

# MJGT MDVR D4 USER GUIDE



Commercial Mobile Video Technologies of Canada



## Mobile DVR (Digital Video Recorder) (Dual SD Card MDVR)



Please Note: Due to our constant efforts of product improvement, we reserve the sole right to change product specifications, functions, operations and perform other modifications at our sole discretion without notification to our clients. We advise our clients to monitor our web site for notifications and implementing changes as made necessary regarding the above.

We also encourage constructive User feedback regarding errors, omissions and especially, useful feature and accessory upgrades as well as innovative User implementation of our products to creatively solve problems.

USING THE USER INTERFACE (UI)

The MDVR User Interface is designed to be clear, concise, consistent and easy to use for system setup, use and change. All selections and data entries are thru the use of the IR Remote Control (IRC) and the Virtual Keyboard. Read the dedicated pages regarding their use and the operational cues within the Screen Features.

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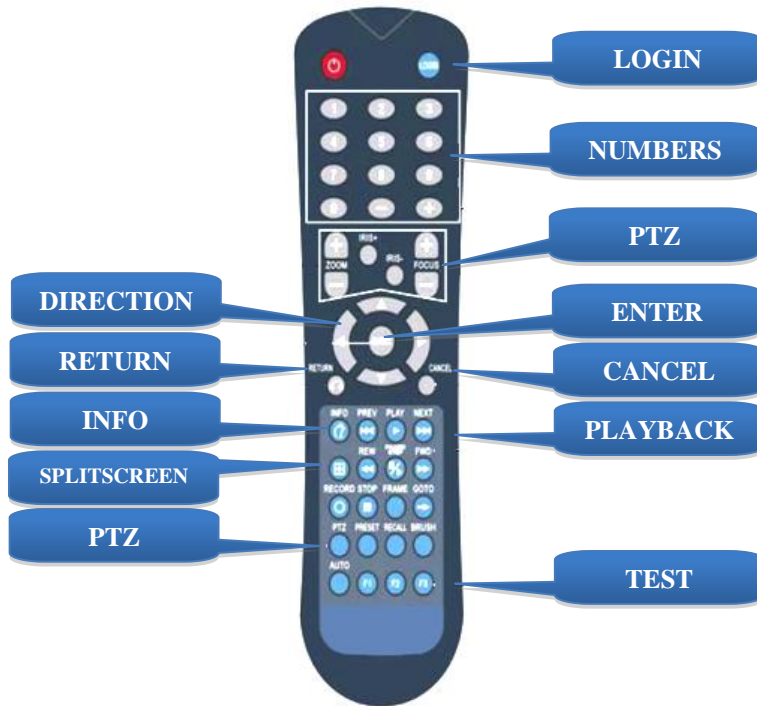
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## IR REMOTE CONTROL (IRC) FUNCTION KEYS



NOTE: Insert two new AAA alkaline batteries (User supplied) prior to the first use of the IRC.

Function Key Color Code used in the User Guide:

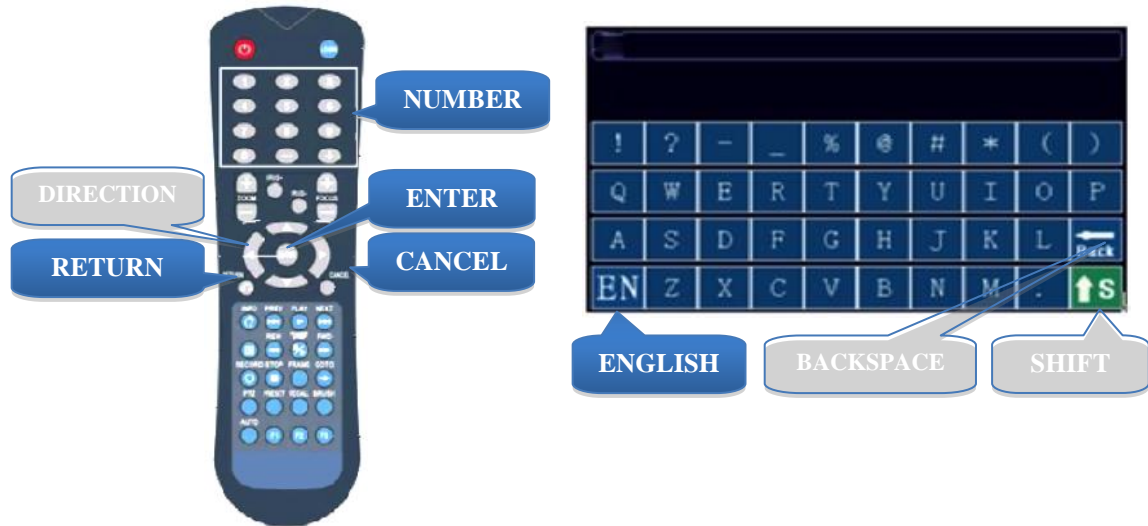
- ENTRY** IRC (Above) function key: Black background with white lettering
- SAVE** MDVR Onscreen function key: Blue background with white lettering. A dark blue background appears it is selected by the IRC. Press **ENTER** to complete the function.

Operation and setup of the User Interface involve onscreen selection and key entry using the IRC:

- LOGIN** Press the **LOGIN** button to enter the 1.0 USER LOGIN Screen.
- INFO** Press to display selected Info Screens overlaid on the Video
- SPLITSCREEN** Allows switching between four-screen and single screen views on the LCD Monitor. Press Screen-Split key to display 5 screens. Press **1**, **2**, **3**, **4** or **5** to display a full screen view of the desired camera view
- NUMBERS** Press number (**0-9**) to enter
- CANCEL** Press to delete last character entered
- RETURN** Press to Return to the previous screen
- PAUSE/STEP** Press during the PlayBack mode to Pause and Single Step thru the Video. Press Direction (arrow) keys to resume normal playback speed
- PLAY** Press during Play Back mode to start video playback after you have searched and selected the video file to review
- FORWARD** Press successively to Fast Forward (**2X,4X,8X,16X**) the video during the Play Back mode
- REW** Press successively to Reverse (**2X,4X,8X,16X**) the video during Play Back mode
- PTZ FUNCTION KEYS** Press to control various PTZ functions. Including Pan, Tilt, Zoom, Focus, Presets, etc. Note: PTZ Video Channel view must be selected prior to use

**F1, F2, F3** Used for special test functions

## IR REMOTE CONTROL USE FOR DATA ENTRY (IRC)



The IR Remote Control (IRC) is used in conjunction with the MDVR Virtual Keyboard to enter **alpha-numeric** data into the MDVR OS selection and data fields. The Virtual Keyboard will automatically appear as needed. Use the IRC Number Keys for Fields requiring numbers only.

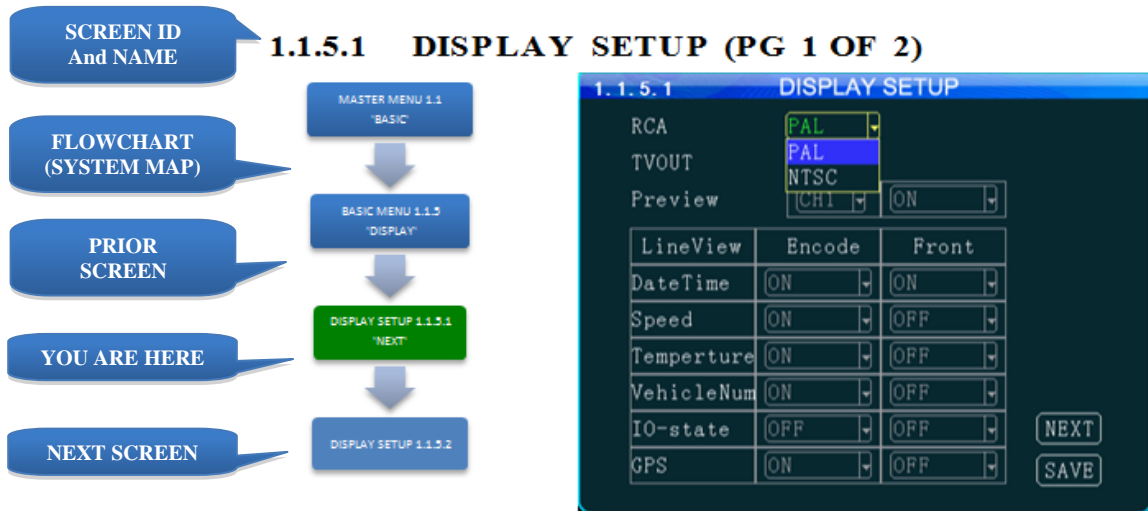
Types of Data Fields used in the GUI:

<b>(DATA FIELD)</b>	The MDVR system will post the data. (No User entry)
<b>USER ENTRY FIELD</b>	The User will enter data using the IRC and/or the Virtual Keyboard will automatically be displayed when needed.
<b>DROP DOWN MENU</b>	The User will select one of the choices offered in the drop down Menu.

To enter/delete characters using the Virtual Keyboard and the IRC:

<b>Lower Case Letters and Numbers</b>	Move to the character and press <b>ENTER</b>
<b>Upper Case Letters</b>	Select <b>↑S</b> on the Virtual Keyboard and press <b>ENTER</b> . Select the character and press <b>ENTER</b>
<b>Switch Languages</b>	Select <b>EN</b> on the Virtual Keyboard. Press <b>ENTER</b> to toggle the keyboard from English to Chinese and back
<b>Return to Previous Screen</b>	Press <b>RETURN</b>

## TYPICAL UI PAGE LAYOUT



**USAGE SUMMARY** The **1.1.5.1 DISPLAY SETUP** screen allows the selection of video input (Cameras) and video output (Monitor). If the wrong type is selected for the Camera or Monitor, a horizontal 'rolling effect' may be seen.

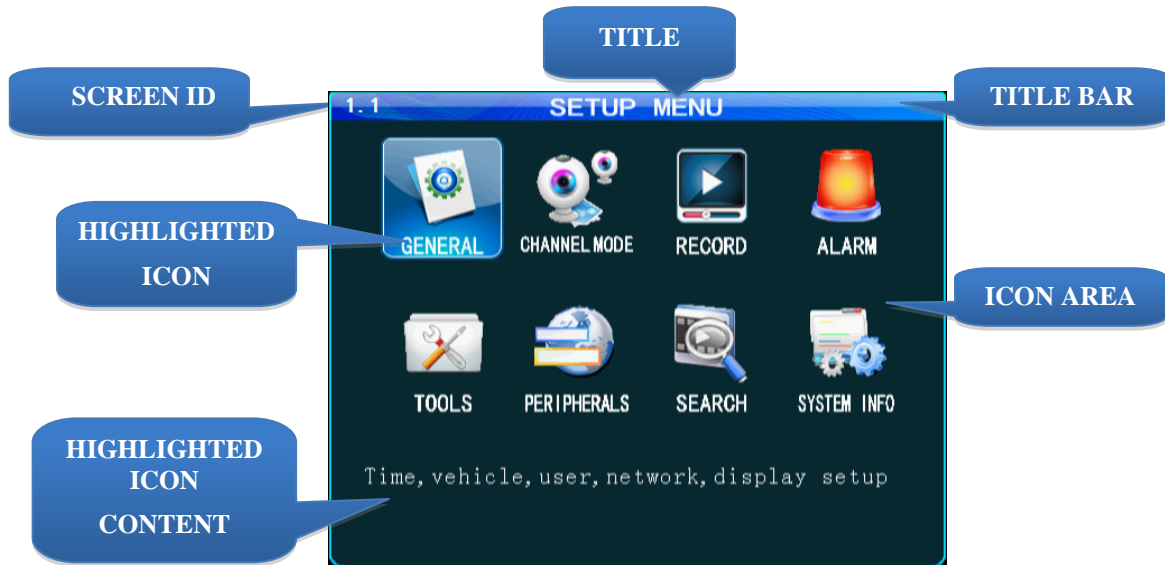
The **VIEW** function allows the use of a 'hidden camera' whereby its output may be recorded on the MDVR and viewed remotely via the IVMS but not displayed on the local Monitor.

<b>ITEM NAME AND USAGE</b>	<b>VIDEO IN TYPE</b>	Select one of two options to match the Camera Type connected to the MDVR: <b>NTSC</b> USA Video standard <b>PAL</b> Europe, China, etc.
	<b>VIDEO OUT TYPE</b>	Select one of two options to match the Monitor Type connected to the MDVR: <b>NTSC</b> USA Video standard <b>PAL</b> Europe, China, etc.
	<b>VIEW</b>	Allows use of camera without it being displayed in real time on the monitor. Select one of two options: <b>ON</b> The camera view will be displayed <b>OFF</b> The camera view will NOT be displayed

**VIEW CH** Select the channel which will NOT be displayed on the local Monitor

<b>ACTION BAR KEYS</b>	Action Bar Keys (Select, then press <b>ENTER</b> ):	
	<b>NEXT</b>	To move to the 1.1.5.2 DISPLAY SETUP screen
	<b>SAVE</b>	To save and activate the new settings

## MENU SCREEN LAYOUT



The 1.1 SETUP MENU screen shown above is an example of a typical UI Menu or sub Menu. The Menu acts as a general gateway to more specific Sub Menus and Data Screens for entering data and the settings of various MDVR functions, features and actions. In addition, if the User Guide isn't readily available, the User may simply move from icon to icon and read the Highlighted Icons Content list to search for access to a content specific screen.

Use the IR Remote Control (IRC) to move to and highlight the desired icon.

A content description of the highlighted Icon will appear near the bottom of the Menu screen listing the main topic screens associated with this Icon

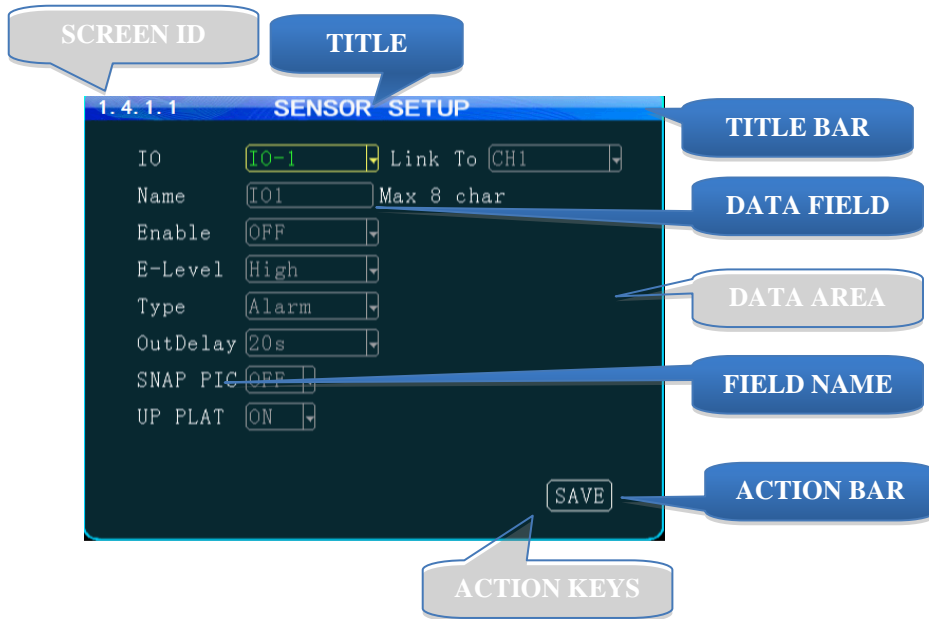
There are three major sections:

<b>TITLE BAR</b>	The top blue bar consists of: <b>ID</b> Unique number to refer to a particular Screen/Menu for support purposes <b>TITLE</b> Name of the screen for functional reference
<b>ICON AREA</b>	Each ICON relates to specific Sub Menus and Data Screens for entering data and the settings of various MDVR functions, features and actions
<b>HIGHLIGHTED ICON CONTENT</b>	A list of the specific Sub Menus and Data Screens available through the highlighted Icon for entering data and the settings of various MDVR functions, features and actions

Use the IRC Direction Keys to highlight the desired ICON, then:

- ENTER** Press to move to the associated Sub Menu or Data Screens
- RETURN** Press to return to previous screen

## DATA SCREEN LAYOUT



The Data Screen enables a User with appropriate authorization to view, setup and change the MDVRUI fields, features and functions.

There are three major sections:

<b>TITLE BAR</b>	<p>The top blue bar consists of:</p> <p><b>ID</b> Unique number to refer to a particular Screen/Menu for support purposes</p> <p><b>TITLE</b> Name of the screen for functional reference</p>
<b>DATA AREA</b>	<p>The data area consists of the fields necessary to setup MDVR options, features and functions, generate and report monitored activities, etc. For detailed definitions see the DATA AND ACTION FIELDS page in this User Guide</p>
<b>ACTION BAR</b>	<p>The bottom has the Action Keys (SAVE) necessary to complete the data setup and entry functions associated with that screen. Select the desired key and press <b>ENTER/ENTER</b></p>



## DATA ENTRY AND REPORT FIELDS

There are several different types of Data Fields used within the MDVR GUI:

<b>SYSTEM FILL</b>	( )	Data is automatically entered by the MDVR OS (GPS, Month, Measurement Unit, Device Reading, etc.)
<b>DATA ENTRY</b>	DOOR	Data is to be entered by User using the IRC (Numeric only) or Virtual Keyboard appearing when alphanumeric data entry is needed
<b>DATA ALERT</b>	DOOR	A data field background may change color to indicate a device status change (Red for Alarm, etc.). The User Guide will define this feature for each affected field
<b>DROP DOWN</b>	CH 1	Indicated by a 'Down Arrow' symbol on the right side of the field. The User may use the IRC to select the from a preset list appearing onscreen
<b>DROP DOWN MENU</b>	ALARM ALARM SYSTEM	Appears when the User selects a Drop Down field using the IRC. Move the blue highlight (as shown) to the appropriate entry and press <b>ENTER</b>
<b>DATA ENTRY</b>	DOOR OPEN	Data is to be entered by User using the IRC (Numeric only) or Virtual Keyboard appearing when alphanumeric data entry is needed
<b>CHECK BOX</b>	<input type="checkbox"/>	Move the blue highlight to the data next to the Check Box. Press <b>ENTER</b> to select. Different results may occur depending on the GUI screen settings. The User Guide will define this feature as necessary. See examples below:

**CHECK AND GO**

DEVICE	NAME	ADDR	ENABLE
TANK 1	KEROSENE	12	ON

**Single Selection and Go To:**  
 Select one item (Highlight)  
 Press **ENTER**  
 Relevant screen appears

**CHECK LIST**

	RIGHTS
9	SCHEDULE
10	SENSORS
11	SPEED
12	ACC
13	TEMPERATURE
14	MOTION DETECTION
15	ALARM OUT
16	CONFIG

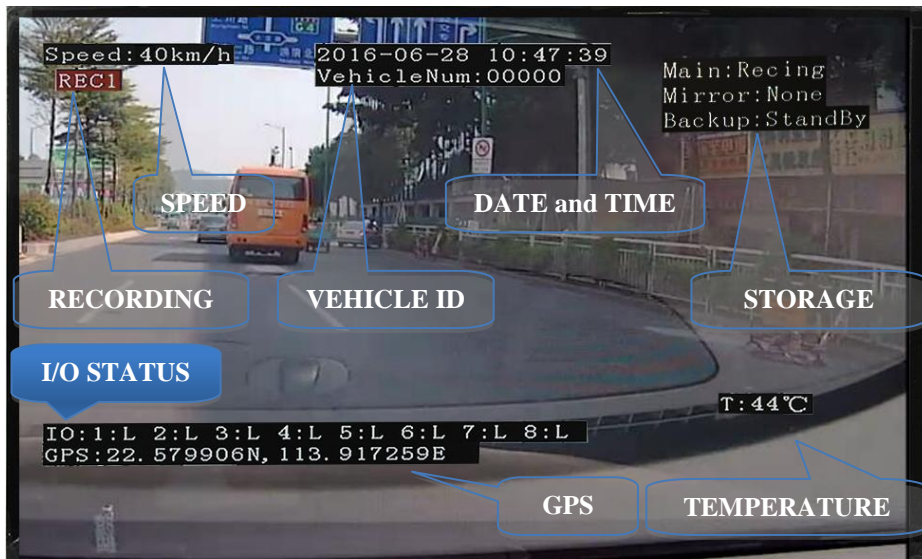
**Multiple Selection and Save:**  
 Select one or more items for list  
 Press **ENTER** eachtime  
 Select **SAVE** and save list  
 Press **ENTER**  
 Proceeds to relevant screen

**CHECK AND PLAY**

CH	TYPE	START	END	RES.	SIZE
1	NORMAL	14:16:31	14:16:53	D1	231K
2	NORMAL	14:16:31	14:16:53	D1	232K
3	NORMAL	14:16:31	14:16:53	D1	232K
4	NORMAL	14:16:31	14:16:53	D1	232K

**Playback List:**  
 Select one or more items  
 Press **ENTER** each time  
 Select video to view  
 Press **PLAY**, List will be displayed at end of video

## VIDEO SCREEN LAYOUT



Screen View with Data Overlay

Displays current or recorded camera view(s) and/or information (Previously set in the UI) overlaid on video, including System Messages, Alerts and Status. Requires a properly connected and setup Display Monitor (Optional)

View up to five MDVR video screens are for real time or playback on a single channel A/V Monitor:



TWO VIEWS



THREE VIEWS



FOUR VIEWS



FIVE VIEWS

To Change Views:

**SPLITSCREEN**

Press to enter SPLIT SCREEN Mode

**1, 2, 3, 4 or 5**

Press to display a full screen view of the desired camera view

## DEVICE START-UP

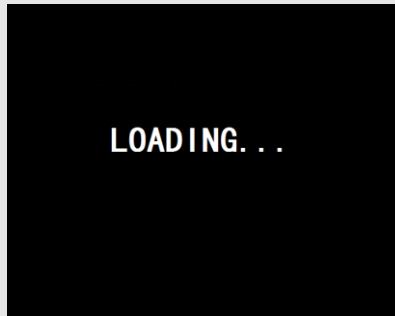
The following assumes the User has confirmed the MDVR is correctly installed according to the manufacturers installation instructions and is correctly configured for use:

Pre-check before Startup:

<b>LCD MONITOR</b>	Connected to either the rear I/O Cable Monitor Connector or the A/V Jack on the Front Panel
<b>SECURITY PANEL</b>	Closed
<b>POWER SOURCE</b>	Connected and MDVR STATUS PANEL PWR indicator (blue) is lit

Startup Sequence:

<b>CHECK POWER</b>	The PWR indicator (blue) will be lit on the front Status Panel to show the MDVR is receiving power. If the Monitor is powered by the MDVR is may not display anything until the 0.0 LOADING PAGE appears
<b>INSERT KEY</b>	Insert key into Security Lock located on the front panel
<b>POWER ON</b>	Turn the key counterclockwise 90 <sup>0</sup> from the UNLOCK position
<b>P.O.S.T.</b>	Pre-Operation System Test. It is an automatic and required comprehensive test of the operational status during startup of the MDVR requiring about 48 seconds to complete.
<b>LOADING SCREEN</b>	The Loading Screen will be displayed during the P.O.S.T. If not, then check if Monitor is power On and the correct viewing channel set



**START UP VIEW** The Startup Screen will be displayed. The camera view(s) will be as set in the last setup of the MDVR



**CHECK STATUS** Use the IRC to verify the operational status of the MDVR:  
**INFO** Press to view 1.8.1 SYSTEM INFO PG 1 OF 2  
**NEXT** Select, then:  
**ENTER** Press to view PG 2.

## 1.0 INITIAL LOGIN



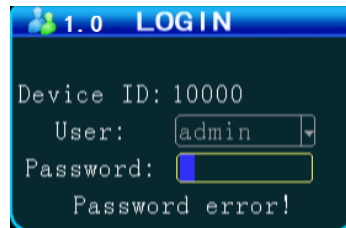
The **1.0USERLOGIN** screen is used to provide secure access to the MDVR settings by requiring User Name and Password entry for access to the MDVR features, functions and settings.

**For security purposes change original USER NAME and PASSWORD as soon as possible.**

To Login:

<b>LOGIN</b>	Press
<b>USER</b>	Enter <b>ADMIN</b>
<b>PASSWORD</b>	Enter <b>888888</b>

**Note:** If the **USER NAME** and **PASSWORD** do not match, a warning prompt will appear in below the Password field to re-enter the correct data. If so, press **RETURN** to return to the LOGIN screen and enter the correct data.



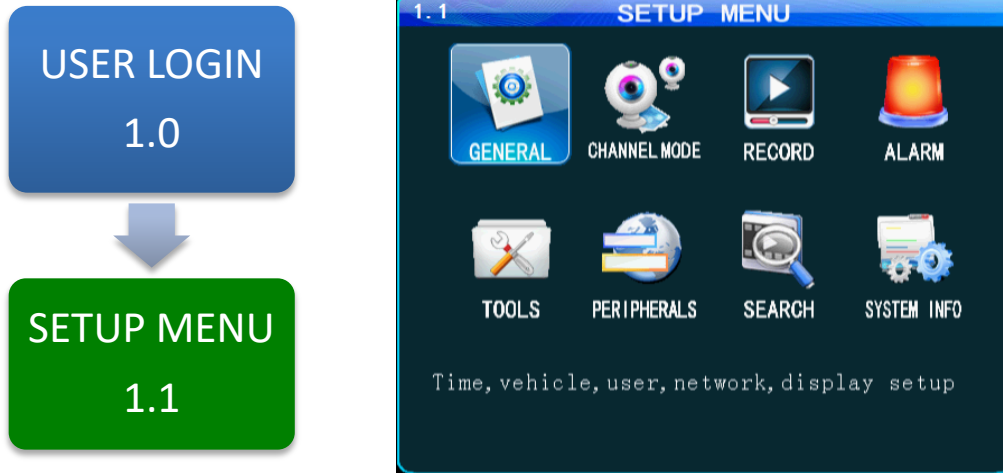
Once the correct User Name and Password have been entered and accepted the 1.1 MASTER MENU will appear:



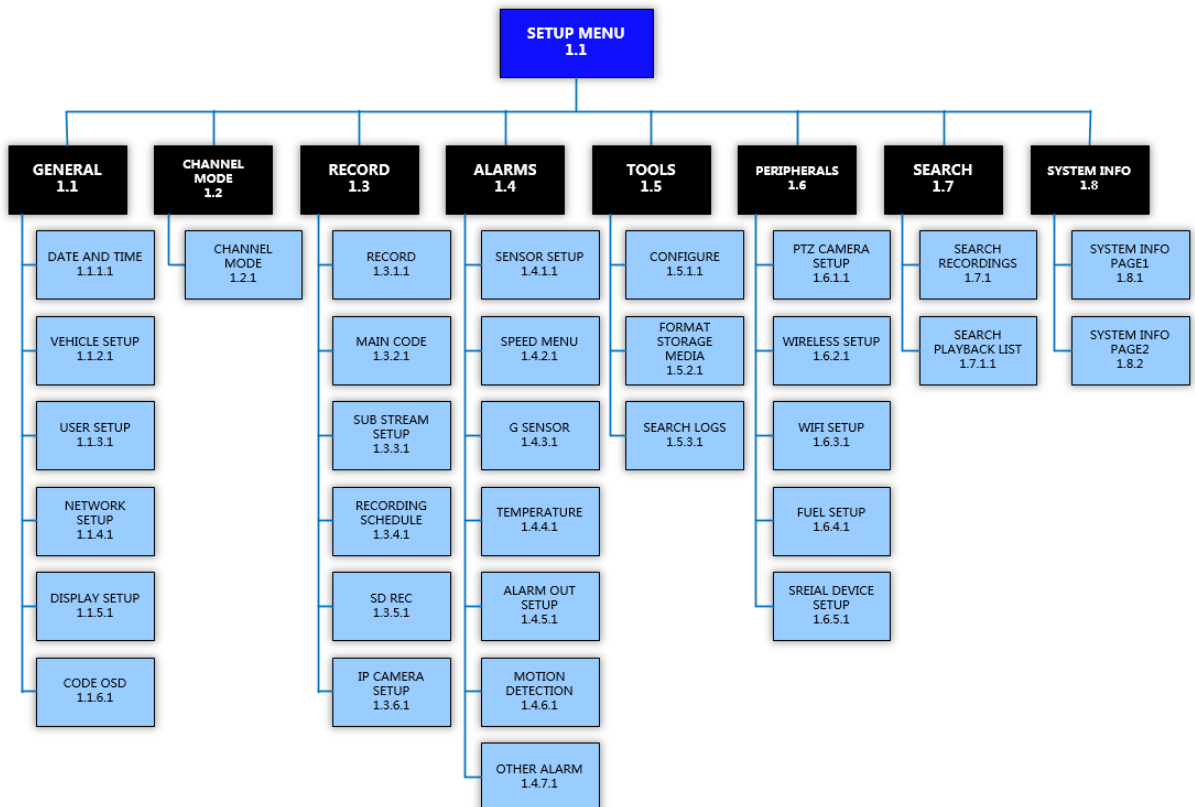
To setup the initial User Name and Password go to the **1.1.3.1 PASSWORD SETUP** screen:



## 1.1 SETUP MENU

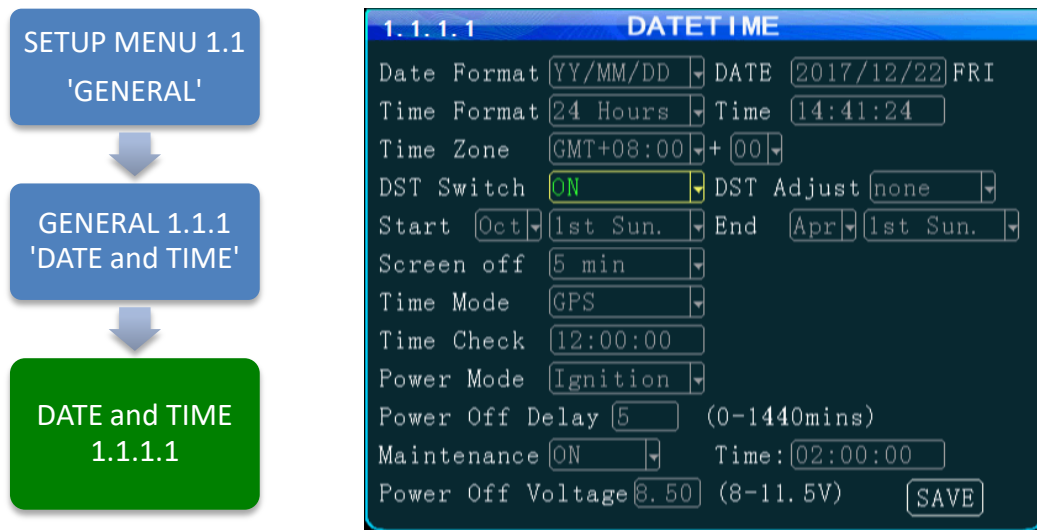


The **1.1 SETUP MENU** allows access to eight sub menus allowing the User, depending on their System Access Credentials, to access, search, view and change features or functions:



MASTER MENU FLOWCHART

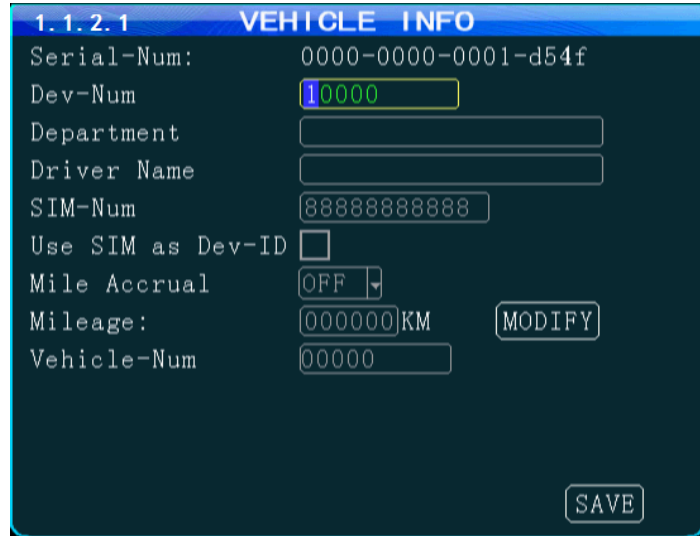
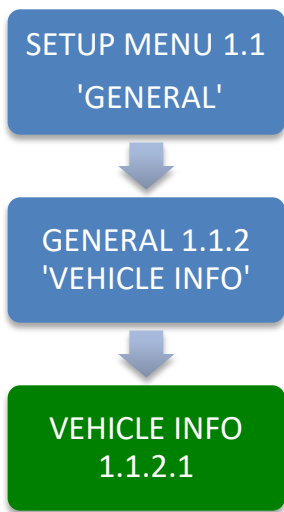
### 1.1.1.1 DATE AND TIME



The **1.1.1.1 DATE and TIME** screen allows the User to select or enter data to set the System Time and other basic time related properties of the MDVR.

<b>DATE</b>	Enter the current date in the format requested
<b>TIME</b>	Enter the correct local time in the format shown
<b>(DAY)</b>	Auto filled by SYSTEM (No User entry)
<b>DATE FORMAT</b>	Select to one of three possible date formats ( <b>Year-Month-Day, Day-Month-Year, Month-Day-Year</b> ).
<b>TIME FORMAT</b>	Select one of two Time Formats: <b>12 HOUR</b> 0 to 12 hours <b>24 HOUR</b> 0 to 2400 hours
<b>TIME ZONE</b>	Enter the GMT Time Zone setting for your location
<b>PLUS</b>	Select the additional time to add to the GMT time to be accurate locally
<b>TIME MODE</b>	There are two methods of updating the System Time: <b>MANUAL</b> The User will have to update the System Time. <b>GPS</b> The GPS system will automatically update the System Time each time it accesses the International GPS System.
<b>TIME CHECK</b>	Enter time for the MDVR to use GPS to reset onboard time if necessary
<b>MAINT</b>	Select the operational status of this function: <b>ON</b> The selected functions are 'On' <b>OFF</b> The selected functions are 'Off'
<b>M. TIME</b>	Enter the time the MDVR is to be turned 'Off', then 'On'
<b>DST</b>	<b>Daylight Savings Time.</b> Select from two options: <b>OFF</b> The default system setting. The User will have to manually change the System Time to compensate for the DST time changes if applicable. <b>ON</b> Enables the MDVR to automatically change the System Time based on Daylight Savings Time (DST)
<b>ADJ</b>	Select the amount of time, if necessary, to be added to the GMT set time for local accuracy
<b>START</b>	Select the Day DST is to start
<b>MONTH</b>	Select the Month DST is to start
<b>END</b>	Select the Day DST is to end
<b>MONTH</b>	Select the Month DST is to end

### 1.1.2.1 VEHICLE SETUP



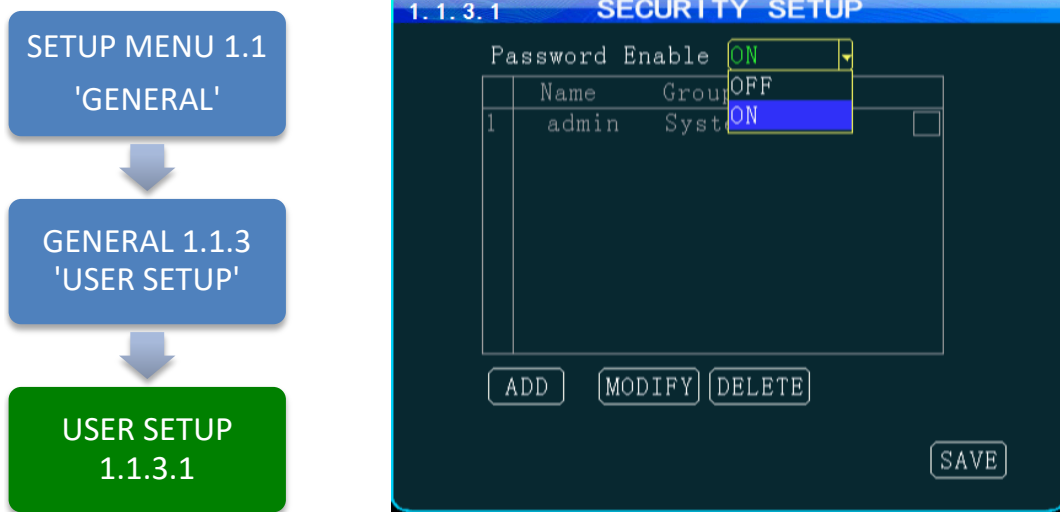
The **1.1.2.1VEHICLEINFO**screen is used to enter data and enable functions related to the company, vehicle, driver, mobile phone number and power related operation. The **DEVICE NUMBER** is the only field **required** to have data entered.

<b>(DEVICE SERIAL ID)</b>	Unique number assigned by factory. (No User entry)
<b>DEVICE NUMBER</b>	Unique number (Up to 7digits) to display on Video Display, be recorded with the Video files and ID the Vehicle to IVMS
<b>DEPARTMENT</b>	Enter company name (Up to 19 characters)
<b>DRIVER NAME</b>	Drivers name or ID (Up to 19 characters)
<b>SIM NUMBER</b>	Phone number for the MDVR contained SIM Card if installed
<b>MILE ACCRUAL</b>	Select from two ODOMETER options: <b>ON</b> Odometer will add (accrue) distance traveled based on GPS <b>OFF</b> Function disabled
<b>ODOMETER(MILEAGE)</b>	Enter starting mileage or kilometers if ACCRUAL function is ‘ON’
<b>LICENSE PLATE (VEHICLE-NUM)</b>	Enter License Plate characters (Up to 8 characters)

Action Bar Keys (Select, then press **ENTER**):

<b>CHANGE ODOMETER</b>	To enter new distance related numbers into the ODOMETER field
<b>SAVE</b>	To save the new settings 1.1.2.1 VEHICLE INFO screen will remain showing

### 1.1.3.1 USER SETUP



The **1.1.3.1 USER SETUP** screen allows setup of two levels of Password protected access to the MDVR UI. The ADMIN User account must have at least its Password changed first. Use the Action Bar keys to add, modify or delete User Accounts.

After the initial STSTEM (ADMIN) User Account has at least its Password changed and saved it will be necessary to login again using the new Password. **WARNING: Store the ADMIN Password in a secure location. If it is lost or forgotten you will have to contact the manufacturer to regain access to the MDVR OS.**

**NOTE: For security purposes it is strongly recommended the Administrator setup and enable the Password function. The default Login: ADMIN Password: 888888**

The MDVR Operating System is protected and accessed by two levels of password authority:

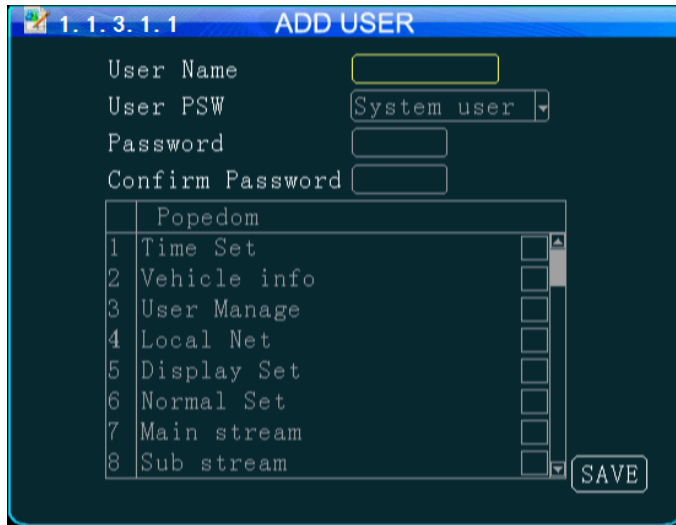
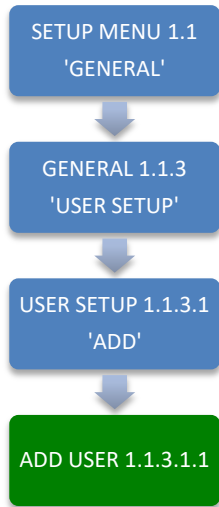
<b>SYSTEM</b>	Select from two options: Grants unlimited access and change privileges, including creating User Accounts, Passwords and restricted access Rights
<b>GENERAL</b>	Provides Password, limited access and change Rights
<b>PASSWORD</b>	Select from two options: <b>ON</b> Password protection is enabled <b>OFF</b> Password protection is off
<b>OP TIMEOUT</b>	Select time period to elapse prior to automatically logging the User out of the system
<b>NAME</b>	User Name list
<b>LEVEL</b>	Indicates the System Access Level granted by the ADMIN (No User Entry)

Action Bar Keys (Select, then press **ENTER**):

<b>ADD</b>	To Add new User account 1.1.3.1.1 ADD USER screen
<b>MODIFY</b>	To Modify a User settings 1.1.3.1.2 MODIFY USER screen
<b>DELETE</b>	To Delete a User access 1.1.3.1.3 DELETE USER screen
<b>SAVE</b>	To Save the new settings 1.1.3.1 USER SETUP screen will remain



### 1.1.3.1.1 ADD USER



The **1.1.3.1.1 ADD USER** screen allows SYSTEM level Users to add SYSTEM (total access) or GENERAL (limited access) level Users for setup and operation of the MDVR User Interface. A total of eight User accounts are allowed.

After a User Account is entered and saved it will be necessary to login again using the new Password.

To add a User Account:

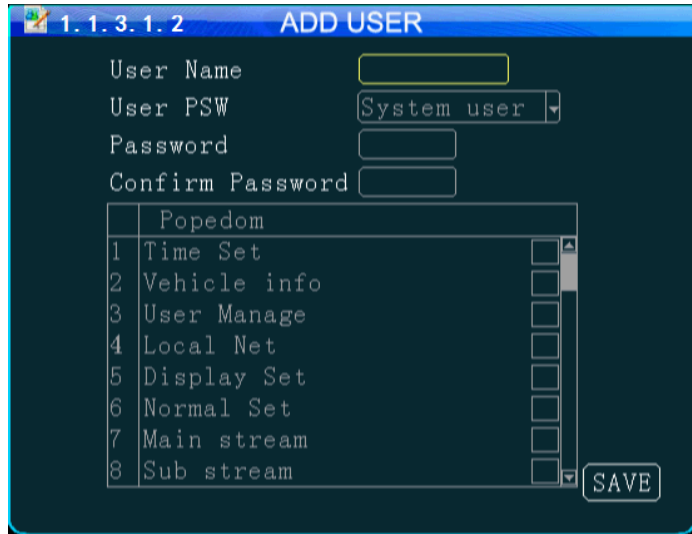
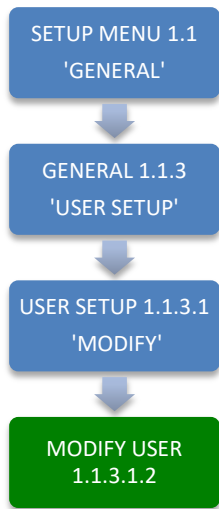
<b>NAME</b>	Enter Users Name
<b>LEVEL (USER PS W)</b>	Select from two options: <b>SYSTEM</b> Grants unlimited access and change privileges, including creating User Accounts, Passwords and restricted access Rights <b>GENERAL</b> Provides Password, limited access and change Rights
<b>PASSWORD</b>	Enter Users 6 digit Password (Numbers only)
<b>CONFIRM</b>	Re-enter the same User Password
<b>RIGHTS(POPEDOM)</b>	A title for the list of the User screens allowing setup and change of the MDVR features. Select as necessary
<b>CHECKBOX</b>	Select the User Access (setup and change) Rights by moving the blue highlight to the desired Rights Check box and pressing <b>ENTER</b> . Repeat process until list is complete

Confirm the new settings are correct and save the file.

Action Bar Keys (Select, then press **ENTER**):

<b>SAVE</b>	To save and the 1.1.3.1 USER SETUP screen will appear
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### 1.1.3.1.2 MODIFY USER



The **1.1.3.1.2 MODIFY USER** screen allows SYSTEM level Users to change the parameters of an existing User account.

Once the selected User account is added the 1.1.3.1 USER SETUP screen will appear. To modify another User account repeat the Modify User account process.

To modify a User Account:

<b>NAME</b>	Enter Users Name
<b>LEVEL(USER PSW)</b>	Select from two options: <b>SYSTEM</b> Total system access <b>GENERAL</b> Limited to specific rights set by the SYSTEM level User
<b>PASSWORD</b>	Enter Users 6 digit Password (Numbers only)
<b>CONFIRM</b>	Re-enter the same User Password
<b>RIGHTS(POPEDOM)</b>	A title for the list of the User screens allowing setup and change of the MDVR features
<b>CHECK BOX</b> <input type="checkbox"/>	Select the User Access (setup and change) Rights by moving the blue highlight to the desired Rights Check box and pressing <b>ENTER</b> to check or uncheck.Repeat process until list is correct

Confirm the new settings are correct and save the file.

Action Bar Keys (Select, then press **ENTER**):

<b>SAVE</b>	To save and the 1.1.3.1 USER SETUP screen will appear
-------------	---

### 1.1.3.1.3 DELETE USER



The **1.1.3.1.3DELETE USER** screen allows a **SYSTEM** level User to delete an existing User account.

If a User account is deleted by mistake, it will have to be re-entered using the 1.1.3.1.1 **ADD USER** screen.

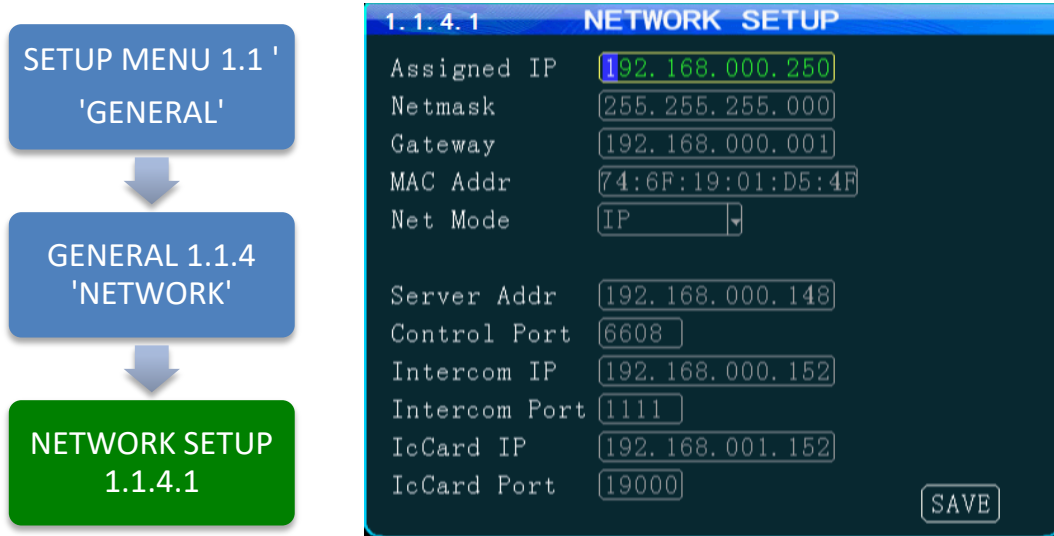
Once the selected User account is deleted the 1.1.3.1 **USER SETUP** screen will appear. To delete another account repeat the Delete User account process.

<b>NAME</b>	Users Name (No User entry)
<b>LEVEL(GROUP)</b>	Users Access Level: <b>SYSTEM</b> Total system access <b>GENERAL</b> Limited to specific rights set by the <b>SYSTEM</b> level User
<b>CHECK BOX</b>	Select the User Account to be deleted by moving the blue highlight to the desired Rights Check box and pressing <b>ENTER</b>

Action Bar Keys (Select, then press **ENTER**):

<b>DELETE</b>	To delete User account and the 1.1.3.1 <b>USER SETUP</b> screen will appear
---------------	---

### 1.1.4.1 NETWORK SETUP (3G/4G/WIFI Option Required)



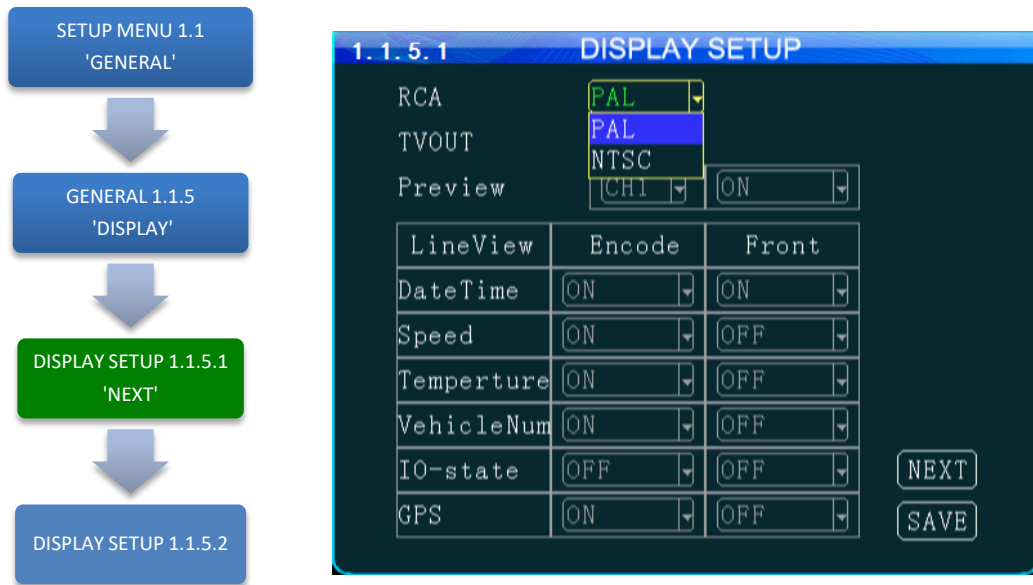
The **1.1.4.1 NETWORK SETUP** function enables the User to setup a 3G/4G/WIFI based, full duplex (bi-directional), communication between the MDVR and the Central Monitoring Service (IVMS) (optional) for real time, remote monitoring, setup, speed, etc. To utilize these functions, a compatible Internal or External WIFI Modem or 3G/4G must be connected and enabled. The Internal Modem must be ordered and installed by the factory. The External Modem is available as an option. Contact your IVMS SysOp(IT) for the data to enter below.

<b>IP ADDRESS</b>	Enter in standard format (000.000.000.000)
<b>NETMASK</b>	Enter in standard format (000.000.000.000)
<b>GATEWAY</b>	Enter in standard format (000.000.000.000)
<b>MAC ADDRESS</b>	The Modem will display the MDVRs MAC Address. It can be User edited
<b>NET MODE</b>	Select one of two options: <b>DOMAIN</b> When selected, the <b>DOMAIN and DNS</b> Fields will appear <b>IP</b> When selected, the <b>SERVER IP</b> Field will appear
<b>DOMAIN NAME</b>	(30 Characters)Appears only when <b>DOMAIN</b> is selected in the above field
<b>DNS</b>	Appears only when <b>DOMAIN</b> is selected in the <b>NET MODE</b> field
<b>SERVER ADDRESS</b>	Appears only when <b>IP</b> is selected in the <b>NET MODE</b> field
<b>CONTROL PORT</b>	(6 digits) Contact IVMS SysOp for this field entry
<b>INTERCOM IP</b>	Contact IVMS SysOp for this field entry. This feature requires the INTERCOM Kit (Optional)
<b>INTERCOM PORT</b>	(6 digits)Contact IVMS SysOp for this field entry. This feature requires the INTERCOM Kit (Optional)

Action Bar Keys (Select, then press **ENTER**):

<b>SAVE</b>	To save and activate the new settings
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### 1.1.5.1 DISPLAY SETUP (PG 1 OF 2)



The **1.1.5.1 DISPLAY SETUP** screen allows the selection of video input (Cameras) and video output (Monitor). If the wrong type is selected for the Camera or Monitor, a horizontal ‘rolling effect’ may be seen.

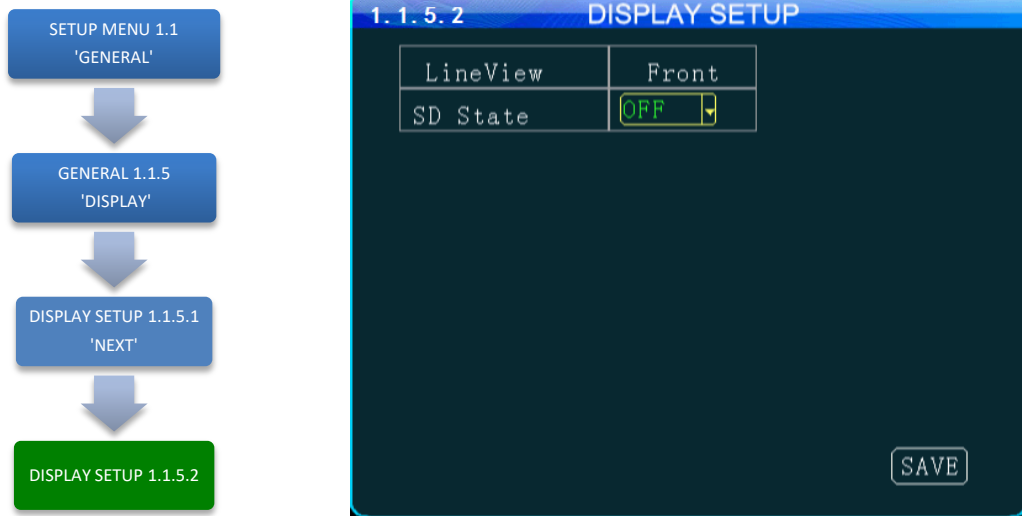
The VIEW function allows the use of a ‘hidden camera’ whereby its output may be recorded on the MDVR and viewed remotely via the IVMS but not displayed on the local Monitor.

<b>VIDEO IN TYPE</b>	Select one of two options to match the Camera Type connected to the MDVR: <b>NTSC</b> USA Video standard <b>PAL</b> Europe, China, etc.
<b>VIDEO OUT TYPE</b>	Select one of two options to match the Monitor Type connected to the MDVR: <b>NTSC</b> USA Video standard <b>PAL</b> Europe, China, etc.
<b>VIEW</b>	Allows use of camera without it being displayed in real time on the monitor. Select one of two options: <b>ON</b> The camera view will be displayed <b>OFF</b> The camera view will NOT be displayed
<b>VIEW CH</b>	Select the channel which will NOT be displayed on the local Monitor

Action Bar Keys (Select, then press **ENTER**):

- NEXT** To move to the 1.1.5.2 DISPLAY SETUP screen
- SAVE** To save and activate the new settings

## 1.1.5.2 DISPLAY SETUP (PG 2 OF 2)



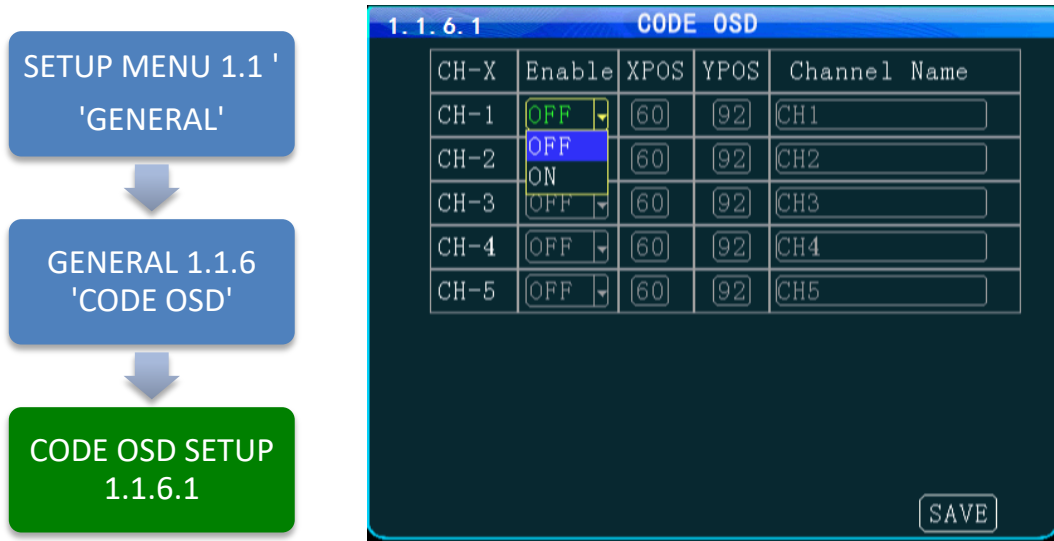
The **1.1.5.1 DISPLAY SETUP** screen allows to the User to select Embed and/or Overlay options for the fields listed on the screen.

<b>EMBED</b>	Data is overlaid and becomes a permanent part of the video
<b>OVERLAY</b>	Data is displayed overlaid on the video but not saved as integral part of the video
<b>DAY/TIME</b>	Select from two options each for EMBED and OVERLAY: ON OFF
<b>SPEED</b>	Select from two options each for EMBED and OVERLAY: ON OFF
<b>INT TEMP</b>	Select from two options each for EMBED and OVERLAY: ON OFF
<b>VEH ID</b>	Select from two options each for EMBED and OVERLAY: ON OFF
<b>I/O STATUS</b>	Select from two options each for EMBED and OVERLAY: ON OFF
<b>GPS COORD</b>	Select from two options each for EMBED and OVERLAY: ON OFF
<b>SD STATUS</b>	Select from two options for OVERLAY: ON OFF

Action Bar Keys (Select, then press **ENTER**):

<b>SAVE</b>	To save and activate the new settings
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### 1.1.6.1 CODE OSD



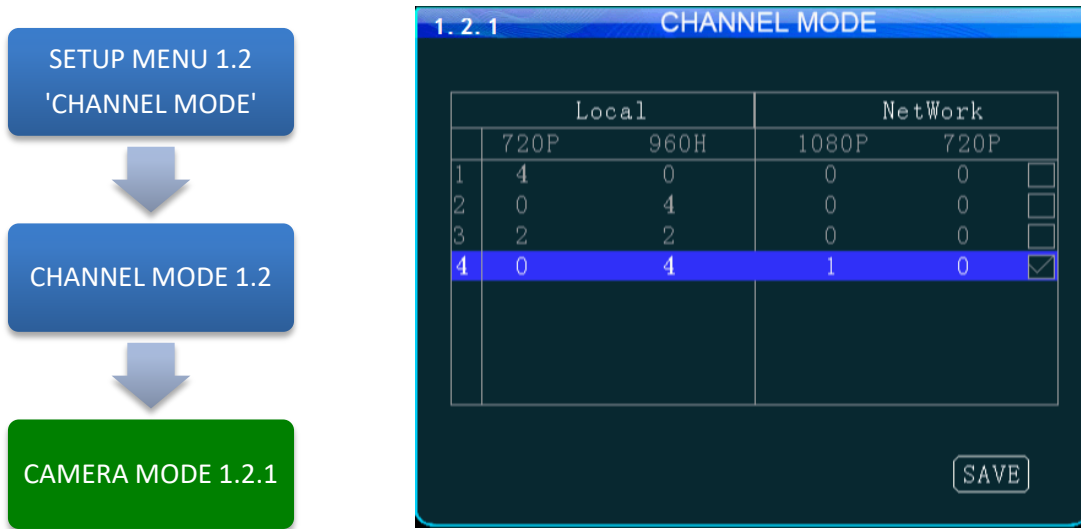
The **1.1.6.1 CODE OSD** screen provides the function of character overlay for each video channel, which determines the display position of the characters according to the abscissa and ordinate values. Note: The CH 5 is used for IP cameras connected to the RJ 45 connector, and the IP camera can also set the character overlay function individually.

- ENABLE** Select from two options:  
**ON** Enable Video channel OSD  
**OFF** Disable video channel OSD
- CH-X.** CH 1 – 5
- XPOS** (0 to 99)Abscissa position parameters.
- YPOS** (0 to 99)Ordinate position parameters
- CHANNEL NAME** Character overlay channel name :  
 Can be described according to the installation location, the default CH1-CH5,

Action Bar Keys (Select, then press **ENTER**):

- SAVE** To save and activate the new settings

## 1.2.1 CHANNELMODE



The **1.2.1 CHANNEL MODE** screen allows the selection of one of four camera groups to match the variety of AHD, Analog and IP Cameras which may be connected to the MDVR Camera inputs.

The MDVR must be restarted each time a new combination of cameras is connected using these five steps:

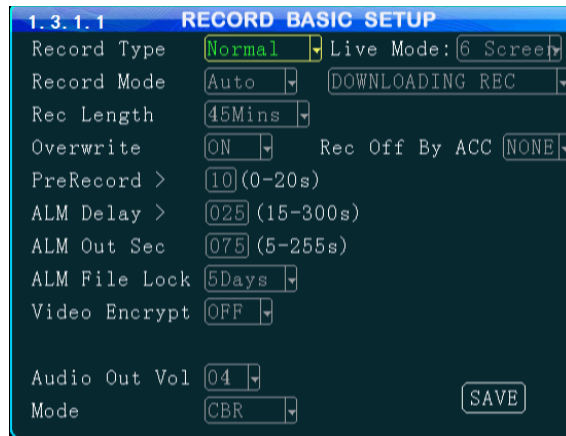
- CAMERA MIX** Determine the types of cameras connected to the MDVR
- SELECT** Select (Blue highlight) the group of cameras matching the cameras connected to the MDVR
- CHECK BOX**  Press **ENTER** to select the checked group
- RESTART** Select **SAVE**, then press **ENTER** and THE SYSTEM WILL RESTART in order to recognize the new camera mix
- GO TO** AFTER THE MDVR RESTARTS go to the 1.3.5.1 IP CAMERA SETUP screen

Select one of five options:

- MIX OPTION 1** Only **AHD** Cameras may be connected to Camera Input Channels 1, 2, 3, 4
- MIX OPTION 2** Only **ANALOG** Cameras may be connected to Camera Input Channels 1, 2, 3, 4
- MIX OPTION 3** **AHD** Cameras are limited to connection to Camera Input Channels 1 and 2  
**ANALOG** Cameras are limited to connection to Camera Input Channels 3 and 4
- MIX OPTION 4** **ANALOG** Cameras may be connected to Camera Input Channels 1, 2, 3, 4  
**IP** Camera may be connected to the RJ45 Port



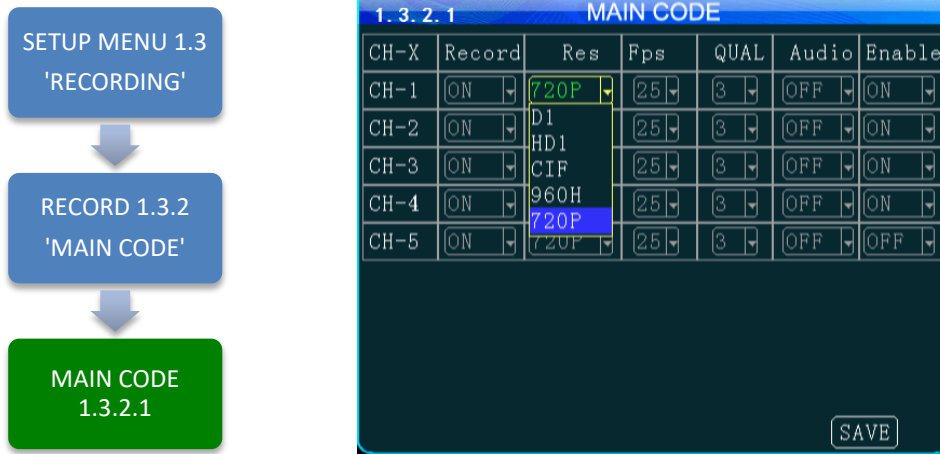
### 1.3.1.1 RECORD SETUP



The 1.3.1.1 RECORD SETUP screen is one of the most used setup screens concerning file storage criteria.

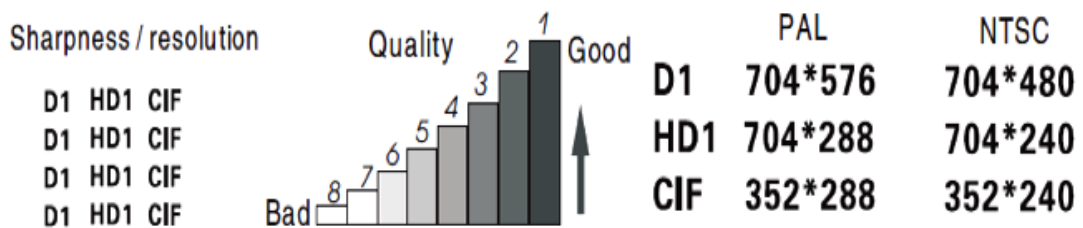
<b>RECORD TYPE</b>	<b>VIDEO(NORMAL)</b> Records video per settings in 1.3.2.1 MAIN CODE <b>I FRAMES</b> Saves storage space but results in choppy video playback
<b>RECORD MODE</b>	<b>AUTO</b> MDVR automatically starts up in Recording Mode <b>TIMER</b> Recording is controlled by settings in 1.3.4.1 RECORD PLAN <b>ALARM</b> MDVR starts Recording Mode when triggered
<b>PACKET TIME(REC LENGTH)</b>	Sets the max time a recording file can remain open. Select from 5, 15, 30, 45, 60 minutes (Shorter offers more protection)
<b>OVERWRITE</b>	Select whether to overwrite earlier recorded data on the storage media other than the files protected by the ALM FILE LOCK setting: <b>ON</b> Continuously record files as new files replace older ones after the storage media is full <b>OFF</b> MDVR will continue to write to the storage media until full and then stop recording
<b>PRERECORD</b>	Adds video from time previous to the alarmed triggered recording. Enter the time in seconds for the length of the added files
<b>POST RECORD(ALM DELAY)</b>	Enter the time in Seconds to continue recording after being triggered
<b>ALM OUT</b>	Enter the time in seconds (5 – 255) for the ALM indicator on the MDVR front panel and the device connected to the SENSOR OUTPUT to be activated
<b>ALM FILE LOCK</b>	Enter the number of days to prevent an alarm designated file from being overwritten
<b>ENCRYPT VID</b>	Select from two options: <b>ON</b> Provides encryption to maintain file privacy. <b>OFF</b> No protection
<b>ENCRYPT KEY DISPLAY</b>	Enter the Encryption Key to be used in the PLAYBACK program Select the number of video channels (CH 1 – 5) to be displayed on the Monitor
<b>AUD OUT VOL</b>	Select the Audio Output volume level to the Monitor
<b>ACC/REC OFF</b>	Allows selection of the camera view(s) which <b>WILL NOT</b> be recorded when the vehicle is in the ACC mode: <b>NONE</b> Every camera view will be recorded per preset parameters <b>ALL</b> Every cameras view will not be recorded <b>CH (Select)</b> Choose a single specific camera view to not be recorded
<b>UPLOAD</b>	<b>UPLOAD + RECORD</b> If Encryption set <b>IVMS cannot open file.</b> <b>UPLOAD ONLY</b>

### 1.3.2.1 MAIN CODE



The **1.3.2.1 MAIN CODE** screen provides the ability to configure each of the MDVRs five video channels to provide the optimum balance of Video Type, Frames per Second (FPS), Resolution and Quality while ensuring the maximum file storage is achieved on the installed storage media. NOTE: CH 5 is for the IP Camera connected to the RJ 45 connector.

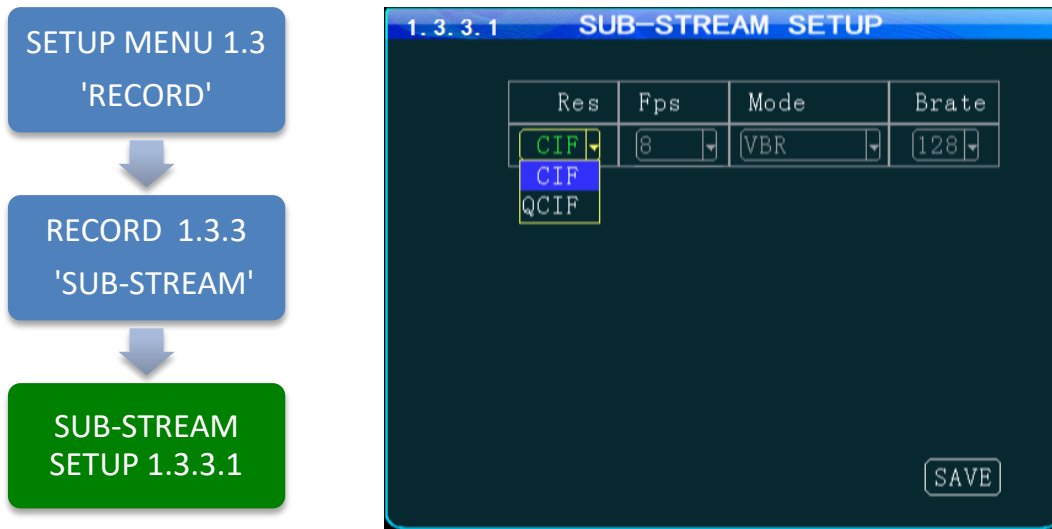
- RECORD** Select from two options:  
**ON** Enable Video channel recording  
**OFF** Disable video channel recording
- RES. CH 1 – 4 D1, HD1, CIF, 960H**  
**CH 5 720P, 1080P**  
 The higher the chosen resolution, the more storage space will be required and the video will be more detailed.
- FPS (1 to 30)** Select the **Frames Per Second** to be recorded. The higher the number, the closer to real time fluidity (30 FPS for NTSC and 25 FPS for PAL settings) action will be recorded. The higher the setting the more storage space will be required for the file.
- QUALITY (1 to 8)** Enter the record resolution setting desired with 1 being the highest quality. A higher quality setting will require more file storage space, but yield a more detailed video.
- AUDIO** Select from two options:  
**ON** Enable audio recording (If selected camera channel has a microphone connected)  
**OFF** Disable audio recording of an audio Pickup equipped video source
- ENABLE** Select from two options:  
**ON** Enable the video loss alarm  
**OFF** Disable the video loss alarm



Action Bar Keys (Select, then press **ENTER**):

**SAVE** To save and the 1.1.3.1 USER SETUP screen will appear

### 1.3.3.1 SUB – STREAM SETUP



The **1.3.3.1SUB-STREAM SETUP** Menu allows the User to achieve a balance between speed of data transmission and the video resolution (clarity). The uploading (transmission) of the video files from the MDVR to another location by WIFI or 3G cellular communication networks is limited by Bandwidth. **Sub-stream** settings refer to the choices being made when uploading the MDVR recorded files to another location such as to the IVMS Server over 3G. The User must choose a balance of speed and resolution. Higher resolution files require a longer transmission time yet yield clearer video. Whereas faster transfer rates are a result of sending lower resolution video files quickly, but yield less detailed videos for replay. In some cases the larger file size will overwhelm the systems available bandwidth and result in intermittent, slow or error laden file transfers. As shown in the chart below the sub-stream settings are related to whether the video displayed on the **IVMS** platform is clear and smooth. Of course, the most important factor for network transmission is the up and down rate of the local network broadband. Video resolution can be set as **CIF** and **QCIF**.

The corresponding relationship between bit rate setting and the frame rate changing is shown as below, the bit rate set here is the transmission rate of a channel.

The frame rate setting is changed according to the corresponding bit rate change; it can be set as bit rate **128**,frame rate **8** in default. This setting is the current one that can guarantee fluency as well as a certain resolution when the cellularnetwork transmits audio and video,but you can set this based on your own network situation, if under good enough network bandwidth, it can be set higher frame rate and bit rate and it can also be set automatically.

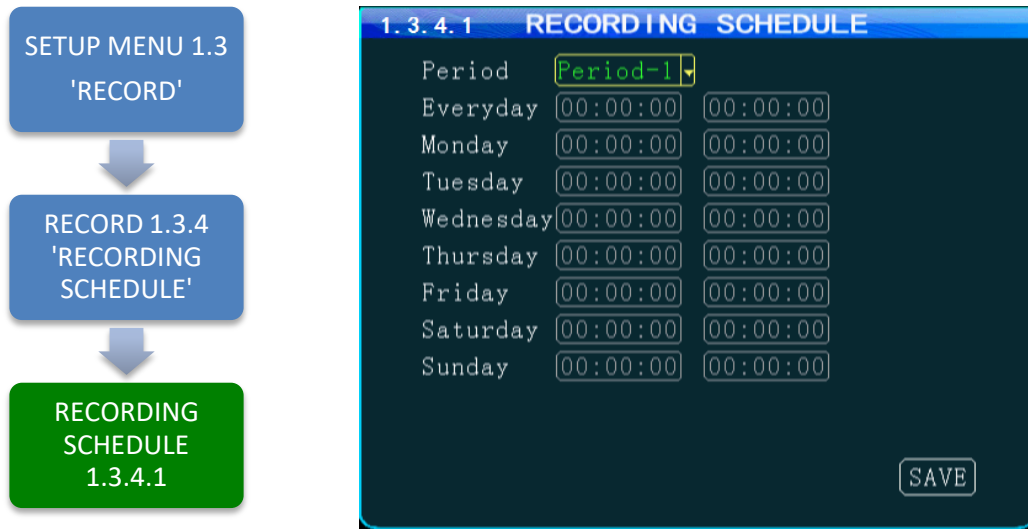
<b>Bitrate</b>	16	24	32	40	48	56	64	72	80	96	128	160	200	256	384	自动	---	---
<b>Frame rate</b>	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	---	25

**Sub-stream set is a basic set of network transmission**

Action Bar Keys (Select, then press **ENTER**):

**SAVE** To saveand activate the new settings

### 1.3.4.1 RECORDING SCHEDULE



The **1.3.4.1RECORDING SCHEDULE** screen allows the MDVR to be programmed to record for two periods per day. The default setting is to record whenever the MDVR is operating. It can also be set to use the same recording periods every day or each day can be set to record using a schedule specific to that day.

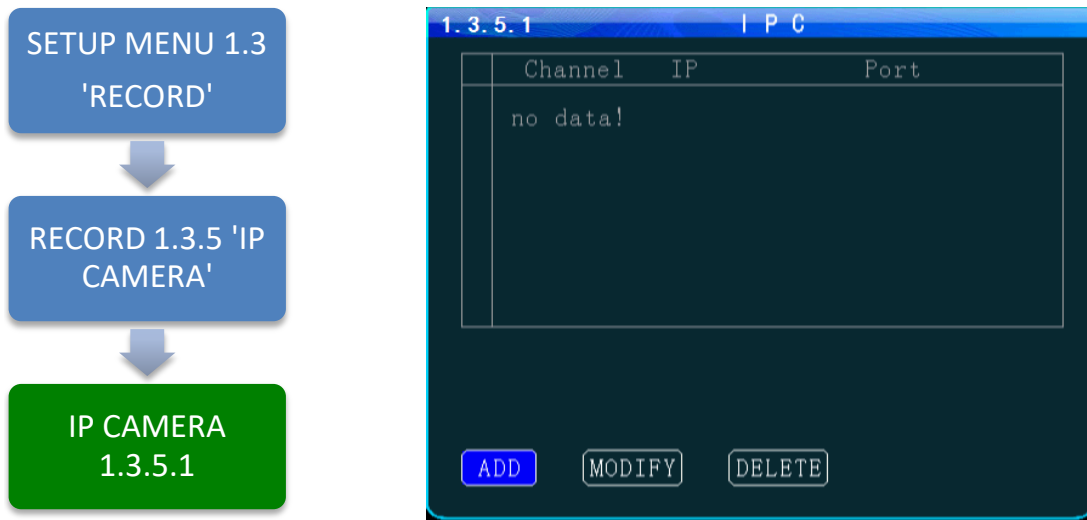
<b>PERIOD</b>	Select and enter the recording time setting periods per day: 1 First recording time period for the day 2 Second recording period for the day
<b>EVERY DAY</b>	Sets the same schedule for every day of the week. Do not enter time in any other days
<b>MONDAY</b>	Set each individual days schedule independently
<b>TUESDAY</b>	
<b>WEDNESDAY</b>	
<b>THURSDAY</b>	
<b>FRIDAY</b>	
<b>SATURDAY</b>	
<b>SUNDAY</b>	
<b>START</b>	Enter Start recording time in 24 Hour format
<b>END</b>	Enter End recording time in 24 Hour format

NOTE: A recording schedule problem may occur if the schedule set above differs from the 1.1.1.1 DATE AND TIME SETUP screen when POWER MODE is set to TIMER and the POWER ON, OFF settings conflict or overlap.

Action Bar Keys (Select, then press **ENTER**):

**SAVE** To save and activate the new settings

### 1.3.5.1 IP CAMERA SETUP



The **1.3.5.1 IP CAMERA SETUP** screen allows the detection and setup of an IP Camera using the MDVR RJ 45 Port. Once an IP Camera is connected to the RJ 45 Port it is automatically discoverable by the MDVR.

Initial IP Camera setup:

<b>GO TO</b>	1.2.1 CHANNEL MODE screen and complete the CHANNEL setup. The MDVR will restart in order to properly recognize the addition of the IP Camera
<b>RETURN</b>	To this screen and complete the addition, modification or deletion of the IP Camera as necessary
<b>ADD</b>	Select <b>ADD</b> , then press <b>ENTER</b> to move to the 1.3.5.1.1 ADD IP CAMERA screen

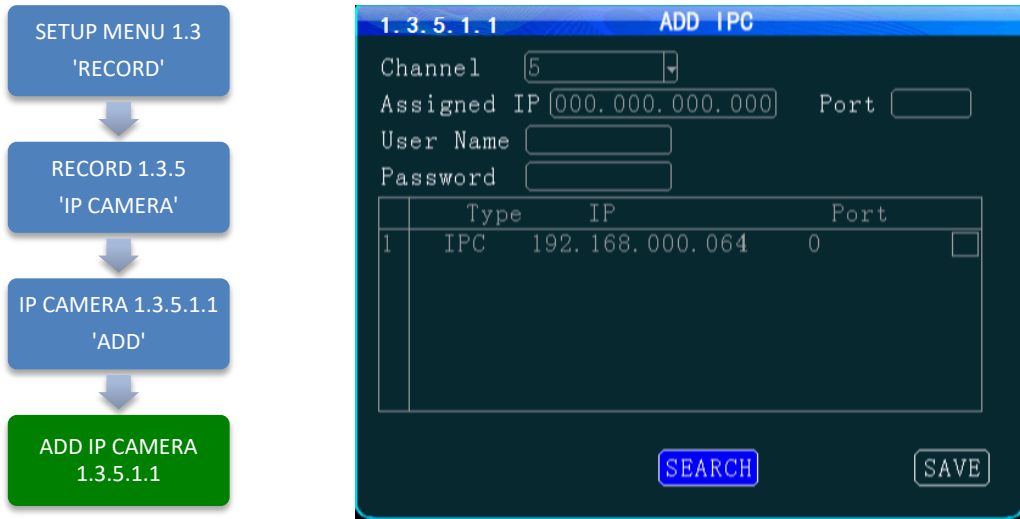
IP Camera Data Fields:

<b>IPC CHANNEL</b>	Auto fill (No User entry)
<b>IP ADDRESS</b>	Auto fill (No User entry)
<b>PORT</b>	Auto fill (No User entry)

Action Bar Keys (Select, then press **ENTER**):

<b>ADD</b>	To Add new IP Camera 1.3.5.1.1 ADD IP CAMERA screen
<b>MODIFY</b>	To Modify IP Camera 1.3.5.1.2 MODIFY IP CAMERA screen
<b>DELETE</b>	To Delete IP Camera 1.3.5.1.3 DELETE IP CAMERA screen

### 1.3.5.1.1 ADD IP CAMERA



The **1.3.5.1.1 ADD IP CAMERA** screen allows authorized Users to add and search for connected IP Cameras. The IPC to be added needs to be the same as the MDVR's IP gateway

To add an IP Camera:

- READ** Read and understand the IP Camera User Guide included with the product
- CONFIGURE** Setup the camera parameters as necessary
- CONNECT** Plug the IP Camera cable from the camera into the RJ45 jack on the rear of the MDVR
- SEARCH** Select, then:
- ENTER** Press. The MDVR will search for a correctly connected IP Camera and will auto fill and display the units Channel, IP Address and Port. If no IP Camera is detected a 'NO IP CAMERA FOUND' message will appear on screen
- USER NAME** Enter User Name
- PASSWORD** Enter Users 6 digit Password (Numbers only)

IP Camera Data Fields:

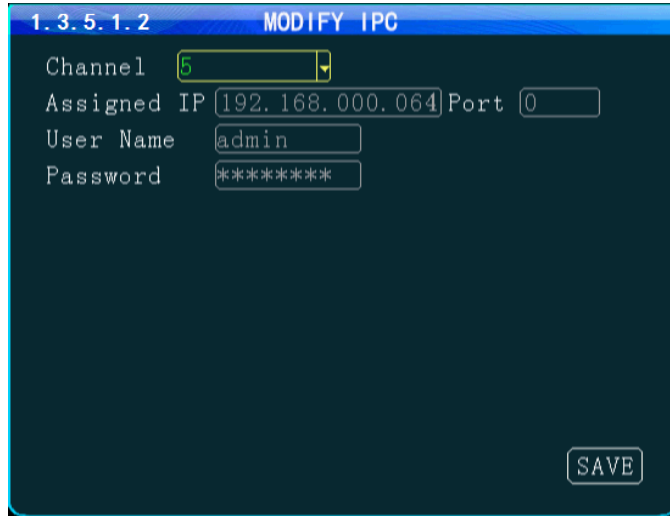
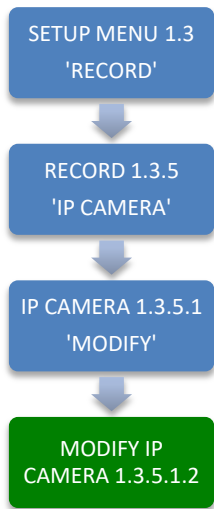
<b>IPC CHANNEL</b>	Auto fill (No User entry)
<b>IP ADDRESS</b>	Auto fill (No User entry)
<b>PORT</b>	Auto fill (No User entry)

Confirm the new settings are correct and save the file.

Action Bar Keys (Select, then press **ENTER**):

- SEARCH** To search for connected IP Camera
- SAVE** To save and the 1.3.5.1 IP CAMERA SETUP screen will appear

### 1.3.5.1.2 MODIFY IP CAMERA



The **1.3.5.1.2 MODIFY IP CAMERA** screen allows authorized Users to change the parameters of an existing IP Camera. This is useful for filling in the data fields when the auto fill feature is not available.

IP Camera Data Fields:

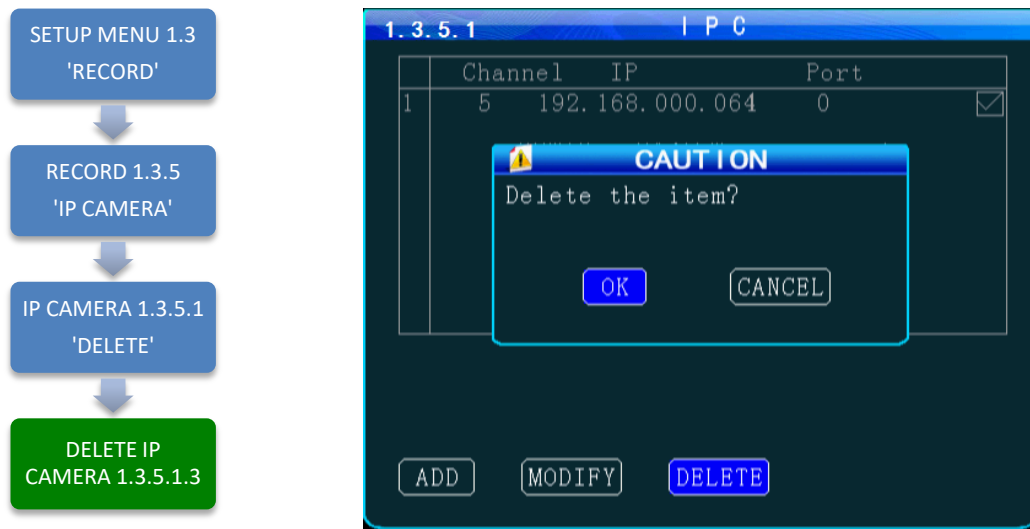
<b>CHANNEL</b>	Auto fill (No User entry)
<b>ASSIGNED IP</b>	Auto fill (No User entry)
<b>PORT</b>	Change as necessary
<b>USER NAME</b>	Enter User Name
<b>PASSWORD</b>	Enter Users 6 digit Password (Numbers only)

Confirm the new settings are correct and save the file.

Action Bar Keys (Select, then press **ENTER**):

<b>SAVE</b>	To save and the 1.3.5.1 IP CAMERA SETUP screen will appear
-------------	--

### 1.3.5.1.3 DELETE IP CAMERA



The **1.3.5.1IP CAMERASETUP** screen allows an authorized User to delete an existing IP Camera.

After DELETE has been selected and entered, a System Warning Message 'DELETE THIS IP CAMERA?' will be appear onscreen.

Select from two options:

**CANAEL** Cancel deletion. Select and press **ENTER** to cancel deletion and return to the 1.3.5.1 IP CAMERA SETUP screen

**OK** Delete IP Camera. Select and press **ENTER** to delete the IP Camera from the system and return to the 1.3.5.1 IP CAMERA SETUP screen

Once the selected IP Camera is deleted or the deletion cancelled the 1.3.5.1 IP CAMERA SETUP screen will appear with the System Warning.

Action Bar Keys (Select, then press **ENTER**):

**CANAEL** To Cancel deletion and return to the 1.3.5.1 IP CAMERA SETUP screen

**OK** To Delete the IP Camera from the system and return to the 1.3.5.1 IP CAMERA SETUP screen



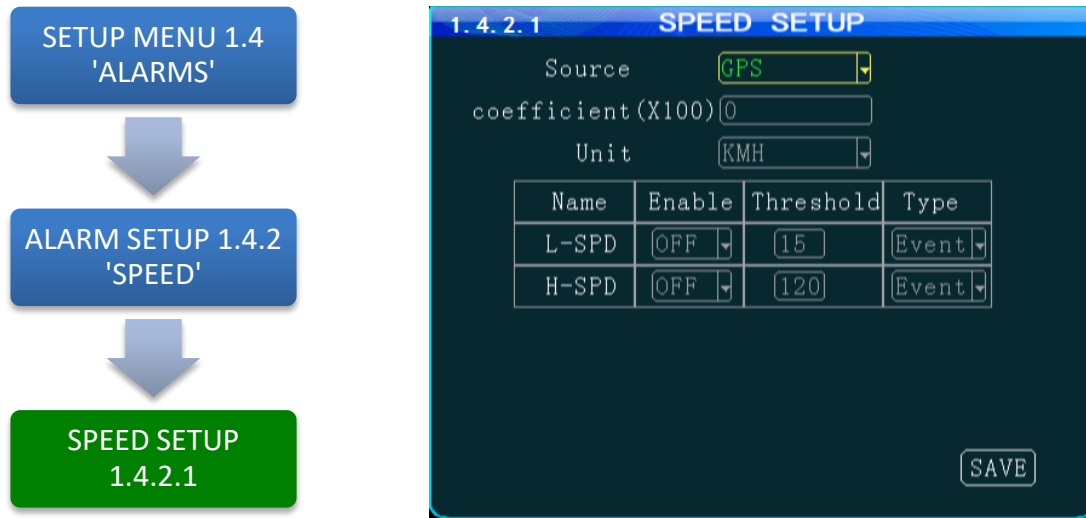
### 1.4.1.1 SENSOR SETUP



The **1.4.1.1 SENSOR SETUP** screen defines the trigger response relationship between each of the 8 Sensor In (Inputs) and actions available.

<b>SENSOR IN (IO)</b>	Define the trigger response relationship for each of the 8 SENSOR IN (Input)
<b>NAME</b>	Name of SENSOR IN device (8 Characters)
<b>LINK TO</b>	Enter Camera channel (CH) to switch to full screen and display video when assigned SENSOR IN is triggered
<b>ENABLE</b>	Select from two options: <b>ON</b> The selected functions are 'On' <b>OFF</b> The selected functions are 'Off'
<b>E-LEVEL</b>	<b>HIGH</b> Detect when Voltage is 'On' <b>LOW</b> Detect when Voltage is 'Off'
<b>TYPE</b>	Select type of response is to be sent when the V LEVEL SETTING is matched: <b>ALARM</b> Triggers a response sent to one of the two SENSOR OUT ports <b>SYSTEM</b> Triggers an entry into the SYSTEM and/or ALARM/EVENT LOG
<b>POST RECORD</b>	Select the time delay in seconds for ending a triggered recording
<b>SNAPSHOT</b>	Takes a single picture
<b>UP PLAT</b>	Alarm information reported to the management center

### 1.4.2.1 SPEED SETUP



The **1.4.2.1 SPEED SETUP** screen allows the User to trigger the MDVRs Recording Mode based on low and high speed thresholds determined by the settings entered. Either or both High and Low settings may be entered independently.

Vehicle speed can be monitored and recorded using the speed data (KPH or MPH) from either the onboard GPS (optional) or a more accurate speedometer sensor (optional). The Speed Alert can be set to monitor Upper and Lower Speed Limits to trigger an alarm, log, and record the event.

**SOURCE** Select the source for the speed related data:  
**GPS** Select to use to **GPS** data to obtain vehicle speed information.  
**VEHICLE** Select to use speed related data from the optional **VEHICLE SPEED MODULE**

**COEFF(X100)** Only used when the **VEHICLE SPEED OPTION** is installed:  
 Set according to User Manual provided with the **VEHICLE SPEED MODULE**

**UNIT** Unit of speed measurement  
**KMH** Kilometers per Hour  
**MPH** Miles per Hour

**ENABLE** Select from two options:  
**ON** The selected functions are ‘On’  
**OFF** The selected functions are ‘Off’

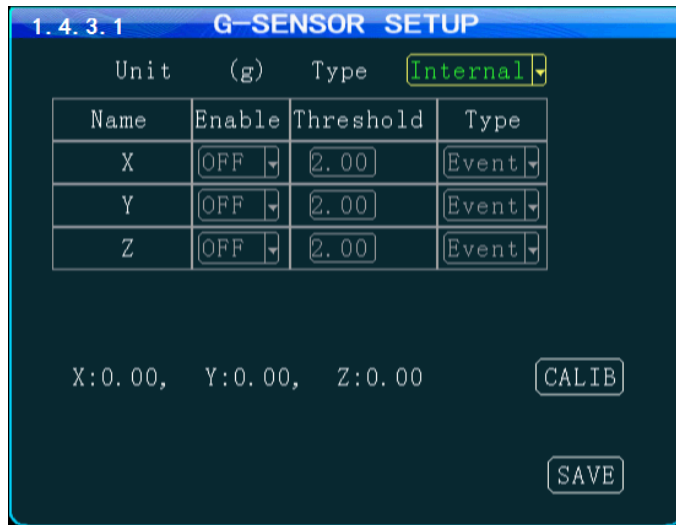
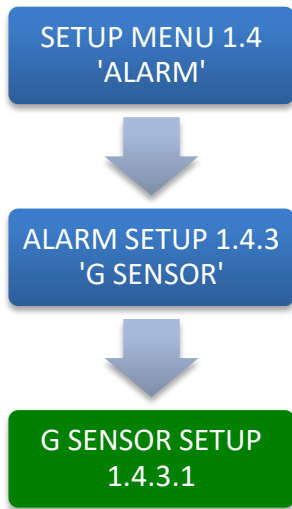
**NAME** Enter the speed (up to 3 digits) at which to trigger the response required:  
**LOW(L-SPD)** Sends a trigger when the vehicle speed falls below the entered speed  
**HIGH(H-SPD)** Sends a trigger when the vehicle speed exceeds the entered speed

**TYPE** Select the Type of Trigger response required:  
**ALARM** Sends a trigger to generate an alarm (See 1.4.5.1 ALARM OUT SETUP)  
**EVENT** Sends a trigger to enter a message in the ALARM/EVENT Log

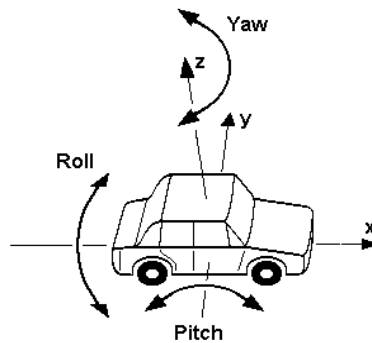
Action Bar Keys (Select, then press **ENTER**):

**SAVE** To save and activate the new settings

### 1.4.3.1 G SENSOR SETUP



The 1.4.3.1 G SENSOR SETUP screen (accelerometer) enables the MDVR to monitor the movement of the vehicle in 3 Axes (X, Y, Z) and can be used to trigger a response based on the Trigger values set in the G Sensor Menu. Readings from the sensor may indicate hard braking, acceleration, impact, sharp turns, etc. This data may be used to evaluate driver and vehicle performance, maintenance cycles and load dynamics.



**AXIS(NAME)** (No user entry) The three AXIS of movement of the monitored vehicle are:  
 X = ROLL Possible high speed into turns relative to load  
 Y = PITCH Possible Hard braking or acceleration, speed bumps, etc.  
 Z = YAW Possible bad shocks, uneven road or unsecured load, etc.

**DATA** (No user entry) Displays the current G Force reading for each Axis

**ENABLE** Select from two options:  
**ON** The selected functions are 'On'  
**OFF** The selected functions are 'Off'

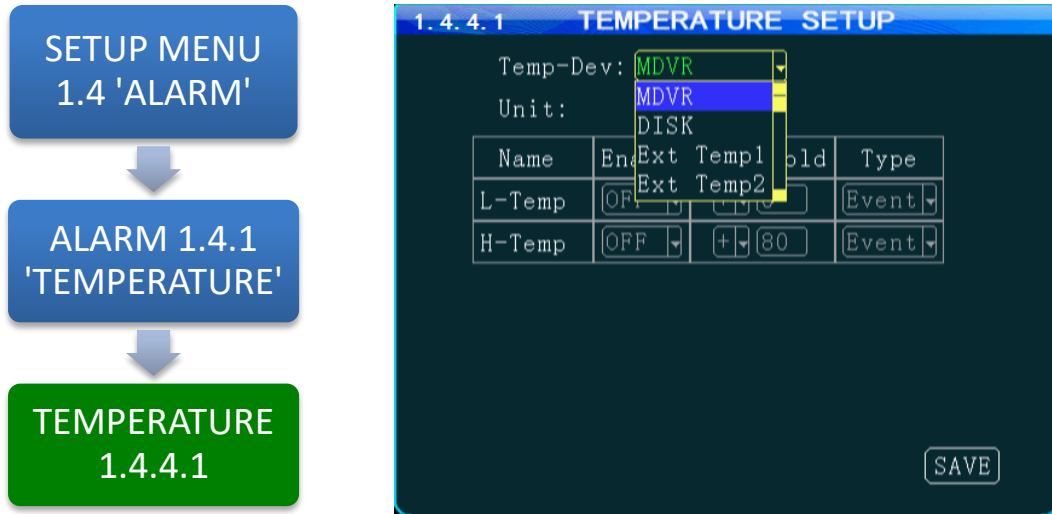
**TRIGGER(THRESHOLD)** Enter the G Force setting (up to 3 digits) at which to trigger the response required:  
 Sends a Trigger when the vehicle G Force is less than or greater than the trigger setting

**TYPE** Select the Type of Trigger response required:  
**ALARM** Sends a trigger to generate an alarm (See 1.4.5.1 ALARM OUT SETUP)  
**EVENT** Sends a trigger to enter a message in the ALARM/EVENT Log

Action Bar Keys (Select, then press **ENTER**):

**CALIBRATE** Select after installing the MDVR to reorient the G Sensor

### 1.4.4.1 TEMPERATURE SETTINGS



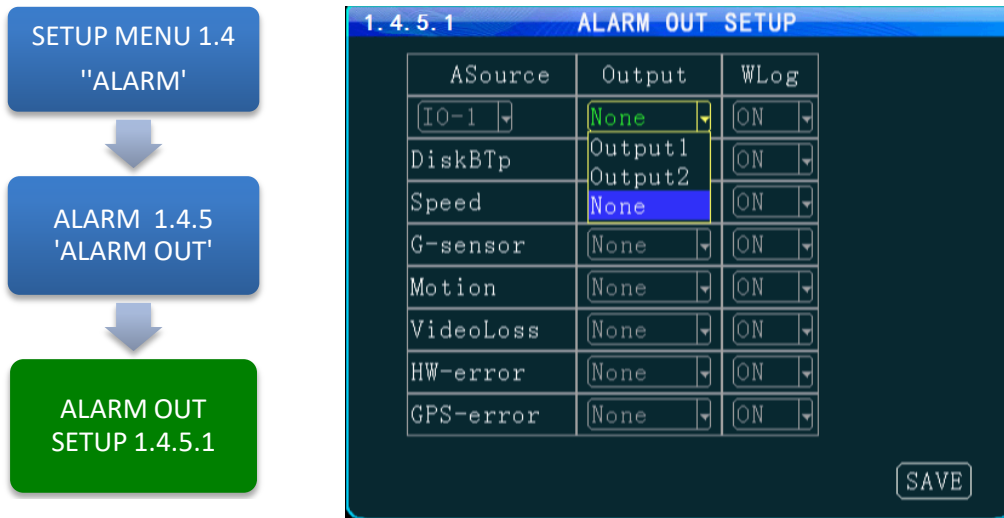
The **1.4.4.1TEMPERATURE SETUP** screen allows the User to trigger the MDVRs Recording Mode based on low and high temperature thresholds determined by temperature settings entered. Either or both High and Low settings may be entered independently.

<b>DEVICE</b>	Select the Sensor used as the temperature reporting source: <b>MDVR/DISK</b> MDVR internal temperature (Standard) <b>TEMP EXT (1 – 4)</b> External temperature sensors, up to 4 (Optional)
<b>NAME</b>	Enter a unique name for each temperature reporting source
<b>UNIT</b>	Select the unit of temperature measurement: <b>F</b> Fahrenheit <b>C</b> Celsius
<b>RANGE (NAME)</b>	There are two settings (each optional) to create the upper and lower temperature range: <b>LOW(L-TEMP)</b> Low temperature setting row <b>HIGH(H-TEMP)</b> High temperature setting row
<b>ENABLE</b>	Select the operational status of this function: <b>ON</b> The selected functions are 'On' <b>OFF</b> The selected functions are 'Off'
<b>TRIGGER(T HRESHOLD)</b>	Enter the Temperature limits and select + or – indicators as needed: <b>LOW</b> The Low temperature to trigger a response <b>HIGH</b> The high temperature to trigger a response
<b>TYPE</b>	Select one of two options: <b>ALARM</b> Event will be, recorded, logged and searchable as an ALARM <b>EVENT</b> Event will be, recorded, logged and searchable as SYSTEM

Action Bar Keys (Select, then press **ENTER**):

**SAVE** To save and activate the new settings

### 1.4.5.1 ALARM OUT SETUP



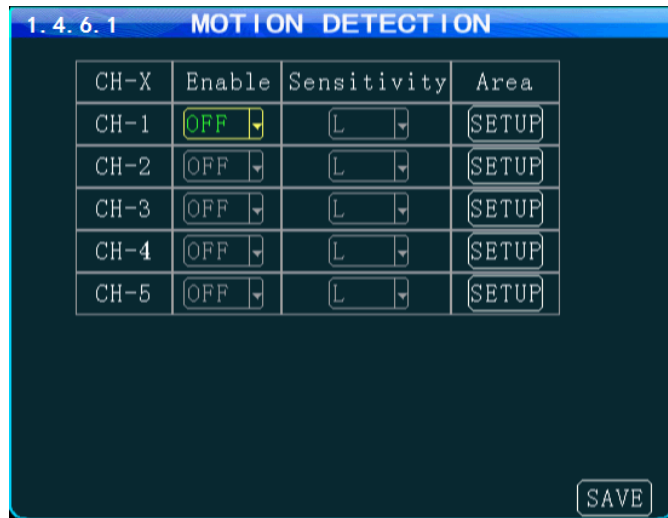
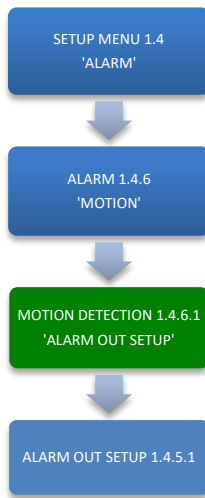
The **1.4.5.1 ALARM OUT SETUP** screen defines the Input – Trigger – Response relationships with the various sensors and reporting devices connected to the MDVR. The **ALARM OUT SETUP** screen adds the ability to add **ALARM** and **ALARM** logging responses to the other criteria set within the individual Sensor and Device screens.

<b>ALM SOURCE (ASOURCE)</b>	The input to trigger the ALM (Alarm) Output
<b>ALM OUTPUT (OUTPUT)</b>	The output path to a Sensor Output
<b>LOG</b>	Select whether the detected Alarm is also logged as an ALARM
<b>SENS IN</b>	Select one of 8 Sensor Inputs (SENS IN)
<b>TEMP IN (DISK BTP)</b>	Select one of 5 Temperature inputs (TEMP IN 1 is standard. All others require optional external sensor devices.
<b>SPEED</b>	Monitors High and Low speed settings in 1.4.2.1 SPEED SETTINGS
<b>G SENSOR</b>	Monitors X, Y, Z settings in 1.4.3.1 G SENSOR SETUP
<b>VIDEO LOSS</b>	Monitors Video Loss (Camera malfunction)
<b>MOTION DET</b>	Monitors movement or light changes sensed by the 1.4.6.1 MOTION DETECTION SETUP
<b>HW ERROR</b>	Monitors factory set criteria for the detection of hardware level errors
<b>GPS ERROR</b>	Monitors factory set criteria for the detection of GPS Module signal reception errors

Action Bar Keys (Select, then press **ENTER**):

**SAVE** To save and activate the new settings

### 1.4.6.1 MOTION DETECTION



The **1.4.6.1 MOTION DETECTION** screen is the first of three screens necessary for the setup, activation and testing of the motion detection features for each camera channel. Motion Detection based triggering may only be used when the vehicle is parked or when the camera is in an enclosed area of the vehicle, as changing lighting conditions may trigger the Motion Detection Zone.

Setup must be complete for all three screens to properly enable and test the motion detection function:

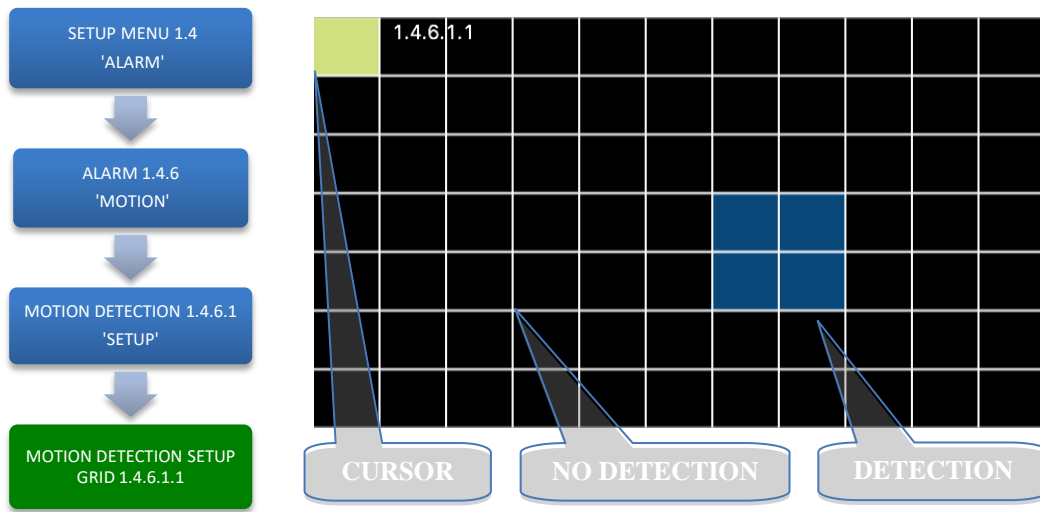
- 1.4.6.1 MOTION DETECTIONSETUP** Setup and subsequently test each camera using the motion detectionfunction
- 1.4.6.1.1 MOTION DETECTION GRID** Setup the motion detection activation zone
- 1.4.5.1ALARM OUT SETUP** Setup the motion detection response to trigger an ALARM OUT and/or LOG the event.

<b>ENABLE</b>	Select from two options: <b>ON</b> The selected functions are ‘On’ <b>OFF</b> The selected functions are ‘Off’
<b>SENSITIVITY</b>	Select from three levels: <b>LOW</b> <b>MED</b> <b>HIGH</b>
<b>AREA</b>	Select the <b>SETUP</b> field. The 1.4.6.1.1 MOTION DETECTION screen will appear as an overlay on the camera view. The <b>SETUP</b> button backgrounds are color coded to display their status: <b>BLACK</b> Motion Detection area has not been setup <b>GREEN</b> Motion Detection Zone is ready to detect <b>YELLOW</b> Motion Detection has been triggered
<b>SETUP</b>	When you select the Area ‘ <b>SETUP</b> ’ button the 1.4.6.1.1 MOTION DETECTION GRID screen is displayed. Instruction and setup of the motion detection zone are on the following page

Action Bar Keys (Select, then press **ENTER**):

- SAVE** To save the Motion Detection Zone settings
- ALARM OUT SETUP** To move to the 1.4.5.1 ALARM OUT SETUP screen and add a response

### 1.4.6.1.1 MOTION DETECTION SETUP GRID



The **1.4.6.1.1 MOTION DETECTION GRID** is the second of three screens required to setup and test the Motion Detection function. It allows the user to define a detection zone to automatically trigger the functions set in the 1.4.6.1 MOTION DETECTION SETUP and the 1.4.5.1 ALARM OUT SETUP screen.

Motion Detection Zone (MDZ) definition:

A User defined grid of transparent squares overlaid on a Camera view creating a response to light or movement. The User can define the active motion detection zone with Blue squares.

<b>CLEAR</b>	No detection set
<b>YELLOW</b>	Cursor position
<b>BLUE</b>	Detection area set

Once all three related screens are properly setup, a detected movement meeting the parameters set will trigger a response governed by the **1.4.5.1 ALARM OUT** screen.

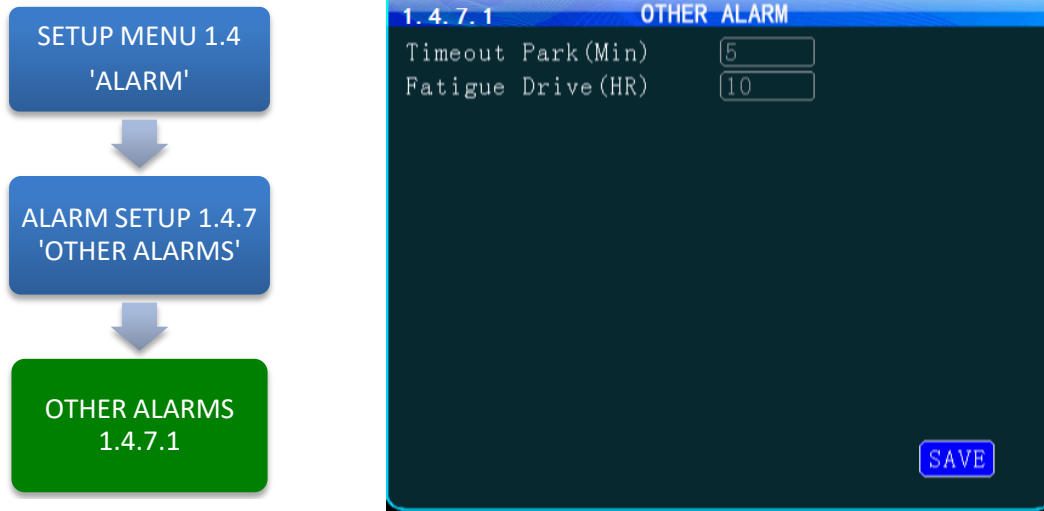
Create the Active Motion Detection Zone:

<b>SELECT</b>	Move Yellow Cursor to the square to be enabled as part of the Detection Zone
<b>ENTER</b>	Press to enable (Becomes Blue) or disable the square (Becomes Clear)
<b>REPEAT</b>	Continue until the Detection Zone is defined
<b>RETURN</b>	Press to return to the 1.4.6.1 MOTION DETECTION screen.

The affected camera button will display a Green background if it is setup to be tested. **For a motion detected response to trigger an ALARM and/or LOG the event it is necessary to go to the 1.4.5.1 ALARM OUT SETUP screen and complete the related setup process**

To setup additional cameras repeat the above and continue setting up the parameters for each camera as necessary.

### 1.4.7.1 OTHER ALARMS



The **1.4.7.1 OTHER ALARMS** screen allows the IVMS to monitor Driver (Vehicle) activity by monitoring the time elapsed alarms for each field.

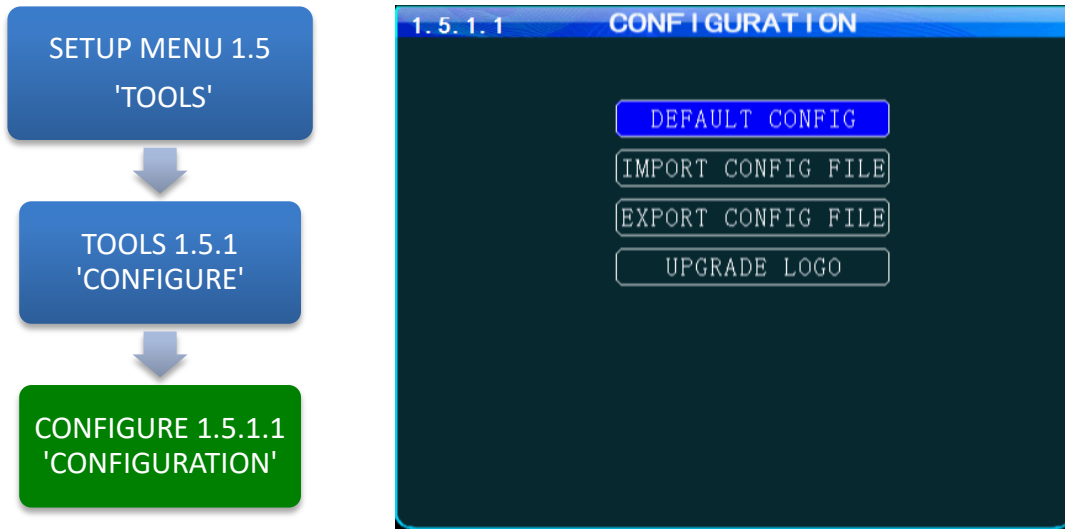
<b>ACC TIMEOUT (TIMEOUT PARK)</b>	Select the length of time before and alarm is sent and logged. Monitors the time the Vehicle Ignition Switch is in the ACC position and reports it to the IVMS
<b>REST REMINDER (FATIGUE DRIVE)</b>	Select the length of time before and alarm is sent and logged. Monitors the time the Vehicle Ignition Switch is in the ON position and reports it to the IVMS

Action Bar Keys (Select, then press **ENTER**):

<b>SAVE</b>	To save and activate the new settings
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### 1.5.1.1 CONFIGURATION



The **1.5.1.1 CONFIGURATION** screen allows the user to copy the basic system settings from one MDVR and transfer (Export) them to another MDVR using an USB flash drives.

**EXPORT CONFIG FILE** Select to copy this MDVRs system settings to an USB flash drives for use as backup or to easily setup another MDVR:

1. Insert the USB flash drives on the front panel
2. Select EXPORT CONFIG FILE button
3. Remove USB flash drives

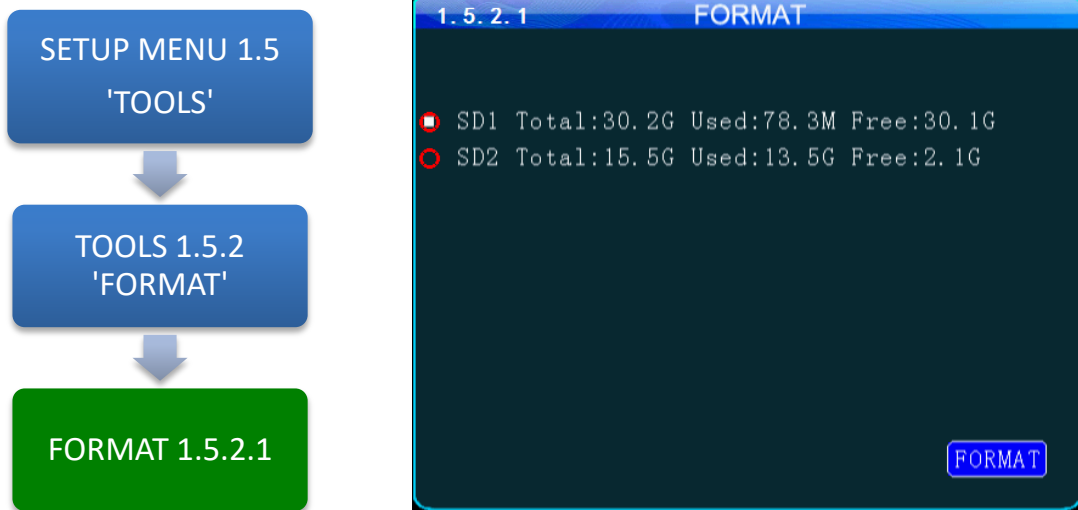
**IMPORT CONFIG FILE** Use to copy the above MDVRs system settings to the one to be programmed.

1. Ensure MDVR is powered Off and in UNLOCK position
2. Insert USB flash drives containing the EXPORT CONFIG FILE
3. Close the Security Door and turn Key to the 'LOCK' position
4. MDVR will start up and automatically copy the settings on the USB flash drives and complete the startup process
5. When the Camera Screen appears Turn Key to 'UNLOCK' position
6. Open Security Door; remove the USB flash drives

**RESET TO DEFAULT (DEFAULT CONFIG)** Resets MDVR to the original factory settings and permanently deletes any other settings. The SYSTEM will prompt you to confirm prior to completing the reset to original settings

**CHANGE LOGO (UPGRADE LOGO)** Add or upgrade a logo to be displayed on the MDVRs LCD Monitor during the start up process

### 1.5.2.1 FORMAT STORAGE MEDIA



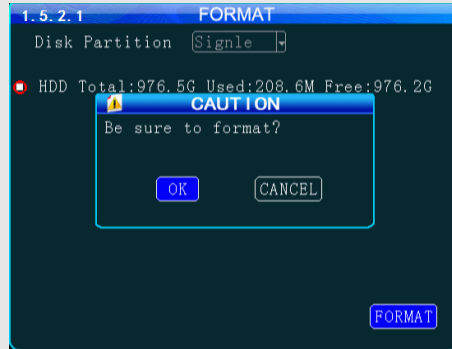
The **1.5.2.1 FORMAT** screen allows the User to format Storage Media a (HDD, SSD or SD Card) prior to its initial use or to reformat (erase) a previously used (recorded on) for reuse. Use only name brand SD Cards rated Class 10 or better. Use only an SV rated, EXT3 formatted HDD/SSD in the Drive Tray.

To Format :

- DISK PARTITION** Select from two options to be formatted and press **ENTER**  
**SINGLE** One partition after formatting the disk  
**MULTIPLE** Multiple partitions after formatting the disk
- SELECT** Select from two options to be formatted and press **ENTER**:  
**HDD** Hard Disk Drive (Regular HDD will be formatted as EXT3)  
**SD** SD Card

**FORMAT** Select and press **ENTER** to begin Format process

- READ** 1.5.2.1 SYSTEM WARNING screen will appear:
- SYSTEM WARNING**



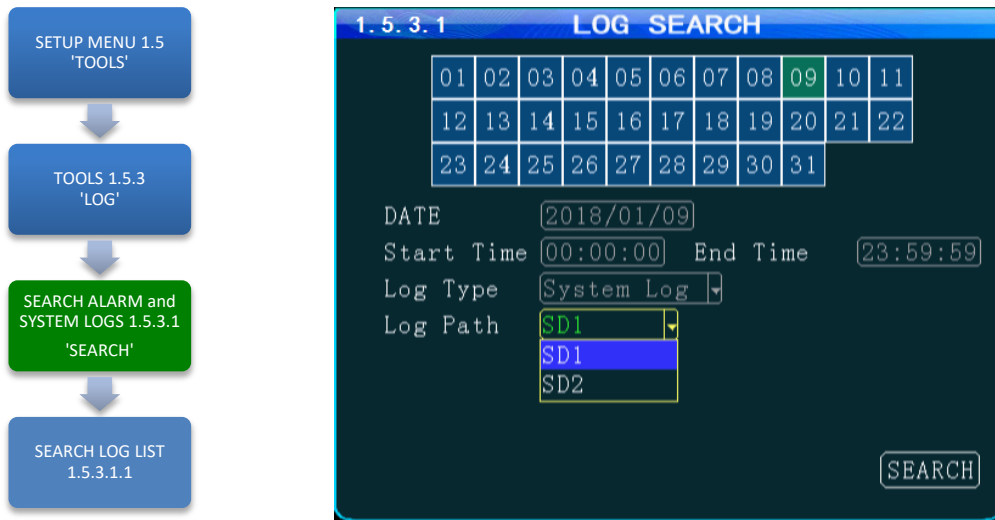
**OK** To **FORMAT**: Select and press **ENTER**. No other warnings will appear

**CANCEL** To **CANCEL**: Select and press **ENTER** to return to the beginning of the Format process

Action Bar Keys (Select, then press **ENTER**):

- FORMAT** To begin Format process
- OK** To **FORMAT**. No other warnings will appear
- CANCEL** To **CANCEL**

### 1.5.3.1 SEARCH SYSTEM and ALARM LOGS



The **SEARCH SYSTEM and ALARM LOGS** Menu allows the user to search all logged events or to search for specific predetermined events the MDVR previously recorded on the installed HDD or SD Card.

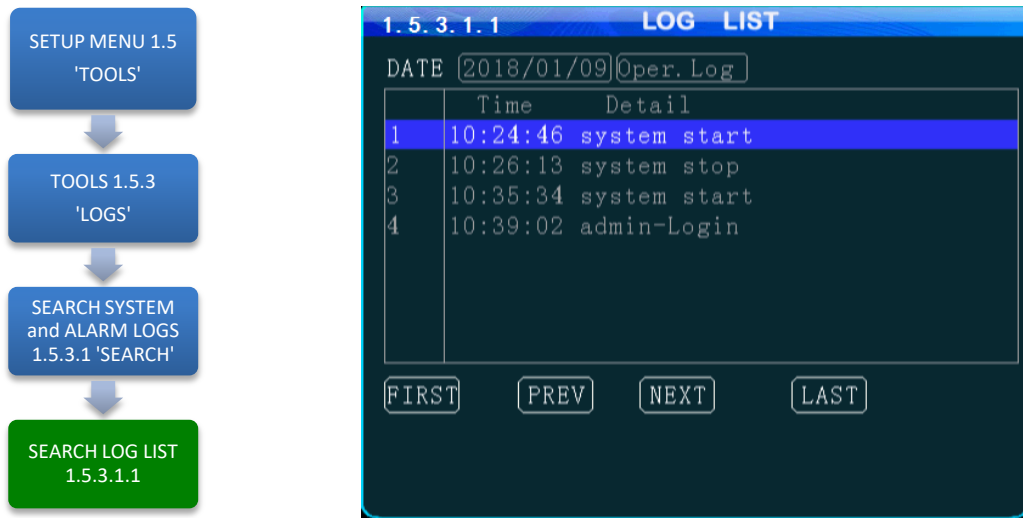
The colored grid shown lists the days of the search month. To expedite file searches Days with recordings available have a green background.

<b>SEARCH DATE</b>	Enter the date to be searched in the format shown in this field
<b>START TIME</b>	Enter the Start Time in 24 hour format for the files to be searched
<b>END TIME</b>	Enter the End Time in 24 hour format for the files to be searched
<b>TYPE</b>	Select from three options: <b>SYSTEM</b> Search recorded operating system events, i.e., On, Off, Changes, etc. <b>ALARM</b> Search recorded ALARMS, i.e., Sens Out, etc.
<b>PATH</b>	Select the file storage source on the MDVR: <b>HDD</b> Search recorded files on the Hard Disk Drive <b>SD</b> Search recorded files on the SD Card

Action Bar Keys (Select, then press **ENTER**):

<b>SEARCH</b>	To the 1.5.3.1.1 SEARCH LOG LIST
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### 1.5.3.1.1 SEARCH LOG LIST



The **1.5.3.1.1 SEARCH LOG LIST** allows the user to view the results of the search criteria entered on the 1.5.3.1 SEARCH SYSTEM and ALARM LOGS screen. Use the Action Bar keys to navigate the list.

<b>DATE</b>	(YY/MM/DD)	Specific Date the listed event occurred
<b>TIME</b>	(24 Hour Format)	Specific start time of the recorded file found
<b>TYPE</b>	Shows Type of Log file recorded to: <b>SYSTEM</b> <b>ALARM</b>	
<b>DETAIL</b>	Provides description of logged event	

Action Bar Keys (Select, then press **ENTER**):

<b>FIRST</b>	Move cursor to first page in search results
<b>LAST</b>	Move cursor to last page in search results
<b>NEXT</b>	Move cursor to next (lower) page in search results
<b>PREV</b>	Move cursor to previous page in search results
<b>EXPORT</b>	Export LOG LIST
<b>RETURN</b>	Press to return to the 1.5.3.1 SEARCH SYSTEM and ALARM LOGS screen

### 1.6.1.1 PTZCAMERA SETUP



The **1.6.1.1 PTZ CAMERA SETUP** screen allows up to four PTZ (Pan, Tilt, Zoom) Cameras to be programmed, viewed and controlled by the MDVR using its IR Remote Control (IRC) or a compatible PTZ Joystick Control Console.

**Read the manual supplied by the PTZ Cameras manufacturer.**

Set the operational codes on the camera as required. Then enter the same codes in the MDVR using the PTZ Camera screen. Ex.: Pelco D (Protocol), 2400 (Baud), 1 (Data Bit), 1 (Stop Bit), NONE (Check).

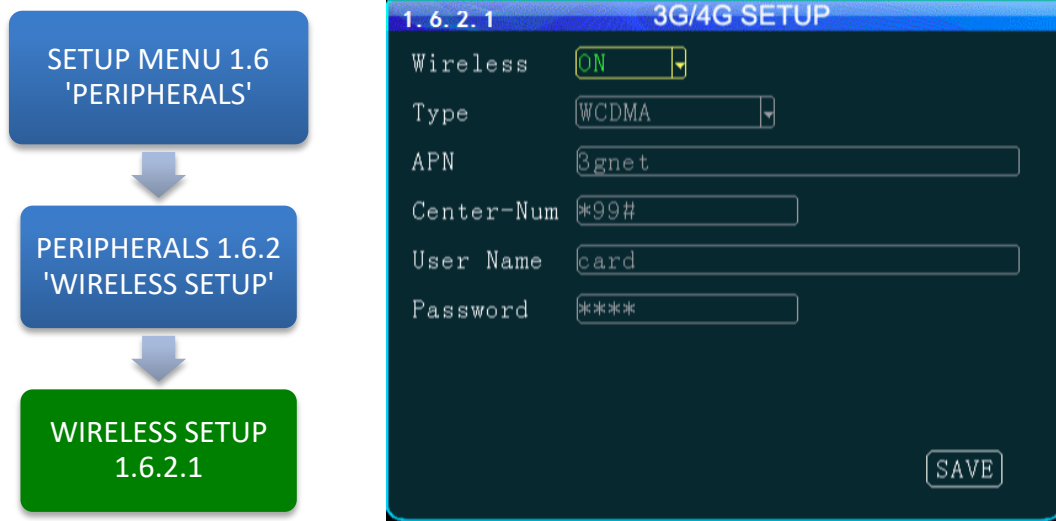
**The ADDR can be from 1 – 255 and must be unique for each device.**

<b>DEVICE (CH-X)</b>	Select one of four channels for the PTZ Camera to use: <b>PTZ 1-4</b>
<b>PROTOCOL</b>	Select from two industry standard PTZ operating codes: <b>PELCO D</b> <b>PELCO P</b>
<b>BAUDRATE</b>	Select to match the settings on the PTZ Camera
<b>DATA BIT</b>	Select to match the settings on the PTZ Camera
<b>STOP BIT</b>	Select to match the settings on the PTZ Camera
<b>CHECK</b>	Select to match the settings on the PTZ Camera
<b>ADDR</b>	Enter to match the settings on the PTZ Camera. Each PTZ Camera must have a different address

Action Bar Keys (Select, then press **ENTER**):

<b>SAVE</b>	To save and activate the new settings
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### 1.6.2.1 WIRELESS SETUP



The **1.6.2.1 WIRELESS SETUP** screen allows the setup of the (optional) Cellular communications capability of the MDVR allowing real time cellular communication between the MDVR and the IVMS using a carrier compatible SIM Card (Second Card option available) and the Cellular Communication Option installed.

#### SIM Card Setup

A SIM Card compatible with the MDVRs internal cellular modem (Optional) must be inserted in the SIM slot located on the front of the MDVR. See SIM CARD INSTALLATION in the HARDWARE SETUP SECTION OF THE user Guide for the correct procedure.

#### Antenna

A compatible Cellular Antenna must be connected properly to the MDVR and correctly installed on the vehicle. See WIRELESS ANTENNA INSTALLATION in the HARDWARE SETUP SECTION OF THE user Guide for the correct procedure.

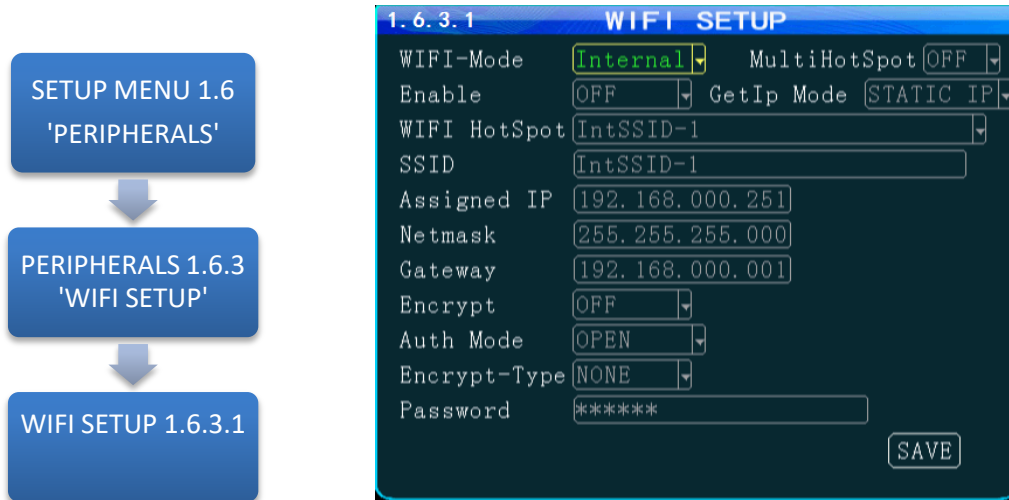
<b>CELLULAR(WIRELESS)</b>	Select from two options: <b>ON</b> Cellular features and functions are On <b>OFF</b> Cellular features and functions are Off
<b>APN</b>	Enter APN Provided by Cellular Service Provider
<b>CENTER NUM</b>	(*99#) Default entry
<b>USER NAME</b>	(Up to 16 characters) Optional User entry
<b>PASSWORD</b>	(Up to 16 characters) Optional User entry

Confirm the new settings are correct and save the file.

Action Bar Keys (Select, then press **ENTER**):

**SAVE** To save and activate the new settings

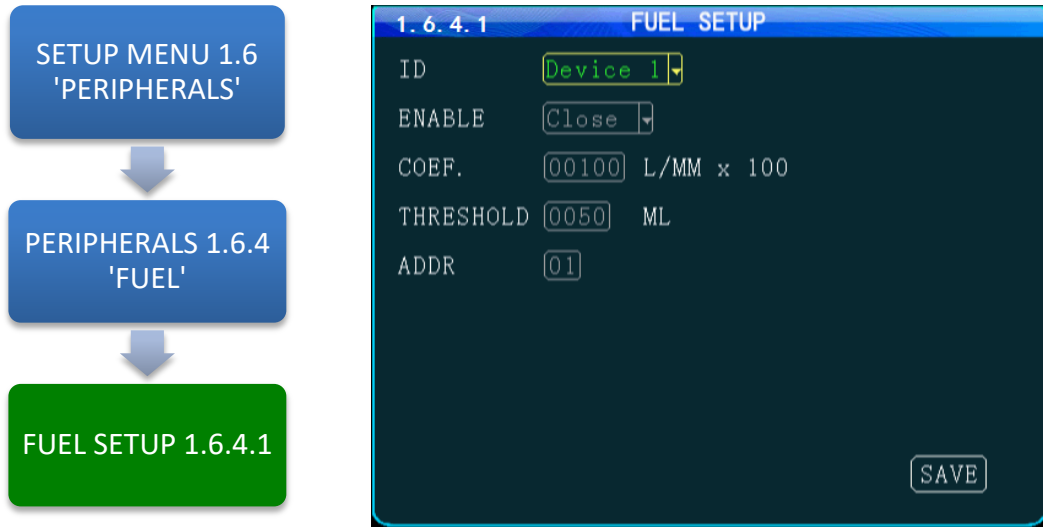
### 1.6.3.1 WIFI SETUP (Optional module required)



The **WIFI SETUP** Menu allows the setup of the optional WIFI communications capability of the MDVR allowing real time WIFI communication between the MDVR and the IVMS using either an (optional) internal or external WIFI (802.11n or AC) Modem. Note: Use IRC number keys to enter (Standard Format) address data used in your current wireless LAN network settings. CONTACT YOUR IT PERSON FOR SUPPORT.

<b>WIFI MODE</b>	Select from two options: <b>INTERNAL</b> WIFIMODEM Option is installed inside the MDVR <b>EXTERNAL</b> WIFI MODEM Option is installed outside the MDVR
<b>MULTIHOT SPOT</b>	To Connect multiple WIFI hotspots ON OFF
<b>ENABLE</b>	Select from two choices: <b>ON</b> Activate the installed WIFI function <b>OFF</b> No WIFI option is installed or the installed option is off
<b>LINK TO (WIFI HOTSPOT)</b>	To establish connection between the MDVR and the IVMS Server, please input IVMS central IP and port number
<b>SSID</b>	(Standard Format)
<b>IP ADDR.</b>	(Standard Format)
<b>NETMASK</b>	(Standard Format)
<b>GATEWAY</b>	(Standard Format)
<b>ENCRYPT</b>	Select from two options: <b>ON</b> Encryption mode is active <b>OFF</b> Encryption function is off
<b>GET IP MODE</b>	Select from two options: <b>STATIC</b> <b>DYNAMIC</b>
<b>AUTH MODE</b>	Select from five options: 1. <b>OPEN</b> 2. <b>SHARED</b> 3. <b>WPA</b> 4. <b>WPA-PSK</b> 5. <b>WPA2-PSK</b> Select OPEN as initial setting.
<b>TYPE</b>	Select from two options: <b>NONE</b> <b>WEP</b>
<b>PASSWORD</b>	(Up to16 Characters) Enter a password (optional)

### 1.6.4.1 FUEL SETUP



The **1.6.4.1 FUEL SETUP** Menu allows the user to track and record fuel (or other transported fluids) usage or delivery. The use of this feature requires an optional Fuel Sensor connecting via RS 232 or RS 485.

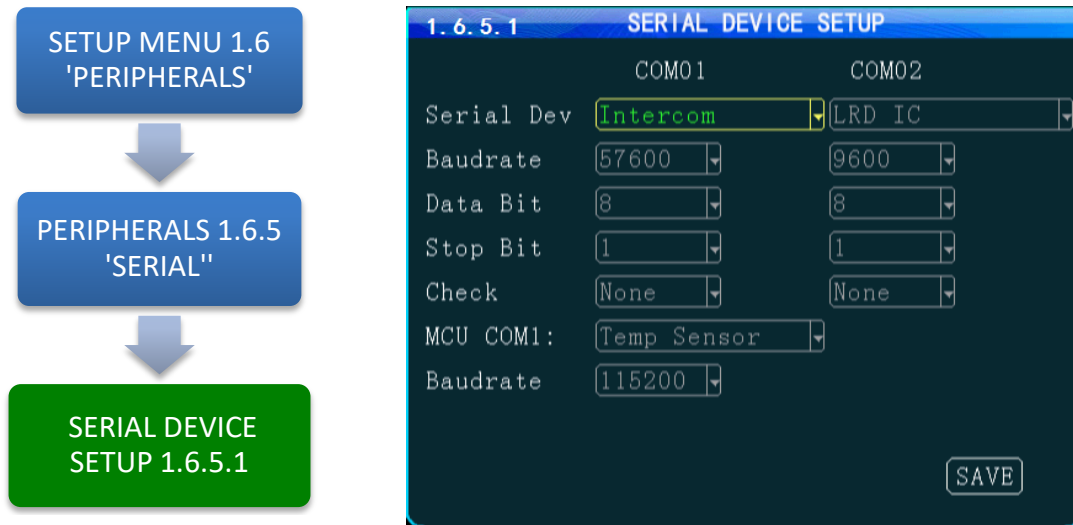
<b>DEVICE(ID)</b>	Select the Sensor used as the reporting source: <b>TANK (1 – 4)</b>
<b>COEFF</b>	(Optional) The Coefficient is an element of calculation adjustment varying with different brands and types of fuel or liquid storage measurement devices. Consult the Device manufacturer for details
<b>TRIGGER</b>	Enter the minimum amount of fuel (or other fluid) level measurement units to trigger a response
<b>ENABLE</b>	Select the operational status of this function: <b>ON</b> The selected functions are 'On' <b>OFF</b> The selected function are 'Off'
<b>ADDR</b>	Enter to match the settings on the FUEL SETUP.

Action Bar Keys (Select, then press **ENTER**):

**SAVE** To save and activate the new settings



### 1.6.5.1 SERIAL DEVICE SETUP



The **1.6.5.1 SERIAL DEVICE SETUP** screen allows up to two RS 232 data or control devices to be setup using industry standard RS 232 code settings.

<b>DEVICE</b>	Select each of two control channels to setup connected devices: <b>COM 1</b> <b>COM 2</b>
<b>NAME</b>	Enter a unique name for the RS 232 device (Up to 10 characters)
<b>BAUD</b>	Select to match the settings on the RS 232 device
<b>DATA BIT</b>	Select to match the settings on the RS 232 device
<b>STOP BIT</b>	Select to match the settings on the RS 232 device
<b>CHECK</b>	Select to match the settings on the RS 232 device
<b>ENABLE</b>	Select from two options: <b>ON</b> The selected functions are 'On' <b>OFF</b> The selected functions are 'Off'

The **1.6.5.1 SERIAL DEVICE SETUP** screen allows up to eight compatible RS 485 data or control devices to be setup using industry standard RS 485 code settings.

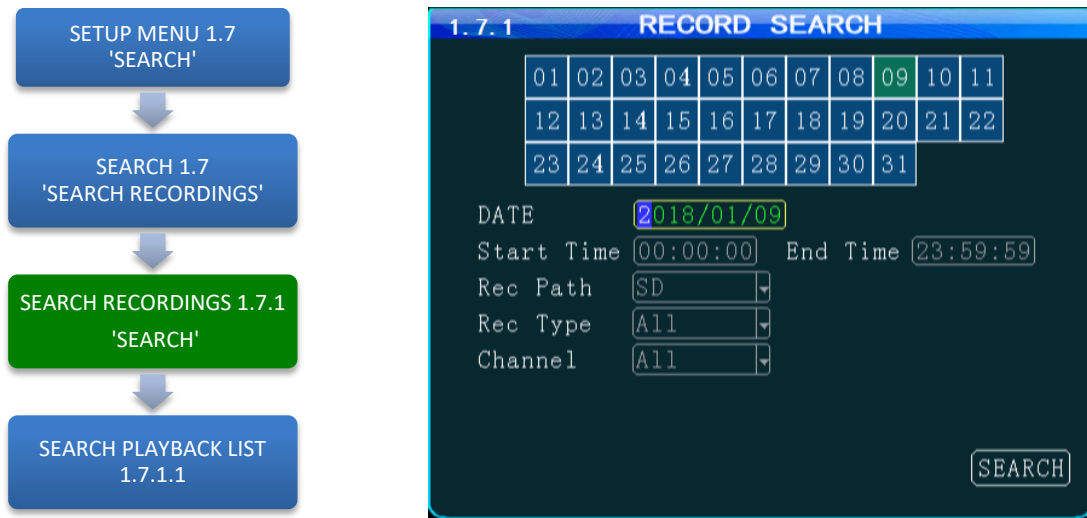
**NOTE:** This does not include the PTZ Cameras setup in the 1.6.1.1 PTZ CAMERA SETUP.

<b>MCUCOM1</b>	Enter a unique name for the RS 485 device (Up to 10 characters)
<b>NAME</b>	Select to match the settings on the RS 485 device

Action Bar Keys (Select, then press **ENTER**):

<b>SAVE</b>	To save and activate the new settings
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## 1.7.1 SEARCH RECORDINGS



The **1.7.1SEARCH RECORDINGS** screen allows the user to search by Date, Path (Storage Media) and Type (ALL, GENERAL or ALARM) list all recorded events or to search for specific predetermined events the MDVR previously recorded on the installed storage media Path.

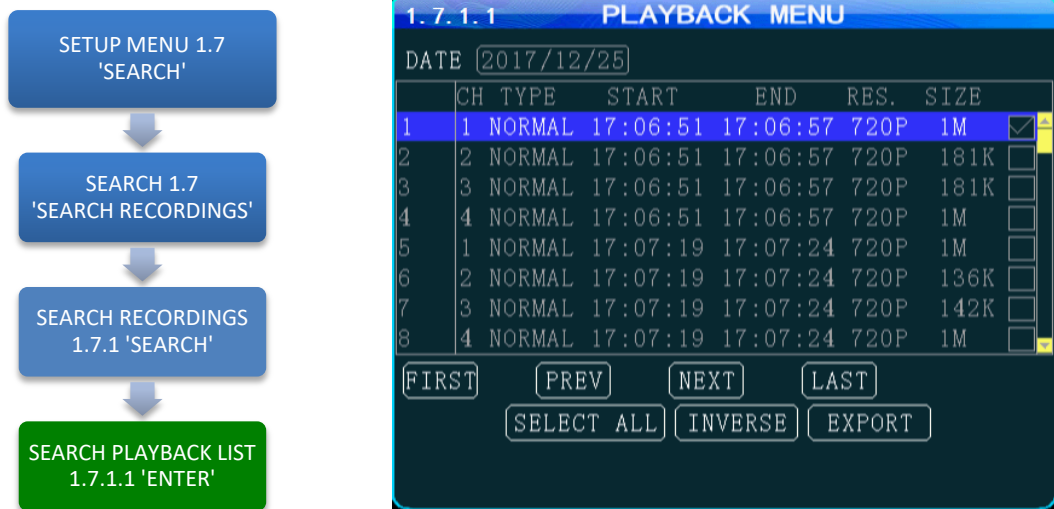
The colored grid shown lists the days of the search month. To expedite file searches Days with recordings available have a green background.

<b>SEARCH DATE</b>	Enter the Date to be searched in the format shown in this field
<b>START TIME</b>	Enter the Start Time in 24 hour format for the files to be searched
<b>END TIME</b>	Enter the End Time in 24 hour format for the files to be searched
<b>PATH</b>	Select the file storage source: <b>HDD</b> Hard Disk Drive <b>SD 2</b> SD Card
<b>TYPE</b>	Select the Type of recordings to search for the time period entered: <b>ALL</b> Search ALL recordings <b>GENERAL</b> Search only GENERAL labeled recordings <b>ALARM</b> Search ALARM labeled recording
<b>CHANNEL</b>	Select the Video Channel (CH 1 – 4) to be displayed for the time period entered: <b>ALL</b> Search ALL camera channels for recordings <b>CH 1 – 5</b> Search a specific Camera channel (CH) for recordings. Channel 5 may not be available depending on 1.2.1 CAMERA MIX screen settings

Action Bar Keys (Select, then press **ENTER**):

**SEARCH** To search and move to the 1.7.1.1 SEARCH PLAYBACK LIST

### 1.7.1.1 SEARCH PLAYBACK LIST



The **1.7.1.1 SEARCH PLAYBACK LIST** displays the results of the last 1.7.1 SEARCH RECORDINGS screen. Select the file or files. To Playback the recorded file(s) selected above use the instructions on the following page.

<b>DATE</b>	Search date for recorded files listed (No User entry)
<b>CH</b>	Camera channel recorded from (No User entry)
<b>TYPE</b>	Search Type producing listing: <b>ALL, GENERAL or ALARM</b>
<b>START</b>	Start time for the recording (No User entry)
<b>END</b>	End time for the recording (No User entry)
<b>RES</b>	Video Resolution of the recording (No User entry)
<b>SIZE</b>	Size of the recorded file (No User entry)
<b>CHECK BOX</b> <input type="checkbox"/>	Select file and press <b>ENTER</b> to mark the file for viewing

Action Bar Keys (Select, then press **ENTER**):

<b>FIRST</b>	Move cursor to first PAGE
<b>LAST</b>	Move cursor to last PAGE
<b>PREV</b>	Move cursor to previous PAGE
<b>NEXT</b>	Move cursor to next PAGE
<b>SELECT ALL</b>	Select all files. Fills in all check boxes
<b>INVERSE</b>	Reverse file listing order
<b>EXPORT</b>	To save the selected files to a USB Drive inserted into the front panel USB report. A 1.7.1.1.A SYSTEM MESSAGE will appear and display the File Transfer status until the download is completed
<b>RETURN</b>	Pressto return to the 1.7.1.1 SEARCH PLAYBACK LIST screen

To playback the selected file(s) follow the instructions on the next page.


### 1.7.1.1 VIEWING FILES


Two options to return to the 1.7.1.1 SEARCH PLAYBACK LIST screen

**VIEW FILE** Once the file is completely played the 1.7.1.1 SEARCH PLAYBACK LIST screen will be displayed and the last viewed selection highlighted.


**RETURN** Press to end viewing and return to the 1.7.1.1 SEARCH PLAYBACK LIST screen

IRC Playback Related Keys:

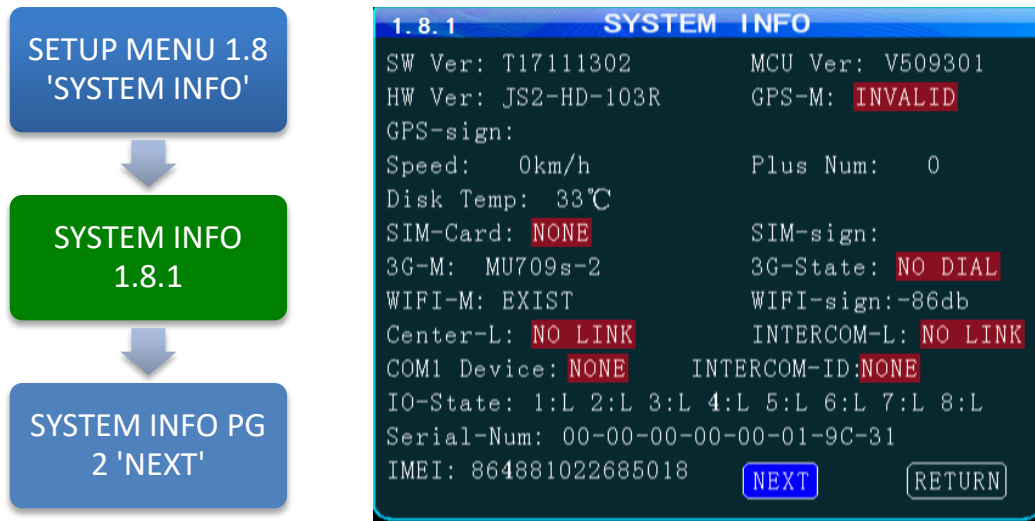
**PLAY**  Starts Playback of the selected recorded file. Press repeatedly to increase Playback speed by X2, X4, X8, X16

**REW**  REWIND Reverses the Playback of the selected recorded file. Press repeatedly to increase Reverse speed by X2, X4, X8, X16

**FWD**  FAST FORWARD

**PAUSE/STEP**  Press to pause recording. Press to advance one frame per press

### 1.8.1 SYSTEM INFO, PG 1 OF 2



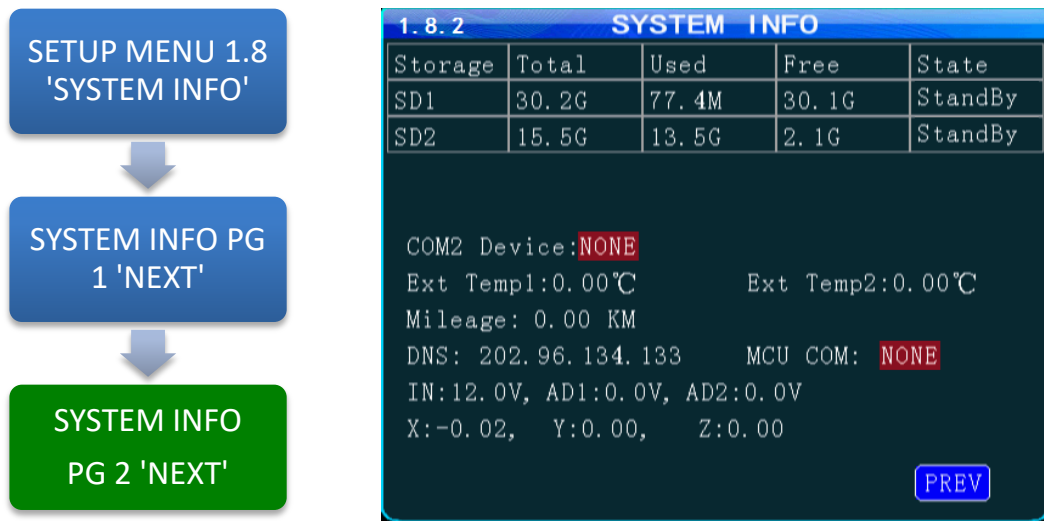
The **1.8.1 SYSTEM INFO** screen is one of two sequential screens to display the current MDVR system settings, real time operational status and optional business contact information. A compatible monitor must be properly connected and configured to either of the MDVR Rear or Front Monitor ports.

<b>INFO</b>	Press to view PG 1 of the System Info screens.
<b>NEXT</b>	Select and press <b>ENTER</b> to view 1.8.2 SYSTEM INFO PG 2
<b>RETURN</b>	Press to return to the previous page

Note: For Status Report purposes only. No User entry

<b>SW</b>	Software Version
<b>HW</b>	Hardware Version
<b>SERIAL-NUM</b>	Serial Number
<b>MCUVER</b>	Micro Control Unit
<b>IMEI</b>	The ID of the MDVR Cellular Modem Option when installed and enabled within the MDVR for communication with the IVMS Server. It is automatically displayed if an active SIM Card is installed.
<b>DISK TEMP</b>	Internal Temperature reading of DISK
<b>SPEED</b>	Vehicle Speed (should read '0' if the vehicle is properly parked)
<b>GPS-M</b>	Invalid/valid?
<b>PLUS NUM</b>	Pulse number
<b>3G/4G-M</b>	Cellular Option installed?
<b>SIM CARD</b>	SIM Card installed(NONE/EXIST)?
<b>WIFI-M</b>	WIFI mode(NONE/EXIST)?
<b>CENTER-L</b>	Central Monitoring Station Linked?
<b>INTERCOM-L</b>	Intercom Station Linked?
<b>COM 1 DEVICE</b>	Serial Port 1 (Device Connected)
<b>GPS-SIGN</b>	Current GPS Longitude/Latitude reading
<b>INTERCOM-ID</b>	Intercom device ID number?
<b>3G-STATE</b>	Cellular Status
<b>SIM-SIGN</b>	SIM Signal reading
<b>WIFI-SIGN</b>	WIFI Signal reading
<b>SENSOR IN STATUS</b>	Status of 8 SENS IN channels. ALARM status is indicated by white letters on red background

## 1.8.2 SYSTEM INFO, PG 2



The **1.8.2 SYSTEM INFO** screen shown above is Page 1 of 2 sequential screens displaying the current MDVR system settings, operational status and business contact information.

To view the INFO screen:

**INFO** Press to view PG 1 of the System Info screens.

**RETURN** Press to return to the previous page

Note: For Status Report purposes only. No User entries.

<b>MEDIA</b>	Storage status for each of the installed recording media
<b>COM 2 DEV</b>	Serial Port 1 (Device Connected)
<b>EXT TEMP 1</b>	External Temperature Sensor 1 reading (requires optional sensor)
<b>2</b>	External Temperature Sensor 2 reading (requires optional sensor)
<b>MILEAGE</b>	Approximate distance Vehicle has traveled since last odometer setting
<b>DNS</b>	Domain IP of 3G/4G
<b>MCU COM</b>	Serial Port 1 (Device Connected)
<b>VOLTAGE IN</b>	Voltage supplied by vehicle to MDVR
<b>AD 1</b>	Sensor Out (SENS OUT 1) status
<b>AD 2</b>	Sensor Out (SENS OUT 2) status
<b>G SENSOR X</b>	Accelerometer X Axis reading
<b>Y</b>	Accelerometer Y Axis reading
<b>Z</b>	Accelerometer Z Axis reading

## USER NOTES AND FEEDBACK