Dante

Installation and Operations Manual

Model Number: DLB5200

Description: Standalone Linux DVR

8 and 16 Channels

DESCRIPTION

The DLB5208-DLB5216 Series are standalone, 8 and 16 channels standalone Digital Video Recorder/Servers that utilize an embedded processor, LINUX based real time operating system (RTOS) for the highest reliability of operation. Units are available with H.264 video compression for outstanding video quality and storage cost performance. Additional features include duplex Audio, Alarm in/out, Video Motion Detection, RS-485 PTZ Control Port, IE Browser, Ethernet RJ-45 port and Client Software. Providing low power consumption via 100-240VAC, series DLB5208 and DLB5216 are economical solutions for commercial video surveillance installations.

FEATURES

 * DVR/DVS with LINUX embedded Real Time OS
 * H.264 Video compression for reduced storage
 * Pentaplex operation: Live View, Record, Playback,
    Network View and Back-up
 * One SATA compatible H/D Slot with up to 1TB
 * Multi-language On Screen Display (OSD)
 * 200/240fps D1/CIF Recording resolution
 * 1 BNC, 1 VGA Monitor Outputs
 * RJ-45 10/100Mbps Ethernet Port
 * 2 Audio inputs; 2 Audio outputs
 * 8/16 Alarm inputs;   1 relay output
 * USB Port (USB 2.0) for back-up
 * RS-485 Terminal Block Data Port
 * Network access: IE Browser, Client Software
 * 100-240VAC Power Source

CAUTION

- Place the DVR in ventilation space.

- The DVR should be worked in right temperature and humidity.

- Keep the DVR surfaces and the circuit board clean and dry. To clean the outside case of the DVR, use lightly dampened cloth with water (no solvents). Use brush to clean the circuit board and socket connector.

- Please purchase high quality hard disk (HDD), which could meet the working demand of the DVR.

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Chapter I Product Introduction

1.1 Summary

This equipment is an embedded digital hard disk video recorder specially designed for security & protection. It adopts the embedded processor and embedded operating system and integrates with each latest technologies in IT field, such as video frequency /audio frequency compression/ decompression, large capacity hard disk storage, TCP/ IP network remote control etc., investing the system with high intellectualization and stability.

This equipment supports various networks including Ethernet and Internet to realize remote audio/ video synchronization; with easy operation, it can be applied to the security and protection for banks, telecom, schools, hospitals, supermarkets, residential quarters, factories, companies, warehouses, restaurants, hotels, parks, museums, water conservancy facilities, entertainment places and other fields.

1.2 Functions and features

◎ Various recording mode: timer, motion detection, alarm, manual record and recording picture quality, resolution & recording frame rate configurable.
◎ USB2.0 interface; support USB software update.
◎ Support IE browse function and network remote client.
◎ Support network backup and USB backup.

- ◎ Flexible Display mode: Full screen; Quad.
- ◎ Four channels playback simultaneously.
- ◎ Low stream, long recording time.
- ◎ Support mouse and remote control operation.
- ◎ Support PTZ control.
- ◎ Support VGA output.
- ◎ Support pre-record.
- ◎ Support CD/DVD-RW.
- ◎ Support OSD languages of multiple countries.
- ◎ Support SATA HDD, support 1000G hard disk.
- ◎ Support mobile surveillance by windows mobile.
- ◎ Specially designed dedicated file system for video to increase more than 10 times of service life of hard disk.
- ◎ Fully independent of PC platform and free from computer breakdown due to improper operations, complicated management & operations as well as virus infection, and is of high stability.
- ◎ Operating system: Linux; compressed chip: ASIC.

Chapter II Installation Instructions

2.1 Installation Instructions

- In order to ensure your rights and interests, please read this manual carefully before you install and use this product.
- This is an indoor equipment. For the prevention of short circuit or electric shock, please do not expose this product to rain or use in wet & dusty environment.
- You'd better not use Western Digital hard disk.
- In case any solid or liquid coming into the case, please disconnect the power supply immediately, and the DVR can be restarted only after being checked by qualified servicemen.
- This is a precise instrument. Almost no part can be repaired by the user himself/herself. If fault occurs, it is necessary to ask qualified servicemen to repair it or contact the dealer.

2.2 Installation environment

- If the DVR is not in use for a long period of time, it's better to disconnect the power supply of the video recorder and pull the power line plug out from the power socket.
- Install this product under good air circulation conditions to avoid overheating due to excessive working hours.
- This DVR cannot be installed near the heater, ventilating shaft or other resources, or places with direct sunlight, much dust or potential mechanical vibration or impact.

2.3 Rear panel connection

Figure A. Rear panel connection of 8-CH Real time H.264 DVR:
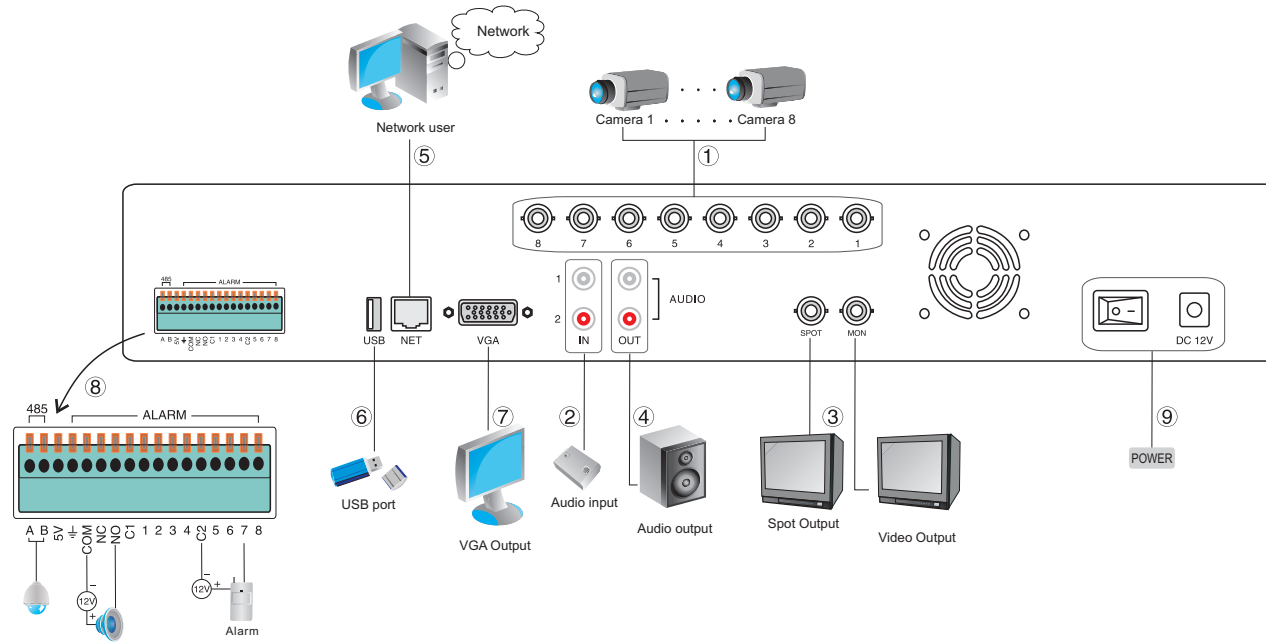
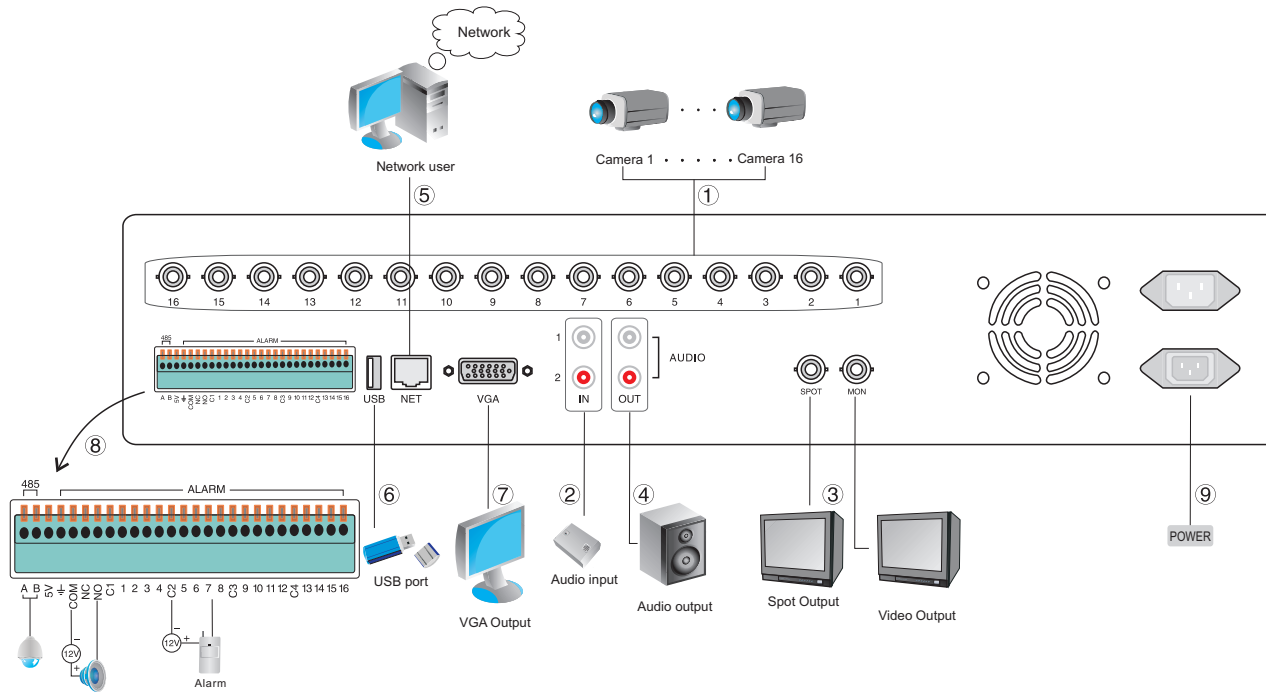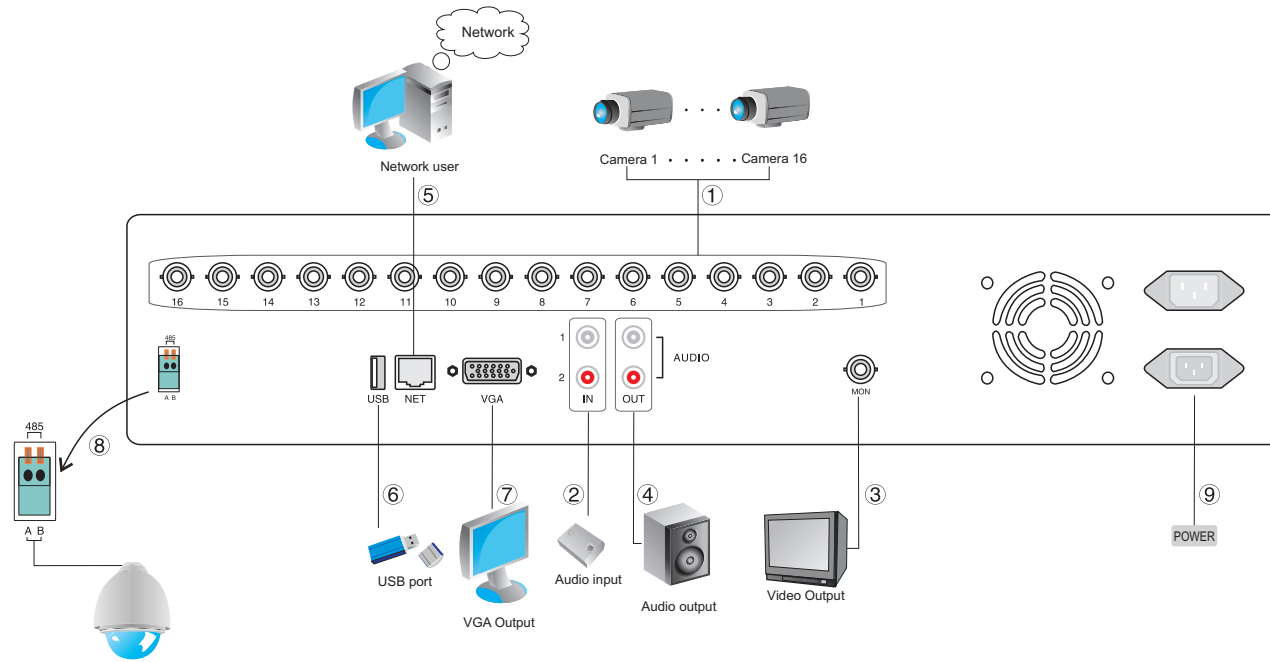Figure B. Rear panel connection of 16-CH Real time H.264 DVR:

Figure C. Rear panel connection of 16-CH Non-real time H.264 DVR:

Rear panel connection description:

(1) "1-8/ 1-16": video input interfaces, connected with video output of the Video Camera. BNC interface.

(2) "IN": audio input interface, supporting LINE IN audio input signals. AV interface.

(3) "MON": video output interface, connected with video input interface of the monitor. BNC interface.

 "SPOT": the auxiliary output interface. (No SPOT for Non-real time DVR.)

(4) "OUT": audio output interface, connected with the earphone or cable speaker.

(5) "NET": RJ-45 network interface, which can connect the network cable and is used in network browse or control.

(6) "USB": USB interface, connected to U disk or mouse and used for system software upgrade or video file backup.

(7) "VGA": VGA video signal output interface, connected with the VGA interface of a computer monitor.

(8) "485": it can connect PTZ or decoder, and can control PTZ via the panel, mouse, remote control and network.

 "NC/NO/COM": the alarm relay output. NC is normal close, NO is normal open, COM is the public terminal.

 "1-4", "5-8", "9-12", "13-16": the alarm input with optical coupler isolation.

(9) "POWER": DC 12V/4A or AC 110V~230V.

2.4 **Rear panel connection**

◎ To insert U disk into USB interface for backup and update.

◎ When backup or update, please pay attention:

1. Insert a U disk and wait for a moment (about 10 seconds). Then you can do the operation of backup.

2. Copy the corresponding file to U disk before update; insert the U disk, then power on again, it will update 20 seconds later.

3. Before switching on DVR or in the process of start, do not insert U disk into the DVR in normal condition.

Chapter III Description for Operations

3.1 Panel operation

Front panel description of 8/16-CH H.264 DVR
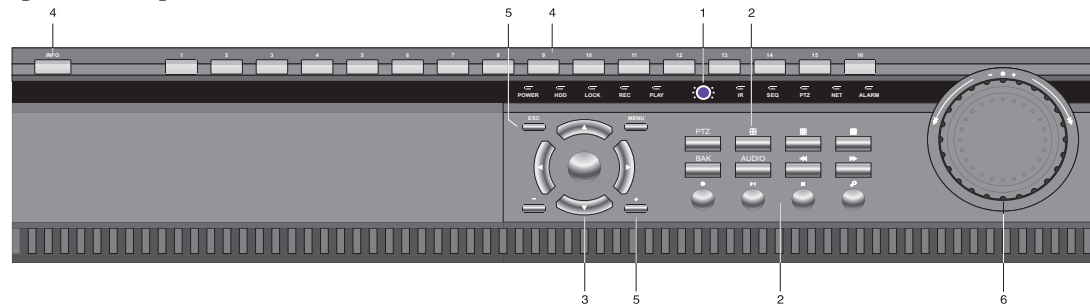
Item	Marks	Indicator/Key title	Functions
	POWER	Power indicator	When the DVR is running, this light is red.
1	**HDD**	HDD indicator	When the Red indicator flashes, the hard drive is being read or written to.
	LOCK	Lock indicator	When the front panel is locked, this light is on.

Item	Marks	Indicator/Key title	Functions
1	REC	Recording indicator	When the DVR is in recording mode, this light is on.
	PLAY	Play indicator	When the DVR is in playback mode, this light is on.
	IR	IR indicator	Remote ID is set as "ON", this light is on.
	SEQ	SEQ indicator	When the DVR is in auto switching channel mode, this light is on.
	PTZ	PTZ indicator	When the DVR is in PTZ control mode, this light is on.
	NET	NET indicator	When the DVR is in network connection mode, this light is on.
	ALARM	Alarm indicator	When the DVR is in alarm mode, this light is on.
2	PTZ	PTZ key	Press this key to display "PTZ: CAM01 SPEED:01 DATA:01" characters on the top of the monitor screen, indicating that the DVR is under PTZ control. Press "PTZ" key or "ESC" key to exit.
	⊞	Quad key	The monitor displays quad screen.
	⊞	Eight split key	The monitor displays eight split-screen .

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Item	Marks	Indicator/Key title	Functions
2	▦	Sixteen split key	The monitor displays sixteen split-screen (It is void in 8-channel DVR)
	BAK	Backup key	In search mode, press BAK key after selecting the search data to backup them to U disk or CD/DVD-ROM. In playback mode, backup the currently played image and voice; press " ■ " to stop backup.
	AUDIO	Audio key	Control audio output on or off. In live mode, it outputs live voice; in playback mode, it outputs recorded voice.
	◀◀	Rewind key	In playback mode, press " ◀◀ " key to play images backward at 2× speed. Press " ◀◀ " key again to play images backward at 4× speed. Press " ◀◀ " key for the third time to return to normal play mode.
	▶▶	Forward key	In playback mode, press " ▶▶ " key to play images forward at 2× speed. Press " ▶▶ " key again to play images forward at 4× speed. Press " ▶▶ " key for the third time to return to normal play mode.
	●	Recording key	Press "●" to enter video recording mode. Video parameters are set in system menu. Press " ■ " to stop recording in video recording mode.

Item	Marks	Indicator/Key title	Functions
2	▶❙	Play & pause key	In live mode, press " " key to enter playback mode and play the last file. Press it again to pause. Press it for the third time to continue playing.
	■	Stop key	In backup mode, press " ■ " key to stop backup; in playback mode, press it to stop playing and return to live preview mode; in video recording mode, press it to stop video recording.
	🔍	Search key	In live or playback mode, press it to pop up the search menu.
3	▲ / ▼	Up/ Down key	In menu mode, select the listed options upward/ downward; in PTZ control mode, control the dome to rotate upward/ downward.
	◄ / ►	Left/ Right key	In menu mode, select the listed options leftward/ rightward; in PTZ control mode, control the dome to rotate leftward/ rightward.
	↵	Confirm key	Confirm or modify parameters.
4	INFO	Information key	Press "INFO" key to pop up a dialog box about the information of HDD and the conditions of network connection. Press "ESC" key to exit.

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Item	Marks	Indicator/Key title	Functions
4	**1~16**	Channel keys	Single channel display key. ("9~16" are invalid for 8-CH DVR.)
5	**MENU**	Menu key	Press it to enter menu setup mode. In lock mode, press it to prompt to input the password.
	ESC	Exit key	Press it to exit from the inferior menu and return to the superior menu.
	–	Decrease key	Decrease the value of the selected listed option, or modify downward.
	+	Increase key	Increase the value of the selected listed option, or modify upward.
6	◎	Shuttle	Playback mode: rotate the outer ring left/rightward once to fast rewind/ forward at 2× speed, rotate it again to fast rewind/forward at 4× speed; Pause mode: rotate the inner ring rightward once to play the image forward by one frame. Menu mode: rotate the outer ring left/rightward once to increase/ decrease the set value, rotate it left /rightward to the end to increase/ decrease the set value successively; rotate the inner ring left/rightward to move the cursor upward/downward by a level.

3.2 **Remote control operation**

Installing the remote control

Open the battery cover, install two batteries (Type No.7), make sure positive and negative poles are right, then close the battery cover.

Using the remote control

Before using it, please confirm that batteries have been installed correctly.

When using it, please aim IR TX (transmitter) of the remote control at IR reception of the DVR. Then the DVR can be controlled by the remote control.

Prompt:If you do not want to use the remote control, you could set in the system setup menu. Set the sixth item REMOTE ID as OFF. Then the IR Receiver light on the front panel will be off, and the operation of the remote control is invalid.

Trouble shooting

If the DVR can not be controlled by the remote control, please check the following aspects.

1. Check the positive and negative poles of the batteries.
2. Check the electric quantity of the batteries.
3. Check that whether Remote Sensor are blocked or not.
4. Whether Fluorescent lamps are being used or not nearby.

Remote control

Function description

Serial No.	Key symbol	Description
1	⏻	In normal running mode, press " ⏻ " key to pop up a menu to prompt whether to turn off. The DVR will be turned off safely and enter the standby mode after "confirm " is selected. The power light on the panel will turn green from red.
2	🔊	Turn on or off the audio in live, record or play mode.
3	1~10+/0	Select channels. Combine key " 10+ " and " 1 ~ 9 " or " 0 " to select the channel larger than 9 for screen display. The digital keys larger than 8 is the standby keys for 8-CH DVR.
4	SEQ	In live preview mode, press "SEQ" key and all channels will automatically switch in full screen in turn. Press "SEQ" key again or press "ESC" key to stop switching.
5	AUTO F+/F- I+/I- Z+ Z-	In PTZ control mode, the "AUTO" key is used to rotate PTZ automatically. In PTZ control mode, the "F+"/ "F-" key is used to prolong/shorten the focus. In PTZ control mode, the "I+"/ "I-" key is used to enlarge/reduce the aperture. In PTZ control mode, the "Z+" key is used to reduce the image and expand the vision; In PTZ control mode, the "Z-"key is used to withdraw long shot and enlarge the image.

Please refer to the description of front panel for other keys.

3.3 **Mouse operation**

Note: **Insert the mouse before power on. The mouse can not be pulled out in the process of operation, or the system will automatically restart. That is to say, mouse does not support hot swap.**

No.	Icons	Description of icons
1		Click the left icon to pop up the right icon. Click each number to choose single channel from channel 1 to channel 16. There are no 9-16 channel icons for 8-channelDVR.
2		Display Quad picture/ 9-picture/ 16-picture on screen of the monitor
3		Click this icon to pop up the pull-up icons that listed as No. 04,05,06,16,17.
4		In live preview mode, click this icon, all channels will automatically switch with full screen image in turn. (About 5 seconds for each channel). Left-click the screen with the mouse to stop switching.
5		Click this icon to display icon on top left of the screen, indicating the audio output is on. Click this icon again to cancel the icon, indicating the audio output is off. In live mode, it outputs live voice; in playback mode, it outputs recorded voice.
6		In live preview mode, click this icon to display PTZ characters on the top of the monitor screen, indicating the DVR is under PTZ control. PTZ control parameters of each channel can be modified

No.	Icons	Description of icons
6		in the system menu. In PTZ control mode, right-click to display icons as No. 07-15 on the bottom of the screen.
7		Control the dome to rotate upward/ downward/ leftward/ rightward.
8		"I+" is used to enlarge the aperture. "I-" is used to reduce the aperture.
9		"F+" is used to prolong the focus. "F-" is used to shorten the focus.
10		"Z+" is used to zoom out. "Z-" is used to zoom in.
11		Click the left icon to rotate PTZ automatically. Click the right icon to stop rotating.
12		Click this icon to exit from PTZ control mode. In other menu mode, click this icon to close the current mouse menu only, and exit from mouse operation. Right-click the screen with the mouse to pop-up mouse menu.
13		When the cursor is on "DATA", press this key to preset image point.
14		When the cursor is on "DATA", press this key to view the image point which has been preset.
15		When the cursor is on "DATA", press this key to delete the image point which has been preset.

No.	Icons	Description of icons
16		Click this icon to view the information of the hard disk, the condition of network connection and the version number.
17		In live or recording mode, click this icon to pop up "SPOT CAM01" on the top middle of the screen. It means that SPOT output stays in camera one, click the channel number icon to switch the channel of SPOT output.
18		In live mode, click this icon to enter the main menu.
19		In live mode, click this icon to enter video recording mode. The video parameters are set in the system menu. Press ▬ icon to stop recording in video recording mode.
20		In live or video recording mode, click this icon to enter playback mode and play the last file directly.
21		In video recording mode, click this icon to stop video recording; in playback mode, click this icon to stop playing and return to the live preview mode.
22		In playback mode, click this icon to pause.
23		Click this icon to pop up backup menu. In mouse operation mode, it could backup with CD/DVD-ROM.

No.	Icons	Description of icons
24	◀◀	In playback mode, click this icon to playback images backward at 2× speed. Click this icon again to playback images backward at 4× speed. Click this icon for the third time to return to normal play mode.
25	▶▶	In playback mode, click this icon to playback images forward at 2× speed. Click this icon again to playback images forward at 4× speed. Click this icon for the third time to return to normal play mode. In pause mode, press this key once to play the image forward by one frame.
26	🔍	Click this icon to pop up search menu.

Chapter IV Menu Setup

4.1 Summary

In live preview mode, select "MENU" key on the remote control or the panel or click ▦ icon in mouse menu to enter the main menu. Select "ESC" key to return to the superior menu until it exits from all menus. "up, down, left, right, enter, +, – " key, "MENU", "ESC" key and the shuttle inner/outer ring can all be used in menu operation In mouse operation mode, click ✖ icon that on the top right of the menu to exit from the current menu..

8/16 Real Time H.264 DVR Main Menu   16 Non-Real Time H.264 DVR Main Menu

Note: (1) To revise video format (PAL/NTSC), modify video resolution (CIF/D1) and restore factory setup will all restart the system automatically.

(2) Please format all hard disks after any one of the following operations has been done.

a. The system time once has been modified as the past time.

b. The video format has been changed (PAL and NTSC)

c. The resolution has been switched (CIF and D1)

4.2 **System setup**

SYSTEM SETUP

TIME SET	:	04/15/2009 10: 16: 01
TIME FORMAT	:	U.S. (MM_DD_YYYY)
TIME DISP POS	:	TOP MID
BORDER DISP	:	WHITE
VIDEO FORMAT	:	PAL
REMOTE ID	:	ON
PASSWORD SWITCH	:	OFF
SYSTEM PASSWORD	:	1 1 1 1 1 1
SOFTWARE UPDATE	:	ENTER
DEFAULT LOAD	:	ENTER
OSD LANGUAGE	:	ENGLISH
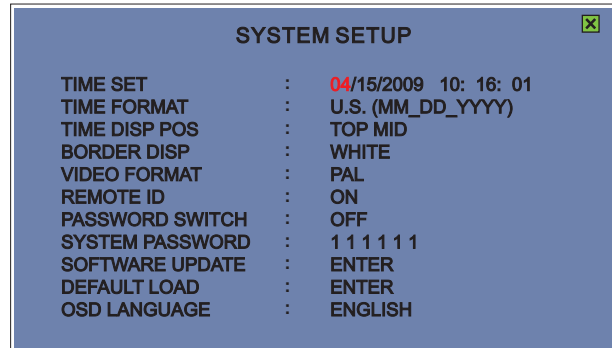
(1) Time set: used to adjust the system date and time. Press "+/ -" key on the panel or remote control or left/ right-click with the mouse to modify.

(2) Time format: used to set the format of date display , Asia/ Europe/ America are optional.

(3) Time disp pos: the display position of time and date, top middle / bottom middle/ no display are optional.

(4) Border disp: to select the color of borders, gray/ black/ white / off are optional.

(5) Video format: to select the video system, PAL / NTSC are optional. The DVR system will be forced to restart after switching.

(6) Remote ID: used to set the remote control ID corresponding to the current machine so as to make remote control,
       Off/ on/ numbers from 0 to 9 are optional.

(7) Password switch: used to turn on or turn off the password protection.

(8) System password: used to set the password to unlock the machine when locked.

(9) Software update: before updating the software, it is required to insert the U disk with new version software; in
       the process of software update, it is required to prevent power failure and pulling out U disk.

(10) Default load: to restore the default parameters; after confirmation the system will require restarting.

(11) OSD Language: used to change the language of operating system display.

4.3 **Camera setup**

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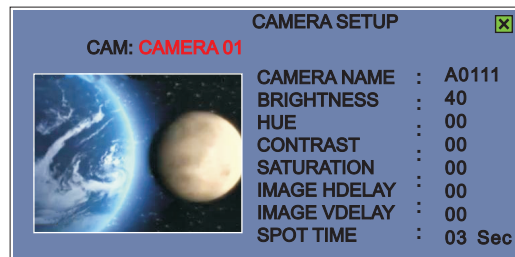
When the cursor is on camera name, press ENTER to apply customized user name. Press ENTER again to cancel.

(1) CAM: used to select the channel to be revised parameters.

(2) Camera name: used to set the channel name; press "+/ -" or left-click/right-click with the mouse to modify.

(3) Brightness: used to adjust brightness of the channel.

(4) HUE: used to adjust chroma of the channel.

(5) Contrast: used to adjust contrast of the channel.

(6) Saturation: used to adjust acutance of the channel.

(7) Image Hdelay: used to adjust the horizontal position of picture central point.

(8) Image Vdelay: used to adjust the vertical position of picture central point.

(9) SPOT time: set the interval of circular output for the corresponding channel, that is to say, image display time of each channel.

4.4 Record setup

```
                          RECORD SETUP                    ☒

              RESOLUTION  :      720×576
              PRERECORD   :      ON
              OVERWRITE   :      ON
              AUDIO SET   :      ON
              QUALITY     :      ENTER
```
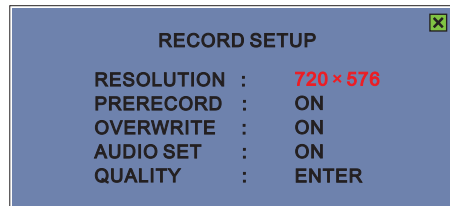
(1) Resolution: 720×576 / 352×288（PAL）;720×480 / 352×240（NTSC）; after modifying the resolution, the system will require restarting.

(2) Prerecord: on/off are optional. It is pre-recording for alarm record. It will begin to record about 3 seconds ahead of move or alarm happening .

(3) Overwrite: whether the recorded videos in the hard disk are rewritable. If it is ON, the previous recorded video information will be replaced in turn when the hard disc is full. If not, it will pop up the prompt of "HDD full".

(4) Audio set: used to turn on or turn off the audio record.

(5) Quality: press or click "enter", you could see the following submenu;

RECORDING QUALITY SETUP	☒

CAMERA	:	01	02	03	04
QUALITY	:	LOW	LOW	LOW	LOW
FRAME RATE :		12	12	12	12
CAMERA	:	05	05	05	05
QUALITY	:	LOW	LOW	LOW	LOW
FRAME RATE:		12	12	12	12
					NEXT

RECORDING QUALITY SETUP	☒

CAMERA	:	09	10	11	12
QUALITY	:	LOW	LOW	LOW	LOW
FRAME RATE :		12	12	12	12
CAMERA	:	13	14	15	16
QUALITY	:	LOW	LOW	LOW	LOW
FRAME RATE:		12	12	12	12
					PREVIOUS

(1) Camera: used to select the channel to be set.

(2) Quality: used to set the image quality of the to-be-recorded video.

(3) Frame rate: used to set the quantities of images that recorded in one second.

4.5 Schedule setup

   Note: 16-CH Non-Real Time DVR is not equipped with this function.

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SCHEDULE SETUP

CAM   :   ALL   ALL CAM ☑
DAY   :   ALL   ALL DAY ☐
REC MODE :   MANUAL

                 START   END   TYPE
SEG1   :   08：00 - 11：02   TIME
SEG2   :   11：05 - 13：11   ALARM
SEG3   :   18：00 - 20：49   MOTION
SEG4   :   21：34 - 23：59   ALARM+MOTION

(1) CAM: used to select the channel to be set.

(2) All CAM: the parameters in schedule setup are effective for all channels after selecting this item.

(3) Day: used to select the day of video schedule.

(4) All day: the parameters in schedule setup are effective for all days after selecting this item.

(5) REC mode: the video schedule function falls into manual start (successive record) and auto start (according to record schedule).

(6) SEG 1-4: set corresponding video type of relevant time range.

Note: 1. The start time cannot larger than the stop time, or it will report error and won't exit.

2. After exiting from this menu, please press " REC " key or click the record icon, or the schedule record won't startup.

4.6 **Motion alarm**

Note: 16-CH Non-Real Time DVR is not equipped with this function.
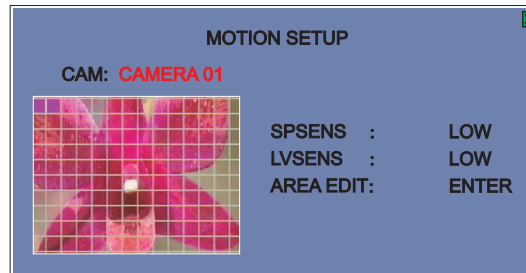
(1) CAM: used to select the channel to be set.

(2) SPSENS: used to set the speed of image display under the motion alarm mode so as to activate the alarm record.

(3) LVSENS: eg. High/ Normal/ Low

(4) Area edit: rose color area is un-detectable. The region that has not been selected is alarm area, when motion occurs, it will turn to green.

4.7 **PTZ setup**

Note: The above parameters of each channel must be consistent with the setting of PTZ , or it cann't be controlled.

```
                              PTZ SETUP

                    CAMERA    :    CAMERA01
                    BAUDRATE :     4800
                    DEVICE ID  :    01
                    PROTOCOL:      PELCO_D1
```
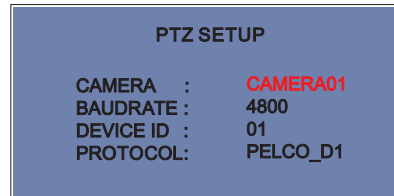
(1) Camera: to select the channel to be set.

(2) Baudrate: to set baud rate corresponding to the current channel PTZ.

(3) Device ID: to set ID address corresponding to the current channel PTZ.

(4) Protocol: set communication protocol corresponding to the current channel PTZ.

4.8 **Network setup**

```
                         NETWORK SETTING

        DHCP              :    □
        IP ADDRESS        :    192    168    001    083
        GATEWAY           :    192    168    001    001
        SUBNET MASK       :    255    255    255    000
        DVR PORT          :    6802
        IE PORT           :    0080
        USER'S NAME       :    U S E R 0 1
        PASSWORD          :    1 1 1 1 1 1
        SUPER PASSWORD  :      0 0 0 0 0 0
```
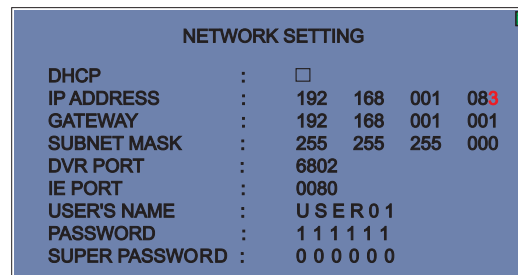
(1)   DHCP: Get IP address automatically.

(2)   IP address: You'd better set the fourth date from 010 to 099, or it will collide with the router DHCP.

(3)   Gateway and subnet mask: Gateway is the LAN IP address of the router.

(4)   DVR port: Transfer date stream, such as video and audio frequency.

(5)   IE port: Download ActiveX control. (Default 0080)

(5)   User name: Set user name of telnet. (Default user 01)

(6)   Password: Set password of telnet. It supports 4 users to log in at the same time. (Default 111111)

(7)   Super password: Set password of telnet. It only supports one user to log in at one time. It owns the most purview and could do remote operation. (Default 000000) Logging in with the super password, the connection by logging in of common password will be shut off automatically.

   Note: When using network browse, IP address/ gateway/ subnet mask/ port of the DVR must be consistent with the setting of the router.

4.9 **Alarm setup**

Note: 16-CH Non-Real Time DVR is not equipped with this function.

There are two ways for alarm output, Buzzer and Relay. They include three alarm modes:

(1) Video loss alarm;

(2) Video motion detection alarm;

(3) Sensor input alarm.

Setup way: Press " ENTER" key on the panel or remote control or click with the mouse to display or cancel " √ " in the small boxes.

4.10 **Disk management**


```
            DISK MANAGEMENT

DISK NAME      :     DISK A
DISK SIZE      :     931 G
REMAIN SIZE    :     094 %
BAD SIZE       :     000 G
RECORD CLEAR:        ENTER
DISK FORMAT    :     ENTER
```
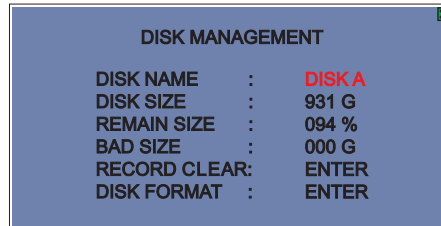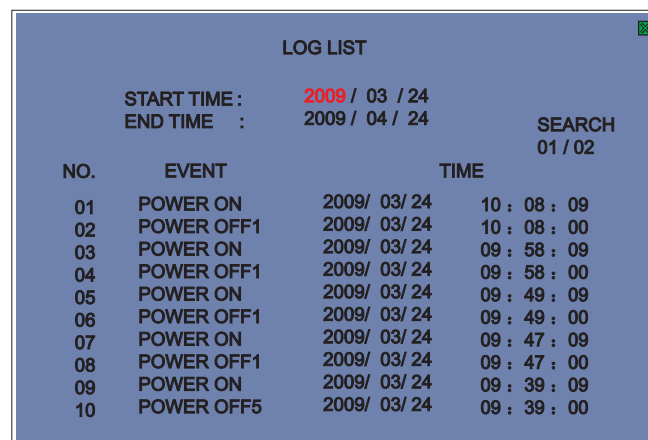
(1) Disk: select Disk.

(2) Disk size: used to display capacity of the current disk.

(3) Remain size: used to display percentage of the remaining capacity of the current disk.

(4) Bad size: used to display bad size of the current disk.

(5)   Record clear: used to empty the current disk.

(6)   Disk format: used to format the current disk.

4.11 **LOG list view**

This menu is used to search power on/off information of this machine.

Chapter V Basic Operations

5.1 Turn on DVR

- Please confirm each item in Chapter 2 "Installation instructions" has been done before turning on DVR.
- Please check whether the system connection is correct, input / output equipments are connected well and the power supply is on before turning on DVR.
- Please make sure video mechanism (PAL or NTSC) of video input and mechanism of the monitor meet the requirements.
- After checking without problems, plug in the power cable of DVR, then turn on the power switch on the rear panel of DVR. The power indicator light will turn red after normal starting of DVR. If it is in video recording mode before turning off last time, it will resume video recording automatically.

5.2 Software update

- Copy new version of the software to the root directory of U disk, the file name is fireusb.
- Insert the U disk with software into USB port of DVR, then power on again. 20 seconds later, it will pop up "update start" on the screen, the system update automatically. If "update fail, try again!" pop up on the screen, the system will automatically restart and continue to update, until "update ok, please reboot!" pop up on the screen. At the moment, please pull out the U disk and restart the machine. If "update fail, try again!" pop up more than 4 times, please contact after-sales service department of our company to deal with it.

- In the process of update, please ensure no power breakdown and don't pull out USB disk, or update will be unsuccessful.

- Make sure U disk works in good condition so as to avoid abnormal performance in the process of update.

5.3 **PTZ control**

In live or video recording mode, press PTZ key on the panel or remote control or click the PTZ icon in mouse menu to enter PTZ control interface.

- Characters "PTZ: CAM01 SPEED:01 DATA:01" display on the top of the monitor screen, indicating the DVR is under PTZ control. PTZ control parameters of each channel can be modified in the system menu. Press "PTZ" key again or press "ESC" key or click the icon to exit from PTZ control mode.

- When the cursor is on "PTZ: CAM01 SPEED:01 DATA:01", the corresponding item will glitter. You could select camera, set the speed and preset the data of image point. Select the item which need modify by pressing "SEQ" key on the remote control or clicking the item directly with the mouse, then change the numerical value by pressing "+/-" key or digital key on the remote control or left/ right-click with the mouse.
- Preset operation includes "set, view and delete".
  (1) Select image point in the selected camera by "up, down, left, right" key, set a number for the image point in "DATA", such as 01, then press "⊞ " key on the remote control or click 🔍 icon, set is finished. ..
  (2) To view the image point which has been preset, you could select the corresponding number in "DATA", then press " ⊞ " key on the remote control or click 🔁 icon.
  (3) To delete the image poin which has been preset, you could select the corresponding number in "DATA", then press "INFO" key on the remote control or click 🗑 icon.
- For other detailed operations, please refer to Chapter 3: Panel operation, Remote control operation and Mouse operation.

  Note: Only one channel can be selected at a time. The channel which is in PTZ control must be set the same parameters as the ones of high speed dome in main menu "PTZ setup".

5.4 **Motion detection**

  Note: 16-CH Non-Real Time DVR is not equipped with this function.

Step I Set motion alarm. Enter "Main menu-- motion setup" firstly.

MOTION SETUP

CAM: CAMERA 01

SPSENS   :   LOW
LVSENS   :   LOW
AREA EDIT: ENTER
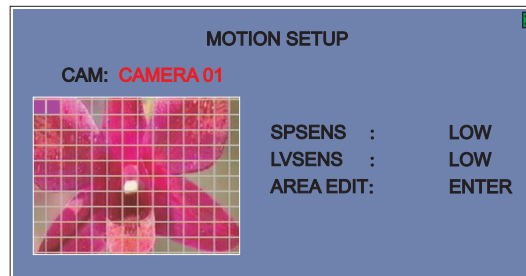
Select the channel to be set, modify the speed of motion alarm, alarm sensitivity, edit the alarm area (refer to "Motion alarm setup" for details). After setup, return to the main menu.

Step II Set schedule. Enter " schedule setup".

SCHEDULE SETUP

CAM	:	ALL	ALL CAM ☑
DAY	:	ALL	ALL DAY ☐
REC MODE	:	MANUAL	

		START	END	TYPE
SEG1	:	08：00	- 11：02	TIME
SEG2	:	11：05	- 13：11	ALARM
SEG3	:	18：00	- 20：49	MOTION
SEG4	:	21：34	- 23：59	ALARM+MOTION
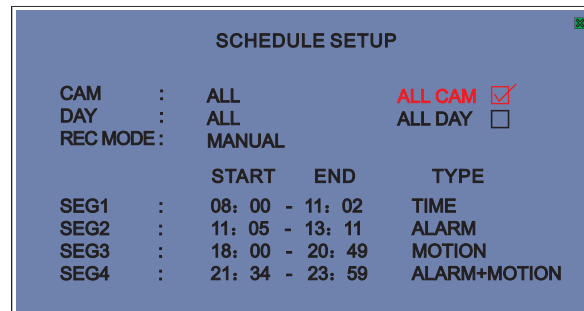
   Firstly select the channel and day to be set and set the video recording mode as "AUTO". Secondly set the time segment of Motion detection, and set the video type as motion alarm or alarm + motion.

   Then return to live mode and press " ● " video recording key or click ● icon, now the channel(s) will display as " ▇ ". Once a mobile object appears in the live channel, the motion alarm will be triggered and that channel display "M".

   For specific operation of searching the video file about motion alarm, please refer to "Search and playback"--search menu.

5.5 **Video recording preparation**

- Press "INFO" key or click the icon 🖥 in mouse menu to check disk information and the remain size of the hard disk.If there isn't much size left, please firstly consider whether to replace the hard disk or backup or set overwrite way as "ON". Overwrite way is set in main menu--"record setup", it could be ON or OFF.

DISK INFO		Ver : 2.032
DISK NAME	:	DISKA
DISK SIZE	:	931 G
REMAIN SIZE	:	062 %
COVER RATE	:	000 %
BAD SIZE	:	000 G
RECORD FIRST TIME	:	2009/03/02 01: 10: 00
RECORD LAST TIME	:	2009/04/24 09: 55: 00
NETWORK INFO		
DVR IP	:	192.168.1.83
DVR PORT	:	6802
CLIENT IP		

- If necessary, enter the menu to set the video recording parameters including whether to overwrite, whether to record, video image quality and video frame rate.

- Press "+" "-" key or click the disk name to check information of other disks.

- "Ver: 2.012" displayed on the top right is the version number.

- Network information displayed here is the information that set in the network setup menu, it also displays the client

- IP which is visiting DVR currently.

- Firstly confirm that record mode of each channel in schedule setup is manual or auto. If all are manual, in live preview mode, press " ● " key or click ● icon and a gray dot " ● " appears in each channel, and "record starting" pop up

on the screen (it will disappear about 5 seconds later), indicating the start of video recording.

- If record modes of some channels are auto, you can set the record type as " time, motion, alarm or alarm+motion".
- Then press " ● " key or click ● icon, a small gray oblong " ▮ " appears, indicating there isn't real record.
- Users can select channels to record according to actual requirement. It could save disk capacity.
- When actual video recording occurs, the HDD light on the panel will glitter or keep illuminating.
- In the process of video recording, press " ■ " key or click ▬ icon to stop recording.

Icons of video recording and their meanings:

Icons	Meanings
●	DVR is in manual recording mode.
▮	DVR is waiting for triggering of video event in auto recording mode.
L	Recording happen since the loss of video image in auto recording mode.
M	Recording is triggered by the motion of some objects in auto recording mode.
S	Recording is triggered by external alarm in auto recording mode.
T	It is recording by time according to the previous set time in auto recording mode.

Note: **" ▮ 、 L、 M、 S、 T"won't display on the screen in manual recording mode.**

5.6 **Search and playback**

- Press " ▶| " key or click ▶ icon in live or record mode to play the last video file.
- Press " 🔍 " key or click 🔍 icon in live or record mode to pop up the search menu. You could select a video file to playback by time search.
- In the process of playback, you could press " 🔍 " key or click 🔍 icon to search other video file.

SEARCH MENU

VALID TIME   : 2009/03/02   TO   2009 / 04 / 24
CH1   : 01   CH2: 00   CH3: 00 CH4: 00
DATE   : 2009 / 04 / 24
START TIME : 08: 55   PLAY

00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23

01
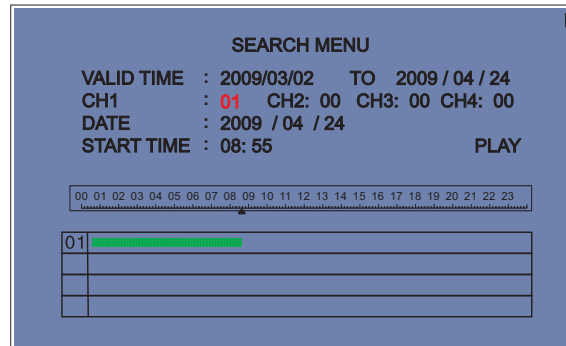
- In search menu, the first row prompt the valid time of the video recording. In "CH-1 to CH-4", you could select the playback channels. It could play 4 channels at the same time. And you could select one/ two/ three/ four channels to playback at the same time as you like. If the video recording mode is D1, 4-CH Real Time DVR can't play 4 channels at the same time.

- In the option of date and start time, input the date and time you need to play or drag the arrow under the time scale with the mouse to select the start time, then move the cursor to "PLAY" and click it or press "↵ " key, the equipment will start to play the video file from such time. If a video file has been played, the DVR system will search the next video file to play automatically. In the process of searching, the search icon "🔍" displays on the bottom middle of the screen.
- The table in the bottom of the search menu displays the video record condition of the relevant channels.
- In the process of playback, you could press " ◄◄ "/ " ►► " keys or click ◄◄ / ►► or use the outer ring of shuttle for fast forward / backward operations.
- In pause mode of playing, you could press " ◄◄ "/ " ►► " keys or click ◄◄ / ►►   or use the inner ring of shuttle to play forward / backward in single frame.
- In the process of playback, press " ■ " key or click ▬ icon to stop playback and return to live preview or record mode.

5.7 **Backup**

Note: Before backup, please connect the backup device to the DVR, e.g. U disk, USB HDD, CD/DVD-recorder etc.

Backup the current playing image

In the process of playing, you could backup the current playing image by pressing "BAK" key on the remote control. Press " ■ " key to stop.

Backup the video image on some channel(s) and some time segment

1. Click backup icon 📄 with the mouse or press "BAK" key on the panel or remote control to pop up backup menu.

BACKUP MENU

VALID TIME : 2009/03/17 TO 2008 / 04 / 24
DEVICE : CD (500M)
CH1 : 01 CH2: 02 CH3: 03 CH4: 04
DATE : 2009 / 04 / 21 SIZE: 0025 M
START TIME : 14: 55 END TIME:17:55

00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23

CALCULATE   BACKUP

01
02
03
04
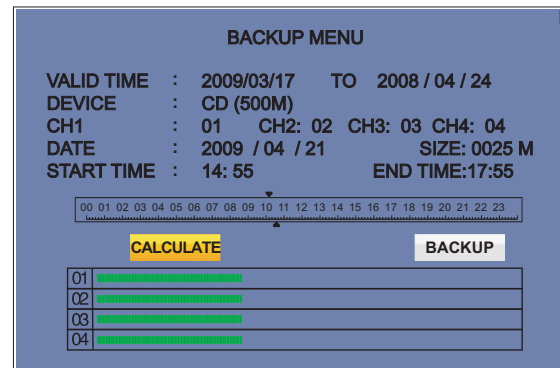
- In backup menu, the first row prompt the valid time of the video recording.
- You could select the CD for backup in DEVICE item. DVD（1.5G）, CD（500M）, MINI CD（180M）are optional.
- If the mouse isn't inserted, you could also use USB to backup.
- The table in the bottom of the backup menu displays the video record condition of the relevant channels.

2. In " CH-1 to CH-4 ", you could select the backup channels. It could backup 4 channels at the same time. And you could select one/two/three/four channels to backup at the same time as you like.

3. In the option of date, start time and end time, select the date and time you need to backup or drag the arrow on the time scale with the mouse to select the start/ end time.

4. After confirming the channel, date and start/ end time, you could click "CALCULATE" icon to check the size of the

Video file that you want to backup. The file size should not exceed the maximum capacity of the selected device.

5. Move the cursor to "Backup" and press " ↵ " key or click "Backup", the equipment will start to backup the video file.

5.8 SPOT output operation

Note: 16-CH Non-Real Time DVR is not equipped with this alarm function.

The camera and interval (SPOT time) for SPOT output are set in " CAMERA SETUP " of the main menu.

After selecting the camera, put the cursor on " SPOT TIME ", then you could set the time by pressing " +/- " key or left/ right-click with the mouse. It could be set from 0 second to 10 seconds. If output interval of some channel is 0 second, that channel won't output. For example, 8 seconds for channel 1, 0 seconds for channel 2, 3 seconds for channel 3; then in spot output mode, channel 1 will turn to channel 3 after the image displaying 8 seconds, channel 3 will turn to the next channel after the image displaying 3 seconds and so on.


```
                    CAMERA SETUP            [X]
CAM: CAMERA 01
                         CAMERA NAME   :  A0111
                         BRIGHTNESS    :  40
                         HUE           :  00
                         CONTRAST      :  00
                         SATURATION    :  00
                         IMAGE HDELAY  :  00
                         IMAGE VDELAY  :  00
                         SPOT TIME     :  03  Sec
```

The image of each channel will loop output automatically according to the time which is set in "SPOT TIME". If you want to watch some channel, that is to say, stopping loop output for a moment and stay in one channel, you could do as the follow way in live or recording mode. Press "▶▶ " key or click ⬛ icon to pop up " SPOT CAM01 " on the top middle of the screen. It means that SPOT output stays in camera one, press the channel number key or click the channel number icon to switch the channel of SPOT output. Press "▶▶" key again or " ESC " key to exit.

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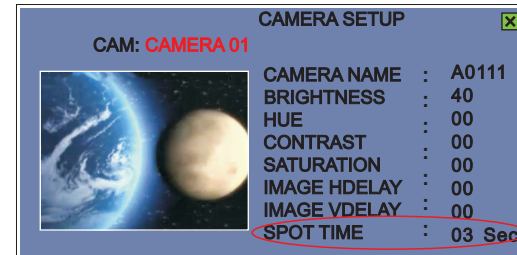
5.9 **Audio**

- This DVR supports 2-line audio input and 2-line audio output, and audio input supports Line in..
- For audio monitoring operation, please refer to the application of " AUDIO " key.

5.10 **Image quality selection and recordable time of hard disk**

- The image quality of video is optional: High, Medium, Low.
- The higher the image quality, the larger the occupied hard disk space for the stored image is, and the shorter the available recording time of a hard disk is. Therefore the user should select suitable image quality and hard disk according to actual conditions.
- The image quality of video recording must be confirmed before recording, and the image quality cannot be changed in the process of recording.

5.11 **Use of PC Client software**

Do network remote operation for DVR by PC Client. Please refer to "6X8X DVR User's Network Manual" for specific operations.

Appendix 1 Technical parameters

Items	8 Real Time H.264 DVR	16 Real Time H.264 DVR	16 Non-Real Time H.264 DVR
Video input	8-CH Composite: 1.0Vp-p/75Ω，BNC×8	16-CH Composite: 1.0Vp-p/75Ω，BNC×16	
Video output	1. Composite: 1.0Vp-p/75Ω，BNC×1 2. VGA output: VGA×1 3. SPOT output: 1.0Vp-p/75Ω，BNC×1(16-CH Non-real time DVR is not equipped with Spot output.)		
Alarm input	8-CH optooupler input	16-CH optocoupler input	NO
Alarm output	Relay output, NO , NC, COM		NO
Alarm mode	External input alarm ; video motion detection alarm; video loss alarm		Video loss alarm
Resolution	PAL 352×288 (CIF), 720×576 (D1); NTSC 352×240 (CIF), 720×480 (D1)	352×288(PAL)；352×240(NTSC)	
Frame rate	Live: D1 real time / CH Record: CIF 240f D1 60f		Live: Non-real time; Record: 100F
Audio	2-CH audio input, AV×2；2-CH audio output, AV×2		
Network interface	Standard RJ-45 interface		
USB interface	HOST 2.0		
HDD interface	SATA		
PTZ control	R S485		
Power source	DC 12V/4A or AC 110V~230V.		

Appendix 2 Trouble shooting

Fault phenomena	Fault cause	Solution
After connecting to power and powering on, the panel indicator light is not on	1. Power lines aren't connected well. 2. Installation mistakes.	Check the power line and the power socket
The hard disk video recorder restart continually after turning on	1. Wrong programme has been upgraded 2. The software has been damaged	Upgrade it again
No hard disk after check	1. The HDD has been damaged 2. The HDD interface cable is not well inserted	1. Replace it with a new hard disk 2. Check the HDD cable and insert it again
Repeatedly prompt format HDD fault while starting	The HDD has been formatted by other unknown system	Uninstall the hard disk and format it on the computer
Playing is abnormal	1. Once the system time has been modified as the past time. 2. The video format has been changed (PAL and NTSC) 3. The resolution has been switched (CIF and D1)	Format the hard disk

The operation manual is for reference only; products may vary.

Products are subject to update without further notice.

Please contact the customer service department for the latest program and supplementary information.

Any disputes or doubts in products description are subject to our final explanation.

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