User Manual For
Menzel MVSS
MZ5-8CHAHD/4IPC
(MDVR)
Mobile Digital Video Recorder

75mm

293mm

215mm

Notice

The information in this manual was current when published. The manufacturer reserves the right to revise and improve its products. All specifications are therefore subject to change without any notice.

The purpose of this manual is to kindly aid the user for the operation for our MDVR. The user should have a basic understanding of computer operation and basic knowledge of how to connect peripherals and make some settings.

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Guarantee & Warnings

1) **Electrical Apparatus Safety**

   All installation and operation should comply with local electrical safety norms.

2) Transportation

   In the process of transportation, storage and installation, please avoid heavy stress, violent vibration, impact and water splashing.

3) **Installation**

   Install the equipment in accordance with the requirements, handle carefully. Do not heavily press the equipment before the MDVR installation is finished.

4) **Requirements on Engineers & Technicians**

   All the work of checking and maintenance should be done by qualified technicians and engineers. We do not undertake any responsibility caused by unauthorized modifications.

5) **Requirements on Environment**

   The equipment should be installed and stored in a cool and dry place, away from direct sunlight, flammable or explosive substances, etc. Keep gaps not less than 3cm around the device to facilitate ventilation for cooling.

6) **Accessories**

   Make sure to use accessories from the manufacturer recommended in the attachment. Insulate circuit ground and metal shell for all the peripherals.

   Before installation, please open the package and ensure that all parts are included. If there are any problems, please contact us as soon as possible.

1. Product characteristics

1.1. Overview

MZ5-8CHAHD/4IPC is developed from the brand-new platform, which is an advanced and function-extensive Mobile Video Recorder specially designed for network high definition, analog audio & video input and excellent extension. It uses high-speed processor and embedded operating system, patented file system 4.0 to ensure the safety and integration of important data, combining with H. 264 video compression / decompression technology, network technology and GPS locating technology. It can realize AHD 1080P and 720P high definition, IP 1080P and 720P high definition, WD1, WHD1, WCIF, D1, HD1, CIF video recording and vehicle driving information recording, as well as wireless data upload. With center software it also achieves alarm linkage central monitoring, remote management and playback analysis. It is powerful with modular design, flexible installation, easy maintenance and high reliability.

1.2. Specifications

| Function Overview		Preview, Recording, Playback, Network, Locating
System	OS	Linux 3.0.8
	Control Mode	Network (3G/4G/WIFI), Mouse
Video	Input	8 channels AHD (1080P)+4 channel IPC (1080P)
	Output	2 channels
	Total Resource	PAL: 8*720P@25FPS (AHD) +4*1080P@30FPS (IPC) Or 8*1080P@12FPS (AHD) +4*1080P@30FPS (IPC) NTSC: 8*720P@30FPS (AHD)+4*1080P@30FPS (IPC) Or 8*1080P@15FPS (AHD)+4*1080P@30FPS (IPC)
	Video Signal Standard	Electrical level: 1Vpp Impedance: 75Ω NTSC/PAL Optional
Audio	Input	12 channels
	Output	2 channels
	Audio Signal Standard	Electrical level: 2Vpp Input impedance: 4.7kΩ
Display	Display Split	1/4/9 Image display
	OSD	GPS information, alarm, temperature, acceleration, voltage, device information, software version, MCU version, network status
	Operation Interface	Semi-transparent GUI
Recording	Video/Audio Compression	Video: H.264
		Audio: ADPCM, G.711A, G.711U
	Image Resolution	PAL: 1080P, 720P, WD1(928X576), WHD1(928X288), WCIF(464X288), D1(704X576), HD1(704x288), CIF(352x288); NTSC: 1080P, 720P, WD1(928X480), WHD1(928X240),

| Recording		WCIF(464X240), D1(704x480), HD1(704x240), CIF(352x240); Digital: 720P(1280X720)
	Image Quality	8 Levels adjustable
	Recording Mode	Schedule/Alarm (sensor trigger, speed, acceleration, video loss, temperature)
	Pre-recording	0-60minutes
	Post-recording	0-30 minutes
	Mirror Recording	Yes
Playback	Playback Channel	4 channels by local playback
	Search Mode	Date/time, channel, event
Network	3G/4G	EVDO/WCDMA/TDD-LTE/FDD-LTE
	WIFI	802.11b/g/n
	Ethernet	RJ45 x 1 (10/100 M/1000M)
	IPC Ethernet	6-pin M12 (4x10/100M, PON power supply)
Locating	GPS	Location tracking, speed detection and time sync
Storage	Hard disk	Supports 2.5" hard disk up to2TB
Interface	USB	USB2.0 x 2
	SD	SD slot x 1
	SIM	SIM slot x 2
	RS232	RS232 X 2
	RS485	RS485 X 2
	Sensor	8 inputs, 2 outputs
	Serial	G-sensor (Internal)
	Speed	1 channel pulse speed detection
	Interface	Touch panel CP4 Optional
	Intercommunication	I MIC interface
	VGA	VGA x 1
Power	Input	DC8-36V, ACC
	Output	5V@500mA, 12V@500mA
	Max Power Consumption	105.3W
	Standby Power Consumption	≈0W
Physical Characteristics	Dimension (L x W x H)	295 x 222 x 89 mm (with back cover and shelves)
	Weight	2.6 kg
Environment	Operating Temperature	-40℃- +70℃ (With heater) or -10℃- +70℃
	Operating Relative Humidity	8%-90%（No Condense）

1.1. System diagram
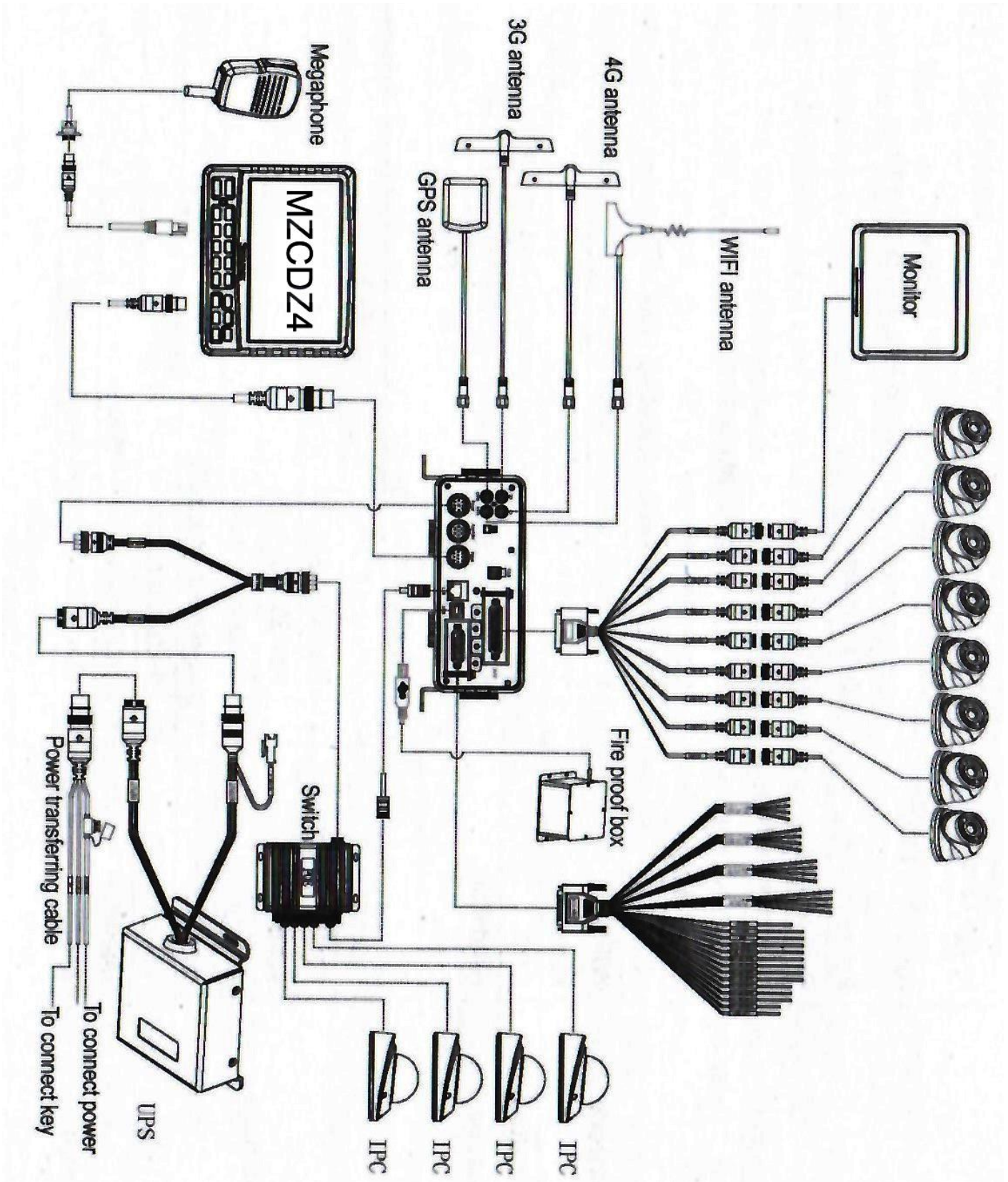
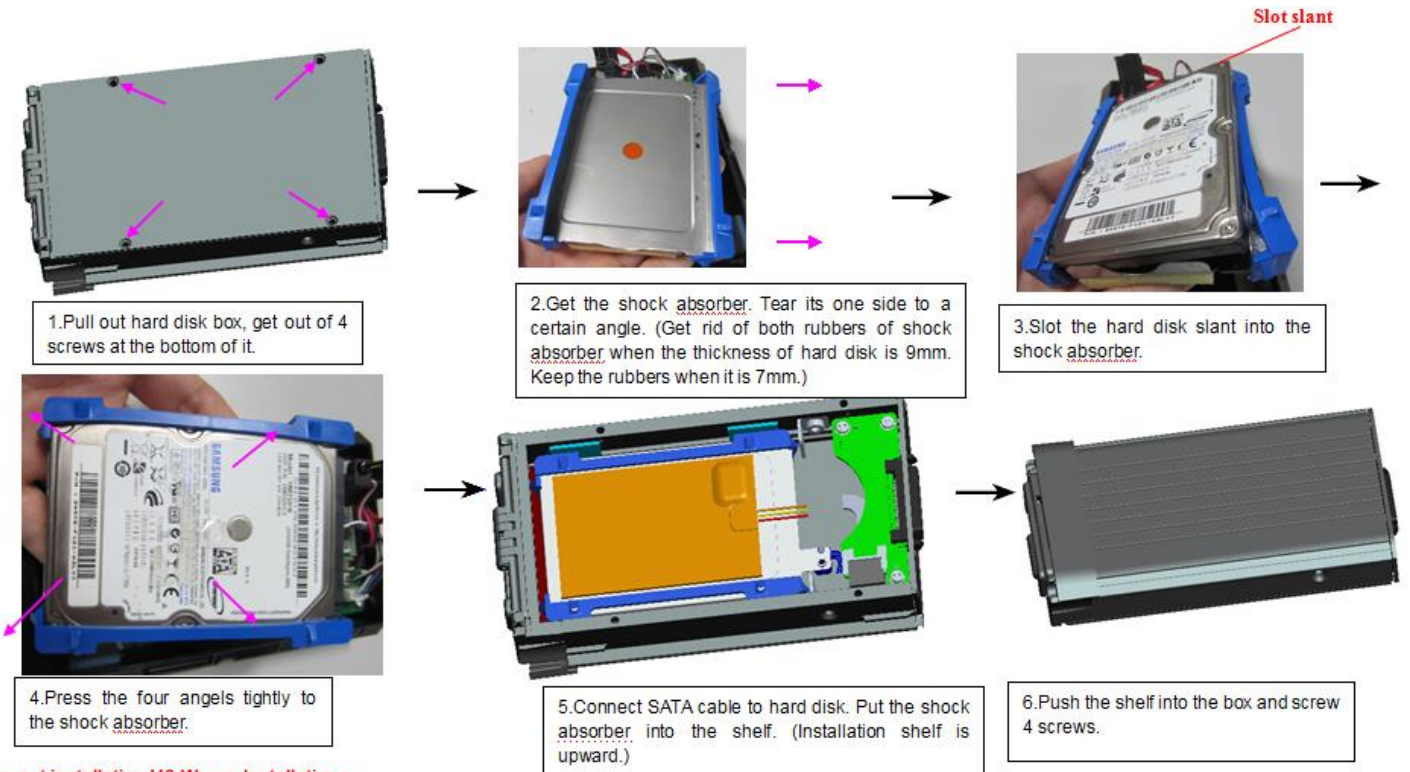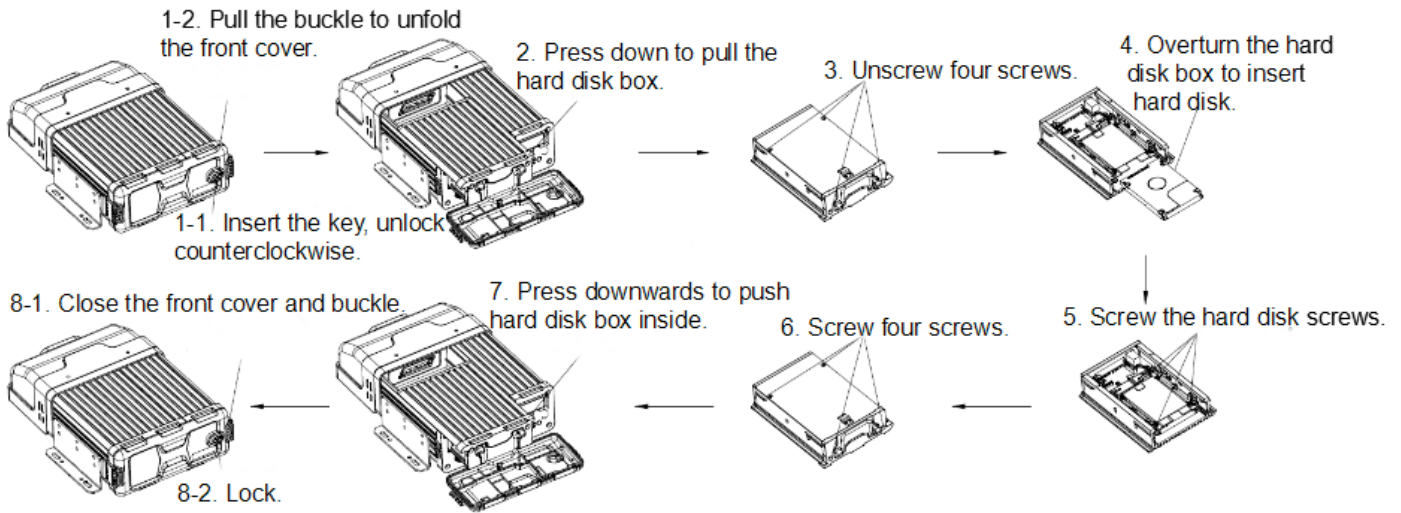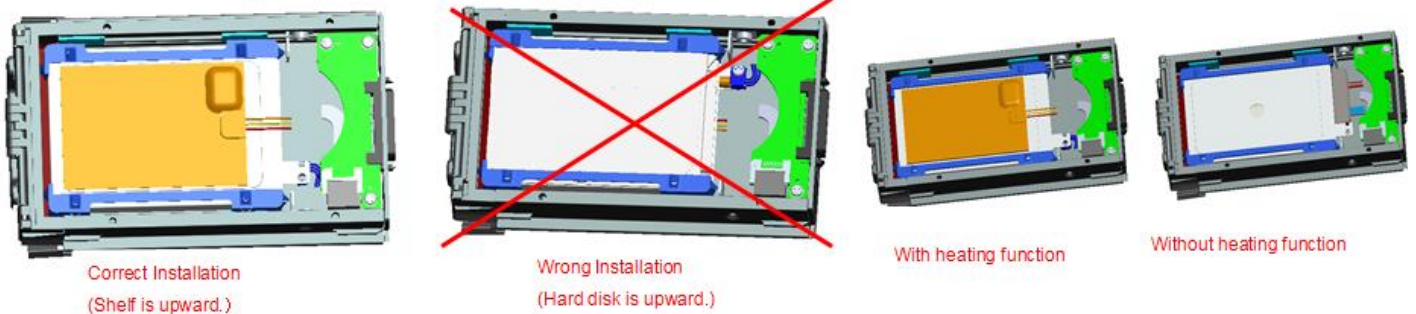## 1.1. External interface

Dimension (Unit: mm)
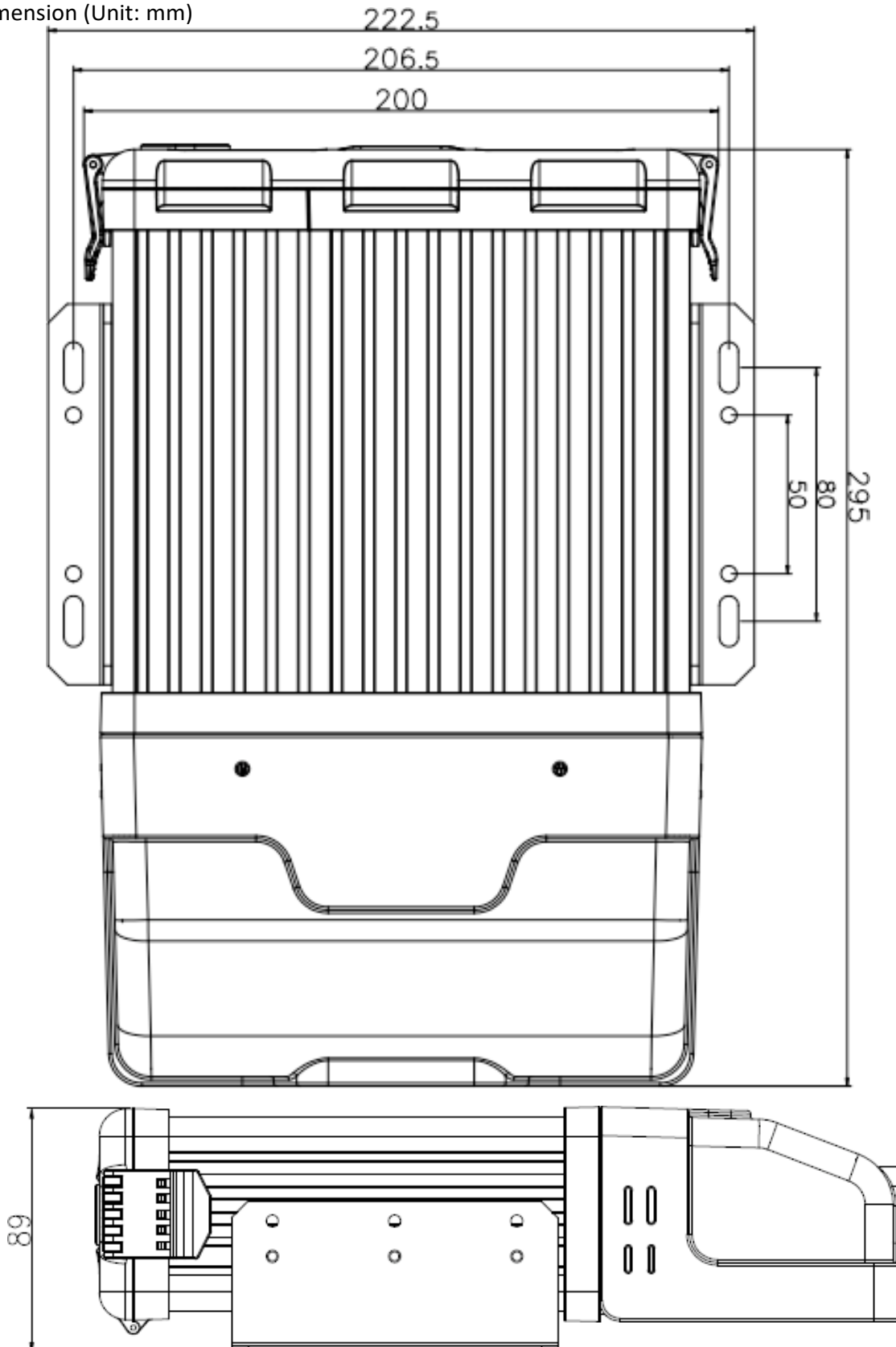
2) Front Panel
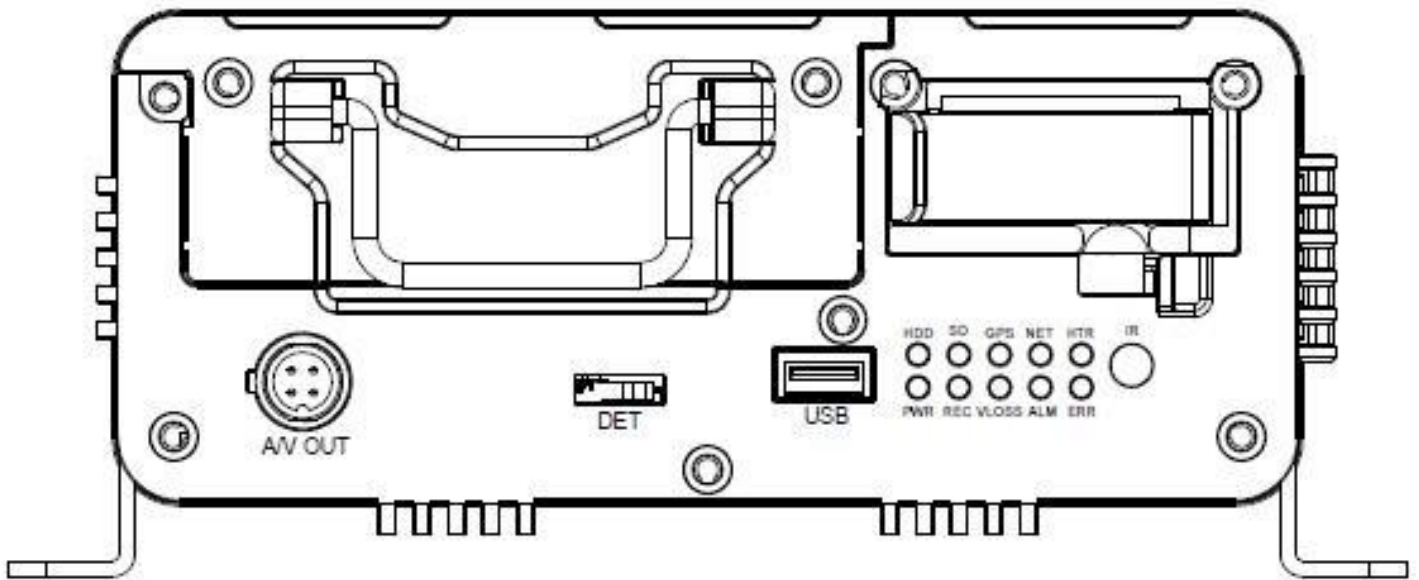
3) Rear Panel
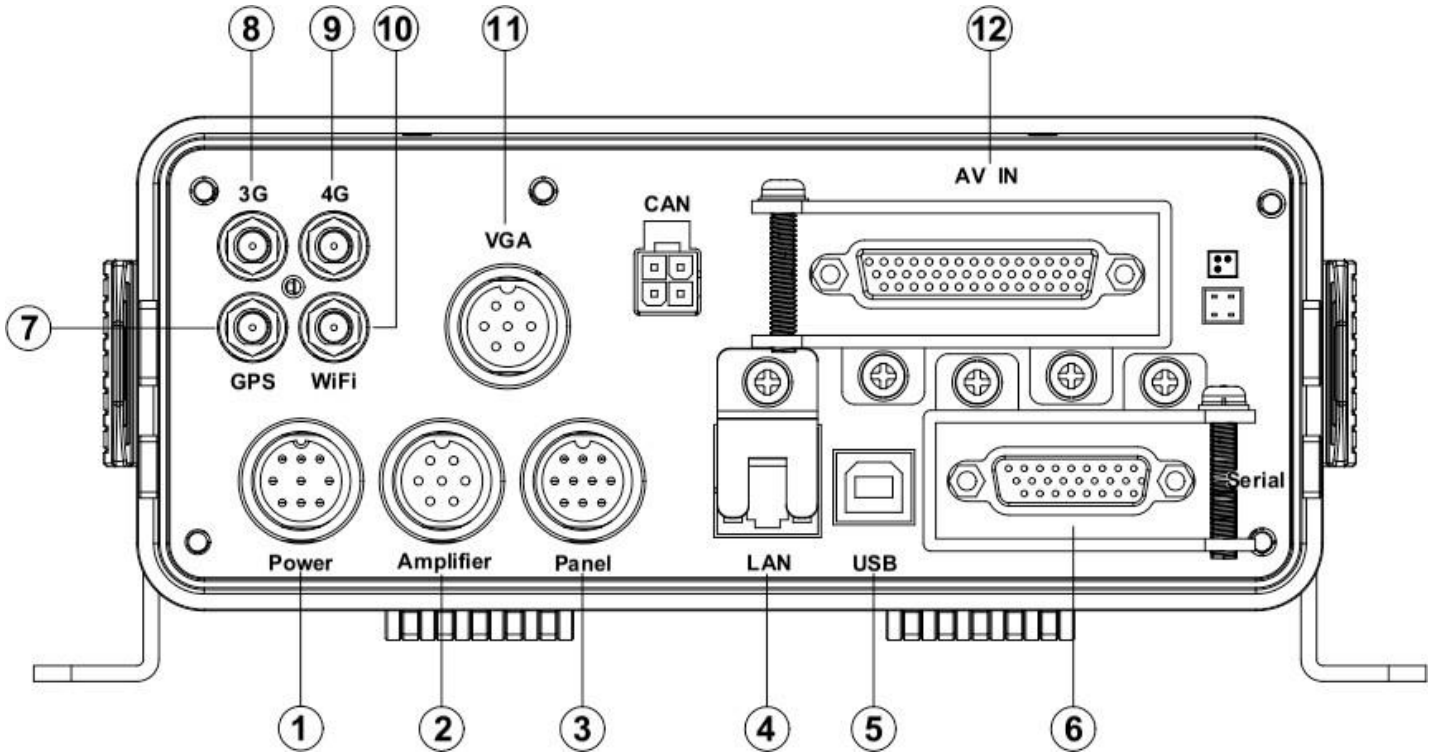
Serial number	Print	Description
1	DC8-36V	Power Input
2	Amplifier	Amplifier interface
3	Panel	Control panel (CP4)
4	LAN	Network interface
5	USB	USB interface
6	Serial	Serial interface
7	GPS	GPS Antenna Interface
8	3G	3G Antenna Interface
9	4G	4G Antenna Interface
10	WIFI	WIFI Antenna Interface
11	VGA	VGA display
12	A/V	A/V input 1~8, A/V output

1.5. Hard disk installation

1-2. Pull the buckle to unfold the front cover.

1-1. Insert the key, unlock counterclockwise.

2. Press down to pull the hard disk box.

3. Unscrew four screws.

4. Overturn the hard disk box to insert hard disk.

8-1. Close the front cover and buckle.

8-2. Lock.

7. Press downwards to push hard disk box inside.

6. Screw four screws.

5. Screw the hard disk screws.

Slot slant

1.Pull out hard disk box, get out of 4 screws at the bottom of it.

2.Get the shock absorber. Tear its one side to a certain angle. (Get rid of both rubbers of shock absorber when the thickness of hard disk is 9mm. Keep the rubbers when it is 7mm.)

3.Slot the hard disk slant into the shock absorber.

4.Press the four angels tightly to the shock absorber.

5.Connect SATA cable to hard disk. Put the shock absorber into the shelf. (Installation shelf is upward.)

6.Push the shelf into the box and screw 4 screws.

Correct installation VS Wrong Installation:

Correct Installation (Shelf is upward.)

Wrong Installation (Hard disk is upward.)

With heating function

Without heating function

1.6. SIM card installation

1-2.Pull the buckle to unfold the front cover

2.Open the card gate, insert SIM1(3g)/SIM2(4G) and SD card (down), then close the gate

1-1.Insert the key, unlock counter clockwise

3-1.Close the front cover and buckle

3-2.Lock
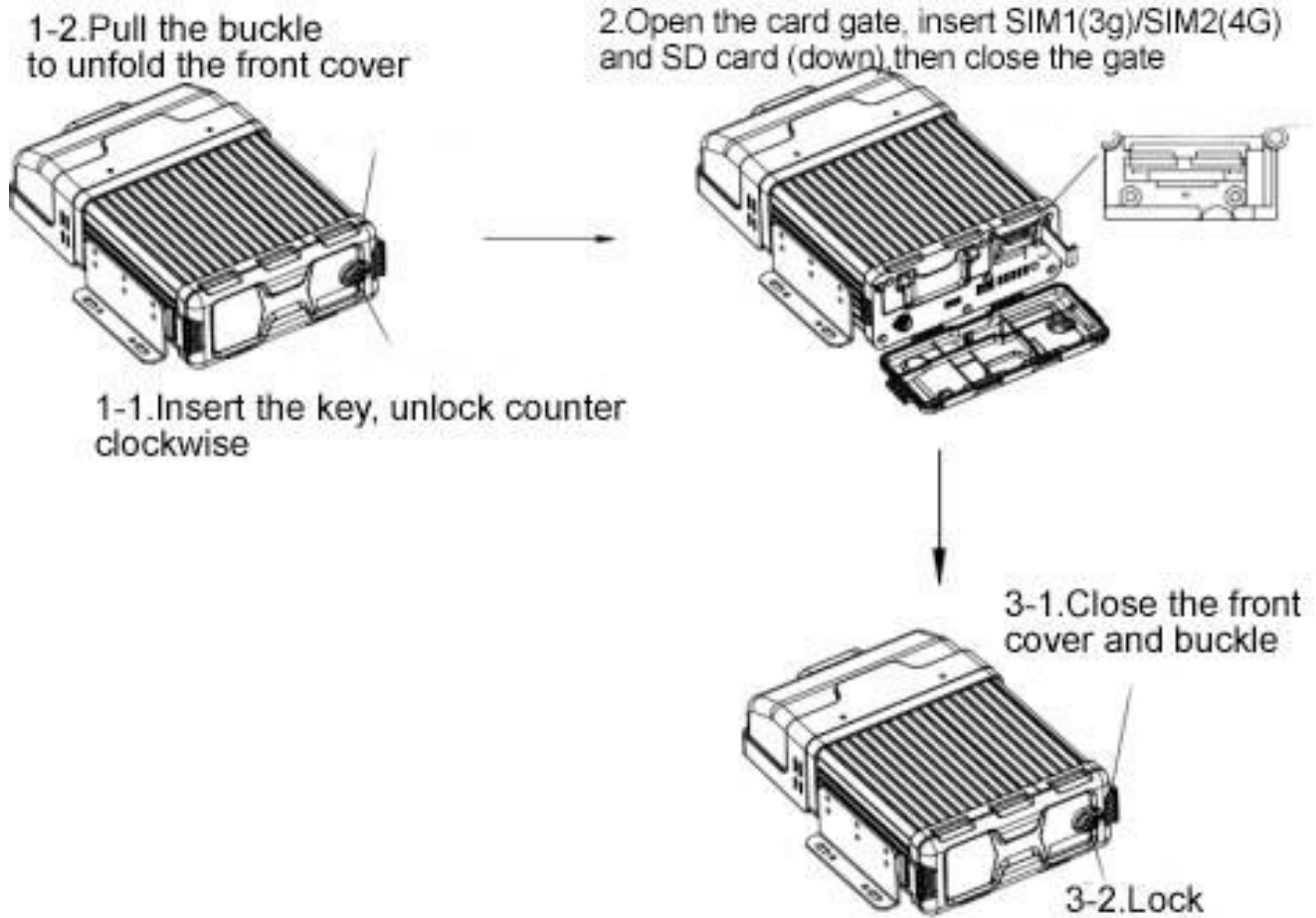
1.7. Definition and pictures of external cables

Alarm cable definition

Diagram

DB26

1	232TXD-1
2	232RXD-1
19	+5V
20	GND

232-1

10	232TXD-2
11	232RXD-2
19	+5V
20	GND

232-2

3	485A-3
4	485B-3
21	+5V
22	GND

485-3

12	485A-4
13	485B-4
21	+5V
22	GND

485-4

5	12V OUT
14	SENSOR-IN1
23	SENSOR-IN2
6	SENSOR-IN3
15	SENSOR-IN4
7	SENSOR-IN5
16	SENSOR-IN6
25	SENSOR-IN7
8	SENSOR-IN8
24	SENSOR OUT1
26	SENSOR OUT2
9	GND
17	SPEED+
18	SPEED-
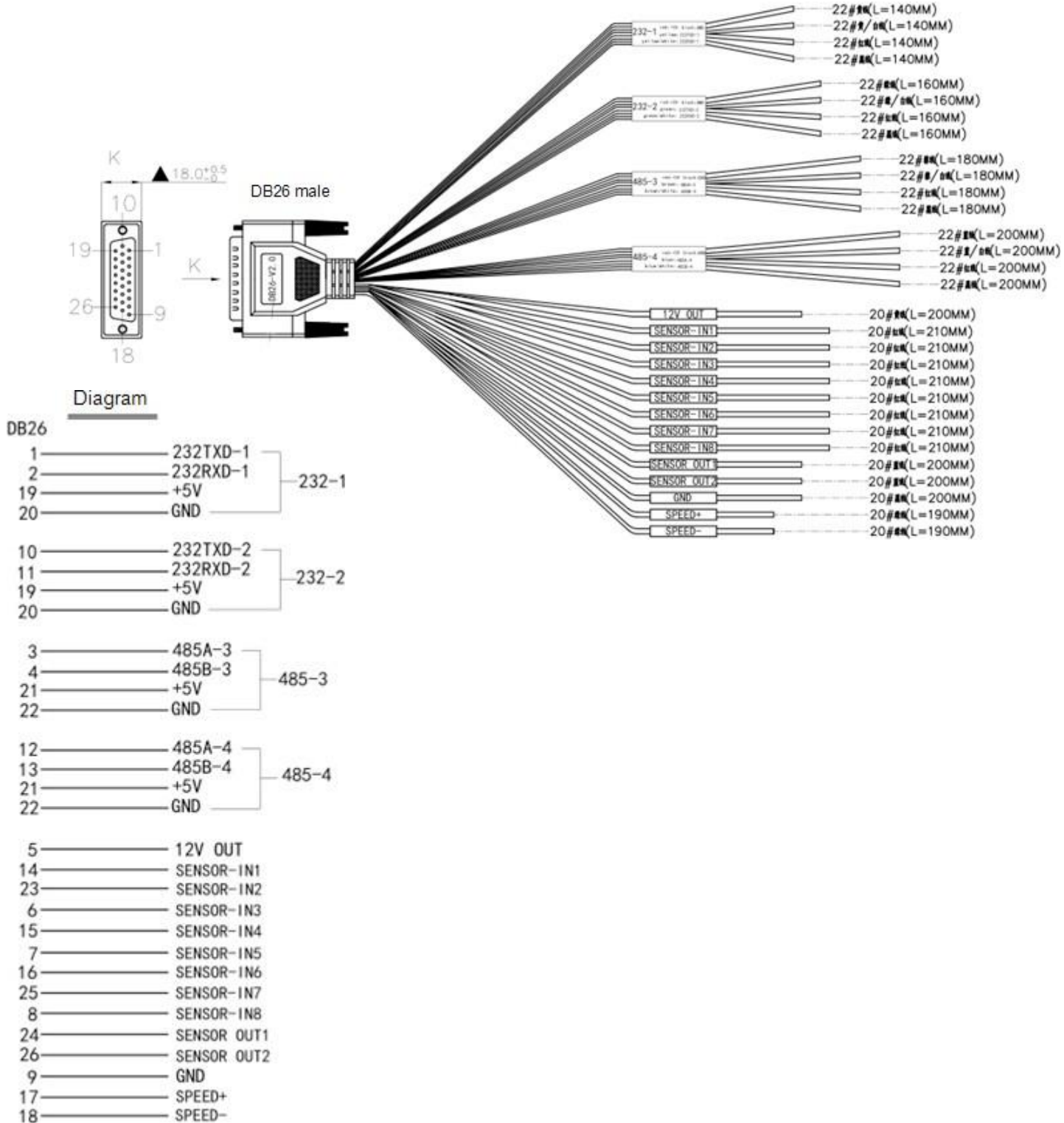
Video cable definition
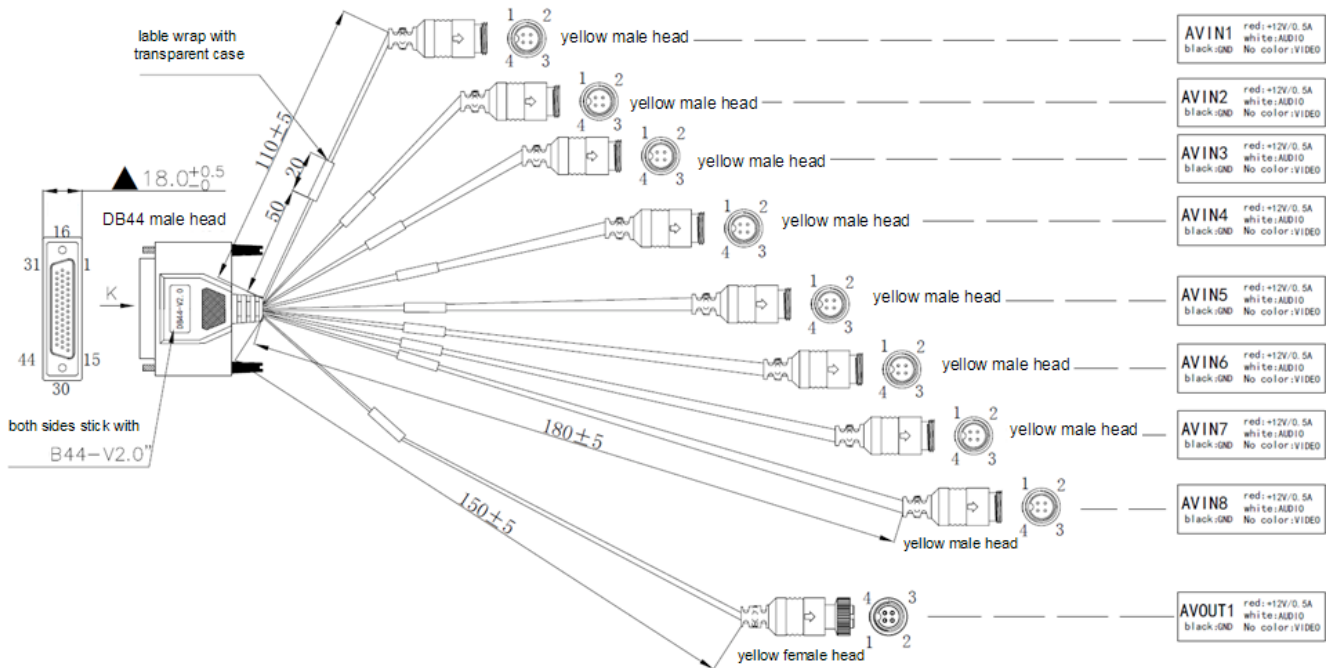
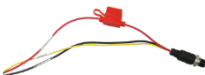| AV IN1	(black:GND)	red:+12V/0.5A,white:AUDIO,no color:VIDEO
AV IN2	(black:GND)	red:+12V/0.5A,white:AUDIO,no color:VIDEO
AV IN3	(black:GND)	red:+12V/0.5A,white:AUDIO,no color:VIDEO
AV IN4	(black:GND)	red:+12V/0.5A,white:AUDIO,no color:VIDEO
AV IN5	(black:GND)	red:+12V/0.5A,white:AUDIO,no color:VIDEO
AV IN6	(black:GND)	red:+12V/0.5A,white:AUDIO,no color:VIDEO
AV IN7	(black:GND)	red:+12V/0.5A,white:AUDIO,no color:VIDEO
AV IN8	(black:GND)	red:+12V/0.5A,white:AUDIO,no color:VIDEO
AV OUT1	(black:GND)	red:+12V/0.5A,white:AUDIO,no color:VIDEO

Amplifier cable definition

150±10
50±10(5X)
250±10(4X)

YL16-7 aviation head, black injection

red wire 1 — 2 black wire
fan
2pin plug
SM-2Y
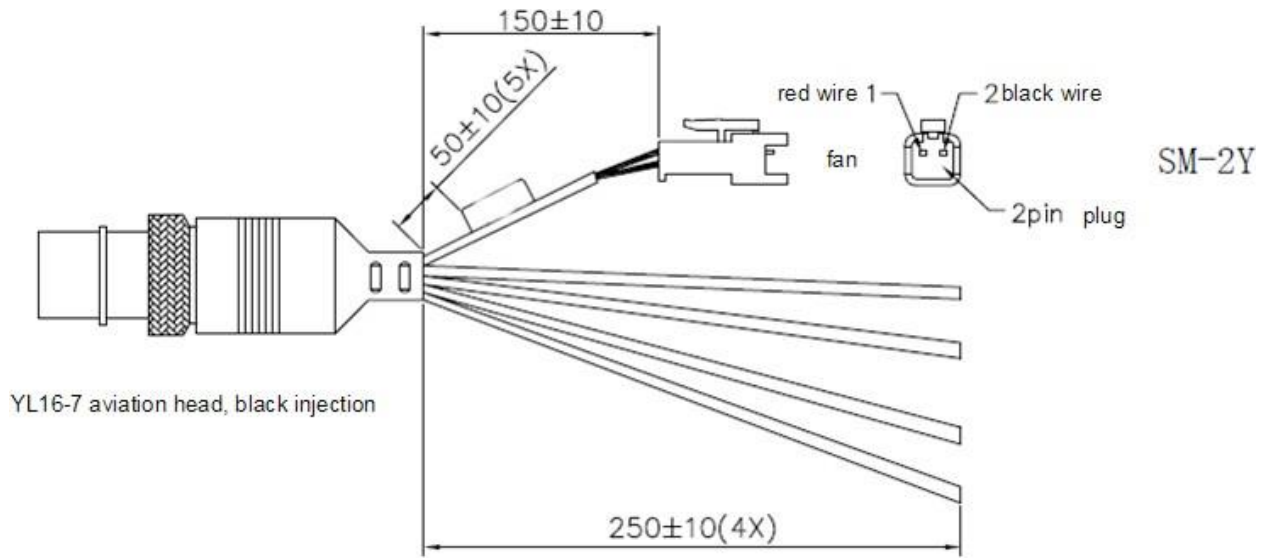
YL16-7 female head

		lable
1	outside speaker+(white wire)	Ext Speaker+
2	outside speaker-(black wire)	Ext Speaker-
3	inside speaker+(green wire)	Int Speaker+
4	FAN (2)	FAN
5	FAN(1)	
6	inside speaker-(black wire)	Int Speaker-
7	no connection	

Standard accessories

Accessories	Description	Quantity	Accessories	Description	Quantity
	Vehicle fuses (7.5A and 15A)	2		MDVR key	1
	9 pin aviation power input wire	1			

Optional accessories

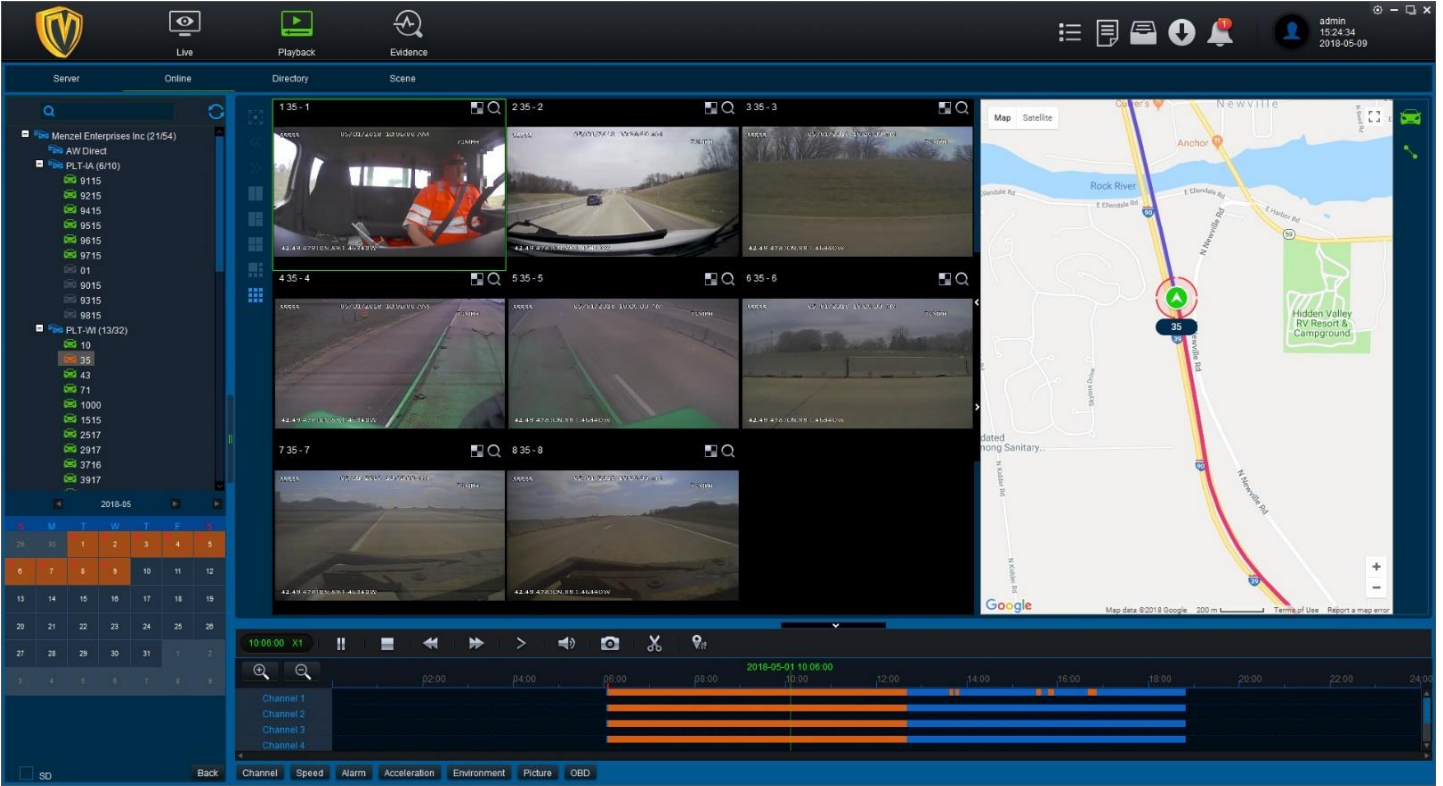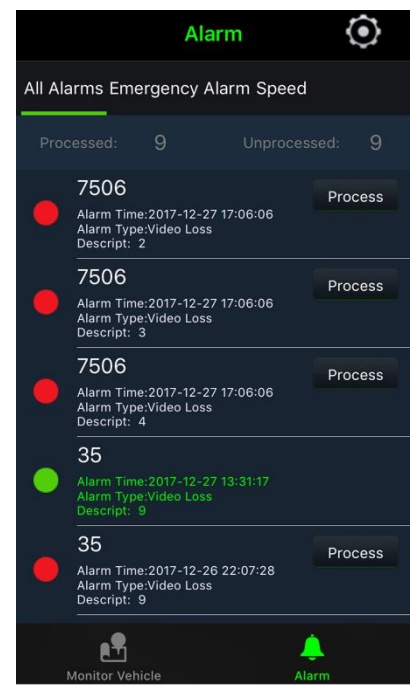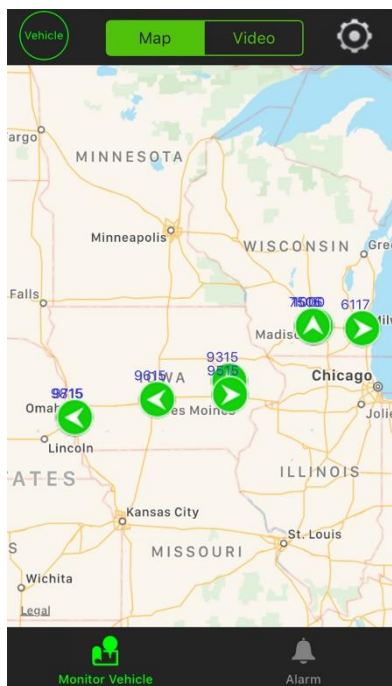| Accessories	Description	Accessories	Description
	UPS		panic panel
	Wi-Fi to laptop		Back up touch screen
	Disk reader		A/V OUT cable
	Fire proof box (Black Box)		Serial connection box
	Megaphone		Serial alarm wire
	Built in 3G/4G module and Antenna		GPS module and Antenna
	Built-in WIFI module and Antenna		PTZ Camera
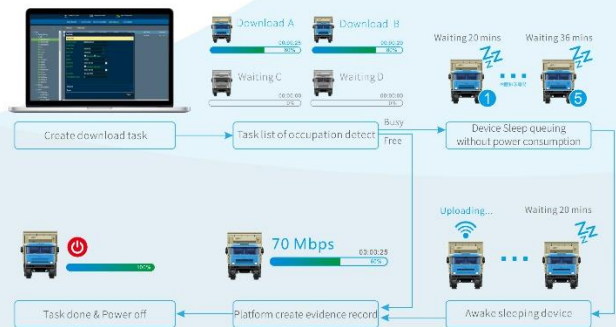
Desktop Software:
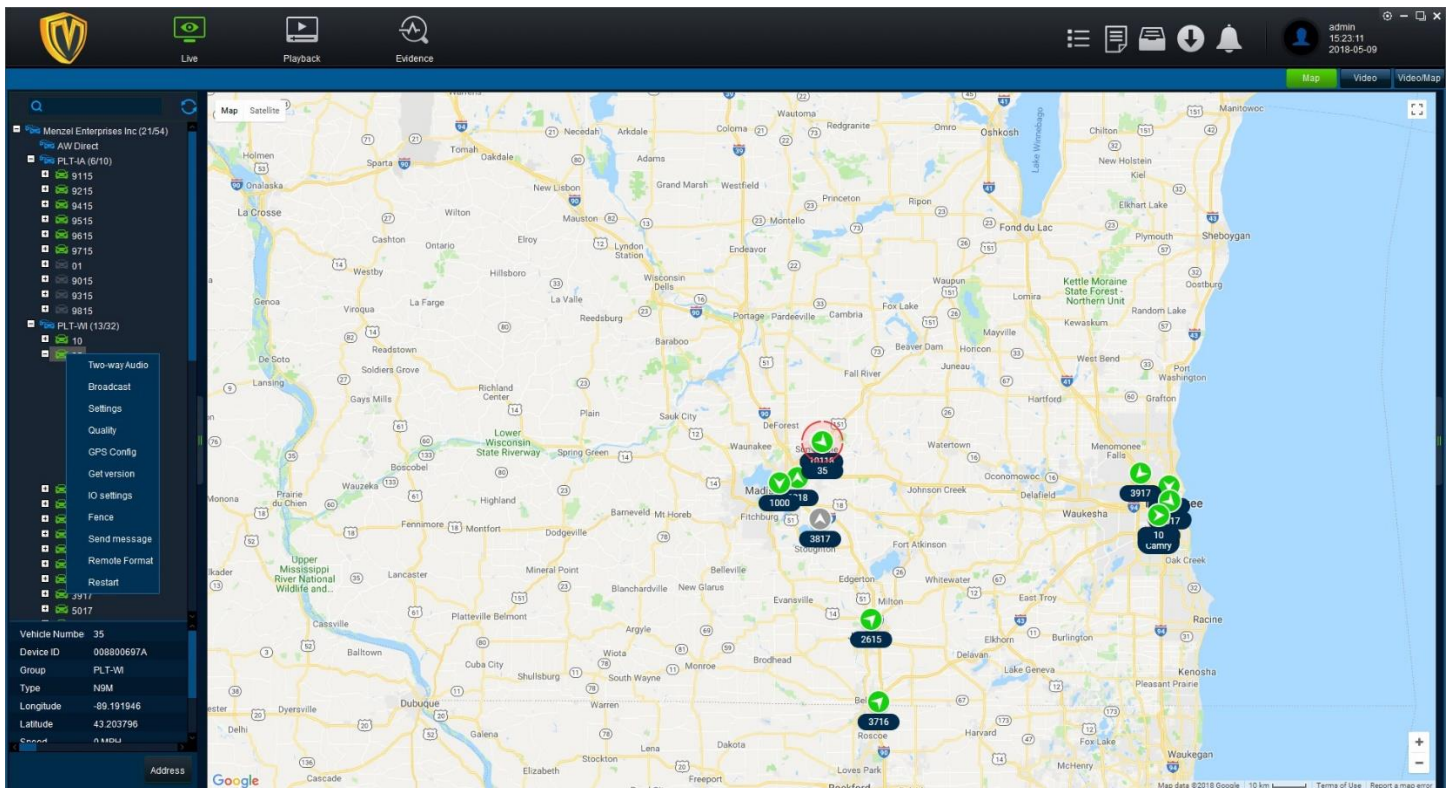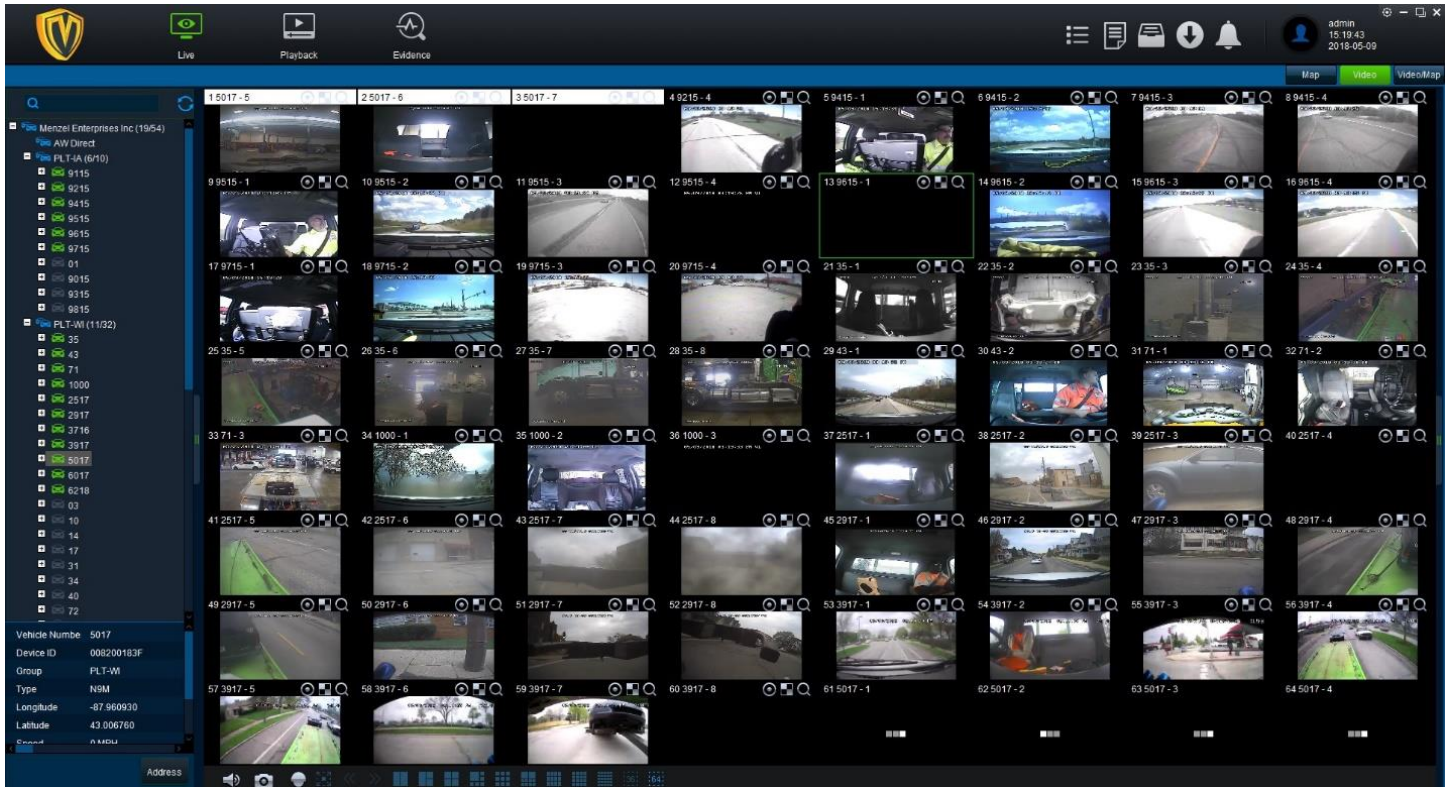
Apps IOS & Android:

LIVE STREAM

GPS

ALERTS

2. FAQ

1) The system can't start?

Usually this problem results from the incorrect power connection. Please follow below steps to

check the power connection:

1. Check the input power, whether the power wire is connected correctly, whether the ground wire is connected back to the battery, and whether the fuse on the power wire is in good condition.
2. Check whether the ACC signal wire input to the power is with voltage higher than 7 V.
3. Check whether the device key is closed.

2) The MDVR restarts uninterruptedly?

Please follow below steps to check it:

1. Check whether the voltage of MDVR is insufficient. If the voltage is less than the start-up voltage of the device, the device would always restart.
2. The problem in hard disk/SD card may cause the failure to start. Take off the storage part and check whether it is broken down.

3) The device can't record?

Usually this problem results from the storage disk or camera. Please follow below steps to check it:

1. Check whether the storage disk is installed, whether it is in good contact, and whether the disk can be read normally in computer.
2. Check whether the storage disk is formatted. The storage disk should be formatted before normally storing record files.
3. Check whether there is video signal input into the device from camera, and whether there is video/image on the screen.

4) There is no voice in record file?

Please follow below steps to check it:

1. Check whether there is an external pickup, or whether the camera features with the function of audio collection.
2. Access to Video Channel Settings, check if Audio is set on.
3. There must be video input into the channel for recording and it must record normally.

5) The GPS works abnormally?

Please follow below steps to check it:

1. Check whether the GPS antenna is installed correctly. There is a silk print logo on the GPS antenna holder behind the host device.
2. Check whether the antenna receiver is sheltered. It should not be covered by any stuff, which may cause it not to receive signals.
3. Environmental influence such as tree shades, being inside tunnel, driving near tall building or elevated roads, thunderstorms or other weather influence, etc. can

also cause signal loss or receiving wrong signals.

6) The device can't shut down in ignition switch mode?

Please follow below steps to check it:

1. Check if the ACC line connection mode is correct; and check whether there is voltage on ACC yellow line when the key is turned off.

2. If the device has been set with schedule recording, it can't shut down if it is still during recording time of the task table

7) How to install the WIFI antenna?

The antenna must be installed on unobstructed place of the roof and be fixed with glue.

8) The device cannot be shut down when in ignition ON/OFF mode.

Check if the ACC signal wiring is correct and if there is voltage for ACC signal line after the key is turned off.

If you have set timing recording, and at the current time it is still in task recording, the device may be impossible to be shut down.

9) GPS anomaly.

Check if the GPS antenna is properly installed. There is silkscreen GPS identification on the GPS antenna pedestal on the back of the MDVR device.

Check if the antenna connector is blocked and make sure the antenna connector not be covered by other things.

Trees block, being inside the tunnel, driving near tall buildings or viaduct, thunderstorms and other environmental effects may also cause to receive no GPS signal or error signal.

10) No voice in video files.

See if there is an external microphone, or if the camera cannot capture audio; Enter the video channel settings, then check if the audio is open;

Ensure video input and normal recording, on which the audio recording channels must be based.

11) The device doesn't record.

Make sure the storage part is installed and of fine contact, the data can be read on PC, and the storage device is not formatted.

Check if there are video signal input to the main device, and whether there are video images in the channel pictures.

12) Why has the MDVR device always been in a state of restart?

Check whether the MDVR device voltage is insufficient. If the device voltage does not reach the start voltage, the device will restart.

Hard disk or SD card may cause the MDVR device unable to start. You need to remove the storage device and then boot up to verify whether it is caused by the storage device.

13) Why the MDVR device cannot start?

Check the device input power to see if the power wiring is correct, if there is

ground wire connected back to the battery, and if the fuse of the power wire is n

good condition;

Check whether there is voltage (more than 7V) on power input ACC signal wire;
Check whether the hard disk key is turned off.

1) What is the log in user name and password for new device?

The default user name and password are both "admin". The device password can be set as empty.

2) In the ON/OFF basic settings, the low voltage protection is 8V, why?

After testing, when the battery is lower than 8V, the voltage will lower down quickly.

Therefore, the lowest voltage is set to be 8V. When it is lower than 8V, the MDVR device

will recognize it as external power-off and then into shutdown state

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