EVOLVEO

Detective S4CIH7

DVR security monitoring system with four cameras

INSTRUCTION MANUAL (en)

Welcome

This manual is designed to be a reference tool for the installation and operation of your system; you can find information about the DVR features and functions, as well as, a detailed explanation of the menu trees.

Before installation and operation please read the following safeguards and warnings carefully!

Important Safeguards and Warnings

Do not place heavy objects on the DVR.

Do not let any liquids spill onto or into the DVR.

Please ensure fans and vent openings are not blocked and that the unit is placed in an area with adequate air circulation.

Do not try to disassemble or replace components other than the installation of the hard disk drive.

Environment

Please place and use the DVR in an area that can maintain a temperature range of 0°C to 40°C (32°F to 104°F).

Avoid placing the DVR in direct sunlight and keep away from any heat source.

Do not install the DVR in a damp environment.

Do not use the DVR in a smoky or dusty environment.

Please ensure that the DVR is placed on a level and stable workplace.

Please install it in a well ventilated area and please keep all vents clean and clear.

Use only the AC adapter included with your DVR and within the voltage ratings noted on the adapter.

Directory

1 Production Introduction

1.1 Product overview

This series D VR i s des igned especially for s ecurity purposes which makes i t an out standing di gital surveillance p roduct. I t i ntroduces an embedded LINUX op erating s ystem which i s more s table. I t introduces the standard H .264mp video c ompressed f ormat and G .711A audio c ompressed f ormat which ensures t he hi ghest quality i mage, l ow er ror c oding r atio, and s ingle f rame p laying. I t utilizes TCP/IP network t echnology w hich ac hieves t he s trongest network c ommunication and telecommunication ability.

This DVR c an be us ed i ndividually or o nline as par t of your safety s urveillance network and w ith the included professional net work video s urveillance s oftware, it can hel p y ou t o m aintain a strong communication and telecommunication network.

1.2 Main functions

Real-time surveillance

Analog interface and VGA interface (VGA interface is equipped selectively)

Surveillance function through monitor or display

Data Storage

User selected motion activated hard drive "sleep" and "wake" functions to extend storage capacity and extend life-span.

Special storage format which insures data safety.

Compression

Real-time compression by individual hard drive which insures the audio and video signal synchronization and stability.

Backup

Through SATA and USB interface and also through Internet download.

Playback

Individual real-time video recording, as well as, search, playback, network surveillance, recording check, and downloading.

Multi-playback mode.

Internet operating

Internet surveillance in the real time

PTZ control

Recording check and real-time playback

Communication interface

RS485 interface for   PTZ control

Standard Ethernet network interface with RJ45 jack

intelligent operations

USB Mouse and backup/copy/paste functions

2 Open-package check and cable connections

2.1 DVR package contents

Please verify that there is not visible damage to the DVR and then verify the following:

- 4 channel H.264 DVR
- AC Power Supply
- Remote Control (requires 2 AAA batteries – **not included**)
- USB Optical Mouse
- (4) Screws to Mount HDD
- Installation CD
- User Manual
- Quick Guide

Front panel and rear panel

• The key function specification in the front panel and the interface specification in the real panel are in
 the specification.

• Please check the product type in the front panel whether is accordant with the product type you order.

The label in the real panel is very important for the after service. Please protect it carefully. When you

contact us for after service, please provide the product type and serial number in the label.

2.2 Hard disk installation

Install SATA hard disk drives before completing the initial software setup. （The below images are just used to show how to install hard disk. The DVR in the photos is not the DVR in the package.）

1. Remove case screws

2. Remove cover.

3. Install SATA hard drive

4.Connect SATA data cables

5. Install SATA power cables

6. Replace cover

7. Replace screws

2.3 Front panel

(1) IR remote receiver   (2) Power indicator light   (3) Previous file/1 (4) HDD indicator light

(5) Next file /2   (6) PTZ /8   (7) Slow play /3   (8) HDD Info/9

(9) Fast play/4   (10) Backward pause/5   (11) Record /0   (12) Play Pause /6

(13) Function switch   (14) Search video/7   (15) USB   (16) ESC

(17)Left   (18) Up   (19)Down   (20) Menu/Enter   (21) Right

2.4 Rear panel
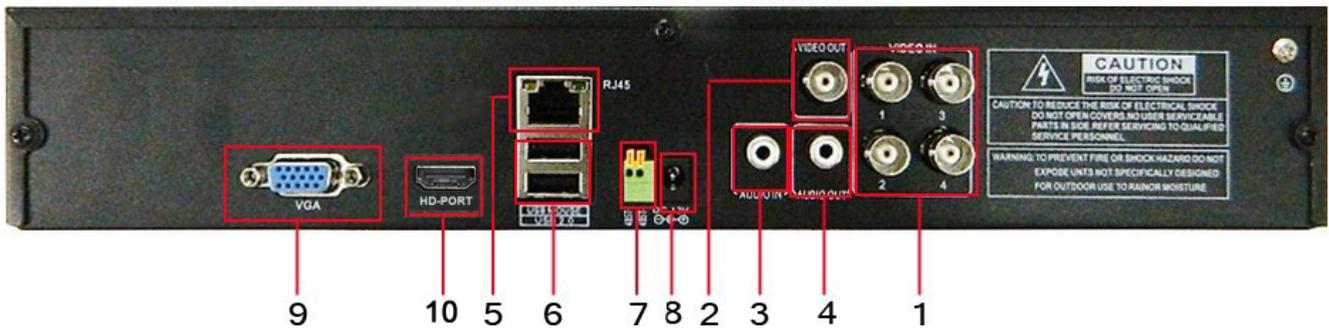
1. Video input	5. Network	9. VGA output
2. BNC output	6. USB/Mouse	10. (10) HDMI output
3. Audio input	7. RS485	
4. Audio output	8. Power supply	

NOTE if the rear USB mouse port is used then the front USB port becomes non-functional.

2.5 Full Connectivity Diagram
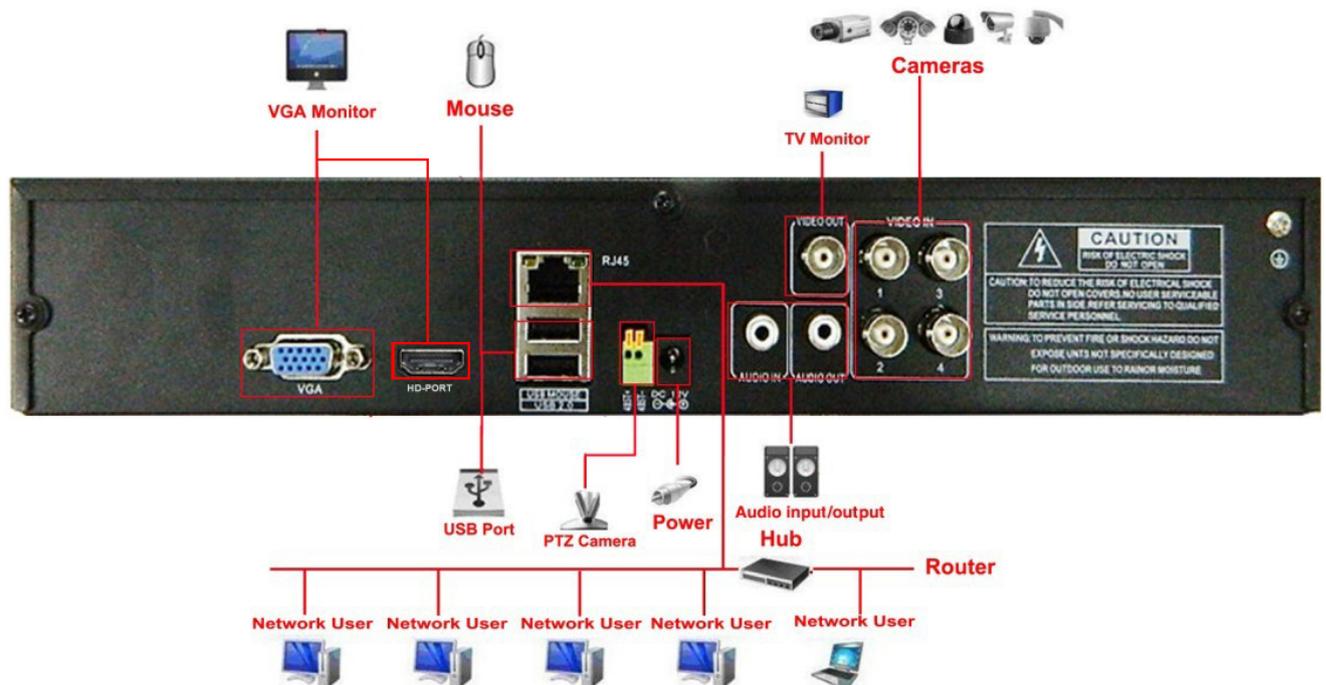
Picture 2.1 Connectivity Diagram

2.6 Audio and video input and output connections

2.6.1 Video input connections

The video input ports utilize a BNC connector plug with an input signal of NTSC BNC (1.0V_{P-P}, 75Ω).

The video lines should be firmly connected to avoid signal interference and possible oxidation at the connection.

2.6.2 Video output connections and options

The video output is divided into NTSC BNC (1.0V_{P-P}, 75Ω) and VGA (selective configuration).

Please note the following regarding the display used for monitoring:

1. Do not leave the display on for long periods of time.
2. Stay away from any electromagnetic interference.

2.6.3 Audio signal input

Audio port is a BNC connector.

The audio signal line should be firmly connected to avoid signal interference and possible oxidation at the connection.

2.6.4 Audio signal output

Normally the output parameter of DVR audio signal is greater than 200mv 1KΩ (BNC) which can be connected to low impedance earphones, speakers, or other audio output equipments through a power amplifier. If the speakers and microphone cannot be isolated, feedback often occurs. The following are some suggestions to help correct this issue:

1. Use a higher quality microphone.
2. Adjust the speaker volume to be under the threshold that produces the feedback.
3. Use materials that will absorb the sound and reduce reflection of the sound.
4. Adjust the layout of the speaker and microphone.

2.7. PTZ connections

1. PTZ decoder connections

1. The grounding of a PTZ decoder and DVR must be shared otherwise the common-mode voltage

could result in PTZ control failure - shielded twisted pair cable is recommended.

2. Avoid high voltage connections and use surge protectors.

3. When connecting use 120Ω resistance, paralleled, to ensure the signal quality.

4. The 485 AB lines of DVR cannot be connected with other 485 output equipment that is paralleled.

5. The voltage between the AB lines of the decoder must be less than 5V.

2. Front equipment grounding note

Incorrect grounding can result in damage to the unit.

3. PTZ input type unlimited

Parameter	meaning
485T+/A,485T-/B	485communication i nterface which is c onnected with t he recording control equipments such as the decoder

2.8 Speed dome connections

1. Connect the 485 lines of the speed dome with the DVR 485 interface.

2. Connect the video line to the DVR video input.

3. Power on the speed dome.

3 Basic operation

Note: Any buttons that are displayed in gray indicates it is not supported.

3.1 Preview

Picture3.1   4 Channel Preview

You can right click your mouse to switch between the windows.

The system date, time, channel name, surveillance video, and the alarm status are shown in each window.

1	🖸🖸	Recording status	3	🔊	Audio
2	〽	Motion detect	4	⍨	Video loss

Table 3.1 Preview icon

3.2 System Login

When the DVR boots up, the user must login and then the system will provide the corresponding functions with that particular user's authority level. There are three user settings: **admin**, **guest** and **default** and these settings initially have no password assigned. **Admin** is the administrator level while **guest** and **default**'s permissions are "preview" and "video playback" only. User **admin** and **guest**'s password can be revised, while their permissions cannot be revised; user **default** is the default login user whose permission can be revised but not its password.
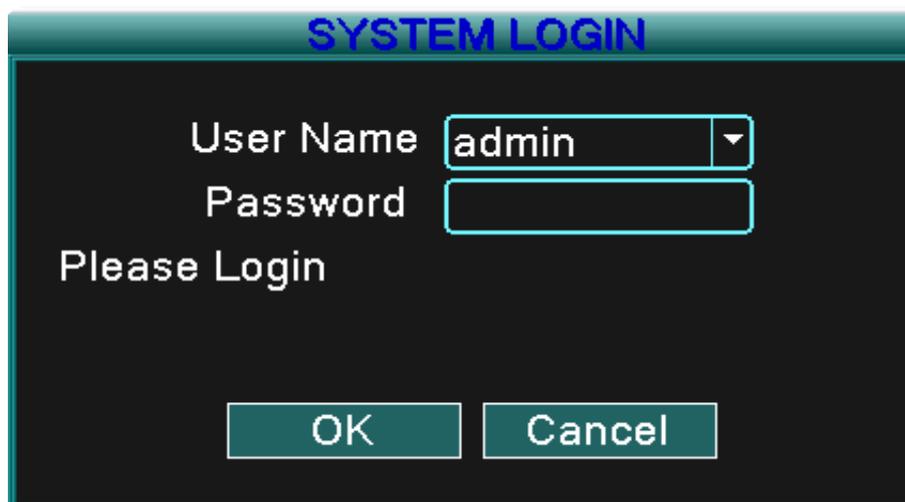
Picture 3.2 System Login

Password protection: If the password is entered incorrectly three times, the alarm will start. If the password is entered incorrectly five times, the account will be locked.
(After 30 minutes or if the unit is rebooted, the account will be unlocked and you can try to enter the password again).
For your system security, please modify your password after first login.

3.3 Desktop shortcut menu

In preview mode you can right click your mouse to get a desktop shortcut menu. The menu includes: **main menu, record mode, Search, PTZ control, Start Tour, Volume regulate, Logout, view is for 1/4/8/9/16 channel screens.**

Picture 3.3 Shortcut Menu

3.3.1 Main menu

When you login, the system main menu is shown as below.

Picture3.4 Main Menu

3.3.2 Record Mode

Please check current channel status: "○" means it is not in recording status, "●" means it is in recording status.

You can use the desktop shortcut menu or click [main menu]> [recording function]> [recording set] to enter the recording control interface.

Picture 3.5 Record Mode

【Schedule】Record according to the configuration.

【Manual】Click the "All" button and all channels will record no matter which state the individual channel is set to. Clicking the individual channels will allow only those particular channels to record.

【Stop】Click t he "Stop" button an d al l c hannels will s top r ecording no matter which s tate t he individual c hannels are set. C licking the individual channels will s top the r ecording of t hat par ticular channel.

3.3.3 Search/Playback

There are two methods for you to play the video files on the hard drive(s).

1. In the desktop shortcut menu - Main menu -> Search.

Note: The hard drive that saves the video files must be set as read-write or read-only state. (3.5.1)
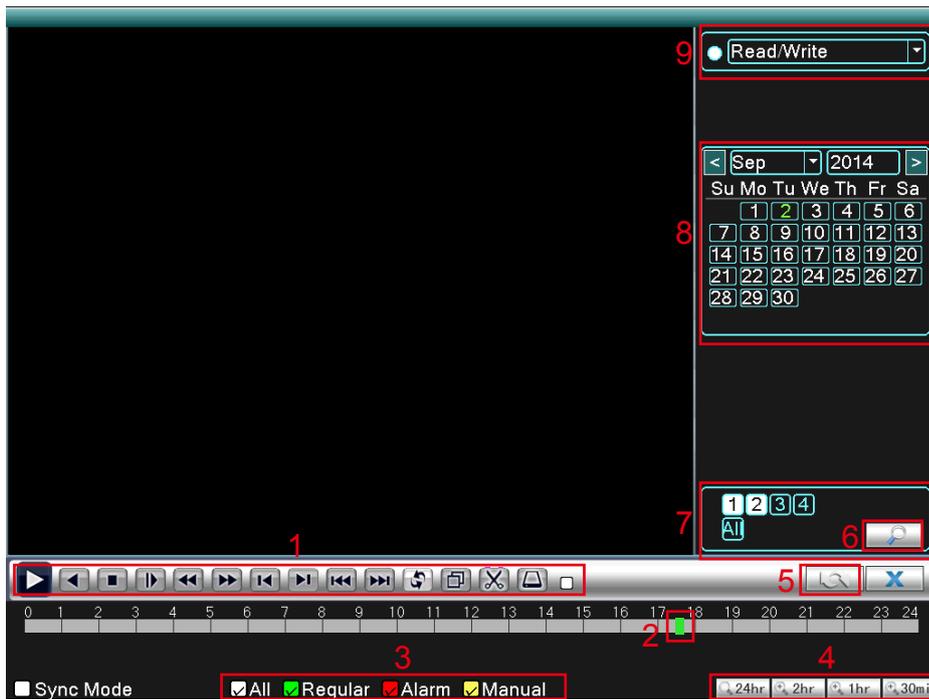
Picture 3.6 video playback Time mode

1. Playback control
2. Operation hint
3. Record mode
4. Time interval choosing
5. Switch by time
   / file mode
6. File searching
7. Channel choosing
8. Date choosing
9. Storage device choosing
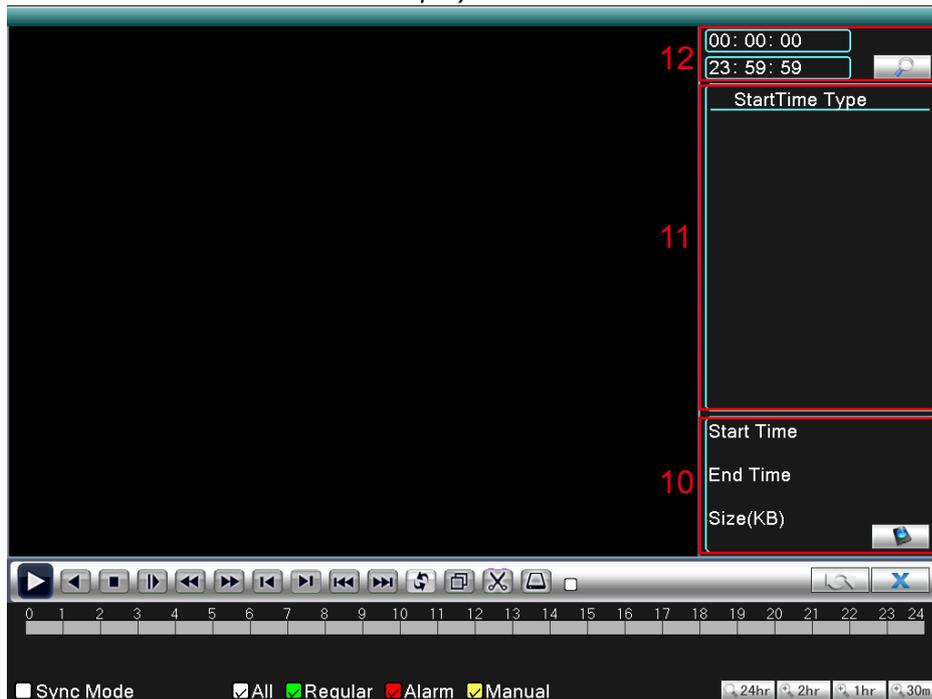
File mode Picture 3.7 video playback

10. File information
11. Listed files
12. Time searching

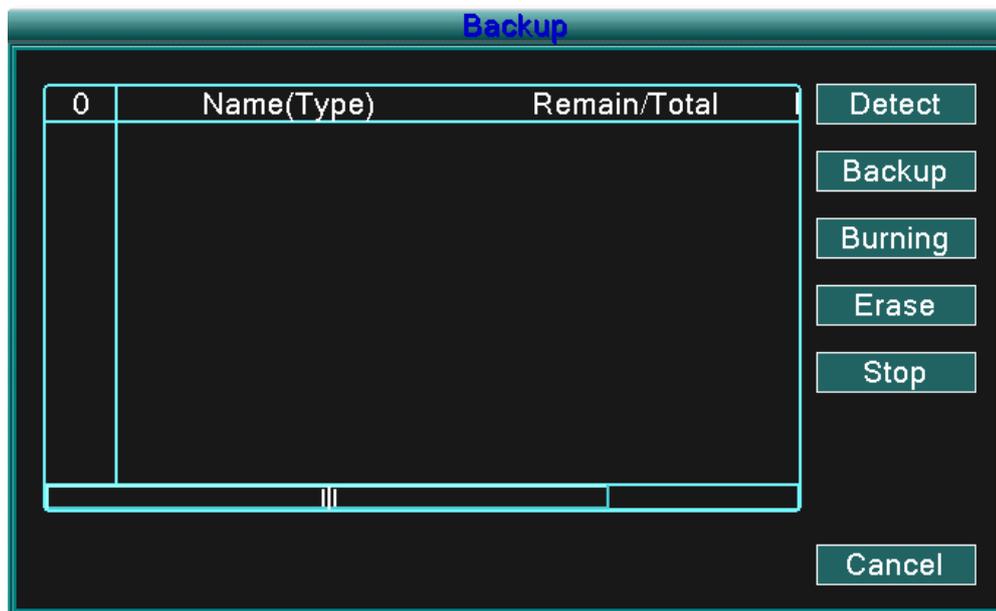**Note: The storage drive must be installed before the file can be backed-up. If the backup is terminated any files already backed-up can be played-back individually.**
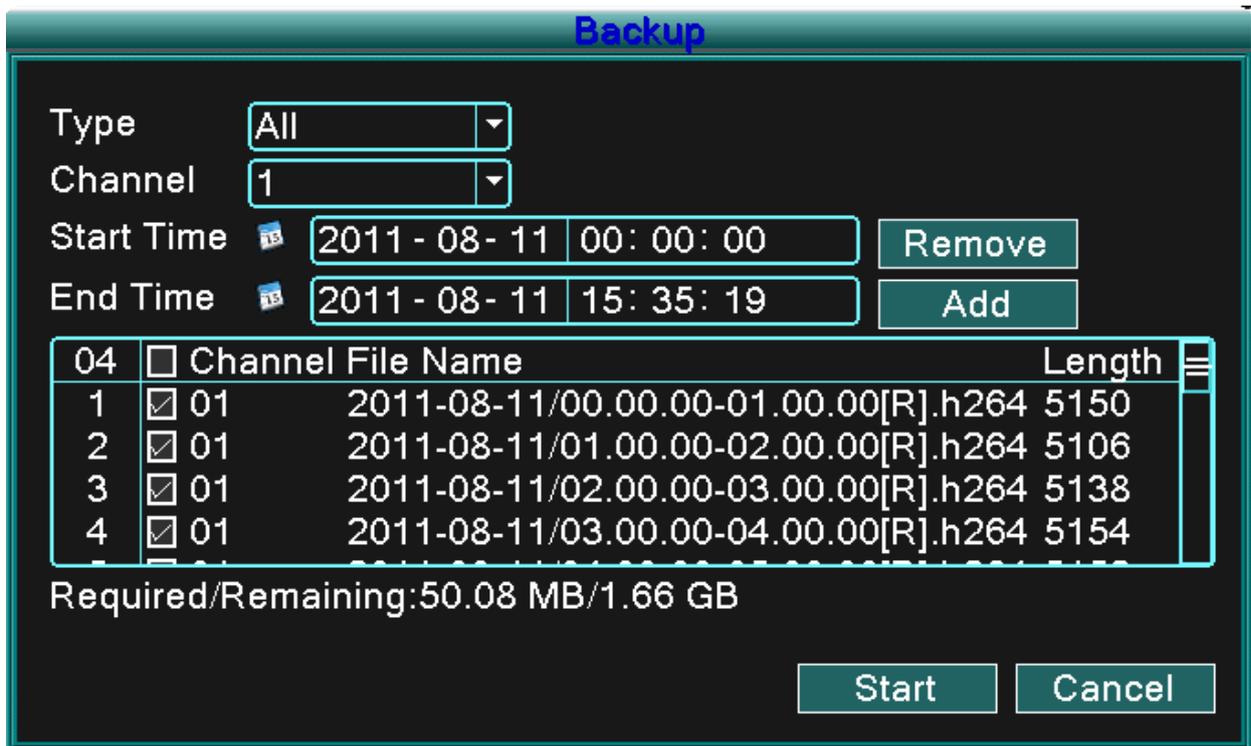

Picture 3.8 detect storage device

Detect: Detect the storage device connected to the DVR such as hard drive or USB drive.

Erasure: Choose the file to delete and click erase to delete the file.

Stop: Stop the backup.

Backup: Click backup button and a dialog box will open. You can choose the backup file according to the type, channel and time.

Picture 3.9 recording backup

Remove：Clear file information.

Add：Show file information meeting the set file attributes.

Start/Pause：Click the play button to start the backup and click the pause button to stop the backup.

Cancel：During backup you can exit the page layout to carry out other functions.

【Playback control】Refer to the following sheet for more information.

Button	Function	Button	Function
/	Play/pause		Backward
	Stop		Slow play
	Fast play		Previous frame
	Next frame		Previous file
	Next file		Circulation
	Full screen		

Table 3.2 Playback control key

Note: Frame by frame playback is only performed in the pause playback state.

Hint You can display the function by placing the cursor on that area.

Special functions：

Accurate playback：Input time (h/m/s) in the time column and then click the play ▶ button. The system will perform an accurate playback according to the search time entered.

Local zoom：When the system is in a single-window full-screen playback mode, you can drag your mouse onto the screen to select a section and then left click the mouse to activate the local zoom. You can right click the mouse to exit.

3.3.4 PTZ control

Operation functions include: PTZ direction control, s tep, zoom, f ocus, iris, and setup operation, patrol between spots, trail patrol, boundary scan, assistant switch, light switch, level rotation and so on.

Note1. Decoder A (B) line connects with DVR A (B) line.

2. Click [main menu] > [system configuration] > [PTZ setup] to set the PTZ parameters.

3. The PTZ functions are decided by the PTZ protocols.

Picture 3.10 PTZ setup

【Speed】Set the PTZ rotation range. Default range: 1 ~ 8.

【Zoom】Click ▬ / ✚ button to adjust the zoom multiple of the camera.

【Focus】Click ▬ / ✚ button to adjust the focus of the camera .

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【Iris】Click ▬ / ✚ button to adjust the iris of the camera.

【Direction control】Control the PTZ rotation. 8 direction controls are supported (4 directions in Front panel are supported)

【High speed PTZ】Full-screen show channel image. Left click your mouse and you can control the PTZ rotate orientation. Left click your mouse and then rotate the mouse to adjust the multiple zoom options of your camera.

【Set】Enter the function operation menu.

【Page switch】Switch between different pages.

Special functions：

1. Preset

Set a location for the preset, call the preset point, and the PTZ will turn to the preset position.

1）To set the Preset option:

Step1: As shown in Picture 3.10, click any of the Direction buttons and the PTZ will turn to that position, click the Set button to enter that position as shown in Picture 3.11.

Step 2: click the Preset button, and then enter the preset points in the input blanks.

Step 3: click the Set button and the PTZ Control window will open, shown in Picture 3.10, and this completes the setup of preset points and preset positions.
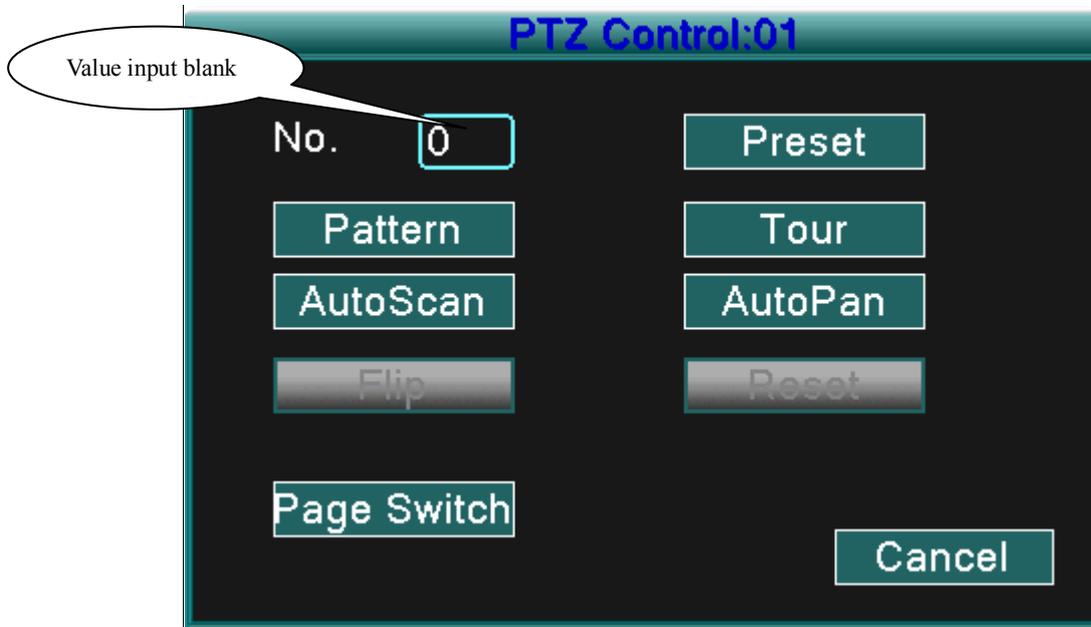
To clear Preset：Input preset points, click Remove button to remove the preset.
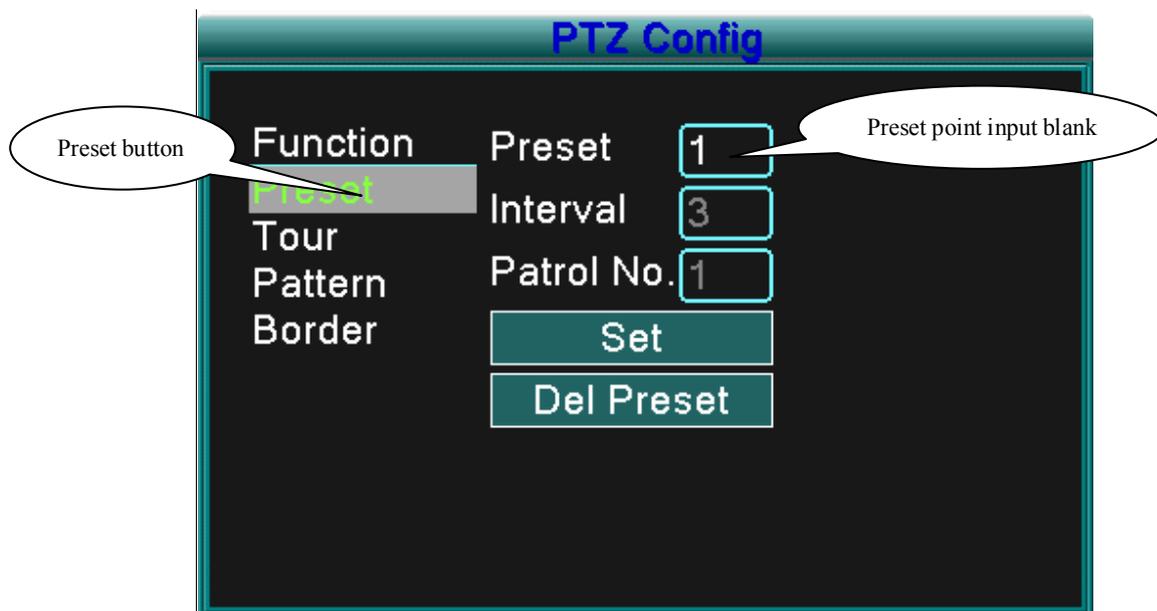
Picture 3.11 Preset Settings

2）Preset Point Calls

Click the Page Switch button to enter the PTZ control interface as shown in Picture 3.12. In the input blank, enter the preset points and then click the Preset button and the PTZ will turn to the corresponding preset point.

Picture 3.12 PTZ Control

2. Touring between Points

1）Touring between Point Settings

Tour lines are connected by multiple preset points, to set the preset points:

Step1: as shown In Picture 3.10, the Directional keys will turn the PTZ to any desired location, and then click the Set button to enter that location (Picture 3.13),

Step 2: click the Tour button, enter that value into the Tour Line and Preset Points blanks，then click "Add Preset Points" button to complete the settings (you can also add and delete Tour lines which have been previously set up)

Step 3: repeat steps1 and step 2, until all of the preset designated Tour points have been entered.

Remove Preset：Input preset value in the blank, click Remove Preset button to remove the preset points.

Remove Tour Line：Input the number of the Tour line, click Del Tour button to remove the Tour line setting.
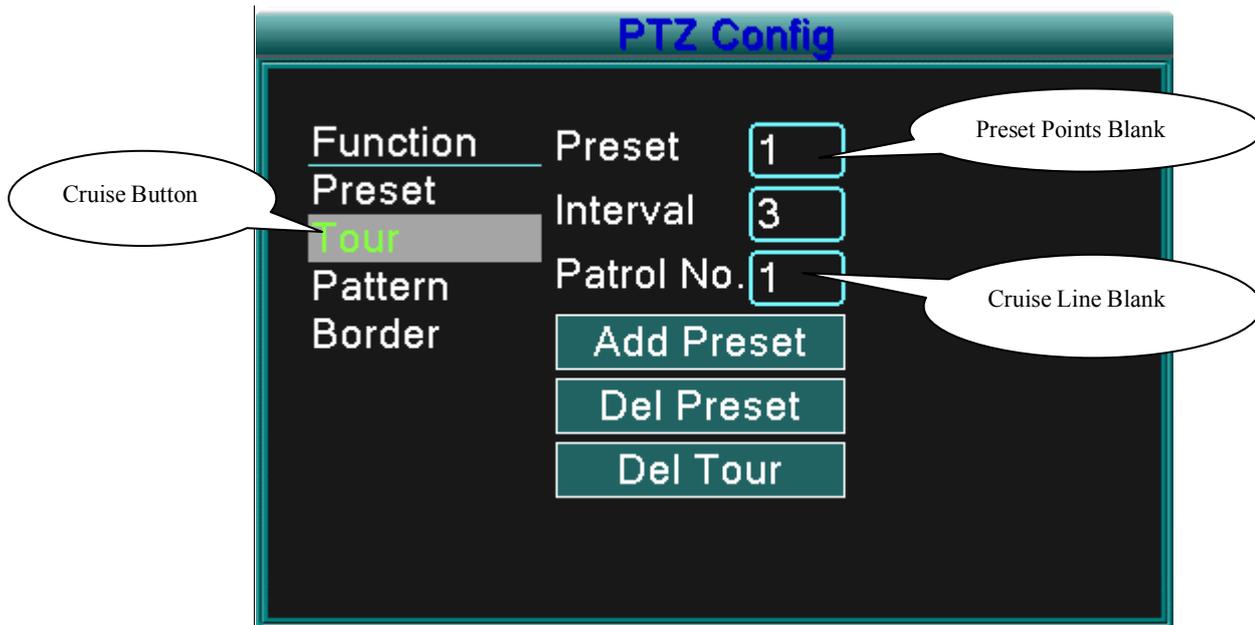
Picture 3.13 Tour between Points Settings

2）Call-up Tour lines between Points

Click the Page Switch button (refer to Picture 3.10) to enter the PTZ control menu as shown in

Picture3.12. Input the number of the tour line in the value blank, then click "Tour between Points"

button, PTZ will begin to function according to the tour lines that are set. Click the Stop button to

stop touring.

2. Scan

The PTZ will work using the preset pattern line repeatedly.

1）Scan setup

Step1：As shown in Picture 3.10, click the Set button

Step2：Click Pattern button，as shown in Picture 3.14, input the scanning values in the Pattern

value blanks

Step3：Click Begin button and you can set the following items: Zoom、Focus、 Aperture、

Direction and so on (refer to Picture 3.10). Click Set button and you will be returned to the PZT

configure window, refer to Picture 3.14

Step4：Click End button to complete setup and then click the right mouse button to exit.
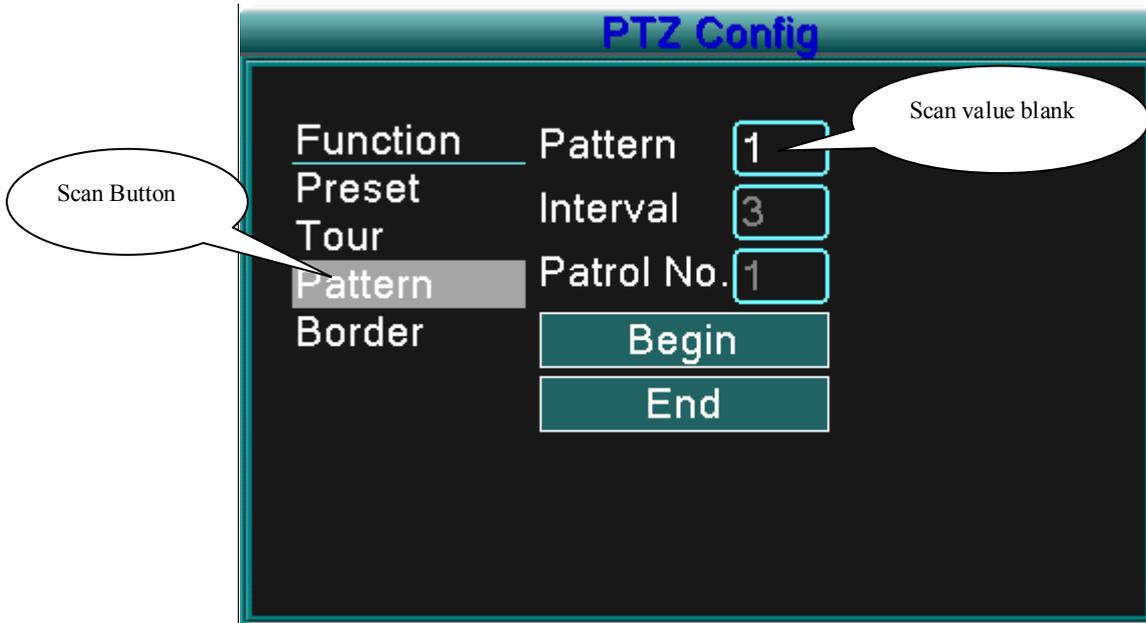
Picture 3.14 Pattern Setup

2）Pattern Calls

Referring to Picture 3.10, click Page Shift button, then enter PTZ control menu as shown in Picture 3.12. Input the pattern number of the scan into the value blank, then click the Auto Scan button，the PTZ will begin working using the Pattern lines. Click the Stop button to stop.
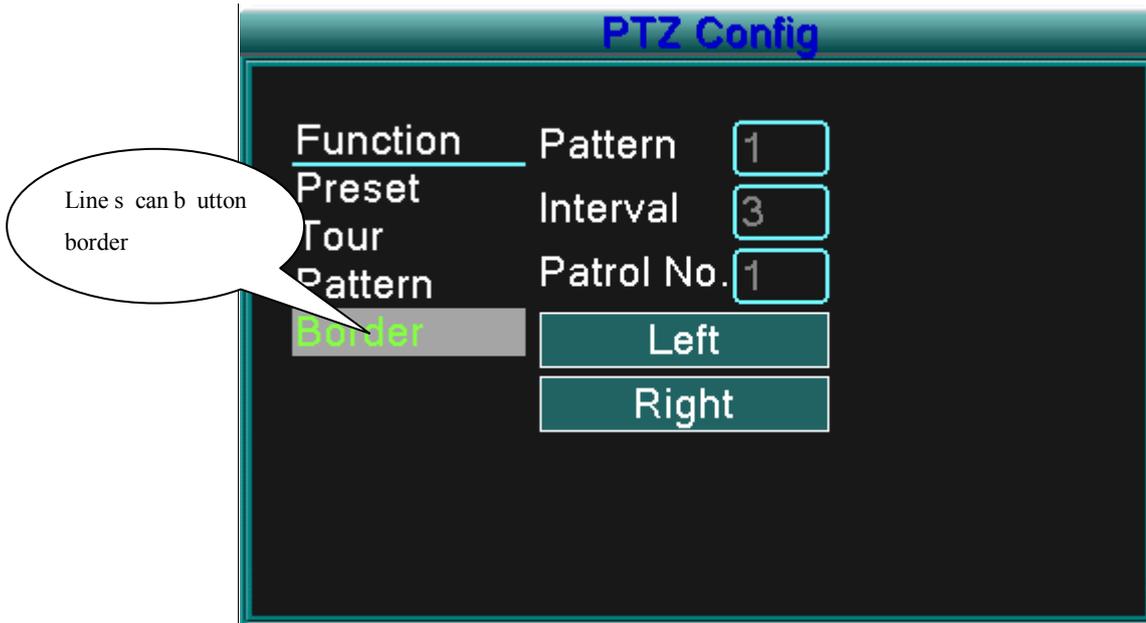
4. Boundary Scan

1）**Boundary Pattern setup**

Step1：Click the left Directional button to turn the PTZ to set a direction (refer to Picture 3.10) and click the Set button, then select the Left Boundary button (refer to Picture 3.15)

Step2：Click the right Directional button to turn PTZ to set an opposite direction (refer to Picture 3.10) and click the Set button, then select the right boundary button (refer to Picture 3.15)

Step3: The left and right boundary setup is completed.

Picture 3.15 Boundary Scan Setup

2）Boundary Scan Calls

Click the Page Shift button (refer to Picture 3.10) to enter the PTZ control menu as shown in Picture 3.12. Input the number of the Boundary scan in the value blank and click the Auto Scan button，the PTZ will begin working using the Boundary setup. Click the Stop button to stop the scan.

5. Horizontal Rotating

Click the Horizontal Rotating button and the PTZ will rotate horizontally (relative to the original position of the camera). Click the Stop button to stop.
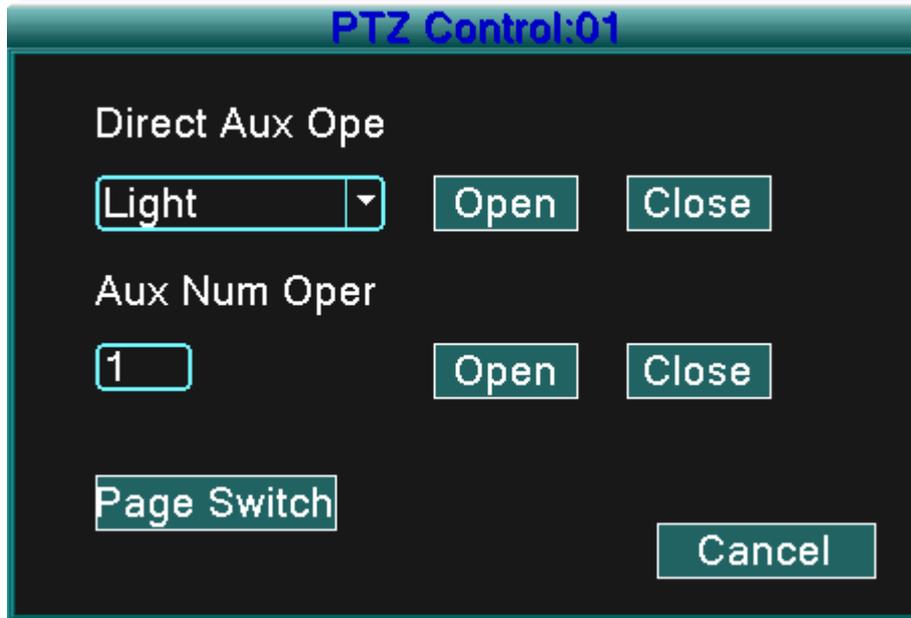
6. Rotate

Click on the horizontal Rotating button and the PTZ will turn around.

7. Reset

Click PTZ restart and all data clears to 0.

8. Page Switch

Click Page Switch button, (refer to Picture 3.10) and enter setting auxiliary function (refer to Picture 3.16). The Auxiliary number corresponds to the auxiliary switch on the decoder.

Picture 3.16 Auxiliary Function Control

【Direct Auxiliary O peration】Choose aux iliary eq uipment, s elect O pen or C lose button, or switch control.

【Auxiliary Number】The operation of the corresponding auxiliary switch according to the PTZ agreement.

【Page Switch】 Click the Page Switch button and return to PTZ Main Menu (refer to Picture 3.10), the menu itself can be controlled by the menu control buttons

3.3.5 Tour setup

Set the patrol display. There are two methods for you to play the video files contained in the hard disk.

1. Using the desktop shortcut menu.
2. Main menu -> System setup->Video.

   You can choose the single window, four window, nine window, or sixteen window patrol display for a single display.
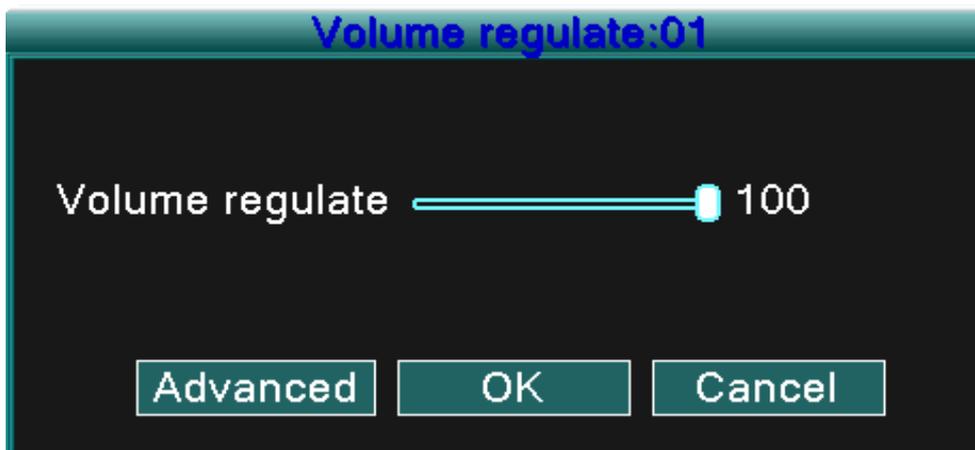
【interval】Set the patrol switch interval. The set range is 5-120 seconds.

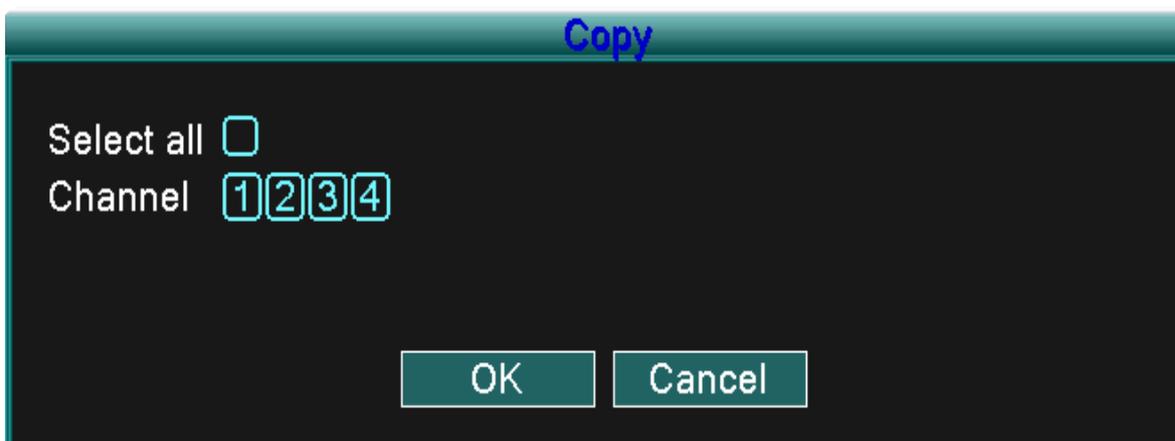**Note**： / Means turn off/on the patrol.

3.5.6 Audio Adjust

Adjust volume regulate parameters. You can use the desktop shortcut menu.

Picture 3.17 Audio Adjust

【Volume regulate】You can set the volume regulate value from 0 to 100.

【Advanced】If you press this button then you will see picture as follow.
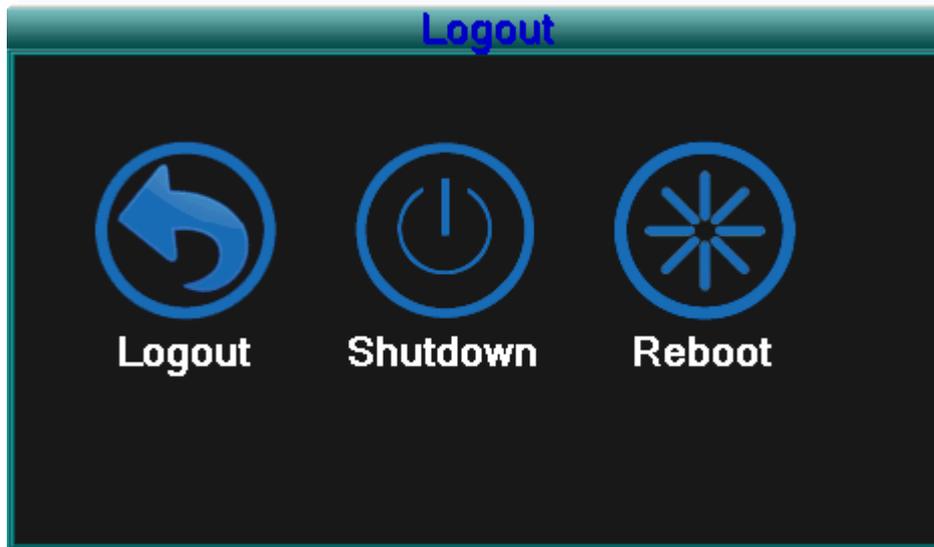

Picture 3.18 Audio matches Channel

You can match any or all channels which you want to adjust, but only one audio channel output is valid at a time.

3.3.7 Logout

Logout by shutting down the system or by rebooting. You can use the desktop shortcut to enter [main menu].

Picture 3.19 Logout/Reboot the system

【logout】Quit the menu. Requires password to logon.

【shutdown】Quit the system. Power Off the DVR.
【reboot】Quit the system. Reboot the system.

3.3.8 Window switch

Preview in a single window/four windows/eight windows/nine windows/sixteen windows according to your choice.

4 Main menu

4.1 Main menu navigation

Main menu	Sub menu	Function
Search		recording look-up, recording play, video file storage
Record		Set the recording configuration, recording type, recording time section
HDD management		Set appointed hard disk as read-write disc, read-only disc or redundant disc, clear data, resume date and so on
System configuration	Language	Set language.
	Date/Time	Set system time, data format and so on.
	Account management	Modify us er, team or password. Add user or team. D elete user or team.
	GUI display	Set c hannel name, v ideo t ime, c olor s etting, p review t ime, preview channel, record status, alarm status and so on.
	Video	Set resolution, video standard, tour time, and output adjust and so on.
	Exit	Return last lever menu.
Advanced	Alarm Set	Send email or Show Message when alarm happening。
	Version Info	Display software version and build date.
	Motion detection	Set m otion det ect alarm c hannel, s ensitivity, ar ea, l inkage parameters: def ending t ime s ection, s creen hi nt, r ecording, PTZ, patrol
	Mobile Monitor	Mobile Monitor Setup.
	Automatic maintenance	Set aut omatic r eboot s ystem， s ystem upg rade, def ault settings, log and so on.

	PTZ configuration	Set channel, PTZ protocol, address, baud rate, date bit, stop bit, and check.
	Network configuration	Set b asic net work parameters, D HCP、 PPPOE、 DDNS parameter
	Exit	Return last lever menu.
Exit		Exit main menu and display Monitor.

4.2 Search/Playback

Refer to chapter 3.3.3.

4.3 Record

4.3.1 Record

Set the recording parameters in the surveillance channel. The system is set to 24 hours consecutive recording with the initial startup. You can modify by entering: [main menu]> [record]> [record] to set.

Note：There must be at least one read-write hard disk installed for this to function.（refer to chapter 4.4）

Picture 4.1 Record

【Channel】Choose the corresponding channel number to set the channel. Choose the All option to set every channel.

【Resolution】Set the resolution (D1 /HD1/CIF/QCIF) for each channel file. CIF is default value.

【Frame Rate】Set the frame rate of each channel. 25 is default value (0 to 30 for NTSC).

【Quality】Set the quality of each video channel. Good is default value (worst, worse, general, good, better, or best).

【Audio】Set the audio status of each channel. ON is default value.

【REC. Size】Set the time length of each video file. 60 minutes is default value (1 to 120 min).

【REC Mode】Refer to chapter 4.3.2.

【Region Cover】Refer to chapter 4.3.3.

Note:Pressing the "Default" button, will replace all configured settings to default settings.

4.3.2 Record Conf

Picture 4.2 Record Conf

【Channel】Choose the corresponding channel number to set the channel. Choose the all option to set the entire channels.

【REC. Mode】Set video state: Schedule, Manual and Stop.

Schedule: Record according to the set video type (common, detection, or alarm) and time section.

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Manual: Click the manual button and the corresponding channel will begin recording, regardless of its setting.

Stop: Click the stop button and the corresponding channel stops recording, regardless of its setting.

【Period】Set the time for normal recording, recording will start only within the set range.

【Record type】Set the recording type: Regular, detection, or alarm.

Regular: Performs regular recording in the set time section. The video file type is "R".

Detect: Activates the "motion detect", "camera mask" or "video loss" signal. When this alarm is set as the initial recording method the "detection recording" state is on. The video file type is "M".

Alarm: When alarm is set as the initial recording method the "detection recording" state is on.

Note：Refer to chapter4.6.3 to set corresponding motion detect function.

4.3.3 Region Cover

When the video image is affected by low light level or has reached the set sensitivity parameter, the camera mask function will activate.

Picture 4.3 Region Cover

【Channel】Choose the corresponding channel number to set the channel. Choose the all option to set every channel.

【Switch】You can select ON or OFF status for each channel.

【Region Cover】When this channel status as ON, click Set and enter the area to be set. The area has 4 regions and you can move the cursor to set the areas.

Note：Pressing the "Default" button, will result in all configured settings being replaced by the default settings.

4.4 HDD Manage

Configure and m anage t he har d di sk. The m enu displays c urrent hard disk i nformation: har d di sk number, input port, type, status and overall capability. The operation include: setup the write-read disk, read-only disk, redundant disk, hard disk format, resume default. Choose the hard disk and c lick the right function button to execute.

Note：Read/Write Disk: The equipment can write or read data.

Read-only Disk: The equipment can read data but cannot write data.

Redundant Disk: Double backup the video files in the write-read disk.

Picture4.4 HDD Manage

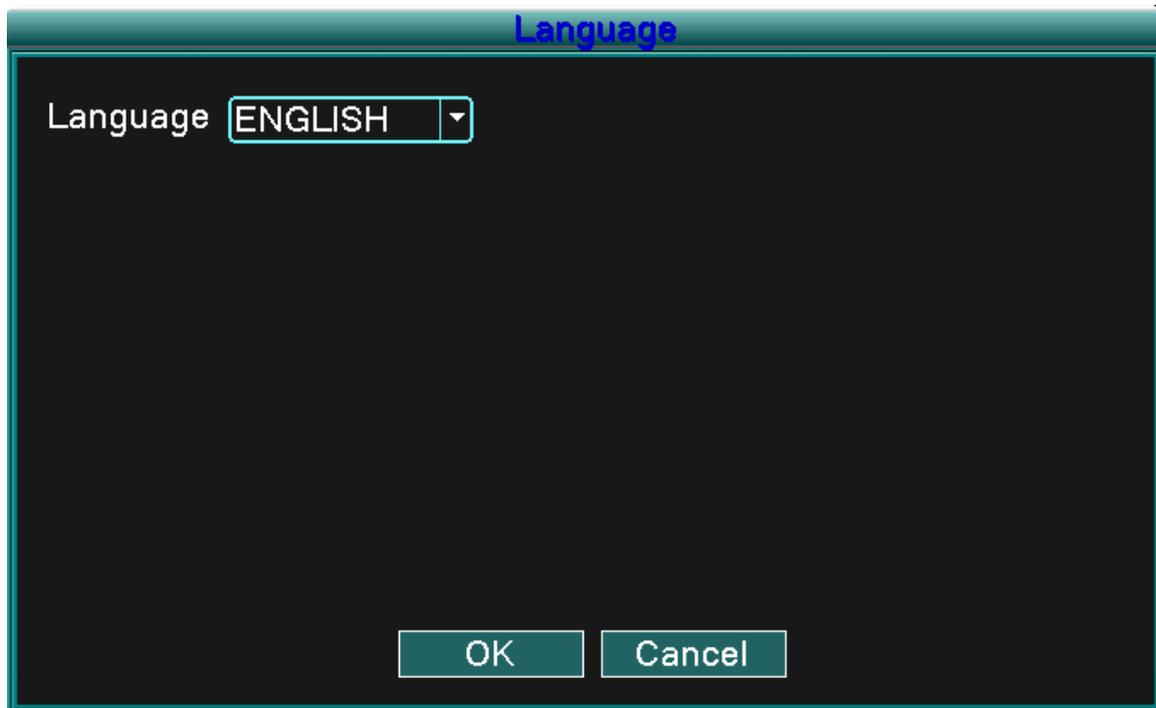【Format Disk】Format the HDD which you selected and all data will lost.

【Recover】restores HDD to default status.

4.5 System setup

Set the system parameters, such as **Language, Date/Time, Account, GUI Display, Video** and **Exit.**
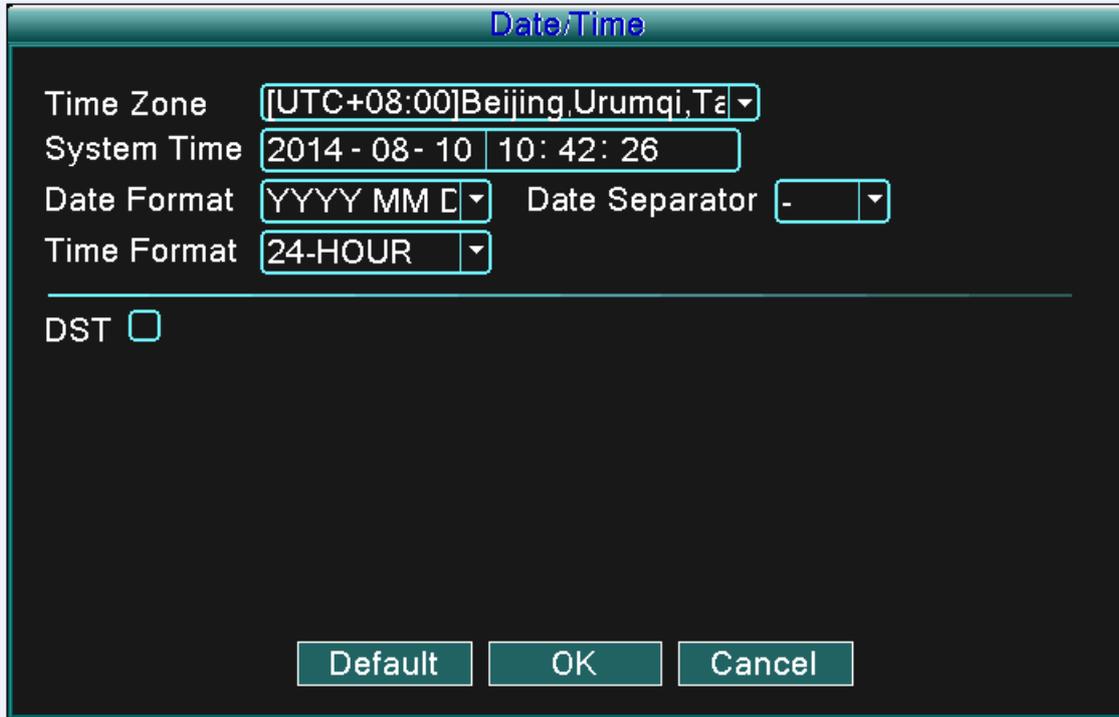
4.5.1 Language

Picture4.5 System Language

【Language】

You can select the language you want to use.

4.5.2 Date/Time

Picture4.6 Date/Time

【System time】Set the system data and time.

【Date format】Choose the data format: YMD, MDY, DMY.

【Date Separator】Choose list separator of the data format.

【Time Format】Choose time format: 24 hour and 12 hour format.

【DST】Choose "Daylight Savings Time" option.

Picture 4.7 DST (week)

Picture 4.8 DST (date)

4.5.3 Account

Manage the user account.

Note：1. The character length is 8 bytes at most for the user and user group names. Blanks cannot be

used at the beginning or end of the character string but is acceptable as separation points within the string. Legal characters include: letters, numbers, underlining, dash, and periods.

2. There is no limit with the user and user groups. You can add or delete the user groups according to user requirements. The factory setup includes: user\admin. You can set the groups as you wish. The user can appoint the administrator in the group.

3. The user responsibilities include group/ user. The group and user names cannot be the same. Each user can only belong to one group.
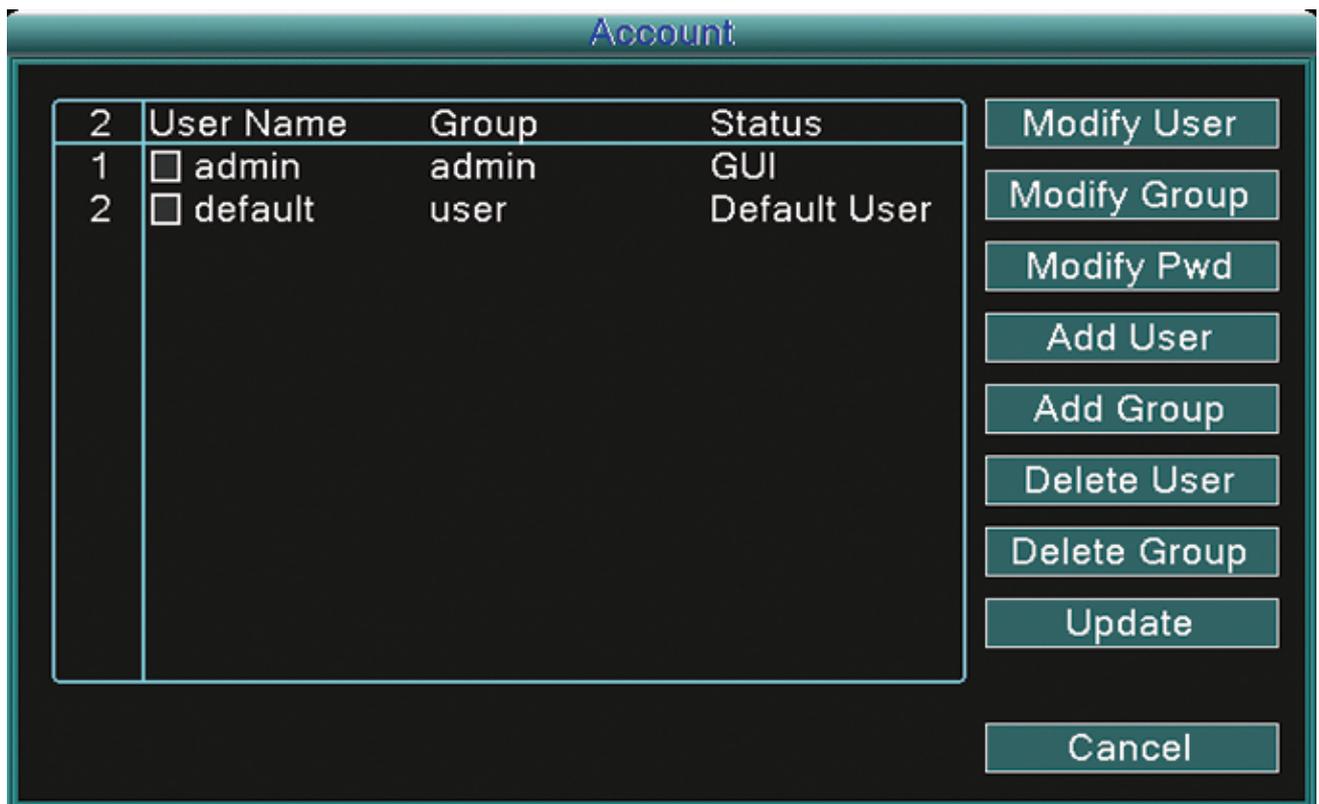
Picture 4.9 Account

【Modify User】 Modify the existing user attributes.

【Modify Group】 Modify the existing team attributes.

【Modify PWD】 Modify the user password. You can set 1-6 bit passwords. Blanks cannot be used at the beginning or end of the character string but is acceptable as separation points within the string.

Note：The user who possesses the administrator user control can modify his/her own or other user's passwords.
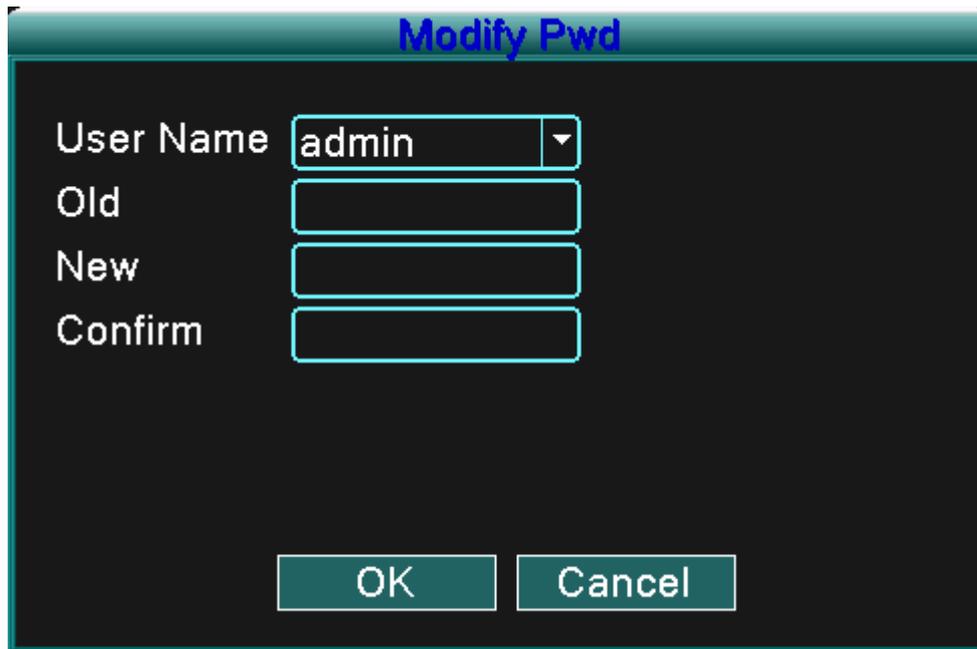
Picture 4.10 Modify Password

【Add user】Add a user in the team and set the user's accountability. Enter the menu interface and

input t he us er nam e and pas sword. C hoose t he t eam and c hoose t he ar ea of

accountability (area that can be used by multiple users at the same time).

Once the team is chosen the user oversees the subclass of the team.

The common user's accountability should be set lower than the advanced user.
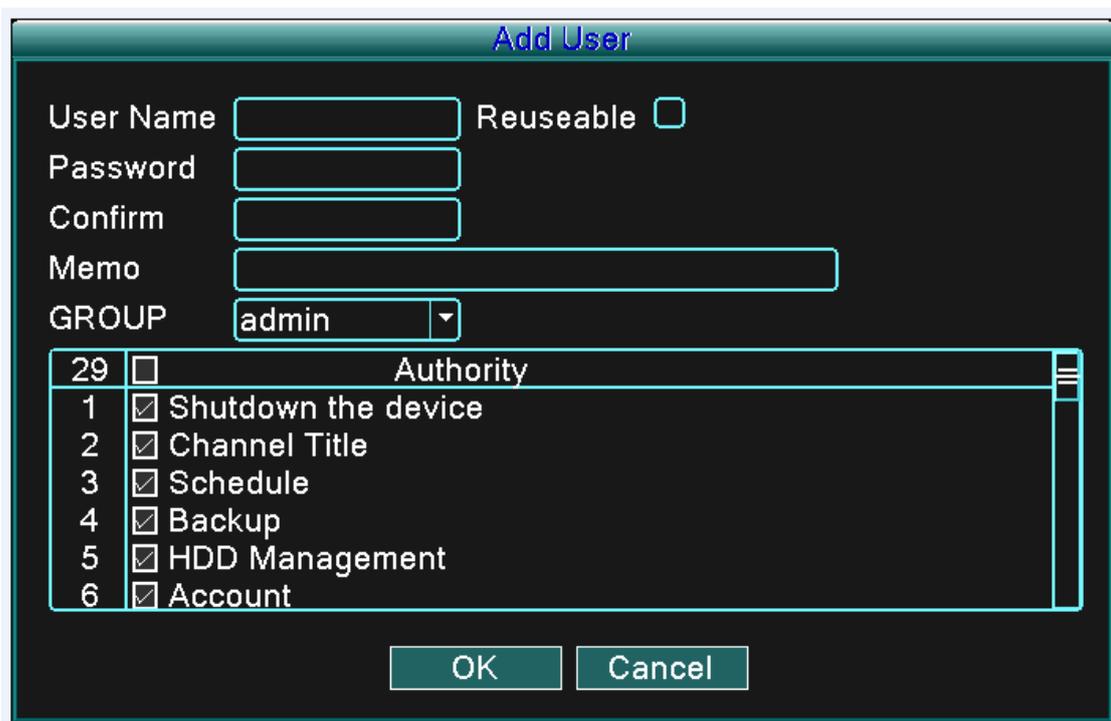
Picture 4.11 add user

【Add Group】 Add a user team and set their range of accountability. There are 36 different possible areas: shut down the device, real time surveillance, playback, recording setup, video file backup, ETC.
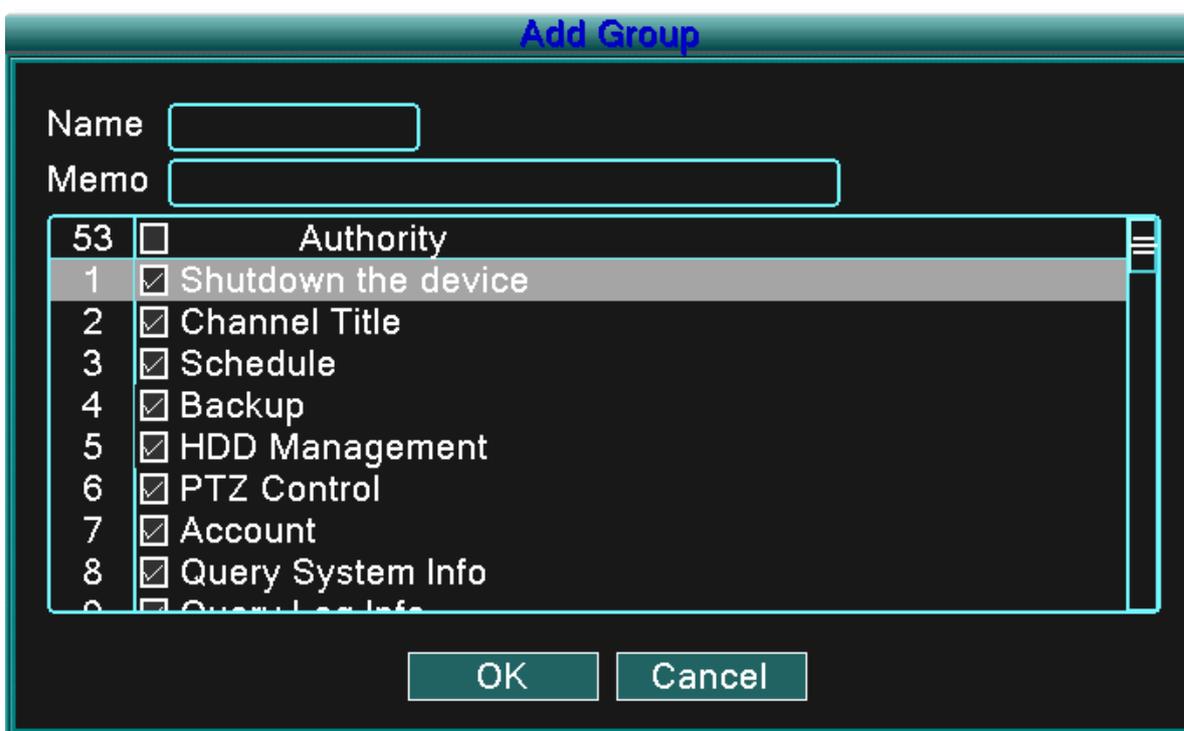
Picture 4.12 Add Group

【Delete User】 Delete the current user. Choose the user and click Delete User button.

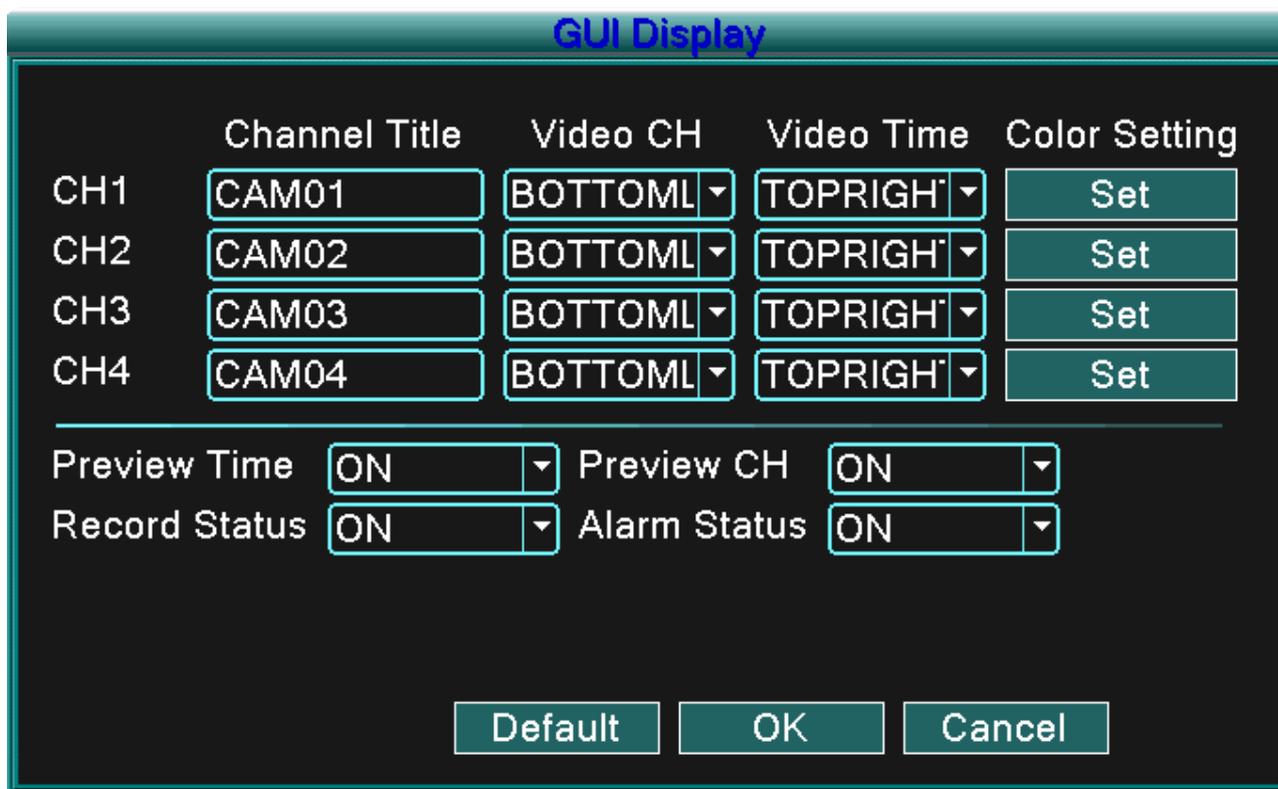【Delete Group】 Delete the current group. Choose the group and click Delete Group button.

Picture 4.13 Delete Group

4.5.4 GUI Display

Configure the video output parameters including the front output mode.

Front output：The local preview mode includes: channel title, time display, channel title, record status, and alarm status.

Picture 4.14 GUI Display

【Channel Title】Click the channel name modify button and enter the channel name menu. Modify the channel name. The 16 Chinese characters and 25 letters are supportive.

【Preview Time】Displays the system data and time in the surveillance window.

【preview Channel】Displays the system channel number in the surveillance window.

【Record Status】Displays the system recording status in the surveillance window.

【Alarm Status】Displays the system alarm status in the surveillance window.

【Color Setting】Sets the selective image parameters (current channel for single window display and cursor place for multi-window display). You can press the "Set" button to enter the interface and set the different parameters - the image parameters include: tonality, brightness, contrast, saturation.
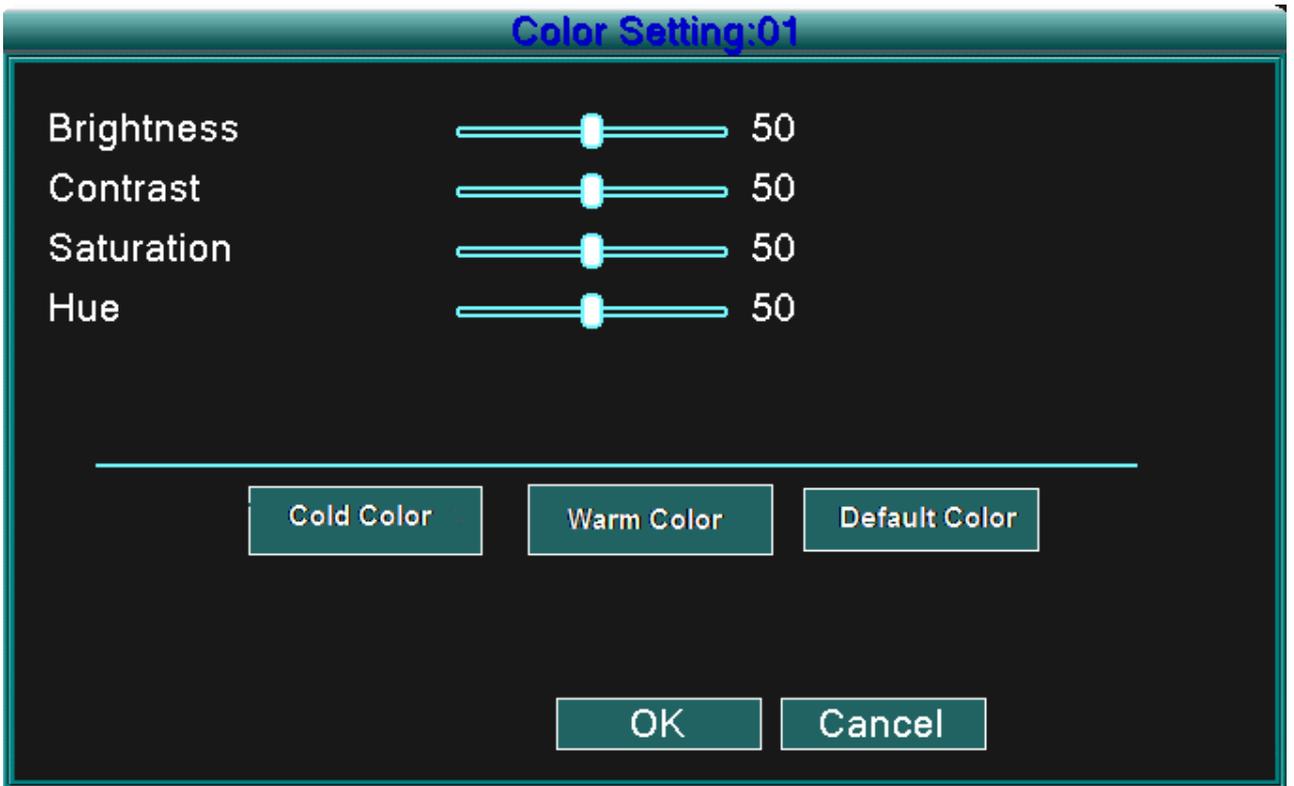
Picture 4.15 Color Setting

Note：Clicking the "Default" button will return all configured settings to default settings.

4.5.5 Video

Configure video parameters in the l ocal p review mode i nclude: Resolution, Video St andard, Tour

Time and Output Adjust.
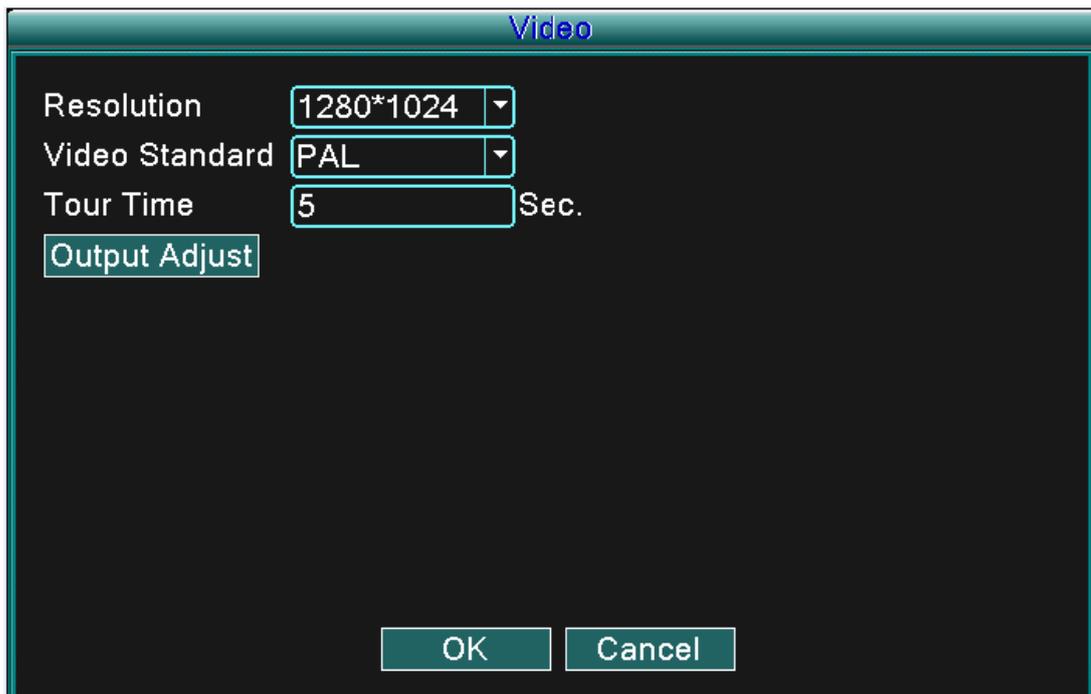
Picture 4.16 Video

【Resolution】 Set display resolution.

【Video Standard】 Set the video standard as PAL or NTSC.

【Tour Time】 Set the patrol switch interval. The set range is 5-120 seconds.

【Output Adjust】 Adjust TV output area parameters.
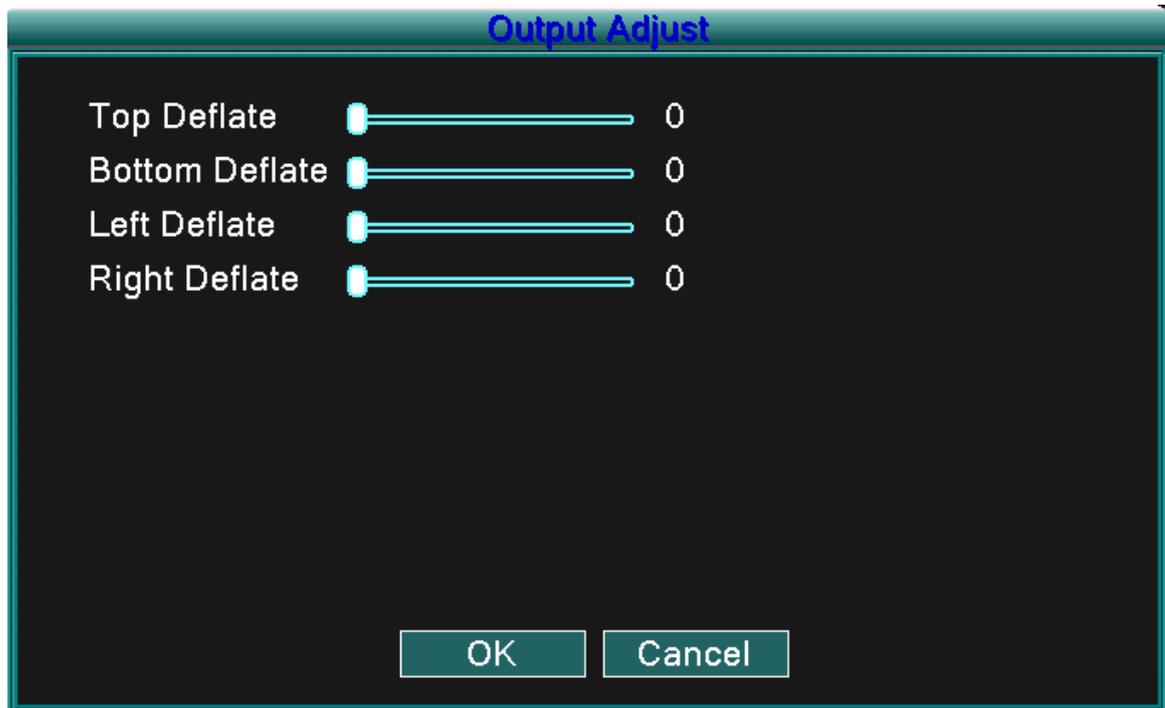
Picture 4.17 Output Adjust

4.6 Advanced

Configure advanced parameters:

Alarm Set, Version, Motion Detect, Mobile Monitor, Auto Maintain and Network.

4.6.1 Alarm Set

Alarm functions include: HDD Loss, Disk No Space, Show Video Loss, Mail, Video Blind, and Alarm Management.
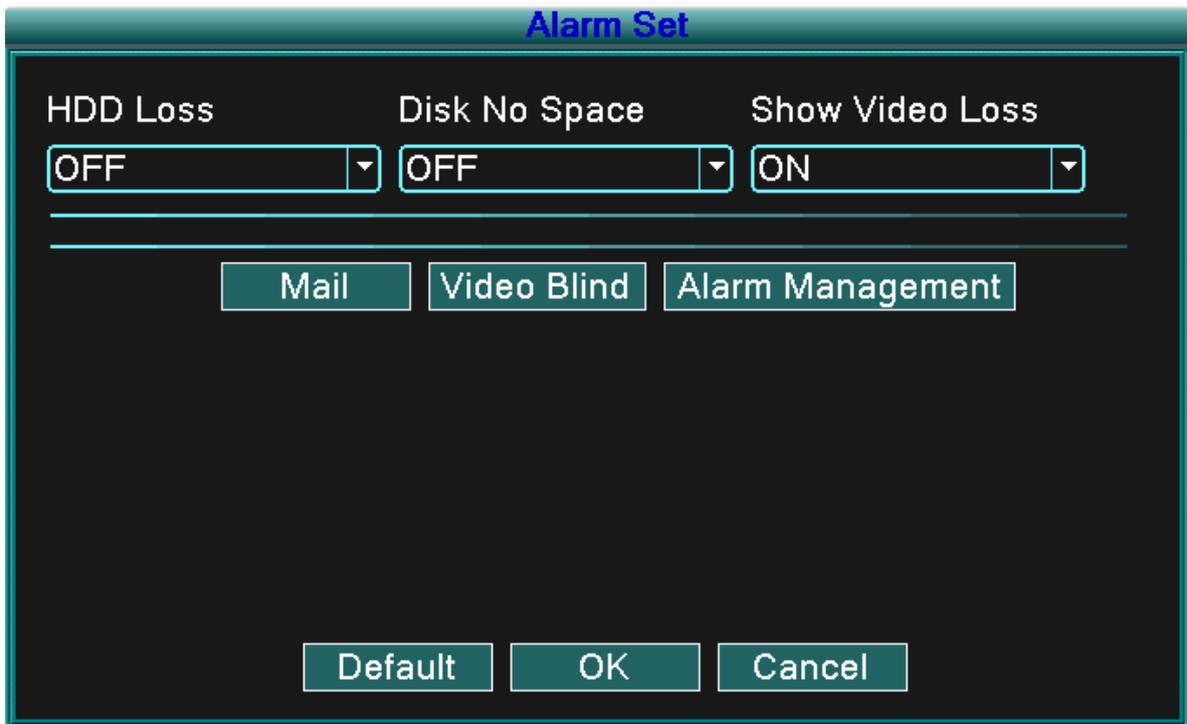
Picture 4.18 Alarm Set

According to your configured parameters, when an event occurs the device will alert you by: displaying a message, sounding a buzzer, and/or sending an email.

4.6.1.1 Mail

If the alarm is turned on, an email regarding alarm information will be sent to all appointed addresses.
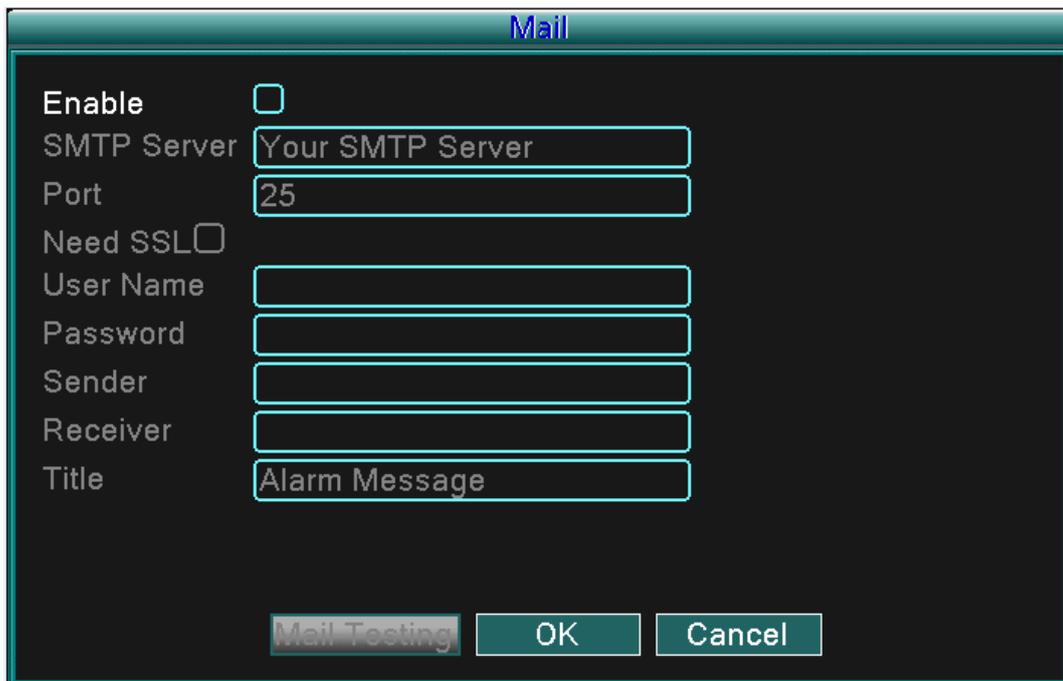
Picture 4.19 Email

Picture 4.19 Email

SMTP server: Email server address. It could be an IP address or domain name. Domain name can

be translated only if the correct DNS is configured.

Port: Email server port number.

SSL: Requires Secure Socket Layer protocol to login.

User Name: Email server user name.

Password: Input users corresponding password.

Sender: Alarm notice sender's email address.

Receiver: Email address of appointed receivers when the alarm is turned on. You can set a

maximum of three receivers.

Title: The name you assign for the alarm notification that is sent.

4.6.1.2 Video Blind

When the video image is obscured by the environment, such as excessive brightness or reaching

the set sensitive parameters, the camera mask function is turned on and the linked function (such as

Send email, show message, or buzzer) is turned on.

Channel	Status	Sensitivity	Send Email	Show Message
CH1	OFF	Middle	OFF	OFF
CH2	OFF	Middle	OFF	OFF
CH3	OFF	Middle	OFF	OFF
CH4	OFF	Middle	OFF	OFF

Default   OK   Cancel

Picture 4.20 Video Blind

4.6.1.3 Alarm Management
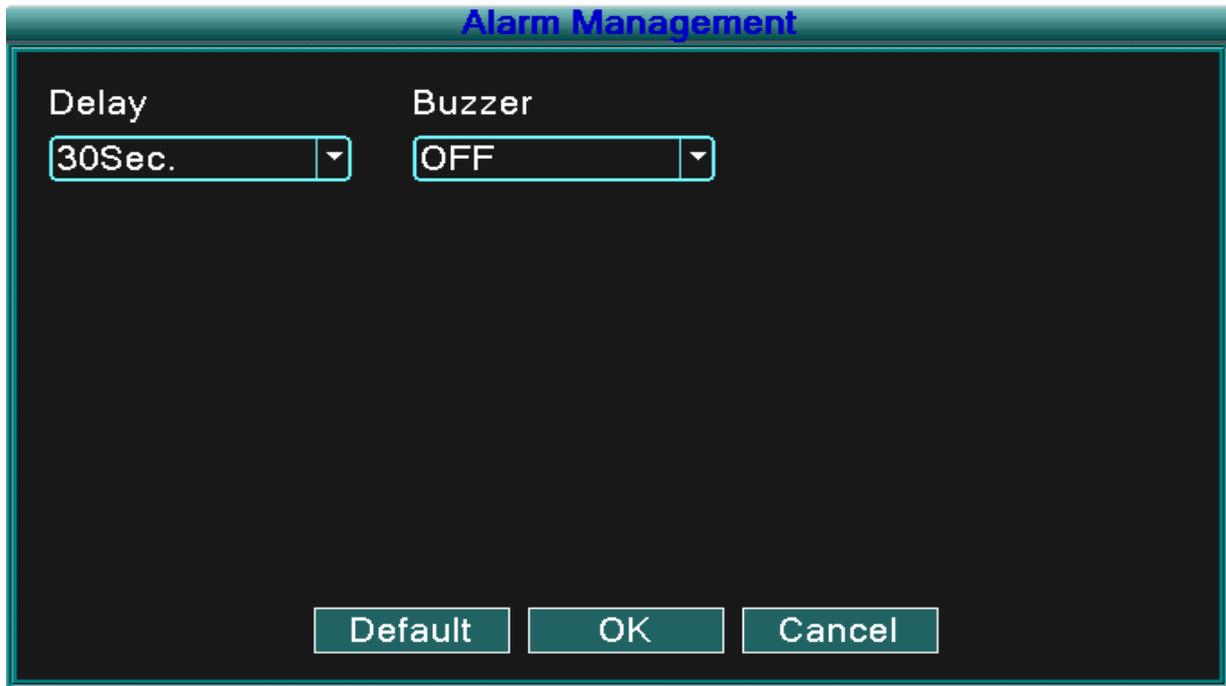
Picture 4.21 Alarm Management

【Delay】Set the record time When an event (HDD Loss, Disk No Space, Video Loss, and Video Blind) occurs.

【Buzzer】You can set the Buzzer status as ON or OFF.

4.6.2 Version

Displays basic information regarding the system such as: hardware information, software edition, and issue data, ETC.
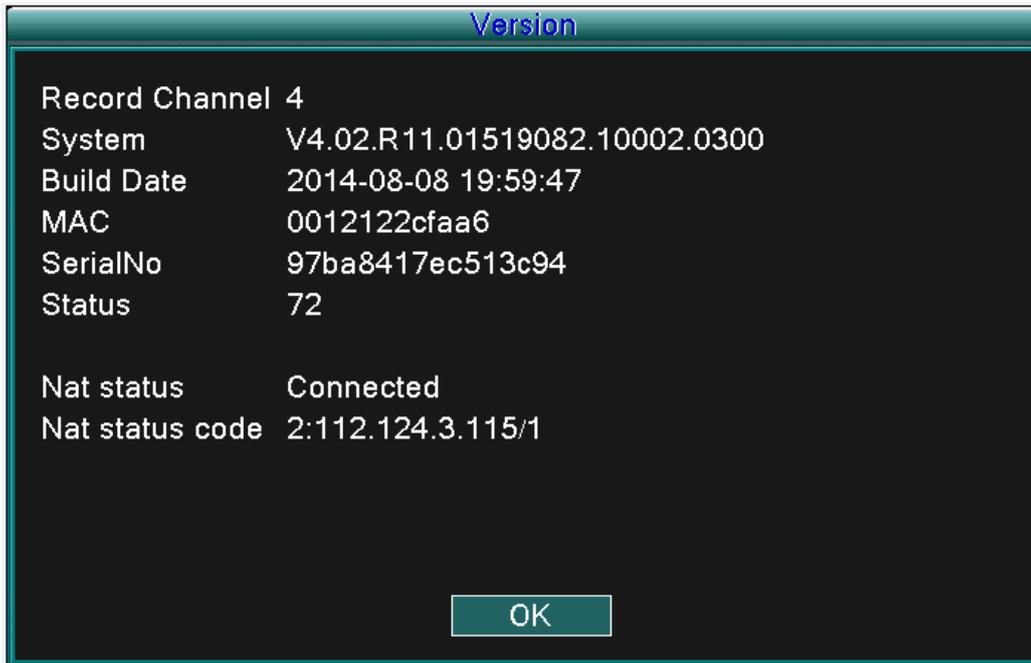
Picture 4.22 Version

4.6.3 Motion Detect

When the system detects a motion signal that reaches the set sensitivity point, the motion detect alarm activates and the linked function (such as Send email, show message, or buzzer) is turned on.

Picture 4.23 Motion Detect

【Channel】Choose the set motion detect channel.

【Status】Indicates if the motion detect function is on or off.

【Sensitivity】Choose six sensitivity options.

【Algorithm rules】Click set and enter the set area. The area is divided into PAL 8x8. Green block means the current cursor area. Yellow block means the dynamic detect defensive area. Black block means the unfenced area. You can set the area as followed, Drag the mouse and draw the area.
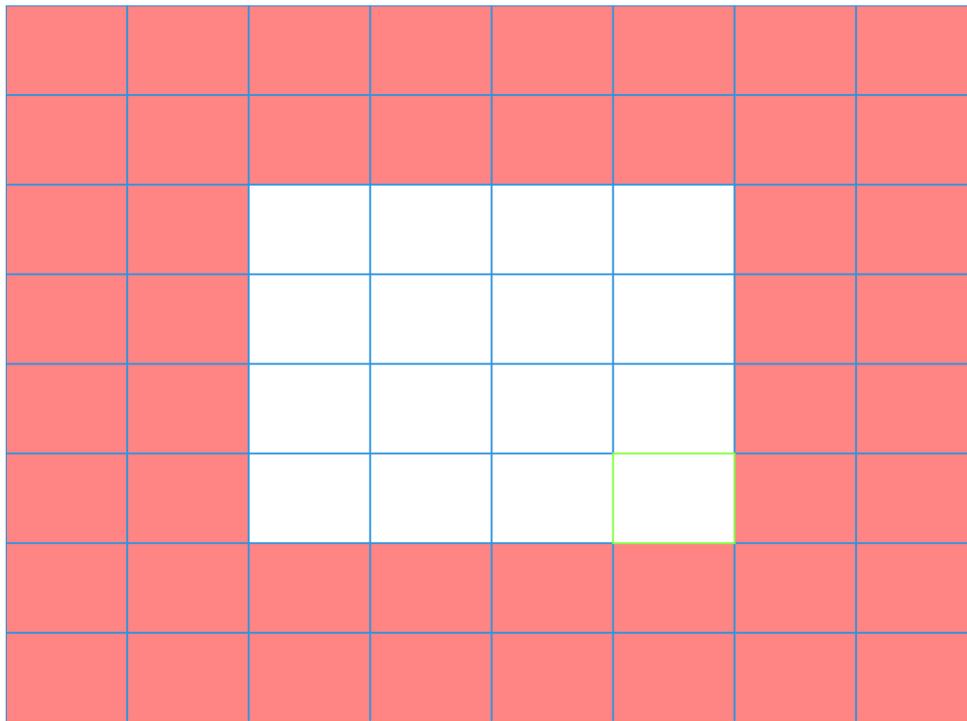
Picture 4.24 Region

【Record Delay】When alarm is over, recording will last some seconds(10~300sec),then stop.

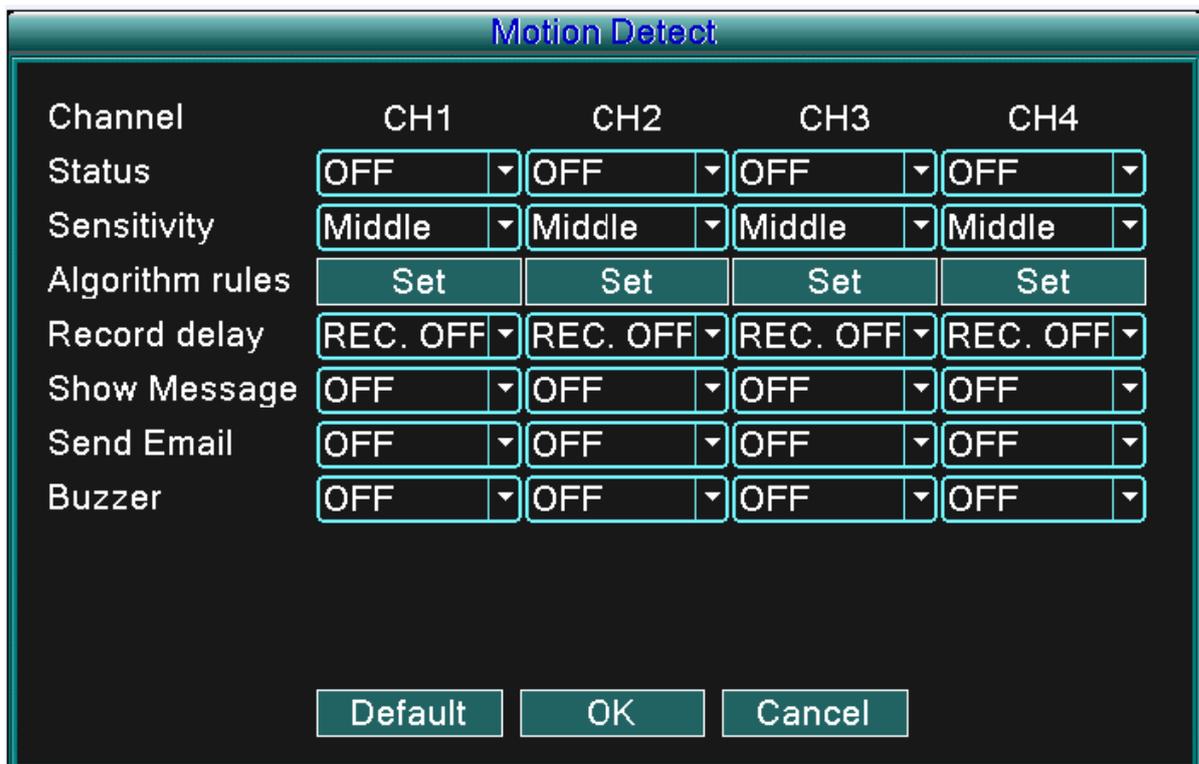【Show message】The alarm information dialog box will open in the local host computer screen.

【Send EMAIL】Means sending an email to user when the motion detect alarm is activated.

　　Note: Set in the [Net Service] to send email.

【Buzzer】Buzzer alarm will sound twice when the motion detect alarm is activated.

4.6.4 Mobile Monitor

To monitor the system by mobile device, please make a router mapping of this port and use CMS to monitor and operate it by protocol.
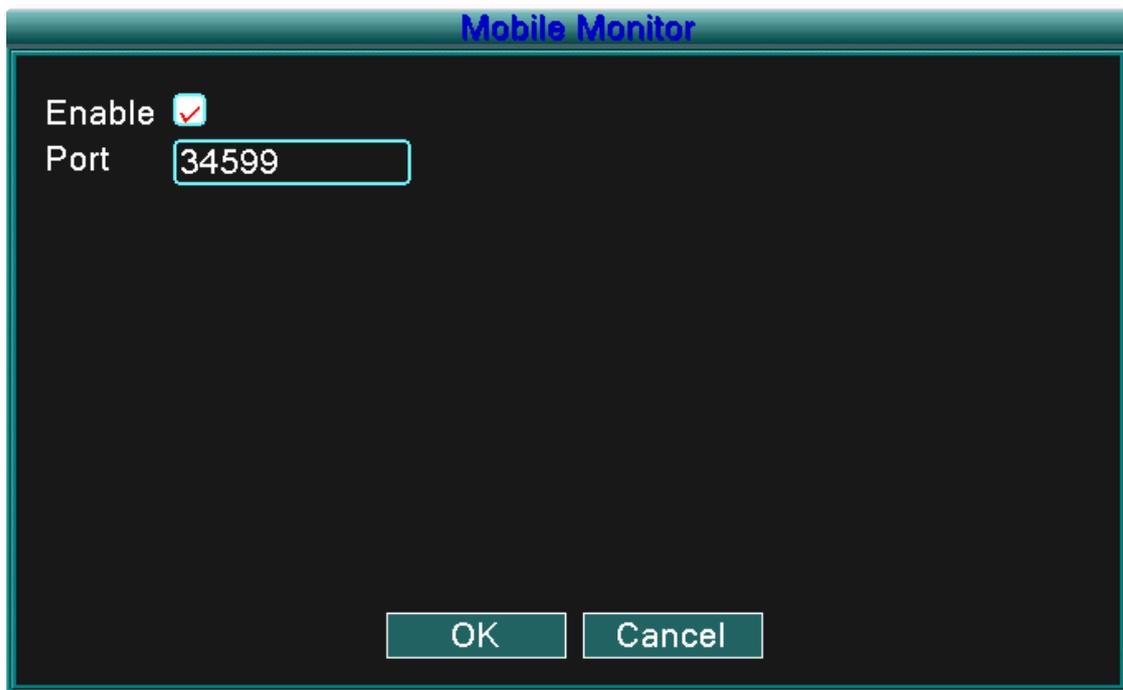
Picture 4.22 Mobile Monitor

【Enable】Select it to activate function.

【Port】 The port used for mobile monitoring which you need to make a router mapping of if want to

monitor by mobile device.

4.6.5 Auto Maintain

The user can set parameters to include:

Auto reboots time, System Upgrade, Default Settings, Log, Log out, Shut down, reboot, ETC.
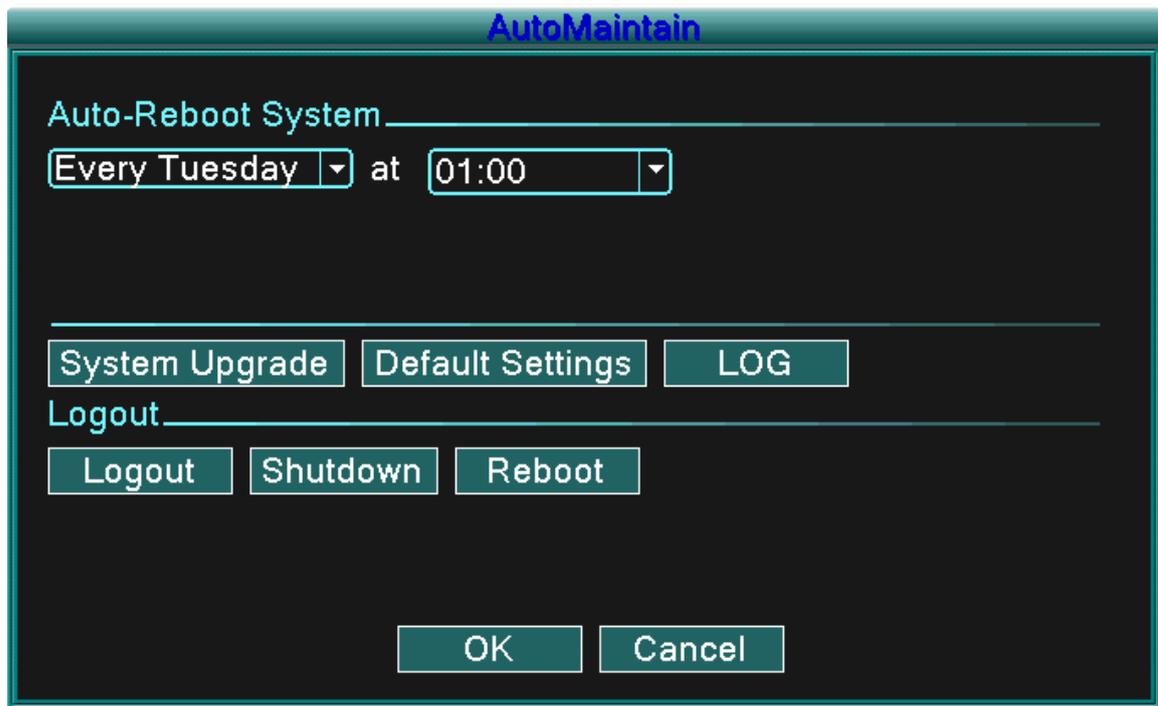
Picture 4.23 Auto maintain

【Upgrade】
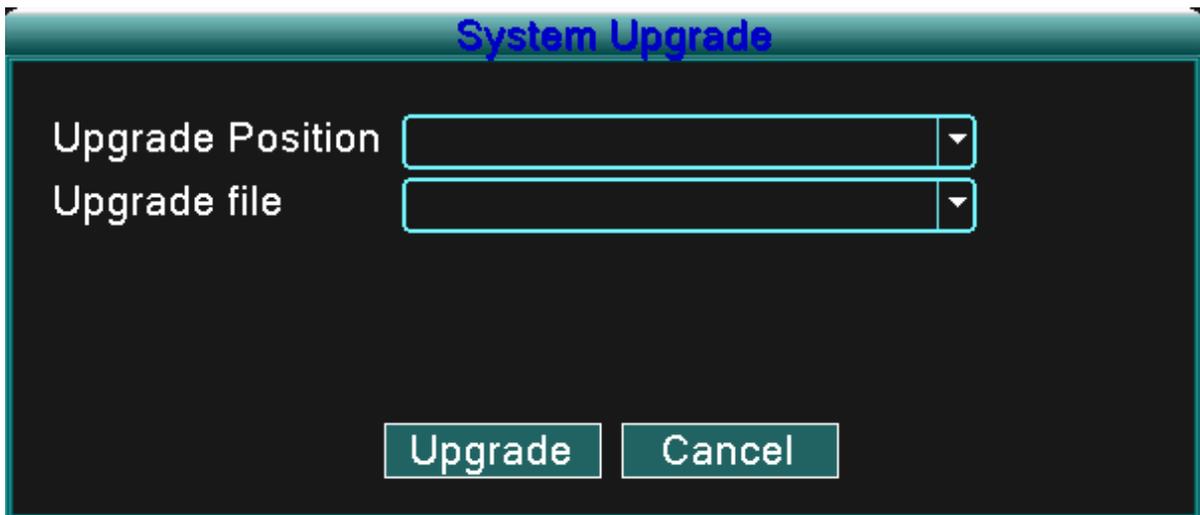
Picture 4.24 Upgrade

Upgrade Position: Choose USB interface.

 Upgrade file: Choose the file which needs upgraded.

 Note: After Upgrade operation, the DVR will reboot.

【Default Settings】

The system restore to the default setup. You can choose the items according to the menu.
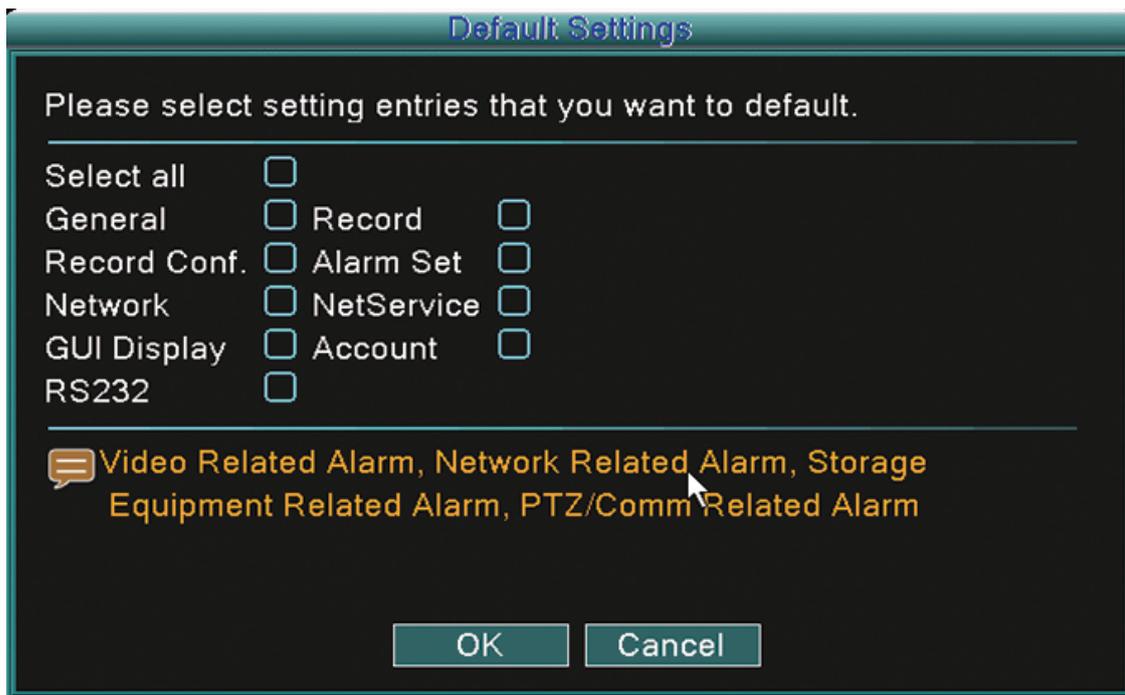
Picture 4.25 Restore

【Log】

Look up system log according to the set mode.

Log information includes: system operation, configuration operation, data management, alarm affair, recording operation, user management, and file management, ETC. Set the time section to look up and click the look up button. The log information will display as a list (one page equals 128 items). Click Page up or Page down button to search log and click Remove button to clear that log information.

Picture4.26 LOG

【logout】Quit the menu and password is required for next entry.

【shutdown】Quit the system. Power off DVR.

【reboot】Quit the system. Reboot system.

4.6.6 PTZ Configure

Picture 4.27 PTZ Configuration

【Channel】Choose the dome camera input channel.

【Protocol】Choose the corresponding dome protocol. (PELCOD as an example)

【Baud rate】Choose the corresponding dome baud rate length. You can control the PTZ and

division. Default: 115200.

【Data bits】Include 5-8 options. Default: 8.

【Stop bits】Include 2 options. Default: 1.

【Parity】Includes odd check, even check, sign check, blank check. Default: void.

【Address】Set as the corresponding dome address. Default: 1. （Note：The address must be

consistent with the dome address.）

Note：Clicking the "Default" button will replace all configurations with default settings.

4.6.7 Network

Network setup includes:
Static IP, DHCP, PPPoE, DDNS, UPNP, ETC.
【Static IP】

Picture4.28 Network

【Type】select Static IP mode.

【TCP/Media port】Default: 34567.

【HTTP/Web port】Default: 80.

【IP address】Set the IP address. Default: 192.168.1.10.

【Subnet mask】Set the subnet mask code. Default: 255.255.255.0.

【Gateway】Set the default gateway. Default: 192.168.1.1.

【DNS setup】Domain Name Server. It translates the domain name into an IP address. The IP
address is given by network provider. The address must be set and the system
rebooted to become effective.

【DHCP】Get the IP address from the router automatically.
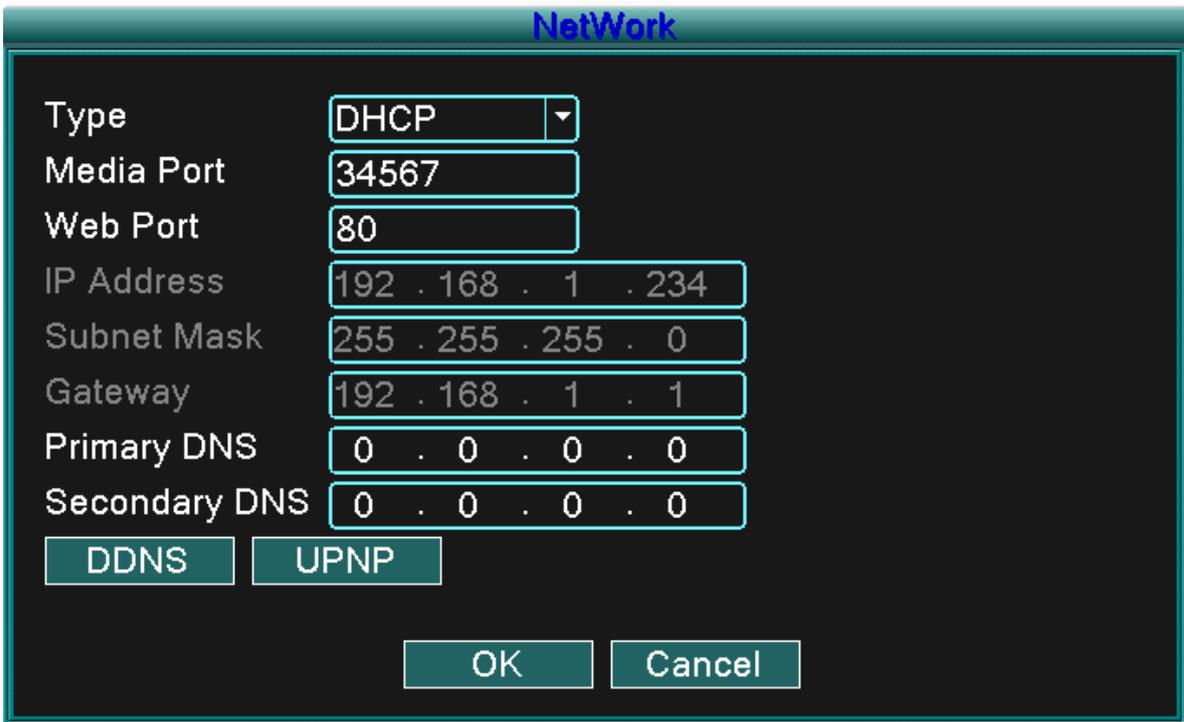
Picture4.29 DHCP

【Type】select DHCP IP mode.

【TCP/Media port】Default: 34567.

【HTTP/Web port】Default: 80.

【DNS s etup】Domain Name S erver. I t t ranslates t he do main na me i nto I P addr ess. T he I P

address i s given by the network pr ovider. The addr ess m ust b e set and the

system rebooted to become effective.

【PPPoE】

Picture 4.30 PPPOE

Input the user name and password that ISP（Internet service provider）provides. After saving reboot your s ystem to b ecome ef fective. T hen t he D VR w ill b uild a ne twork c onnection b ased o n the PPPoE. The I P addr ess w ill c hange i nto a dynamic I P addr ess af ter the above o peration i s successful.

Operation：After the PPPoE dialup is successful the IP address [IP address] is obtain and entered as the current IP address and then use this IP address to visit the DVR through user port.

【DDNS】

Is the abbreviation of Dynamic Domain Name Server.

Local domain name：Provide the domain name registered by DDNS.

User name：Provide the account name registered by DDNS.

Password：Provide the password registered by DDNS.

When the DDNS is successfully configured and started, you can connect by entering the domain name in the IE address column to monitor.

Note：The DNS setup must be configured correctly in the network setup.

Picture 4.31 DDNS setup

【UPNP】UPNP protocol can auto port forwarding on router, make sure UPNP is running on router

before using it.

Picture 4.32

【Enable】 Choose Enable to make sure all UPNP settings are available

【HTTP】Router will automatically distribute HTTP port for the device, when IE viewing, it will require

this port setting (e.g. 60.12.9.26:66)

【TCP】Router will automatically distribute TCP port for the device, when monitoring via CMS, it will

require this port setting.

【Mobile Port】Router will automatically distribute Mobile Port for the device, when mobile monitor, it

will require this port setting.

5 FAQ and maintenance

5.1 FAQ

1.   **The DVR cannot boot up normally.**

   Possible reasons:

   1.   The power supply is not correct.

   2.   Verify power switch is ON.

   3.   Power supply may be damaged.

   4.   The program update is incorrect.

   5.   The hard disk is damaged or the hard disk cables are broken or not connected.

   6.   The front panel array is damaged.

   7.   The main board of the DVR is damaged.

2.   **The DVR reboots automatically or stops working after a few minutes.**

   Possible reasons:

   1.   The input voltage is not stable or too low.

   2.   The hard disk is damaged or the hard disk cables are broken or not connected.

   3.   Video signal is not stable.

   4.   Too much dust or poor environment conditions.

   5.   The DVR hardware is damaged.

3.   **System cannot detect hard disk.**

   Possible reasons:

   1.   The hard disk power supply line is not connected.

   2.   The cables of the hard disk are damaged or not connected properly.

   3.   The hard disk is damaged.

   4.   The SATA port of main board is damaged.

4.   **There are no video outputs in single channel, multiple channels, or all channels.**

   Possible reasons:

   1.   The software program and drivers may need to be updated.

   2.   The image brightness is set to 0. Please restore the default settings.

3. There is no video input signal or the signal is too weak.

4. The channel protection or the screen protection is set.

5. The DVR hardware is damaged.

5. **Real-time image problems such as the image color or the brightness distortion.**

Possible reasons:

1. When using the BNC output, the option between the N mode or PAL mode is incorrect and the image becomes black and white.

2. The DVR is not matched the monitor impedance.

3. The video transmission distance is too far or the loss of the video transmission line is too large.

4. The color and brightness setting of the DVR is incorrect.

6. **I cannot find the video files in local playback mode.**

Possible reasons:

1. The data line of the hard disk is damaged.

2. The hard disk is damaged.

3. Update the program with the original program files.

4. The video files to look up are hidden or within another file.

5. The recording function is not set to ON.

7. **The local video is not clear.**

Possible reasons:

1. The image quality is bad.

2. The reading program is incorrect, reboot the DVR.

3. The data line of the hard disk is damaged.

4. The hard disk is damaged.

5. The DVR hardware is damaged.

8. **There is no audio signal in the surveillance window.**

Possible reasons:

1. It is not an active audio channel.

2. The audio files are damaged.

3. The audio lines are damaged.

4. The DVR hardware is damaged.

9. **There is audio signal in the surveillance window but no audio signal during playback.**

    Possible reasons:

    1. The audio option is not chosen in the settings.

    2. The allocated channel is not connected with the video.

10. **The time is wrong.**

    Possible reasons:

    1. Incorrect settings.

    2. The battery is bad or the voltage is too low.

    3. The DVR hardware is damaged.

11. **The DVR cannot control the PTZ.**

    Possible reasons:

    1. There is something wrong with the PTZ.

    2. The settings, connection, or the installation of the PTZ decoder is incorrect.

    3. The connections are not correct.

    4. The DVR PTZ settings are incorrect.

    5. The protocols of the PTZ decoder and the DVR are not matched.

    6. The address of the PTZ decoder and the DVR are not matched.

    7. When multiple decoders are connected, the far port of the PTZ decoder line A (B) must connect to a 120 Ω resistance to reduce the reflection, otherwise the PTZ control is not stable.

    8. The distance is too far.

12. **The motion detect function is not working,**

    Possible reasons:

    1. The time range setting is incorrect.

    2. The motion detect area setting is incorrect.

    3. The sensitivity is too low.

    4. Limited by some hardware version.

13. **I cannot login via web or CMS.**

    Possible reasons are as followed:

1. The systems are Windows® 98 or ME. Update to Windows® 2000 SP4 or higher version.

2. ActiveX is disabled.

3. The driver version must be higher than dx8.1. Update the display card driver.

4. Network connection failure.

5. Network setting issues.

6. Invalid password or user name.

7. The CMS does not match the DVR program version.

14. The image is not clear or there is no image in network preview state or video file playback state.

Possible reasons:

1. Network is not stable.

2. The user machine resources are limited.

3. Choose the play-in-team mode in the network setup of DVR.

4. The region shelter or channel protection is set.

5. The user has no surveillance authority.

6. The real-time image of the hard disk recording machine itself is not clear.

15. Network connection is not stable.

Possible reasons:

1. Network is not stable.

2. IP address conflict.

3. MAC address is conflict.

4. The net card of the DVR is bad.

16. There is something wrong with the USB backup or writing to a CD.

Possible reasons:

1. The rewritable CD drive and the hard disk share the same data lines.

2. The data file is too large, stop recording and backup.

3. The data exceeds the backup storage limit.

4. The backup equipment is not compatible.

5. The backup equipment is damaged.

17. The keyboard cannot control the DVR.

Possible reasons:

1. The serial port of the DVR is not set correctly.

2. The address is not correct.

3. When multiple transformers are connected, the power supply is not large enough. Please give each transformer an individual power supply.

4. The distance is too far.

18.   **The remote control is not working,**

Possible reasons:

1. The remote control address is not correct.

2. The remote control distance is too far or the angle is too large.

3. The batteries are low on power.

4. The remote control IR on the front panel of the DVR is damaged.

19.   **The storage time is not enough.**

Possible reasons:

1. The hard disk capacity is too small.

2. The hard disk is damaged.

20.   **The downloaded files cannot play.**

Possible reasons:

1. There is no media player.

2. There is no DX8.1 software or higher edition.

3. There is no DivX503 Bundle.exe file to play AVI video files.

4. The D ivX503 Bundle.exe and f fdshow-2004 101 2 . exe f iles must b e i nstalled i n t he Windows® XP system.

21.   **I cannot remember the advanced code or network code in the local menu operation.**

Please contact your local IP service.

5.2 Maintenance

1. Please ensure the system is grounded to prevent video or audio signal interference and the DVR from static or inductive electricity.

2. Do not disconnect the video signal line, RS-232 port, or RS-485 port with the power on.

3. Do not connect a TV to the local video output port (VOUT) of DVR. It will damage the video output circuit.

4. Do not turn the power switch off directly. Please use the shutdown function in the menu or click the turn-off button in the panel to protect the hard disk.

5. Please keep the DVR away from heat resource.

6. Please keep the DVR ventilated for better heat radiation.

7. Please check the system and maintain regularly.

Appendix 1. Remote control operation
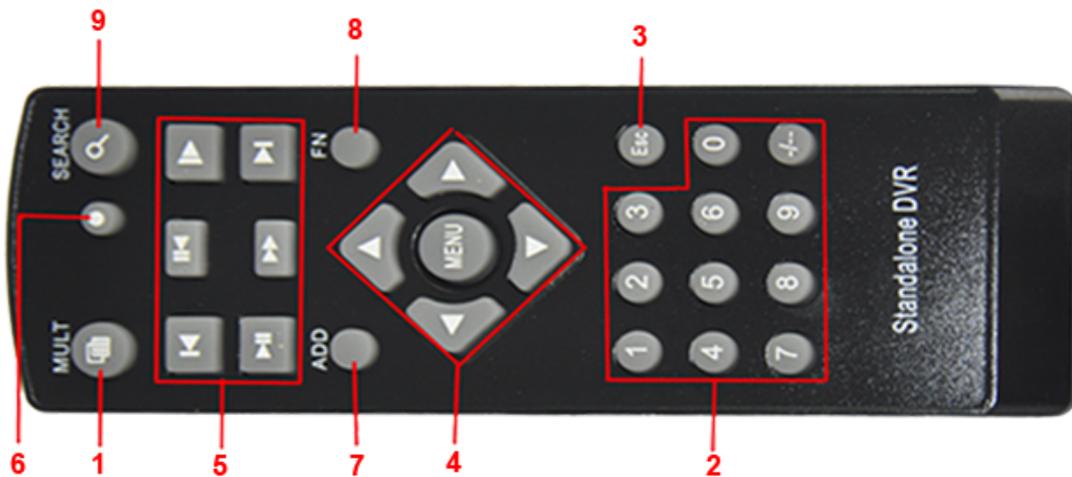
Serial number	Name	Function
1	Multi-window button	Split screens button
2	Numeric button	Code input/number input/channel switch
3	【Esc】	Exit button
4	Direction button	Up,Down,Left,Right and Enter/Menu button.
5	Record control	Control the record
6	Record mode	Enter short menu as "record mode" button
7	ADD	Input the number of DVR to control it
8	FN	Assistant function
9	Search	Search record files to playback.

Appendix 2. Mouse operation

The USB ports support mouse operations.

NOTE: Units with front and rear mouse USB ports can only utilize one port at a time – if a USB device is connected to one of the ports the other is automatically deactivated. The bottom rear USB port is designated for USB backup drives.

Operation	Function
Double left click	Double c lick one i tem i n t he f ile l ist t o p layback t he video.
	Double click the playback video to zoom in or out.
	Double click the channel to make it display full screen.
	Double click again to resume the multi-window display.
Left click	Choose the associated function in the menu
Right click	Open the desktop shortcut menu in a preview state
	Current shortcut menu in the main menu
Press middle button	Add or subtract number in the number setting
	Switch the items in the combo box
	Page up or down in the list
Move mouse	Choose the widget or move the item in the widget
Drag mouse	Set the motion detect area
	Set the cover area

Appendix 3.Hard disk capability calculation

Verify the following when installing the hard drive in the DVR for the first time:

1. Hard disk capacity

There is no limit for recording machine. We recommend 120G~ 250G sizes to keep better stability.

2. Overall capacity option

The hard disk capacity formula is:

Overall capacity（M）= channel number*time（hour）*capacity in an hour（M/hour）

The recording time formula is:

$$\text{Recording time（hour）} = \frac{\text{overall capacity（M）}}{\text{Capacity in an hour（M/hour）*channel number}}$$

The DVR introduces the H.264 compression technology. Its dynamic range is very large so the hard disk capacity calculation is based on the estimation values of each channel creating files in an hour.

Example:

For one 500G HDD, real time CIF for recording, it will keep recording for about 25 days. HDD spaces per channel are 200M/H, if 4channels real time CIF at 24hours recording uninterrupted, it can last: 500G/(200M/H*24H*4ch) = 26 days

Appendix 4. Technical Specifications

	Type	4ch
System	Main processor	Technical grade embedded microprocessor HI3515C
	Operation system	Embedded LINUX operation system
	System resource	Multi-channel real-time recording synchronously, multi-channel real-time ,playback, multi-channel multi-user network operation, USB back up.
Interface	Operation interface	16bit real color GUI interface support mouse operation
	display	1/4 screen (take analog channel as an example, other is base on the selected channel mode)
Video	Video standard	PAL（625 lines，50fps）；NTSC（525 lines，60fps）
	Surveillance image quality	Monitor：D1；VGA，HDMI：High definition （support1280*720,1440*900,1280*1024, 1024*768、800*600）
	Playback image quality	D1/HD1/CIF
	Video compression	H.264(High Profile)
	Video control	4D1 real-time
	Recording speed	100/120fps (D1)
	Motion detect	Each channel can set 192（16*12）detection area；can set multi-level of flexibility (for local analog channel only)
Audio	Audio compression	G711A
	Bidrectional Talk	Support
Record	Recording mode	manual >alarm>motion detect>timing

And Playback	Playback	Any channels playback, multiple channels playback
	Search mode	Time searching, calendar searching, affair searching, channel searching, information searching
Storage And backup	Space Occupation	Audio: 28.8MB/H V ideo:25～450MB/H
	Recording storage	Hard disk, network
	Backup mode	Network, USB flash, USB movable HDD,USB DVD-RW
Port	Video input	4ch CVBS/BNC(1.0Vp-p,75Ω)
	Video output	1ch CVBS/BNC(1.0Vp-p,75Ω)，1ch VGA，1ch HDMI
	Audio input	1ch RCA(200-2800mV,30KΩ)
	Audio output	1ch RCA(200-3000mV,5KΩ)
	Network port	RJ45 10M/100M self-adaptive Ethernet port
	PTZ control port	1 RS485；support multi kinds of PTZ protocol
	USB port	2* USB2.0 ports
	Hard disk port	1 SATA ports（each max to 4TB）
Other	Power supply	12V/2A external power supply
	Power consumption	<15W （ without hard disk)
	Working temperature	0 ℃~55 ℃
	Working humidity	10%－90%
	Air pressure	86kpa－106kpa
	Size	L330*W250*H55MM
	Weight	2kg（without hard disk）
	Installation	Desktop

Appendix 5. DVR Accessories

Reference only, Prevail in kind!

Power Cord

Power Supply

USB Mouse

Remote Controller

Software CD

User Manual