MEITRACK MD500S MDVR User Guide

Change History

File Name	MEITRACK MD500S MDVR User Guide		
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Subproject	User Guide	Total Pages	32
Version	V3.0	Confidential	External Documentation

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Document Update Record

Version	Date	Modification
3.0	2024-10-27	1.Change APP software, configuration method already set 2.Upgrade AI algorithm: Driver Anomaly, Seat Belt Not Buckled, 3.Supports H.265; 4.Supplement AI algorithm description. 5. Add Caution.

Cautions

Installation Environment

1. To extend equipment life, please install the equipment in locations with little vibration.
2. To ensure normal heat dissipation, do not install the device in a poorly-ventilated area (such as a trunk), and also keep it about 15 cm away from other objects on the same level.
3. The device shall be horizontally installed and protected against water, humidity and lightning; in addition, keep the vehicle still during installation to prevent damage to the device due to falling off.
4. To ensure safe operation, keep the device, camera, cables and other accessories out of reach of passengers and driver.

Avoid electric shock and fire

1. The machine uses 11.4V-36V DC power supply, notice the polarity when wiring to avoid short circuits.
2. Before installation, disconnect the power supply of the device and wrap each unused I/O cable with adhesive tape to prevent other cables from touching the output power cable, which may cause the device to burn.
3. Please power off the device when connecting accessories with device.
4. Do not touch the power and the device with wet hands.
5. Do not spray liquid on the device to prevent internal short circuit or fire.
6. Do not put any other equipment on top of camera.
7. Do not disassemble the housing without authorization to avoid damage or electric shock.

Transport and handling

1. Please use the original package in transport to avoid damage in transport.
2. Please keep power off in moving the device or replacing components.

Contents

1 Product Introduction

1.1 Product Overview

The MD500S is a four-channel mobile digital video recorder (MDVR) featuring high stability and supporting Advanced Driver Assistance Systems (ADAS), Driver Monitoring System (DMS), video recording, and GPS tracking. Adopting the high-performance processor and Android 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 or decompression, GPS positioning, and wireless data transmission technologies.

The MD500S is small in size and light in weight and is characterized by internal GPS system and video processing system. With the metal outer case, it dissipates heat more effectively and its rugged sturdy housing make it shockproof. This unit is specially designed for mobile video surveillance for different types of vehicles, such as buses, long-distance coaches, taxis, logistics vehicles, special purpose vehicles (such as armored cars), and private cars.

1.2 Product Functions

1.2.1 DVR Function

- 4-channel 720p live video recording
- Automatic video overlaying
- Search and play back videos via the MS03 platform, MS03 app or MTPlayer software
- Download videos via the MS03 platform or MS03 app
- OSD overlay for video recording
- SOS alert video recording
- Alert photo capturing
- Video image quality settings
- Self-adaptive camera resolution and format

1.2.2 ADAS Function

- Forward collision
- Distance detection
- Left lane departure
- Right lane departure
- Front vehicle start

1.2.3 DMS Function

- Distraction Warning
- Seat Belt Detection
- IR block
- Driver Absence Detected
- Drowsiness
- Yawning
- Calling
- Smoking

1.2.4 Position Tracking

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

1.2.5 Alert

- 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 or recovery alert
- Harsh braking alert
- Harsh acceleration alert
- I/O port detection
- Driver fatigue alert

1.2.6 Other Functions

- Support a CAN bus interface
- Support a temperature sensor
- Support a RFID reader
- Support multiple types of fuel level sensors
- Support two-way calling
- Play local videos by using MTPlayer software
- Upload data via 4G or WiFi
- Configure the MDVR by using the local area network (LAN) web page
- Support parallel running of two systems
- Support the WiFi hotspot function
- Preview videos by using the RTMP
- Support APP MT Manager + app

1.3 Product Specifications

Item	Parameter	Specifications
Power supply	Rated voltage	DC: 11–36 V. Rated input: 12 V/2 A
Storage medium	Micro SD card	Up to 1000 GB (It is recommended that you should use a class 10 or above micro SD card.)
System structure	System operation	Android operating system
Audio and video	Video input	Support 1-channel DMS, 1-channel ADAS, and 2-channel 720p audio and video recordings Voltage output: 5 V/0.5 A
	Resolution	Storage stream: D1 (704*576), WD1 (960*576), and 720p (1280*720) Live stream: CIF (352*288) and D1 (704*576)
	Video compression standard	H.264； H.265 (Support RTMP and AVMSG video streams)
	Audio input	4-channel camera Mic input. The audio function is required for the camera. 1-channel 3.5 mm headphone jack input
	Audio output	1-channel 3.5 mm headphone jack output
	Audio compression	Support Advanced Audio Coding (AAC) only
	Video search and playback	Search and play back videos based on the channel, recording type, bit rate type, or time.
	Recording method	Simultaneously record general videos and alert videos as well as sounds and videos.
2G/3G/4G	MD500S	LTE FDD: B1/B3/B7/B8/B20/B28 LTE TDD: B38/B40 WCDMA: B1/B8 GSM: 900/1800MHz
	MD500S-E	GSM:850/900/1800/1900MHz WCDMA: B1/B2/B4/B5/B8 LTE FDD: B1/B2/B3/B4/B5/B7/B8/B20/B28 LTE TDD: B38/B39/B40/B41
	MD500S-A	WCDMA: B2/B4/B5 LTE FDD: B2/B4/B5/B7/B12/B13/B14/B17/B25/B26/B66/B71 LTE TDD: B41
	MD500S-J	WCDMA: B1/B6/B8/B19 LTE FDD: B1/B3/B5/B8/B11/B18/B19/B21/B26/B28 LTE TDD: B41
	MD500S-W	Only the WiFi function is supported, and LTE is not supported.
WiFi	Internal WiFi module. Support WiFi 802.11a/802.11b/802.11g/802.11n/802.11ac. Frequency: 2.4 GHz or 5 GHz. Support AP/STA mode.	
GNSS	1. GPS 2. GPS + BeiDou 3. GPS + GLONASS 4. GPS + GLONASS + BeiDou	
Protocol	Protocol supported	Meitrack protocol (CCE) + RTMP

Power consumption	Static operating current	Average power consumption: 65 mA (The ACC is off, and a piece of positioning data is uploaded every 10 seconds.)
	Operating current	Maximum power consumption: 1100 mA. Average power consumption: 600 mA. (The ACC is on, ADAS and DMS are running, two cameras are connected, and the WiFi hotspot is enabled, and a piece of positioning data is uploaded every 10 seconds.)
	Current in sleep mode	In standby mode, the power consumption is about 15 mA.
Others	Operating temperature	Device without a battery: -20°C to 70°C
	Sensor	Built-in 3-axis accelerometer
	Internal Bluetooth module	BT2.1 + EDR/3.0/4.1 LE/4.2BLE
	Protocol	Support Meitrack CCE protocol
	I/O port	4 input ports 2 output ports 2 analog input ports 1 1-Wire port 1 CAN bus interface 1 RS232 port 4 AV input ports
	Audio interface	3.5 mm audio interface, connected to the speaker or microphone. Used for two-way calling or two-way radio functions.
	Outer case	Dimension: 120 mm x 70 mm x 25 mm
	Weight	300g

1.4 Main Device and Accessories

1.4.1 Standard Accessories

Standard Accessories	Quantity	Remarks
Host	1	With 20cm long power IO cable, 14PIN
IO cable	1	24PIN, cable length 20cm
CD download guide card	1	
A57 Speaker	1	
A58 Microphone	1	
Audio connection cable	1	
GSM antenna	1	Standard 4G antenna (not included in W version)
GPS antenna	1	Single-stage amplified GPS antenna
WIFI antenna	1	Standard WIFI antenna
Total	9	

1.4.2 AI Camera

AI Camera

ADAS Camera (ACP602)

ADAS Camera (ACP602)

DMS Camera (ACP501)

1.4.3 Standard Camera

Outdoor Waterproof Camera

No Audio Waterproof Camera (ACA105)

No Audio Waterproof Camera (ACA103)

Non-Waterproof Camera

Audio-Enabled Non-Waterproof Camera
（ACA302）

5V Camera Extension Cable	Optional lengths: 3/5/8/10/15M

Note: The typical length of the camera cable is around 50cm. Please ensure to use an extension cable during installation to avoid issues with insufficient length.

1.4.4 Other Options

Other External Accessory Options			
			
A53 Fuel Level Sensor (Voltage AD)	A54 Capacitive Fuel Level Sensor	12/24V Relay	iButton Card Reader + Probe
			
Bluetooth Ultrasonic Fuel Level Sensor (Range 100cm) (ASUF103)	Bluetooth Ultrasonic Fuel Level Sensor (Range 250cm) (ASUF104)	Ultrasonic Fuel Level Sensor (Range 400cm) (ASUF105)	Ultrasonic WIFI Serial Debugging Tool (ASUF106)
			
Microphone (A58) + Speaker (A57) + Audio Connection Cable	RFID Card Reader + ID Card	A52 Digital Temperature Sensor	Storage Card

1.5 About the MDVR

1.5.1 Product Appearance

Figure 1.5.1 Front panel

Interface	Sign Name	Description
Microphone/Speaker interface	Audio	Connect to the microphone or speaker.
USB debug port	USB	Connect to a PC to configure device parameters.
Power button	POWER KEY	Turn on or turn off the device.

WiFi	WIFI	WiFi antenna connector
GPS	GPS	GPS antenna connector
3G/4G	3G/4G	SMA connector. 3G/4G main antenna.

1.5.2 LED Indicator

Sign Name	Color	LED Indicator	Indicator Status	Description
3G/4G	Green	3G/4G 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.
			Blink slowly (1 second on and 2 seconds off)	No signal is received from a base station.
GPS	Blue	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.
SD	Green	SD card LED indicator	Blink fast (frequency for writing data)	An SD card is detected, and audio and video data is written to the SD card.
			Blink suddenly (once every 5 seconds; indicator on: 0.1 seconds)	An SD card is detected, but no data is written to the SD card.
			Steady off	No SD card is detected.
VLOSS	Red	Video lost LED indicator	Steady on	All AV inputs are not connected to cameras.
			Blink suddenly (once every 5 seconds; indicator on: 0.1 seconds)	One AV input is not connected to a camera.
			Blink suddenly (2 times every 5 seconds; indicator on: 0.1 seconds; interval: 0.3 seconds)	Two AV inputs are not connected to cameras.
			Blink suddenly (3 times every 5 seconds; indicator on: 0.1 seconds; interval: 0.3 seconds)	Three AV inputs are not connected to cameras.
			Steady off	All AV inputs are connected to cameras.
WIFI	Green	WiFi LED indicator	Blink suddenly (once every 5 seconds; indicator on: 0.1	There is a WiFi module, but no data is sent.

			seconds)	
			Blink fast	WiFi data is sent and received normally.
			Steady off	There is no WiFi module.
			Blink slowly (1 second on and 2 seconds off)	The WiFi hotspot is enabled.

1.5.3 AV Input Port and RS232 Port Definition

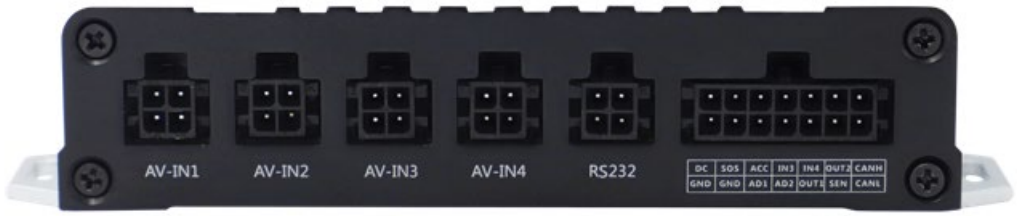
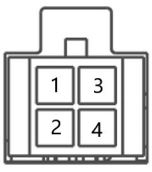


Figure 1.5.3 Rear panel

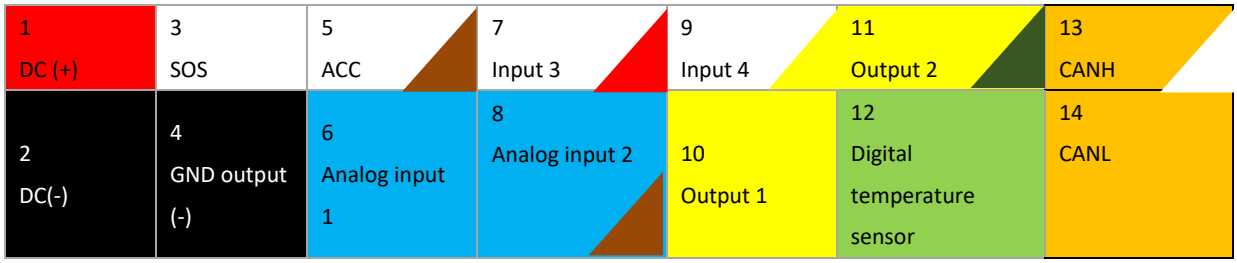
Interface	Sign Name	Description
AV input port	AV-IN1 AV-IN2 AV-IN3 AV-IN4	Four 4-pin ports (5557 interface), connected to cameras (5 V). Four-channel audio and video recordings are supported. By default, the AV-IN1 port is connected to the DMS, and the AV-IN2 port is connected to the ADAS. Frame rate: 1–25 FPS Resolution: 720p/WD1/D1 (optional) After the disk is full, old videos are replaced with new ones or video recordings are stopped. Audio and videos can be recorded simultaneously.
RS232 port	RS232 EXT	4-pin port, connected to a 4-pin accessory, such as the RFID reader. It is reserved for other customized peripherals, such as the magnetic card reader.



RS232

Pin Number	Description (Meitrack Handset)
1	Power output Output voltage: 5 V
2	Ground wire
3	RXD
4	TXD

1.5.4 I/O Port



Pin Number	Cable Color	Description
1 DC(+)	Red	Positive charge of the power input. Connect to the positive charge of the vehicle battery. Input voltage: 11–36 V. 12 V is recommended.
2 DC(-)	Black	Ground wire. Connect to the negative charge of the vehicle battery or to the negative terminal.
3 (SOS)	White	Digital input 1. Negative trigger (SOS button by default)
4 (GND output)	Black	This interface cannot be used as GNG input. Can only be used as a ground wire output for I-WIRE or INPUT1(SOS keys).
5 (ACC)	White & brown	Digital input 2. Positive trigger Connect to the vehicle's ACC cable by default to detect the vehicle's ACC status.
6 (Analog input 1)	Blue	Analog input 1 with 12-bit resolution. Valid voltage: 0–30 V Connect to an external sensor, such as the fuel level sensor.
7 (Input 3)	White & red	Digital input 3. Positive trigger by default. It can be switched to negative trigger. Connect to the turning left signal light cable.
8 (Analog input 2)	Blue & brown	Analog input 2 with 12-bit resolution. Valid voltage: 0–30 V There is a white plug on this analog input cable, and the cable is connected to the A53 fuel level sensor by default.
9 (Input 4)	White & yellow	Digital input 2. Positive trigger by default. It can be switched to negative trigger. Connect to the turning right signal light cable.
10 (Output 1)	Yellow	Output 1. Low level trigger by default (0 V). Invalid: open collector output Maximum voltage for an open collector output (invalid): 40 V. Maximum current: 500 mA. Allow users to configure it as the high level trigger. Connect to an external relay to remotely cut off the vehicle fuel cable or engine power supply.
11 (Output 2)	Yellow & brown	Output 2 Valid: low level (0 V) Invalid: open collector output Maximum voltage for an open collector output (invalid): 40 V. Maximum current: 500 mA. Allow users to configure it as the high level trigger. Connect to an external relay to remotely cut off the vehicle fuel cable or engine power supply.

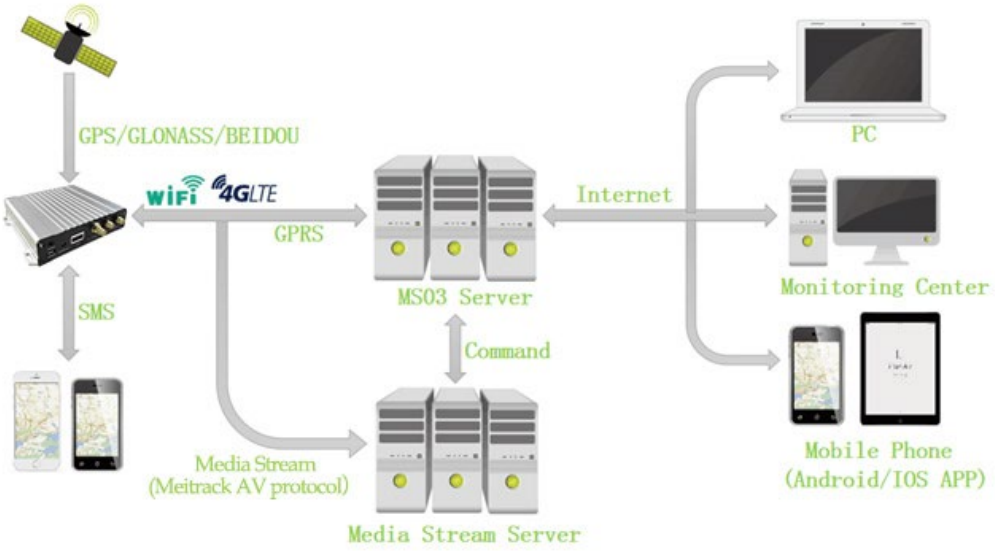
12 (Digital sensor input/iButton)	Green	TTL3.3V level Connect to the A52 digital temperature sensor by default by using the A61 sensor box. It can also be connected to the iButton reader.
13 (CANH)	Orange & white	Connect to a CAN bus peripheral.
14 (CANL)	Orange	Connect to a CAN bus peripheral.

2 How it Works

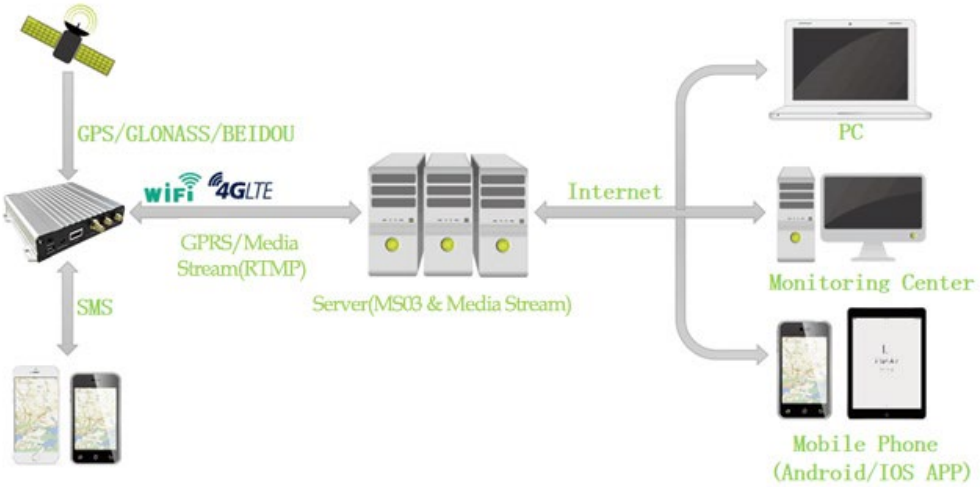
2.1 Working Diagram

The device supports the RTMP (audio and video transmission protocol) and is compatible with Meitrack's private audio and video transmission protocol. There are two communication modes as follows:

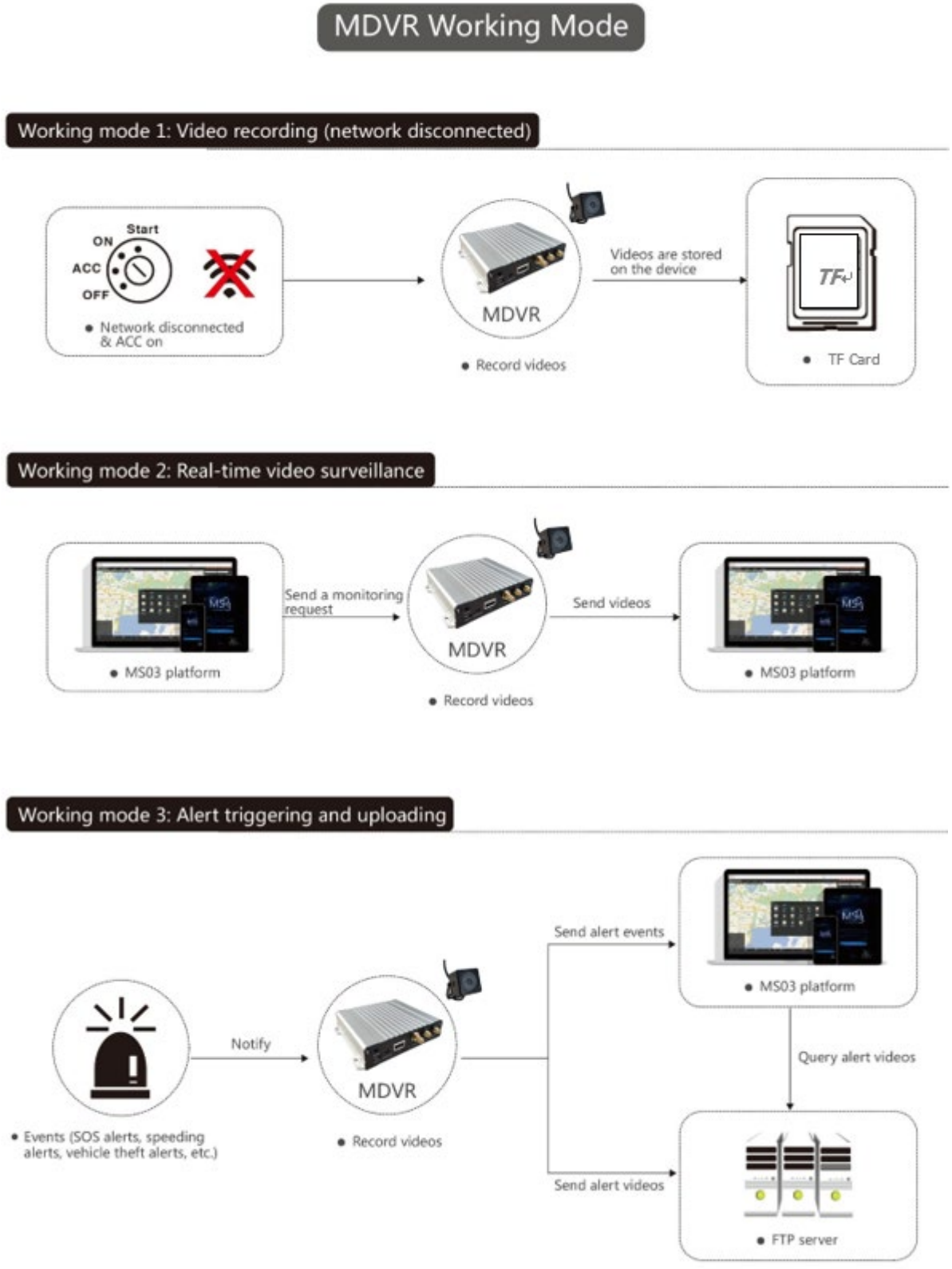
Mode 1: Meitrack GPRS protocol (CCE) + Meitrack's private audio and video transmission protocol

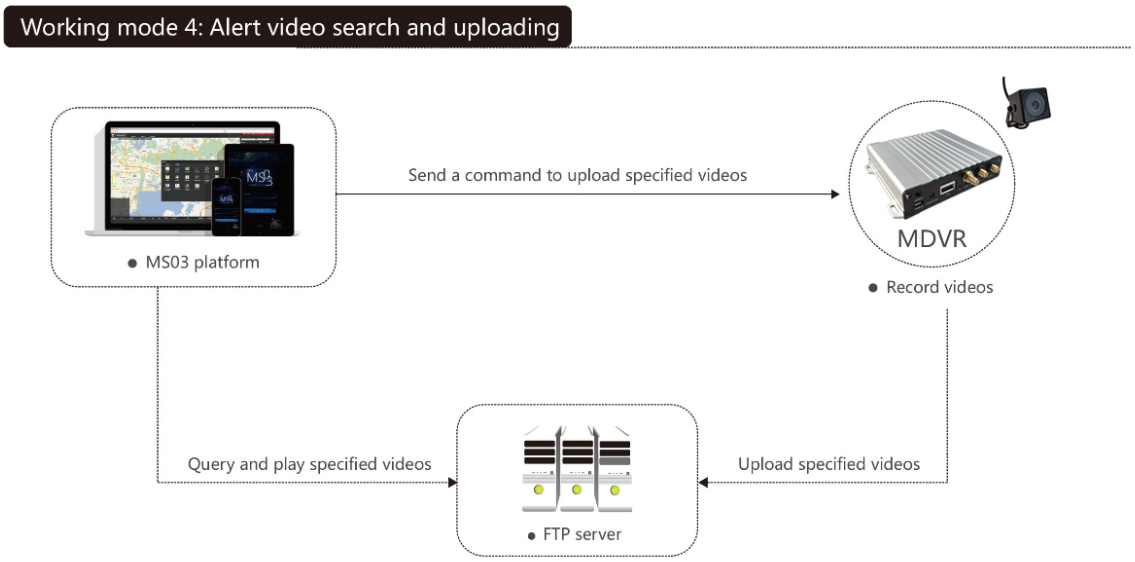


Mode 2: Meitrack GPRS protocol (CCE) + RTMP



2.2 Working Mode





3 Device Installation and Test

This chapter is intended for customers who use the MD500S MDVR for the first time, helping them configure and operate the device, understand the basic functions of the device, and test the device alerts.

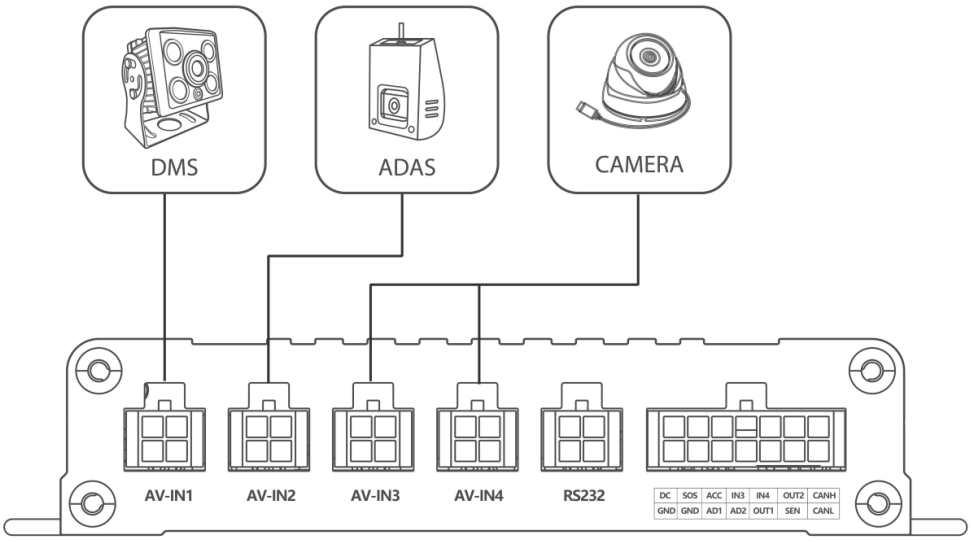
For more information about fast installing and using the MDVR, see the following sections.

3.1 Installing a SIM Card and Micro SD Card

Loosen the screws by using a screwdriver, remove the upper cover, insert the SIM card into the SIM card slot, and install the micro SD card.

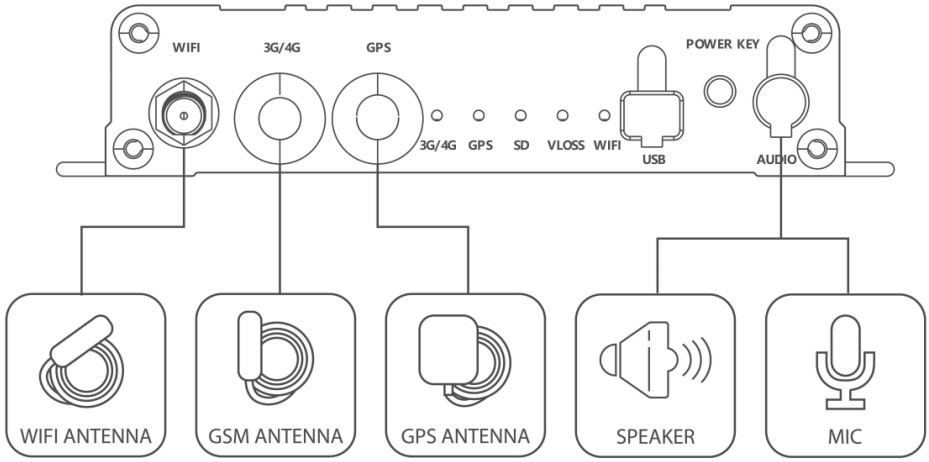
3.2 Installing Cameras

Connect the AV-IN1 port of the device to the camera of the DMS, AV-IN2 port of the device to the camera of the ADAS, AV-IN3 and AV-IN4 ports of the device to AHD cameras as required.

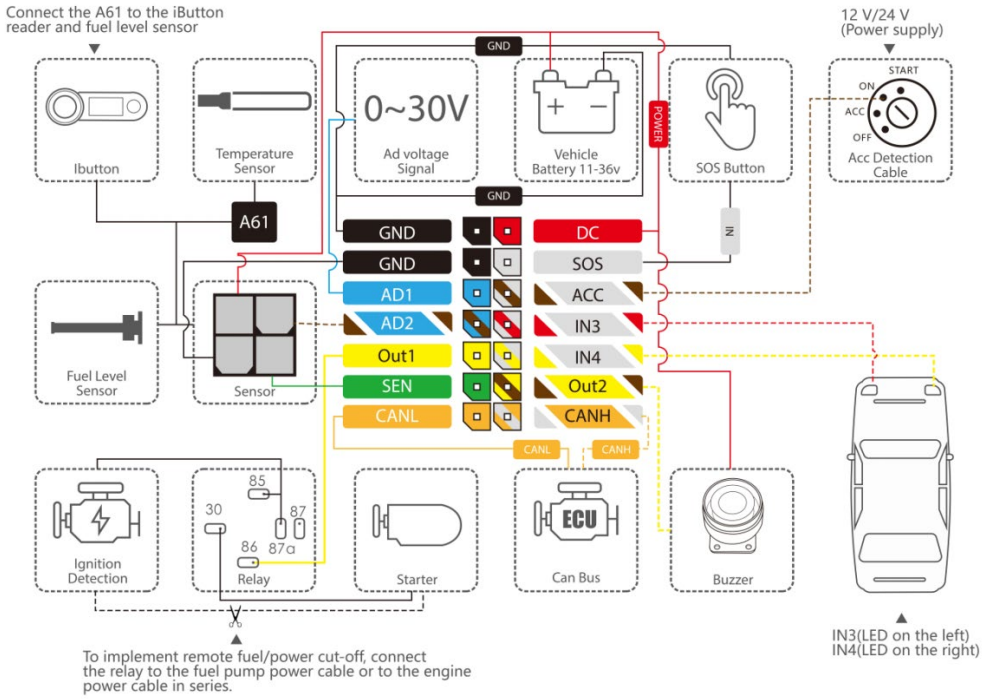


3.3 Installing the I/O Cable, Antennas, Speaker, and Microphone

1. Install the WiFi antenna, GSM antenna, GPS antenna, speaker, and microphone based on the following wiring diagram.



2. Connect to the I/O port based on the following wiring diagram.



Note:

a. The power cable, ground wire, and ACC cable must be connected. When the device detects that the ACC is on, the video system starts operating.

b. Input 3 and input 4 are connected to the turning left and right signal light cables respectively. If not, when the vehicle turns to the left or right, a lane departure alert is generated.

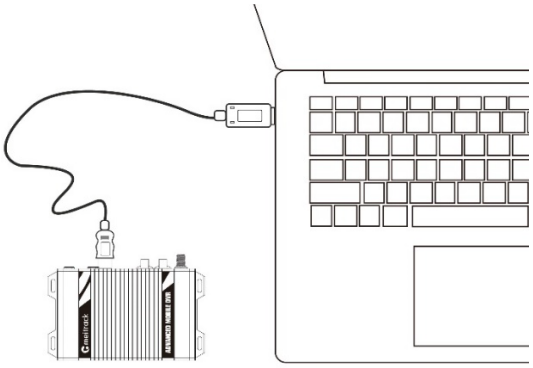
c. The speaker is connected to implement voice broadcasting of the ADAS and DMS, two-way calling, and two-way radio.

d. Please install all accessories first, then connect the GND wire, and finally connect the power wire.

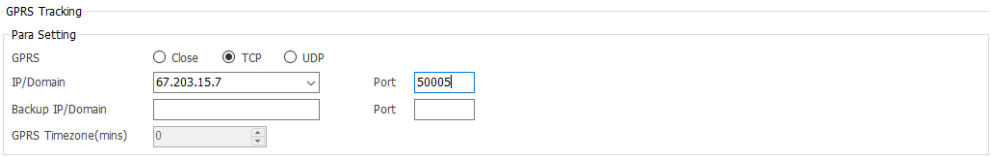
3.4 Setting the IP Address and Port By Using Meitrack Manager

Download link:

https://www.meitrack.com/cd-download/Aided_Software/MMPlusSetup.rar



If Meitack MDVR platform is used, the IP address is set to **67.203.15.7** and port set to **50005**.

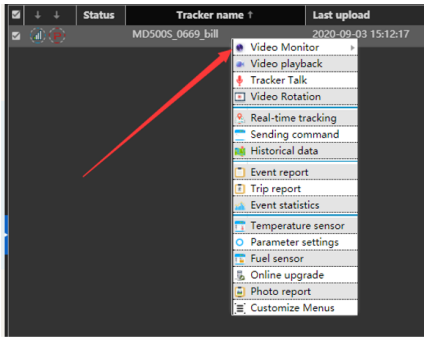


You are not advised to modify the default values of other parameters. For more information about how to configure the IP address and port by using Meitrack Manager, see the *Meitrack Manager User Guide*.

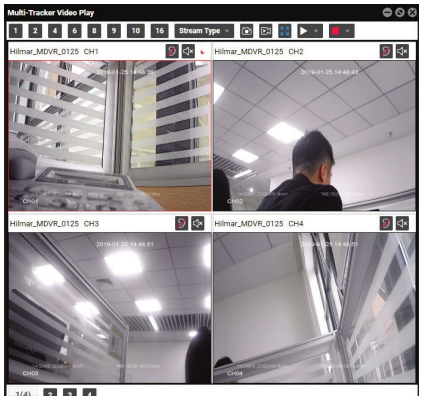
3.5 Platform Function Test

Before testing related DMS and ADAS functions, make sure that the device is online, video preview and two-way calling functions are available, and the device is installed into the vehicle.

Visit the MS03 platform, right-click a device, and select **Video Monitor**.



If images are displayed as follows, it means that the cameras work properly.

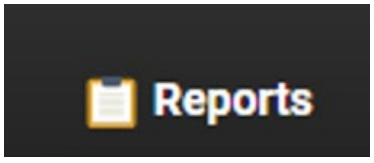


Note: After you purchase devices, please apply to Meitrack sales team for a platform testing account.

3.6 Viewing Alert Photos on the MS03 Platform

Log in to the MS03 platform, and check whether ADAS and DMS alert photos are uploaded to the platform successfully. If pictures are complete and are not lost, the device communication function is normal and tests are passed.

1) On the main interface, choose **Reports**.

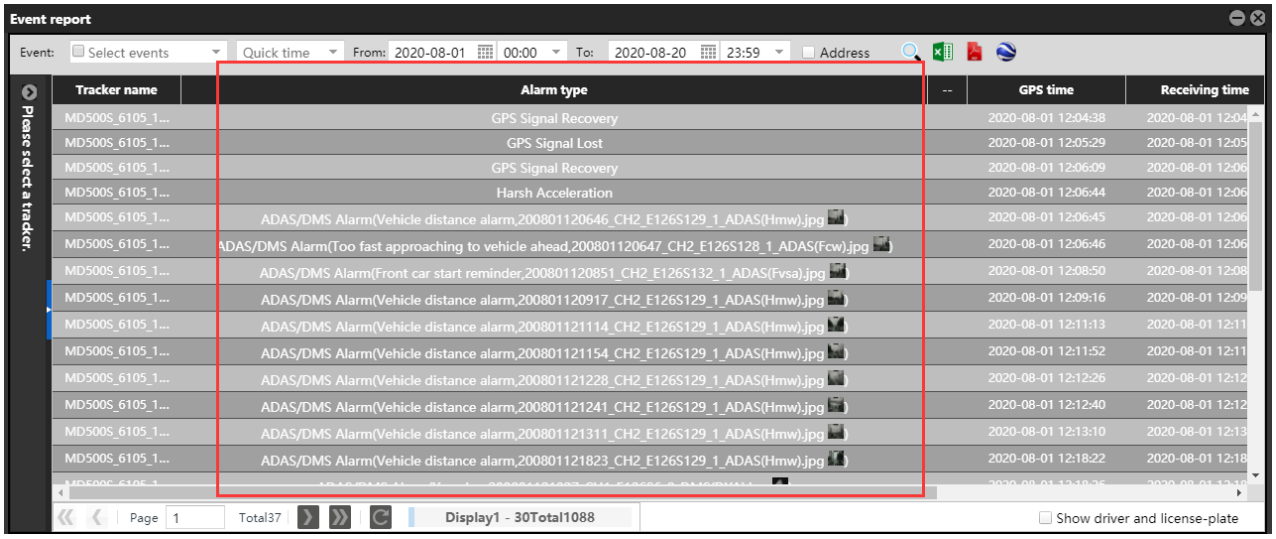


2) On the **Reports** window that is displayed, select **Event report** from **Use Normal**.

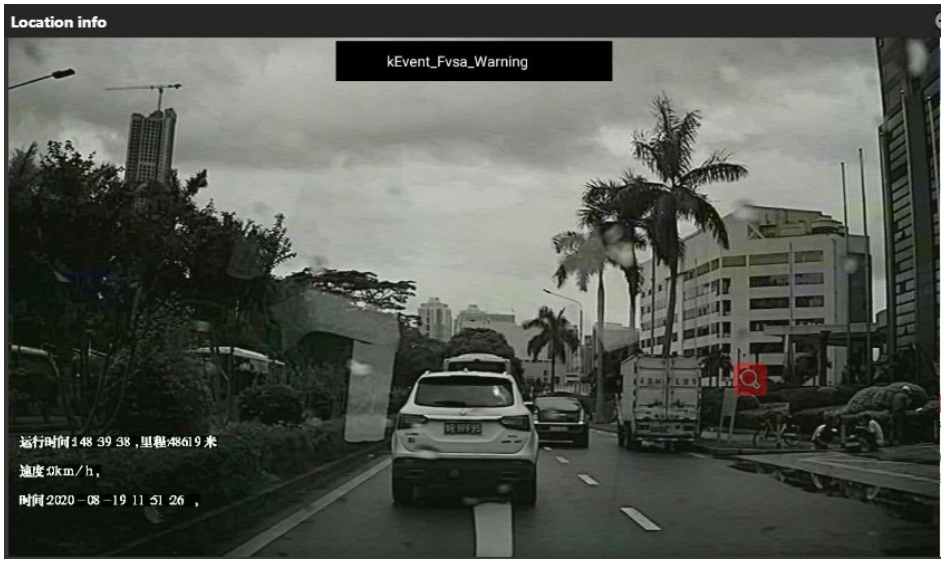
3) On the **Event report** window that is displayed, click the menu arrow on the left. Then the tracker list is displayed.

4) Select a tracker to be queried, set the query time, and click the search icon.

5) Related reports are displayed, as shown in the following figure.



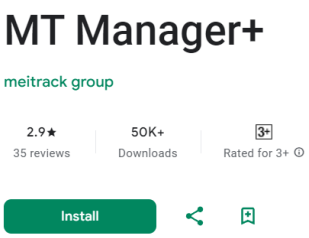
6) Double-click an event. Then a picture captured is displayed.



4 APP Settings

4.1 Download MT Manager + APP

Search for " MT Manager + " APP in the Google Play Store or App Store, download and install.

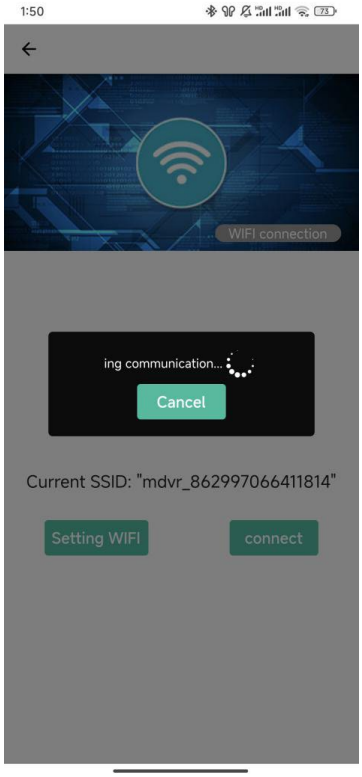


https://apps.apple.com/cn/app/mt-manager/id1640858688		https://play.google.com/store/apps/details?id=com.meitrack.mm.all

4.2 APP Connects to MD500S

Connect to Meitrack Manager to enable the MD500S WiFi hotspot; Enter the name and password of the MD500S WiFi hotspot, then click settings;

Open the WiFi settings interface on your phone and connect to the MD500S WiFi hotspot

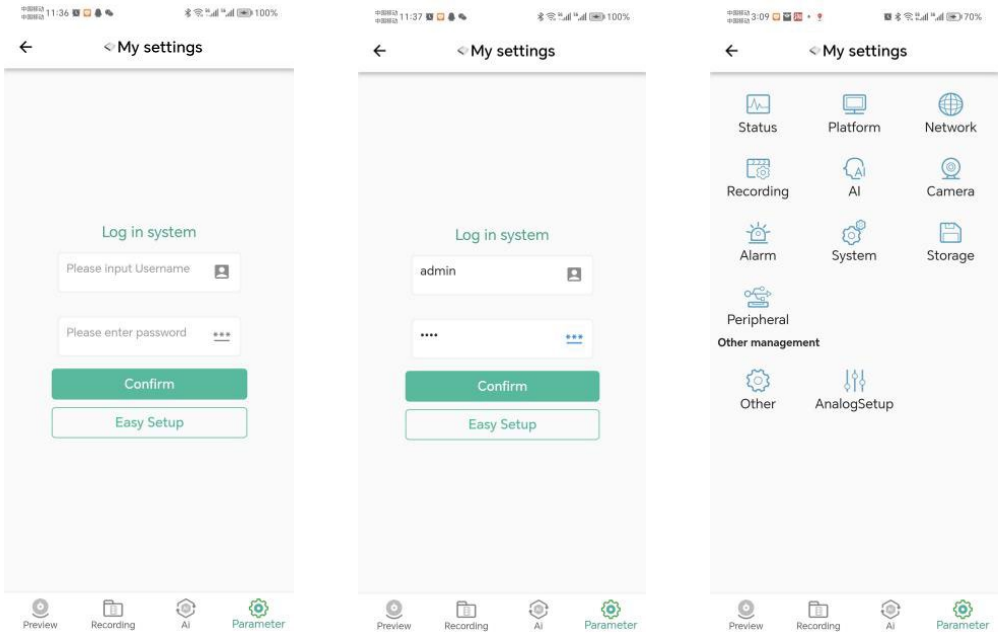


Note:

1. The APP needs to activate ACC when connecting to MD500S.
2. When the device is enabling the WiFi hotspot, it will not be able to use WiFi to upload data.

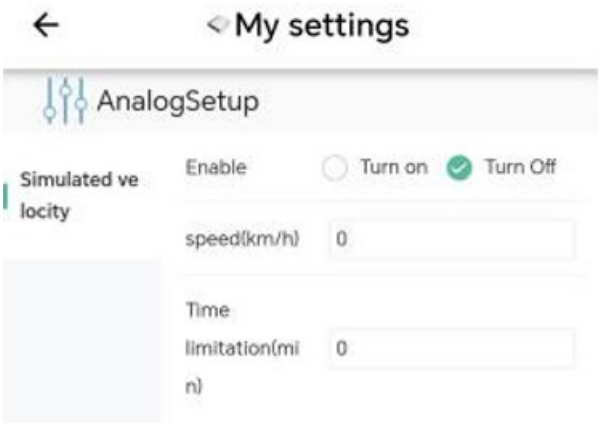
4.3 Configure parameters using MT Manager + APP

Click the icon on the bottom tab bar to switch to the parameter settings interface; Click the account input box and enter admin, with the default password 0000, as shown in the image below:



4.4 Enable simulated speed

For indoor testing of ADAS and DMS, enable simulated speed as shown in the image below;

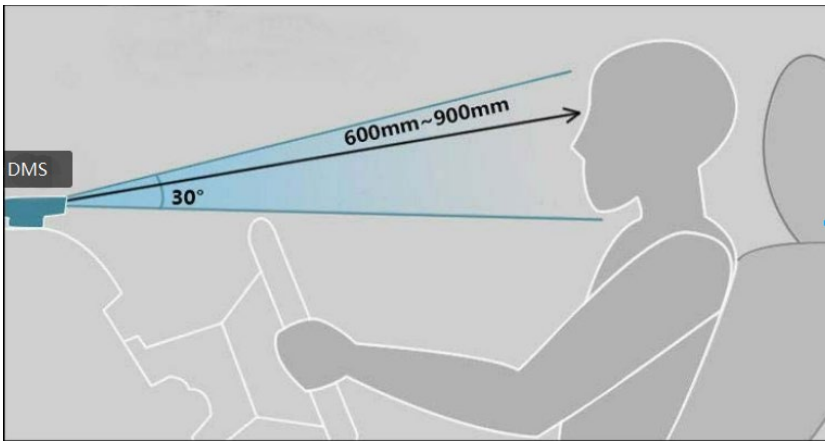


Parameter	Instructions
Enable	Switch option for simulated speed
Speed (Km/h)	The device automatically simulates the current driving speed to trigger certain conditional event feedback.
Duration (min)	The duration for which the simulated speed is enabled to prevent forgetting to turn off the simulated speed, which could lead to false information during use; 0 means the simulated speed is always on and does not turn off;

4.5 Calibrate ADAS and DMS through the APP

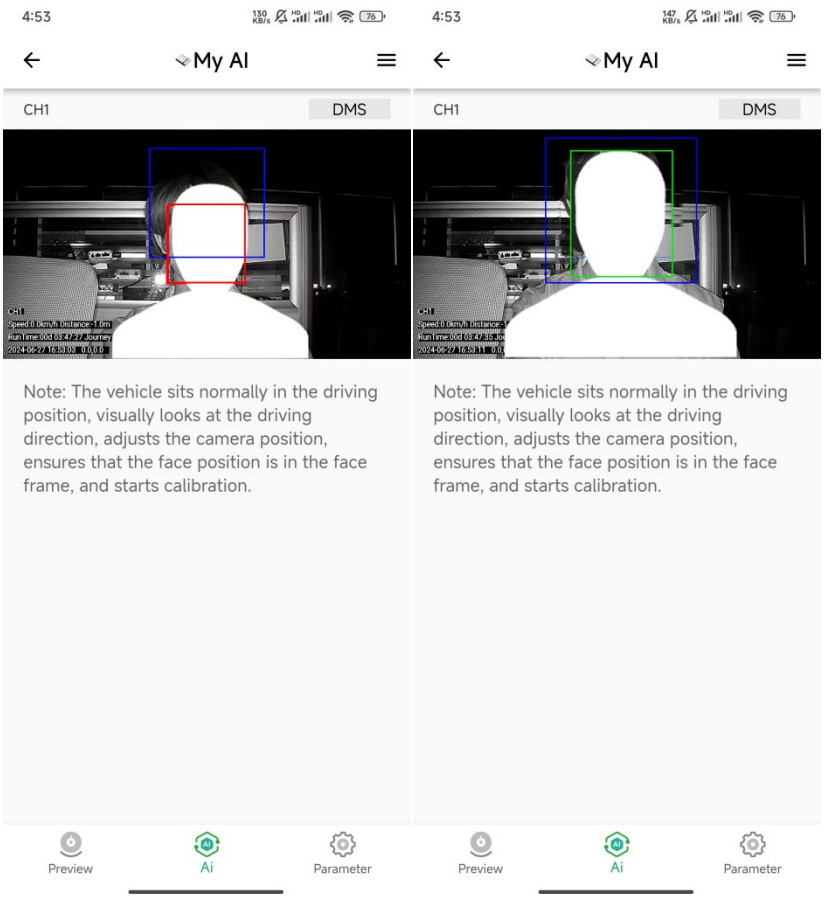
4.5.1 Installation and calibration of the DMS camera

The DMS should be installed as high as possible directly in front of the driver, with an angle not exceeding 30 degrees. The main unit should not be above eye level, but also not lower than 30 degrees below the line of sight. The lens should be 60cm-90cm away from the eyes. Additionally, the maximum horizontal angle should not exceed 30° to the left or right of the driver, as shown in the example image below:



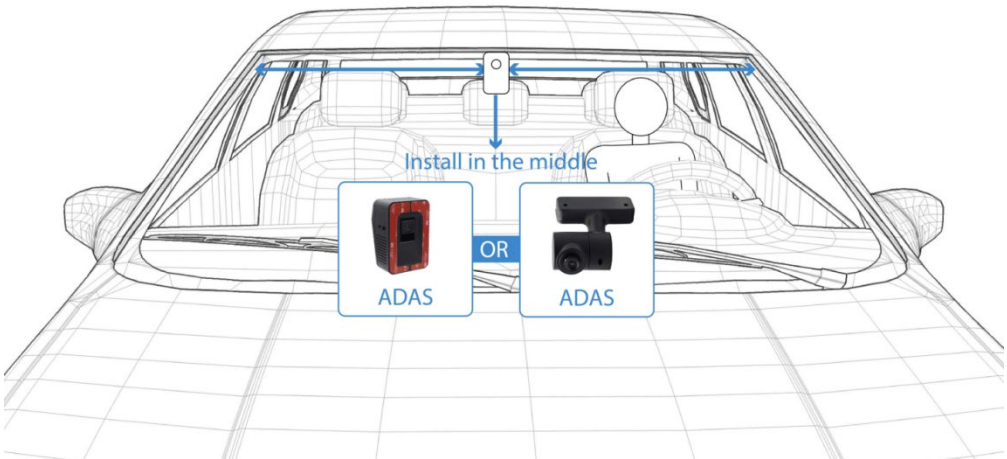
Calibration can be adjusted through MT Manager +, as illustrated in the following image:

The blue box indicates the fixed DMS detection area, the red box indicates a detected face that is out of range, and the green box indicates a detected face that is within range and can be used normally. All major facial features must be fully within the blue box for the face box to be green, indicating successful calibration.



4.5.2 Installation and Calibration of ADAS Camera

It should be installed in the center of the windshield as much as possible without affecting the driver's field of vision. The example image is as follows:



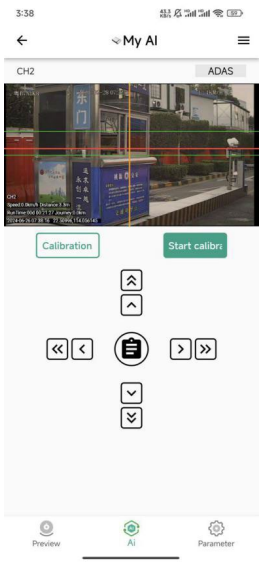
Note: After installation, adjustments and calibrations need to be made through MT Manager + to improve the accuracy of ADAS. There are three methods to calibrate ADAS. Calibration can be performed once the ADAS position is confirmed:

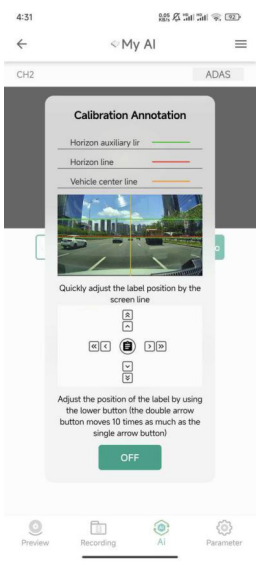
First method: Drag the red horizontal line to the position where the ground disappears (the green line indicates the range), and the

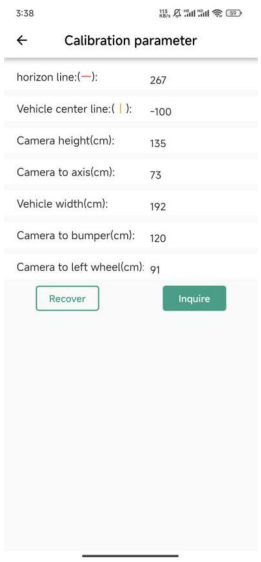
yellow vertical line indicates the position of the road center line.

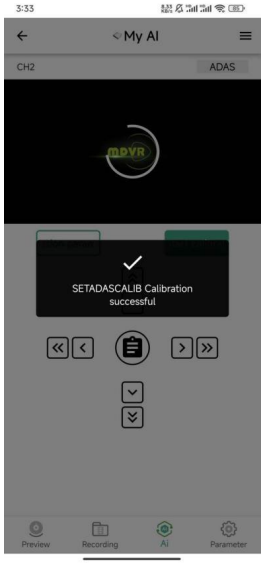
Second method: Click the button to drag the red horizontal line to the position where the ground disappears (the green line indicates the range), and the yellow vertical line indicates the position of the road center line.

Third type: Setting the calibration parameters for ADAS. Note that when modifying the parameter settings, you must manually return using the back button in the upper left corner and click the green start calibration button to confirm the parameters before they will be saved.









5 Introduction to AI Alarm Function

This device uses machine vision technology based on video analysis to automatically identify road risks and unsafe driving behaviors of the driver. Any detected events will trigger an audible alarm to alert the driver in real-time, and these events will also be synchronized to the platform.

Note: The AI function must be calibrated and configured according to the installation operation instructions; otherwise, the accuracy of the AI function may be affected.

5.1 AI Alarm and Trigger Conditions

AI Type	Alarm Type	English Prompt Sound
ADAS	Left lane departure warning	Watch out lane departure
	Right lane departure warning	Watch out lane departure
	Front collision warning	Watch out for the front vehicle
	Pedestrian collision warning	Watch out for pedesitrians
	Too close distance warning	Keep a safe distance
DMS	Smoking	No smoking
	Calling	No phone call
	Distraction Warning	Please face forward
	Fatigue	Attention, drowsiness detected

	Yawning	Please stay awake
	Driver out of position	Please return to the seat
	Seat belt not fastened	Please fasten your seat belt
	Infrared blocking lens	Do not block the DMS IR
	DMS camera covered	Do not block the DMS lens

Trigger conditions and sensitivity

Alarm Type	Trigger speed (Default)	Sensitivity		
		High	Medium	Low
Left lane departure	＞50	Sensitivity: 0.3	Sensitivity: -0.3	Sensitivity: -0.7
Right lane departure	＞50	Sensitivity: 0.3	Sensitivity: -0.3	Sensitivity: -0.7
Forward Collision Warning	＞30	TTC = 4.6s	TTC = 3.6s	TTC = 2.7s
Pedestrian collision warning	＞30	TTD = 3.0s	TTD = 2.5s	TTD = 2.0s
Distance Detection	＞30	TTD = 2.0s	TTD = 1.6s	TTD = 1.2s
Smoking	＞10	Alarm Trigger Duration: 2s	Alarm Trigger Duration: 3s	Alarm Trigger Duration: 4s
Calling	＞10	Alarm Trigger Duration: 2s	Alarm Trigger Duration: 3s	Alarm Trigger Duration: 4s
Distraction Warning	＞10	Alarm Trigger Duration: 2s	Alarm Trigger Duration: 3s	Alarm Trigger Duration: 4s
Drowsiness	＞10	Alarm Trigger Duration: 2s	Alarm Trigger Duration: 3s	Alarm Trigger Duration: 4s
Yawning	＞10	Alarm Trigger Duration: 1.5s	Alarm Trigger Duration: 2s	Alarm Trigger Duration: 3s
Driver Absence Detected	＞10	Alarm Trigger Duration: 2s	Alarm Trigger Duration: 5s	Alarm Trigger Duration: 8s
Seat belt not fastened	＞10	Alarm Trigger Duration: 2s	Alarm Trigger Duration: 5s	Alarm Trigger Duration: 8s
IR block	＞10	Alarm Trigger Duration: 2s	Alarm Trigger Duration: 4s	Alarm Trigger Duration: 6s
DMS camera covered	＞10	Alarm Trigger Duration: 5s	Alarm Trigger Duration: 10s	Alarm Trigger Duration: 15s

5.2 ADAS Function

5.2.1 Lane Left Deviation Alarm

Real-time identification of lane deviation behavior during driving. If there is unintentional lane deviation behavior, the driver will be reminded to ensure driving safety.

Note: The left and right turn signal wires must be connected in the vehicle, and the turn signal must be activated before turning; otherwise, turning may trigger a false lane deviation alarm.

5.2.2 Lane Right Deviation Alarm

Real-time identification of lane deviation behavior during driving. If there is unintentional lane deviation behavior, the driver will be reminded to ensure driving safety.

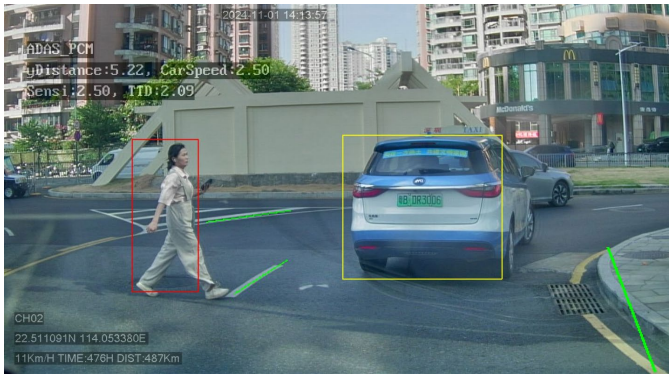
Note: The left and right turn signal wires must be connected in the vehicle, and the turn signal must be activated before turning; otherwise, turning may trigger a false lane deviation alarm.

5.2.3 Front collision warning

Real-time identification of the relative speed between the vehicle and the vehicle in front during driving. The driver will be reminded when a collision is likely to occur, ensuring sufficient emergency braking time.

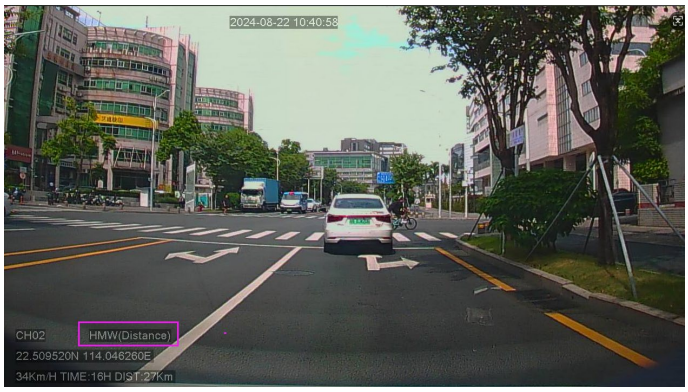
5.2.4 Pedestrian Collision Warning

During driving, real-time identification of pedestrians, bicycles, and motorcycles in front of the vehicle. If there is a potential collision risk, the driver will be reminded to ensure sufficient emergency braking time.



5.2.5 Distance Detection

When the vehicle is moving at low speed, it identifies the relative speed between this vehicle and the vehicle in front. When there is a potential collision risk, it alerts the driver to maintain a safe distance.



5.3 DMS Function

5.3.1 Smoking

Identifies the driver's smoking behavior during driving and issues a warning to ensure driving safety.

Note: Smoking alarms may produce false positives easily. When the driver makes movements similar to smoking, such as resting their chin on their hand or eating and drinking, false alarms may occur. You can collect false alarm videos and provide them to us to optimize the AI algorithm.

5.3.2 Calling

Identifies the driver's mobile phone call behavior while driving and issues a warning to ensure driving safety.

5.3.3 Distraction Warning

Identifies the behavior of the driver not looking at the road ahead (looking around, looking down for something, etc.) and triggers an alarm to ensure driving safety.

5.3.4 Fatigue Driving Alarm (Eyes Closed)

Identifies the driver's fatigue state (eyes closed) and issues a warning to ensure driving safety.

5.3.5 Yawning

Identifies the driver's fatigue state (yawning) and issues a warning to ensure driving safety.

5.3.6 Driver Absence Detected

Detects that the driver may be leaving and issues a voice reminder.

5.3.7 Seat Belt Detection

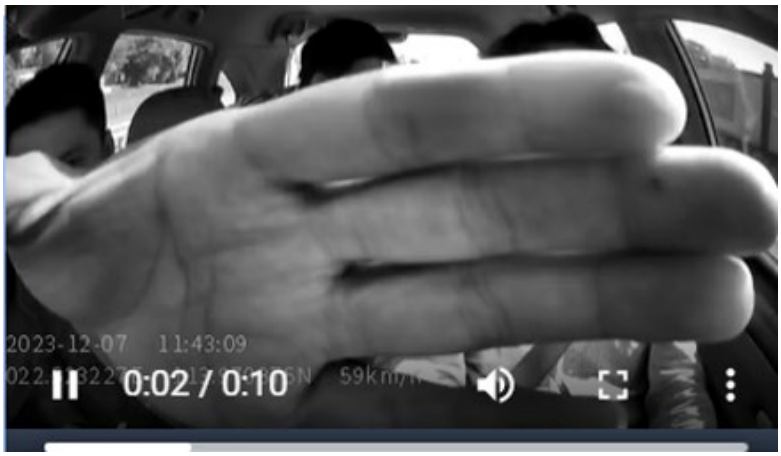
The device identifies the seatbelt status and issues a warning to the driver when the seatbelt is not fastened while driving to ensure driving safety.

5.3.8 IR block

The device has detected that the driver is wearing sunglasses, which prevents it from detecting whether the driver's eyes are closed.

5.3.9 Covered

The device has detected that the DMS camera is covered and will issue a voice warning to the driver.



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