roadhawk

A Trakm8 Brand

RoadHawk DVR8000 User Manual

JUN18023

CAUTION

Before installing and using your DVR, be sure to read this manual in its entirety.

Attention

- To protect your rights, before using and installing, please carefully read the contents of the manual.
- This product is for internal vehicle use only, in order to prevent a short-circuit or the risk of electric shock, do not use the RoadHawk DVR8000 in the rain or a high humidity environment.
- In the event of any solid or liquid coming into contact with the RoadHawk DVR8000, please disconnect the power immediately, and ask a qualified member of staff to check it, and only restart it if deemed safe to do so.
- This product cannot be repaired by an unqualified user. If failure occurs, please contact a member of qualified technical personnel or contact Trakm8 support team. Never attempt to repair the product yourself.
- Due to the differences in the storage media (HDD and SD card) of each brand, this product is not guaranteed to be compatible with all storage media. When users select a storage medium, they should purchase a small amount of the product and then purchase it in batches. Trakm8 does not assume any responsibility. Trakm8 can supply suitable media.

Installation Environment

1. 8-36V DC power supply, please confirm the power supply before connection.
2. If the RoadHawk DVR8000 is not to be used for a long time, please completely disconnect the RoadHawk DVR8000 power supply.
3. Please select the appropriate location for the installation of the RoadHawk DVR8000, where the air can flow freely around the machine to avoid overheating or water inflow.
4. The RoadHawk DVR8000 cannot be installed in glove boxes, near the heaters, direct sunshine, high dust environments, or possible rain water access.

Name	Quantity
HDD Mobile DVR	1
User Manual	1
Certificate of approval	1
Remote Control (not include battery)	1
Connecting Cable	3
Key	1

Contents

1 Product Overview

The eight –channel embedded digital hard disk video recorder is designed for vehicle safety. It uses an embedded processor and embedded operating system, combined with video / audio compression / decompression, GPS, vehicle recorder, and the capacity hard disk storage technology.

2 Basic functions

2.1 Audio/Video Compression Format

The video adopts the latest IS014496-10 (H.264) video compression technology, and high compression rate to ensure a better image quality using less storage. The audio adopts the G711A compression method, outputting a better voice with low distortion.

2.2 Audio/video recording mode

- **Compression format**
  Audio and video data is stored in special files, encrypted to prevent data loss under frequent power failure circumstances.
- **Compression stream**
  Image quality, with 8 levels of adjustability, (380Kbps-8.0Mbps/channel) to meet different requirements.
- **Storage**
  2 x 2.5 inch SATA hard disk, 2TB maximum each.

2.3 Image quality when monitoring, recording, playback

- **Resolution**
  1080P: Monitoring: 1920*1080/CH; Recording: 1920*1080/CH;
  Playback: 1920*1080/CH
- **Frequencies**
  The monitoring, recording and playback are all 25fps or 30fps
- Horizontal resolution for monitoring
  8 Channel 1080P : 1920*1080 / channel.
- Horizontal resolution for playback
  8 Channel 1080P : 1920*1080 / channel.

2.4 Total Resources

- 8CH 1080P:
  Support 8 channels 1080P (1920*1080) simultaneous recording, total 120fps.

2.5 Alarm pre-recording

- Alarm video mode, alarm pre - recorded more than 5s video, audio, positioning data.

2.6 Full duplex

- Under full loading status, users can index, playback the recorded data with no frame loss.

2.7 Malfunction alarming function

- When the DVR fails to work, and the alarm is On, the alarm information will be displayed for up to 6 minutes

2.8 Self-test the status and self-recovery

- When in working status, the “RUN” indicator will constantly flashes and check the device. Recovery will take no more than 3 minutes when device crashes.
- 8 Channel 1080P : 8 channels real time, switchable to monitoring mode.

2.9 Networking

- Combining the CMS software. With optional built-in 3/4G module, the vehicle can be monitored remotely.

2.10 Data backup

To backup the HDD data into computer via USB port and eSATA port;

- Download the HDD data remotely through a Wi-Fi or 3G network (if enabled).
- Transfer the HDD card data to computer, download and play the media via our unique DVR player software. Users can also switch the HDD files into universal AVI format to view in other players.

2.11 Authority, encryption, data safety

- Enter the MDVR by password - the default password is ‘6666’. Data is stored in a special file system to ensure it’s encrypted and safe.

2.12 Log function

- The log includes the alarming and malfunction information, stored on the HDD card. It can be checked via your computer.

3 Features

3.1 Operating system

- Embedded Linux operating system, high stable, free from virus.
- English/Chinese/Russian/ Portuguese menu.
- Graphical user interface.

3.2 Compression format

- H.264 format: excellent frame rate, quality image output.

3.3 Monitoring and Recording

- Monitor: 4/8 Channel 1080P : 1080P (1920*1080).
- Record: 8 Channel 1080P : PAL 200fps, NTSC 240fps, real-time 8CH 1080P recording.
- Record mode: by alarm, schedule, manual, motion detection.
- Support: 8 Channel 1080P : 8CH video and 8CH audio meanwhile recording.
- Record image quality: 8 levels adjustable.
- Video recorded in special file system to ensure lifespan and safety of the HDD.
- Reliable evidence with embedded audio/video data.

3.4 Index and Playback

- Index and playback by time.
- Supports 8 Channel AHD 720P : 8CH video, 1CH audio (any channel can be chosen). Index and playback at the same time, support amplifying in one channel.
- Data only played by DVR playback software.

3.5 HDD storage and data backup

- Support 2x HDD, with max 2TB capacity.
- The HDD data can be backed up via PC software.
- Supports USB backup.

3.6 Control

- Dual MCU control, to ensure DVR stability.
- Support remotely control by remote controller.

3.7 Others

- Firmware upgrade through USB. Easy maintenance.
- Protect by password, to avoid data damage.
- Delayed shutdown: default for 5s, adjustable.
- Anti-pulse and low voltage protection.
- Real-time timer.
- Anti-shock for the PCB panel and parts.
- Watch dog function to avoid system crash.

4 Technical Parameters

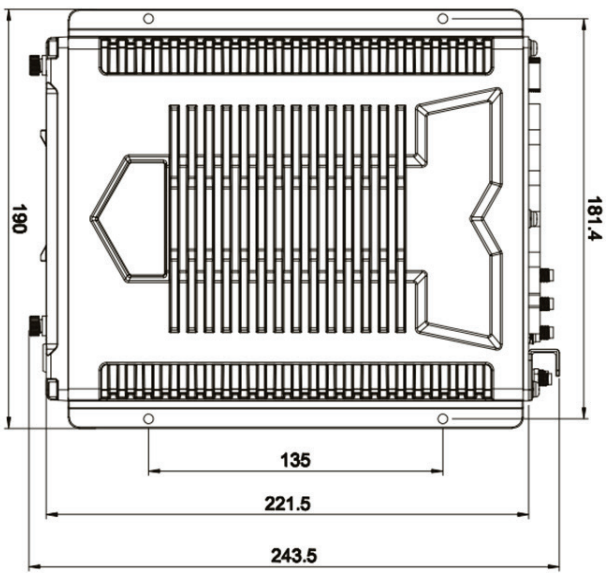
Device parameters	DVR Performance index
Model	RoadHawk DVR8000
Product Name	8 Channel Mobile DVR (HDD Storage)
Operation System	Linux
Operation Interface	Graphical Interfaces English
File System	TES Proprietary Format
System Privileges	User Password
Video Input	8 *1080P/720P/960H
Video Output	1 Channel PAL/NTSC Output, 1.0Vp-p, 75Ω, Pin Aviation Connector
	1 Channel VGA Support 1920*1080, 1280*720, 1024*768 Resolution
Video Display	1 /4 /8 Screen Display
Video Standard	PAL:25frames/Sec;NTSC:30frames/Sec
System Resources	PAL:200 Frames; NTSC:240 Frames
Audio Input	8 Channels Independent Input 600Ω
Audio Output	1 Channel (8 Channels Can Be Convert Freely)
Basic Output Level	1.0—2.2V
Distortion Plus Noise	≤-30dB
Recording Mode	Sound And Image Synchronization
Audio Compression	G711A
Image Compression	H.264 Fixed Code Stream
Image Format	8*1080P/720P/960H
Video Stream	192K-4.0Mbit/s
Video Taking Up Of Hard Disk	85M-1800MByte/hour
Playback Resolution	1 or 4*1080P/8*720P
Audio Bitrate	4KByte / s / channel
Audio Taking Up Of Hard Disk	14MByte / hour / channel
HDD Storage	2 * 2.5 inch 7mm (H) SATA HDD, Support Max 4TB
SD card	1*SD, Support MAX 128GB
Image Quality	Eight Grades to Choose
Alarm input	12 Channels Independent Input. High Voltage Trigger
Analog alarm input	2 channels analog alarm input
Alarm out	3 Channels Independent output (2 relay,1 DC 12v output)
Move Detect	Available
Host Access	Can Expand two For USB Disk Backup (front USB port is USB3.0)
E-SATA	Support backup files via E-SATA port
Wire line Access	Can Expand One RJ45 Ethernet Port
Wifi	Can Expand One Wifi Module Inside
3G/4G	Can Expand two FDD-LTE/TD-LTE/WCDMA/CDMA2000 Modules Inside
GPS	Can Expand GPS/GNOLASS Module Inside
RS232	3*RS232,they are convenient to connect with other vehicle equipment
RS485	2*RS485, they are convenient to connect with other vehicle equipment or PTZ Camera
Pulse speed	One channel pulse speed
Intercom	Can Expand Intercom Module Inside
G-Sensor	Can Expand G-Sensor Module Inside
Canbus	Can Expand 2*Canbus Module Inside
Amplicate Interface	Support 2 amplifier, 1 Inside bus, 1 Outside bus (default non-standard, Need to select O function)
Power Consumption	DC8-36V 5% ≤12W
Working Temperature	-40°C ~ +70°C ≤ 80%
Clock	Built-In Clock, Calendar
Product Size	235(L)*190(W)*80(H)mm (with Holder)
Product Weight	3.2KG (without HDD)

Optional functions:

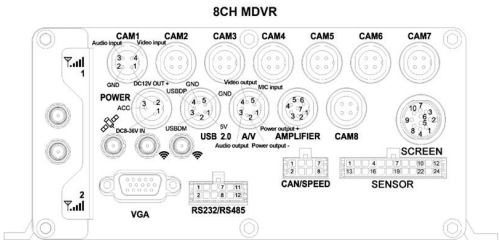
Basic Type (Pin Aviation Connector)

+A: GPS Function	+B: 3G/4G Function
+E: Lan Port	+J: Fireproof Box
+K: Canbus	+L:Wifi hot-Spot
+P: POE	+O: Power amplifier interface
+F:SD Card slot	+W: Wifi Function
+M: Dispatch Interface	+2: SIM2 module

5 Instruction of Installation



5.1 Instruction of External Interface Wiring



RS232/RS485 interface definition:

1 RS232 TX 1
2 RS232 RX 1
3 RS232 TX 2
4 RS232 RX 2
5 RS232 TX 3
6 RS232 RX 3
7 RS485+ 1
8 RS485- 1
9 RS485+ 2
10 RS485- 2
11 DC12V OUT+
12 GND

CANBUS interface definition:

1 canbus+ 1
2 canbus- 1
3 canbus+ 2
4 canbus- 2
5 Pulse speed +
6 Pulse speed -
7 DC5V OUT+
8 GND

AMPLIFIER interface definition:

1 Inside amplifier +
2 Inside amplifier -
3 Outside amplifier +
4 Outside amplifier -
5 NC
6 NC
7 GND

SCREEN 10P definition:

1 NET TX-
2 NET TX+
3 AUDIO OUT
4 NET RX-
5 NET RX+
6 VIDEO OUT
7 MIC OUT
8 RS232 RX
9 RS232 TX
10 GND

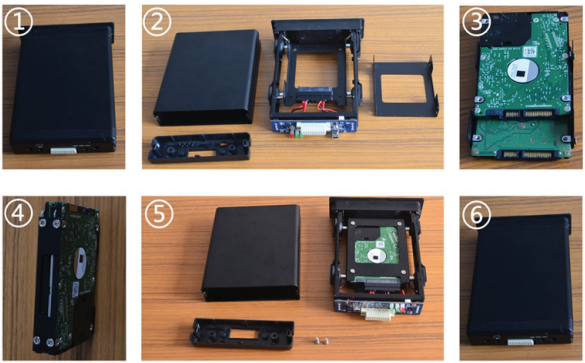
SENSOR interface definition:

1 Alarm input 1
2 Alarm input 2
3 Alarm input 3
4 Alarm input 4
5 Alarm input 5
6 Alarm input 6
7 Analog alarm input 1
8 DC12V OUT+
9 Alarm output 1
10 Alarm output 2
11 Controllable DC12V output
12 DC12V OUT+
13 Alarm input 7
14 Alarm input 8
15 Alarm input 9
16 Alarm input 10
17 Alarm input 11
18 Alarm input 12
19 Analog alarm input 2
20 GND
21 Alarm output 1
22 Alarm output 2
23 GND
24 DC5V OUT+

Remarks:

- If the power supply is 12V, then the current of 12V output can be just 5A. So if there are more than this power, we suggest customers to get power for other cameras from the 12V vehicle power directly or use Our special car power supply.
- Ports:
  DEBUG: Testing port **RS232/RS485:** intercom connecting port **SENSOR**: Alarm port
- WIFI hotspot, fire box interface, network port, CAN BUS, power amplifier, bus station-announcer are not standard interface, that will be add when you have request order.

5.2 Instruction of HDD Installation

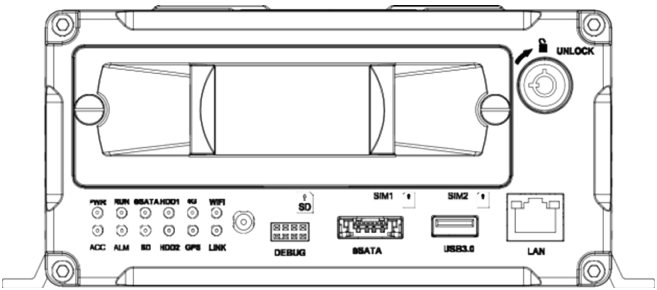


Please ensure that the DVR8000 is not powered on before removing the HDD tray.

- Open the front panel of the hard drive box and remove the hard drive caddy. Unlock with security key and undo the 2 screws.
- Remove the two silver screws holding the hard drive rear enclosure in place using a screwdriver.
- Remove the rear panel and slide the protective sleeve off.
- Remove the 4 screws from the bottom of the suspension tray.
- Insert the SATA cables to the hard drive(s).
- Use the 4 silver screws (per HDD) to fix the HDD in place, do not tighten fully until the HDD sit square.
- Put the hard disk enclosure into the middle of the hard disk protection shell and re insert the 4 screws.
- Replace the protective sleeve and rear panel.
- Replace the 2 silver screws in the rear panel.
- Replace the HDD box into the DVR8000 (Logo towards the top), do up the 2 screws and lock the unit in place with the security key.

6 Instruction of use

6.1 Instruction of front panel



LED

- **PWR LED:** Power LED on.
- **Run LED:** DVR working LED indicator.
- **ESATA LED:** Backing up the data by esata LED indicator.
- **HDD 1 LED:** When recording, playing, backup, LED is flashing.
- **4G LED:** 3G/4G, WIFI module, LINK working LED indicator.
- **Wi-Fi LED:** When Wi-Fi module is running the LED is on.
- **ACC LED:** ACC controller signal regularly,it would indicate.
- **ALM LED:** When have alarm signal, it would be on, when alarm signal disappear it would be off.
- **SD LED:** When the model has SD card storage function, SD card read normally then it would indicate.
- **HDD 2 LED:** Record, play, backup data flashing
- **GPS LED:** With GPS module, MDVR work well indicate.
- **Link LED:** When wired network connect normally, it would indicate.

Key and other descriptions

- **DEBUG:** Debug interface.
- **ESTAT:** Backup interface.
- **SD:** SD card interface.
- **LAN:** Network RJ45 interface.
- **IR:** Infrared receiving window.
- **LOCK:** While removing the hard drive, use the key to unlock in order to remove the hard drive, unlock after machine's auto-disconnects the power, the power auto-connect after being locked.
- **USB3.0:** Backup the video data of hard drive via USB.
- **SIM1:** Standard SIM card size: 15 x 25mm, default connection.
- **SIM2:** Standard SIM card, size: 15 x 25mm, SIM1 card automatically switch SIM2 card when disconnected (SIM2 module matching).

NOTE: Recommend to use the SanDisk brand of the USB disk, the minimum volume 256M, must support the FAT32 file system.

6.2 Instruction of remote control operation

MENU ① Go to menu
② Return

REC Record

OK Enter the sub-menu to set and confirm

Playback on the mobile DVR

① Stop when recording or during playback
② Delete

Pause/Play during playback

Fast-forward during video playback, Press again to speed up.

Rewind uring video playback. Press again to skip by 10 seconds

PTZ Enter PTZ control mode.

Zoom + / - Control PTZ Zoom

Focus + / - Control PTZ focus

Mute key to turn on or turn off audio output during playback videos with audio.(The audio input of the playback device must be connected to the audio output of the DVR.)

ESC ① Exit video playback or backup.
② Exit from PTZ mode.

① Upward for MENU selection.
② 'UP' direction for PTZ control mode.

① Downward for MENU selection.
② 'Down' direction for PTZ control mode.

① Towards left for MENU selection or MENU setup.
② 'Left' direction for PTZ control mode.

① Towards right for MENU selection or MENU setup.
② 'Right' direction for PTZ control mode.

1 /@ ① Screen zoom the first channel video when surveillance, record
② Enter password or set system password.
③ Shortcut keys, press the first key shortcut to switch the number 1, press the second key shortcut to switch the capital letter a, press the third key shortcut toggles the lowercase letters a, press the up and down keys to change value.

0 ① 4 channel display uring surveillance, record and playback.
② Enter password or set system password.

Press 1, 2, 3, 4, 5, 6, 7, 8 switch to CH1, CH2, CH3, CH4, CH5, CH6, CH7, CH8

Buttons not mentioned are not in use.

Remark: When the DVR is in alarm condition, the remote control is invalid.

6.3 Menu setting instruction

First press 

.

and then press  to enter the default password **6666.**

Then press 

to enter the main menu interface.

To select 'System', 'Disk', 'Record', 'Playback', 'Network' and 'Alarm' options, please use the arrow navigation buttons on the remote control. Pressing the 'OK' button will select the desired option.

6.4 System settings

To select 'Setup', 'Vehicle' , 'Other', 'System info', 'Log' and 'Config' options, please use the arrow navigation buttons on the remote control. Pressing the 'OK' button will select the desired option.

6.5 Setup settings

To select 'Base', 'User' , 'Serial', 'PTZ', 'GPS', 'G-sensor' and 'NTP' options, please use the arrow navigation buttons on the remote control. Pressing the 'OK' button will select the desired option.

6.6 Base setting

Set the System time, TV system, Language, etc.

Date format: Offer 3 display methods like 'y/m/d, m/d/y, d/m/y' for personal habit.

Daylight saving time: On or off.

Date: Adjust the date of HDD recorder

Time: Adjust the time of HDD recorder

Language: Set 'Chinese', 'English', 'Portuguese', 'Russian' and 'French', have to restart the DVR after setting.

Video Mode: Set 'PAL' or 'NTSC' - requires system restart.

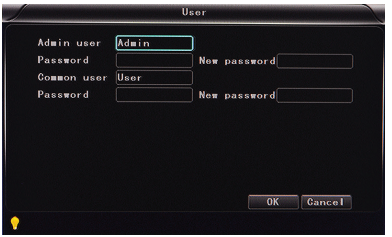
Delay Time: Shut down after ignition off function, the default time is 5 secs. Selectable 30secs to 23.5 hours.

Note: Select the 'OK' button to save any changed parameters, select the 'Cancel' button to close the window without saving any changed parameters.

Enter the menu, then use the navigational arrows on the remote control to select the options. Then press the 'OK' button to enter the modification mode. Adjust the number by pressing the navigational arrows on the remote control. Press the 'OK' button to save after adjustments. Press the'Menu' button to exit.

6.7 User settings

Set up the username and password for the administrator and common users.



Admin user: Set up the user name of the administrator

Password: Enter the default password before changing the new password.

New password: Enter the new password.
Common user: Set up the user name of common user.

Password: Enter the default password before changing the new password.

New password: Enter the new password.

6.8 Serial settings

Set up the communication protocol with external equipment via the serial settings screen.

RS232 set: Supports dispatch, LED panel, ID card, OBD and person count.

Bitrate: Supports 2400bps,4800bps, 9600bps,19200bps and 38400bps.

Data bit: The default value is 8.

Stop bit: The default value is 1.

Verify: The default value is none.

RTS/CTS: The default value is 0.

RS485 set: Supports PTZ, LED screen, oil sensor, ID card, OBD and person count.

Bitrate: Supports 2400bps,4800bps,

9600bps,19200bps and 38400bps.

6.9 GPS settings

Set up the communication protocol with external equipment via the serial settings screen.

ID Time zone: Different by countries, e.g: China for UTC+08.

GPS Interval: GPS data upload interval, used with other system interface.

6.10 G-Sensor settings

G Sensor-X: 2000mg (default value). This value will change accordingly if the X direction gravity accelerated speed value is changeable.

G Sensor-Y: 2000mg
(default value, customisable).

G Sensor-Z: 2000mg (default value, this value will change accordingly if the Z direction gravity accelerated speed value is changeable).

Note: Press the 'Adjust' button to adjust G-sensor parameters when first installed.

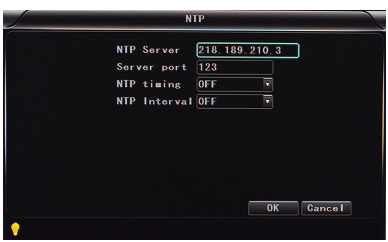
6.11 NTP settings

NTP server: The NTP server IP.

Server port: Default port is 123.

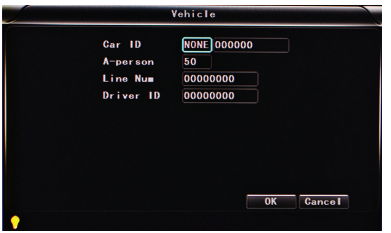
NTP timing: Different by countries, e.g: China for UTC+08.

NTP Interval: Time data upload interval, used with NTP server.



6.12 Vehicle information

Details of car number plate, route and driver code.



Car ID: Can be showed by English, numbers or common symbols.

A-person: Set up the driver for the vehicle.

Line Num: The driving route and code.

Driver ID: Set up the driver code information.

6.13 Other information

VGA Output: 1920x1080, 1280x720, 1024x768, no output.

Zoom in CH: Choosing which channel to see each time power is on. This is also useful when backing the car. E.g. when you choose CH 1 as the Zoom, CH1will be shown on screen when you start the device,.

Alarm Phone: Set the action of alarm or not.

Phone number: Click alarm function and set the phone number for alarm.

6.14 System information

Displays DVR hardware code number and software version information (this cannot be changed).

Device encoding: Only for this DVR. The code is unique.

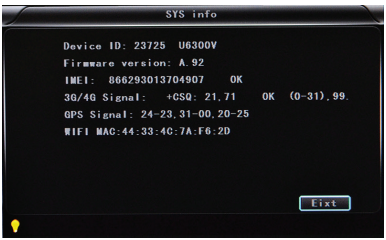
Firmware version: The version No. of DVR software.

IMIE: IMIE No. of 3G/4G network or module.

Strength of 3G/4G signal: Strength value: 99, unknown: 0-31.

Strength of GPS signal: AA-BB (AA: GPS No ;BB: GPS strength. Show signal strength of max3).

Wi-Fi MAC: The MAC address



6.15 Log information

Log type: User action log, alarm logging, and equipment status log.

6.16 Configuration management

Import: Import the configuration parameters.

Export: Export the configuration parameters.

Renew: Restore the factory parameter.

6.17 Disk check and format

Disk Name: Display the system-recognised HDD name.

Overwrite: Choose on and off.

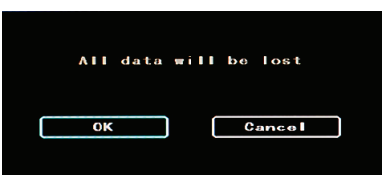
Total Size: Display the total size of HDD.

Free Size: Display the remaining capacity of HDD.

Free record time: An estimate of your recording time availability.

Format: Format HDD (only format the head files of HDD).

Select this item. There is a format interface after pressing the 'OK' button. Confirm to format or cancel to return to the original interface.



6.18 Recording and video file settings

The video files setting includes ‘codec’, ‘channel’ and ‘record plan’.

6.19 Codec

Channel: Select the channel setting. The information of each channel can be set independently.

Resolution: CIF/ HD1/ D1/ 960H/ 720p/ 1080p: The left column shows local storage information. The right column shows network transmission information. Local ‘CIF, HD1 and D1’ is optional. Only ‘CIF’ can be chosen for network transmission.

Frame: 1-25/30fps.
The left column shows local storage information. The right column shows network transmission information.

Stream mode: Contains Bit Rate and Variable Bit Rate.

Quality: Video quality setting.
The left column shows the local video quality (total 192kbps/ 320kbs/ 512kbps/ 768kbps/ 1Mbps/ 1.2Mbps/ 1.5bps/ 2Mbps/ 3Mbps/ 4Mbps.

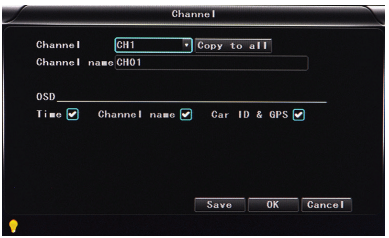
The right column showsthe network transmission quality(total 13 grades, 32kbps/ 48kbs/ 64kbps/ 80kbps/ 112kbps/ 144kbps/ 192kbps/ 256kbps/ 320kbps/ 384kbps/ 512kbps/ 768kbps/ 1024kbps).

Audio: Select to record with or without audio.

Copy to all: Copy to all channels.

Note: Save after finishng video parameter setting. (The DVR will need to be restarted after setting).

6.20 Channel



Channel: Select the channel setting (the information of each channel could be set independently).

Channel name: The name of each channel.

OSD: Choose to add the character information or not.

Copy to all: Copy to all channels.

6.21 Record plan

Channel: Select the channel setting. The information of each channel can be set independently.

Record mode: Real time, event or no record.

File length: The packaged video files length setting (5/10/15/25/30/60 minutes).

Pre-record: Before the alarm recording time (none,5 secs,10 secs or 15 secs).

Event REC time: Alarm-triggered video duration (30-330 secs optional, 30secs unit).

Schedule: Customise the record periods and alarm intervals.

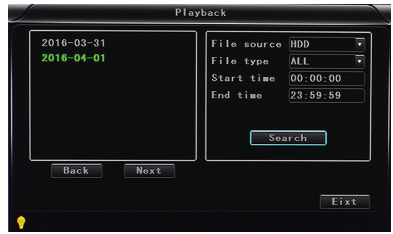
Copy to all: Copy to all channels.

Save: Save after finishing video parameter setting. The DVR will need to be restarted after setting.

The operating method is similar to the 'basic settings' operating.

6.22 Playback

The video is in date and time order in the menu, Select the tome range and press search ,then press 'Play 'button to replay the video.



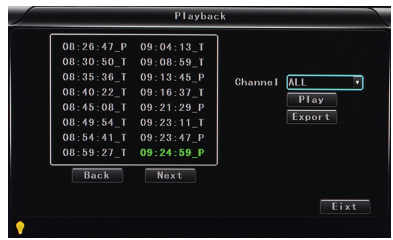
DVR player file attributed: File format suffix '_P' is power off video file , suffix '_S' indicates an alarm trigger video files, suffix '_T' indicates an timing video files.

Channel: 1CH/4CH/8CH/12CH video playback, video playback on each channel or full screen, or playback and record simultaneously.

Play: Select the video files and channel to replay.

Export: Select the HDD video files you wish to backup to a USB Disk.

The operating method refers to 'local video playback instruction'.



6.23 Network settings, LAN, 3G, Wi-Fi, IPC

LAN: Connecting via RJ45.

3G/4G: Insert 3G/4G SIM card into the slot.

Wi-Fi: To connect to a Wi-Fi network.

IPC: To connect the IPC camera Settings.

SIP: Chinese government standard platform.

CH ID: Chinese government standard platform.

6.24 Local Network Settings (LAN)

Network Type: LAN and 3G/4G-Wi-Fi optional.

DHCP: Automatically obtain the IP address. In order not conflict with the LAN, please enable ON, and also enable DHCP on the router. Note only one DHCP server can be enabled in one LAN.

Static IP: Setup under LAN and Wi-Fi mode.

Net mask: Subnet mask under LAN or Wi-Fi mode.

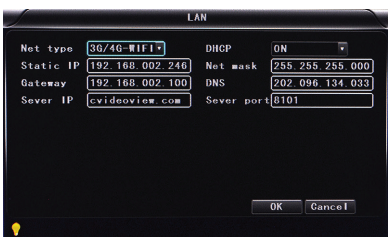
Gateway: Gateway under LAN or Wi-Fi mode.

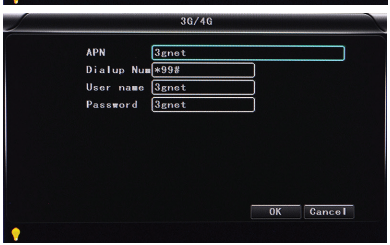
DNS: Please input when the server IP is DNS. Not necessary when IP is static.

Server IP: If the units login on our server, please use cvideoview.com, and if the units login on your own server, please use yours.

Server Port: Keep it as default of 8101.

6.25 3G Network settings





Net type: Select 3G-Wi-Fi if you are going to use 3G mode.

DHCP: ON.

Access into 'Network'→'3G'

APN: Access Point Name.

Dialup Num: Get this info from your carrier.

User Name: Fill in if you have a username.

Password: Fill in if you have a password.

Note: Please make sure you select the proper SIM card fit for 3G/4G module.

6.26 Wi-Fi setting

Net type: Select 3G-Wi-Fi when the type is under LAN.

DHCP: ON.

Access network setup →'Wi-Fi'.

SSID: Wi-Fi router device name.

Password: Using password for SSID.

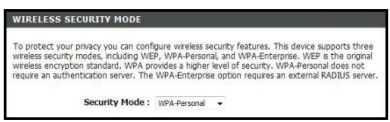
Certificate: Support 'WPA-PSK'.

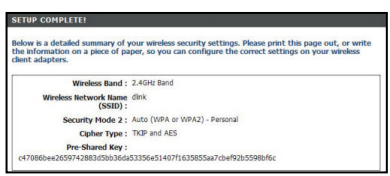
Encryption: Support 'TKIP'.

6.27 Wi-Fi encryption

Access router, check its 'Wi-Fi' encryption.

Note: Please make sure the router Wi-Fi encryption is the same with the setup in MDVR if the units use Wi-Fi.





6.28 Alarm setting

Sensor alarm, motion detection settings.

Sensor: An external sensor alarms.

MD: Motion detecting alarm.

Other: other alarm setting.

6.29 Sensor setting

Channel: Main channel. Optional alarm inputs.

Enable: Turn on/off means.

Sensor name: Name the alarm.

Trigger level: High or low level trigger of the alarm.

Linkage: Set up ON/ OFF video linkage function.

OSD: Choose whether to overlay alarm information.

Lock: Never overwrite.

Alarm: Choose whether to overlay alarm information.

Alarm out: Choose whether to alarm out.

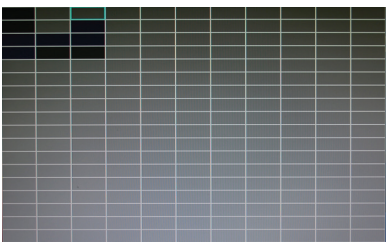
Save: Click the save button to keep the settings after rebooting.

6.30 MD: Motion detecting alarm

Channel: Choose between main channel or a different channel.

Enable: Turn on the motion detection recording and adjust the sensitivity (Off, High, Medium Low).

Opening the motion detection recording, you also need to select to the icon "S" (alarm record) and adjust the time range of the recording in the Record Settings.



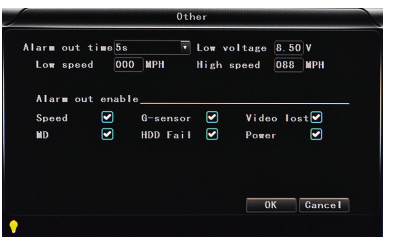
Area setup:

: No detection

: Low sensitivity

: High Sensitivity

6.31 Other: Other alarm settings



Alarm out time: Alarm output time (5secs-900secs).

Low voltage: The low voltage alarm about car battery.

Low speed: The low speed alarm.

High speed: The high speed alarm.

Alarm out enable: Set up the types of alarms linkage, speed, G-sensor, video lost, Motion detecting alarm, HDD fail, power.

6.32 DVR Video playback instructions

System supports 2 video playback options.

Users can watch video playback with the IR remote control. The specific steps are as follows:

Enter the main menu, move to 'playback' option and press OK to enter. Next press the ▲ key or ▼ key to select the playback date , move to 'Search', then press OK key to display the video files of the selected date (file named by the record time). Press ▲ or ▼ again to select the time to play. If your required time is not available in the current page, press the ◀ or ▶ keys to the next page until you find the required time, then press OK to move the 'play channel' option. Again press OK to select the playback channel. If you need to reselect the files, press keys ▲ or ▼ to repeat the previous steps to select again, then press OK.

Press ◀ or ▶ to select the replay channel, then press 🔍 or press ▼ to 'play'. Next press OK to replay. The system will switch to the video playback status, you can see the playback video in the selected channel. Press the 1 /@ 1 /@ 1 /@ 4ghi keys to switch the channel, and press 0 to return to the quad screen. Press ▶II to stop, press again for replay. Press ■ to exit and back to 4ch record status. Press OK to return to the 'search/playback' interface, then press ▲ or ▼ to select other video playback.

You can also watch the video playback with the mouse. The specific steps are as follows:

Enter the main menu, click on the ‘playback’ option to enter, then select the playback date, file type and time frame. Next press ‘search’ to display the video files of the selected date (file named by the record time). After selecting the time and channel , press ‘Play’. If your required time is not available in the current page, press ‘back’ or ‘next’ to the other page, until you find the required time.

Press  on the playback interface, and then use the mouse to click  to implement different functions, such as: rewind, stop, play, pause, a frame play, fast-forward, next and audio (each channel).

6.33 Video backup

System supports 2 video backup ways.

1. Connect the USB disk to the DVR's USB port for backup (Ports on Demand). Operating method as follows:

a) Connect USB disk to the DVR's USB port (FAT32 format, backup Max 30GB).

b) On the video playback interface, select the backup video files first, then move to the 'Export' option, and press 'OK' to backup, 'Export END' display after backup finished, the USB disk could be taken away, then press 

to exit if no other operations.

c) If you need to backup another file, press 

and repeat the previous steps.

2) Take the HDD box out from the MDVR, then connect the HDD reader to the PC. You can check the video playback on PC via the installed local playback analysis software (suitable for large amounts of data backup, simple and flexible). The proprietary data files also can be converted to the common format, suitable for different reading demands. Specifics refer to the local playback analysis software instructions.

For the required volumes of video and video-related settings, please see the following table:

6.34 Video Data Volume

4CH 1080P-NVR			8CH 720P-NVR			12CH 720P-NVR		
VIDEO QUALITY	Total Record Frame	Data Size Per Hour	VIDEO QUALITY	Total Record Frame	Data Size Per Hour	VIDEO QUALITY	Total Record Frame	Data Size Per Hour
2.0 Mbps	100 frame	6.1GB	2.0 Mbps	200 frame	10.32GB	2.0 Mbps	300 frame	15.48GB
1.5 Mbps	100 frame	4.58GB	1.5 Mbps	200 frame	7.74GB	1.5 Mbps	300 frame	11.61GB
1.2 Mbps	100 frame	3.65GB	1.2 Mbps	200 frame	6.18GB	1.2 Mbps	300 frame	9.27GB
1.0 Mbps	100 frame	3.05GB	1.0 Mbps	200 frame	5.16GB	1.0 Mbps	300 frame	7.74GB
768 Kbps	100 frame	2.3GB	768 Kbps	200 frame	3.86GB	768 Kbps	300 frame	5.79GB
512 Kbps	100 frame	1.5GB	512 Kbps	200 frame	2.58GB	512 Kbps	300 frame	3.87GB
320 Kbps	100 frame	1GB	320 Kbps	200 frame	1.62GB	320 Kbps	300 frame	2.43GB
192 Kbps	100 frame	0.58GB	192 Kbps	200 frame	0.96GB	192 Kbps	300 frame	1.44GB

Notes

roadhawk

A Trakm8 Brand

RoadHawk c/o Trakm8
4 Roman Park, Roman Way, Coleshill,
Birmingham, West Midlands, B46 1HG

Tel. +44 (0) 330 333 4120
Email. info@roadhawk.co.uk
Web. www.roadhawk.co.uk

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