



## **User's manual for MPEG4 DVR Model QSDVR9M and QSDVR16M**

\*This manual is for MPEG4 QSDVR9M 9-channel and QSDVR16M 16-channel digital video recorder  
And uses the 16-channel digital video recorder as example.

Before operation, we strongly advise that you read the user manual and keep it available for future use.

This manual is an operational guide, we reserve the right to correct typographical errors or inconsistencies with future versions, software upgrades and product improvements. These changes will be made without any special or advance notification.

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# Digital Video Recorder (DVR) Introduction

## 1.1 Product introduction

This DVR is designed specially for CCTV system. It uses an embedded processor and embedded operating system working with the high-powered code and decode chip. In addition, it uses advanced IT technology to make the system more stable, such as the audio code and decode technology, large capacity hard disks, complying with the TCP/IP protocol SoC, etc...

It is a stand alone unit, but also works through the internet to allow the customer to have remote Surveillance. It is ideal for middle-risk to high risk site surveillance. Due to its good performance it is used in the Banking Industry, Telecommunication Industry, Electric Power Departments, Legal Systems, Factories, Warehouses, Cities, etc...

## 1.2 Features of this DVR

### General

- Video output: CVBS, S-VIDEO, VGA and SPOT monitor
- Triplex operation: view/record/playback/remote operation at the same time
- Various recording resolutions, D1, Half D1 and CIF
- Supports channel security by hiding live display
- Display the local record state and the basic information
- Remote control equipped
- Support two level password control: administrator and common user
- Operation log recording and searching
- Video system (PAL or NTSC) can be detected automatically and selected manually
- Recording list can be deleted one by one or all and locked to protect important records
- Support water mark technology

### **Format**

- Standard MPEG-4 compression format

### **Storage**

- Supports up to four IDE Hard Drives simultaneously (Or three IDE HDDs and one IDE DVD-RW/CD-RW)

### **Backup**

- Auto-play software automatically packed in backup files, and Auto-water-mark check in backup files to assure files' authenticity
- Support backup via USB 2.0 to USB flash memory, or CDRW, DVD-RW to CD-R/DVD-R respectively
- Support remote backup by "Net Client" through LAN or internet

### **Record and playback**

- Record modes: Manual, Sensor detection, Timer, Motion detection and Continuous
- Support HDD recycle (automatically overwrites older files)
- Up to 16CH playback, fast forward 2X 4X 8X 16 32X 64X and 128X and slow forward modes; play the record frame by frame; jog shuffle to forward/backward function, which is including frame rate adjusting
- Support remote playback in "Net Client" through LAN or internet
- Three record search modes: time search, event search, file search

### **Alarm**

- 9/16 alarm inputs and 4 alarm outputs, TTL alarm output

### **PTZ control**

- Supports decoder which communicates with RS485
- Supports speed dome
- Supports PTZ through network


### **Communication port**

- RS 485 equipped

### **Network**

- Supports TCP/IP protocol
- Supports wide bandwidth network through modem (PPPOE)
- Supports static IP and dynamic IP (DHCP)
- Real time preview/playback/monitoring with audio signal through network
- Supports control PTZ camera through the network
- Support IE browser, for remote view (automatically download active-x )

## Installation Notice

 **Attention:** Before connecting to other equipment, please make sure the device is powered off. Do not hot plug in!

### 2.1 Checking the contents

Check the contents when you receive the unit, to make sure you have all the parts. Normally it will contain: a remote control, a power cable, a CD-Rom with “Net Client” software, screws for installing HDDs

### 2.2 Installing the Hard Drive

#### 2.2.1 Install reminder

Please confirm the size of HDDs needed and choose suitable ones to install. If the original DVR does not have HDDs, it is advisable to have professionals install/uninstall the drives.

## 2.2.2 Install tool

One Phillips screwdriver

## 2.2.3 Install process

Open the DVR using screwdriver

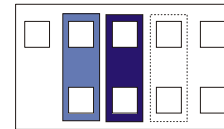
**Set one HDD as master and the other as slave if two HDDs are connected to one ATA interface!!!**

**Attention:** Hard Drives connected to the same parallel cable can not be set as master+master or slave+slave, they must be master+slave!!!

HDD setup: Using a Maxtor Hard Drive (DiamondMax Plus 8 ATA/133 40GB) as example.

Read the jumper diagram on the rear of HDD

No jumper=DS(SLAVE)

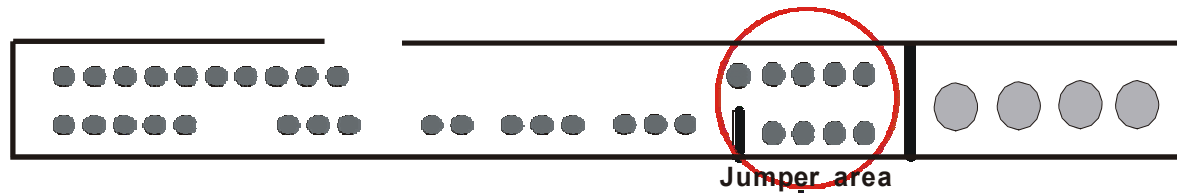




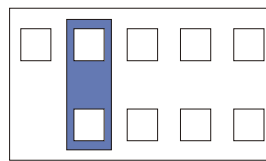


### Jumper area

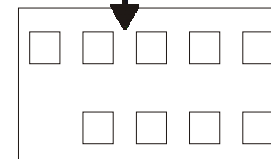
The picture below is the IDE connection/Power connection section of the HDD.



Jumper according to the diagram above



**MASTER**



**SLAVE**

The sequence of read/write data from HDD

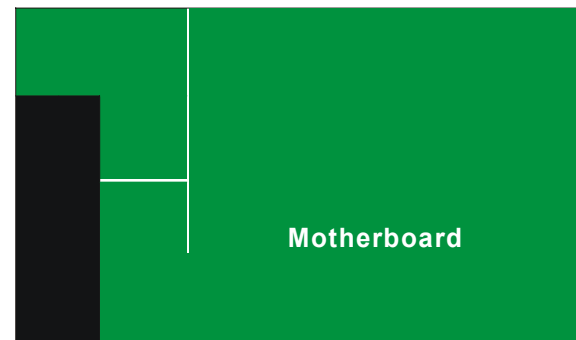
The ATA interface which is near the motherboard center is the secondary interface, the next ATA interface which is near the motherboard edge is the primary interface. The sketch is in the following.

The HDD names are shown in the DVR system as HDD A/B/C/D. The master HDD connected to

Primary ATA interface is HDD A, the slave is HDD B. The master HDD connected to secondary ATA interface is HDD C, the slave is HDD D.

The record sequence is: HDD A→HDD B→HDD C→HDD D

Overwrite sequence: The sequence is irrespective of HDD. The DVR overwrites HDD from the oldest record file when HDD is full.



#### Operation

Put the HDD into the HDD fixation rack. **If the user wants to install more than two HDD, please install the HDD into the bottom rack first.**

Attach the HDD by two screws on both sides

Connect the HDD cable. There are three interfaces on cable and each of them can be connected with the master HDD or the slave HDD, motherboard. (There are 39 pins in two rows, 20 pins are in one row and

19 pins are in the other row). Make sure pins are plugged into interface correctly.

Connect the power supply to HDD

Sketch map of installation

Close the device cover and lock it with screws

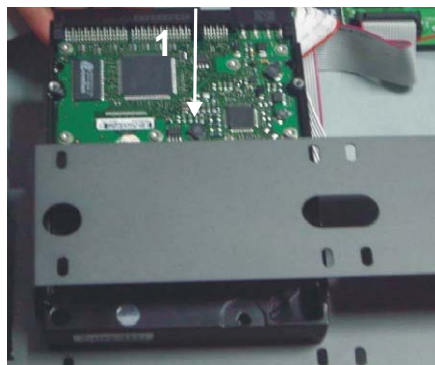
 **Attention:** Please format the HDD before using.

**If the user wants to connect the CD/DVD driver to the ATA interface, please choose the secondary interface, that is near the center of the motherboard. Furthermore, the CD/DVD driver must be set as master, and the HDD which is connected to same ATA interface with the CD-RW/DVD-RW must be set as slave.**

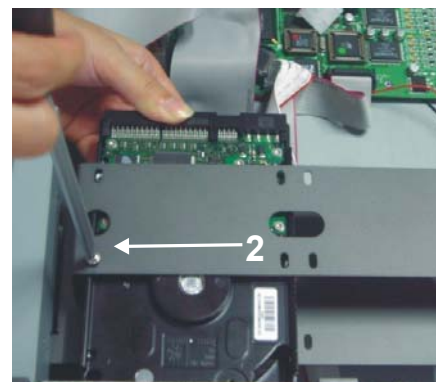
Any CD/DVD drive connected to DVR must be set as master, including USB CD/DVD drive and IDE CD/DVD drive.

The CD/DVD drive connected to ATA interface can be viewed in the STATUS or STORAGE menu of DVR, the CD/DVD drive connected to USB interface can not be viewed in the menu of DVR.

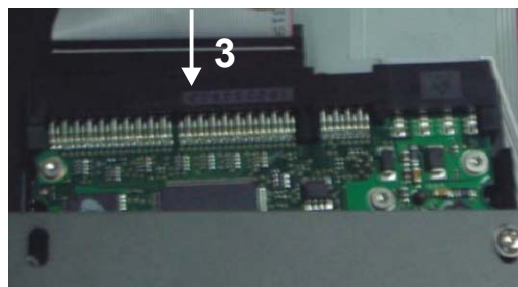
The CD/DVD driver is optional, depending on the user. If user connects CD/DVD driver to ATA interface, the max number of HDD that connects to ATA interface is three.



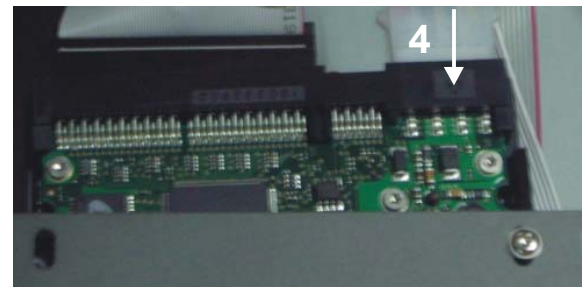
**First, put the HDD into the HDD fixation rack sides**



**Second, attach the HDD by two screws on both sides**



**Third, connect the HDD cable**



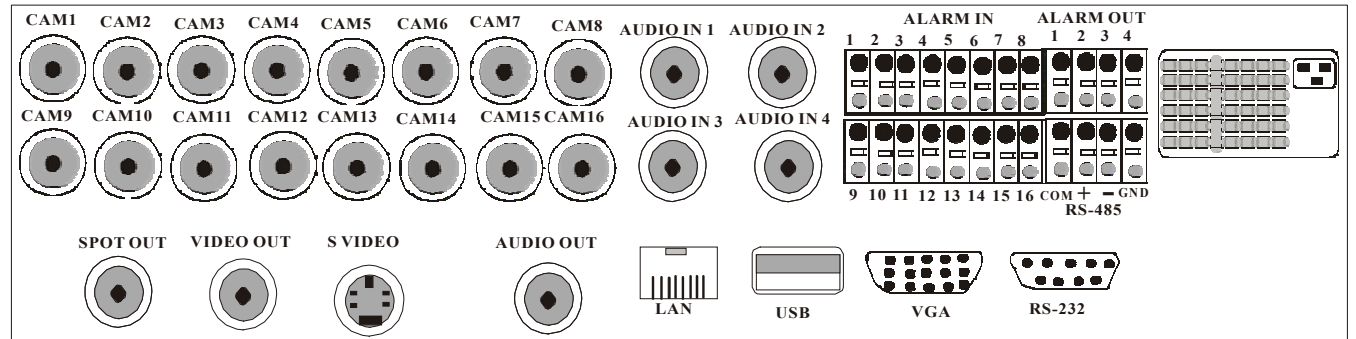
**Fourth, connect the power supply to HDD**

Sketch of installation

## 2.3 Back panel and interface terminals

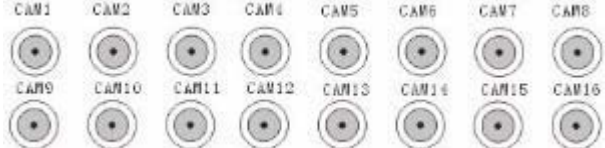




**Attention:** The real connections on the back panel might be slightly different from the sketch below.

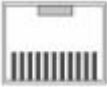
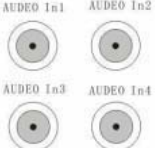
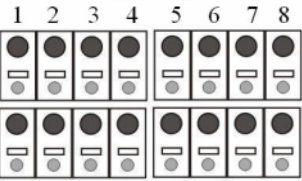
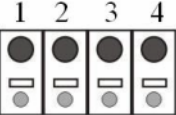
### 2.3.1 Back panel of 16-channel DVR



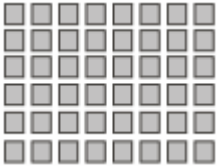


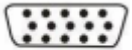

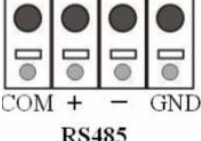
**Back panel of 16-channel DVR**

Num	Icon	Description
-----	------	-------------

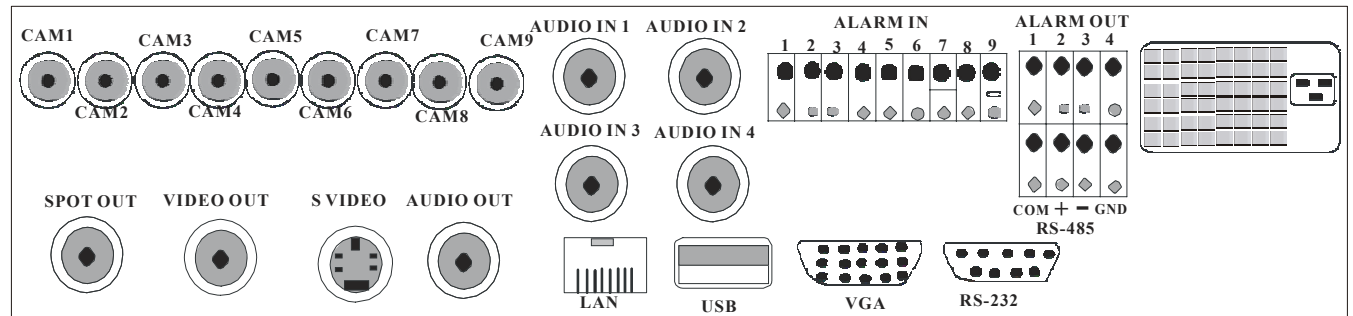
1		Video input 1-16
2	<p style="text-align: center;">SPOT OUT</p> 	Spot output
3	<p style="text-align: center;">VIDEO OUT</p> 	Video output
4	<p style="text-align: center;">S-VIDEO</p> 	S video output
5	<p style="text-align: center;">AUDIO OUT</p> 	Audio output

6	 <p>LAN</p>	LAN port
7		Audio in 1-4
8	<p>ALARM IN</p> 	Alarm input1-16
9	<p>ALARM OUT</p> 	Alarm output



10		Fan vent
11		Power plug
12	 USB	USB port
13	 VGA	VGA port
14	 RS-232	RS 232 port Null
15	 COM + - GND RS485	RS485 port

### 2.3.2 Back panel of 9-channel DVR



**Back panel of 9-channel DVR**

The difference between 9-channel and 16-channel is the 9-channel has 9 video in and 9 alarm inputs, 16 channel has 16 of each.

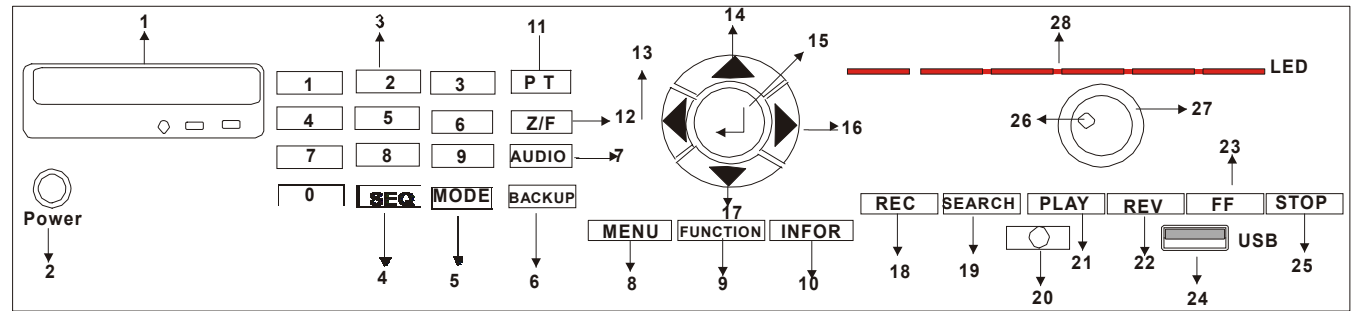


9 channel video and alarm inputs


























## 2.4 Front panel and interface terminals

**Attention:** The actual buttons on the front panel please might be slightly difference from this sketch.



Number	Icon	Description	Number	Icon	Description
1		CD-RW/DVD-RW	2		Power button
3		Number button	4		Sequence button
5		Display mode shift button	6		Pan/Tilt control

7		Zoom/Focus control	8		Audio on/off button
9		Backup button	10		Menu button
11		Function button	12		Status button
13		Move Left	14		Move Up
15		Enter button	16		Move Right
17		Move down	18		Record button
19		Shuttle: to control the DVR to play the record frame by frame.	20		Shuttle: to control the playback speed
21		Search button	22		Play button

23		Fast Reverse	24		Fast forward
25			26		Remote controller receiver
27	 USB	Stop	28		LED indicator lights, for power, HDD and backup, network status, playback status and record status

respectively.



**Attention:** The CD-RW/DVD-RW is optional. If a CD-RW/DVD-RW is connected to the ATA interface, the maximum number of HDDs you can attach to the ATA interface is three.

LED indicator lights:

- The first light is on when the DVR is powered on;
- The second light flickers when HDD is written or read;
- The third light is on when backup is in DVR;
- The fourth light is on when a computer connects with the DVR via network;
- The fifth light is on when the DVR is playing back;
- The sixth light is on when the DVR is recording.

## 2.5 Remote control description

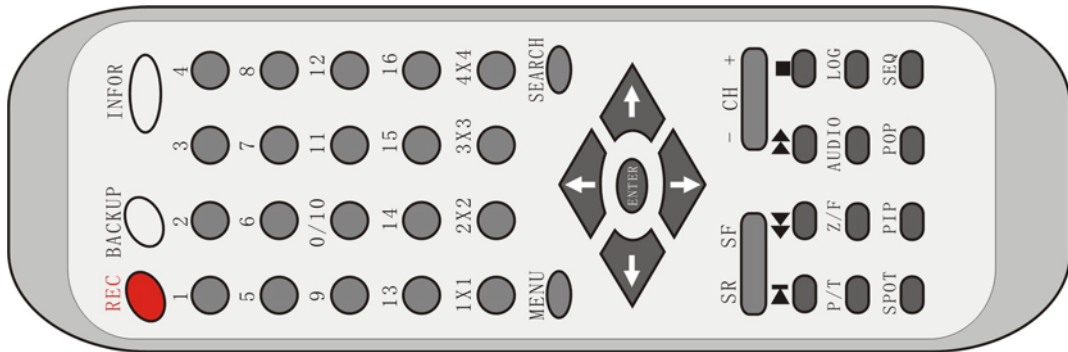
Put the Battery into the Remote control:

Open the battery cover of Remote control


Put in two AAA batteries and make sure that they are inserted correctly



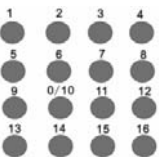





Replace the battery cover













The top view of remoter control:










The button description:

Number	Icon	Description
1		<b>Record button:</b> Press this button to start recording if the DVR is not recording. Press this button to stop recording if the DVR is recording.

2		<b>Backup button:</b> Press this button, the DVR enters the backup menu (Fig 3.3.7 USB backup). The details will be given in Chapter 3.3.3: BACKUP
3		<b>Information button:</b> Press this button to display status information of the DVR on the screen (Fig 3.3.2 Status view).
4		<b>Number buttons:</b> These number buttons are used for selecting channels and other functions.
5		Full-Screen display mode. You can use CH+ or CH- button to switch the channel. This also can be done by pressing number buttons.
6		Four-Screen display mode.
7		Sixteen-Screen display mode
8		Nine-Screen display mode
9		<b>Menu button:</b> Press this button to enter the setup menu (Fig 3.2.2 Setup menu), or return to previous menu level, or exit menu.

10		<b>Search button:</b> Press this button to enter to recording search page
11		<b>Move Up</b>
12		<b>Move Left</b>
13		<b>Move Right</b>
14		<b>Move Down</b>
15		SR is for Reverse when the DVR plays record while SF is for Forward
16		Change the channel one by one, “-” is used to change the channel from 16 to 1, and “+” is for changing the channel from 1 to 16
17		<b>Fast reverse</b> (There are seven speed options to choose: 2X, 4X, 8X, 16X, 32X, 64X, 128X )
18		Play
19		<b>Fast forward</b> (There are seven speed options to choose: 2X, 4X, 8X, 16X, 32X, 64X, 128X )
20		<b>Stop</b>
21		<b>Zoom/Focus control</b>



22	P/T 	<b>Pan/Tilt control</b>
23	AUDIO 	<b>Audio switch</b>
24	LOG 	Log file button
25	PIP 	Picture in picture: select the channel to display as small picture first, and then press PIP button to enter PIP mode, the background picture is the next channel. For example, If the user selects channel 10 first, and then press PIP button, the screen will display as the Fig2.1.1 PIP showing. If the display mode is PIP now, press the number button to select the small picture.
26	SPOT 	Spot button: This button enables or disables the video output to call monitor (spot monitor) in sequence.
27	POP 	POP: press this button first, and then press number button to select the channel of main picture. For example: press POP button first, and then press 5, the screen will display as the Fig 2.1.2 POP showing.
28	SEQ 	Sequence button: press this button to make the DVR display channels in turn.


If the Remote control does not work, please check out the following:

Are the battery's poles (+ and -) in the correct position?

Is battery is out of power?

Is there is barrier between the Remote control and DVR?

Are signals transmitted by other remote control devices disturbing the Remote Control?

 **Attention:** If none of the above apply, please contact Q-See to replace the remote control

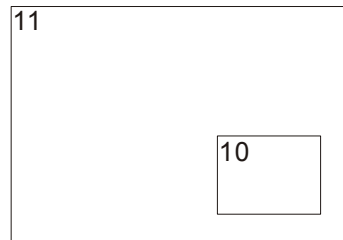


Fig2.1.1 PIP

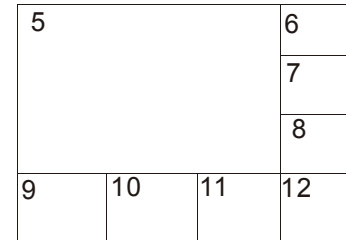
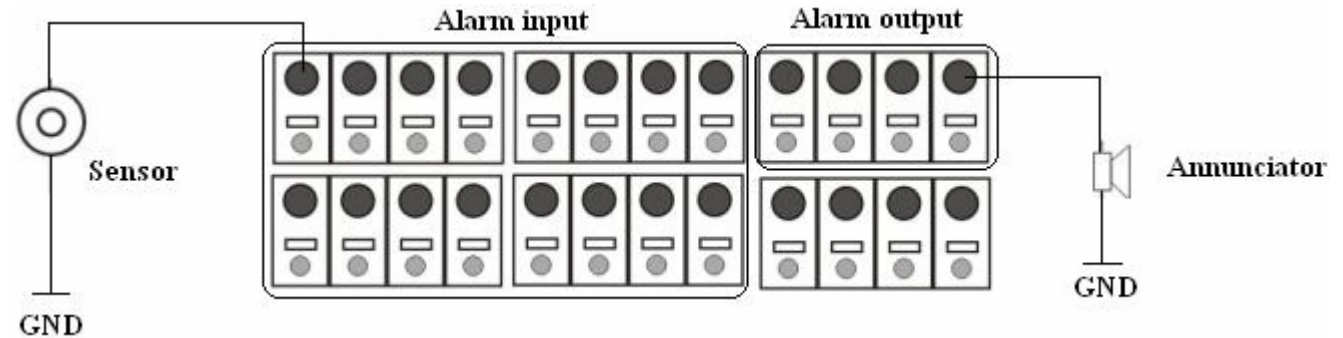


Fig2.1.2 POP

## 2.6 Alarm cable connection

Example of alarm output connection:



**Attention:** The alarm output is TTL high level control. The connection method is described in detail in the Above picture.

This DVR can carry sixteen sensor alarm input signals and four alarm output signals. There are two types of alarm inputs:

Voltage input (5V and 0V)

The low electrical level alarm of DVR is required if the usual voltage output is at high electrical level (5V) and alarm is set at low electrical level (0V).

The high electrical level alarm of DVR is required if the usual voltage output is at low electrical level (0V) and alarm is set at high electrical level (5V).

If the sensor outputs low voltage (0V) normally, and outputs high voltage when triggered (5V), then user must set DVR as high voltage alarm.


Open/Close input

N.O: Normal open. It will be closed when triggered. DVR must be set as low voltage alarm;

N.C: Normal close. It will be opened when triggered. DVR must be set as high voltage alarm.

## Basic operation guide

### 3.1 How to start the DVR

 **Attention:** Before powering on the machine, please make sure the power input (110V/220V) of DVR matches the local power supply, if not, please move the red flip switch on the rear panel to the correct input.

If the power indicator light is off, please do the following:

If the DVR is not connected to the AC source, please connect it. The DVR should power up immediately. However, if the problem remains, please move to the next step.

Switch on the power supply in the back panel, the DVR should start.

The power indicator light is on DVR is powered on, and the word — “Loading.....” appears on the screen. That indicates the DVR is initializing and will enter the live preview soon.

A password is required to access to the menu, you can not enter the next level menu until you type in The correct password. In order to avoid password being seen, the password you input is displayed as “\*” while you are inputting the password.

Only the administrator, accessing the menu with the administrator password can setup and modify the configuration, and change the administrator password and normal user password.

Normal user can view the live image and playback records by inputting normal user password when

machine is on. (The details of admin password and user password are described in chapter 3.2.1 SETUP-SYSTEM).

Input default password-“0000” to enter the setup menu when you start the DVR, assuming that you have not changed the password or you have recovered the default setting.

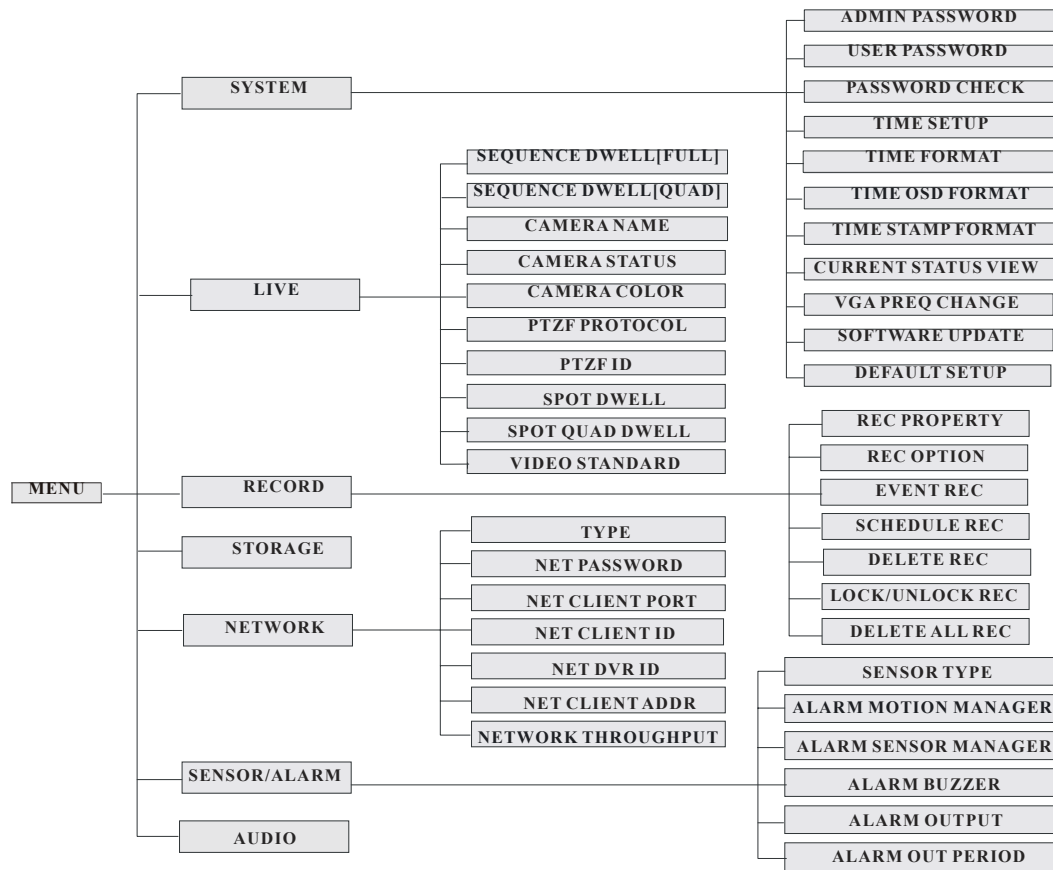
The date, time and channel name are displayed on the screen.

Symbol	Meaning
LIVE	Live state
REC	Record(Manual or continuous)
R A	Alarm record
R M	Motion record
HDD	The use ratio of HDD
V-LOSS	Video loss
USB	USB equipment connected

Press the number key to enter the single-screen mode. If you want to view the image from channel 1 to channel 16, please press the corresponding number key. For example: To see the picture in channel 3, press the number key 3; to see the picture in channel 13, press the number key 10+ first and press the key 3 second.

### 3.2 Login and setup the system

The menu structure chart:



There are two users in the origin DVR system. One is Admin which has highest priority to set system's configuration and whose password is "0000", the other is common user which is just allowed to see the live play and the playback picture and does not have the right to change the user password, which is done by Admin users.

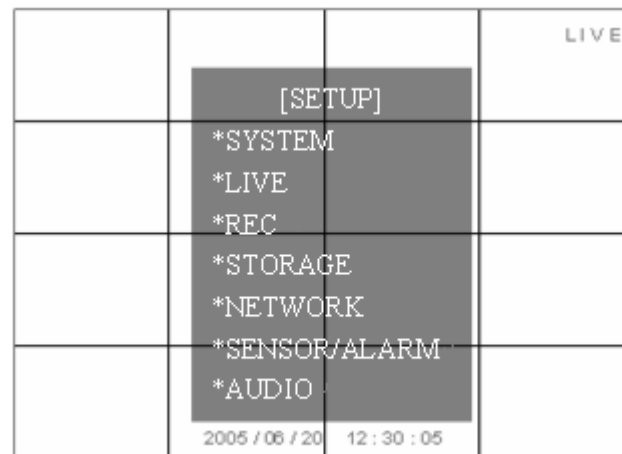


Fig3.2.1 Setup menu

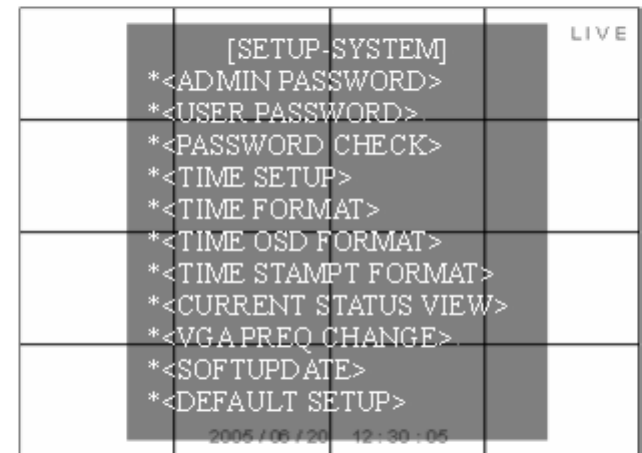


Fig3.2.2 System setup

**Operation:**

Press the Menu key and enter the ADMIN password, and then you will see the setup menu (Fig 3.2.1 Setup menu). Use the "Up" "Down" "Right" and "Left" buttons to shift cursor, the item selected will be displayed in yellow. Press the "Enter" key to enter the sub-menu and press the "Menu" key to get back to the main menu.

### 3.2.1 SETUP-SYSTEM

The menu is as above: (Fig 3.2.2 System setup)

**ADMIN PASSWORD:** Administrator password is "0000" by default, only the administrator has the right to change it which is comprised of four numbers between 0 and 9 (Fig 3.2.3 Setup admin password).

			LIVE
[SETUP-SYSTEM-ADMIN] ENTER NEW ADMIN PASSWORD :-----			
		2005 / 06 / 20	12 : 30 : 05

Fig3.2.3 Setup admin password

			LIVE
[SETUP-CHECK-PASSWORD] ADMIN: [ON] USER: [OFF]			
		2005 / 06 / 20	12 : 30 : 05

Fig3.2.4 Password check



**USER PASSWORD:** Common user password is “0000” by default as well. However, only the administrator is authorized to change it which is comprised of four numbers between 0 and 9.

**PASSWORD CHECK:** If you choose “ON”, users have to input the password before entering menus. You can setup the DVR’s configuration if you enter the administrator password. And the common user password just allows you to check the live image or saved record; if you choose “OFF”, there is no limitation on configuration. Anyone can enter the system directly without password. (Fig 3.2.4 Password check)

**TIME SETUP:** Use the “Up” “Down” or Left” and “Right” buttons to move the cursor and use the number key on panel or remote control to modify the value. If the DVR is recording or playing back you can not access this menu until the recording or playing back is stopped. (Fig 3.2.5 Time setup)

**TIME FORMAT:** YY/MM/DD: Asian format, Year/Month/Day; DD/MM/YY: European format, Day/Month/Year; MM/DD/YY: American format, Month/Day/Year. (Fig 3.2.6 Time format)

**TIME OSD FORMAT:** Time format of live-image.

**TOP-WHITE:** Time is displayed on top in white

**TOP-BLACK:** Time is displayed on top in black

**BOTTOM-WHITE:** Time is displayed at the bottom in white

**BOTTOM-BLACK:** Time is displayed at the bottom in black

**OFF:** There is no time displayed in the live-image.

**TIME STAMP FORMAT:** Time format of plays back mode.

**TOP-WHITE:** Time is displayed on top in white

**TOP-BLACK:** Time is displayed on top in black

**BOTTOM-WHITE:** Time is displayed at the bottom in white

**BOTTOM-BLACK:** Time is displayed at the bottom in black

**OFF:** There is no time displayed in the play back mode.

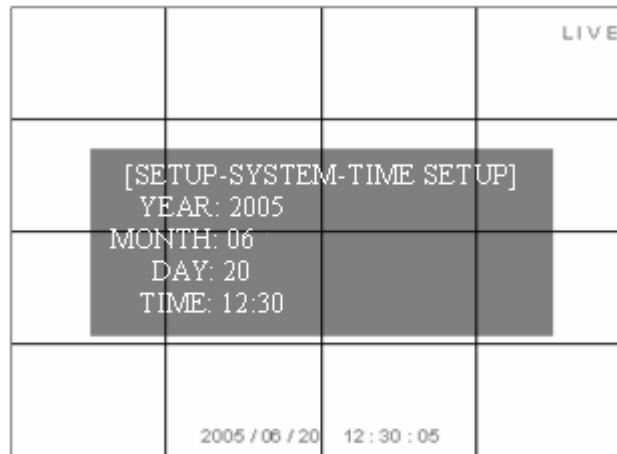


Fig3.2.5 Time setup

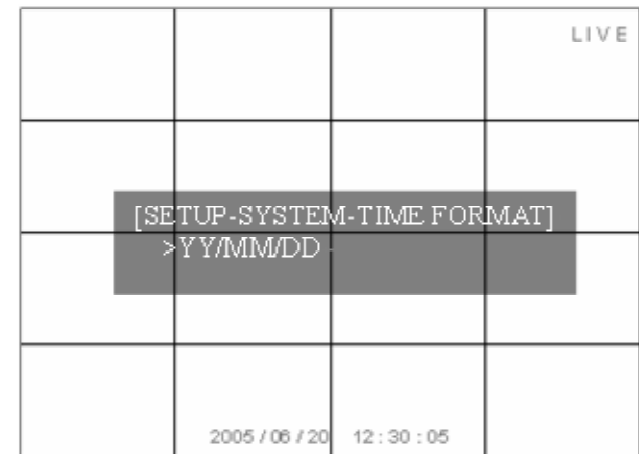


Fig3.2.6 Time format

**CURRENT STATUS VIEW:**

Choose "ON", there will be some information appearing on the screen. For example, HDD quantity, used ratio of HDD, record mode including manual/alarm/motion etc...

Choose "OFF", there is no information on the screen.

**VGA FREQ CHANGE:** (Fig 3.2.7 VGA frequency change)

There are two options to choose: 50Hz and 60Hz. Please choose the suitable one for your VGA monitor.

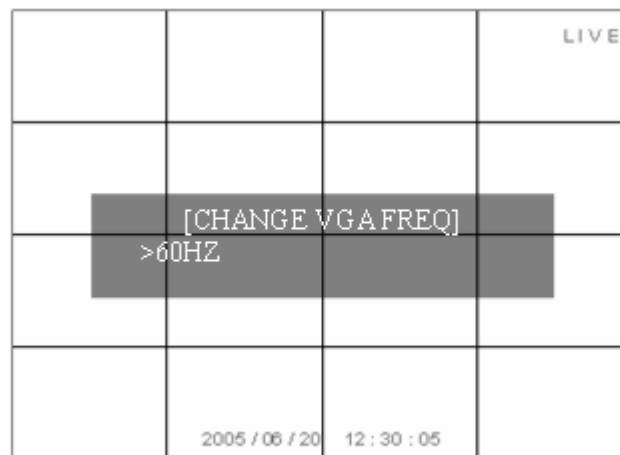


Fig3.2.7 VGA frequency change

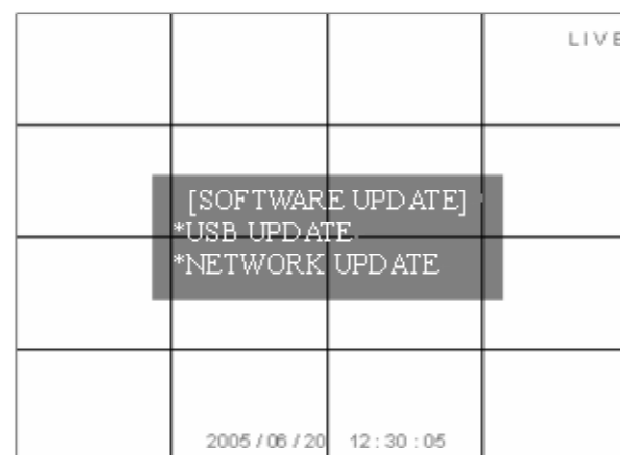
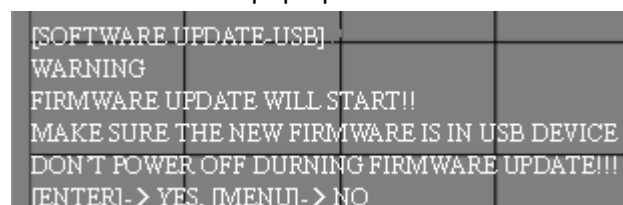


Fig3.2.8 Software update

**SOFTWARE UPDATE:** (Fig 3.2.8 Software update)

**USB UPDATE:** Update firmware from USB flash memory

Press USB UPDATE and below screen will pop up



Update firmware:

Make sure the updating firmware is on the USB disk

Do not power off the DVR during updating;

Press "ENTER" button to start updating.

Then the system will check the updating firmware

```
FIND USB MEMORY: OK
FIND SW: OK
SW NAME:
flash-ml_tvt_16-060728-12.tar
EXTRACT SW: WAIT
```

When the updating firmware is found O.K., the system starts to update.

```
SOFTWARE UPDATE
ERASE: DONE
BLANK CHECK: DONE
UPDATE: 25%
PGM CHECK:
```

Update process:

Erase the former file;

Check the space for update;

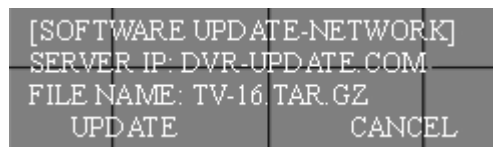
When the space is ready, the software update starts, the percent of update is on the right. It takes

about two minutes to update.

When the erase, blank check and update are done, system will check the new program which has been written.

After the program check is done, the system will restart.

**NETWORK UPDATE:** The update information is also available on the network, to choose this option



Server IP: The IP address of the network where the firmware is.

File name: The file name of the firmware.

After filling in the two options above, move cursor to “UPDATE”, press “ENTER” button to begin update from network. The DVR will restart when the software update completed the same as USB update that.

 **Attention:** Please make sure the IP address and the file name are correct.

**DEFAULT SETUP:** recover the origin configuration setup.

### 3.2.2 SETUP-LIVE (Fig 3.2.9 Setup live)

**SEQUENCE DWELL FULL:** Setup the time period between single channel switching, there are 9 options for users, from 0 second to 9 seconds.

**SEQUENCE DWELL QUAD:** Setup the time period of four-channel switching, there are 9 options for users, from 0 second to 9 seconds.

**CAMERA NAME:** Name of the channel. It is comprised of the English letters from “a” to “z” or the numbers from “0” to “9”.

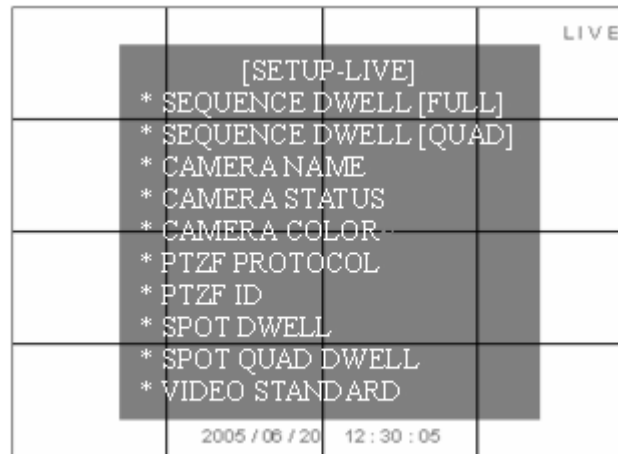


Fig3.2.9 Setup live



Fig3.2.10 Camera color adjust

**CAMERA STATUS:** If you choose “SHOW”, this image will be displayed on the screen. If you choose “HIDE”, the image will not be displayed on the screen in live status or in playback status. When the user plays back this record, change this option as “SHOW”, the image hidden in live status will then be displayed.

**CAMERA COLOR:** Modify channel color, contrast and brightness. (Fig 3.2.10 Camera color adjust)

**PTZF PROTOCOL:** Choose the PTZF control protocol for each channel (Fig 3.2.11 PTZF protocol). There

are eighteen options for users: PELCO\_D-2400, PELCO\_D-9600, PELCO\_P-4800, PELCO\_P-9600, SCC641-9600, SCC641-19200, SK2161-9600, CNB\_102-9600, ADTECH-4800, 15-CD51M-2400, Chubb iSD-9600, COP1-2400, COP1-4800, COP1-9600, COP1-19200, COP2-9600, 15-CD51M-2400, DSC230-9600

			LIVE
[SETUP-LIVE-PTZF PROTOCOL]			
01>PELCO_D-2400	09>PELCO_D-2400		
02>PELCO_D-2400	10>PELCO_D-2400		
03>PELCO_D-2400	11>PELCO_D-2400		
04>PELCO_D-2400	12>PELCO_D-2400		
05>PELCO_D-2400	13>PELCO_D-2400		
06>PELCO_D-2400	14>PELCO_D-2400		
07>PELCO_D-2400	15>PELCO_D-2400		
08>PELCO_D-2400	16>PELCO_D-2400		
		2005/06/20	12:30:05

Fig3.2.11 PTZF protocol

			LIVE
[SETUP-LIVE-SPOT DWELL]			
	NO	SEC	
	CAM 01	2	CAM 09
	CAM 02	2	CAM 10
	CAM 03	2	CAM 11
	CAM 04	2	CAM 12
	CAM 05	2	CAM 13
	CAM 06	2	CAM 14
	CAM 07	2	CAM 15
	CAM 08	2	CAM 16
		2005/06/20	12:30:05

Fig3.2.12 Spot dwell

**PTZF ID:** Setup the PTZF address, you can choose from “000” to “255”.

**SPOT DWELL:** 16 channel pictures circulate from 1 to 16. Press “Enter” button to get access to the configuration setup menu to modify the interval time between two channels switch. The user can use the number buttons to choose the options—from“0” to “9” seconds. (Fig 3.2.12 Spot dwell)

**SPOT QUAD DWELL:** Channel-switching circulates from quad 1 to quad 4 (The order is: channel 1,2,3,4→channel 5,6,7,8 →channel 9,10,11,12→channel 13,14,15,16→channel 1,2,3,4→...), press “Enter” button to get access to the configuration setup menu to modify the interval time between two sets of picture switching. The user can use the number buttons to choose the options—from“0” to “9” seconds.

**VIDEO STANDARD:** Setup the video style.

There are four options to choose from: AUTO-DETECT, SWITCH, NTSC, and PAL. The DVR can detect the video automatically if you set this option as AUTO-DETECT, you can also set the video standard manually.

**3.2.3 SETUP-REC:** Setup the parameter of recording (Fig 3.2.13 Setup record)

**REC-PROPERTY:** contains REC RESOLUTION, QUALITY and RATE (Fig 3.2.14 Setup record property).

**REC RESOLUTION:** The higher the resolution, clearer the picture. The resolution from low to high is: **PAL:** 360x288 CIF, 720x288, HalfD1, 720x576, D1; **NTSC:** 360x240 CIF, 720x240 HalfD1, 720x480 D1.

**QUALITY:** There are four options to choose from: low, normal, high and best. Higher the quality value, better the picture.

**RATE:** The frame rate. If you choose 8, the picture recording rate is 8 frames per second.

The maximum of **RATE** is different when the **REC RESOLUTION** is different. For example:

If the record resolution is 720x576(PAL)/720x480(NTSC), there are three frame rates to choose from: 0, 1, 2, the maximum is 2.

If the record resolution is 720x288(PAL)/720x240(NTSC), there are four frame rates to choose: 0, 1, 2, 4, the



maximum is 4.

If the record resolution is 360x288(PAL)/360x240(NTSC), there are five frame rates to choose: 0, 1, 2, 4, 8, the maximum is 8.

**Attention:** These three factors above decide the quality of picture and the use ratio of HDD.

			LIVE
	[SETUP-REC]		
	* REC PROPERTY		
	* REC OPTION		
	* EVENT REC		
	* SCHEDULE REC		
	* DELETE REC		
	* LOCK/UNLOCK REC		
	* DELETE ALL REC		
	2005 / 06 / 20	12 : 30 : 05	

Fig3.2.13 Setup record

			LIVE
	[SETUP-REC-REC PROPERTY]		
	REC RESOLUTION: <720*576>		
	CH QUALITY RATE	CH QUALITY RATE	
	01 >BEST >2	09 >BEST >2	
	02 >BEST >2	10 >BEST >2	
	03 >BEST >2	12 >BEST >2	
	05 >BEST >2	13 >BEST >2	
	06 >BEST >2	14 >BEST >2	
	07 >BEST >2	15 >BEST >2	
	08 >BEST >2	16 >BEST >2	
	2005 / 06 / 20	12 : 30 : 05	

Fig3.2.14 Setup record property

**SETUP- REC OPTIONS:** Setup of record option (Fig 3.2.15 Setup record option)

**RECORD CONTINUOUS:** If you choose “ON”, DVR records continuously in HDD recycle mode. If you choose “OFF” this function is disabled.

**Attention:** In Continuous mode, Manual and Alarm record are activated at the same time, the DVR

records continuously. If an alarm record occurred, the DVR records continuously and you can find the alarm event through “event search” or “file search”.

**PLAY DEINTERLACE:** Interlace scan and play. If you choose “ON”, the DVR will play back after an internal of line. If you choose the “OFF”, this function is disabled.



Fig3.2.15 Setup record option

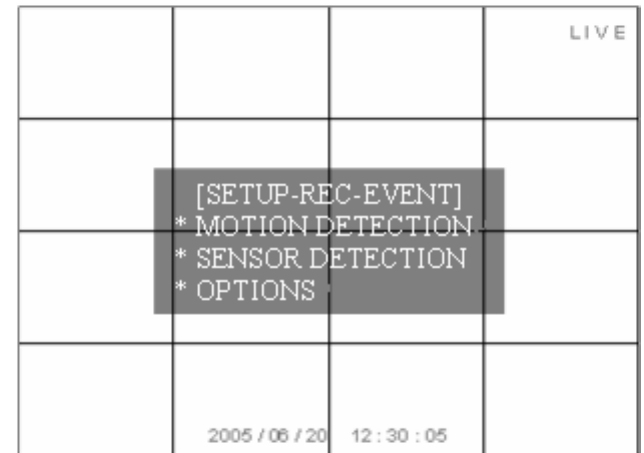



Fig3.2.16 Setup event record

 **Attention:** This function is more useful in VGA output mode.

**WATER MARK:** If you choose “ON”, this function is active. Water mark can protect recording files from being modified, as the modification can be technically traced by checking watermark. The system will add the invisible code to the record when the “WATER MARK” is on; this is covered in Chapter 3.3.3 Backup.

If you choose "OFF", this function is disabled.

**SETUP-REC-EVENT:** Setup of the event record (Fig 3.2.16 Setup event record)

**MOTION DETECTION** (Fig 3.2.17 Setup motion detection):

**AREA:** This is the detection area setup

There are three options to choose: ALL, PART, OFF

**ALL:** All areas of the camera will be detected.

**PART:** The part of the area selected will be detected. Use the "Up" "Down" "Left" and "Right" buttons to choose the part needed to be detected and use enter key to select/cancel the part. The part selected will be in blue and the gray part will not be detected.

**OFF:** This function will be disabled.

**SEN:** This is the sensitivity of the motion detection. You can use the remote control or the number buttons on front panel to set any value of sensitivity from 0 to 9. The higher the value, the more sensitive.

[SETUP-REC-EVENT REC(M/D)]						LIVE
REC RESOLUTION: <720*576>						
CH	SEN	AREA	CH	SEN	AREA	
01	0	>OFF	09	0	> OFF	
02	0	> OFF	10	0	>PART	
03	0	>OFF	11	0	>ALL	
04	0	>OFF	12	0	>ALL	
05	0	>OFF	13	0	> OFF	
06	0	> OFF	14	0	> OFF	
07	0	> OFF	15	0	> OFF	
08	0	> OFF	16	0	> OFF	
		2005 / 06 / 20	12 : 30 : 05			

Fig3.2.17 Setup motion detection

[SETUP-REC-EVENT(S/D)]												
CH	1											
	1	2	3	4	5	6	7	8	9	10	11	12
S 01	V											
S 02			V									
S 03		V										
S 04	V											
S 05	V											
S 06	V											
S 07	V											
S 08	V											
S 09	V											
S 10	V											

Fig3.2.18 Setup sensor detection

**SENSOR DETECTION:** Each channel matches a relevant Sensor, for example, Channel 2 is linked to Sensor 4, if the Sensor 4 gives an alarm, the alarm information will be given on the picture by channel 2 (Fig 3.2.18 Setup sensor detection), the “□” means that the channel can not be detected, “V” means that the channel can be detected.

**OPTIONS:** (Fig 3.2.19 Setup record time)

**POST-RECORD TIME:** The length of the recording time after alarm is triggered. You have five options to choose: 10 seconds, 30 seconds, 1 minute, 5 minutes and 10 minutes.

**PRE-RECORD TIME:** The length of the recording time before alarm triggered. You have five options

To Choose from: 2 seconds, 4 seconds, 6 seconds, 8 seconds and 10 seconds.

**POP-UP SCREEN:** If you choose “ON”, the image will be in full screen when the DVR gives alarm. If you choose “OFF”, this function is disabled.

			LIVE
[SETUP-REC-EVENT-OPTIONS] POST-RECORD TIME > 10SEC PRE-RECORD TIME > 3SEC POP UP SCREEN > ON			
		2005 / 06 / 20	12 : 30 : 05

Fig3.2.19 Setup record time

			LIVE
[SETUP-REC-SCHEDULE REC]			
	CH NO	CH NO	
	CH 01	CH 09	
	CH 02	CH 10	
	CH 03	CH 11	
	CH 04	CH 12	
	CH 05	CH 13	
	CH 06	CH 14	
	CH 07	CH 15	
	CH 08	CH 16	
	ALL CHANNEL		
		2005 / 06 / 20	12 : 30 : 05

Fig3.2.20 Setup schedule record

**SETUP-SCHEDULE-REC:** Setup of schedule record (Fig 3.2.20 Setup schedule record)

Press enter key to visit the menu (Fig 3.2.21 Setup schedule record time). “O” means unselected “V” means selected. Use enter key to switch the status and use menu key to get back to upper level menu.

SU: Sunday MO: Monday TU: Tuesday WE: Wednesday TH: Thursday FR: Friday  
SA: Saturday

[SCHEDULE REC-CH 4]	1												2												
	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	
SU																									
MO																									
TU																									
WE																									
TH																									
FR																									
SA																									
ALL DAY																									
AL																									

Fig3.2.21 setup schedule record time

DELETE FILE LIST			LIVE
2646	20060517_113230	33S D U	
2647	20060517_113226	63S D U	
2648	20060517_113225	60S D U	
2649	20060517_113223	90S D U	
2650	20060517_113218	76S D U	
2651	20060517_113217	24S D U	
2652	20060517_113213	88S D U	
PAGE 1/177			
PAGE UP: < PAGE DOWN: >			
LAST: « FIRST: »			
2005 / 06 / 20		12 : 30 : 05	

Fig3.2.22 Delete file

“0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3” means: “0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23”— the 24 hours in a day.

The shortest schedule record interval is one hour. For example, if the first “2” is chosen on the top line, “MO” is chosen for the day, this means the DVR starts to record at 2:00 AM on Monday and till 3:00 AM; the recording will be one hour. The record file in HDD is divided into many segments, whose length is ten minutes. There are six record segments in one hour.

**DELETE REC:** Delete the selected recording list (Fig 3.2.22 Delete file)

Press ENTER key to visit the menu, information is given below (Fig 3.2.23 Information of deletion)

			LIVE
[WARNING!!!] DELETE FILE 2646 20060517_113230 33SD U			
ARE YOU SURE? [ENTER]→ YES [MENU]→ NO			
		2005 / 06 / 20	12 : 30 : 05

Fig3.2.23 Information of deletion

			LIVE
LOCK UNLOCK FILE LIST			
2646 20060517_113230 33SD U			
2647 20060517_113226 63SD U			
2648 20060517_113225 60SD U			
2649 20060517_113223 90SD L			
2650 20060517_113218 76SD U			
2651 20060517_113217 24SD U			
2652 20060517_113213 88SD L			
PAGE 1/177			
PAGE UP: < PAGE DOWN: > LAST: « FIRST: »			
		2005 / 06 / 20	12 : 30 : 05

Fig3.2.24 Lock/Unlock file

“DELETE FILE 0171 200 60407\_170000 15AS D U

ARE YOU SURE?

[ENTER]→ YES [MENU]→ NO”

Press ENTER key to delete this record or press MENU key to quit deleting

“0171 200 60407\_170000” is a record name.

“U” means unlock, if “U” is displaced by “L”, this record is locked and can not be removed. Please refer to Appendix C abbreviations explained.

**LOCK/UNLOCK:** Lock/unlock the record. Use enter key to change the status (Fig 3.2.24 Lock/Unlock file).  
If the file is locked, then the record can not be deleted or overwritten even though the HDD is full.

**DELETE ALL:**

If the DVR is recording, the system will Post:

“DELETE ALL  
STOP RECORDING AND TRY”

Once the recording is stopped, the system will send reminder that: (Fig 3.2.25 Delete all the file)

“ALL RECORDED FILES WILL BE DELETED  
ARE YOU SURE?”

[ENTER]→ YES [MENU]→ NO”

Press ENTER key to delete all the records or press MENU key to cancel this operation.

**3.2.4 SETUP-STORAGE** (Fig 3.2.26 Setup storage)

**OVER WRITE:** If you choose **YES**, the DVR will have continuous recording and over write from the oldest file when HDD is full. The DVR overwrites file from the oldest file. If you choose **NO**, the DVR will stop recording when the HDD is full.

**FORMAT:** Use the “Up” and “Down” keys to choose HDD that you want to format. A warning pops up after pressing “ENTER”.

“DISK HDD-\*  
MOUNTED  
ARE YOU SURE?”



[ENTER]→ YES [MENU]→ NO”

(\* represents A B C D)

Press enter key to format the HDD, Press menu key to cancel this operation.

☞ **Attention:** The format time depends on the HDD capacity, the larger the HDD the longer the time. Normally, a 40G HDD takes about eighty seconds. If a CD/DVD drive is connected to an ATA interface, there will be three HDDs and one CD-ROM displayed.

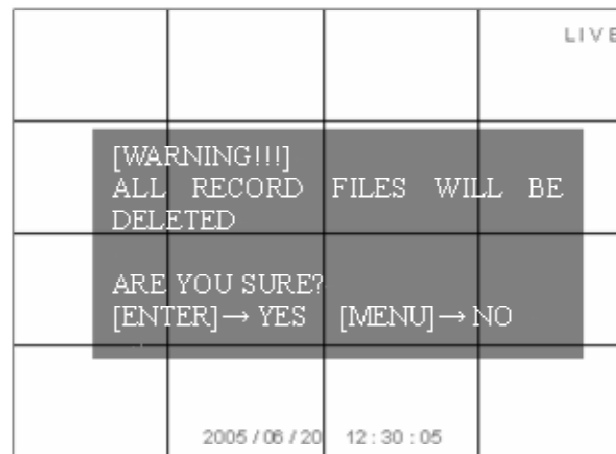


Fig3.2.25 Delete all the file

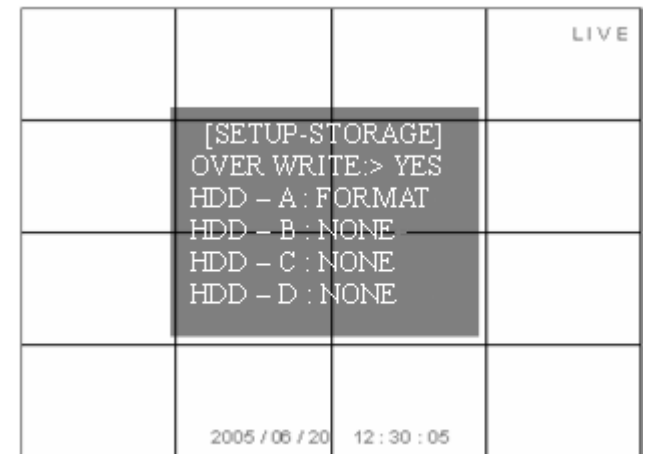


Fig3.2.26 Setup storage

### 3.2.5 SETUP-NETWORK (Fig 3.2.27 Setup network)

**TYPE:**

**STATIC:** Static IP address. Push “Up” “Down” “left” “Right” buttons to move the cursor among the digits and push ADD or DEC key to modify the IP address. (Fig 3.2.28 Setup static IP).

**DYNAMIC:** Dynamic IP address. Press ENTER key to display the menu, the system will display “Please wait” for a while. Then, the IP address which is assigned by network will be displayed on the screen. If the DVR failed to connect to the network, it will display the information below

DHCP SETTING FAIL  
CHECK YOUR NETWORK

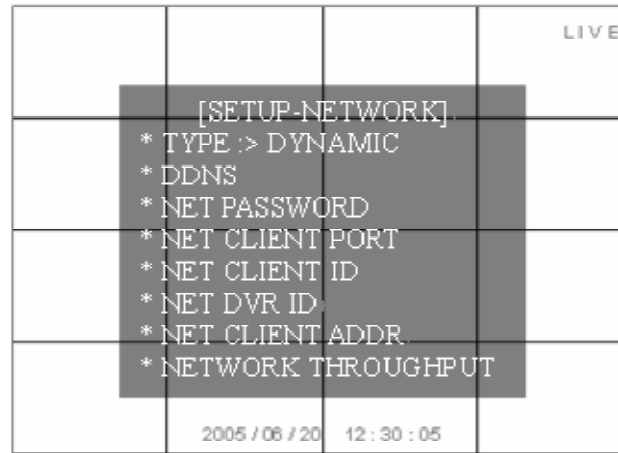


Fig3.2.27 Setup network

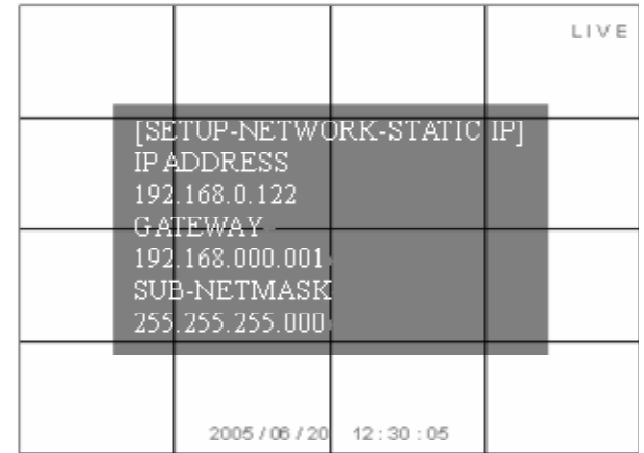
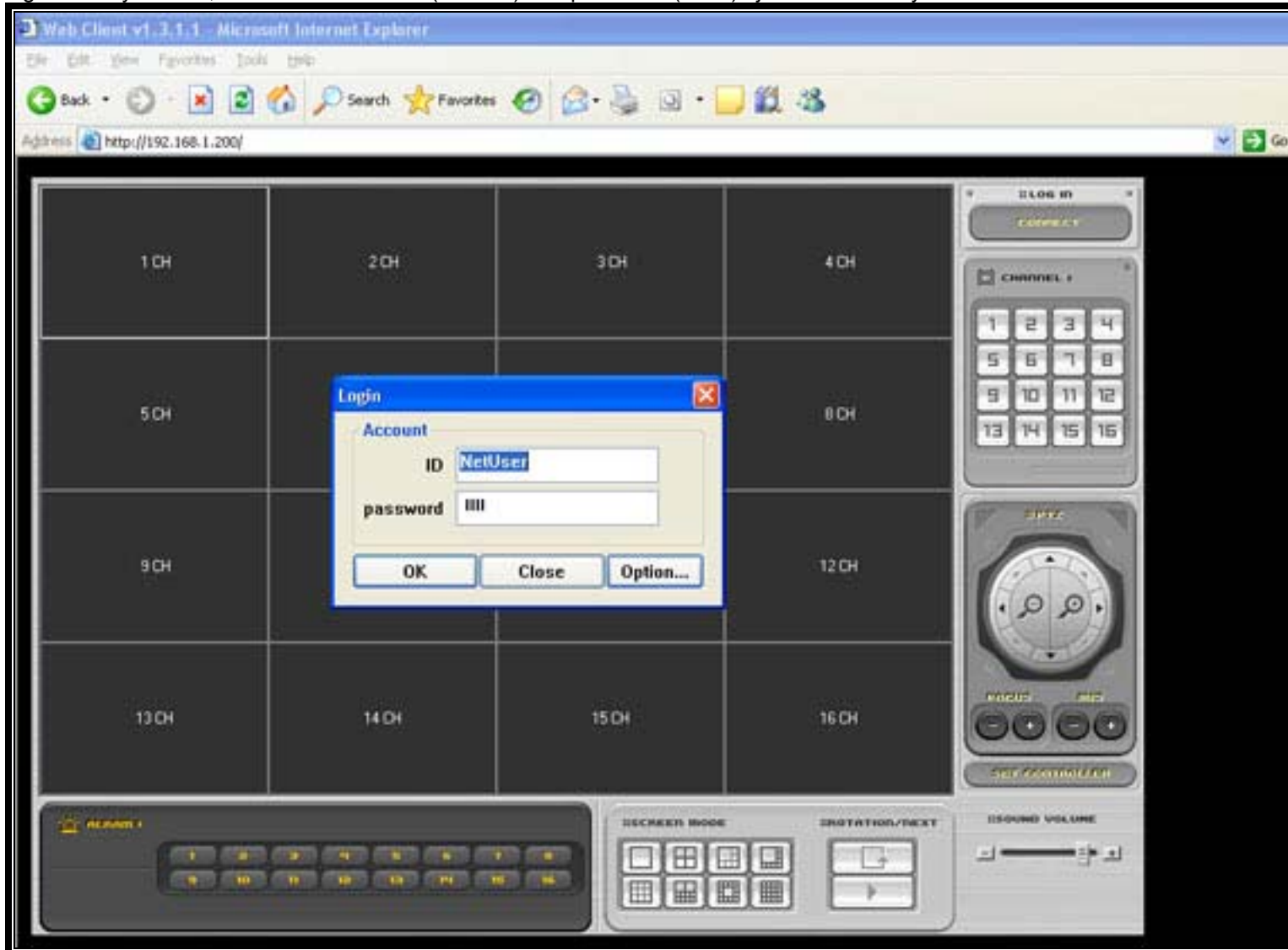


Fig3.2.28 Setup static IP

### 3.2.5.1 Monitoring From a Computer on Same Router

On the PC Client, open up the Internet Explorer and enter the IP of the DVR (example <http://192.168.0.200>), you will get below screen with the login already filled in, default user name is (netuser) and password (0000). just hit OK and you will be connected.



With this Internet Explorer, you can watch live camera only.

### 3.2.5.2 Monitoring From a Remote Computer

Plug the RJ45 cable from the back of DVR to the Switch / Hub or Router.  
By Default the network setting on this DVR are as follow:  
IP ADDRESS: 192.168.1.200  
Subnet: 255.255.255.0  
Gateway: 192.168.1.1

From a PC connected to the same Router, find the IP address by typing IPCONFIG at command prompt. (START-RUN- type in CMD) then type in IPCONFIG. Find the IP, Gateway and Subnet.

If the IP is 192.168.1.xxx, then you don't need to do anything else.

But if the IP is something like this: 192.168.0.xxx. Gateway: 192.168.0.1. Then you need to change the IP of DVR by going to the MENU of DVR and go to NETWORK and push ENTER on STATIC IP and change the IP to: 192.168.0.200 and the Gateway to 192.168.0.0.0.0.0.0.0.

Then refer to the manual of your Router, go to the Router Setup and you need to use PORT FORWARDING to forward port 80 and a range of 7620 – 7624 to the IP: 192.168.0.200. (in the case of our example).

EXAMPLE OF PORT FORWARDING IN THE LINKSYS ROUTER

The screenshot shows the 'Port Range Forward' configuration page on a Linksys WRT54G router. The page has a navigation bar with 'Applications & Gaming' selected. Below the navigation bar, there are tabs for 'Port Range Forward' and 'DMZ'. The main content area contains a table with the following data:

Port Range					
Application	Start	End	Protocol	IP Address	Enable
	80	to 80	Both	192.168.0.200	<input checked="" type="checkbox"/>
	7620	to 7624	Both	192.168.0.200	<input checked="" type="checkbox"/>

If you do not have your manual, here is the link where you can find out how to do port forwarding from different brands of Routers:  
[http://www.portforward.com/english/routers/port\\_forwarding/routerindex.htm](http://www.portforward.com/english/routers/port_forwarding/routerindex.htm)

### Monitoring the camera on a Remote Computer on Internet

You need to find out the WAN IP of the Router where the DVR connected to by going to [www.myipaddress.com](http://www.myipaddress.com). From the PC connected to the same Router the DVR connected to. Then from the remote location, enter this IP into Internet explorer, or you can use the Netclient Software.

```
[SETUP-NETWORK-CLIENT PORT]
PORT AREA      :>7620-7624
PORT1 (LOGON)  :7620
PORT2 (CONTROL):7621
PORT3 (LIVE)   :7622
PORT4 (BACKUP) :7623
PORT5 (PLAY)   :7624
```

Port 1 is used for logon;

Port 2 is used for controlling the DVR;

Port 3 is used for live surveillance;

Port 4 is used for backup;

Port 5 is used for playing back.

**NET CLIENT ID:** The default ID is “NetUser”, the user can set other four IDs and passwords for viewing through the network. (Fig 3.2.31 Net client ID).The login-ID and the password are composed of letters or numbers at random. Only the ID set here or the default ID can be used in the remote viewer. The administrator can restrict the other users to remote viewing through the internet with this configuration setup.

**NET DVR ID:** The identification of the DVR. You can edit it at will, it can be composed of numbers, letters, and symbols.

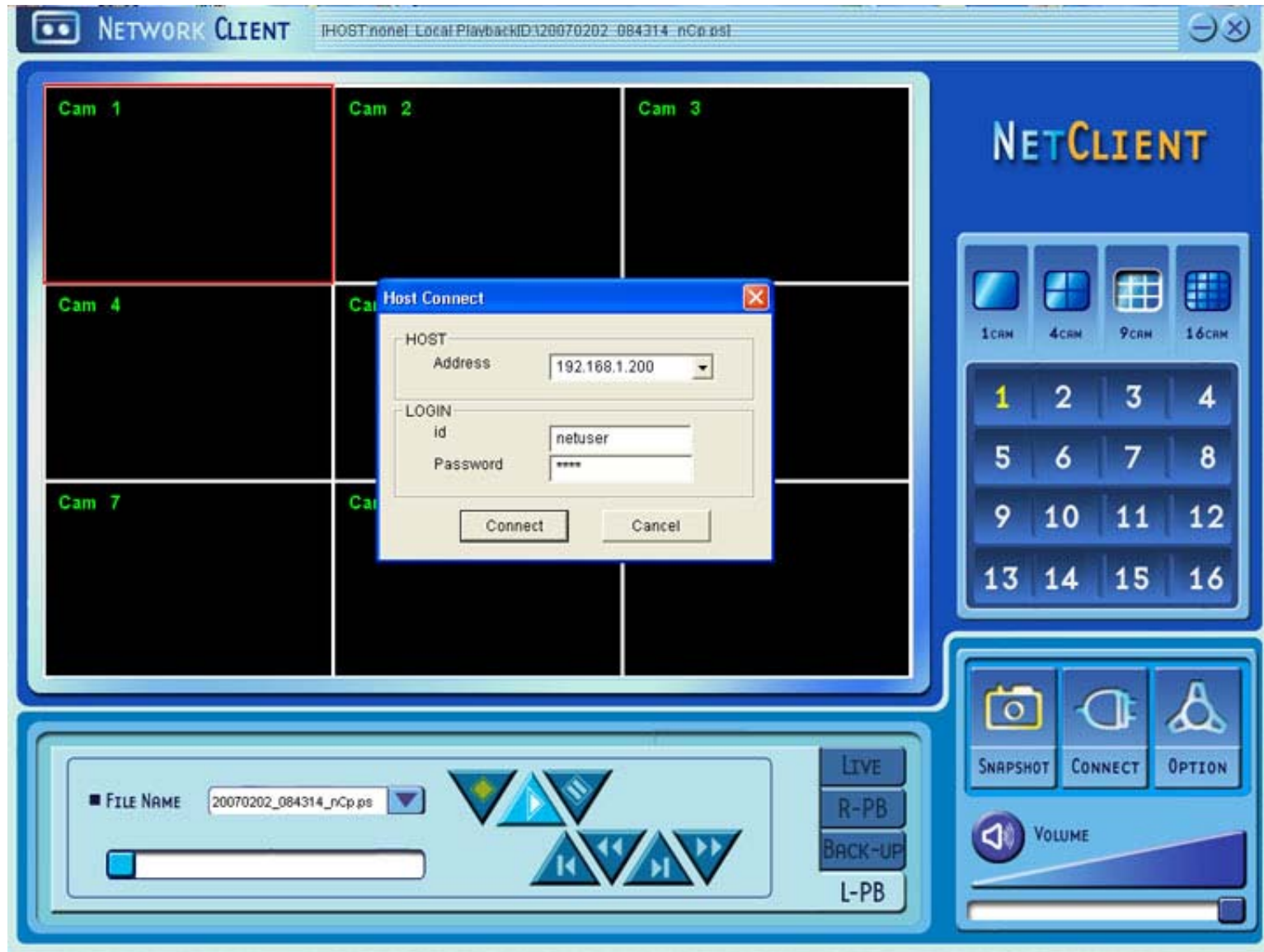
**NET CLIENT ADDR** (address) (Fig 3.2.32 Net client address): Fill in these options with the network information needed. Use the “Up” “Down” “Left” “Right” buttons and ENTER key to fill the blank. “<000.000.000.000>” means that any IP address can access the DVR through network. The user can set up ten IP addresses as restricted IPs to access the DVR.

### 3.2.5.3 Play Back Recorded File

To play back the recorded file, you need to use the CLIENT Software.

Install the NETCLIENT Software and run netclient.exe, you will get the below screen and click on CONNECT and enter the IP, login name is "netuser" and password "0000".

From this program you can do REMOTE PLAYBACK (R-PB) or BACK UP and LOCAL PLAY BACK (L-PB)



			LIVE
	[SETUP-NETWORK-CLIENT ID]	LOGIN ID	PASSWORD
1			
2			
3			
4			
		2005 / 06 / 20	12 : 30 : 05

Fig3.2.31 Net client ID

			LIVE
	[SETUP-NETWORK-CLIENT IP]		
	CLIENT 01 IP: 000.000.000.000		
	CLIENT 02 IP: 000.000.000.000		
	CLIENT 03 IP: 000.000.000.000		
	CLIENT 04 IP: 000.000.000.000		
	CLIENT 05 IP: 000.000.000.000		
	CLIENT 06 IP: 000.000.000.000		
	CLIENT 07 IP: 000.000.000.000		
	CLIENT 08 IP: 000.000.000.000		
	CLIENT 09 IP: 000.000.000.000		
	CLIENT 10 IP: 000.000.000.000		
		2005 / 06 / 20	12 : 30 : 05

Fig3.2.32 Net client address

**NETWORK THROUGHPUT:** To setup the transfer speed of the DVR in the network. There are nine options to choose from: unlimited, 64KBPS, 128KBPS, 256KBPS, 512KBPS, 1MBPS, 2MBPS, 4MBPS, 10MBPS. Users can choose the option according to the demand (Fig 3.2.33 Setup net work throughput).

### 3.2.6 SETUP-SENSOR/ALARM (Fig 3.2.34 Setup sensor/alarm)

#### SENSOR TYPE

Press ENTER to visit the next level menu where there are two options to choose from: NO and NC.

“NO” means normal open. If “NO” is chosen, the DVR will set off alarm if the alarm is at low level.

“NC” means normal close. If “NC” is chosen, the DVR will set off the alarm if the alarm is at high level.

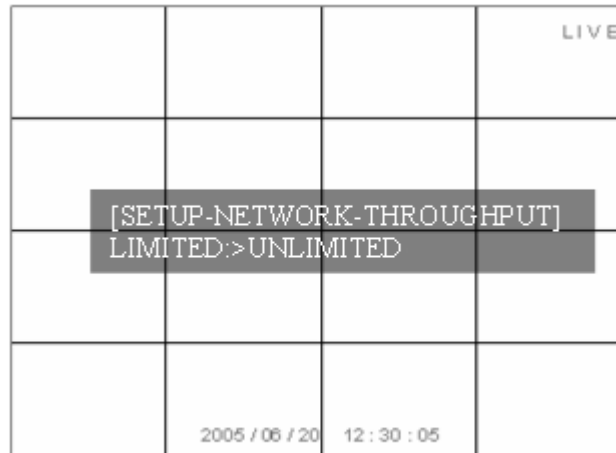


Fig3.2.33 Setup net work throughput

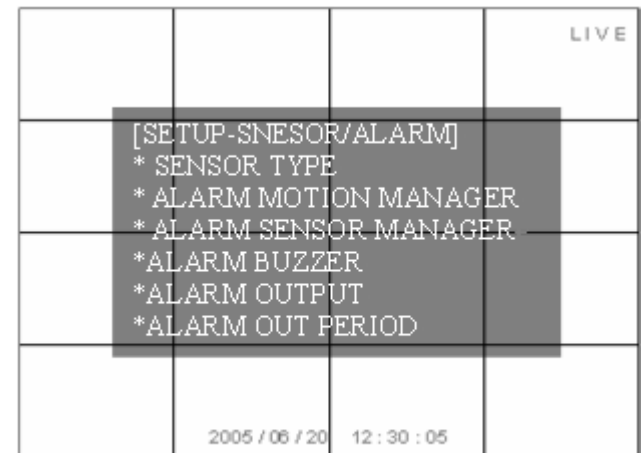


Fig3.2.34 Setup sensor/alarm

**ALARM MOTION MANAGER** (Fig 3.2.35 Alarm motion manager)

“□” means unselected “V” means selected, “Abscissa” means the channel number, “Ordinate” means annunciator number.

Every channel is able to trigger multiple alarms. For example, if user selects alarm 1, alarm 2 and alarm 3 for channel 1, then if there is motion detected in channel 1, alarm 1, alarm 2, and alarm 3 send alarm signals at the same time.

Every alarm can work for multiple channels. For example, if user selects channel 1, channel 2 and



channel 3 for alarm 1, then if any of the 3 channels detect a motion event, alarm 1 will send signal.

				LIVE
[SETUP-SNESOR/ALARM-MOTION MANAGER]				
CHANNEL	1			
NO	12	345	6789	01 2345 6
ALARM 1	V			
ALARM 2				
ALARM 3				
ALARM 4				
ALARM				
ALL				
	2005 / 06 / 20	12 : 30 : 05		

Fig3.2.35 Alarm motion manager

				LIVE
[SETUP-SNESOR/ALARM-SENSOR MANAGER]				
SENSOR	1			
NO	12	345	6789	01 2345 6
ALARM 1	V			
ALARM 2				
ALARM 3				
ALARM 4				
ALARM				
ALL				
	2005 / 06 / 20	12 : 30 : 05		

Fig3.2.36 Alarm sensor manager

**ALARM SENSOR MANAGER** (Fig 3.2.36 Alarm sensor manager)

“□” means unselected “V” means selected, “Abscissa” means the sensor number and “Ordinate” means annunciator number.

Every sensor is able to trigger multiple alarms. For example, if user selects alarm 1, alarm2 and alarm 3 for sensor 1, then once sensor 1 is activated, alarm 1, alarm 2 and alarm 3 will send alarm signals at the same time.

Every alarm can work for multiple sensors. For example, if user selects sensor 1, sensor 2 and sensor 3

for alarm 1, if any of the 3 sensors are activated, then alarm 1 will send an alarm signal.

**ALARM BUZZER** (Fig 3.2.37 Alarm buzzer)

ON: Start the buzzer when DVR gives alarm

OFF: The buzzer will not be triggered when DVR detects alarm

			LIVE
[SETUP-SNESOR/ALARM-BUZZER OUTPUT]			
> ON			
		2005 / 06 / 20	12 : 30 : 05

Fig3.2.37 Alarm buzzer

			LIVE
[SETUP-SNESOR/ALARM-SENSOR OUTPUT]			
ALARM 1 :> ON		ALARM3:>OFF	
ALARM 2:> OFF		ALARM 4:>ON	
		2005 / 06 / 20	12 : 30 : 05

Fig3.2.38 Alarm output

**ALARM OUTPUT** (Fig 3.2.38 Alarm output)

ON: Alarm on. When the alarm output is on, the DVR will send alarm when the sensor is triggered or a motion event occurs.

OFF: Alarm off. The DVR will not send alarm when output is off.

**ALARM OUT PERIOD** (Fig 3.2.39 Alarm output period)

Alarm continuing time. There are five options to choose: 30 seconds, 1 minute, 3 minutes, 10 minutes and Continuous.

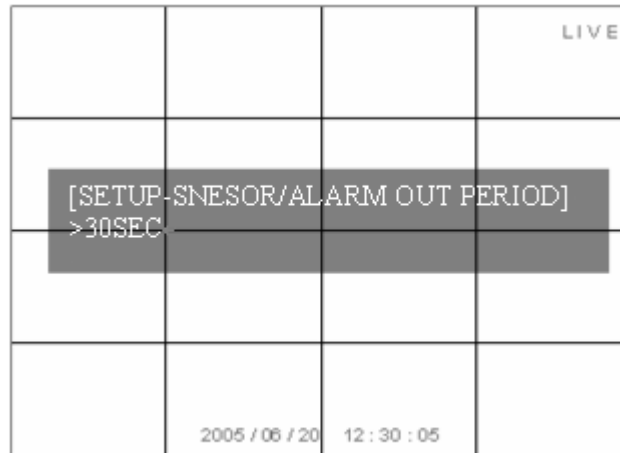


Fig3.2.39 Alarm output period

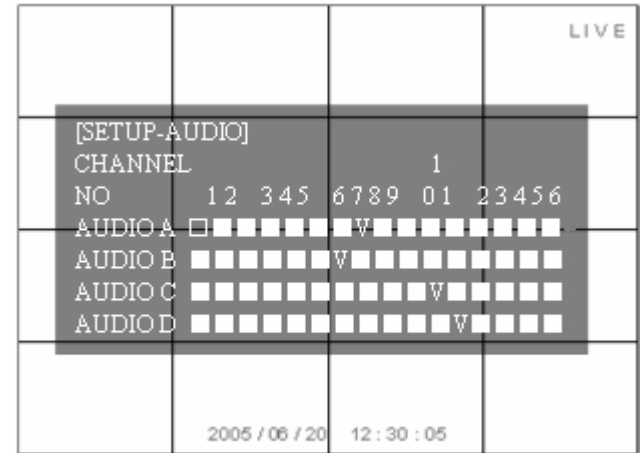


Fig3.2.40 Audio output

**3.2.7 SETUP-AUDIO**

“■” means unselected “V” means selected, “Abscissa” indicates the channel number and “Ordinate” indicates audio output number. (Fig 3.2.40 Audio output)

There are four audio input ports and one audio output port in all. One audio input matches one channel. For example, if user selects audio A for channel 1, channel 1 will record on audio A.

### **3.3 Function**

Press the Function button to enter the basic function menu (Fig 3.3.1 Function menu), which contains the following items:

- STATUS
- AUDIO
- BACKUP
- PAN/TILT
- ZOOM/FOCUS
- LOG LIST

#### **3.3.1 STATUS**

Press the Info button on the remote control, the screen will display the firmware version number, HDD status, Network status and recording information. (Fig 3.3.2 Status view) If a CD/DVD drive is connected to an ATA interface, there will be three HDDs and one CD-ROM displayed.

			LIVE
	* STATUS * AUDIO * BACKUP * PANTILT * ZOOM/FOCUS * SEQUENCE * LOG LIST		
	2005/06/20	12:30:05	

Fig3.3.1 Function menu

[STATUS]			
S/W VER: V1.0.10-tv_16			
(06/05/08 10:07)			
[HDD] A: 150G(63%) B: NONE C: NONE D: NONE			
NETWORK:			
MAC: 00.0E.B5.00.06.32			
DDNS: SERVER (null) FAIL			
[REC]	SIZE	720*576	
1 2 BEST	5 2 BEST	9 2 BEST	13 2 BEST
2 2 BEST	6 2 BEST	10 2 BEST	14 2 BEST
3 2 BEST	7 2 BEST	11 2 BEST	15 2 BEST
4 2 BEST	8 2 BEST	12 2 BEST	16 2 BEST

Fig3.3.2 Status view

### 3.3.2 AUDIO

**AUDIO ON:** Activate the audio output; **MUTE:** Disable the audio output

### 3.3.3 BACKUP & VIEW BACKUP

Backup

	[BACKUP]		LIVE
	MEDIA TYPE > CD-R		
	FILE FORMAT > NATIVE		
	BACKUP BASE > FILE		
	CHANNEL > ALL		
	[*]1 [*]5 [*]9 [*]13		
	[*]2 [*]6 [*]10 [*]14		
	[*]3 [*]7 [*]11 [*]15		
	[*]4 [*]8 [*]12 [*]16		
	START: 20060704_112000		
	END: 20060704_134000		
	TOTAL SIZE: 63M		
	BACKUP / 20 CANCELED		

Fig3.3.3 Setup backup

			LIVE
	[MEDIA TYPE]		
	>CD-R		
	>CD-RW		
	>DVD-R		
	>DVD-RW		
	>USB MEMORY		
		2005 / 06 / 20	12 : 30 : 05

Fig3.3.4 Setup media type

Press the Backup button (Fig 3.3.3 Setup backup). This DVR supports five media types: **CD-R, CD-RW, DVD-R, DVD-RW, USB-MEMORY** (Including USB flash drive and mobile hard disk), and supports backup to DVD-RW, CD-RW, internally and as well as USB externally. Please refer to list of compatible DVD-RW & CD-RW drives, which may be updated from time to time.

**MEDIA TYPE:** Press ENTER button to access the next menu (Fig3.3.4 Setup media type), if you plan to

backup to CD-R, choose CD-R; if you plan to backup in CD-RW, choose CD-RW, etc...

**BACKUP BASE:** If you want to search the file needed to backup by file name, choose FILE; if you want to search the file needed to backup by time, choose TIME. Each method is in the Chapter—**START**.

**CHANNEL:** If you want to backup the four channels, please choose ALL, if you want to backup several of the four channels, choose PART. Then move the cursor to the blank of the channel needed to backup. There will be a white dot in the blank before the selected channel.

**START:** The backup's beginning; you can choose the file from the file table.

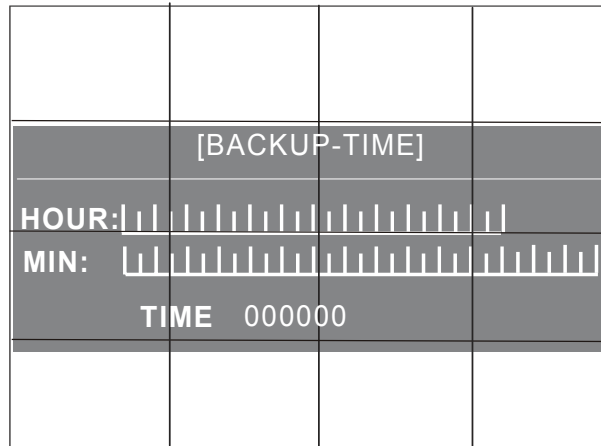
				LIVE
NUM FILELIST BACKUP				1/175
0000	20060704_112000	7M	C L W	
0001	20060704_134000	56M	C L	
0002	20060704_134322	38M	C L	
0003	20060704_135000	187M	C L	
0004	20060704_145833	22M	C L	
0005	20060704_150013	3M	C L	
0006	20060704_100000	434M	C L	
0007	20060704_101156	12M	C L	
0008	20060704_150000	254M	C L	
0009	20060704_152535	33M	C L	
PGDN: < PGUP > LAST :<< FIRST:>>				
2005 / 06 / 20		12 : 30 : 05		

Fig3.3.5 Backup start(file)

							LIVE
CALENDAR—BACKUP							
<<2006-08>>							
	SUN	MON	TUE	WED	THU	FRI	SAT
			1	2	3	4	5
6	7	8	9	10	11	12	
13	14	15	16	17	18	19	
20	21	22	23	24	25	26	
27	28	29	30	31			
2005 / 06 / 20		12 : 30 : 05					

Fig3.3.6 Backup start(calendar)

If the backup base is "FILE", the "START" choose menu is as shown in Fig 3.3.5 Backup start (file)  
 If the backup base is "TIME", the "START" choose menu is as shown in Fig 3.3.6 Backup start (calendar) and Fig 3.3.7 Backup start (time). First, choose the date, then, choose the time.



**Fig3.3.7 Backup start(time)**

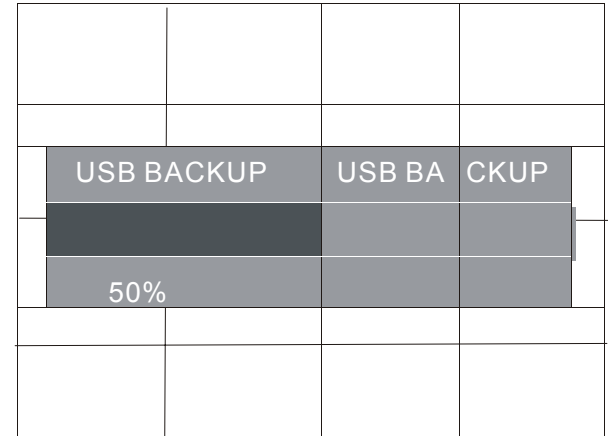


Fig3.3.8 USB Backup process

**END:** The backup's end, setup method is the same as the START.

After setting up MEDIA TYPE, FILE FORMAT, BACKUP BASE, CHANNEL, START, and END, the DVR is ready to backup.

**BACKUP**

Press the BACKUP button, the DVR begins to backup; there is a progress bar on the



screen at the same time as the backup. The USB backup process is shown in Fig 3.3.8-USB backup process

showing, that is the same as backup with the CD/DVD driver.


When the backup is over, a dialogue box will pop up. If the user backup in the USB memory, the sentence in the dialogue box is:

“FLASH  
BACKUP OK”

When you receive this message the backup is completed.

**Cancel:**

If the user wants to change the backup file or cancel the backup, move cursor to “CANCEL” and press “ENTER” button.

 **Attention:** Only CD-R or CD-RW media can be used when the user backup file with CD drive; CD-R, CD-RW, DVD-R or DVD-RW media can be used to backup file to DVD drive.

**View backup:**

The software to view the backup recording is packed automatically in the file.



Here is the Icon of the backup viewer: — “Backup\_viewer”

**Brief introduction of buttons:**



: Play



: Pause



: Stop



: Fast backward



: Step backward



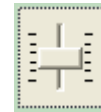
: Step forward



: Fast forward



: Verify if the record has been changed or not



: Volume control



**SnapShot**: Snap shot



: Number button



1-channel/4-channel/9-channel/16-channel mode

You can use number button to choose the channel which you want to see.

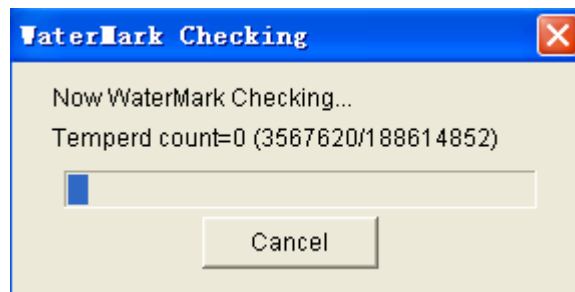
The main menu of the Backup viewer:



Introduction to **W.M Check, SnapShot.**

**W.M Check (Water Mark Check):**

While the backup file is paused, click this button to check water mark:



After a few minutes, the result will pop up. If the backup file has been changed or moved, the system will display "Watermark Check Fail", if the backup file has not been changed or moved, the system will prompt "Watermark Check Ok".

**SnapShot:** Click **SnapShot** button, a picture pops up for saving or printing. The user can select directory to **save**, and can **print** it directly.

**Snap Again:**

If you want to snap the next picture, Please press the "**Snap Again**" button.

**Save:**

When you click the "**OK**" button, a dialog box pops up for save location. Fill in file name and choose the file type, then click

**Print:**

If you want to print this picture, press PRINT, the dialog box of printer setup will be displayed. If you do not want to print it, press CANCEL.

### **3.3.4 PAN/TILT**

Move cursor to PAN/TILT in the function menu, press ENTER button to access this menu (Fig 3.3.9 PAN/TILT) to control the Fast Speed Dome. This particular operation is as follows:

Switch to the channel which connects to the Fast Speed Dome video output. The “Up” “Down” “Left” “Right” buttons control the Fast Speed Dome to swing up, down, left or right, press “ENTER” button to stop swinging.

The user can also enter this menu directly by pressing the P/T button on the front panel or the remote control.

### **3.3.5 ZOOM/FOCUS**

Move cursor to ZOOM/FOCUS in the function menu, press ENTER button to access this menu (Fig 3.3.10 ZOOM/FOCUS) to control this function of the Fast Speed Dome. This particular operation is as follows:

Switch to the channel which connects to the Fast Speed Dome video output. Through the “Up” “Down” buttons to control the Fast Speed Dome to zoom-in and zoom out. Use “Left” “Right” buttons to control Fast Speed Dome’s short and long focus.

The user can also enter this menu directly by pressing the Z/F button on the front panel or the remote control.

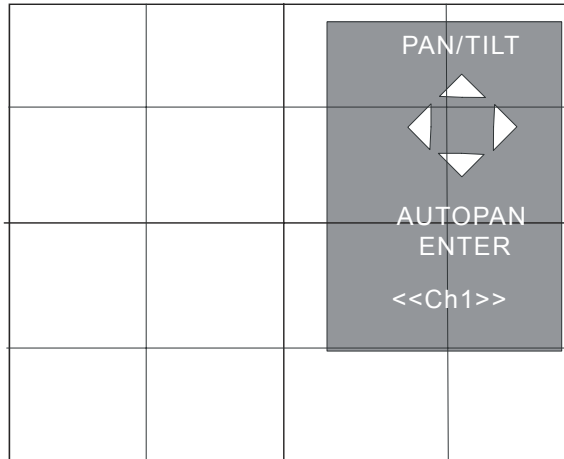


Fig3.3.9 PAN/TILT

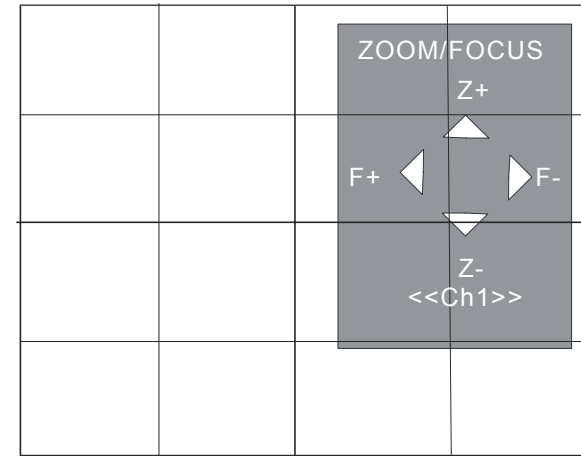


Fig3.3.10 ZOOM/FOCUS

### 3.3.6 SEQUENCE

Press "SEQ" button to enter the sequence play status.

If the current screen shows a single channel, press "SEQ" button to play the sixteen channels one by one in order.

If the current screen shows the image of sixteen channels, press "SEQ" button to play the sixteen channels four channels at a time in order.

### 3.3.7 LOG LIST

Press the Log button on the remote control, the system will enter the setup menu of log file (Fig 3.3.11 Setup log file).

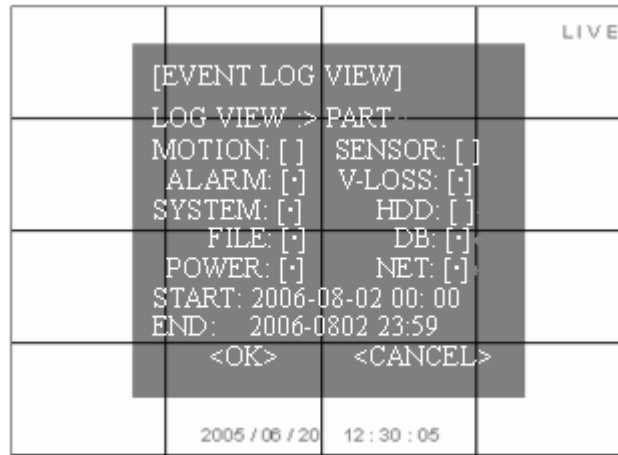


Fig3.3.11 Setup log file

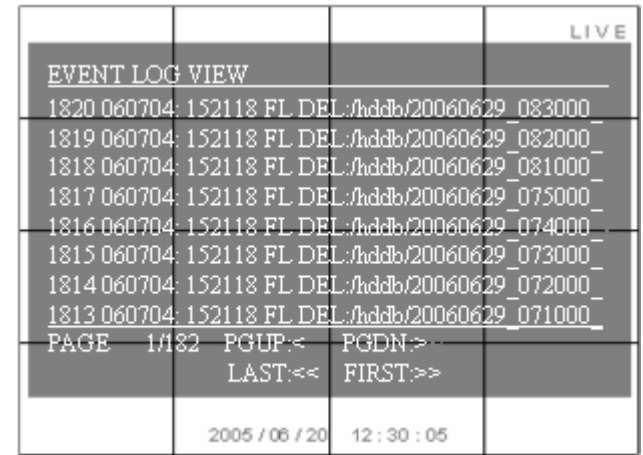


Fig3.3.12 Event log view

**LOG FILE:** If you choose ALL, the following options will be displayed: MOTION, SENSOR, ALARM, V-LOSS, SYSTEM, HDD, FLIE, DB, POWER, NET.

If you choose PART, you should choose the option needed manually. There is a white dot in the blank after the options selected.

**FROM:** The beginning time of the log file, you can use the number key to change the time.

**TO:** The end time of the log file, you can use the number key to change the time.

Press the OK option, the system will enter the event log view (Fig 3.3.12 Event log view): Use “Up” “Down” buttons to move the cursor to the log file needed. If there is a long log list, user can use “<” button to page up, use “>” button to page down, use “RW” button to jump to the last list, and press “FF” button to jump to the first list. Press “ENTER” button to see the explanation. (Fig 3.3.13 Explanation) Press “ENTER” button again to return to the event log list menu.

**EVENT EXPLAIN**

1818 060704: 151610 FL DEL: / hdd b/ 20060629\_081000\_nCm.ps

The particular meaning of each section above:

1818: The number of the deleted file.

060704: The date the file was deleted.

151610: The time the file was deleted.

FL: It means that file loss event occurred.

DEL: It means that the file was deleted.

Hdd: It means the file was deleted from the hard disk.

20060629\_081000\_nCm.ps: The file name.



			LIVE
EVENT EXPLAIN.			
1818 060704:151610 FL DEL: hddB /20060629_083000.nCm.ps			
PRESS ENTER			
	2006 / 06 / 20	12 : 30 : 05	

Fig3.3.13 Explanation

### 3.4 Search record

Press the "Search" button on the remote control, there are three search modes which will be displayed on the screen (Fig 3.4.1 Search)

TIME SEARCH  
EVENT SEARCH  
FILE SEARCH

**Attention:** Search recordings by time search or file search, search all event recordings by event search.

**TIME SEARCH:**

**Attention:** All the records can be searched in this menu.

Operation:

**Date choose:**

Press ENTER to access the CALENDAR TIME menu, Use “Up” “Down” “Left” “Right” buttons to move cursor to the date needed to search.(Fig 3.4.1 Date choose). A time which had an event record is shown in **yellow** font.

<<2006-05>>: Year-Month

<<: Backward, when the cursor moves to this sign, it will be in yellow, then press ENTER to take the month backward. For example: the current month is 2006-05, press ENTER once, the month will be changed to 2006-04. Press ENTER again, the month will be changed to 2006-03.

>>: Forward, when the cursor moves to this sign, it will be in yellow, then press ENTER to take the month forward. For example: if the current month is 2006-05, press ENTER once, the month will be changed to 2006-06. Press ENTER again, the month will be changed to 2006-07.

							LIVE
CALENDAR TIME							
<<2006-05>>							
SUN	MON	TUE	WED	THU	FRI	SAT	
	01	02	03	04	05	06	
07	08	09	10	11	12	13	
14	15	16	17	18	19	20	
21	22	23	24	25	26	27	
28	29	30	31				
2005 / 06 / 20				12 : 30 : 05			

Fig3.4.1 Date choose

**Time choose:**

Below the Year-Month setup, there is the calendar of one month. The selected date is in green, press ENTER to select the time choose menu. (Fig 3.4.2 Time choose-Page 79).

The time displayed in **green** has a record file. Use “Up” “Down” “Left” “Right” buttons to move to the selected time—hour and minute.

Press ENTER button to view the record chosen, the “Forward” “Backward” “Play/pause” buttons can be used to control the record playing. Press “STOP” button to get back to live picture.

## EVENT SEARCH

 **Attention:** Only alarm events and motion events record can be searched in this menu.

Operation:

Select the date, whose method is the same as TIME SEARCH. A time which has event record is shown in **yellow** font.

Press "ENTER" to access the event menu after selecting time. (Fig 3.4.3 Event choose).

Analyze the record information. Take one of the event records information as example.

The meaning of the sections:

"0691 060517:113145 FL MD 06"

"0691": Serial number

"060517": Date, the first and the second stand for year, the third and the fourth stand for month, the fifth and the sixth stand for day. "060517" means May 17th, 2006.

"113145": Time, the first and the second stand for hour, the third and the fourth stand for minute, the fifth and the sixth stand for second. "113145" means 11:31:45.

"MD": Motion detection.

"06": The length of record time.

Select the record and press the "ENTER" button to view.  
Use "Up" "Down" buttons to choose the event record, press ENTER button to view the record chosen, The "Forward" "Backward" "Play/pause" buttons can be used to control the record playing. Press "STOP" button to get back to live picture.

If the event list is long, user can move to the page needed though "PGUP" "PGDN" "LAST" "FIRST", the meaning of these signs and shortcut keys are in the following table.

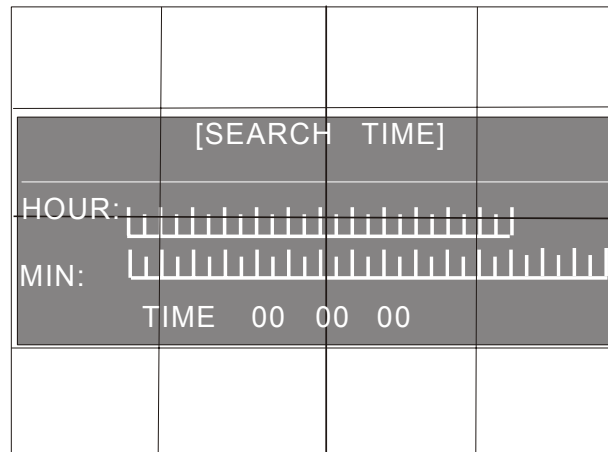


Fig3.4.2 Time choose

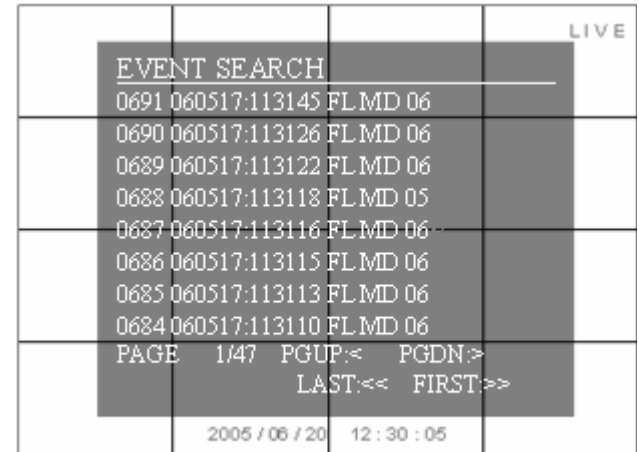


Fig3.4.3 Event choose

Sign	Meaning	Shortcut key
PGUP	Page up, to the previous	Right button
PGDN	Page down, to the next	Left button
LAST	To the last page	Backward button
FIRST	To the first page	Forward button

## FILE SEARCH

 **Attention:** All the records can be searched in this menu.

Operation:

Select the date, by the same method as TIME SEARCH. A time which has an event record is shown in **yellow** font.

Press “ENTER” to access the play file list. (Fig 3.4.4 File search)

Analyze the record information. Taking one of the file records as an example. The meaning of the sections:

“194 20060517\_113206 46S D L W”

“194”: Serial number

“20060517”: Date, the ex-four digitals stand for year, the fifth and the sixth stand for month, the seventh and the eighth stand for day. “2006060517” means may 17th, 2006.

“46S”: The length of record time.

“D”: Resolution, D means the 720\*576 in PAL or 720\*480 in NTSC.

“L”: Lock. Please refer to Appendix C for an explanation of abbreviations.

“W”: Water mark. If the option for “water mark” is set to “ON”, the letter “w” would be displayed in the file search menu.

Use “Up” “Down” buttons to choose the file record, Press the “ENTER” button to view the record chosen, the “Forward” “Backward” “Play/pause” buttons can be used to control the recording. Press “STOP” button to go back to live picture

If the event list is too long for one page, user can move to the page needed though “PGUP” “PGDN” “LAST” buttons.

“FIRST”, the meaning of these signs and shortcut keys are in the table above.

The record was divided into many sections automatically. The default length of one section is ten minutes (600 Seconds). Length may be shorter than 1 hour, depending on actual motion recording, alarm recording and schedule setup.

### 3.5 SPOT

Connect the DVR to a SPOT monitor by the SPOT port, and then press the “SPOT” button on the remote control to setup. (Fig 3.5.1 SPOT setup)

There are four options to choose from: CHANNEL, SEQ SINGLE, SEQ QUAD and SEQ STOP.

If you choose “CHANNEL”, then you should choose the channel number in the blank below. The spot monitor will display the image of just the channel selected.

If you choose “SEQ SINGLE”, the spot monitor will display images of all the channels in order.

If you choose “SEQ QUAD”, the spot monitor will display images of all the channels in order by quad (groups of four).

If you choose “SEQ STOP”, the spot monitor stops sequence playing.

 **Attention:** There is no setup menu in the screen of the spot monitor.



					LIVE
NUM PLAY FILE LIST					
198	20060517_113206	14S	D	LW	
197	20060517_113206	34S	D	UW	
196	20060517_113206	66S	D	UW	
195	20060517_113206	52S	D	UW	
194	20060517_113206	46S	D	LW	
193	20060517_113206	600S	D	LW	
192	20060517_113206	190S	D	LW	
191	20060517_113206	84S	D	UW	
PAGE	1/47	PGUP<	PGDN>		
LAST<< FIRST>>					
	2005/06/20	12:30:05			

Fig3.4.4 File search

					LIVE
ACTION TYPE					
>CHANNEL					
>SEQ CHANNLE					
>SEQ QUAD					
>SEQ STOP					
	2005/06/20	12:30:05			

Fig3.5.1 SPOT setup



## Appendix


### Appendix A: Main Standard & Parameter chart

Model		16Channel		
<i>VIDEO</i>				
Input Channel		16CH		
Input Level		1.0Vp-p±10% Composite, 75Ohm Balanced		
Video Standard		Auto / NTSC / PAL		
Main TV Out		1.0Vp-p Composite, 75Ohm Balanced		
Screen Split Control		1, 16Screen		
Screen Rotation Control		1~9Seconds		
Display	Resolution	NTSC		720(H)x480(V)
		PAL		720(H)x576(V)
	Speed	NTSC	Live	480FPS
			Playback	120FPS
		PAL	Live	400FPS
			Playback	100FPS

	Function	Auto Sequence Screen Split, PIP	
<i>AUDIO</i>			
Compression		ADPCM	
Audio In / Out		4CH /1CH	
Input Level		TBD(0.5~1.4Vp-p@20Kohm)	
<i>RECORDING</i>			
Compression		MPEG4	
Resolution	NTSC	720(H)x480(V), 720(H)x240(V), 360(H)x240(V)	
	PAL	720(H)x576(V), 720(H)x288(V), 360(H)x288(V)	
Speed	NTSC	360 x240	Max 120FPS
		720 x240	Max 60FPS
		720 x480	Max 30FPS
	PAL	360 x288	Max 100FPS
		720 x288	Max 50FPS
		720 x576	Max 25FPS
Data Size		2~5KB(CIF)	
Mode		Continuous, Schedule, Motion detection, Sensor	
Schedule		24Groups per day by an hour	
Pre-Alarm		5~10Seconds	
HDD	Internal Storage	Max. 4HDD	

	Speed	5400RPM, 7200RPM
	Type	EIDE compatible
<b>SEARCHING &amp; PLAYBACK</b>		
	Searching Method	Time, Event, File
<b>REMOTE SURVEILLANCE</b>		
	Monitoring Environment	Client Software, Web Browser
<b>ALARM</b>		
	Sensor Input	16Ports
	Alarm Output	4 TTL-Out(Programmable), Terminal
	Motion Detection	Available For Each Camera Multi Detection Level
<b>CONNECTOR</b>		
	Video Input	BNC 16Ports
	Main Monitor Output	BNC 1Port
	Spot Monitor Output	BNC 1Port
	S-Video (Main TV)	BNC 1Port (4Pins mini DIN)
	VGA Output	BNC 1 Port (15Pins female DSUB)
	Audio Input (Mono)	RCA 4 Audio Jack (Live Only)
	Audio Output (Mono)	RCA 1Port
	External Control (RS-232C)	OK
	Firmware Upgrade	USB 2.0


External Control (RS-422/485)	Terminal Block
Sensor Input	Terminal Block
Alarm Output	Terminal Block
PTZ (RS-485)	2Pins Terminal Block
Ethernet	RJ-45, 10/100Mbps
USB 2.0	2Ports
<i>ELECTRICAL</i>	
Power Source	115~230VAC (50~60Hz)
Power Consumption	TBD(App. 50 ~ 60Watt)
<i>BACKUP</i>	
Digital Backup	Network, External CD/DVD RAM, USB Storage
External CD/DVD RW	USB 2.0
<i>OTHERS</i>	
OS	Embedded Linux
Duplexer or Triplex	Triplex
Control Device	Front key, Remote controller
PTZF	By menu
OSD Language	Multiple
Dimension	295mm(W)x75mm(H)x215mm(D)

 **Attention:** This chart uses 16-channel DVR as an example.

## Appendix B Record capability

--how much capability does record engross per hour

Picture Quality	PAL			NTSC		
	Resolution	Total Frame Rate	Capability	Resolution	Total Frame Rate	Capability
Best	720*576	25F/S	3.80G	720*480	30F/S	3.75G
High	720*576	25F/S	1.91G	720*480	30F/S	2.34G
Normal	720*576	25F/S	0.96G	720*480	30F/S	1.20G
Low	720*576	25F/S	0.83G	720*480	30F/S	0.80G
Best	720*288	50F/S	4.10G	720*240	60F/S	3.94G
High	720*288	50F/S	2.60G	720*240	60F/S	2.42G
Normal	720*288	50F/S	1.28G	720*240	60F/S	1.40G
Low	720*288	50F/S	0.98G	720*240	60F/S	0.83G
Best	360*288	100F/S	3.42G	360*240	120F/S	3.62G
High	360*288	100F/S	2.25G	360*240	120F/S	2.27G
Normal	360*288	100F/S	1.21G	360*240	120F/S	1.25G
Low	360*288	100F/S	1.05G	360*240	120F/S	0.98G

 **Note:** The above figures are from our tests which are just for user's reference. Different definition and stabilization (object's movement) of the images will give different results.

### Appendix C: The meaning of some abbreviations

Letters	Meaning	Letters	Meaning
D	720*576(PAL)/720*480(NTSC)	H	720*288(PAL)/720*240(NTSC)
C	360*288(PAL)/720*240(NTSC)	NT	A network event
U	Unlock	L	lock
MD	Motion detection	SD	Sensor detection
PW	An event of power on occurred	VL	Video loss
AL	Alarm	DB	The data base recurred or united
HD	An event concerning HDD occurred	TM	Time change
SY	An event of system setup or system reset	FL	A file was created or deleted
DVR	Digital video recorder	DEL	File was deleted

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