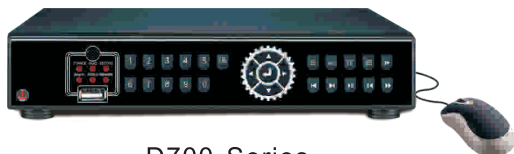


4/8/16-CH NETWORK DIGITAL VIDEO RECORDER

USER'S MANUAL



D700 Series



D800 Series

DVR User's installation and operation Manual

Edition 4.0

Welcome

Thank you for purchasing our DVR!

This manual is designed to be a reference tool for the installation and operation of your system.

Here you can find information about this series DVR features and functions, as well as a detailed menu tree.

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

Important Safeguards and Warnings

Do not place heavy objects on the DVR.

Do not let any solid or liquid fall into or infiltrate the DVR.

Please brush printed circuit boards, connectors, fans, machine box and so on regularly. Before the dust cleaning please Switch

Off the power supply and unplug it.

Do not disassemble or repair the DVR by yourself. Do not replace the components by yourself.

Environment

Please place and use the DVR between 0℃ and 40℃. Avoid direct sunlight. Stay away from heat source.

Do not install the DVR in damp environment.

Do not use the DVR in smoky or dusty environment.

Please insure the DVR level installation in a stable workplace.

Please install in ventilated place. Keep the vent clean.

Use within the rating input and output scope.

Directory

1	Production Introduction.....	4
1.1	Product overview.....	4
1.2	Main functions.....	4
2	Open-package check and cable connections.....	5
2.1	Open-package check.....	5
2.2	Hard disk installation.....	6
3	Basic operation.....	8
3.1	Turn on.....	8
3.2	Turn off.....	8
3.3	Login.....	9
3.4	Preview.....	9
3.5	Desktop shortcut menu.....	10
3.5.1	Main menu.....	11
3.5.2	Video playback.....	11
3.5.3	Record Mode.....	12
3.5.4	Alarm output.....	14
3.5.5	PTZ control.....	15
3.5.6	Color setting.....	15
3.5.7	TV adjust.....	15
3.5.8	Logout.....	16
3.5.9	Window switch.....	16
4	Main menu.....	18
4.1	Main menu navigation.....	18
4.2	Recording function.....	19
4.2.1	Recording Config.....	19
4.2.2	Video playback.....	19
4.2.3	Video backup.....	19
4.3	Alarm Function.....	19
4.3.1	Motion Detect.....	19
4.3.2	Video Blind.....	21
4.3.3	Video Loss.....	21

4.3.4 Alarm input.....	21
4.3.5 Alarm output.....	21
4.3.6 Abnormal.....	22
4.4 System setup.....	22
4.4.1 General setup.....	22
4.4.2 Encode setup.....	23
4.4.3 Network setup.....	23
4.4.4 Network service.....	24
4.4.5 Output mode.....	26
4.4.6 PTZ setup.....	27
4.4.7 Serial port setup.....	27
4.4.8 Patrol setup.....	27
4.5 Management tools.....	27
4.5.1 Hard disk management.....	28
4.5.2 User management.....	28
4.5.3 Online user.....	29
4.5.4 TV adjust.....	29
4.5.5 Auto maintenance.....	29
4.5.6 Resume default.....	29
4.5.7 Upgrade.....	30
4.6 System information.....	30
4.6.1 Hard disk information.....	30
4.6.2 Code stream statistics.....	30
4.6.3 Log information.....	30
4.6.4 Edition information.....	30
4.7 Shut maintenance.....	31
5 FAQ and maintenance.....	32
5.1 FAQ.....	32
5.2 Maintenance.....	36
Appendix 1.Remote controller operation.....	37
Appendix 2.Mouse operation.....	38
Appendix 3.Hard disk capability calculation.....	38
Appendix 4.Technique parameters.....	39

1 Production Introduction

1.1 Product overview

The series DVR is designed specially for security and defence field which is an outstanding digital surveillance product. It introduces embedded LINUX operating system which is more stable. It introduces standard H.264mp video compressed format and G.711A audio compressed format which insures the high quality image, low error coding ratio and single frame playing. It introduces TCP/IP network technology which achieves the strong network communication ability and telecommunication ability. The series DVR can be used individually or online applied as a part of a safety surveillance network. With the professional network video surveillance software it achieves the strong network communication ability and telecommunication ability.

The series DVR can be applied in the bank, telecom, electric power system, judicial system, transportation, intelligent housing, factory, storehouse, water conservancy and so on.

1.2 Main functions

Real-time surveillance

- analog interface and VGA interface (VGA interface is equipped selectively)
- Surveillance function through monitor or display

Storage

- non-working hard disk dormancy processing which is convenient to radiate heat, reduce power and extend the life-span
- special storage format which insures the data safety

Compression

- real-time compression by individual hard disk which insures the audio and video signal stable synchronization

Backup

- through SATA interface and USB interface such as USB equipment, removable hard disk and so on
- through net download the files in the hard disk.

Playback

- individual real-time video recording as well as searching, playback, network surveillance, recording check, downloading and so on
- multi-playback mode zoom at arbitrary region

Net operating

- through net tele-surveillance in the real time
- tele-PTZ control
- tele-recording check and real-time playback

Alarm linkage

- multi-route relay alarm output which is convenient for the alarm linkage and light control at the spot
- Protecting circuits at the alarm input and output interface which protects the main machine from damage

Communication interface

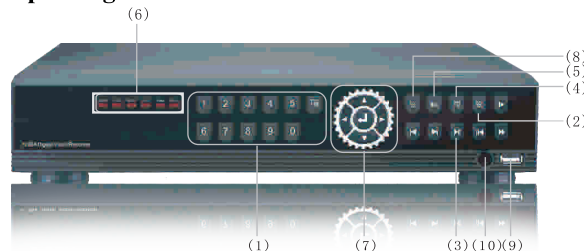
- RS485 interface which fulfills the alarm input and PTZ control
- standard ethernet network interface which fulfills the telecommuting function

Intelligent operating

- mouse action function
- Fast copy and paste operating for the same setting

2 Open-package check and cable connections

2.1 Description of front panel



No.	Name	Description
(1)	Number keys	A) input numbers. B)keystroke1~9:select channels. C)[0/10+]:Press it once to input number 0.Press it twice to input number 10.Press it and other number keys to input the number more than 10. D)input password.
(2)	Record	Start recording.
(3)	Playback/Pause	In live mode, press this key to enter playback mode and play the last file. Press it again to pause.Press it the third time to continue playing.
(4)	PTZ	PTZ setting
(5)	Menu	Press this key to pop up the main menu.
(6)	Status indicator	To show the working status of the DVR."IR" is remote control operation indicator; "LOCK" is panel lock indicator; "HDD" is hard disk indicator; "POWER" is power indicator.
(7)	Direction/split/confirm Keys	a) [▲] [▼] [←] [→] are direction keys. In menu mode, select the listed options upward/leftward/rightward; in PTZ control the dome to rotate upward/downward/leftward/rightward. [↵] confirm the selection and operation. b) In live mode, [▲] [▼] [←] [→] is for split key, nine-split key and sixteen-split key. c) [⏮] [⏭] rewind and forward in playback mode. change the parameters value in menu mode.
(8)	Exit key	Press it to exit from the inferior menu and return to the superior menu.
(9)	USB2.0 port	Connected to U disk and used for system software upgrade or video file backup. Insert the U disk after turn off the DVR. Better not connect the mouse here, or the system would be abnormal.
(10)	IR receiver	Receive signal from remote control.

2.2 Hard Disk Installation

Before you use the DVR for the first time, the HDD should be installed in, 1/2/4 units of HDD can be installed in according to the model of DVR(no limit for the capacity).



①Take off the screws of the roof cover



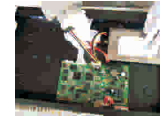
②Open the DVR housing



③Mount the screws in the bottom of the DVR for fixing the HDD



④Fix the HDD by screws



⑤Connect the data lead



⑥Connect the power lead

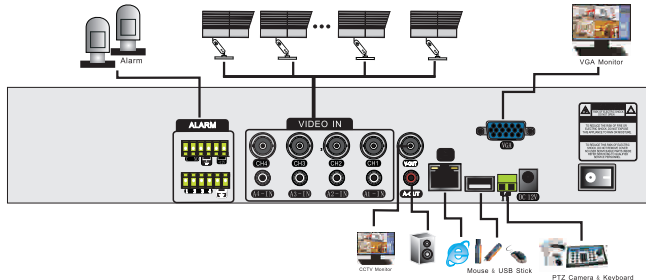


⑦Cover the housing

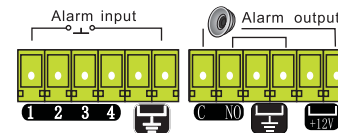


⑧Fix the housing

Description of rear panel Rear panel of 4 channel H.264 DVR:

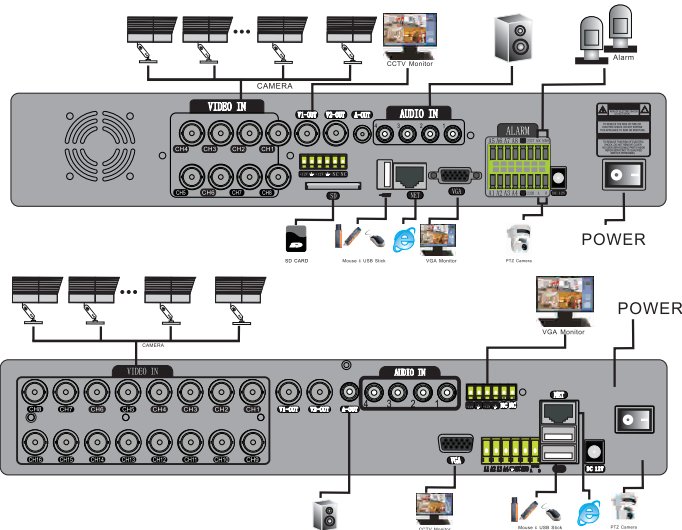


• Connection figure of alarm input and output

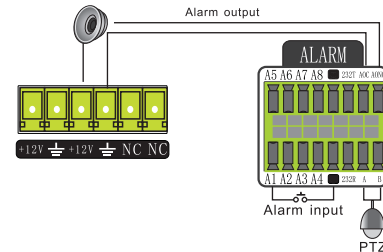


Name	Description
Video input	Standard BNC port. connected with the Camera.
Video output	Connected with the video input of the monitor.

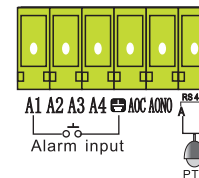
Name	Description
VGA	VGA video signal output port, connected with the VGA port of a computer monitor.
Audio output	Connected with earphone or cable speaker.
Audio input port	Connected audio input device.
"485"(AB) External alarm port	Rs485, it can connect PTZ or decoder, and canControl PTZ via the panel,mouse,remote control and network
USB	Connected to USB Pendrive or mouse and used for system software upgrade or video file backup.
NET	RJ-45 network port, connected to network cable and used for remote browse or control.
Power	Power input is DC 12V/5A (16 channel DVR) . Power input is DC 12V/3A (4/8 channel DVR) .



• Connection figure of alarm input and output



• Connection figure of alarm input and output



3 Basic operation

Note: The button in gray display indicates nonsupport.

3.1 Turn on

Plug the power supply and turn on the power supply switch. Power supply indicator light shining indicates turning on the video recorder. After the startup you will hear a beep. The default setting of video output is multiple-window output mode. If the startup time is within the video setting time, the timing video recording function will start up automatically. Then the video indicator light of corresponding channel is shining and the DVR is working normally.

Note: 1. Make sure that the input voltage corresponds with the switch of the DVR power supply.

2. Power supply demands: $220V \pm 10\%$ /50Hz.

Suggest using the UPS to protect the power supply under allowable conditions.

3.2 Turn off

There are two methods to turn off the DVR. Entering [main menu] and choosing [turn off] in the [turn off the system] option is called soft switch. Pressing the power supply switch is called hard switch.

Illumination:

1、Auto resume after power failure

If the DVR is shut down abnormally, it can automatically backup video and resume previous working status after power failure.

2、Replace the hard disk

Before replacing the hard disk, the power supply switch in the real panel must be turned off.

3、Replace the battery

Before replacing the battery, the setting information must be saved and the power supply switch in the real panel must be turned Off. The DVR uses button battery. The system time must be checked regularly. If the time is not correct you must replace the battery, we recommend replacing the battery every year and using the same battery type.

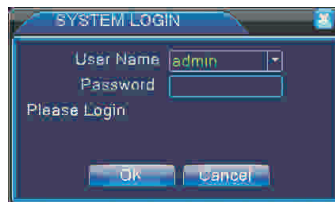
Note: The setting information must be saved before replacing the battery otherwise information will lose.

3.3 Login

When the DVR boots up, the user must login and the system provides the corresponding functions with the user purview. There are three user settings. The names are admin, guest and default and these names have no password. Admin is the super user purview; guest and default's permissions are preview and video playback. User admin and guest's password can be revised, while their permissions can't be revised; user default is the default login user whose permission can be revised but not its password.

Password protection: If the password is continuous wrong three times, the alarm will start. If the password is continuous wrong five times, the account will be locked. (Through reboot or after half an hour, the account will be unlocked automatically).

For your system security, please modify your password after first login.



Picture3.1 Login

3.4 Preview

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

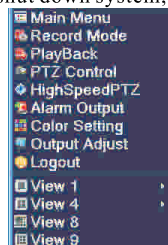
1		Recording status	3		Video loss
2		Motion detect	4		Camera lock

Table 3.1 Preview icon

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

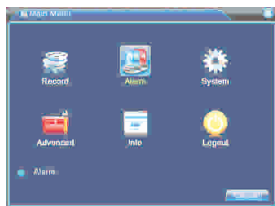
3.5 Desktop shortcut menu

In preview mode you can right click mouse to get a desktop shortcut menu. The menu includes: main menu, video playback, video control, alarm output, PTZ control, color setup, TV adjust, shut down system, window switch.



3.5.1 Main menu

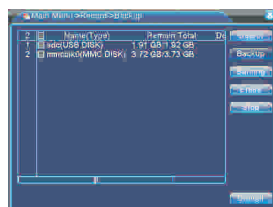
When you login, the system main menu is shown as below.



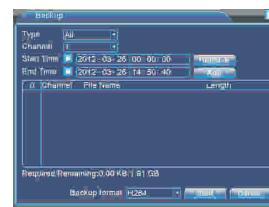
Picture3.3 Main menu



Picture3.4 video playback



Picture 3.5 detect the storage



Picture 3.6 recording backup

3.5.2 Video playback

There are two methods for you to play the video files in the hard disk.

- 1、 In the desktop shortcut menu.
- 2、 Main menu>video recording>video playback.

Note: The hard disk that saves the video files must be set as read-write or read-only state.(4.5.1)

【listed files】 Look up the listed files that accord with the searching criteria.

【file information】 Look up the found file information.

【File backup】 Backup the chosen file. Click the button and operate as followed.

Note: The storage must be installed before the file backup. If the backup is terminated, the already backup can playback Individually.

Detect: Detect the storage connected with the DVR such as hard disk or universal disk.

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

Stop: Stop the backup.

Backup: Click backup button and the dialog box is popped up. You can choose the backup file according to the type, channel and time.

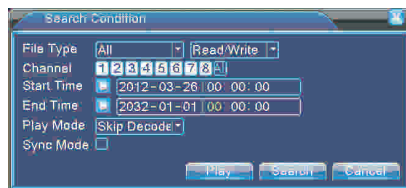
Remove: Clear the file information.

Add: Show the file information satisfying the set file attributes.

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

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

【File searching】 Search the file according to the searching parameter.



Picture 3.7 file searching

File type: Set the searching file type.

Channel: Set the searching channel.

Start Time: Set the searching time scan.

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

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

【Operation hint】 Display the function of the cursor place.

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

Table 3.2 Playback control key

Special functions:

Accurate playback: Input time (h/m/s) in the time column and then click play button. The system can operate accurate playback according to the searching time.

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

3.5.3 Record Mode

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

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

Interface.

【configuration】 Record according to the configuration.

【manual】 Click the all button and the according channel is recording no matter the channel in any state.

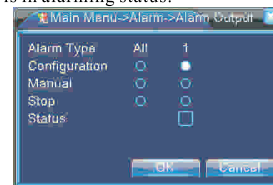
【Stop】 Click the stop button and the according channel stops recording no matter the channel in any state.

3.5.4 Alarm output

Please check current channel status: “○” means it is not in alarming status, “●” means it is in alarming status.



Picture3.8 recording control interface



Picture 3.9 alarm output

You can use desktop shortcut menu or click [main menu]> [alarm function]> [alarm output] to enter the alarm output interface.

【configuration】 Alarm is on according to the configuration.

【Manual】 Click the all button and the according channel is alarming no matter the channel in any state.

【stop】 Click the stop button and the according channel stops alarming no matter the channel in any state.

3.5.5 PTZ control

Operation interface is as followed. The functions include: PTZ direction control, step, zoom, focus, iris, setup operation, patrolBetween spots, trail patrol, boundary scan, assistant switch, light switch, level rotation and so on.

- Note**
1. Decoder A(B)line connects with DVR A(B)line. The connection is right.
 2. Click [main menu] > [system configuration] > [PTZ setup] to set the PTZ parameters.
 3. The PTZ functions are decided by the PTZ protocols.

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

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

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

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

【direction control】 Control the PTZ rotation. 8 directions control is supportive.(4 directions in Front panel is supportive)

【 high speed PTZ】 Full-screen show channel image. Left press mouse and control PTZ to rotate orientation. Left press mouse and then rotate the mouse to adjust the zoom multiple of the camera.

【setup】 Enter the function operation menu.

【window switch】 Switch between different windows.

Special functions:

1. Preset

Set a location for the preset, calls the preset points, PTZ automatically turns to the setting position

1) Preset option

Set a location for the preset, procedure is as follows:

Step1: in **Picture 3.10**, click the Direction button will turn into preset position , click the Settings button to enter **Picture 3.11**.

Step 2: click the Preset button , then write the preset points in the input blank,

Step 3: click Settings button, return the **Picture 3.10** Complete setup, that is the preset points and preset position corresponds.

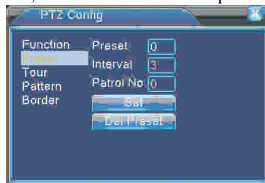
Clear Preset: Input preset points, click Remove button, remove the preset

2) Preset Point Calls

In **Picture 3.10**, click Page Shift button, enter PTZ control interface as shown in **Picture 3.12**. In the input blank, write the preset points, then click Preset button, PTZ turn to the corresponding preset point.



Picture3.10 PTZ setup



Picture 3.11 Preset Settings



Picture 3.12 PTZ Control

2、Cruise between Points

Multiple preset points connected cruise lines, call cruise between points, the PTZ run around on the line

1) Cruise Between Points Settings

Cruise lines is connected by multiple preset points, setting procedure is as follows:

Step 1: In **Picture 3.10**, the Direction key will turn PTZ to designated location , click Settings button to enter **Picture 3.13**,

Step 2: click Cruise buttons, the write proper value into the Cruise Line and Preset Points blank, then click Add Preset Points button,

Complete setting (also can add and delete cruise line which has been set up)

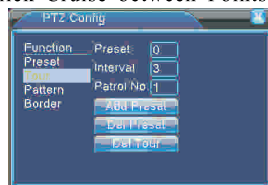
Step 3: repeat step1 and step2 , until set out all the preset designated cruise lines.

Remove Preset: Please input preset value in the blank, click Remove Preset button, then remove the preset points.

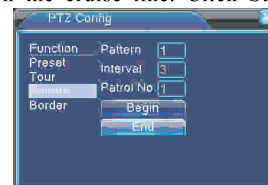
Remove Cruise Line: Input the number of cruise line, click Remove Cruise Lines button, then remove the cruise lines set.

2) The Calls of Cruise between Points

In **Picture 3.10**, click Page Shift button, enter PTZ control menu as shown in **Picture 3.12**. Please input the number of cruise in the value blank, then click Cruise between Points button, PTZ begins to work on the cruise line. Click Stop button to stop cruise.



Picture 3.13 Cruise Between Points Settings



Picture 3.14 Scan Setup

3、Scan

PTZ also can work on the preset scan line repeatedly.

1) Scan setup

Step1: In **Picture 3.10**, click Setup button , enter **Picture 3.14**;

Step2: Click Scan button, the input proper value in the scan value blank;

Step3: Click Start button, enter **Picture 3.10**, here you can set the following items: Zoom、Focus、Aperture、Direction and So on. Click Setup button to go back **Picture 3.14**;

Step4: Click End button to complete setup. Click the right button of the mouse to exit.

2) Scan Calls

In **Picture 3.10**, click Page Shift button, then enter PTZ control menu as shown in **Picture 3.12**. Please input the number of scan in the value blank , then click Scan button, PTZ begins to work on the scan line . Click Stop button to stop.

4. Boundary Scan

1) Boundary Scan setup

Step1: In Picture 3.10, click Direction button to turn the PTZ to preset direction, then click Setup button enter Picture 3.15, select

He left boundary, return to Picture 3.10;

Step2: Please click direction arrows to adjust PTZ direction, click Setup button enter Picture 3.15, then select the right boundary , return to Picture 3.10;

Step3: Complete setup, that is the position of left and right boundary

2) Boundary Scan Calls

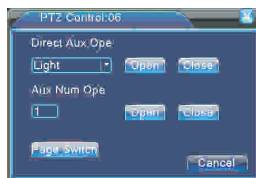
In Picture 3.10, click Page Shift button, then enter PTZ control menu as shown in Picture 3.12. Please input the number of scan in the value blank , then click Scan button . PTZ begins to work on the scan line . Click Stop button to stop.

5. Horizontal Rotating

Click Horizontally Rotating button, PTZ begins to rotate horizontally (relative to the original position of the camera). Click the Stop Button to stop.



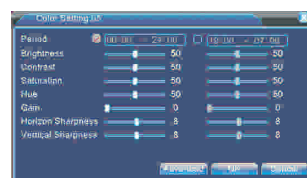
Picture 3.15 Boundary Scan Setup



Picture 3.16 Auxiliary Function Control



Picture 3.17 PTZ menu settings



Picture 3.18 image color

6. Rotate

Click on horizontal Rotating button, PTZ turn around.

7. Reset

PTZ restart, all the data clears to 0.

8. Page Shift

In Picture 3.12, click Page Shift button into Picture 3.16, setting auxiliary function. Auxiliary number **corresponding to auxiliary Switch on the decoder.**

【Intuitive Auxiliary Operation】 choose auxiliary equipment, select Open or Close button, switch control;

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

【Page Shift】 In Picture 3.16, click Page Shift button enter the Picture 3.17 PTZ Main Menu , the menu itself can be control by the Menu control buttons

Enter Menu: enter PTZ menu;

Exit Menu: exit PTZ menu;

Direction Button: the function buttons to choose PTZ menu;

Confirm/Cancel: to choose PTZ menu

3.5.6 Color setting

Set the selective image parameters (current channel for single window display and cursor place for multi-window display). You can use the desktop shortcut menu and enter the interface. The image parameters include: tonality, brightness, contrast, saturation. You can set Different parameters at different time sections.

3.5.7 TV adjust

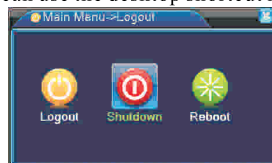
Adjust TV output area parameters. You can use the desktop shortcut menu or enter [main menu]> [management tools]> [TV adjust].



Picture 3.19 TV adjust

3.5.8 Logout

Logout, shut down the system or reboot up. You can use the desktop shortcut menu or enter [main menu].



Picture 3.20 shut down the system

【logout】 Quit the menu. Offer password next entrance.

【shut down】 Quit the system. Turn off the power supply.

When press the shut down button, there is schedule hint. After three seconds, the system is shut down. Cancel midway is of no effect.

【reboot】 Quit the system. Reboot up the system..

3.5.9 Window switch

Preview in single window/four windows/eight windows/nine windows according to the choice.

4 Main menu

4.1 Main menu navigation

Main menu	Sub menu	Function
Recording	Setup	set the recording configuration, recording type, recording time section
	Playback	Set recording look-up, recording play, video file storage
	Backup	Detect or format backup equipment, back the selective files
Alarm	Motion detection	Set motion detect alarm channel, sensitivity, area, linkage parameters: defending time section, alarm output, screen hint, recording, PTZ, patrol
	Video shelter	Set camera mask alarm channel, sensitivity, linkage parameters: defending, time section, alarm output, screen hint, recording, PTZ, patrol
	Video loss	Set video loss alarm channel, linkage parameters: detending time section, alarm output, screen hint, recording, PTZ, patrol
	Alarm input	Set alarm input channel, equipment type, linkage parameters: defending time section, alarm output, screen hint, recording, PTZ, patrol
	Alarm output	Set alarm output, screen hint, recording, PTZ, patrol
System configuration	Common configuration	Set system time, data format, language, hard disk full time operation, machine number, video format, output made, summertime, stay time
	Code configuration	Set main (assistant) coding parameter: code mode, resolving ability, frame rate, code stream control, image quality type, code stream value, frame between value video/audio enable
	Network configuration	Set basic network parameters, DHCP and DNS parameters, network high speed download
	Network service	PPPOE、NTP、Email、IP purview、DDNS parameter
	Output mode	Set channel name, preview hint icon state, transparency, cover area, time title, channel time fold

Main menu	Sub menu	Function
System configuration	PTZ configuration	Set channel, PTZ protocol, address, baud rate, date bit, stop bit, check
	Serial port configuration	Set serial port function, baud rate, date bit, stop bit, check
	Patrol configuration	Set patrol mode and interval time
Management tools	Hard disk management	Set appointed hard disk as read-write disc, read-only disc or redundant disc, clear data, resume date and so on
	User management	Modify user, team or password. Add user or team. Delete user or team.
	Online user	Break the connection with the already login user. Lock the account after break until booting up again.
	TV adjust	Adjust TV upside, downside, nearside, starboard distance
	Automatic maintenance	Set automatic reboot system and automatic deleting files.
	Resume default	Resume setup state: common setup, code setup, recording setup, alarm setup, network setup, network service, preview playback, serial port setup, user management
System information	Hard disk information	Display hard disk capability and recording time
	Code stream statistics	Display code stream information
	Log information	Clear all log information according to the log video and time
	Edition information	Display edition information
Shut down		Logout, shut down or reboot

4.2 Recording function

4.2.1 Recording Config

Set the recording parameters in the surveillance channel. The system is set 24 hours consecutive recording in the first startup. You can enter [main menu]> [recording function]> [recording setup] to set.

Note: There is at least one read-write hard disk. (refer to chapter 4.5.1)



Picture 4.1 recording setup

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

【redundancy】 Choose the redundancy function option to implement the file double backup function. Double backup is writing the video files in two hard disks. When you do the double backup, make sure that there are two hard disks installed. One is read-write disk and the other is redundant disk. (refer to 4.5.1)

【length】 Set the time length of each video file. 60minutes is default value.

【prerecording】 Record 1-30 seconds before the action. (time length is decided by the code stream)

【Recording control】 Set video state: configuration, manual or stop.

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

manual: Click the button and the according channel is recording no matter the channel in any state.

stop: Click the stop button and the according channel stops recording no matter the channel in any state.

【time section】 Set the time section of common recording, The recording will start only in the set range.

【recording type】 Set recording type: regular, detection or alarm.

regular: Perform the regular recording in the set time section. The video file type is “R”.

detection: Trigger the “motion detect”, “camera mask” or “video loss” signal. When above alarm is set as opening recording, the “detection recording” state is on. The video file type is “M”.

alarm: Trigger the external alarm signal in the set time section. When above alarm is set as opening recording, the “detection

recording” state is on. The video file type is “A”.

Note: Refer to chapter 4.3 to set corresponding alarm function.

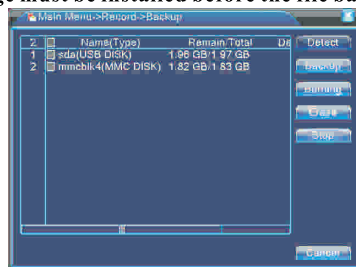
4.2.2 Video playback

Refer to chapter 3.5.2.

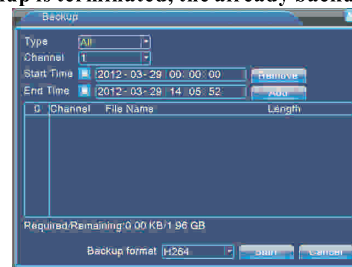
4.2.3 Video backup

You can backup the video files to external storage through setup.

Note: The storage must be installed before the file backup. If the backup is terminated, the already backup can playback Individually.



Picture 4.2 detect the equipment



Picture 4.3 file backup

【detect】 Detect the storage connected with the DVR such as hard disk or universal disk.

【erase】 Choose the file to delete and click erasure to delete the file.

【stop】 Stop the backup.

【backup】 Click backup button and the dialog box is popped up. You can choose the backup file according to the type, Channel and Time.

Remove: Clear the file information.

add: Show the file information satisfying the set file attributes.

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

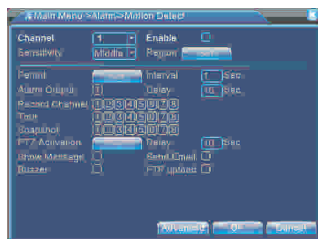
cancel: During backup you can exit the page layout to carry out other functions.

4.3 Alarm Function

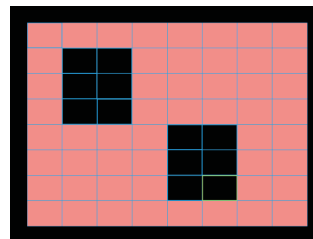
Alarm functions include: motion detect, camera mask, video loss, alarm input and alarm output.

4.3.1 Motion Detect

When system detects the motion signal that reaches the set sensitivity, the motion detect alarm is on and the linkage function is turned on.



Picture 4.4 motion detect



Picture 4.5 set the area

【Channel number】 Choose the set motion detect channel.

【enable】 ☒ means that the motion detect function is on.

【Sensitivity】 Choose in the six options according to the sensitivity.

【Area】 Click setup and enter the set area. The area is divided into PAL22X18. Green block means the current cursor area. Yellow block means the dynamic detect defensive area. Black block means the unfenced area. You can set the area as followed, Drag the mouse and draw the area.

【time section】 Trigger the motion detect signal in the set time section. You can set according to week or set uniformly. Each day is divided into four time sections. ☒ means the set valid.

【interval】 Only one alarm signal is turned on even there are several motion detect signals in the set interval.

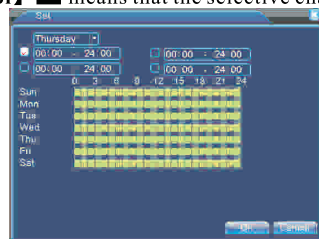
【alarm output】 Start the external equipment of corresponding linkage alarm when the motion detect alarm is turned on.

【delay】 Delay a few moments and stop when the alarm state is turned off. The range is 10~300 seconds.

【recording channel】 Choose the recording channel (multiple option supportive). Trigger the video signal when the alarm is turned on.

Note: Set in the [recording setup] and perform the linkage recording. Start detecting video files in the corresponding time section.

【alternate patrol】 ☒ means that the selective channel is single window alternate patrol preview. The interval is set in the [system



Picture4.6 set the time section



Picture4.7 PTZ Activation

setup] > [alternate patrol].

【PTZ linkage】 Set the PTZ linkage when the alarm is turned on.

Note: PTZ linkage is set in the [shortcut menu] > [PTZ control]. Set the patrol between spots, trail patrol and so on.

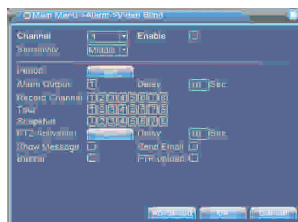
【screen hint】 Pop the alarm information dialog box in the local host computer screen.

【EMAIL】 ■ means sending an email to user when the alarm is turned on.

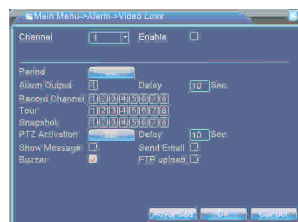
Note: Set in the [network service] and send an email.

4.3.2 Video Blind

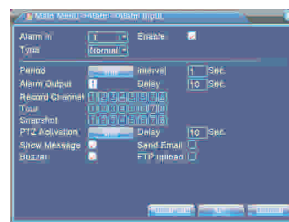
When the video image is influenced by the environment such as bad brightness or reaching the set sensitivity parameter, the camera mask function is turned on and the linkage function is turned on.



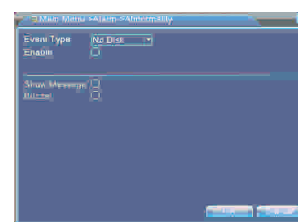
Picture 4.8 camera mask



Picture 4.9 video loss



Picture 4.10 alarm input



Picture 4.11 Abnormality

Set method: refer to chapter 4.3.1.

4.3.3 Video Loss

When the equipment can not obtain the channel video signal, the video loss alarm is turned on and the linkage function is turned on.

Set method: refer to chapter 4.3.1.

4.3.4 Alarm input

When the equipment obtains the external alarm signal, the alarm function is turned on.

Set method: refer to chapter 4.3.1.

4.3.5 Alarm output

Refer to chapter 3.5.4.

4.3.6 Abnormal

Analysing and inspecting current software and hardware of the device: When some abnormal events happen, the device will make a Relative answer such as show message and buzzer.

【Event Type】 selecting abnormality you want to inspect

【Enable】 Select it to make sure abnormal function workable

【Show message】 Automatically alarm cue dialog box come out of the main screen

【Buzzer】 Device will have two long nosie “di di” while alarm is happening

4.4 System setup

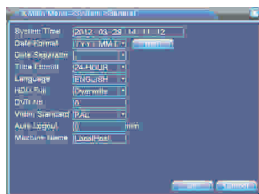
Set the system parameters such as general setup, code setup, network setup, network service, output mode, PTZ control, serial port setup and alternate patrol setup.

4.4.1 General setup

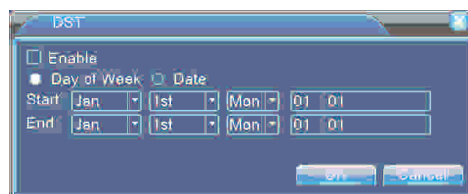
【system time】 Set the system data and time.

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

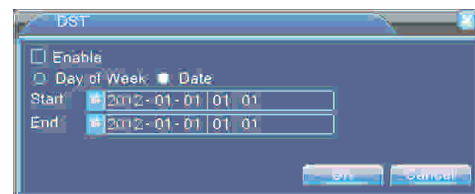
【list separator】 Choose list separator of the data format.



Picture 4.12 regular setu



Picture 4.13 summer time (week) setup



Picture 4.14 summer time (data) setup

【time format】 Choose time format: 24-hour or 12-hour.

【language】 English or Chinese.

【hard disk full】 Choose stop: Stop recording when the hard disk is full.

Choose cover: Cover the earliest recording files and continue recording when the hard disk is full.

【number】 Only when the address button in the remote controller and the corresponding DVR number is matched, the remote operation is valid.

【video format】 PAL or NTSC.

【Latency time】 Set the latency time in 0-60. 0 means no latency time.

【summer time】 Choose the summer time option and pop the dialog box as followed.

4.4.2 Encode setup

Set the video/audio code parameter: video file, remote monitoring and so on. Set every independent channel's coding parameter in the left part, and set the combination coding parameter in the right part.

Note: Combination coding introduces video compression technique which combines and compresses multi-channel's video to a special channel. Its main using: multi-channel playback simultaneously, DUN multi-channel real-time surveillance, mobile surveillance And so on.

【Channel】 Choose the channel number.

【code format】 Standard H.264.

【resolution】 Resolution type:D1/ CIF / QCIF.

【frame rate】 P: 1 frame/s~25 frame/s.

【code stream control】 You can choose limited code stream or variable code stream. When you choose the variable code stream there are six image quality options.

【Code stream value】 Set the code stream value to modify the image quality. The larger code stream value the better image quality.

Reference range: D1 (1000~1500kbps) , CIF (384~1500kbps) , QCIF(64~512kbps)

【video/audio】 When the icons are all in reverse displayed, the video file is video and audio multiplex stream.

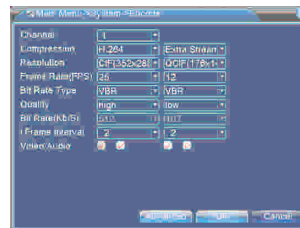
Combination coding

【combination coding】 When the icons are all in reverse displayed, opening combination coding functions.

【 mode】 multi-channel playback is used in all channels playback simultaneously, and the narrowband transmission is used in multi-channel real-time remote monitoring simultaneously at narrowband state, especially used in mobile surveillance.



Picture 4.15 code setup



Picture4.16 network setup

4.4.3 Network setup

【network card】 You can choose cable network card or wireless network card.

【DHCP Enable】 Obtain IP address automatically.

Note: DHCP server is preinstalled.

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

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

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

【 DNS setup】 Domain Name Server. It translates the domain name into IP address. The IP address is offered by network provider. The address must be set and reboot then it works.

【TCP port】 Default: 34567.

【HTTP port】 Default: 80.

【HS Download】

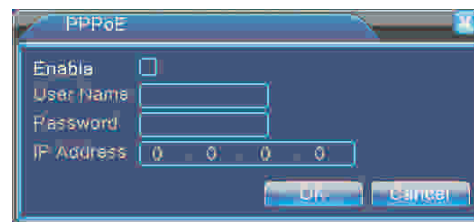
【network transmission strategy】 There are three strategies: self-adaption, image quality precedence and fluency precedence. The code stream will adjust according to the setup. Self-adaption is the tradeoff between the image quality precedence and fluency precedence. Fluency precedence and self-adaption are valid only when the assistant code stream is turned on. Otherwise image quality precedence is Valid.

4.4.4 Network service

Choose the network service option and click the set button to configure the advanced network functions or double click the service button to configure the parameters.



Picture 4.17 network service



Picture4.18 PPPOE setup

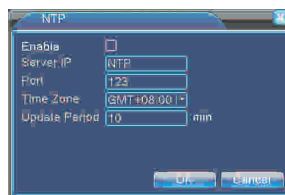
【PPPoE setup】

Input the user name and password that ISP (Internet service provider) provides. After saving it reboot up your system. Then the DVR will build a network connection based on PPPoE. The IP address will change into dynamic IP address after above operation is well Done.

Operation: After PPPoE dialing successfully look up the IP address in the [IP address] and obtain the current IP address. Then use this IP address to visit the DVR through user port.

【NTP setup】

The NTP server must be installed in the PC.



Picture4.19 NTP setup

Host computer IP: Input the IP address installed NTP server.

Port: Default: 123. You can set the port according to NTP server.

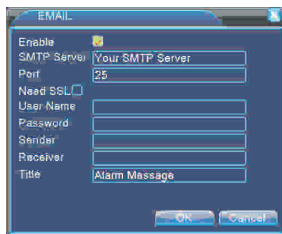
Time zone: London GMT+0 Berlin GMT+1 Cairo GMT+2 Moscow GMT+3 New Delhi GMT+5 Bangkok GMT+7 Hongkong Beijing GMT+8 Tokyo GMT+9 Sydney GMT+10 Hawaii GMT-10 Alaska GMT-9 Pacific time GMT-8 American mountain time GMT-7 American mid time GMT-6 American eastern time GMT-5 Atlantic time GMT-4 Brazil GMT-3 Atlantic mid time GMT-2.

Update cycle: The same with the NTP server check interval. Default: 10minutes.

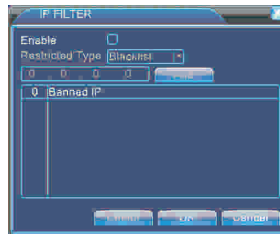
【EMAIL setup】

If the alarm is turned on or the alarm linkage photos are taken, send an email about the alarm information and the photos to appointed address.

SMTP server: Email server address. It could be an IP address or domain name. Domain name can be translated only it is the correct



Picture 4.20 EMAIL setup



Picture 4.21 IP purview setup

DNS configuration.

Port: Email server port number.

SSL: Decide whether using Secure Socket Layer protocol to login.

User: Apply the email server user name.

Password: Input the password corresponding to the user.

Sender: Set the email sender address.

Receiver: Send the email to appointed receivers when the alarm is turned on. You can set three receivers at most.

Theme: You can set as you wish.

【IP purview setup】

When choosing the white list, only the listed IP address can connect the DVR. The 64 IP addressed are supportive in the list.

When choosing the black list, the listed IP address can not connect the DVR. The 64 IP addressed are supportive in the list.

You can delete the set IP address by ✓?

Note: When the same IP address is in the white and black list at the same time, the black list precedence is higher.

【DDNS】

It is the abbreviation of dynamic domain name server.

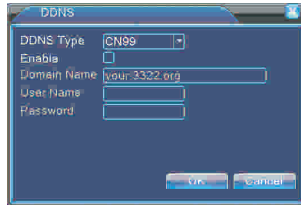
Local domain name: Provide the domain name registered by DDNS.

User name: Provide the account registered by DDNS.

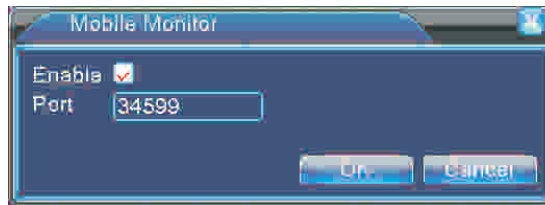
Password: Provide the password registered by DDNS.

When the DDNS is successfully configured and start, you can connect the domain name in the IE address column to visit.

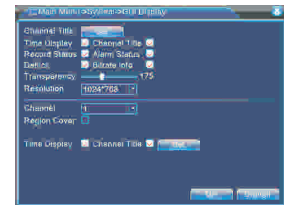
Note: The DNS setup must be configured correctly in the network setup.

【Mobile Monitor Setup】

Picture 4.22 DDNS setup



Picture 4.23 Mobile Monitor Setup



Picture 4.24 output mode

To visit the device by mobile, pls make a router mapping of this port and use CMS to monitor and operate it by protocol.

【Enable】 Select it to make sure abnormal function workable

【Port】 It's a port of mobile monitoring which you need to make a router mapping of if want to visit it by mobile

4.4.5 Output mode

Configure the video output parameters including the front output mode and code output mode.

Front output: In the local preview mode include: channel name, time title, channel title, recording status, alarm status, code stream information, transparency and cover area.

Code output: In the network surveillance and video file mode include: channel name, time title, channel title, recording status, alarm status, code stream information, transparency and cover area.

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

【Time title】 ■ means the selective state. Display the system data and time in the surveillance window.

【channel title】 ■ means the selective state. Display the system channel number in the surveillance window.

【Recording status】 ■ means the selective state. Display the system recording status in the surveillance window.

【alarm status】 ■ means the selective state. Display the system alarm status in the surveillance window.

【code stream information】 ■ means the selective state. The ninth window displays the code stream information in the nine-window preview status.

【transparency】 ■ Choose the background image transparency. The range is 128~255.

【resolution】 ■ set display resolution.

【channel】 ■ Choose the set code output channel number.

【cover area】 ■ means the selective state. Click the cover area button and enter the corresponding channel window. You can cover The arbitrary using mouse.

4.4.6 PTZ setup

【Channel】 Choose the dome camera input channel.

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

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

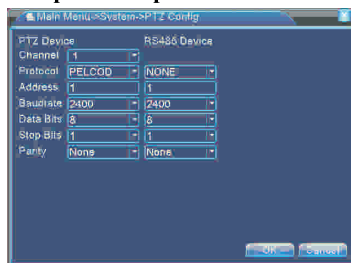
【baud rate】 Choose the corresponding dome baud rate length. You can control the PTZ and vidicion. Default: 115200.

【date bit】 Include 5-8 options. Default: 8.

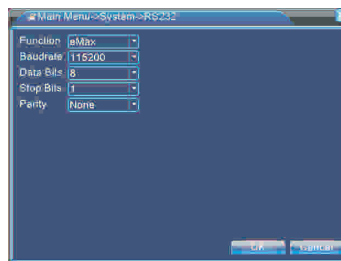
【stop bit】 Include 2 options. Default: 1.

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

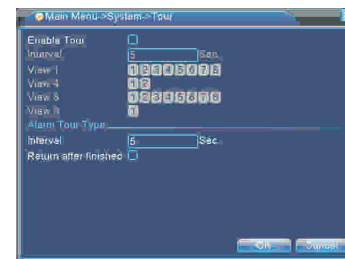
4.4.7 Serial port setup



Picture 4.25 PTZ setup



Picture 4.26 serial port setup



Picture 4.27 patrol setup

【serial port function】 Common serial port is used to debug and update program or set up specific serial port.

【baud rate】 Choose the corresponding baud rate length.

【data bit】 Include 5-8 options.

【stop bit】 Include 2 options.

【check】 Include odd check, even check, sign check, blank check.

4.4.8 Patrol setup

Set the patrol display. means that the patrol mode is turned on. You can choose the single window, four windows, nine windows, Sixteen windows patrol display or single display.

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

Note: / means turn off/on the patrol.

4.5 Management tools

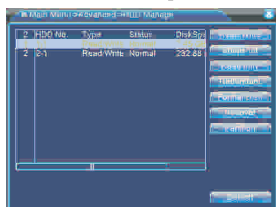
4.5.1 Hard disk management

Configure and manage the hard disk. The menu displays current hard disk information: hard disk number, input port, type, status and overall capability. The operation include: setup the write-read disk, read-only disk, redundant disk, hard disk format, resume default. Choose the hard disk and click the right function button to execute.

Note: write-read disk: The equipment can write or read data. read-only

disk: The equipment can read data but can not write data.Redundant

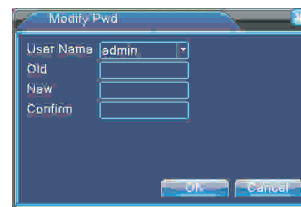
disk: Double backup the video files in the write-read disk.



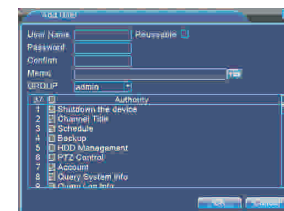
Picture4.28 hard disk management



Picture 4.29 user managementx



Picture 4.30 modify password



Picture 4.31 add user

4.5.2 User management

Manage the user purview.

Note: 1. The char length is 8 bytes at most for the following user and user team name. The blank ahead or behind the char string is invalid. The middle blank in the char string is valid. Legal char include: letter, number, underline, subtraction sign, dot.

2. There is no limit in the user and user team. You can add or delete the user team according to user definition.

The factory setup include: user\admin. You can set the team as you wish. The user can appoint the purview in the team.

3. The user management include: team/ user. The team an user name can not be the same. Each user only belongs to one team.

【modify user】 Modify the existed user attribute.

【modify team】 Modify the existed team attribute.

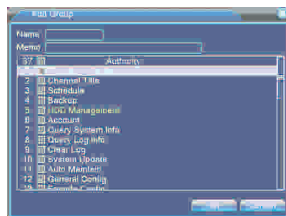
【modify password】 Modify the user password. You can set 1-6 bit password. The blank ahead or behind the char string is invalid.

The middle blank in the char string is valid.

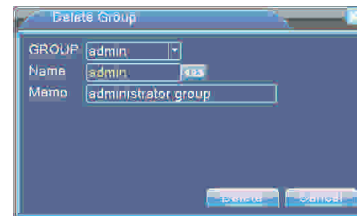
Note: **The user who possess the user control purview can modify his/her own or other user password**

Once choose the team the user purview is the subclass of the team. We recommend that the common user's purview is lower than the advanced user.

【add team】 Add a user team and set the purview. There are 36 different purviews: shut down the equipment, real time surveillance, playback, recording setup, video file backup and so on.



Picture 4.32 add team



Picture 4.33 delete team

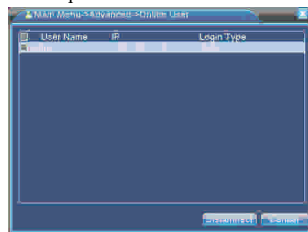
【Delete user】 Delete the current user. Choose the user and click delete user button. **【delete team】** Delete the current team. Choose the team and click delete team button.

4.5.3 Online user

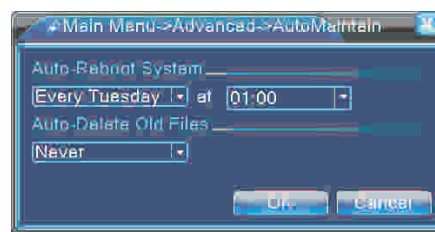
Look up the network user information in the local DVR. You can choose the network user and cut the connection. Then the user is locked until next boot-strap.

4.5.4 TV adjust

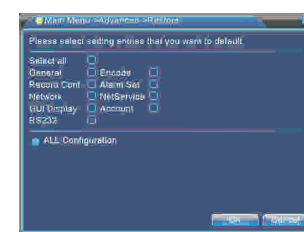
Refer to chapter 3.2.7 .



Picture 4.34 online userPicture



4.35 auto maintenance Picture



4.36 resume default

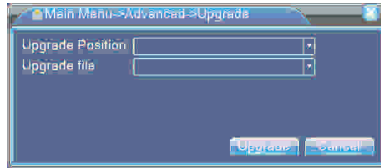
4.5.5 Auto maintenance

The user can set the auto reboot time and auto file deleting time limit.

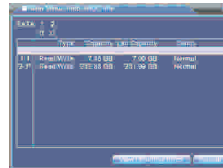
4.5.6 Resume default

The system resume to the default setup. You can choose the items according to the menu.

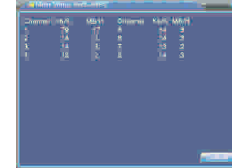
4.5.7 Upgrade



Picture 4.37 upgrade



Picture 4.38 hard disk information



Code stream statistics

【Upgrade】 choose USB interface.

【Upgrade file】 choose the file which needs upgraded.

4.6 System information

4.6.1 Hard disk information

Display the hard disk state: hard disk type, overall capability, residual capability, the recording time and so on.

Clue: means that the hard disk is normal. X means that the hard disk is broken-down.- means that there is no hard disk. If the user need to change the damaged hard disk, you must shut down the DVR and take up all the damaged hard disks then install a new one.

* behind serial number means the current working disk such as 1*. If the corresponding disk is damaged, the information will display “? ”.

4.6.2 Code stream statistics

Display the code stream (Kb/S) and hard disk capability (MB/H) in real time. It displays as the wave sketch map.

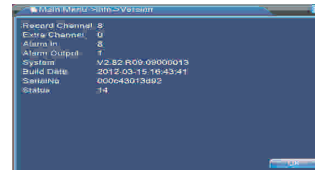
4.6.3 Log information

Look up system log according to the set mode.

Log information include: system operation, configuration operation, data management, alarm affair, recording operation, usermanagement, file management and so on. Set the time section to look up and click the look up button. The log information will display as a List. (one page is 128 items) Press **Page up** or **Page down** button to look up and press **delete** button to clear all the log information.



Picture 4.40 log information



Picture 4.41 edition information

4.6.4 Edition information

Display the basic information such as hardware information, software edition, issue data and so on

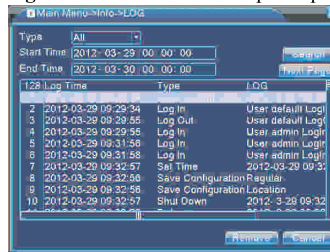
4.7 Shut down system

Refer to chapter 3.5.8.

4.6.3 Log information

Look up system log according to the set mode.

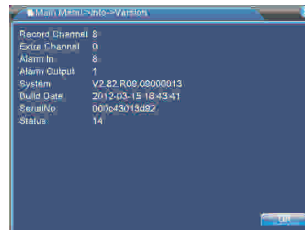
Log information include: system operation, configuration operation, data management, alarm affair, recording operation, usermanagement, file management and so on. Set the time section to look up and click the look up button. The log information will display as a List. (one page is 128 items) Press **Page up** or **Page down** button to look up and press **delete** button to clear all the log information.



Picture4.40 log information

4.6.4 Edition information

Display the basic information such as hardware information, software edition, issue data and so on.



Picture4.41 edition information

4.7 Shut down system

Refer to chapter 3.5.8.

5 FAQ and maintenance

5.1 FAQ

If the problems are not listed, please contact the local service or call the HQ service. We are willing to offer the service.

1、The DVR can not boot up normally.

Possible reasons are as followed:

- 1 The power supply is not correct.
- 2 Switch power supply line is not in good connection.
- 3 Switch power supply is damaged.
- 4 The program updating is wrong.
- 5 The hard disk is damaged or the hard disk lines are broken.
- 6 The front panel is damaged.
- 7 The main board of the DVR is damaged.

2、The DVR reboots automatically or stops working after boot up a few minutes.

Possible reasons are as followed:

- 1 The input voltage is not stable or too low.
- 2 The hard disk is damaged or the hard disk lines are broken.
- 3 The power of the switch power supply is low.
- 4 Frontal video signal is not stable.
- 5 Bad heat radiator or too much dust or bad running circumstance for the DVR.
- 6 The hardware of the DVR is damaged.

3、System can not detect hard disk.

Possible reasons are as followed:

- 1 The hard disk power supply line is not connected.
- 2 The cables of the hard disk are damaged.
- 3 The hard disk is damaged.
- 4 The SATA port of main board is damaged.

4、There are no video outputs in single channel, multiple channels and all channels.

Possible reasons are as followed:

- 1 The program is not matched. Please update the program.
- 2 The image brightness is all 0. Please resume the default setup.
- 3 There is no video input signal or the signal is too weak.
- 4 The channel protection or the screen protection is set.

- 5 The hardware of the DVR is damaged.

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

Possible reasons are as followed:

- 1 When using the BNC output, the option between the N mode or PAL mode is wrong and the image becomes black and white.
- 2 The DVR is not matched the monitor impedance.
- 3 The video transmission distance is too far or the loss of the video transmission line is too large.
- 4 The color and brightness setting of the DVR is wrong.

6、I can not find the video files in local playback mode.

Possible reasons are as followed:

- 1 The data line of the hard disk is damaged.
- 2 The hard disk is damaged.
- 3 Update the different program with the origin program files.
- 4 The video files to look up are covered.
- 5 The recording is not on.

7、The local video is not clear.

Possible reasons are as followed:

- 1 The image quality is too bad.
- 2 The reading program is wrong. Reboot up the DVR.
- 3 The data line of the hard disk is damaged.
- 4 The hard disk is damaged.
- 5 The hardware of the DVR is damaged.

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

Possible reasons are as followed:

- 1 It is not an active tone arm.
- 2 It is not an active sound box.
- 3 The audio lines are damaged.
- 4 The hardware of the DVR is damaged.

9、There is audio signal in the surveillance window but no audio signal in the playback state.

Possible reasons are as followed:

- 1 Setting issues: the audio option is not chosen.
- 2 The according channel is not connected with the video.

10、The time is wrong.

Possible reasons are as followed:

Setting is wrong.

- 2 The battery is in bad connection or the voltage is too low.
- 3 The oscillation is damaged.

11、The DVR can not control the PTZ.

Possible reasons are as followed:

- 1 There is something wrong with the frontal PTZ.
- 2 The setting, connection or the installation of the PTZ decoder is not correct.
- 3 The connections are not correct.
- 4 The PTZ setting of the DVR is not correct.
- 5 The protocols of the PTZ decoder and the DVR are not matched.
- 6 The address of the PTZ decoder and the DVR are not matched.
- 7 When multiple decoders are connected, the far port of the PTZ decoder line A(B) must connect a 120 resistance to reduce the reflection otherwise the PTZ control is not stable.
- 8 The distance is too far.

12、The motion detect is not working.

Possible reasons are as followed:

- 1 The time range set is not correct.
- 2 The motion detect area set is not correct.
- 3 The sensitivity is too low.
- 4 Limited by some hardware edition.

13、I can not login via web.

Possible reasons are as followed:

- 1 The system is windows 98 or windows me. We recommend updating to windows 2000sp4 or higher edition or installing the software for low edition.
- 2 ActiveX is hold back.
- 3 The edition is not exceeded dx8.1. Update the display card driver.
- 4 Network connection failure.
- 5 Network setting issues.
- 6 Invalid password or user name.
- 7 The user edition is not matched the DVR program edition.

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

Possible reasons are as followed:

- 1 Network is not stable.

- 2 The user machine is resource limited.
- 3 Choose the play-in-team mode in the network setup of DVR.
- 4 The region shelter or channel protection is set.
- 5 The user has no surveillance purview.
- 6 The real-time image of the hard disk recording machine itself is not clear.

15、Network connection is not stable.

Possible reasons are as followed:

- 1 Network is not stable.
- 2 IP address is conflicted.
- 3 MAC address is conflicted.
- 4 The network card of the computer or the hard disk recording machine is bad.

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

Possible reasons are as followed:

- 1 The rewritable machine and the hard disk are shared the same data lines.
- 2 The data is too much. Please stop recording and backup.
- 3 The data exceeds the backup storage.
- 4 The backup equipment is not compatible.
- 5 The backup equipment is damaged.

17、The keyboard can not control the DVR.

Possible reasons are as followed:

- 1 The serial port of the DVR is not set correctly.
- 2 The address is not correct.
- 3 When multiple transformers are connected, the power supply is not large enough. Please give each transformer individual power supply.
- 4 The distance is too far.

18、Alarm can not be recessional.

Possible reasons are as followed:

- 1 The setting of the alarm is not correct.
- 2 The alarm output is turned on manually.
- 3 The input machine is damaged or the connections are not correct.
- 4 There are some problems for specific program edition, Please update the program.

19、Alarm is not working.

Possible reasons are as followed:

- 1 The setting of the alarm is not correct.
- 2 The connection of the alarm is not correct.
- 3 The alarm input signal is not correct.
- 4 A alarm is connected with two loops synchronously.

20、The remote controller is not working,

Possible reasons are as followed:

- 1 The remote control address is not correct.
- 2 The remote control distance is too far or the angle is too large.
- 3 The battery is used up.
- 4 The remote controller or the front panel of the recording machine is damaged.

21、The storage time is not enough.

Possible reasons are as followed:

- 1 Front vidicon quality is bad. The lens is too dirty. The vidicon is in backlighting installation.
- 2 The hard disk capability is not enough.
- 3 The hard disk is damaged.

22、The downloading files can not play.

Possible reasons are as followed:

- 1 There is no media player.
- 2 There is no DX8.1 software or higher edition.
- 3 There is no DivX503Bundle.exe file to play AVI video files.
- 4 The DivX503Bundle.exe and ffdshow-2004 1012 .exe files must be installed in the windows xp system.

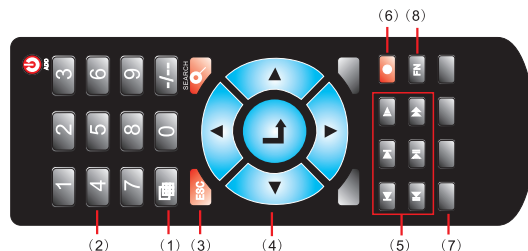
23、I can not remember the advanced code or network code in the local menu operation.

Please contact the local service or call the HQ service. We will offer the service according the machine type and the program edition.

5.2 Maintenance

- 1 Please brush printed circuit boards, connectors, fans, machine box and so on regularly.
 - 2 Please keep the grounding well done to prevent the video or audio signal interfered and the DVR from static or inductive electricity.
 - 3 Do not pull out the video signal line or RS-232 port or RS-485 port with the power on.
 - 4 Do not use the TV in the local video output port(VOUT) of DVR. It will damage the video output circuit easily.
 - 5 Do not turn off the switch directly. Please use the turn-off function in the menu or press the turn-off button in the panel (3 seconds or longer) to protect the hard disk.
 - 6 Please keep the DVR away from heat resource.
 - 7 Please keep the DVR ventilated for better heat radiator.
- Please check the system and maintain regularly.

Appendix 1.Remote controller operation



Serial number	Name	Function
(1)	Multi-window button	Same function as Multi-window button in the front panel
(2)	Numeric button	Code input/number input/channel switch
(3)	【Esc】	Same function as 【Esc】 button in the front panel
(4)	Direction button	Same function as direction button in the front panel
(5)	Record control	Control the record
(6)	Record mode	Same function as “Record mode”
(7)	ADD	Input the number of DVR to control it
(8)	FN	Assistant function

Appendix 2.Mouse operation

***Take right hand as an example**

The mouse in USB connection is supportive.

Operation	Function		
	Double click one item in the file list to playback the video	Press middle button	Add or subtract number in the number setting
	Double click the playback video to zoom in or out the screen		Switch the items in the combo box
Double left click	Double click the channel to make it full screen display		Page up or down in the list
	double click again to resume the multi-window display	Move mouse	Choose the widget or move the item in the widget
Left click	Choose the according function in the menu	Drag mouse	Set the motion detect area
Right click	Pop desktop shortcut menu in preview state		Set the cover area
	Current shortcut menu in the menu		

Appendix 3.Hard disk capability calculation

Make sure the hard disk installed to install the DVR for the first time. Pay attention to the IDE hard disk lines connection.

1、 Hard disk capability

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

2、 Overall capability option

The hard disk capability formula is:

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

The recording time formula is:

$$\text{Recording time(hour)} = \frac{\text{Overall capability}}{\text{Capability on an hour(M/hour)*channel number}}$$

The DVR introduces the MPEG4/H.264 compression technology. Its dynamic range is very large so the hard disk capability calculation is based on the estimation values of each channel creating files in an hour.

Example:

The video files in each channel need 200M capability in an hour. For 4 channels and one month(24hours a day) the needed hard disk capability is: 4channel*30days*24hours*200M/hour=576G. So it will need one 500G hard disks.

Appendix 4. Technique parameters

Type		4ch	8ch	16ch
System	Main processor	Industry level embedded microprocessor		
	Operation system	Embedded LINUX operation system		
	System resource	Synchronous multi-channel recording, synchronous multi-channel sub-code stream, synchronous multi-channel playback, synchronous network operation		
Interface	Operation interface	16 bit true color graphical menu interface, mouse operation supportive		
	Display	1/4image display	1/4/8/9 image display	1/4/8/9/16 image display
Video	Video standard	PAL (625string, 50 field/s)		
	Surveillance image quality	PAL, D1 (704×570)		
	Playback image quality	PAL, D1 (704×576)		
	Image compression	H. 264 mp		
	Image control	4 options		
	Recording speed (CIF)	PAL, 100fps overall	PAL, 200fps overall	PAL, 400fps overall
	Image motion detect	396 (22×18) detection areas, multiple sensitivity		
Audio	Audio compression	G711A		
	Talk-back	Supportive		
Recording and Playback	Recording mode	Manual>alarm>motion detect>timing		
	Local playback	1ch playback, multiple channels playback		
	Recording look-up	Time searching, calendar searching, affair searching, channel searching,		
Storage and backup	Hard dish capability for each channel	Audio:28.8Mbytes/hour Video:25~450Mbytes/hour		
	Recording storage	Hard disk, network		
	Backup mode	Network, USB		

Type		4ch	8ch	16ch
Port	Video input	4BNC	8BNC	16BNC
	Video output	1 BNC,1 VGA		
	Audio input	4 RCA		
	Audio output	4 ch	1 RCA	
	Alarm input	4 ch	8ch	8ch
	Alarm output	4 ch	1 channel	
	Network port	Rj45 10M/100M adoptive Ethernet network port		
	PTZ control port	1RS485		
	USB port	2 USB ports		
	Hard disk port	2 SATA port		
Other	Power supply	12V/4.15A external power supply		
	Power consume	<15W (without hard disk)		
	Working temperature	0℃~+55℃		
	Working humidity	10%-90%		
	Air pressure	86kpa-106kpa		
	Size	440 (width) x260(depth)x50(height)mm		
	Weight	5kg (without hard disk)		
	Installation	Frame installation		

ADVICES

Design and description of this product are subject to change or renewal without notice .

Unless allowed in the Copyright Law, it is prohibited to reprint, adopt or translate the content hereof without prior written permission

NOTES

All functions of full-edition model are described in this Manual.
Half-edition model is only equipped with some of its functions.