

4G AI MDVR Guide Manual

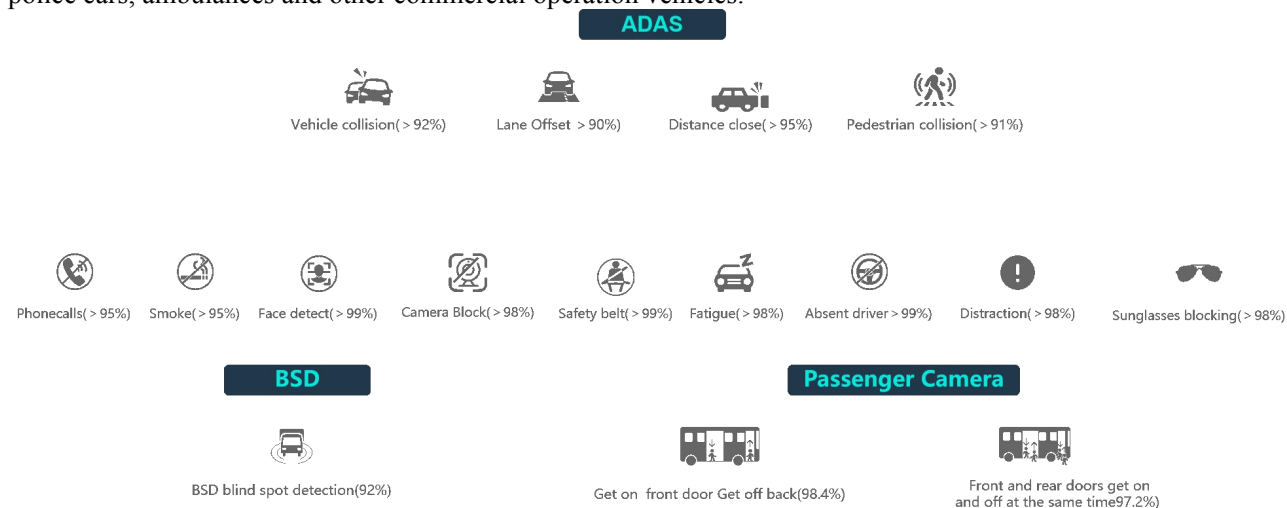
1. Commercial vehicle operation status

There are the following problems in the operation of commercial vehicles:

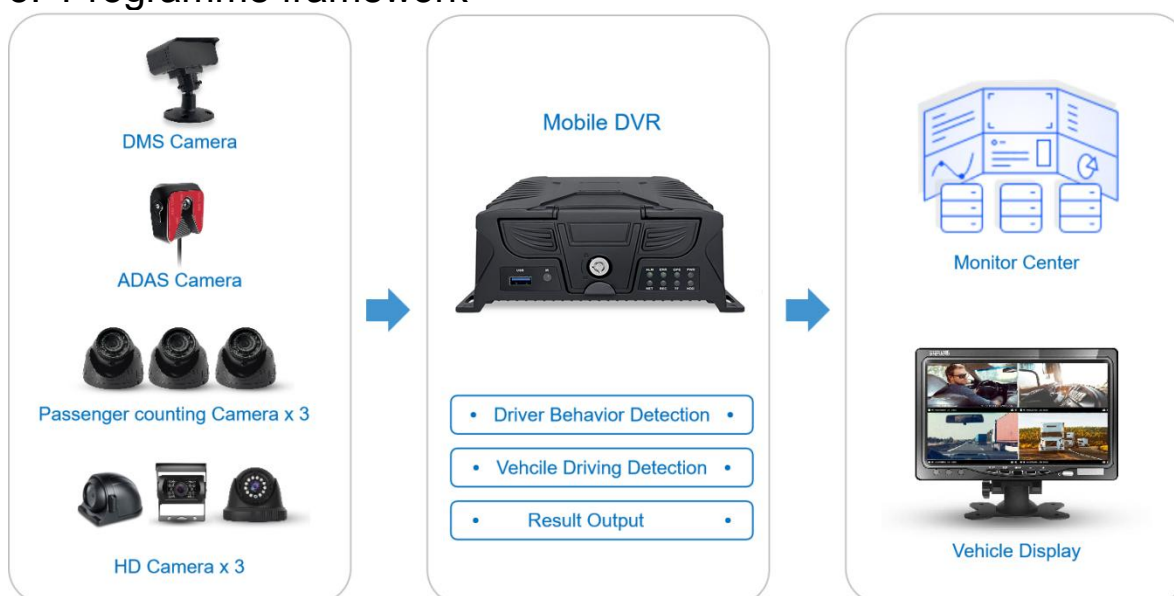
- 1.1 Traffic accidents are caused by improper driving, illegal lane changes, excessive speed, or excessive proximity to the vehicle in front.
- 1.2 The driver's irregular behaviors, such as driving distracted, talking on the phone, smoking, bending the head to pick things up, etc., cause traffic accidents.
- 1.3 Traffic accidents are caused by driving fatigue, dozing off or yawning while driving.

2. Product Overview

ULV AI Intelligent MDVR is an embedded artificial intelligence product based on deep visual learning, with an accuracy rate of more than 98% in actual scene applications. The product integrates the active safety vision algorithm in the traditional MDVR, which can not only realize the surveillance video, but also carry out the visual analysis of the car and people, judge the driving state of the vehicle and the driving state of the driver, timely correct the driver's irregular and tired driving behavior, and avoid traffic accidents. The system is widely used in trucks, buses, buses, school buses, logistics vehicles, dangerous goods transport vehicles, taxis, Internet hailing cars, police cars, ambulances and other commercial operation vehicles.



3. Programme framework



4. Active safety host K9204

4.1 Product picture



4.2 Main feature

- ❖ Industrial design, stable and reliable, easy to install
- ❖ Video adopts the international mainstream H.265 encoding format, and the audio adopts G711a encoding. It can support up to 4 channels.
- ❖ Professional vehicle power supply, can adapt to 8 to 36V ultra-wide voltage input, with multiple protection circuits such as overload/short circuit/reverse connection
- ❖ Highly reliable aviation plug input and output interface, easy to install and plug, and stronger Vandal-proof performance
- ❖ Support 4 channels of video and audio input, frame rate and image quality are adjustable
- ❖ Support 1x2.5inch HDD/SSD +1xTF Card Storage
- ❖ Built-in Farad capacitor. The video content has power-off protection function
- ❖ Support video loss alarm function
- ❖ Independent delay Power shutdown, can support the system to continue running after the vehicle is turned off, the delay time can be set by yourself
- ❖ Supporting CMS client platform, providing multiple functions such as playback, analysis, management, etc
- ❖ Support HDD/SSD, TF card and U disk to upgrade firmware, support network remote firmware upgrade.
- ❖ Supports 2 USB ports, the front can be connected to a USB drive to export videos or upgrade firmware, and the back can be connected to a fireproof box to backup videos
- ❖ Support 8 x IO alarm input, 2 x IO alarm output
- ❖ Support 2 x RS232 and 1 x RS485
- ❖ Insert the intercom handle for two-way communication between the platform and the device
- ❖ Support pulse vehicle speed. Optional
- ❖ Support 4G, GPS, LAN(RJ45)
- ❖ K6204-G6 support WiFi function
- ❖ Full Spec Support for ADAS, DMSX (including seat belt detection) and BSD functions

4.3 K9204 Specifications

Item		Parameters
OS		Embedded Linux
System language		Chinese/English/Portuguese/Spanish/Russian/Vietnamese/Mongolian/T hai/Pakistani/French/Korean/Hindi/other(customizable)
Video compression format		H.265/H.264 compression format
OSD		Character superposition function, support time and date, vehicle ID and other information image superposition
GUI	graphic interface	System parameters can be set through external display and remote control operation
Video and recording system	Video input	4CH video inputs (aviation plug interface), 1.0Vp-p, 75Ω
	Video output	1CH mixed video output, 1CH VGA output, 1.0Vp-p, 75Ω

	Preview function	Single-channel or multi-screen splicing preview, support manual/event trigger full-screen display function
	Video resolution	4CH machine supports 1080P/720P/D1/CIF optional, and the maximum can support 4 channels 1080P 60fps.
	Record mode	Default automatic recording, support ACC recording, manual recording, alarm recording, etc.
Audio	Audio input	4CH, aviation plug
	Audio output	1CH, aviation plug
	Format	G.711a compression format, Rate 40KB/s
Alarm	I/O input	8CH I/O inputs. Can be connected to door magnetic sensors, left/right/reverse signals.
	I/O Output	2CH I/O output. Can connect external devices such as relays (oil and electricity cut-off), sound and light alarms, etc
Serial Port	RS233	2 x RS232
	RS485	1 x RS485
Power output	12V	Power external devices, such as fuel sensors, temperature sensors, etc
	5V	Power peripheral devices, such as RFID card readers
Network	4G	Support built-in 4G function
	WiFi	K6204-G6 support WiFi function
	Wired	Support wired network
Positioning		Support built-in GPS/BD(GPS/GLONASS) module
USB		Support USB interface. Insert a USB flash drive to backup video or upgrade firmware
G-Sensor		Support G-SENSOR acceleration sensor
Intercom		SPK interface. Platform and device intercom, or connect speakers
Pulse speed		Optional
Video storage	HDD/SSD	Support 1x2.5inch HDD/SSD, loop recording
	TF Card	Support 1xTF card, loop recording
	Fireproof box	External fireproof box, disaster recovery video. Optional
	File format	H.265/H.264
Video playback	Video search	Search for recording video files by recording time, recording mode, etc.
	Playback	Support multi-channel synchronous playback, support fast forward and fast reverse, support 2, 4, 8, 16 times speed optional
upgrade	Firmware upgrade	Support Hard disk and TF Card Upgrade, Support Network upgrade
Power	Power management	Adaptive wide power Voltage input, with protection functions such as overload, overvoltage, undervoltage, short circuit, and reverse connection;Support timing power on/off , delayed power on/off function
	Input voltage	DC:8 ~ 36V
	Consumption	Normal work maximum: 5W, standby: 0.5W
AI algorithm (Optional)	ADX	ADAS, DMS, Seat belts
	ADXB	ADAS, DMS, Seat belts, 2-channel BSD
working environment	temperature	-20℃ to +70℃
	humidity	20% to 80%
Safety	Password access	Two-level management of user password and administrator password

Other	Size:	175(L) x173(W) x 67(H)mm
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***** If the above parameters are changed, please refer to the actual product *****

4G Model	Country	4G Frequency band
1	China, Thailand, Indonesia, India, Vietnam, the Philippines, Saudi Arabia, Bonaire Island, Aruba, curacao, Azerbaijan, Bhutan, Brunei, Cambodia, Hong Kong, Kazakhstan, Pakistan, the Philippines, Sri Lanka, Israel, Egypt	GSM:900/1800 WCDMA:B1/B8 FDD_LTE:B1/B3/B5/B8 TDD_LTE:B38/B39/B40/B41 TD-SCDMA:B34/B39 EVDO/CDMA:BC0
2	Malaysia, Singapore, Taiwan, Britain, Russia, Djibouti, Somalia, Morocco, South Africa, the Republic of Korea, Uzbekistan, Mozambique	GSM:900/1800 WCDMA:B1/B8 FDD_LTE:B1/B3/B7/B8/B20/B28 TDD_LTE:B38/B40/B41
3	Chile, El Salvador, Mexico, Peru	LTE-FDD:B2/B4/B5/B7/B8/B28 LTE-TDD:B40 WCDMA:B2/B5/B8 GSM:850/900/1800/1900
4	U.S.A	LTE-FDD:B2/B4/B5/B12/B13/B17/B25/B26 LTE-TDD:B41 WCDMA:B2/B4/B5 CDMA&EVDO:BC0/BC1 GSM:850/1900
5	Brazil	FDD LTE:B1/B2/B3/B4/B5/B7/B8/B17/B20/B28 TDD LTE:B34/B38/B39/B40/B41 WCDMA:B1/B2/B5/B8

4.4 Front panel

4.4.1 Front panel appearance diagram



4.4.2 Front panel function introduction

Serial	Name	Silk Print	Detailed description
①	Remote receiver	IR	Infrared receiver, used to receive remote control signal
②	Indicator LED	PWR	Power Indicator LED. LED ON when the power supply is normal
		GPS	GPS status indicator. The light is always on when the GPS is working normally, and it flashes when there is no signal
		ERR	System error indicator light. No recording, GPS abnormalities, etc

		ALM	Alarm Indicator LED. LED ON when the alarm is generated
		HDD	HDD Indicator LED. LED is always on when HDD is recognized, flashes when writing
		TF	TF card Indicator LED. LED is always on when TF card is recognized, flashes when writing
		REC	Video indicator LED. Flashes when recording
		NET	Network status indicator. The light will always be on when the network connection is successful, and flash when the network is not connected
③	Electronic locks	LOCK	When the electronic lock is locked, MDVR automatically turns on; when the electronic lock is opened, MDVR automatically turns off
④	USB port	USB	Use to backup files and upgrade firmware version
⑤	HDD box TF card port SIM card port		Open the interface baffle through electronic lock, insert HDD/SSD, TF card and SIM card. When the electronic lock is locked, please do not open the interface baffle forcefully, it will damage the machine

4.5 Back Panel

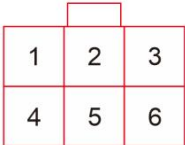
4.5.1 Appearance of the Back panel:



Serial	Name	Silk Print	Description
①	AV input Port	AV IN1	1CH audio and video input interface
		AV IN2	2CH audio and video input interface
		AV IN3	3CH audio and video input interface
		AV IN4	4CH audio and video input interface
②	NET Port	LAN	Wired network port, can connect to wired network or IP camera
③	Fireproof box	USB	External fireproof box, disaster recovery video
④	Speaker	SPK	Connect the intercom handle or speaker
⑤	CVBS output Port	AV OUT	CVBS audio and video output interface
⑥	IO/Serial Port	IO/Serial	8xI/O input, 2xI/O Output, 2xRS232, 1xRS485, 1xPulse speed
⑦	4G Antenna Port	4G	External special 4G antenna. It should be placed where without shielding and interference
⑧	WiFi Antenna Port	WiFi	External special WiFi antenna. It should be placed where without shielding and interference. Only K6204-G6 support WiFi function

⑨	GPS Antenna Port	GPS	External special GPS antenna. It should be placed where without shielding and interference
⑩	VGA output Port	VGA	VGA audio and video output interface
⑪	Power Port	DC8-36V	Power Input port

4.5.2 Power interface definition

Pin diagram	Pin definition		
	1	2	3
	PWR-	PWR+	
	4	5	6
	PWR-	PWR+	ACC

4.5.3 I/O interface definition

I/O interface diagram:

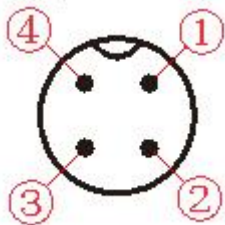
1	2	3	4	5	6	7	8	9	10	11
12	13	14	15	16	17	18	19	20	21	22

The detailed pin definition is as follows(RS485 is reserved and not standard):

1	2	3	4	5	6	7	8	9	10	11
WHITE	WHITE	WHITE	WHITE	BLACK	RED	GREY	BROWN	BROWN	RED	YELLOW
ALM IN2	ALM IN4	ALM IN6	ALM IN8	GND	DC12V	RS485-B	RS232-2-RX	RS232-1-RX	DC5V	Pulse speed
12	13	14	15	16	17	18	19	20	21	22
WHITE	WHITE	WHITE	WHITE	GREEN	BLACK	GREY	PURPLE	PURPLE	BLACK	BLUE
ALM IN1	ALM IN3	ALM IN5	ALM IN7	ALM OUT1	GND	RS485-A	RS232-2-TX	RS232-1-TX	GND	ALM OUT2

4.5.4 Aviation plug interface definition

There are a total of 5PCS aviation Plug Port on this machine, 4CH audio and video input interfaces are 4pcs x 4pin aviation port, and 1 AV output:



The detailed 4pin definition is as follows:

4pin aviation port pin definition	
pin	definition
1	+12V
2	GND
3	Audio Signal
4	Video Signal

5. ADAS camera model: A1C

5.1 Product diagram



5.2 Specification Parameters

Number	Name	Parameter
1	Sensor	1/3 inch
2	Pixel Size	3.75*3.75um
3	Aperture	F2.0
4	Field of view	H:52° V:38°
5	Image mode	Full Color
6	IR filter	650 IR
7	Format	AHD
8	Resolution	1280*720
9	Frame rate	PAL:25fps, NTSC:30fps
10	Power	12V 52mA
11	Tail line length	250cm
12	Temperature	-20℃ -70℃
13	Humidity	45% ~80%RH
14	Size	60*69.5*37mm
15	Weight	65g

6. DSM camera model: DA-1C1

6.1 Product diagram



6.2 Specification Parameters

Number	Name	Parameter
1	Sensor	960P CMOS IMAGE SENSOR
2	Optical Format	1/3 inch
3	Pixel Size	3.75*3.75um
4	Focal length	4mm
5	Aperture	F2.0
6	Field of view	H:70° V:50°
7	IR filter	940 IR
8	Image mode	Black and white image
9	Format	AHD
10	Resolution	1280*720
11	Frame rate	PAL:25fps, NTSC:30fps
13	Tail line length	250cm
14	Power	12V 120mA
15	Temperature	-20℃~80℃
16	Humidity	45%~80%RH
17	Size	77(L)*55(W)*105(H)mm
18	Weight	105g

7. Front (Birdview) BSD Camera:M-AHD-1251-D

7.1 Product diagram



7.2 Specification Parameters

Number	Name	Parameter
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1	Sensor	1/3 inch
2	Focal length	2.8mm
3	Field of view	HFOV:95°
4	Image mode	Black and white image/color image switchable
5	Format	AHD
6	Resolution	1280*720
7	Frame rate	25fps/30fps
8	Voltage	12V
9	Waterproof	IP66
10	Temperature	-20℃ -60℃

8. Side (Horizontal) BSD Camera:M-1256-D

8.1 Product diagram



8.2 Specification Parameters

Number	Name	Parameter
1	Sensor	1/3 inch
2	Focal length	3.6mm
3	Field of view	HFOV:70°
4	Image mode	Black and white image/color image switchable
5	Format	AHD
6	Resolution	1280*720
7	Frame rate	25fps/30fps
8	Voltage	12V
9	Waterproof	IP66
10	Temperature	-20℃ -60℃

9. List of products

Name	Quantity	Diagram
B9204	1PCS	
MDVR Power cable	1PCS	
MDVR AV output cable	1PCS	
MDVR IO Wires	1PCS	

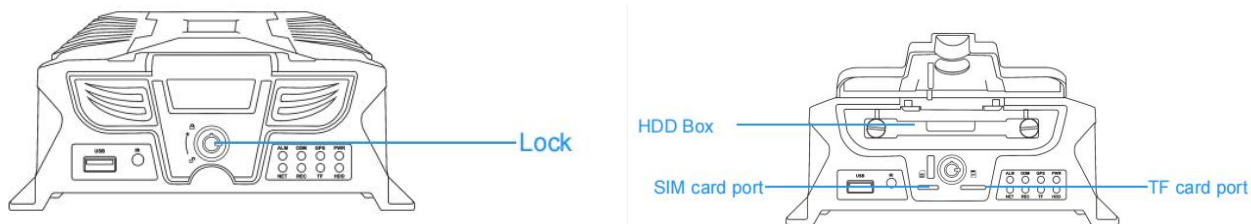


Note: By default, channel 1 is connected to DMS camera, and channel 2 is connected to ADAS camera.

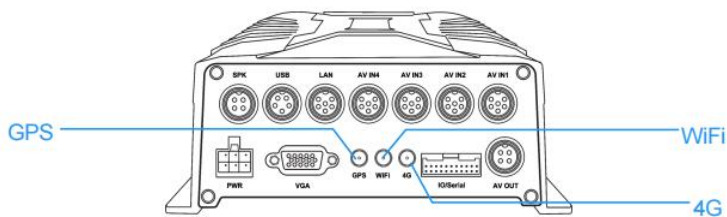
10.2 Installation steps

10.2.1 Device Installation

Step 1, Open the hard disk lock with the key, install the hard disk, SD card and SIM card, and then lock the electronic lock.

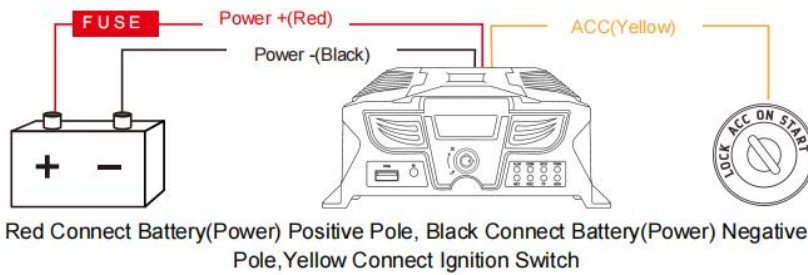


Step 2, install GPS and 4G antenna. The GPS antenna needs to be placed outside the car, with the antenna facing upward (towards the sky), the surface cannot be blocked by metal objects, and away from interference from other communication and electronic products!

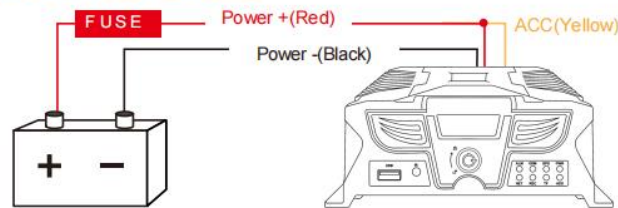


Step 3, connect the power cord. MDVR uses DC power input, the input voltage range is DC 8-36V.

★ Use Ignition Switch to Control MDVR to Delay Work



★ Main Switch Connection Diagram(Main Switch Control Recording Switch), Testing indoor also Use this Method.

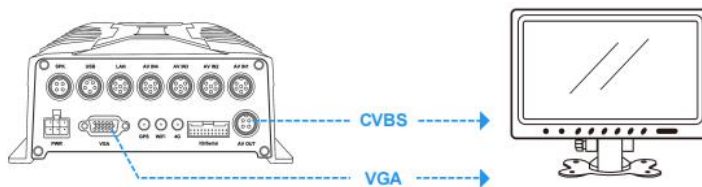


*Red is connected to the positive of the battery (power supply), black is connected to the negative of the battery (power supply), and yellow is connected to the ignition switch .

Precautions:

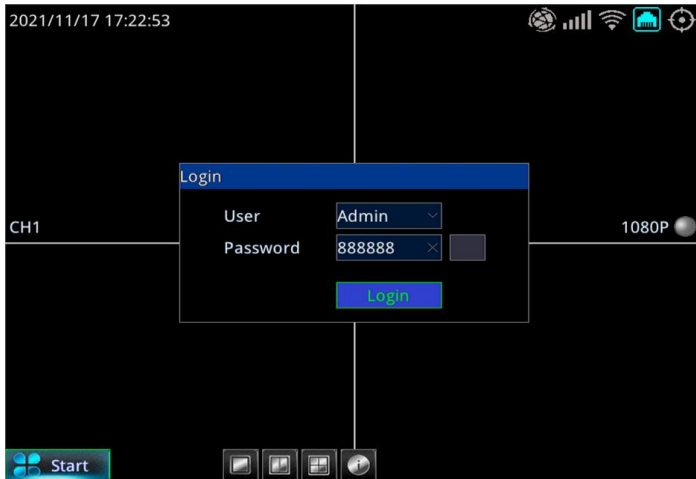
- 1、 MDVR is a DC power supply, please pay attention to the positive and negative pole.
- 2、 The voltage is DC 8V~36V, please do not Connect the voltage beyond this range. If the voltage is too low, the MDVR will not work, and if the voltage is too high, the device will be damaged.
3. Please make sure the MDVR is directly connected to the car power supply. Do not connect with generator, transient voltage will damage MDVR.
- 4、 When the MDVR is connected to the camera, the initial power will exceed 30W (the power consumed by different devices is different), and the power supply needs to be above 30W.
- 5、 The power cord must be able to withstand more than 60W (for example, when the car output voltage is 12V, the power cord must be able to withstand more than 5A) .
- 6、 Please put a cover on the cable, the cover must be wear-resistant, heat-resistant, waterproof and oil-proof to prevent short circuit and open circuit.
- 7、 Please install a 10A fuse box near the positive pole of the battery output to avoid short circuit damage to the power supply.

Step 5, connect the display Monitor



10.2.2 Networking Configuration (Using CMSV6 platform software as an example)

Step1:User login. After the device is started, press [LOGIN] on the remote control to enter the LOGIN interface, as shown in the following figure (Reminder: If the password switch is turned off, press [Login] on the remote control to directly enter the menu interface).



The default password of Admin 888888(or 111111 – available before the password is changed)

Step2:Device ID setting



Note: MDVR [device ID] and CMSV6 [device ID] need to be the same. Note: If you choose the JT808 protocol, CMSV6 requires that the device ID must be 12 bits.

Step3:4G dial settings

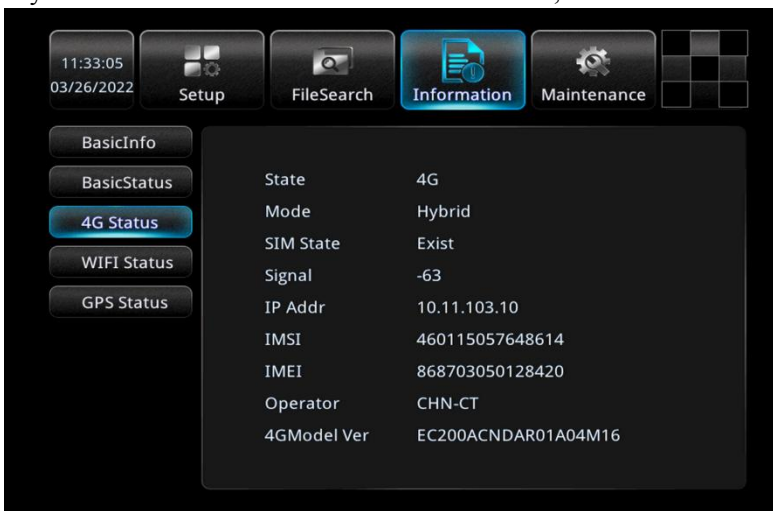


APN: Fill in the APN according to the SIM card operator. Insert the SIM card of MDVR into the mobile phone, turn off the mobile phone WiFi, and browse the web page. If you can access the Internet normally, this SIM card is OK. Access the [SIM card information] - [access point] interface of the phone to obtain SIM card APN information. The following screenshot takes Hongmi K30S as an example.



CenterNum: Generally "*99#" or "*99***1H".

If you don't know "Username" and "Password", leave it blank.



Step4: Server settings



MDVR sets [Network Protocol], [Server IP Address] and [Port]. If the server is built by the customer, it needs to be set as the server address built by the customer.

Exit

2022/03/26 11:33:20

App Version	E52045_T2022032609	MCU Version	V2022.03.07.App_S4025E					
Voltage1(V)	11.8	Voltage2(V)	11.8					
Device ID	0	PlateNo						
Disk1(GB)	SD0: 29.307/29.722	Disk2(GB)	USB0: 0.000/0.000					
Server1	120.079.058.001:6608 Linked							
Server2	000.000.000.000:0 No Link							
G-Sensor(g)	X:1.03 Y:-0.74 Z:32.47							
GPS State	113.965063E , 22.585932N , 27m , 0km/h , 0° , 15° , Normal							
4G State	Connected , Hybrid , 4G , APN:3gnet , Signal:-63 , IP:10.11.103.10							
WIFI State	Off							
IO Input	1	2	3	4	5	6	7	8
IO(H/L)	L	L	L	L	-	-	-	-

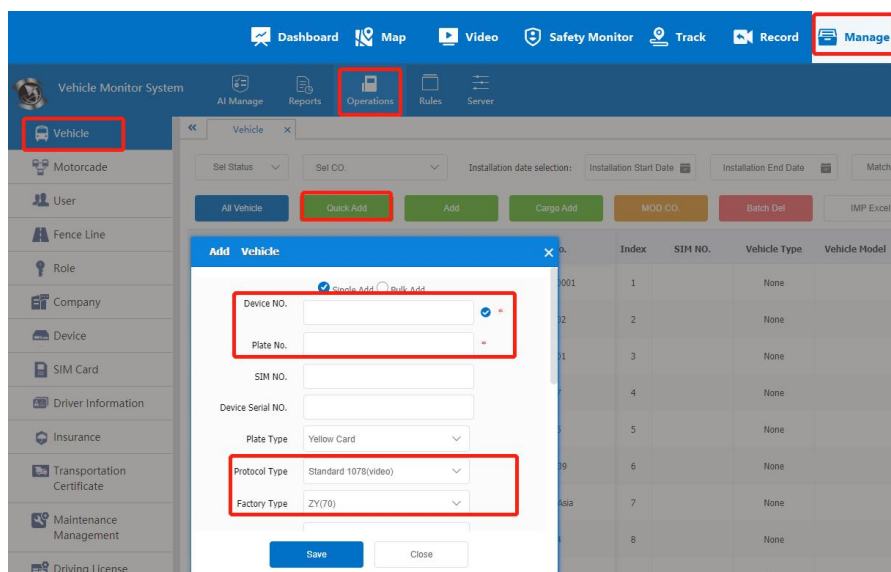
Step5:Add device to CMS server (take CMSV6 platform as an example)

- (1) Log in to CMSV6 administrator account(Only administrators can add devices).
- (2) Click "Other" - "Manage" - "Operations" - "Vehicle" on the top of the CMSV6 client to enter the "Vehicle Information" page.

The screenshot shows the CMSV6 Vehicle Monitor System interface. The top navigation bar includes Dashboard, Map, Video, Safety Monitor, Track, Record, Manage, and Other. The left sidebar shows various management options like Motorcade, User, Fence Line, Role, Company, Device, SIM Card, Driver Information, Insurance, and Transportation Certificate. The main area displays a table of vehicle information with columns for Plate No., Index, SIM NO., Vehicle Type, Vehicle Model, and Plate Type. A 'Quick Add' button is highlighted in the top left of the table area.

Operate	Plate No.	Index	SIM NO.	Vehicle Type	Vehicle Model	Plate Type	D
☐	ESSAT114-JAD401	1		None		White Card	08
☐	ESSAT115-JAD408	2		Ordinary Passenger		White Card	08
☐	08866504	3		None		Yellow Card	i
☐	801234567892	4		None		Yellow Card	80
☐	801234567891	5		None		Yellow Card	80
☐	801234567890	6		None		Yellow Card	80
☐	295007	7		None		Yellow Card	

- (3) Click the "Quick Add" button to open the "Add Vehicle" page



Device NO.: The 808 protocol requires 12 digits.

Plate NO.: After filling in the device number, the license plate number will be filled in automatically.

Protocol Type: Select "Ministry Standard 1078 (Video)" for 808 protocol, and "Unknown" for CMSV6 private protocol.

Terminal Type: Select "Video Terminal" and select 4 channels.

Vehicle Icon: Select the corresponding icon to facilitate subsequent identification of the type of the device.

CO. /Motocade: Select the corresponding "Company/Team".

Note 1: The [Device ID] added by CMSV6 must be the same as the [Device ID] of MDVR

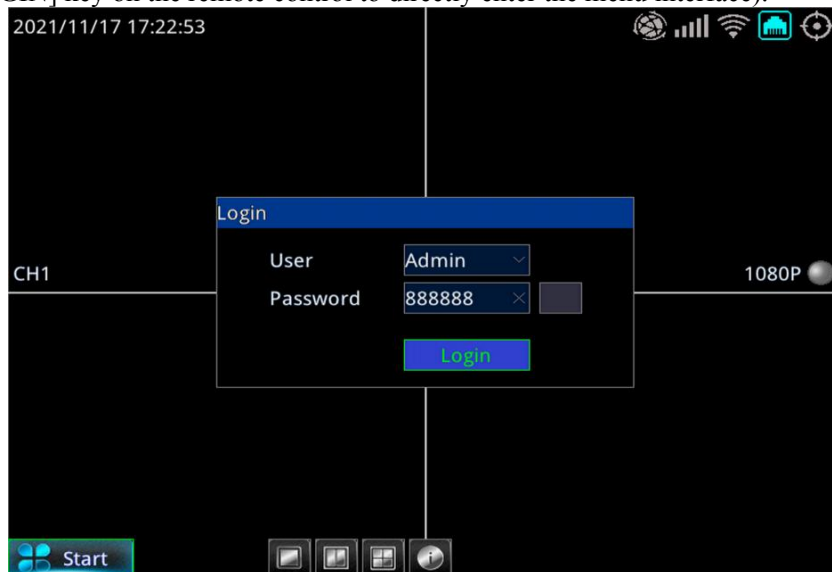
所有车辆							
修改公司							
自定义导出							
批量导入修改							
	操作	车牌号	序号	SIM卡号	车辆类型	车辆型号	设备号
☐	   	018012345678	1		无		黄牌 018012345678
☐	   	000065000127	2		无		黄牌 000065000127
☐	   	078212548771	3		无		黄牌 078212548771
☐	   	000003010001	4		无		黄牌 000003010001

Note 2: In the process of adding equipment to CMSV6, a new company can be added (as shown in the figure)

10.2.3 Configure AI Menu

Step1: User login. After the host is turned on, press the [LOGIN] key on the remote control to enter the login interface, as shown in the following figure (reminder: if the password switch setting is turned off, press the

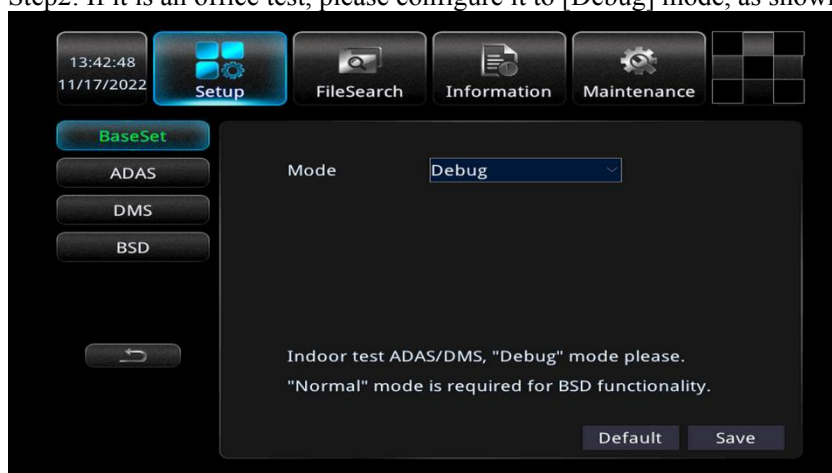
[LOGIN] key on the remote control to directly enter the menu interface).



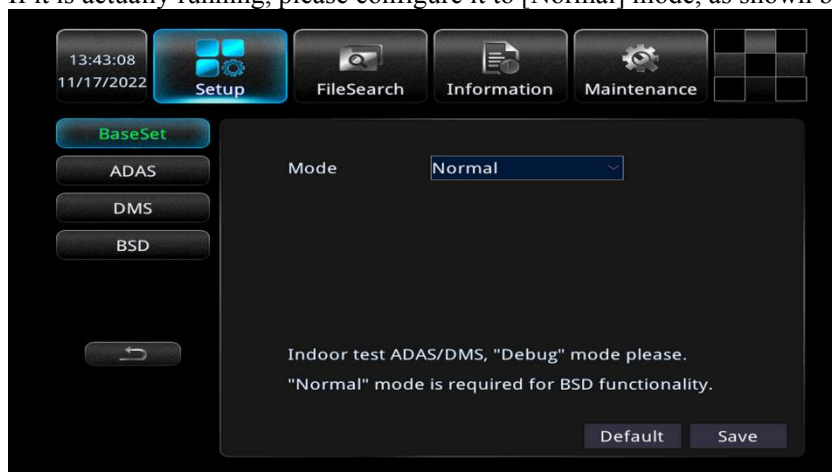
Password: normal user and administrator. Log in as an ordinary user. You can only search and browse. You cannot enter the menu to set parameters. Log in as an administrator to set parameters.

Note: The initial password of an ordinary user is 000000, and the initial password of an administrator is 888888.

Step2: If it is an office test, please configure it to [Debug] mode, as shown below



If it is actually running, please configure it to [Normal] mode, as shown below

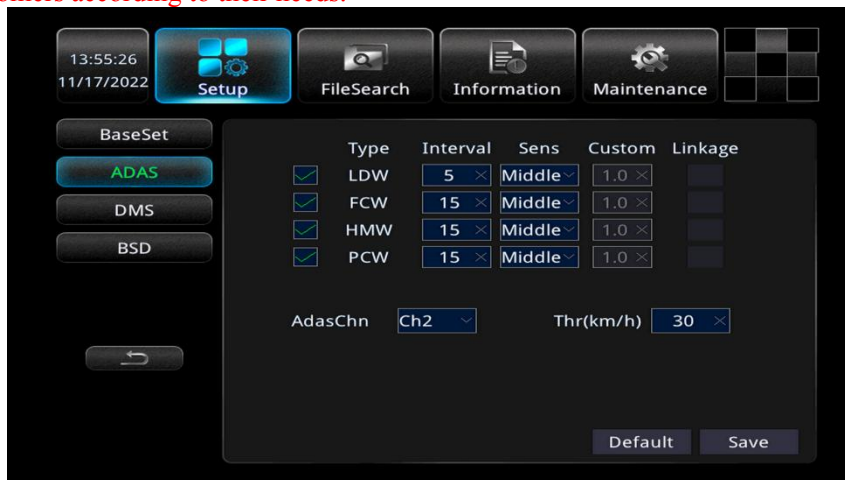


Step3:DSM menu settings. DMS function switch, time interval, duration, DMS channel and other parameters can be set (default channel 1), as shown in the figure below



Step4: ADAS menu setting. Parameters such as ADAS function switch, time interval, sensitivity and ADAS channel (default channel 2) can be set, as shown in the figure below

Threshold (km/h): 30km/h by default. **Special instructions: DSM and BSD algorithms are executed when the speed is less than 30km/h; $\geq$ 30km/h, execute DSM and ADAS algorithms. This threshold can be modified by customers according to their needs.**



Step5: BSD menu settings. BSD function switch (off by default), channel, time interval, sensitivity and other parameters can be set.

The right side installation and the left side installation need to select the installation position: [Rear] means looking from the back to the front; [Front] means looking from front to back.

Here we assume the following settings:

Right, channel 3

Right Front, Channel 4



10.2.4 DMS camera installation

The DMS camera is connected to the first channel of the host, and the remote controller will magnify the first channel by pressing 1. During the installation of DMS camera, the camera shall be as close to the front of the driver as possible. During the installation, the display screen must be switched on to ensure that the driver's head is not lost in the screen. When the camera of some models is installed in the middle of the steering wheel to block the face in the screen, the camera will shift to the left/right until the camera does not block the face.



Installation Diagram of DMS Camera

If it is necessary to support the safety belt detection function, at least 10 cm below the driver's armpit must be visible in the picture.



Driver face recognition (optional function) operation process

Step 1: Face photography. Note: 720P photos are required. For other resolutions, it needs to be converted to 720P

- A. Take photos with your phone. Note: The mobile phone needs to take face photos horizontally.
- B. Face capture through CMS software video preview or video playback
- C. DMS camera shoots the driver, and then uploads it to FTP or CMS server. Note: The MDVR must have an SD card or hard disk when capturing.



Step 2: Make the driver's face image. The requirements for the face image are: the resolution is 1280x720, the format is jpeg, and the file name is the driver's license number. Then convert to yuv format through the attachment tool (ffmpeg.zip).



ffmpeg.zip

There are JPEG and YUV directories and "JPEGconvertYUV.bat" script files in the ffmpeg bin directory

名称	修改日期	类型	大小
JPEG	2022/11/15 10:35	文件夹	
YUV	2022/11/15 11:13	文件夹	
ffmpeg.exe	2018/6/6 3:16	应用程序	61,386 KB
ffplay.exe	2018/6/6 3:16	应用程序	61,271 KB
ffprobe.exe	2018/6/6 3:16	应用程序	61,293 KB
JPEGconversionYUV.bat	2022/11/15 10:30	Windows 批处理...	1 KB

Put the driver's face jpeg file into the JPEG directory. The jpeg file must be 1280x720 resolution, and the file name is the driver's license number of the corresponding driver



1234567890000
01.jpeg



1234567890000
02.jpeg

Double click the "JPEGconvertYUV.bat" file

Step 5: Configure the license plate number of the device. Note: The license plate number of the device should be consistent with that in the "Face_recognition_cfg. csv" file.



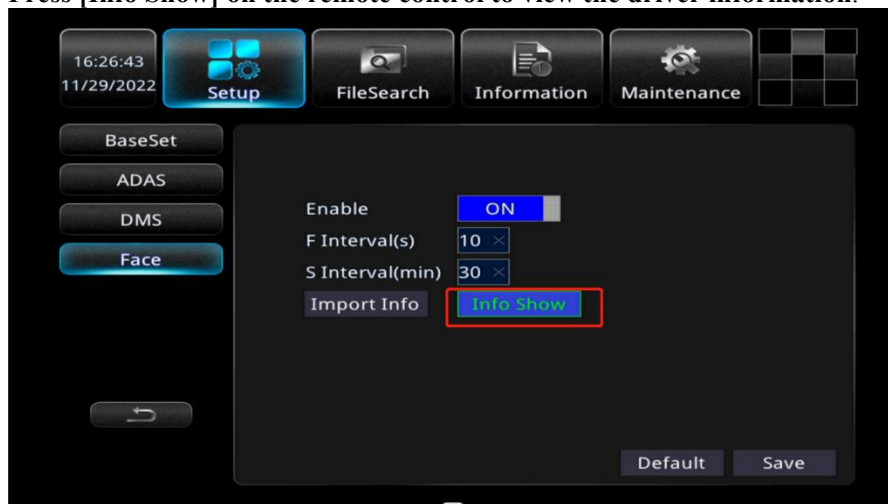
Step6: Import driver face information (PROS_Res/Driver) into MDVR.

Method 1: Insert the USB stick. Enter the "Setup-AI-Face" menu in turn. Press the "Import Info" button to import face information

F Interval: Time interval for re authentication after authentication failure; S Interval: The interval between successful re authentication.



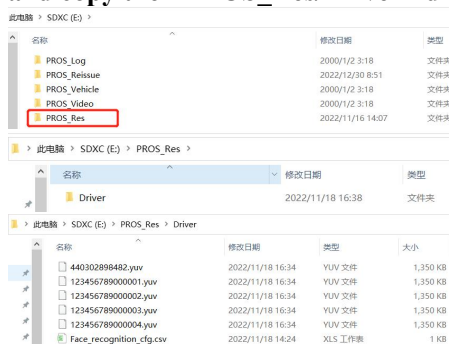
Press [Info Show] on the remote control to view the driver information.



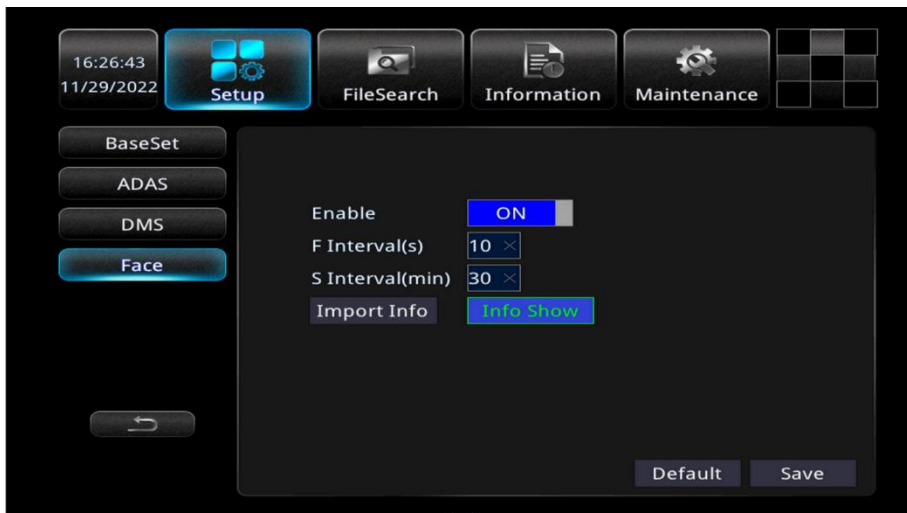
Note: The face needs to be authenticated successfully (the face that is not authenticated successfully is invalid).
As shown below



Method 2: directly connect the SD card or hard disk to the computer without using the USB flash disk, and copy the "PROS_Res/Driver" directory to the SD card or hard disk



Then press the "Info Show" button to check the driver's situation

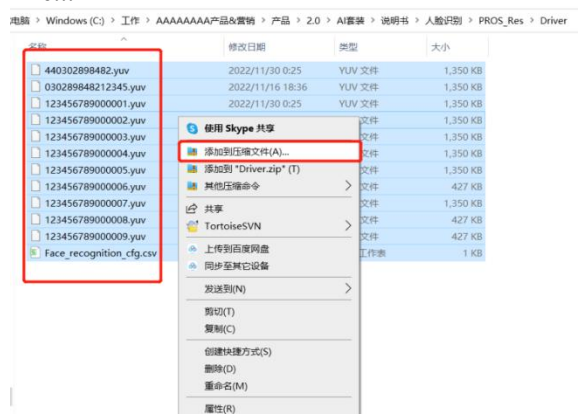


Note: The face needs to be authenticated successfully (the face that is not authenticated successfully is invalid). As shown below



Method 3: Import driver information to MDVR through FTP.

- ◆ Enter the "PROS_Res/Driver" directory, select all files, right-click, and select "Add to Compressed File..."



- ◆ Name the compressed file (suggested: **customer code_driver_face.zip**): 135_driver_face.zip

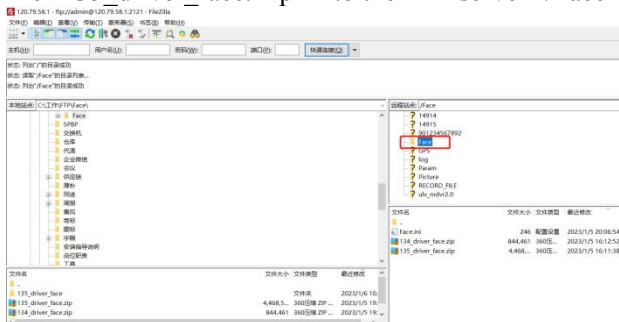
440302898482.yuv	2022/11/30 0:25	YUV 文件	1,350 KB
030289848212345.yuv	2022/11/16 18:36	YUV 文件	1,350 KB
123456789000001.yuv	2022/11/30 0:25	YUV 文件	1,350 KB
123456789000002.yuv	2022/11/30 0:25	YUV 文件	1,350 KB
123456789000003.yuv	2022/11/30 0:25	YUV 文件	1,350 KB
123456789000004.yuv	2022/11/30 0:25	YUV 文件	1,350 KB
123456789000005.yuv	2022/11/30 0:25	YUV 文件	1,350 KB
123456789000006.yuv	2022/12/13 3:21	YUV 文件	427 KB
123456789000007.yuv	2022/11/30 0:25	YUV 文件	1,350 KB
123456789000008.yuv	2022/12/13 1:32	YUV 文件	427 KB
123456789000009.yuv	2022/12/13 3:02	YUV 文件	427 KB
Face_recognition_cfg.csv	2022/12/2 10:18	XLS 工作表	1 KB



Windows (C:) > 工作 > AAAAAA产品&营销 > 产品 > 2.0 > AI安装 > 说明书 > 人脸识别 > PROS_Res > Driver >

名称	修改日期	类型	大小
135_driver_face.zip	2023/1/6 10:24	360压缩 ZIP 文件	4,364 KB
440302898482.yuv	2022/11/30 0:25	YUV 文件	1,350 KB
030289848212345.yuv	2022/11/16 18:36	YUV 文件	1,350 KB
123456789000001.yuv	2022/11/30 0:25	YUV 文件	1,350 KB
123456789000002.yuv	2022/11/30 0:25	YUV 文件	1,350 KB
123456789000003.yuv	2022/11/30 0:25	YUV 文件	1,350 KB
123456789000004.yuv	2022/11/30 0:25	YUV 文件	1,350 KB
123456789000005.yuv	2022/11/30 0:25	YUV 文件	1,350 KB
123456789000006.yuv	2022/12/13 3:21	YUV 文件	427 KB
123456789000007.yuv	2022/11/30 0:25	YUV 文件	1,350 KB
123456789000008.yuv	2022/12/13 1:32	YUV 文件	427 KB
123456789000009.yuv	2022/12/13 3:02	YUV 文件	427 KB
Face_recognition_cfg.csv	2022/12/2 10:18	XLS 工作表	1 KB

- ◆ Create a "Face" folder under the FTP root directory (the initial F must be capitalized). Put the compressed file "135_driver_face.zip" into the FTP server "/Face" directory



远端站点: /Face

14914	14915	001234567892	Face	GPS	log	Param	Picture	RECORD_FILE	ulv_mdvr2.0
-------	-------	--------------	------	-----	-----	-------	---------	-------------	-------------

文件名	文件大小	文件类型	最近修改	权限	所有者/组
Face.ini	246	配置设置	2023/1/5 20:06:54		
134_driver_face.zip	844,461	360压缩 ZIP...	2023/1/5 16:12:52		
135_driver_face.zip	4,468,...	360压缩 ZIP...	2023/1/5 16:11:38		

- ◆ Make a "Face. ini" file (note that F must be capitalized). Open the "Face. ini" file with Notepad

Face.ini 2023/1/5 20:06:54

Face.ini - 记事本

文件(F) 编辑(E) 格式(O) 查看(V) 帮助(H)

[Task01]

DevID_Start=000090002746

DevID_End=000090002747

File_Name=134_driver_face.zip

Deadline=2023/01/05

Version=1

[Task02]

DevID_Start=000090002745

DevID_End=000090002747

File_Name=135_driver_face.zip

Deadline=2023/01/05

Version=1

FTP supports batch updating of driver information. Multiple tasks [Task01], [Task02], [Task03]... can be created at the same time. Here we associate "135_driver_face.zip" with the [Task02] task.

DevID_Start: Device start ID. **Note that this ID is not included**

DevID_End: Device end ID. **Note that this ID is not included**

For example, if the device ID of the driver's face to be updated is 00009002746, then

DevID_Start=000090002745

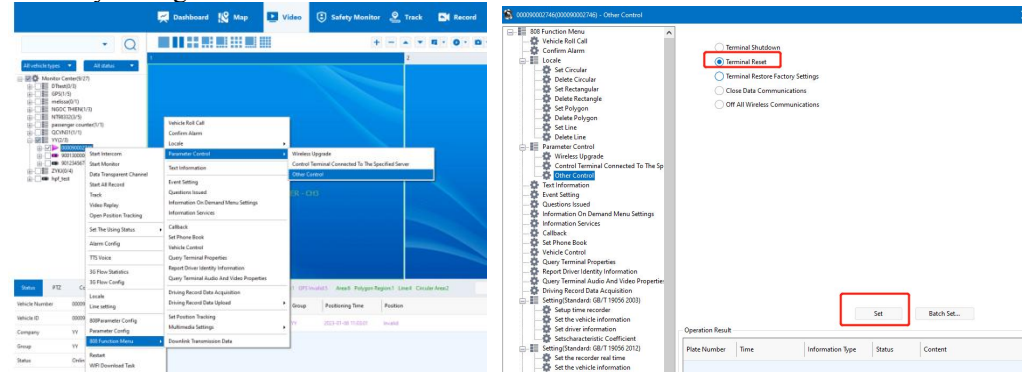
DevID_End=000090002747

Deadline: The end time must be greater than the current time. Task [Task02] is invalid after this time.

- ◆ Put the prepared "Face.ini" file into the FTP server "/Face" directory



- ◆ The MDVR will automatically update the driver information after restart. MDVR can be restarted remotely through CMSV6



Special reminder:

1. When creating the "Face_recognition_cfg.csv" file, please open it with notepad, not with excel.

2. The license plate number in the "Face_recognition_cfg.csv" file must be the same as that of the device.

license plate number, Name of driver, Driver's license number, Qualification certificate No

NT0B881|Wang,440302898482,987654320
NT0B881|Melissa,123456789000001,987654321
NT0B881|cyJiang,123456789000002,987654322
NT0B881|Driver4,123456789000003,987654323
NT0B881|Driver5,123456789000004,987654324
NT0B881|Harry,123456789000005,987654325
NT0B881|KxMa,123456789000006,987654326
NT0B881|Nancy,123456789000007,987654327
NT0B881|makx,123456789000008,987654328
NT0B881|Driver10,123456789000009,987654329

3. The device ID field in the "Face.ini" file must contain the MDVR device ID to be updated.

For example, if the device ID of the driver's face to be updated is 00009002746, then

DevID_Start=000090002745

DevID_End=000090002747

The end time (Deadline) in the Face.ini file must be greater than the current time.

Step 7: Face recognition. Turn on the face recognition switch, and the recognition results will be displayed through voice broadcast and interface. If recognition fails, recognition will continue at a default interval of 1 minute; If the recognition is successful, the current driver information will be updated, and the recognition will continue after the default interval of 30 minutes (to prevent changing drivers midway).



10.2.5 ADAS camera installation

The camera needs to be installed in the middle of the vehicle. The vertical position varies according to the vehicle model. This document divides commercial vehicles into two types: I (slag truck, truck and other models with vertical windshield) and II (sedan, SUV, etc.). Type I vehicles are characterized by a vertical downward head, and Type II vehicles are characterized by a forward protruding hood.



Type I vehicle



Type II vehicle

Step1: Determination of vehicle type and installation position

First, determine whether the vehicle to be installed is Type I or Type II. Trucks, trailers and other vehicles are generally Type I vehicles. The camera is generally installed in the center under the front windshield. The installation positions of ADAS cameras for two different models are as follows.



Installation Diagram of ADAS Camera

Step2: Pre marking installation position

Drive to the middle of the double track of the horizontal road, and the road ahead is clearly visible. Determine the horizontal center of the windshield outside the vehicle and mark it with a marker, as shown in the following figure. If the horizontal center is occupied by other cameras, the allowable installation deviation of the camera in the left and right directions is $\pm 5\text{cm}$.



ADAS camera installation position

Step3: Clean the paste position of ADAS camera (3M glue)

Wipe the area in the car with a wet paper towel at the corresponding position in the car, and then dry it with a dry paper towel to ensure that the area is clean.

Step4: ADAS camera pre installation

Uncover the 3M adhesive sticker of the host, and then align the center of the host with the vertical line marked by the marker, while ensuring that the horizon in the picture is horizontal, and gently stick the device on the windshield (the adhesive must not be stuck tightly in this step). As shown in the figure.



Effect picture of ADAS pre installation

Step5: Enter ADAS calibration interface

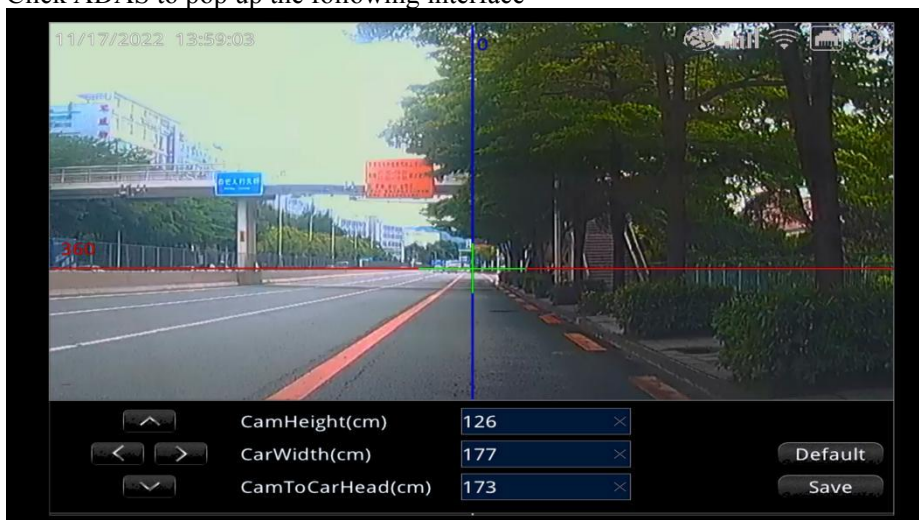
- Press 2 on the remote control to enlarge the second channel, and then press the exit button to pop up the following interface



- Click AI calibration button, and the following interface pops up



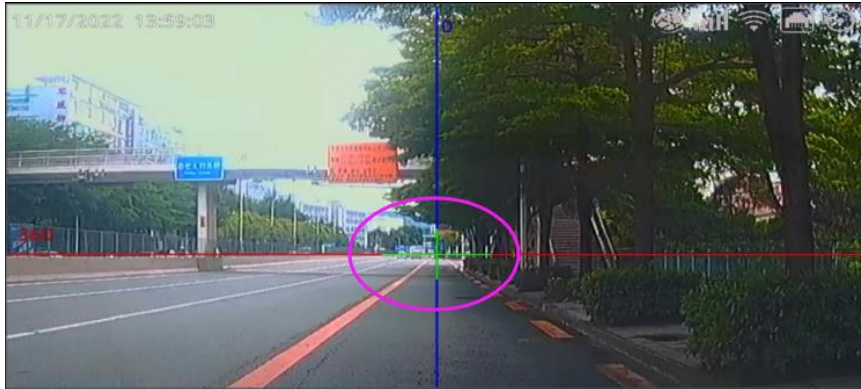
- Click ADAS to pop up the following interface



Adjust the camera and pay attention to the green ten: adjust the camera to ensure that the green center line of the picture is in the middle of the two lines of the road as much as possible (note: ensure that the vehicle is in the middle of the two lines of the road as much as possible, and the green line and the black line drawn by

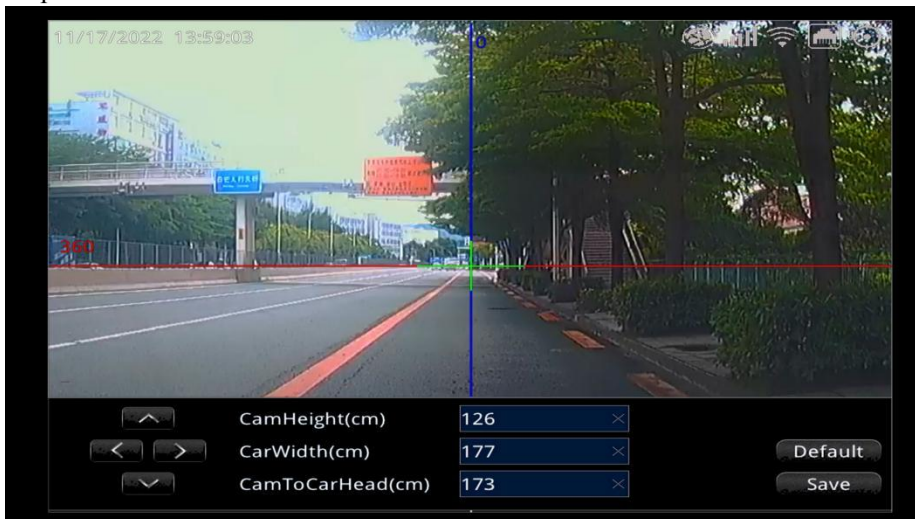
Mark's pen need to overlap); Fine tune the camera position to ensure that the horizon is horizontal and straight in the image.

(standard calibration is as in blow image, Green cross sign overlay red line and blue line.)



Step6: Adjust the pitch angle of the right side of the camera (buckle) to make the red green horizontal line coincide with the end of the horizon far away from the real world as much as possible, and then lock the buckle. Once again, confirm that the black line marked by the marker is in the center of the device, and firmly stick the camera to the front windshield glass pressing device for half a minute to ensure that it is firmly stuck and erase the black line guide sign outside the glass.

Step7: ADAS calibration



Green ten adjustment: If the vehicle center line in the screen is not in the middle of two road lines, you can fine tune it by pressing the left and right buttons [] in the screen.

If the end of the horizontal line and the horizon line in the screen do not coincide, you can fine tune it by pressing the up and down buttons [] on the screen.

Camheight(cm): Remote control or mouse input. The measured actual height of the camera from the ground (unit: cm)

Carwidth(cm): input by remote control or mouse. Measured actual width of vehicle (unit: cm)

CamToCarHead(cm): The position from the camera to the vehicle head. input by remote control or mouse. Measure the horizontal distance from the camera to the vehicle head (unit: cm)

10.2.6 Installation of right front side(Birdview) BSD camera

Step1: Determine the installation position of the camera, which is generally installed on the left upper edge of the right door, as shown in the following figure



Installation position diagram of right front BSD camera

Step2: **Press 4 on the remote control to enlarge the fourth channel.** Adjust the installation angle of the camera so that the right rear view mirror of the vehicle does not appear in the horizontal picture, and ensure that the camera angle of view is parallel to the three lines (red, yellow, green).



Front right BSD camera diagram

Step3: Route the camera extension cable as shown in the figure below



Step4: Install the audible and visual alarm at the following positions and fix it (optional).



Schematic diagram of installation position of audible and visual alarm

10.2.7 Installation of rear right side (Horizontal) BSD camera

Step1: Select the installation position of the camera, which is basically required to be fixed at a height of about 2M at the rear right side of the muck truck, the angle of view is as shown in the figure below



Schematic Diagram of Right Rear Camera Installation Position

Step 2: **Press 3 on the remote control to enlarge the third channel.** Adjust the camera angle. When adjusting the height of the picture, please open the door on the right. As shown in the figure, the top of the camera image is about 1/2 of the right door glass. The position of the left vehicle entering the rearview mirror accounts for about 1/10 of the whole picture. **Adjust the camera angle to ensure that the vehicle contour coincides with the black line, and ensure that the vehicle is as parallel to the red line as possible, and fix the rear right camera on the vehicle.** Note: Video cable protection. When pulling the video cable from the rear to the front of the vehicle, pay attention to protect the aviation head and wrap it with tape. Prevent dust from entering the plug. At the same time, waterproof rubber ring shall be added to the machine head.



Installation effect picture of right rear camera

Step3: Camera wiring: The camera extension cable shall be routed according to the following path, and shall be securely fixed with binding.



Schematic Diagram of BSD Camera Extension Cable Routing

Step4: Install the audible and visual alarm at the following positions and fix it (optional).



Schematic diagram of installation position of audible and visual alarm

10.2.8 Front (Birdview) BSD camera installation

Step1: Determine the installation position of the camera. The forward BSD camera is generally installed on the cover above the front windshield, and the position should be centered as far as possible. If there is no support in the middle of the cover of some models, which is weak and easy to shake, or cannot be drilled for installation, the camera can be installed at a position slightly close to the side with support, as shown in the figure below



Installation Diagram of Forward BSD Camera

Step2: Adjust the installation angle of the camera, and the shooting picture should cover the main blind area in front of the vehicle. The contour line of the vehicle head should appear in the picture as a reference to prevent missing reports of the blind area.



Schematic Diagram of Forward BSD Camera

Step3: After the picture is adjusted, start wiring. The wiring requirements are similar to those of the right front BSD. After fixing the connecting wire from the body structure, finally enter the cab from the fuse box in the hood.



Wiring diagram of forward BSD camera