

# SD4D, SD4W, SD4C

(Mobile Video Solutions)



## User Manual

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25 Years of Fleet Driver Safety System Sales & Service Experience

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

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

2.

### **BASIC PC SKILLS REQUIRED**

The Mobile Digital Video Recorders (MDVR) we provide operate on a PC program viewer program called a Graphical User Interface or GUI. These programs have been designed to be intuitive and require no formal training to operate the program, as long as the user possesses basic PC skills. Use of these GUI aka Video Player programs are predicated on the assumption/requirement that the customer of this high tech video file management tool has authorized personnel who will be operating this program who are competent with the basic operation of their own company PCs. 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 have 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, temporarily disabling PC OS or third party software that might interfere with the installation or downloading of the application program, running or executing application files, 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 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. Those who ignore the above may find it difficult if not impossible to operate the system and make effective use of the video evidence, resulting in a loss of value and a waste of funds.

### **NETWORK SYSTEM ADMINISTRATOR**

Those customers incorporating the Central Management Software or Client Software in order to enable the Wi-Fi or Cellular functionality into their mobile video application must have in-house a Network Administrator with at least the training and certification of Microsoft Certified Systems Administrator (MCSA) to install, setup, configure or operate the higher functions of the program capabilities as they require access to your Wi-Fi or Cellular network and your mail server, creating databases and many other network administrator functions. It is solely the responsibility of the purchaser to provide competent certified network administration for installation, setup, and maintenance of the network.

ABV provides no CMS or Client software server installation support, no CMS or Client software server setup support, no training, no technical expertise in the use or operations of any customer network, CMS or Client software program provided for use on said network. In simple terms, if you do not have a competent in house Network Administrator with at least the training and certification of Microsoft Certified Systems Administrator (MCSA) who will be installing the CMS or Client software, setting up the CMS or Client software, operating the CMS or Client program who are competent with the operation of their own company Wi-Fi as well as Cellular network and mail server networks, then you should not be purchasing a Wi-Fi or Cellular Network driven system.

### **OPERATIONAL VERIFICATION**

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It is the responsibility of the user of the product to provide verification of product functionality when installed and each time it is operated, 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 be a simple daily visual verification of the DVR LED Status LEDs displaying the unit is powered up and recording, or monthly verification via LCD display monitor that 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", 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 weekly LED DVR status and video recording system check, to insure all systems are recording properly so when you need them most in an incident you do not learn they blew a 10 cent fuse 7 years ago (actual case).

## Important User Information

### 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 SD4D, SD4W and SD4C series are sold WITHOUT memory storage device, as the size of the SD memory cards will not only be up 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, 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.

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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 can not 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**

Name	Quantity
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 ADPCM 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-1536kbps/channel) to meet different requirements.
- Storage  
Support 2x 64G SD card, auto overwritten and cycle storage.

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

- Resolution  
Monitoring: 720\*576/CH; Recording: 720\*576/CH; Playback: 720\*576/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**

- Support 4 channels D1 (704\*576) simultaneous recording, total 100fps.
- Support 4 channels D1 (704\*576) 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. 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.

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## **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 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.



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## 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: 4CH D1 (PAL: 704\*576; NTSC: 704\*480 )
- Record: PAL 100fps, NTSC 120fps, full real-time 4CH CIF, HD1,D1recording.
- Record mode: by alarm, schedule, manual, 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 64G max.
- The SD card data can be backed up via PC software.
- Support USB backup,

## 3.6 Control

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

## 3.7 Others

- Upgrade through USB or SD 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 crash.

## 4 Technical Parameters

Items	Device parameters	Performance index
<b>Name</b>	Product Name	SD4D (Basic) SD4W (Wi-Fi & GPS) SD4C (Wi-Fi, 3G Cellular & GPS)
<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
	Video Display	1 Or 4 Screen Display
	Video Standard	NTSC: 30frames/Sec
	System Resources	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	ADPCM

<b>Digital Processing &amp; Storage</b>	Image Compression	H.264 Fixed Code Stream
	Image Format	NTSC:4*CIF (352*240), or 4*HD1(704*240), or 4*D1(704*480)
	Video Stream	CIF: 24K-112KByte/s; HD1 & D1: 24K-192KByte/s;
	Video Taking Up Of Hard Disk	CIF: 85M-394MByte / hour / channel HD1 & D1: 85M-675MByte / hour / channel
	Playback Resolution	NTSC:1 or 4*CIF (352*240); 1 or 4*HD1(704*240); 1 or 4*D1(704*480)
	Audio Bitrate	4KByte / s / channel
	Audio Taking Up Of Hard Disk	14MByte / hour / channel
	SD Storage	Double SD card storage, Support Max 2* 64GB
	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>USB Interface</b>	Host Access	Can Expand One For USB Disk Backup
<b>Network Interface</b>	Wire line Access	Can Expand One RJ45 Ethernet Port (SD4DW & SD4C only)
	Wi-Fi	Can Expand One Wi-Fi Module Outside (SD4DW & SD4C only)
	3G	Can Expand One WCDMA or CDMA2000 Module Inside (SD4C only)
<b>GPS Interface</b>	GPS	Optional Can Expand GPS Module Inside
<b>Extend Interface</b>	RS232	Optional to connect with other vehicle equipment
	RS485	Optional to connect with other vehicle equipment and PTZ Camera
	Intercom	Optional Can Expand Intercom Module Inside (SD4C only)
	G-Sensor	Can Expand G-Sensor Module Inside
	Canbus	Optional Can Expand Canbus Module Inside
<b>Others</b>	Power Consumption	DC8-36V 5% 8W (without HDD)
	Working Temperature	-20°C ~ +85°C
	Clock	Built-In Clock, Calendar
<b>Packaging</b>	Product Size	154(L)*190(W)*52(H)mm
	Product Weight	0.9KG(without HDD)
	Package	Each In a Box, 10set/Canton
	Box Size	220(L)*110(W)* 175(H)mm
	Carton Size	570(L)*465(W)* 195(H)mm
	Carton Weight	9kgs/11kgs (without HDD)

### Optional functions:

Basic Type (Pin Aviation Connector)

+A: GPS Function

+B: 3G Function

+C: Pin Aviation Connector

+D: RS485&RS232

+E: Lan Port

+G: G-Sensor Function

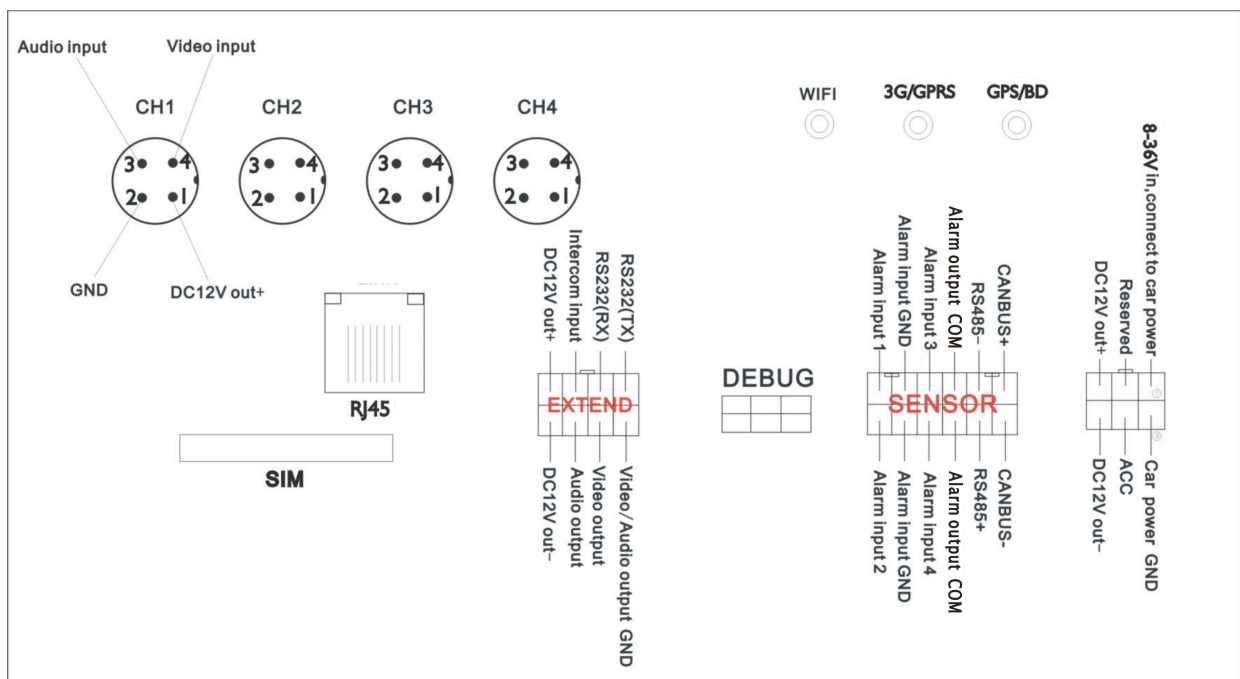
+H: Intercom Function

+W: Wi-fi Function

+K: Canbus

## 5 Instruction of Installation

### 5.1 Instruction of External Interface Wiring



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 plug directly.
- RS485 、RS232 、LINK、CANBUS interface are optional interface, available only when you listed in the order for this interface.
- Ports:
  - DEBUG: testing port
  - EXTEND: intercom connecting port
  - SENSOR: alarm port

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## 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





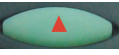
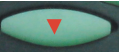








- **LED**
  - ✓ **PWR LED:** lighting while work starts. Power LED on.
  - ✓ **ACC LED :** Vehicle starts LED indicator
  - ✓ **RUN LED:** LED flashing when machine is normal working.




- ✓ **REC LED:** when video is recording, LED is flashing.
- ✓ **GPS LED:** GPS working LED indicator
- ✓ **3G LED:** 3G working LED indicator
- ✓ **SD1 LED:** When recording, playing, backup, LED is flashing
- ✓ **SD2 LED:** When recording, playing, backup, LED is flashing
- ✓ **ALM LED:** when detecting alarm signal, LED is flashing
- ✓ **WIFI LED:** when Wi-Fi module is running the LED is on.
- **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.
  - ✓ USB: Backup the video data via USB Disk(Ports on Demand, This function is valid, SD2 is invalid.
  - ✓ 1: SD card1 slot
  - ✓ 2: SD card2 slot
  - ✓ Video: Video output

## 6.2 Instruction of Remote Control Operation

-  : Record
-  : Lead to menu
-  : Enter the submenu to do the settings and also confirm the settings
-  : For playback on the mobile DVR
-  : Stop when record and playback
-  : Pause/Play when playback




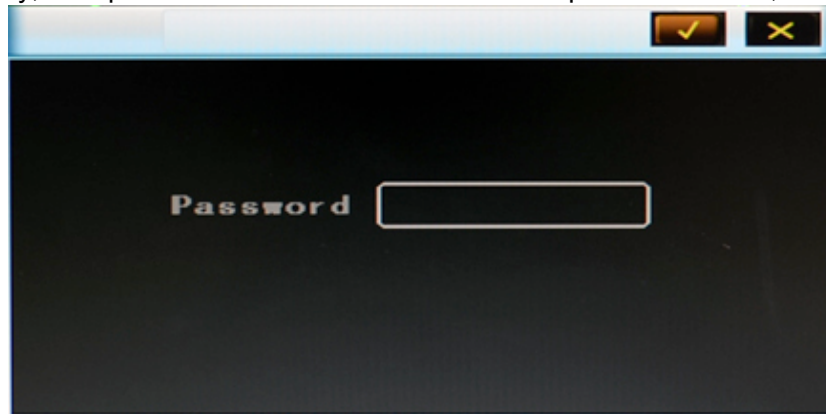
-  : Into PTZ control mode.
-  : Mute key, to turn on or turn off audio output when playback videos with audio.(The audio input of the playback device must be connected to the audio output of the DVR.)
-  : Fast-forward when video playback, play speed can be x2, x4, x8, press one time is x2, press two times is x4, and press 3 times is x8.
-  : 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 ② Enter password or set system password.
-  : ①screen zoom the second channel video when surveillance, record ② Enter password or set system password.
-  : ①screen zoom the third channel video when surveillance, record ② Enter password or set system password.
-  : ①screen zoom the fourth channel video when surveillance, record and playback ② Enter password or set system password.
-  : Enter password or set system password.
-  : Enter password or set system password.
-  : Enter password or set system password.


- : Enter password or set system password.
- : Enter password or set system password.
- : ①4 channel display when surveillance, record and playback. ②Enter password or set system password.

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

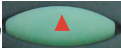




### 6.3 Menu Setting Instruction:

First press "" key, next 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.

**Basic Settings:** includes options of "system setting", "PTZ setting", "system info", "vehicle info". .

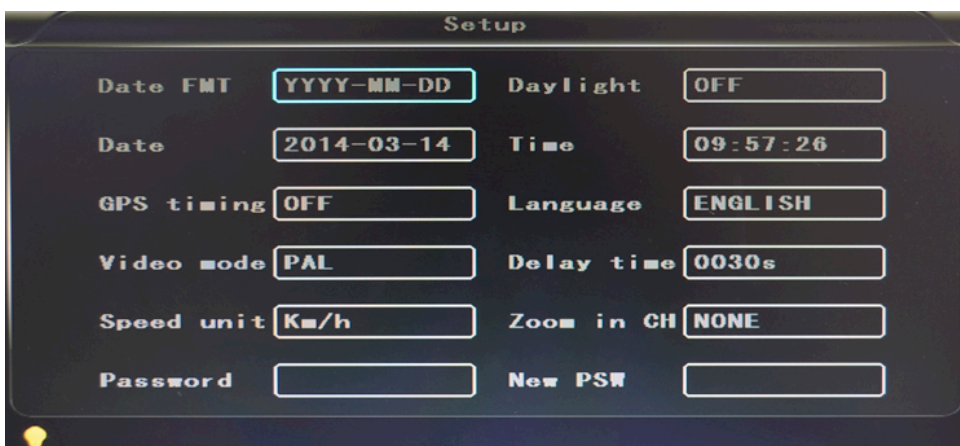




- **System Setting:** " Setup" and "Info "



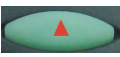
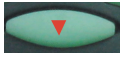
- **Setup:** Set the System time, Car Number, TV system, Language, etc.





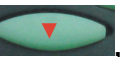


- **Date format:** Offer 3 display methods like "y/m/d, m/d/y, d/m/y" for personal habit.
- **Daylight saving time:** suitable for according countries or areas.
- **Date:** Adjust the date of HDD recorder


- **Time:** Adjust the time of HDD recorder
- **Time zone:** differs by countries, e.g: China for UTC+08
- **Language:** Set "Chinese" or "English", 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,60s,120s,300s,600s,1200s,1800s,3600s,7040s all could be set, have to restart the DVR after setting.
- **Speed unit:** KM/H and M/H, e.g: China is KM/H
- **Amplifying channel:** Choosing which channel to see when power on each time. This is also useful when backing the car.
- **Password:** Enter the default password before changing the new password (**Note: You have to enter the original password after press "OK", otherwise the DVR will keep staying in the changing password status, and the remote control will not work.**)
- **New password :** Enter the new password


#### Operating Way:

Enter the menu, press ", 

to select the options ,then press "

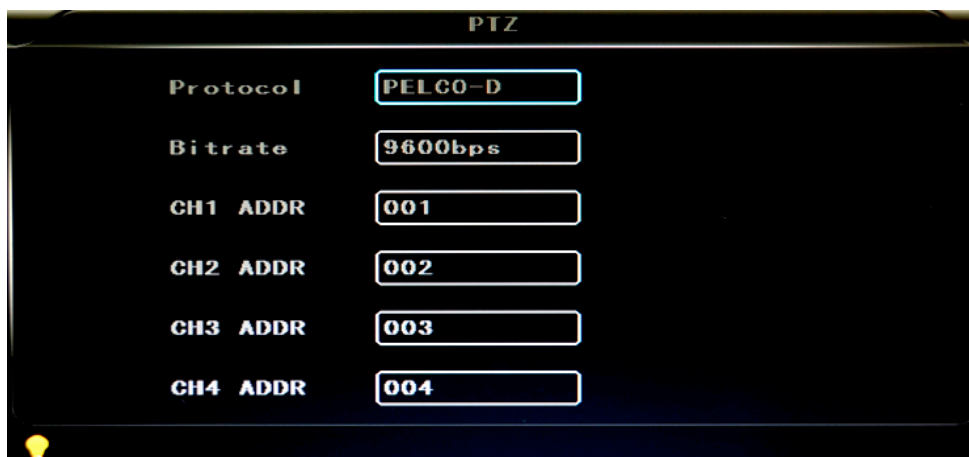
to enter the modification mode, adjust the number by pressing ", , , 

", press "

to save after adjustment. Press "

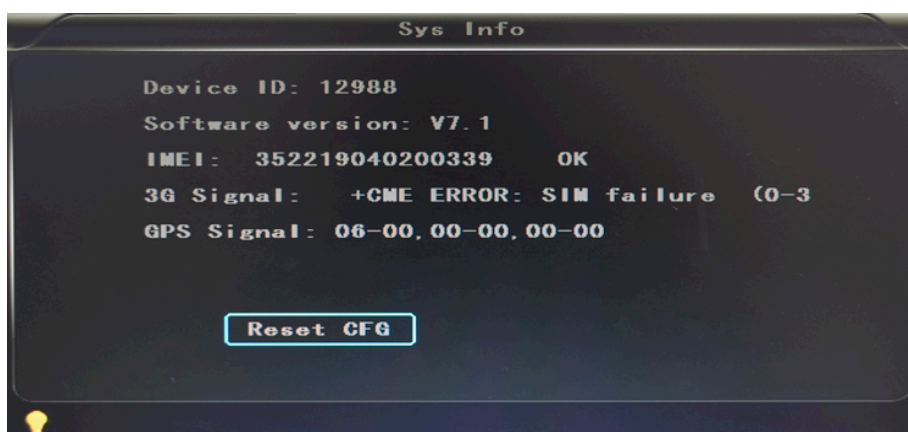
"key to exit after all settings done.

- **PTZ settings:** Adjust and control the camera with external PTZ device.



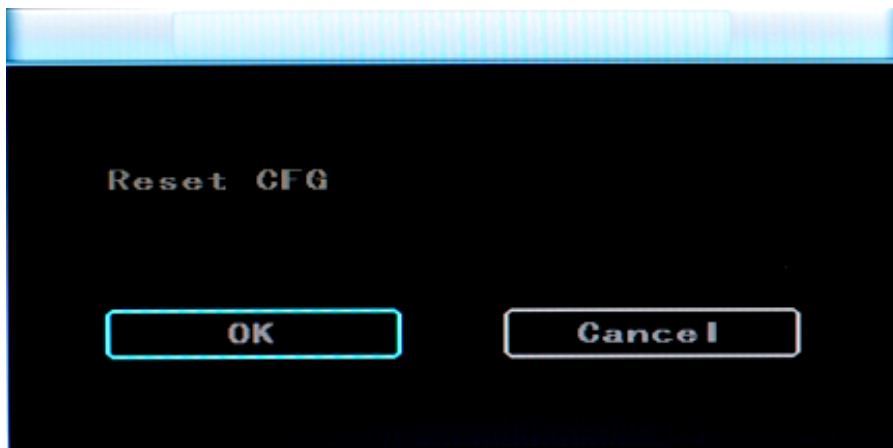
- ✓ Protocols: default PELCO-D, support PELCO-D.PELCO-
- ✓ Bit rate: under RS485 port: 2400bps,4800bps,9600bps,38400bps,57600bps

- ✓ Channel-Address: Channel one-Device address
- ✓ Channe2-Address: Channel two-Device address
- ✓ Channe3-Address: Channel three-Device address
- ✓ Channe4-Address: Channel four-Device address
- **System Info:** Display DVR hardware code number, software version information( only view, couldn't be changed) ; Reset the Factory Settings

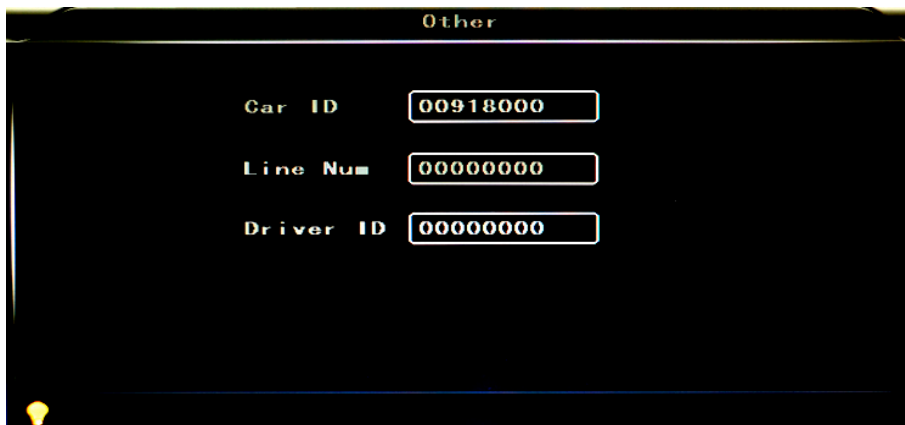


- ✓ Device encoding: only for this DVR, the code is unique.
- ✓ Software version: the version No. of DVR software.
- ✓ IMIE: IMIE No. of 3G network or module
- ✓ Strength Of 3G signal: strength value: 99, unknown: 0-31
- ✓ Strength Of GPS signal: AA-BB (AA: GPS No. BB: GPS strength. Show signal strength of max.3
- ✓ Satellite each cycling time.
- ✓ Reset the Factory Settings:
- ✓ Select "Reset CFG", there is a Reset interface after press "OK", confirm to Reset ,cancel to return the original interface.

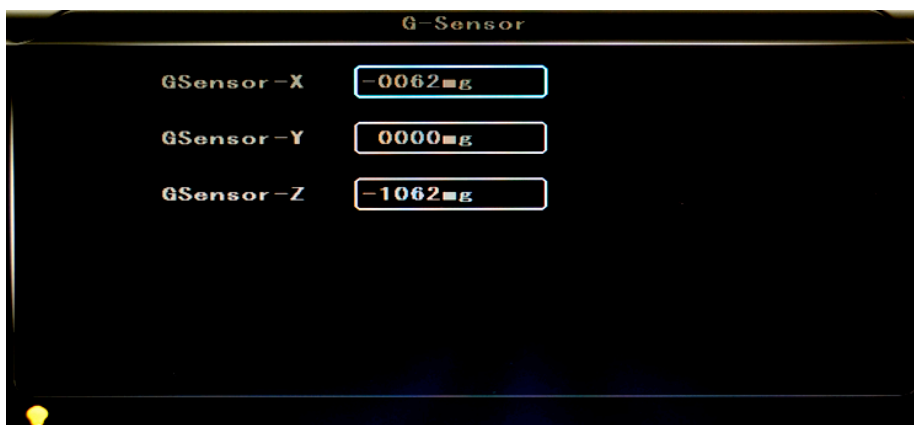




- Car information: details of car plate number, route and driver code.



- Car plate number: can be showed by English, Chinese simplified language, Numbers or common symbols.
- Route: the driving route and code
- Driver code: set up the driver code information
- G-sensor:



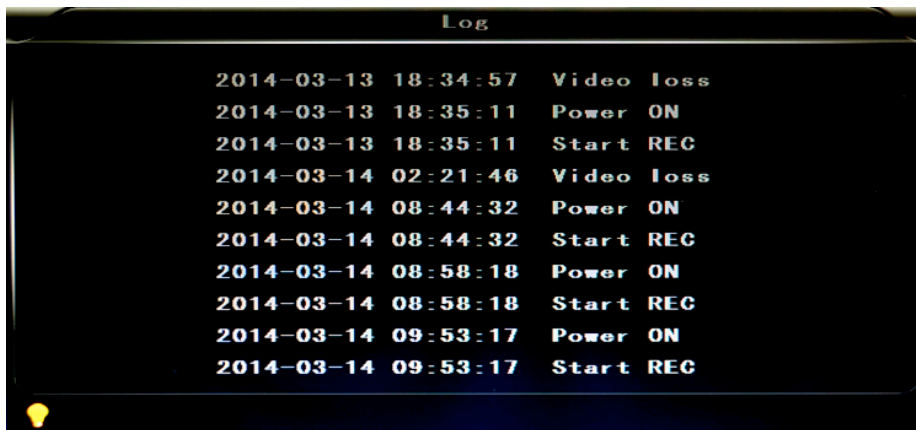
- G-sensor-X : 0000mg( default value, this value will change accordingly if the X direction gravity accelerated speed value is changeable)
- G-sensor-Y : 0000mg(default value, this value will change accordingly if the Y direction

---

gravity accelerated speed value changeable )

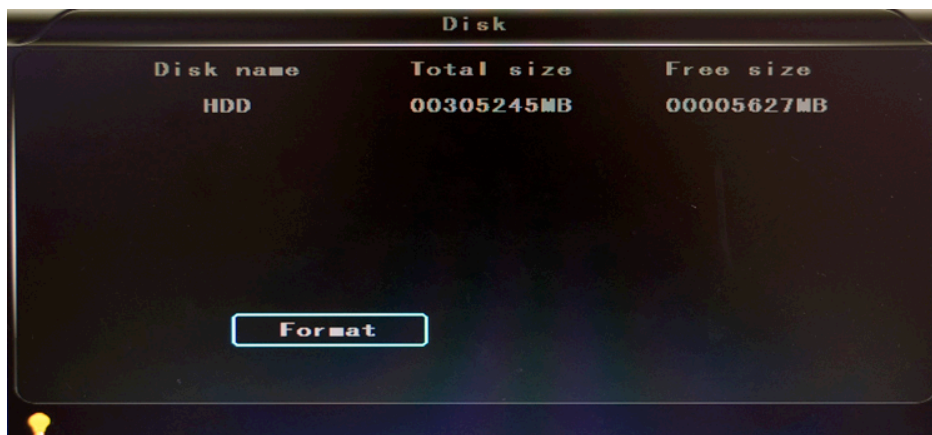
- G-sensor-Z : 0000mg(default value, this value will change accordingly if the Z direction gravity accelerated speed value is changeable)

- LOG information




- User action log, alarm logging, equipment status log

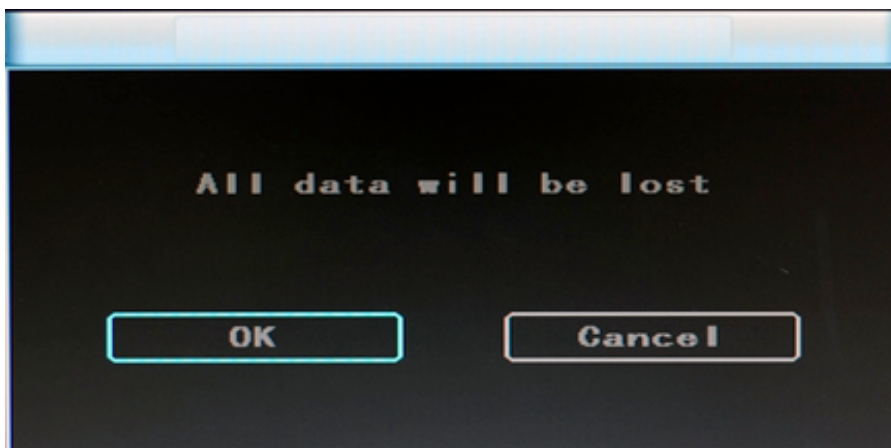
- **Disk** : Check and format



- **Disk Name** : Display the system recognized HDD name

- **Total Size:** Display the total size of HDD
- **Free Size:** Display the remaining Capacity of HDD
- **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



- **Channel:** select the channel setting (the information of each channel could be set independently)
- **Resolution :** CIF/HD1/D1 ;  
 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.

- **Quality** : Video quality setting

The left side is the local video quality(total 8 grade, LOWEST—HIGHEST)

The right side is the network transmission quality( total 9 grades,

32kbps/48kbs/64kbps/80kbps/112kbps/144kbps/192kbps/256kbps/384kbps)

- **Rec mode** : VIDEO ,Audio +Video (A+V) ,No record (N)

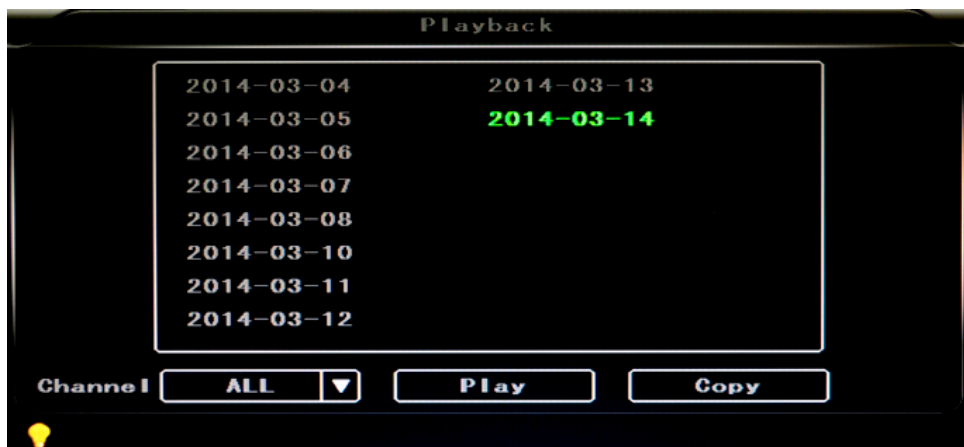
- **File Len** : the packaged video files length setting

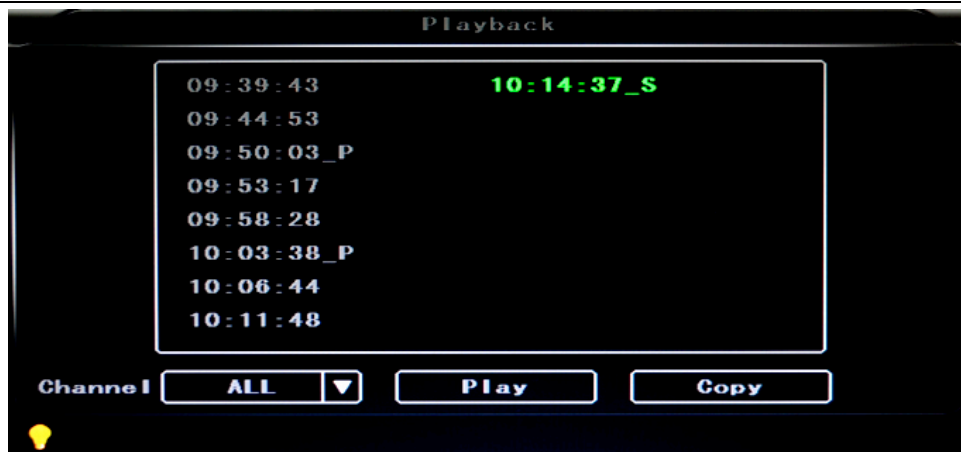
(300/600/900/1200/1500/1800/2100/2400/2700/3000/3300/3600s optional)

- **Save** : save after finished 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 are video date in the menu, it will display the vide time after enter the date, choose the playback time range as needed, press “Play” or click the interface “Playback “button to replay the video. Said is power outage file suffix "\_P", suffix "\_S" indicates an alarm trigger video files.

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

The operating method refers to “local video playback instruction”

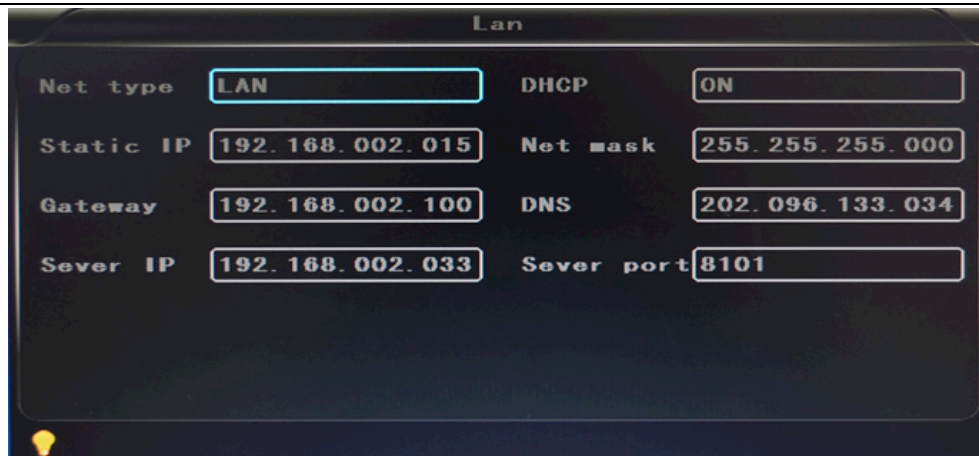
■ **Network Setting: LAN, 3G, WIFI**



- ✓ **LAN:** connecting via RJ45
- ✓ **3G:** insert 3G SIM card into the slot
- ✓ **WIFI:** connecting the network of WIFI

● **Local Network Setting (LAN) :**

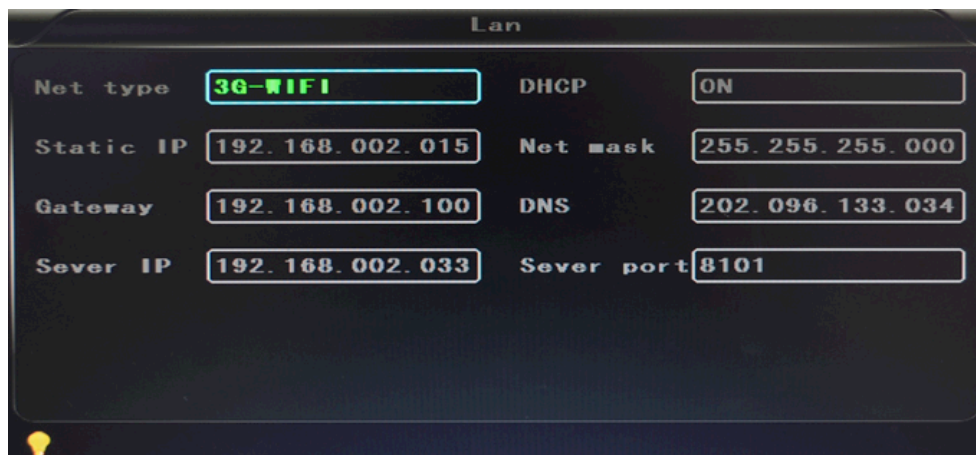




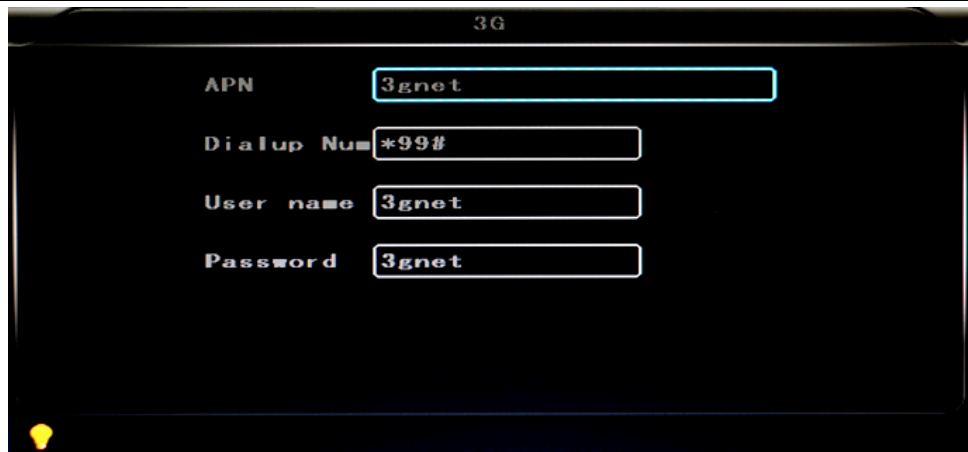
- ✓ **Network Type:** LAN / 3G-WIFI optional
- ✓ **DHCP:** Automatically get the IP address( in order not conflict with the LAN, pls enable ON, and also enable DHCP on the router, P.S, only one DHCP server can be enable in one LAN)
- ✓ **Static IP:** setup under LAN and WIFI mode
- ✓ **Net mask:** Subnet mask under LAN or WIFI mode
- ✓ **Gateway:** gateway under LAN or WIFI mode
- ✓ **DNS:** Pls input when the server IP is DNS, and not necessary when IP is static.
- ✓ **Server IP:** If the units login on our server, pls use 122.013.152.212, and if the units login on your own server, pls 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



- ✓ Access into "**Network**"→"**3G**"



- ✓ **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

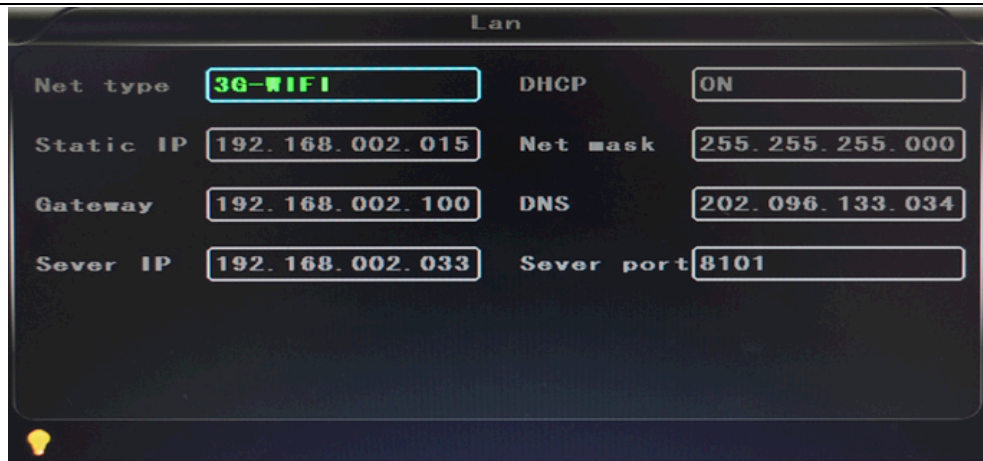
**Note:** Pls make sure you select the proper SIM card fit for 3G module.

Here is a example for Chinese carrier.

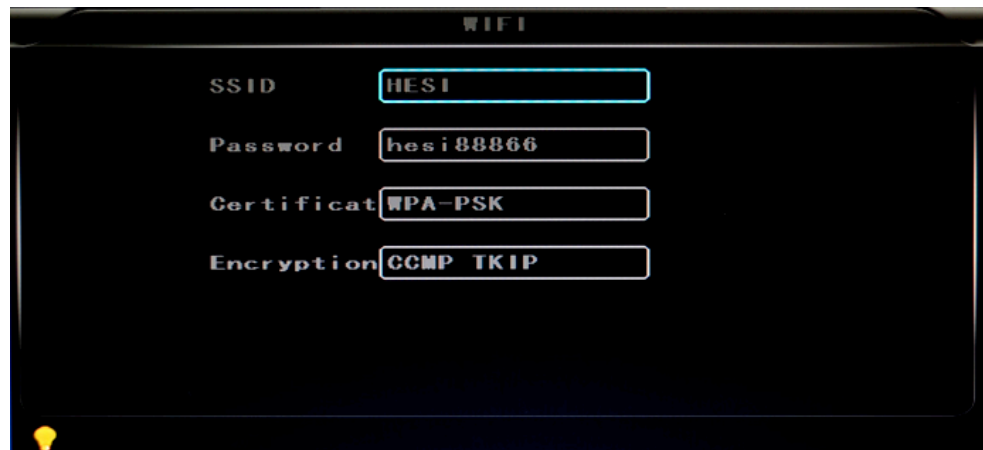
	WCDMA	EVDO
APN :	3gnet	card
Dialup Num :	*99#	#777
User name :	3gnet	card
Password :	3gnet	card

- **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 both “WPA-PSK” and “WPA2-PSK”
  - ✓ **Encryption:** Support both “CCMP” and ”TKIP”
- ✓ Access router, check its “WIFI “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 dlink  
(SSID) :  
Security Mode 2 : Auto (WPA or WPA2) - Personal  
Cipher Type : TKIP and AES  
Pre-Shared Key :  
c47086bee2659742883d5bb36da53356e51407f1635855aa7cbef92b5598bf6c

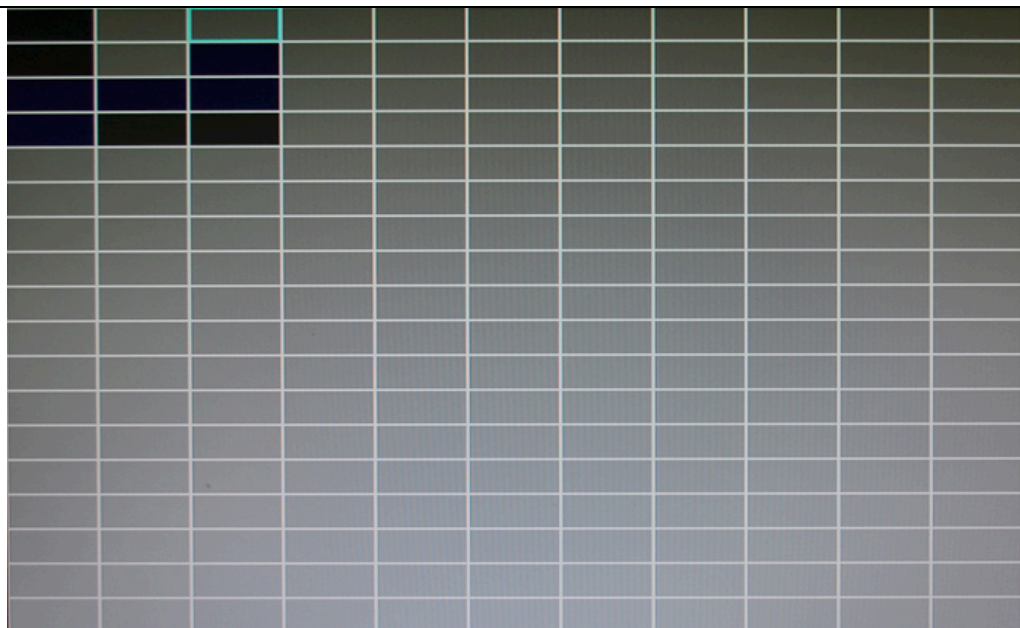
### Notes:




Pls make sure the router WIFI encryption keep the same with the setup in MDVR if the units use WIFI.

- **Alarm :**




- **Alarm REC :** Alarm-triggered video duration (30-330s optional, 30s unit)
- **Positioning Interval :** GPS Data upload interval, used with other system interface
- **Alarm out :** Alarm output time (5s-900s)
- **Over speed :** Set the over speed alarm value
- **Motion Detect :** 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.
- **DET AREA**




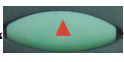
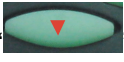

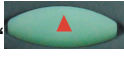
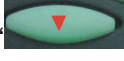




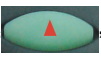
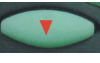




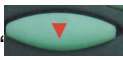

 :No detect     
  :Low sensitivity     
  :High sensitivity

- **Record Sequence** : Set the record mode of the different time range









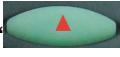

**White blank** : no record     
 **Red blank** : record     
 **S blank** : Alarm record

If the record mode set to “continuous recording” or alarm “recording”, the remote control stop key  will not work.

## 6.4 DVR Video Playback Instruction

Enter the main menu, move to “search/playback” option, press  to enter, next press the key  or  to select the playback date, 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 “playback”, 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.





---

## 6.5 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 :

- Connect USB disk to the DVR's USB port ( FAT32 format, backup Max.20G) ;
- On the video playback interface, select the backup video files first, then move to "backup" option and press "OK" to backup, "COPY END" display after backup finished, the USB disk could be taken away, then press "" to exit if no other operations.

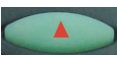
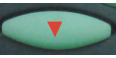


- If you need to backup another files, press "" to repeat the previous steps to backup.


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. Operations are as followings :

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 "".

---

## 6.7 Video Data Volume

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

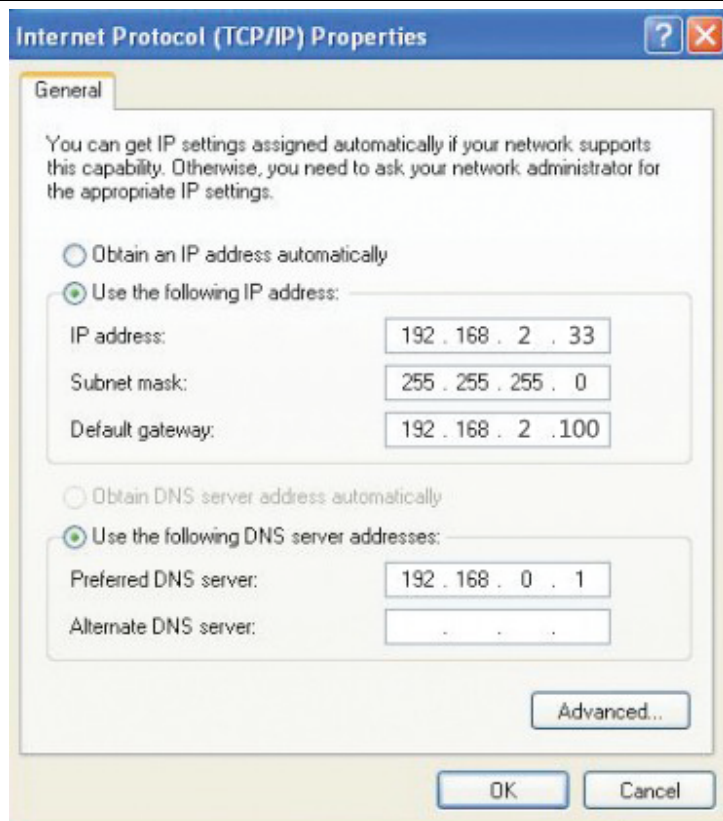
VIDEO QUALITY	Total Record Frame	Data Size Per Hour
HIGHEST	100 frame	2700 MB
HIGHER	100 frame	2250MB
HIGH (default)	100 frame	1800 MB
BETTER	100 frame	1350 MB
NORMAL	100 frame	1125 MB
LOW	100 frame	900 MB
LOWER	100 frame	563 MB
LOWEST	100 frame	338 MB

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

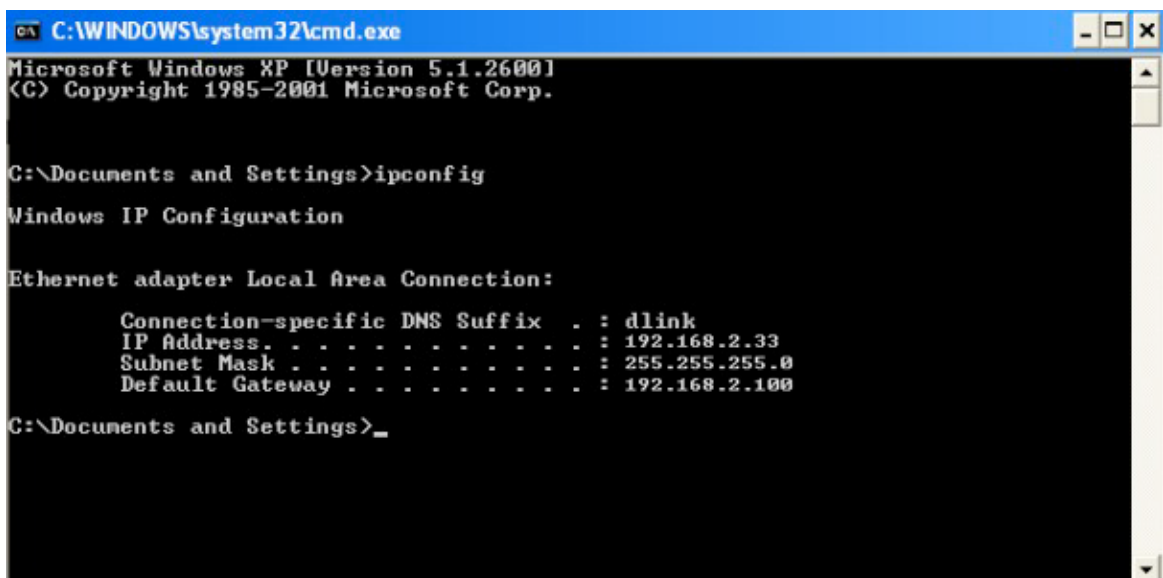
## 6.8 Extranet Port Mapping

- ✓ Install the CMS server in LAN, Pls 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.



- ✓ 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

```

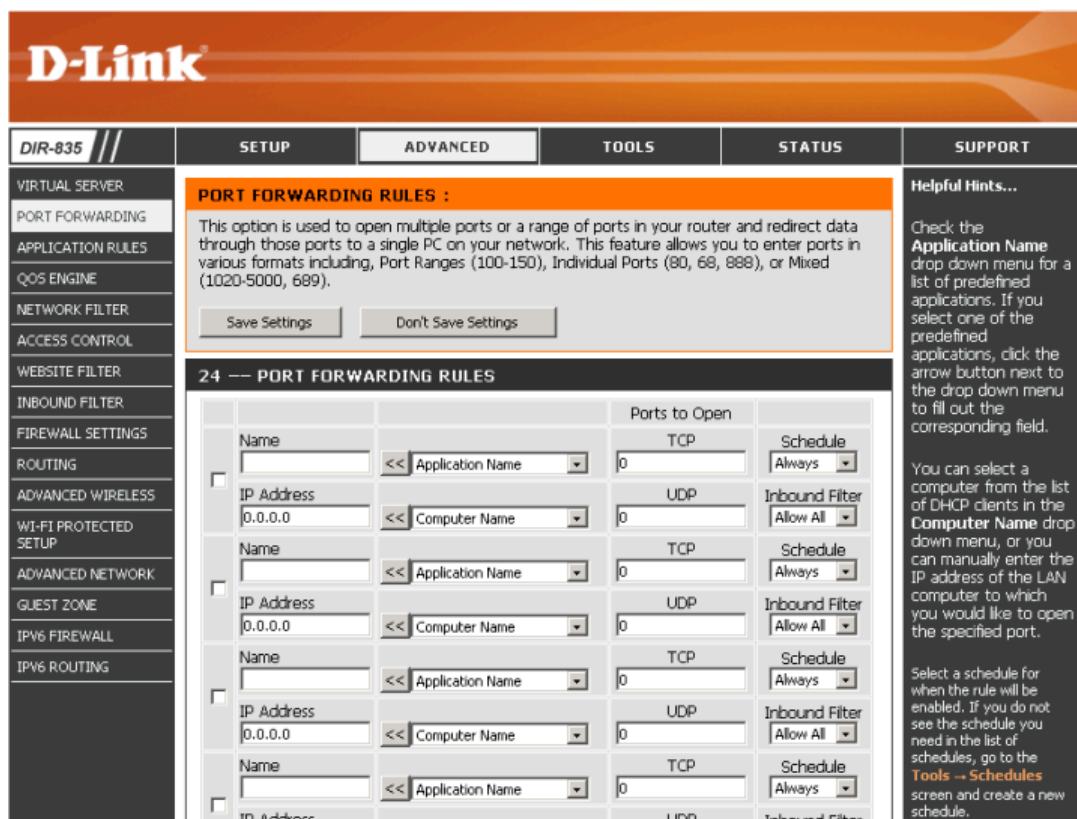
DVR_Server.cfg - 记事本
文件(F) 编辑(E) 格式(O) 查看(V) 帮助(H)

[Server]
Server_port=8001
Client_port=9001
TCPServer_port=8101
UserName_Num=1
UpdatePass=0
GpsPlayer_dis=30
[SendGPS]
Gps_IP=127.0.0.1
Gps_Port=9009
Gps_Stauts=2
debug_status=0
[UserName00]
Name=admin
Password=admin
MaxNum=0

Ln 16, Col 2

```

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



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

**D-Link**

DIR-835 // SETUP ADVANCED TOOLS STATUS SUPPORT

**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	Inbound Filter
<input checked="" type="checkbox"/>	DVR	<< Application Name	TCP 9001	Always	Allow All
	IP Address	<< Computer Name	UDP 9001		Allow All
<input checked="" type="checkbox"/>	DVR	<< Application Name	TCP 8101	Always	Allow All
	IP Address	<< Computer Name	UDP 8101		Allow All
<input checked="" type="checkbox"/>	DVR	<< Application Name	TCP 8001	Always	Allow All
	IP Address	<< Computer Name	UDP 8001		Allow All
<input type="checkbox"/>		<< Application Name	TCP 0	Always	Allow All
	IP Address		UDP		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.

- 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”
  - Schedule :** select “Always”
- ✓ Fill in the ports, and click” **Save settings**”.

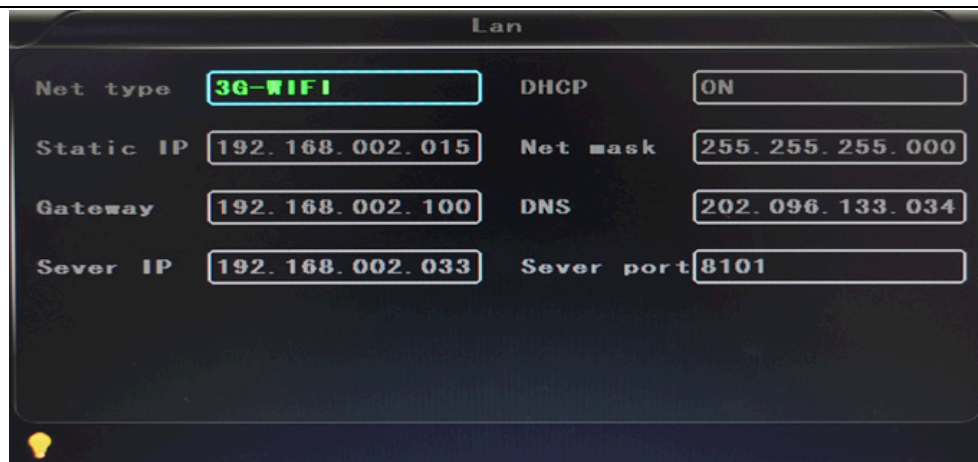
SETUP	ADVANCED	TOOLS	STATUS	
<b>PORT FORWARDING RULES :</b> This option is used to open multiple ports or a range of ports in your router and redirect data through those ports to a single PC on your network. This feature allows you to enter ports in various formats including, Port Ranges (100-150), Individual Ports (80, 68, 888), or Mixed (1020-5000, 689). <input type="button" value="Save Settings"/> <input type="button" value="Don't Save Settings"/>				
<b>24 — PORT FORWARDING RULES</b>				
<input checked="" type="checkbox"/>	Name DVR	<< Application Name >>	Ports to Open TCP 9001	Schedule Always
	IP Address 192.168.2.33	<< Computer Name >>	UDP 9001	Inbound Filter Allow All
<input checked="" type="checkbox"/>	Name DVR	<< Application Name >>	Ports to Open TCP 8101	Schedule Always
	IP Address 192.168.2.33	<< Computer Name >>	UDP 8101	Inbound Filter Allow All
<input checked="" type="checkbox"/>	Name DVR	<< Application Name >>	Ports to Open TCP 8001	Schedule Always
	IP Address	<< Computer Name >>	UDP	Inbound Filter

- ✓ 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.

DIR-835	SETUP	ADVANCED	TOOLS	STATUS
DEVICE INFO LOGS STATISTICS INTERNET SESSIONS ROUTING WIRELESS IPV6 IPV6 ROUTING	<b>DEVICE INFORMATION</b> All of your Internet and network connection details are displayed on this page. The firmware version is also displayed here.			
<b>GENERAL</b> Time : Friday, August 12, 2011 7:29:58 PM Firmware Version : 1.00 , 12, Aug, 2011				
<b>WAN</b> Connection Type : DHCP Client Cable Status : Disconnected Network Status : Disconnected Connection Up Time : N/A <input type="button" value="DHCP Renew"/> <input type="button" value="DHCP Release"/> MAC Address : 00:01:23:45:67:8a IP Address : 188.38.223.87 Subnet Mask : 255.255.255.0 Default Gateway : 188.38.223.87 Primary DNS Server : 202.96.128.166 Secondary DNS Server : 202.96.134.133 Advanced DNS : Disabled				

**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



## 6.9 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:** Pls refer to the Oray for the DNS apply.

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

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## BASIC PC SKILLS REQUIRED

The Mobile Digital Video Recorders (MDVR) we provide operate on a PC program viewer program called a Graphical User Interface or GUI. These programs have been designed to be intuitive and require no formal training to operate the program, as long as the user possesses basic PC skills. Use of these GUI aka Video Player programs are predicated on the assumption/requirement that the customer of this high tech video file management tool has authorized personnel who will be operating this program who are competent with the basic operation of their own company PCs. 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 have 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, temporarily disabling PC OS or third party software that might interfere with the installation or downloading of the application program, running or executing application files, 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 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. Those who ignore the above may find it difficult if not impossible to operate the system and make effective use of the video evidence, resulting in a loss of value and a waste of funds.

## NETWORK SYSTEM ADMINISTRATOR

Those customers incorporating the Central Management Software or Client Software in order to enable the Wi-Fi or Cellular functionality into their mobile video application must have in-house a Network Administrator with at least the training and certification of Microsoft Certified Systems Administrator (MCSA) to install, setup, configure or operate the higher functions of the program capabilities as they require access to your Wi-Fi or Cellular network and your mail server, creating databases and many other network administrator functions. It is solely the responsibility of the purchaser to provide competent certified network administration for installation, setup, and maintenance of the network.

ABV provides no CMS or Client software server installation support, no CMS or Client software server setup support, no training, no technical expertise in the use or operations of any customer network, CMS or Client software program provided for use on said network. In simple terms, if you do not have a competent in house Network Administrator with at least the training and certification of Microsoft Certified Systems Administrator (MCSA) who will be installing the CMS or Client software, setting up the CMS or Client software, operating the CMS or Client program who are competent with the operation of their own company Wi-Fi as well as Cellular network and mail server networks, than you should not be purchasing a Wi-Fi or Cellular Network driven system.

## OPERATIONAL VERIFICATION

It is the responsibility of the user of the product to provide verification of product functionality when installed and each time it is operated, 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 be a simple daily visual verification of the DVR LED Status LEDs displaying the unit is powered up and recording, or monthly verification via LCD display monitor that 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", 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 weekly LED DVR status and video recording system check, to insure all systems are recording properly so when you need them most in an incident you

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do not learn they blew a 10 cent fuse 7 years ago (actual case).