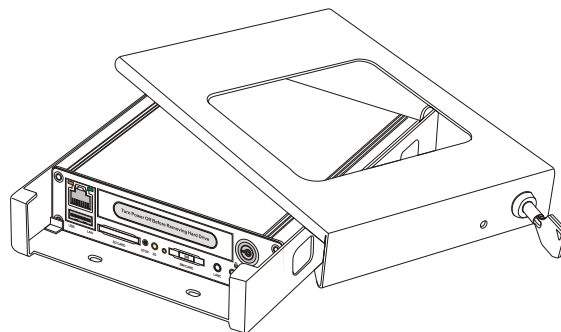


D4M Mobile Video Recorder

User's Manual Installation Manual



Thank you for using the Idrive D4M Mobile HDD Video Recorder.
Please read this User's Manual carefully to ensure that you can use the device correctly and safely.
The contents of this manual are subject to be changed without notice.

Warning

This device is NOT of waterproof; to prevent it from any accident of fire or electric shock, please do NOT put any container with water on the device or nearby. Do not expose the device to moisture, or extreme temperatures.



This lightning flash with arrow symbol within an equilateral triangle is intended to alert users that there might be uninsulated dangerous voltage which may cause electric shock to person when the cover of device is opened.

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN



To prevent from the risk of electric shock do NOT remove top cover or back cover. There is NO user-serviceable part inside. Ask for service from qualified maintenance man.

The exclamation point within an equilateral triangle is intended to alert users the important operating and maintenance(servicing) instructions in this manual.



Important notice:

1. Please read over all cautions.
2. Please keep this manual for reference in the future.
3. Please notice all warning information.
4. Please strictly follow the instructions in this manual while operating.
5. Please NEVER put this device under the place which is easily poured by water.
6. Please do NOT use abrasive chemicals, cleaning solvents or strong detergents to clean the device. Wipe the device with a soft and dry cloth.
7. Please do NOT get the gate of airiness heat exchange closed.
8. Please leave the device far away from hot and high temperature environment.
9. Install the device with the accessories coming with it.
10. Please take care when moving the device, make sure of security, and avoid being damaged by dropping from high place.
11. Call for qualified maintenance man to repair when needed.
12. The device can only be installed horizontally. Installed vertically or out of the horizontal could hurt person or damage the device or/and its parts.

TABLE OF CONTENTS

1. General Introduction	4
2. Product Description	6
2.1 Front Panel.....	6
2.2 Rear Panel	7
3. Start to use mobile DVR.....	8
3.1 Install the cradle.....	8
3.2 Install the hard disk	9
3.3 Install the top cover of the cradle.....	9
3.4 Connect with cameras	9
3.5 Connect with power	11
3.6 GPS connection (Optional)	12
3.8 Connect with monitor	13
3.9 Format the disk (Main Menu> Storage).....	15
3.24 Record Play back (Main Menu>File).....	16
4. Specification	17
5. Trouble Shooting.....	19
6. Packing List	21

1. General Introduction

The Idrive D4M Mobile HDD video recorder is a compact, full-featured recording system that uses a hard disc as a storage device. The recorder unit and associated accessories are specifically designed for operation in a mobile environment.

The HDD video record system, used in conjunction with the cameras, records up to four channels of full-motion video and audio data to a removable hard disc. The firmware-driven menu system provides a simple method for configuring the unit's operation as well as searching for and viewing previously recorded AV records.

Regulatory Compliance

The Mobile Video Recorder complies with CE and Part 15 of the FCC interference limits for Class B digital devices FOR HOME OR OFFICE USE. These limits are designed to provide reasonable protection against harmful interference. Operation of this device is subject to the following conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Product Description

Product Main Features

- Embedded operating system, assuring reliability and system integrity.
- Records up to eight channels of full-motion color video with corresponding audio tracks.
- H.264 High Profile video compression.
- Total Record resource up to 30 frame/second for each channel.
- Lockable security enclosure.
- Front panel USB2.0 port for recording to a flash card as an optional storage device.
- Ignition sense that provides DVR power-on in recording mode when the bus is started.
- Power-off delay record when the bus is shut-down with operator-selected delay times.

Video And Audio

- H.264 High Profile video compression, real time recording 30 fps for each channel. Frame rate adjustable for each channel.
- Audio compression: G.711 codec. This codec offers high compression with high quality audio.
- 4 channels 1080P resolution for analog camera.
- Local video and audio real time playback.

GPS Time Synchronization & Time Zone

- Synchronize the DVR system time with GPS automatically
- Support All Time Zones Worldwide
- Support DST (Daylight Saving Time)

Power Management

- Reliable power management, wide voltage: +8VDC~+32VDC; The power input is protected against short positive transient (1500 watts peak pulse power capability with a 10x1000 us waveform); The power input is protected against negative voltage. Applicable for vehicles with +12V or +24V battery.
- The recorder provides each camera with stable +12V DC power; DVR can detect the short cut on power circuit.
- Can use ignition to control the power.
- DVR can monitor battery voltage after Ignition off, and auto into sleep mode when voltage is below specified level.

Recording mode

- Continuous record.
- Support schedule recording.
- Support alarm recording.
- Support motion detection recording.

Speed and Vehicle status recording

- Record vehicle speed and car id with audio and video.
- Support 3 sensors, can be connected to return, right turn, left turn light etc.
- Over-speed alarm.
- Specified screen can be full screen displayed when return(or left, right) sensor triggered.

Double Anti-vibration Mechanical Proof For HDD

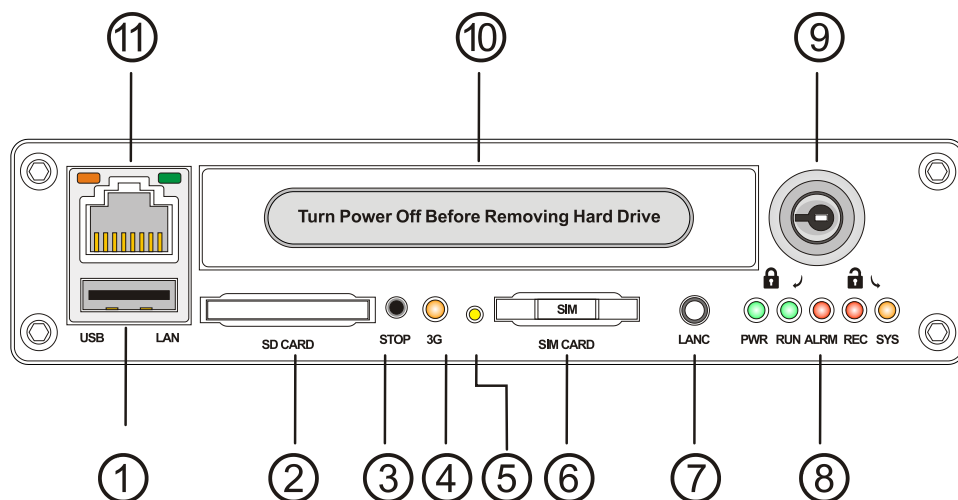
- Patent pending anti-vibration design, full floating construction with rubber, 100% mechanical protection for HDD.
- Removable HDD box, convenient HDD collection for recorded content browse..

Hard Disk

- Support hard disk up to 2T. Please note, the inside height of the hard disk case is 10.2mm, please select the hard disk whose height is less than 9.5mm.

2. Product Description

2.1 Front Panel



- 1: USB Connector (Can connect with mouse)
- 2: SD Card Slot
- 3: Stop Button
- 4: 4G/3G Indicator (only applicable for 4G/3G model)
- 5: SIM Card Eject Button (only applicable for 4G/3G model)
- 6: SIM Card Slot (only applicable for 4G/3G model)
- 7: Control Panel Connector
- 8: Light Indicator (1:power 2:run; 3:alarm 4:record; 5:system)
- 9: Lock (also used as power switch)
- 10: Hard Disk Case
- 11: Network Connector (RJ45)

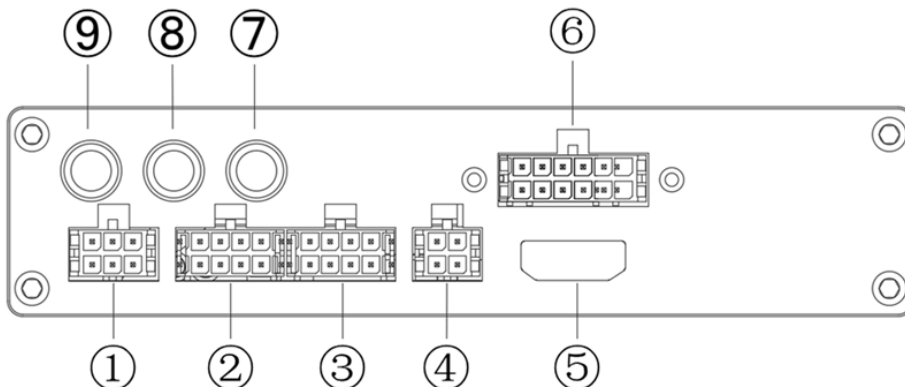
Get to know the status of DVR system by the indication of LED lights:

1. PWR (Green)	2. RUN (Green)	Description
Always on	Blinking	DVR is on & running
Blinking alternately with RUN	Blinking alternately with PWR	Ignition is not enabled and DVR is OFF.
Blinking together with RUN	Blinking together with PWR	Ignition signal is not enabled & DVR is running. Unit will turn OFF when "Delay Time" setting is reached.
Blinking every 3 seconds	Off	DVR is off. The lock is in off state and user can use key to turn on the DVR

3. Alarm (Red)	Description
Always On	DVR has alarm report (Over speed, e.g.)
Off	No alarm
4. REC(Red)	Description
Always On	Disk in use, Recording or Playing.
Off	Disk not in use

5. System (Yellow):	Description
Always On	4 cameras recording together
Blinking	Blinking every 2 seconds. The number of blinks is the number of cameras not connected. For example, if it blinks 3 times, it means there are 3 cameras not connected.
Off	Not recording and no cameras connected.

2.2 Rear Panel



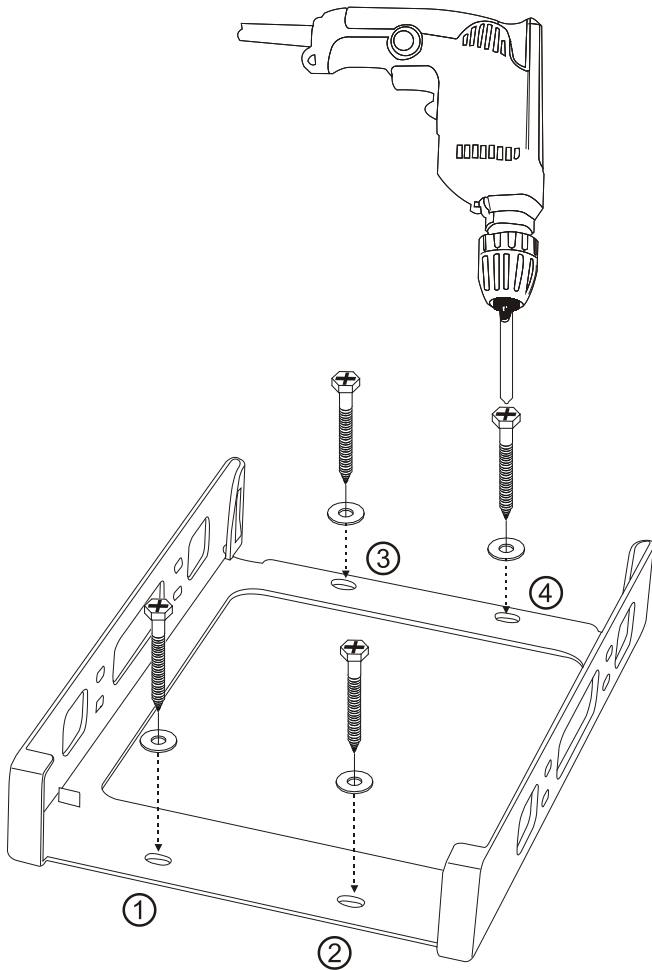
- ①: Power (including Power, Ground, Ignition).
- ②: Camera 1 and 2(including power for camera)
- ③: Camera 3 and 4(including power for camera)
- ④: CVBS Video and Audio Out (including power for monitor)
- ⑤: HDMI Out
- ⑥: 3 sensors, 1 RS232 (For GPS), 5V DC output, 1 LANC input
- ⑦/⑧: WIFI antenna
- ⑨: 4G/3G antenna

ACC	PWR	0/P1	AIN5	VIN5	AIN6	VIN6	AIN7	VIN7	AIN8	VIN8	AO	VO	458A	LANC	TXD	5V	SNR2	SPEED
0/P2	GND	COM	12V	GND	12V	GND	12V	GND	12V	GND	12V	GND	458B	GPS	RXD	GND	SNR3	SNR1

3. Start to use mobile DVR

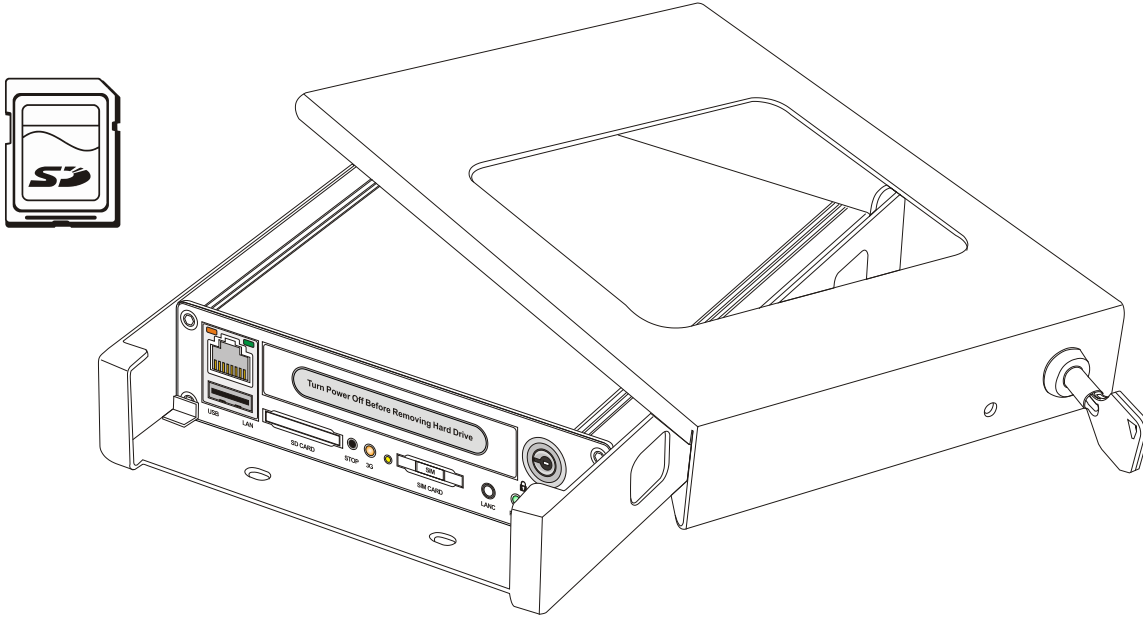
3.1 Install the cradle

Use a power drill and screws supplied to install cradle in the right place inside the vehicle.



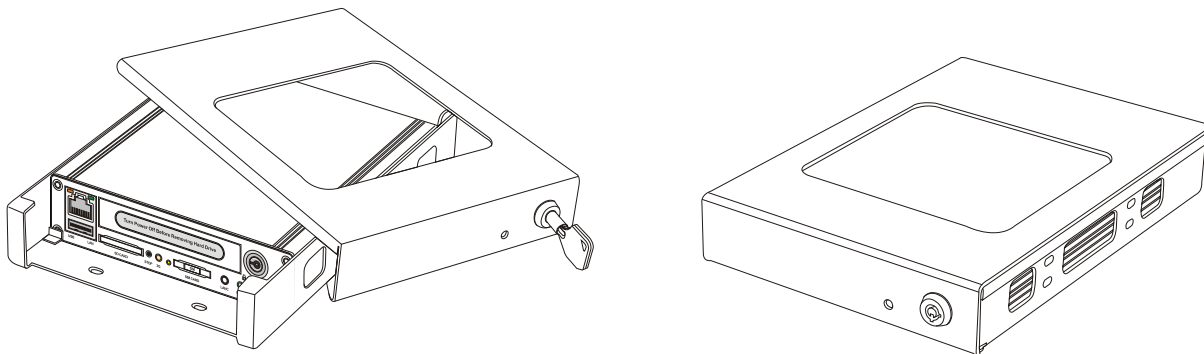
3.2 Install the hard disk

Install the hard disk into the hard disk case and insert it into the DVR. Then use the key to lock the hard disk.



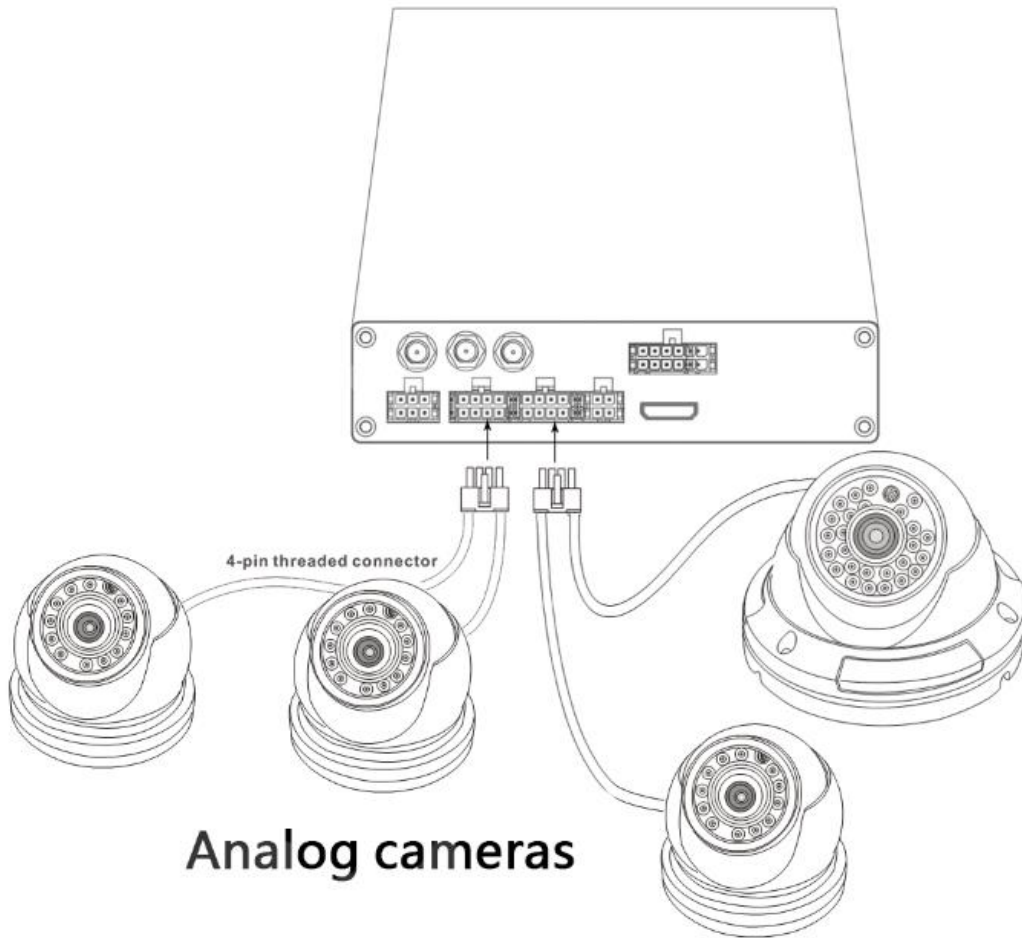
3.3 Install the top cover of the cradle

Put the top cover into the cradle and use the lock to secure it.



3.4 Connect with cameras

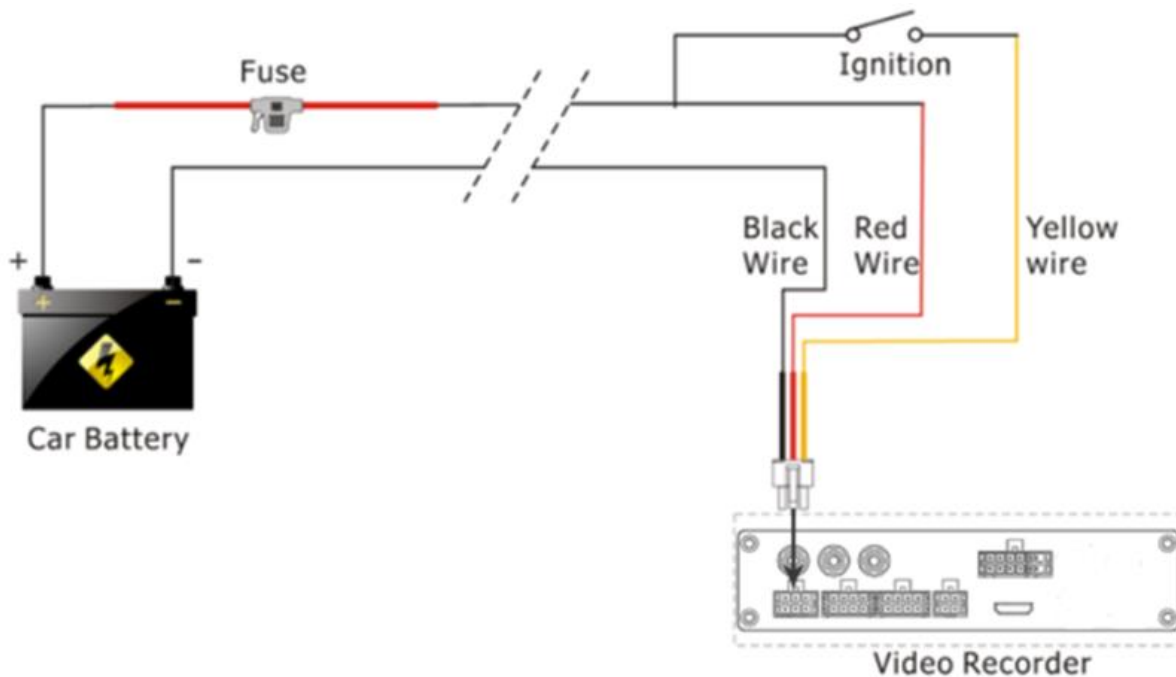
The DVR can connect with analog cameras. The analog cameras are connected using 4-pin threaded splitter cables provided.



If you are using the 4-pin threaded connector, the camera should have 4-pin female connector to match this cable. The DVR unit will provide stable 12V DC power to each camera, and record video and audio (if the camera has a built-in microphone). This type of connection cable is highly recommended. It saves both installation time and cost.

3.5 Connect with power

Connect the red wire to the positive pole of the battery and connect the black wire to the negative pole of the battery. Connect the yellow wire to the ignition signal of the vehicle. The fuse should be connected to the positive pole and red wire. Please note: the fuse is used for protecting the battery, so the fuse should be placed near to the battery positive pole.

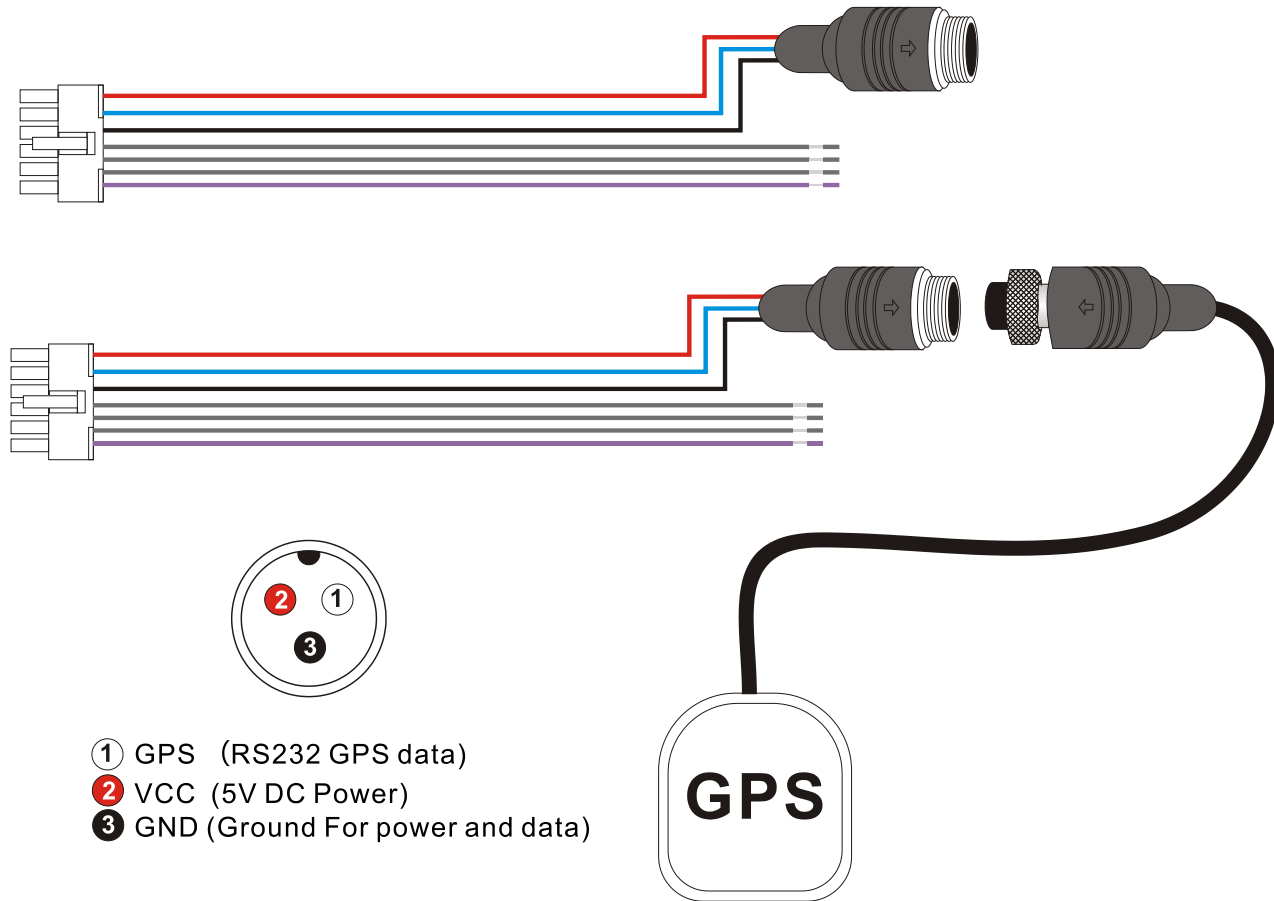


NOTE

1. The DVR uses DC power input, please be very careful when connecting to the "+" and "-" of the power supply.
2. Wide voltage range of 8V-32V for the DVR. The DVR may be damaged if the supplied voltage is too high. And the DVR may not work if the voltage supplied is too low.
3. Power to the DVR should be supplied by the car battery.
4. Power consumption of the DVR can be up to 60W when the engine starts. All the cables for connecting from power to the DVR should be thick enough for current over 5 Amperes.
5. To protect the battery from being damaged of short circuit, the fuse should be placed very closed to the "+" pole of car battery.

3.6 GPS connection (Optional)

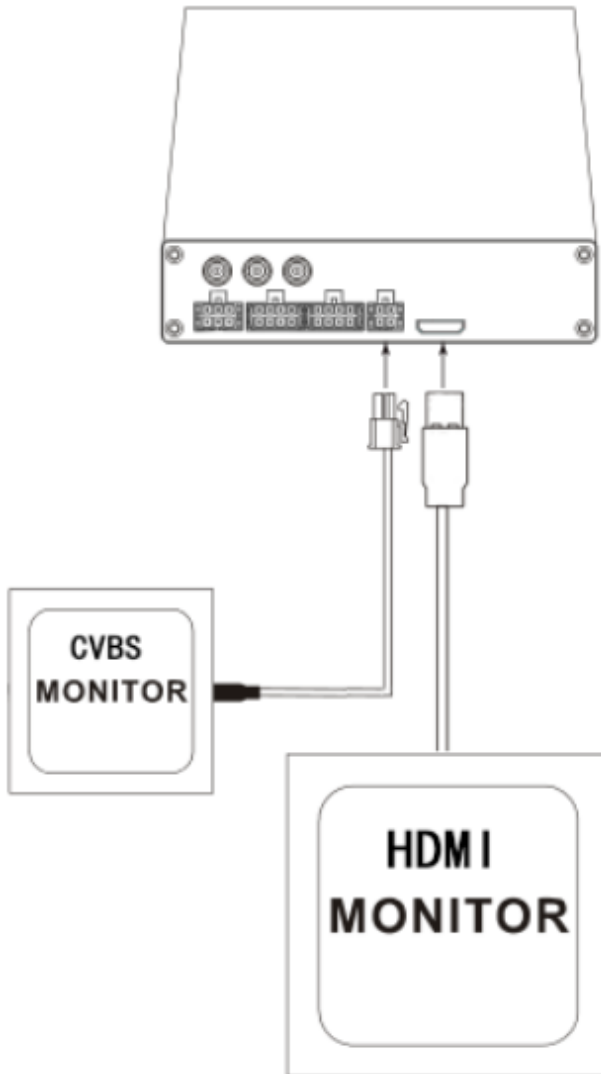
Connect the GPS receiver to the GPS connector on the cable harness.



3.8 Connect with monitor

3.8.1 Connect the DVR with monitor

DVR can be connected with two types of monitors. The DVR can connect with these two monitors at the same time.



1) Connect with HDMI monitor

Use the HDMI cable to connect the HDMI monitor with DVR's HDMI connector, when the DVR is turned on, it will show the DVR output.

2) Connect with CVBS monitor (composite video)

Use the composite video cable to connect the monitor with DVR. When the DVR is turned on, it will show the DVR output.

Note: The default output device is HDMI, if you connect a CVBS monitor, you should get into the setting to change the setting to CVBS ("System Setting" / "Output Setting"/ "Output Device").


3.8.2 Preview Cameras





Use mouse to toggle among cameras

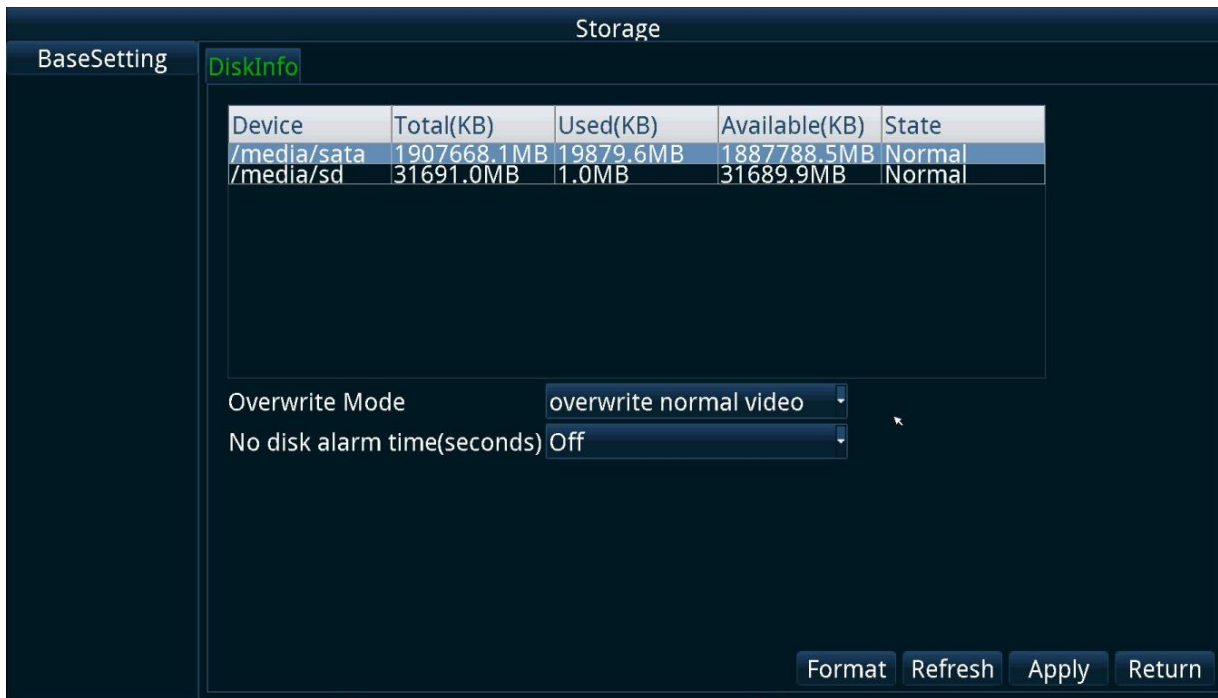
When the DVR is turned on, the DVR will display preview screen automatically. User can connect a mouse to the USB in the front panel, then right click the mouse. Choose the screen mode in the prompted menu. You can also choose one camera as full screen mode by double clicking the camera.

3.8.3 Audio output

DVR supports HDMI or SD display audio real-time output, user can click on the small audio icon  to open or close

the video output, the icon  means that real-time audio output is ON, the icon  for the real-time audio output is OFF. Audio output device is set by "Output Device" setting.

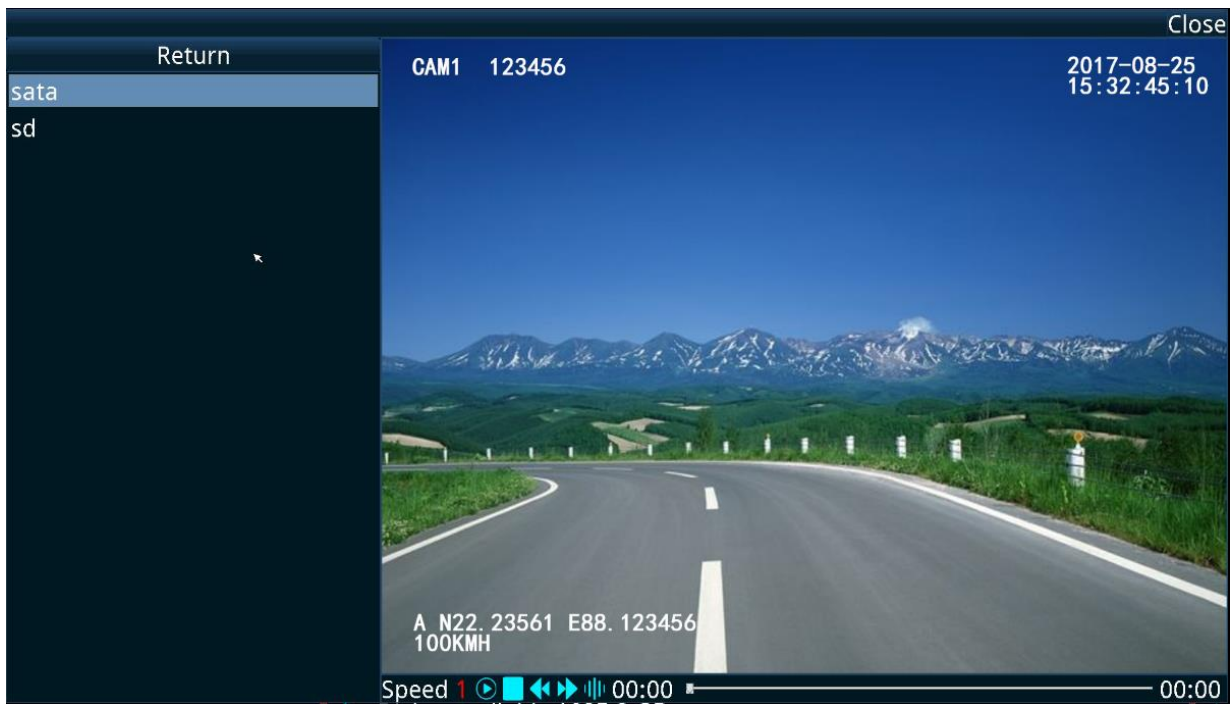
3.9 Format the disk (Main Menu> Storage)



1. When the disk is used in the DVR for the first time, it should be formatted first.
2. Right click the mouse and choose "main menu", then choose "storage". Choose the disk you need to format and click "format" button to format the disk.
3. If no disk is found, the DVR will show "no disk" error message. If there is some error on the disk, such as write error, the error message will also be displayed.
4. When the disk is full, the DVR can be configured to overwrite the earliest file.

Note: The format operation will lose all of the data on the disk. Please backup all of the data on the disk before formatting the disk.

3.24 Record Play back (Main Menu>File)



- User can play back the files on hard disk or SD. If user need to play files on hard disk, please choose "sata".
- The record files are listed according time and cameras.
- When playing back, user can fast forward, slow forward, pauses, step for playing.

4. Specification

Model		HDVR9844
SYSTEM	OS	Linux 3.0
	Booting Time	<30 s (From Powered on to start recording)
	Language	Chinese/English/Russian
	UI	GUI
	Power	Power In: 8V ~ 32V DC, Power out for analog camera: 12V/1.5A (4 cameras)
Video	Video Input	Maximum for 4x Analog cameras (PAL or NTSC...)
	Video Output	2 Video Output (1 HDMI output, 1 CVBS output)
	Preview	Support Full Screen/Dual View/Quad View
	Record Mode	Auto Record, Schedule Record, Alarm Record
	Record File	Record video and audio at same time
	Compression	H.264 (High profile up to level 4.1)
	Frame Rate	100fps@720x576(PAL); 120fps@720x480(NTSC); or others
Audio	Audio Input	4 audio input (audio from built-in camera)
	Audio Compression	PCM
Video Process	Record Resolution	Support 720x576(PAL) or 720x480(NTSC), depends on the type of camera
	Bitrate	100~8000 kbps for each camera
	Storage	Support up to 2TB hard disk, one up to 256G SD card. SD card can be used as backup storage for hard disk when hard disk error
Alarm	Alarm Input	3 alarm sensors input, 1 speed input, 1 ignition input, 1 panic button alarm, 1 G-Sensor alarm
	Alarm Output	1 beeper, Alarm OSD
	Event	Video Loss Event, Over Speed Event, G-Sensor Event, Storage Event, Motion Detection Event, Panic button Event
Communication	RS485	One RS485 port
	RS232	One RS232 port (For GPS)
	RJ45	One RJ45 port, 100M network
	USB	One USB can be used for mouse, USB stick
Network	Protocol	TCP / IP
	3G/4G	Optional, build in 3G/4G(HSUPA/HSDPA/WCDMA/EVDO/TD-SCDMA/FDD-LTE/TDD-LTE)
	WIFI	Optional, support WIFI connection and AP

Location	Location	Location feature is optional, Support GPS/GLONASS/BEIDOU, recording location, speed, live tracking
Firmware	Frame Rate	Recording frame rate: 1~30fps selectable for each camera
	License ID	Support
	Camera Name	Support
	OSD	Display and record time, license ID, camera name, location, speed
	Firmware Upgrade	Can use hard disk/USB disk/SD card/remote upgrade via 4G
	G-Sensor	Support
	Play back	Support play back, file listed by time, alarm
	Play Speed	Support from 1/32 to 32
Software	hPlayer	Player software, play multiple cameras together, can also play the encrypted file
	CMSV6	Used for 4G/3G model only, support live view/live tracking/historical track/remote upgrade
Power Input	Power Input	8VDC~32VDC
Power Output	Power Output	Power output for cameras: 10.5V/1.5A (8 cameras)
ACC	<4.5V	Ignition Off
	>6.2V	Ignition ON
Power Control	Ignition	Turn on the DVR when ignition is on, can set DVR to turn off after a specified time when ignition is off
	Power Consumption	Less 5.0W (No camera power consumption included)
Other	Size	162.3x133.0x30.2 mm
	Weight	About 0.55kgs
	Time	Internal clock can synchronize with GPS
	Dual bit stream	Two different bit stream for recording and live streaming via 4G/3G
	Power Protection	Protect power from short cut, over load and error connection
	Default	Can set to default setting
	Light Indicator	Light Indicator for power, run, alarm network, 4G/3G
	Over Write	Support
	Time Synchronize	Synchronize with GPS
Working Condition	Working Temperature	-25 ~ 55°C
	Working Humidity	5%~93%

5. Trouble Shooting

1. Q : After connecting the DVR power, no video output, the first and second indicators lights on panel flashing alternately.

A: The No.1 and No.2 indicator light is "Power" and "Run". If the 2 indicators lights are flashing alternatively, the DVR missed the ignition signal, please check if the yellow line of the input power lines has connected with the power positive level, or if it's the same as the setting of the effective electrical level in menu settings. (The factory default settings set the high level is effective when the yellow ignition signal line is connecting with the power positive level.)

2. Q: When using the SD card, ScreenTip appears "read only error ".

A: Please check if the SD card is write-protected, if so, please move the switch in the SD to the non - write protected position.

3. Q: Respectively, what's the voltage reference range of the high and low level in the DVR?

A: The voltage range of low level is DC 0V~1.5V, the high level is DC2.8V~32V.

4. Q: SD cards or hard disc are OK, but the video recording doesn't work, what should I do?

A: Please make sure the default setting of Record Mode is set to "Automatic.

5. Q: Does the Mobile HDD DVR support the capacity of 64G and above SDXC card?

A: Yes, The HDD DVR support the capacities of 64G and above SDXC cards.

6. Q: When the disk is inserted in the DVR for recording, live images or playback visual will come to a frequent halt.

A: Please make sure that if your hard disk or SD card's writing speed is enough. When the recording medium's writing speed is not enough, it will affect the continuity of live video and the real-time recorded video.

7. Q: Is the internal real time clock of the DVR maintained by batteries? If so, how long will it last?

A: Rechargeable batteries are used for DVR internal real time clock. If the battery is fully charged and the DVR is completely disconnected from the power supply, the internal real time clock can last for approximately 1 month.

8. Q: What do the 5 indicator LEDs representative on the front panel of the DVR?

A: Please see section 2.1 front panel in this manual for the use of these LED indicators.

9. Q: What player software should be used to play back video segments from the HDD on the PC? Why some don't play normally?

A: The Mobile DVR recording files are a standard AVI format, video stream compression standard is senior H. 264.

1. Mobile DVR has its own player software, the **hPlayer**, including many special additional features, such as playing continuously, fast forward playing, and other quickly locating recording and playing.
2. The recorded files also support general players. Such as VLC (version 1.0.0 and above, free open source software, can download from the internet), Media Player Classic (version 2009 Build: 3.9. above). Older Storm Audio can only support for video of 720x576 - resolution, when playing high resolution (1280x1024) recorded video file of Composite Mode, it can't display all the images, images on the right and below the video will be cut-off.
3. For file with encryption, you will need to use hPlayer to play it.

10. Q: How long will my HDD of 250GB record?

A: when you are setting record details in the DVR, you can see the estimated disk usage for each camera, you can calculate the time for recording according to these data.

11. Q: what is "Power OFF Delay"?

A: Users who need the DVR to record the images inside and outside the car for a while after the driver turn the engine off. The DVR OFF can be delayed after engine is shutdown and can record continuously for the specified period of time. This time is called "Power OFF Delay" time, such as 30 seconds. You can set the time you need on " Power Off Delay ".

Users who need "Power OFF Delay" function, VDC positive (on the Red Wire) and the ground should be connected directly (through the fuse) to the vehicle battery, at the same time attach car ignition signal line to the ACC of the car.

Note: excessive recording length after the ignition is turned off may drain the vehicles battery over time.

12. Q: Click the screen audio icon to open the audio real-time output, but the monitor no sound output.

A: Make sure that the monitor supports audio output. If the support screen supports audio output, check whether the type of monitor matches the settings. (Should correspond to the settings under "System Setting" → "Common Settings" → "Output Device")

6. Packing List

Standard Packing List:

Item	Description	Quantity
1	DVR	1 set
2	DVR enclosure	1 set
3	DVR enclosure key	2 sets
4	Hard disk key	2 sets
5	AV input cable	2 pcs 4-pin connectors
6	Power cable	1 pc
7	AV output cable	1 set
8	Fuse holder	1 set
9	5A fuse	2 sets
10	Composite cable	1 set
11	Manual	1 set
12	Screws	6 pcs

Optional accessories (need to buy separately) :

Item	Description
1	GPS Receiver
2	Control Panel
4	Hard disk reader
5	Camera extension cable (3-meter, 6.2-meter, 10-meter)
6	Hard Disk