MEITRACK MD833H MDVR
User Guide

Change History

File Name	MEITRACK MD833H MDVR User Guide		
Project	MD833H	Creation Date	2023-05-12 2024-11-17
Subproject	User Guide	Total Pages	34
Version	V1.1	Confidential	External Documentation

1 Copyright and Disclaimer

Document update log

Version	Date	Modifications
1.0	2023-05-12	Initial draft.
1.1	2024-11-17	Add BSD function, 10.1-inch display, sound and light alarm, and other accessories. Add app configuration method. Add AI alarm trigger content.

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 trunk), and also keep 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.

1. **Avoid electric shock and fire**
   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

MD833H is the first solution of its kind that adopts a high-performance AI processing chip, known as AI MDVR, with a dual-system (dual communication channel), highly stable 8-channel AHD, and 1080P high-definition vehicle-mounted hard disk video recorder. It possesses high computing power and can support AI applications such as ADAS,DMS,and BSD. The product is based on a dual system of Linux operating system and MCU OS, incorporating advanced technologies including high-performance H.264/H.265 video compression/decompression, 4G, GPS, WiFi, Bluetooth, power-off data protection, shockproof hard drive, hard drive heating, wide voltage range, and overvoltage protection. It serves as the core product of the next-generation wireless vehicle-mounted video surveillance solution. It is widely used in various fields of mobile video surveillance, such as buses, long-distance coaches, taxis, logistics vehicles, special-purpose vehicles (e.g., armored cash transport vehicles), private cars, and forklifts.

Product features:

- Supports 8 channels of AHD 720P/1080P cameras.
- Embedded with a high-performance AI video processing chip (optional AI video algorithms: ADAS, DMS).
- Supports HDD/SSD and can accommodate a maximum of 2TB hard drives, with a built-in SD card slot (supports up to 512GB).
- Utilizes UPS-like power-off protection technology, allowing it to operate for 3 to 8 seconds in the event of external power disconnection, preventing accidental damage to video files.
- "Plug and play" hard drive installation design, featuring a robust cast aluminum casing.
- Adopts an industrial-grade power chip, supporting a wide range of power input from 11.4V to 36V, suitable for demanding environments.
- Supports high\low temperature environments (the hardware is equipped with high-temperature aging testing and hard drive heating for low-temperature adaptability).
- Supports both local recording and network transmission modes.
- Built-in accelerometer for triggering alarms during abrupt turns, rapid acceleration, sudden deceleration, etc.
- Self-data protection to save data in case of abnormal shutdown.

2 Product Specifications

Power supply	
Rated voltage	DC：11.4V~36V，Rated 12V4A
Power consumption	Start host video function about 8W Daytime: approx. 24W connected to 8-way camera, with display approx. 29W; At night: about 32W for the 8-way camera, with display approx. 37W; Connect a single camera (normal range is 50mA~100mA during the day, 200mA~250mA at night)

AI（Optional）	
AI Video	ADAS、DMS、BSD；

Storage media	
SD Cards & SSD Hard Drives	1 x SATA HDD/SSD and 1 x SD card; capacity: 2TB + 512GB (Note: SD card is not available in TF card with card holder)

System structure

System operation	Dual system operation, dual communication channels (prevent data loss)

Audio and video	
Video input	8 AHD Cameras with D1/720P/1080P arbitrary mixing; Adaptive camera resolution and standard (PAL and NTSC); Up to 8x1080P@15fps live recording;
Video output	1 VGA video output (8Pin aviation plug), default resolution 1280*720. 1 x CVBS aviation plug (level: 1.0Vp-p, impedance: 75Ω); Resolution: PAL 704*576, NTSC 704*480.
Compression standard	H.264/H.265；default：H.264
Image display	Support 1,4,8,9 image display
Audio input	8 channels for camera Mic input, requires camera to support audio; 1 x intercom handle input; 1 x 3.5MM headset input (GSM communication port);
Audio output	1 independent audio isolated output (connected to AV-OUT connector, VGA airhead connector and intercom handle connector) 1 x 3.5MM headphone port output (GSM communication port)
Audio compression	G.726/G.711a/AAC Note: If RTMP is used, G726 cannot be selected for audio. Default AAC
Video Request and Playback	Retrievable playback by channel, video type, stream type and time
Recording method	Simultaneously record the ACC, alert, sound, and video.

Frequency band	
MD833H-E	GSM: B3/B8 WCDMA: B1/B8 LTE-FDD: B1/B3/B7/B8/B20/ B28A
MD833H-A	WCDMA: B2/B4/B5 LTE-FDD: B2/B4/B12
MD833H-AU	GSM: B2/B3/B5/B8 WCDMA: B1/B2/B5/B8 LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B28 LTE-TDD: B40
MD833H-J	WCDMA: B1/B6/B8/B19 LTE-FDD: B1/B3/B8/B18/B19/B26 LTE-TDD: B41
MD833H-G	GSM: B2/B3/B5/B8 WCDMA: B1/B2/B4/B5/B8/B6/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\BLE\GNSS	
WiFi	802.11 b/g/n, 2.4GHz, Supports STA, AP mode;
Bluetooth	Support protocol BLE5.1 Downward compatible；

	Supports master/slave mode, can read Bluetooth accessories, can configure parameters through the APP
Positioning mode	Supports GPS,BD,Glonass dual mode positioning configuration
positional accuracy	2.5m
sensitivity	-162dBm
GNSS antenna	Supports antenna insertion/extraction/short circuit detection

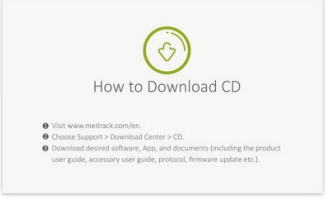
Other	
SPI memory	Built-in 64Mbit for GPRS/SMS/GPS LOG data
Working temperature	Without battery: -20°C to 70°C
Sensors	3-axis acceleration sensor (for detecting vibrations and assisting in determining movement stationary state)
I/O Port	Main line interface: Default support 8 digital inputs (configurable), 3 outputs (configurable), 1 AD (configurable), 1 CAN port, 2 RS485 ports, 5V\12V outputs; Other interfaces: 2 RS232, 1 SENSOR (1-WIRE\AD\5V\GND), 1 PWR (power\GND\ACC) (Please check the definition of the host interface for details)
Dimensions	177*162*63mm
Weight	1900g(excluding hard drives)

Certification
CE certification

Protocol
Meitrack Protocol (CCE) RTMP (Audio Video Transport Protocol, also compatible with meitrack's Audio Video Private Transport Protocol)

3 Main Device and Accessories

3.1 Main Device

MD833H MDVR	Power & ACC cable	CD download card
		

IO cable	Camera splitter（1 to 2）	USB cable
		
Lock key	**Hard disk screw**	**GPS antenna**
		
WiFi antenna	**4G antenna**	**Bluetooth antenna**
		

Standard	Quantity	Remarks
MD833H MDVR	1	
Power & ACC cable	1	3PIN, cable length 20cm
IO cable	1	24PIN, cable length 20cm
Camera splitter（1 to 2）	4	6pin female aviation header to 2 x 4pin male aviation header cable, cable length 20cm
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).
4G antenna	1	
GPS antenna	1	
WIFI antenna	1	
Bluetooth antenna	1	
Hard disk screw	4	
CD download card	1	Neutral packaging not available as standard

3.2 Optional Accessories

3.2.1 MDVR Camera options

AI Camera		
DMS Telescopic Camera (ACP506)	DMS Side-mounted Camera (ACP505)	DMS Camera(ACP503)
		
ADAS Camera(ACP603)	ADAS Wide Dynamic Range Camera (ACP604)	
		
BSD Side-mounted Camera (ACP301)	BSD Overhead Camera (ACP504)	
		
Install the left and right blind areas of the vehicle.	Install blind spots in front and rear of the vehicle	

Waterproof Standard Camera (Outdoor)	
Side-mounted Waterproof Camera 720/1080P (ACA301)	Waterproof Mini Camera 1080P (ACA105)
	

Waterproof Square Camera 720/1080P (ACA501)	Waterproof Square Camera 1080P (ACA503)
	

Non-waterproof Standard Camera (Indoor)
Metal Shell Miniature Snail Camera 720/1080P (ACA303)


Camera extension cable (default: 3M or 5M)


Note: Standard camera cable length is generally 50cm, please adapt the corresponding camera extension cable.

3.2.2 Additional options

Optional Bluetooth external accessory		
Bluetooth temperature and humidity sensor （AST101）	Bluetooth beacon （AB401）	Bluetooth beacon （AB402）
		

Other optional external accessories

A53 Fuel sensor (voltage AD)	A52 digital temperature sensor	Relay	iButton
			
Ultrasonic Fuel Sensor ASUF103 (range 100cm)	Ultrasonic Fuel Sensor ASUF104 (range 250cm)	Ultrasonic Fuel Sensor ASUF105(range 400cm; AD analog)	Ultrasonic Fuel Sensor A76（range 100cm，Without AD analogue）
			
Microphone (A58) + speaker (A57) + connector cable	RFID reader	High temperature batteries(400mA)	Sound and Light Alarm (AAL101)
			
Intercom (A95)	7\10.1 inch VGA display	7 inch CVBS display	UPS Power Supply (APU101)
			

4 About the MDVR

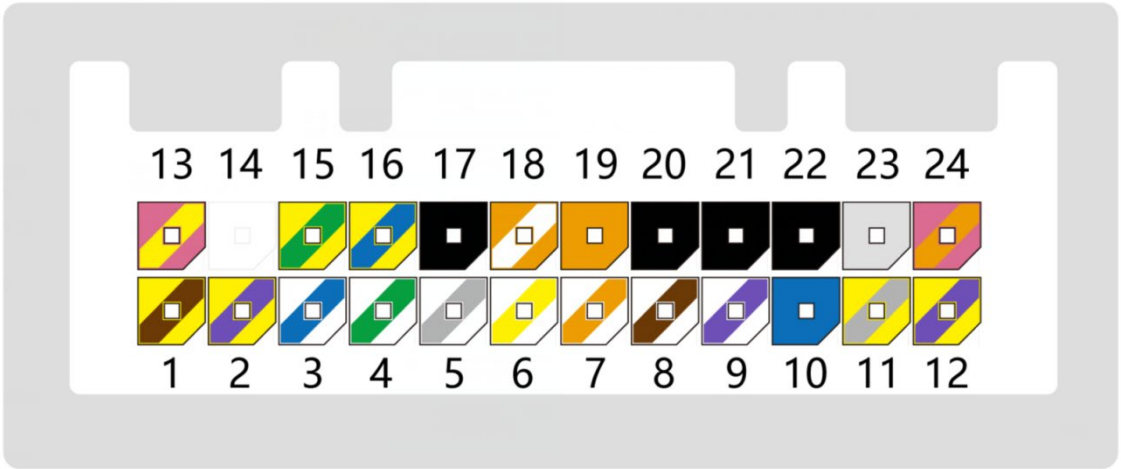
4.1 Appearance

No.	Marker name	Description
①	Screws for fastening the disk enclosure	
②	Hard drive lock	To enable the recording function, ensure that the hard disk is locked after the disk enclosure is installed properly
③	USB	Upgrade interface
④	IR reception	
⑤	Audio	3.5 headphone port, with microphone and speaker for two-way calls and remote listening
⑥	Debug Port	Configure/debug interface
⑦	LED Lights	

No.	Marker name	Description
①	PWR	Input voltage 11.4-36V； yellow line is ACC detection line

		Yellow line is ACC detection line; Red line is the power input line; Black line is GND;
②	BT\4G\GPS\WIFI	BT: Bluetooth antenna interface 4G: 4G network antenna interface GPS:GPS antenna interface WIFI:WIFI antenna interface
③	VGA	VGA video output connector; connect to VGA monitor for audio and video playback
④	AV-OUT	CVBS video output interface; connects to CVBS monitor for audio and video playback
⑤	MIC&SPK	For external voice intercom input/output devices with the monitoring platform
⑥	AV-IN-1~8	AV input for 8 channels of AHD 1080P/720P/D1 cameras
⑦	RS232-1/RS232-2	For external RFID and other devices
⑧	SENSOR	For connection to fuel sensors, temperature sensors, IBUTTON or sensor box A61
⑨	IO&AD&RS485&CAN OUTPUT:5V&12V	default support 8 digital inputs (configurable), 3 outputs (configurable), 1 AD (configurable), 1 CAN interface, 2 RS485 interfaces, 5V/12V outputs;
⑩	ETH	10/100M adaptive Ethernet interface

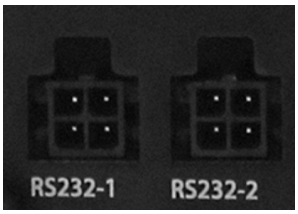
4.2 I/O Port



Pin Number	Label	Color	Function Description
1	OUT1	Yellow/brown	Output control 1. default low level trigger (0V), open drain output (OC) when invalid Output open-drain (invalid) voltage tolerance: 40 volts maximum, 400 mA maximum current Can be set to high level trigger and PWM trigger mode Can be connected to an external relay for remote disconnection of vehicle fuel/engine power etc.

Pin Number	Label	Color	Function Description
2	OUT2	Yellow/Purple	Output control 2. default low level trigger (0V), open drain output (OC) when invalid Output open-drain (invalid) voltage tolerance: 40 volts maximum, 400 mA maximum current Can be set to high level trigger and PWM trigger mode Can be connected to an external relay for remote disconnection of vehicle fuel/engine power etc.
3	IN3/OUT3/AD3	White/blue	Digital input 3, default positive trigger, configurable as negative trigger, or AD3 (0 to 30V) analogue input or OUTPUT3
4	IN4/OUT4/AD4	White/green	Digital input 4, default positive trigger, configurable as negative trigger, or AD4 (0 to 30V) analogue input or OUTPUT4
5	IN5/OUT5/AD5	White/grey	Digital input 5, default positive trigger, configurable as negative trigger, or AD5 (0 to 30V) analogue input or OUTPUT5
6	IN6/OUT6/AD6	White/yellow	Digital input 6, default positive trigger, configurable as negative trigger, or AD5 (0 to 30V) analogue input or OUTPUT6
7	IN7/OUT7	White/Orange	Digital input 7, default positive trigger, can be configured to negative trigger, or OUTPUT7
8	SPEED_IN	White/brown	Connect speed signal wire
9	IN8/OUT8	White/Purple	Digital input 8, default positive trigger, can be configured to negative trigger, or OUTPUT8
10	AD1	Blue	12-bit analogue input 1 with valid input voltage values of 0-30V For connection of external sensors, e.g. fuel sensor
11	RS485_1B-	Yellow/grey	485-Signal (MCU)
12	RS485_1A+	Yellow/Purple	485+ signal (MCU)
13	DC_5V	Pink/yellow	5V DC output; MAX current 750MA, software controllable shutdown
14	None	None	None (reserved)
15	RS485_2B-	Yellow/green	485-signal (RS485 interface).
16	RS485_2A+	Yellow/blue	485+ signal (RS485 interface)
17	GND	Black	Ground line
18	CAN_L	Orange/White	For connection of CANBUS peripherals
19	CAN_H	Orange	For connection of CANBUS peripherals
20	GND	Black	Ground line
21	GND	Black	Ground line
22	GND	Black	Ground line
23	SOS/IN1	White	Emergency alarm input line Digital input 1, configurable for positive and negative triggering (default is SOS button, negative trigger)
24	DC_12V	Pink/Orange	12V DC output; MAX current 1.35A, software controllable shutdown

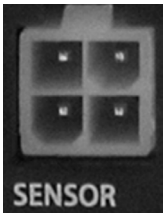
4.3 RS232



1 5V(+)	3 RX
2 GND(-)	4 TX

Pin Number	Description
1	Power output Output voltage: 5 V
2	Ground wire
3	RX
4	TX

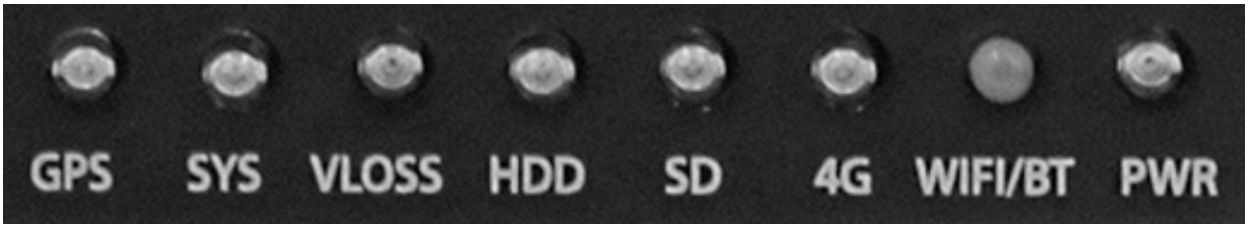
4.4 SENSOR



1 12V(+)	3 AD2
2 GND(-)	4 1-WIRE

Pin Number	Description
1	Power output Output voltage: 12V
2	Ground wire
3	12-bit analogue input 1 with valid input voltage values of 0-30V For connection of external sensors, e.g. fuel sensor
4	TTL3.3V level Connect to the A52 digital temperature sensor or iButton by default by using the A61 sensor box.

5 LED Lights



Identifier	Indicative	Color	Status	Description

	meaning			
GPS	GPS LED indicator	Blue	Steady on	A button or an input is triggered.
			Blink fast (once every 0.1 seconds)	The MDVR 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.
SYS	Network status LED indicator	Green	Steady on	There is an incoming call, or the subscriber you dialed is busy now.
			Blink fast (once every 0.1 seconds)	The MDVR 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).
VLOSS	Video lost LED indicator	Red	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.
HDD	Hard disk LED indicator	Green	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	Green	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 and no data is written into the SD card.
			Steady off	No SD card is detected.
4G	4G LED indicator	Green	Blink suddenly (once every 5 seconds; indicator on: 100 ms)	There is a 4G module, but no data is sent.
			Blink fast	4G data is sent and received normally.
			Steady off	There is no 4G module.
WIFI/BT	WIFI/BT LED indicator	Green	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.
PWR	Power LED indicator	Red	Steady on	The ACC is on and the device is locked.
			Steady off	The ACC is off and the device is unlocked.

6 Fast Installing

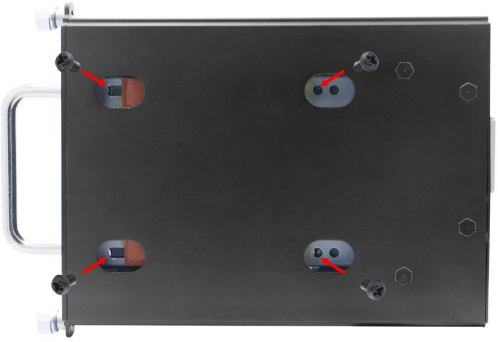
Perform the following 5 steps to fast install:

1) Loosen the screws, insert the key to open the hard disk lock, pull out the disk enclosure, and install a hard disk.
2) Insert the SIM card into the SIM card slot. (You will see the card slot after pulling out the hard disk.)
3) Install an SD card as required.
4) Connect four cameras, the display, handset, GSM antenna, WiFi antenna and GPS antenna,Bluetooth antenna
5) Connect the power cable

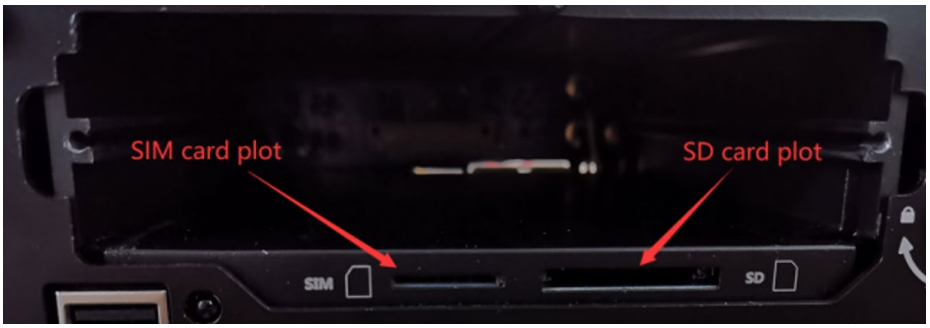
6.1 Installing the MDVR

(1) Loosen the screws, insert the key to open the hard disk lock, and pull out the hard disk. (If the MDVR does not have a hard drive installed, please install the hard drive yourself.)

(2) Open the upper cover of the disk enclosure by using a screwdriver, and then install a hard disk.



(3) Install a SIM card and a SD card, and then lock the hard disk. (**Note: You must use the key to lock the hard disk after putting the hard disk back. Otherwise, the MDVR cannot be started.**)



(4) Connect eight cameras, the display, handset, GPS antenna, GSM antenna, WiFi antenna, Bluetooth antenna and power cable.

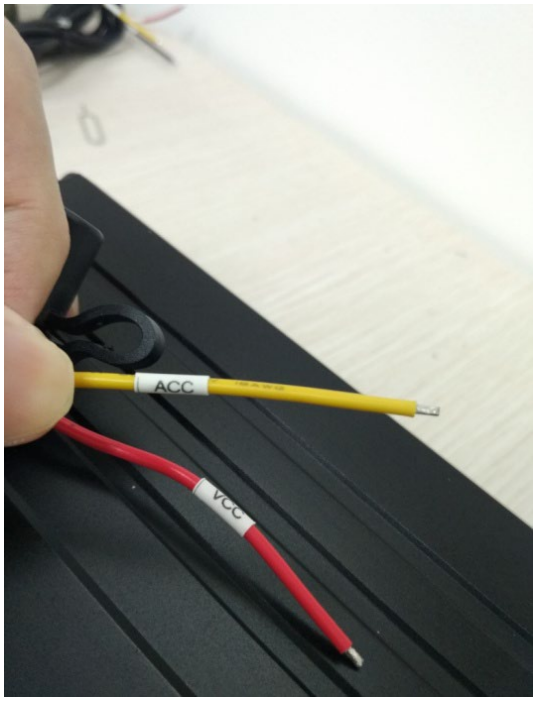
Plug the power cable into the PWR interface.

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

Connect the display to the AV-OUT interface or the handset to the MIC&SPK interface.

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

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



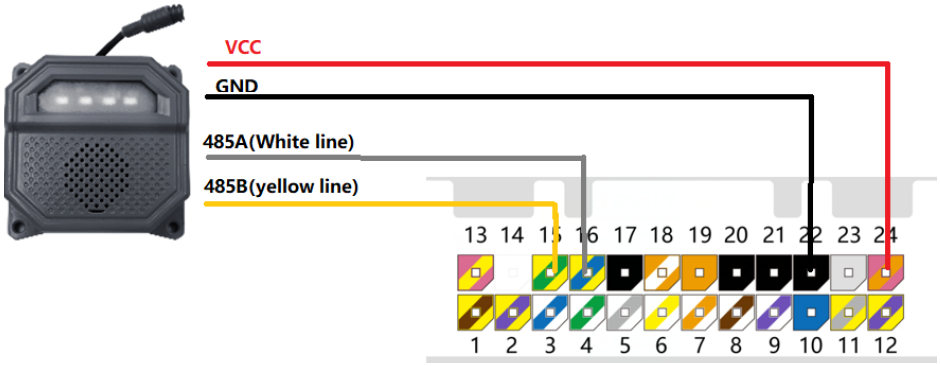
(6) After the external power supply is connected, the initialized MDVR will automatically record videos, and the display will be turned on automatically and play live videos.

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

7 Other Accessories Installation

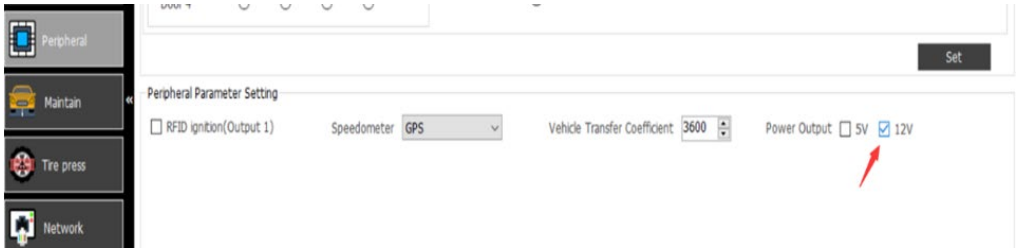
7.1 Install Sound and Light Alarm

Please install the sound and light alarm and MD833H according to the connection diagram below.

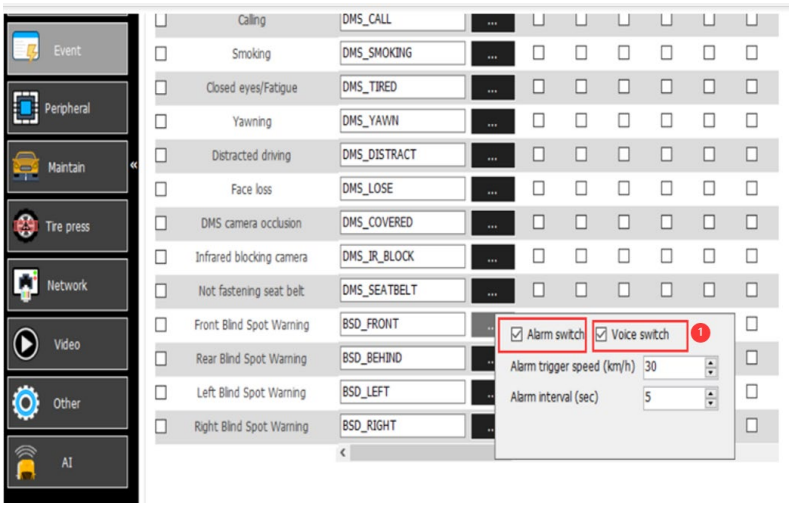


15	RS485_2B-	Yellow/green	485-signal (RS485 interface).
16	RS485_2A+	Yellow/blue	485+ signal (RS485 interface)

After confirming that the I/O wiring is correctly connected to the sound and light alarm, turn on the 12V power supply through Meitrack Manager.



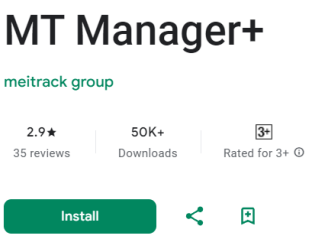
With event authorization, turn on the BSD alarm switch and sound switch, as well as set the alarm time and trigger the "less than speed" value.



8 APP Settings

8.1 APP 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

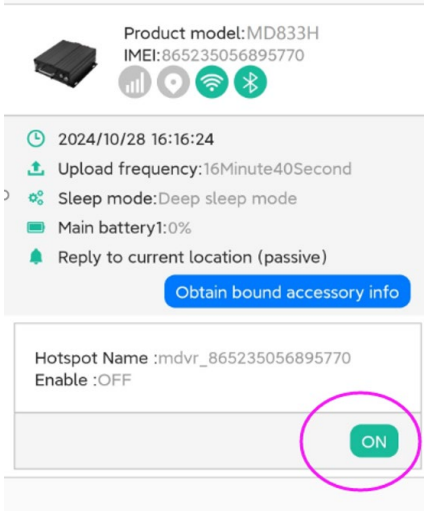
8.2 APP Connects to MD833H

8.2.1 Enable Device Wi-Fi Hotspot via Meitrack Manager

Connect to Meitrack Manager to enable the MD833H WiFi hotspot; Enter the name and password of the MD500S WiFi hotspot, then click settings;

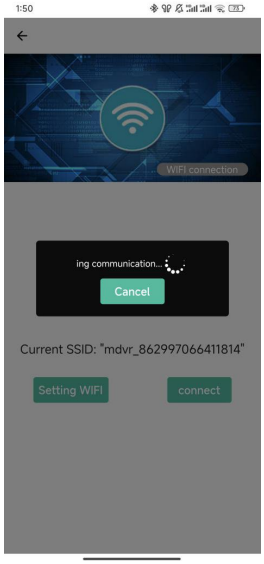
8.2.2 Enable Device Wi-Fi Hotspot via MT Manager+

As shown in the picture below, click on the Bluetooth function in the app, search for the device's Bluetooth through the app, and connect to it to enable the Wi-Fi hotspot function.



8.2.3 Enter Configuration Center by Connecting to Device Wi-Fi Hotspot via MT Manager +

Open the WiFi settings interface on your phone and connect to the MD833H WiFi hotspot

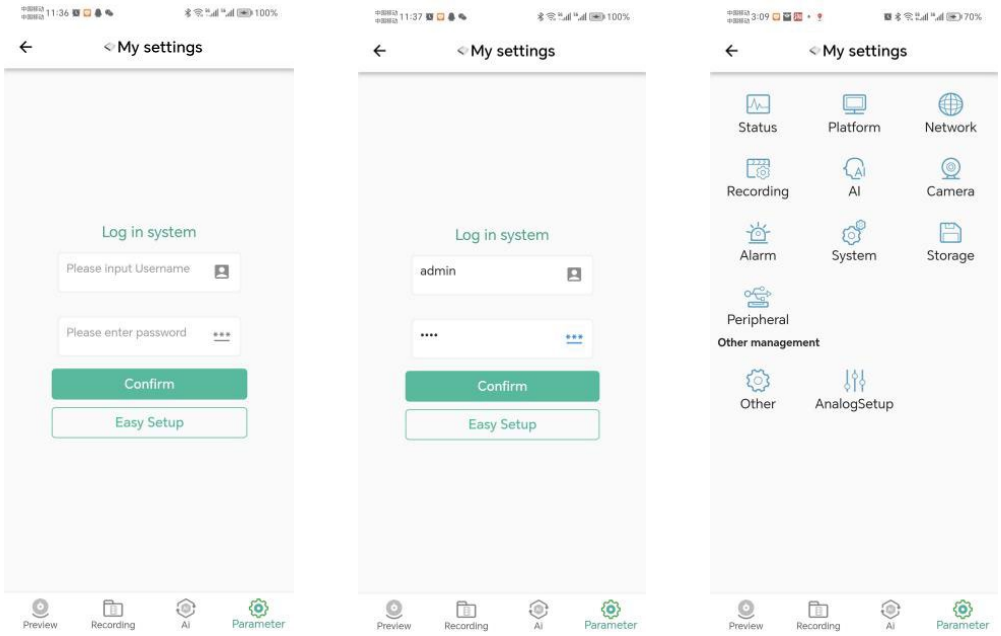


Note:

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.

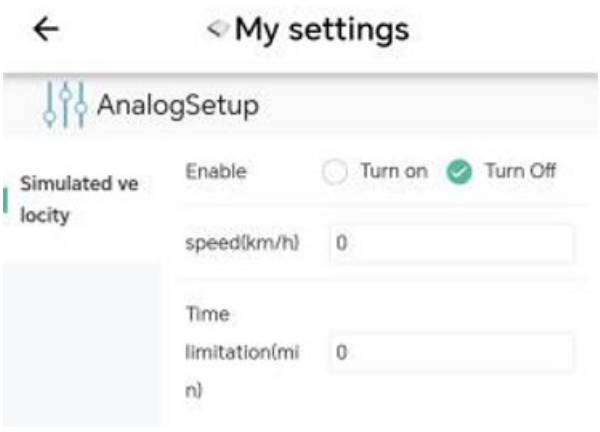
8.3 Configure parameters using MT Manager + APP

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:



8.4 Enable simulated speed

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



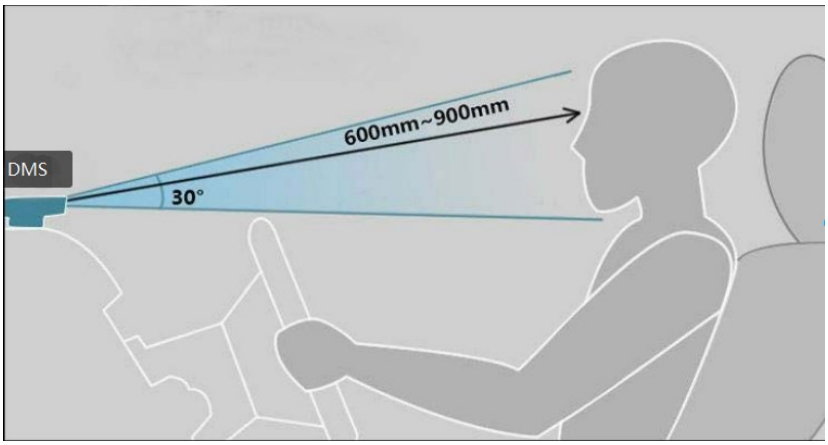
Parameter	Instructions
Enable	Switch option for simulated speed
Speed (Km/h)	The device automatically simulates the current driving speed to trigger certain conditional event feedback.
Duration (min)	The duration for which the simulated speed is enabled to prevent forgetting to turn off the simulated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

8.5 Calibrate ADAS and DMS through the APP

8.5.1 Installation and calibration of the DMS camera

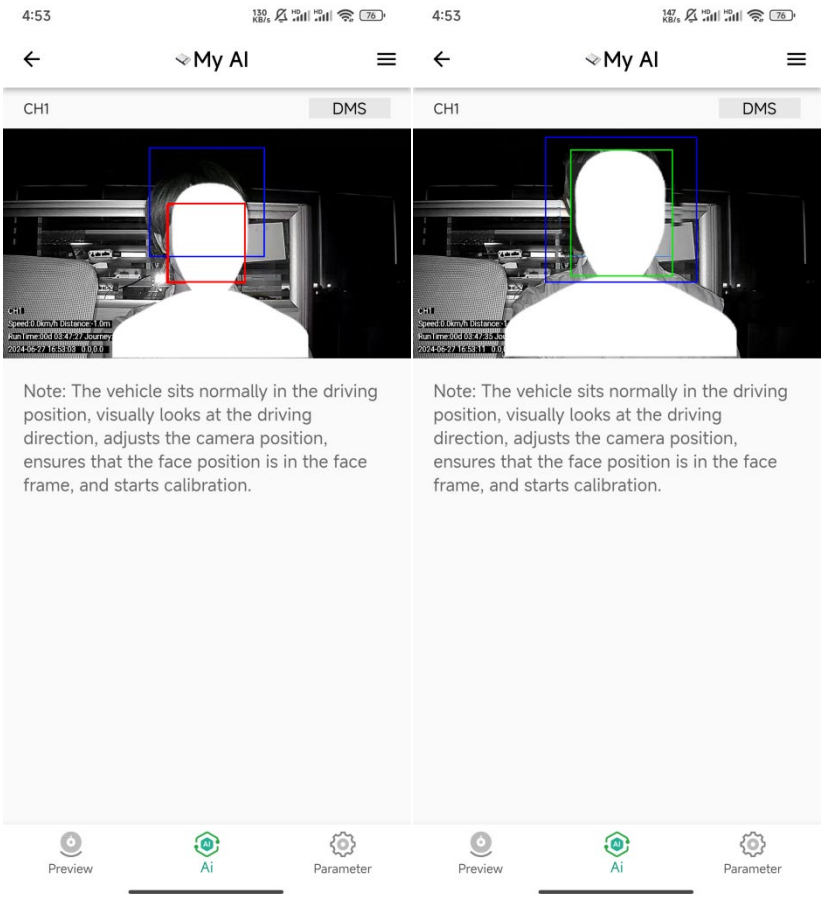
The DMS should be installed as high as possible directly in front of the driver, with an angle not exceeding 30 degrees. The main unit should not be above eye level, but also not lower than 30 degrees below the line of sight. The lens should be 60cm-90cm

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:

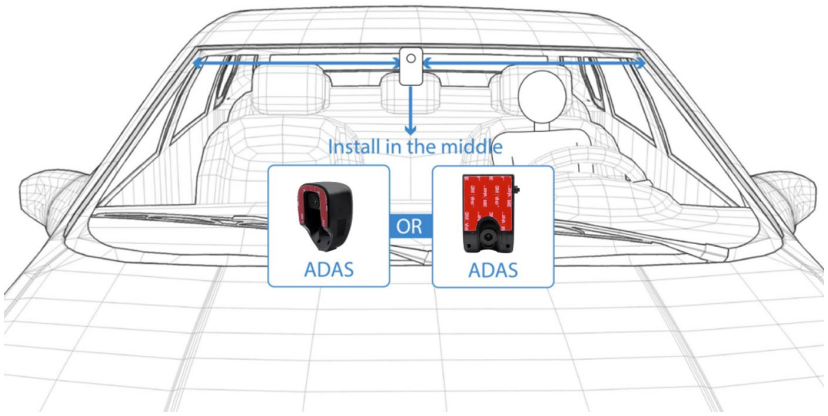
The blue box indicates the fixed DMS detection area, the red box indicates a detected face that is out of range, and the green box indicates a detected face that is within range and can be used normally. All major facial features must be fully within the blue box for the face box to be green, indicating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



Note: The app is only used during the actual installation to adjust the camera, aiming to get as close as possible to the calibration position, which helps the AI algorithm achieve optimal accuracy.

8.5.2 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:



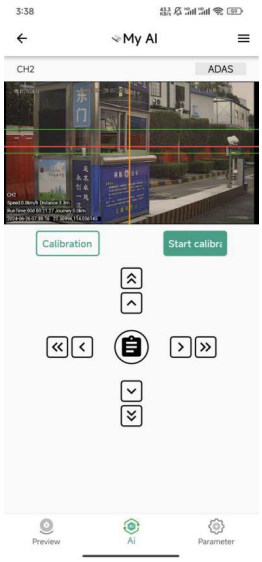
Note: After installation, adjustments and calibrations need to be made through MT Manager + to improve the accuracy of ADAS.

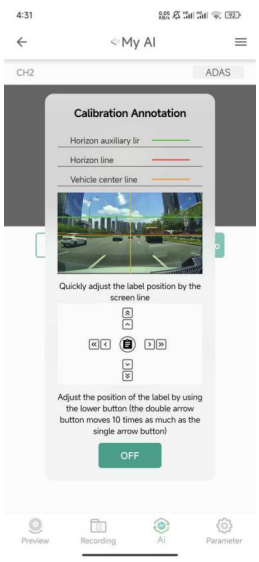
There are three methods to calibrate ADAS. Calibration can be performed once the ADAS position is confirmed:

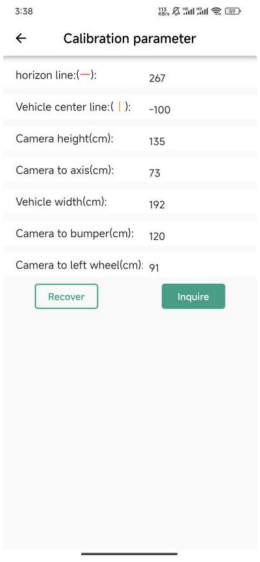
First method: Drag the red horizontal line to the position where the ground disappears (the green line indicates the range), and the yellow vertical line indicates the position of the road center line.

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.



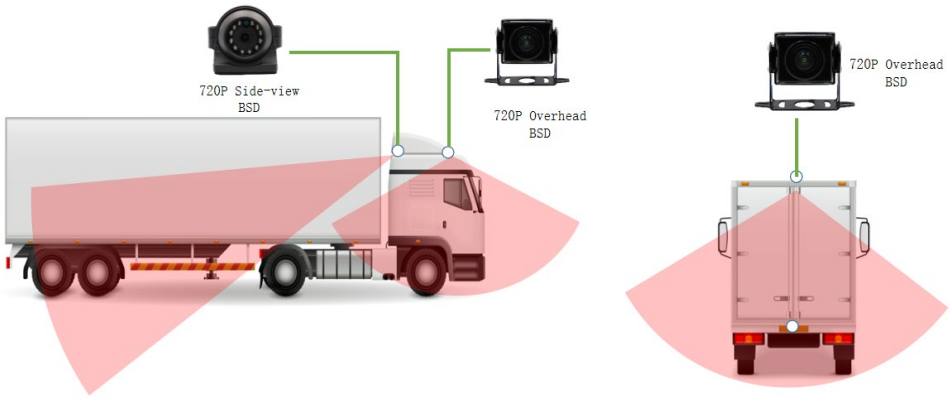




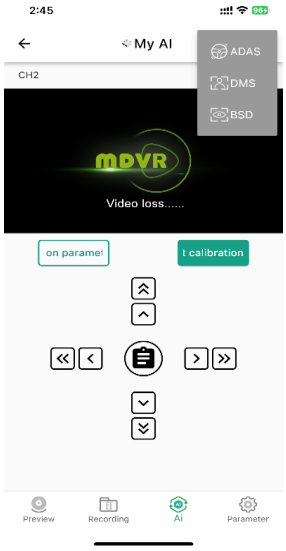
Note: If the ADAS parameter settings differ significantly from the actual values, it will affect the accuracy of the ADAS.

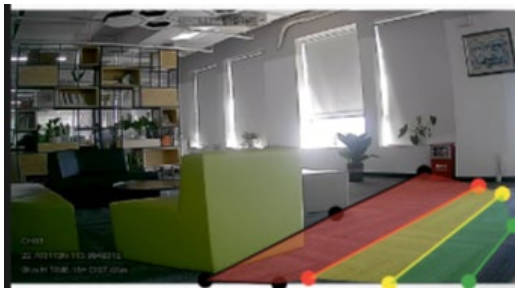
8.5.3 Installation and Calibration of BSD Camera

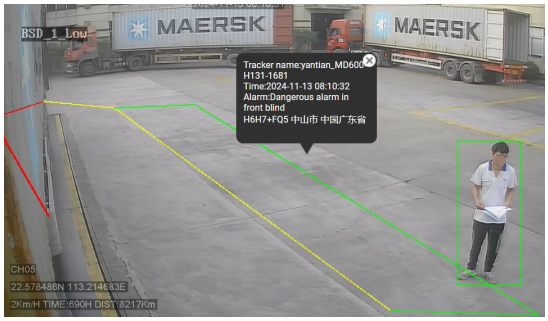
The BSD camera is divided into front-facing and downward-facing cameras. The side-mounted cameras are used for pedestrian detection when detecting left or right rear tire turns. The downward-facing camera is used for detecting front, rear, or left-right blind spots.



After connecting to the app, select BSD and set the corresponding detection area.



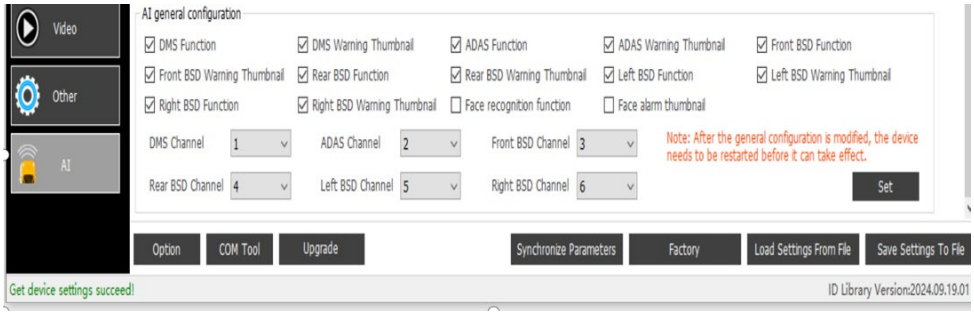




Note: The BSD alarm is triggered only when the speed is below 30 km/h by default.

Notes:

The AI algorithm can be enabled or disabled through Meitrack Manager.



9 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.

9.1 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
BSD	BSD-Front	danger, pedestrian ahead
	BSD-Behind	danger, pedestrian behind
	BSD-Left	danger, pedestrian on the lift
	BSD-Right	danger, pedestrian on the right

Trigger conditions and sensitivity

Alarm Type	Trigger speed (Default)	Sensitivity		
		High	Medium	Low
Left lane departure	> 50	Sensitivity: 0.3	Left lane departure	> 50
Right lane departure	> 50	Sensitivity: 0.3	Right lane departure	> 50
Forward Collision Warning	> 30	TTC = 4.6s	Forward Collision Warning	> 30
Pedestrian collision warning	> 30	TTD = 3.0s	Pedestrian collision warning	> 30
Distance Detection	> 30	TTD = 2.0s	Distance Detection	> 30
Smoking	> 10	Alarm Trigger Duration: 2s	Smoking	> 10
Calling	> 10	Alarm Trigger Duration: 2s	Calling	> 10
Distraction Warning	> 10	Alarm Trigger Duration: 2s	Distraction Warning	> 10
Drowsiness	> 10	Alarm Trigger Duration: 2s	Drowsiness	> 10
Yawning	> 10	Alarm Trigger Duration: 1.5s	Yawning	> 10
Driver Absence Detected	> 10	Alarm Trigger Duration: 2s	Driver Absence Detected	> 10
Seat belt not fastened	> 10	Alarm Trigger Duration: 2s	Seat belt not fastened	> 10
IR block	> 10	Alarm Trigger Duration: 2s	IR block	> 10
DMS camera covered	> 10	Alarm Trigger Duration: 5s	DMS camera covered	> 10
BSD	＜30	Currently, the high, medium, and low sensitivity levels are the same.		

9.2 ADAS Function

9.2.1 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.

9.2.2 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.

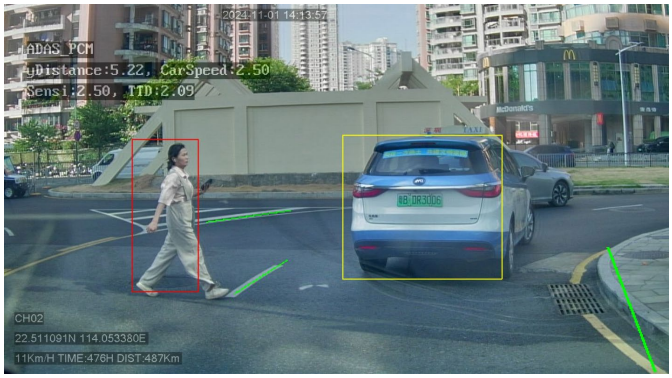
Note: The left and right turn signal wires must be connected in the vehicle, and the turn signal must be activated before turning; otherwise, turning may trigger a false lane deviation alarm.

9.2.3 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.

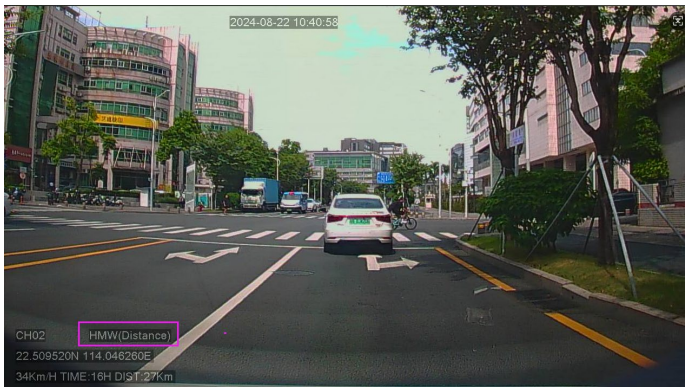
9.2.4 Pedestrian Collision Warning

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.



9.2.5 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.



9.3 DMS Function

9.3.1 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.

9.3.2 Calling

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

9.3.3 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.

9.3.4 Fatigue Driving Alarm (Eyes Closed)

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

9.3.5 Yawning

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

9.3.6 Driver Absence Detected

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

9.3.7 Seat Belt Detection

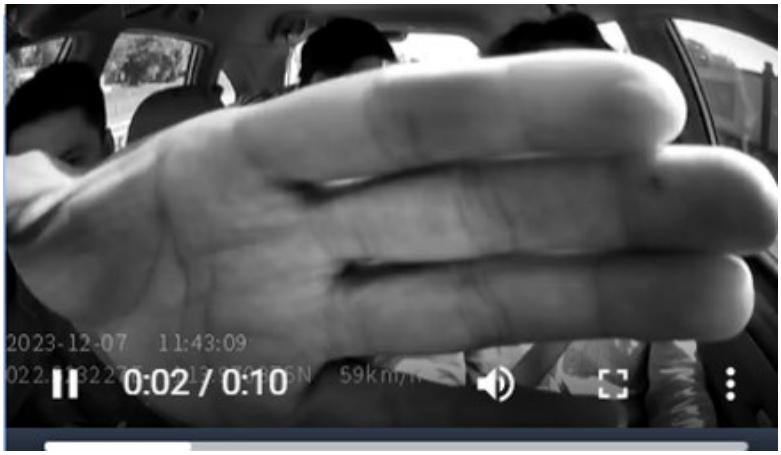
The device identifies the seatbelt status and issues a warning to the driver when the seatbelt is not fastened while driving to ensure driving safety.

9.3.8 IR block

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

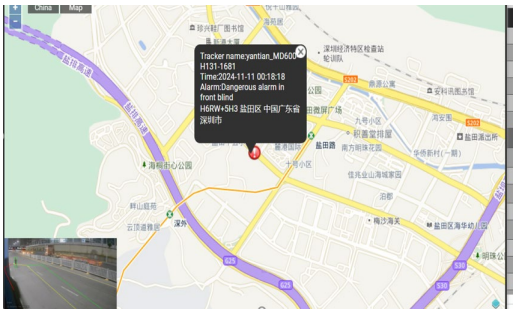
9.3.9 Covered

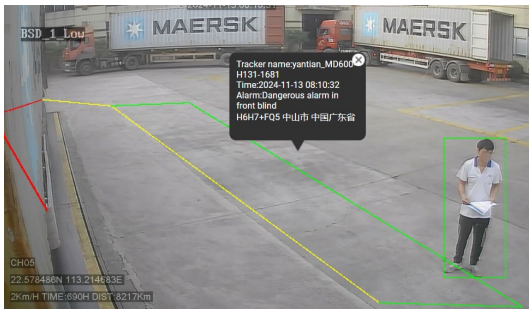
The device has detected that the DMS camera is covered and will issue a voice warning to the driver.



9.4 BSD

When the device detects a pedestrian in the BSD detection area, it will trigger the BSD blind spot alarm.





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