# H.264 DVR



## USER MANUAL 15" LCD 4/8CH H.264 DVR COMBO

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## **Notes**

- The power supply of this DVR is provided through DC12V5A adapter, please check the power outlet before installation and ensure it can meet the requirements of adaptor;
- Do not place the DVR at a place subject to rain or moisture;
- Do not install the DVR at a place subject to violent vibration;
- Do not install the DVR at a place subject to direct sunlight, and be far away from heat and high temperature environment;
- The DVR's back panel shall be 15cm or more away from other objects or wall, to facilitate fan cooling;
- The DVR shall work under temperature, humidity and voltage according to its technical specifications;
- The space where DVR installed shall not be stored with corrosive chemicals that may produce volatile gases, to avoid to affect the DVR's life;
- The DVR shall be installed in a space without much dust, and the environment should be kept clean and tidy;
- Proper grounding shall be installed during operation;
- DVR should be installed to ensure the proper connectivity with other devices.
- Please buy hard disk from official channel to meet DVR's long time and much data reading and writing requirements.

## **Chapter 1 Overview**

#### 1.1 Introduction

This product is a consumer-oriented 4/8-channels CIF real-time network DVR、LCD Combo, and adopt the industry's most advanced SOC technology and standard H.264 encoding method, so that the image quality is higher, network transmission effect is better and system is more stable; the body is made under stylish appearance design and sophisticated manufacturing process, the 1U standard chassis is suitable for small-scale monitoring places such as shop, supermarket, residential, school, hotel, Internet cafe, family and other civilian sites where require more on video quality, network transmission and real-time playback.

## 1.2 Packaging and accessories

Following parts are included in the package:

One IR remote controller

A pair of remote controller batteries

One piece of product certificate

One piece of product warranty card

One piece of product instruction

One piece of SATA hard disk data cables (installed in the host)

One DC12V5A power adapter

HDD support (already installed) and a set of mounting screws.

One piece of HDD power cable (already installed in the host)

One piece of CD.

A set of BNC connect cable

A set of audio connect cable

#### 1.3 Main features

DVR LCD Combo, folding installation

Standard H.264 video compression format

16-bit true-color semi-transparent graphical menu interface, menu options tip

A variety of recording modes: manual, timing, movement and alarm recording

Optimized four-channel simultaneous playback (single playback for eight-channel ones)

A variety of backup (U disk, mobile hard disk, network)

One USB2.0 for data backup, one USB1.1 for the mouse operation

Multi-functional operation, recording, playback, monitor, backup and network transmission can be realized at the same time

Dual stream technology

Support network to implement multi-screen real-time browsing, parameter setting, copy or playback

Support mobile phone monitoring

Support event classification and precise time search and playback

Defaulted parameter value fast recovery

Flexible USB interface for mouse

## 1.4 Technical parameters

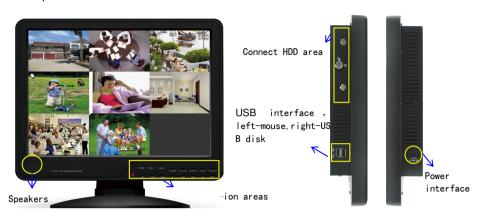
Main features	Specific description	
LCD monitor	15 "color LCD,1024*768,600:1,160°,4:3,CCFL	
Operating system	Embedded LINUX OS	
Video compression format	Main profile H.264	
Video input	4/8 channels BNC	
Video output	1 channel BNC	
Audio input/output	4/8 channels RCA input, 1 channel RCA output	
Display	1/4/8-channel	
Multiplex operation	Live display, recording, network, backup	
	transmission,recording, ,mobile phone	
	surveillance simultaneously	
Display resolution	PAL:D1(704*576),NTSC:D1 (704*480)	
Recording mode	Timer/manual/motion detection/alarm	
Recording frame rate	PAL: 25fps NTSC: 30fps	
Recording quality	High, normal, low	
Recording resolution	CIF/Half-D1/D1 (4 channels support full D1	
	real-time)	
Recording playback	1/4 channel playback simultaneously (Optional	
	playback channel)	
	Support remote file playback, rapid play by times	
	(Fast Backward) 、Play by frame etc.	

Recording backup	Support USB disk backup, moveable hard disk
	backup , network backup, backup by files, backup
	by time
Network transmission	4/8 channels real-time network transmission
Recording replay	Special player, support AVI file format conversion
JPEG capture function	Support,3M Pixels@10fps
Audio input/output	4-channels input,1-channel output
Alarm-action Recording	Support
Email alarm	Send pictures to the designated Email
Privacy mask	Support
PTZ	Support
PTZ protocol	PELCO-D,PELCO-P
HDD	Support 1 SATA HDD, capacity to 2T
HDD remain time hint	Support
Network and protocol	1 RJ-45 10/100M via Ethernet, support TCP/IP、
	DHCP、DNS、DDNS、NTP etc.
IE browser	Support
Client software	Support
Dual stream	Support (main and secondary interchange)
Group play	At least support five users online access
Multi-language	Support
Mobile phone surveillance	Support Windows, Symbian, IPhone and
	blackberry operation systems
SDK package	Available
Mouse interface	USB1.1
Backup interface	USB2.0
Remote controller	Support (Support controller ID matching)
User authority	Support multi-level user authority distribution
Time/date format	Support (adjustable)
DST	Support
Power	DC12V/5A
Working temperature	0°C-50°C
Working humidity	10%-90%

## 1.5 Product appearance and interface definition

## 1.5.1 Front panel

Front panel 1



Front Left Side Right Side

Button Name	Definition	Button Name	Definition
PWR	DVR power indicator	LEFT	DVR menu to left
REC	DVR recording	RIGHT	DVR menu to right
	indicator		
LINK	DVR network	DOWN	DVR menu down
	connection indicator		
LCD-POWER	LCD power switch	UP	DVR menu up
LCD-AUTO/ESC	LCD screen auto	DISP	Display mode option
	adjust / exit the menu		
LCD-RIGHT/+	LCD menu selection	MENU	DVR main menu
	to right		
LCD-LEFT/-	LCD menu selection	ESC	DVR menu exit
	to left		
LCD-MENU/ENTE	LCD main menu	ENTER	DVR Menu confirm
R	/confirm		

## 1.5.2 Back panel



No.	Physical	Interface description	
	interface		
1	AUDIO	Audio input and output interfaces, please connect according to	
		the digital ID of extension cable	
2	VIDEO	Video iutput and output interface	
3	NETWORK	Network interface, connect the Ethernet	
4	RS485+/-	Connect the RS485 interfaces in equipments like PTZ	
5	ALARM+/-	Connect alarm switch output, the alarm switch output	
6	DC12V	Connect power supply in DC relay, power supply capacity is 1A,	
		not short-circuit	
7	SENSOR 1 $\sim$	Connect alarm switch input, 4-channel equipment 4-alarm	
	8	inputs, 8-channel equipment 8-alarm inputs	
8	G	Alarm input common interface	

Note: The figure above is 8-channel DVR back panel. 4-channel DVR back panel can only allow 4-channel video inputs and 4-channel alarm inputs, and the rest is as same as 8-channel DVR.

## 1.6 Remote controller

For reference only, the real product shall prevail.



Key	Functional definition		
<b>(</b>	Spare keys		
	Mute		
0~9	Channel selection; number keys		
PTZ	PTZ Control		
	Single and multi-split screen		
1	Quit shortcut menu		
1	Shortcut menu		
	Direction buttons: Next, on the left and		
	right		
<b>←</b>	ок		
ESC	Exit / Return		
MENU	Enter the main menu		
START	Start recording (please refer to 2.4.7 for		
REC	the method)		
STOPR	Stop recording (please refer to 2.4.7 for		
EC	the method)		
lacksquare	Video Search		
	Stop playing		
•	Fast backward		
<b>(b)</b>	Fast forward		
N	Frame movement		
F1, F2	Spare key		

## 1.7 Mouse operation

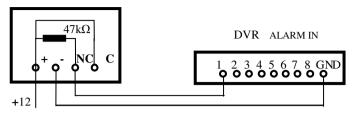
Mouse	Function
Right button	Enter main menu: real-time screen preview, single mouse left click
	Single left click the functional menu icon, and enter menu setting page
Double mouse left click	The image in a channel can be enlarged by double click real-time monitoring and playback screen, it can be recovered into monitoring and multi-split image after double click again
Click the left mouse button	Access to volume adjustment, color adjustment and PTZ control menu. The volume adjustment, color adjustment and PTZ control can set only one channel, please select corresponding screen if multi-screen mode is on prior to setting.  If you single click mouse button in volume adjustment and PTZ control  PTZ control is available if clicking direction or "+ and -" icon;  There is a volume bar in volume control interface. Move mouse to a position and click right button, the corresponding volume will be shown in the right side of the volume bar, click "×" to exit;  If there are many options in the option box, click the left button and drop-down menu will be shown.  Fast forward and fast backward function can be realized by left clicking in video playback interface.  Click the left button or right button can activate the soft keyboard in input box, clicking right button can switch English and Chinese input state; the number, symbol and English word capitalization can be realized only by clicking.  The Chinese spell is also available via the soft keyboard input when Chinese input, its input method is as same as remote control; left button can be used for turning page.
Mouse movement	Click left button and move can adjust the parameters in volume adjustment and color adjustment interface, there is corresponding parameter display in right side when movement.  Click left button and move the motion box can set the dynamic detection zone in motion detection zone.

This equipment supports USB1.1 mouse, so the user can operate with mouse to realize menu functions. It is just ok to insert the mouse with USB interface to the mouse interface in this equipment.

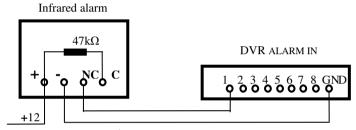
## 1.8 Alarm input and output

Alarm input close connection:

#### Infra Infrared alarm

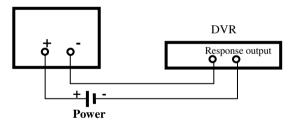


Alarm input open connection:



Alarm output open connection:

Sound and light alarm



## **Chapter 2 Quick installation**

## 2.1 Combo installation

Easy installation method as shown below:



#### **HDD** Installation

Hard disk installation must be carried out by technicians to avoid damage to the equipment and hard disk. The DVR mainframe must be powered off before operation. This equipment supports hard disk with SATA interface. Seagate brand hard disk is recommended.

Installation procedures are as follows:

1 Put the hard disk into support



2 Connect the hard disk data cable well, put the hard disk into host



## 3 Finally, ensure the screws of HDD support lock stably



Note: the newly fixed hard disk can be served for video recording after formatted on the mainframe.

## 2.2 Boot

Connect the DC12V5A power adapter to the power cord socket in back panel, and press the power button in front panel, the recorder will be on, power indicator "POWER" is on, the monitor will display 4/8-channel monitoring image. If non-formatted hard disk exists in the equipment, hard disk formatting information will be shown. If boot-record mode is on, or boot time is in the setting time, the system will start automatic recording function, the "REC" indicator will be on to indicate the system is working normally.

#### Note:

If hard disk is failed to be installed when DVR mainframe is power on, or the newly installed hard disk is failed to be formatted on the mainframe, the red "H" logo will be shown in video pre-view picture.

The newly installed hard disk must not be used until formatted in the equipment as follows: main interface > hard disk management > hard disk formatting. The system will be restarted after completion of formatting.

## 2.3 System login

The DVR initial code is 000000 without any password, the user can log in main menu directly. For better safety of equipment operation, the administrator can enter system "Basic Settings" – "User Password" to change the code and password of this equipment. You can set ordinary user password and administrator password, the administrator has all the operating privileges, ordinary users only have limited choices, and they can only monitor and video search/ playback. (the mainframe will match automatically when you enter password, and different permissions will be given according to different passwords).

If you want to operate in mainframe menu after password is set, the system will display



"user login" interface:

**Equipment code:** it is just ok to enter equipment code "000000" displayed on right side in corresponding input box. The defaulted code will be guided to the number box when mouse operation; we recommend to set mainframe password when remote controller is operating many equipments, to divide through targeted equipment code input, or the remote controller will disturb the adjacent mainframe.

## 2.4 Shortcut menu

Click right button in the interface after system startup, quick operations are available to DVR system in the pop-up menu, it can set or control parameters including main menu, lock, video search, PTZ control and video recording.



#### 2.4.1 Main menu

Click "Main Menu" to enter the main menu interface, please see 3.1.

#### 2.4.2 Lock

When the password function is on (please see 2.3), click right button in monitoring interface, and select "Lock" in the pop-up menu, the system interface can be locked immediately, password is required to log in if operation to mainframe menu is needed.

## 2.4.3 Channel switching

8-channel DVR can choose eight-channel, front four-channel and back four-channel.
4-channel DVR can choose to switch 4-channel and one-channel.

#### 2.4.4 Video search

Please see Chapter 3.

## 2.4.5 Start Sequence

Start video channel automatic switching function. (Right-click to exit)

#### 2.4.6 Start Cruise

PTZ preset start cruising capabilities. (right click again to opt out cruise)

Note: This feature can only be valid after set up PTZ control parameters and preset points.

## 2.4.7 PTZ Control

Click right button in main interface and select "PTZ control", following interface will pop-up:



PTZ speed (fast or slow) can be controlled in this interface, zoom, focus and aperture is also controllable.



## Cruise setting:

- Step 1 Select the PTZ channel
- Step 2 Set the pause time (s)
- Step 3 Adjust the arrow keys to the position which need to be monitored
- Step 4 Press SETTING POINT .Repeat steps 2-4 to set the second location
- Step 5 Select the APPLY button to save the settings
- ----END

Note: 1, if you need to set up more points, repeat steps 2-5

- 2, to view the preset points, in the current point enter the number, select SLIP
- 3, to delete the point has been set, enter the number, select delete

## 2.4.6 Mute/open volume

Close or open the sound output in the preview mode.

## 2.4.7 Manual recording/stop recording

If "timing record" is on (please see Chapter 3), and recording it not set in this period, "manual recording" and "timing record" is effective. When boot-record mode is on, this function is not available.

## 2.4.8 LCD menu setup

Main menu	Sub-menu picture	Definition
2.00	Ċ.	Brightness
- <del>Q</del> -		Contrast
		Color temperature
((d)		Volume
70	8	Mute
	<b>A*</b>	image position auto adjust
		Image phase adjustment
		Image horizontally move
Commo.		Image vertically move
		Image horizontal tensile
		Image vertical tensile
× &		OSD display time
	0	Restore factory settings
		Exit

## **Chapter 3 Advanced settings**

#### 3.1 Main menu

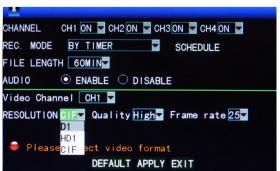
The main menu has the "Video Search", "Recording Mode", "Harddisk Management", "Basic Setup", "Advanced Functions" and "Exit" options, as shown below:



Note: The setup of all the submenus below will not be effective until "Enter" is pressed. The setup of this menu will be invalid if you exit directly. A significant characteristic of this product is when you move the cursor to any option, the prompting message of this option will be displayed automatically in the lower part of the screen.

## 3.2 Recording mode

Enter the Recording Mode screen from "Main Menu"—"Recording Mode", as shown below:



**Channel:** used to select if the video recording function is enabled for the corresponding recording channel.

**RESOLUTION:** available in the 3 levels of D1 (704\*576), HD1 (704\*288) and CIF (352\*288)(Note: This option is available for 4-channel DVR only, and the resolution of 8-channel DVR is CIF by default.)

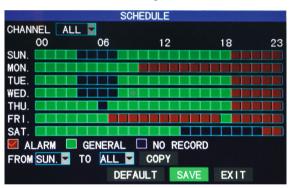
**QUALITY:** available in the 3 levels of high, normal and low, corresponding to the 3 data stream standards of high, normal and low bit rates.

**AUDIO:** switching on or off audio recording.

**REC.MODE:** available in the two modes of startup recording and timing recording.

When powered up: starting recording when this unit is energized (It works only if the corresponding channel is enabled in the "Channel" option.)

**BY TIME:** performing recording as scheduled. When "timing recording" is selected, the "Record Time Configuration" button will appear on the right. Move the cursor here and press "Enter" to enter the Record Time Configuration screen, as shown below:



Channel: You may choose either "All" or a single channel.

**Time configuration:** First select from the 3 modes of alarm recording, general recording and no recording for your desired recording mode for a certain lattice, and configure specific recording time lattices (each lattice represents 1hr). Each lattice can be configured into different recording modes by marking them into different colors, such as red, green and background color, which represent alarm recording, general recording or no recording within each hour respectively.

**Packaging time:** Left-click or press "Enter" to select the packaging time, with the 4 options of 15min, 30min, 45min and 60min.

#### 3.3 Video search

Enter the Video Search screen from "Main Menu" → "Video Search", as shown below:

This unit supports 3 video search modes:

## A. Timing playback

**Time input:** First select the corresponding channel and then adjust the date and time to be searched. Left-click or press "Enter" and the direction keys or enter digits directly for year, month, date, hour and minute adjustment, and then click "Playback" to play back the record of this period of time. For 4-channel DVR, the 4 channels can be played back simultaneously.

## B. Playback based on record state

Enter the year, month and date to be searched in the "Time Input" box and click "Search" to view the record state of this date, as shown below:



**Month:** displaying the record information of every day in the current month. A green block indicates normal recording, a red block indicates alarm recording, and the background color indicates no recording. Click a date on this bar to search the record information of every hour of that day. The search results will be visualized in the "Day" bar below.

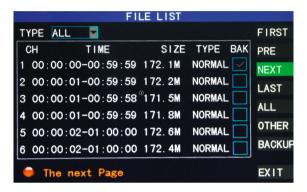
**Date:** displaying the recording hours of the current day. Each lattice represents 1hr, and one recording segment is 0.5hr. The presentation of the record state is the same as above. Click a 0.5hr segment of a day directly to enter the record playback of this segment.

## C. Playback based on file list

Enter the year, month and date to be searched in the "Time Input" box and click "Search" to view the record state of this date. Click a certain day on the "Month" bar and then "Detailed File", and the "Detailed File" screen will pop up, as shown below:

**Channel selection:** There are 5 options: 1, 2, 3, 4 and all (9 options for 8-channel DVR). After selection and confirmation, which channel file is displayed can be modified in the following list.

**Record type:** There are 3 options: all, normal and alarm. After selection and confirmation, the searched message will be displayed automatically as a list, as shown below:



## Notes:

In the "Detailed File" list, by which recording channel is the current record file recorded is displayed at "Channel", the starting and ending times of record packaging at "Record Time", the size (unit: MByte) of this record file at "Size", and the type of this record file at "Type", with the two options of normal and alarm. The operation of outputting data from the selected record to the USB memory can be performed in the "Backup" check box at the bottom right corner of the screen;

When you have selected a certain record file from the record list by moving the cursor up and down, press "Enter" to enter the playback screen;

If "Record Time Superimposition" has already been enabled in the "Basic Setup" screen, the playback screen will display the clock of recording; if "Record Time Superimposition" is set as "Off" in the "Basic Setup" screen, there will be no clock display on the playback screen:

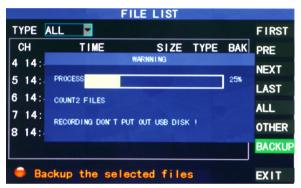
During record playback, press "Slow" for slow play, press "Fast Forward" or "Fast Backward" for fast forward or backward play, or press "Pause/Frame" for pause or frame-by-frame play; press "Exit" to exit from the playback screen and return to the menu of the previous level.

## 3.4 Backup

Enter the "Detailed File List" (see 3.3 Video Search) screen for the backup operation.

The record file may be backed up by a USB storage device. Before the record file is backed up, the user must insert the peripheral storage device into the USB2.0 slot of this unit. This product supports the plug-and-play operation of USB devices.

Move the cursor up and down in the Detailed File List screen to select a certain record file. After "Enter" is pressed in the "Backup" check box, a " $\sqrt{}$ " will appear in this box, indicating that this record file has been selected. The move the cursor to the option box on the right and click "Backup", when the screen will display the backup progress message of the file, as shown below:



#### Notes:

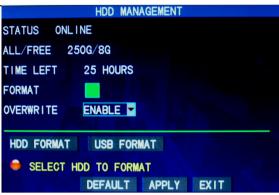
When the available space of the backup device is less than the capacity of the record file, the system will prompt the user with "Not Enough Space";

After the record file has been backed up, unplug the backup device directly;

See Chapter 4 "DVR Network" for network backup.

## 3.5 Hard disk management

Enter the Hard disk Management screen from "Main Menu" → "Hard disk Management", as shown below:



**Hard disk state:** After the hard disk is connected, the system will detect if the hard disk is correct automatically. If the hard disk needs formatting, "Unformatted" will be displayed in the hard disk state, when you can click "Format HDD" to format the hard disk. If the system detects any available hard disk, the hard disk state will be "Normal";

All/Free: referring to the total and current remaining storage space of the hard disk;

**Time left:** referring to the time remaining for recording based on the currently set picture "detail" and "bit rate":

**Format:** enable the format function.

**Overwrite:** On: The hard disk will overwrite the earliest record when its memory is full; Off: Recording will stop when the memory of the hard disk is full;

Formatting of hard disk: If the hard disk is used for the first time, it is often necessary to format the hard disk. Click the "Format HDD" button, and then click "Enter" for formatting in the pop-up prompt message dialog box, otherwise click "Cancel". After clicking "Format HDD", the system will prompt "You will lose all data by formatting the hard disk. Will you continue?" Then press "Enter", and the system will prompt "Formatting..." and then "Formatting Successful". The system will restart automatically;

Formatting of U-disk: formatting the data in the U-disk.

The "Default" button is used to restore the factory default values.

Note: In order to make the DVR work well, we recommend that the hard disk must be formatted before the first time of recording.

## 3.6 Basic setup

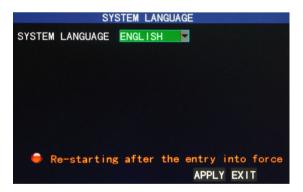
Enter the Basic Setup screen from "Main Menu" → "Basic Setup", as shown below:



The Basic Setup screen includes the 6 options of System Language, Time Setup, User Password, Display Setup, Video/Audio Setup and Exit.

## 3.6.1 System language

Move the cursor to the "System Language" option (the icon is enlarged and highlighted to indicate selection), and press "Enter" to enter the setup screen of this option, as shown below:



The system has optional multiplex languages, after choosing the language, click "Apply" button to save, and it will go into effect after system restart.

## 3.6.2 Time setup

Move the cursor to the "**Time Setup**" option (the icon is surrounded by a yellow frame to indicate selection), and press "Enter" to enter the setup screen of this option, as shown below:



The system time, date format, time format, time zone and summer time can be set up in this screen.

## 3.6.3 User password



Device number: Enter digits directly to set up the DVR number;

**Password:** Press "Enter" to select "enabling" or "disabling" the user password. If this option is enabled, the user has to enter his/her password upon logging-in to log in successfully: if it is disabled, the main menu of the system can be logged in directly:

**User Password:** This option is operated with keys or the mouse. Enter digits directly to set the user password;

**Administrator password:** This option is operated with keys or the mouse. Enter digits directly to set the administrator password.

#### Notes:

This unit has no initial password. When you're setting up passwords, it is recommended that the two passwords are set up together. If any set password is forgotten, please contact your dealer or the technical department of the manufacturer.

Only the locking, channel changeover, video search, log search, backup, PTZ control, mute, manual recording and stopping recording functions are available to normal users.

## 3.6.4 Display setup

Move the cursor to the "**Display Setup**" option (the icon is surrounded by a yellow frame to indicate selection), and press "Enter" to enter the setup screen of this option, as shown below:



**Channel name:** Move the cursor to the input box of this option, and press "Enter" to enter the input screen of this option. Numerical, English and Chinese pinyin input methods are supported;

**Position:** Move the cursor to this option, and press "Enter" to change over between name positions; there are 5 setup options: top left, bottom left, top right, bottom right and off:

**Color setup:** Move the cursor to "Setup" of the corresponding channel, and press "Enter" to enter the color setup screen, as shown below:



Press "Enter" or drag the cursor directly to set the picture color, including the 4 options of chromaticity, brightness, contrast and saturation. Press "Enter" to exit and save the set parameters.

#### Preview:

On: The picture of this channel can be seen in the Video Preview screen;

Off: The Video Preview screen of this channel has been shielded, but there is no effect on the recording of this channel;

**Preview time:** On: The system date and time are displayed right above the Video Preview screen:

**Record Time Superimposition:** On: A clock can be displayed in the playback of the current record file.

Channel SEQ: set up channel switch time .

## 3.6.5 Video/Audio setup

Move the cursor to the "Video/Audio Setup" option (the icon is surrounded by a yellow frame to indicate selection), and press "Enter" to enter the setup screen of this option, as shown below:



**VGA resolution:** Left-click or press "Enter" to set the VGA output resolution, with the 3 options of 1280\*1024, 1024\*768 and 800\*600;

**Camera system:** Left-click or press "Enter" to change over between the two camera systems of PAL and NTSC;

**Volume setup:** Move the cursor to "Volume Setup", left-click or press "Enter" to enter the Volume Setup screen, and press "Left", "Right" or drag the cursor with the mouse directly to adjust the volume.



Note: The system will restart when the VGA resolution or the camera resolution is modified.

#### 3.7 Advanced functions

Enter the following screen from "Main Menu" → "Advanced Functions":



The advanced functions include the 7 options of alarm setup, system information, motion detection, mobile phone monitoring, system maintenance, PTZ Setup and Network Setup.

## 3.7.1 Alarm setup

Move the cursor to the "**Alarm Setup**" option (the icon is surrounded by a yellow frame to indicate selection), and press "Enter" to enter the setup screen of this option, as shown below:



I/O state alarm: Each channel corresponds to an I/O state alarm, i.e., when the alarm input of a channel is valid, the alarm record of the corresponding channel will be started.

**Normal On:** The external alarm circuit is open at ordinary times, and closed when there is an alarm.

**Normal Off:** The external alarm circuit is closed at ordinary times, and open when there is an alarm.

Note: When an alarm is produced, a red letter "I" will be displayed above the corresponding channel.

**Hard disk failure alarm:** On: When the system cannot identify the hard disk, an alarm will be generated, and a red mark "H" will be displayed at the bottom left corner of Channel 1 in the lower part of the Video Preview screen.

**Not enough space of hard disk:** On: When the remaining space of the hard disk is less than 500M, the lower part of the Video Preview screen will display: "The space of the hard disk is not enough. Please change the disk after shutdown."

**Video loss alarm:** On: When the video of a certain channel is lost, this channel will display in the lower part of the Video Preview screen: "Video Loss".

Alarm processing: There are 3 options: alarm output, buzzer and record delay.

**Alarm output:** the time of the DVR outputting the alarm signal to the outside when an alarm is generated, with the options of 0sec, 10sec, 20sec, 40sec and 60sec

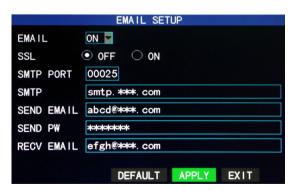
**Buzzer:** the time of buzzer ringing when an alarm is generated, with the options of 0sec, 10sec, 20sec, 40sec and 60sec

**Record delay:** the time of record delay after the alarm, with the options of 30sec, 1min, 2min and 5min

**E-mail alarm:** This unit supports motion detection and e-mail alarm.

**Prerequisite:** The mainframe must be connected to the WAN. See Chapter 4 "DVR Network" for the connection method.

When motion detection is triggered, the system will extract a picture at the time of triggering and send it to the corresponding mailbox. The size of the extracted picture is about 11K.



**SSL:** a secure link transmission protocol, whose "Off" or "On" state is determined by the mailbox server. "Off" is usually chosen.

**SMTP port number:** the mailing port of the mailbox server, usually being 25, with the exception of a few mailboxes, such as the mailing port of the GMAIL server whose port number is 465.

**SMTP server:** the server address of the mailbox used, for example, the SMTP server of the Yahoo mailbox is smtp.mail.yahoo.com.cn; please check this address to your mailbox supplier.

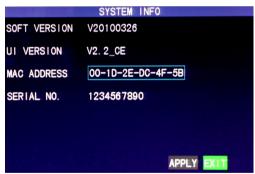
**Sender address:** the mailbox address used to send mails, the above-mentioned SMTP server is also the server of the corresponding sender address.

**Sender password:** the password of the mailbox used to send mails.

**Receiver address:** the address used to receive the picture transmitted after the DVR motion detection alarm. If the alarm frequency of the system is high, the number of pictures sent will also be larger. Please pay attention to the space of your mailbox timely lest the normal operation of the mailbox be affected due to an excess number of pictures.

## 3.7.2 System info

Enter the System Info screen from "Main Menu"→"Advanced Functions", as shown below:



You can inquire about the software version number, whole unit version number, MAC address and serial number in this screen.

#### 3.7.3 Motion detection

Enter the Motion Detection screen from "Main Menu" → "Advanced Functions", as shown below:



Channel switch: Each channel has a corresponding switch. Press "Enter" to select motion detection "On" or "Off".

Detection sensitivity: Each channel has a corresponding sensitivity setting, with the 4 levels of 1, 2, 3 and 4, in which 4 is the highest. Press "Enter" for changeover.

**Area setup:** Each channel has a corresponding motion detection area setting. Move the cursor to "Setup" of the corresponding channel, and press "Enter" to enter the motion area setup screen of this channel, where a red block indicates motion detection is activated for this area and a transparent block indicates motion detection is not activated, as shown below:



## Operating prompt:

Remote controller operation: Use "H" (display mode) to select full screen or blank;

Mouse operation: Left-click the mouse and drag the motion box to set the area of dynamic detection.

Motion detection setup procedures:

Turn "On" the corresponding channel in the "Channel Switch" option;

Set the sensitivity level as necessary, usually set at 3 or 4;

Set the motion area of the corresponding channel in the "Area Setup" option;

In the "Recording Mode" screen, set the corresponding channel to "On" in the "Channel" option;

In the "Recording Mode" screen, select "Timing Recording" in the "Recording Mode" option, also click "Record Time Configuration" to enter the Record Time Configuration screen and set the corresponding time to alarm recording (see timing recording in "Recording Mode" for the setup method).

After the setup has been done and motion detection triggered, a red letter "M" will appear in the screen of this channel. See "Alarm processes" in Section 3.6.1 for alarm processing.

## 3.7.4 Mobile phone monitoring

The mobile phone monitoring function of this series DVR is supported by mobile phones of the Windows Mobile and Symbian operating systems, such as Dopod P660, Nokia N78 and Nokia 95.

The operating procedures are as follows:

Setup method of mobile phone monitoring at the DVR end:

Enter the following screen from "Main Menu" → "Advanced Functions" → "Mobile Phone Monitoring":



Set cell phone login **user name** and **password**, defaults are empty.

**Service port:** with a setting range of 1,024—65,535; this port has to be mapped on the router, and its setup method is the same as the mapping method of the port in network setup.

For more detailed mobile phone installation and user manual, please refer to the Mobile Phone User Manual in the CD

## 3.7.5 System maintenance

Enter the "System Maintenance" screen from "Main Menu" → "Advanced Functions", as shown below:



**Auto reset:** When this option is set to "On", the user can set the restart frequency and time of this device himself/herself.

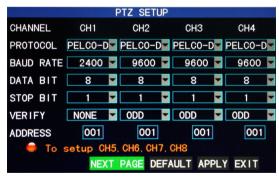
**System update:** Copy the update file to the root directory of the U-disk, then insert the U-disk into the USB slot of this unit, and "Enter" this button for system updating. The screen will display the progress box of system updating until updating is completed. The power system should not be interrupted during updating.

**Default settings:** Restore the system parameters to the default settings.

Restart: Restart this unit.

## 3.7.6 PTZ setup

Enter the "PTZ Setup" screen from "Main Menu" → "Advanced Functions", as shown below:



**Channel:** selecting the channel to which the dome camera is connected (to select any of the latter 4 channels, click "Next Page")

**Protocol:** selecting the dome protocol of the corresponding brand and model, with two options. Pelco-D by default

**Baud rate:** selecting the baud rate used by the dome, with the 4 options of 1200, 2400, 4800 and 9600

**Data bit:** with the options of 5, 6, 7 and 8, 8 by default

Stop bit: with the options of 1 and 2, 1 by default

**Verify:** with the 5 options of None/Odd/Even/Mark/Space, None by default

**Address code:** Complete the PTZ code of the corresponding channel.

Just set "protocol", "baud rate" and "address code" in order to set the PTZ.

See "Shortcut Menu" → "PTZ Control" for PTZ control.

## 3.7.7 Network setup

Enter the "Network Setup" screen from "Main Menu"  $\rightarrow$  "Advanced Functions", as shown below:



Connection mode: with 3 options: static configuration, DHCP and PPPOE

Static configuration: allocating an IP address manually

**DHCP:** acquiring an IP address automatically

After selecting the DHCP mode, restart the system after confirmation. After starting, the system will establish a connection with the DHCP server automatically. When this is successful, this unit will be allocated an IP address, which will be displayed on the screen.

PPPOE: broadband dial-up network access, as shown below:



**PPPOE** user name and password: Fill in the PPPOE user name and password provided by the Internet service provider.

When one ADSL line is connected to one DVR only, you can select Internet connection in the PPPOE mode, when the ADSL modem will connect the DVR directly. Then press "Enter" to select PPPOE in the connection mode to enter the PPPOE Setup screen. After entering the broadband user name and password, click "Enter" and the system will restart. After that, the DVR will establish a network connection in the PPPOE mode automatically. After successful connection, the IP on the IP address will be modified to the acquired dynamic WAN IP address automatically.

**Media port:** the port number used in the private protocol communication between the DVR and the PC end, usually being 9000 by default. If this port of the PC is occupied by any other service, please modify it to an unused port.

**Web port:** the http port, usually being 80 by default. If the administrator modifies the WEB port to any other port, such as 88, you have to postfix the IP with the port number, and enter "http://192.168.1.19:88" in the address bar when accessing the DVR via the IE.

IP address: allocating an IP address depending on the network environment of the DVR

**Subnet mask:** filling in a subnet mask in depending on the network environment of the DVR

**Gateway:** Setting the gateway depending on the network environment of the DVR. If there is no router device in the network, please allocate an IP address on the same network segment. If there is a router device in the network, you have to set the corresponding gateway.

**DNS:** setting the IP address of the domain name server (DNS varies from city to city); you can refer to the domain name server configurations of the PC.

**UPNP:** When the UPNP function is on(UPNP function on the router end is also on of the router setting), then the DVR will reflect the port and IP into the router automatically.

## **DDNS Setup**

Click "DDNS Setup" to enter the following screen:



**DDNS** (domain name resolution): with the two options of "Enable" and "Disable"; when a domain name resolution server is available, please select DDNS Enable;

**Server address:** The user may select his/her desired DDNS server himself/herself, with the 3 options of 3322, dyndns and perfecteyes;

**Host name:** Enter the host name registered on the dynamic domain name resolution server:

**User name:** Enter the user name registered on the dynamic domain name resolution server;

**Password:** Enter the password registered on the dynamic domain name resolution server.

## 3.8 Domain name application

## 1) Create account

First open www.dyndns.com, and click the Create Account option: Fill in the account information.



After confirmation, the system will prompt that the verification message has been sent to the designated mailbox, as shown below:



## 2) Activate account

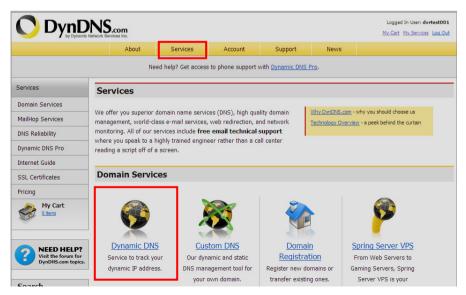
Log in your mailbox and open the confirmation link sent from support@dyndns.com, as shown below:



Click the link below and enter the website to activate the account.

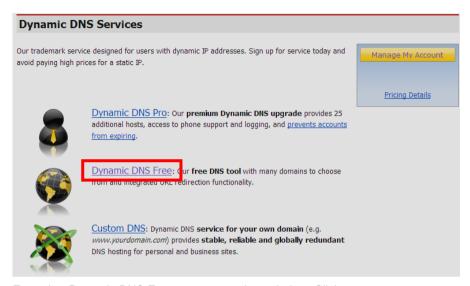
## 3) Login

After successful activation, open the home page http://www.dyndns.com/ to log in. After successful login, click "Services" → "Dynamic DNS", as shown below:

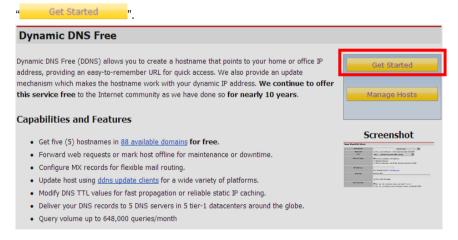


## 4) Application for free domain name

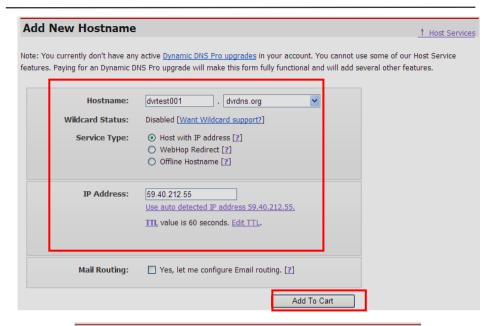
After entering the "Dynamic DNS Services" screen, click "Dynamic DNS Free" to apply for a free dynamic domain name, as shown below:

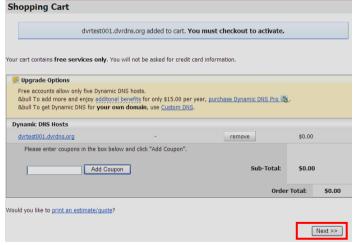


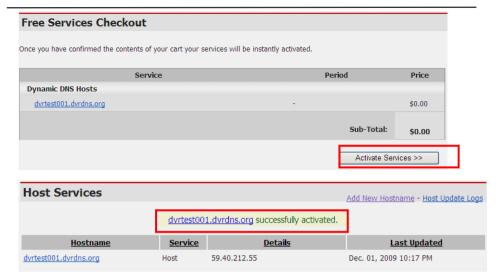
Enter the "Dynamic DNS Free" screen, as shown below. Click



Enter the hostname, select the service type and then enter the dynamic IP address (usually being the dynamic IP address of the network of the DVR host) to be tied in the Add New Hostname screen, as shown below. Complete the application for the dynamic domain name as prompted.







# 3.9 Port mapping

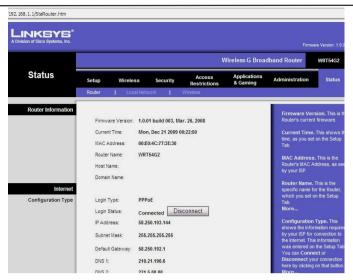
## Mapping procedures:

- 1) Set the host IP address. See the relevant section.
- 2) Log in the router.

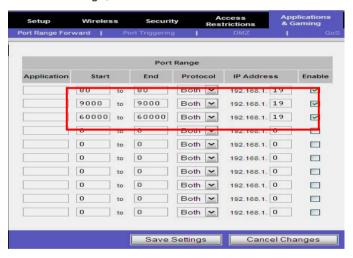
If the IP address of the router is 192.168.1.1. After this IP has been entered in the IE address bar, a login prompt box will appear, as shown below:



Click "Enter" to enter the main screen of the router, as shown below:



Click "Applications & Gaming", as shown below:



As shown above, fill in the IP and the port number in the corresponding files, and select "Both" in [Protocol]. The tick below [Enable] denotes "selected". After setup, click "Save Setting" to save the settings.

80 stands for the WEB port, 9000 for the media port and 6000 for the mobile phone port. All these ports can be modified in the menu.

Chapter 4 DVR network

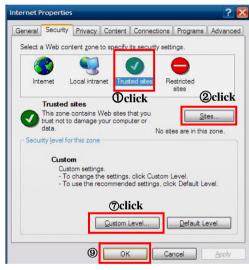
## 4.1 Functional characteristics

In network operations, software installation is realized by the IE browser of the operating system itself, which is simple and convenient. The DVR supports LAN and WAN access, as well as IP and domain name access.

## 4.2 Installation and download of controls

## Automatic installation of plug-in

First add the IP address of the DVR as a reliable site of the system. For example, if the IP address of the DVR is 192.168.1.100, first open IE Attributes—Internet Options—Security Options for an ordinary XP system, as shown below. This can be set in 8 steps.



After setup, enter the IP address in the IE address bar, and complete the automatic installation of the plug-in unit as prompted.



## 4.3 IE login

Log in the system after the plug-in unit has been installed. For example, if the domain name of the DVR dvrtest05.eicp.net and its port is 80, enter the domain name in the IE address bar, as shown below, enter the user name and the password, select "LAN" or "INTERNET" depending on the network environment, and click "Login" to log in the client end or access the DVR end remotely.



Note: If the DVR host is in an LAN, but you have chosen the "WAN" option, the effect of the preview image will be non-real-time.

#### 4.4 Real-time preview

After logging in the client end successfully, enter the real-time preview screen directly and perform video/audio connection automatically, as shown below:

## Play control:

setup" for the saving directory)

1 4 9 16: dividing the screen into 1, 4, 9 and 16 parts respectively; 1: volume.

**PTZ control:** controlling the direction motion of the PTZ remotely, and also the zooming, focusing, aperture, preset point and auto cruise of the lens



## 4.5 Record playback

Click "PLAY BACK" to enter the Record Playback screen, as shown below:



First select the date of the record to be played and the channel and record types, and then click "Search". The eligible record files will appear in the file list, with the bold numbers denoting dates with record data, as shown in the figure above. Select the file to be played back, and double-click this file or click "Playback" to play it. A control bar will appear at the bottom of the picture for pause, stop, fast forward, slow play and next frame control. Click "Backup". This file will be saved in the designated directory directly (see Figure 4.10 for the saving directory).

# 4.6 Recording mode

Click "Setup" → "RECORD" to enter the remote recording mode, as shown below:



The setup method is the same as the mainframe menu. See "Recording Mode" in Chapter 3 for details.

Note: "Detail" can be set in 4-channel DVR only.

## 4.7 Alarm setup

Click "Setup" → "Alarm Setup" to enter the Alarm Setup screen, as shown below:



The setup method is the same as the mainframe menu. See "Alarm Setup" in Chapter 3 for details.

## 4.8 PTZ control

Click "Setup" → "PTZ" to enter the PTZ Control mode. See Figure 5-6:



See Chapter 3 "Network Setup" in this manual for the setup method.

# 4.9 Network setup

Click "Setup" → "Network Setup" to enter the Network Setup mode, as shown below: See Chapter 3 "Network Setup" in this manual for the setup method.



# 4.10 System setup

Click "Setup" → "Setting" to enter the Setting screen, as shown below:



**INTERNET:** setting the code stream; the higher the code stream is, the clearer the remote image will be, but the network bandwidth must be high, otherwise the image may have a delay.

File SAVE PATH: setting the record saving directory during remote recording and remote backup

**IE password:** setting the IE login password (Note: This password may be cleared in the main menu of the DVR.)

#### 4.11 Host info

Click "DVR HOST" to enter the Host Info screen. View the operating state of the hard disk, the time remaining and the software version and MAC address of this system.

## Appendix 1. Q&A

1 How to recover password if forgotten?

A: Please contact technicians from vender or manufacturer if you have forgotten the password. Please set a safe password easy to remember (don't set simple password like 123456 if you need more safety).

2 No video output signal?

A: Please confirm that the video output port is connected to the VIDEO OUT, and ensure BNC in DVR interface is in good connection, whether BNC cable is used for too long time and is aging, and ensure N system/P system selection is right.

3 The system can not detect the harddisk?

A: If the system can not detect the harddisk, please confirm that harddisk data cable is connected well to power cable, harddisk's interface in main board is good, we recommend to re-plug harddisk data cable again; please confirm power adaptor is DC12V 3A (the range is 3A--5A), you can replace the power supply test; Seagate brand harddisk is desirable.

4 What is the affect to equipment by DVR's heat?

A: DVR will produce certain heat during its running, please put DVR at a safe place with good ventilation, to avoid to damage stability and service life of the system because of high temperature for long-time.

- How long can a 4-channel or 8-channel DVR record if 1000G harddisk is used?A: Please refer to Appendix 2 "harddisk space calculation".
- 6 DVR's remote controller can not work, but the monitor screen is right and the panel buttons can be used properly?

A: If the controller is pointing to the IR signal on equipment front panel, but the operation is still invalid, please check the batteries in remote controller, if above problems are excluded, please check the health of the remote controller.

7 The "manual recording" and "stop recording" in front panel and shortcut menu can not work?

A: This function can only work when the mainframe is not under recording status, only timing recording is started and it can work in the non-selected period.

8 Is playback available while recording? Is multi-channel playback available?

A: Yes, this system can support playback while recording. 4-channel DVR can support 4 channels playback at the same time, 8-channel DVR can only support single channel playback.

9 The records in DVR hard disk can be removed or not?

A: For safety of the document, you can not delete partial records. If it is necessary, you can format the hard disk.

10 E-mail alerting is not functioning?

A: Please follow the instruction strictly, check whether there is any letter error or unnecessary space, and please check your mail server's functionality if SSL ordinary shutdown.

11 Can not find any information record when playback?

A: please check the hard disk data cable connection, and whether system time is adjusted illegally. Try it several times, and test whether the hard disk is damaged if above still appears.

12 DVR can not control the PTZ after setup?

A: Please test for the following reasons:

13 Front PTZ failure

PTZ decoder setting, connection and installation is incorrect

PTZ incorrect setup in the DVR

PTZ decoder and DVR address does not match each other

When multiple decoders are connected, 120 ohm resistance is needed on the most remote end of PTZ decoder AB line, to eliminate reflex and impedance matching, or PTZ control will not be stable.

14 Motion detection does not work?

A: Check the motion detection time and motion detection zone and make sure that they are right setup, and check the sensitivity setting.

15 Alarm does not work?

A: Check the correctness of alarm setting and alarm connection, and make sure that alarm signal input is correct.

16 DVR can only realize non-real-time access to LAN?

A: When access to LAN, for 8-channel DVR, it can show real-time screen only when select "LAN" in "network environment" option in login interface; for 4-channel DVR, in addition to select "LAN" in "network environment" option in login interface, please select "ordinary" in "details" option under recording mode.

17 Remote login interface is available, but show "Login failed" when login?

A: 1) Please check whether the account matches the password you entered, if you forget the password, please enter "User Password" interface of mainframe,

and click "Clear IE Password", and login again. 2) Please check DVR local network and remote access network. Too low network speed will cause failed login. Please try it for several times.

After successful remote access, showing "user is configuring.... "?
 A: Please exit all mainframe menus and keep preview status, then, remote setup is available and storable.

19 Serious image delay during cell phone monitoring?

A: 1) Change the wireless network into 3G or WIFI; 2) Confirm the DVR environment network speed is guaranteed; 3) Do not put cell phone in a weak signal area; 4) It's normal if less than 10 second

# Appendix 2 hard disk space occupation calculation

This DVR data hard disk occupation per channel/hour is as following table according to different bit rate and resolution:

(The table is only for reference, the real product shall prevail)

Unit: Megabyte /Channel/Hour

Bit rate Resolution	Excellent	Good	Ordinary
D1	400	300	200
half-D1	350	250	150
CIF	300	200	100

The data from different environment, signal source and bit rate will be different, so the data can only serve for reference

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