MEITRACK MD822S MDVR
User Guide

Change History

File Name	MEITRACK MD822S MDVR User Guide		
Project	MD822S	Creation Date	2020-03-23 2022-04-28
Subproject	User Guide	Total Pages	49
Version	V2.0	Confidential	External Documentation

Contents

1 Copyright and Disclaimer

2 Product Introduction

2.1 Product Overview

The MD822S, an 8-channel HD mobile digital video recorder (MDVR), is equipped with two SD card slots and features double systems (double communication channels) and high stability. Adopting the high-performance processor and Linux operating system, it can operate in vehicle tracking mode and video recording mode simultaneously and is a core product of new-generation wireless vehicle video surveillance solutions that uses H.264/H.265 video compression/decompression, GPS positioning and wireless data transmission technologies. The device is specially designed for mobile video surveillance for different types of vehicles, such as buses, long-distance coaches, taxis, logistics vehicles, armored cars, private cars, etc.

2.2 Product Functions

2.2.1 DVR Functions

- 8-channel 1080P live video recording
- Automatic video overlaying
- Video search and playback via the platform or software
- Video downloading via the platform
- OSD overlay for video recording
- SOS alert recording
- Alert photo capturing
- Image quality settings
- Self-adaptive camera resolution and format

2.2.2 Position Tracking

- GPS + LBS positioning
- Real-time location query
- Tracking by time interval
- Tracking by distance
- Tracking by mobile phone
- Speeding alert

- Cornering report

2.2.3 Alerts

- SOS alert
- GPS antenna cut-off alert
- External power supply cut-off alert
- GPS blind spot alert
- Engine or vehicle door status alert
- Geo-fence
- Video signal lost alert
- Harsh braking alert
- Harsh acceleration alert
- I/O port detection
- Driver fatigue alert

2.2.4 Other Functions

- Support a CAN bus interface
- Support the speedometer RPM
- Support a RFID reader
- Support multiple types of fuel level sensors
- Support two-way calling
- Upload data via 4G, WiFi, or Ethernet
- Configure the MDVR by using the local area network (LAN) web page
- Play videos by using MT Player software
- Support the 2.4 GHz WiFi hotspot function
- Support parallel running of dual systems

2.3 Product Specifications

Item	Parameter	Specifications
System structure	System operation	Parallel running of dual systems; two communication channels (to prevent data loss)
Audio and video	Video input	Connect to an 8-channel AHD camera; support the connection of different kinds of cameras (D1/720P/1080P). Self-adaptive camera resolution and format (PAL and NTSC) Support 8x1080P@25FPS live video recording.
	Video output	1-channel VGA video output (8-pin aviation connector); default resolution: 1280 x 720 1-channel CVBS aviation connector (level: 1.0 Vp-p; impedance: 75 Ω); resolution: 704 x 576 (PAL format) & 704 x 480 (NTSC format)
	Compression standard	H.264/H.265 (optional)
	Image display	Support one-image and nine-image display
	Audio compression	G.726

	Audio input	8-channel camera Mic input. The audio function is required for the camera. 1-channel handset input 1-channel 3.5 mm headphone jack input (GSM audio interface)
	Audio output	1-channel independent audio DC blocking output (connected to the AV-OUT interface, VGA aviation connector, or handset interface) 1-channel 3.5 mm headphone jack output (GSM audio interface)
	Video search and playback	Search and play back videos based on the channel, recording type, or time.
	Recording method	Simultaneously record the ACC, alert, sound, and video.
	Storage medium	2 SD cards
2G/3G/4G	MD822S-E	GSM: B3/B8 WCDMA: B1/B8 LTE FDD: B1/B3/B7/B8/B20/B28A
	MD822S -A	WCDMA: B2/B4/B5 LTE FDD: B2B4/B12
	MD822S -AU	GSM: B2/B3/B5/B8 WCDMA: B1/B2/B5/B8 LTE FDD: B1/B2/B3/B4/B5/B7/B8/B28 LTE TDD: B40
	MD822S -J	WCDMA: B1/B6/B8/B19 LTE FDD: B1/B3/B8/B18/B19/B26 LTE TDD: B41
	MD822S -G	GSM: B2/B3/B5/B8 WCDMA: B1/B2/B4/B5/B6/B8/B19 LTE FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B25/B26/B18/B19/B20/B28 LTE TDD: B38/B39/B40/B41
WiFi	802.11 b/g/n; frequency: 2.4 GHz; support AP/STA mode.	
GPS/GLONASS	Detect the insertion, pull-out, and short circuit of the antenna.	
Protocol	Protocol supported	Meitrack protocol
Software upgrade	Upgrade mode	Manual upgrade
	Upgrade method	(1) Plug the USB flash drive with the firmware into the USB port to automatically upgrade the device (or connect the device to the computer through the debug interface and then start Meitrack Manager software to upgrade the device). (2) Use the LAN web page to upgrade the firmware (WiFi or Ethernet). (3) OTA update.
Others	Power input	DC: 9–36 V; rated input: 12V/3A
	Power consumption	Start the host audio and video: about 8W Connect 8 cameras: about 24 W in the daytime (a display connected: 29 W); about 32 W at night (a display connected: 37 W) Connect a single camera: 50–100 mA in the daytime; 200–250 mA at night
	SPI memory	Built-in 64 Mbit; used to store GPRS data, SMS messages, and GPS logs.
	Built-in 3-axis accelerometer	Support Start to Move / Stop Moving detection.

	I/O port	Support 8 digital inputs, 3 outputs, 2 AD ports, 1 CAN bus interface, and 1 RS485 interface.
	Operating temperature	-20°C to 70°C
	Weight	818g
	Dimension	145 mm x 145 mm x 57 mm

2.4 Main Device and Accessories

Standard Accessory	Quantity	Description
MD822S MDVR	1	
GPS antenna	1	Boost your device's GPS signal.
4G antenna	2	Boost your device's 4G signal. Main antenna and auxiliary antenna.
WiFi antenna	1	Boost your device's WiFi signal.
Power & ACC cable	1	3-pin cable. The cable is 20 cm in length.
I/O cable	1	20-pin cable. The cable is 20 cm in length.
Camera splitter	4	There is one 6-pin female aviation connector on one end of the cable and two 4-pin male aviation connectors on the other end. The cable is 20 cm in length.
USB cable	1	Connect to a PC to configure device parameters and upgrade software.
Lock key	2	Used to lock an SD card and SIM card (and power on or power off the device).
CD download card	1	

Optional Accessory	Description
AHD 1080P camera	
AHD 720P camera	
D1 camera	
Camera extension cable	Users can select a cable three meters or five meters in length by default. Other cables (0.5–20 meters) need to be customized.
SD card	An SD card with 32 GB, 64 GB, 128 GB, and 256 GB of memory is available.
VGA display	
CVBS display	
Handset	The handset cable is one meter in length.
A76 ultrasonic fuel level sensor	
A53 fuel level sensor	
A61 sensor box	
Temperature sensor	The sensor cable is five meters in length by default.
RFID reader	

RFID tag	RFID tags are provided based on users' needs.
iButton reader	
iButton key	iButton keys are provided based on users' needs.
Microphone and speaker	

2.5 About the MDVR

2.5.1 Appearance

Figure 2.5.1 Front panel

Interface	Sign Name	Description
Ethernet port and USB port	ETH&USB	Ethernet port: used to transmit data or configure device parameters. USB port: used to upgrade the device.
Debug interface	Debug	Connect to a PC to configure device parameters.
Electronic lock		Used to lock an SD card and SIM card, and power on or power off the device.
Microphone/Speaker interface	Audio	Connect to the microphone or speaker.

2.5.2 LED Indicator

Sign Name	LED Indicator	Indicator Status	Description
PWR	Power LED indicator	Steady on	The ACC is on and the device is locked.
		Steady off	The ACC is off and the device is unlocked.
WIFI	WiFi LED indicator	Blink suddenly (once every 5 seconds; indicator on: 100 ms)	There is a WiFi module, but no data is sent.
		Blink fast	WiFi data is sent and received normally.
		Steady off	There is no WiFi module.
HDD	Hard disk LED indicator	Blink fast (frequency for writing data)	A storage disk is detected, and audio and video data is written into the storage disk.
		Blink suddenly (once every 5 seconds; indicator on: 100 ms)	A storage disk is detected, but no data is written into the storage disk.

		Steady off	No storage disk is detected.
SD	SD card LED indicator	Blink fast (frequency for writing data)	An SD card is detected and there is written audio and video data in the SD card.
		Blink suddenly (once every 5 seconds; indicator on: 100 ms)	An SD card is detected, but no data is written into the SD card.
		Steady off	No SD card is detected.
3G/4G	3G/4G LED indicator	Blink suddenly (once every 5 seconds; indicator on: 100 ms)	There is a 3G/4G module, but no data is sent.
		Blink fast	3G/4G data is sent and received normally.
		Steady off	There is no 3G/4G module.
SYS	Network status LED indicator	Steady on	There is an incoming call, or the subscriber you dialed is busy now.
		Blink fast (once every 0.1 seconds)	The device is being initialized.
		Blink fast (0.1 seconds on and 2.9 seconds off)	A signal is received from a base station (connected to a mobile network).
		Blink slowly (1 second on and 2 seconds off)	No signal is received from a base station (not connected to a mobile network).
GPS	GPS LED indicator	Steady on	A button or an input is triggered.
		Blink fast (once every 0.1 seconds)	The device is being initialized, or the battery power is low.
		Blink fast (0.1 seconds on and 2.9 seconds off)	A GPS signal is received.
		Blink slowly (1 second on and 2 seconds off)	No GPS signal is received.
VLOSS	Video lost LED indicator	Steady on	All AV inputs are not connected to cameras.
		Blink suddenly (once every 5 seconds; indicator on: 100 ms)	One AV input is not connected to a camera.
		Blink suddenly (twice every 5 seconds; indicator on: 100 ms; interval: 300 ms)	Two AV inputs are not connected to cameras.
		Blink suddenly (3 times every 5 seconds; indicator on: 100 ms; interval: 300 ms)	Three AV inputs are not connected to cameras.
		Blink suddenly (4 times every 5 seconds; indicator on: 100 ms; interval: 300 ms)	Four AV inputs are not connected to cameras.
		Blink suddenly (5 times every 5 seconds; indicator on: 100 ms; interval: 300 ms)	Five AV inputs are not connected to cameras.
		Blink suddenly (6 times every 5 seconds; indicator on: 100 ms; interval: 300 ms)	Six AV inputs are not connected to cameras.
		Blink suddenly (7 times every 5 seconds; indicator on: 100 ms; interval: 300 ms)	Seven AV inputs are not connected to cameras.
		Steady off	All AV inputs are connected to cameras.

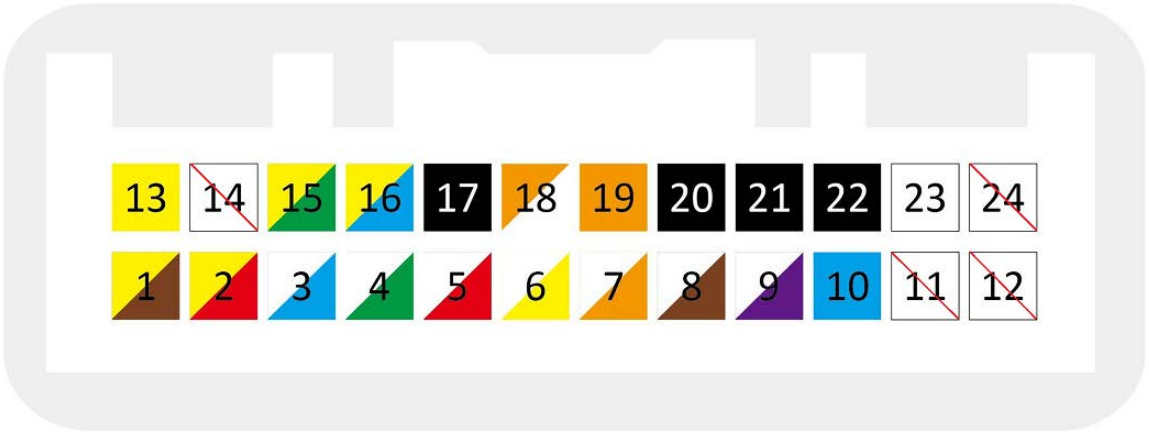
Figure 2.5.2 Rear panel

2.5.3 Interface Definition

Interface	Sign Name	Description
Power interface	PWR	The red cable is connected to the power supply (9–36 V; rated input: 12V/3A). The black cable is connected to the GND wire. The yellow cable is connected to the ACC cable to detect the high level. The valid level is 3 V. The maximum level is 60 V.
3G/4G antenna connector	3G/4G	SMA connector; 3G/4G main antenna
GPS antenna connector	GPS	GPS antenna connector
WiFi antenna connector	WIFI	WiFi antenna connector
VGA output port	VGA	Default resolution: 1280 x 720
CVBS output port	AV-OUT	Resolution: 704 x 576 (PAL format); 704 x 480 (NTSC format)
Voice intercom I/O port	MIC&SPK	Connect to the A95 handset to communicate with the monitoring platform.
AV input port	AV-IN1-2&3-4&5-6&7-8	4-channel 6-pin aviation connector; connect to an 8-channel AHD camera through the camera splitter; support the connection of different kinds of cameras (D1/720P/1080P). Support self-adaptive PAL and NTSC formats. Support 8x1080P@25FPS live video recording.
RS232 interface	RS232 EXT	Connect to a RFID reader, ultrasonic fuel level sensor, and other peripherals.
Serial communication interface	RS232/RS485	RS232 interface by default; connect to a peripheral.
Sensor interface	SENSOR	Connect to a fuel level sensor, temperature sensor, iButton reader or A61 sensor box.
Main line interface	IO&AD&RS485&CAN	Support 8 GPIO inputs, 3 GPIO outputs, 1 RS485J interface, 1 AD port, and 1 CAN bus interface.

Note: Eight AV input ports can be connected to different types of cameras. One AV input port can be connected to two cameras through the camera splitter, but the format and resolution of one camera must be the same as that of the other camera.

2.5.4 I/O Port

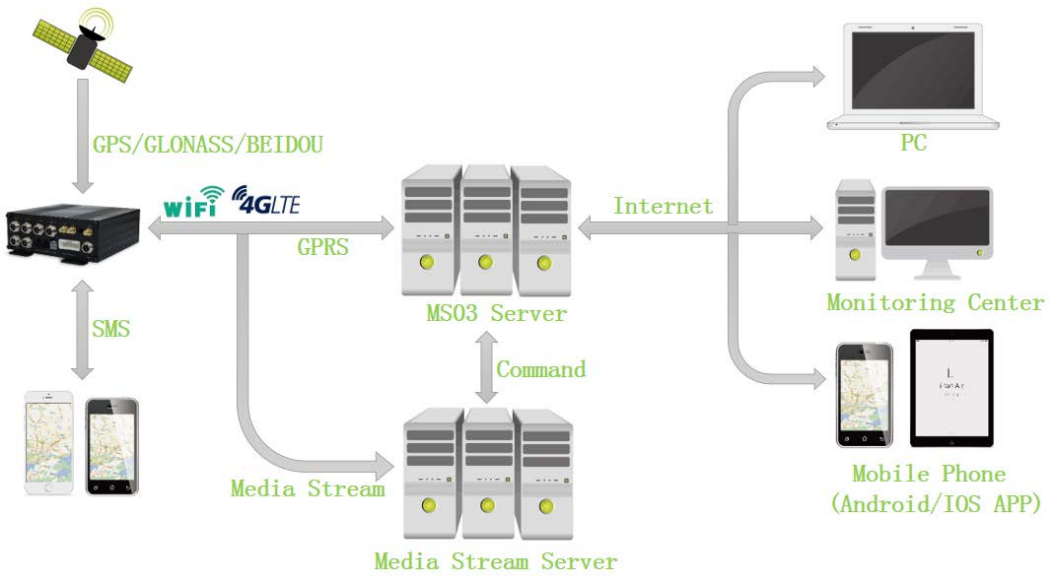


Pin Number	Sign Name	Cable Color	Description
1	OUT3	Yellow/Brown	Output 3; low level triggering by default (0 V); invalid: open collector Maximum voltage for output open collector (invalid): 40 V. Maximum current: 400 mA. Allow users to set the high level triggering mode and PWM triggering mode. Connect to an external relay to remotely cut off the vehicle fuel cable or engine power supply.
2	OUT2	Yellow/Red	Output 2; low level triggering by default (0 V); invalid: open collector Maximum voltage for output open collector (invalid): 40 V. Maximum current: 400 mA. Allow users to set the high level triggering mode and PWM triggering mode. Connect to an external relay to remotely cut off the vehicle fuel cable or engine power supply.
3	TLEFT_DET	White/Blue	Connect to the turning left signal cable.
4	TRIGHT_DET	White/Green	Connect to the turning right signal cable.
5	BRAKING_DET	White/Red	Connect to the braking signal cable.
6	DOOR2_DET	White/Yellow	Connect to the vehicle door signal cable.
7	TBACK_DET	White/Orange	Connect to the reversing signal cable.
8	SPEED_IN	White/Brown	Connect to the vehicle speed signal cable.
9	DOOR1_DET	White/Purple	Connect to the vehicle door signal cable.
10	AD1	Blue	Analog input 1 with 12-bit resolution; valid voltage: 0–30 V Connect to an external sensor, such as the fuel level sensor.
11	None (reserved)	None	None (reserved)
12	None (reserved)	None	None (reserved)
13	OUT1	Yellow	Output 1; low level triggering by default (0 V); invalid: open collector

Pin Number	Sign Name	Cable Color	Description
			Maximum voltage for output open collector (invalid): 40 V. Maximum current: 400 mA. Allow users to set the high level triggering mode and PWM triggering mode. Connect to an external relay to remotely cut off the vehicle fuel cable or engine power supply.
14	None (reserved)	None	None (reserved)
15	RS485_B-	Yellow/Green	RS485 B- signal cable (RS485 interface) Reserved
16	RS485_A+	Yellow/Blue	RS485 A+ signal cable (RS485 interface) Reserved
17	GND	Black	Ground wire
18	CAN_L	Orange/White	Connect to a CAN bus peripheral.
19	CAN_H	Orange	Connect to a CAN bus peripheral.
20	GND	Black	Ground wire
21	GND	Black	Ground wire
22	GND	Black	Ground wire
23	SOS	White	SOS alert input cable
24	None (reserved)	None	None (reserved)

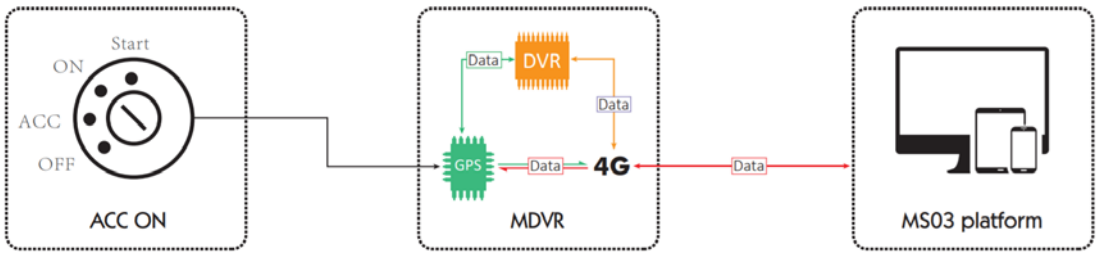
3 How it Works

3.1 Working Diagram

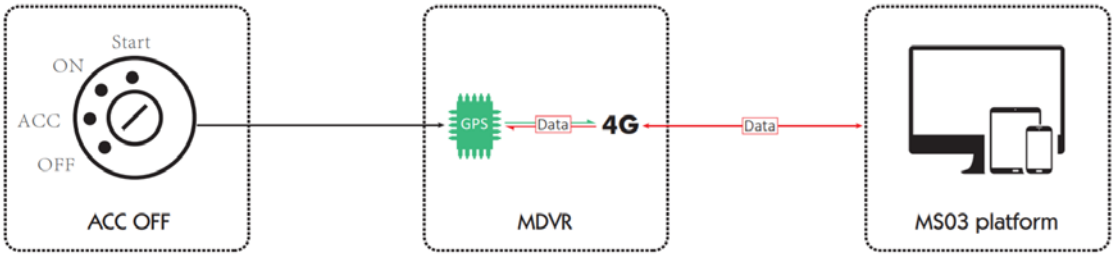


MD822S working diagram

3.2 Dual System Mode

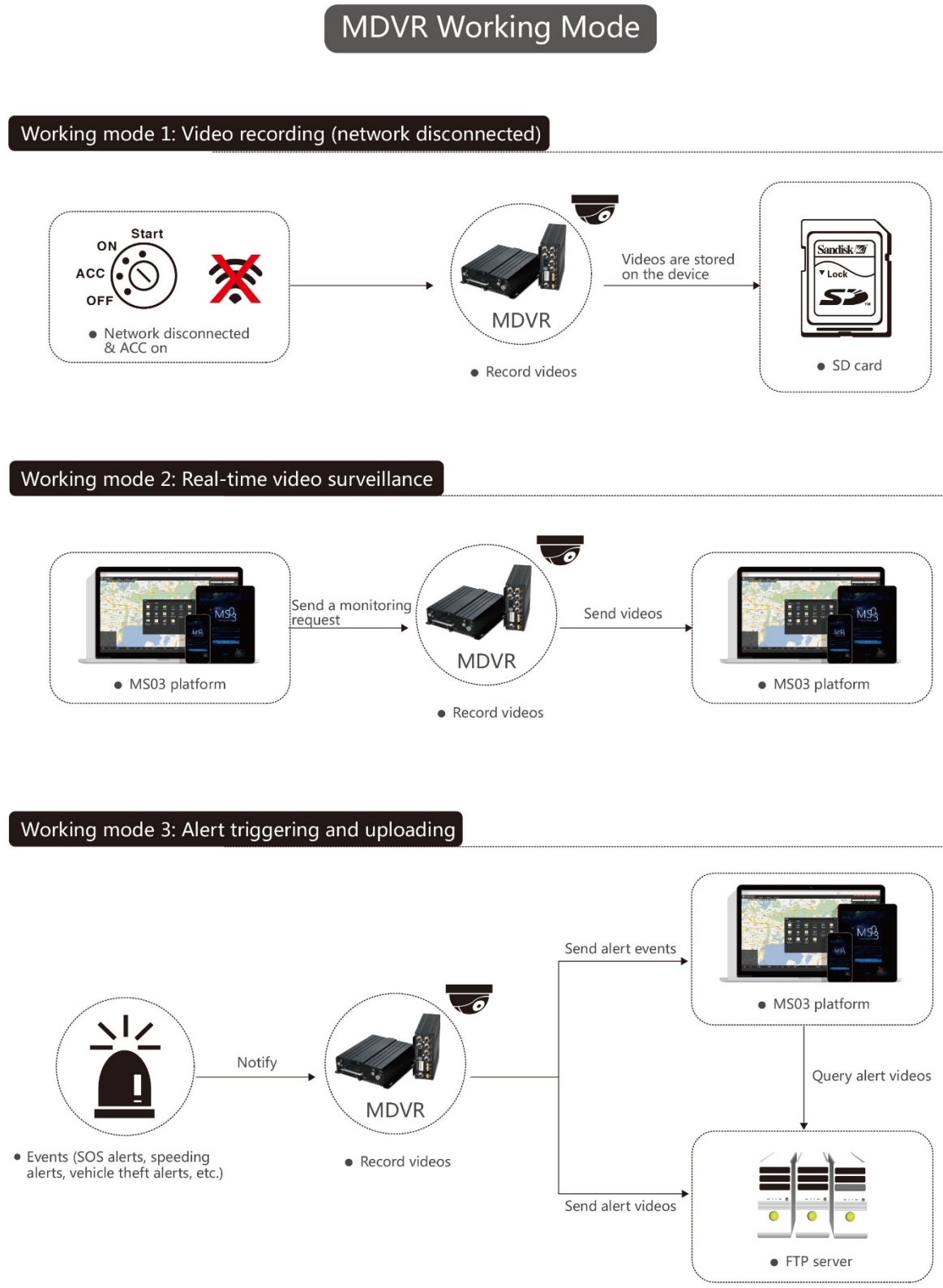


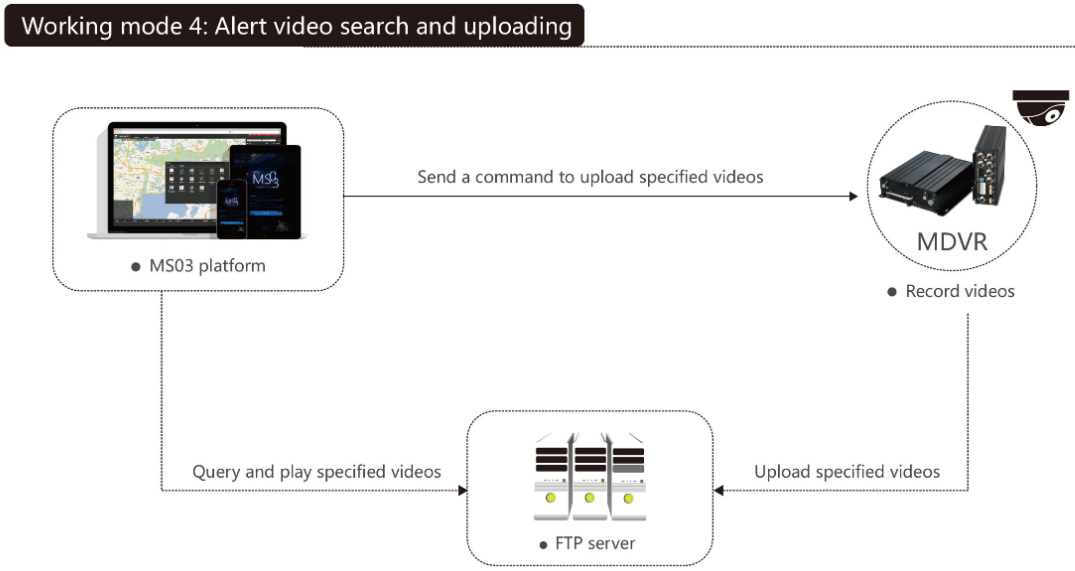
As shown in the preceding figure, the video system and vehicle tracking system operate simultaneously.



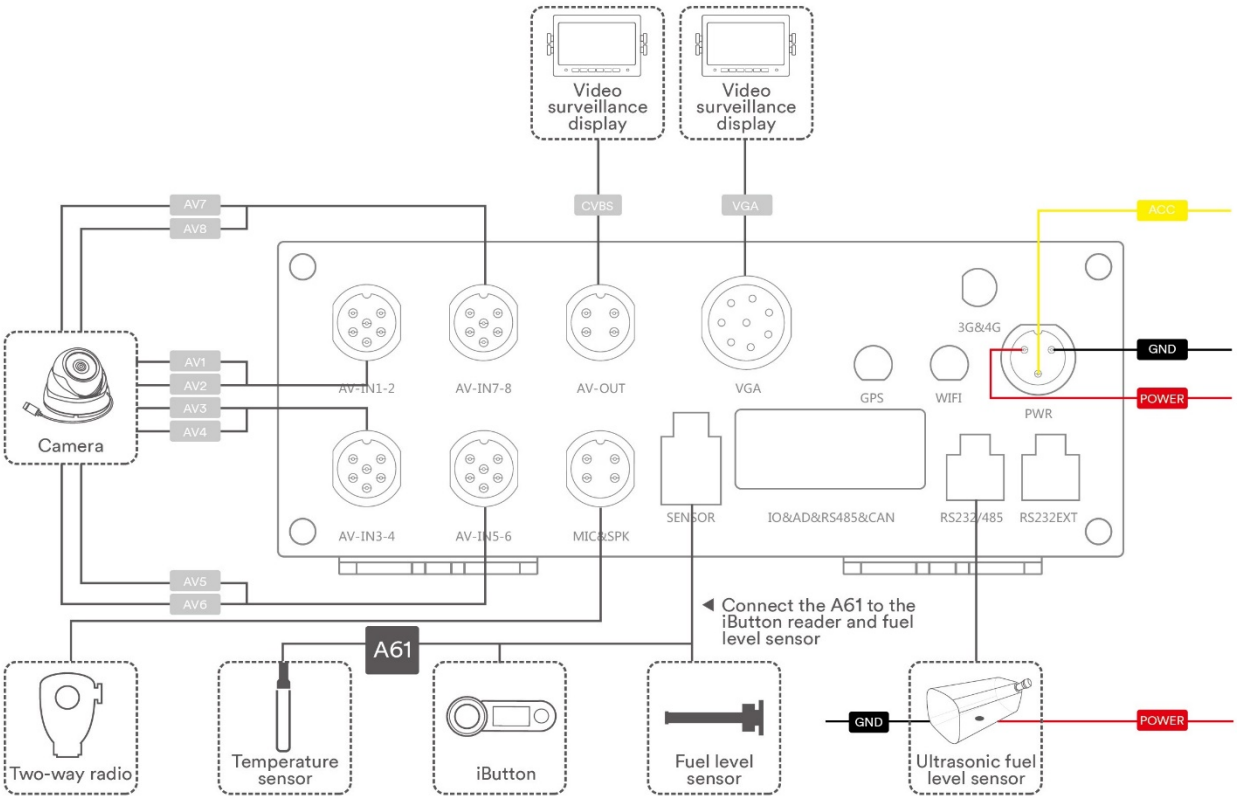
As shown in the preceding figure, the video system stops operating, while the vehicle tracking system is operating.

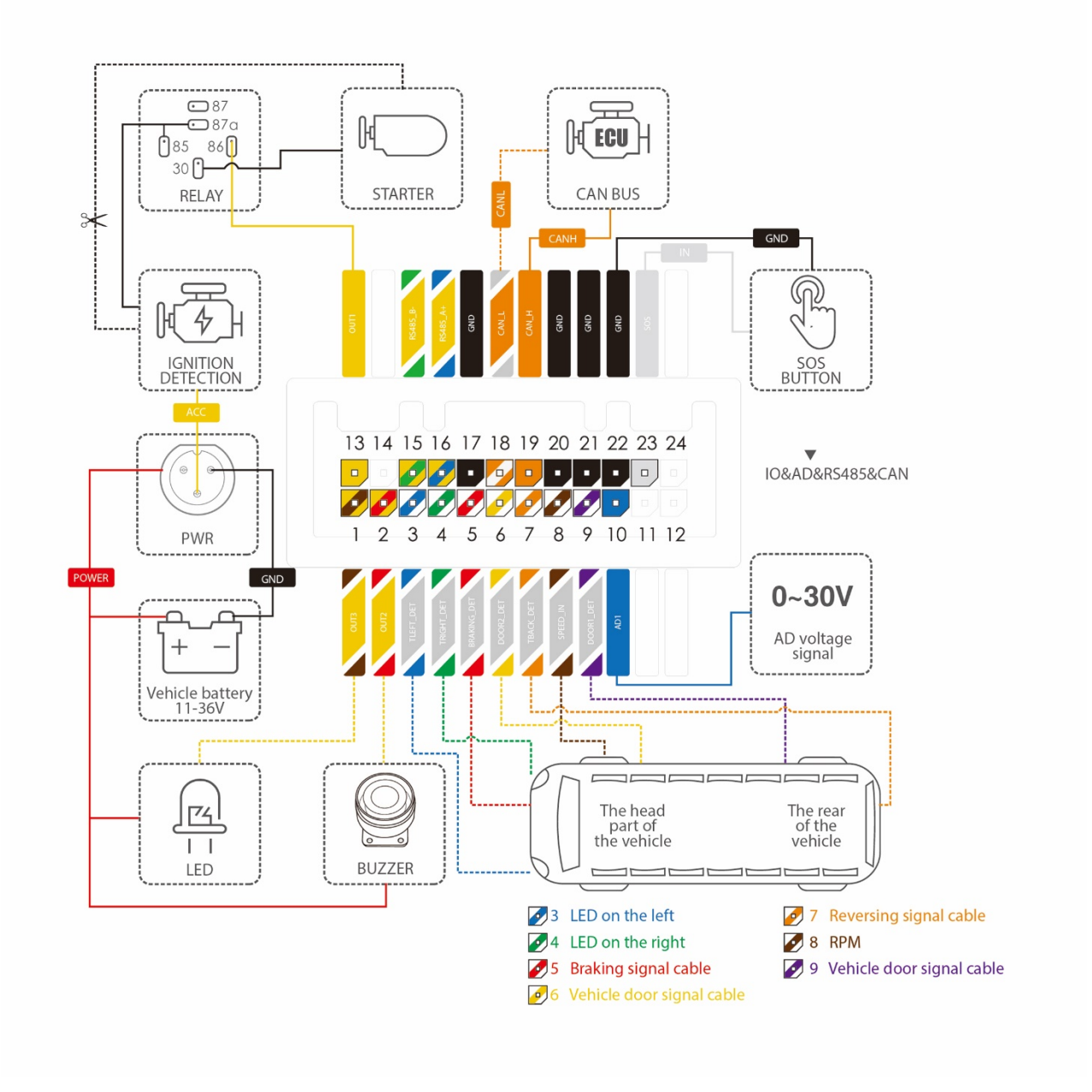
3.3 Working Mode





3.4 Peripheral Wiring Diagram





4 Fast Installing and Using the MDVR

Perform the following eight steps to fast install and use the MDVR:

1) Loosen the screws and insert the key to open the electronic lock.
2) Insert the SIM card into the SIM card slot and install the SD card.
3) Connect to eight cameras, a display, a handset, a GSM antenna, a WiFi antenna, or a GPS antenna.
4) Connect the power cable (including the VCC, GND and ACC cables) to the external power supply. (The ACC cable must be connected to the positive terminal of the external power supply. Otherwise, the MDVR cannot be started.)
5) Set the IP address and port of the platform.
6) Set the data transmission network.
7) Set the login user name and password.
8) After logging in to the platform, users can implement video surveillance, search videos, and make voice calls.

4.1 Installing the MDVR

(1) Loosen the screws and insert the key to open the electronic lock.

(2) Install the SIM card and SD card, and then lock the electronic lock. (**Note: You must use the key to lock the card cover after closing it. Otherwise, the video recording function fails to be started.**)

(3) Connect to eight cameras, a display, a handset, a GPS antenna, a GSM antenna, a WiFi antenna, or a power cable.

Connect cameras 1–8 to AV-IN1–8 interfaces respectively.

Connect the display to the AV-OUT/VGA interface.

Connect the handset to the MIC&SPK interface.

Connect the WiFi antenna, GPS antenna, and 3G/4G antenna to the MDVR. (If the WiFi antenna is not connected, the WiFi function will be unavailable.)

Connect the power cable to the PWR interface.

(4) Supply power to the MDVR and connect the external power supply to the ACC cable. (**Note: To enable the video recording function, ensure that the ACC cable is connected to the positive terminal of the power supply and the electronic lock is locked.**)

(5) After the external power supply is connected, the initialized MDVR will automatically record videos, and the display will be turned on automatically and play live videos.

Note: There are two types of displays available, that is, the display with an AV-OUT interface (CVBS display) and the display with a VGA interface (VGA display). Users can select one or two displays as required.

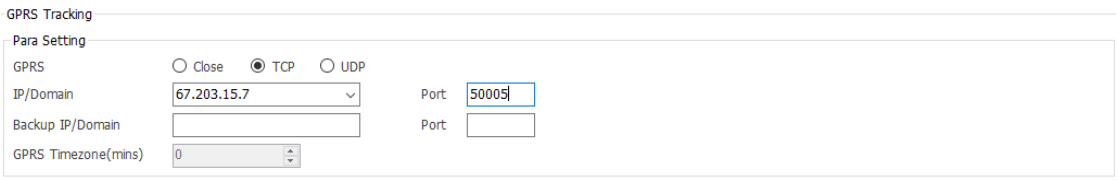
4.2 Configuring the MDVR by Using Meitrack Manager

After the MDVR is installed, connect it to a network and server. Users can configure the MDVR by using any of the following methods: Meitrack Manager software, SMS, platform, and embedded web page. This section describes how to use the Meitrack Manager software to fast configure the MDVR.

You need to install Meitrack Manager first. (Visit www.meitrack.com to download the software; software version: 6.0.2.0 later). After the installation is completed, connect the USB cable to a computer, and then perform the following steps to configure the MDVR.

(1) After the MDVR is installed, connect it to the network and server. You can configure the MDVR by using any of the following methods: Meitrack Manager software, SMS, and platform.

Set the IP address and port for uploading positioning data, IP address and port for uploading video data, and the user name and password of the FTP server:

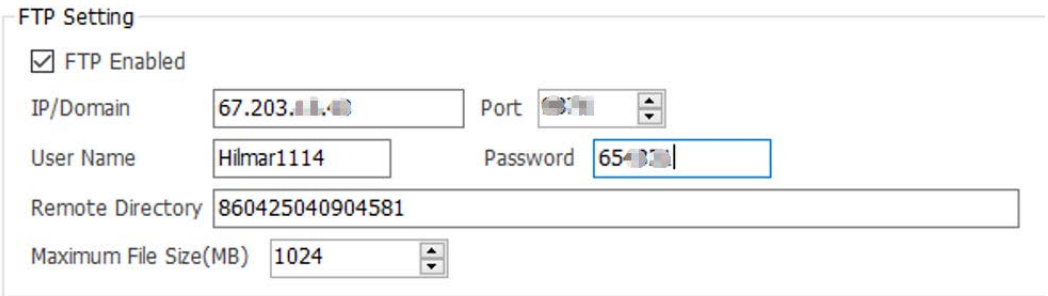


SMS configuration:

Send the following command to set the IP address and port for uploading positioning data:

0000,A21,1,67.203.15.7,50005,APN(for example, internet),APN_USER,APN_PASSWORD.

(2) Set the IP address of the FTP server. Video data will be uploaded to the specified FTP server.

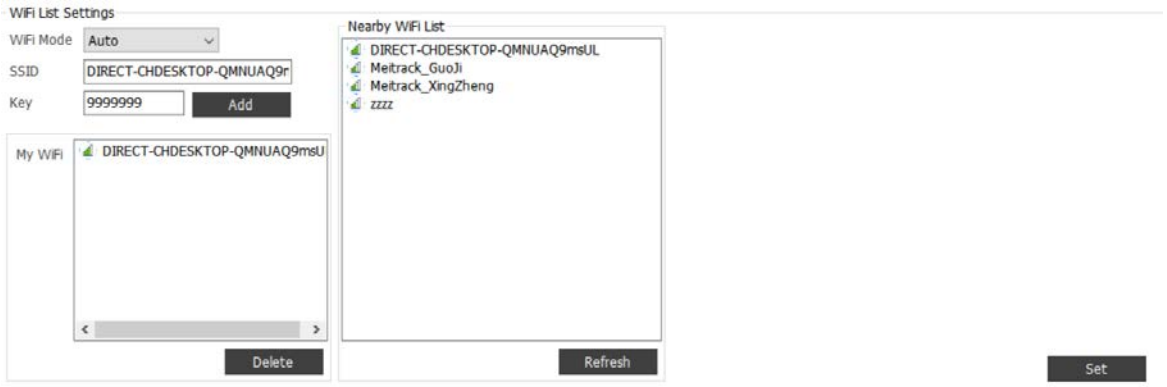


(3) Set the network.

There are three network connections: cellular network (3G/4G), WiFi, and Ethernet. Ethernet is the best choice, WiFi is the second choice, and a cellular network is the last choice. It means that if the MDVR is connected to Ethernet, the WiFi and cellular network will be disabled.

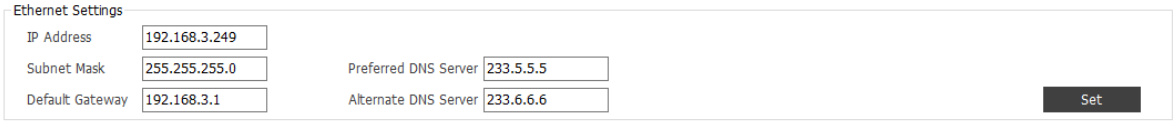
WiFi configuration:

As shown in the following figure, enter the WiFi SSID and password and click **Set**. The WiFi network connection is set successfully. You can click **Refresh** to search the WiFi list nearby.



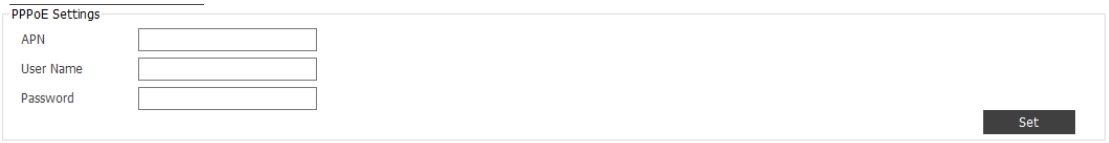
Ethernet configuration:

Enter the IP address, subnet mask, gateway, active DNS server and standby DNS server.

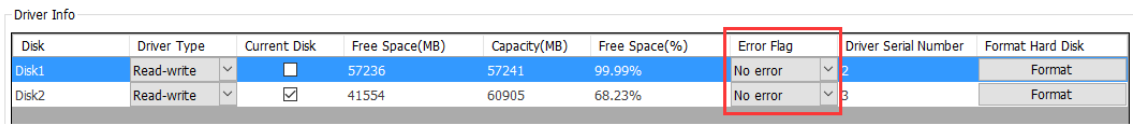


Cellular network configuration:

Enter the APN, APN user name and APN password, and click **Set** to save the settings.

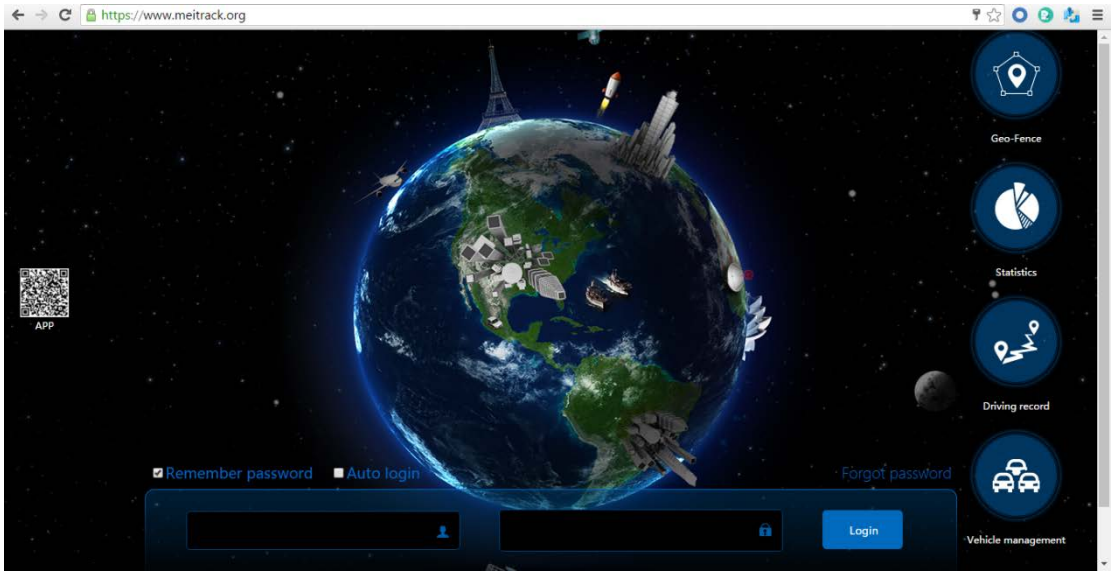


(4) Check whether the hard disk or SD card is installed properly. When you use the MDVR for the first time, if the system detects format errors, the SD card or hard disk will be initialized automatically. If "no error" is displayed as follows, it means that the SD card or hard disk is initialized successfully.



4.3 Logging In to the Platform

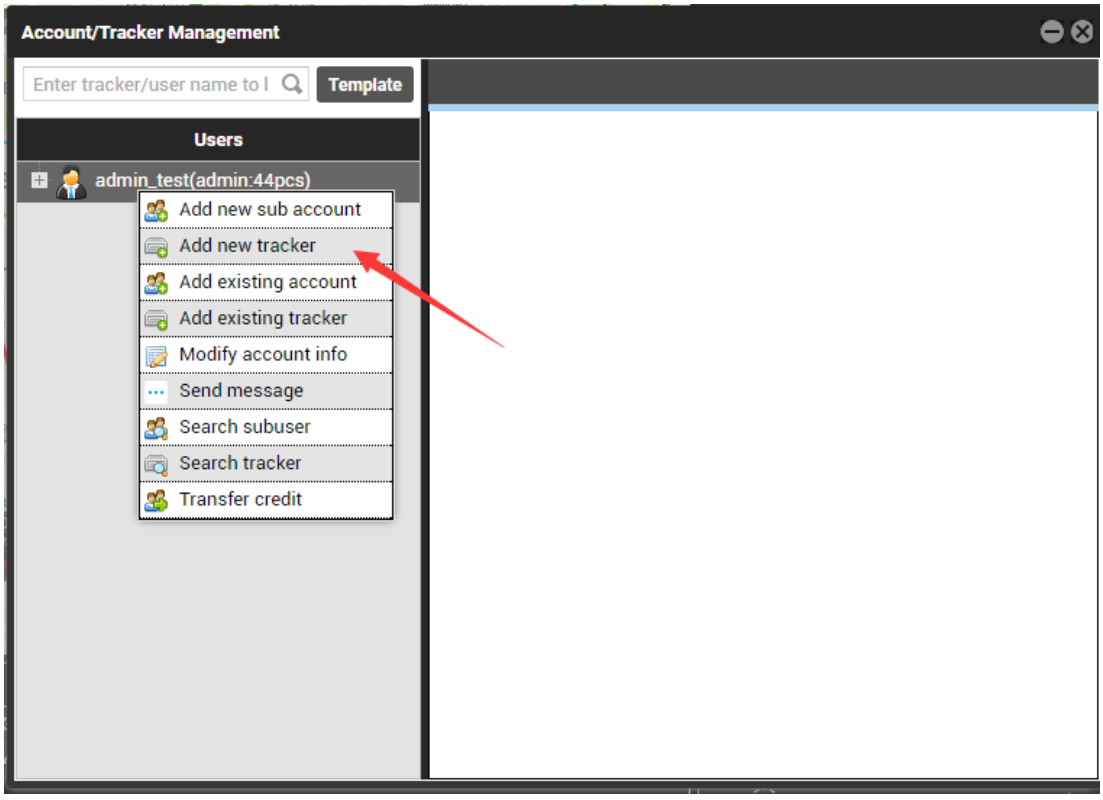
Visit https://mdvr.trackingmate.com/, enter the user name and password, and log in to the platform.

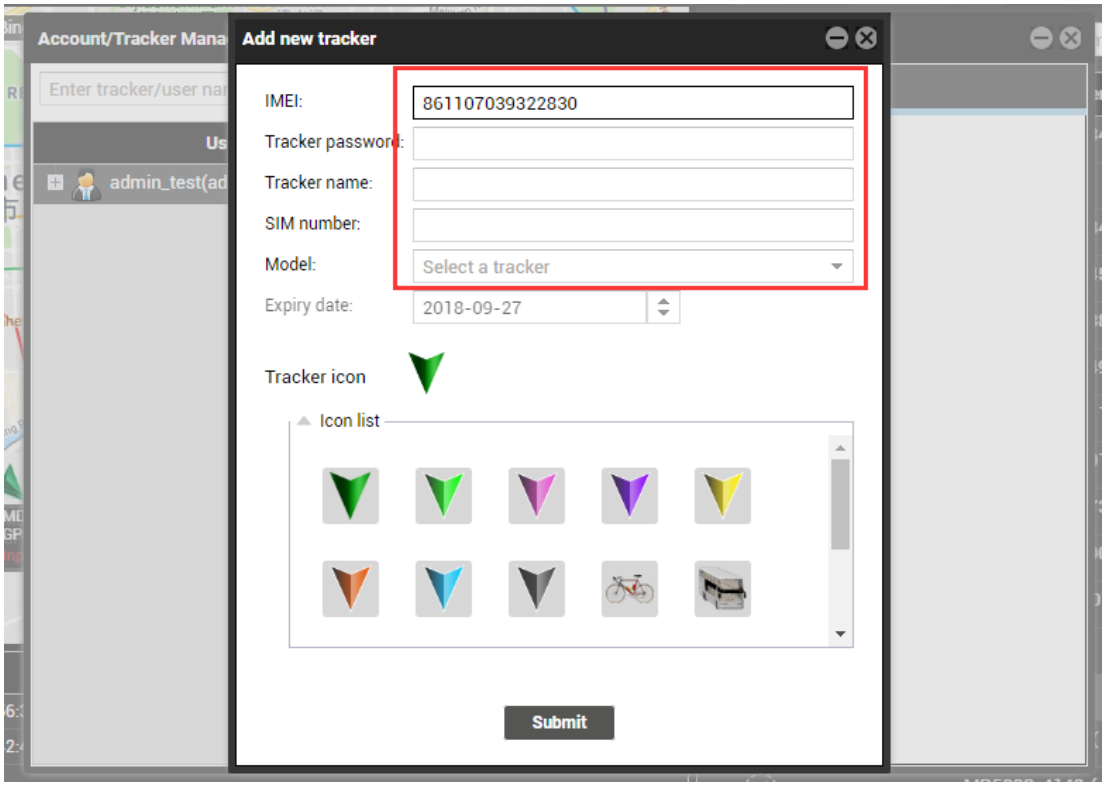


Add a MDVR:

1. On the main interface, choose **Management**. On the page that is displayed, select **Account & Tracker** from **Use Normal**.
2. On the **Account/Tracker Management** window, right-click a user, and select **Add new tracker**.
3. On the **Add new tracker** window, enter related information, modify the expiry date, and click **Submit**.

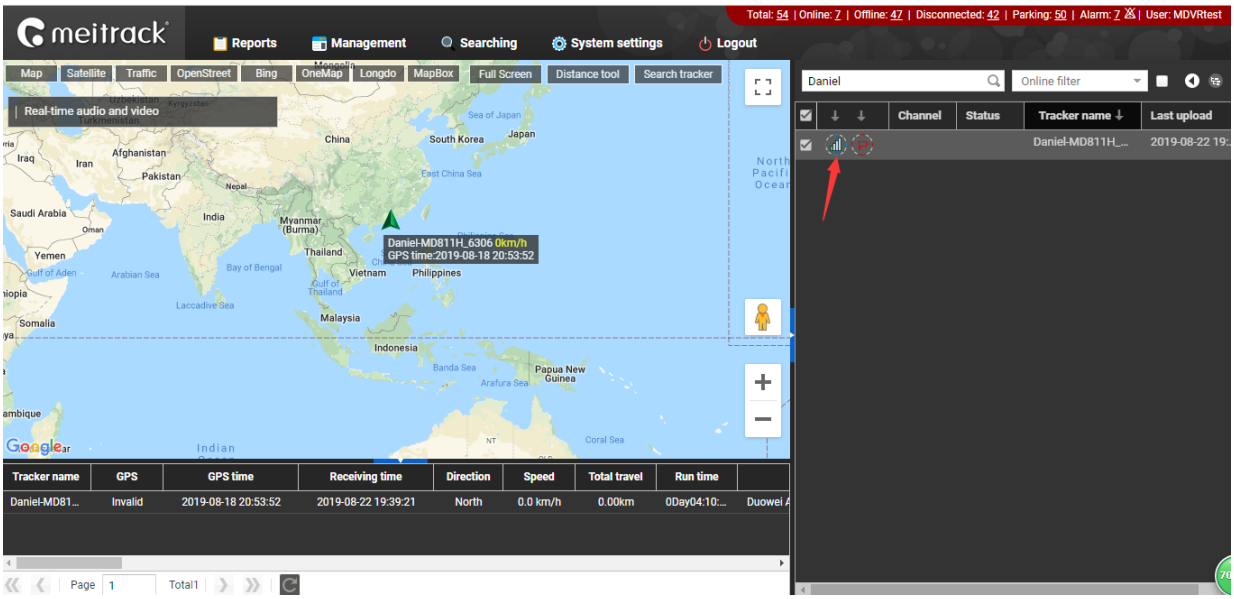
Note: The IMEI number must be consistent with that printed on the MDVR. Otherwise, the MDVR cannot be detected by the system.





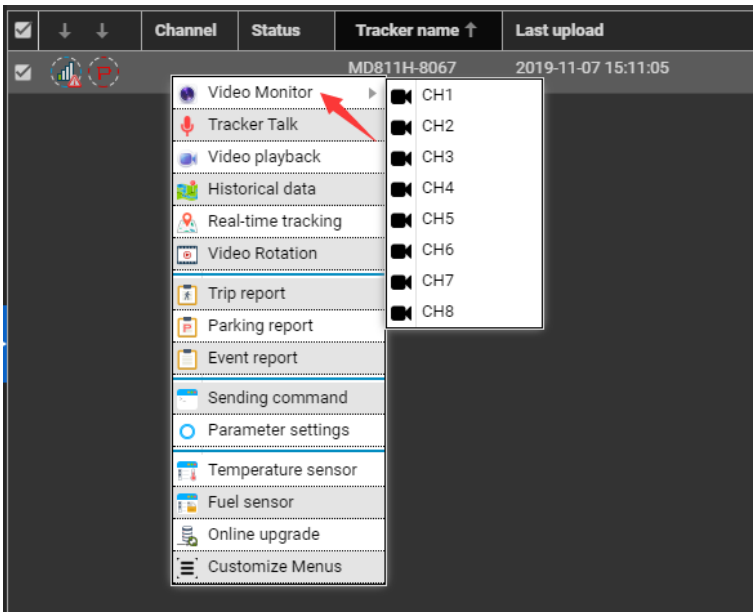
Check whether the MDVR is online:

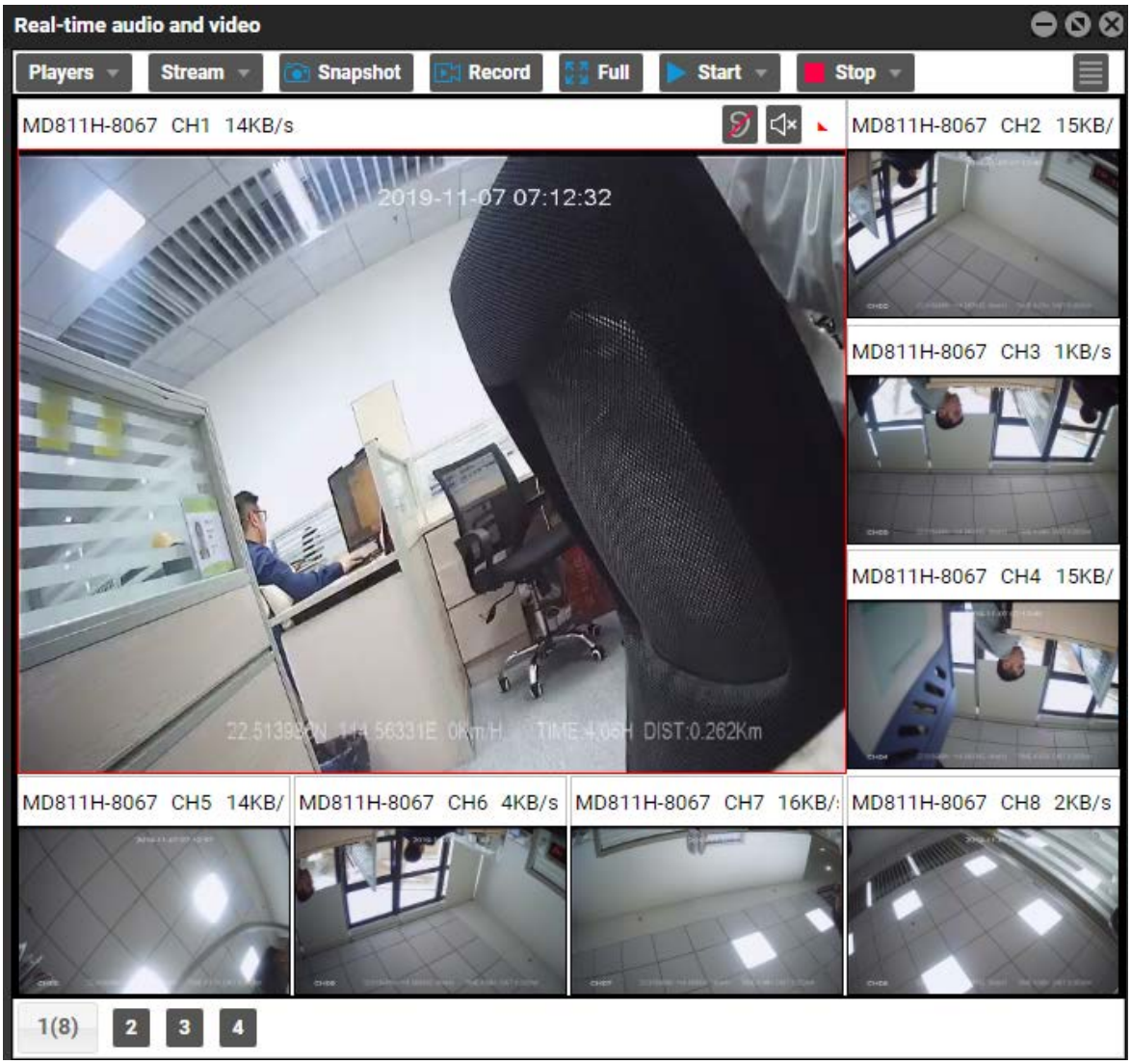
If the green signal icon  is displayed, it means that the MDVR is online.



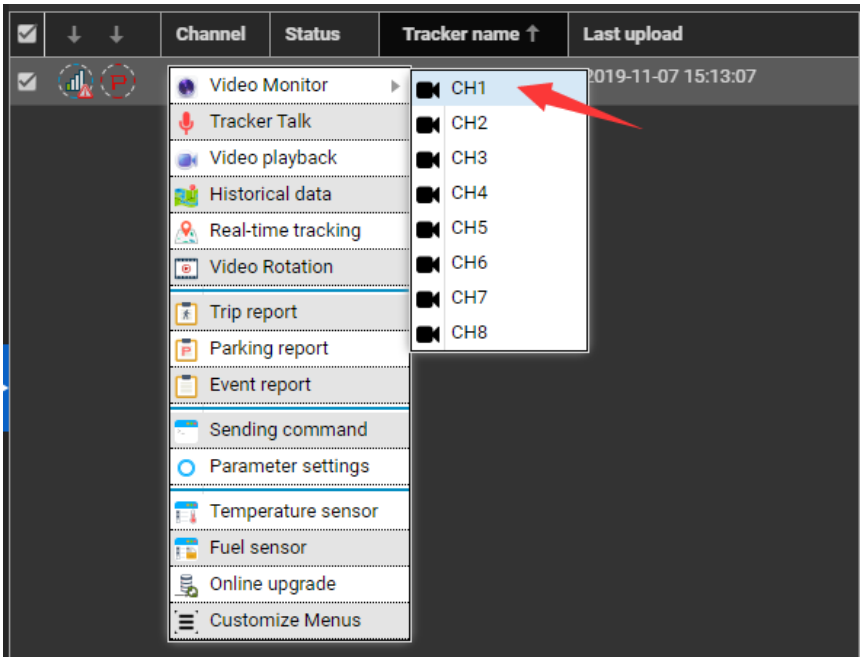
Video surveillance:

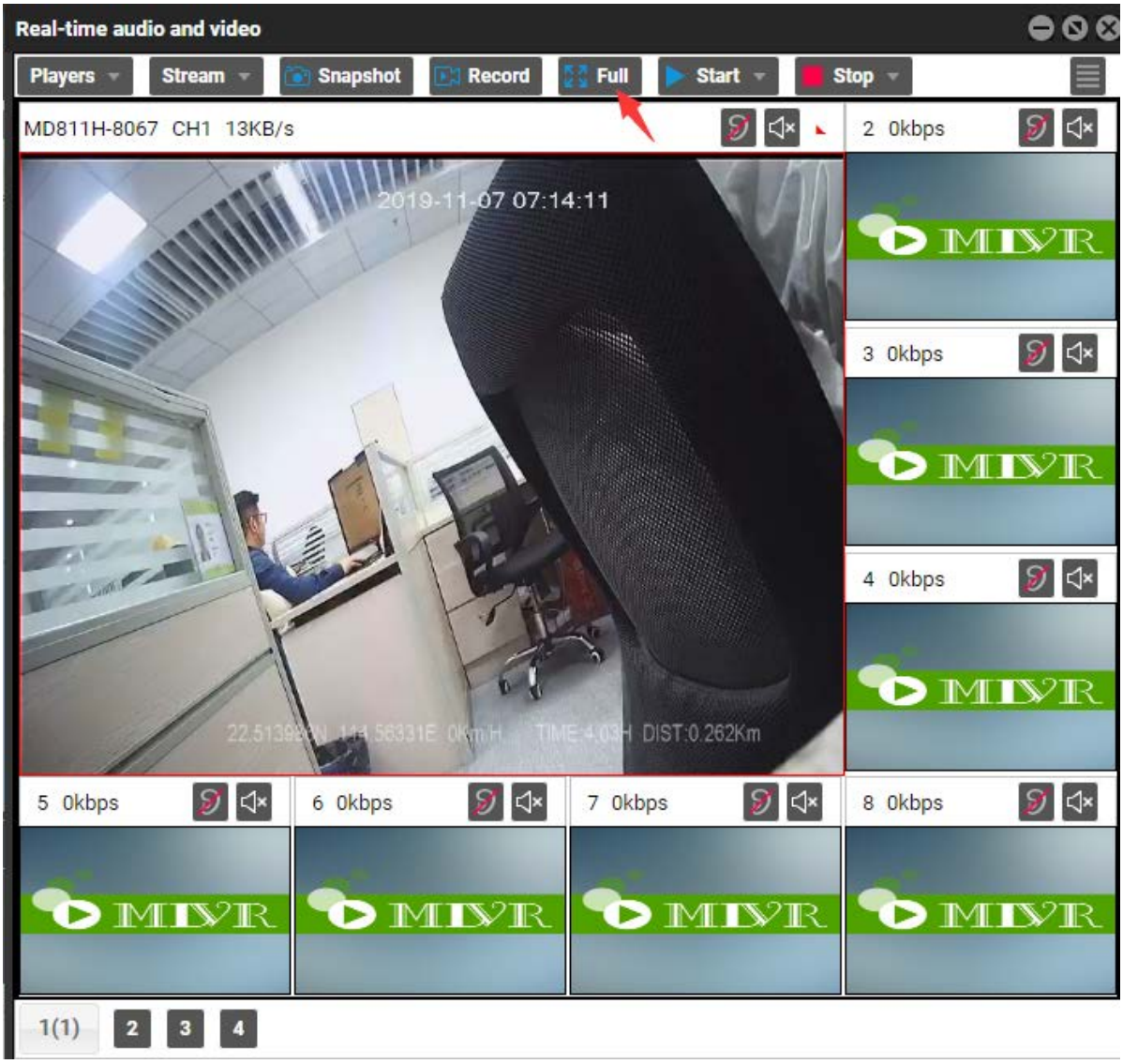
Right-click a MDVR and select **Video Monitor** to start all-channel surveillance.

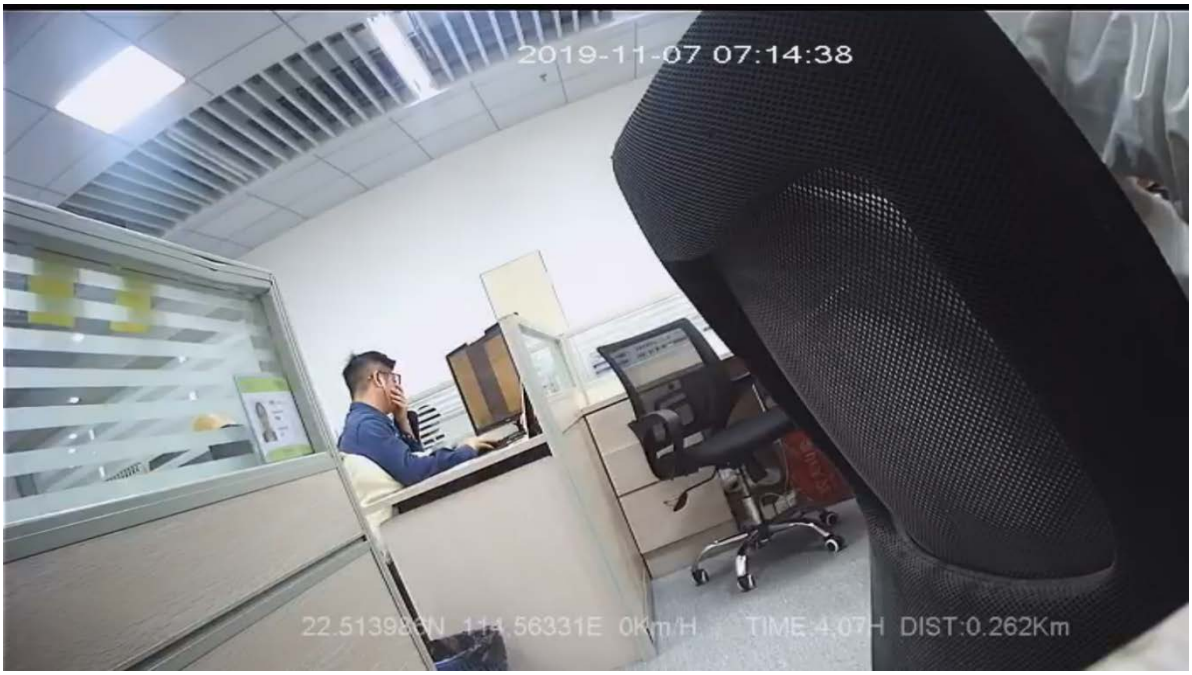




If a single channel is selected, such as CH1, videos in this channel will be played.

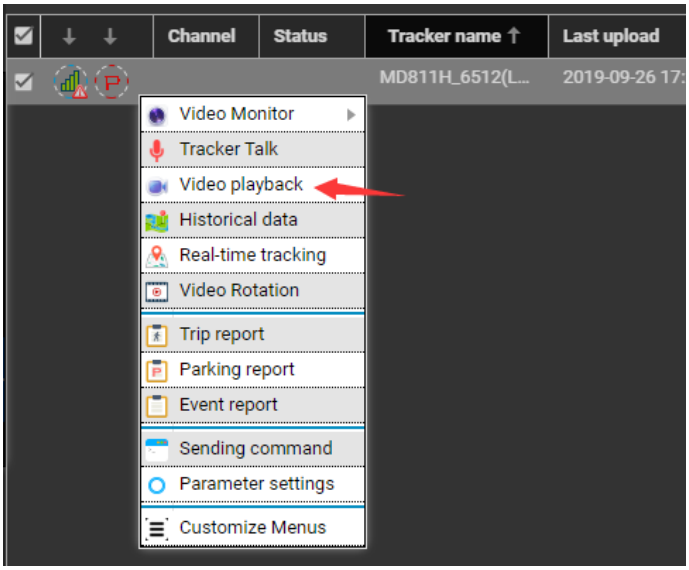


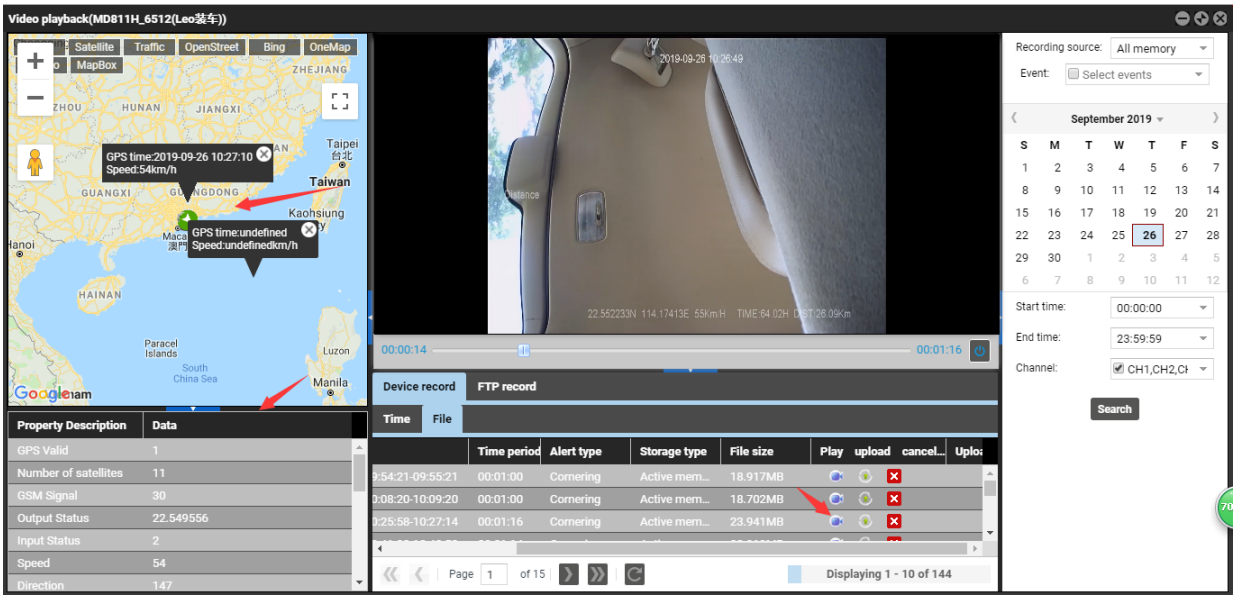




Video playback and search:

Right-click a MDVR and select **Video playback**. On the page that is displayed, set **Start time**, **End time** and **Channel**, and click **Search**. The video playback will start.

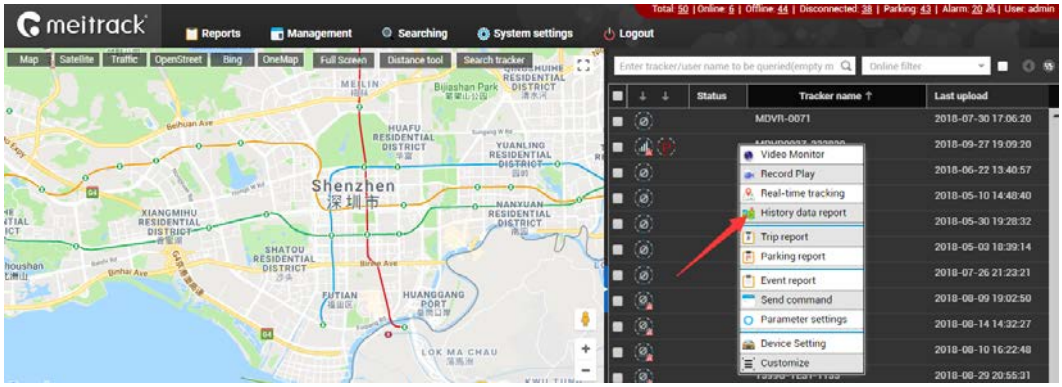


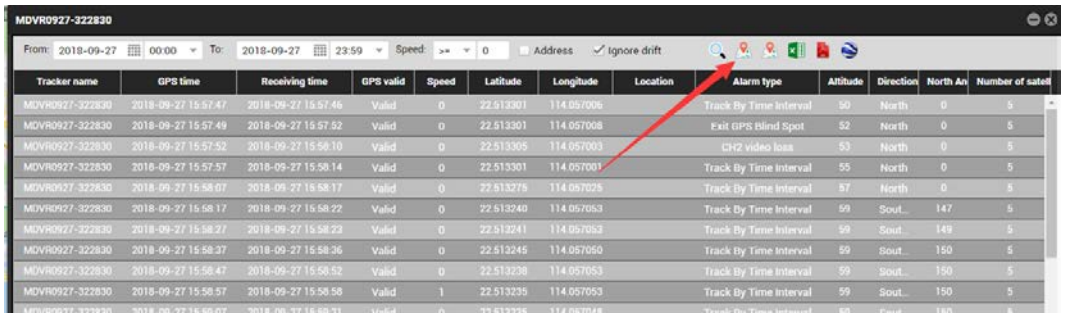


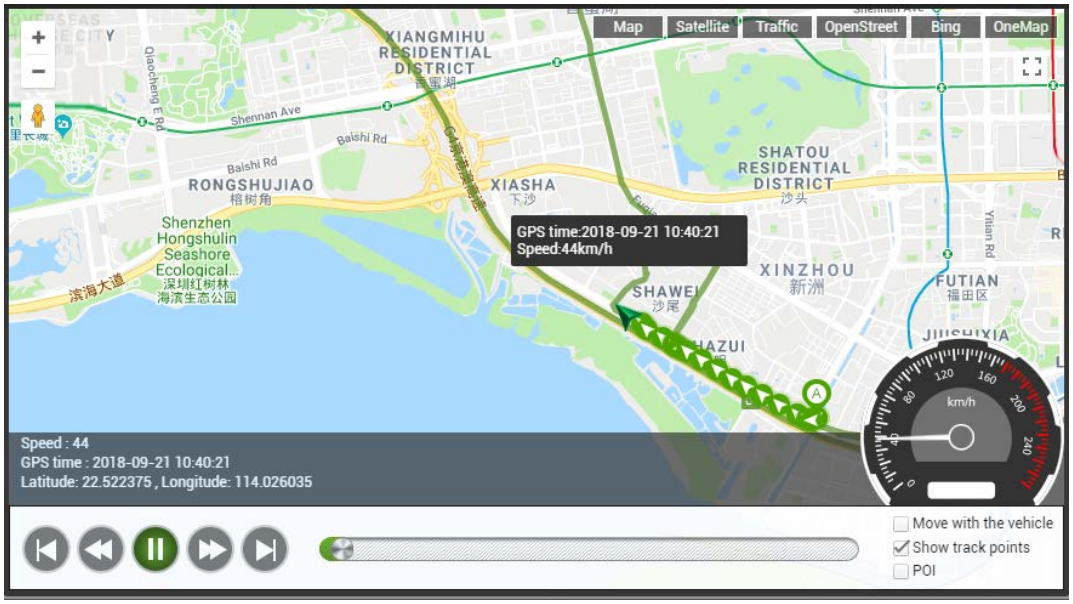
While playing back video files, the location information of related images will be displayed and travel routes will be played. As shown in the previous figure, the icon in the **Play** column is used to play the current video, the icon in the **Upload** column is used to upload the current video file to the FTP server, and the icon in the **Cancel** column is used to stop uploading the video file.

Query historical positioning data:

Right-click a MDVR and select **History data report**. On the page that is displayed, click the map icon  . The device's travel routes will be displayed.







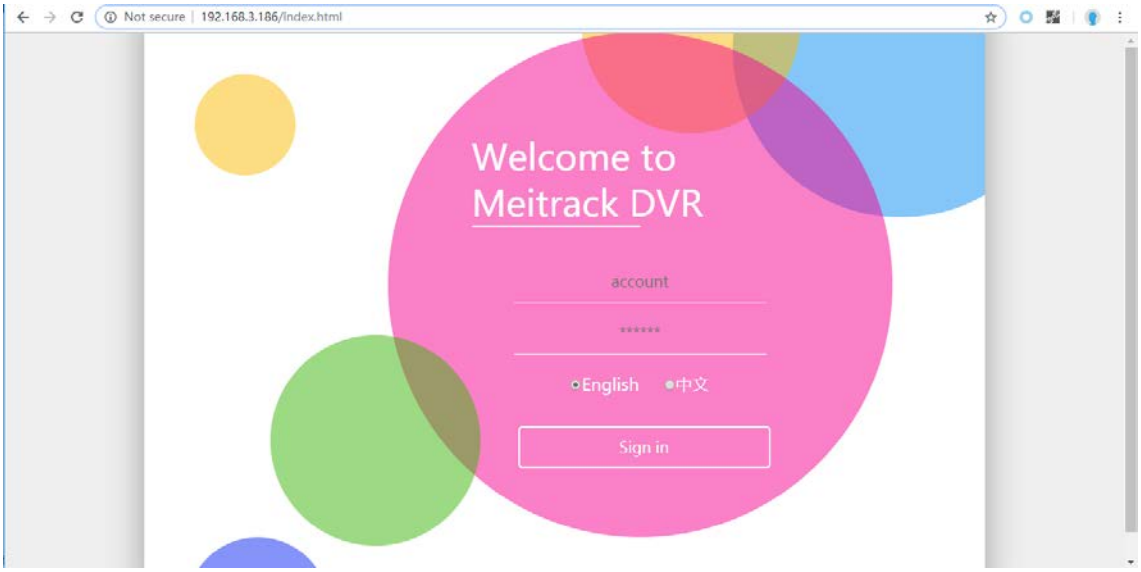
5 Configuring the MDVR by Using the LAN Web Page

(If you want to know how to use the function, please see the *Meitrack MDVR Operation and Function Manual*.)

You can use the LAN to configure the MDVR. There are two methods as follows:

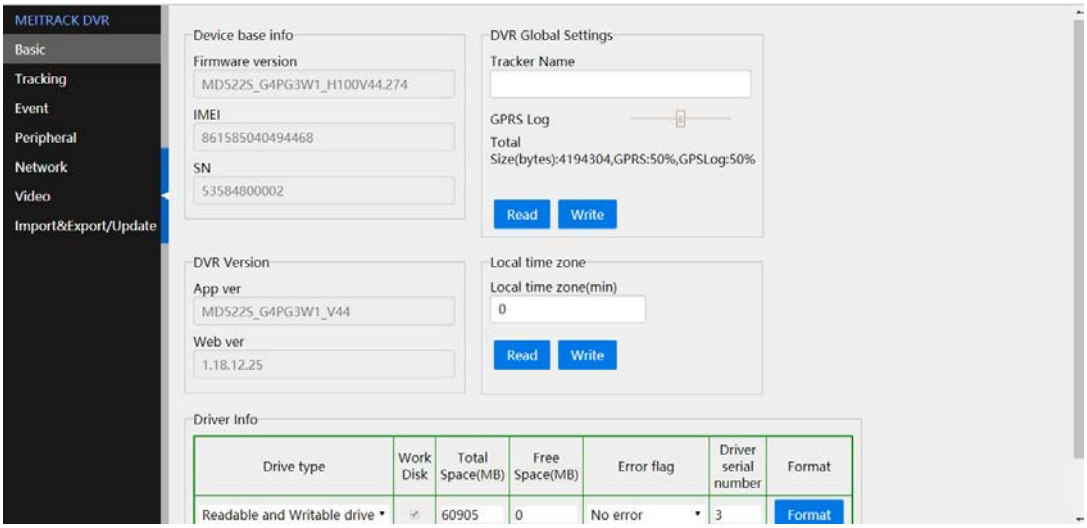
1) Connect the computer and MDVR to the same WiFi hotspot, and then configure the MDVR on the web page.
2) Connect the MDVR to the Ethernet, ensure that the computer and MDVR are in the same LAN, and then configure the MDVR on the web page.

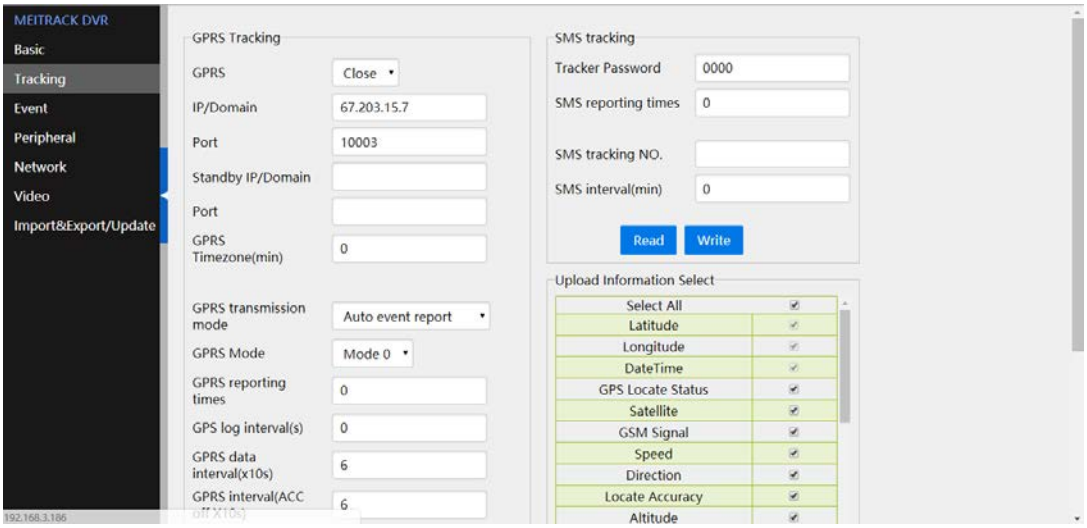
You need to obtain the IP address of the LAN connected to the MDVR. (To obtain the IP address, you can connect the MDVR to Meitrack Manager to check the network status, send a command to query the network status, or contact the LAN administrator.) After entering the MDVR IP address in the address bar of your web browser, you can configure the MDVR on the web page.



On the web page that is displayed, enter the user name and password (default user name: admin; default password: 0000), and

log in to the system. Then configure the MDVR on the web page. The configuration method is similar to that of Meitrack Manager.

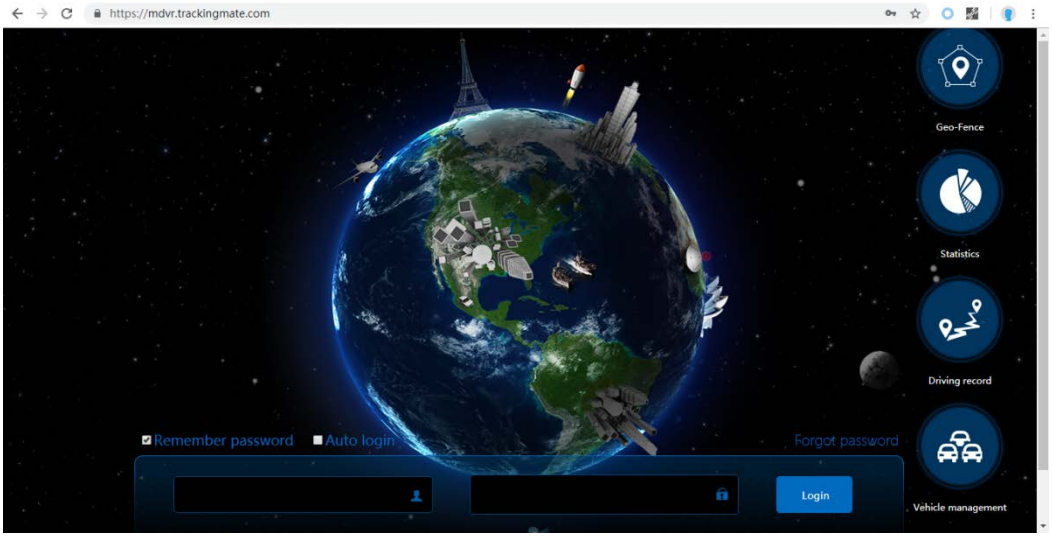




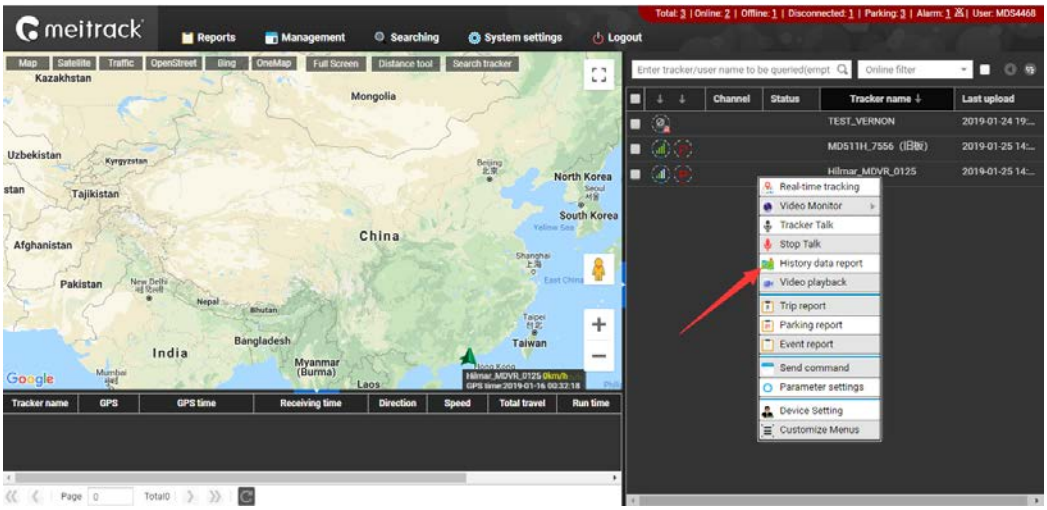
6 MS03 Web Platform

(If you want to know how to use the platform, please see the *Meitrack MDVR Operation and Function Manual*.)

You can visit mdvr.trackingmate.com and log in to the MS03 platform. On the platform, live streams of the MDVR can be loaded (real-time monitoring), and recording files can be stored (large files are stored on the FTP server).

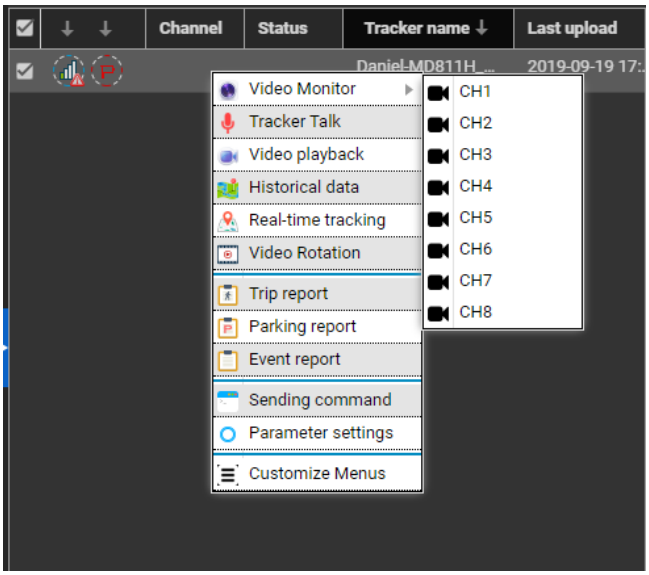


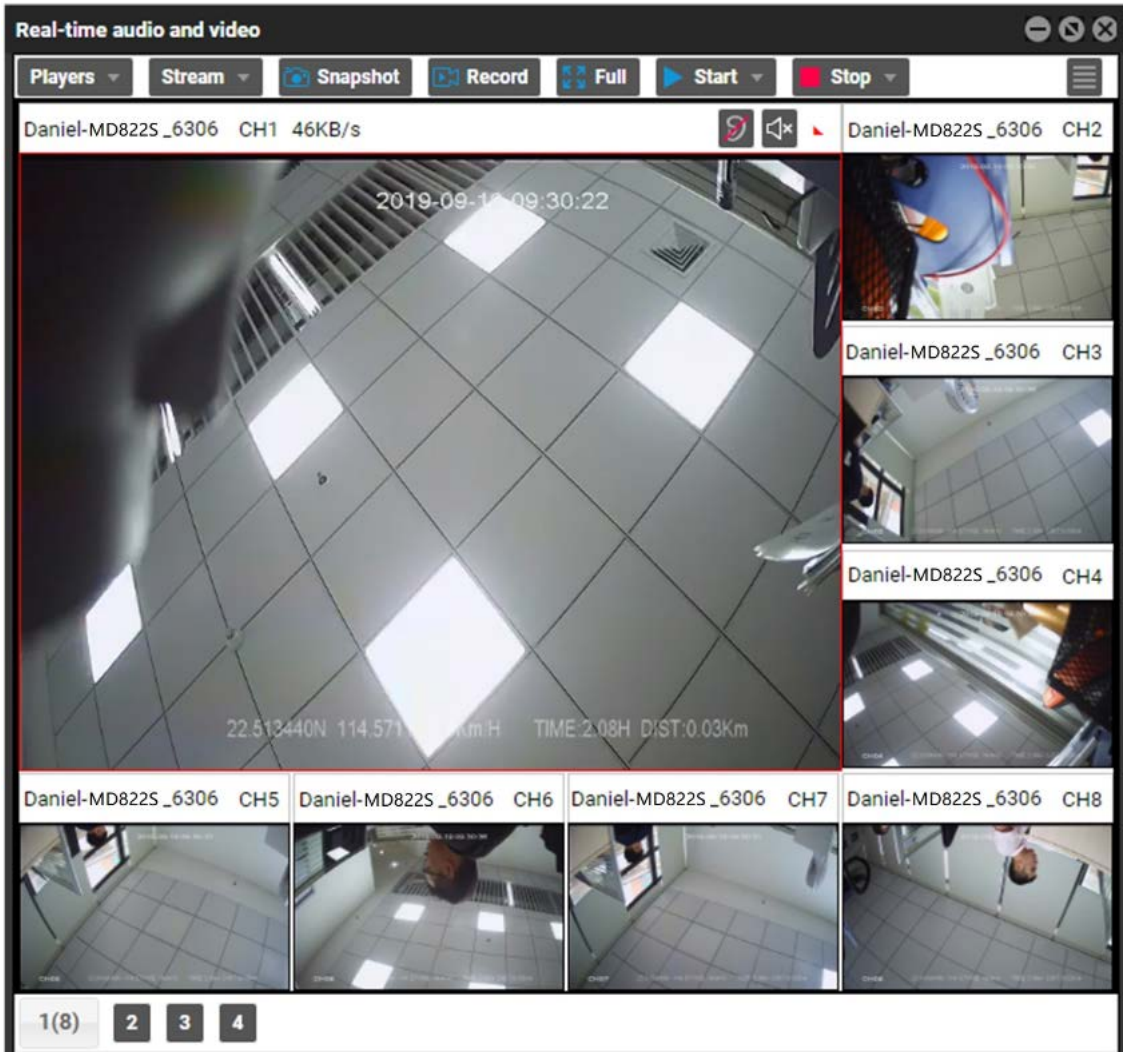
After logging in to the platform and adding the MDVR, you can use the positioning function, monitor the MDVR in real time, play back videos, query alert videos, and make a call.



6.1 Real-time Monitoring

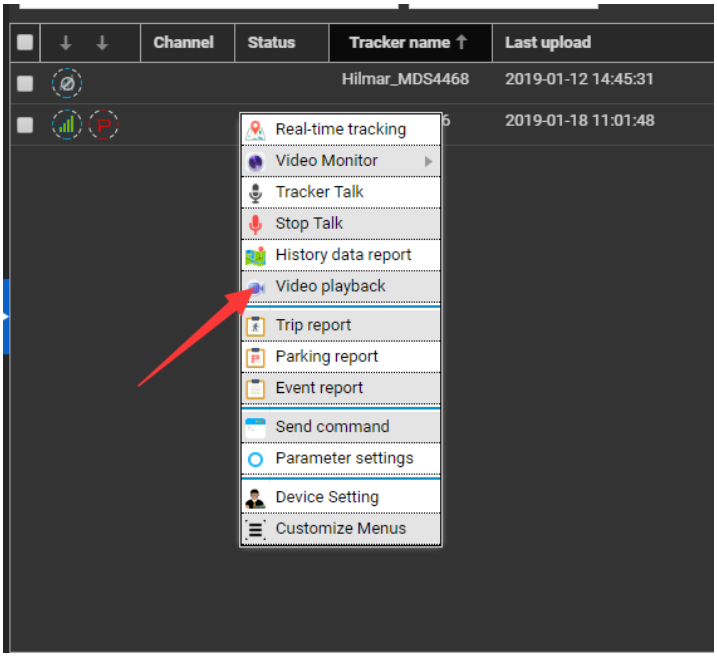
Right-click the MDVR, and select **Video Monitor** and a camera surveillance channel to play videos.



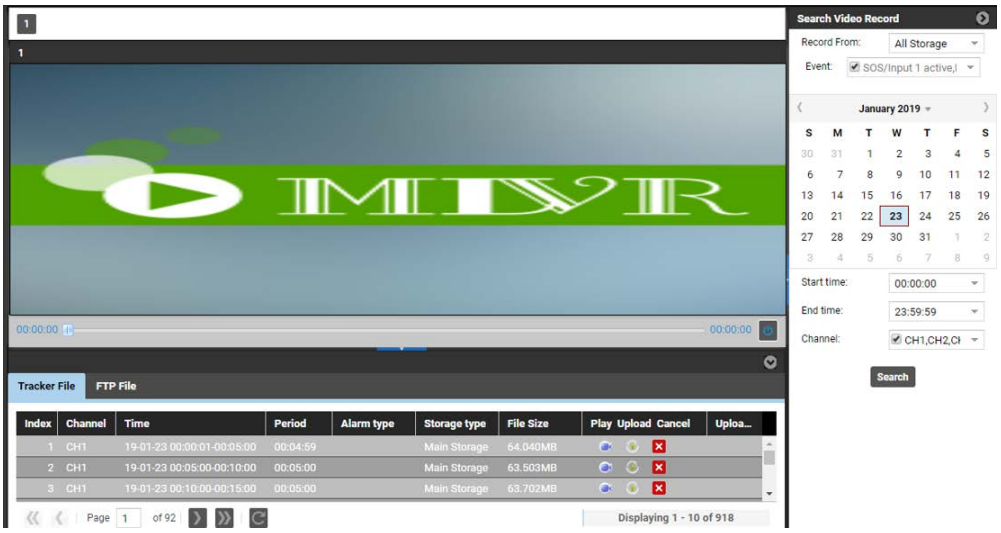


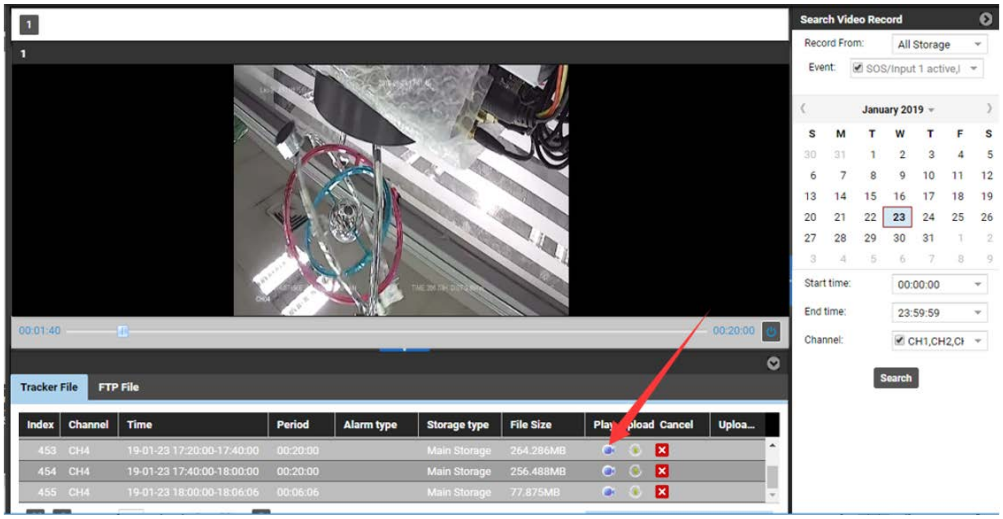
6.2 Video Playback

Right-click the MDVR and select **Video playback**.



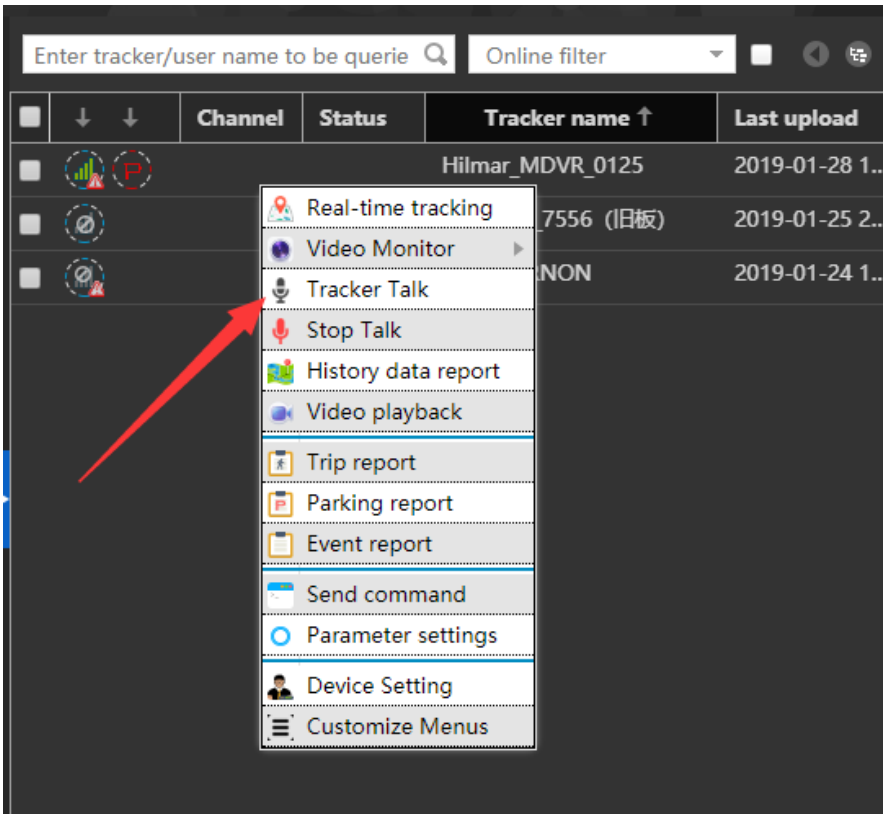
Select related videos based on events.

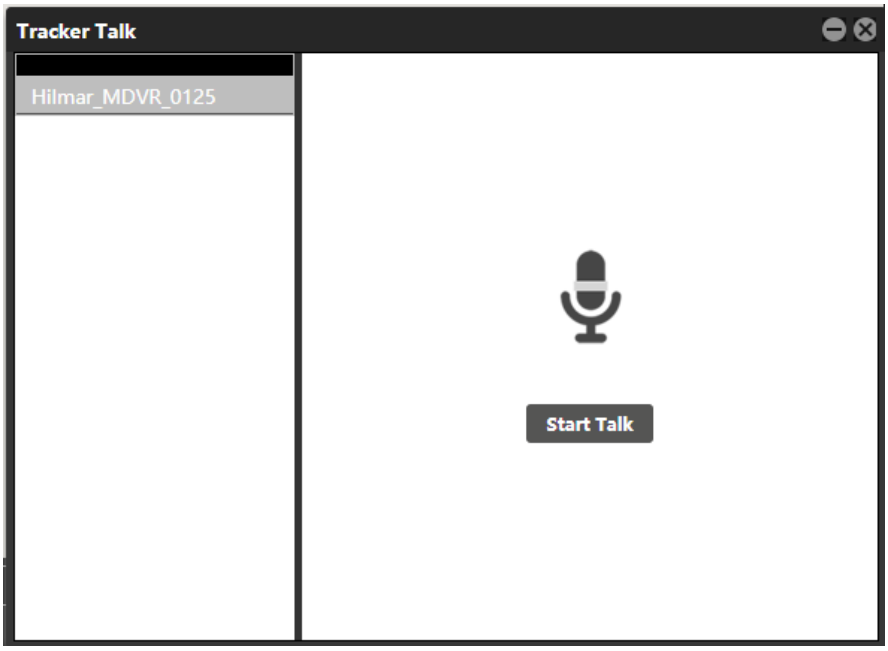




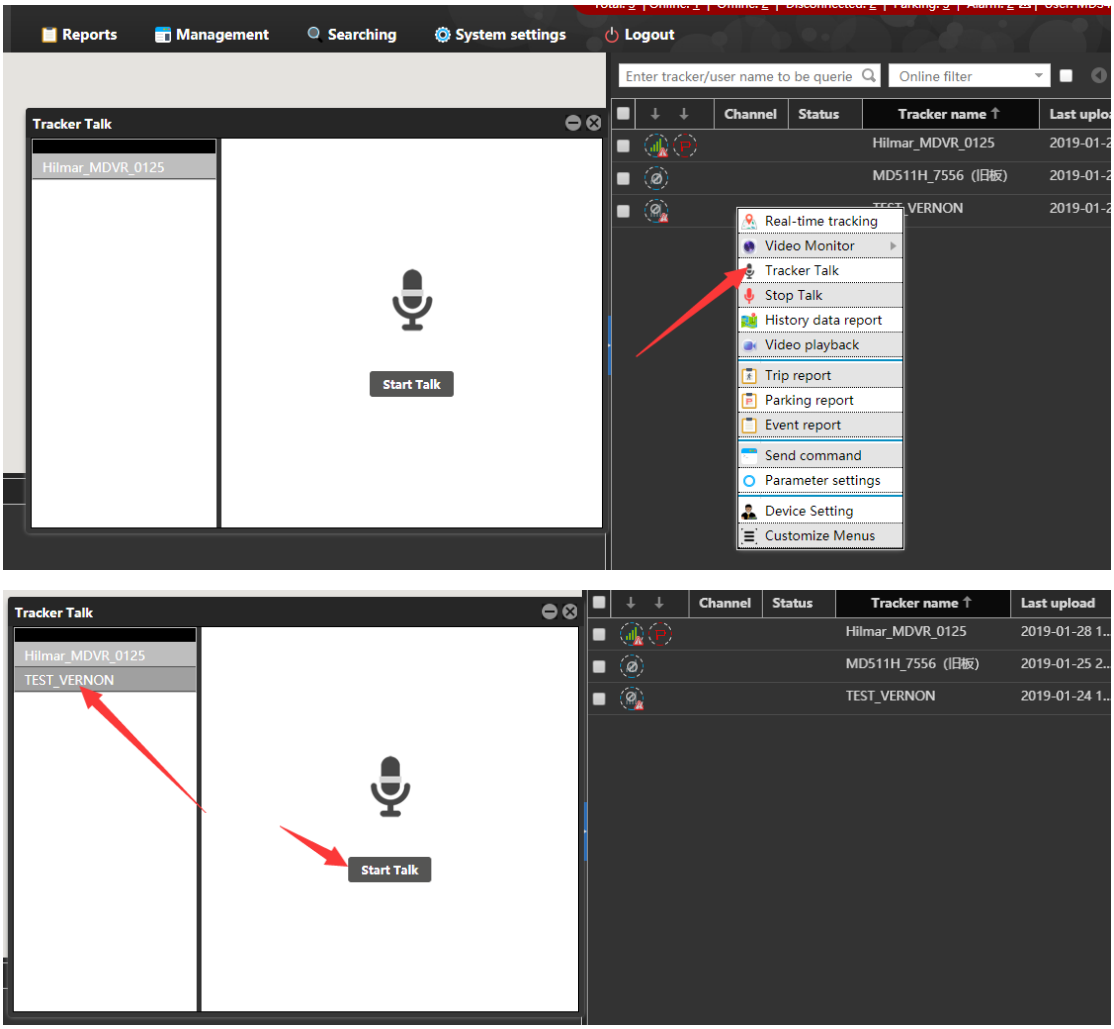
6.3 Two-Way Calling

Right-click the MDVR and select **Tracker Talk**.





You can talk with multiple users.



Select the users to call, and click **Start Talk** to start broadcasting.

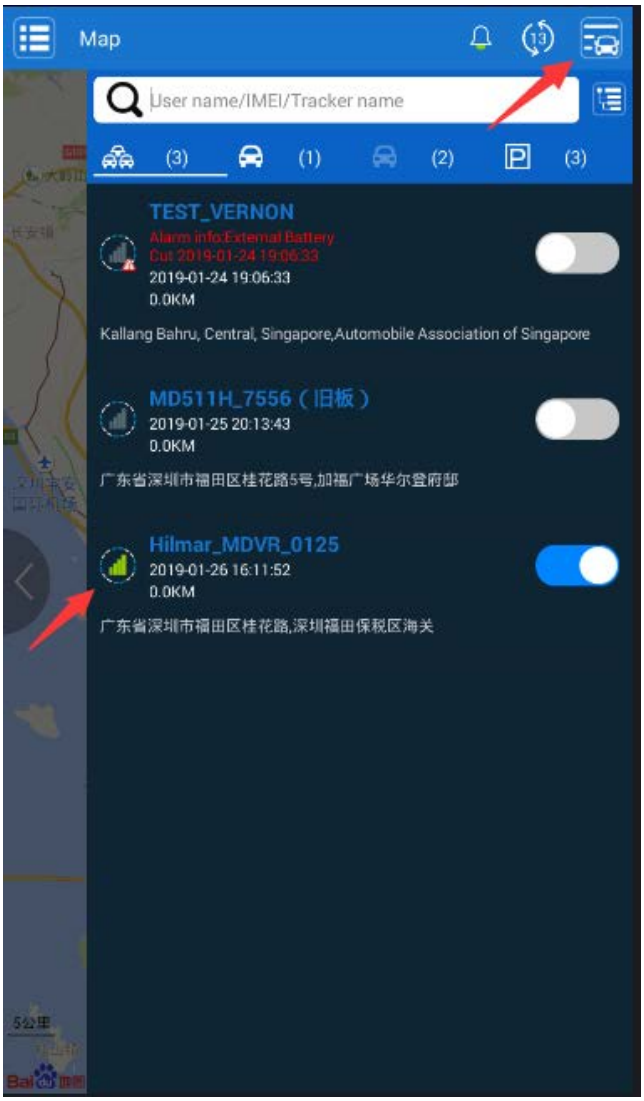
Before a talk starts, MDVR users need to press and hold down the talk button at the left side of the MDVR. During broadcasting, a call can be made between platform users and MDVR users, while MDVR users cannot talk with each other.

7 MS03 App

7.1 Logging In to the App

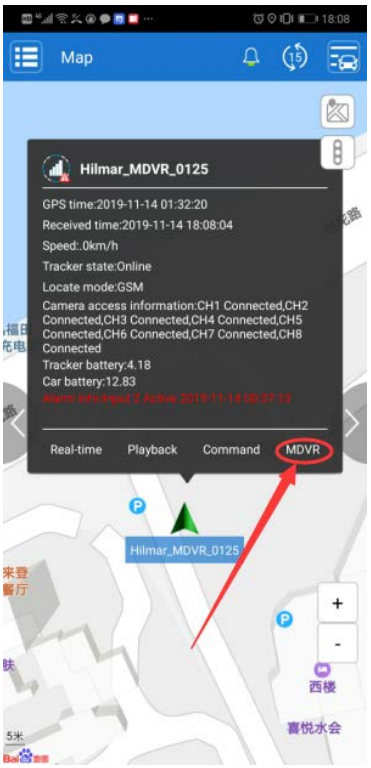
7.2 Checking MDVR Online Status

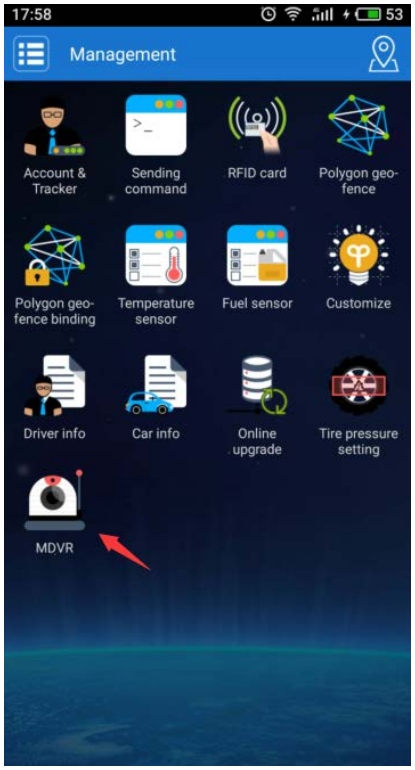
If the green signal icon  is displayed, it means that the MDVR is online.

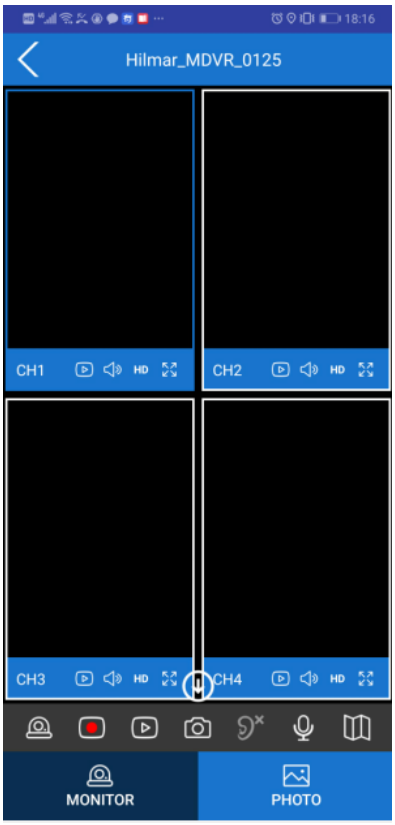


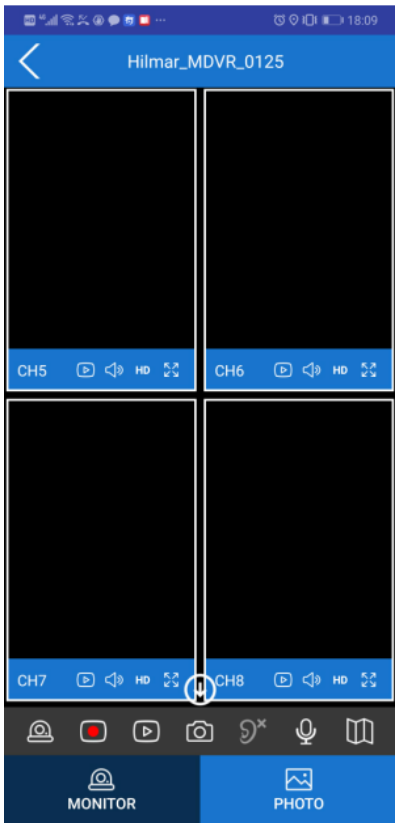
7.3 Video Surveillance

Click **MDVR** on the map, or choose **MDVR** on the **Management** page. Then the video surveillance page will be displayed.

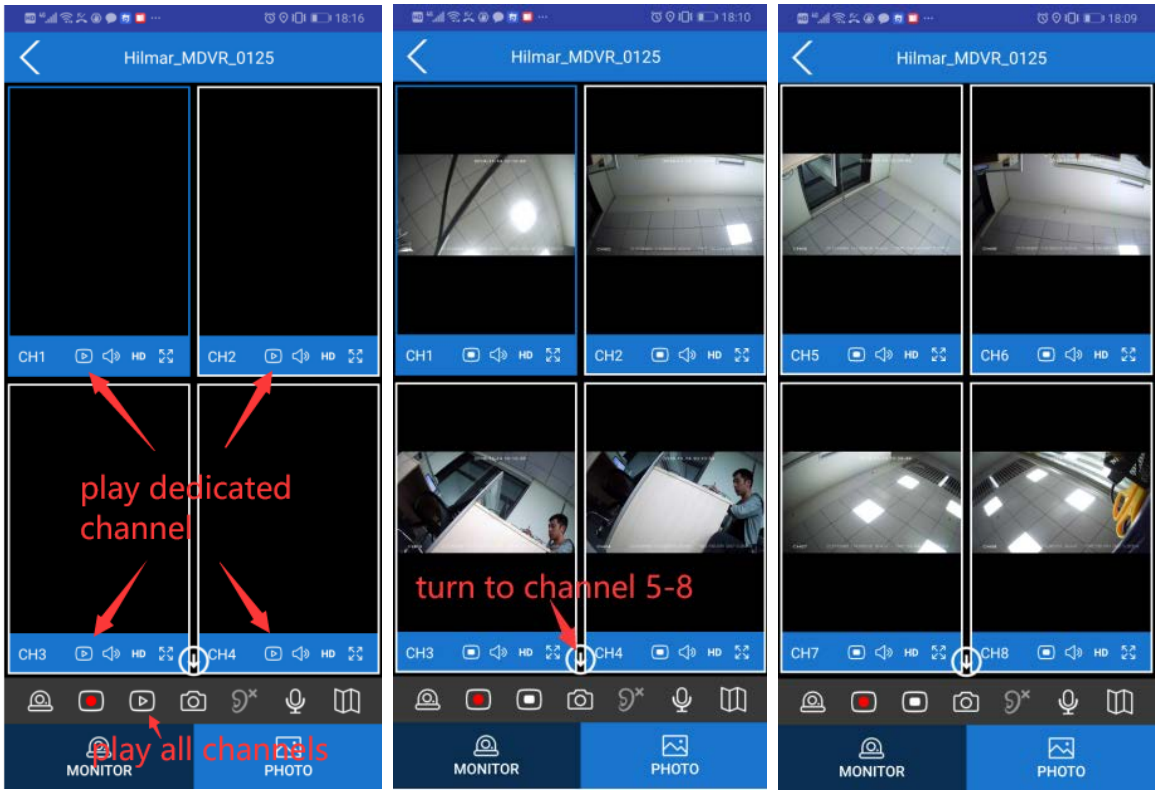








Click  to play videos of corresponding channel. Click  to start four-channel surveillance.

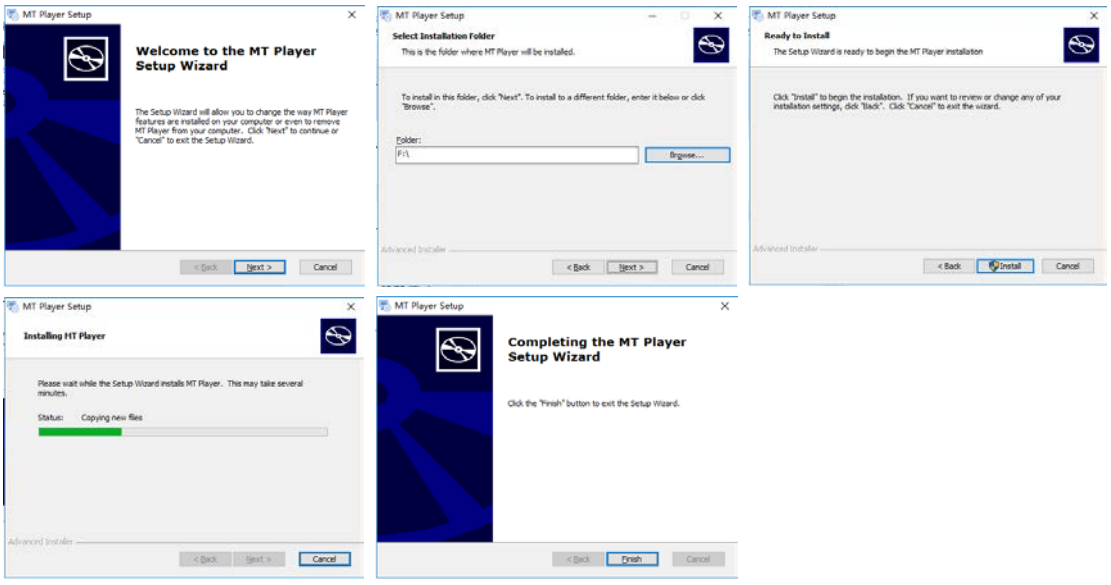


8 Playing MDVR Videos by Using MT Player Software

(If you want to know how to use the function, please see the *Meitrack MDVR Operation and Function Manual*.)

8.1 Installing MT Player

Unzip the file MTPlayerSetup.rar, and double-click the file MTPlayerSetup.exe to install the software according to the setup wizard.



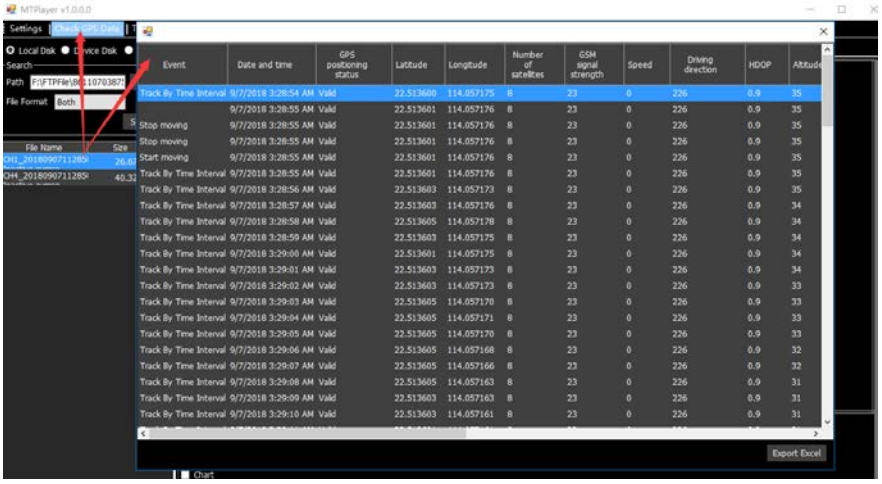
8.2 MT Player Functions

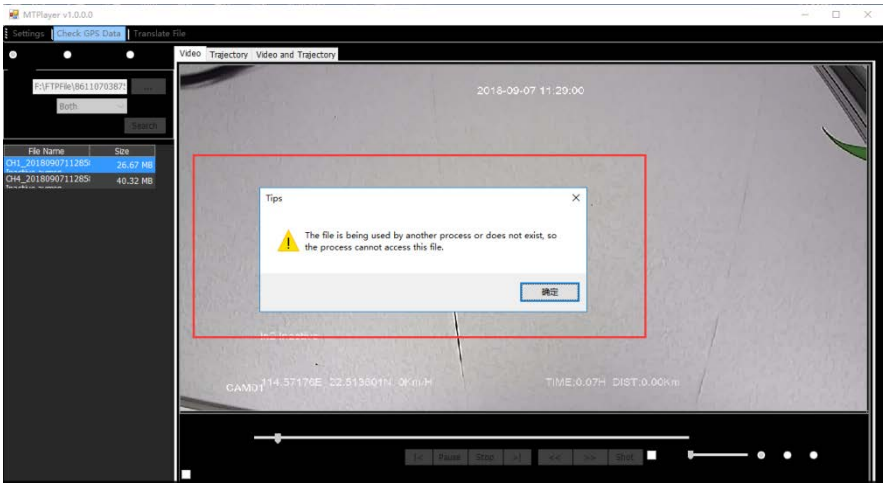
8.2.1 Querying GPS Positioning Data

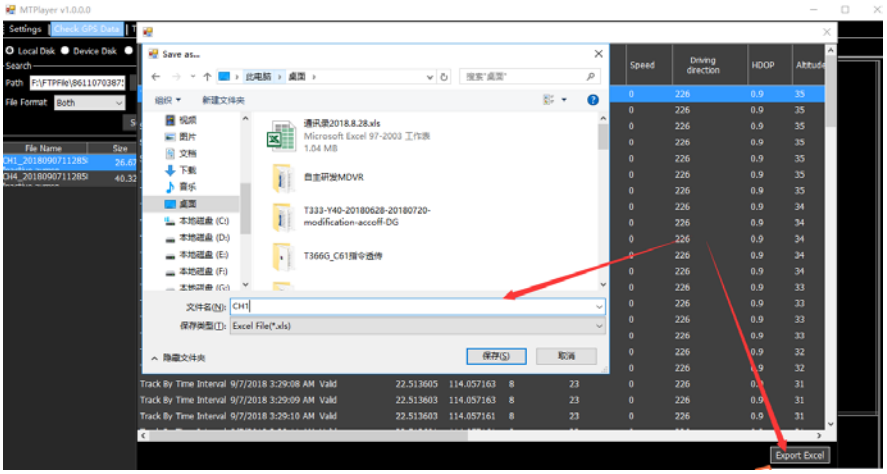
After selecting a video on the following page, you can obtain the GPS positioning data generated during the video recording and export these data to an Excel file.

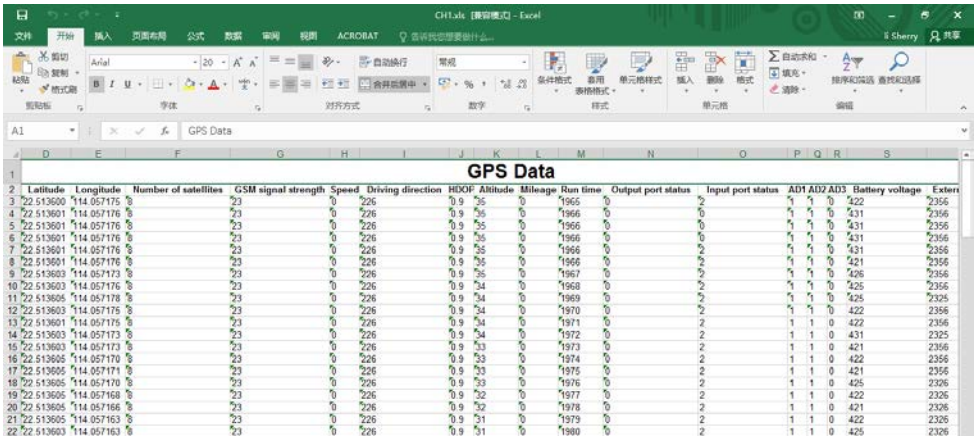
Note:

- GPS positioning data cannot be queried while videos are being played. Otherwise, an error warning will pop up.
- Recorded videos support two formats: **.avmsg** and **.mp4**. If you want to read GPS positioning data, you must select a video in **.avmsg** format.





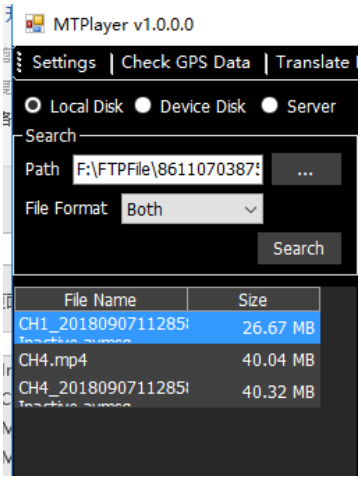




8.2.2 Playing Videos

1. Play videos stored in local disks.

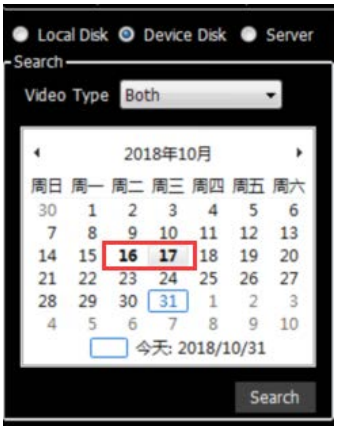
   Locate a video in **.avmsg** or **.mp4** format on local disks of your computer.



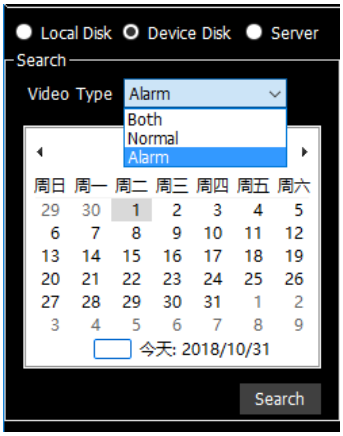
2. Play videos stored in a storage disk of the MDVR.

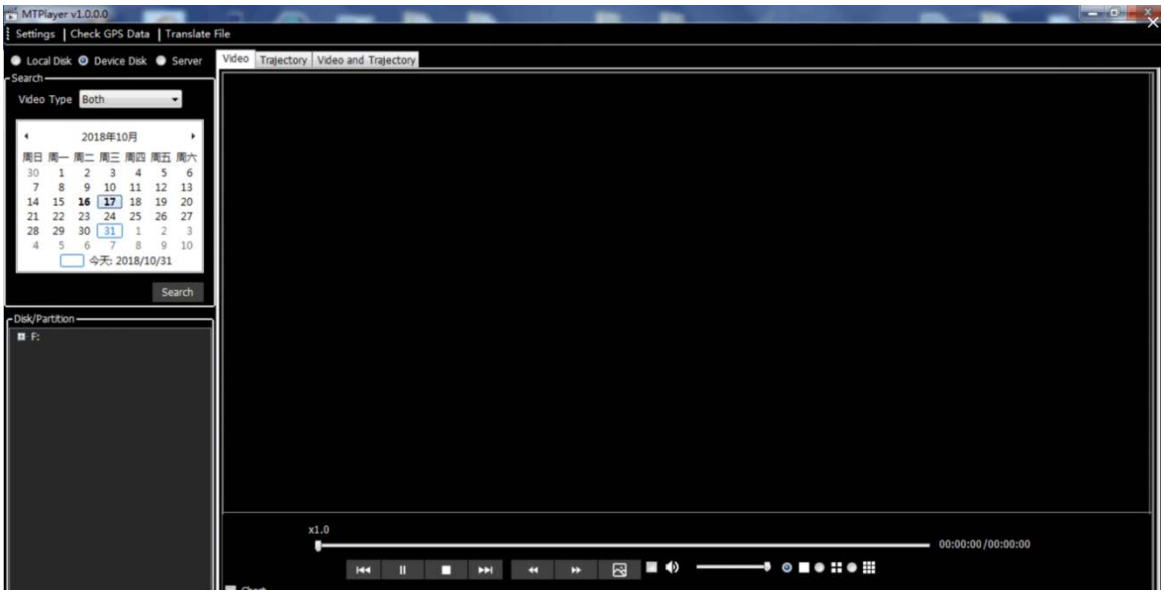
If related video file is detected from a storage disk of the MDVR by MT Player, the icon  will be displayed.

If a black bold date appears on the calendar, it means that there are videos recorded on that day.

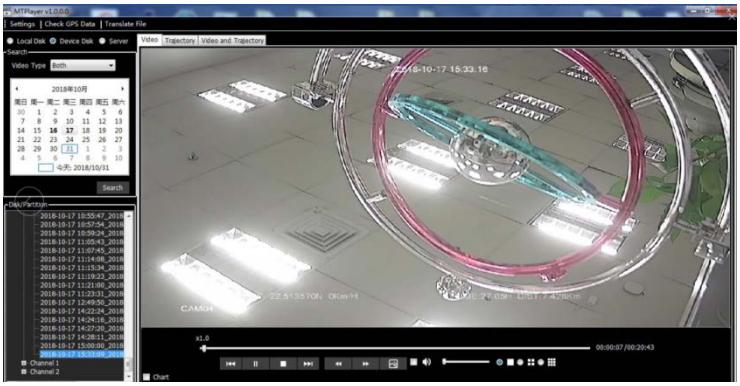


You can select **Normal** to play a complete video or **Alarm** to play an alert video.

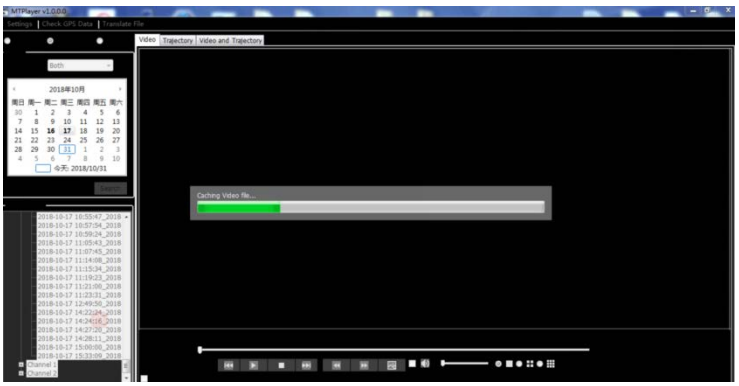


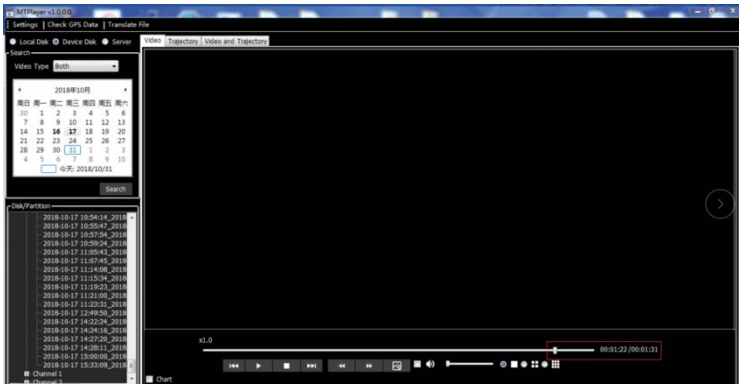


Double-click the name of a video file. Then the video will be played automatically.



You can also download the video, and then play it.





9 FAQs

9.1 MDVR Abnormal

a) Q: Only SYS and GPS LED indicators are on, and the MDVR does not record videos. Why?

A: Check whether the ACC cable is connected to the positive terminal of the external power supply (or the ACC is on), and whether the electronic lock is locked.

b) Q: The blinking of the LED indicator of the storage disk (SD card/hard disk) is abnormal, and the MDVR does not record videos. Why?

A: Check whether there are video recordings at the specified time periods. If the problem still exists, please restart the MDVR.

c) Q: Available WiFi networks cannot be searched, or searched WiFi signal values are low.

A: Please install the WiFi antenna to improve WiFi signal strength.

9.2 Data Usage Consumption

Data usage depends on the size of data uploaded from the device. Uploaded data contains video data and positioning data.

Video data calculation formula: Bitrate (Kbs)/8 x Number of channels /1024 = Data usage consumption per second (MB)

(Note: The formula is applicable to scenarios that the device is monitored continuously via the platform or uploads video files continuously. It will become unavailable when functions of monitoring and FTP uploading are enabled at the same time or operators have special data usage calculation methods.)

Positioning data calculation formula: 0.2KB x 3600/GPRS interval x 24/1024 = Data usage consumption per hour (MB)

(Note: The formula is applicable to general use scenarios. It will become unavailable when commands are frequently sent to read and write, photos are frequently uploaded, or operators have special data usage calculation methods.)

Under normal circumstances, data usage of the device is as follows:

Good image quality: 1080p (1920 X 1080); Bitrate: 3,072 Kbs; Frame Rate: 25						
	Data Usage Within 10 Minutes (GB)	Data Usage Within 1 Hour (GB)	Data Usage Within 1 Day (GB)	Data Usage Within 1 Week (GB)	Data Usage Within 1 Month (GB)	Data Usage Within 1 Year (GB)
1 channel	0.22	1.32	31.7	221.9	951	11570.5
2 channels	0.44	2.64	63.4	443.8	1902	23141
4 channels	0.88	5.28	126.7	886.9	3801	46245.5
8 channels	1.76	10.56	253.4	1773.8	7602	92491

Average image quality: 720p (1280 X 720); Bitrate: 2,048 Kbs; Frame Rate: 25 FPS						
	Data Usage Within 10 Minutes (GB)	Data Usage Within 1 Hour (GB)	Data Usage Within 1 Day (GB)	Data Usage Within 1 Week (GB)	Data Usage Within 1 Month (GB)	Data Usage Within 1 Year (GB)
1 channel	0.15	0.9	21.6	151.2	604.8	7257.6
2 channels	0.3	1.8	43.2	302.4	1209.6	14515.2
4 channels	0.6	3.6	86.4	604.8	2419.2	29030.4
8 channels	1.2	7.2	172.8	1209.6	4838.4	58060.8

Bad image quality: DA (704 X 576); Bitrate: 512 Kbs; Frame Rate: 25 FPS						
	Data Usage Within 10 Minutes (GB)	Data Usage Within 1 Hour (GB)	Data Usage Within 1 Day (GB)	Data Usage Within 1 Week (GB)	Data Usage Within 1 Month (GB)	Data Usage Within 1 Year (GB)
1 channel	0.0375	0.225	5.4	37.8	151.2	1814.4
2 channels	0.075	0.45	10.8	75.6	302.4	3628.8
4 channels	0.15	0.9	21.6	151.2	604.8	7257.6
8 channels	0.3	1.8	43.2	302.4	1209.6	14515.2

Best image quality: 1080p (1920 X 1080); Bitrate: 8,192 Kbs; Frame Rate: 25						
	Data Usage Within 10 Minutes (GB)	Data Usage Within 1 Hour (GB)	Data Usage Within 1 Day (GB)	Data Usage Within 1 Week (GB)	Data Usage Within 1 Month (GB)	Data Usage Within 1 Year (GB)
1 channel	0.59	3.54	84.96	594.72	2548.8	31010.4
2 channels	1.18	7.08	169.92	1189.44	5097.6	62020.8
4 channels	2.36	14.16	339.84	2378.88	10195.2	124041.6
8 channels	4.72	28.32	679.68	4757.76	20390.4	248083.2

1) Q: If the device is monitored occasionally via the platform and not all video files need to be uploaded, how much data usage will be consumed?

   A: The data usage depends on the number of alerts. Each alert video lasting one minute consumes about 180 MB. Under normal circumstances, if the monitoring frequency is not high (one hour per day; DA image quality) and the number of alerts is few (10 alerts per day), the data usage consumption per day is about 3.8 GB.

2) Q: What is the difference between the data usage generated during monitoring and the data usage generated by files uploaded to the FTP server?

A: The data usage generated during monitoring is calculated based on live stream, while the data usage generated by files uploaded to the FTP server is calculated based on storage stream.

9.3 Power Consumption

The device's power consumption varies depending on the following three conditions:

Sleep mode: 96 mA

Eight cameras and a display: 2–4 A

A single camera: 100–400 mA (The light in the daytime is strong, so the power consumption is low. The light in the night is weak, so the power consumption is high.)

1) Q: If the engine is not started, will the vehicle battery be quickly consumed by the device?

   A: If the engine is not started, the recording function of the device is disabled. So the power consumption will be lower than 100 mA and excessive consumption of the vehicle battery will not happen.

2) Q: How to reduce the power consumption?

   A: You can reduce the number of peripherals, alert event uploading times and camera channels.

9.4 Video Storage

The maximum storage capacity of the MDVR varies depending on the capacity of hard disks on the market. The MDVR supports a hard disk with a capacity of 256 GB, 512 GB, 1 TB, or 2 TB. So users can choose a proper hard disk as needed. For details about the storage time of the device with different capacity, see the following tables. As shown in the following tables, the storage time of the storage disk with the largest capacity ranges from three days to 320 days due to the image quality and the number of channels.

Good image quality: 1080p (1920 X 1080); Bitrate: 3,072 Kbs; Frame Rate: 25				
	1-channel camera	2-channel camera	4-channel camera	8-channel camera
Storage time of a 256 GB hard disk (hour)	160	80	39	20
Storage time of a 512 GB hard disk (hour)	320	160	78	40
Storage time of a 1 TB hard disk (day)	26	13	6.5	4
Storage time of a 2 TB hard disk (day)	52	26	13	7

Average image quality: 720p (1280 X 720); Bitrate: 2,048 Kbs; Frame Rate: 25 FPS				
	1-channel camera	2-channel camera	4-channel camera	8-channel camera
Storage time of a 256 GB hard disk (hour)	240	120	60	30
Storage time of a 512 GB hard disk (hour)	480	240	120	60
Storage time of a 1 TB hard disk (day)	40	20	10	5
Storage time of a 2 TB hard disk (day)	80	40	20	10

Bad image quality: DA (704 X 576); Bitrate: 512 Kbs; Frame Rate: 25 FPS				
	1-channel camera	2-channel camera	4-channel camera	8-channel camera
Storage time of a 256 GB hard disk (hour)	960	480	240	120
Storage time of a 512 GB hard disk (hour)	1920	960	480	240
Storage time of a 1 TB hard disk (day)	160	80	40	20
Storage time of a 2 TB hard disk (day)	320	160	80	40

Best image quality: 1080p (1920 X 1080); Bitrate: 8,192 Kbs; Frame Rate: 25				
	1-channel camera	2-channel camera	4-channel camera	8-channel camera
Storage time of a 256 GB hard disk (hour)	60	30	15	7.5
Storage time of a 512 GB hard disk (hour)	120	60	30	15
Storage time of a 1 TB hard disk (day)	10	5	2.5	1.2
Storage time of a 2 TB hard disk (day)	20	10	5	3

1) Q: What will happen if the hard disk and SD card are full?

   A: If the hard disk and SD card are full, original video recordings will be automatically replaced with new ones by default. So you need to upload or back up video files regularly. If you don't want data to be replaced, set the function of "stopping recording after the disk is full" by Meitrack Manager software.

2) Q: Can I extend the storage time of the hard disk by reducing the frame rate?

   A: Yes. The reduction of the frame rate will affect the smoothness of video images while extending the storage time by 10% to 50%. But it is recommended that the frame rate should be greater than 15 FPS. Otherwise, images will be discontinuous.

9.5 Camera Installation

Cameras are installed horizontally by default. If cameras need to be installed in an inverted position or on the side, perform the following steps:

(1) Loosen the screws and remove the camera.

(2) Confirm the installation location and nail holes.

(3) Drill holes in nail holes by using provided nails, hammer the nails into the holes, and install the bottom part of the camera.

(4) Rotate the camera to adjust its angle. To ensure images do not display upside down or are misplaced, check the camera angle by using the platform or display.

(5) Twist the iron ring to fix the camera.

(6) If you do not want to fasten the camera by tightening the screws, use double-sided tape instead.

If you have any questions, do not hesitate to email us at info@meitrack.com.