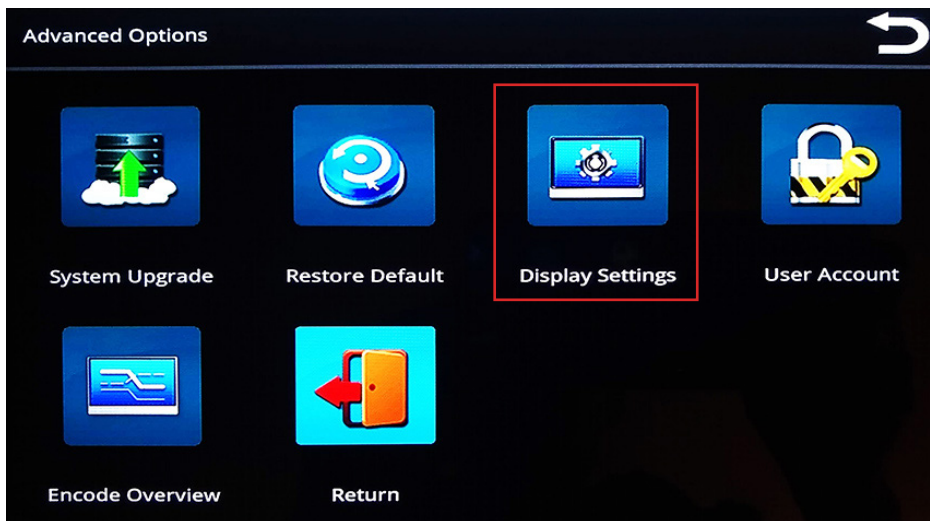
Adjusting On-Screen Display Settings

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

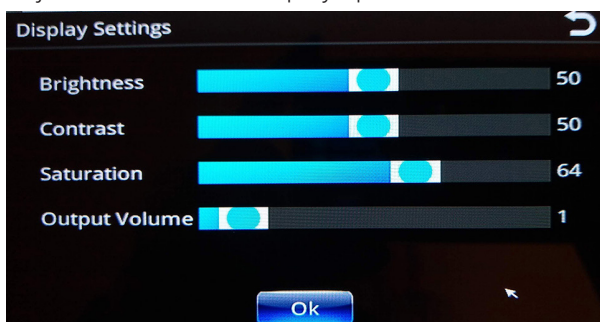
1. From the **Main Menu**, select **Advanced Options**.



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



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



4. Press **Save** when done.

Playing Back Videos

Viewing Videos Directly on SSV9 Unit

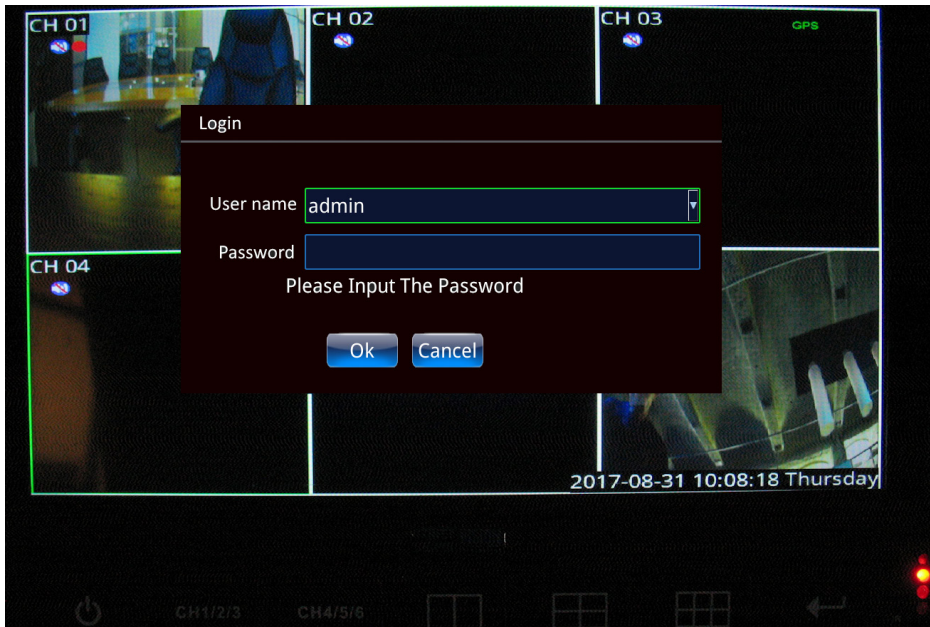
1. Touch lower area of screen to display controls.



2. Press the **Playback** button.



3. Enter user name and password, if required.



4. Select a date/time range, and press **search**.



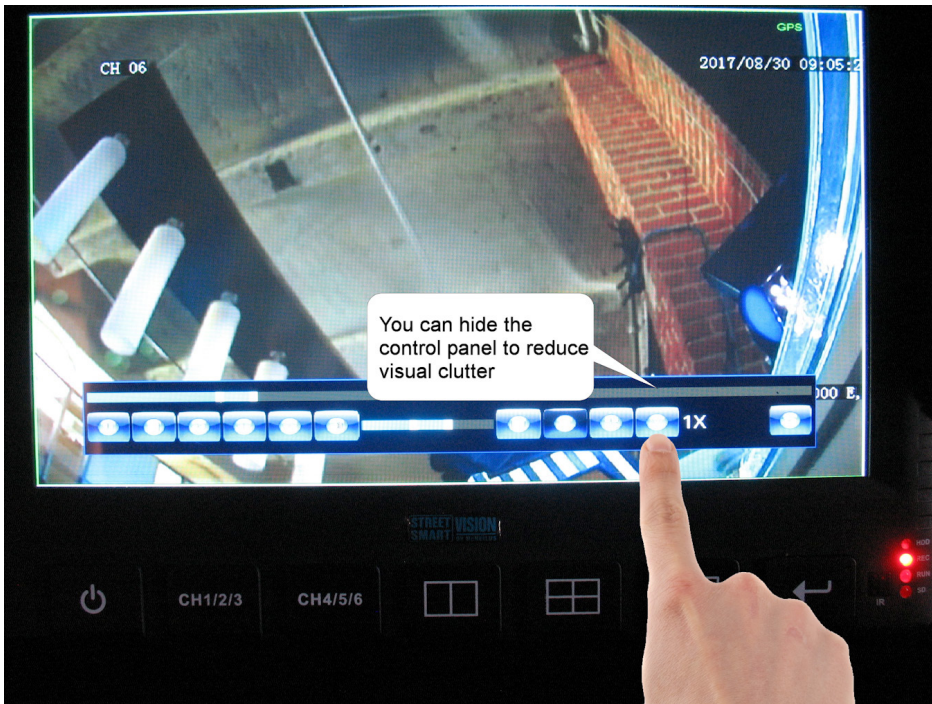
- Select a saved video from the list, and press **play**.



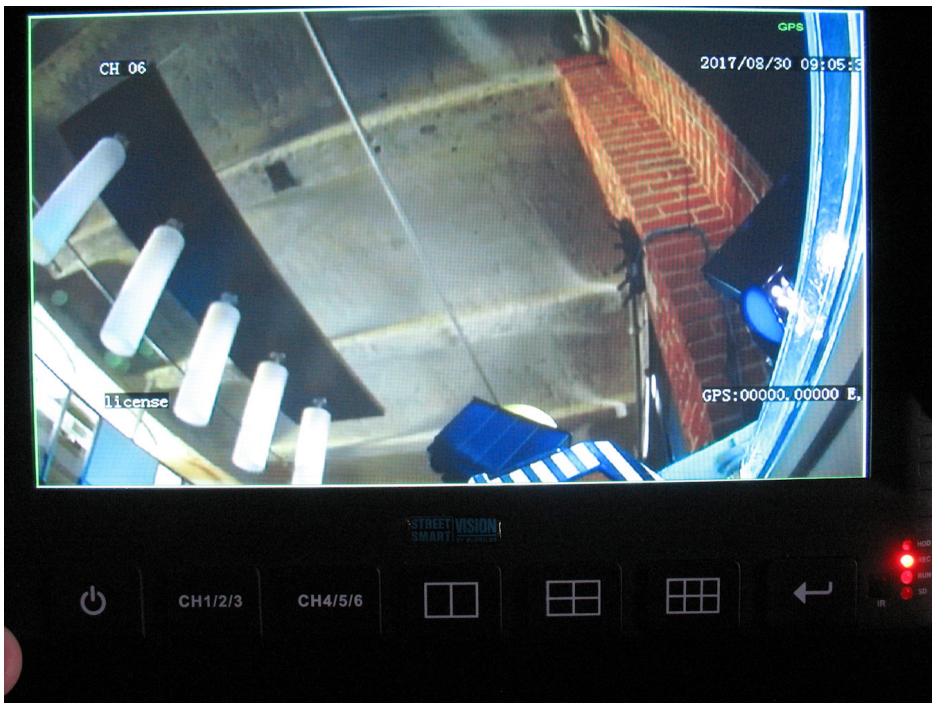
Video plays in the currently selected view (i.e., two/four/six-panel view or full-screen).



Full-screen view



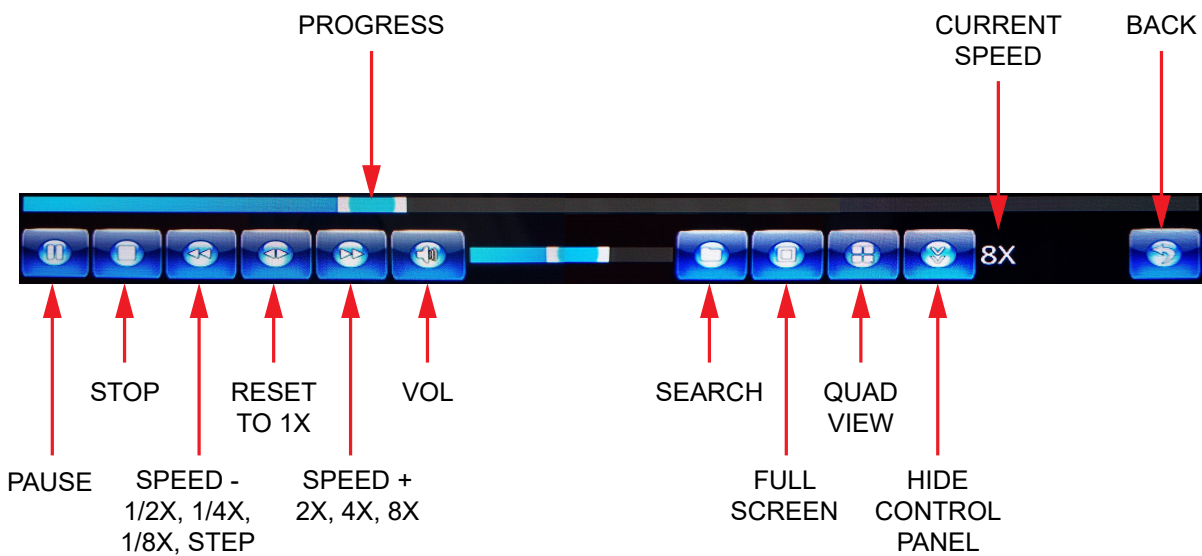
Control panel hidden



To show the control, tap the lower area of the screen and select the menu option.



Control Panel



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 SSV9 unit 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 SSV9 unit 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 SSV9 unit.
4. Reformat the SD card by following the instructions found in the **Format** section.

Troubleshooting

The material presented in this document provides troubleshooting tips for the SSV9 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 device does not start	Refer to the Startup and Runtime section.	

i NOTE: Replacing SD cards

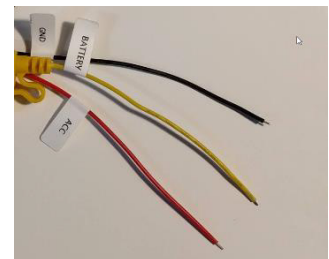
It is recommended to replace SD cards every 90 days to ensure consistent video recording.

Startup and Runtime

Normally the SSV9 DVR should complete loading and be operational within 60 seconds after powering on.

Q.1: Device 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 device 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 device. 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 fuses are intact and measure voltage at the power source. It should be between 9 and 36 volts

Q.2: Device 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.: Device 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 device 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 FleetMind Technical Support.
The device must be repaired or replaced.

Q3. 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 **SSV9 unit** 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

Email: fmsupport@safefleet.net