VMDR-840 Series

4 / 8 CH LTE & WiFi

Vehicle Mobile DVR

Model:
VMDR-844
VMDR-848

This manual covers the setup, connection, features , software application of the VMDR-840 Series MDVR and optional VentraCloud remote service

https://ventrainc.com/user-installation-guide/

Version 01 2024

Table of Contents

Getting Started – Read First

- To start the installation process, familiarize the parts and components for the VMDR system first. Layout the system, camera cables and power cable first before permanently mounting the DVR and camera
- Need LCD monitor with RCA input to connect to the VMDR. The LCD monitor enables viewing of system setting configuration and camera angle adjustment. Ventra offers 7" LCD monitor VLCD-7 (sold separately)
- SD card must be formatted in DVR or VMDR desktop PC software prior to initial use. Refer to format SD card on page 29
- Bench test connection in office or onsite first by powering the system with cameras connected. Camera cables can be on the bench or ground first during bench test install
- Determine the location of the DVR, ensure it is easily accessible to retrieve SD card, SIM card and view system status LED
- Check vehicle owner's manual to get familiar with fuse for power, ignition, and if applicable for install - turn signal and reverse signal
- Ventra systems should only be connected to the vehicle fuse via T-Taps, never strip and splice the vehicle OEM wire

Download Software https://ventrainc.com/user-installation-guide

User Guide https://ventrainc.com/user-installation-guide/ SCAN ME

Connect VMDR-840 to LCD monitor to view camera angle and access setting menu via IR remote

Refer to power cable section to connect VMDR power

Video Output to LCD monitor

IR Remote

VMDR-840 Series Includes

The following accessories include in the standard package

1. VMDR-840 Series DVR x 1
2. SD Card(s)
3. Embedded LTE Cellular Modem (LTE models)
4. T-Mobile SIM Card (if ordered VentraCloud from Ventra)
5. LTE antenna x 1 (LTE models)
6. USB WiFI x 1
7. 5A fuse power cable x 1
8. Alarm cable x 1
9. Remote Control x 1
10. Passive GPS receiver x 1

Optional accessories visit www.ventrainc.com for complete list

1. Cameras
2. EX22-CBLxx Camera cable
3. External microphone
4. LCD monitor

System Includes

DVR

SD Card

GPS Antenna

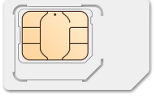
LTE Antenna

USB 2.4GHZ WiFi

Power Cable

Alarm Cable

IR Remote



SIM Card (T-Mobile)
(If ordered directly from Ventra)

WARNING

Failure to follow these safety warnings could potentially result in an accident, serious injury or death

Install the device in a manner that does not obstruct the driver's view of the front or sides of the vehicle or interfere with the safety of operating the vehicle

Do not operate, adjust or view the recorder while driving or when vehicle is in motion

Do not place the device unsecurly on the dashboard, or place the device in front of or above an airbag

Please comply with all driving and traffic regulations

To reduce the risk of fire or electric shock, do not expose the DVR to water, liquid, rain or moisture

Disconnect the power from the VMDR if equipment or wire is exposed to liquid

Disconnect and replace the cable if wire is stripped or damaged

When exposed to direct sunlight for a period of time, the equipment may become hot. Please exercise caution when touching the equipment

Do not disassemble or alter the equipment, cable or accessories as this may lead to equipment error and failure, which will void all warranty

In the event of an impact or accident, please check to ensure the equipment is properly secured. Inspect the mounting bracket and screws for any signs of damage

When using the power connection cable, ensure all connections are secured

Metallic coating on front window of vehicle may cause interference in GPS signal

Use only recommended SD card specifications as it may affect data storage

When Power is connected, do not remove the SD card as it may cause memory card failure

Do not modify the name of file folders in the SD card as it will cause directory and recording issues

Windshield Mounted Device Legal Notice

Please check and comply with ALL local, state and federal laws and or regulations regarding windshield mounted devices. Some state laws prohibit drivers from using suction mounts on their windshield when operating motor vehicles. Other state laws allow the suction mount to be mounted to be located only in specific locations on the windshield. Numerous states have enacted restrictions against placing objects on the windshield in locations that obstruct the driver's vision.

IT IS THE USER'S RESPONSBILITY TO MOUNT VENTRA EQUIPMENT IN COMPLIANCE WITH ALL PPLICABLE LAWS AND ORDINCANCE.

Audio and Video Recording Legal Notice

Certain local, state and federal laws may prohibit recording of audio and or video in vehicles or public area, or without knowledge and or consent, please check and comply with ALL local, state and federal laws and regulations

Certain local, state and federal laws may require signage or display that indicate recording of audio and or video in vehicles or public area. Please check and comply with ALL local, state and federal laws and regulations

IT IS THE USER'S RESPONSBILITY TO USE VENTRA EQUIPMENT IN COMPLIANCE WITH ALL PPLICABLE LAWS AND ORDINCANCE

Use of this product other than its intended purpose is strictly prohibited.
Ventra Technologies Inc. does not assume any responsibility for any fines, violation, penalties or damages that may be incurred as a result of the use of the product

Ventra Technologies Inc. is not responsible for any direct, indirect, incidental or consequential damages, arising out of use, misuse or inability to use of our products

SD Card Requirement and Compatibility

VMDR utilizes a propriety file forma. Each card MUST be formatted IN the VMDR or in the PC desktop software PRIOR to use

If using only 1 SD card, use SLOT 1. If using dual SD cards, designate and label each SD card to maintain consistency

To avoid damage and or data loss, power off the VMDR **BEFORE** inserting or removing the SD card

Turning the power off or removing a memory card during operation such as formatting, deleting, recording and playback may cause data loss

Important:

SD card capacity after format will show between 77.5 – 82.5MB, regardless of the original capacity of SD card, this is Normal as the VMDR utilizes proprietary file format. Original storage capacity not lost

SD Card Requirement and Compatibility

- Only New SD card should be used to ensure reliability and data integrity
- VMDR supports **SDXC: 32GB to 512GB Class U3 / V3 speed or faster**
- SanDisk Extreme / Samsung Pro Endurance SD card may be used
- When unspecified memory class are used, VMDR may not record data properly and recordings may be lost or damaged
- Never insert, remove the SD card from the VMDR while system is powered on as it would corrupt the recording data
- Ventra is not responsible for any damage , data loss, or system error resulting from SD card error and or damage, computer issues or virus

IMPORTANT

SD cards, like all hardware, have operating life expectancy. It is STRONGLY recommended to formatted on a regular basis (between 4 – 6 weeks) and replaced after SD card manufacturer suggested write cycle. Ventra recommends replacing SD cards every 12 months

Never insert, remove the SD card from the VMDR while system is powered on as it would corrupt the recording data.

When accessing SD card on Windows computer, always close out program first and safely eject the SD card. Never remove the SD card while VMDR PC software is running

NOTE: Formatting SD cards will erase all data and contents. Ensure any important videos are backed up prior to format.

VentraCloud Video TelemMatics Service

On select models, VMDR is equipped with built-in LTE cellular modem for VentraCloud remote viewing access. Ventra utilizes T-Mobile Network for cellular data connectivity

Remote viewing and GPS location requires VentraCloud monthly subscription service

For more info on network setup and SIM card installation, refer to 4G section of the user guide

VentraCloud is an optional Video Telematics service that provides real-time access to increase security, visibility and operational efficiency. VentraCloud service service requires cellular data for each VMDR system to

Service requires VentraCloud subscription contract which also includes T-Mobile cellular data plan. **Minimum contract length is six (6) month**

- Live video on demand
- GPS location and history
- Event video clip auto upload (20 ~ 30 second video clips) per event
- Remote video playback / Remote video download
- Today's event summary
- Event history search
- Daily, weekly email alerts
- Remote system update
- Remote FW update

Note:

- VentraCloud service does **NOT** offload / upload entire daily video backup to the cloud. Only daily event video clips (**20 ~ 30 seconds per clip per channel activated / programmed**) are uploaded and saved for 30 days
- Event images and event location are also uploaded to VentraCloud
- GPS location shows current vehicle location when powered on, or last known reported location
- Remote video playback and download feature available only when vehicle / VMDR is powered on
- Remote video playback resolution is compressed to optimize cellular data utilization
- VentraCloud is NOT a lost / stolen vehicle recovery tool
- Remote access is dependent entirely on carrier cellular signal connection of vehicle location

For more info regarding VentraCloud service, please contact info@ventrainc.com

T-Mobile cellular data Service (Ordered from Ventra)

VMDR is compatible with T-Mobile cellular network service

Ventra offers cellular data service from T-Mobile. When LTE service is ordered through Ventra, a SIM card is included and installed in each system

The monthly data allowance varies depending on the cellular data service plan

Monthly plan available in 2GB, 5GB or 10GB plan. When allotment of LTE highspeed data is reached, data speed will be throttled and reduced to 2G speed as defined by T-Mobile

IMPORTANT:

VMDR does not support SIM card / data plans from smartphones voice/data plans. These are different type of service plans and will not work on VMDR

Remote live viewing requires VentraCloud Video TeleMatics monthly subscription service

Before using LTE device, please read the safety notifications described below

• Company and user shall not modify certified low power radio frequency device the frequency, increase the power and change the characteristics and functions without permit

• Use low power radio frequency device shall not affect flight safety and interfere with legal communications; when there is interference happened should be immediately suspended, and improve without interfering may continue to use

• Legal communication means operation of radio communication in accordance with the provisions of the FCC Telecommunications Act Low-power radio frequency device must endure the interference of legal communications, industrial, scientific and medical radiation wave equipment

VMDR-840 Series Features

1. **Up to 4 or 8 CH of HD cameras for complete coverage of vehicle and asset**
2. **1080P / 720P HD @ 30 FPS per channel**
3. **Wide voltage input DC +8V ~ +32V, suitable for all kinds of vehicles, such as sedans, bus, construction trucks, and electric cars**
4. **Purpose-built rugged design for commercial vehicle**
5. **Up to 4 or 8 CH of HD cameras(depending on model) for complete coverage of vehicle and asset**
6. **Records HD video, GPS location, audio, shock data**
7. **Support dual SD cards up to 1TB (512GB x 2) storage**
8. **Built-in LTE modem for reliable and fast remote access (select models)**
9. **WiFi connection for local laptop access**
10. **Built-in G-Sensor to detect impact**
11. **Passive GPS antenna to record vehicle speed and location metadata**
12. **Vehicle Overspeed detection**
13. **Event triggers Indicator**
14. **Optional VentraCloud Video TeleMatics Service remote live viewing on demand, GPS location and history, auto event video clip upload / archive**
15. **Alarm input for integration with external equipment such as door sensors, light switch temperature sensor, PTO and RFID readers**

Specification

Item	Description	
Video signal format	NTSC/PAL	
OS	Embedded Linux	
Video input	4 or 8 CH Capacity - 1080P / 720P / 960	
Recording Format	1080P @ 8CH / 720P @ 8CH / 960 1920 x 1080 1280 x 720	
Recording FPS - max	1080P = 30FPS / CH, 720P = 30FPS / CH	
Power output to each camera	12V / 750mA / each CH	
Video output	1 CH output	
Audio input	1 CH input - external microphone (sold separately)	
Audio output number	N/A	
Alarm I/O	4 Alarm Sensor input 2 Alarm output (1 reserved)	
Control interface	OSD GUI	
Language support	English	
Display mode	Single screen /Quad split / Quad split /Nine split	
Simplex mode	Recording / Playback	
Storage Media	2 x SD Cards Slot (32 – 512GB per slot. Max = 512GB x 2 (Speed = U1 / U3 or faster)	
Search	Mode	Time / Date / Event
	Full Screen	Yes
Status Indication LED	3 LED - REC/Power, GPS, LAN	

Video Loss Detection	Yes
Audio Beep	Yes
Delay Shutoff Timer	Yes, programmable in system setting
GPS – Passive	Included, external passive GPS receiver
G-SENSOR	Built-in
LTE Cellular	EC25-AF or EG25GL Global Band
IR Remote Control	Included
Super Capacitor	5F Built in
Power Regulation	(1) DC 8V~32V (2) ACC (3) DC 12VOUT

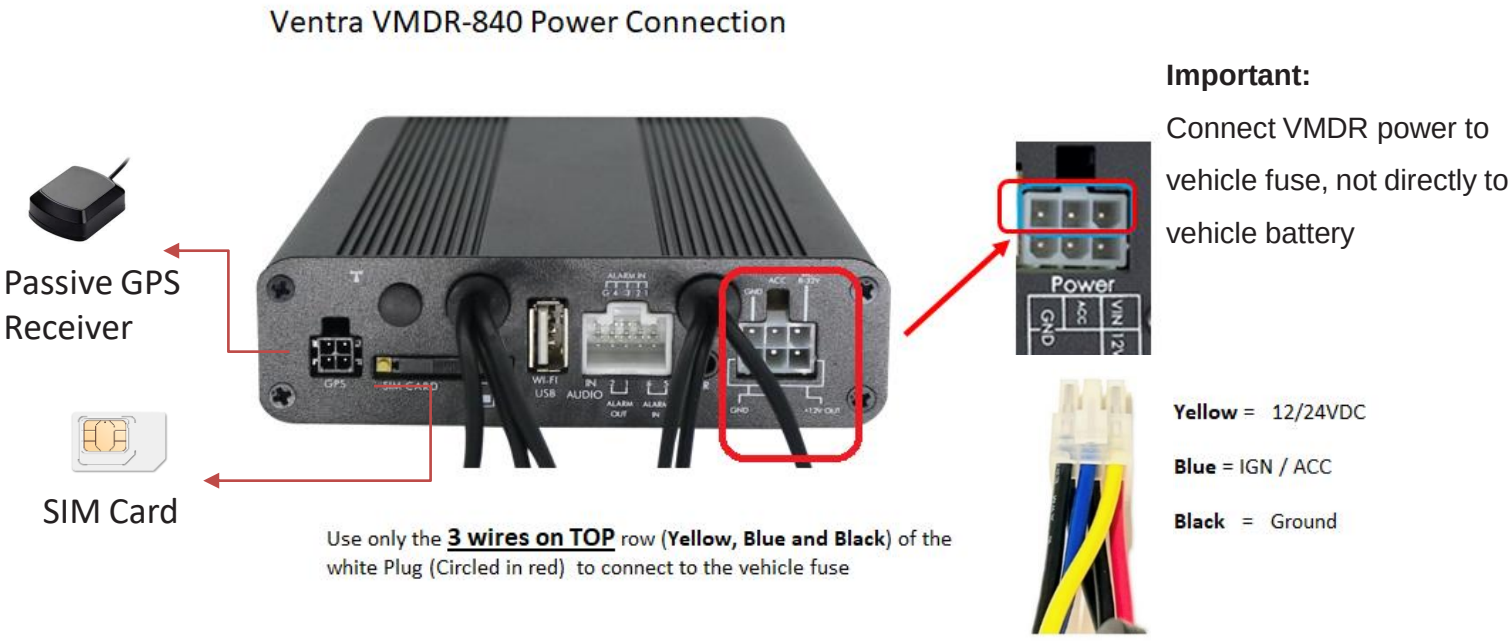
- LTE built-in Cellular modem applicable only on select VMDR-840 LTE series. Requires cellular data connection and VentraCloud Video TeleMatics Subscription service for remote live view

Product specifications are subject to change without notice

System Layout Overview

Cameras 1 - 8 Each camera requires EX22-CBLxx video cable (15 / 30ft cable length)

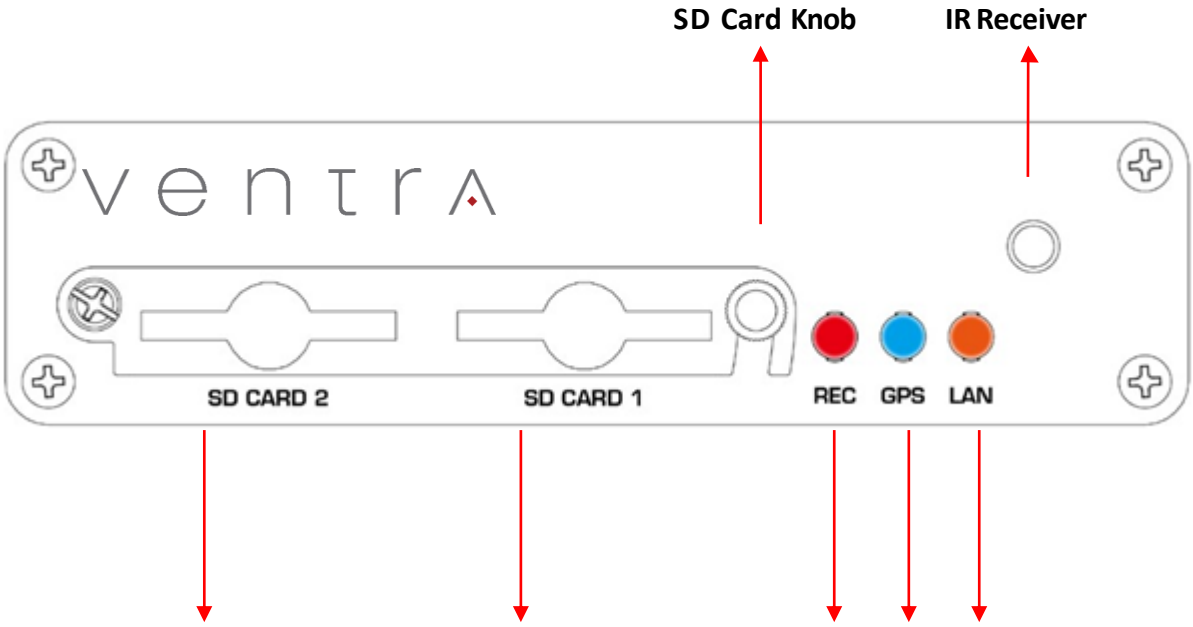
VMDR-888 Rear View and Power Connection



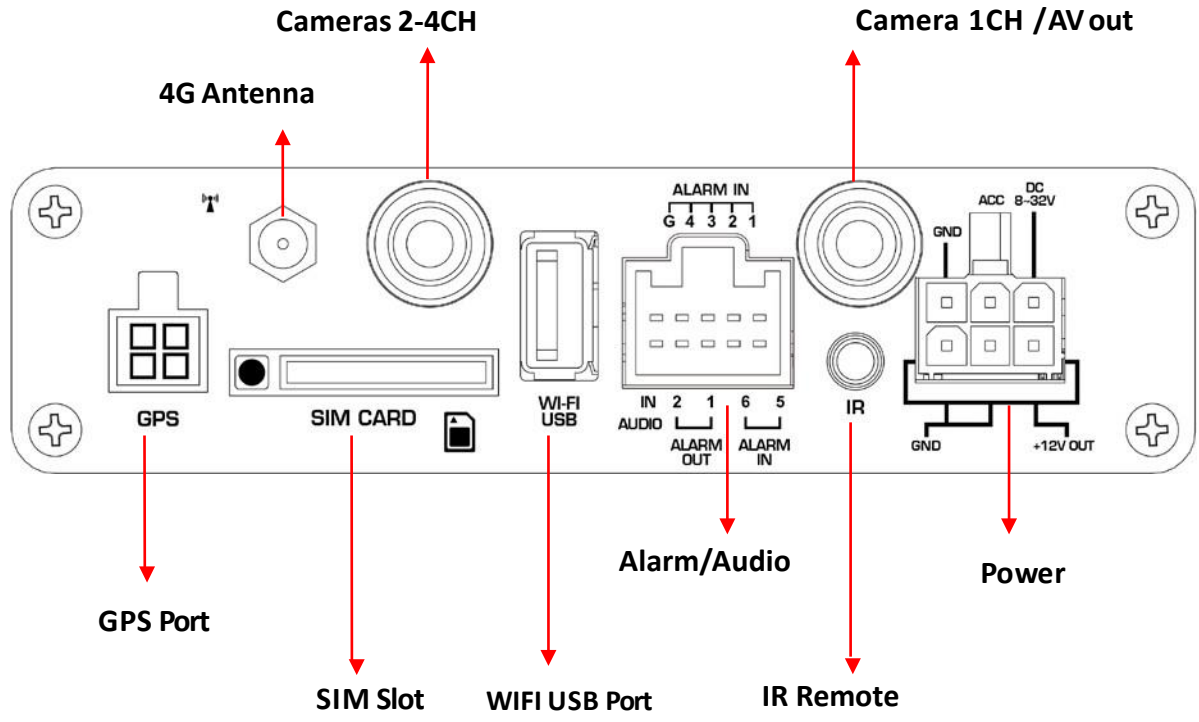
Important:

Connect VMDR power to vehicle fuse, not directly to vehicle battery

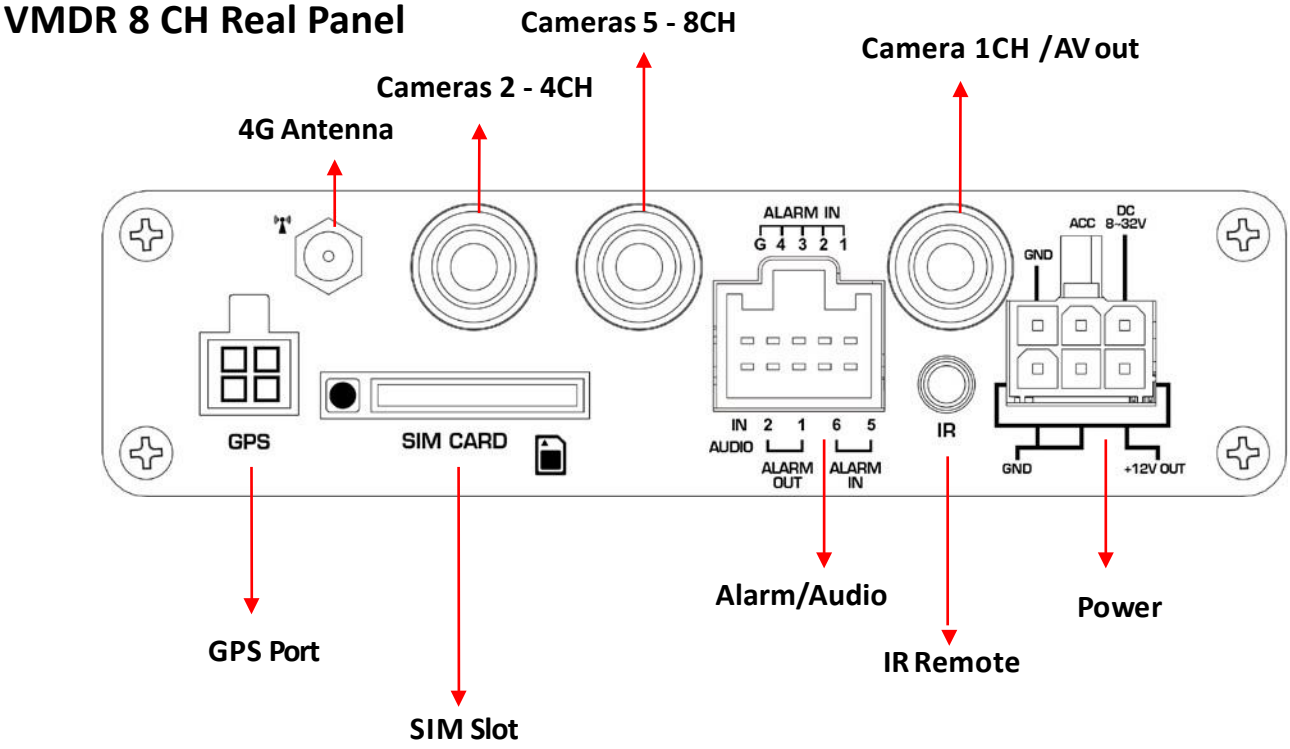
D. VMDR Front Panel



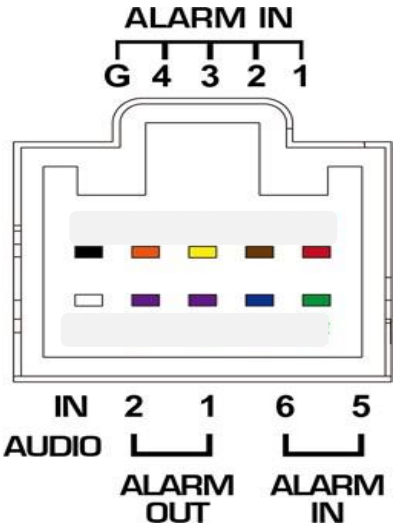
VMDR 4 CH Real Panel



VMDR 8 CH Real Panel



Alarm Port

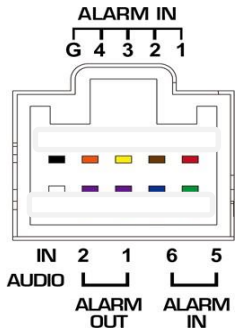


ALARM IN				
(G) BLK	(4) ORG	(3) YLW	(2) BRN	(1) RED

AUDIO	ALARM OUT		ALARM IN	
Audio Mic In White	(2) PL Reserved	(1) PL	(6) BLU Reserved	(5) GRN Reserved

Alarm Pin Layout			
#	**Descripton**	**#**	**Description**
1	Alarm input 1 (Red)	6	Alarm in 5 – Reserved (Green)
2	Alarm input 2 (Brown)	7	Alarm in 6 – Reserved (Blue)
3	Alarm input 3 (Yellow)	9	Alarm Out 1 – (Purple)
4	Alarm input 4 (Orange)	10	Alarm Out 2 – Reserved (Purple)
5	Ground (Black)	11	Audio Mic In – (White)

Alarm Input Connection



ALARM IN				
(G) BLK	(4) ORG	(3) YLW	(2) BRN	(1) RED

AUDIO	ALARM OUT		ALARM IN	
Audio Mic In White	(2) PL Reserved	(1) PL	(6) BLU Reserved	(5) GRN Reserved

External Alarm Trigger Integration Example: Connect Door Sensor to VMDR

Door contact sensor to detect when door/gate opens, thus triggering an alarm on the VMDR to flag the event.

The door is closed (Normally closed), and when door opens (interrupts connection), momentarily disrupts the voltage current (drop in voltage), thus creating an alarm event

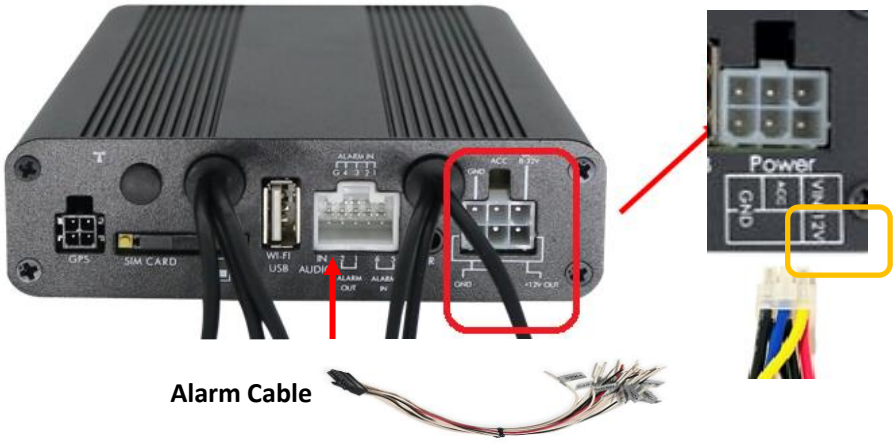
Using an Amseco brand ODC-59B or Seco-Larm SM-4601-L3Q door sensor that is equipped with **3 wires and support BOTH Closed Loop and Open Loop wiring connection**.

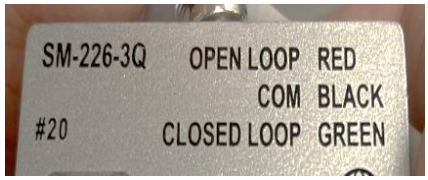
This door sensor has **3 wires** - **Open Loop** (Red) **, Com** (Black) **and Closed Loop** (Green)

From the 3 wires on the Door sensor, connect

Closed Loop Wire (**GREEN)** = Connect to any Alarm input 1 ~ 4 wire on VMDR

COM Wire (Black) = Connect to 12V power source from VMDR 12V Power (bottom row) or ext. power source





Alarm Cable

Program Alarm Setting In VMDR Menu

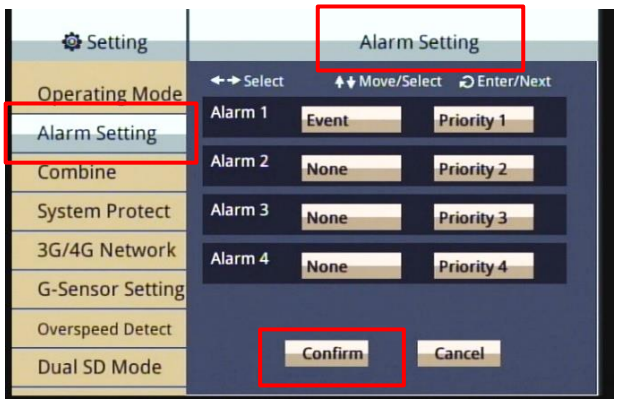
Refer to Setting section > **Alarm setting**

Select the Alarm Input the door sensor is connected to (**A1 – A4**)

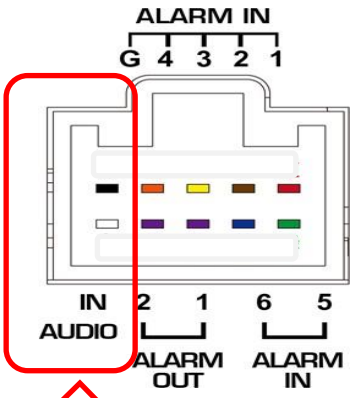
Select **Event** from drop down menu

Select **Priority 1**

Click **Confirm**

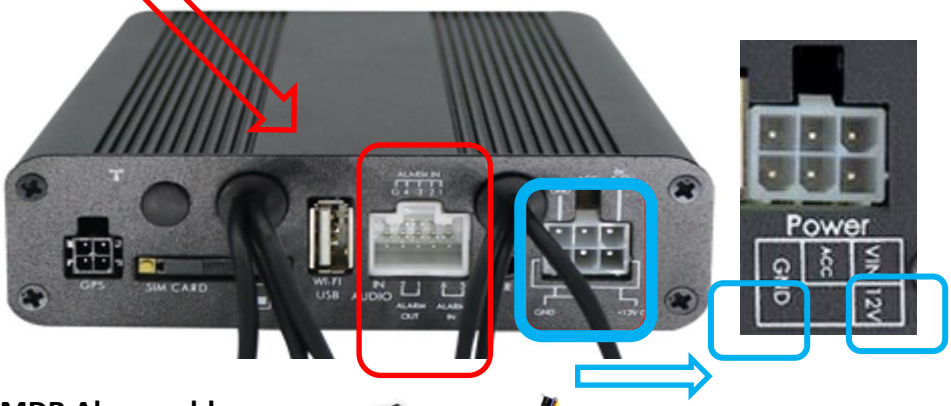


Microphone Connection



ALARM IN				
(G) BLK	(4) ORG	(3) YLW	(2) BRN	(1) RED

AUDIO	ALARM OUT		ALARM IN	
Audio Mic In White	(2) PL Reserved	(1) PL	(6) BLU Reserved	(5) GRN Reserved



VMDR-840 series supports 1 CH of Audio (Mic) recording. Mic can be placed anywhere inside the vehicle

Requirement:

EX88-MIC (sold separately)

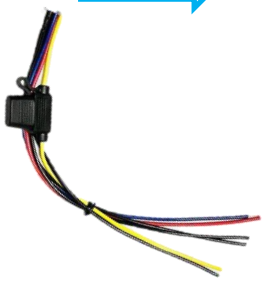
RCA Male cable (sold separately)

DC Male to DC Male power cable (Sold separately)

VMDR Alarm cable

Black Wire = Ground

White Wire = Mic+



VMDR Power cable

<u>Red = 12V (Use 12V wired from BOTTOM Row)</u>

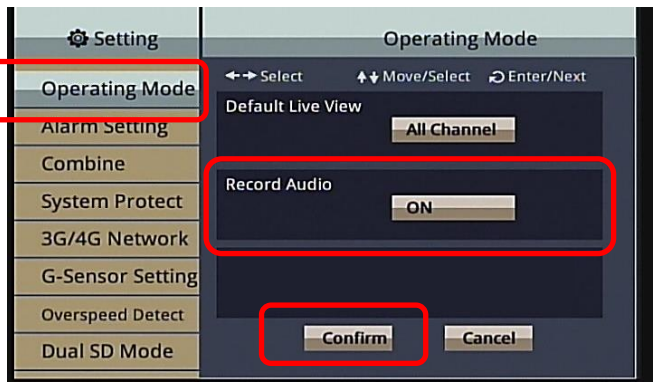
<u>Black = GND (Use GND wire from BOTTOM Row)</u>

EX88-MIC (sold separately)

VMDR-844 Alarm Cable (Included)

RCA Male cable 6 - 10ft (sold separately)

DC Power cable 6 - 10ft (sold separately)



Enable Audio Recording in VMDR Settings

Access Menu, Scroll to **Operating Mode**

Record Audio = ON

Select **Confirm** to Save

Microphone Connection Continued

1) Cut 1 end of RCA male connector from the RCA cable, strip wire jacket to expose core wire and the shielding wires. Separate them

2) Connect the core wire to **Audio +** (**White** wire on the Alarm Input)

3) Connect the Shielding wire from the exposed RCA cable to the **Black wire (GND)** on the Alarm cable

	ALARM IN			
(G) BLK	(4) ORG	(3) YLW	(2) BRN	(1) RED

AUDIO	ALARM OUT		ALARM IN	
Audio Mic In White	(2) PL Reserved	(1) PL	(6) BLU Reserved	(5) GRN Reserved

RCA cable 6 - 10ft

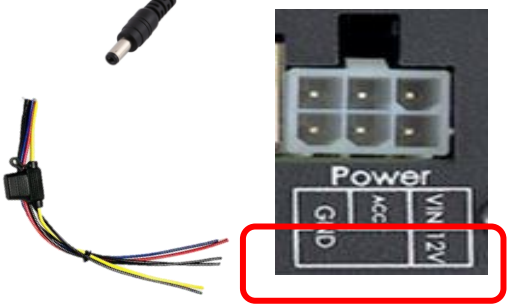
VMDR-844 Alarm Cable

4) Cut 1 end of DC power cable connector and strip to cable. Separate **Positive** from **Negative**

5) Connect the **POSITIVE** wire from the stripped DC power cable to the **12V power** wire from **VMDR**

6) Connect the Shielding wire from the exposed DC power cable to the **Black wire (GND)** from the VMDR power cable

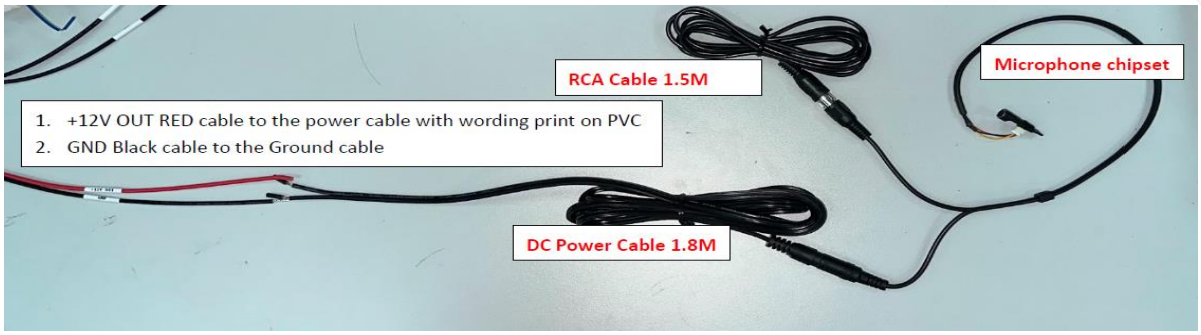
DC Power cable 6-10ft



7) Connect RCA cable Male to EX88-MIC RCA input

8) Connect DC Power cable male plug to power input on the EX88-MIC

EX88-MIC



VMDR Power On / Power Off

(1) Power On

Ensure the VMDR is powered off prior to inserting SD card into the SD card slot. Close the SD card slot and secure vandal resistant screw. Then turn on the power, it will take approximately 30- 40 seconds for system to boot up. When lights start flashing as the recording is in progress.

(2) Power Off

Turn off the power; please wait for 5 - 10 seconds until system powers down. LED lights will turn off when system is powered off. If delayed shut off feature is enabled or programmed, the DVR will auto shut off based on the programmed time. Then Remove the SD card out and playback the recording files on the computer using Ventra VMDR PC Software

(3) LED Indicator Lights

- **Record Light (red)**

  Not flashing: Not recording Light flashing:

  Recording

  Rapid flashing: Event recording

- **GPS Light (blue):**

  Light flashing: Not connected

  Light On: Connected.

- **LAN Network Light (green):**

  LAN = LTE or Embedded WiFi

  Light Off: Not connected

  Light flashing: Not Connected

  Light On: Connected to VentraCloud server

(4) SD Card Slot Mode

When both card slots are utilized, the recording priority is SD1. If there is video data in the SD card, the latest video file data is preferred.

IMPORTANT:

VMDR operates in **SIMPLEX** Mode. During video recording playback on the VMDR via an LCD monitor, system will NOT be recording video. Recording function will automatically resume upon exiting the playback mode

Remote Control

Remote control playback and computer playback are available.

- Remote control operation

Menu Button

Remote control button Introduction			
Item	Descripton	Item	Description
1	Split screen display	7	Enter
2	Force recording	8	Reverse
3	Quad full-screen display	9	Fast forward
4	Speaker mute button	10	Playback mode, play button
5	Menu setting access	11	Pause
6	Navigation	12	Stop and Exit

*** Remote Control inspection**

(1) Remove plastic covering in battery slot

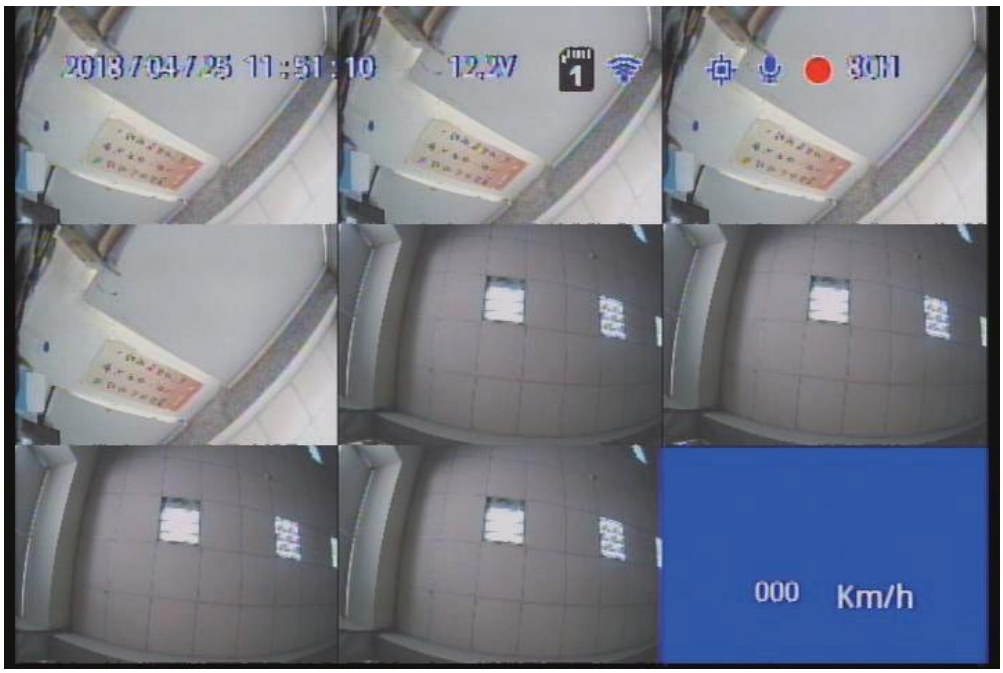
(2) Check battery polarity

(3) Check battery status

(4) Point remote control directly at VMDR

System Interface and Operation

◆ Live View Display from LCD monitor



Live View Display – 8-split View

(1) Screen operation guide line

- To make channel 1~4 single-channel display, switch between display by menu selection or remote control
- To display quad screen, press the Quad button
- To open the menu press the Menu button
- To play mode press the Play button

(2) Icon Indicator

 : Indicates video recording

 : Indicates video recording

 : Indicates audio recording

 : Indicates event recorded

 : Indicates Internet connected

 : Alarm triggered

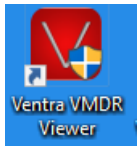
OSD Menu Operation and Setting Instructions

Camera type	Select camera resolution 1080P / 720P / D1 (If wrong resolution is selected, system will not display or record video)
Image settings	FPS: 15-30 FPS 1080P = 30FPS max, 720P = 30 FPS max Picture quality: Normal, Better, Best
Image adjustment	brightness, contrast, color adjustment
Subtitle	Select whether to store OSD display subtitles in the videos
Channel settings	Image output mode to set the normal mode, mirror mode, flip mode, flip mirror mode, and determine whether to write to the storage device
Time setting	Program date, time and time zone of system
GPS setting	Current speed and speed unit settings in the live screen
Vehicle plate settings	Enter text range : A ~ Z & 0~9 (Must be in ALL CAP)
Operating mode	Set the channel mode of the system at startup Audio Recording ON/OFF Recording duration after ACC off
Alarm Settings	Alarm trigger mode
System protection	Low voltage protection triggered in ACC mode Disk protection tips
4G Network	4G ON/OFF and display the current setting information
G Senor Settings	With this function enabled, when the vehicle is subjected to a certain degree of impact (bumps, dips), automatic forced recording will be triggered to record the incident
SD card operating mode	Backup: SD2 is a spare option. When SD1 disk is abnormal, the system will change to SD2 to store video data. Expansion : SD1 and SD2 will auto loop record when expansion mode is selected (**Recommended**)
NTSC/PAL	Select the corresponding Video format

OSD Menu Operation and Setting Instruction Continued

Language	English, Traditional Chinese, Simplified Chinese
Restore default	After restoring the factory settings, the system will reboot and reset to original factory settings
Format SD Card	After formatting the hard disk, all data will be deleted.
Firmware update	The firmware update program is stored in the SD card and the firmware is updated by the device. Keep power on during firmware update. After update is complete, system will automatically reboot. (If both SD cards are inserted, SD1 is mainly used to update the storage location)

Video Recording Playback from SD Card



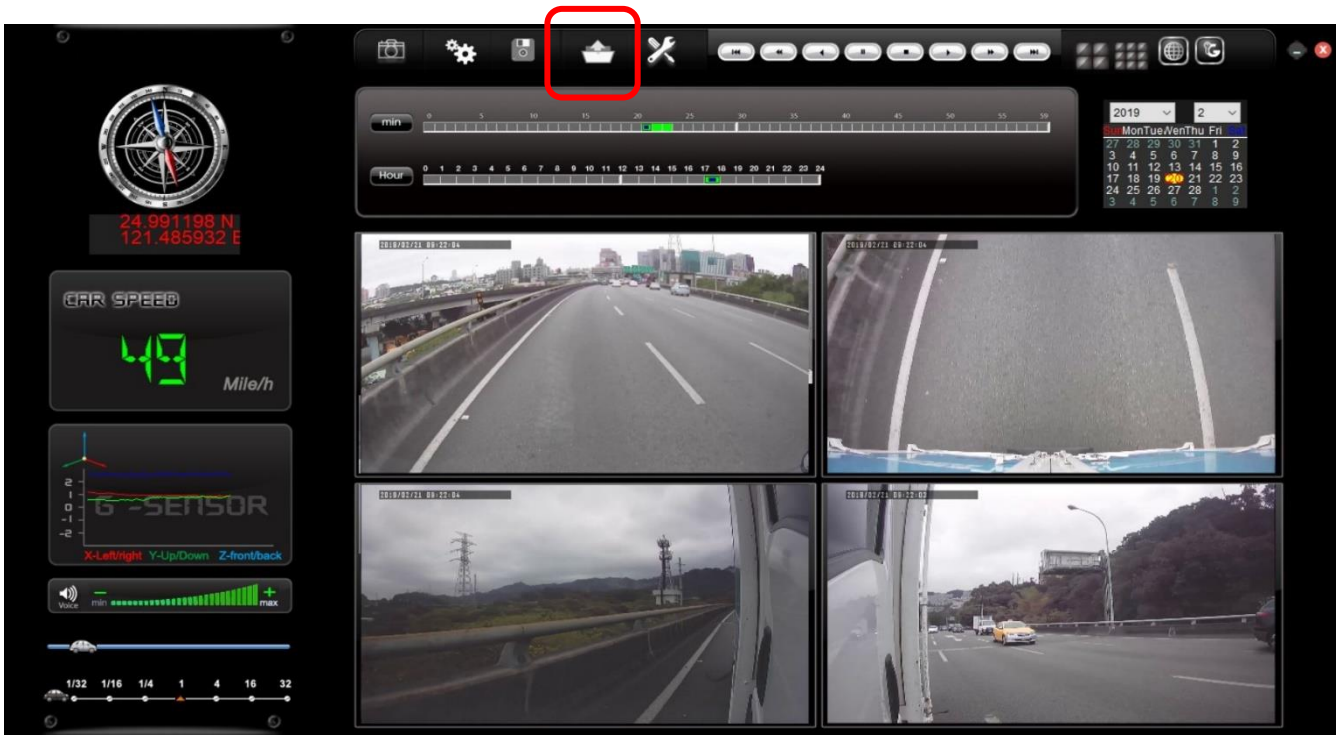
Remove SD Card from VMDR, insert SD card into Windows PC to view recordings

Install VMDR Software included with the system or download from Ventra website.
Run the VMDR PC software program by selecting the desktop icon

Note: DirectX 9.0 or above is required

Download Ventra VMDR-8 Series PC Software

Select the Folder Icon to display recording menu 

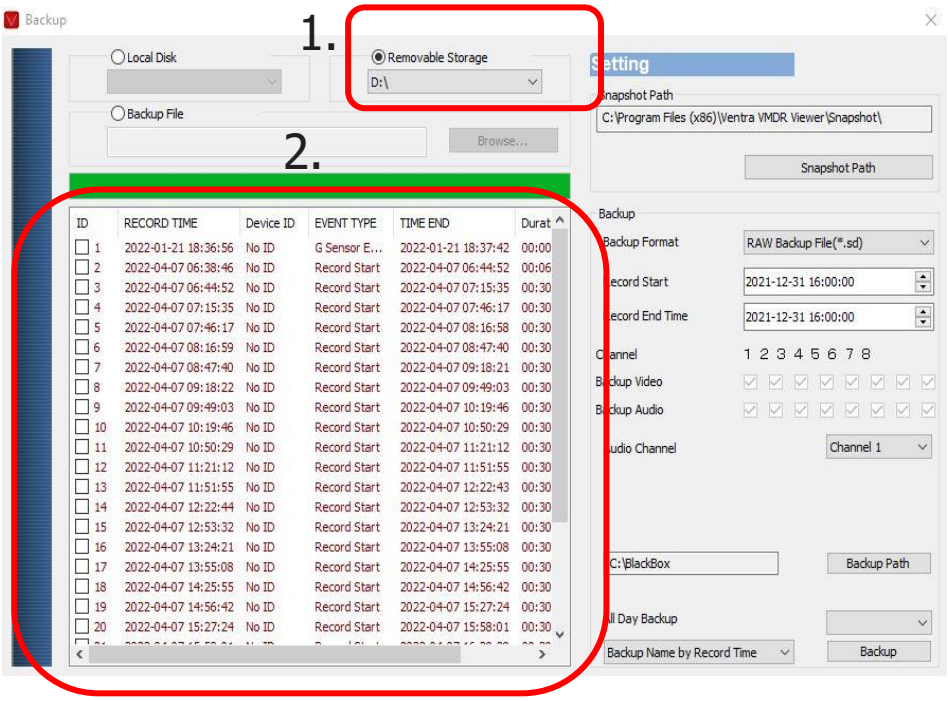


1. Select Removable Storage
2. Select Video file to view by double clicking the time

Video recordings are stored and displayed in chronological order

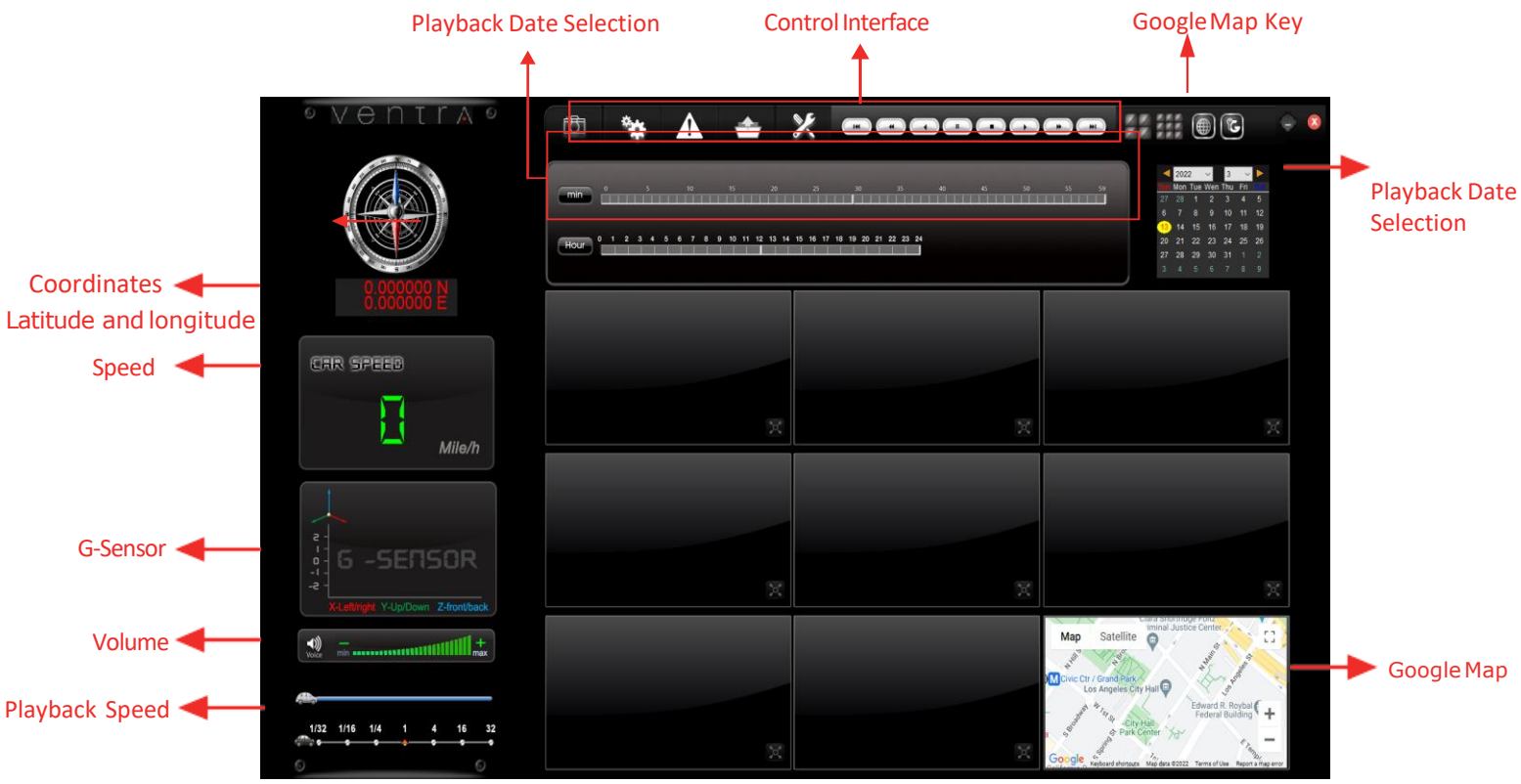
Event Time = recording start time or events

Event = Overspeed, Impact, Alarm



VMDR PC Desktop Player Software

VMDR PC Playback Software Interface – compatible only with Microsoft Windows



(1). **Icons**

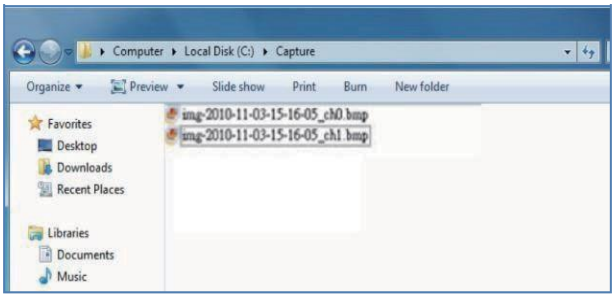
	snapshot: Capture and save the picture as a picture file
	Configuration: Set DVR related settings
	View Event Video: Display and view Event recordings on SD card
	Playback : View all recordings (Normal + Events) on SD card
	Format: SD card format. All SD cards must be formatted in Software prior to use

VMDR PC Desktop Player Software Continued

	Previous : Play the previous video
	Previous frame: Move the video to the previous frame while paused
	Play: The video is played backward
	Pause: pause the video in play
	Stop: Stop the playing video
	Play: Play paused videos
	Next frame: In the paused state, move the video to the next frame
	Next video: Play the next video

Snapshot

Snapshot: click the icon  ›The system will capture the video on screen and store in bmp file. After backup is complete, the backup folder will automatically display. The default link is Snapshot data under the VMDR player folder.

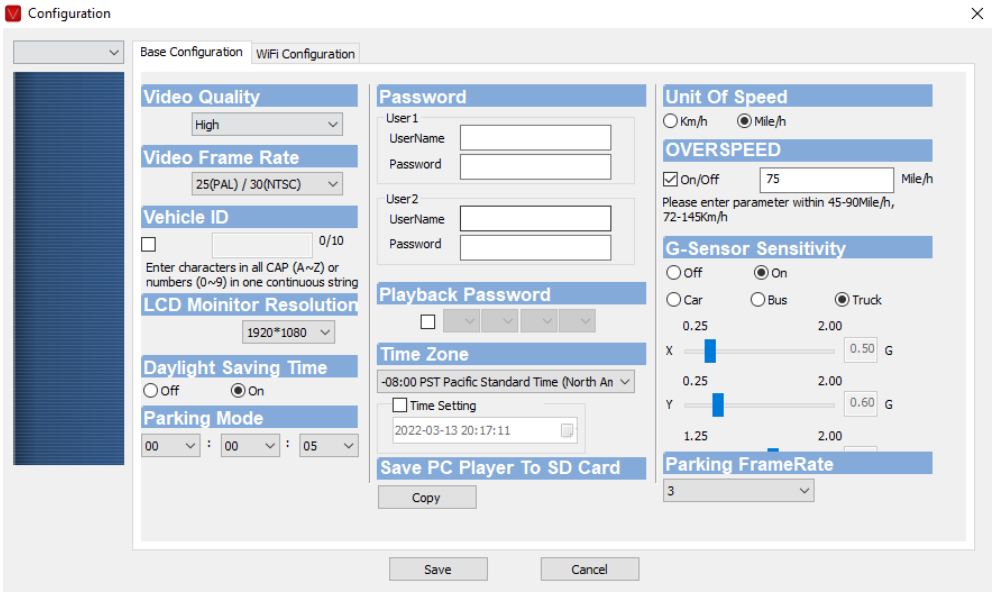


SD Card Format

 : SD card format setting

Please use a computer to read the SD card before recording. After executing the computer program, user can set video format and other related settings. After the setting is complete, save it, insert the SD card into the VMDR

VMDR PC Software System Configuration Menu

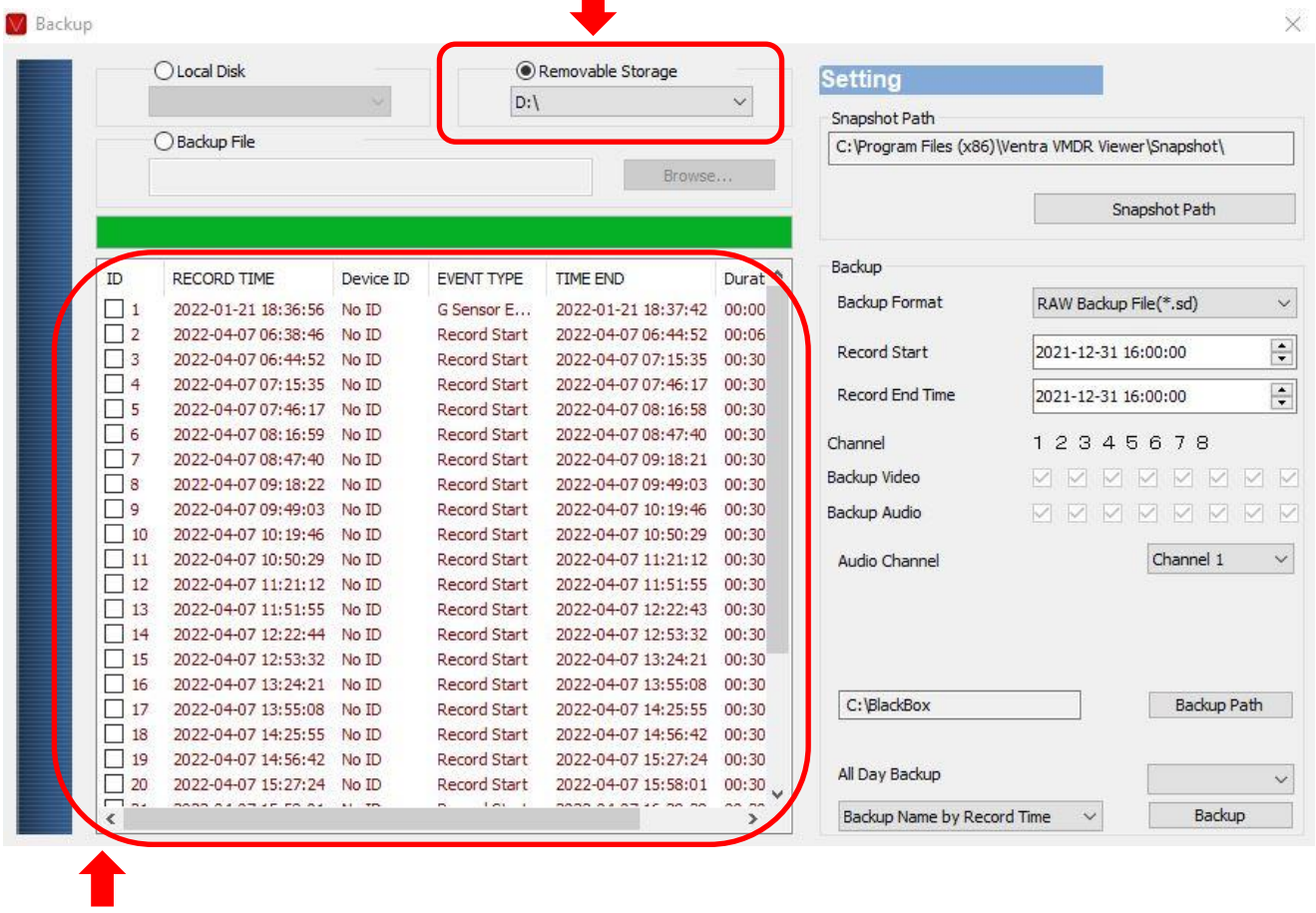


Video Quality	Video recording quality of High, Normal and Low selection (This is not video resolution 1080P)
Video Frame Rate	Resolution setting range: 5~30 FPS (1080P max 30FPS, 720P max 30FPS
Vehicle Information	Enter the license plate number or driver's name. Text must be all in UPPERCASE
LCD Monitor	Set the monitor resolution of LCD
Daylight Savings Time	Enable / Disable Daylight Saving Time
Parking Mode	Not available on VMDR-840 series
Password	This feature encrypts the hard disk to prevent others from accessing any data. Set the password to 15 characters. IMPORTANT: **Do NOT lose the password. For security reasons, Ventra does not have any master rest code to unlock the SD card if password is lost or forgotten**
Playback Password	Set password for video playback to restrict unauthorized access (Do not lose password)
Overspeed	Enable / disable and set vehicle maximum speed limit event trigger
Parking Frame Rate	Program the frame rate of recording when VMDR is in parking mode (delay shut off)
G-Sensor	Enable / disable G-Sensor (Impact sensor) System has 3 default levels – Car, Bus and Truck User can adjust and fine tune sensitivity based on individual vehicle and working environment to reduce false triggers as some vehicles and environment are prone to constant harsh vibrations
WiFi Configuration TAB	Do not change the data in this section. It's the SSID (Name) of this VMDR. It will broadcast the Device ID (**ETxxxxxxx**) Used when accessing via a laptop connection within 10ft

Video Playback

Playback video: Select a video file stored on SD card in the Removable storage drop down menu. Select Drive of SD card 

1. SD Card

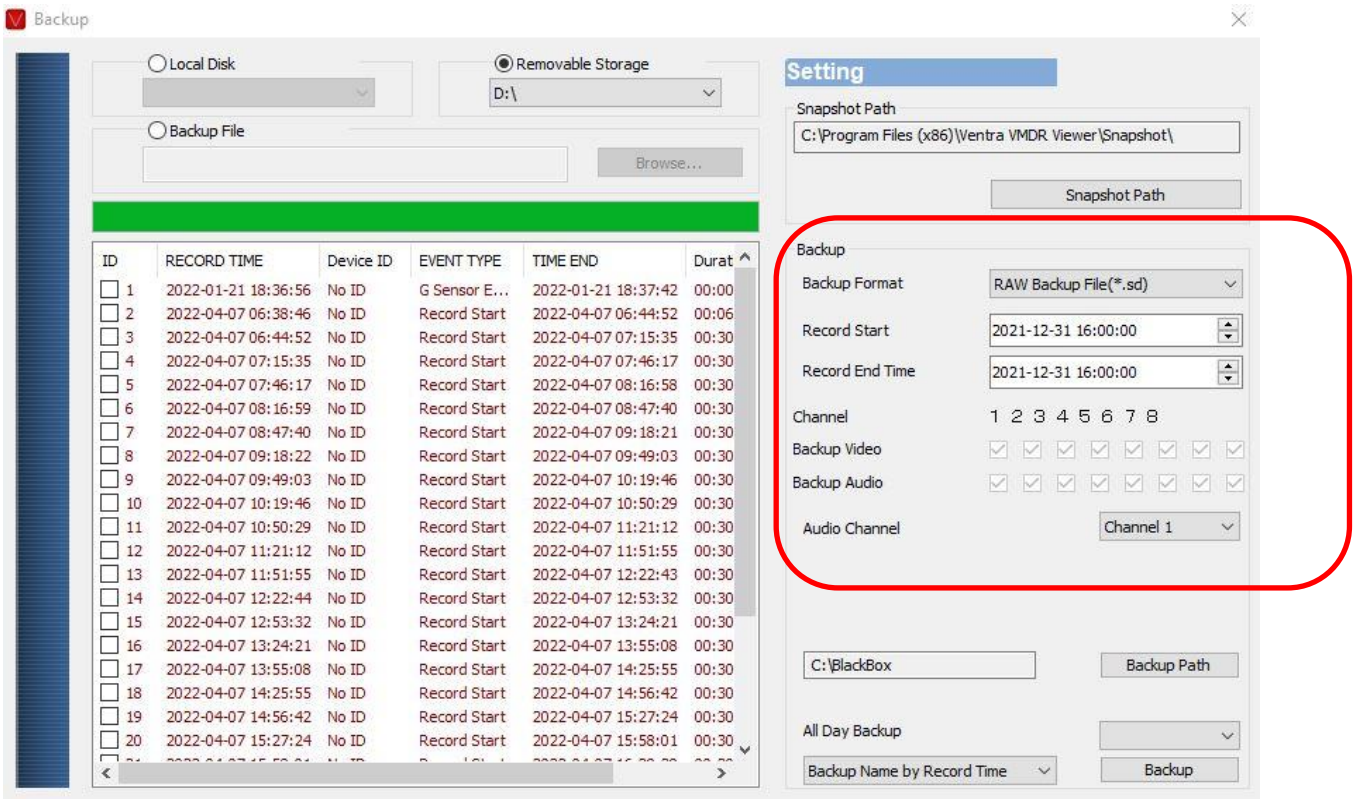


2. Select the video file to view recording

Video Backup

: Start Backup

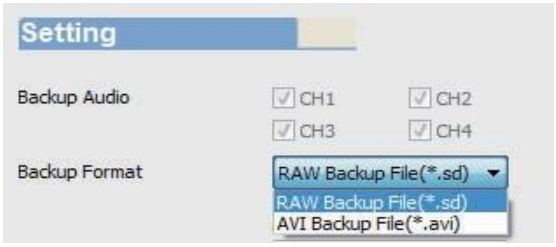
Store video data on your hard drive on your computer for easy playback **Select**  The disk backup menu will appear as below, start backup menu screen



Step 1. Select Removable Storage. Then locate the Drive of the SD Card from the drop-down menu

Step 2. Select the video file to backup.

Select backup data access format



Video backup (export) can be done in 2 different formats

SD Format = Ventra proprietary file format with GPS and metadata embedded. Can only be accessed / viewed via VMDR PC software

AVI Format = Universal video format accessible via standard media player. No GPS or metadata embedded

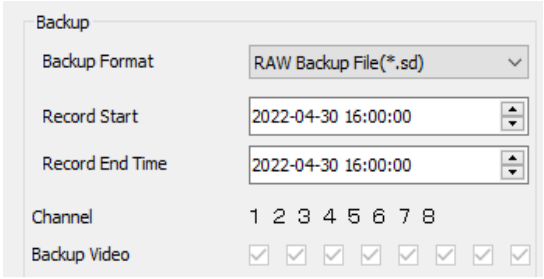
Backup format

- **SD Format**

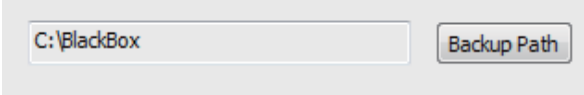
- **AVI Format**

Note: Backing up in .**SD** file format, the file format is viewed with VMDR PC viewer and will include the speedometer, map location, coordinates, and G-SENSOR data. If video is exported in ***AVI** format, only the video and audio data are available.

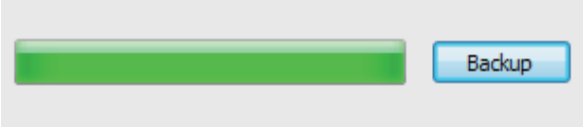
Step 4. Backup video file according to date and time range



Step 5. Select the path of the video backup folder



Step 6. Start backup procedure

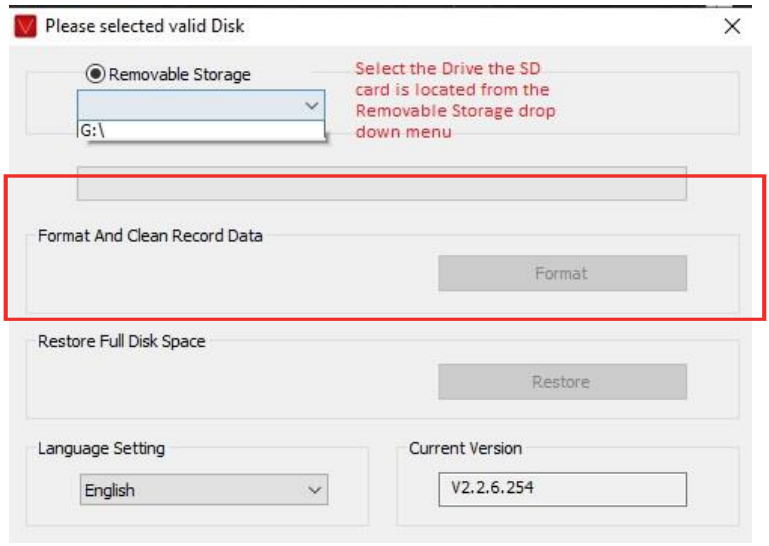


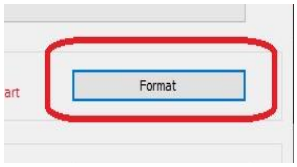
Format/Restore SD Card

Step 1. After removing the SD card disk from the VMDR, use the computer to read the SD Card, and utilize the VMDR PC playback software

Step 2. Click  Enter format tool menu Select the corresponding storage device

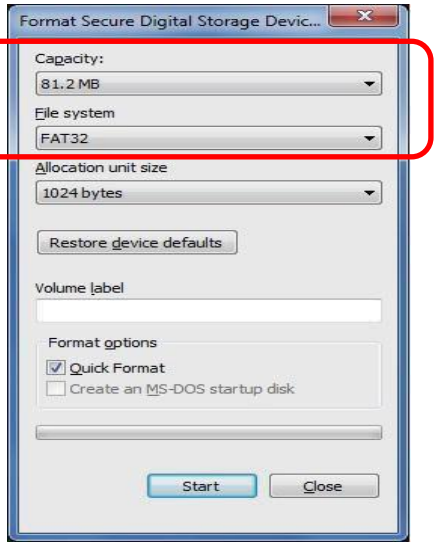
Step 3. Select Format Button



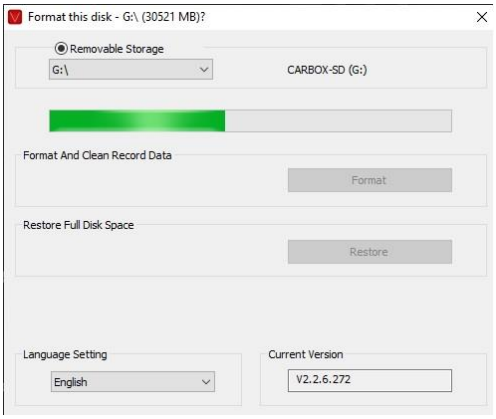


Step 4. Select "Yes"

Step 5. Select "Start"



Step 6. Wait for format completion



IMPORTANT

Wait for each process to complete before proceeding

Regardless of the SD card capacity 32 – 512GB, once the SD card has been formatted, it will show a capacity of **78MB to 82MB**.

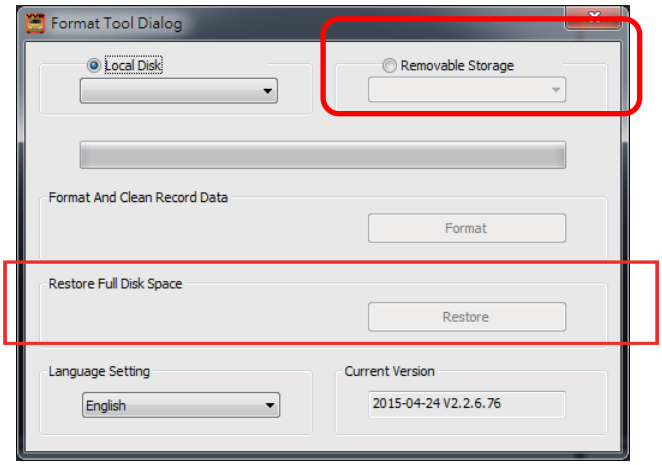
This is normal as VMDR utilizes a proprietary file format. The SD card retains the original storage capacity

Restore SD Card

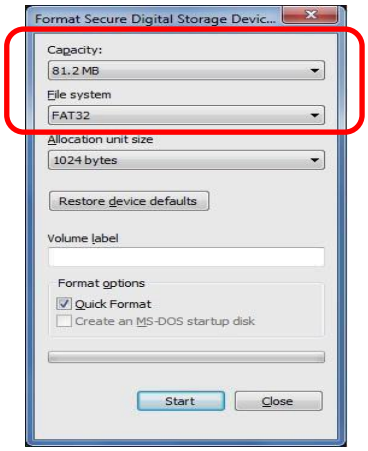
Restore SD card feature can be utilized to format card to original factory format for general storage use

NOTE: Restore SD card will delete all files on SD card

Sept 1. After removing the SD card from this unit, insert SD card into PC and execute the software VMDR Software. Select the Tool Icon



Step 2. At this point, **"Restore this disk"** will display. Press **"Yes"** to restore the SD Card. System pops up the format window, check "**Quick Format**" and press **Start**



Step 3. "Restore this disk" will display. Press "OK" to format

Step 4. After format is completed, "Format completed" will display. Press "**OK**" and close format disk window

Step 5. After the completion, "Disk Restore Successful" will display. Press "**OK**"

4G LTE Network Settings & SIM card

SIM card Setting

SIM card PIN protection must be turned off. The steps are as follows:

VMDR utilizes T-Mobile Network for cellular data connection. SIM card must be inserted into the VMDR for connection. Remote viewing requires VentraCloud monthly subscription service

SIM card tray on the rear of VMDR-840

Push Yellow button to eject SIM tray

SIM card gold contacts **must face downward**

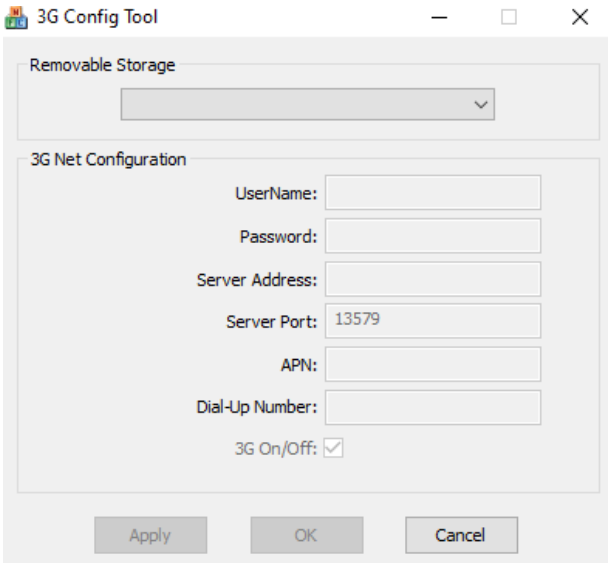
SIM slot

Step 2. Cellular Settings

Cellular settings are preconfigured in VMDR with VentraCloud server, port and T-Mobile APN settings

In the event these settings requires reprogramming, use the Ventra 3G Config utility software. Download 3G Cellular Config Software Download

1. Insert SD card into PC and open 3G Config software. Select Drive of SD card from drop down menu



User Name: leave blank

Password: leave blank

Server name: www.ventracloud.com

Server Port: 13579

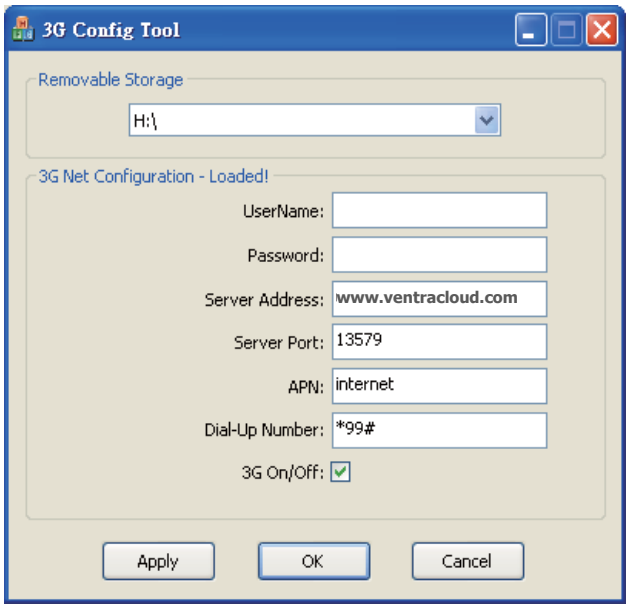
APN: Fast.T-Mobile.com or internet

Dialup Number: *99#

3G On/ Off: Must be checked / enabled

4G LTE Network Settings

Step 2. Then insert the SD card into the computer, select the SD card disk, and enter the relevant parameter settings.



Setting parameters	
Removable Storage	SD Card Drive
UserName	User name (leave blank)
Password	User name (leave blank)
Server Address	**www.ventracloud.com**
Server Port	Server Port default **13579** **(do not change)**
APN	4G Network access point name (Default APN used by T-Mobile) **Fast.T-Mobile.com (or) internet**
Dial-Up Number	Dial-up connection setting (The default dial-up connection code) ***99#**
3G On/Off	4G Connection. Must **Enable (check)** to turn on feature

Click APPLY to save settings, Click OK to exit

Safely eject SD card through Windows

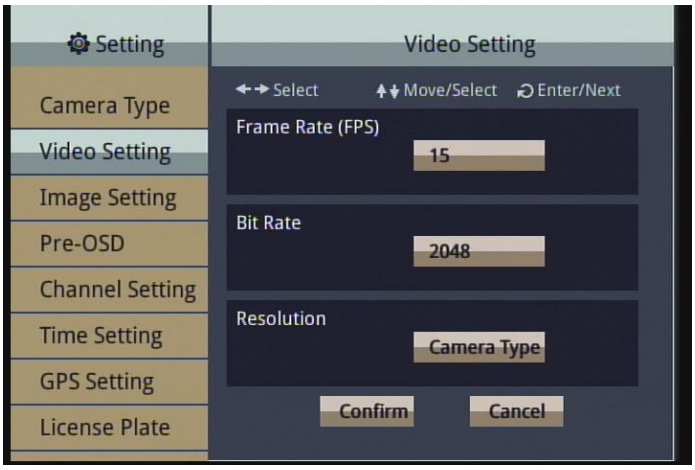
Insert SD card into VMDR, power on system to load cellular setting

VMDR System Setting – Video, Camera Resolution, Frame Rate, OSD Display

Most settings in VMDR is pre-set which enables the system to work out of the box. It is highly recommended to go through individual settings to customize features and ensure compatibility

IMPORTANT: **Save** setting by pressing Confirm **BEFORE** exiting individual sub menu page.

Video Setting



Frame Fate (FPS)
Choose between 5 - 30FPS
1080P cameras up to 15 FPS max
720P cameras up to 30 FPS max

Quality / Bitrate: Higher bitrate utilizes more data storage. Default 2048

Resolution:
Camera Type Select Camera resolution

VMDR will reboot when changing camera resolution

Image Setting

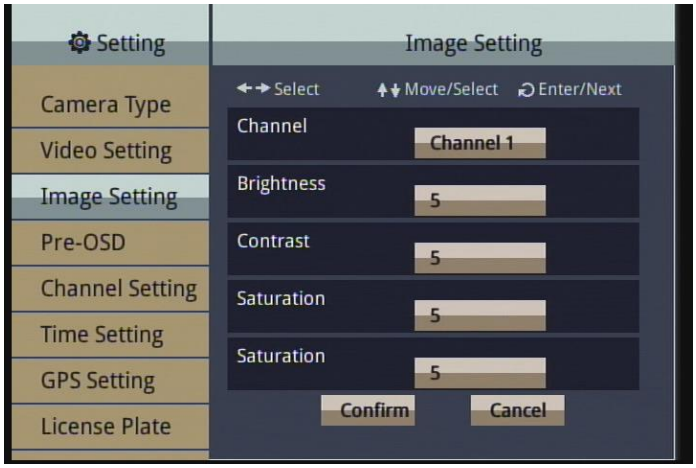


Image Setting

Change individual camera video setting (Level 1 – 10)

Brightness
Contrast
Saturation

Default = 5

Pre-OSD

Pre-OSD

Displays On Screen Display information of date and time

Select Enable

Pre-OSD

Displays GPS coordinates

Select Enable

VMDR System Setting – Channel, Time, GPS and License Plate

Channel Setting

Channel

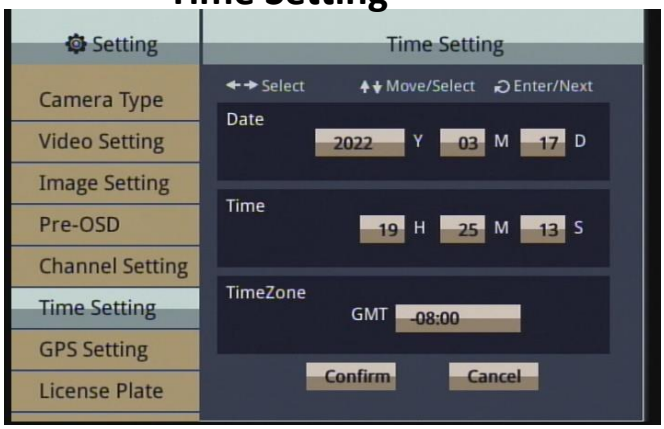
Enable / disable individual channel (cameras) if not used

Example:
If only CH 1 – 4 are connected to cameras, can turn CH 5 – 8 OFF

If Channel Record is ON for all 8 CH but only 5 cameras are connected, system records /display video of 5 connected cameras

Change video image mode between Mirror and Normal

Time Setting

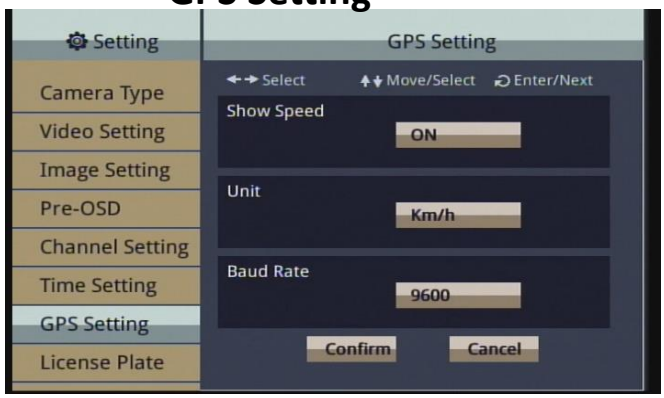


Time

Adjust date, time and time zone of VMDR

GMT = Greenwich Mean Time

GPS Setting



GPS Setting – connect external GPS receiver included with VMDR

Show Speed
Enable / Disable Speed and route recording

Unit: MPH / KM/h

Baud Rate: 9600 (default – do not change)

License Plate

License Plate

Enter license plate or vehicle ID for system identification.

Enable ON / Disable OFF vehicle ID to be watermarked in video recording

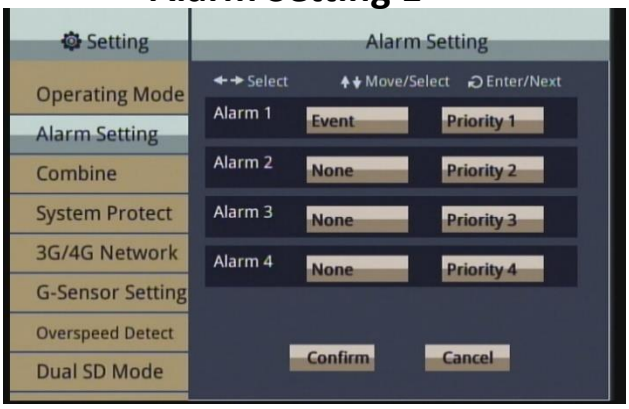
VMDR System Setting – Operating Mode, Audio Recording

Operating Mode

Default Live View
Select camera(s) displayed on optional LCD monitor connected to VMDR

Record Audio
VMDR supports 1 single channel of audio recording via optional external EX88-MIC (sold separately). Microphone can be placed anywhere in the interior of vehicle

Alarm Setting 1



Alarm Setting
VMDR-888 supports up to 4 alarm inputs such as turn signals, external door sensors, light switch, door switch, stop arm and other trigger devices.

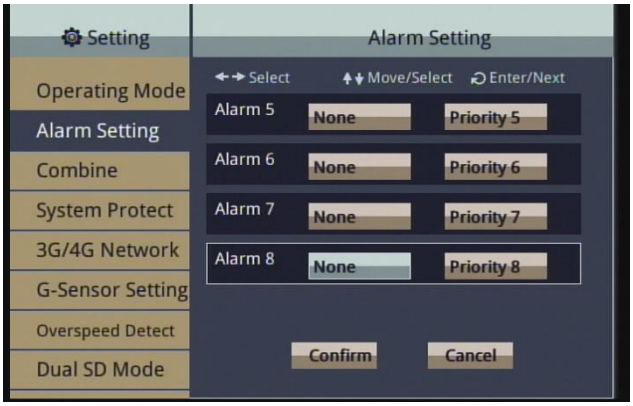
Different setting options available for each Alarm input

None – default, no alarm or trigger assigned

Event
Creates an event when trigger activated and flags (bookmark) recording saved / marked as an Event.

If subscribe to optional VentraCloud Remote monthly service, the **Event** video clips, snapshots and location are uploaded to VentraCloud

Alarm Setting 2



CH 1 – 4 (VMDR-844) CH 1 – 8 (VMDR-848)

Assign alarm to a channel so when the alarm is triggered, VMDR automatically display the associated camera as a single full screen display on the LCD monitor

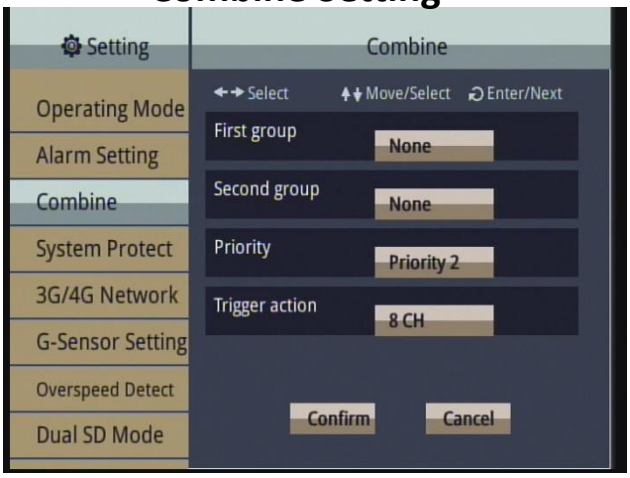
Example use case is left / right turn signal, or reverse gear signal. Such as when a reverse signal is activated, it displays the video associated with the backup camera .
IF Event is required along with the auto CH screen display on LCD monitor function, connect the ext. trigger to 2 separate Alarm input (i.e. Connect the reverse signal to both Alarm 1 and Alarm 2)

Assign Priority

Assign priority of each alarm from 1 – 4. When multiple alarms occur simultaneously, system will prioritize based on the defined settings

VMDR System Setting – Combine Trigger, System Protect, 4G Cellular Network

Combine Setting



Combine
Combining multiple alarm input trigger actions and prioritizing actions. Combine feature is only for local display to an external LCD monitor (if connected)

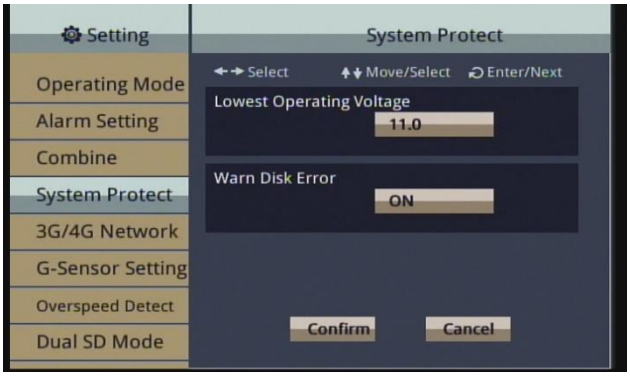
Example = Connect hazard light (Left turn signal wire to Alarm IN 1 and Right Turn signal wire to Alarm IN 2) to trigger a display of a specific camera(s)

First Group / Second Group
Define priority to alarm(s) by categorizing into First or second group

Priority
Define priority to alarm

Trigger Action
Define Channel(s) associated with the trigger

System Protect

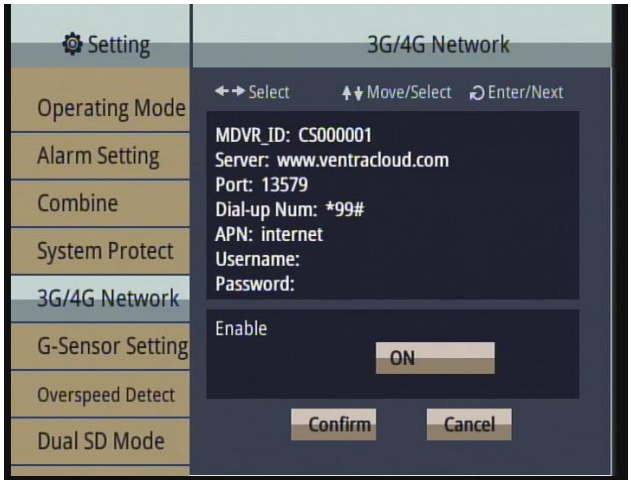


System Protect

Lowest Operating Voltage
Select the lowest operating voltage for VMDR to ensure normal system operation
Default = 11 VDC

Warn Disk Error
This feature is only available for specialized SD card which would be offered by Ventra in the future

4G Cellular Network



IMPORTANT:

Cellular setting for T-Mobile network is preloaded in the VMDR configuration so there's no need edit.

If any configuration need to be changed, must use a Ventra 4G configuration utility PC software. Contact Ventra for utility software

4G Cellular Network Connection

The cellular network section is **ONLY** for systems with VentraCloud remote subscription service and SIM card pre-installed in VMDR

Enable / Disable: cellular network connection. **MUST ENABLE** for VMDR to connect to cellular network

MDVR-ID: Device ID, cannot be changed

Server: www.ventracloud.com (do not change)

Port: 13579 (do not change)

Dialup Number: *99# (for T-Mobile, do not change)

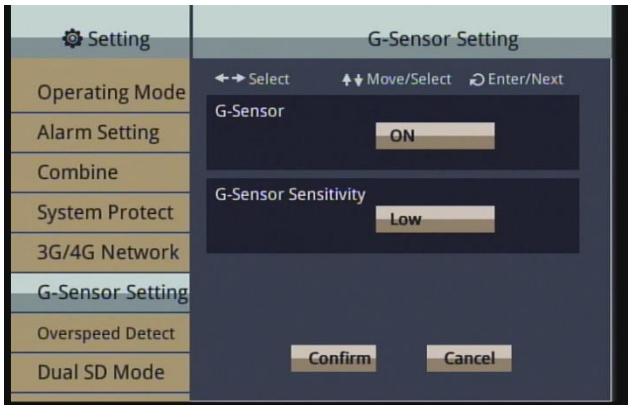
APN: Can use the following 2 APN options for T-Mobile only
1 = Fast.T-Mobile.com
2= Internet

Username: leave blank

Password: leave blank

VMDR System Setting – G Sensor (Shock Sensor), Overspeed, Dual SD Card

G-Sensor Setting



G-Sensor detects impacts, harsh bumps and dips on road surface

Enable / Disable G-Sensor (Recommend Enable)

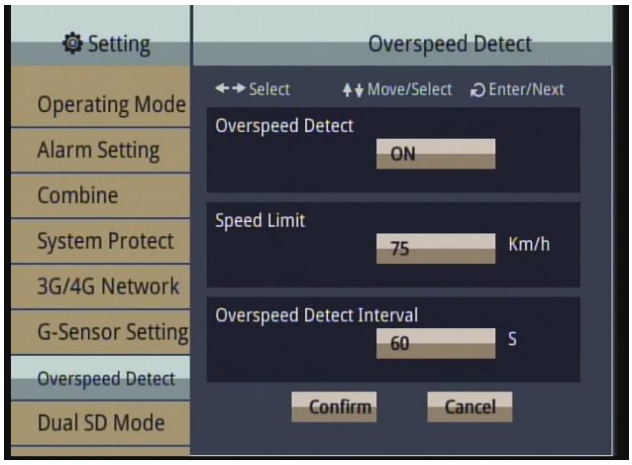
G-Sensor Sensitivity: (Low, Normal, High)

Select sensitivity based on type of vehicle and typical work environment

Larger vehicles can start with Low to Normal setting first as it tend to experience more vibration and bounce. Adjust as needed

G-Sensor event video clips are uploaded to VentraCloud service is subscribed

Overspeed Setting



Overspeed

Detect and record vehicle speed via the included passive GPS receiver. Speed recorded and watermarked in video

Set vehicle max speed limit trigger When speed exceeds threshold, VMDR records / bookmark that segment as Event video

Overspeed Detect Interval
If vehicle continuously exceeds speed limit within duration, VMDR will only count it as 1 event.

Example: Vehicle speed limit is 70MPH. When continuously driving at 80 MPH from 12PM – 12:10PM (10 minute)

If set to 60 seconds, VMDR will treat this as 10 events

If set to 120 seconds (2 minutes), VMDR will treat this as only 5 event

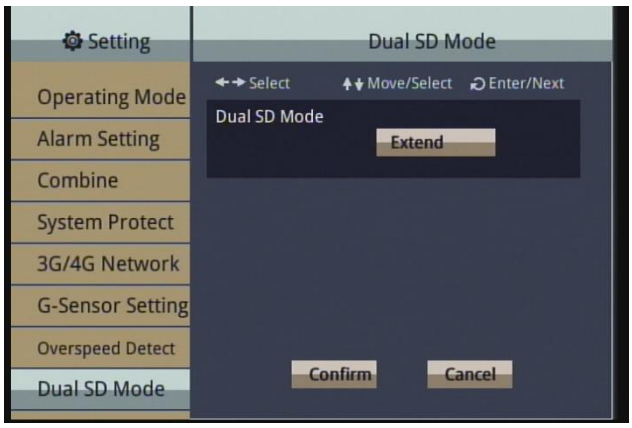
This setting is designed to optimize cellular data usage

<u>Recommend setting at least 2 to 4 minute detect interval</u>

Overspeed event video clips are uploaded to VentraCloud service is subscribed

VMDR Setting Menu - Continued

Dual SD Card Setting



Dual SD card mode

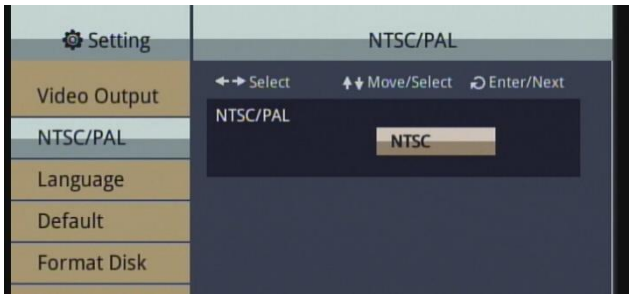
VMDR is equipped with 2 SD card slots. Each slot supports up to max 512GB SD capacity.

This setting defines how the 2nd SD card, **IF Utilized**, will function.

Extend: Loop recording so when 1st card is full, system will automatically store data onto 2nd SD card (**DEFAULT**)

Backup / Mirror: All data stored on 1st SD card will be mirrored and stored on 2nd SD card as an exact duplicate

NTSC / PAL

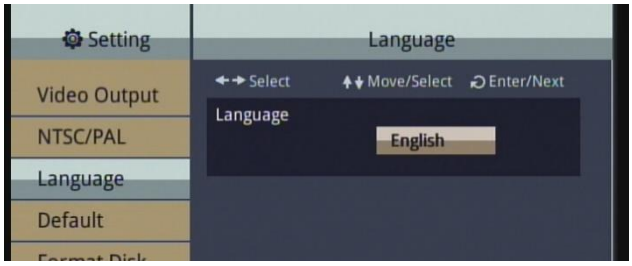


NTSC / PAL

Select NTSC or PAL Video

Default: **NTSC**

Language

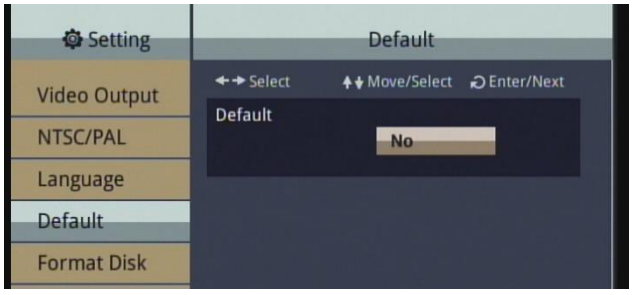


Language

Select Language of system

Default: **English**

Default

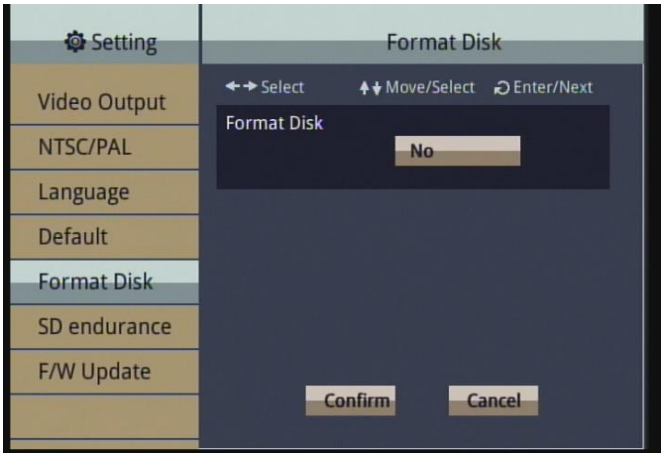


Default

Restore system to factory default settings

VMDR Setting Menu - Continued

Format SD Card



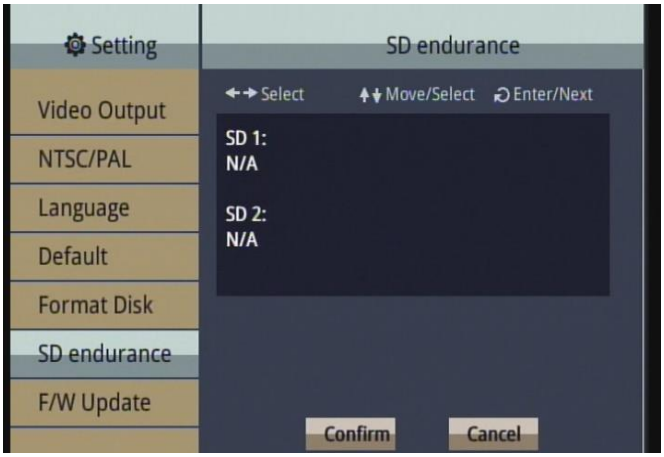
Format SD Card

IMPORTANT: VMDR utilizes proprietary file format. Format SD card in VMDR, or in Ventra VMDR PC software prior to initial system setup

Formatting deletes all data on SD card. Ventra recommends using only new SD cards. Speed class U1 / U3 and faster (Sandisk Extreme or Samsung Pro Endurance)

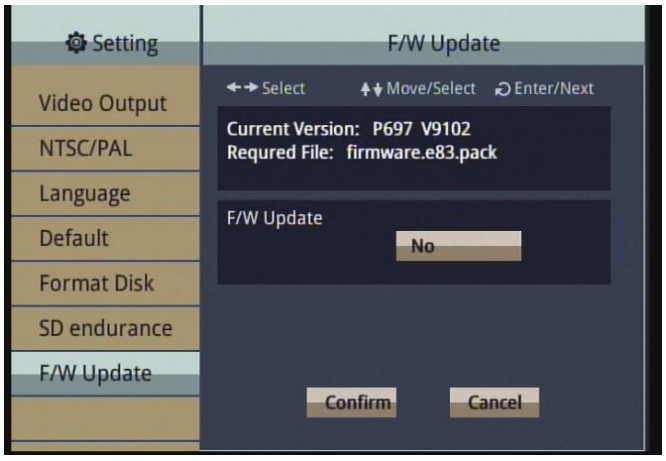
Ventra recommends periodic format of SD card **every 6 – 8 weeks.** Inspect video / data recording on regular basis

SD Card Endurance



Feature Not Applicable on VMDR system

Firmware Update



Firmware Update

Display current system firmware version.

To update FW via SD card, first download and save latest VMDR firmware onto SD card. Then go to this section in the system to manually update FW by selecting **Yes**

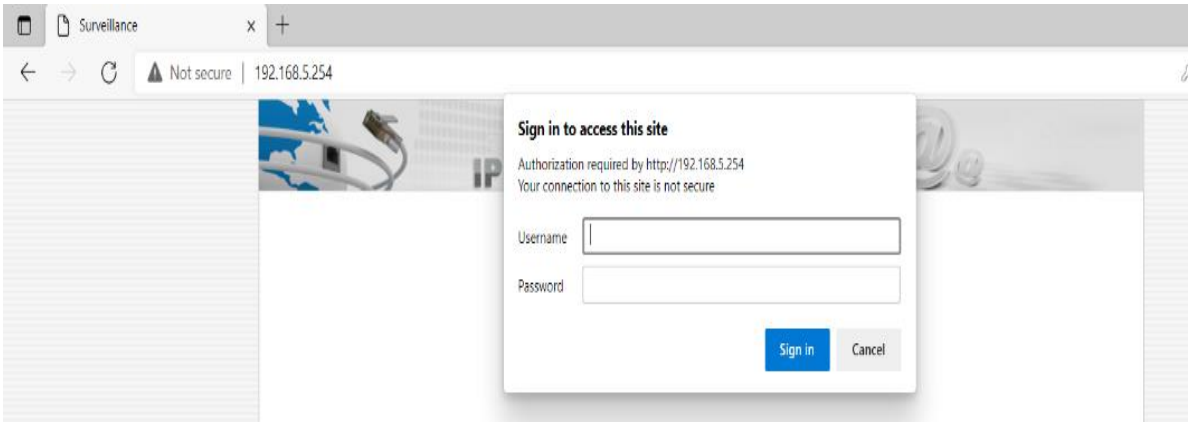
WiFi Connection to VMDR

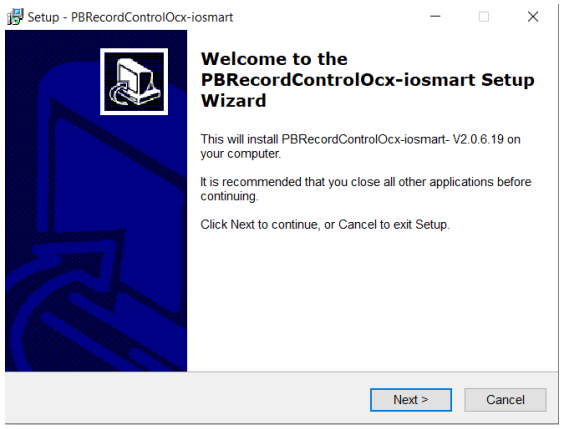
VMDR supports direct WiFi connection (Access Point Mode) from PC and Laptop via **Internet Explorer browser only within 10ft** for convenient access to basic settings, device info and firmware update

The settings menu through WiFi is not a comprehensive menu. It provides a quick overview and convenient access. **Recommend complete configuration setting on the VMDR menu via LCD monitor and the IR remote included with each system. Not recommended for video playback**

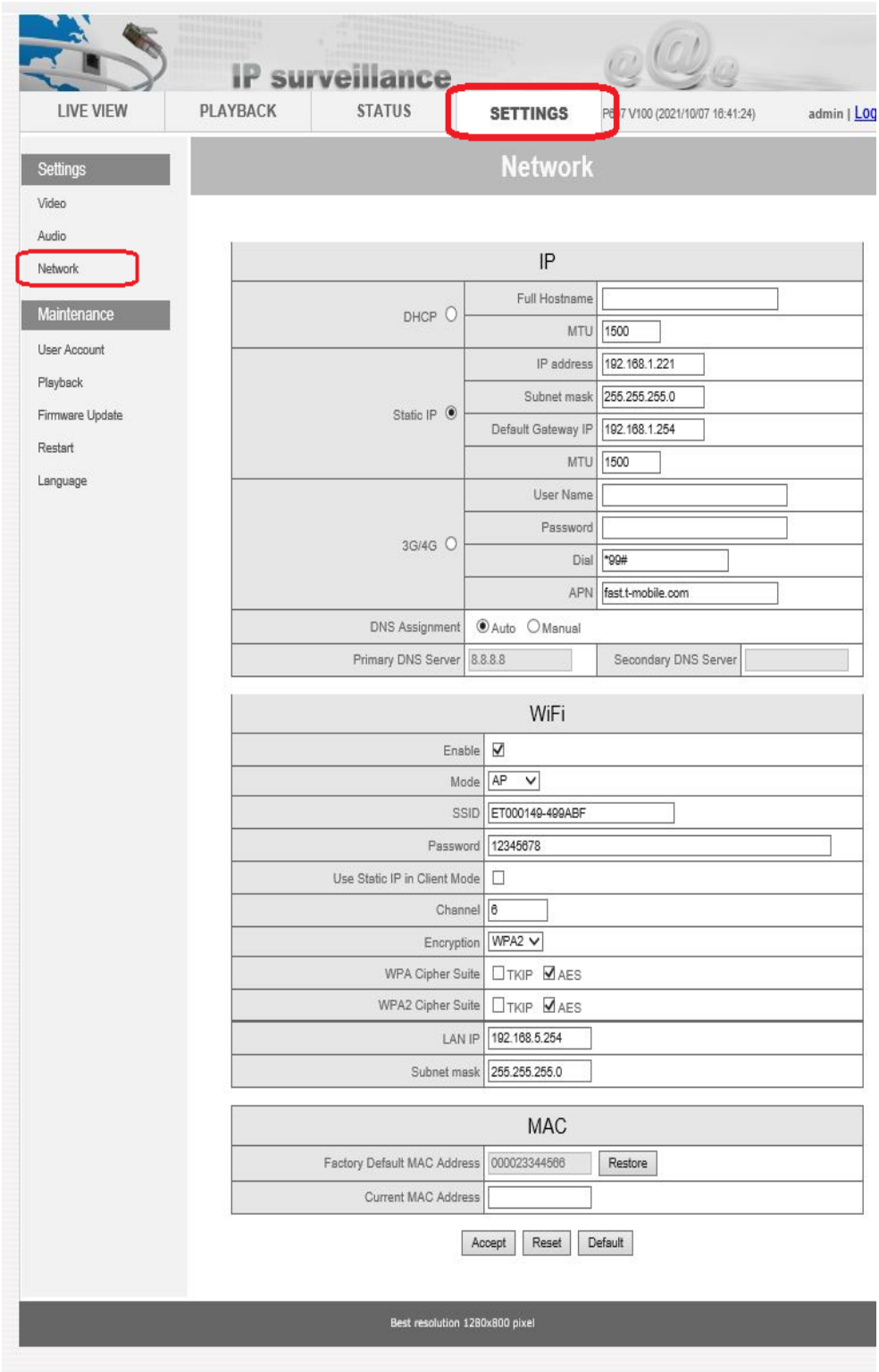
Steps for using a laptop to connect the VMDR via WiFi for access. Maximum distance between laptop and VMDR must not exceed 10ft (3 meter)

- Open WiFi setting on the laptop
- Find the VMDR SSID and connect (**ET000xxxxxx**)
- Default WiFi Password is **123456778**
- Open Microsoft IE or Edge and enter IP address **192.168.5.254**
- Enter username and pw: **admin / admin**
- Install PBR Record Matrix Plugin to view video (install prompt may be a pop-up window on the bottom of the screen)





WiFi Connection - Settings



VMDR is pre-set with default settings.

<u>These settings should NOT be changed</u>

Recommend changing default WiFi password to prevent unauthorized access

Static IP = This IP is for the VMDR local access. Should be kept at Static

Default Static IP = 192.169.5.254

For VentraCloud remote monthly access service (optional), the domain must be programmed

<u>www.ventacloud.com</u>

3G / 4G = Select to enable

Port: 13579

Dial up: *99#

APN: fast.T-mobile.com or internet

User name = leave blank

Password = leave blank

WiFi - must be enabled for local laptop connection access

WiFI Mode = AP

WiFi SSID is the device ID of the system – **ET000xxxx**

Password = 12345678

The Device ID shown here (ET000xxx), should **<u>NOT</u>** be changed. It is also utilized in the Status page (MDVR-ID), is an unique identifier that is required for VentraCloud

If settings are misconfigured, select Default to restore system to factory setting

VENTRA LIMITED WARRANTY

Ventra Technology warrants the system against defects in material and workmanship for a period of **one (1) year** from the date of original purchase. During this period, Ventra's liability for any defective product, or any product part, shall be limited to the repair or replacement of the product, at Ventra's sole discretion.

This warranty does not apply to defects or damages resulting from mishandling, accident, abuse, negligence, lightning, water/liquid, power surges, improper interfacing, operation outside of design limits, misapplication, improper repair, or unauthorized modification.

The term "Ventra Product" is limited to the hardware components and required firmware. It DOES NOT include software applications or programs, non-Ventra products or peripherals. To the extent permitted by local law, all non-Ventra products or non-Ventra branded peripherals - such as external storage SD card are provided provide the respective manufacturer's own warranties directly to you and are not covered by this Limited Warranty.

To obtain service within the warranty period, please contact Ventra at tech@ventrainc.com for assistance. If product repair or replacement is necessary, a Return Merchandise Authorization (RMA) will be issued. The Customer will be solely responsible for shipping charges, insurance and proper packaging to prevent breakage in transit, whether the product is covered by this warranty. All shipments of repaired or replaced products by Ventra will be F.O.B. California.

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The information in this specification sheet reflects the current technical specifications at the time of print. **Ventra reserve the right to change** the technical or physical specifications and features without prior notification. While every effort has been made to ensure the accuracy of the information, certain specifications are based on approximate figures

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