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**Note:**

- **Put DVR on horizontal plane;**
- **Select appropriate installation position to provide good ventilation and prevent overheating of the device.**
- **Do not put liquid stuff onto it**
- **Install the device in suitable humidity and temperature environment.**

**Statement:**

- **We strive to ensure the exactness and integrality of the manual in the process of preparation, but still error or omission is inevitable.**
- **The copy, transmission, plagiarism, storage in retrieval system, or translation into any language without written authorization is prohibited.**

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# Content

CHAPTER I MAJOR FUNCTION INTRODUCTION .....	8
OPTIMIZED COMPRESSION .....	8
CHAPTER II INSTALLATION INSTRUCTION .....	11
2.1 INSTALL HARD DISK .....	11
2.2 INSTALL DEVICE .....	11
2.3 INTERFACE ON REAR PANEL .....	11
CHAPTER III OPERATION INSTRUCTION .....	13
3.1 REMOTE CONTROLLER .....	13
3.2 MOUSE OPERATION .....	14
3.3 MENU OPERATION .....	15
3.4 INPUT METHOD .....	17
IN MENU OPERATION INTERFACE, ENTER TEXT EDIT BOX (E.G. "NAME" BOX IN "IMAGE SETTING") AND INPUT METHOD WILL BE DISPLAYED IN STATUS BAR AT THE BOTTOM OF THE SCREEN, AS SHOWN BELOW: .....	17
3.5 ICON INSTRUCTION .....	17
4.1 TURN ON .....	19
4.2 TURN OFF .....	19
4.3 TIME ADJUST .....	19
4.4 RECORD CONFIGURATION .....	20
4.5 SEARCH AND PLAY .....	21
4.5.1 FAST SEARCH AND PLAY .....	21
STEP ONE: CHOOSE CHANNEL: THIS CHANNEL IS THE RECORDING CHANNEL, WILL LIST ALL THE RECORDED FILES .....	21

<b>STEP TWO: CHOOSE DATE:</b> USING < OR > TO CHOOSE THE DATE .....	21
<b>STEP THREE: CHOOSE RECORDED FILES:</b> SELECT RECORDED FILES AT PAGE DOWN AND UP. ....	21
<b>STEP FOUR: PLAY VIDEO:</b> SELECT THE VIDEO AND PRESS MENU KEY AND PLAY IT.....	21
<b>4.5.2 CUSTOMIZE SEARCH AND PLAY</b> .....	21
<b>STEP ONE:</b> PRESS SEARCH BUTTON, RIGHT PICTURE WILL POPUP:.....	22
<b>STEP TWO:</b> CHOOSE THE DESIRED CHANNEL .....	22
<b>STEP THREE:</b> INPUT THE RECORDING TIME IN THE TIME WINDOW .....	22
<b>STEP FOUR:</b> PRESS "PLAY", IT WILL PLAY THE VIDEO IN THIS TIME PERIOD. IF NO VIDEO, IT WILL PLAY THE VIDEO NEXT TO THIS TIME. ....	22
<b>4.6 ALARM SETTING</b> .....	23
TWO IMPORTANT ASPECTS FOR ALARM FUNCTION ARE ALERT AND DISALERT, CONTROLLED BY THE "ALERT" KEY ON FRONT PANEL .....	23
<b>FUNCTION OF THE ALERT KEY:</b> FAST ACTIVATE ALARM OR DISALARM FUNCTION. THIS KEY IS DOUBLE USED FOR ALERT AND DISALERT .....	23
<b>AUTHORITY FOR ALERT AND DISALERT:</b> ALARM FUNCTION WILL BE OPERATED BY AUTHORIZED USER. WHILE IT IS ACTIVATED, ALERT IS NO NEED OF PWD, BUT EACH DISALERT IS NEED OF PWD.	
DEAFULT CODE: 88888888 .....	23
<b>ACTIVATE AND USE ALERT:</b> THE FUNCTION, SUCH AS VIDEO MASK, VIDEO LOOSE OR MOTION DETECTION SHOULD BE WORKING AT THIS ALERT CONDITION. PRESS "ALERT" KEY ON FRONT PANEL, RED SHIELD APPEAR ON THE IMAGE. IF IT IS NOT UNDER ALERT CONDITION, THE SETTING PARAMETERS WILL NOT WORK .....	23
<b>DISALERT:</b> DISALERT THE MACHINE TO CHECK ITS CONDITION OR PARAMETER. IF THE MACHINE IS IN ALERT STATUS, PRESS "ALERT", THEN PWD WINDOW WILL POPUP. INPUT DEFAULT CODE: 88888888, IT WILL DISALERT. IF THE MACHINE IS RECORDING, EVEN DISALERT IT, IT WON'T STOP RECORDING UNLESS MANUALLY STOP IT. ....	23
NOTE: WHILE ACTIVATE ALERT FUNCTION AND THE DIGITAL VIDEO RECORDER IS AT THE STATUS OF ALARM RECORDING, IT CANNOT STOP RECORDING ON FRONT PANEL UNTIL DISALERT IT. IF IT ALARM AND BUZZED, PRESS "CLEAR" KEY ON FRONT PANEL TO CLEAR IT.....	23
<b>4.7 FAST COPY PARAMETERS</b> .....	23
THERE ARE TWO COLORS TO INDICATE "COPY" IN THE MENU. THE LIGHT COLORED AREA IS THE COPIED CONTENT AND NOT IN THIS AREA IS NOT COPIED, SUCH AS THE LIGHT AREA IN VIDEO CONFIG AND	

RECORD CONFIG .....	23
<b>CHANNEL PARAMETER COPY:</b> COPY A CHANNEL PARAMETER INTO OTHER CHANNEL OR ALL CHANNELS, OTHER CHANNEL WILL WORK THE SAME WAY AS THE FORMER ONE. CHOOSE A CHANNEL IN "COPY TO" AND PRESS "COPY" BUTTON. THEN IT WORK. DIFFERENT CHANNEL PARAMETER CAN BE COPIED SEPARATELY. ....	23
<b>PARAMETER SAVE:</b> ALL THE SETTINGS SHOULD BE SAVED BEFORE STOP. SELECT THE "CONFIRM" IN VIDEO CONFIG, THE CONTENT WILL BE SAVED AND BACK TO MAIN MENU. <b>CHAPTER V MENU AND</b>	
<b>PARAMETER SETTINGS</b> .....	23
<b>CHAPTER V MENU AND PARAMETER SETTINGS</b> .....	24
<b>5.1 BASIC CONFIGURATION</b> .....	24
<b>5.2 LIVE CONFIGURATION</b> .....	25
THIS PART INCLUDES MOTION DETECTION, VIDEO MASK, VIDEO LOOSE, VIDEO QUALITY ADJUST. ....	25



<b>5.3 RECORD CONFIGURATION</b> .....	32
THIS PART IS FOR RECORDING SETTING, INCLUDING VIDEO QUALITY, RESOLUTION, FRAME RATE AND AUDIO PARAMETER SETTING .....	32
<b>NOTE</b> YOU CAN SEE THE SETTING IP ADDRESS (STATIC IP OR DYNAMIC IP) BY PRESSING THE "INFO" KEY ON FRONT PANEL. ....	37

5.5 ALARM CONFIGURATION .....	40
5.6 EXCEPTION HANDLING .....	43



ENTER "EXCEPTION HANDLING" MENU (REFER TO THE PICTURE ABOVE); THERE ARE TWO OPTIONS: HDD FULL AND HDD ERROR, IN EACH OPTION, USER CAN SELECT BUZZER, ALARM UPLOAD AND ALARM OUTPUT FOR REMINDERS. NOTE: ALARM UPLOAD AND ALARM OUTPUT ARE ONLY AVAILABLE WHEN ALARMING DEVICE IS EQUIPPED; THE BUZZER IS BUILT IN THE DVR HOST. .... 44

**5.6.1 AUTOMATIC ABNORMITY SEARCH** ..... 44

**SELECT TYPE** HDD FULL OR DISK WRONG (DIFFERENT DEVICE WILL BE WITH DIFFERENT METHODS TO DEAL WITH ABNORMITY. PLEASE FOLLOW THE ACTUAL EQUIPEMT INSTRUCTION. )..... 44

**BUZZER** SET DOWN, IT WILL BUZZER TO REMIND..... 44

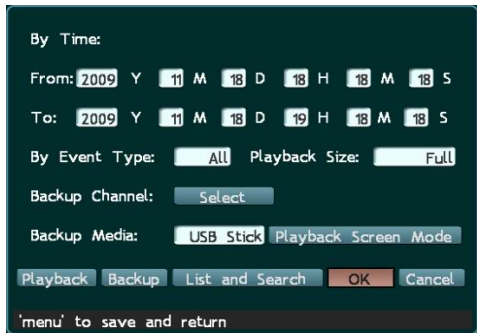
**ALARM UPLOAD** WHILE WRONG INFORMATION RECEIVED, IT WILL CONNECT ALARM CENTER AND UPLOAD THE SITUATION. .... 44

**ALARM OUTPUT** ABNORMITY OCCURS, IT SEND ALARM SINGAL TO DIFFERENT CHANNEL, YOU HAVE MULTI CHOICES. .... 44

**5.7 P.T.Z CONFIGURATION** ..... 45

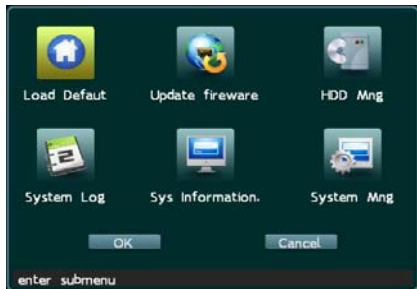


select Rem	45
5.8 PREVIEW SETTING	48
FULL SCREEN ALL PICTURES SHOW OUT AT THE SAME TIME	48
5.9 USER CONFIGURATION	48
5.9.1 Authorization setting	49
The administrator is enabled with full authority by default and the authority setting of administrator is invalid. (e.g. cancel certain authority of administrator in menu.)	50
5.10 SEARCH AND BACKUP	50



..... 51

5.II MANAGER TOOLS ..... 52



..... 53

5.II.1 LOAD DEFAULT ..... 53

<b>LOG LIST:</b> IT WILL SHOW ALL OPERATIONS SINCE IT USED. USER SHOULD OPEN THIS LOG FUNCTION IN “BASIC CONFIG” AND THEN WRITE LOG IN.....	56
<b>LOG STATISTICS:</b> PROVIDE A TOTAL REPORT FOR USED OPERATIONS IN DIGITAL VIDEO RECORDER.....	56
<b>5.11.5 SYSTEM INFORMATION</b> .....	56
RUN SYSTEM INFORMATION TO VIEW THE INFORMATION OF THE VIDEO RECORDER; SAME FUNCTION AS THE “INFO” KEY ON THE FRONT PANEL .....	56
<b>CHAPTER VI TROUBLE SHOOTING</b> .....	58

## Chapter I Major Function Introduction

### Optimized compression

- Compressed/decompressed in H264 algorithm provide higher definition and stable network;
- Independent channel design; static and dynamic bit stream are available.

### Live configuration

- Compound video input, built in anti-lightning protection
- Double output: BNC output and VGA output
- Each channel at 25 F/S (PAL) or 30 F/S (NTSC) is real time playing, no delay.
- Live configuration adjusting: contrast, brightness, hue, sharpness adjusting
- Chinese name for channel: support Chinese input

### Video recording

- Synchronized A/V recording; the parameters of video recording of each channel can be set separately; frame rate is adjustable (0.1F/S – 25 F/S);
- Multi recording methods: manual/schedule/alarm/motion detection recording and outer alarm;
- Five levels are available for image quality and bit rate may be customized;

### Motion detection function

- 48 motion detection areas can be set in each image;
- Level 1~7 sensitivity degree can be set in each image;

### Search recording



- Search by date/time, list or exact search;
- Normal/alarm recording search;

#### **4 Channel playback**

- Synchronized playback at single channel, 2channel or 4channel A/V;
- Playback: Fast forward, fast rewind, pause, single frame, previous track, next track, track head, track end, mute;
- Fast forward: 1/2×, 2×, 4×, 8×, 16×, 32×;
- Fast rewind: 1×, 2×, 4×, 8×, 16×, 32×;
- Anti-fake water mark is available if required by client

#### **P.T.Z. control**

- Support multi-protocol decoder with RS485 bus;
- Support dome camera presetting positions, cruising, pattern ID setting and adjusting

#### **Alarm function**

- Alarm input/ output without triggering point;
- Upload alarm manually or by remote control/network;
- Customize alarm input type: NC/NO;

#### **Remote control function**

- Support 10/100MB self-adaptive network;
- Support remote set time, remote download/revise data
- Provide matched network software for free; Support WEB browsing;
- Control PTZ/lens/speed dome camera by controlling network software;
- Support remote search and download log

#### **Safety protection**

- Dual password protection: administrator and operator;
- Power switch lock or panel lock; the front panel will be locked automatically;

#### **Backup**

- 
- Backup by some pointed channel or backup according time period
  - Backup with USB, DVDRW or USB HDD; (USB 2.0)
  - Backed files can be back played

### **Server update**

- Upgrade by USB
- Upgrade by network

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## Chapter II Installation Instruction

### 2.1 Install hard disk

This digital video recorder isn't equipped with hard disk. Before install the digital video recorder, please prepare the hard disk. It cannot work without the hard disk.

Please choose the supplier recommended HDD, suitable for DVR working, to meet the time and capacity request. Prefer to purchase it from regular disk supplier, to sure the quality, which will affect DVR working.

**Install hard disk:** get a cross screwdriver first.

- Step 1: Open the case.
- Step 2: Put the hard disk into the holder and fix it with screws on both left and right
- Step 3: Using a SATA cord to connect HDD onto SATA connector.
- Step 4: Put the holder back to the device and fix it with screws

### 2.2 Install device

**Important:**

- Select appropriate installation position to provide good ventilation and prevent overheating of the device.
- Do not install the device near heat sources like radiator and ventiduct, or places with direct sunshine irradiation, too much dust, or mechanical vibration or impact.
- Do not cover the machine, or put liquid stuff onto it.

### 2.3 Interface on rear panel



Above picture is rear panel picture. Different model will be with different rear panel.

**1 Audio output (optional)**

Connect to (analog) audio output device.

**2. Audio input (optional)**

Connect to (analog) Audio input device.

**3. Video input**

Connect to video input device; Output video signal by two BNC connectors.

**4. Video output**

Connect to monitor and output video signals.

**5. VGA output**

Connect to VGA display

**6. UTP network port**

Connect to Ethernet devices, e.g. Ethernet switch, Ethernet hub, etc.

**7. Power supply**

Connect to DC12V/3A power adaptor

**8. Alarm output**

Send alarm signals; connect to alarm buzzer or lamp

**9. Alarm input**

Receive alarm signals; connect to alarm sensor, such as wave sensor, door status switch and shock sensor.

**10. RS485 interface**

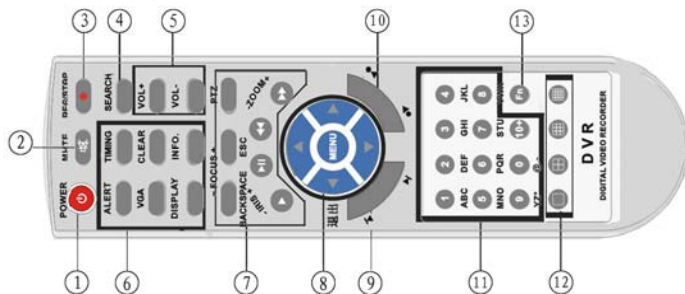
Connect to pan/tilt equipment

**11. Fan**

It is used to keep ventilation in side the case. It cannot be blocked by any articles.

## Chapter III Operation Instruction

### 3.1 Remote controller



S/N	Name	Remark
1	<b>Power</b>	Turn on/off the power
2	<b>Mute</b>	Turn off/on audio output
3	<b>Record/stop</b>	Start/stop video recording manually
4	<b>Search</b>	Turn on and search recording list
5	<b>Voice</b>	Control the voice up and down
6	<b>Advance</b>	Same as Alert, Cancel, Search, PTZ control, Exit, Info and VGA on front panel
7	<b>PTZ control</b>	Control pan/tilt, zoom in/out, focus, light circle
8	<b>Main menu/direction key</b>	Control Direction and Menu, move/confirm cursor, control the pan/tilt direction

9	<b>Play</b>	Play, pause, FF and FR on front panel, previous/next track, first/last track
10	<b>Numerical keys</b>	0/1/2/3/4/5/6/7//8/9/10+ numerical keys
11	<b>Channel switch</b>	Press to display images in different number of channels, single, 4 channel, 9 channel, 16 channel
12	<b>Remote controller activate</b>	Activate/stop remote control, choose and revise the device no. of the controlled machine

带格式的：项目符号和编号

## 3.2 Mouse operation

Connect the mouse to the USB interface in front panel. Left click to confirm selection and right click to select menu. Right click menu is shown as below: The list order will be different while controlled by cursor or by front panel. Right click to back to previous menu.

S/N	Name	Remark
1	<b>Parameters setting</b>	<b>Same as Menu key</b>
2	<b>Recording data</b>	<b>Same as Search key</b>
3	<b>System information</b>	<b>Check information of the system</b>
4	<b>Alert</b>	<b>Start Alert</b>
5	<b>Disalert</b>	<b>Stop alert, alarm function disappear</b>
6	<b>Timing</b>	<b>Enable timing. Only at this status can you set timing recording</b>
7	<b>Cancel timing</b>	<b>Disable timing</b>

8	Cancel alarm	Same as Cancel key on front panel
9	Record	Start recording manually
10	Stop record	Stop recording manually
11	Playback	Playback the recorded files
12	PTZ control	Start PTZ control
13	Stop PZT	Stop PTZ control

### 3.3 Menu operation



The main functions are including in the main menu. In order to operate device, user needs to get the correct PWD.

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Password protection is divided into two levels: administrator (senior user) and operator (common user). The authorizer has access to all functions, but operator only has assigned function access.

To enter “System settings” menu, press [Menu] key on front panel to enter directly if password protection is disabled.

If the password protection is disabled, you can press [Menu] key to enter “System settings” menu directly.

### **Menu operation**

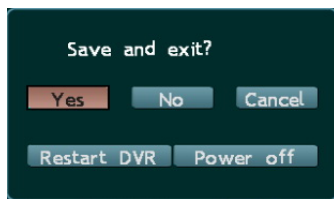
The setting can be set or revised by menu key to enter next submenu or by numerical keys to input directly.

In System settings menu, press [↑], [↓], [←], [→] key to move cursor and press [Menu] key to confirm selection.

In main menu, press [↑], [↓], [←], [→] key to select items in main menu and press [Menu] key to enter the submenu and set the parameters.

In the submenu, press [↑], [↓], [←], [→] key to select items in main menu and press [Menu] key to enter the submenu and set the parameters. There are numerical keys in the menu. It can be revised by the numerical keys on front panel.

### **Parameter validate**



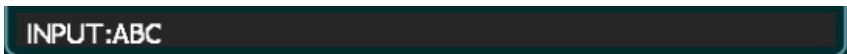


Return to main menu and move cursor to “Exit”, then, press [Menu] key and the following message box will popup:

To save the setting, click “Yes”. Click “No” to exit without saving. To continue the setting, click “Back”. You can also choose to restart or close the device.

### 3.4 Input method






In menu operation interface, enter text edit box (e.g. “Name” box in “Image setting”) and input method will be displayed in status bar at the bottom of the screen, as shown below:



Press [Menu] key on front panel to switch input method. For example, to input numbers, switch the input method to “123” and then press 0-9. To change input method, press [Menu] key. Available input methods include: capitalized letter, small letter, number and location. To input letters, press numerical keys 1-9. Press a key consecutively to switch letters. After input the letter, wait for 1 second to input next letter.


### 3.5 Icon instruction


Press [Display] key on front panel consecutively and different symbols will be displayed on the screen.


-  **Video recording symbol:** The green round icon indicates manual recording state.
-  **Video recording symbol:** The yellow round icon indicates schedule recording state.
-  **Video recording symbol:** The red round icon indicates alarm recording state.
-  **Playing symbol:** Indicates the recording is being played.
-  **FF symbol:** Indicates fast forward, followed such as x2, indicate the fast forward speed


带格式的: 项目符号和编号


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 **FR symbol:** Indicates fast rewind, followed such as x4, indicate the fast reward speed

 **Single frame symbol:** Indicates pause in single frame playing state.

 **Timing symbol:** Indicates the video recorder is in timing state.

 **Alert symbol:** Indicates the video recorder is in alerted state. If alarm signals generated, the recorder will record and output the alarm automatically. When alarm occurs, the symbol will turn into solid from hollow.

 **Pan/tilt symbol:** Indicates the machine is controlled by pan/tilt

 **USB Symbol:** Indicates the USB interface is connected.

**\*\*/\*\*/\*\* Time display:** Display the playing time or recording time.

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## Chapter IV Basic Operation

### 4.1 Turn on

Check whether the current and voltage of power supply accord with the digital video recorder before turning it on. Check whether video recording device is connected and whether the connection is proper. Check whether monitor is connected to VOUT port or VGA port on rear panel. Connect properly and then turn on the recorder. Press Power button on front panel to turn on the recorder.

■ **Note:** If the hard disk has been used and “**Hard disk hasn’t been formatted. Format now?**” is displayed; click “**Yes**” to format the hard disk and then you can record video normally. Click “No”, the hard disk won’t be formatted and you can’t record video normally.

### 4.2 Turn off

■ Press the Power key on front panel to turn off the recorder.

The recorder shouldn’t be turned off in backup process; otherwise the backup recording will be lost.

**Prompt:** Cut off the power supply of recorder first and then turn off the peripheral devices. If you won’t use the recorder for a long time, remove the power cord from outlet

### 4.3 Time adjust

You need to set date/time before record video. Only set time can you search recorded files timely.

◆ **Prompt:** Stop the video recording when set date/time.

Step 1 Press [Menu] key to enter system menu. If password protection is enabled, the “Input PWD” windows will popup when you press [Menu] key and you need to enter valid password. (Default password: 88888888) If password protection is disabled, you can press [Menu] key to enter menu setting interface directly.



Step 2 Press [↑], [↓], [←], and [→] to move cursor. Select “**Basic Config**” to enter the menu and then select “**time adjusting**” as shown below.

**Date/time Setting** Move cursor to the item and press numerical keys on front panel to enter the values.

Step 3 Select “OK” and press [Menu] to save and exit.

◆ If it is in recording state, the status bar will indicate the state and the settings won't take effect.

#### 4.4 Record configuration



- Step 1 Press [Menu] key to enter system menu. Press [↑], [↓], [←], and [→] to move cursor to “Record Config”
- Step 2 Customize video quality in “Video Quality” box. Move cursor to Quality and press [Menu] key to enter. Available options include: Normal, Medium, Superior, Best and Custom. (Higher quality will occupy more space.) Press [←]/[→] to move cursor to desired option and press “OK” to save and exit. (Do not change this setting if not necessary)
- Step 3 The “**Audio**” option in audio options should correspond to video of each channel. Move cursor to Audio and press [Menu] key to enter. If “chann1” is selected in channels, you need to select option “1” or “2” in audio options, and then the audio and video will be recorded synchronously. Select “No” and the audio won't be recorded. (Optional)
- Step 4 After setting, click “OK” to save and exit, or click “Cancel” to exit without saving.
- Step 5 When system setting is finished, press [●] button on front panel and a dialogue will popup for you to select channel. The green icon “●” indicates manual recording. To stop recording, press [●] button on front panel.
- **Note:** Video recording can't be executed in the system setting process.

## 4.5 Search and play

← - - - 带格式的: 项目符号和编号

### 4.5.1 Fast search and play

**Step one: Choose channel:** this channel is the recording channel, will list all the recorded files

**Step two: Choose date:** using < or > to choose the date

**Step three: Choose recorded files:** select recorded files at page down and up.

**Step four: Play video:** select the video and press menu key and play it.

### 4.5.2 Customize search and play



**Step one:** Press search button, right picture will popup:

**Step two:** Choose the desired channel

**Step three:** input the recording time in the time window

**Step four:** Press “play”, it will play the video in this time period. If no video, it will play the video next to this time.

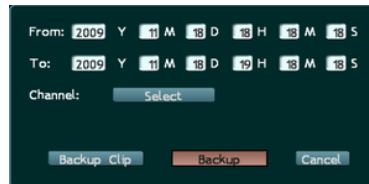
#### 4.5.3 USB backup

Two methods are available for backup: period backup and condition backup. Period backup: select the files in the list and press back up button and select period backup in this button.

Condition backup:

Step one: insert USB stick into the USB interface

Step two: press “backup”, right window will popup:



Step three: Enter the recorded time in the date

Step four: Select the file in “channel”

Step five: Press “condition backup”

## 4.6 Alarm Setting

带格式的: 项目符号和编号

Two important aspects for alarm function are alert and disalert, controlled by the “alert” key on front panel.

**Function of the alert key:** fast activate alarm or disalarm function. This key is double used for alert and disalert.

**Authority for alert and disalert:** Alarm function will be operated by authorized user. While it is activated, alert is no need of PWD, but each disalert is need of PWD. Deafult code: 88888888

**Activate and use alert:** The function, such as video mask, video loose or motion detection should be working at this alert condition. Press “alert” key on front panel, red shield appear on the image. If it is not under alert condition, the setting parameters will not work.

**Disalert:** Disalert the machine to check its condition or parameter. If the machine is in alert status, press “alert”, then PWD window will popup. Input default code: 88888888, it will disalert. If the machine is recording, even disalert it, it won't stop recording unless manually stop it.

Note: While activate alert function and the digital video recorder is at the status of alarm recording, it cannot stop recording on front panel until disalert it. If it alarm and buzzed, press “clear” key on front panel to clear it.

## 4.7 Fast copy parameters

带格式的: 项目符号和编号

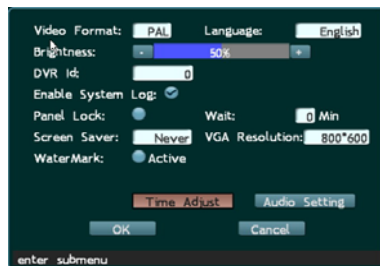
There are two colors to indicate “copy” in the menu. The light colored area is the copied content and not in this area is not copied, such as the light area in video config and record config.

**Channel parameter copy:** copy a channel parameter into other channel or all channels, other channel will work the same way as the former one. Choose a channel in “copy to” and press “copy” button. Then it work. Different channel parameter can be copied separately.

**Parameter save:** All the settings should be saved before stop. Select the “confirm” in video config, the content will be saved and back to main menu.

## Chapter V Menu and Parameter Settings

### 5.1 Basic configuration



**Video format** PAL and NTSC are available. The system should be same to that of the output device. It is PAL in Mainland China.

**Language** Select menu language. Simplified Chinese, traditional Chinese, English, Hungarian, Spanish, French and Eesti keel are available.

**Menu Brightness** Adjust the brightness.

**Menu Transparency** Adjust the transparency of menu.

**DVR ID.** Assign number to every recorder for the convenience of operation. If the keyboard is connected to multiple recorders, assign number to every recorder to make it convenient to identify and operate the recorders. Press numerical keys to customize device NO.

**Enable System Logs** Activate log. To activate log, press [Menu] key to select the tag in options



**Panel Lock** Lock front panel. To lock the panel, press [Menu] key to select the tag in options. (The maximum waiting time is 99 minutes before panel is locked.) You can't operate the panel if it is locked. "Wait" indicates the time before panel is locked. The panel will wait for this period of time before it is locked. Press numerical keys to enter time.

**Screen Saver** At the status of VGA output, it will support screen save.

**VGA Resolution** The resolution is higher, the video will clearer. While it revised, the digital video recorder should be restarted, then it can activate.

**Activate Watermark** The water mark is half transparent. While it used, it will appear at the right corner of the screen. (Optional)

**Time adjust:** Adjust the time

**Audio Setting:** Adjust the input/output of the audio (Optional)

## 5.2 Live Configuration

This part includes motion detection, video mask, video loose, video quality adjust.



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### 5.2.1 Camera configuration

**Channel** Select desired channel. You can select up to 16 images or select single image to operate.

**Name** Give name to the recording image for the convenience of operation and viewing. You can name every image here or select a already exist name either.

**Brightness** Customize the brightness. User can set it according to actual situation.

**Contrast** Customize the contrast.

**Hue** Customize the saturation.

**Sharpness** Customize the sharpness

### 5.2.2 Mask area setting

Using a dark rectangle to cover one part of the monitoring area, this area will turn to dark while monitoring or recording. It used to envelop the sensitive or privacy area, e.g. the PWD key on ATM machine. This parameter is only used for setting channel. Each channel can be set 4 mask zone and the setting for each is different.

#### Step 1: Select channel

Move cursor to “Channel” to select the image to set mask. Press [Menu] to confirm.

#### Step 2: Set mask zone

Enter mask setting interface. Press [Menu] key to select “Mask alarm” to activate Area button. Move cursor to “Mask Area” and press [Menu] to enter mask area setting interface, as shown right:

In mask area setting interface, red line is used as the direction line of area selection. Press the same direction to zoom in the area and press the opposite direction to zoom out the area. You can customize the settings. (One image can cover one area only) Press [Menu], return to “Live” interface after setting.



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**Draw Upper Boundary:** Move the active zone onto the upper line of the rectangle; Press [↑] and [↓] key to move the upper and bottom line then enlarge or reduce the mask zone size.

**Draw Bottom Boundary:** Move the active zone onto the bottom line of the rectangle; Press [↑] and [↓] key to move the upper and bottom line

**Draw Left Boundary:** Move the active zone onto the left line of the rectangle; Press [←], and [→] key to move the left and right line.

**Draw Right Boundary:** Move the active zone onto the right line of the rectangle; Press [←], and [→] key to move the left and right line.

While all boarding lines arrive at proper position, press the menu key on front panel to confirm mask area, then back to live configuration menu.

Change the direction of the boundary line (red line): enter the mask zone, red line is at left boundary. Press [↑] and [↓] to move the red line up and down to boundary line. There are two methods to move the active area to right boundary line, as below:

Method one Press [↑] to move red line to upper boundary, then press [→] to move to right boundary.

Method two Press [↓] to move red line to bottom boundary, then press [→] to move to right boundary.

### **Step 3: Copy channel**

You may copy the contents of area mask setting to another channel or all channels. Select a channel in “Copy setting to” and click "Copy" button. Repeat step 1 and 2 if the areas of other channels are different.

### **Step 4: Save**

After the area mask setting of all channels, click “OK” button in “Live Config” menu to save and exit.

## **5.2.3 Video Mask Setting**

While the camera of some channel is masked, it can use this channel or other channel to prerecord or alarm record

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and remind with sound according to settings.

**Step 1: Select channel and sensitivity**

Enter “Live Config” menu. Move cursor to “Channel” to select the image to set mask alarm. Press [Menu] to confirm.

**Step 2: Activate mask alarm**

Press [Menu] key to select “Mask alarm” to activate mask alarm.

**Step 3: Sensitivity setting**

Set “Sensitivity”. Seven options (level 1-5) are available. You can customize the settings.

**Step 4: Set up mask alarm**

Move cursor to “Alarm”. Press [Menu] key to customize the parameters of processing dialogue box. (Refer to: Alarm processing setting in this manual)

**Step 5: Save and activate**

After the image mask setting of all channels, click “OK” button in “Live Config” menu to save and exit.

## 5.2.4 Video Loss

Some situation will cause video loss, such as camera problem, video output line cut down or connector loose. Setting video loss properly can find the situation as early as possible.

**Step 1: Select channel**

Enter “Video Config” menu to select image to perform video loss setting. Move cursor to “Channel” to select the image to perform video loss setting. Press [Menu] to confirm.

**Step 2: Activate video loss**

Press [Menu] key to select “Video loss” option.

**Step 3: Video loss processing**

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Move cursor to “Alarm” and press [Menu] key to enter. The interface of video loss processing is same to video mask interface. (Refer to: Alarm processing in this manual)

**Step 4: Save and Activate**

After the video loss processing setting of all channels, click “OK” button in “Live Config” menu to save and exit.

### **5.2.5 Motion detection**

In monitoring status, it can detect removable objects through analysis of the video. It detect whether the monitoring scene is changed, if it changes, user can deal with it according to setting this function. Motion detection works by analysis the video pixel changes. Light change or big video signal interference will also be regarded as monitoring object moving, which will affect the correct detection. So it needs to set the parameter considering all the aspects, and try to get the best effect.

**Step 1: Select channel**

Enter “Live Config” interface. Move cursor to “Channel” to select the image to perform motion detection setting. Press [Menu] to confirm.

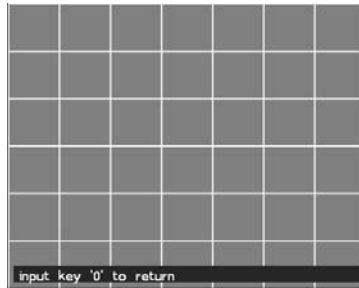
**Step 2: Activate motion detection**

Press [Menu] key to select “Motion detection” to activate mask alarm.

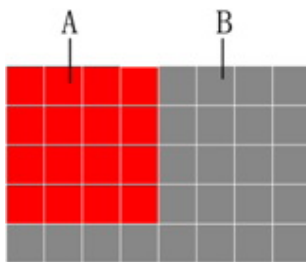
**Step 3: Set sensitivity**

Move cursor to “Sensitivity”. Five options (level 1-5) are available, lowest<lower<normal<high<highest. You can customize the settings. If the sensitivity is low, the motion detection alarm will be activated only when the change of scene is obvious; if the sensitivity is high, the motion detection alarm will be activated when the scene changes slightly.

**Step 4: Set motion detection area**



In the video scene of this channel, you need to define which area will be processed if motion detection occurs. The whole image is divided into 48 (6×8) panes. Three colors are available for cursor to set motion detection: yellow indicates moving cursor only; blue indicates setting motion detection area and the panes that blue cursor moves across will turn into red, indicating that these areas are selected; green indicates deleting motion detection area and the panes that green cursor moves across will turn into grey, indicating that these areas are not selected. Press [Menu] key to switch the color of cursor among yellow, blue and green. Press [↑], [↓], [←], and [→] to move cursor and select area. If the color changes at selected areas, motion detection will be triggered. If the color changes at areas that are not selected, motion detection won't be triggered. As shown in the figure below: motion detection will be triggered in area A (red) instead of area B (grey). After selection, press “0” to exit.



#### **Step 5: Process motion detection alarm**

Move cursor to “Alarm” button of motion detection and press [Menu] to enter “Motion detection processing” interface. The interface of motion detection processing is same to video mask interface. (Refer to: Alarm setting in this manual.)

#### **Step 6: Select motion detection type**

The recording of motion detection will be saved as alarm/normal recording. In normal recording process: when the setting of time period takes effect, it will be activated immediately after exit the menu; if alerting is activated, normal motion detection will be disabled. In alarm recording process, if buzzer is activated, the device will buzz. The time of alarm recording depends on recording time before and after alarm. Alarm recording will take effected only when alerted.

#### **Step 7: Motion Detection Time**

It is just used in common motion detection, refers to the time after motion detection while recording still last. It is not set too long, usually about 60s.

## 5.2.6 Schedule detection

Date	From	To
Mon-Fri	0: 0	0: 0
Sat-Sun	0: 0	0: 0
Mon	0: 0	0: 0
Tues	0: 0	0: 0
Wed	0: 0	0: 0
Thur	0: 0	0: 0
Fri	0: 0	0: 0
Sat	0: 0	0: 0

Active

Schedule detection only relates to normal detection and won't affect the effective time of alarm detection.

Enter valid time. The end time must be later than the beginning time; otherwise the period motion detection won't take effect. Select the time period first and then input the beginning time and end time. Click "OK" to save and confirm.

带格式的: 项目符号和编号

Schedule detection and normal detection will be used at the same time; it won't affect the alarm recording.

## 5.3 Record Configuration

This part is for recording setting, including video quality, resolution, frame rate and audio parameter setting.

### 5.3.1 Record Quality Setting

**Select channel** Select the image being monitored. Up to 16 images are available.





**Video quality** Set the quality of images being monitored. Five options are available: Normal, Medium, Superior, Best and Custom.

◆ **Prompt:** Video quality is calculated as how much HDD capacity one channel occupied in one hour. (Unit: M) Higher quality image will occupy more space.

**Frame rate** The number of images that will be recorded in one second. E.g. 25f/s indicates recording 25 images in one second.

**Audio** Whether audio will be recorded in monitoring state. Channels 1-16 are available. The digital video recorder is not built in microphone. If you need video and audio at the same time, you have to set an audio resource equipment at the audio input port. (Optional)

**Secret recording** In monitoring state, the video won't be displayed on the monitor but it will be recorded.

**Copy setting to** Copy the setting of channels. It will be convenient for users to customize image parameters. Select channel and click “Copy” to copy the setting. Note: It should be saved after setting.

**Resolution** Display the resolution of monitoring image. CIF are available.

### 5.3.2 Normal record setting

**Video quality definition** It means you are flexible to re-set the default 5 optional settings (Normal, Medium, Superior, Best and Custom) by yourself, from 50M to 5000M. You can customize the size of these five options here. Different quality levels cost different hard disk spaces.

### 5.3.3 Schedule record setting

After time setting, it should also active timing recording that digital video recorder can start and stop recording according to setting time. Stop all recording before activate timing recording.

Date	From	To
Mon-Fri	0: 0	0: 0
Sat-Sun	0: 0	0: 0
Mon	0: 0	0: 0
Tues	0: 0	0: 0
Wed	0: 0	0: 0
Thur	0: 0	0: 0
Fri	0: 0	0: 0
Sat	0: 0	0: 0

OK Cancel

**Activate timing recording** Press [Timing] button on front panel to start timing recording. The timing symbol will be displayed on the monitor and VFD display.

**Stop timing recording** To stop timing recording, press [Timing] button on front panel first. If password protection is enabled, the “Input PWD” dialogue box will popup. (Default password: 88888888) Enter valid password to stop timing recording. The timing symbol in the image will also disappear. If password protection is disabled, press [Timing] button to stop schedule recording directly.

**Date** Ten options are available. According to weekdays, from Monday to Friday, or from Saturday to Sunday, or other weekdays separately, users can set it by themselves.

**From** The time to start recording. The recording will be started at specified time. The format is 24-hour. Press numerical keys on front panel to input time.

**To** The time to stop recording. The recording will be stopped at specified time. The format is 24-hour. Press numerical keys on front panel to input time.

**Save setting** After setting, click “OK” to save and exit.

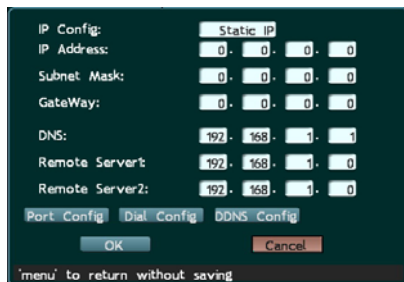
◆ **Prompt:** Manual recording will be invalid in timing recording process. Timing recording will be saved in hard disk as alarm recording.

## 5.4 Network Configuration

带格式的: 项目符号和编号

The machine is with RJ45 network port, with protocol TCP/IP, DHCP; you can connect it with computer. Embed in IP88 mobile domain analysis function, it suitable for static IP and DHCP.

### 5.4.1 Static IP Setting



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**IP Config** Available modes to get IP: Auto and Static. DHCP protocol is used to get IP automatically. The LAN must have DHCP server, otherwise the recorder can't get IP.

**IP address** This IP address is unique. The recorder can't detect whether there IP address conflict automatically. Please specify valid IP address.

**Subnet Mask** Used to mark net segments of subnet.

**Gateway** Communicate between different net segments. Gateway address needs to be set.

**DNS** It is special domain name service software. The device will get a dynamic IP address when it accesses network in PPPOE protocol. If this IP address is bound to S/N and/or name of device, DNS server will analyze S/N and/or name of device to the IP address. Input the IP address of domain server in "DNS address"

#### 5.4.2 CMS Setting

**Remote Server 1** It's the upload address while the DVR upload information to network, used to remote control the machine. If host IP and port are configured for the computer that manages the recorder remotely, the digital video recorder will send the signals to remote alarm panel if alarm or abnormal events occur. (Install client software in alarm panel first.)

**Remote Server 2** It's a backup IP address. While the remote server 1 or its software is turned off, and some alarm or abnormal things occur, remote server 2 can receive the information sending out by the former.

##### **Port setting**

The device is using the specified information transmission port. Video transmits port: 3358; information transmits port: 3357; data inspecting port: 3356(3356 port is not shown on the device, please do mapping on port.); Audio

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transmite port: 3360; IE browse port(WEB):80 (The 80 port has been closed in some areas. Please change it to 81, or 82, or 2010, or 7006)

At the controll of network, it needs to open these port according to network standard or set these ports on router. If these ports are closed by administrator, the device will not able to transimite information in network.

### 5.4.3 ADSL Dynamic IP Configuration

**PPPOE** With PPPOE, you may connect the PC to remote access device with simple bridging access device. Enter account and password to transfer information through this network, e.g. ADSL should use this server to connect.

This machine provides two methods to dial up ADSL connect:

Automatic Dial Up: It makes use of wire connect, suitable for 24-hour user.

Trigger Dial UP: Triggered by outer equipment, e.g. after loading up alarm function, there is alarm signal sending out; the equipment will dial up automatically. After it upload message, the remote server will instruct it to cut off or it cut off automatically.

You need to buy a ADSL modular adjuster to dial up.

**DDNS** Dynamic domain name service. Map user's dynamic IP address to a static DNS. When user accesses network, the client will send the dynamic IP of host to the server application in server host. DNS is necessary in “DDNS setting” of this video recorder.

◆ **Prompt:** When you input password, it is visible for you to check and memorize. When the input is finished or cursor is moved away from the password box, it will turn into star symbols.

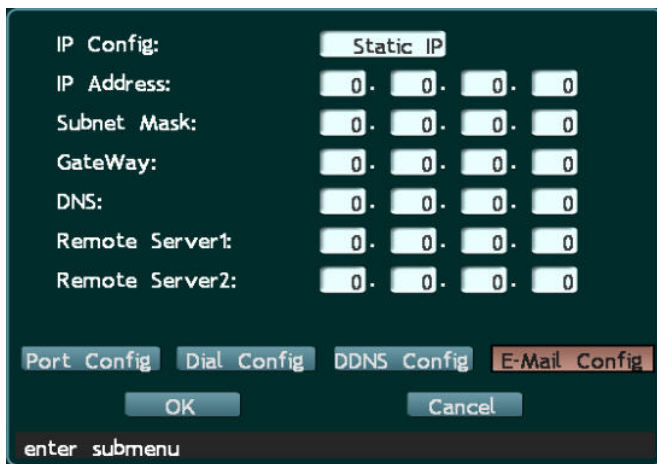
**Note** You can see the setting IP address (static IP or dynamic IP) by pressing the “info” key on front panel.

#### 5.4.4 E-mail Notification

5.4.4.1. To activate this function, click “Send a e-mail” as following shown.. And please click which channels you want to trigger.



5.4.4.2. Set correct IP address to keep the network in normal working state.

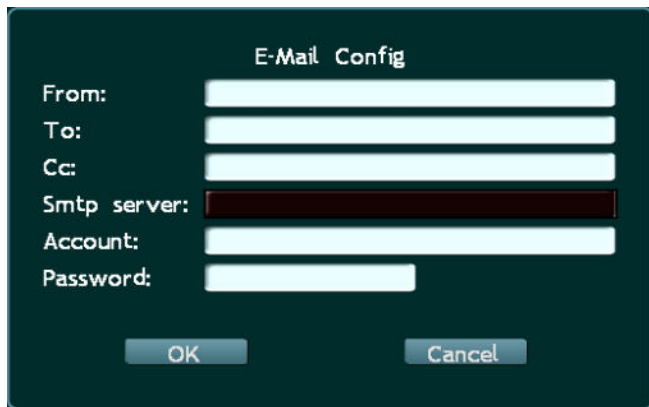


The screenshot shows a network configuration menu with a dark background and light text. At the top, 'IP Config:' is followed by a 'Static IP' button. Below this are six rows of input fields, each with a label and four boxes for IP octets: 'IP Address:', 'Subnet Mask:', 'GateWay:', 'DNS:', 'Remote Server1:', and 'Remote Server2:'. All octet boxes contain the number '0'. At the bottom, there are four menu options: 'Port Config', 'Dial Config', 'DDNS Config', and 'E-Mail Config', with 'E-Mail Config' highlighted in red. Below these are 'OK' and 'Cancel' buttons. At the very bottom, a dark bar contains the text 'enter submenu'.

5.4.4.3. Set receiver's e-mail address.

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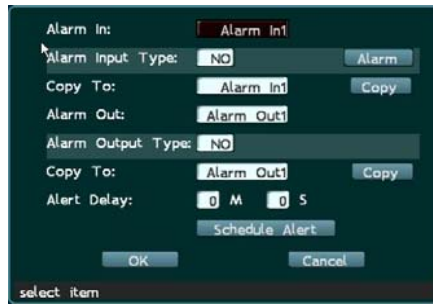


The image shows a dialog box titled "E-Mail Config" with a dark blue background. It contains several input fields for configuration: "From:", "To:", "Cc:", "Smtip server:", "Account:", and "Password:". Each field is represented by a light blue horizontal bar. The "Smtip server:" field is currently highlighted with a dark red border. At the bottom of the dialog, there are two buttons: "OK" and "Cancel", both with a light blue gradient.

5.4.4.4. When alarm is triggered, the picture will be sent to your assigned e-mail box automatically.

## 5.5 Alarm Configuration





The device includes alarm input and alarm output. Alarm inputs receive outside alarm; alarm output connect warning machine, such as beeper and alarm lamp.

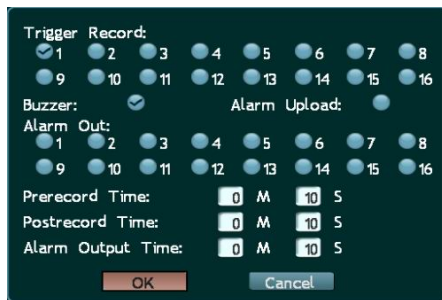
### 5.5.1 Outer alarm setting

**Select Alarm in** Select alarm input number which will be set.

**Alarm input type** Select N/O if the alarm input port is connected to normal opened alarm; select N/C if it is connected to normal closed alarm.

### 5.5.2 Activate alarm setting

While alarm activate, the interface will be as below:



**Select triggering image** Press [Menu] key to select among the 16 images. The selected image will record when alarm is triggered. Move cursor to select image and press [Menu] to activate channel image.

**Buzzer** Press [Menu] to activate buzzer. The buzzer will send alert if alarm occurs when it is activated.

**Upload alarm** Upload the alarm image to remote host. (Available when management host is connected.) The time of image upload depends on the time of alarm upload.

**Alarm out** Select alarm output number which will be set.

**Prerecord time** Set the time of recording before alarm is triggered. Press numerical keys to enter time. The images before alarm will be saved as alarm recording according to preset time. If “Recording time before alarm” is “0”, the system won’t enter pre-alarm state, i.e. the period before alarm won’t be recorded.

**Post record time** Set the time of recording after alarm is triggered. Press numerical keys to enter time. The alarm recording after alarm is triggered is saved.

**Alarm output time** Output time of alarm signals. Alarm should be connected to the recorder.

**Note:** You also need to set these three items (Recording time before alarm, recording time after alarm, alarm output time) in other options (e.g. video loss processing). Their values are interrelated, e.g. if the “Recording time before alarm” in “Mask alarm” is changed, the “Recording time before alarm” in “Video loss processing” will also change.

### 5.5.3 Alarm setting

There are two types for alarm output, normal open and normal close.

**Select Alarm output** Select alarm output number which will be set.

**Alarm output type** Select N/O if the alarm output port is connected to normal opened alarm; select N/C if it is connected to normal closed alarm.

**Copy setting** Copy the setting of this alarm output to another alarm input device.

**Alerting delay** Set the delay of alerting. Operator may leave the alerted area within this period of time.

This period start from pressing “alert” key.

### 5.5.4 Schedule alert setting

The machine is built in effective alert function. Setting the parameters, you can set manual alert or schedule alert.

This function is controlled by “timing” key on front panel. While the equipment is at timing record status, this function can be valid. Used at the same time with timing record, it is good used for after work alarm. E.g. the duty time set schedule record, and after-work set timing alert recording, that will simplify the operator’s work and save disk capacity.

## 5.6 Exception handling

带格式的：项目符号和编号



## 5.7 P.T.Z Configuration

带格式的：项目符号和编号

Port: RS485  
Baud Rate: 9600  
Device Type: PTZ Decoder  
Channel: Ch1  
P.T.Z Protocol: Pelco-D  
P.T.Z Address: 1 P.T.Z Step: 0  
Preset Auto Cruise  
Copy To: All Copy  
Keyboard: L.C.  
OK Cancel  
select: Rem

Set the channel number of decoder, including velocity, data bit, stop bit, checkout and stream control, in serial port device menu. The values of these items must match the connected serial device. The default values are: 8 data bits, 1 stop bit, none checkout bit and hardware stream control. These data cannot be revised by customer.

### 5.7.1 Key board central control setting

**Port** Select RS485.

**Baud rate** Available options are: 19200, 9600, 4800, 2400 and 1200. The selected value must accord with the protocol and parameters of decoder.

**Device Type** Central control keyboard (SX326, optional). The device is applicable when the option accords with the peripheral device of the recorder and parameters are correct.

◆ **Prompt:** The three items above are serial port device settings. The items below set the relationship between pan/tilt decoder and channel.

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**Copy** Copy the decoder setting of this channel to another channel. Save and exit.

### 5.7.2 PTZ Pan/tilt and dome camera setting

**Port:** select 485 serial port

**Baud rate:** select one from 19200, 9600, 4800, 2400 or 1200, which should be consistent with the communication baud rate of the decoder or uniform speed dome camera. Note: the above parameters are for settings of all decoders, same parameters must be selected.

**Device:** select decoder

**Channel:** select the corresponding channel of the DVR controlled by the decoder, or it will lead to failure of control.

**PTZ protocol:** select type of decoder protocol. The following decoder protocols are preset in the program, including “PANNSONIC”, “LLW”, “PELCO-D”, “PELCO-P”, “LILIN”, “NEON”, “PELCO-D YA”, “PELCO-D SFD”, “PELCO-P MK”, “PELCO-D ZT”, “PELCO-P ZT”, “ZHIMIN”. Note: different protocols can be used for different channels.

**PTZ address:** Input the address of the decoder connected to the selected screen. The address ID must be insistent with the address of the front-end decoder, or it will lead to failure of control. The address ID is set by user.

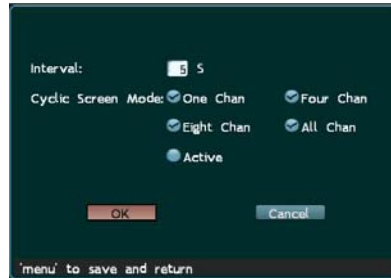
**PTZ step:** Control the speed parameters when moving the PTZ. The bigger the step length is, the higher the speed will be.

**Preset positions** This parameter is for setting of speed dome camera. The location of the camera, the focus, aperture and zoom should be preset and memorized, and a number should be used to mark the

setting.



- Preset point number: input a number from 00 to 63.
- Adjust location: press the “Adjust” button to enter control status and adjust the location of the dome by direction buttons. Press Menu button to return.



- Save: to save current setting to the preset point number. Set your required preset points one by one.

- Load: input preset point number and press Load button, the dome will switch to the preset point automatically. If there is no preset point, the dome will remain still.

**Copy:** to copy the set parameters of the channel to other channels to save time.

## 5.8 Preview setting

带格式的：项目符号和编号

It refers to the screen status while no operator control, such as providing screen change function. While it connects many channels, it can change full screen intervals. You can see the full screen image from the monitor, which is good for actual observation.

**Interval**            The period for a series of pictures change

**Original size**     A full screen

**Full screen**        All pictures show out at the same time.

## 5.9 User configuration





Protect the setting and using of digital video recorder through authority setting. Set the management and operation authority in system settings. The levels of authority are: Administrator, Operator 1, 2 and 3. Administrator is enabled with the highest authority. The administrator may set the authority of operator.

**User** Press [Menu] button to select operator (multichoice)

**Current PWD** Administrator can log in without this code.

**New PWD** Input new PWD

**Confirm new PWD** Input new PWD again to sure the PWD correct

**Authorization Setting** Only selected authority may be set. Press [Menu] button to activate selected option. Without selection, operator cannot open menu. The menu will be in gray color.

**Load default** Operator can just play backup files; other functions are operated after administrator.

**Operation PWD** There are two options. If you choose to activate PWD, you will need PWD to enter menu, cancel alert or timing; if you don't activate PWD, you can operate machine directly without PWD. (We suggest user activate PWD for safety.)

带格式的：项目符号和编号

## 5.9.1 Authorization setting

### Step 1: Select operator

Press [Menu] button to select user. Move cursor to select user. Press [Menu] button to confirm selection. E.g. select Operator 1.

### Step 2: Input password

Press numerical keys to input old password. (Default: 66666666)

Press numerical keys to input new password. The new password may be same to or different from old password.

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The password is 1-8 digits figure. Operator uses this password to access menus.

**Confirm new password** Repeat the new password to confirm. The prompt box “PSW checkout error” indicates that you didn’t input same password.

**Authority setting** Only selected authority may be set. Press [Menu] button to activate selected option.

### **Step 3: Save setting**

Move cursor to select “OK” to save and exit.

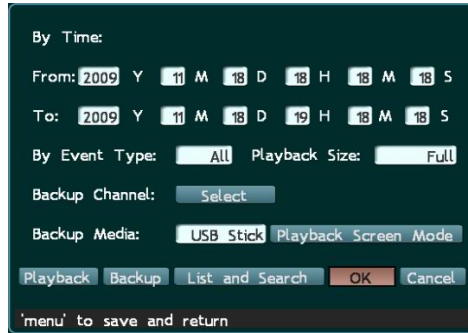
➤ Password protection may be disabled. Keep the “New PSW” and “Confirm PSW” box of administrator in “Operation password setting” window null and the password protection will be disabled. The operator password will be invalid if administrator password is canceled. Therefore, you can’t keep operator password without administrator password.

➤ If administrator appoints complete authority to operator and allows the operator to set and operate all items, then, they will have different passwords and the operator may customize all “System settings” except “Operator authority setting”.

The administrator is enabled with full authority by default and the authority setting of administrator is invalid. (e.g. cancel certain authority of administrator in menu.)

## **5.10 Search and backup**

← - - - 带格式的：项目符号和编号



**By time (from, to)** Set the backup time. Backup will be performed in specified time period.

**Channel** Select recording image. Only selected images will be backup.

**Even type** Select the type of video recording. Common, alarm and all are available.

**Backup channel** Set the accuracy of recording searching. Exact search will search the entire disk, but it has a lower speed. Quick search is bisearch, which is a higher speed.

**Backup Media** External devices: flash disk, USD hard disk or USB CD-R.

**Play** Play the desired channel

### 5.10.1 Playback by time search

#### Step 1: Select time

Select the time to play or backup video recording. Press numerical keys to enter time.

## Step 2: Select channel

Play or backup the video recording of selected channel. Press [Menu] to enter dialogue box. Press [Menu] button to activate single channel and press “OK” to confirm.

## Step 3: Select video type

Common, alarm and all are available. Select Common to operate common video recording. Select Alarm to operate alarm video recording. (Alarm video recording includes timing recording and detection recording.) Select All to operate all video recordings.

## Step 4: Backplay

Press “Play” button to play and press “Backup” button to backup.

### 5.10.2 Backup recording

**You can backup the contents in hard disk, network interface or CD-RW.**

To backup in USB device: connect the device to USB interface (in front panel) and then enter the recording backup option in menu, as shown in picture above. Select “USB device” in backup device option. Then, move cursor to “Backup” button and press [Menu] to backup. (Stop recording before backup.) When the prompt “Done” is displayed, you can remove the USB device.

- **Note:** Format the USB device in FAT or FAT32 format before using it for the first time.

To backup in network, install client software first.

## 5.11 Manager Tools

← - - - 带格式的：项目符号和编号



### 5.11.1 Load default

Restore default settings. It will take effect when the device is restarted. (IP and gateway are also reset.)

### 5.11.2 Update fireware

Upgrade the software. Check whether the date and main board of original software is congruent with update. The update will fail if they don't have same function.

You can upgrade by use U disc or by network. Stop recording before upgrade.

Select “**Update**” and prompt box will popup. Two modes are available.

If network interface is selected, you need to input the host IP of server application; then, select “Execute” to update. The process will be displayed in a message window. The special update software must be run on PC at specified IP.

If USB is selected, make sure the USB device has been connected properly and the update application (upcmsdvr.bin) has been copied into root directory of USB device. And the file name must be upcmsdvr.bin

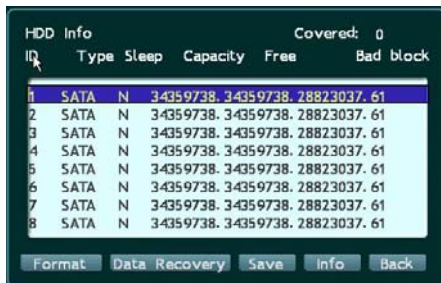
带格式的：项目符号和编号

带格式的：项目符号和编号

Restart the recorder after update.

- **Note:** Do not interrupt the upgrading process. Cutting off power supply or pressing the power button is prohibited; otherwise, the recorder can't be run in order.

### 5.11.3 HDD management



**HDD info:** Provide the storage information list and management for the HDD data.

**Covered X Times:** When the cursor move onto the HDD list, it will show that how many times it recycled since it start to be used. It's no use while it moves on DVDRW.

**HDD and DVDRW information:**

**ID NO.:** 1~8 is 8 ports, "8" shows that it has 8 HDD ports, support up to 8 SATA disks. But this machine just supports 2 SATA disk.

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**Sleep:** The HDD status while it is connecting to this port. N: stands for working; Y: stands for sleeping.

**Capacity:** the total capacity for the connected equipment; if it connect to a hard disk, it will show the capacity of the HDD (unite: G). If it connect a burner, it will show “0”.

**Free:** The spare capacity of the HDD. If it is recycled more than once, it will show “0”, and reminding covered 2 times.

**State:** The state of the HDD. **NOR:** stands for normal; **Err:** means some mistake occurring, it might be that wire connecting wrong or there’s channel interrupting in the HDD. Please ask engineer to check. If the HDD is not in working status, it will skip it without instructions.

■ **Note:** All disks will be managed as a whole. If the main board is wrong, the system will stop working and warn to check HDD or restart. Please ask engineer to check.

**Format HDD:** clear the data in the HDD and format it quickly.



**Execute:** Press this key to confirm. This instruction refers to selected HDD, and all data in it will be deleted.

**Back:** Cancel the format HDD instruction.

**Data recovery:** If something is canceled carelessly, you need to click “data recovery” to restore the data in hard disk.

Input the password (default: 88888888). Click “Back” to cancel the operation; or click “Execute” to restore the data. Even the data recovered, it might be a little different from the original.

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## 5.11.4 System Log

**Log list:** It will show all operations since it used. User should open this log function in “Basic Config” and then write log in.

**Log statistics:** Provide a total report for used operations in digital video recorder.

## 5.11.5 System information

Run System information to view the information of the video recorder; same function as the “info” key on the front panel.

**DVR model:** the model of this machine.

**Version:** the software version NO

**Video format:** the output TV modular

**Date:** the production date for software

**Resolution:** the pixel for present recording video

**Current HDD:** the working disk.

**HD disk:** the connecting HDD. Red—working; Blue—installed but not at working; Empty—uninstalled.

**CD/DVD-RW:** in blue; it is connected.

**HDD capacity:** the total capacity for all the installed equipment, except burner.

**HDD Free:** the spare capacity

**Record from:** Y/M/D H/M/S

**To:** Y/M/D H/M/S



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**Note:** It' the earliest data and latest data saved. If some mistakes occur during recording, the saved data might be wrong.

**Recycle:** the recycle method for HDD (Auto/Manual is optional.)

**Covered:** the recycled times

**MAC Address:** the MAC address for network IC.

**Mainboard:** the mainboard software NO.

**IP address:** the IP address for the DVR. If it uses the danymic ADSL, this IP address will be the WAN IP address.

**Series No.:** the ID of this device

### 5.11.6 System Management

Management of the device, such as restart and power off.



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## Chapter VI Trouble shooting

Thanks for purchasing the product of our company. We will provide services for you wholeheartedly. If any fault occurs, please check according to the following procedures. If the problem still can't be solved, please call the hot line or send e-mail. If you have many questions, please write them down and send to us. We will reply in time.

Common detecting methods:

- [1] Replace (replace power supply or hard disk, etc)
- [2] Minimum load (remove hard disk, video, audio, alarm input/output)
- [3] Upgrade (solve the problems of peripheral devices)

### **(I) Start, self detection, breakdown**

#### **1. Why the DVR isn't started when power supply is connected?**

① Check whether the power switch at the rear is "ON"; ② Check whether the indicator on front panel is lit.

#### **2. Why system stays in self detection after boot logo?**

Check whether the HDD is connected properly and whether the HDD and cable are in good condition. To check the HDD, remove it and turn on the DVR. The DVR may be turned on normally even without the HDD and displays "No HDD, continue?" Click "Yes" to operate the DVR.

#### **3. Why the boot process is slow?**

① The system will search the data when boots. If too many data are saved in the HDD, it will take longer time; ② The error of HDD will make the DVR to detect the HDD repeatedly.

#### **4. Why the DVR restarts repeatedly after self detection?**

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① Check the HDD. If the HDD hasn't been formatted or the HDD has fault, the DVR will be restarted; ② Check the power supply of DVR; ③ Pull out the network cable and restart the DVR. Serious network fault may cause the DVR to restart repeatedly.

#### **5. Why the DVR restarts repeatedly after long time running?**

① Check whether the HDD sectors are damaged; ② Check whether the video signals are normal. If it is confirmed that abnormality ever occurred and it still restarts when video input is stopped, please cut off the power of DVR and connect again later; ③ Check the power supply of DVR.

#### **6. Why I can't control the DVR with remote controller?**

① If the infrared indicator on front panel isn't lit, please check whether the battery has electricity or whether the remote controller is damaged.

#### **7. Why breakdown occurs in the normal video playing or viewing process?**

Check whether the HDD is connected properly; replace the HDD if it is damaged.

#### **8. Why the monitor (TV set) has no image or can't be started after update?**

Keep the power supply stable in the upgrading process. If the power supply is cut off, the update will be failed or even the DVR can't be started. Then, please update the DVR again. If the update fails or can't update, please contact the supplier.

## **(II) Image display/monitoring**

### **1. Why the images in monitor or TV set are black and white?**

Check whether the systems of video input, DVR and monitor or TV set are uniform. If not, select "Auto" for monitor or TV set.

## **2. Why the monitor doesn't display anything?**

① There is a black screen process (about 30 seconds) when the DVR is starting; ② If there is no image displayed when the DVR is started for a long time (more than 60 seconds), please check whether the monitor is turned on and whether the video cable is connected properly. If there is no problem, please check whether the VDF display on front panel of DVR is lit; if it is normal, the system communication is normal. Then, connect the video signals to the monitor directly to check whether there is signal and whether the circuit has fault.

## **3. Why the images are distorted?**

① Check whether the video connection is short circuit or open circuit, or has false welding or poor connection; ② Video cable is interfered with by strong electricity; do not install the video cable and the strong electricity circuitry together and also choose qualified shielded cable; ③ In the whole system, connect only the center DVR to earth; otherwise, it will cause common mode interference; connect the grounding screw at the rear side of DVR to earth; ④ Check whether the DVR, monitor or the circuitry is aged.

# **(III) Video recording/playing, recording data, backup**

## **1. Why the recording has no audio?**

① Check whether "Mute" is activated; ② Check whether "Audio" is selected in the settings of video recording; ③ Check the audio input cable.

## **2. Why I can't perform timing recording or can't record any data within the period?**

① The period of timing recording is invalid. The time points should be within 00:00-24:00 and the end time must be later than the beginning time; ② The power supply is cut off in the timing recording process; ③ The desired data have been overwritten; ④ The HDD has physical damage or logical error and the data can't be read normally.

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### **3. Why I can't perform moving recording or alarm recording?**

① The time period of moving recording or alarm recording is invalid. The end time must be later than the beginning time; ② No motion detection area is selected; no alarm recording channel is selected; ③ The sensitivity of motion detection is too low; the alarm isn't triggered correctly; please check the alarm input and triggering device.

### **4. Why the recording isn't continuous?**

① If manual recording or timing recording is selected, check whether the power supply was cut off or voltage was abnormal during the recording process; ② If motion detection recording or alarm recording is selected, check whether alarm occurred. The alarm will trigger the recording and record according to the preset time.

### **5. Why "Auto-overwrite" is invalid when recording is activated?**

① Check whether the "Overwriting mode of recording" is "Auto cycle"; ② Check whether the HDD has logical error or physical damage. If there is logical error, connect the HDD to PC and delete the partition information or repair the HDD and connect it to the DVR. If there is physical damage, replace the HDD.

### **6. Why there is no response after click "Backup" when I use client software to backup DVR data?**

Check whether firewall is enabled. The client software may not backup the DVR data if firewall is enabled.

### **7. Why the time skips when I play the recording files?**

It is usually caused by the adjustment of time. To avoid this situation, please check whether the data need to be saved before adjusting the time. If not, please format the HDD when the DVR is started after time is adjusted.

### **8. Why the image playing is slow?**

① Check whether slow playing is enabled. The DVR supports 1/2, 1/4, 1/8 and 1/16 speed slow playing; ② Check whether the HDD is connected properly and whether the HDD has bad sectors. The bad sectors of HDD may cause image intermission or screen mess.

Appearance ①Serial specification parameters

Item	Specifications and parameters		
Passway	4-channel	8-channel	16-channel
Video signal	PAL (625 lines, 50f/s); NTSC (525lines, 60f/s)		
Video input	BNC(1.0V p-p/75Ω) x 4	BNC(1.0V p-p/75Ω) x 8	BNC(1.0V p-p/75Ω) x 16
Video output	Composite video: 1.0V p-p/75Ω, BNC connector ×1 , VGA x 1		
Audio input	2 x RAC		
Audio output	1 x RAC		
Alarm input	2-channel input. Trigger closed without Voltage, Open or Closed		
Alarm output	1-channel output. Trigger closed without Voltage, Open or Closed		
Alarm access	Senor input; Video motion detection alarm; Video loss alarm; Disk full remind alarm		
Network	10/100M self adaptive Ethernet port, support LAN, WAN and ADSL dynamic IP networking		
Control mode	mouse, IR remote control, Pan/tilt control, RS485 x1		
Backup mode	Network backup; external CD-R; USB interface		
Resolution	PAL: Display: 704×576 Image: 352×288 NTSC: Display: 704 x 480 Image:352 x 240		
Compression	H.264		

HDD capacity	Support 2 x 2000G HDD		
Encryption	Data encryption + secondary password management		
Voltage	DC 12V/5A		
Power consumption	6W(without HDD)	8W(without HDD)	12W(without HDD)
Environmental temperature	Working temperature: +5℃~+50℃; RH: < 90%    Storage temperature: -20℃~+70℃; RH: < 95%		
Size	350×58×272mm		
Weight	N.G: 2.4KG; G.W: 3.8KG		

#### Appearance ②Serial specification parameters

Item	Specifications and parameters		
Passway	4-channel	8-channel	16-channel
Video signal	PAL (625 lines, 50f/s); NTSC (525lines, 60f/s)		
Video input	BNC(1.0V p-p/75Ω) x 4	BNC(1.0V p-p/75Ω) x 8	BNC(1.0V p-p/75Ω) x 16
Video output	Composite video: 1.0V p-p/75Ω, BNC connector ×1 ,    VGA x 1		
Audio input	2 x RAC	4x RAC	4x RAC

Audio output	1 x RAC		
Alarm input	2-channel input. Trigger closed without Voltage, Open or Closed		
Alarm output	1-channel output. Trigger closed without Voltage, Open or Closed		
Alarm access	Sensor input; Video motion detection alarm; Video loss alarm; Disk full remind alarm		
Network	10/100M self adaptive Ethernet port, support LAN, WAN and ADSL dynamic IP networking		
Control mode	mouse, IR remote control, Pan/tilt control, RS485 x1		
Backup mode	Network backup; external CD-R; USB interface		
Resolution	PAL: Display: 704×576 Image: 352×288 NTSC: Display: 704 x 480 Image: 352 x 240		
Compression	H.264		
HDD capacity	Support 2 x 2000G HDD		
Encryption	Data encryption + secondary password management		
Voltage	DC 12V/5A		
Power consumption	6W(without HDD)	8W(without HDD)	12W(without HDD)
Environmental temperature	Working temperature: +5℃~+50℃; RH: < 90% Storage temperature: -20℃~+70℃; RH: < 95%		
Size	435×65×323 mm		
Weight	N.G: 3.7KG; G.W: 4.8KG		



Appearance ③Serial specification parameters

Item	Specifications and parameters		
Passway	4-channel	8-channel	16-channel
Video signal	PAL (625 lines, 50f/s); NTSC (525lines, 60f/s)		
Video input	BNC(1.0V p-p/75Ω) x 4	BNC(1.0V p-p/75Ω) x 8	BNC(1.0V p-p/75Ω) x 16
Video output	Composite video: 1.0V p-p/75Ω, BNC connector ×1 , VGA x 1		
Audio input	4 x RAC	8 x RAC	16 x RAC
Audio output	1 x RAC		
Alarm input	4 channel	8channel	16channel
Alarm output	4channel	4channel	4channel
Alarm access	Senor input; Video motion detection alarm; Video loss alarm; Disk full remind alarm		
Network	10/100M self adaptive Ethernet port, support LAN, WAN and ADSL dynamic IP networking		
Control mode	mouse, IR remote control, Pan/tilt control, RS485 x1		
Backup mode	Network backup; external CD-R; USB interface		
Resolution	PAL: Display: 704×576 Image: 352×288 NTSC: Display: 704 x 480 Image: 352 x 240		
Compression	H.264		

HDD capacity	Support 4 x 2000G HDD		
Encryption	Data encryption + secondary password management		
Voltage	220V (±10%) /50Hz, 180W		
Power consumption	13W(without HDD)	13W(without HDD)	32W(without HDD)
Environmental temperature	Working temperature: +5℃~+50℃; RH: < 90%    Storage temperature: -20℃~+70℃; RH: < 95%		
Size	432×96×375 mm		
Weight	N.G: 5.4KG; G.W: 7.0KG		

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**This manual is used for below models:**



Appearance ①



Appearance ②



Appearance ③