

# SD4HD, SD4HW, SD4HC

(Mobile Video Solutions)



## User Manual

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29 Years of Fleet Driver Safety System Sales & Service Experience

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# Important User Information

## **Minimum System Requirements for DVR-Player Function:**

CPU: Intel Core i5 3.4 GHz, RAM: 6GB (4GB, 8GB would be better),

Video standard: Intel(R) HD Graphics

## **About On Screen GPS Mapping**

This feature requires unrestricted access to Google maps, so some highly restricted proxies servers may prevent this. If the Internet access is prevented at the customer side, the free On Screen Mapping feature may be prevented from functioning. This does not affect the speed of the vehicle recorded on the screen during the trip. Also we have found the GPS antenna location needs to be on the vehicle roof to assure the best function.

## **Memory Storage Required**

The SD4HD, SD4HW and SD4HC series are sold WITHOUT memory storage device, as the size of the SD memory cards will not only be up to the customer but in many cases customers can source the cards at a lower cost than ABV can. ABV recommends use of Transcend SD memory cards Class 10 or faster, for optimum use as some other brands have had issues with several mobile DVR brands over the last 10 years.

## **Basic PC Skills Are Required**

The Mobile Digital Video Recorders (MDVR) we provide operate on a PC program viewer program called a Graphical User Interface aka GUI. These programs have been designed to be intuitive and require no formal training to operate the program, include a manual for those who seek additional guidance, as long as the user possesses basic PC skills. This is where some problems with PC skills begin for some who are not well versed in the use of their district or company computers. Use of these GUI programs are predicated on the assumption/requirement that the customer of this high tech video file evidence management tool has authorized personnel who will be operating this program who are competent with the basic operation of their own company PCs.

Companies lacking a trained PC competent authorized user for this system will need to have their designated persons trained on the basic use of their company PC prior to using this product, as lack of basic PC operation skills and use could compromise the integrity of the product application, the video files and possibly their admissibility as evidence in a court litigation procedure. The manufacturer and their representatives are not responsible, licensed or certified to train users of this program on the basic functions of a customer or company's own company PCs.

ABV does not supply the resources required to teach customers how to operate their PCs to a degree that they may then operate programs running on them. It is the customer's responsibility to learn how to operate their own PC before implementing a product that requires operation on their PC. Simply stated; if the intended customer system operator is incapable of downloading files from the internet, opening programs under Administration access, running or executing application files under Administration access, cannot download Media Player Program codec plug-ins, cannot save a file, cannot transfer a file or browse for a file, nor make a screen capture of the program viewer GUI, cannot send a saved file by e-mail, cannot plug a USB SD card Reader into a removed memory storage device, cannot save a file to a portable digital storage device, then you are not ready for a digital vehicle surveillance system. Basic PC skills are a requirement of all who intend to operate these products.

## **Network System Administrator (In-House) Required for CMS Operation (Wi-Fi & Cellular)**

Should you have Wi-Fi equipped DVRs but are not using the Wi-Fi Wireless function then this does not apply, as you will not be using the CMS software.

Those customers incorporating the Central Management Software (CMS) Server or Client Software in order to enable the Wi-Fi or Cellular functionality in their mobile video application must have in-house a Network

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Administrator with at least the training and certification of Microsoft Certified Systems Administrator (MCSA) or Microsoft Certified Systems Engineer (MCSE) to manage all aspects of the Network Server operation including; CMS software install, CMS Network Server configuration, CMS Network Server operation, CMS Network Server Maintenance, troubleshoot the DVR Server & CMS software, and or operate the higher functions of the program capabilities as they require access to your Wi-Fi or Cellular network, your mail server, creating SQL databases and many other network administrator functions. (1<sup>st</sup> Warning)

It is solely the responsibility of the purchaser to provide competent certified Network Administrator with at least the training and certification of Microsoft Certified Systems Administrator (MCSA) or better yet Microsoft Certified Systems Engineer (MCSE) to install, configure, operate, maintain and troubleshoot the DVR Server & CMS software, and or operate the higher functions of the program capabilities as they require access to your Wi-Fi or Cellular network, your mail server, creating SQL databases and many other network administrator functions.

This is a Customer CMS Server Hosted solution for those who wish to maintain all data in-house, with free software intended for those who know what they are doing only. Cellular CMS Server Network driven solution is not for those who know a little about networks and feel lucky. (2<sup>nd</sup> Warning)

American Bus Video Inc (ABV) provides network solutions that require at a minimum Microsoft Certified Systems Administrator (MCSA) or better yet Microsoft Certified Systems Engineer (MCSE) in house, to assure you are competent and able to assume all functions of the network server and DVR that communicates with it without assistance, as ABV provides no support, training, technical service, phone support for CMS Server/DVR Server or Client Server software for Wi-Fi/3G/4G /4G LTE systems that we offer. (3<sup>rd</sup> Warning)

In simple terms, if you do not have a competent in house certified Network Administrator with at least the training and certification of Microsoft Certified Systems Administrator (MCSA) or better yet Microsoft Certified Systems Engineer (MCSE) to install, configure, operate, maintain and troubleshoot the DVR Server & CMS software, and or operate the higher functions of the program capabilities as they require access to your Wi-Fi or Cellular network, your mail server, creating SQL databases and many other network administrator functions, then you should not be purchasing a Wi-Fi or Cellular Network driven system that requires a CMS Server, DVR Server or Client Server. (Final Warning)

#### **Minimum Requirements for CMS Server:**

Dell T320 server or better

SQL Server 2003,SQL\_server 2005 or newer

Wan IP (Fixed IP): The IP address is never changed.

Small Fleets: Windows 7,Windows 8

Large Fleets will require: Window Server 2012 or newer

#### **Operational Verification**

It is solely the responsibility of the user of the product to provide verification of product functionality when installed, each time the vehicle is operated, as well as pulling video files for viewing weekly, as a way to verify the system is operating properly, in order to prevent missing the documentation of important events due to operational problems, that could have been detected before they prevented important video evidence from being documented. Operational verification can be a simple daily visual verification of the DVR LED Status LEDs displaying on the unit faceplate to verify the unit is powered up and recording, or by use of the Remote DVR Status module (option). ABV Recommends weekly verification via memory card files playback test, to insure the cameras are all properly aimed, that the camera lenses are clean, that the audio is functional for each camera, and that the DVR is recording when the ignition is on. "Agency implies Stewardship" is a time proven principal, meaning if you own a product, it is your responsibility to maintain the product to insure you are able to obtain value from the use or operation of that product.

ABV recommends daily LED DVR status and weekly video recording system check, to insure all systems are recording properly so when you need them most in an incident you do not learn the DVR blew a 10 cent fuse 7 years ago (actual case) and has not worked a day since.

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Before installing and using, be sure to read the Manual, then you will properly use and protect your machine. The first part of the statement concerns the matters to be attention to before installing and using.

➤ **Attention**

- To protect your rights, before using and installing, please carefully read the contents of the manual.
- This product is used for car inside, in order to prevent short-circuit or the risk of electric shock, do not make the machine on the rain or humidity environment.
- Event of any solid or liquid into the machine, please disconnect the power of the machine immediately, and ask the qualified technical staff to check, then restart it.
- The product is high-tech equipment; machines cannot be repaired by users even very small original part. Once failure occurs, please ask for the qualified technical personnel, or contact with the dealer. Do not repair it by users themselves.

➤ **Installation Environment**

- 8-36V DC power supply; please confirm the local power supply before power on.
- If the machine were not used for a long time, please completely disconnect the video's power supply.
- Please select the appropriate location for the installation of the machine, where the air can flow freely around the machine to avoid overheating or water inflow.
- Machine can not be installed near the radiators, or near the ventilation road which is near heat, or directly under sunshine, or too much dust, or rain water, or near the area where the mechanical vibration or impact happens.

➤ **Package List**

| <b>Name</b>                          | <b>Quantity</b> |
|--------------------------------------|-----------------|
| Dual SD card Mobile DVR              | 1               |
| User Manual                          | 1               |
| Certificate of approval              | 1               |
| Remote Control (not include battery) | 1               |
| Connecting Cable                     | 3               |

**Note: When the specification or parameters changes, no other announcement in addition.**



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# 1 Product Overview

The four-channel embedded digital SD card video recorder is designed for car safety. It uses embedded processor and embedded operating system, combined with video / audio compression / decompression, GPS, car recorder, and the capacity SD card storage technology to confirm the high intelligence and high stability. Widely used for bus, ship, train, and other areas of security.

## 2 Basic functions

### 2.1 Audio/Video Compression Format

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

### 2.2 Audio/video recording mode

- Compression format

The audio video data are stored through special files, encrypted to prevent data loss under frequent power failure circumstances.

- Compression stream

Image quality with 8 levels and adjustable (192kbps--2.0Mbps/channel) to meet different requirements.

- Storage

Support 2x128GB SD card, auto overwritten and cycle storage.

### 2.3 Image quality when monitoring, recording, playback

- Resolution

**960H:** Monitoring: 960\*576/CH; Recording: 960\*576/CH; Playback: 960\*576/CH

**720P:** Monitoring: 1280\*720/CH; Recording: 1280\*720/CH; Playback: 1280\*720/CH

- Frequencies

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The monitoring, recording and playback are all with 25fps

- Horizontal resolution for monitoring  
More than 270TV lines per channel.
- Horizontal resolution for playback  
More than 270TV lines per channel.

## **2.4 Total Resources**

### **4CH 960H:**

- Support 4 channels 960H (960\*576) simultaneous recording, total 100fps.
- Support 4 channels 960H (960\*576) simultaneous playback, total 100fps.

### **4CH 720P:**

- Support 4 channels 720P (1280\*720) simultaneous recording, total 100fps.
- Support 4 channels 720P (1280\*720) simultaneous playback, total 100fps.

## **2.5 Audio video synchronous recording**

- Record and playback the audio/video/GPS positioning data simultaneously. The information can be checked by CMS software, which can be installed on computer.

## **2.6 Access detection**

- When after open motion detecting video recording equipment in camera detects movement, the monitoring area can start recording, trigger the alarm, warning area size, location, number, area and alert in sensitivity or removal of alert, and other functions, can be set up.

## **2.7 Signal loss alarming function**

- When the video signal gets lost, the device will send alarm signal via Internet. Responding in less than 5 seconds with log information. NOTE this function will not work when a channel is not in recording status or if a channel is displaying in full screen.

## **2.8 Alarm linkage**

- Support 4CH alarm input (8-36v high level voltage to trigger); 1CH alarm out (by relay, max.

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500mA, switch ON); When the alarm is triggered, the audio recording will be started automatically (30-330s, adjustable). Alarm out will close for (5s-900s, adjustable) and send alarming signal, responding in less than 1s.

## **2.9 Alarm pre-recording**

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

## **2.10 Full duplex**

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

## **2.11 Malfunction alarming function**

- When the DVR fail to work, the alarm switch is ON, showing alarm information for 6 minutes at least.

## **2.12 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.

## **2.13 Front-end device control and multi-channel monitor and switch**

- The DVR can control PTZ cameras through default protocols (RS-485, PELCO-D, 9600 baud rate), 4 or 6 channels real time, switchable to monitoring mode.

## **2.14 Networking**

- Combining the CMS software. With built-in 3G module, the car can be monitored remotely.

## **2.15 Data backup**

- To backup the SD data into computer via SD card reader;
- Downloading the SD data remotely through network.

- 
- Transfer the SD card data to computer, download and play the media via our unique DVR player software. Users can also switch the SD files into universal AVI format to make it workable in other players.

## **2.16 Authority, encryption, data safety**

- Enter the DVR by password, default for “6666”. Data is stored in a special file system to ensure it's encrypted and safe..

## **2.17 Log function**

- The log includes the alarming and malfunction information, stored into SD card. It can be checked via computer.

# **3 Features**

## **3.1 Operating system**

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

## **3.2 Compression format**

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

## **3.3 Monitoring and Recording**

- Monitor: MAX 4CH 720P (1280\*720)
- Record: PAL 100fps, NTSC 120fps, full real-time CIF, HD1, D1, 960H, 720P recording.
- Record mode: by alarm, schedule, manual, and motion detection.
- Support 4CH video and 4CH audio meanwhile recording.
- Record image quality: 8 levels adjustable
- Video recorded in special file system to ensure lifespan and safety of SD card.
- Reliable evidence with unchangeable audio/video data.

## 3.4 Index and Playback

- Index and playback by time.
- Support 4CH audio, 1CH video (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 SD card storage and data backup

- Support two SD cards, with each 128GB max.
- The SD card data can be backed up via PC software.

## 3.6 Control

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

## 3.7 Others

- Upgrade through SD2 card, 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 crush.

## 4 Technical Parameters

| Items         | Device parameters   | DVR/NVR Performance index                                       |  |                                      |
|---------------|---------------------|---|--|--------------------------------------|
| <b>Name</b>   | Product Name        | <b>4CH 960H</b><br>SD Mobile DVR                                |  | <b>4CH AHD</b><br>720P SD Mobile DVR |
| <b>System</b> | Operation System    | Linux   |  |                                      |
|               | Operation Interface | Graphical Interfaces, Chinese/English optional                  |  |                                      |
|               | File System         | Proprietary Format  |  |                                      |
|               | System Privileges   | User Password   |  |                                      |
| <b>Video</b>  | Video Input         | 4ch Independent Input: 1.0Vp-p, 75Ω.Both B&W and Color Cameras  |  |                                      |
|               | Video Output        | 1 Channel PAL/NTSC Output, 1.0Vp-p, 75Ω, Composite Video Signal |  |                                      |

|   |                              |  |   |
|---|------------------------------|--|---|
|   |                              | 1 Channel VGA Support 1920*1080 , 1280*720 , 1024*768 Resolution                 |   |
|   | Video Display                | 1 Or 4 Screen Display  |   |
|   | Video Standard               | PAL:25frames/Sec;NTSC:30frames/Sec   |   |
|   | System Resources             | PAL:100 Frames; NTSC:120 Frames  |   |
| <b>Audio</b>                            | Audio Input                  | Four Channels Independent Input 600Ω   |   |
|   | Audio Output                 | 1 Channel(4 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  |   |
| <b>Digital Processing &amp; Storage</b> | Image Compression            | H.264 Fixed Code Stream  |   |
|   | Image Format                 | PAL: 4*960H (960*576)<br>NTSC:4*960H (960*480)                                   | PAL:4*720P<br>(1280*720)<br>NTSC: 4*720P<br>(1280*720)            |
|   | Video Stream                 | 192Kbps-2.0Mbit/s (channel)  |   |
|   | Video Taking Up Of Hard Disk | CIF:85M-394MByte/hour<br>D1、<br>960H:85M-675MByte/hour                           | 720P:85MB-900MByte/hour   |
|   | Playback Resolution          | PAL: 1 or 4*960H(960*576)<br>NTSC: 1 or<br>4*960H(960*480)                       | PAL: 1 or 4*720P<br>(1280*720)<br>NTSC: 1 or 4*720P<br>(1280*720) |
|   | Audio Bitrate                | 4KByte / s / channel   |   |
|   | Audio Taking Up Of Hard Disk | 14MByte / hour / channel   |   |
|   | SD Storage                   | Double SD card storage, Support Max 2* 128GB                                     |   |
|   | Image Quality                | Eight Grades to Choose   |   |
|   | <b>Alarm</b>                 | Alarm in   | 4 Channels Independent Input. High Voltage Trigger                |
| Alarm out                               |                              | 1 Channels Independent output  |   |
| Move Detect                             |                              | Available  |   |
| <b>Network Interface</b>                | Wire line Access             | Can Expand One 6pin Ethernet Port  |   |
|   | Wi-Fi                        | Can Expand One Wi-Fi Module Outside, 802.11 B/G/N                                |   |
|   | 3G/4G                        | Can Expand One FDD-LTE/TD-LTE/WCDMA/CDMA2000 Module Inside                       |   |
| <b>GPS Interface</b>                    | GPS                          | Can Expand GPS Module Inside   |   |
| <b>Extend Interface</b>                 | RS232                        | Optional it is convenient to connect with other vehicle equipment                |   |
|   | RS485                        | Optional it is convenient to connect with other vehicle equipment and PTZ Camera |   |
|   | Intercom                     | Can Expand Intercom Module Inside  |   |

|           |                     |                                   |
|-----------|---------------------|-----------------------------------|
|           | G-Sensor            | Can Expand G-Sensor Module Inside |
|           | Canbus              | not support, need to customize    |
| Others    | Power Consumption   | DC8-36V 8W (without SD)           |
|           | Working Temperature | -20°C ~ +85°C                     |
|           | Clock               | Built-In Clock, Calendar          |
| Packaging | Product Size        | 132(L)*119(W)*40(H)mm             |
|           | Product Weight      | 0.6KG(without SD)                 |

| Items                        | Device parameters            | SDVR Performance index   |   |
|------------------------------|------------------------------|--|---|
| Name                         | Product Name                 | <b>4CH 960H</b><br>SD Mobile DVR                                 | <b>4CH 720P-AHD Analog</b> SD Mobile DVR      |
| System                       | Operation System             | Linux  |   |
|                              | Operation Interface          | Graphical Interfaces, Chinese/English optional                   |   |
|                              | File System                  | Proprietary Format   |   |
|                              | System Privileges            | User Password  |   |
| Video                        | Video Input                  | 4ch Both B&W and Color Cameras                                   |   |
|                              | Video Output                 | 1 Channel PAL/NTSC Output, 1.0Vp-p, 75Ω, Composite Video Signal  |   |
|                              |                              | 1 Channel VGA Support 1920*1080 , 1280*720 , 1024*768 Resolution |   |
|                              | Video Display                | 1,4 or 6 Screen Display  |   |
|                              | Video Standard               | PAL:25frames/Sec;NTSC:30frames/Sec                               |   |
|                              | System Resources             | PAL:150 Frames; NTSC:180 Frames                                  |   |
| Audio                        | Audio Input                  | Four Channels Independent Input                                  |   |
|                              | Audio Output                 | 1 Channel (4 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  |   |
| Digital Processing & Storage | Image Compression            | H.264 Fixed Code Stream  |   |
|                              | Image Format                 | PAL: 6*960H (960*576)  | PAL:2*720P (1280*720) +4*960H (960*576)       |
|                              |                              | NTSC:6*960H (960*480)  | NTSC: 2*720P (1280*720) +4*960H (960*576)     |
|                              | Video Stream                 | 192Kbps-2.0Mbit/s (channel)                                      |   |
|                              | Video Taking Up Of Hard Disk | CIF:85M-394MByte/hour<br>D1、<br>960H:85M-675MByte/hour           | 720P:85MB-900MByte/hour                       |
| Playback Resolution          |                              | PAL: 1 or 4*960H(960*576)<br>NTSC: 1 or<br>4*960H(960*480)       | PAL: 1 or 2*720P (1280*720) +4*960H (960*576) |



|                          |                              |  |
|--------------------------|------------------------------|--|
|                          |                              | NTSC: 1 or 2*720P (1280*720) +4*960H (960*576)                                     |
|                          | Audio Bitrate                | 4KByte / s / channel   |
|                          | Audio Taking Up Of Hard Disk | 14MByte / hour / channel   |
|                          | SD Storage                   | Double SD card storage, Support Max 2* 128GB                                       |
|                          | Image Quality                | Eight Grades to Choose   |
| <b>Alarm</b>             | Alarm in                     | 4 Channels Independent Input. High Voltage Trigger                                 |
|                          | Alarm out                    | 1 Channels Independent output  |
|                          | Move Detect                  | Available  |
| <b>Network Interface</b> | Wire line Access             | Can Expand One 6pin Ethernet Port  |
|                          | Wi-Fi                        | Can Expand One Wi-Fi Module Outside, 802.11 B/G/N                                  |
|                          | 3G/4G                        | Can Expand One FDD-LTE/TD-LTE/WCDMA/CDMA2000 Module Inside                         |
| <b>GPS Interface</b>     | GPS                          | Can Expand GPS Module Inside   |
| <b>Extend Interface</b>  | RS232                        | Extensible it is convenient to connect with other vehicle equipment                |
|                          | RS485                        | Extensible it is convenient to connect with other vehicle equipment and PTZ Camera |
|                          | Intercom                     | Can Expand Intercom Module Inside  |
|                          | G-Sensor                     | Can Expand G-Sensor Module Inside  |
|                          | Canbus                       | not support, need to customize   |
| <b>Others</b>            | Power Consumption            | DC8-36V 8W (without SD)  |
|                          | Working Temperature          | -20°C ~ +85°C  |
|                          | Clock                        | Built-In Clock, Calendar   |
| <b>Packaging</b>         | Product Size                 | 132(L)*119(W)*40(H)mm  |
|                          | Product Weight               | 0.6KG(without SD)  |

### Optional functions:

Basic Type (Pin Aviation Connector)

+A: GPS Function

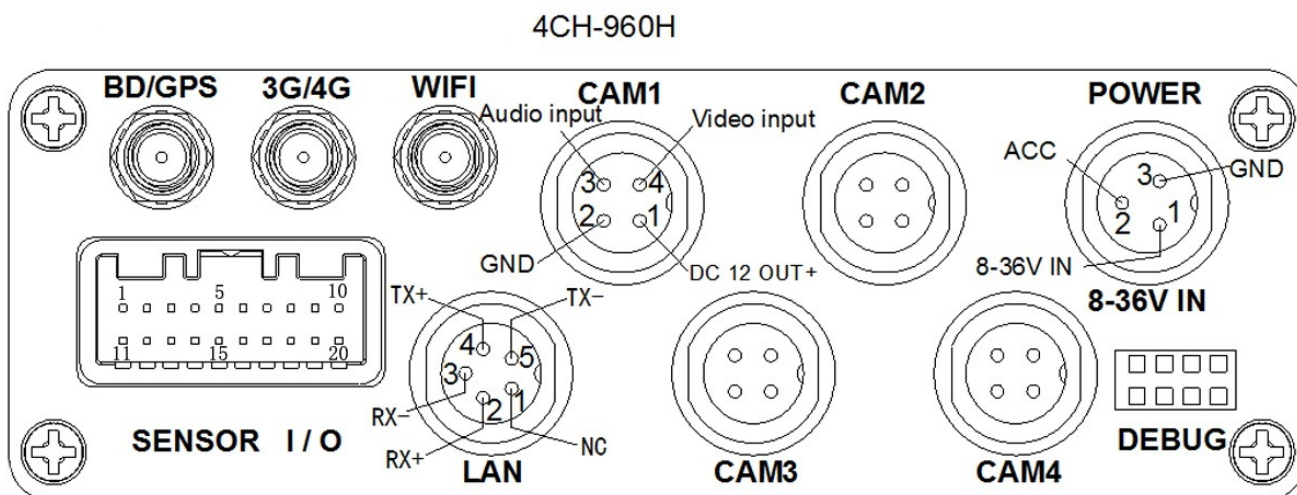
+B: 3G/4G Function

+E: Lan Port

+W: Wi-fi Function

## 5 Instruction of Installation

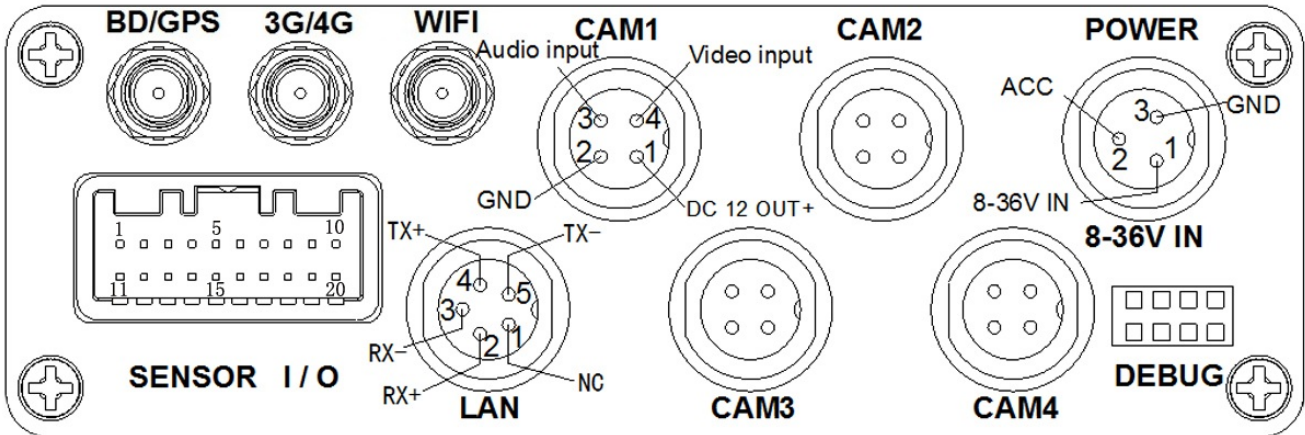
### 5.1 Instruction of External Interface Wiring



SENSOR Interface definition:

|   |           |    |              |    |                   |
|---|-----------|----|--------------|----|-------------------|
| 1 | VGA_R_OUT | 8  | A-OUT        | 15 | Alarm input2      |
| 2 | VGA_G_OUT | 9  | V-OUT        | 16 | Alarm input3      |
| 3 | VGA_B_OUT | 10 | DC12V OUT+   | 17 | Alarm input4      |
| 4 | RS485+    | 11 | VGA-VS       | 18 | Alarm output COM1 |
| 5 | RS485-    | 12 | VGA-HS       | 19 | Alarm output COM1 |
| 6 | RS232(TX) | 13 | GND          | 20 | GND               |
| 7 | RS232(RX) | 14 | Alarm input1 |    |                   |

## 4CH-AHD-720P



### SENSOR Interface definition:

|   |            |    |              |    |                   |
|---|------------|----|--------------|----|-------------------|
| 1 | VGA_R_OUT  | 8  | A-OUT        | 15 | Alarm input2      |
| 2 | VGA_G_OUT  | 9  | V-OUT        | 16 | Alarm input3      |
| 3 | VGA_B_OUT  | 10 | DC12V OUT+   | 17 | Alarm input4      |
| 4 | RS485+     | 11 | VGA-VS       | 18 | Alarm output COM1 |
| 5 | RS485-     | 12 | VGA-HS       | 19 | Alarm output COM1 |
| 6 | RS232 (TX) | 13 | GND          | 20 | GND               |
| 7 | RS232 (RX) | 14 | Alarm input1 |    |                   |

### Remarks:

- If the power supply is 12V, then the current of 12V output can be just 1A. So if there are more than 3pcs cameras, we suggest customers to get power for other cameras from the 12V vehicle power directly or use Our special car power supply.
- 3G/4G 、 LAN interface are optional interface, available only when you listed in the order for this interface.
- Ports:
 

|                            |                          |                           |
|----------------------------|--------------------------|---------------------------|
| <b>DEBUG:</b> Testing port | <b>LAN:</b> Network port | <b>SENSOR:</b> Alarm port |
|----------------------------|--------------------------|---------------------------|

## 5.2 Instruction of SD Card Installation



Unlock the main board with key, make sure the “arrowhead” point to the left “turn on” and then switch it to the “turn off”.


**Note:** The lock in the main board can also control the power. When the main board is locked, it also means the machine starts. So before turn it on, please make sure all the cables in the system are well connected. Otherwise the power in the car once connected, it will damage the machine.

## 6 Instruction of Using

### 6.1 Instruction of Front Panel






- **LED**
  - ✓ **PWR LED:** lighting while work starts. Power LED on.
  - ✓ **GPS LED:** GPS working LED indicator
  - ✓ **4G LED:** 3G working LED indicator
  - ✓ **WIFI LED:** when Wi-Fi module is running the LED is on.
  - ✓ **SD1 LED:** When recording, playing, backup, LED is flashing
  - ✓ **SD2 LED:** When recording, playing, backup, LED is flashing
- **Key and Other Descriptions**
  - ✓ 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.
  - ✓ 1: SD card1 slot
  - ✓ 2: SD card2 slot
  - ✓ A/V OUT: Audio/ Video output, Voice intercom input
  - ✓  MIC input

## 6.2 Instruction of Remote Control Operation

|  |  |   |
|--|--|---|
|  |  | ①Lead to menu ; ②Return                   |
|  |  | Record                                    |
|  |  | Enter the sub-menu to set and confirm     |
|  |  | Playback on the mobile DVR                |
|  |  | ①Stop when recording or playback; ②Delete |

|  |  |  |
|--|--|--|
|  |  | ①Lead to menu ; ②Return  |
|  |  | Record   |
|  |  | Enter the sub-menu to set and confirm  |
|  |  | Playback on the mobile DVR   |
|  |  | ①Stop when recording or playback; ②Delete  |
|  |  | Pause/Play when playback   |
|  |  | Fast-forward when playback video , play speed can be x2, x4, x8, press one time is x2, press two times is x4, and press 3 times is x8.                                   |
|  |  | Fast Backward when playback video, one press back for 10seconds  |
|  |  | For PTZ wiper (customized)   |
|  |  | Enter PTZ control mode.  |
|  |  | Control PTZ Zoom   |
|  |  | Control PTZ focus  |
|  |  | Mute key, to turn on or turn off audio output when playback videos with audio.(The audio input of the playback device must be connected to the audio output of the DVR.) |
|  |  | ① Exit when video playback or backup. ② Exit from PTZ mode.  |
|  | ①Upward for MENU selection. ②"UP" direction for PTZ control mode.                          |  |
|  | ①Downward for MENU selection. ②"Down" direction for PTZ control mode.                      |  |
|  | ①Towards to left for MENU selection or MENU setup. ②"Left" direction for PTZ control mode. |  |

|                      |   |  |
|----------------------|---|--|
|                      |  | ①Towards to right for MENU selection or MENU setup. ②"Right" direction for PTZ control mode.   |
|                      |  | ①screen zoom the first channel video when surveillance, record<br>② Enter password or set system password.<br>③shortcut 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. |
|                      |  | ①4 channel display when surveillance, record and playback. ② Enter password or set system password.  |
| Other numbers button |   | Press 1, 2, 3, 4, 5, 6, 7, 8 switch to CH1, CH2, CH3, CH4, CH5, CH6, CH7, CH8  |
| Other buttons        |   | Not mentioned buttons, not in use.   |


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

### 6.3 Menu Setting Instruction

(Our company system support IR remote control and mouse operation, This document introduces the operation of the remote control, the left click of mouse means to confirm or enter, and the right click means exit or return)

First press ""key, then press "" to enter the default password"6666",



then press ""to enter the main menu interface;

There are "System", "Disk", "Record", "Playback", "Network" and "Alarm" options, select the option by



pressing these buttons"  ,  ,  ,  " ,then press "  "to enter.



- **System Settings:** includes options of “Setup”, “Vehicle”, “Other”, “System info”, “Log”, “Config” .

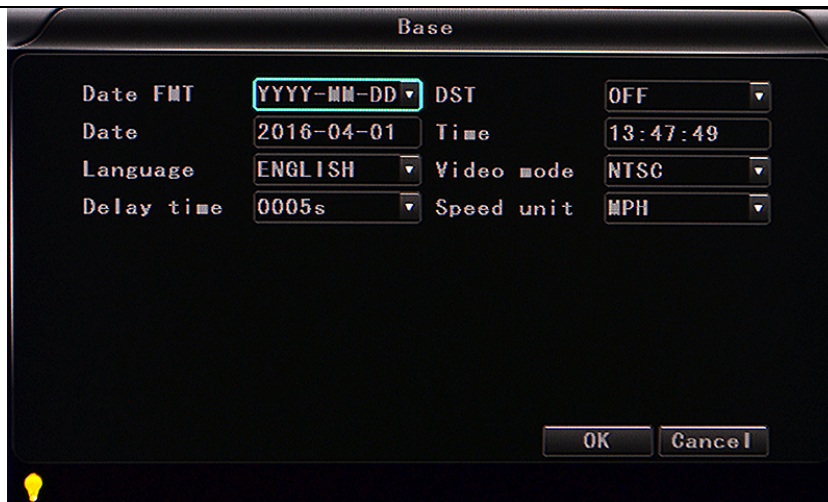


- **Setup setting:** includes options of “Base”, “User”, “Serial”, “PTZ”, “GPS”, “G-sensor” and “NTP”

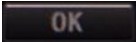
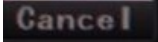


- **Base setting:** Set the System time, TV system, Language, etc.














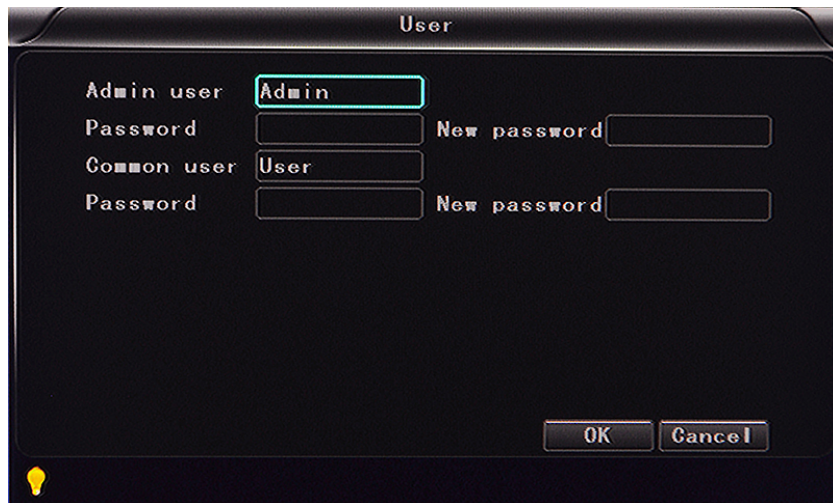
- ✓ **Date format:** Offer 3 display methods like “y/m/d, m/d/y, d/m/y” for personal habit.
- ✓ **Daylight saving time:** suitable for according countries or areas.
- ✓ **Date:** Adjust the date of HDD recorder
- ✓ **Time:** Adjust the time of HDD recorder
- ✓ **Language:** Set "Chinese", "English", "Portuguese", "Russian" and "French", have to restart the DVR after setting.
- ✓ **Video Mode:** Set "PAL" or "NTSC", have to restart the DVR after setting.
- ✓ **Delay Time:** DVR Time-lapse turn off function after the car ignition off, the default time is 5S, and 30s,1min,2min,5min,10min,20min,30min,2hour,4hour, The longest time is 24 hours, all could be set, have to restart the DVR after setting.

(Note: Select  to save parameters, select  to NOT save parameters)

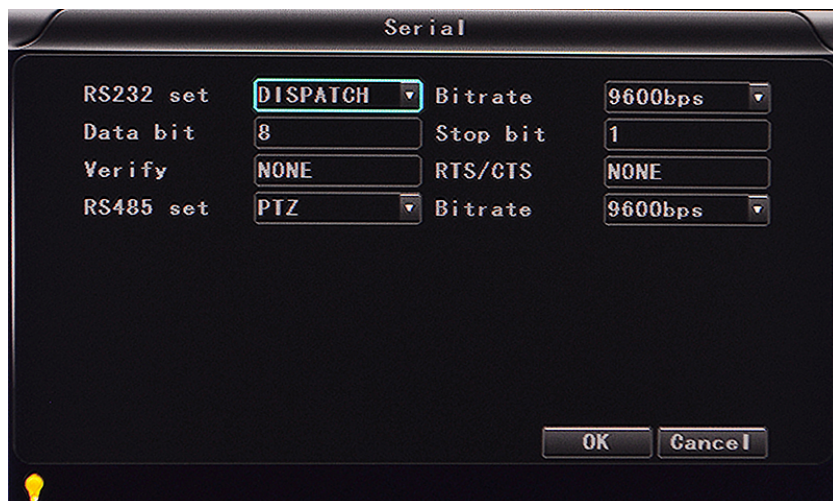
#### Navigation Controls:

Enter the menu, press“  ,  ”to select the options ,then press“  ”to enter the modification mode, adjust the number by pressing“  ,  ,  ,  ”, press“  ”to save after adjustment. Press”  ”key to exit after all settings done.

- **User settings:** Set up the user name and password of administrator and common.

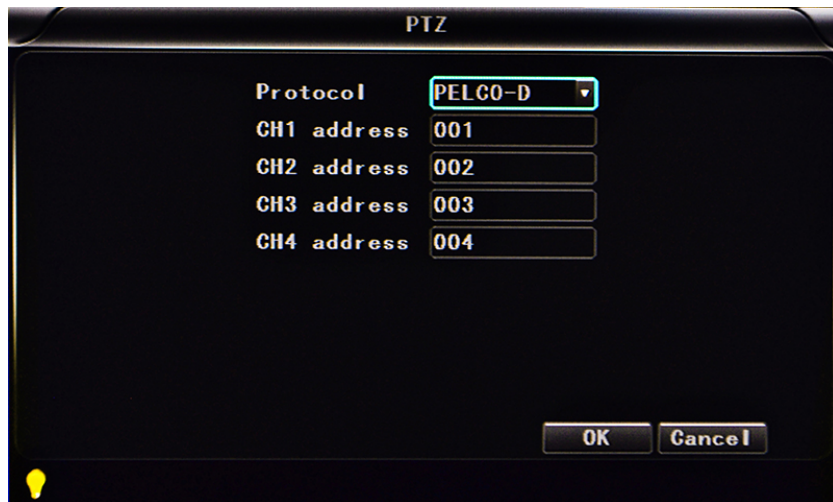


- ✓ **Admin user:** set up the user name of administrator
- ✓ **Password:** Enter the default password before changing the new password.
- ✓ **New password :** Enter the new password.
- ✓ **Common user:** set up the user name of common.
- ✓ **Password:** Enter the default password before changing the new password.
- ✓ **New password :** Enter the new password.
- **Serial setting:** this is Serial setting to set up the communication protocol with external equipment.

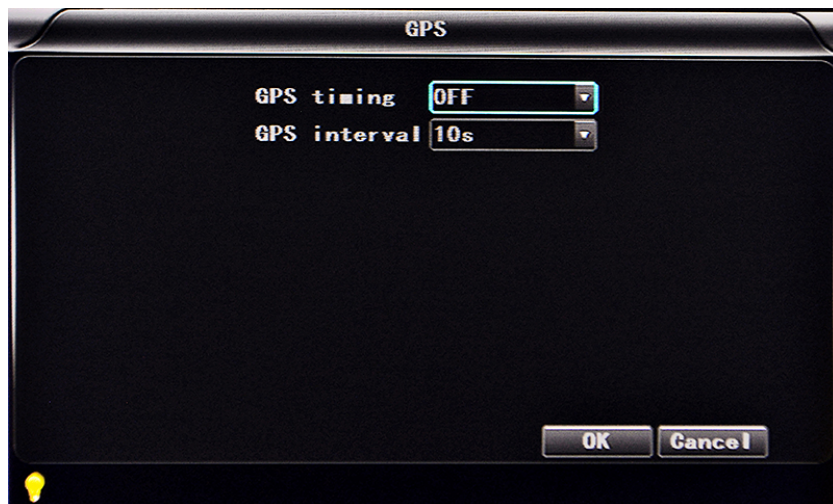


- ✓ **RS232 set:** support dispatch, led panel, ID card, OBD, person count.
- ✓ **Bitrate:** support 2400bps,4800bps,9600bps,19200bps and 38400bps.
- ✓ **Data bit:** the default value is 8.
- ✓ **Stop bit:** the default value is 1.
- ✓ **Verify:** the default value is none.
- ✓ **RTS/CTS:** the default value is "NONE".

- 
- ✓ **RS485 set:** support PTZ, led screen, oil sensor, ID card, OBD, person count.
  - ✓ **Bitrate:** support 2400bps, 4800bps, 9600bps,19200bps and 38400bps.
  - **PTZ setting:** Adjust and control the camera with external PTZ device.



- ✓ **Protocols:** default PELCO-D, support PELCO-D and PELCO-P.
  - ✓ **Channel-Address:** Channel one-Device address.
  - ✓ **Channe2-Address:** Channel two-Device address.
  - ✓ **Channe3-Address:** Channel three-Device address.
  - ✓ **Channe4-Address:** Channel four-Device address.
- **GPS setting:**



- ✓ **Time zone:** different by countries, example: China for UTC+08, USA East Cost is -5
- ✓ **GPS Interval :** GPS Data upload interval, used with other system interface.



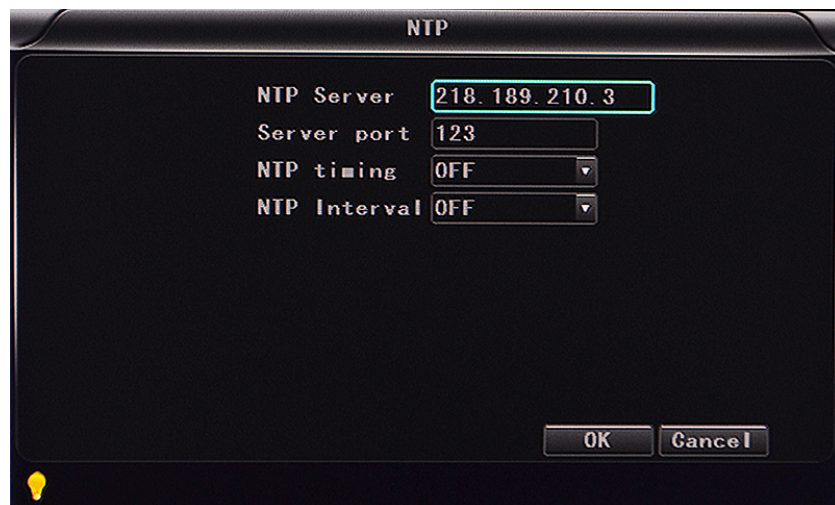
- **G-sensor setting:**



- ✓ **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, this value will change accordingly if the Y direction gravity accelerated speed value changeable ).
- ✓ **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** to adjust G-sensor parameters when first installed)

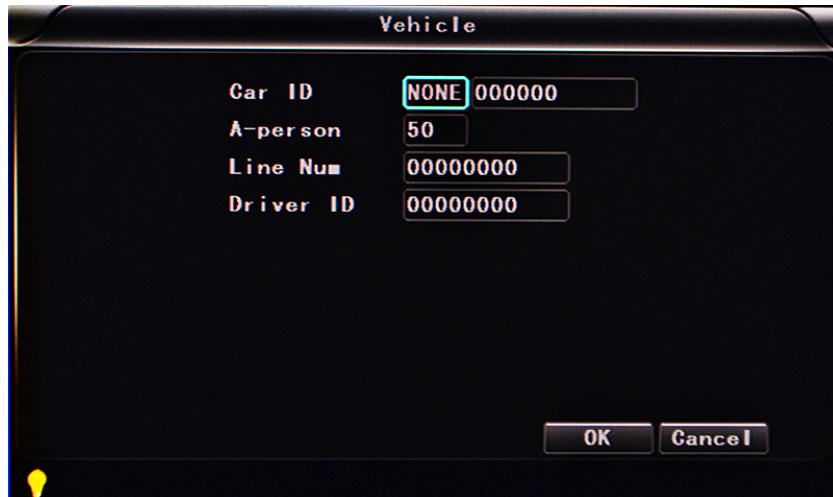
- **NTP setting:**



- ✓ **NTP server:** the NTP server IP
- ✓ **Server port** : default port is 123

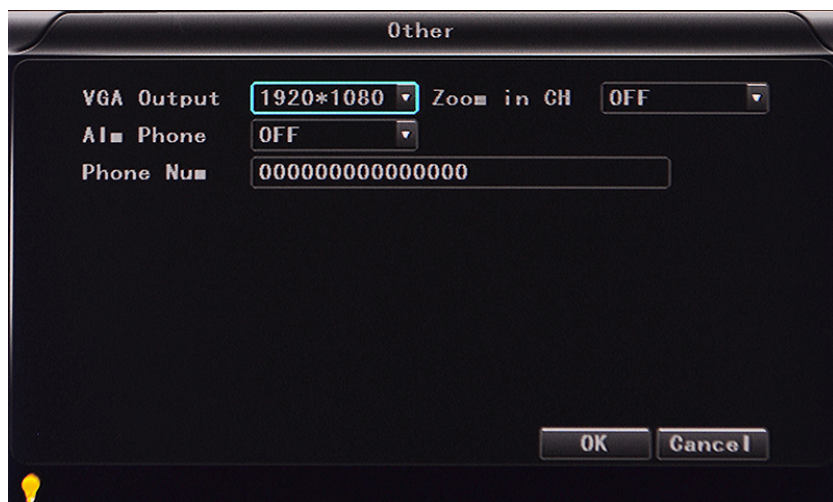
- ✓ **NTP timing** : different by countries, example: China for UTC+08
- ✓ **NTP Interval** : time data upload interval, used with NTP server.

- **Vehicle information:** details of car plate number, route and driver code.



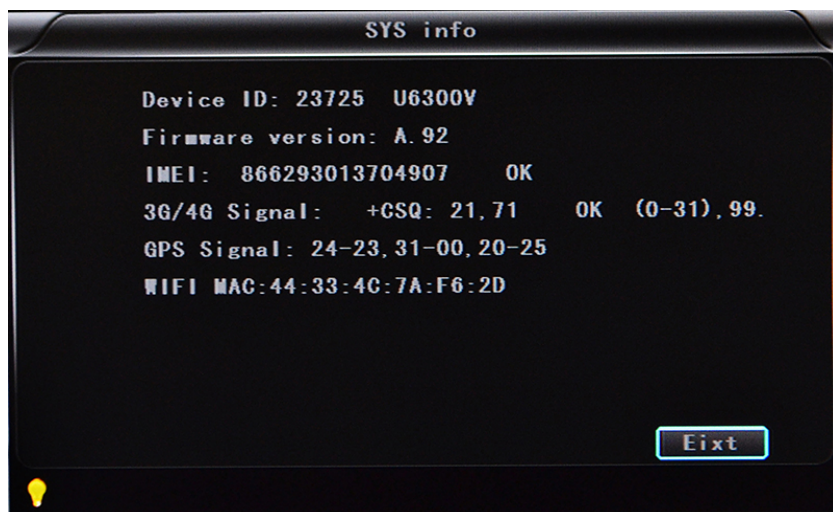
- ✓ **Car ID:** can be showed by English, Chinese simplified language, Numbers or common symbols.
- ✓ **A-person** : setup the original carried person for the vehicles.
- ✓ **Line Num:** the driving route and code.
- ✓ **Driver ID:** set up the driver code information.

- **Other information:**

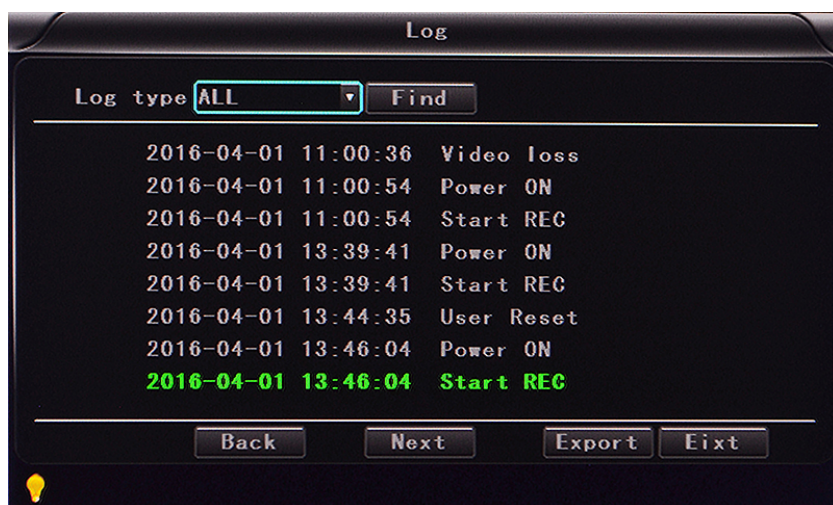


- ✓ **VGA Output:** 1920\*1080,1280\*720,1024\*768,no output
- ✓ **Zoom in CH:** Choosing which channel to see when power on each time. This is also useful when backing the car. Example; when you choose CH 1 as the Zoom , when you start the device , it will show CH1 in the whole screen .

- ✓ **Alarm Phone:** set the action of alarm or not.
- ✓ **Phone number:** click alarm function, set the phone number for alarm.
- **System information:** Display DVR hardware code number, software version information( only view, couldn't be changed)



- ✓ **Device encoding:** only for this DVR, the code is unique.
- ✓ **Firmware version:** the version No. of DVR software.
- ✓ **IMIE:** IMIE No. 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).
- ✓ **WIFI MAC:** the MAC address
- **LOG information**



- ✓ **Log type:** User action log, alarm logging, equipment status log.



- **Configuration management**




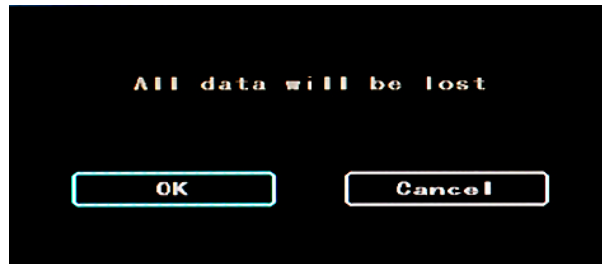
- ✓ **Import:** Import the configuration parameters.
- ✓ **Export:** Export the configuration parameters.
- ✓ **Renew:** Restore the factory parameter.

- **Disk :** Check and format



- ✓ **Disk Name :** Display the system recognized 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:** It is only an estimate.
- ✓ **Format:** Format HDD (only format the head files of HDD) .

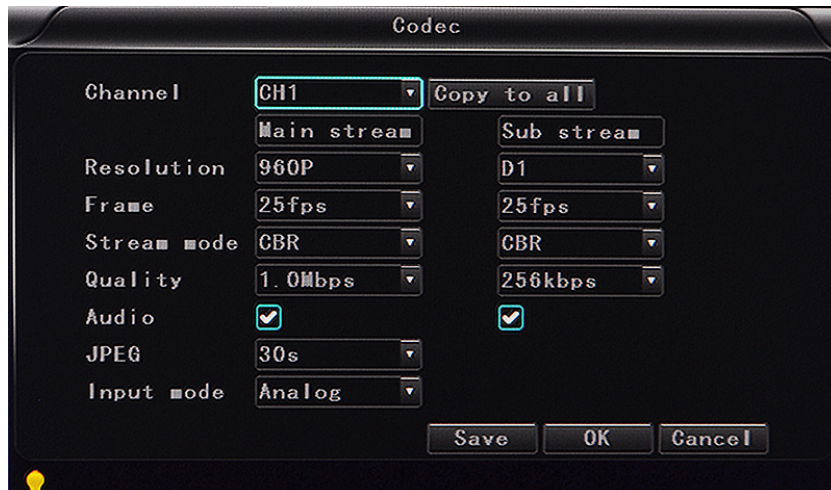
Select this item, there is a format interface after press“”,confirm to format, cancel to return the original interface.



- **Record:** the video files setting, It includes “codec”, “channel” and “record plan”.



- **Codec:**



- ✓ **Channel:** select the channel setting (the information of each channel could be set independently)

- ✓ **Resolution :** CIF/HD1/D1/960H/720p/1080p ;

The left side is the local storage information, The right side is network transmission information; local “CIF, HD1, D1”is optional, only “CIF” for network transmission.



- ✓ **Frame** : 1-25/30fps

The left side is local storage information; The right side is network transmission information.

- ✓ **Stream mode**: Constants Bit Rate and Variable Bit Rate.

- ✓ **Quality** : Video quality setting

The left side is the local video quality(total 10 grades,

192kbps/320kbs/512kbps/768kbps/1Mbps/1.2Mbps/1.5bps/2Mbps/3Mbps/4Mbps)

The right side is the network transmission quality( total 13 grades,

32kbps/48kbs/64kbps/80kbps/112kbps/144kbps/192kbps/256kbps/320kbps/384kbps/512kbp  
s/768kbps/1024kbps)

- ✓ **Audio** : Select to record audio or without audio.

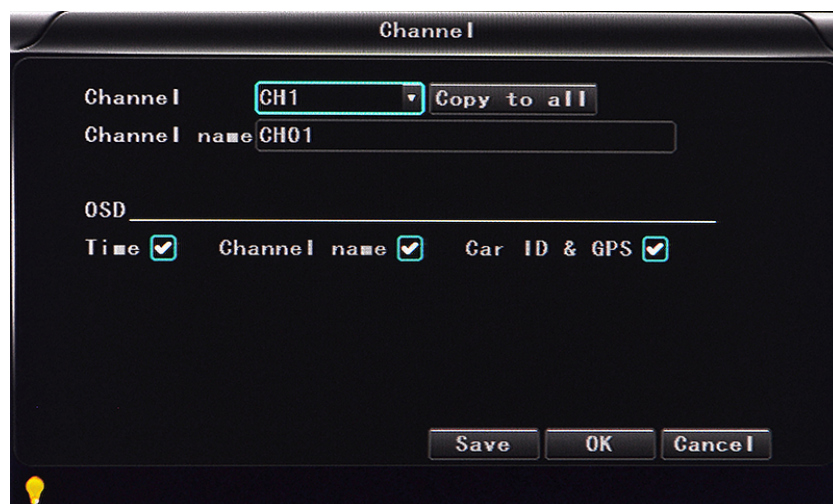
- ✓ **JPEG** : set captured of time and interval, Select a Trigger for alarm triggering to capture,  
choice time 10s, 30s, 60s, 120s, 300s.

- ✓ **Input mode** :AHD DVR can choose AHD or analog, the other equipment can't to be choosed.

- ✓ **Copy to all**: Copy to all channels

**Note**: save after finished video parameter setting (have to restart the DVR after setting.)

- **Channel**:



- ✓ **Channel**: select the channel setting (the information of each channel could be set independently)

- ✓ **Channel name**: the name of each channel

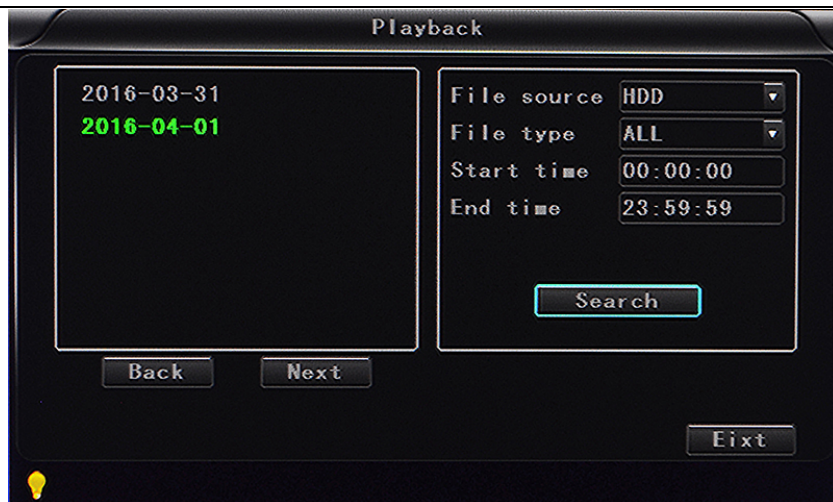
- ✓ **OSD**: choose to add the character information or not.

- 
- ✓ **Copy to all:** Copy to all channels

- **Record plan**

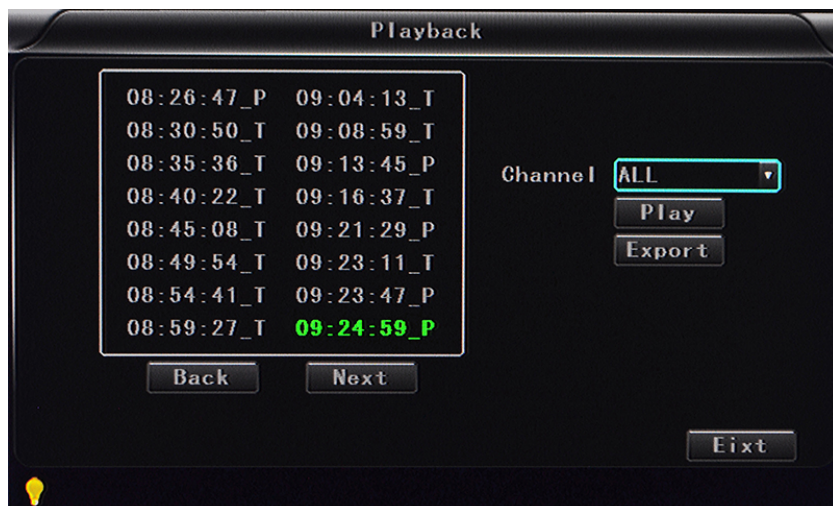


- ✓ **Channel:** select the channel setting (the information of each channel could be set independently)
- ✓ **Record mode :** real time and event or no record
- ✓ **File length :** the packaged video files length setting (5/10/15/25/30/60 minutes optional)
- ✓ **Prerecord :** Before the alarm recording time(no,5s,10,15s)
- ✓ **Event REC time :** Alarm-triggered video duration (30-330s optional, 30s unit) .
- ✓ **Schedule :** the timer is timing recording, the alarm is alarm recording.
- ✓ **Copy to all:** Copy to all channels.
- ✓ **Save :** save after finishing video parameter setting (have to restart the DVR after setting.)
- ✓ **The operating method is similar to the "basic settings" operating**
- **Playback:** the recorded video Playback



There is video date in the menu, it will show the vide time after press "Search", choose the playback time range according to require time, then press "Play" button to replay the video.

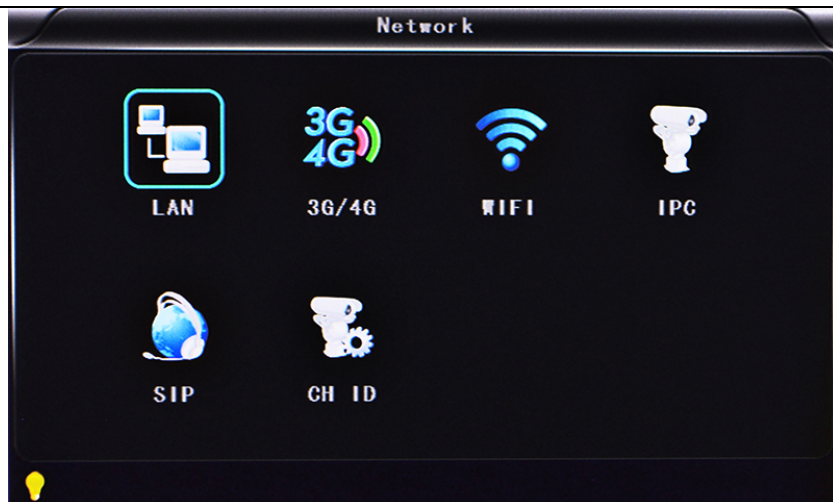
File format suffix "\_P" is power off video file, suffix "\_S" indicates an alarm trigger video files, suffix "\_T" indicates an timing video files.



- ✓ **Channel:** 1CH/4CH/8CH/12CH Video playback ; video playback on each channel or full screen, playback and record simultaneously
- ✓ **Play:** Select the video files and channel to replay
- ✓ **Export:** Select the HDD video files backup to USB Disk

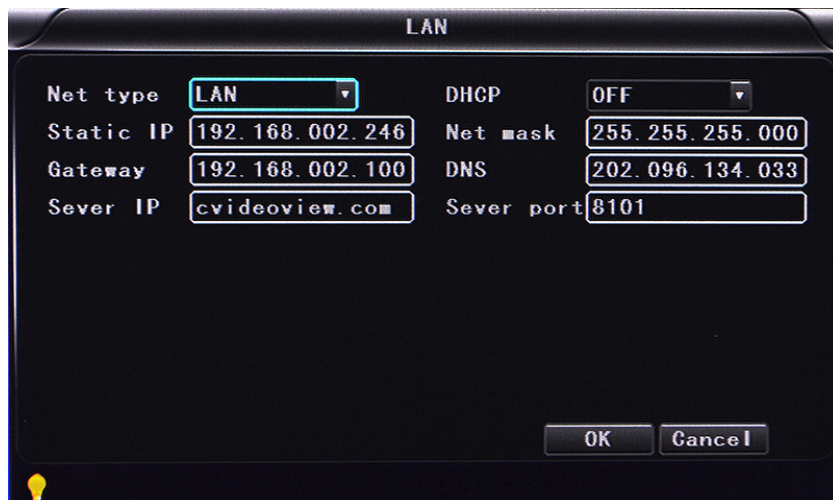
The operating method refers to "local video playback instruction"

■ **Network Setting: LAN, 3G, WIFI, IPC**



- ✓ **LAN:** connecting via RJ45.
- ✓ **3G/4G:** insert 3G/4G SIM card into the slot.
- ✓ **WIFI:** connecting the network of WIFI.
- ✓ **IPC:** To connect the IPC camera Settings.
- ✓ **SIP:** Chinese government standard platform
- ✓ **CH ID:** Chinese government standard platform

● **Local Network Setting (LAN) :**



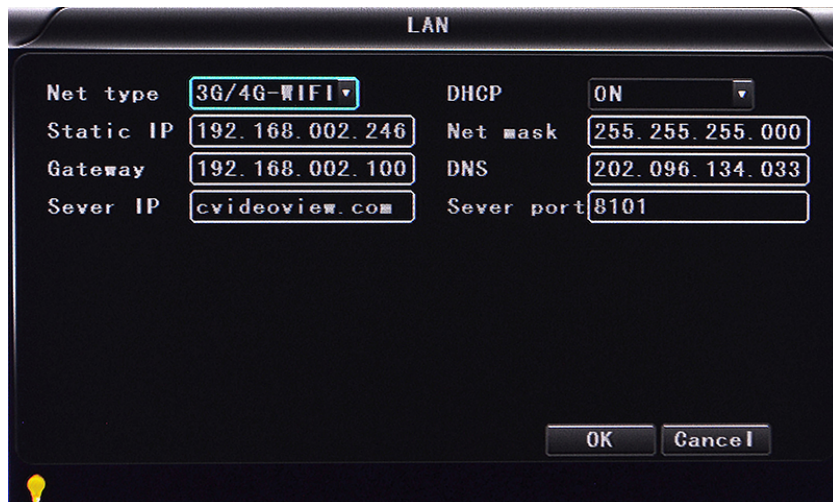
- ✓ **Network Type:** LAN and 3G/4G-WIFI optional.
- ✓ **DHCP:** Automatically get the IP address( in order not conflict with the LAN, please enable ON, and also enable DHCP on the router, P.S, only one DHCP server can be enable in one LAN).
- ✓ **Static IP:** setup under LAN and WIFI mode.
- ✓ **Net mask:** Subnet mask under LAN or WIFI mode.
- ✓ **Gateway:** gateway under LAN or WIFI mode.



- ✓ **DNS:** please input when the server IP is DNS, and 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.

- **3G Network Setting:**

- ✓ **Net type:** select 3G-WIFI if you are going to use 3G mode.
- ✓ **DHCP:** ON

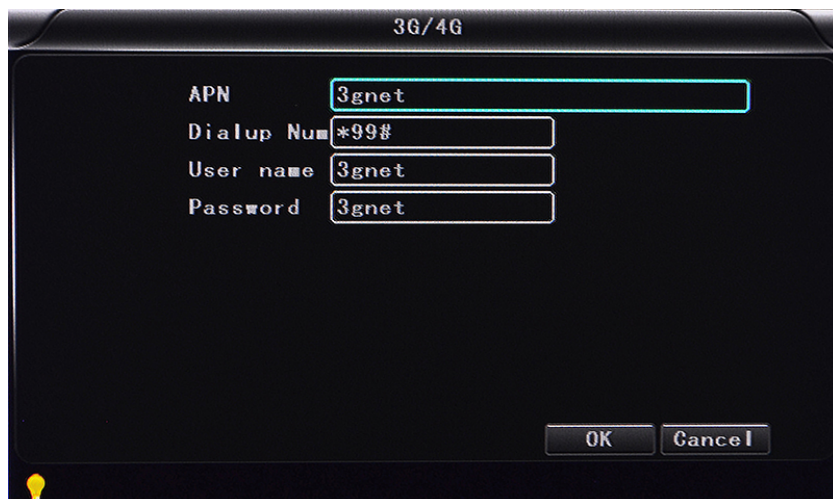


The screenshot shows a dialog box titled "LAN" with the following fields and values:

|           |                 |            |                 |
|-----------|-----------------|------------|-----------------|
| Net type  | 3G/4G-WIFI      | DHCP       | ON              |
| Static IP | 192.168.002.246 | Net mask   | 255.255.255.000 |
| Gateway   | 192.168.002.100 | DNS        | 202.096.134.033 |
| Sever IP  | cvideoview.com  | Sever port | 8101            |

Buttons: OK, Cancel

- ✓ Access into "Network"→"3G"



The screenshot shows a dialog box titled "3G/4G" with the following fields and values:

|            |       |
|------------|-------|
| APN        | 3gnet |
| Dialup Num | *99#  |
| User name  | 3gnet |
| Password   | 3gnet |

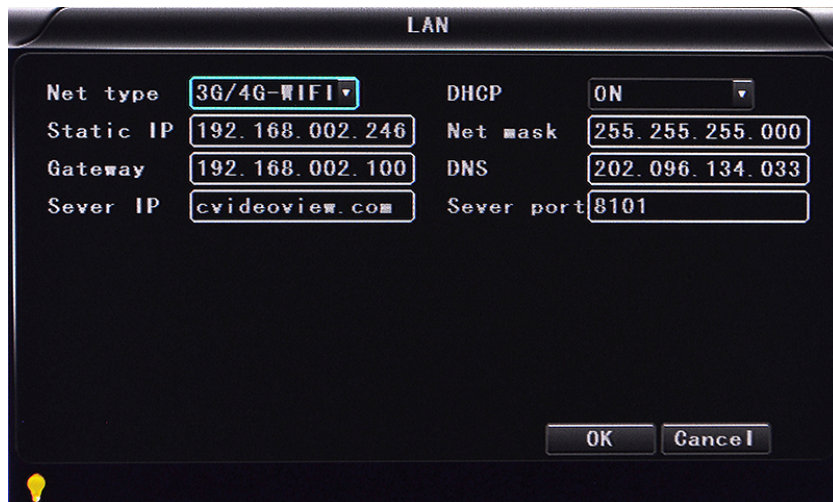
Buttons: OK, Cancel

- ✓ **APN:** Access Point Name.
- ✓ **Dialup Num:** Get this info from your carrier.
- ✓ **User Name:** Fill in if you have.
- ✓ **Password:** Fill in if you have.

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

- **WIFI Setting:**

- ✓ **Net type:** Select 3G-WIFI when the type is under LAN.
- ✓ **DHCP:** ON

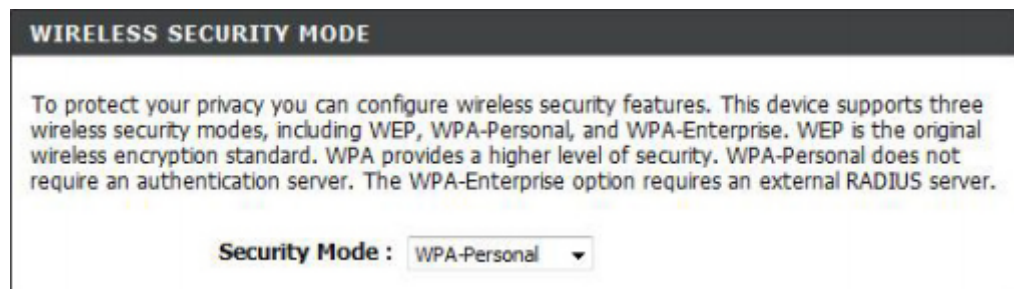


- ✓ Access Network setup →“WIFI”



- ✓ **SSID:** WIFI router device name.
- ✓ **Password:** using password for SSID.
- ✓ **Certificate:** Support “WPA-PSK”.
- ✓ **Encryption:** Support ”TKIP”.

Access router, check its “WI-FI “encryption.



## SETUP COMPLETE!

Below is a detailed summary of your wireless security settings. Please print this page out, or write the information on a piece of paper, so you can configure the correct settings on your wireless client adapters.

|                                |  |
|--------------------------------|--|
| Wireless Band :                | 2.4GHz Band  |
| Wireless Network Name (SSID) : | dlink  |
| Security Mode 2 :              | Auto (WPA or WPA2) - Personal                                    |
| Cipher Type :                  | TKIP and AES   |
| Pre-Shared Key :               | c47086bee2659742883d5bb36da53356e51407f1635855aa7cbef92b5598bf6c |

### Notes:

Please make sure the router WI-FI encryption keep the same with the setup in MDVR if the units use WI-FI.

- **IPC Setting** (This function can only suit for Mobile NVR )

Channel: CH1, Time Sync:   
IPC Addr: 192.168.002.075, IPC Port: 80  
User Name: admin, Password: admin

192.168.2.83:8899 192.168.2.142:8899 192.168.2.75:80  
192.168.2.117:80 192.168.2.220:80 192.168.2.150:80

Search IPC end! Search Save OK Cancel

- ✓ **Channel** : main channel , different channel set can choose.
- ✓ **Time Sync** :turn on/off means if open the time synchronization between ipc and device.
- ✓ **IPC Addr** : put and modify ipc address when the ip camera and device in one network area.
- ✓ **IPC Port** : the device port which connect with ip camera.
- ✓ **User Name** : the user name which connect with ip camera.
- ✓ **Password** : the user names password
- ✓ **Search** : it is can search the local network ipc when click the search button



- ✓ **Save** : click the save button to keep the sets after set

**Note:** the network type must be changed to LAN when connect with ipc.

- **SIP:** Foreign users can't use this standard, it's just suit for chinese client .
  - **CH ID:** Foreign users can't use this standard, it's just suit for chinese client .
- 
- **Alarm setting** : Sensor alarm, Motion detecting alarm and other alarm setting



- **Sensor:** An external sensor alarms.
- **MD:** Motion detecting alarm.
- **Other:** other alarm setting.

- **Sensor Setting**

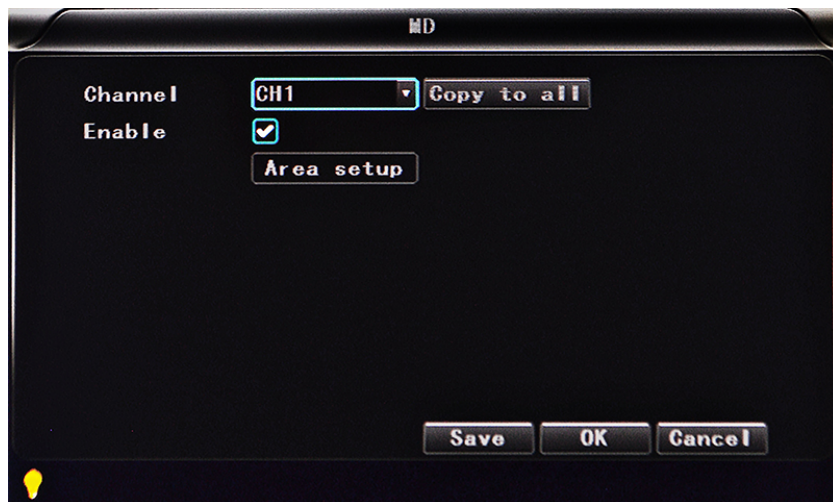


- ✓ **Channel** : main channel , different channel set can choose.
- ✓ **Enable** : turn on/off means if open the sensor alarm.
- ✓ **Sensor Name** : put and modify the name of sensor.

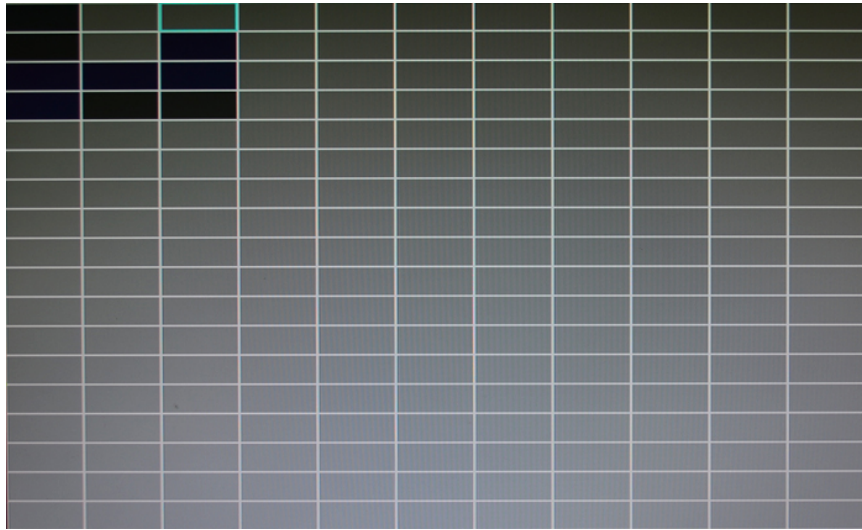


- ✓ **Trigger level** : High or low level trigger the alarm.
- ✓ **linkage** : Set up ON/ OFF video linkage function.
- ✓ **OSD** : Choose whether to overlay alarm information.
- ✓ **Lock** : Won't cover this alarm video after choose this lock.
- ✓ **Alarm**: Choose whether to overlay alarm information.
- ✓ **Alarm Out** : Choose whether to alarm out .
- ✓ **Save**: click the save button to keep the sets after reboot

- **MD:** Motion detecting alarm.

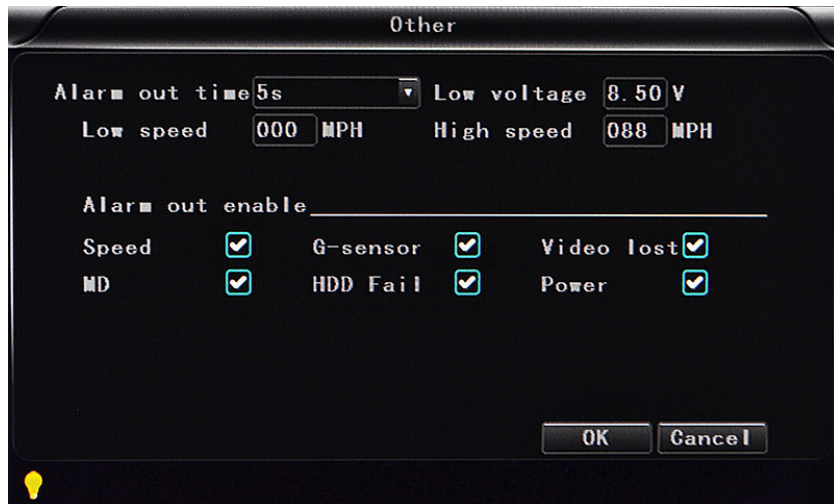


- **Channel** : main channel , different channel set can choose.
- **Enable** : Open and close motion detect record and motion detect sensitivity selection such as “off”, “high”, “medium”, “low”. Opening motion detect recording, also need to set the icon “S”(alarm record) for time range of the detect record in “Record Setting” status except select “High”, “Medium”, “Low”. “High”, “Medium”, “Low” is the grade of detect sensitivity, higher grade, record easier.
- **Area setup**



:No detect
  :Low sensitivity
  :High sensitivity

- **Other:** other alarm setting.





- ✓ **Alarm out time** : Alarm output time (5s-900s).
- ✓ **Low voltage** : The low voltage alarm about car battery.
- ✓ **Low speed** : The low speed alarm.
- ✓ **High speed** : The high speed alarm.
- ✓ **Alarm out enable** : setup the types of alarms linkage, speed, G-sensor, video lost, Motion detecting alarm, HDD fail, power.

## 6.4 DVR Video Playback Instruction

Our company System supports 2 video playback ways.

- ◆ Users can watch the video playback with the IR remote control, the specific steps are as follows:

Enter the main menu, move to “playback” option, press “”to enter, next press the key “”or “”to select the playback date ,and move to “Search”, then press “”key to display the video files of the selected date(file named by the record time),same press “”or “” again to select the time to play. If your required time is not available in the current page, press “”or “”key to the next page, till you find the required time, then press “”key to move the option “play channel”, again press “”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 “”. Press “”or “”to select the replay channel, then press “”or press “” to button “play” , next press “”to replay, the system will switch to the video playback status, you can see the playback video in the selected channel. Press “”, “”, “”, “”keys to switch the channel, and press “”back to the quad screen. Press “”to stop, press again for replay. Press “”to exit and back to 4ch record status, press “”and back to the “search/playback” interface, then press “”or “”to select other video playback.









◆ User can watch the video playback with the mouse, the specific steps are as follows:  
 Enter the main menu, Click on the “playback” option to enter, next select the playback date, file type and time frame ,then press “Search” to display the video files of the selected date(file named by the record time).After selected the time and channel , press “Play” to play. If your required time is not available in the current page, press “Back” or “Next” to the other page, till you find the required time.





User press “” on the playback interface, and then use the mouse to click” ”to implement different functions, such as: before, stop, play, pause, a frame play, fast forward, next and audio (each channel).

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## 6.5 Video Backup







Our company 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.20G).
  - b) On the video playback interface, select the backup video files first, then move to "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 files, press "" to repeat the previous steps to backup.
- 2) Take the SD card out from DVR, then connect the SD reader to the PC, you can check the video playback on PC via the installed our company's local playback analysis software. ( Suitable for large amount data backup, simple and flexible. The proprietary data files also could be converted to the common format, suitable for different reading demands). Specifics refer to the local playback analysis software instruction).

## 6.6 PTZ control

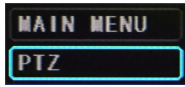
This function just used to has PTZ function models, there is two ways. Operations are as followings :

- ◆ User can control PTZ camera with the IR remote control, the specific steps are as follows:

When DVR is working, click "" , entre "PTZ control "mode, If DVR has connect with screen, then on screen's left above would show "PTZ", click "", "", "", "", PTZ would scroll as it shows, the PTZ camera would rotate after each command by clicking PTZ icon in the CMS or operating the control board ; Control over if want to quit at all, click "".

- ◆ User can control PTZ camera with the mouse, the specific steps are as follows:

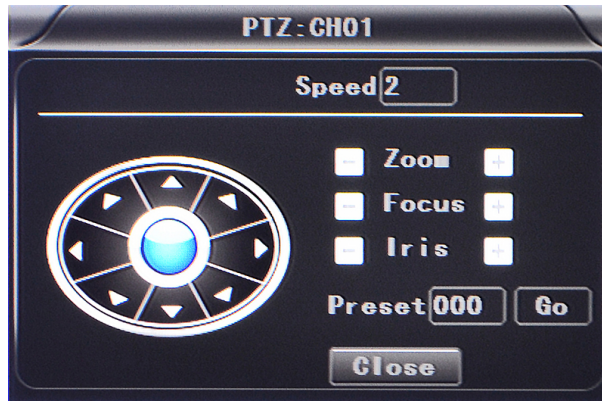
When DVR is working, Click the mouse left button, then the screen would show this picture “



”, click “PTZ”, There is PTZ control icon would display, the PTZ camera would rotate

after each command by clicking PTZ icon ; the PTZ control icon will be displayed on the channel which

your mouse to click; Control over if want to quit at all, click the mouse right button.



#### Video Data Volume

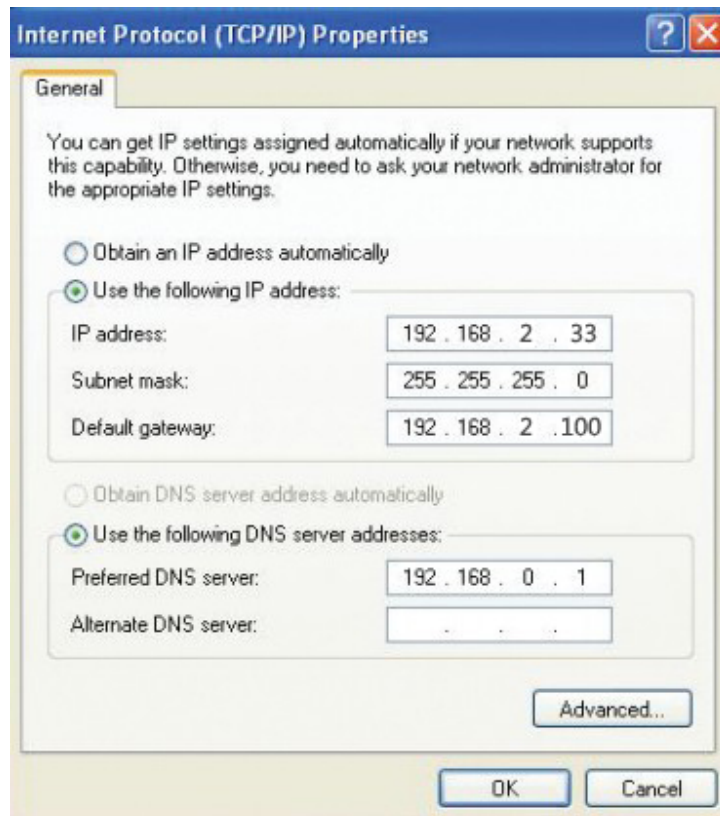
The required volumes of video and video-related settings , please see the following table :

| <b>VIDEO QUALITY</b>           | <b>Total Record<br/>Frame</b> | <b>4CH 960H Data<br/>Size Per Hour</b> | <b>4CH 720P Data Size<br/>Per Hour</b> |
|--------------------------------|-------------------------------|--|--|
| <b>2.0 Mbps</b> (HIGHEST)      | 100 frame                     | 3.6GB                                  | 5.16GB                                 |
| <b>1.5 Mbps</b> (HIGHER)       | 100 frame                     | 2.65GB                                 | 3.87GB                                 |
| <b>1.2 Mbps</b> HIGH (default) | 100 frame                     | 2.1GB                                  | 3.09GB                                 |
| <b>1.0 Mbps</b> (BETTER)       | 100 frame                     | 1.8GB                                  | 2.58GB                                 |
| <b>768 Kbps</b> (NORMAL)       | 100 frame                     | 1.35GB                                 | 1.93GB                                 |
| <b>512 Kbps</b> (LOW)          | 100 frame                     | 0.9GB                                  | 1.29GB                                 |
| <b>320 Kbps</b> (LOWER)        | 100 frame                     | 0.55GB                                 | 0.81GB                                 |
| <b>192 Kbps</b> (LOWEST)       | 100 frame                     | 0.335GB                                | 0.48GB                                 |

Note: Based on users matching conditions to apply the appropriate drive and related settings.

## 6.7 Extranet Port Mapping

- Install the CMS server in LAN, Please refer to the manual how to install CMS server.
- ✓ First, make sure the PC, which installed the server use **Static Public IP**, not automatically get.



- Access into “**Program**”→”**Run**”→”**CMD**”, fill in “ipconfig”→”Enter” to see if the server IP has been set successfully.

```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : dlink
    IP Address. . . . .                : 192.168.2.33
    Subnet Mask . . . . .              : 255.255.255.0
    Default Gateway . . . . .          : 192.168.2.100

C:\Documents and Settings>_
```

- Open the file of “DVR\_Server.cfg” in the server installation path, can check whether the ports have been set successfully.

Port: 8001, 9001, 8101



- Access into router→”Advanced”→”Port forwarding “

**PORT FORWARDING RULES :**

This option is used to open multiple ports or a range of ports in your router and redirect data through those ports to a single PC on your network. This feature allows you to enter ports in various formats including, Port Ranges (100-150), Individual Ports (80, 68, 888), or Mixed (1020-5000, 689).

Save Settings    Don't Save Settings

**24 -- PORT FORWARDING RULES**

| Name  | Application Name       | Ports to Open               | Schedule                    |
|---|------------------------|-----------------------------|-----------------------------|
| <input type="text"/>  | << Application Name >> | TCP<br><input type="text"/> | Always                      |
| <input type="checkbox"/> IP Address<br>0.0.0.0              | << Computer Name >>    | UDP<br><input type="text"/> | Inbound Filter<br>Allow All |
| <input type="checkbox"/> Name<br><input type="text"/>       | << Application Name >> | TCP<br><input type="text"/> | Always                      |
| <input type="checkbox"/> IP Address<br>0.0.0.0              | << Computer Name >>    | UDP<br><input type="text"/> | Inbound Filter<br>Allow All |
| <input type="checkbox"/> Name<br><input type="text"/>       | << Application Name >> | TCP<br><input type="text"/> | Always                      |
| <input type="checkbox"/> IP Address<br>0.0.0.0              | << Computer Name >>    | UDP<br><input type="text"/> | Inbound Filter<br>Allow All |
| <input type="checkbox"/> Name<br><input type="text"/>       | << Application Name >> | TCP<br><input type="text"/> | Always                      |
| <input type="checkbox"/> IP Address<br><input type="text"/> | << Computer Name >>    | UDP<br><input type="text"/> | Inbound Filter<br>Allow All |

**Helpful Hints...**

Check the **Application Name** drop down menu for a list of predefined applications. If you select one of the predefined applications, click the arrow button next to the drop down menu to fill out the corresponding field.

You can select a computer from the list of DHCP clients in the **Computer Name** drop down menu, or you can manually enter the IP address of the LAN computer to which you would like to open the specified port.

Select a schedule for when the rule will be enabled. If you do not see the schedule you need in the list of schedules, go to the **Tools -- Schedules** screen and create a new schedule.

- Add the ports of 8001, 8101, 9001 to the port forwarding.

**PORT FORWARDING RULES :**

This option is used to open multiple ports or a range of ports in your router and redirect data through those ports to a single PC on your network. This feature allows you to enter ports in various formats including, Port Ranges (100-150), Individual Ports (80, 68, 888), or Mixed (1020-5000, 689).

Save Settings    Don't Save Settings

**24 -- PORT FORWARDING RULES**

| Name   | Application Name       | Ports to Open | Schedule                    |
|--|------------------------|---------------|-----------------------------|
| <input checked="" type="checkbox"/> DVR                        | << Application Name >> | TCP<br>9001   | Always                      |
| <input checked="" type="checkbox"/> IP Address<br>192.168.2.33 | << Computer Name >>    | UDP<br>9001   | Inbound Filter<br>Allow All |
| <input checked="" type="checkbox"/> Name<br>DVR                | << Application Name >> | TCP<br>8101   | Always                      |
| <input checked="" type="checkbox"/> IP Address<br>192.168.2.33 | << Computer Name >>    | UDP<br>8101   | Inbound Filter<br>Allow All |
| <input checked="" type="checkbox"/> Name<br>DVR                | << Application Name >> | TCP<br>8001   | Always                      |
| <input checked="" type="checkbox"/> IP Address<br>192.168.2.33 | << Computer Name >>    | UDP<br>8001   | Inbound Filter<br>Allow All |

**Helpful Hints...**

Check the **Application Name** drop down menu for a list of predefined applications. If you select one of the predefined applications, click the arrow button next to the drop down menu to fill out the corresponding field.

You can select a computer from the list of DHCP clients in the **Computer Name** drop down menu, or you can manually enter the IP address of the LAN computer to which you would like to open the specified port.

Select a schedule for when the rule will be enabled. If you do not see the schedule you need in the list of

- Name:** fill in a name for MDVR port.
- Ports to Open:** 8001, 8101, 9001
- IP Address:** Server IP address
- Inbound Filter :** TCP、UDP、Allow ALL, Pls select “Allow All”



e) **Schedule** : select “Always”

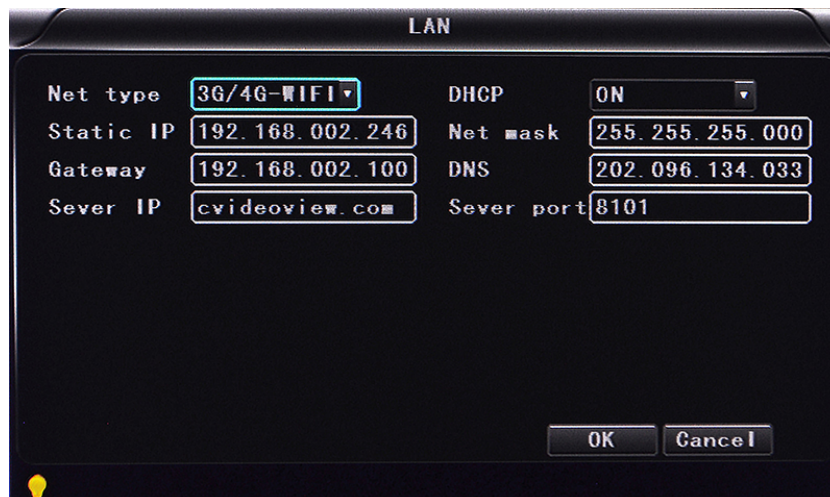
- Fill in the ports, and click” **Save settings**”.

- After the port mapping settings, find the “**IP Address**” in the WAN, the IP Address is your CMS server IP. login the server IP on the CMS client to access.

**Notes:** When extranet access into LAN server, it need do mapping on the router. Then extranet can access into WAN IP.

- Change the Server IP to the related one, Access into MDVR

“menu”→”Network setting”→”LAN”→”Server IP”→XXX.XXX.XXX.XXX



## 6.8 Domain binding setting

After finished the server set up and the port mapping, you can login via network IP.

There are two ways to access the network as follow.

**ADSL dial-up:** It will assign a different dynamic IP address for each dial

**Leased line:** It will assign a static IP address, and you can access directly

So, when set up the server with the way of ADSL dial-up, you can binding DDNS via domain in order to prevent the distribution of different dynamic IP in each dial.

**Note 1 :** DDNS is used to mapping the dynamic IP address to a static DNS. Client program will send the dynamic IP to the server program when the user access the network, then the server program will provide the DNS server to realize dynamic DNS.

**Note 2 :** If the dynamic domain name is free, you will temporarily unable to access via the free domain name when things going wrong with the the domain name service provider's server.

The related parameters below is for routers test. Please refer to actual network environment when installation.

- Access into router setup, select ”Dynamic DNS” to check the related setup.

**D-Link**

DIR-835 // SETUP ADVANCED **TOOLS** STATUS SUPPORT

ADMIN  
TIME  
SYSLOG  
EMAIL SETTINGS  
SYSTEM  
FIRMWARE  
DYNAMIC DNS  
SYSTEM CHECK  
SCHEDULES

**DYNAMIC DNS**

The DDNS feature allows you to host a server (Web, FTP, Game Server, etc...) using a domain name that you have purchased (www.whateveryournameis.com) with your dynamically assigned IP address. Most broadband Internet Service Providers assign dynamic (changing) IP addresses. Using a DDNS service provider, your friends can enter your host name to connect to your game server no matter what your IP address is.

Sign up for D-Link's Free DDNS service at [www.DLinkDDNS.com](http://www.DLinkDDNS.com).

Save Settings Don't Save Settings Reboot Now

**DYNAMIC DNS SETTINGS**

Enable Dynamic DNS :

Server Address :  << Select Dynamic DNS Server

Host Name :

Username or Key :

Password or Key :

Verify Password or Key :

Timeout : 576 (hours)

Status : Disconnected

**Helpful Hints...**

To use this feature, you must first have a Dynamic DNS account from one of the providers in the drop down menu.

More...

- a) **Enable Dynamic DNS** : Enable ON if you need to use DDNS
- b) **Server Address**: Fill in accordingly
- c) **Username or Key**: Fill in applied user name
- d) **Password or Key**: Fill in password
- e) **Verify Password or Key**: confirm the password
- f) **Timeout**: Timeout setting
- g) **Status**: Status of connection

**Notes:** DDNS need to be applied by customers if necessary.

- Fill in the user name and password, use DDNS login, it shows connect successfully if login properly, and will display the applied the DNS.

**Notes:** Please refer to the Oray for the DNS apply.

- After DNS binding, you can access into server via DNS.

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## Important User Information

### **Minimum System Requirements for DVR-Player Function:**

CPU: Intel Core i5 3.4 GHz, RAM: 6GB (4GB, 8GB would be better),  
Video standard: Intel(R) HD Graphics

### **About On Screen GPS Mapping**

This feature requires unrestricted access to Google maps, so some highly restricted proxies servers may prevent this. If the Internet access is prevented at the customer side, the free On Screen Mapping feature may be prevented from functioning. This does not affect the speed of the vehicle recorded on the screen during the trip. Also we have found the GPS antenna location needs to be on the vehicle roof to assure the best function.

### **Memory Storage Required**

The SD4HD, SD4HW and SD4HC series are sold WITHOUT memory storage device, as the size of the SD memory cards will not only be up to the customer but in many cases customers can source the cards at a lower cost than ABV can. ABV recommends use of Transcend SD memory cards Class 10 or faster, for optimum use as some other brands have had issues with several mobile DVR brands over the last 10 years.

### **Basic PC Skills Are Required**

The Mobile Digital Video Recorders (MDVR) we provide operate on a PC program viewer program called a Graphical User Interface aka GUI. These programs have been designed to be intuitive and require no formal training to operate the program, include a manual for those who seek additional guidance, as long as the user possesses basic PC skills. This is where some problems with PC skills begin for some who are not well versed in the use of their district or company computers. Use of these GUI programs are predicated on the assumption/requirement that the customer of this high tech video file evidence management tool has authorized personnel who will be operating this program who are competent with the basic operation of their own company PCs.

Companies lacking a trained PC competent authorized user for this system will need to have their designated persons trained on the basic use of their company PC prior to using this product, as lack of basic PC operation skills and use could compromise the integrity of the product application, the video files and possibly their admissibility as evidence in a court litigation procedure. The manufacturer and their representatives are not responsible, licensed or certified to train users of this program on the basic functions of a customer or company's own company PCs.

ABV does not supply the resources required to teach customers how to operate their PCs to a degree that they may then operate programs running on them. It is the customer's responsibility to learn how to operate their own PC before implementing a product that requires operation on their PC. Simply stated; if the intended customer system operator is incapable of downloading files from the internet, opening programs under Administration access, running or executing application files under Administration access, cannot download Media Player Program codec plug-ins, cannot save a file, cannot transfer a file or browse for a file, nor make a screen capture of the program viewer GUI, cannot send a saved file by e-mail, cannot plug a USB SD card Reader into a removed memory storage device, cannot save a file to a portable digital storage device, then you are not ready for a digital vehicle surveillance system. Basic PC skills are a requirement of all who intend to operate these products.

### **Network System Administrator (In-House) Required for CMS Operation (Wi-Fi & Cellular)**

Should you have Wi-Fi equipped DVRs but are not using the Wi-Fi Wireless function then this does not apply, as you will not be using the CMS software.

Those customers incorporating the Central Management Software (CMS) Server or Client Software in order to

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enable the Wi-Fi or Cellular functionality in their mobile video application must have in-house a Network Administrator with at least the training and certification of Microsoft Certified Systems Administrator (MCSA) or Microsoft Certified Systems Engineer (MCSE) to manage all aspects of the Network Server operation including; CMS software install, CMS Network Server configuration, CMS Network Server operation, CMS Network Server Maintenance, troubleshoot the DVR Server & CMS software, and or operate the higher functions of the program capabilities as they require access to your Wi-Fi or Cellular network, your mail server, creating SQL databases and many other network administrator functions. (1<sup>st</sup> Warning)

It is solely the responsibility of the purchaser to provide competent certified Network Administrator with at least the training and certification of Microsoft Certified Systems Administrator (MCSA) or better yet Microsoft Certified Systems Engineer (MCSE) to install, configure, operate, maintain and troubleshoot the DVR Server & CMS software, and or operate the higher functions of the program capabilities as they require access to your Wi-Fi or Cellular network, your mail server, creating SQL databases and many other network administrator functions.

This is a Customer CMS Server Hosted solution for those who wish to maintain all data in-house, with free software intended for those who know what they are doing only. Cellular CMS Server Network driven solution is not for those who know a little about networks and feel lucky. (2<sup>nd</sup> Warning)

American Bus Video Inc (ABV) provides network solutions that require at a minimum Microsoft Certified Systems Administrator (MCSA) or better yet Microsoft Certified Systems Engineer (MCSE) in house, to assure you are competent and able to assume all functions of the network server and DVR that communicates with it without assistance, as ABV provides no support, training, technical service, phone support for CMS Server/DVR Server or Client Server software for Wi-Fi/3G/4G /4G LTE systems that we offer. (3<sup>rd</sup> Warning)

In simple terms, if you do not have a competent in house certified Network Administrator with at least the training and certification of Microsoft Certified Systems Administrator (MCSA) or better yet Microsoft Certified Systems Engineer (MCSE) to install, configure, operate, maintain and troubleshoot the DVR Server & CMS software, and or operate the higher functions of the program capabilities as they require access to your Wi-Fi or Cellular network, your mail server, creating SQL databases and many other network administrator functions, then you should not be purchasing a Wi-Fi or Cellular Network driven system that requires a CMS Server, DVR Server or Client Server. (Final Warning)

#### **Minimum Requirements for CMS Server:**

Dell T320 server or better

SQL Server 2003,SQL\_server 2005 or newer

Wan IP (Fixed IP): The IP address is never changed.

Small Fleets: Windows 7,Windows 8

Large Fleets will require: Window Server 2012 or newer

#### **Operational Verification**

It is solely the responsibility of the user of the product to provide verification of product functionality when installed, each time the vehicle is operated, as well as pulling video files for viewing weekly, as a way to verify the system is operating properly, in order to prevent missing the documentation of important events due to operational problems, that could have been detected before they prevented important video evidence from being documented. Operational verification can be a simple daily visual verification of the DVR LED Status LEDs displaying on the unit faceplate to verify the unit is powered up and recording, or by use of the Remote DVR Status module (option). ABV Recommends weekly verification via memory card files playback test, to insure the cameras are all properly aimed, that the camera lenses are clean, that the audio is functional for each camera, and that the DVR is recording when the ignition is on. "Agency implies Stewardship" is a time proven principal, meaning if you own a product, it is your responsibility to maintain the product to insure you are able to obtain value from the use or operation of that product.

ABV recommends daily LED DVR status and weekly video recording system check, to insure all systems are recording properly so when you need them most in an incident you do not learn the DVR blew a 10 cent fuse 7 years ago (actual case) and has not worked a day since.



