QSC26404 Net DVR User Manual V2.1

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Thank you for purchasing our Net DVR. This manual applies to the QSC26404 model. Please read this Manual carefully to ensure that you can use the device correctly and safely.

DISCLAIMER: The contents of this Manual are subject to change without notice; we are also not responsible for typing errors or errors of omission.

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Chapter 1: Product Introduction

1.1 Summary

The QSC26404 network digital video recorder is an excellent digital surveillance product. It uses embedded MCU and Linux, combining the most advanced technology in the Information Industry such as video and audio encoding/decoding, hard disk recording and TCP/IP. The firmware is burned into flash memory, which is more stable and reliable.

The QSC26404 has both the features of a digital video recorder (DVR) and a digital video server (DVS). It can work as stand alone, or be used to build a powerful surveillance network, widely used in banking, telecommunications, transportation, factories, warehouses, irrigation, etc.

1.2 Features

Compression

H.264 video compression algorithm and each channel can be real time (PAL is 25FPS and NTSC is 30FPS).

Supports multi-zone motion detection.

Supports mask function to mask sensitive areas.

Supports view tampering alarm function for spiteful camera block.

Supports video signal loss alarm function.

Supports position configurable OSD&LOGO.

Supports both constant bit rate and variable frame rate.

Supports dual-stream and the sub stream can support CIF/QCIF compression resolutions.

Storage Functions:

1 IDE interface for 1 HDD that can support up to 2000GB maximum.

Supports HDD S.M.A.R.T function.

Supports FAT32 file system.

Supports many recording modes: manual recording, motion detect recording, external alarm recording, motion & alarm recording, motion | alarm recording.

Supports cycle and non-cycle record mode.

Supports USB flash drive, USB hard disk and USB DVD/CD-RW for backup.

Preview & Playback Functions:

Supports one composite and one spot video output, and one VGA output.
Supports fast/slow playback, pause, forward, backward, frame by frame, etc.
Uses define preview layout.
Supports one channel playback

Network Functions:

Supports TCP, UTP, RTP, Multicast, DHCP, etc.
Supports ADSL (PPPoE) dialup function.
Remote parameters setup.
Remote playback, download the recorded files in DVR.
Remotely upgrade DVR firmware.
Remotely control PTZ.
Supports Internet Explore for network control
Remotely get alarm information of DVR.

Others:

Supports network voice talk.
Supports PTZ local and remote control.
Supports multi-lever user management.
Supports local and remote search log function.
Automatic recovery from exceptions leads to high reliability.
SDK and demo source code available to shorten the application development time.

Chapter 2: Installation

Warning: Before you install the DVR, please make sure the power to the DVR is switched off.

2.1 Checking the DVR and Its Accessories

When you get the product, check that all the items are included in your product package. There is a list in the package. If any of the items are missing, please contact your dealer.

2.2 Hard Drive (HDD) Installation

Installation Notice

The DVR does not have a HDD when leaving the factory. Based on the recording schedule, you can calculate the total capacity you need (refer to Appendix A). Please have a qualified technician disassemble the DVR and install the HDD.

Note: Many retailers that include this DVR as part of a bundled package include a hard drive, so your unit may already have one installed as part of the package. If so, these steps are not necessary.

Installation Tools

One Phillips screw driver.

HDD Installation

1. Remove the DVR box lid.
2. Place the HDD on the mounting plate.
3. Connect the ATA data cable correctly. The cable has three connectors for DVR main board, master HDD and slave HDD.
4. Plug in the HDD power connector.
5. Replace and reattach the DVR box lid.

Note: After the HDD is installed, it must be formatted. Please refer to Chapter 6.4.

2.3 Rear Panel Description
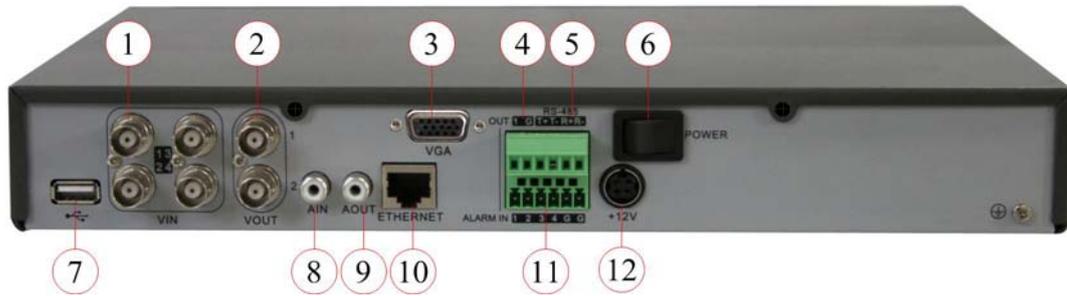
Fig 2-1 QSC26404 Rear Panel

1- Video in	2- Video out	3-VGA video out
4- Alarm out	5- RS485 T+ T- R+ R-	6- Power switch
7-USB 2.0 Port	8- Audio in	9- Audio out
10- Ethernet port	11- Alarm in	12- +12V DC power supply

Chapter 3: Operational Instructions

3.1 Front Panel

Fig 3-1 Front Panel

Form 3-1 Items on Front Panel

Index	Type	Name	Description
1	Light		IR receiver for remote control.
2	Status Lights	Power STATUS Tx/Rx	Green means DVR is working; Red means DVR is powered off; Green means you can use IR remote control. Blinking means data is transmitting.
4	Numeric Keys		Input number, lower case, upper case character and symbols.
	Function Keys	MENU 2 3 ESC EDIT PLAY REC PTZ PREV	1. Switch preview mode in menu; 2. Brush control short key【WIPER】. 3. Press 【MENU】for more than 5 seconds to cancel button beep sound. 【ZOOM-】in PTZ control. 【ZOOM+】in PTZ control. Cancel and back to parent menu. 1. In edit state, delete the current cursor character; 2. 【IRIS+】in PTZ control; 3. Select ✓ or × to enable or disable. 1. Local playback;

		A	2. 【AUTO】in PTZ control.
			1. Manual record;
			2. 【SHOT】in PTZ control (adjust preset).
			1. Enter into PTZ control mode;
		SHIFT	2. 【IRIS-】in PTZ control..
			1. Multi screen preview switch;
			2. Switch menu mode into preview;
			【FOCUS-】in PTZ control.
			1. Input switch (number, lower case, upper case and symbol);
			2. 【FOCUS+】in PTZ control;
			3. In preview mode, display or hide the channel status bar.
			Switch between numeric keys and function keys
3	Control Keys	Direction Keys	Composed of 【↑】, 【↓】, 【←】 and 【→】.
			1. Menu mode, use 【←】/【→】 select, 【↑】/【↓】 to edit;
		ENTER	2. PTZ direction control;
			3. Playback speed control.
			1. Menu confirmation;
			2. Select ✓ or × to enable or disable;
			3. Pause playback.

3.2 IR Remote Control

Fig 3-2 IR Remote Control Layout

Form 3-2 Functions of Remote Control

Index	Name	Description
1	POWER	Turnoff device.
2	DEV	Enable/Disable IR remote control
3	Numeric Keys	Same as numeric keys on front panel.
4	EDIT	Same as EDIT key on front panel.
5	A	Same as A key on front panel.
6	REC	Same as REC key on front panel.
7	PLAY	Same as PLAY key on front panel.
8	INFO	Same as INFO key on front panel.
9	VOIP	Same as VOIP key on front panel.
10	MENU	Same as MENU key on front panel.
11	PREV	Same as PREV key on front panel.
12	Direction Keys ENTER	Same as direction keys and enter key on front panel.
13	PTZ	Same as PTZ key on front panel.

14	ESC	Same as ESC key on front panel.
15	Reserved	
16	F1	Same as【F1】key on front panel.
17	Lens control	IRIS, FOCUS ZOOM for lens control on PTZ camera.
18	F2	Same as【F2】key on front panel.

Loading the Batteries Into the Remote Control

1. Remove the battery cover.
2. Insert the battery. Make sure that the poles (+ and -) are correctly positioned.
3. Replace the battery cover.

Starting the Remote Control

Press【DEV】key, input the DVR device ID (default is "88", can be changed in "Display" menu) and then press the【ENTER】key. If the "STATUS" light of the DVR front panel is green, it means you can use the remote control to operate the DVR.

Disabling the Remote Control

When the remote control status is on, press【DEV】key again, the "STATUS" light will turn off. Then the remote control can not control the DVR.

Powering Down the DVR

When the remote control status is on, press【POWER】key for several seconds, the DVR will be powered off.

If Remote Control Does Not Work

● Check pole positions of batteries.
● Check the remaining charge in the batteries.
● Check to see if the sensor is blocked.
● If the problem still exists, please contact Administrator.

3.3 Menu Description

3.3.1 Menu Items

Form 3-3 List of Menu Options

Menu Name	Function	Menu Name	Function
Display	Unit name Device ID Require password Screen saver Video standard Enable scalar Brightness Menu transparency VGA resolution Date and Time Preview	**Image**	Select camera Camera name Color setup Date - screen position View tampering area and response setup Video signal loss Motion detection on/off area and policy setup Advanced settings Copy to camera function
Recording	Overwrite/Stop recording Select camera Stream type Resolution Frame rate Bit rate Enable Rec & Schedule PreRec time PostRec time Copy to camera function	**Network**	DVR IP address DVR port Subnet mask Gateway Remote host IP Remote host port http Port Email Advanced setup
Alarms	Select Alarm in Alarm input type (Normal open/ Normal close) Alarm handling & policy PTZ linkage Copy to alarm in Alarm out & time Alarm out schedule Copy to alarm out Exceptions	**PTZ**	PTZ parameters Preset setup Sequence setup Cruise setup
User Password	Add or delete user Password setup or modification User rights setup	**Utilities**	Restore parameters Upgrade firmware HDD management Stop alarm output Reboot View log System information

3.3.2 Menu Operation

How to Enter Into Menu Mode

● Press【MENU】key to enter into DVR main menu.

● Press【PLAY】short key to enter into playback menu.

● Press【REC】short key to enter into manual record menu.

● Press【PTZ】short key to enter into PTZ control interface.

   Note: You must input user name and password. The default user name is "admin" and password is "12345".

Main Menu Description

The main menu interface is shown in fig 3.3:
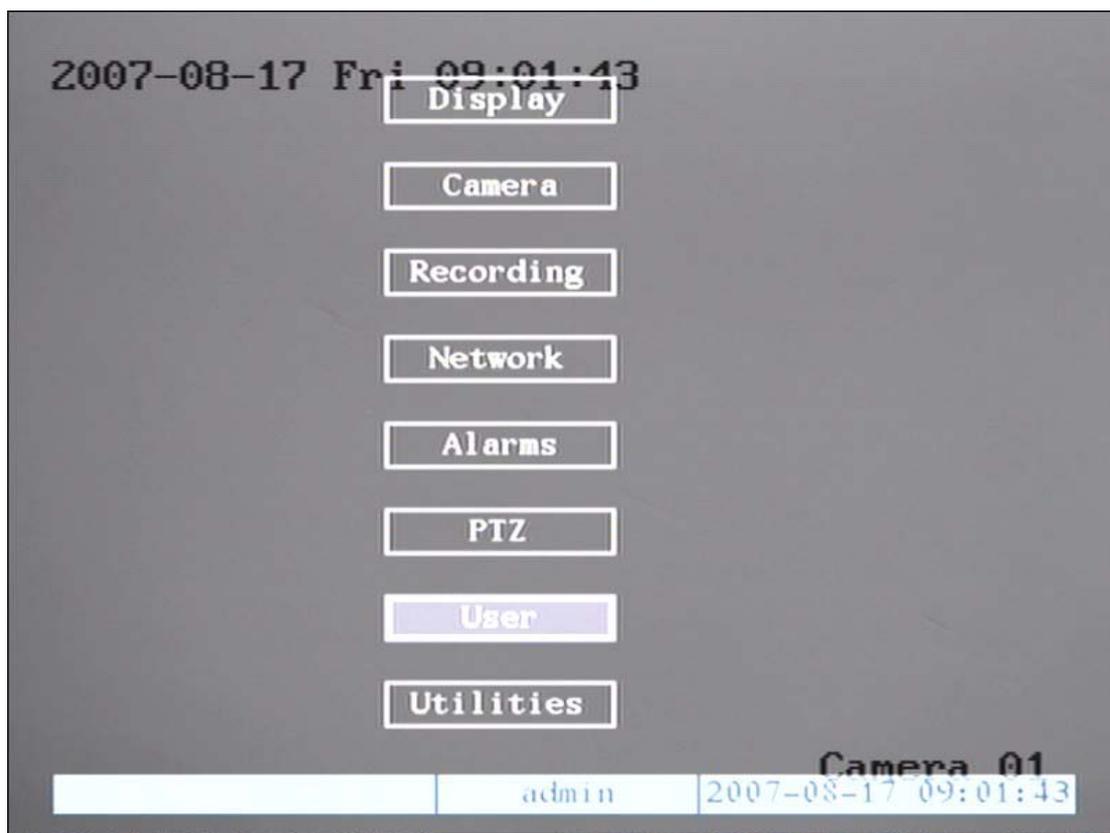
Fig 3.3 Main menu

There is one highlighted frame called the "Active Frame". It can be moved from one item to another by using the direction keys (【↑】【↓】). When the "Active Frame" is located on an icon, you can press the 【ENTER】key to enter into the sub menu. For example, move the "Active Frame" to the "Image" icon, press 【ENTER】to enter into the sub menu as in following fig 3.4:

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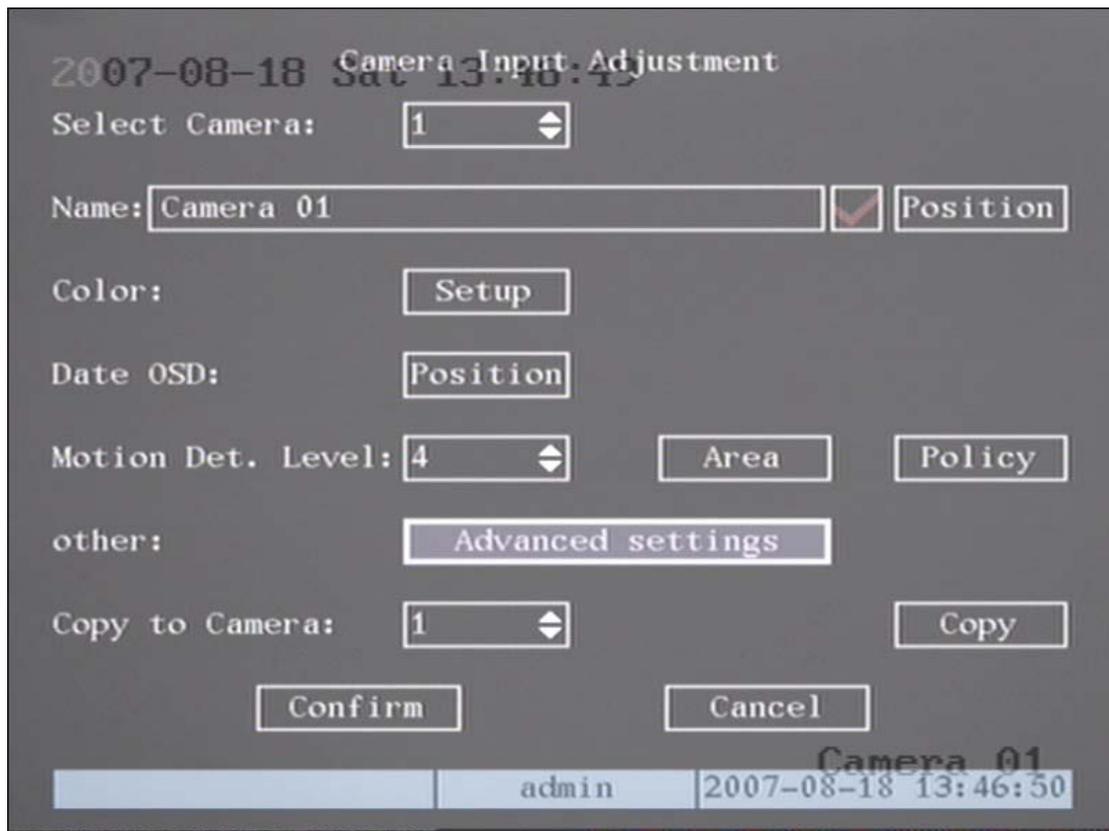
Fig 3.4 Camera input adjustments

Each menu contains different kinds of items. There is a small highlighted frame called the "Active Frame" which is to point to the selected item. This "Active Frame" can be moved by direction keys (【↑】【↓】【←】【→】). The different kinds of menu items are:

1. **Check Box**: Provides two options, "✓" means enabled and "×" means disabled. You can use 【ENTER】or【EDIT】key to switch.

2. **List Box:** Provides more than 2 options. However, only one of them can be selected. After pressing 【EDIT】 you can use【↑】and【↓】to select one option. For example, on the right side of "Select Camera", there is a list box for you to select one camera.

3. **Edit Box:** This is for you to input characters. Press【EDIT】key to enter into edit status, you can input text in the box:

   a) Press 【A】key to select number, upper case, lower case or symbols;

   b) Use【→】and【←】keys to move cursor;

    c) Use【EDIT】key to delete the character in front of cursor;

    d) Press【ENTER】to save & exit or【ESC】to exit without saving.

4. **Button:** Trigger a specific function or enter into next sub-menu. For example, press "Policy" button to enter into sub-menu. Press【Confirm】to save parameters and return to parent menu. Press【Cancel】button to cancel and return to parent menu. A button in grey means it can be operated only after it is enabled.

How to Exit Menu

Press【PREV】key to exit menu and return to preview mode.

3.4 Input Text

In the menu interface, if you are in edit status (for example, in the "camera name" edit box), at the bottom of screen, the input status appears:

Number   Number   admin   2005-07-05 10:26:31
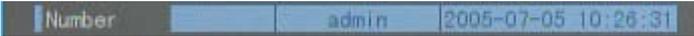
Here you can press numeric keys to input digital number.

Press【A】key to change input methods. You can select "Number", "Uppercase", "Lowercase" or "Symbol".

Uppercase   Uppercase   admin   2005-07-05 10:30:36

Lowercase   Lowercase   admin   2005-07-05 10:30:42

Symbol   Symbol   1 2 3, 4? 5! 6;   2005-07-05 10:30:49

There are 24 symbols in all. They are divided into 4 pages, and you can use【0】key to go to the next page.

Chapter 4: Basic Operation Guide

4.1   Power On

Note: Please make sure the power supply is the correct one for the DVR and the AC adapter is connected correctly. Before switching DVR on, please connect one monitor to VOUT or VGA interface, otherwise you can not see graphic user interface and can not operate the DVR.

If【POWER】light is off, please do the following:

Step1: Re-connect power cable;
Step2: Switch on the power button on the rear panel.

If【POWER】light is red, just press【POWER】button to start DVR.

When DVR is started,【POWER】light is green. On the monitor or VGA display, DSP and HDD initialization process will be shown.

The first line represents DSP initialization. If the DSP icon is "×", it means there is a DSP initialization error, please contact administrator at once.

The second line represents HDD initialization. If the HDD icon is "×", it means the HDD is not installed or not detected. If HDD is not detected, please contact administrator.

Note: If HDD is not installed or not detected, DVR will beep an alarm. You can disable the beeping in the "alarm" menu ->"Exceptions" option.

4.2 Preview

DVR will enter into preview mode after it is started.
On preview screen, you can see date, time, camera name and camera status icon.

Set system date and time in "Camera" → "Date OSD" menu, please refer to Chapter 5.5;
Change camera name in "Camera" menu, please refer to Chapter 5.5
On the screen, it will display record and alarm status of each camera. As shown in fig 4.1, These two types of status will switch over automatically.

Press【A】key to display or hide the camera status bar.

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Fig 4.1 Recording status

Form 4-1 Camera record status

Icon	Icon Color	Status Description
◯	White	No video signal
◯	Yellow	Video input
●	Pink	Manual recording
●	Green	Real time recording
●	Blue	Motion detection recording
●	Red	External alarm recording
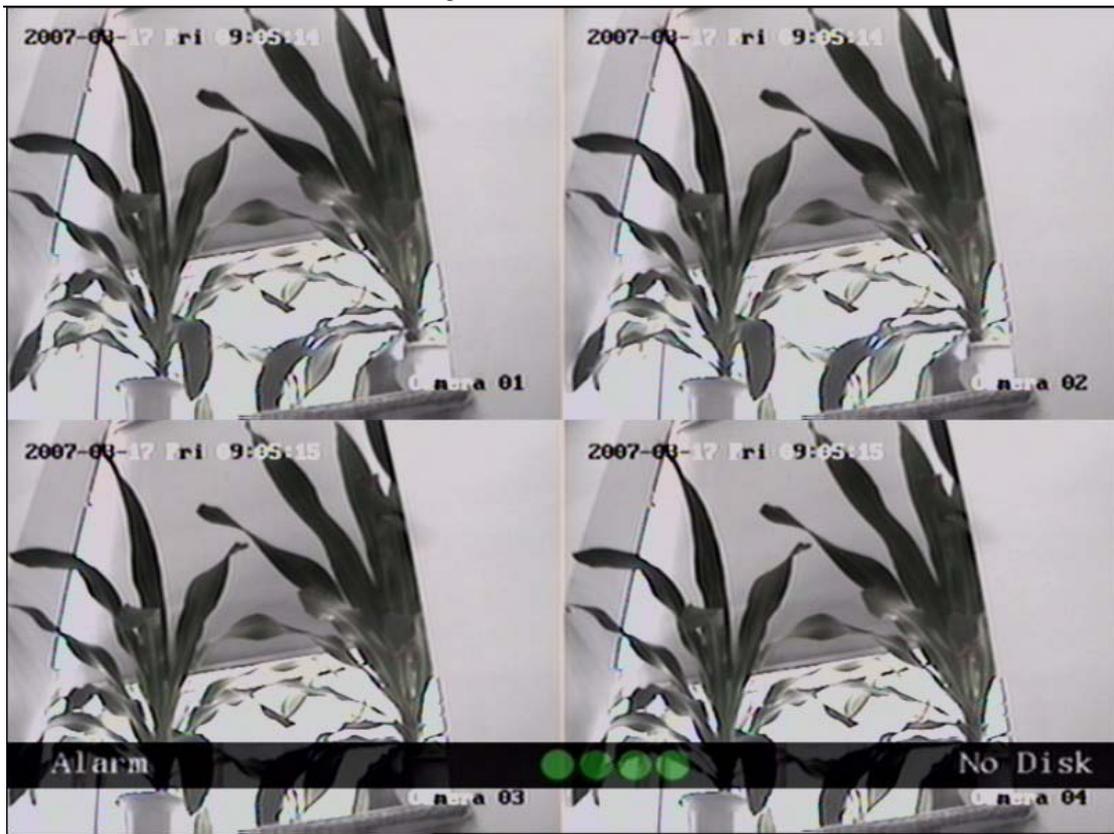
Fig 4.2 Alarm status

Form 4.2 Camera alarm status

Icon	Icon Color	Status Description
⚪	White	Video signal lost
🟡	Yellow	View tampering alarm
🟣	Pink	Motion & External alarm
🟢	Green	No alarm
🔵	Blue	Motion alarm
🔴	Red	External alarm

Press numeric keys to switch to individual camera view. For example, press 【2】 key to view 2nd camera.

Press【EDIT】key to manual cycle preview. You can set the auto preview mode in "Preview" menu, refer to Chapter 5.11.

Press 【PREV】 key to switch to multi-screen view.

4.3   User Name and Password

Note: When the DVR is delivered from the factory, there is only one default administrator named "admin", and the password is "12345". The administrator's name can not be modified, while the password can be modified. The administrator can create 15 users and define their user rights.

Login
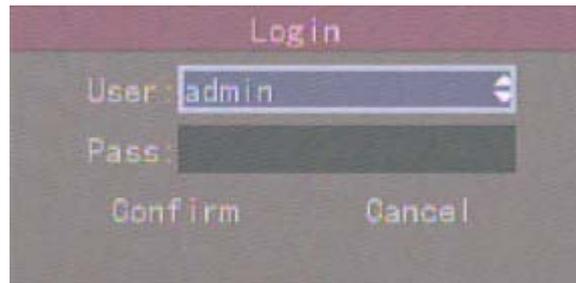
Fig 4.3 Login dialog

Use【↑】/【↓】keys to select one user, press【→】key to enter into "Password" edit box, input corresponding password, press【ENTER】key to exit edit box. The "Active Frame" will be moved to the "Confirm" button. Press【ENTER】key to enter into main menu. If there is beeping alarm, it means the user name and password do not match. After three incorrect tries, the DVR will enter into preview mode.

Change Password

For those users created by admin, they can change their password as follows:

Step1: Enter into main menu

Press【MENU】key, in the login dialog, select your user name, input the correct password, you can enter into the main menu. As the following picture shows:
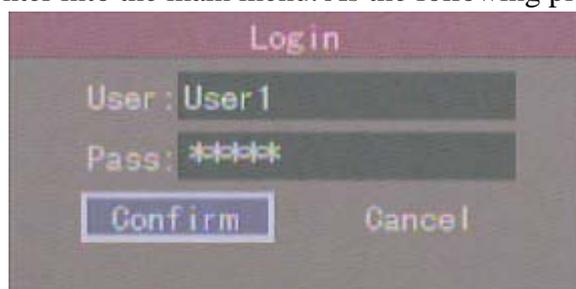
Fig 4.4 Input password
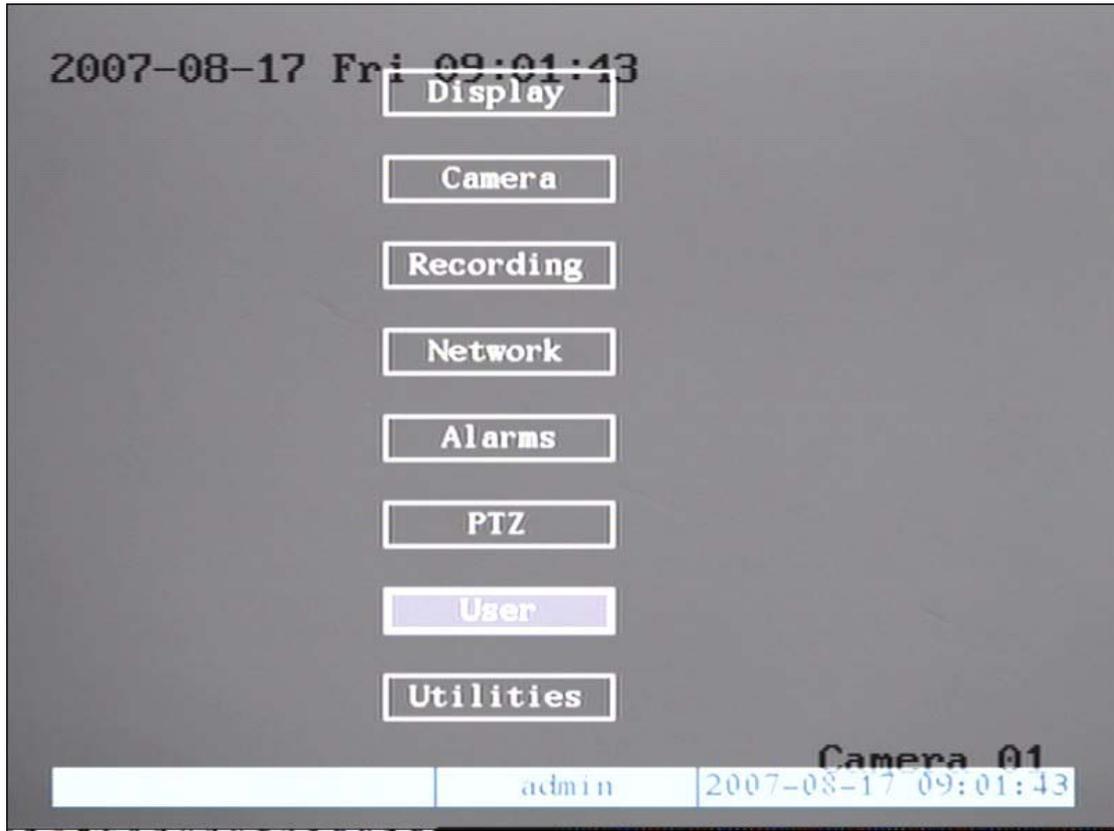
Fig 4.5 Main menu

Step 2: Select the objective user name by using 【↑】, 【↓】 then move the

"Active Frame" to "Password" icon by using 【→】 / 【←】 keys. As fig 4.6 shows:
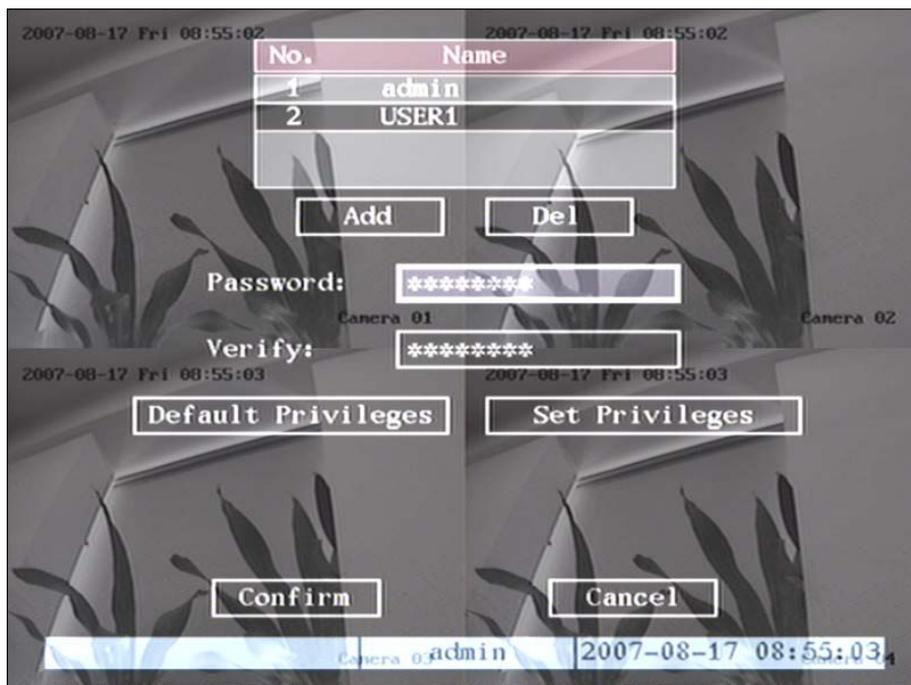

Fig 4.6 Change users' password

Step 3: Input new password

Use numeric keys to input new password. The password can be blank. It also can be 16 numbers. Press【ENTER】to exit edit box, and move to "Verify" item to verify password.

Note: In edit box, use 【→】/【←】to move cursor and【EDIT】key to delete the number in front of the cursor.

Step 4: Password modified successfully

Move the "Active Frame" to "Confirm" button, press【ENTER】key. If the password is modified successfully, you will return to the main menu, if not, an error dialog box will pop up. You can repeat step 3 to try again.

4.4   PTZ (Pan, Tilt, Zoom) Control

Note: The user must have "PTZ control" rights.

PTZ Control Interface

In preview mode, press the 【PTZ】 key, in the login dialog box, select one user name and input the correct password, you will enter into PTZ control interface.

In menu mode, press【PTZ】key, you can enter into PTZ control interface directly, shown in the following picture:

Fig 4.7 PTZ Control interface

Currently controlled camera's name is displayed in the position is selected by the user.

Select Channel

In PTZ control mode, you can press numeric keys to select channel. For example; press 【2】 key to select the PTZ camera on channel 2.

After you select the PTZ camera, you can use the control keys to control it.

PTZ Control Keys Description

Direction control keys:　　【↑】, 【↓】, 【←】, 【→】;

ZOOM control keys:　　　【ZOOM+】, 【ZOOM-】;

FOCUS control keys:　　　【FOCUS+】, 【FOCUS-】;

IRIS control keys:　　　　【IRIS+】, 【IRIS-】;

Adjust preset keys:　　　 【REC/SHOT】;

Auto control key:　　　　【PLAY/AUTO】;

Wiper control key:　　　　【WIPER/MENU】;

Light control key:　　　　【LIGHT/F1】;

Auxiliary device control key:【AUX/F2】

Adjust Preset Description

In PTZ control mode, press【REC/SHOT】key, and press the preset number (three numeric keys), DVR will adjust the corresponding preset number. Repeat pressing 【REC/SHOT】 key, and press the preset number, DVR will adjust that preset number.

When you exit PTZ control mode, the camera will stay at the current position.

Note: The PTZ preset number is set already. Please refer to PTZ menu for preset setup. Current firmware can support up to 128 presets.

Start/Stop Auto in PTZ Control Mode

In PTZ control mode, press【PLAY/AUTO】key to start PTZ auto function. Press

【PLAY/AUTO】key again to stop.

When PTZ is in auto mode, if you exit PTZ control mode, PTZ will continue auto function unless you enter into PTZ control mode again, and press

【PLAY/AUTO】key to stop.

Exit PTZ Control Mode

Press【ESC】or【ENTER】to exit and return to preview mode.

4.5 Manual Record

Note: In order to record the user must have recording rights, DVR has HDD, and HDD is formatted.

In preview mode, press【REC】key, in the pop-up login dialog box, select a user name and input the correct password, you will enter into the "Manual Record" interface.

In menu mode, press【REC】key to enter into "Manual Record" interface directly.
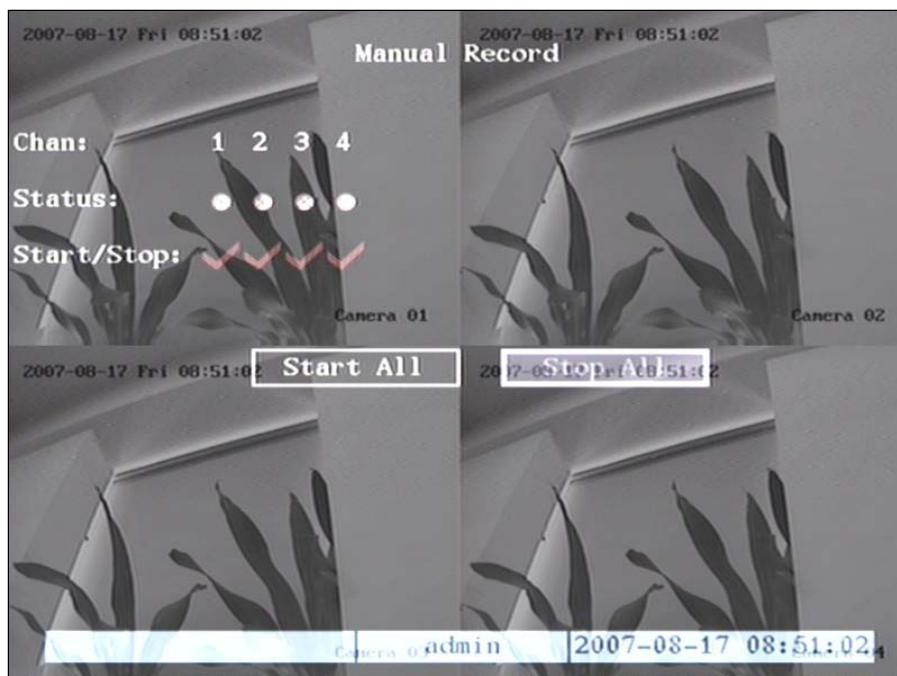

Fig 4.8 Manual record interface

Description

Manual record interface has the following parts: channel number, channel status, start/stop record, start all and stop all buttons.

Channel: Lists the channel numbers that the DVR has.

Status: Channel work status has 4 status options: ⊗ means idle. Green means the channel is recording (including real time recording, alarm recording, motion detection recording). Red means network transmission. Orange means both recording and network transmission.

Start/Stop: "✓" means you can start corresponding channel recording. "×" means you can stop recording.

Start All: Press this button to start all channels recording.

Stop All: Press this button to stop all channel recording.

Press【ESC】key to enter into preview mode. Press【MENU】key to enter into main menu. Press【PLAY】key to enter into playback menu. Press【PTZ】key to enter into PTZ control mode.

4.6   Playback

Note: The user must have "Playback" rights.
Playback Interface

In preview mode, press the【PLAY】key, in the pop-up login dialog box, select username and input correct password, you will enter into "Playback" interface.

In menu mode, press【PLAY】key, you can enter into "Playback" interface directly as shown in Fig 4.9 (The two screen playback function is not available on all models)
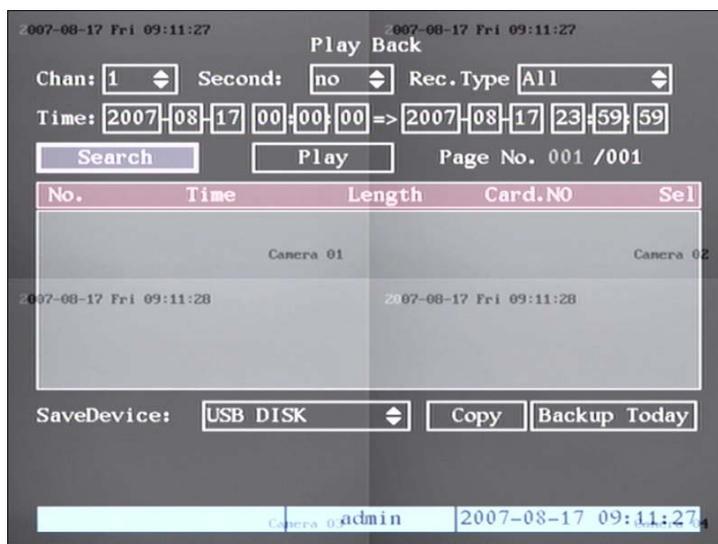
Fig 4.9 Playback interface

Description

Select a Channel: Move the "Active Frame" to "chan", press "edit" button, then use 【↑】 or 【↓】 key to select a channel.

Rec Type: Use 【↑】 or 【↓】 to select recorded file type. The file type options are "All", "All Time", "Motion Detect", "Alarm" and "Manual".

Time Section: You can define the search time section. Move "Active Frame" to the time edit box, use numeric keys to input the detail time.

Search: Search the matched recorded files and display them in the list box. If there is no file that matches your search, a corresponding dialog box will pop-up.

Play by Time: Playback the recorded stream directly based on the time section.

Select Page: In the file list box, each page will only display 8 files. If there are more than 8 matched files, you can select page to display other files. 500 pages (4000 files) can be searched at one time. You can use numeric keys or 【↑】【↓】keys to select page.

File List Box: Lists the matched files. File start time, file size are displayed in the list box. You can use 【↑】【↓】 keys to move the scroll bar to select files.

Backup Devices: You can select USB flash, USB HDD, USB CD-R/W to backup the files or clips.

Copy: Start to backup.

Backup Today: Backup all recorded files from today.

Operation when played back

Fig 4.10 Playback interface

At the bottom of the image, there is an information bar and the following information is included: Volume, Play Progress, Play Speed, Played Time and File Total Time.

Display/Hide information bar: 【MENU】

Open/Close sound: 【PLAY】

Adjust play progress: 【←】 (Backward), 【→】 (Forward). The unit is "%".

Adjust play speed: Normal speed is "1x". Use 【↑】 to increase play speed (2X, 4X, 8X and MAX). Use 【↓】 to decrease play speed (1/2X, 1/4X, 1/8X and single)

Pause/Continue: Press 【ENTER】 to pause/continue playback. If played frame by frame, Press 【ENTER】 to play one frame.

Copy segment:【EDIT】; Stop copy:【EDIT】(you need a back up device to store the segment)

Exit: 【ESC】

Note: When DVR is busy, if you select high play speed, there may be a difference in actual play speed.

Exit playback

In playback interface, press 【ESC】 key to enter into preview mode.

In playback interface, press【MENU】key to enter into main menu, press【REC】 key to enter into manual record, and press【PTZ】key to enter into PTZ control mode.

Playback With Mouse Attached

If you playback with a mouse attached the interface will be a little different, and you can acquire more functions to operate in the playback menu, shown in fig 4.11:
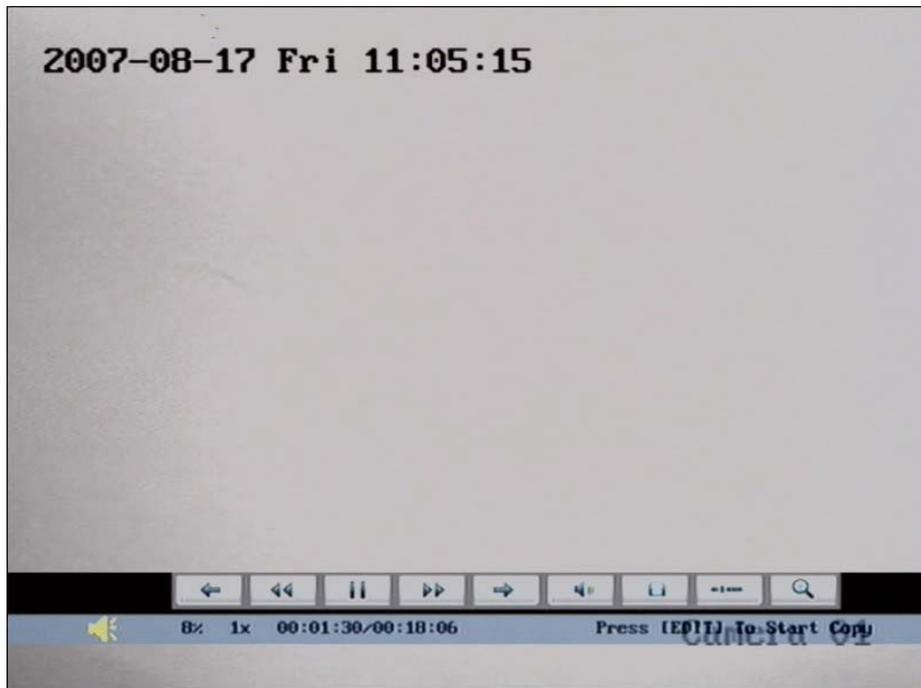
Fig 4.11 Play back control bar

There is an additional bar that appears. We call it the control bar.

Control Bar Functions:

←　　→ : You can click these buttons to skip backward or forward 3% at a time.

◀◀　　▶▶ : You can click these buttons to select the play speed

ⅱ : Click this button to pause.

◀• : Click this button to mute, click it again to recover the sound.

▢ : Click this button to start copying the segment, click it again to stop.

•▬ : Click this button to hide the control bar, right click your mouse and select display to display the control bar.

🔍 : Clicking this button will trigger a rectangle area on the screen, draw the rectangle with left key of your mouse on the area you want to zoom in then double click left button to zoom in to that place. Click left key again to return to the playback interface.

4.7 Backup Recorded Files

Note: The user must have "Playback" rights. Please connect backup devices before you start to backup.

In the playback interface, you can backup the recorded files.

In the preview mode, press【PLAY】key, in the login dialog box, select username and input the correct password, you will enter into the playback interface.

In the menu mode, just press 【PLAY】 key, you can enter into playback interface directly.

Backup Daily Recorded Files

In the playback interface, move "Active Frame" to "Backup Today" button, press 【ENTER】 key, all recorded files for the day of all channels will be backed up to the save device. A pop-up dialog box will display the backup status.

If the backup device is not connected correctly or DVR does not detect the backup device, an exception dialog box will pop-up. Please ask administrator for more information.

Backup the files that matched your requirement

Step 1: Search the matched files

In the playback interface, select one channel and record type, input the time section, move "Active Frame" to "Search" button, press【ENTER】key, DVR will start to find and list the matched files.

Step 2: Select the files that you want to backup

In the file list box, use 【↑】 or 【↓】 keys to move the scroll bar. When the scroll bar stays at the file you want to backup, press【EDIT】key to select it. The symbol "✓" is the selection tag. You can use the same method to select other files you want to backup. After finishing, you can do the next step. Shown in fig 4.12:
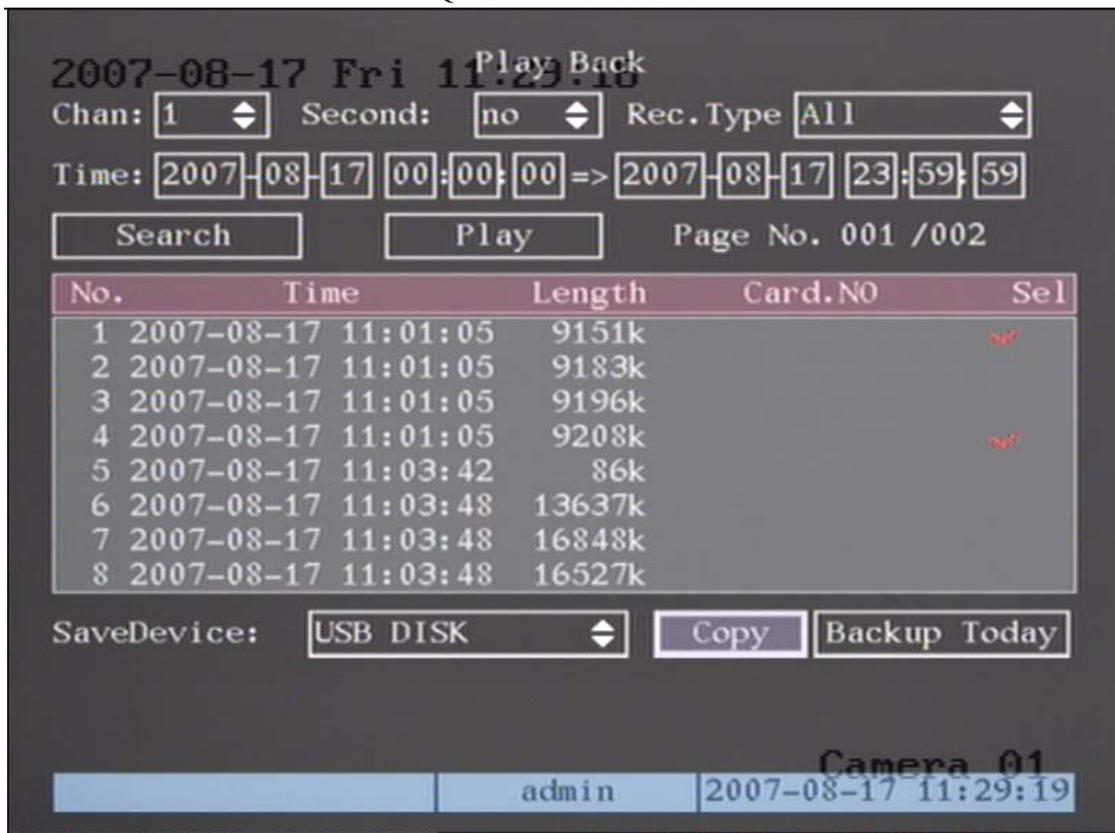
Fig 4.12 Playback list

Step 3: Select backup device

Please confirm the backup device: USB flash memory, USB HDD, USB DVD/CD-RW, and select the corresponding backup device.

Step 4: Start and finish backup

Move "Active Frame" to "Save" button and press【ENTER】key to start backup.

When backup starts, corresponding message box will pop-up to indicate the result.

Backup video segment

You also can backup the image segments when the image is being playback. The steps are:

1) Enter into the playback interface, playback by file or playback by time;

2) Press【EDIT】key to start selecting the current playback image, and press

【EDIT】again to stop selecting. This segment is selected;

3) You can repeat step 2 to select many segments. 30 segments can be selected in all;

4) After you select all segments, press【ESC】key, a message window will

pop-up. If you press the "Confirm" button, the DVR will start to backup the selected segments. If you press the "Cancel" button, DVR will abort backup.

Playback the video segment

You can use our file player software to playback the video segment on a PC. You can find the player software on the included CD.

Exit playback interface

Please refer to Chapter 4.6.

4.8 Shutting Down the DVR

Note: You can only turn off the power directly using the rear panel switch.

Chapter 5: Parameters Setup Guide

Only the users that have "Parameters Setup" right need to read this chapter. When the following parameters are modified and saved, you must reboot the DVR to make the new parameters effective. Other parameters do not require a reboot.

- Any network parameters
- Resolution and record schedule
- External alarm sensor type
- View tampering alarm schedule
- Video lost alarm schedule
- Motion detection alarm schedule
- External alarm schedule
- Alarm output schedule

5.1 Administrator and Password

When DVR comes from the factory, there is one default administrator. The name is "admin" and password is "12345". The name can not be changed, while the password can be.

Password Modification

Press【MENU】key, in the login dialog box, select the username as "admin", use

【→】key, to move cursor to password edit box, input "12345", press "Confirm" to

enter into administrator menu.
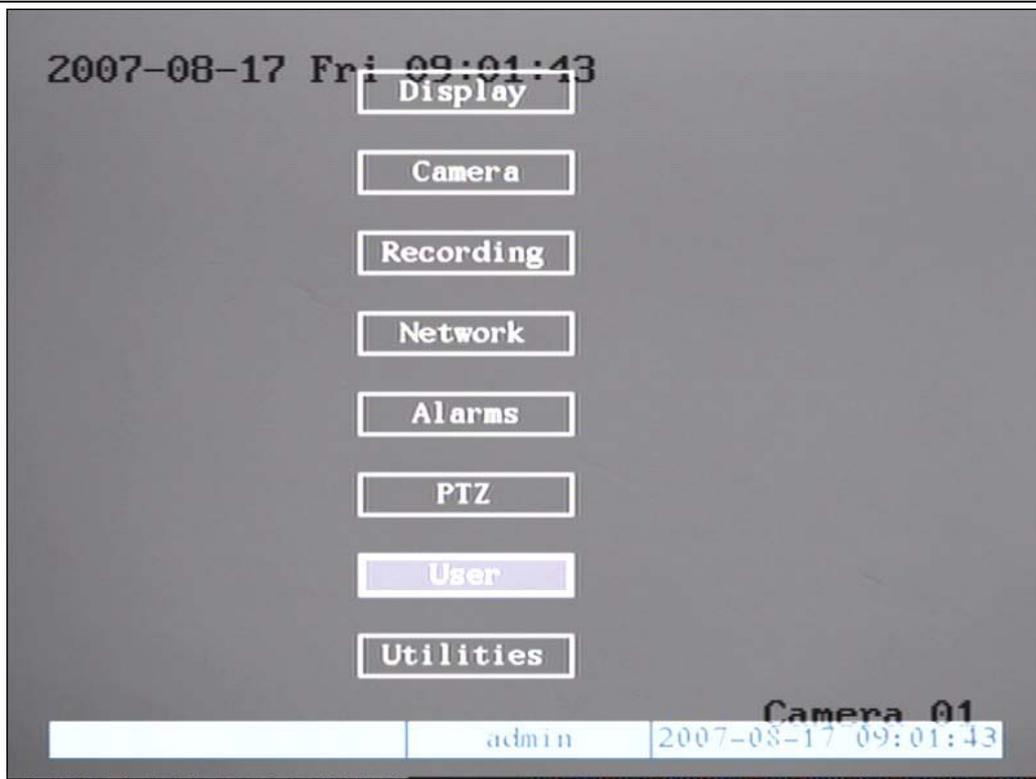
Fig 5.1 Enter into user menu

Move "Active Frame" to "User" icon, press【ENTER】key to enter into "User
Management" menu shown in fig 5.2

Fig 5.2 User management

In the user name list box, by default only "admin" exists. You can use 【→】

key, to move "Active Frame" to password edit box, and press【EDIT】key to enter into

edit status. Press numeric keys to input a new password. The password is made up of

16 numbers at most. After you finish inputting password, press 【ENTER】 key to exit.

Move "Active Frame" to "Verify password" edit box, input the new password. Move

"Active Frame" to "Confirm" button, and press 【ENTER】, if password and verified

password are the same, the password will be saved and take effect.

If password and verified password are not same, a warning message box will

appear, as shown in fig 5.3
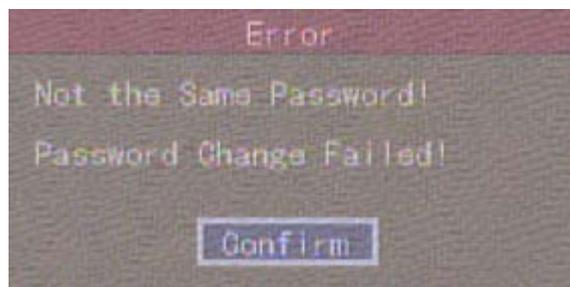
Fig 5.3 Error

In this case, press 【ENTER】 to return to password edit box, and input the new

password again.

5.2 Add and Delete Users

Enter into "User Management" interface.

Add User

The steps are as follows:
Step 1: Enter into "User Management" menu shown in fig 5.4
Please refer to Chapter 5.1

Fig 5.4 user management

Step 2: Add new user name

In the "User Management" menu, move "Active Frame" to "Add" button and press 【ENTER】, in the pop-up dialog box input the new user name (refer to Chapter

3.4), press【ENTER】and return to "User Management" menu. A total of 15 users can be added. See fig 5.5.
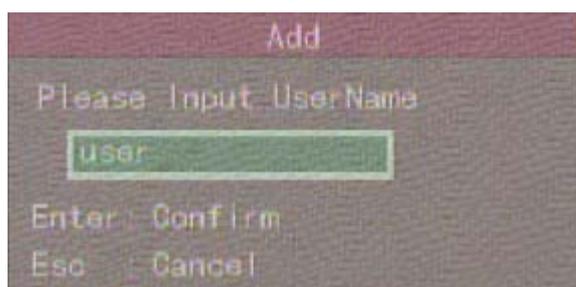
Fig 5.5 Input user name

Step 3: Setup the password for new user

After you add a new user, the password is blank. You can skip this step if you do not want to setup a password.

In the user's list box of "User Management" menu, use【↑】【↓】keys to select the

new user name, then use 【→】 key to go to the password edit box. Press 【EDIT】 key to enter into edit box, use numeric keys to input the new password.

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Step 3: Setup the rights for new user

The new added user does not have any operational rights. You must setup rights for him.

In the user's list box of "User Management" menu, use【↑】【↓】keys to select the

new user name, then use【→】key to "Default Privileges" button, press【ENTER】, the

user will have default rights. The default rights include local playback, remote playback and view log.

If you want to assign rights, move the "Active Frame" to the "Setup Privileges"

button and press【ENTER】to enter into the rights setup menu as shown in figure 5.6:
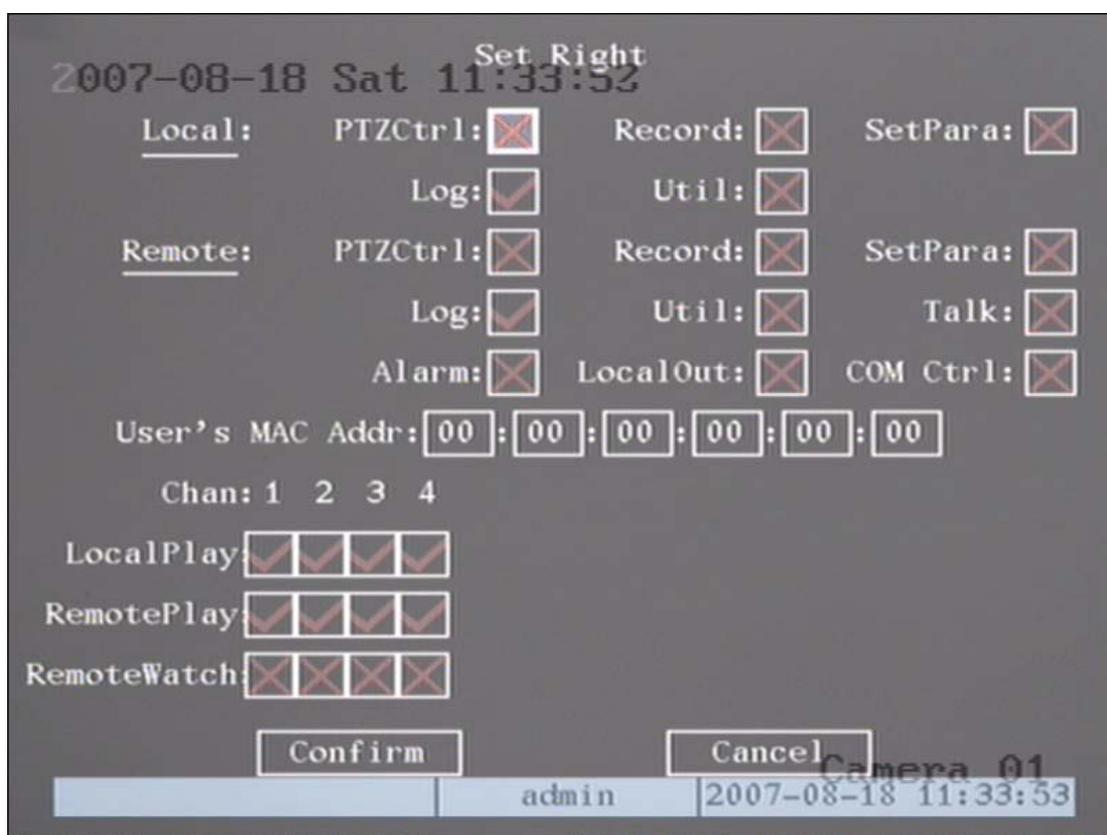
Fig 5.6 Setup user rights

Operational rights are divided into "Local" and "Remote". You can assign the

necessary rights to the user. Use 【→】【←】 key to move the "Active Frame" to the

corresponding rights items, press【ENTER】or【EDIT】key to enable or disable the item.

"✓" means the assigned user has that right.

Step 4: Save the new user's password and rights

In the "User Management" menu, press "Confirm" button, the user's password and rights will be saved and you will return to the main menu. If you press the "Cancel" button, the configuration will be abandoned.

User rights description

"Local":

Local rights are for local operation, such as using the front panel, remote control and RS-485 keyboard.

PTZ control: Locally control PTZ cameras;

Record: Manual start/stop recording;

Set parameters Setup: Locally setup the DVR parameters;

Log: Locally view the log on DVR;

Utilities: Locally upgrade firmware, format the HDD, reboot the DVR and shut down DVR, etc.

"Remote" (through network or internet):

PTZ Control: Remotely control PTZ cameras;

Record: Remotely start/stop manual recording;

Set parameters Setup: Remotely setup the DVR parameters;

Log: Remotely view the log on DVR;

Utilities: Remotely upgrade firmware, format the HDD, reboot the DVR and shut down DVR, etc.

Talk: Client talks with DVR;

Alarm: Remotely control DVR alarm output;

Video Out: Remotely control DVR video output;

Com Control: DVR RS-232 transparent channel function.

MAC Address

This MAC address is not the address of DVR but the PC that will access DVR. If you setup this MAC address, only the PC with this MAC address can access this DVR.

At PC end, in DOS prompt, you can use "ipconfig" command to get the PC MAC address (6 bytes).

Delete User

In "User Management" interface, you can use【↑】【↓】keys to select a user, then use 【→】 to move "Active Frame" to "Del" button, press【ENTER】, in the pop-up confirmation dialog, press "Confirm" button to delete the selected user and return. Press "Cancel" or【ESC】to abort deleting. As shown in fig 5.7
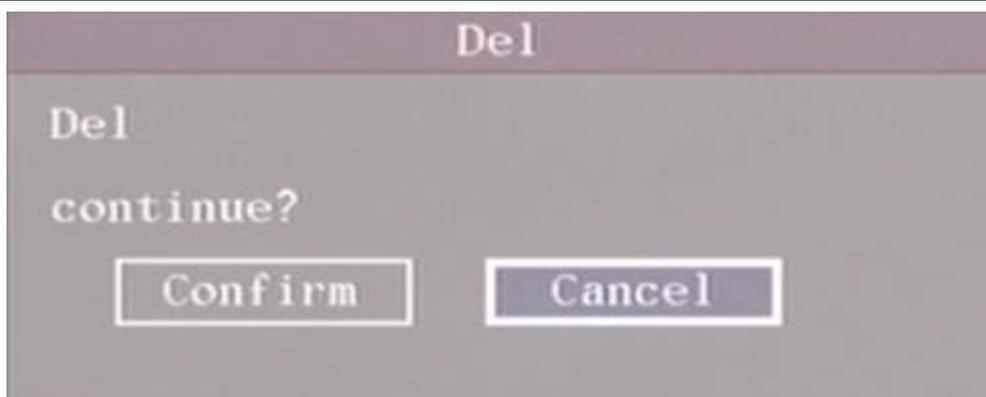
Fig 5.7 Delete user

5.3   Unit Name and Device ID

Unit Name

In the "Display" menu, shown as fig 5.8:
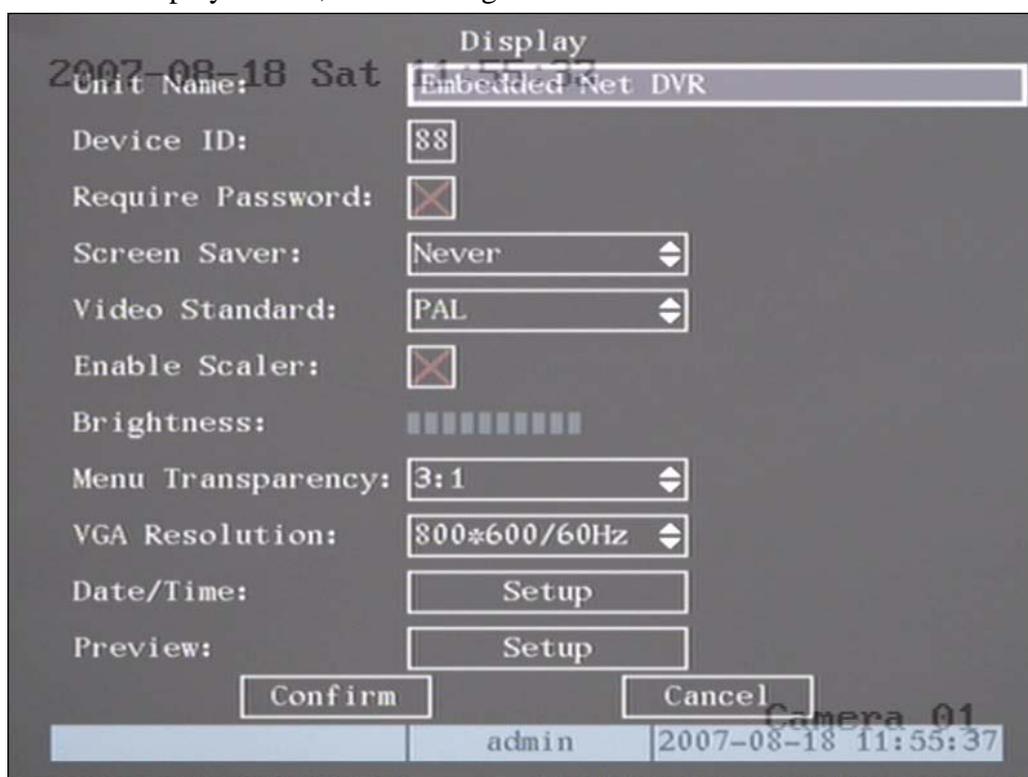
Fig 5.8 Display menu

There is an item called "Unit Name". The default unit name is "Embedded Net DVR". Move "Active Frame" to unit name edit box, press【EDIT】key to enter into edit status, you can modify the unit name. For instructions on how to input characters, please refer to Chapter 3.4. Press【ENTER】key to finish modification. Select "Confirm" button and press【ENTER】, you can save the new unit name and make it effective. Press "Cancel" button or【ESC】key to abort modification.

Device ID:

When you use the remote control to operate the DVR, you must use the device ID to select the DVR. The default device ID is "88". If there is more than one DVR in one place, please setup different device IDs for each DVR, otherwise the remote control will control all the DVRs with the same device ID at the same time.

In "Display" menu, move "Active Frame" to the device ID edit box, in the edit status, you can use numeric keys to input a new device ID. The device ID value is between 01 and 255.

After you finish the modification, press the "Confirm" button to save and take effect or press "Cancel" to abort modification.

5.4 Video Output Standard and VGA Setup

Video Output Standard

There is one VOUT BNC connector on the rear panel of the DVR. It is used to connect with an analog monitor and can support PAL or NTSC video output. You can modify the video output standard to match video input.

In "Display" menu: There is a list box named "Video Output Standard", you can use 【↑】【↓】 key to select PAL or NTSC video output.

VGA setup

There is one VGA interface on the rear panel of the DVR. You can use it to connect with a VGA display. You can define VGA resolution and refresh frequency in the "Display" menu.

The following options are available: 1280*1024/60Hz,1024*768/60Hz, 800*600/60Hz. You can use 【↑】【↓】 keys to select.

Press "Confirm" button to save or "Cancel" to abort.

5.5 Camera name and OSD (On Screen Display) Setup

Camera Name

In "Camera" menu, you can input a name for each camera. See fig 5.9

Please note that a camera's name can not be copied.
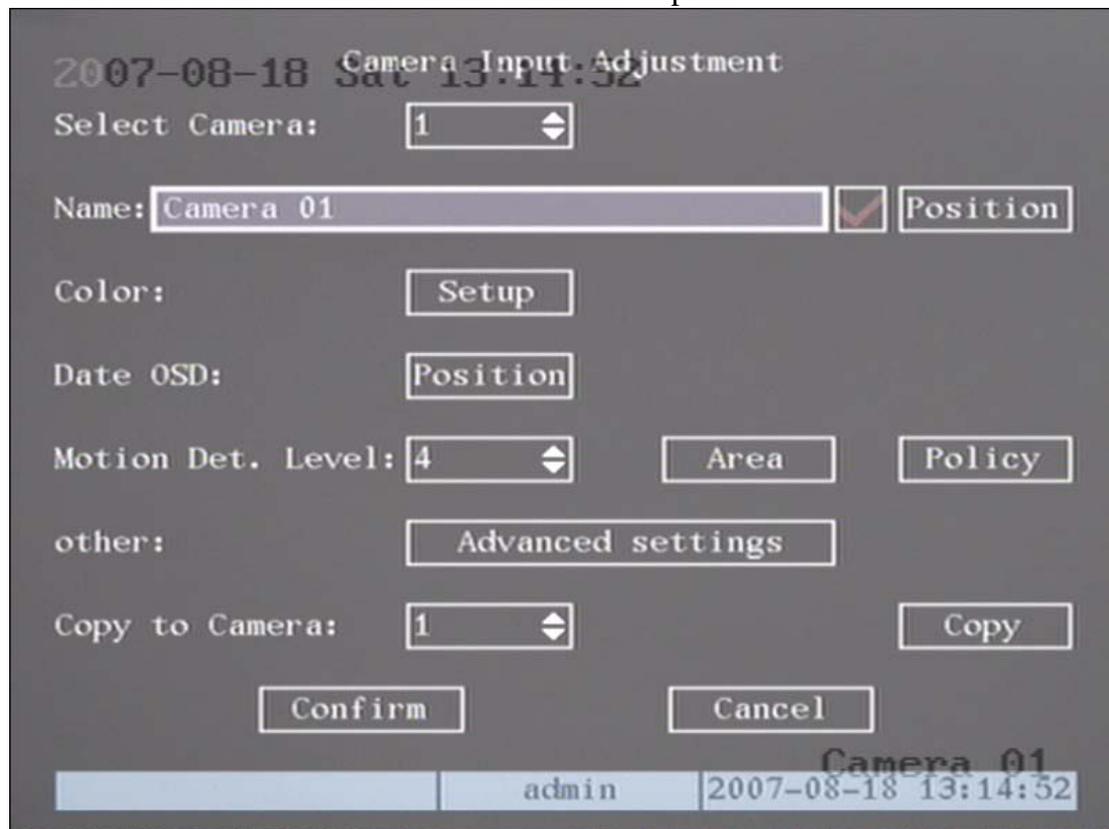
Fig 5.9 Input camera number

The steps to setup camera name:

Step 1: Select a camera.

Step 2: Move "Active Frame" to camera name edit box, press【EDIT】key to enter into edit status, you can input digital number, uppercase and lowercase characters (refer to Chapter 3.4). The camera name can support 32 characters.

Step 3: Press 【ENTER】 key to exit edit status.

Move "Active Frame" to "Confirm" button, press 【ENTER】 to save the change

and you can see the new camera name. Press "Cancel" button or 【ESC】 key to abort.

Camera Name Position

If you do not want to display a camera name, just disable the check box beside camera name edit box. The disable flag is "×". If you enable the check box, you can setup the camera name position. You can copy the position to any other camera. The setup steps are:

Step 1: Enter into "Camera" menu.

Step 2: Select a camera.

Step 3: Enable the check box on the right side of camera name, then move "Active Frame" to "Position" button, press 【ENTER】 to enter into camera name position setup interface, as shown below, in that interface you can use 【↓】【↑】【→】 【←】 keys to move camera name position. When the position is fixed, press 【ENTER】 and return to "Camera" menu, and press "Confirm" button to save it. In the "Image Setup" menu, press "Cancel" button or【ESC】key, if you want to abort the modification.

OSD is an abbreviation for "On Screen Display". For our embedded DVRDVS, it includes displaying system time and camera name.

OSD settings include: System time, time format, time display position, camera name, camera name display position, etc.

System Time

In "Display" menu, you can setup DVR system date and time.

Move your active frame to "Date/Time setup" and press enter.

Date Display Mode: Move the active frame to Date Display Mode then press 【EDIT】 then use 【↑】【↓】 key to select OSD format. Here are the OSD formats:

MM DD YY

MM DD YY

YY MM DD

YY MM DD Here YY means year, MM means month, DD means day.

You can also enable the DST (Daylight-saving Time) function here shown as fig 5.10
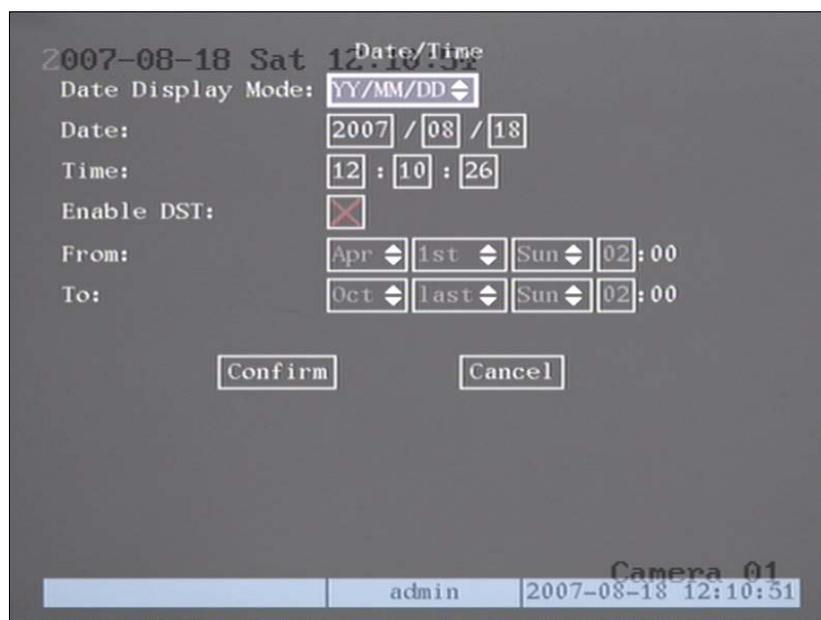
Fig 5.10 Date/time setup

Date OSD Position

In "Camera" menu you can adjust the position where you want the Date to display, move active frame to "Position" on the right side of "Date OSD" and press the【ENTER】 button. Then you will see the picture below. Use 【↑】【↓】【←】【→】 to adjust the position of the date.

Fig 5.11 Set position of Date & Time

5.6 Video Parameters Setup

For different cameras and different backgrounds, in order to get the best video image, you may need to adjust video parameters such as brightness, saturation, contrast and hue, etc.

You can setup each camera individually, and you can also copy the video parameters of one camera to any other cameras. Here are the setup steps:

Step 1: Enter into "Camera", select a camera then enter "Color setup" menu shown as fig5.12
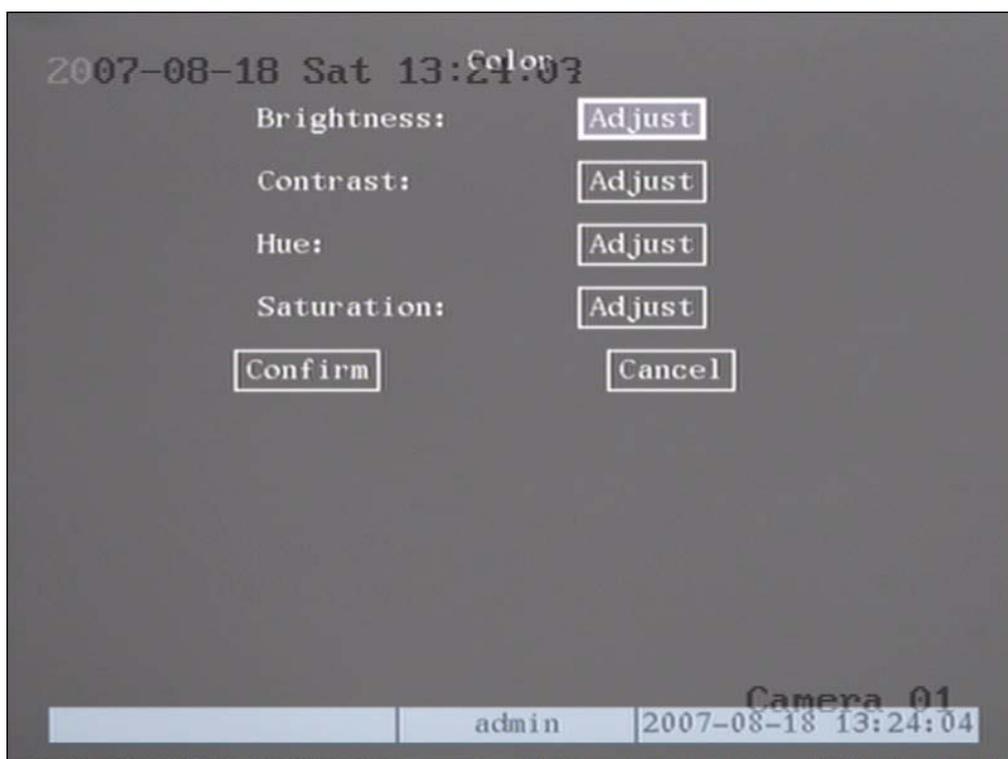
Fig 5.12 Color setup

Step 2: Select camera: Please use 【↑】【↓】 keys to select a camera.

Step 3: Adjust brightness, contrast, saturation and hue: Move "Active Frame" to the "Adjust" button on the right side of Brightness, Contrast, Saturation and Hue, press 【ENTER】 key, you will enter into the corresponding adjust interface. In the adjust interface, there is one scroll bar at the bottom, you can use 【↑】【↓】 keys to adjust and can find the video image will be changed at the same time. When you are satisfied with the real time video image, press 【ENTER】 to return to "Color" menu.

Step 4: You can copy the video parameters of the current camera to any other cameras. Or you can repeat set 2 and step 3 to adjust for any other camera.

After adjusting, in "Image Setup" menu, press "Confirm" button to save the parameters and make them effective. Otherwise, press "Cancel" button or 【ESC】 key to abort modification.

5.7 Mask Area Setup

In some cases you might want to mask a sensitive area. This area will not be viewed or recorded. The mask area setup steps are as follows:

Step 1: Enter into "Camera" menu:

Step 2: Select a camera: You can use 【↑】【↓】 keys to select the camera.

Step 3:Enter into "Advanced settings" enable the check box beside "Privacy Mask", you can press the 【Enter】 or【edit】 key to change the flag into "✓", and activate "Area" button. Move "Active Frame" to "Area" button on the right side of mask check box, press【ENTER】key to enter into mask area setup interface shown as fig 5.13

Fig 5.13 Mask area setup

Step 4: Setup mask area: In the mask area setup interface, there is one small yellow panel on the upper left side. For PAL camera, the whole screen is divided into 22*18 panels (22*15 for NTSC), you can use 【↑】【↓】【→】【←】 keys to move the yellow panel to your desired position and press the【EDIT】key, the yellow panel will be turned into red, then you can use【↑】【↓】【→】keys to extend the red panel and 【←】 key to shrink the red panel. This red area is the mask area.

After you setup the red mask area, press 【EDIT】 key to save the mask area. The maximum mask area size is 8*8 panels and the minimum size is only one panel. You can setup 4 mask areas at most.

After you finish setup, press【ENTER】key to return to "Advanced settings" menu.

You can press 【A】 key to clear all mask areas.

Step 5: Save mask area: You can repeat step 2, step 3 and step 4 to setup mask area for other cameras. In "Advanced setting" menu, press the "Confirm" button to save the mask area, press "Cancel" button to abort.

Here is an example of the mask area function shown as fig 5.14:
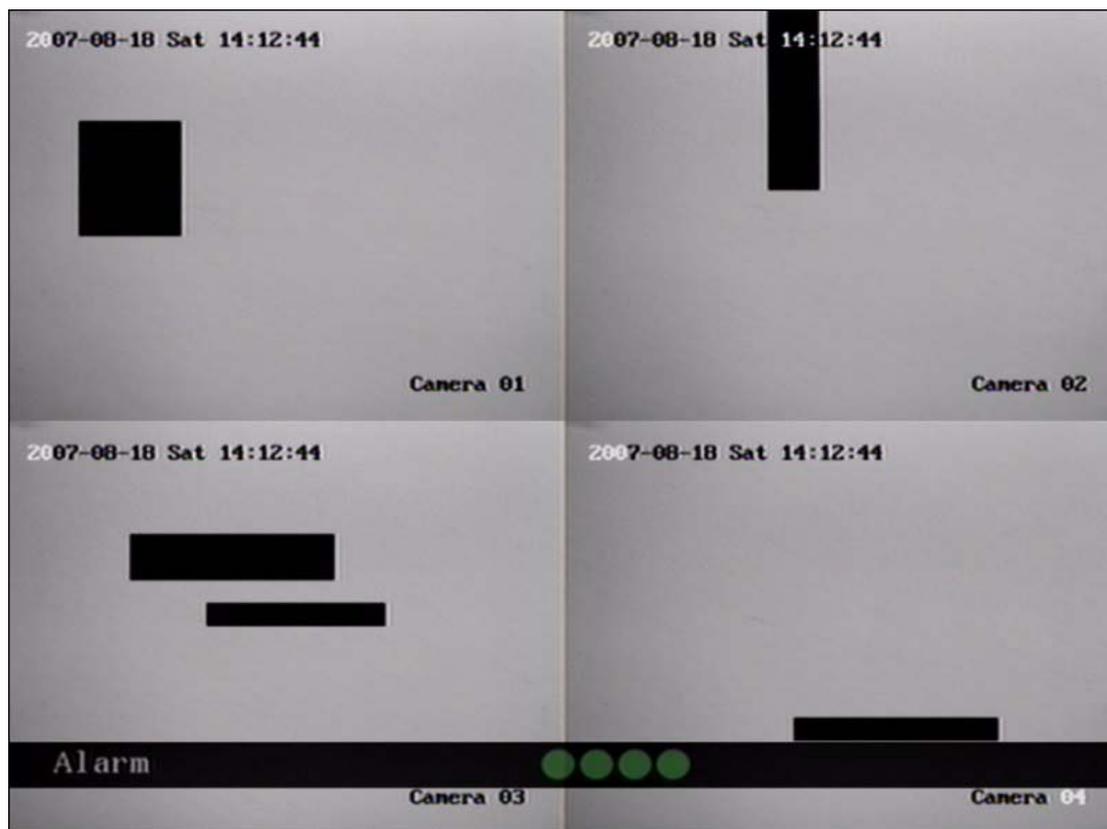
Fig 5.14   Area masked

Disabling the mask check box cancels the mask area.

5.8 View Tampering Alarm

If you enable this function, when someone blocks the camera spitefully, the DVR will send a warning alarm.

Step 1: Enter into "Camera" menu:

Step 2: Select camera: Please use 【↑】【↓】 keys to select a camera.

Step 3: Select sensitivity: move active frame to sensitivity item right beside the "View tampering" item. Press 【edit】 key, then you can use 【↑】【↓】 keys to select the sensitivity for "View Tampering". The sensitivity options are: Low, Normal and High. Selecting one of them will activate "Area Setup" and "Policy" configurations.

Step 4: View tampering area setup Move "Active Frame" to "Area" button, press 【ENTER】 key to enter into area setup interface. The setup methods are same as those of mask area setup. After setting up the area, press the【ENTER】key to return to "Advanced settings" menu. You can press 【ESC】 key to abort.

Only one view tampering area can be setup, and the size of the area can be full screen.

Step 5: View tampering alarm setup In "Advanced settings" menu, move "Active Frame" to "Policy" button, press【ENTER】key to enter into "View Tampering Handle" menu shown as fig 5.15:
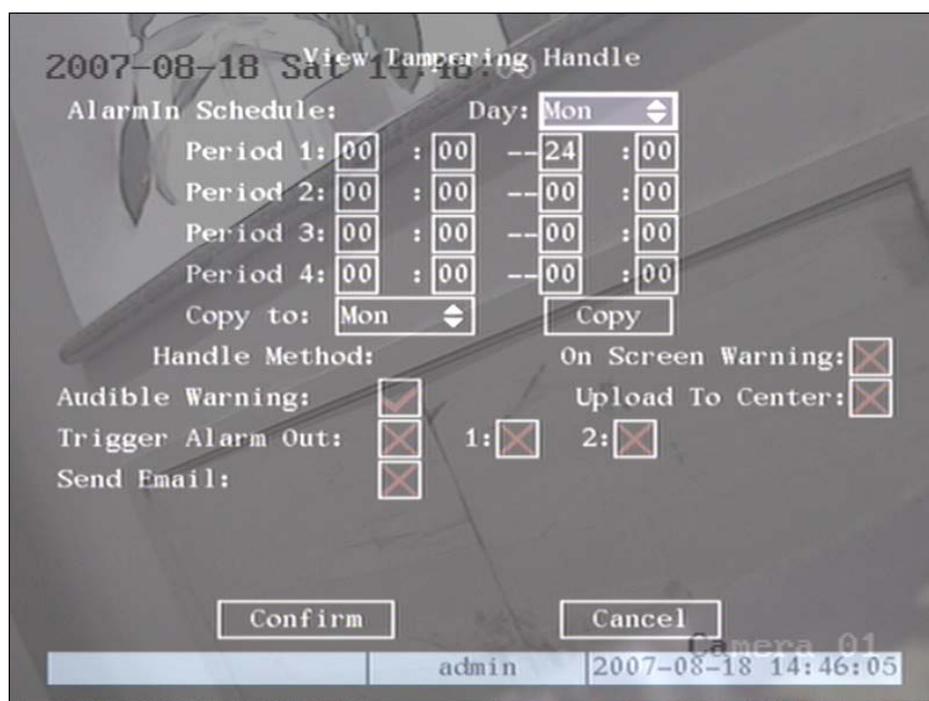
Fig 5.15 View tampering handle setup

**Step 6: Alarm schedule setup:** When a view tampering alarm occurs, the DVR will handle the alarm based on the schedule. You can set 4 periods for each day of the week. You can also copy the schedule of any one day to other days.

Note: Time periods can not be repeated. Please reboot DVR to make the parameters effective.

Step 7: Setup alarm policy: If a view tampering alarm occurs in a schedule, the DVR will respond based on the policy. You can select one or more options including "On Screen Warning", "Audible Warning", "Upload to Center" and "Trigger Alarm Output". You can use 【↑】【↓】 and 【EDIT】 keys to enable or disable them. "×" is disabled and "✓" is enabled.

Step 8: Save alarm setup: After your setup, press the "Confirm" button and return to "Image Setup" interface. In "Image Setup" menu, press the "Confirm" button to save current camera parameters and return to main menu.

Step 9: Save all cameras: If you want to setup other cameras, repeat step 2 to step 8. In "Image Setup" menu, press "Confirm" key to save all cameras parameters. Press "Cancel" button or 【ESC】 key to abort.

By selecting the "Off" option for "View Tampering", you can delete the view tampering area.

Note: Only one view tampering area can be setup for each camera. The view tampering area can not be copied. If the schedule is modified, you must reboot the DVR to make the parameters effective.

5.9 Video Loss Alarm

If something is wrong with the video cable or camera, the video image may be lost. If you enable video loss alarm, and this happens, the DVR will send an alarm.

Step 1: Enter into "Camera" menu:

Step 2: Select camera: Use 【↑】【↓】 keys to select a camera.

Step 3: Enter into "Advanced settings" interface: Move "Active Frame" to the "handle method" box on the right side of the "Signal Loss" item, use 【↑】 key to select "Handle" option and move "Active Frame" to the "Policy" button on right side. Press 【ENTER】 to enter into "Signal Loss" interface shown as fig 5.16:
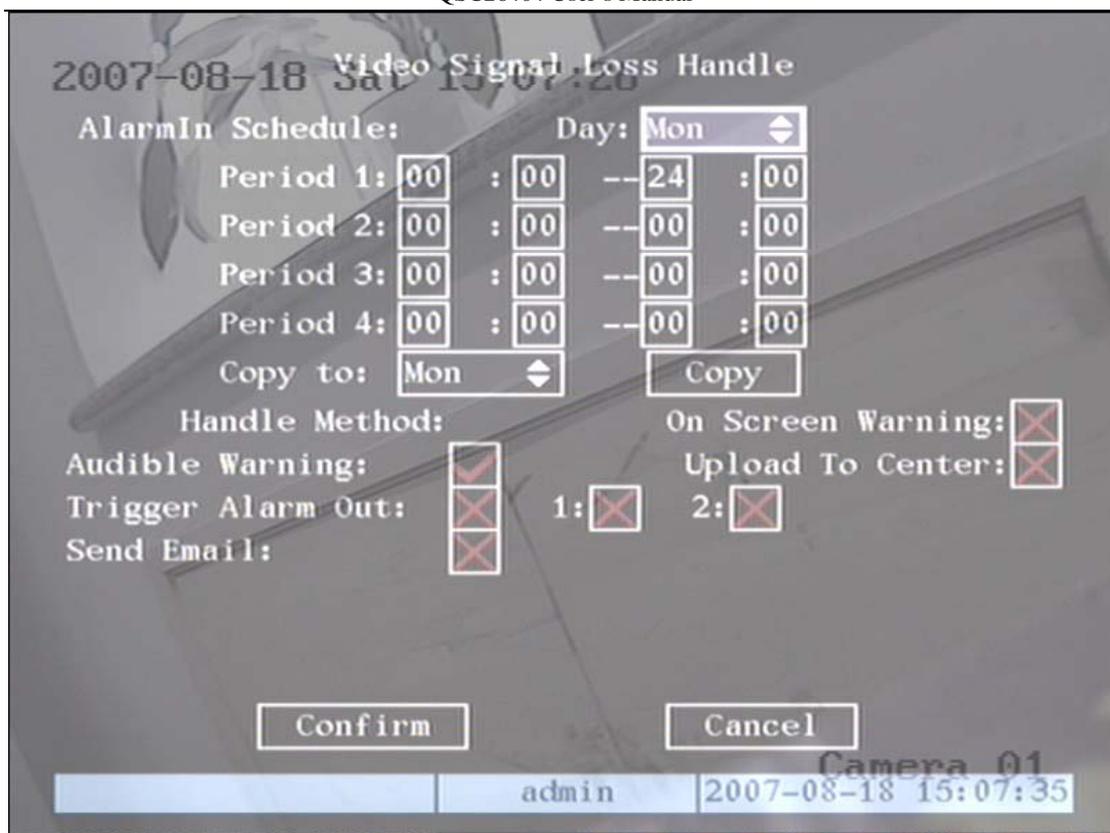
Fig 5.16 Video signal loss handle setup

Step 4: Setup alarm schedule: You can setup a working schedule. The DVR will only respond when the video loss occurs during the schedule.

Note: The 4 time periods can not be repeated. Please reboot the DVR to make parameters effective.

Step 5: Setup alarm policy: You can select one or more response options, including "On Screen Warning", "Audible Warning", "Upload to Center" and "Trigger Alarm Output". You can use 【↑】【↓】 and 【EDIT】 key to enable or disable them. "×" is disabled and "✓" is enabled.

Step 6: Save alarm setup: After your setup, press the "Confirm" button and return to "Advanced setting" interface. Press "Confirm" button to save current camera parameters and return to main menu.

Step 7: Save all cameras: If you want to setup other cameras, please repeat step 2 to step 6. In "Camera" menu, press "Confirm" key to save all camera's parameters. Press "Cancel" button or 【ESC】 key to abort.

5.10 Motion Detection

If you enable this function, when there is motion detected by a camera, the DVR will send an alarm.

Step 1: Enter into "Camera" menu:

Step 2: Select camera: Use 【↑】【↓】 key to select a camera after pressing 【edit】key.

Step 3: Select motion detection sensitivity: On the right side of "Motion Det. Level", there is a list box for motion detection sensitivity. There are 7 options, from 0 (the lowest) to 5 (the highest) and "Off". You can use【↑】【↓】keys to select one. If you select the "Off" option, the DVR will not response even if there is motion detected. If you select other options, it will activate the "Motion Area Setup" button and "Policy Setup" button. If you select low sensitivity such as 0, the DVR will response only when there is a great amount of motion detected. On the other side, for high sensitivity such as 5, the DVR will respond with small amounts of motion detected.

Step 4: Motion area setup: You must define motion areas so that DVR will respond when there is motion detected in those areas. Move "Active Frame" to "Area" button on the right side of the sensitivity list box, press the 【ENTER】 key, you will enter into the "Motion Area Setup" interface shown as fig 5.17:
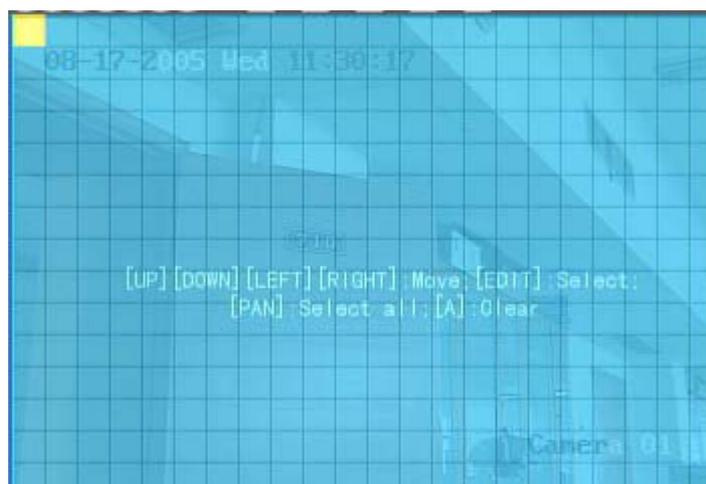

Fig 5.17 Motion area setup

The whole screen is divided into 22*18 panels (NTSC: 22*15). There is one yellow panel on the upper left side. The motion area setup steps are the same as that of mask area setup (refer to Chapter 5.7). The only differences are that you can use the 【PTZ】 key to set the whole screen as motion sensitive, and multiple motion areas can be setup. Press 【A】 key to clear all motion areas.

Setup multiple areas: After you setup one motion area, press the 【EDIT】 key, the yellow panel will appear again, then you can setup another motion area.

Clear motion area:

Clear part of motion area: Move the yellow panel to the start of the position of the motion area you want to clear, press 【EDIT】, you will find the yellow panel is turned into a black panel. You can use 【↓】【→】 key to enlarge or shrink the blue area. Press 【EDIT】 key to clear this part of the motion area.

Press 【Enter】 key to save and return to "Image" menu. Press 【ESC】 to cancel.

Clear all motion areas: Press the 【A】 key to clear all motion areas of this channel.

The keys used to setup motion areas are as follows:

- 【↑】【↓】【←】【→】 : Move yellow panel to any position;

- 【EDIT】 :Yellow panel and red panel switch key;

- 【→】 : Right: enlarge red pane;

- 【←】 : Left: shrink red pane;

- 【↓】 : Down: enlarge red pane;

- 【↑】 : Up: shrink red pane;

- 【PTZ】 : Set whole screen as motion area;

- 【A】 : Clear all motion areas;

- 【ENTER】 : Save and return to "Image Setup" menu;

- 【ESC】 : Cancel setup and return to "Image Setup" menu;

Step 5: Motion alarm policy: Move "Active Frame" to the corresponding "Policy" button of motion detection alarm, press 【ENTER】 key to enter into "Motion Alarm Handle" menu shown as fig 5.18:
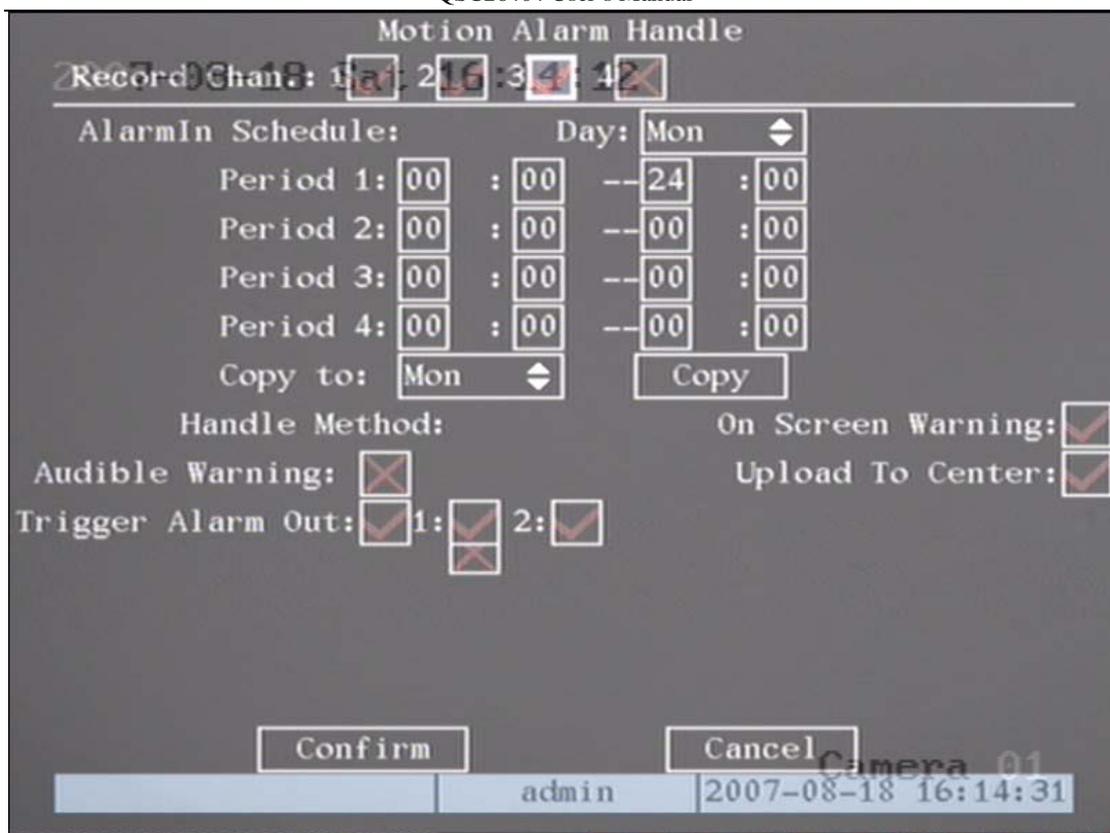
Fig 5.18 Motion alarm handle setup

Step 6: Motion alarm record channel setup: When a motion alarm occurs, you can trigger related camera to start to record. In "Motion Alarm Handle" menu, you can select one or more recording channels. Please use【ENTER】or【EDIT】key to change the flag into "✓"enabled.

Note: In order to make the cameras start recording, in "Recording" menu you must enable recording schedule and set "Rec Type" as "Motion Detection" or "Motion | Alarm". Please refer to Chapter 5.12 for recording setup.

Step 7: Motion alarm schedule: When a motion alarm occurs during a schedule, the DVR will respond with a "On Screen Warning", "Audible Warning", "Upload to Center" or "Trigger Alarm Output" depending on your setup. You can setup 4 time periods for one day and 7 days for one week.

Note: Time periods in one day can not be repeated.

Step 8: Motion alarm handle method setup: You can select one or more handle methods such as "On Screen Warning", "Audible Warning", "Upload to Center" and "Trigger Alarm Output".

Description: If "On Screen Warning" is enabled, when a motion alarm occurs and the DVR is in preview mode, the DVR will switch to the related camera. If you trigger more than one camera, the DVR will pop them up one by one every 10 seconds. When the motion alarm ends, the DVR will return to preview mode.

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Step 9: Save motion alarm setup: Press "Confirm" button to return to "Image Setup" menu. In the "Image Setup" menu, press "Confirm" button to save the current camera parameters.

Step 10: Save all cameras: You can repeat step 2 to step 8 to setup motion detection parameters for other cameras. You can also copy the parameters of one camera to any other cameras.

Note: Motion alarm area can not be copied.

If you want to disable motion alarm area and motion alarm policy, you just need to set the motion alarm sensitivity to "Off".

5.11   Preview Properties

In the "Preview" menu, you can setup preview mode, screen switch time, enable or disable audio preview and preview layout.

Step 1: Enter into "Preview" menu: In the main menu, move the "Active Frame" to "Preview" icon and press 【ENTER】, you willl enter into "preview" menu as shown in fig 5.19
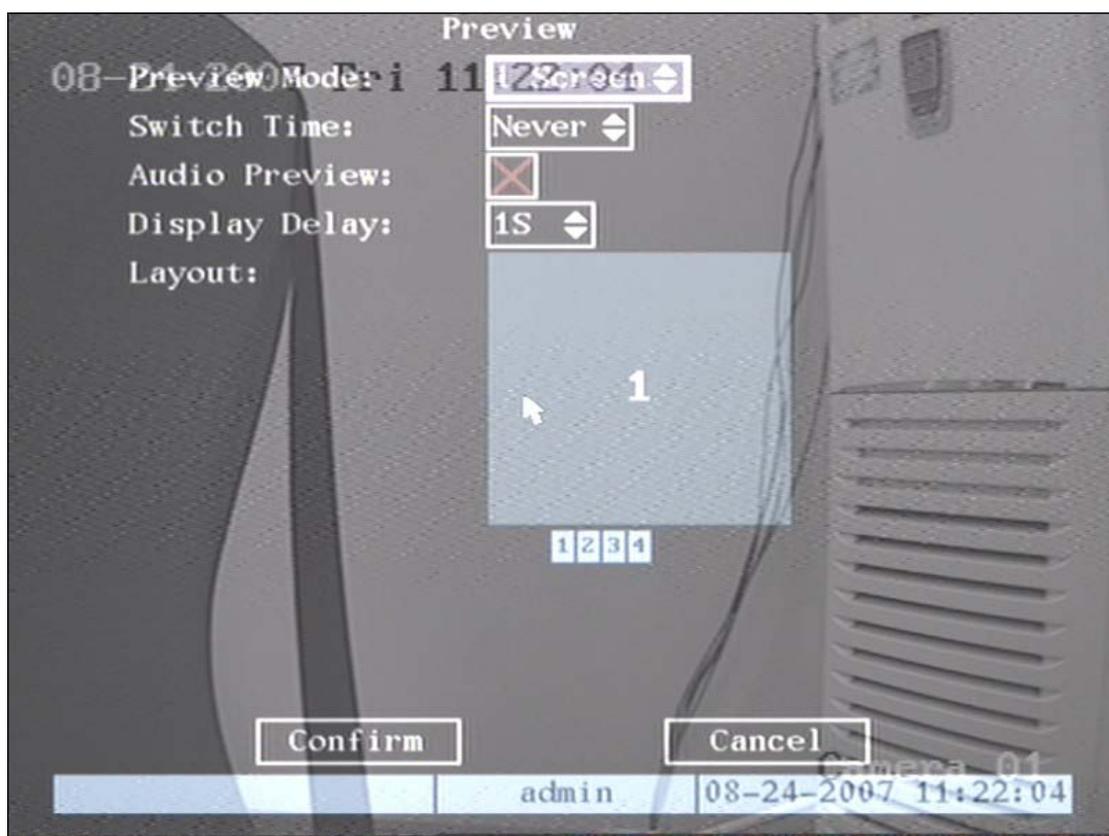

Fig 5.19 Setup preview mode

Step 2: Preview properties:

Preview mode: For preview mode item, you can use【↑】【↓】key to select one mode. If DVR

has only 1 channel, you can select only "1 Screen" option. If DVR has 4 channels, there are "1 Screen" and "4 Screen" options. If DVR has more than 4 but less than 9 channels, there are "1 Screen", "4 Screen" and "9 Screen" options. If DVR has 16 channels, there are "1 Screen", "4 Screen", "9 Screen", "12 Screen" and "16 Screen" options.

Switch time: This is image preview switch time. You can use 【↑】【 】 keys to select switch

time. There are many options, including "5 Seconds", "10 Seconds", "20 Seconds", "30 Seconds", "1 Minute", "2 Minutes", "5 Minutes" and "Never". If you select "Never", the preview image will not be switched automatically. For example, for 16 channel DVR, if you select "4 Screen" preview mode and "20 Seconds" switch time, DVR will cycle display 4 channel image every 20 seconds.

Audio preview: If you enable audio preview ("✓"), when you preview single camera, DVR will play the audio of that channel.

Preview layout setup: There is a square frame divided into many windows. If you select "4 Screen" preview mode, this frame is divided into 4 windows. Each window represents one camera. You can move the "Active Frame" among the windows. There is a bar under the square to display the preview order of all cameras.

First select the biggest screen preview mode, for example, for 4-channel DVR, select "4 Screen" preview mode so that all windows are displayed in the square.

Second, move the "Active Frame" to one of these windows, press numeric keys to input camera number. The small window will display that camera number. In this way you can change the display order. If you press 0, then the corresponding window will not display live video.

After you setup the camera preview order, you can select preview mode to meet your needs.

Save setup: Press the "Confirm" button to save preview properties. Press "Cancel" or

【ESC】 key to abort.

5.12   Recording Setup

In the main menu, there is an icon called "Recording". You can enter into recording menu as follows:
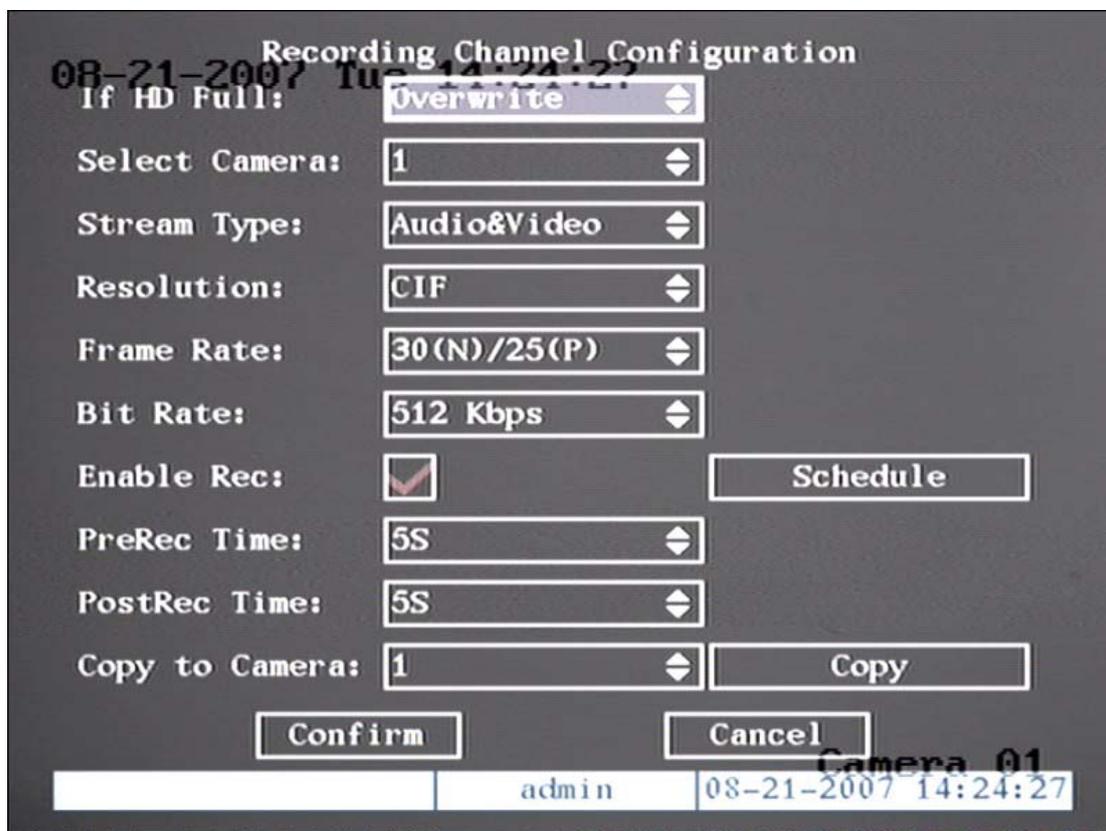
Fig 5.20 Recording channel configuration

"Recording" menu description:

If HDD is Full: There are two options: "Overwrite" and "Stop recording". If you select the "Overwrite" option, when the HDD in the DVR is full, the DVR will overwrite the earliest recorded files and continue recording. If you select "Stop recording" option, when the HDD is full the DVR will handle it as a "Hard Disk Full" exception, please refer to Chapter 5.17 for exception menu.

Select Camera: Here all channels are listed. You can use 【↑】【↓】 keys to select one.

Stream Type: There are two options, one is "Audio&Video" stream and the other is "Video" stream only. If you want to record video and audio, please select "Audio&Video" option, otherwise you can select "Video" option to record only video.

Note: If you change this option, please reboot DVR to make parameter effective.

Resolution: The higher the resolution is, the clearer the image is. The resolution options from low to high are: QCIF and CIF.

Note: If you change the resolution option, please reboot the DVR to make it effective.

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Bit Rate Type:

The DVR will use the fixed bit rate to compress image. The bit rate size is defined in "Bit Rate" option. With this option we can calculate the recorded file size and network bandwidth that we need.

The maximum bit rate selection is related to resolution. If you select high resolution, you must select high bit rate. For CIF resolution, the typical maximum bit rate is 384K-768Kbps.

Of course, you will select the proper max bit rate based on the camera, background and image quality required.

Bit rate: You can select bit rate size for fixed bit rate type. It is the same as "Max Bit Rate".

Frame Rate: Frame per second. Options are: 25 (PAL)/30(NTSC) 20, 16, 12, 10, 8, 6, 4, 2, 1 For low frame rate, you can select low bit rate size, this will maximize hard drive usage.

PreRecord Time: When you enable motion detection recording or external alarm recording, you can setup prerecord time. The options are: No PreRecord, 5 Seconds (default selection), 10 Seconds, 15 Seconds, 20 Seconds, 25 Seconds, 30 Seconds and Max PreRecord.

MaxPreRecord is used to save all data in PreRecord buffer. The PreRecord time is related with bit rate. The lower bit rate, the longer PreRecord time is.

If the bit rate (Max bit rate) is very low, and you select "PreRecord Time" as "5 Seconds" the actual pre-record time may be more than 5 seconds. On the other hand, if the bit rate is high, and you set "PreRecord Time" as "30 Seconds", the actual prerecord time may be less than 30 seconds.

PostRecord Time: When external alarm or motion alarm is stopped, DVR will continue recording time. The options are: 5 Seconds (default), 10 Seconds, 30 Seconds, 1 Minute, 2 Minutes, 5 Minutes and 10 Minutes.

Enable Rec: Enable or disable selected camera's record function. "×" means disabled and "✓" means enabled.

Schedule: When you enable recording function, you can setup recording schedule.

Note: When the camera's recording schedule is modified, you must reboot the DVR to make it effective.

All day recording setup:

Step 1: Enter into recording schedule menu

In recording menu, use【ENTER】or【EDIT】key to enable record function ("✓" flag), press "Schedule" button to enter into recording schedule menu.

Step 2: Select a day and enable all day recording option

For "Day", the options are: Monday, Tuesday, Wednesday, Thursday, Friday, Saturday and Sunday. Use【↑】【↓】keys to select a day. Move the "Active Frame" to the check box on the right side of "All Day", press【ENTER】or【EDIT】key to enable the "All Day" option. "×" means disabled and "✓" means enabled.

Step 3: Record type

For "Rec Type", the options are: All Time, Motion Detect, Alarm, Motion|Alarm, and Motion&Alarm, command.

For all day record mode, only one record type can be selected.

Step 4: Copy to other days

You can repeat step 2 and step 3 to setup for other days. Also you can copy the current day to other days.

Step 5: Save

Press "Confirm" to return to "Recording" menu. Press "Confirm" again to save the parameters and return to the main menu.

Part time recording setup

Step 1: Enter into recording schedule menu

In recording menu, use【ENTER】or【EDIT】key to enable record function ("✓" flag), press "Schedule" button to enter into recording schedule menu.

Step 2: Select one day and disable all day recording option

For "Day", the options are: Monday, Tuesday, Wednesday, Thursday, Friday, Saturday and Sunday. Use【↑】【↓】keys to select a day. Move the "Active Frame" to the check box on the right side of "All Day", press【ENTER】or【EDIT】key to disable "All Day" option. "×" means disabled and "✓" means enabled.

Step 3: Setup time period and record type

There are 4 time periods for one day, and each time period can select a different record type. Input start time and stop time for each time period, and select record type for each period. The record type options are: All Time, Motion Detect, Alarm, Motion&Alarm and Motion|Alarm, command.

Note: The time periods in one day can not be repeated.

Step 4: Copy to other days

You can repeat step 2 and step 3 to setup for other days. Also you can copy the current day to other days.

Step 5: Save

Press "Confirm" to return to the "Recording" menu. Press "Confirm" again to save the parameters and return to the main menu.

Note:

1) **If record type is "Motion Detect" or other related type, you must setup "Motion Detection" in order to trigger motion recording (refer to Chapter 5.10).**

2) **If record type is "Alarm" or other related type, you must setup "Alarms" in order to trigger alarm recording (refer to Chapter 5.13).**

3) **The time period is between 00:00—24:00.**

5.13   External Alarm Input and Relay Output

For QSC26404 there are 4 alarm in and 1 relay out ports. In "Alarms" menu, you can setup each external alarm input.

In main menu, move the "Active Frame" to "Alarms" icon and press 【ENTER】 key to enter into alarms menu as shown in fig 5.22
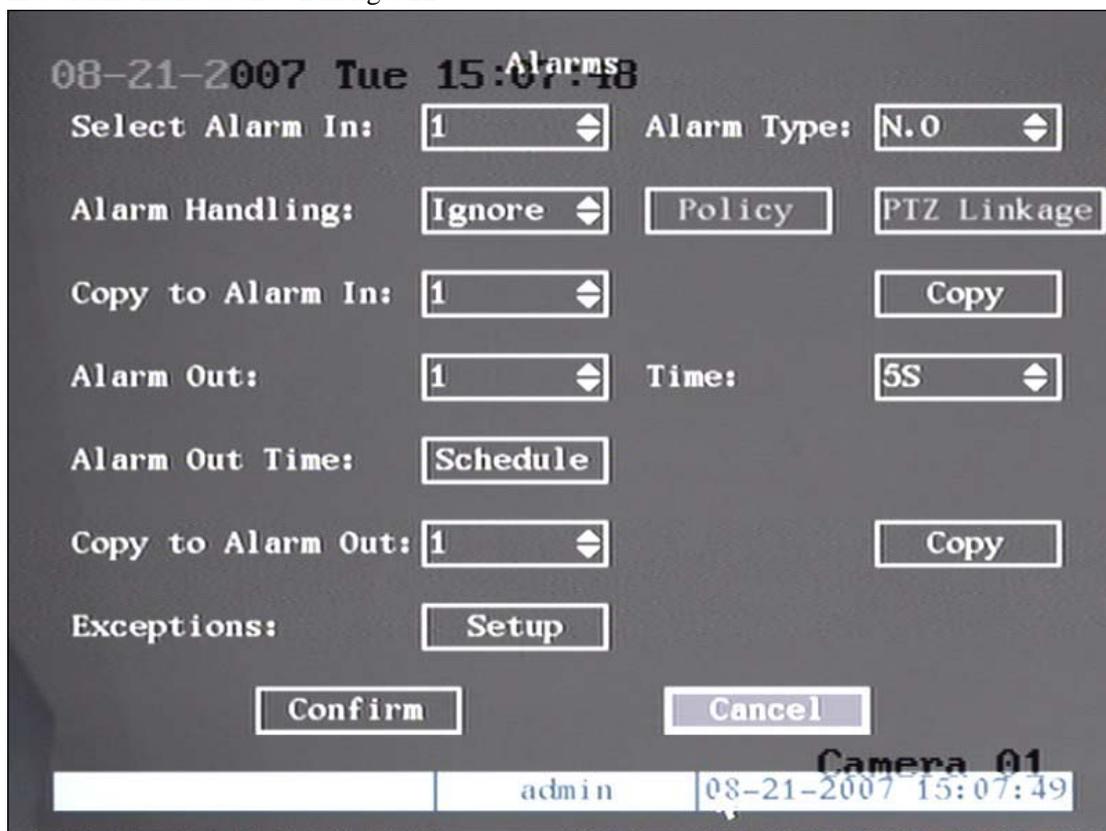
5.22 Alarms setup

External alarm input setup:

Step 1: Select one alarm input Use 【↑】【↓】 keys to select one alarm input.

Step 2: Alarm type
This is the sensor type. You can select "Normal Open" or "Normal Close" according to the sensor type.

Step 3: Enter into "Alarm in Handling" sub menu
In the "Alarms" menu, there are two options for "Alarm Handling" . One is "Ignore", and the other is "Handle". If you select the "Handle" option, you can activate "Policy" and "PTZ Linkage" buttons on the right side. Move the "Active Frame" to the "Policy" button and press

【ENTER】 key, you will enter into "Alarm in Handling" sub menu as shown in fig 5.23
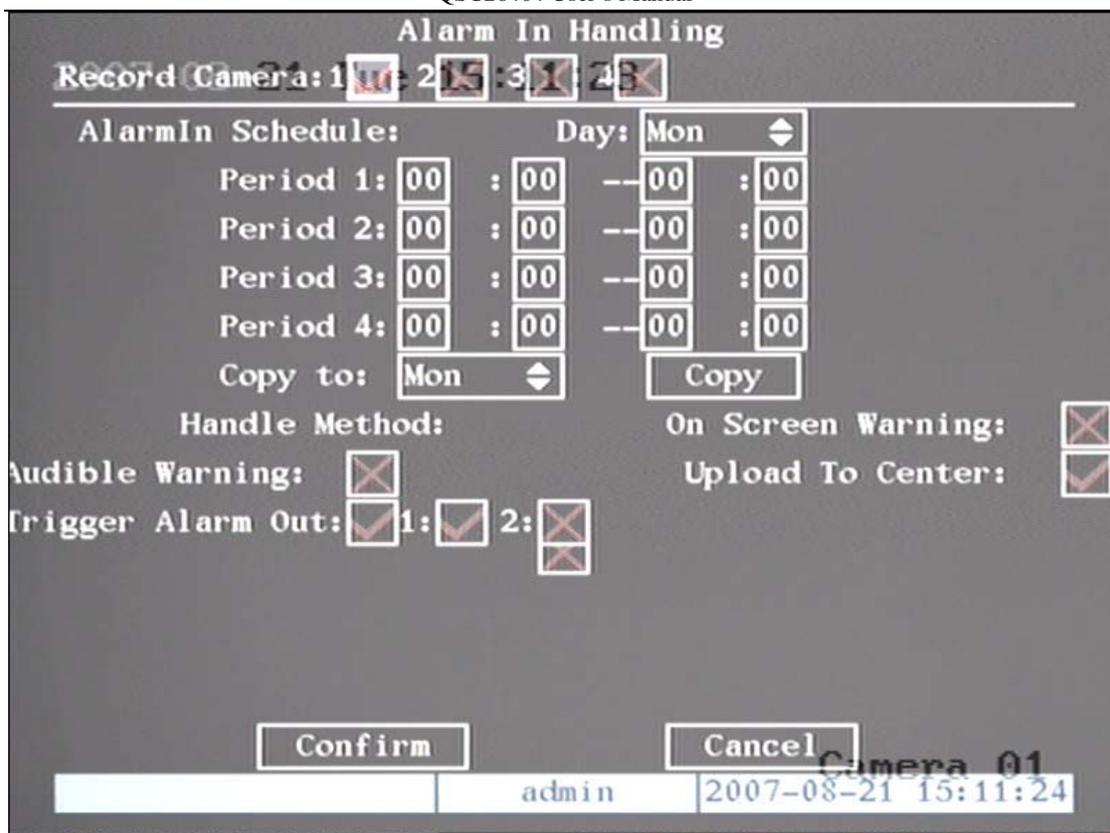
Fig 5.23 Alarm in handling setup

Step 4: Alarm trigger record channel setup

You can select channels to record for each alarm input. In the sub menu, you can use

【ENTER】or【EDIT】key to enable record channel. "×" means disabled and "✓ means enabled.

Note: In order to trigger the channel to record, in "Recording" menu, you must enable recording and select record type as "Alarm" or other related type. Please refer to Chapter 5.12.

Step 5: Schedule for alarm handle method

When an external alarm occurs in the schedule, the DVR will respond according to the handle methods.

Step 6: Alarm handle method

You can select one or more handle methods: "On Screen Warning", "Audible Warning", "Upload to Center" and "Trigger Alarm Output".

Description: If "On Screen Warning" is enabled, when an external alarm occurs and the DVR is in preview mode, the DVR will display the related camera. If you trigger more than one camera, the DVR will display them one by one every 10 seconds. When the external alarm ends, the DVR will return to preview mode.

Step 7: Save setup

In "Alarm in Handling" sub menu, press the "Confirm" button to return to "Alarms" menu. In "Alarms" menu, press "Confirm" button to save the parameters.

Step 8: PTZ Linkage

Move the "Active Frame" to the "PTZ Linkage" button, press 【ENTER】key to enter the "PTZ Linkage" setup menu as shown in fig 5.24
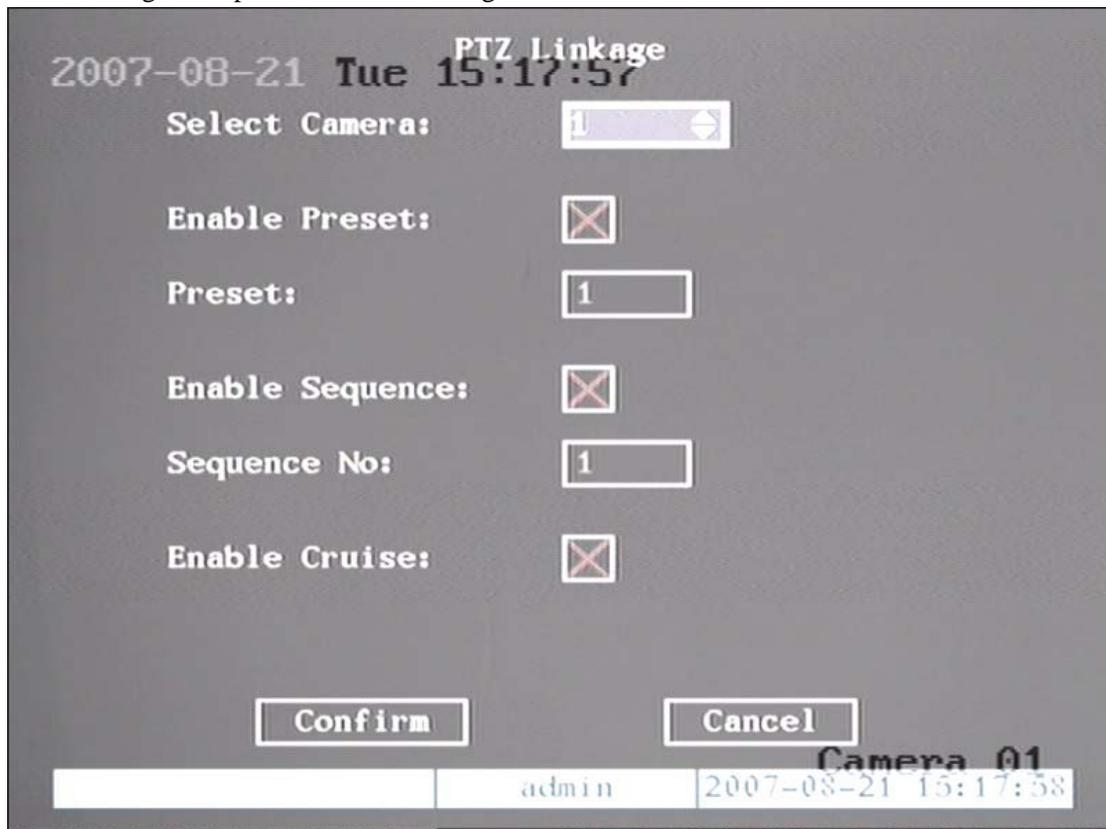
Fig 5.24 PTZ linkage setup

First select a camera, then select one of following PTZ linkage options:

- Preset: Set the flag as "✓" to enable preset, in the preset number edit box and input one preset number that has been setup already. Please refer to Chapter 5.15 for preset setup.
- Sequence: Set the flag as "✓" to enable sequence and input one sequence number that has been setup already. Please refer to Chapter 5.15 for sequence setup.
- Cruise: Set the flag as "✓" to enable cruise. Please refer to Chapter 5.15 for cruise setup.

Press the "Confirm" button to save and return to "Alarms" menu. Press "Cancel" button or 【ESC】key to abort and return to "Alarms" menu.

Note: Please make sure that the PTZ camera you are using can support preset, sequence and cruise functions. One external alarm input can trigger many cameras' PTZ linkage.

Step 9: Copy the parameters to other external alarm input: You can copy the parameters of current alarm input to other external inputs.

Step 10: Save setup: In "Alarms" menu, press "Confirm" button to save the parameters. Press "Cancel" button or 【ESC】key to abort.

Alarm relay output setup

Step 1: In "Alarms" menu, use 【↑】【↓】 keys to select one alarm output.

Step 2: Select delay time

The delay time is when the alarm ends, the alarm output will continue output time. The delay time options are: 5 Seconds, 10 Seconds, 30 Seconds, 1 Minute, 2 Minutes, 5 Minutes, 10 Minutes and Manual Stop. If you select the "Manual' option, the alarm output will not stop until you press the "Clear Alarm" button in the "Utilities" menu. The actual alarm output time is made up of alarm input time and this delay time.

Step 3: Enter into alarm out schedule

You can set the schedule to make alarm output effective. Move the "Active Frame" to the "Schedule" button on right side of "Alarm Out Time", press 【ENTER】 key to enter into the corresponding schedule menu as shown in fig 5.25
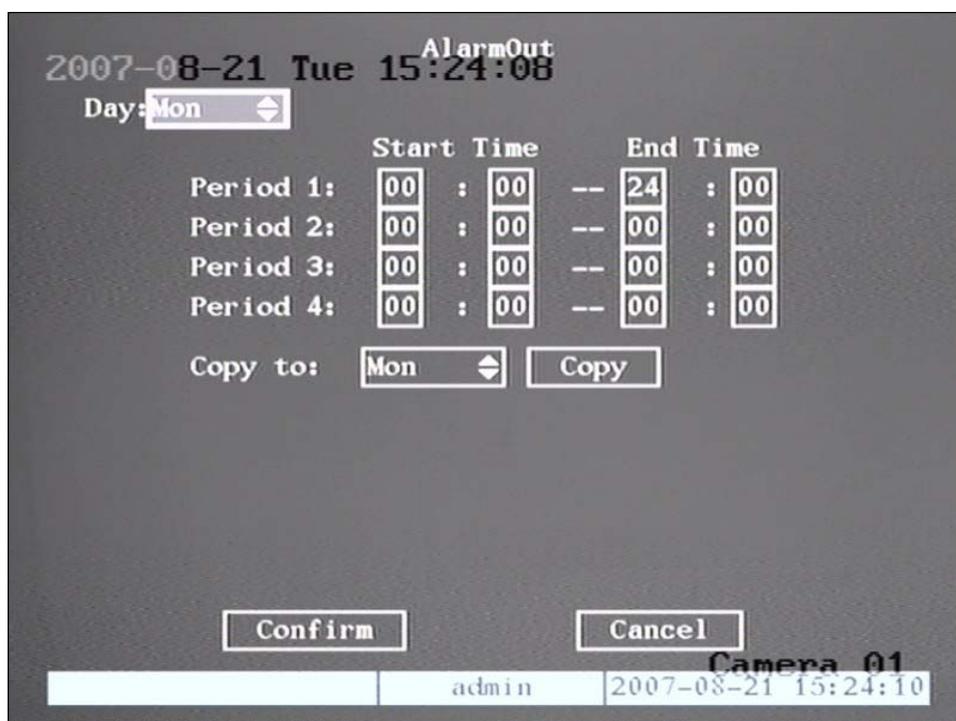
Fig 5.25 Alarm out schedule

Step 4: Setup alarm out schedule

Like other schedule setups, you can set 4 time periods for one day and 7 days for one week. When you finish setup, press the "Confirm" button to return to "Alarms" menu.

Step 5: Copy one alarm output parameters to other alarm outputs

In "Alarms" menu, you can copy parameters of current alarm output to other alarm outputs.

Step 6: Save setup

When you finish setup, in the "Alarms" menu, press the "Confirm" button to save all parameters.

Note: If any schedule is modified, you must reboot the DVR to make it effective.

Exceptions

The exceptions that can currently be handled include: hard disk full, hard disk error, illegal access, IP address conflict, network failure, and NTSC/PAL difference.

Enter into the "Exceptions" menu as shown in fig 5.26
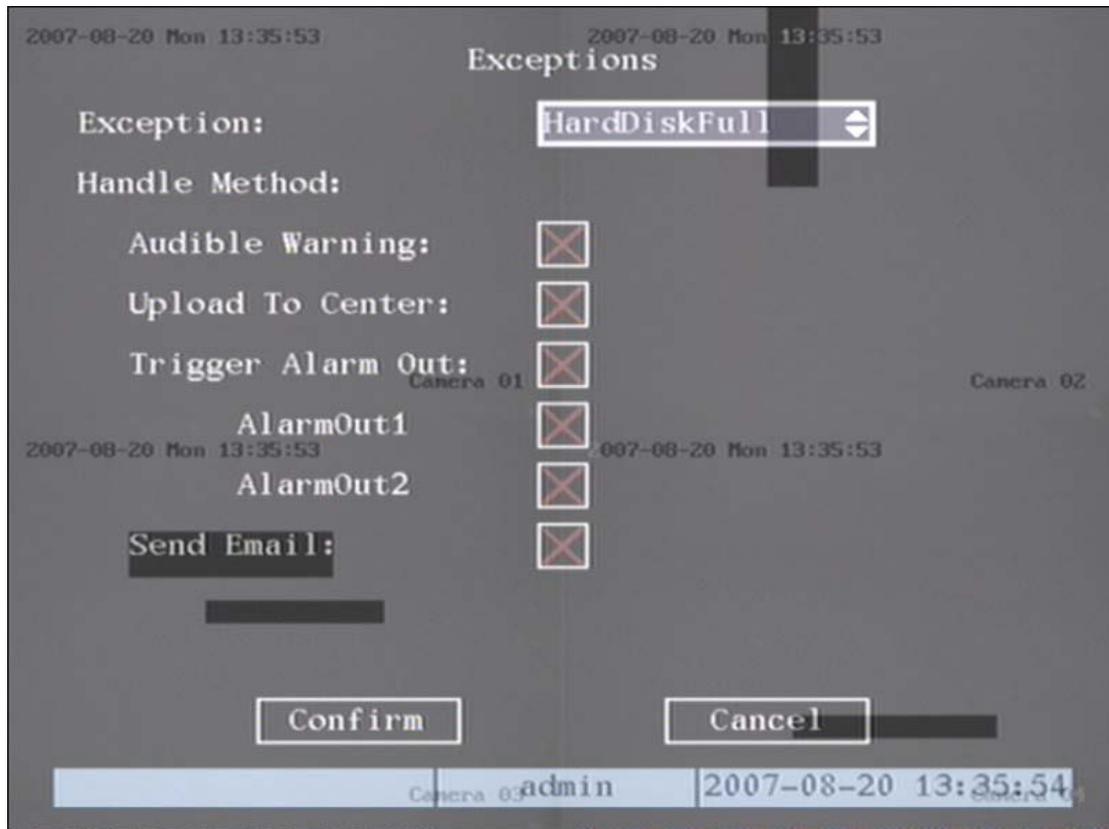
Fig 5.26 Exceptions setup

Includes the following handle methods:

Audible Warning: the DVR will beep.

Upload to Center: Send exception information to center host PC.

Trigger Alarm Output: trigger local relay output.

You can select more than one handle method.

After you finish setup, press the "Confirm" button to save parameters. Press "Cancel" button

or 【ESC】 key to abort.

5.14 Network Parameters

If you want to access the DVR over a network you must setup network parameters.

Note: If any network parameter is modified, you must save and reboot the DVR to make it effective.

In main menu, move the "Active Frame" to the "Network" icon and press【ENTER】, you will enter into "Network" menu as shown in fig 5.27

Fig 5.27 network setup

"Network" menu description:

IP address: This IP address must not be conflict with another IP address on the router. If there is a DHCP server in the network, you can set the IP as "0.0.0.0", save and reboot the DVR. In reboot process, the DVR will search the DHCP server and get one dynamic IP address. This item will display the dynamic IP address. If DVR uses PPPoE function the DVR can dial into the internet and this item will display the dynamic internet IP address.

Port: Network access port number, must be greater than 2000.

Mask: This is subnet mask.

Gateway: The gateway IP is used to communicate with different network segments, it is the network IP of the router the DVR is attached to.

Remote Host IP and Port: If you set this IP and port, when there is an alarm and exception happens, the DVR will send information to that host IP. The center with this IP can receive alarm and exception information from the DVR. You can use SDK to develop this center software.

HttpPort: The port is for IE browser. The default value is 80. It can be modified.

Advanced setup: Move "Active frame" to "Advanced" then press "enter" to enter into the configure interface as shown in fig 5.28

Fig 5.28 Advanced network setup

Advanced setup description :

NIC type: Default is "10M/100M Auto", the other options are: 10M Half-Dup, 10M Full-Dup, 100M Half-Dup and 100M Full-Dup.

IP server address: If DVR uses PPPoE function, it can get one dynamic IP address. If you set DNS IP with one fixed Internet IP, the DVR will send some information such as DVR name, DVR serial number, DVR current IP to that fixed IP address. We call that fixed Internet IP the DNS IP. The DNS server with that fixed Internet IP address can receive DVR information and use it to resolve DVR dynamic IP.

This IP server is special software, not the normal domain name server. You can use the available SDK to develop this DNS software.

DNS IP : Get your DNS IP from your ISP . Fill in this item in order to get access to a remote server with a domain name.

Multicast IP: It is one D-class IP address, from 224.0.0.0 to 239.255.255.255. If you do not use the multicast function, you do not need to set this. Some routers will prohibit multicast function in case of a network storm.

PPPoE: DVR supports PPPoE dail-up function.

Example: To use PPPoE function

Step 1: Enter into "Network" menu.

Step 2: Select NIC type.

Step 3: Input port number. In the port edit box, use numeric keys to input port number. The port number must be more than 2000.

Step 4: Input IP Server: Input one fixed Internet IP address where the IP analyst software (IPServer) is run.

Step 5: Input PPPoE parameters. Use【ENTER】or【EDIT】key to enable PPPoE function

(set PPPoE flag as "√"). Input PPPoE username, password and verify password that ISP provided.

Step 6: Save parameters. In the "Network" menu, press "Confirm" to save parameters. Reboot the DVR to make parameters effective. In the reboot process, the DVR will start dialup using PPPoE function. If the DVR dials into the internet successfully, the DVR will display the dynamic internet IP address in the "Network" menu.

DDNS: This function is not available in this model.

Email: This function is not available in this model

5.15   Accessing the DVR over a network

To access the DVR through a computer you need to make sure the default gateway on the DVR is the same IP address as your router, and the first three sets of numbers of the DVR IP address are the same as the first three sets of numbers of router's address. Example: if your router's default gateway is 192.168.1.1 then the default gateway setting in the DVR should be 192.168.1.1, and the first three sets of numbers on the DVR's IP address should be 192.168.1. The last set of numbers has to be different then those on any other devices attached to the router to avoid conflicts. The subnet on the DVR also needs to be the same as the router, example: if the subnet on the router is 255.255.255.0 the subnet on the DVR needs to be 255.255.255.0. To get the default gateway and subnet of the router, on a computer that is attached to the same router as the DVR, click on the start button, then click on run, then enter cmd into the box and click on OK. At the curser type ipconfig, the default gateway and subnet will be displayed.

You can access the DVR through an Internet Explorer browser window, or through the included client software program.

To access the DVR through Internet Explorer: once you have set up the network settings on the DVR to match the settings of your router, you need to modify your browser controls. You need to allow Pop-ups. To do so go to the Internet Explorer tool bar and select the "tools" option, then select the "Pop up Blocker" option and select "Turn Off Pop-up Blocker." You will also need to enable Active X controls. To do so go to the Internet Explorer tool bar and select the "tools" option, then "Internet Options", then "Security", then click the "Custom Level" button, and make sure the Active X Controls and Plug Ins are set to prompt or enabled. To connect to the DVR from the computer you would then open an internet browser window and enter the gateway IP of your router. You will get a login screen were you will need to enter your user name and password (admin and 12345 by default). The first time you connect a webcam program will be downloaded to your system and you may get a message that an ActiveX control on the page may be unsafe but it is ok to click the Yes option to download the control and program since you have requested the program. This will take you to the Internet Explorer Webcam screen. You would click on the Camera Icon to display cameras.

If you wish to access the DVR through the included client software follow the installation instructions in the included manual.

5.16 Accessing the DVR from a remote computer

To access the DVR from a remote computer, in addition to the above steps, you will also need to forward ports 80 and 8000 on the router the DVR is attached to, to the IP address of the DVR. How you would do this depends on the brand and model number of your router. You can go to www.portforward.com to get instructions on how to forward ports on most popular routers. To access your router's program you would open an internet browser window and type the default gateway of the router into the address bar at the top of the window. Then follow the instructions for your router.

You can access the DVR through an Internet Explorer browser window, or through the included client software program.

To access the DVR through Internet Explorer: once you have setup the network settings on the DVR to match the settings of your router and forwarded the ports needed by the DVR, you need to modify your browser controls. You need to allow Pop-ups. To do so go to the Internet Explorer tool bar and select the "tools" option, then select the "Pop up Blocker" option and select "Turn Off Pop-up Blocker." You will also need to enable Active X controls. To do so go to the Internet Explorer tool bar and select the "tools" option, then "Internet Options", then "Security", then click the "Custom Level" button, and make sure the Active X Controls and Plug Ins are set to prompt or enabled. To connect to the DVR from the remote computer you would then open an internet browser window and enter the internet IP of your router. To get the internet IP of your router go to www.myipaddress.com from a computer that is attached to the same router as the DVR. You would then access the DVR by typing the IP address you got from www.myipaddress.com into the browser window (Example:http://70.69.120.123). You will get a login screen were you will need to enter your user name and password (admin and 12345 by default). The first time you connect a webcam program will be downloaded to your system and you may get a message that an ActiveX control on the page may be unsafe but it is ok to click the Yes option to download the control and program since you requested the program. This will take you to the Internet Explorer Webcam screen. You would click on the Camera Icon to display cameras. **If you wish to access the DVR through the included client software follow the installation instructions in the included manual.**

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5.17 PTZ (Pan, Tilt, Zoom)

There is one RS-485 port on the DVR rear panel used for PTZ camera control. You can setup RS-485 parameters to match your PTZ protocol. In main menu, move the "Active Frame" to PTZ icon and press【ENTER】key, you will enter into PTZ menu as shown in fig 5.29
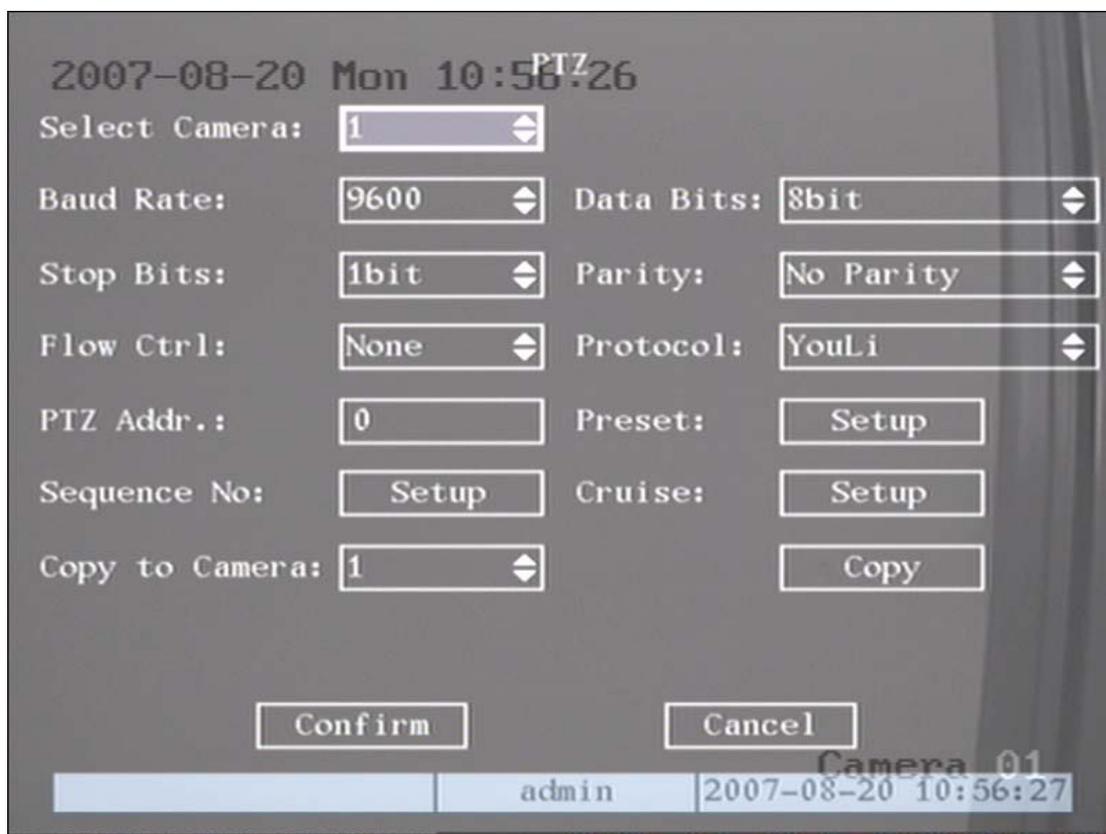
Fig 5.29 PTZ parameters setup

PTZ menu description

Select channel: Select a PTZ camera.

RS-485 parameters: Including baud rate, data bit, stop bit, parity, flow control, etc. These parameters must be the same as the PTZ Protocol.

PTZ address: Each PTZ camera has a different address.

PTZ type: DVR supports the following PTZ protocols: YouLi, LinLin-1016, LinLin-820, Pelco-p, DM DynaColor, HD600, JC-4116, Pelco-d WX, Pelco-D, VCOM VC-2000, NetStreamer, SAE/YAAN, Samsung, Kalatel-312, CELOTEX, TLPelco-p, TLHHX-2000, BBV, RM110, KC3360S, ACES, ALSON, INV3609HD, Howell, Tc Pelco P, Tc Pelco D, AUTO-M, AUTO-H, ANTEN, CHANGLIN, DeltaDome, XYM-12, ADR8060, EVI-D30, DEMO-SPEED, DM-PELCO-D, ST832, LC-D2104, HUNTER, A01, TECHYIN, WEIHAN, LG, D-MAX, Panasonic, KTD-348, infinova, PIH-7625, LCU, DennarDome, etc. Other PTZ protocols may be added with new firmware updates.

Note: In the DVR "PTZ" menu, if you select Pelco-P protocol when you setup PTZ address please plus or minus one compared with Camera ID. For example, if camera ID is 2, the DVR PTZ address is set as ID 3.

Preset setup: Preset is using one number to represent the camera's position, zoom, focus and iris. Move the "Active Frame" to "Setup" button on the right side of "Preset", press【ENTER】key to enter into preset setup menu. You can save 128 preset numbers. Please make sure the PTZ camera you are using supports the preset function before you setup preset.

Sequence setup: Each sequence is made up of several cruise points. Each cruise point includes one preset number, dwell time and dwell speed. Please make sure the PTZ camera you are using can support the sequence function before you start to setup. You can save 16 sequences.

Cruise setup: Cruise is remembering the track of PTZ movement. Please make sure the PTZ camera you are using can support the cruise function.

Preset setup

In "PTZ" menu, move the "Active Frame" to "Setup" button on the right side of "Preset" item, press【ENTER】, you can enter into "Preset" setup menu as shown in fig 5.30
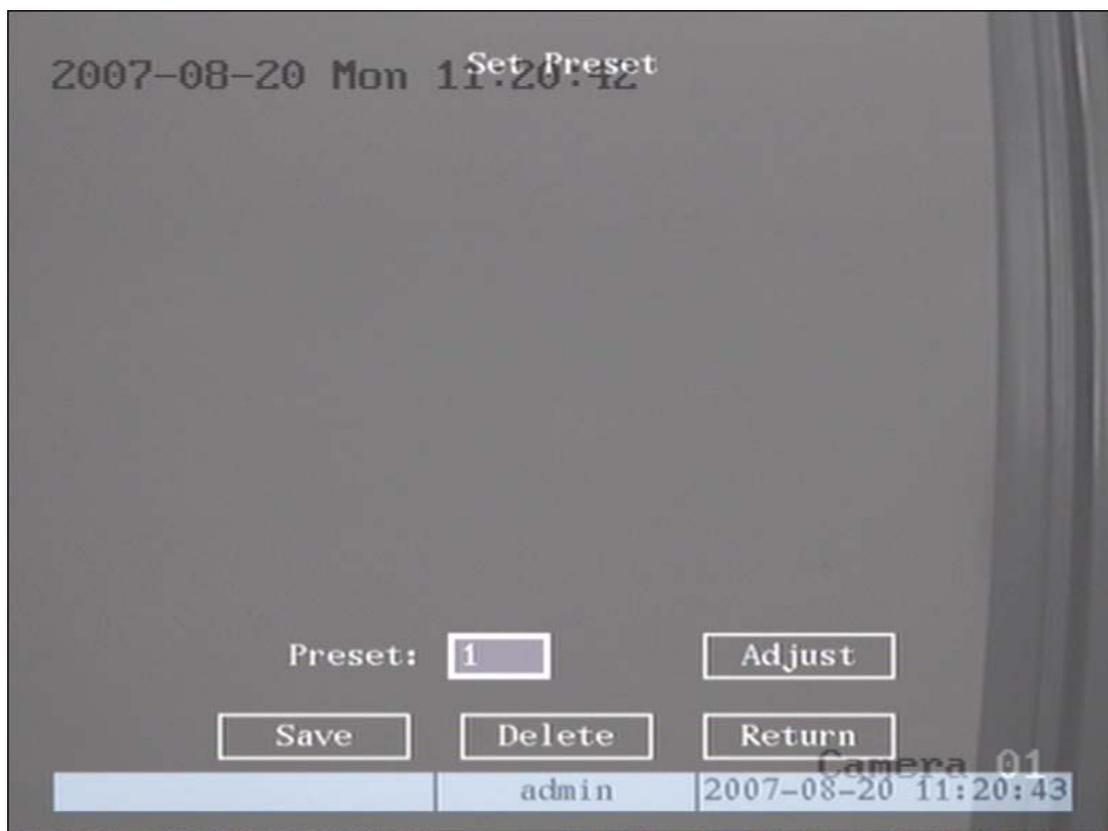
Fig 5.30 PTZ preset setup

Add preset number: You can input preset number (among 1-128) in the edit box. Then press the "Adjust" button to enter into PTZ control interface. In PTZ control interface, you can use direction keys to adjust PTZ position, and use【IRIS+】【IRIS-】【FOCUS+】【FOCUS-】【ZOOM+】

【ZOOM-】keys to adjust iris, focus and zoom. After you finish adjusting, press【ENTER】, then press the "Save" button to save the preset number. You can repeat this step to setup other preset numbers.

After you setup all preset numbers, press the "Return" button to return to the "PTZ" menu. In "PTZ" menu, press "Confirm" button to save all parameters.

Delete preset number: In "Preset" setup menu, input one preset number, press "Delete" button, you will delete this preset number.

After deleting, press the "Return" button to return to the "PTZ" menu. In "PTZ" menu, press "Confirm" button to save all modifications.

Note: Please make sure the PTZ camera you are using can support the preset function.

Sequence setup

In "PTZ" menu, press "Setup" button on the right side of "Sequence No", you will enter into the "Sequence" setup menu as shown in fig 5.31
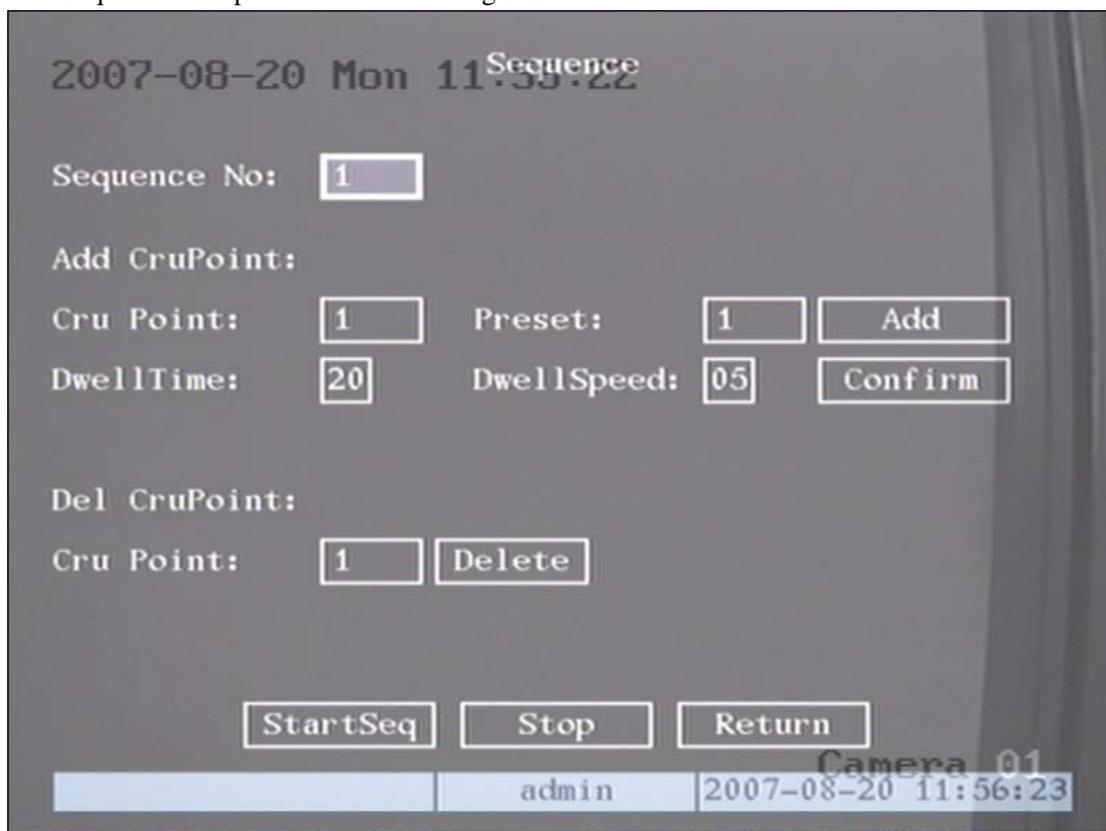
Fig 5.31 PTZ sequence setup

      In the "Sequence" setup menu, first input the sequence number. The sequence is from 1 to 16. Each sequence is made up of cruise points, and each cruise point includes a preset number, dwell time and dwell speed. Dwell time is the time staying at that preset number. Dwell speed is the speed that the PTZ camera is moved to that preset number.

      Press "Add" button to add one cruise point.

      Press "Confirm" button to save the cruise point into the sequence.

      After you finish setting up the sequence number, press "StartSeq" to check the current sequence. Press "StopSeq" button to stop checking.

      You can delete cruise points in a sequence.

      After you finish sequence setup, press the "Return" button to return to the "PTZ" menu. In "PTZ" menu, press "Confirm" button to save the modifications.

      Note: Please make sure the PTZ camera you are using can support the sequence function.

Cruise setup

      In the "PTZ" menu, press the "Setup" button on the right side of "Cruise", you will enter into "Cruise" setup menu as shown in fig 5.32
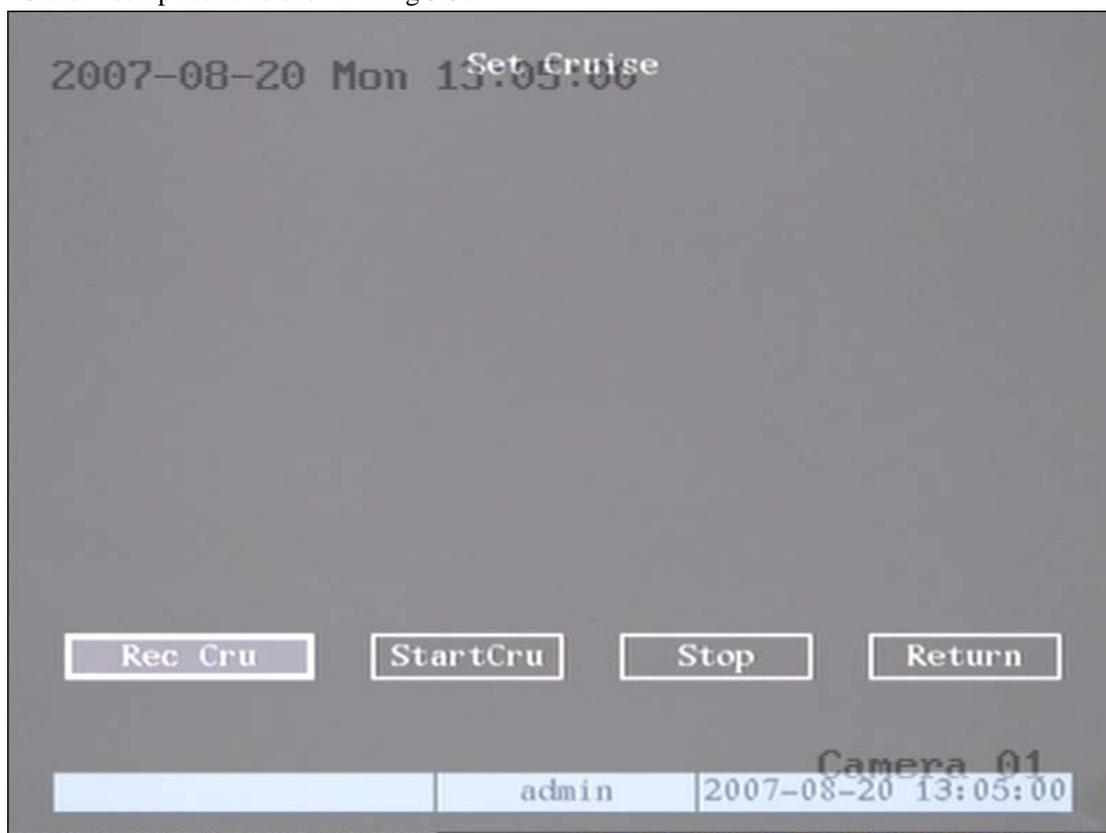
Fig 5.32 Cruise setup

      Press "RecCru" button, you will enter into "PTZ control" interface. You can start controlling PTZ with direction keys, press 【ENTER】 to save the operation track and return to the "Cruise" setup menu. Press the "StartCru" button to repeat the PTZ track until you press "Stop" button.

      Press "Return" button to return to the "PTZ" menu. In "PTZ" menu, press "Confirm" button to save this cruise.

      Note: Please make sure the PTZ camera you are using can support the cruise function.

Chapter 6: Utilities

There are many tools in the "Utilities" menu. Including "SavePara", "RestorePara", "Upgrade", "Hard Disk", "Stop Alarm Out", "Reboot", "Power Off", "View Log" and "System Info".

Enter into "Utilities" menu as shown in fig 6.1
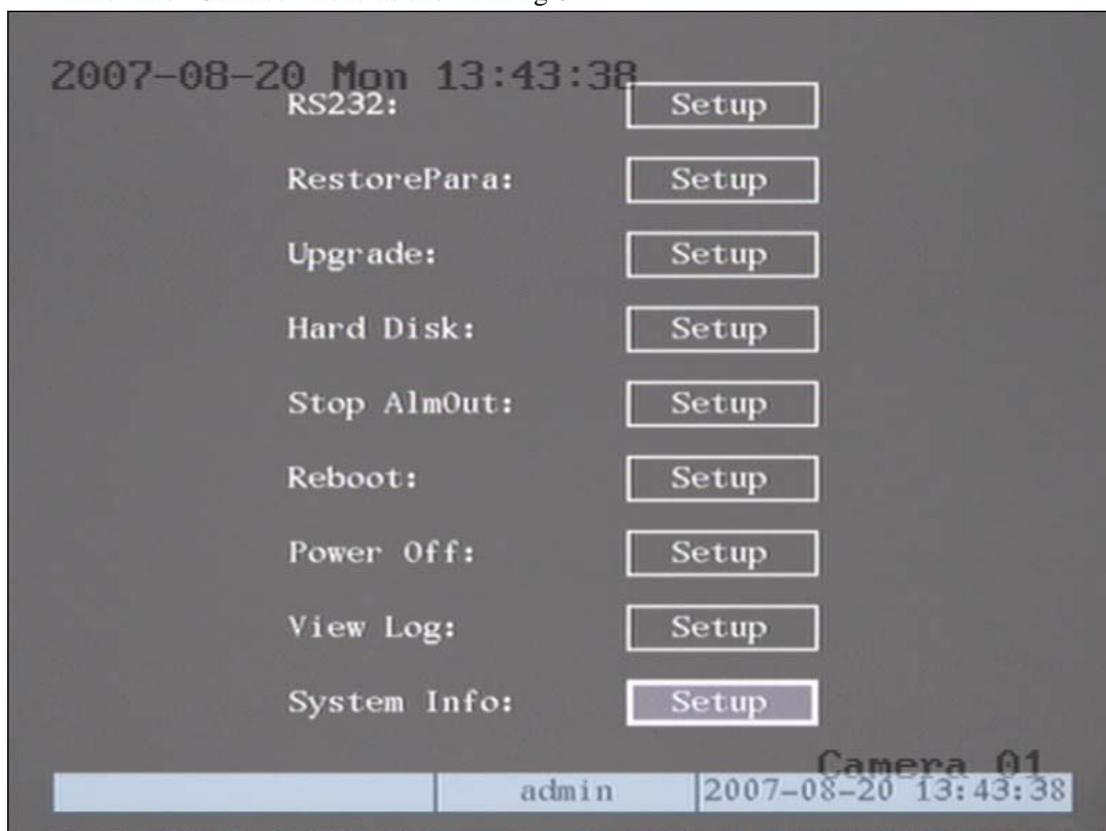
Fig 6.1 Utilities

6.1   Restore Parameters

Restore factory parameters for the DVR. The IP address, gateway and port number will not be restored. Shown as fig 6.2
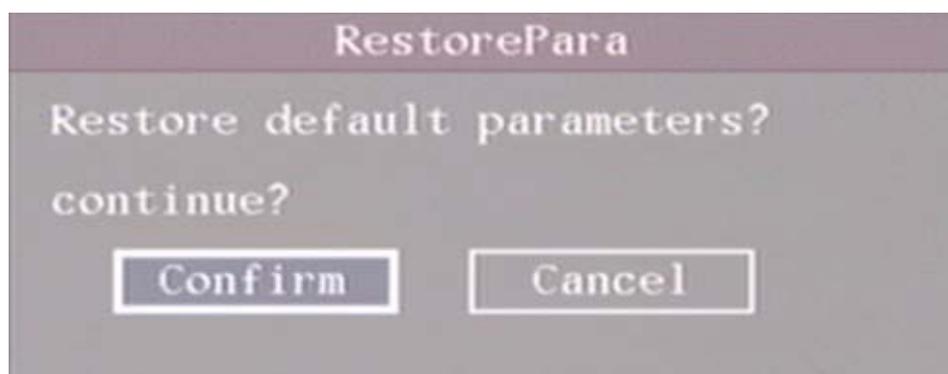
Fig 6.2 Restore parameters

6.2 Upgrade

You can use this function to upgrade the firmware.

Press "Upgrade" icon, in the pop-up dialog box you can select either "FTP" or "USB" upgrade mode as shown in fig 6.3

Fig 6.3 Upgrade

If you select "FTP" mode, you will enter into "FTP Upgrade" menu:
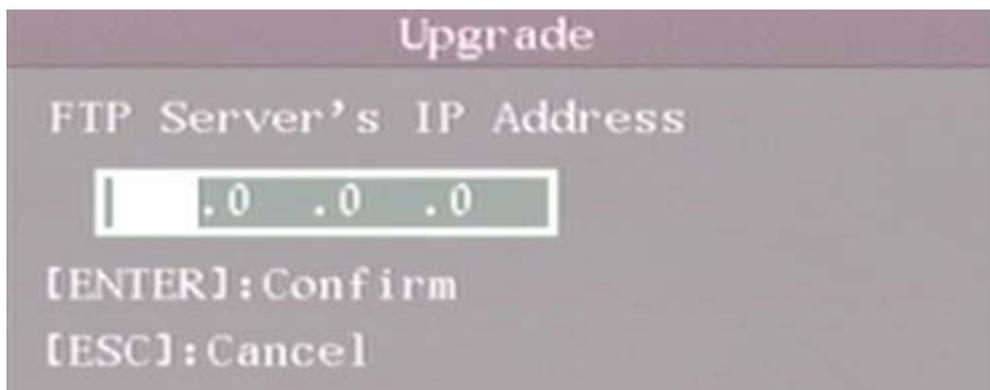
Fig 6.4 FTP IP setup

Input the ftp server IP and press【ENTER】key. DVR will connect with FTP server through the network and download the firmware file.

If you select "USB" mode, please make sure you connect a USB flash drive to the DVR and the firmware file is in the root directory of the flash drive.

Reboot after successfully upgrading, the system will then use the new firmware.

# 6.3　　Hard Disk Management
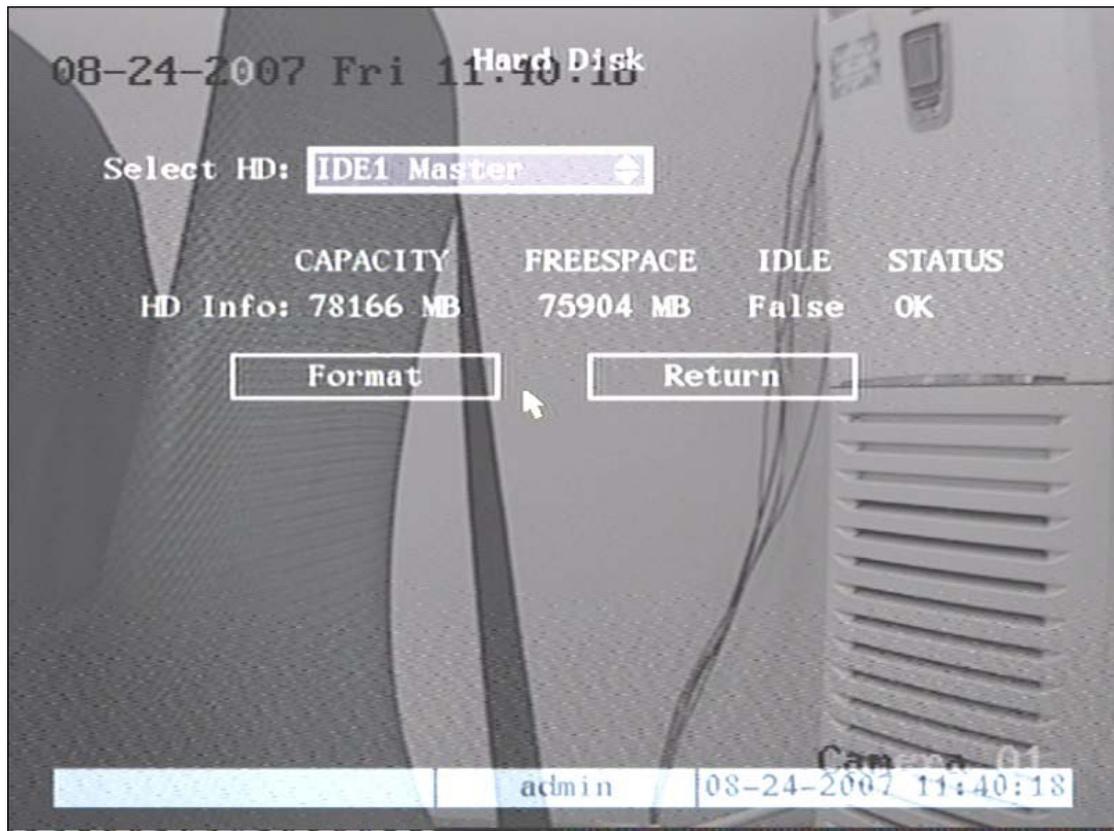
fig 6.5 Hard Disk setup

Check HDD work status

Capacity, Free space, Stand by or not, Normal status or not.

Format HDD

Before formatting stop all recording. After formatting, you must reboot the DVR, otherwise DVR will not work correctly.

6.4 Stop Alarm Out

Clear the alarm output manually.

6.5　Reboot

Reboot the DVR.

6.6　Power Off

Shut down the DVR.

6.7 View Log

To view the log recorded on the DVR HDD.

In the "Utilities" menu, press "View Log" to enter into "Log" menu as shown in fig 6.6
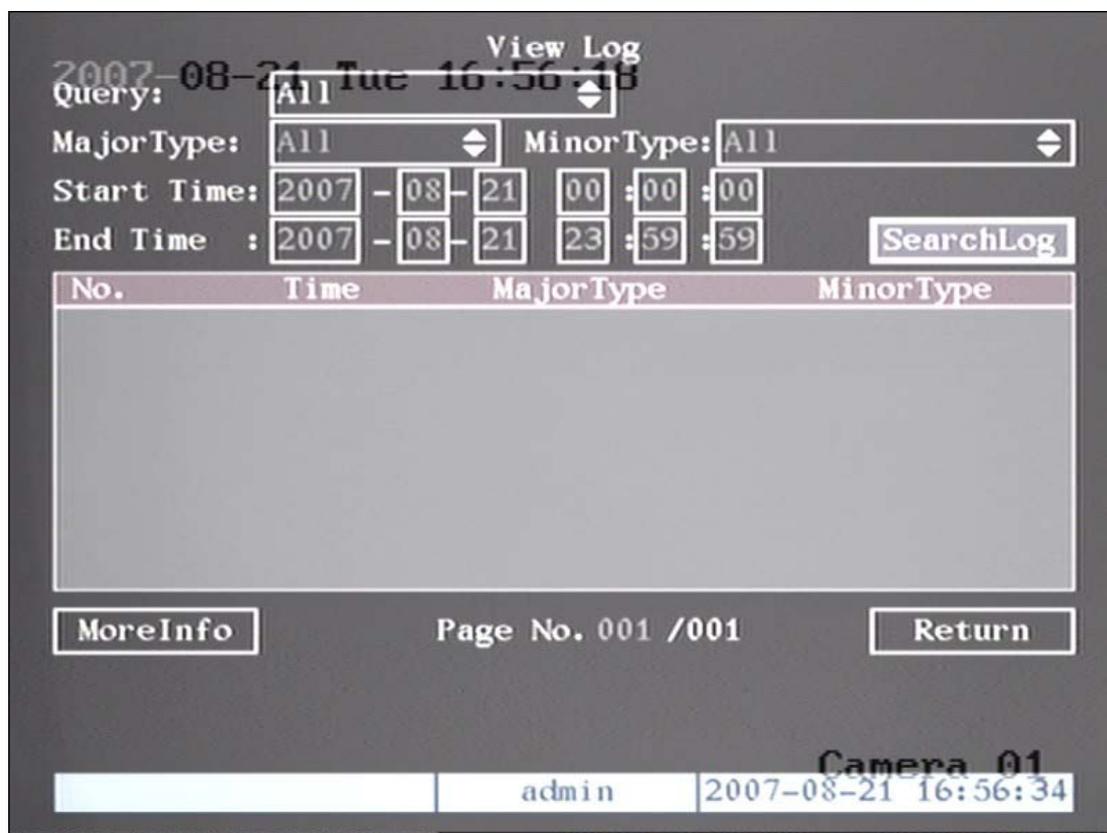
Fig 6.6 View log

If you want to view the log based on the default option, just press【ENTER】key. The DVR will list all matched information. You can also select options to search "By Type", "By Date", or "By Type&Date".

By Type

To view log information of the desired type.

Type is divided into "Major type" and "Minor type". Major type includes operation, alarm, exception and all.

For operation major type, there are many minor types, including Power On, Shut Down, Abnormal Shut, Panel Login, Panel Logout, Panel Config, Panel File Play, Panel Time Play, Local Start Record, Local Stop Record, Panel PTZ, Panel Preview, Panel Set Time, Local Upgrade, Net Login, Net Logout, Net Start Record, Net Stop Record, Net Start Transparent Channel, Net Stop Transparent Channel, Net Get Parameter, Net Config, Net get Status, Net Alert On, Net Alert Off, Net Reboot, BiComStart (Start Voice Talk), BiComStop (Stop Voice Talk), Net Upgrade, Net File Play, Net Time Play, Net PTZ.

For alarm major type, the minor type includes: External Alarm In, External Alarm Out, Motion Detect Start, Motion Detect Stop, View Tamper Start, View Tamper Stop.

For exception major type, the minor type includes: Video Signal Loss, Illegal Access, Hard Disk Error, Hard Disk Full, IP Conflict, DCD Lost.

For example: The steps of viewing alarm log.

Step 1: For "Query" item, select "By Type" to active "Major Type" and "Minor Type" items.

Step 2: For "Major Type" option, select "Alarm" option. For "Minor Type" option, select one of following options: All, External Alarm In, External Alarm Out, Motion Detect Start, Motion Detect Stop, View Tamper Start, View Tamper Stop .

Step 3: Move "Active Frame" to "Search Log" button, press【ENTER】key to start searching.

Step 4: When searching is finished, DVR will list all matched alarm information. In the list box, the information includes: Index, Occur Time, Major Type, Minor Type, Panel User, Net User, Host Address, Para. Type, Channel No, HDD No, Alarm In and Alarm Out. You can press "More Info" button for more information, also select page number to view more information.

Step 5: Press "Return" button to return to the "Utilities" menu.

By Time

View the log between one time period.

Step 1: Select "By Time" for "Query" option to active "Start Time" and "Stop Time" items.

Step 2: Input start time and stop time.

Step 3: Move the "Active Frame" to "Search Log" button and press 【ENTER】 key to start searching.

Step 4: After finishing search, the DVR will list the matched log information.

Step 5: Press "Return" button to return to the "Utilities" menu.

By Type&Date

View one kind of log in the assigned time period.

Step 1: Select "By Type&Time" for "Query" option to active "Major Type", "Minor Type" "Start Time" and "Stop Time" items.

Step 2: Select "Operation" for major type and select one option for minor type.

Step 3: Input start time and stop time.

Step 4: Move the "Active Frame" to "Search Log" button and press【ENTER】key to start searching.

Step 5: After finishing search, the DVR will list the matched log information.

Step 6: Press "Return" button to return to "Utilities" menu.

6.8   System Information

Press the "System Info" icon in the "Utilities" menu, you will get DVR system information as shown in fig 6.7
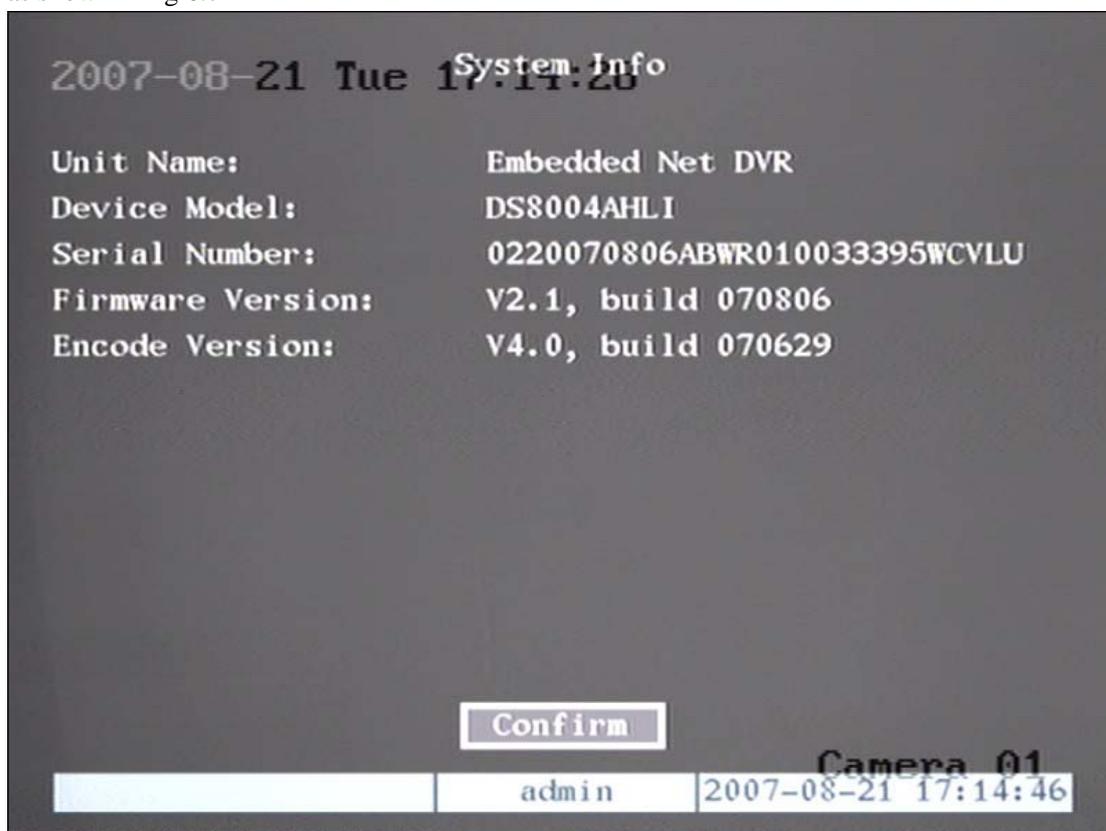
Fig 6.7 System information

Chapter 7: Firmware Upgrade

The DVR firmware is stored in FLASH ROM. You can use the DVR upgrade function to write the firmware file (digicap) into FLASH.

There are two cases where you need to upgrade DVR firmware. One is to update old firmware, the other is when the code in DVR FLASH has crashed.

Note: Make sure you are using the correct firmware for your DVR model before you upgrade.

7.1 FTP Server Setup

You can download FTP server software through internet. Here we use wftpd32.exe as an example:

1. Run wftpd32.exe (FTP server software). As shown in fig 7.1
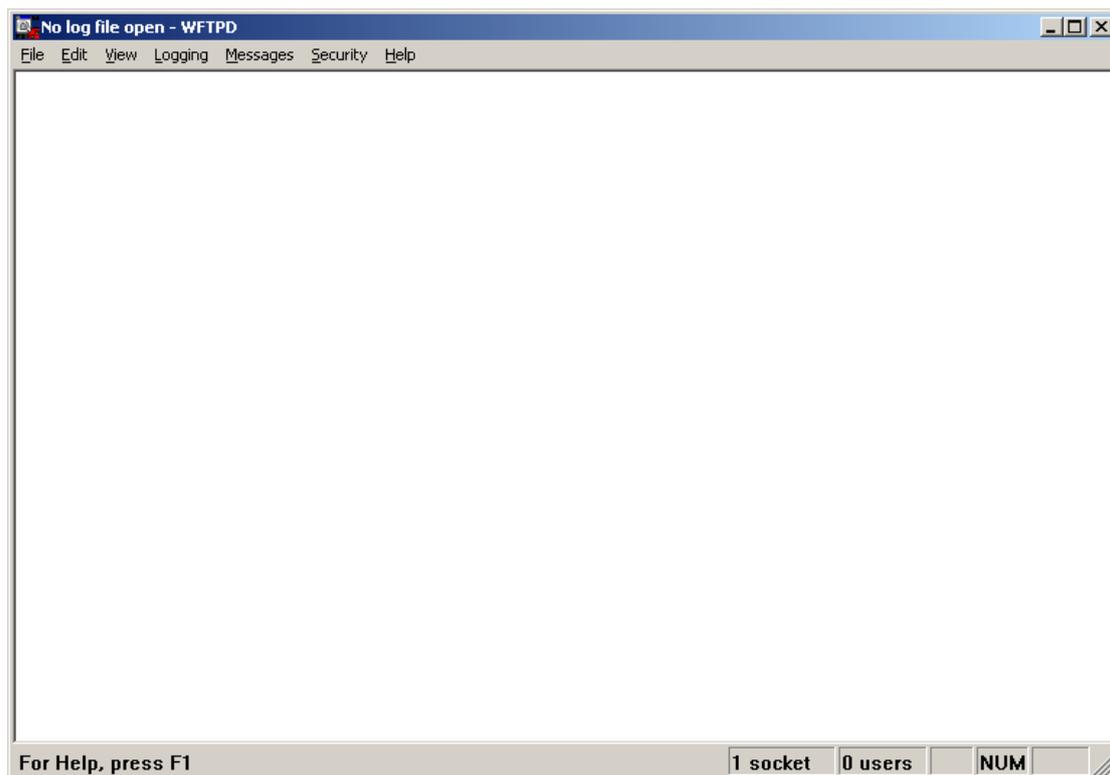
Fig 7.1 Interface

2. Select "Logging" in the menu , choose Log Options in the sub menu, and make the choice as follows:
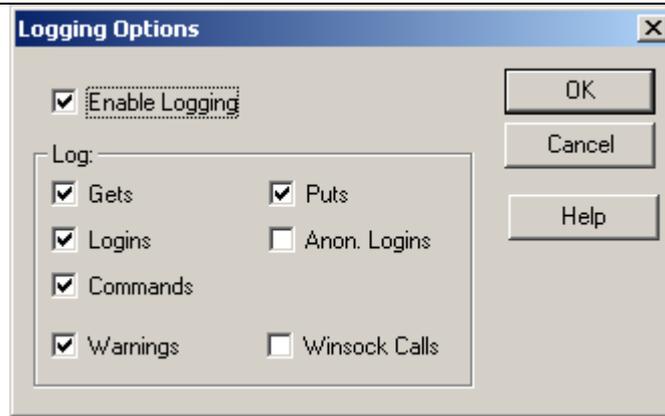
Fig 7.2 setup parameters

3.   Select "Users/rights" under the "Security" menu item. The following dialog box will be displayed.

Fig 7.3 Setup username

4.   Create new user. Click "new user'. New user dialog box is displayed. Input user name "target". Click "OK".
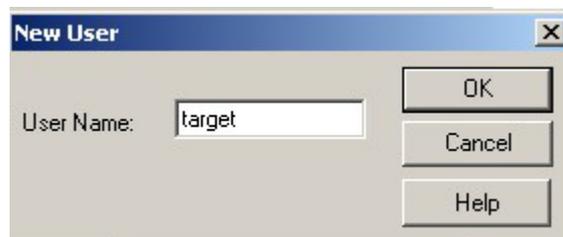
Fig 7.4 username

5.   In the password dialog box input password "target" in "New Password" and   "Verify Password" edit box. Click "OK" to save and exit the dialog box.
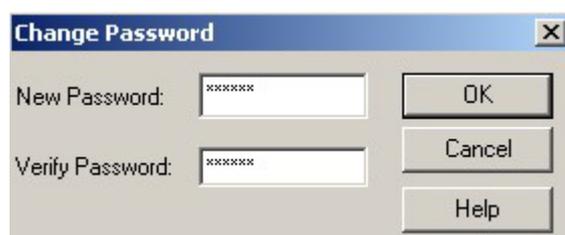
Fig 7.8 Password

6.   In the "User/Rights Security" Dialog box select "User Name" as "target". In "Home Directory" edit box, input the path where the firmware file (digicap) is placed. Then press "Done" to exit.
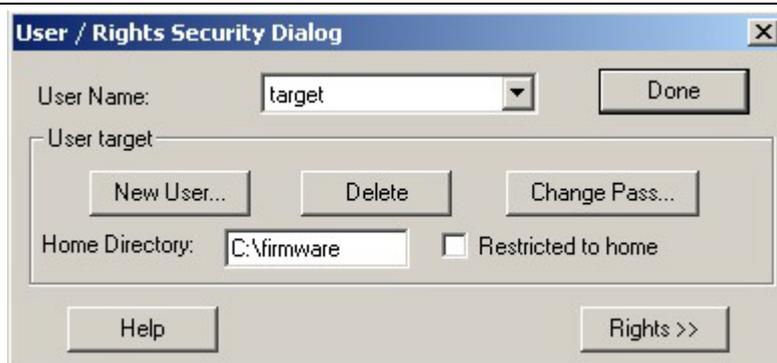
Fig 7.9 Setup home directory

7. Next time, you do not need to setup again, just double click and open "wftpd32.exe" to upgrade the DVR/DVS firmware.

7.2 Upgrade Mode

1. Use client software to upgrade the firmware file. You do not need to use ftp server software. Please refer to the client software user manual for detail information.
2. Use "FTP" function of "Upgrade" sub menu in "Utilities" menu. You need a host PC to run FTP server software and hold firmware file (digicap), and make sure DVR and PC are in the same subnet.
3. Use "USB" function of "Upgrade" sub menu in "Utilities" menu. Please make sure the firmware file (digicap) is placed in the root directory of USB flash drive.

Appendix A: Mouse Control Function

1. In the preview interface
Double-click the left key

> 1. Switch to the most pictures when viewing single picture.
>
> 2. Switch to full screen mode when viewing multi-pictures. Back to previous multi-pictures when you double click again.

Scroll wheel forward

> Switch to previous screen

Scroll wheel backward

> Switch to next screen

Single-click the right key

> Pop up function menu including "main menu" "single picture 1-4ch" "multi picture 1/4" "next preview" " PTZ control" "manual record" "close status"

2. PTZ interface
Double-click the left key

> Move to the center of the screen (For SAE\YAAN protocol)

Drag the left key

> Select an area to zoom in (For SAE\YAAN protocol)

Single click the left key

> If you selected an area for zooming in this action it will save the position as No.60 and zoom in the area (For SAE\YAAN protocol)

Scroll wheel forward

> Switch to the previous channel

Scroll wheel backward

> Switch to the next channel

3. Channel name or OSD position configuration interface
Drag the left key

> A rectangular frame followed with cursor

Single click the left key

> Pop-up menu including confirm & cancel

4. Area configuration interface
Right click

> Pop-up menu including confirm, cancel, clear, full (this option only appears in motion detect area configuration)

Drag the left key

> Extend or shrink area

Moving

> The primary grid followed with cursor

5. Test input interface
Click the left key

      1. pop up soft keyboard

      2. Input text

      3. Save and exit

Click the right key

      Cancel the text and exit the edition

Scroll wheel forward

      Cursor goes to the front character

6. Playlist interface
Click the left key

      Select the file to copy or cancel

Scroll wheel forward

      Select the front file

Scroll wheel backward

      Select the next file

Signal-click the right key

      Cancel and return to the preview interface.

Double-click the left key

      Play the selected file

7. User interface
Double-click the left key

      Enter into the selected user's privileges setting interface

Single-click the right key

      Cancel the operation you did and back to the previous interface

Scroll wheel forward

      Select previous file

Scroll wheel backward

      Select next file

Drag the left key

      Select an area to zoom in (For SAE\YAAN protocol)

Appendix B: HDD Capacity Calculation

To calculate total capacity needed by each DVR according to video recording (video recording type and video file storage time).

Step 1: Use Formula (1) to calculate storage capacity q_i that is the capacity of each channel needed for every hour: unit Mbyte.

$$q_i = d_i \div 8 \times 3600 \div 1024 \tag{1}$$

In the formula: d_i means the bit rate, unit Kbit/s

Step 2: After video time requirement is confirmed, according to Formula (2) to calculate the storage capacity m_i, which is the storage needed by each channel: unit Mbyte.

$$m_i = q_i \times h_i \times D_i \tag{2}$$

In the formula:

h_i represents the recording time for each day (hours)

D_i represents the number of days for which the video will be kept

Step 3: Use Formula (3) to calculate total capacity (accumulation) q_T that is needed for all channels in the DVR during **scheduled video recording**.

$$q_T = \sum_{i=1}^{c} m_i \tag{3}$$

In the formula: c represents total number of channels in one DVR

Step 4: Use Formula (4) to calculate total capacity (accumulation) q_T that is needed for all channels in DVR during **alarm video recording (including motion detection)**.

$$q_T = \sum_{i=1}^{c} m_i \times a\% \tag{4}$$

In the formula：$a\%$ represents alarm occurrence rate

Appendix C: DVR Connect Cable Definition

1 How to Make a RS-232 Connect Cable

Material and tool

One twist cable (8 pins), one standard RJ45 connector and one special tool for RJ45.

RJ45 introduction
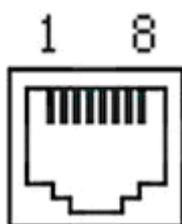
Pin definition

Make the connect cable according the following; to left point of RJ45 head, 1st and 2nd cables are the anode and cathode line for sending, 3rd and 4th cables are the anode and cathode line for receiving, 7 is the shared grounding line:

Pin definition for Standard RS-485 serial port RJ45 plug-in

2 How to Make a UTP network Connect Cable

Material and tool

One twist cable (8 pin, the length can be whatever is needed up to 100m), 2 standard RJ45 heads, one tool for RJ45.

Suggestion: have a network cable test tool to test each cable made.

Pin definition

To make the network cable according to your actual needs there are two options:

(1) Use the following method to make the network cable when DVR is connected to a network hub or switch.

```
1 (white-orange) ——————————— (white-orange) 1

2 (Orange)        ——————————— (Orange)        2

3 (white-green)   ——————————— (white-green)   3

4 (blue)          ——————————— (blue)          4

5 (white-blue)    ——————————— (white-blue)    5

6 (green)         ——————————— (green)         6

7 (white-brown)   ——————————— (white-brown)   7

8 (brown)         ——————————— (brown)         8
```

The corresponding relationship of the direct cable

(2) Use the following method to make the cross network cable when DVR is directly connected with client-end PC.

```
1 (white-orange)  ╲         ╱  (white-orange) 1

2 (orange)         ╲       ╱   (orange)        2

3 (white-green)  ──────  ──────  (white-green)   3

4 (blue)          ——————————— (blue)          4

5 (white-blue)    ——————————— (white-blue)    5

6 (green)         ╱       ╲   (green)         6

7 (white-brown)   ——————————— (white-brown)   7

8 (brown)         ——————————— (brown)         8
```

The corresponding relationship of cross cable

Appendix D: Specifications

Model Name	QSC26404
Video compression	H.264
Preview resolution	PAL: 352*288 (CIF), NTSC: 352*240 (CIF)
Playback resolution	PAL: 352*288 (CIF), NTSC: 352*240 (CIF)
Video input	4-ch BNC (Electrical Level: 1.0Vp-p, resistance: 75Ω)
Composite video output	1-ch, BNC (Electrical Level: 1.0Vp-p, resistance: 75Ω)
Spot video Output	1-ch, BNC (Electrical Level: 1.0Vp-p, resistance: 75Ω)
Max frame rate	PAL: 25FPS, NTSC: 30FPS
Audio compression	OggVorbis 16Kbps
Audio input	1-ch RCA (Electrical Level: 2.0Vp-p, Resistance: 1000Ω)
Audio output	1-ch RCA (Linear Electrical Level, Resistance: 600Ω)
Stream type	Video/Video&Audio
Max bit rate	32Kbps--2Mbps, self-define
HDD IDE interface	1 IDE interface, support 1 IDE HDD (2000GB maximum)
Network interface	1 RJ45 10M/100M Self-adaptive Ethernet Interface
USB interface	1 USB2.0, can support USB flash drive/HDD, USB DVD/CDRW burner
VGA interface	1 VGA interface, Supports resolutions: 800×600/60Hz, 1024×768/60Hz, 1280 ×1024/60Hz
External alarm in	4
Relay output	1
PTZ control	T+, T-, R+, R-
Voice talk	Same as audio input and audio output
Dual stream	Yes
Power supply	DC 12V
Power consumption	Less than 10W (without HDD)
Working temperature	-14 F-- + 131 F
Working humidity	10%--90%
Size	12.5 in x 9 in x 2 in

PAL: 176*144(QCIF), 352*288(CIF), 704*288(2CIF), 528*384(DCIF), 704*576(4CIF);

NTSC: 176*120(QCIF), 352*240(CIF), 704*240(2CIF), 528*320(DCIF), 704*480(4CIF).

Appendix E: Troubleshooting

Failure	Possible reasons
After plugging in power, turning on the power switch, "POWER" light in front Panel does not turn on, and fan does not work.	1) Power cable is damaged. 2) Power supply is damaged.
After plugging in power, turning on the power switch, "POWER" light in front panel turns to green while fan does not work.	1) Front panel cable is damaged. 2) Fan is broken.
After plugging in power, turning on switch, "POWER" light turns to green, the indicator lights in the panel turn on at the same time, but fan does not work.	The ATX plug in main board is not attached well.
DVR continuously reboots after start up, and makes a sound like "di" every 10 seconds.	1) Upgraded using wrong firmware 2) Compression board has problems. 3) Main board has problems.
There are no images in the monitor connected with VOUT after DVR is started.	1) The cable connected with the monitor is damaged. 2) Real board of DVR has problems. 3) Main board of DVR has problems.
Cannot find the hard disk in reboot process.	1) Hard disk cable is damaged. 2) The power cable of hard disk is not connected. 3) Hard disk is damaged.
DVR can not control PTZ through RS-485 port.	1) RS-485 cable is not connected correctly or damaged. 2) PTZ parameters error. 3) RS-485 port of DVR is damaged.
Client software can not view DVR live image.	1) Network error. 2) Wrong DVR setup (wrong IP, port number, username or password, etc). 3) Old player SDK (playm4.dll)

Notes:

1)   Place the DVR in well ventilated area so that it operates within the recommended range of temperature and humidity as in specifications.

2)   If the circuit board gets wet, dust on circuit board can cause a short circuit. The circuit board, plug and socket, housing fan and housing should be cleaned by brushing.

Appendix F: Product Service & Warranty

Thank you for choosing our products.

All of our products users have a conditional free warranty repair service for hardware within 12 months starting from purchase date, and a free exchange service within one month (valid for manufacturing defects). Permanent upgrading service is provided for the software.

Liability Exclusions:

Any product malfunction, abnormalities in operation or damage caused by following reasons are not within the free service scope of our company. Please select payable service.

(1) Equipment damage caused by improper operation

(2) Improper environment and conditions in/on which the equipment operates, e.g., improper power, environment temperature, humidity and lightening strike etc. that cause equipment damage.

(3) Damage caused by acts of nature: earthquake and fire etc.

(4) Equipment damage caused by the maintenance of personnel not authorized by our company.

(5) Product sold over 12 months ago.

In order to provide various services to you, please complete registration procedure after you purchase the product. Cut off or copy User's Information Card and fax or mail it to us after the card is filled in.

Contact Us:

Q-See Products

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714-998-3509

Appendix G Customer Information Card

User's Name	Mr./Mrs.
Company Name	
Post Address	
Postcode	
Phone Number	
E-mail	
Model Number of Product	
Serial Number of Product	
Purchase Date	
Distributor	

Notes:

Contact Us:

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