

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



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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 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. Nothing contained in this manual is intended to supplement or enlarge the Limited Hardware Warranty provided with the product, and the sole remedy of a purchaser for a defective product shall be as set forth in the Limited Hardware Warranty (a copy of which is located at the end of this manual).

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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 exert heavy force or pressure onto the equipment during installation.

4) **Requirements on Engineers & Technicians**

All checking and maintenance should be done by qualified technicians and engineers. We have no responsibility for 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, and other environmental conditions that could damage the equipment. Keep gaps not less than 3 centimeters around the device to facilitate ventilation for cooling.

6) **Accessories**

Make sure to use accessories that are from or recommended by the manufacturer. 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 a new platform, which is a Mobile Video Recorder specially designed for network high definition, analog audio & video input and extension. It has a high-speed processor and embedded operating system, patented file system 4.0 to integrate data, combined 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 a modular design with flexible installation and easy maintenance.

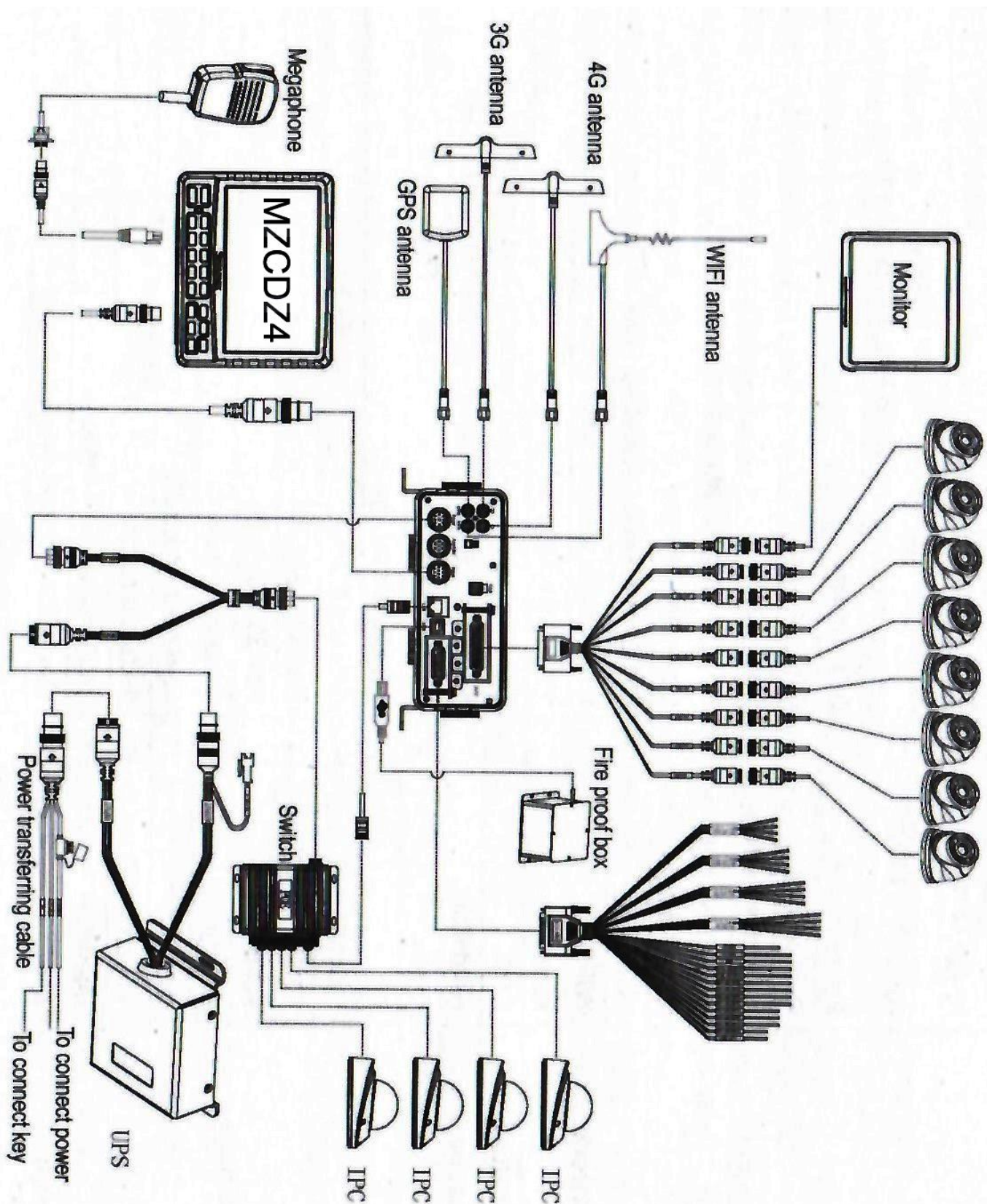
1.2. Specifications

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 to 2TB
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
	Operating Temperature	-40°C- +70°C (With heater) or -10°C- +70°C

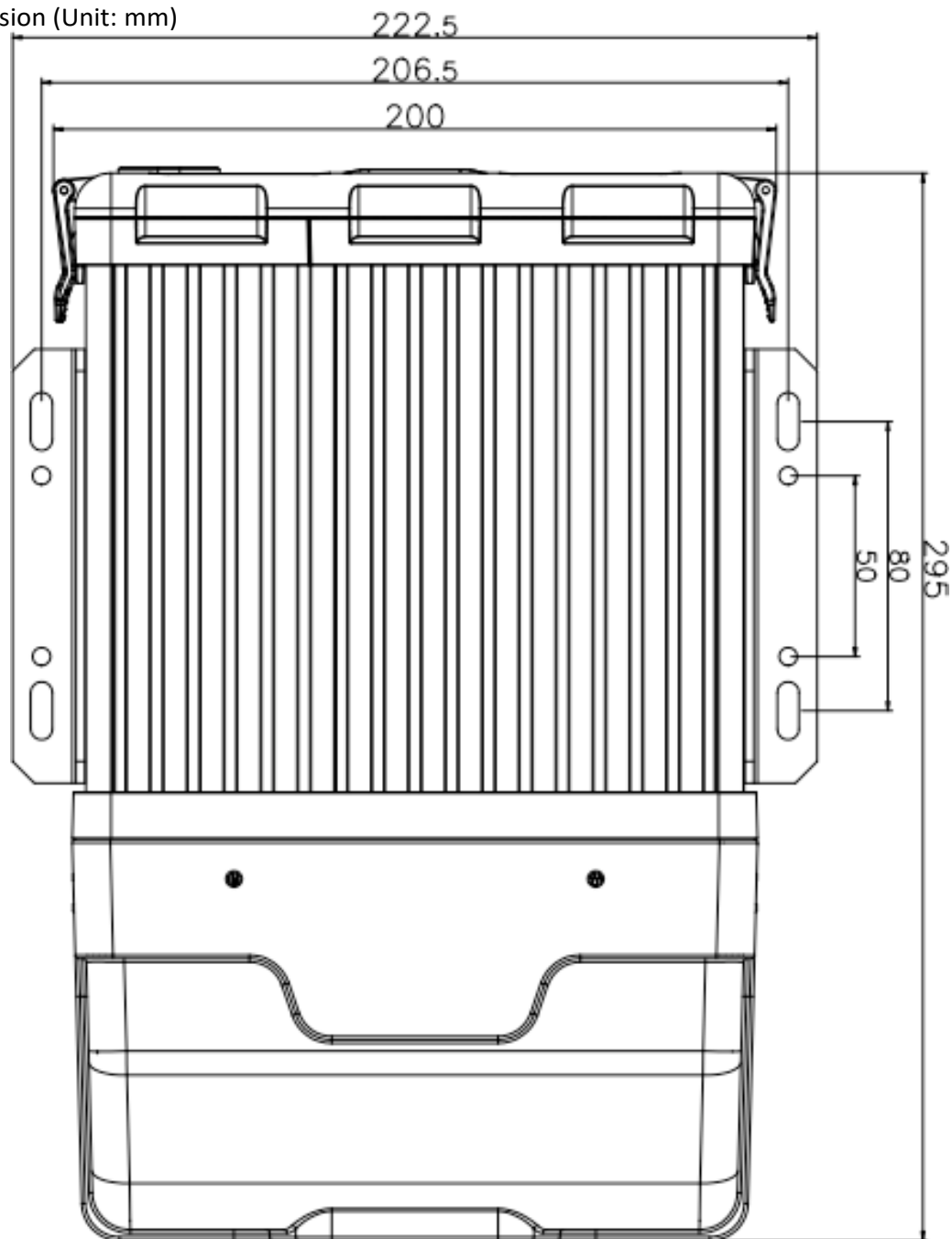
Environment	Operating Relative Humidity	8%-90% (No Condense)
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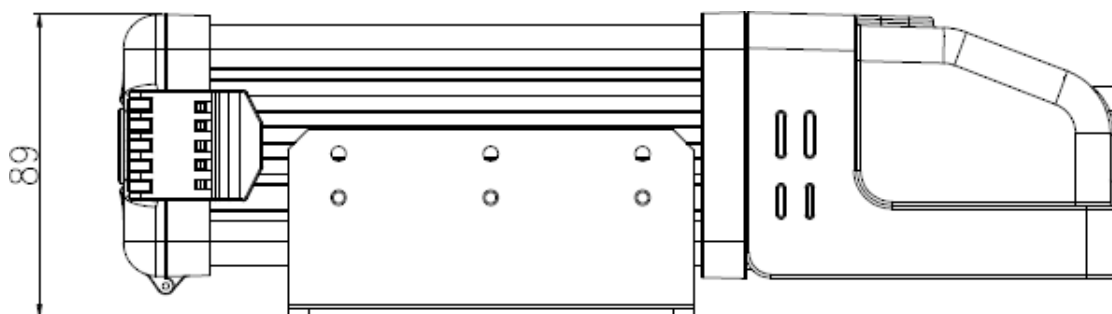
1.1. System diagram



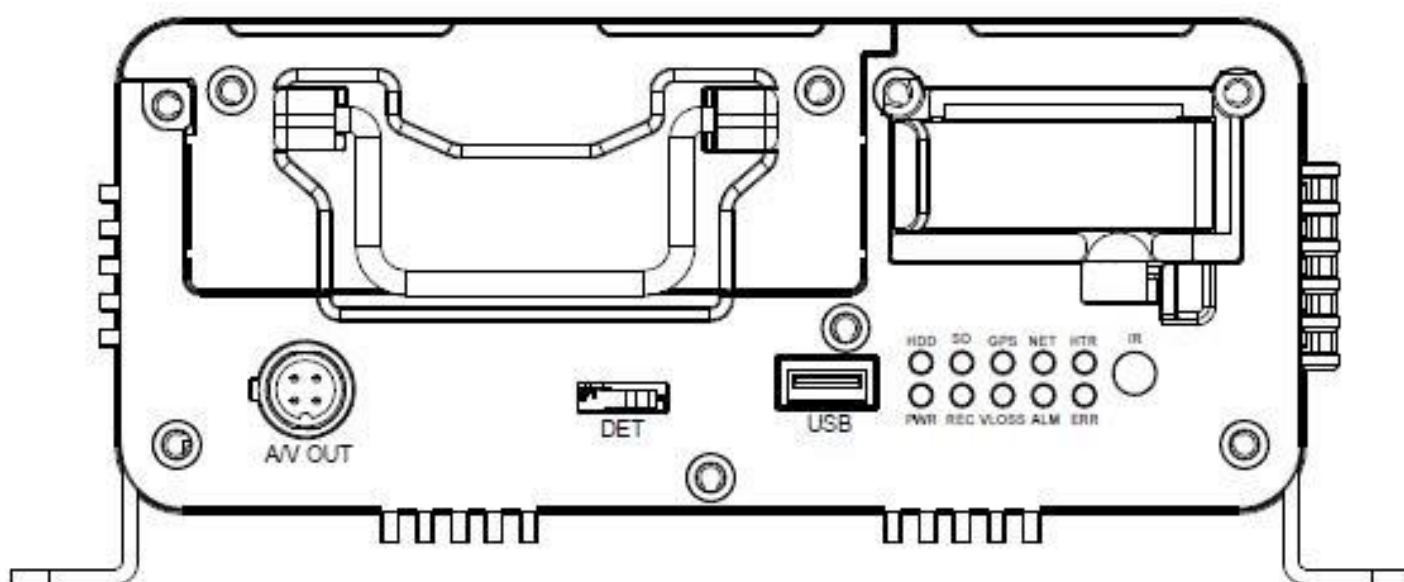
1.1. External interface

Dimension (Unit: mm)

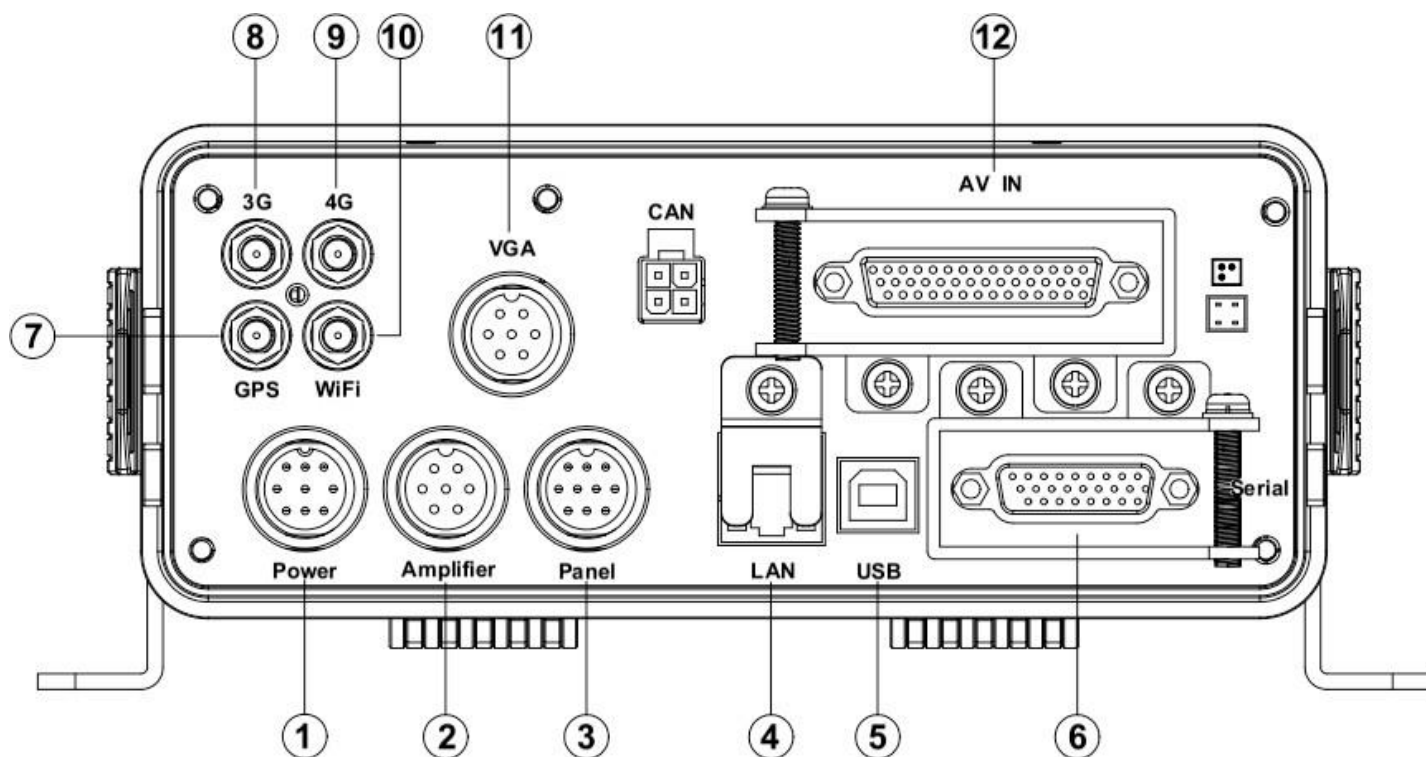




2) Front Panel



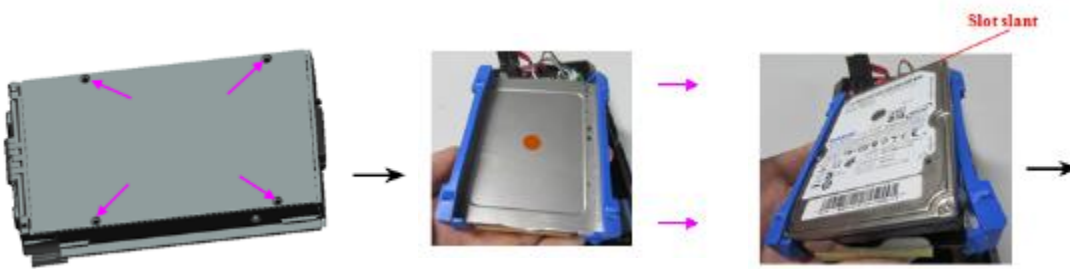
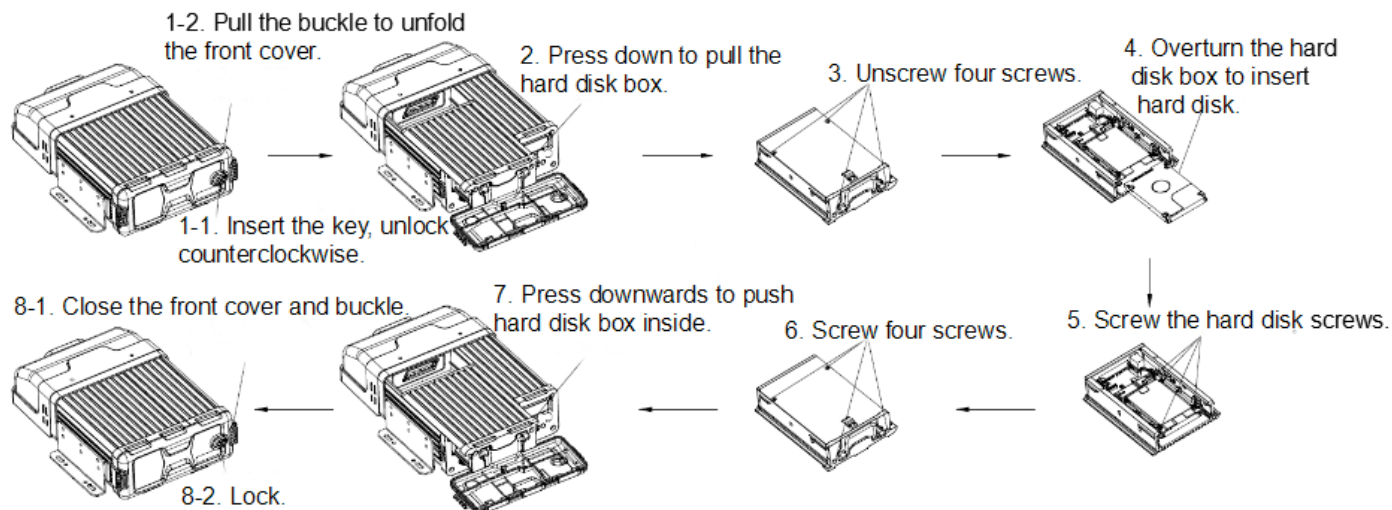
3) Rear Panel



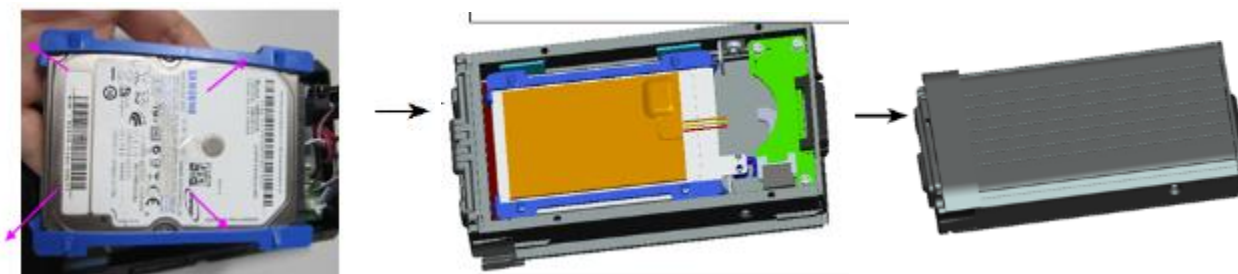
Serial number	Print	Description
1	DC8-36V	Power Input
2	Amplifier	Amplifier interface
3	Panel	Control panel (CP4)
4	LAN	Network interface
5	USB	USB interface
6	Serial	Serial interface

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/replacement

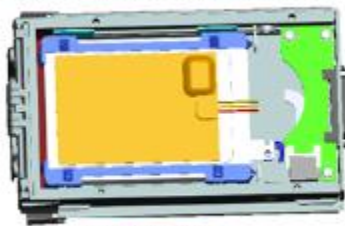


1. Remove the hard disk box and remove 4 screws from the bottom.
2. Install the shock absorber by bending one side at an angle. If the hard disk is 9mm in thickness you may discard both rubber sides of the shock absorber. If the hard disk is 7mm in thickness do NOT discard the shock absorber.
3. Slide the hard disk into the rubber absorber.



4. Apply gentle pressure to fit the hard disk into all corners of the shock absorber so that the hard disk is encased along the sides by the shock absorber.
5. Connect the SATA cable to the hard disk. Install the shock absorber (with the encased hard disk) into the casing making sure the shelf is facing upward.
6. Install the shelf into the safety box and reinstall 4 screws.

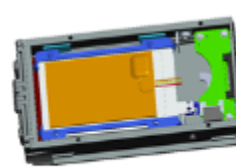
Correct installation VS Wrong installation :



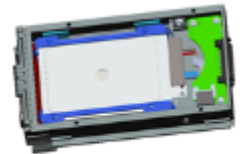
Correct Installation
(Shell is upward.)



Wrong Installation
(Hard disk is upward.)



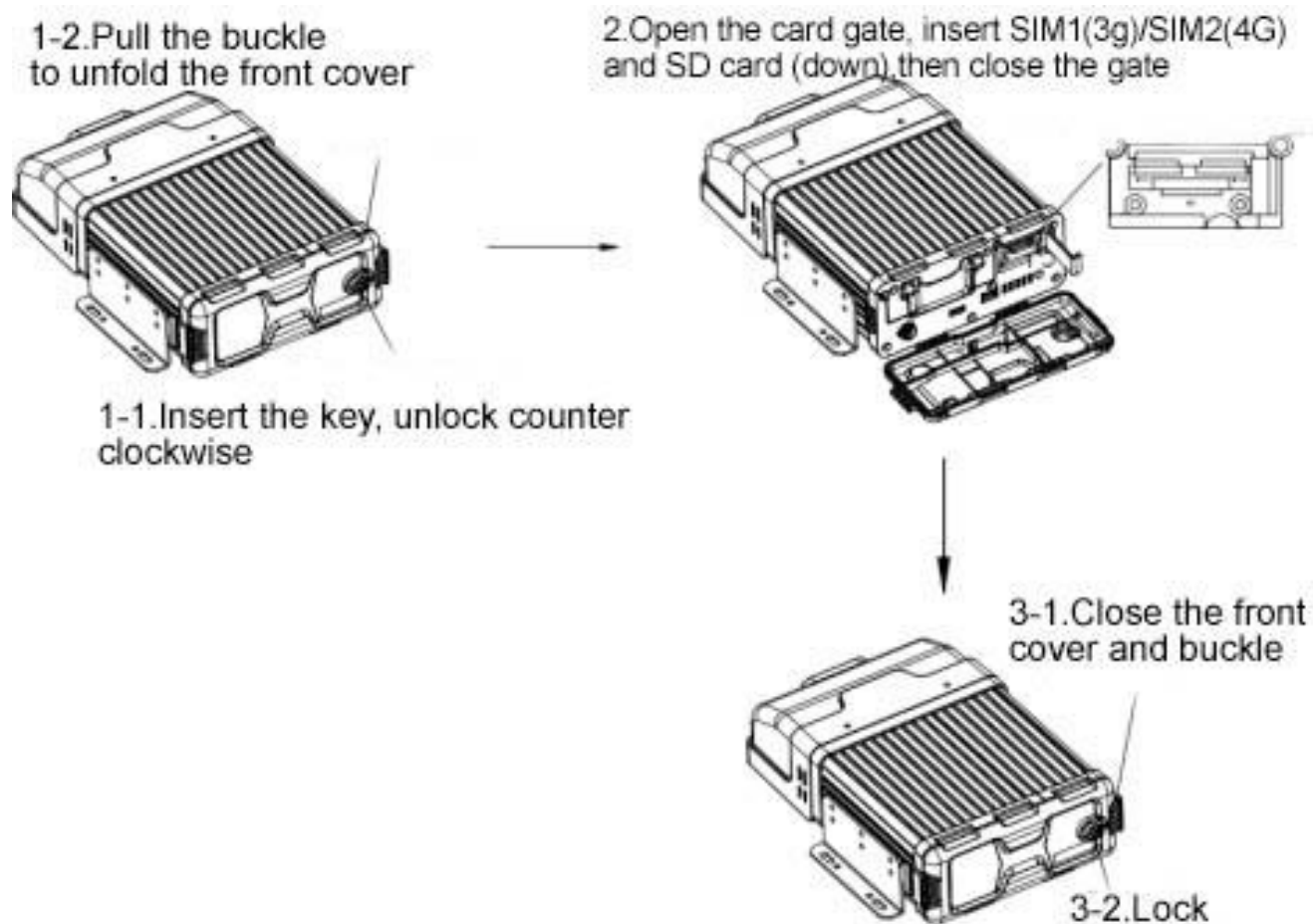
With heating function



Without heating function

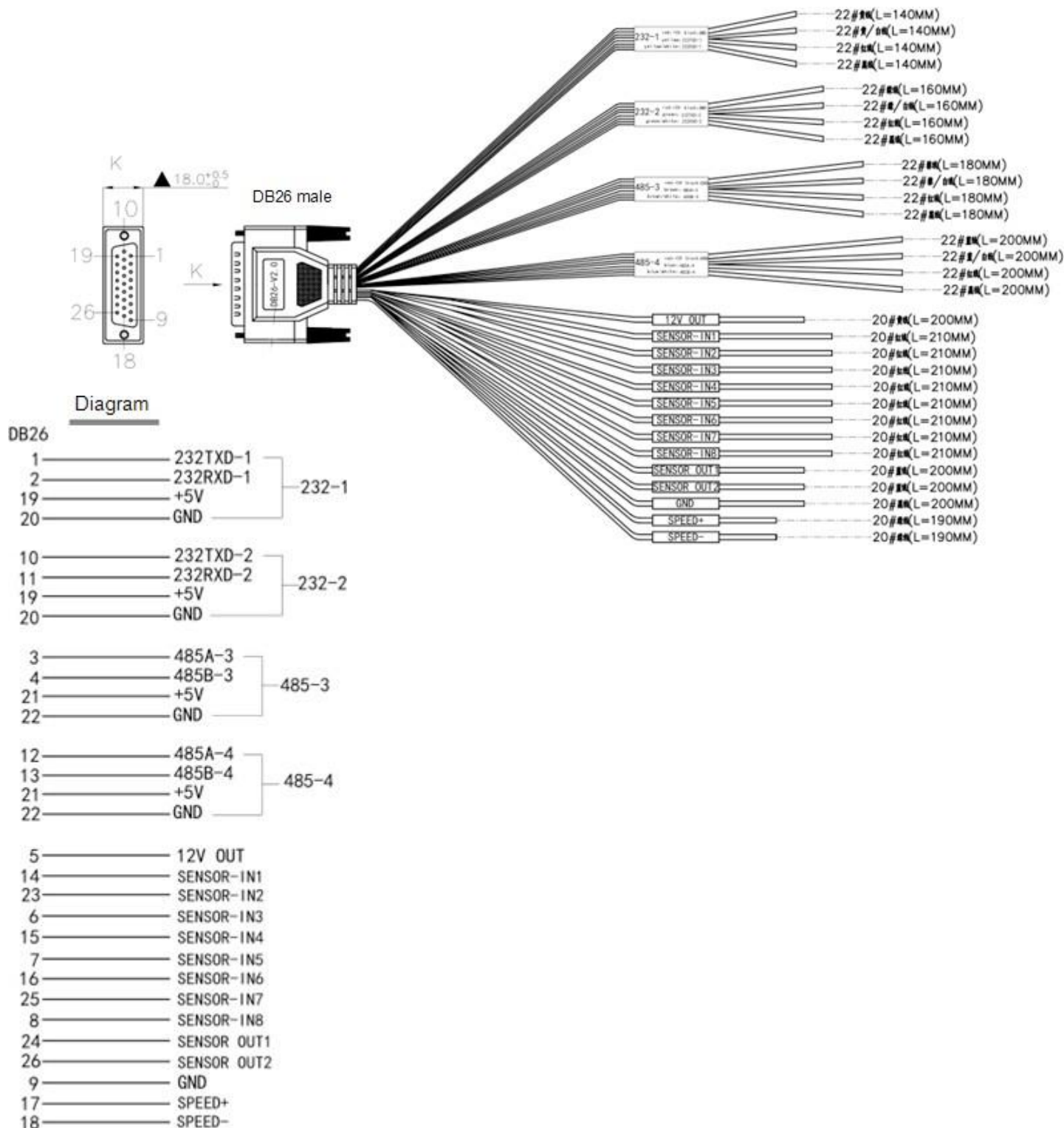
7. See the above picture depicting correct installation where the shell is facing upward.
8. See the above picture depicting incorrect installation where the hard disk is facing upward.

1.6. SIM card installation



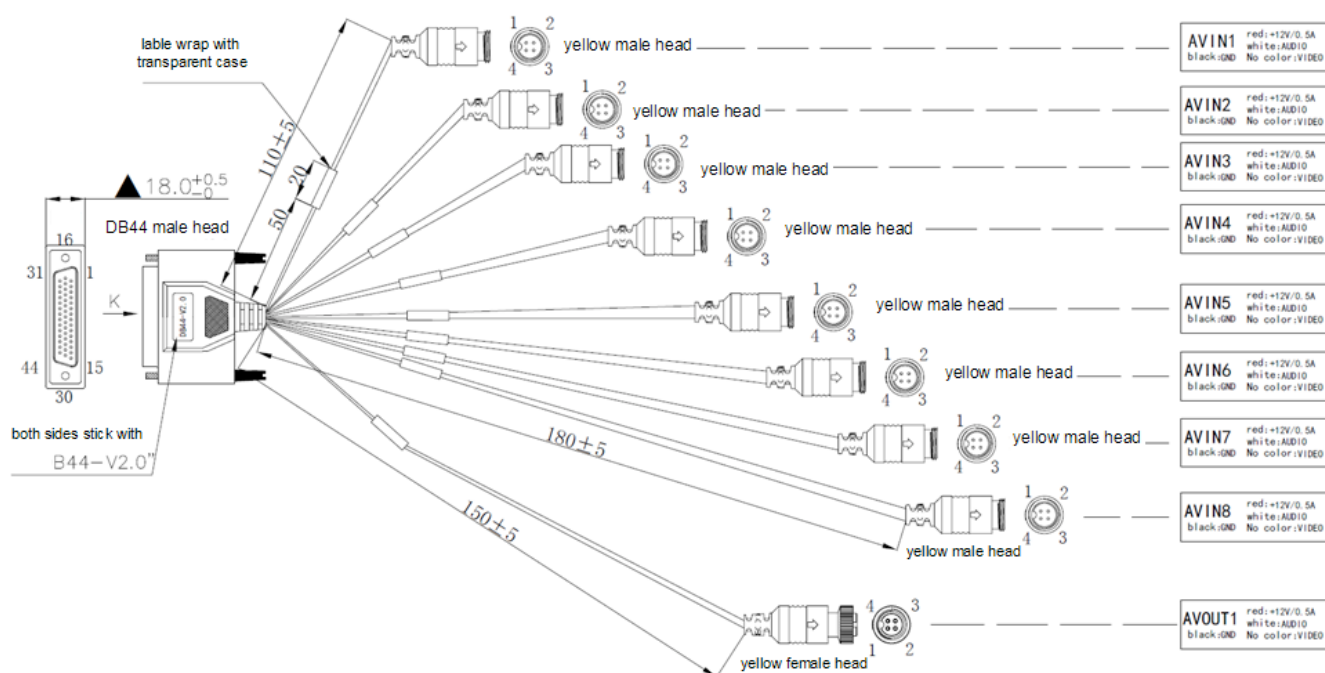
1.7. Definition and pictures of external cables

Alarm cable definition



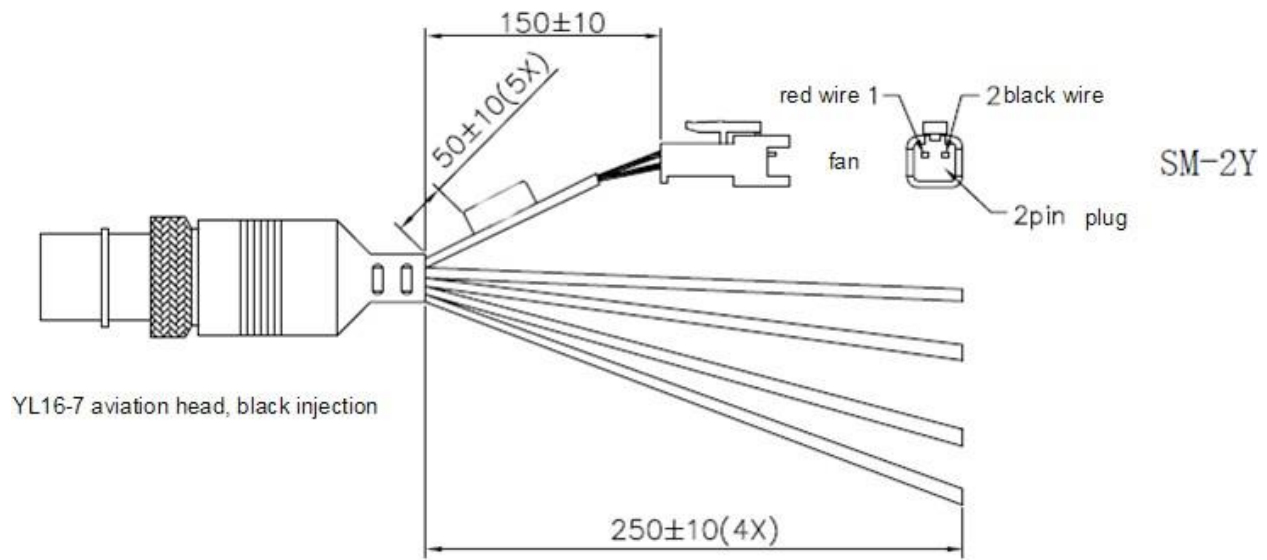
Video cable definition

Lable:



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



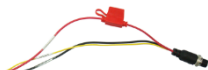
Amplifier cable definition



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		AV 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

Software

Live view

- Real-time video
- Real-time location
- Adjustable bandwidth to make sure video transmission is fluent



Real-time alarm

- View real-time alarm
- Emergency alarm auto download



Evidence

- Export evidence automatically
- Rapid evidence search
- Easy evidence management



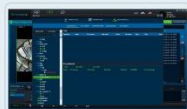
Playback

- Local video playback
- Remote data playback



ADS

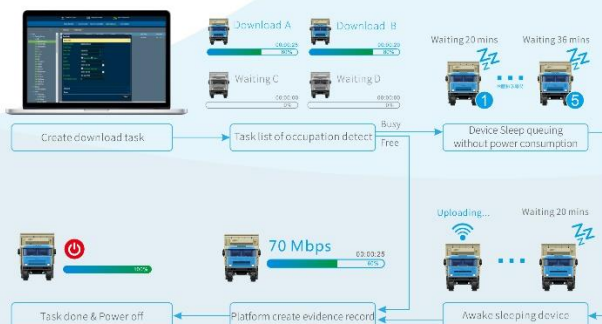
- Auto download by different categories
- AP management balance technology
- Auto adaptive network technology



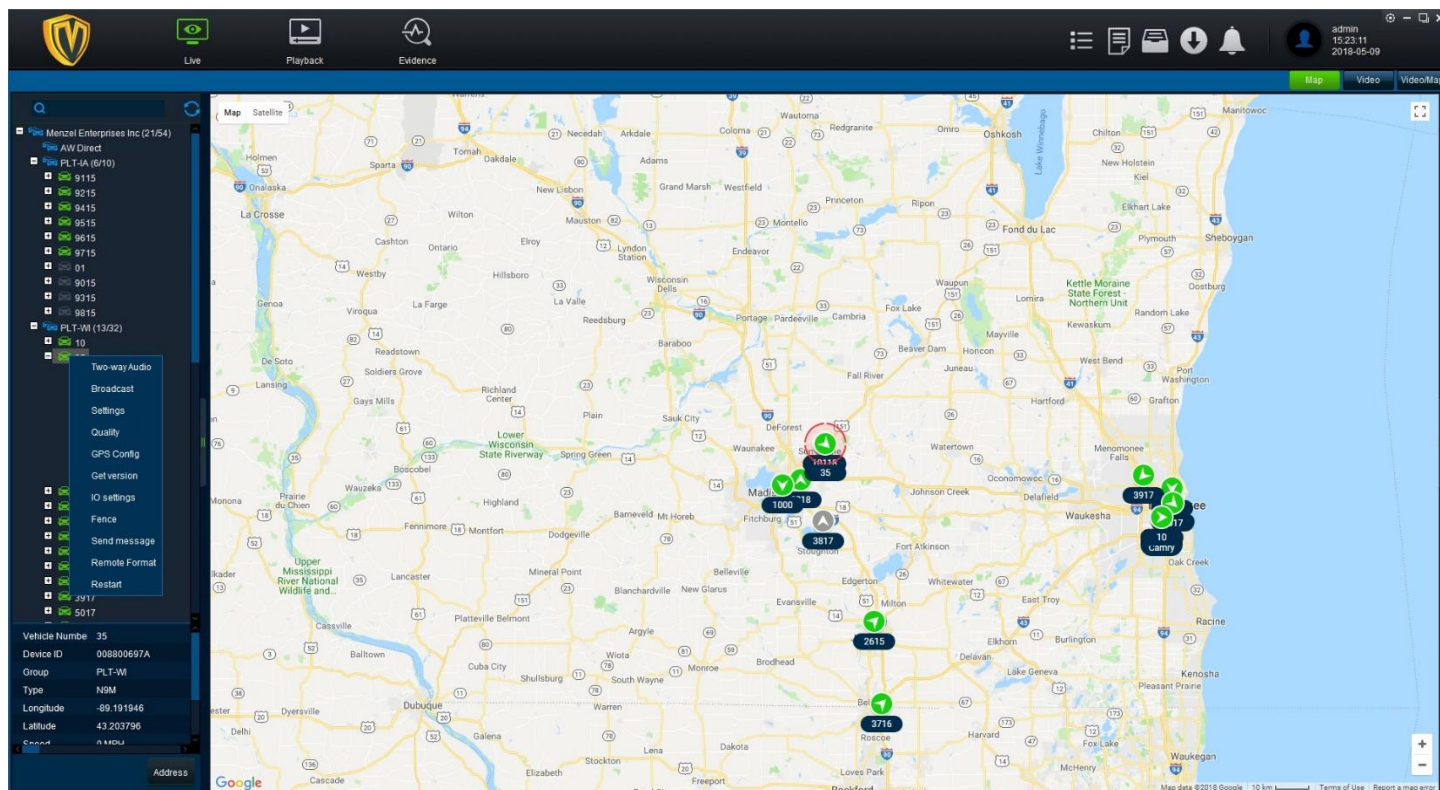
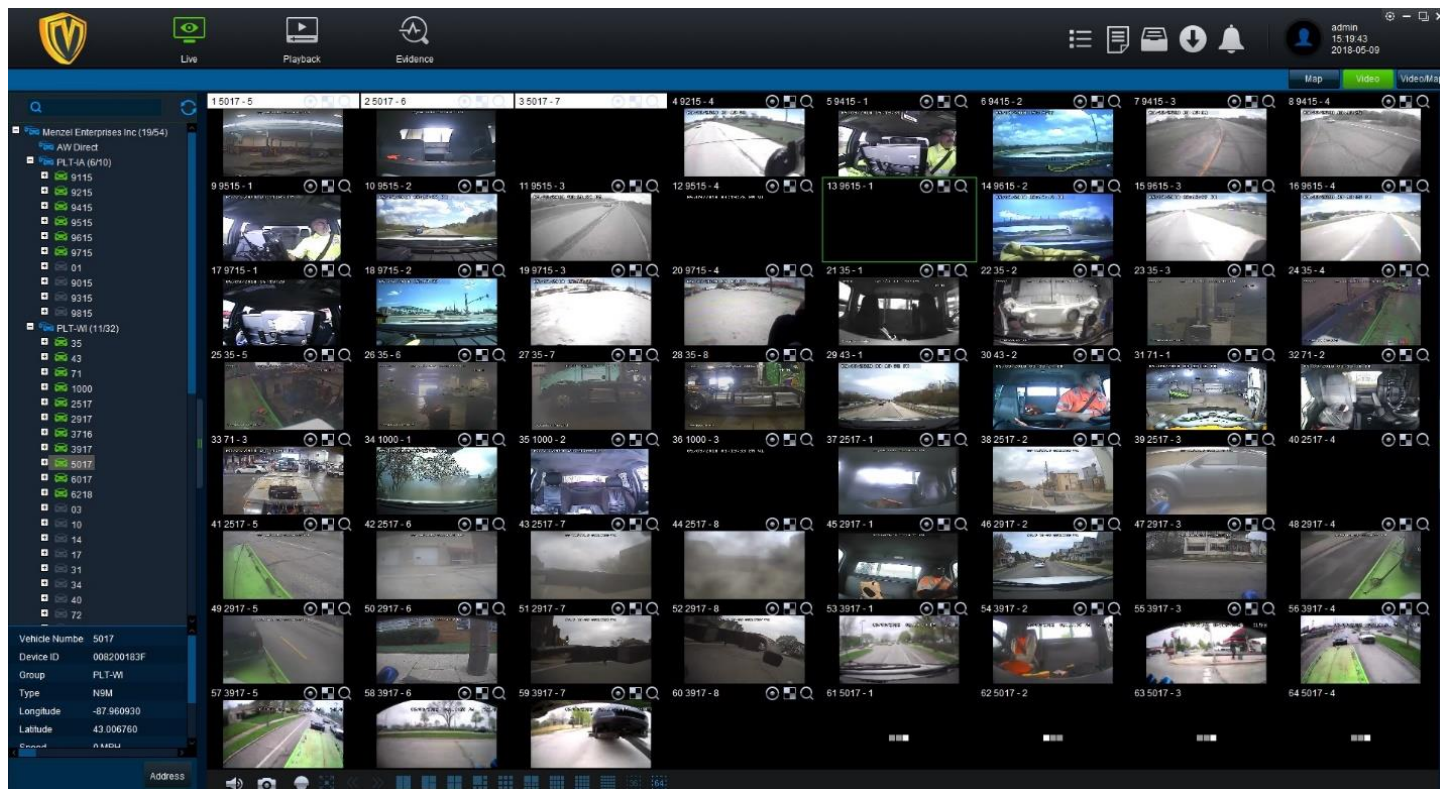
One key alarm

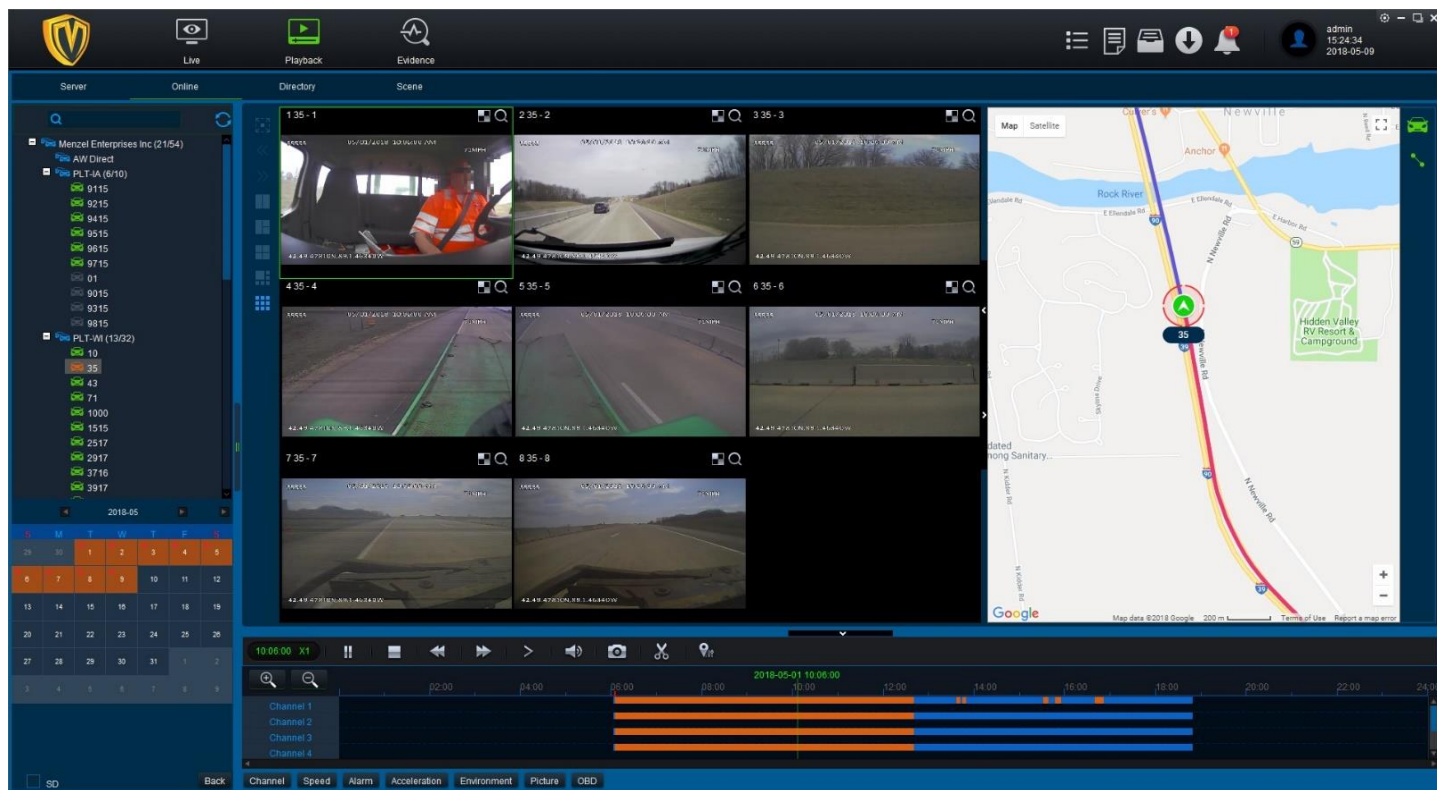


Auto download



Desktop Software:

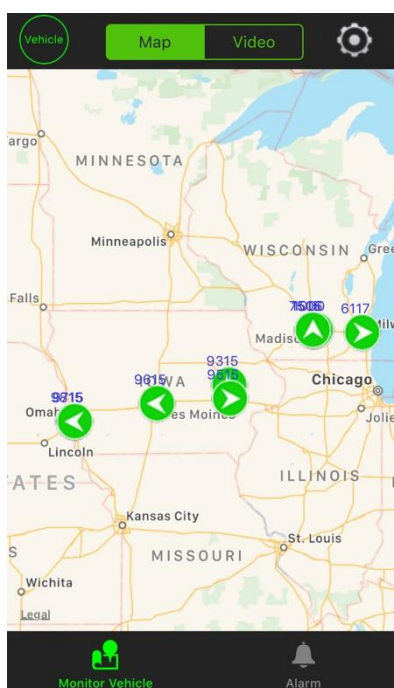




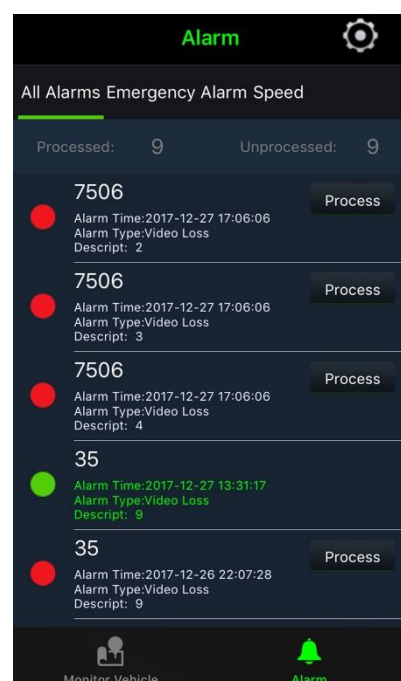
Apps IOS & Android:



**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:

- (a) 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.
- (b) Check whether the ACC signal wire input to the power is with voltage higher than 7 volts.
- (c) Check whether the device key is closed.

2) **The MDVR restarts uninterruptedly?**

Please follow below steps:

- (a) 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.
- (b) 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:

- (a) Check whether the storage disk is installed, whether it is in good contact, and whether the disk can be read normally in computer.
- (b) Check whether the storage disk is formatted. The storage disk should be formatted before normally storing record files.
- (c) 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 audio in the recorded file?**

Please follow below steps:

- (a) Check whether there is an external audio detection device, or whether the camera includes the function of audio collection.
- (b) Access the video channel settings and check if audio is enabled.
- (c) There must be video input into the channel for recording and it must record normally.

5) **The GPS works abnormally?**

Please follow below steps:

- (a) Check whether the GPS antenna is installed correctly. There is a silk print logo on the GPS antenna holder behind the host device.
- (b) Check whether the antenna receiver is sheltered. It should not be covered in any capacity, which may cause the antenna receiver not to receive signals.
- (c) Environmental influence such as tree shades, being inside tunnel, driving near tall building or elevated roads, thunderstorms or other weather influence can also cause signal loss or receiving incorrect signals.

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

Please follow below steps:

- (a) Check if the ACC line connection mode is correct, and whether there is voltage on ACC yellow line when the key is turned off.
- (b) If the device has been set with schedule recording, it can't shut down if it is still within the 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?**

Please follow the below steps:

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

- (b) 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) The device doesn't record.

Please follow the below steps:

- (a) Make sure that the storage part is installed and connected, the data can be read on PC, and the storage device is not formatted.
- (b) Check if there are video signal input to the main device, and whether there are video images in the channel pictures.

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

Please follow the below steps:

- (a) Check whether the MDVR device voltage is insufficient. If the device voltage does not reach the start voltage the device will restart.
- (b) Hard disk or SD card may cause the MDVR device to be unable to start. You may need to remove the storage device and then reboot the MDVR device to verify whether it is caused by the storage device.

11) Why the MDVR device cannot start?

Please follow the below steps:

- (a) 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 in good condition.
- (b) Check whether there is voltage (more than 7 volts) on power input ACC signal wire.
- (c) Check whether the hard disk key is turned off.

12) 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.

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

Please follow the below steps:

- (a) After testing, when the battery is lower than 8 volts, the voltage will decrease quickly. Therefore, the lowest voltage is set to be 8 volts. When it is lower than 8 volts, the MDVR device will recognize it as external power-off and then enter shutdown state.





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Limited Hardware Warranty for MZ5-8CHAHD/4IPC

LIMITED HARDWARE WARRANTY

THIS LIMITED HARDWARE WARRANTY (THE “LIMITED WARRANTY”) GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS, WHICH VARY FROM STATE TO STATE.

THE LIMITED WARRANTY CAN ALSO BE FOUND ONLINE AT WWW.MENZELTECH.COM AND/OR IN THE DOCUMENTATION WE PROVIDE WITH THE PRODUCT.

WE WARRANT THAT DURING THE WARRANTY PERIOD, WHEN PROPERLY INSTALLED AND USED, THE HARDWARE COMPONENTS OF THE PRODUCT WILL BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP. EXCEPT AS PROVIDED BY THIS LIMITED WARRANTY, WE PROVIDE NO WARRANTIES, EXPRESS OR IMPLIED, WITH REGARD TO THIRD PARTY HARDWARE OR SOFTWARE, AND WE WILL NOT BE LIABLE FOR ANY FAILURE OF ANY THIRD PARTY HARDWARE OR SOFTWARE TO FUNCTION AS EXPECTED OR INTENDED.

WE LIMIT THE DURATION AND REMEDIES OF ALL IMPLIED WARRANTIES TO THE TERM SET FORTH HEREIN, AND EXPRESSLY DISCLAIM ANY WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

OUR RESPONSIBILITY AND LIABILITY FOR DEFECTIVE GOODS IS LIMITED TO REPAIR, OR REPLACEMENT, OR REFUND AS DESCRIBED BELOW IN THIS WARRANTY STATEMENT.

WHO MAY USE THIS WARRANTY?

Menzel Technologies, LLC located at 868 Progress Way, Sun Prairie, Wisconsin 53590 (“we”, “us”, or “our”, as the context requires) extends this Limited Warranty only to the person or entity who originally purchased the product (“you”). It does not extend to any subsequent owner or other transferee of the product.

WHAT DOES THIS WARRANTY COVER?

This limited warranty covers defects in materials and workmanship of the hardware components of our products, including, without limitation, the MZ3, MZ5, and MZ7 (each a “product”) for the Warranty Period (as defined below).

WHAT DOES THIS WARRANTY NOT COVER?

This Limited Warranty does not cover any damage due in whole or in part to: (a) transportation; (b) storage; (c) improper use; (d) failure to follow the product instructions or to perform any preventive or required maintenance; (e) alterations, modifications, repairs or servicing made by someone other than our authorized technicians; (f) normal wear and tear; (g) external causes such as accidents, abuse, water damage, anomalies in the electrical current supplied to the product; (h) extreme thermal or environmental conditions; (i) performance deterioration or damage to the software or hardware caused, or contributed to, by computer viruses, malware or spyware; (j) cost associated with software updates and upgrades relating to enhanced or additional features or performance; (k) software added to the hardware products, third-party software, or the reloading of software; (l) connectivity, internet, or telephony issues or unavailability; or (m) other actions or events beyond our reasonable control. You are responsible for the proper installation of the product, and we shall have no liability for any claims, damages, defects, or losses caused (in whole or in part) by the faulty or improper installation of the product. This Limited Warranty does not guarantee that the use of the product will be uninterrupted or error-free.



Limited Hardware Warranty for MZ5-8CHAHD/4IPC

WHAT IS THE PERIOD OF COVERAGE?

This Limited Warranty starts on the date of first purchase and lasts for one year (the “Warranty Period”). The Warranty Period is not extended if we repair or replace the product. We may change the availability of this Limited Warranty at our discretion, but any changes will not be retroactive.

WHAT ARE YOUR REMEDIES UNDER THIS WARRANTY?

With respect to any defective product during the Warranty Period, we will, in our sole discretion, either: (a) repair the product using either new or refurbished parts, (b) replace such product with a new or refurbished product that is equivalent to the product to be replaced, or (c) refund to you all or part of the purchase price of such product. Any returned or replaced part or product for which a refund is given shall become our property.

HOW TO YOU OBTAIN WARRANTY SERVICE?

For specific instructions about how to obtain warranty service for your product, you must call (608) 837-4900 or email our Customer Service Department at support@menzeltech.com. In general, you will need to deliver your product in either its original packaging or in equally protective packaging to the address specified by our Customer Service Department. You may also be required to provide a purchase receipt. During your use of the product, and before you deliver your product for warranty service, you shall have sole responsibility for removing any removable storage media and backing up any data, software, or other materials you may have stored or preserved on your product. It is possible that such storage media, data, software or other materials will be destroyed, lost or reformatted during service, and we will not be responsible for any such damage or loss. You must pay for shipping and any insurance, duties and taxes to deliver the product to the address specified by our Customer Service Department and you assume all risk of loss and/or damage to the product until it arrives at the address so designated. We will pay for shipping of the returned product to your address, within the jurisdiction of the first purchase. Shipping, mode, and carrier is at our discretion, and you must request and pay for any variation. We do not pay for insurance, duties and taxes on returned products.

LIMITATION OF LIABILITY

THE REMEDIES DESCRIBED ABOVE ARE YOUR SOLE AND EXCLUSIVE REMEDIES AND OUR ENTIRE LIABILITY FOR ANY BREACH OF THIS LIMITED WARRANTY. OUR LIABILITY SHALL UNDER NO CIRCUMSTANCES EXCEED THE ACTUAL AMOUNT PAID BY YOU FOR THE DEFECTIVE PRODUCT, NOR SHALL WE UNDER ANY CIRCUMSTANCES BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL OR PUNITIVE DAMAGES OR LOSSES, WHETHER DIRECT OR INDIRECT.

SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

WHAT CAN YOU DO IN THE CASE OF A DISPUTE WITH US?

We want to address your concerns without needing a formal legal case. Before filing a claim against us, you agree to try to resolve the dispute informally by contacting our Customer Service Department at the email address listed above. We will try to resolve the dispute informally by contacting you through email. If a dispute is not resolved within thirty (30) days after submission, you or we may bring a formal legal proceeding. Any dispute arising out of or related to this agreement must be litigated in the state or federal courts located in Dane County, Wisconsin, and the parties agree to the exclusive jurisdiction of such courts.