# **DVR User Manual**

For H.264 4/8/16/24-channel digital video recorder All rights reserved

## CAUTION

- Please read this user manual carefully to ensure that you can use the device correctly and safely
- We do not warrant all the content is correct. The contents of this manual are subject to change without notice
- This device should be operated only from the type of power source indicated on the marking label. The voltage of the power must be verified before using. Kindly remove the cables from the power source if the device is not to be used for a long period of time.

• Do not install this device near any heat sources such as radiators, heat registers, stoves or other device that produce heat

- Do not install this device near water. Clean only with a dry cloth
- Do not block any ventilation openings and ensure well ventilation around the machine
- Do not power off the DVR when the device is function. The correct procedure to shut down DVR is to stop recording firstly, and then use "shut down" button from the menu, and finally switching off the main power.

• This equipment is for indoor use only. Do not expose the machine in rain or moist environment. In case any solid or liquid get inside the machine's case, please cut off the power supply immediately, and get it checked by a qualified technician.

• Refer all servicing to qualified service personnel. No any parts repaired by yourself without technical aid or approval.

• When this product is in use, the relevant contents of Microsoft, Apple and Google will be involved in. The pictures and screenshots in this manual are only used to explain the usage of our product. The ownerships of trademarks, logos and other intellectual properties related to Microsoft, Apple and Google shall belong to the above-mentioned companies.

• This manual is suitable for 4/8/16/24-channel digital video recorders. All examples and pictures used in the manual are from 8-channel DVR.

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# **1** Introduction

# **1.1 DVR Introduction**

This model of DVR (Digital Video Recorder) is designed for high performance CCTV solutions. It adopts state of the art video processing chips and embedded Linux system. Meanwhile, it utilizes most advanced technologies, such as standard H.264 with low bit rate, Dual stream, SATA interface, VGA output mouse supported, IE browser supported with full remote control, mobile view(by phones), etc., ensuring powerful functions and high stability. Due to these distinctive characteristics, it is widely used in banks, telecommunication, transportation, factories, warehouse, and other related applications.

## 1.2 Main Features

#### **COMPRESSION FORMAT**

• Standard H.264 compression with low bit rate and better image quality

#### LIVE SURVEILLANCE

- Support HD VGA output
- Support channel security by hiding live display
- Display the local record state and basic information
- Support USB to make full control

#### **RECORD MEDIA**

• Support one SATA HDD (available for 4/8/16-ch DVR) or three SATA HDD (available for 24-ch DVR) to record for a longer time without any limitation

#### BACKUP

Support USB 2.0 devices to backup

• Support saving recorded files with AVI standard format to a remote computer through internet

#### **RECORD & PLAYBACK**

- Record modes: Manual, Schedule, Motion detection and Sensor alarm recording
- Support recycle after HDD full
- Resolution, frame rate and picture quality are adjustable
- 128MB for every video file packaging
- 4 audio channels available
- Two record search mode: time search and event search
- Support 4/8/16 screen playback simultaneously
- Support deleting and locking the recorded files one by one
- Support remote playback in Network Client through LAN or internet

#### ALARM

- 1 channel alarm output and 4/8/16 channel alarm input available
- Support schedule for motion detection and sensor alarm
- Support pre-recording and post recording
- Support linked channels recording once motion or alarm triggered on certain channel
- Support linked PTZ preset , auto cruise and track of the corresponding channel

#### PTZ CONTROL

- Support various PTZ protocols
- Support 128 PTZ presets and 8 auto cruise tracks
- Support remote PTZ control through internet

#### SECURITY

• Customize user right: log search, system setup, two way audio, file management, disk management, remote login, live

view, manual record, playback, PTZ control and remote live view

- Support 1 administrator and 63 users.
- Support event log recording and checking, events unlimited

#### NETWORK

- Support TCP/IP, DHCP, PPPoE, DDNS protocol
- Support IE browser to do remote view
- Support setup client connection amount
- Support dual stream. Network stream is adjustable independently to fit the network bandwidth and environment.
- Support picture snap and color adjustment in remote live
- Support remote time and event search, and channel playback with picture snap
- Support remote PTZ control with preset and auto cruise
- Support remote full menu setup, changing all the DVR parameters remotely
- Support mobile surveillance by smart phones , Symbian, WinCE, Iphone , Gphone, or Blackberry, 3G network available
- Support CMS to manage multi devices on internet

# 2 Hardware Installation

**Notice**: Check the unit and the accessories after getting the DVR.

Please disconnect the power before being connected to other devices. Don't hot plug in/out

# 2.1 Install Hard Drive

Notice: 1. 4/8/16-ch DVR supports one SATA hard drive. 24-ch DVR supports three SATA hard drives. Please use the hard drive the manufacturers recommend specially for security and safe field. Please refer to "Appendix C Compatible Devices 2".

2. Please calculate HDD capacity according to the recording setting. Please refer to "Appendix B Calculate Recording Capacity".

Step1: Unscrew and Open the top cover

Step2: Connect the power and data cables. Place the HDD onto the bottom case as Fig 2.1.

Step3: Mount the HDD as Fig 2.2.

Note: For installation convenience, please connect the power and data cables first, and then wind the screws to fix the HDD.



Fig 2.1 Connect HDD



Fig 2.2 Screw HDD

# 2.2 Front Panel Instructions

**Notice**: The front panel descriptions are only for reference; please make the object as the standard.

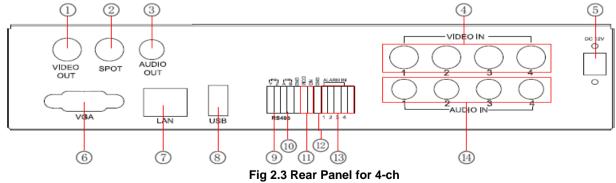
Туре	Name	Description	
	Power	Power indicator, when connection, the light is blue	
	HDD	When HDD is writing and reading , the light is blue	
	Net	When access to network, the light is blue	
	Backup	When backup files and data, the light is blue	
Indicator		When playing video, the light is blue	
	REC	When recording, the light is blue	
	MENU/+	1. Enter menu in live	
		2. Increase the value in setup	
	BACKUP/-	1. Decrease the value in setup	
Compound button	2. Enter backup mode in live		
	RECORD/FOCUS	2. FOCUS function enables at PTZ mode.	
	REW/SPEED	1. Rewind key	
		2. SPEED function enables at PTZ mode	
	SEARCH/ZOOM	1. Enter search mode 2.ZOOM function enables at PTZ mode.	
		1. Enter play interface	
		2. IRIS function enables at PTZ mode	
	FF/PT7	1. Fast forward	
		2. Enter PTZ mode in live	
	STOP/ESC	<ol> <li>Quit play mode</li> <li>Exit the current interface or status</li> </ol>	
	Work state indicator	Work state       Power         indicator       HDD         Net       Backup         Play       REC         MENU/+       BACKUP/-         Compound       RECORD/FOCUS         Dutton       REW/SPEED         SEARCH/ZOOM       PLAY /IRIS         FF/ P.T.Z.       FF/ P.T.Z.	

Item	Туре	Name	Description	
	Digital button	0/10+	Input number0, 10 and the above number together with other digital keys	
		Direction button	Change direction to select items	
4	Input button	Multi-screen	Change screen display mode like1/4/9/16 channel	
		Enter button	Confirm selection	
5	IR receiver	IR	For remote controller	
6	USB	USB port	To connect external USB devices like USB flash, USB HDD for backup or update firmware; or connect to USB mouse	
7	POWER	POWER	Shot switch off	

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# 2.3 Rear Panel Instructions

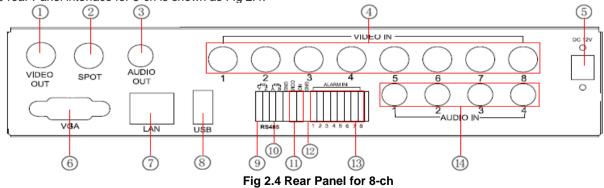
The rear Panel interface for 4-ch is shown as Fig 2.3:



Digital Video Recorder User Manual

ltem	Name	Description	
1	Video out	Connect to monitor	
2	Spot out	Connect to monitor as an AUX output channel by channel. Only video display, no menu show	
3	Audio out	Audio output, connect to the sound box	
4	Video in	Video input channels from 1-4	
5	DC12V	POWER INPUT	
6	VGA port	VGA output, connect to monitor	
7	LAN	Network port	
8	USB port	Connect USB mouse or connect external USB devices	
9	P/Z	Connect to speed dome	
10	K/B	Connect to keyboard	
11	ALARM OUT	1-ch relay output. Connect to external alarm	
12	+ 5V and GND	+5 V and Grounding	
13	ALARM IN	Connect to external sensor1-4	
14	Audio in	4 CH Audio input	

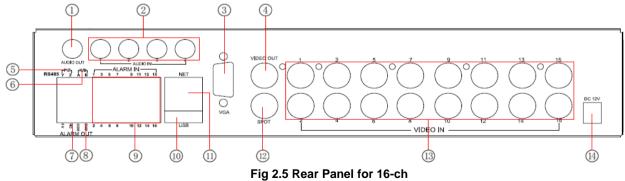
The rear Panel interface for 8-ch is shown as Fig 2.4:



Digital Video Recorder User Manual

Item	Name	Description	
1	Video out	Connect to monitor	
2	Spot out	Connect to monitor as an AUX output channel by channel. Only video display, no menu show	
3	Audio out	Audio output, connect to the sound box	
4	Video in	Video input channels from 1-8	
5	DC12V	POWER INPUT	
6	VGA port	VGA output, connect to monitor	
7	LAN	Network port	
8	USB port	Connect USB mouse or connect external USB devices	
9	P/Z	Connect to speed dome	
10	K/B	Connect to keyboard	
11	ALARM OUT	1-ch relay output. Connect to external alarm	
12	+ 5V and GND	+5 V and Grounding	
13	ALARM IN	Connect to external sensor1-4	
14	Audio in	4 CH Audio input	

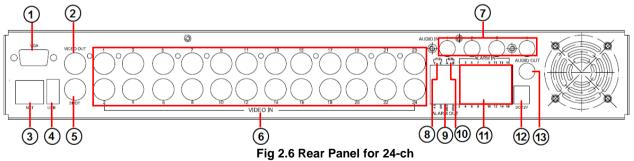
#### The rear Panel interface for 16-ch is shown as Fig 2.5:



Item	Name	Description	
1	Audio out	Audio output, connect to the sound box	
2	Audio in	4 CH Audio input	
3	VGA port	VGA output, connect to monitor	
4	Video out	Connect to monitor	
5	P/Z	Connect to speed dome	
6	K/B	Connect to keyboard	
7	ALARM OUT	1-ch relay output. Connect to external alarm.	
8	+ 5V and GND	+5 V and Grounding	
9	ALARM IN	Connect to external sensor1-16	
10	USB port	Connect USB mouse or connect external USB devices	
11	NET	Network port	
12	Spot out	Connect to monitor as an AUX output channel by channel. Only video display, no menu show	
13	Video in	Video input channels from 1-16	
14	DC12V	POWER INPUT	

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The rear Panel interface for 24-ch is shown as Fig 2.6:



Digital Video Recorder User Manual

Item	Name	Description	
1	VGA port	VGA output, connect to monitor	
2	Video out	Connect to monitor	
3	NET	Network port	
4	USB port	Connect USB mouse or connect external USB devices	
5	Spot out	Spot out Connect to monitor as an AUX output channel by channel. Only vide display, no menu show	
6	Video in	Video input channels from 1-24	
7	Audio in	4 CH Audio input	
8	P/Z	Connect to speed dome	
9	ALARM OUT	1-ch relay output. Connect to external alarm.	
10	K/B	Connect to keyboard	
11	ALARM IN	Connect to external sensor1-16	
12	DC12V	Power input.	
13	Audio out	Audio output, connect to the sound box	

# 2.4 Remote Controller

It uses two AAA size batteries and works after loading batteries as following:

Step1: Open the battery cover of the Remote Controller

Step2: Place batteries. Please take care the poles (+ and -)

Step3: Replace the battery cover

Notice: Frequently defect checking as following

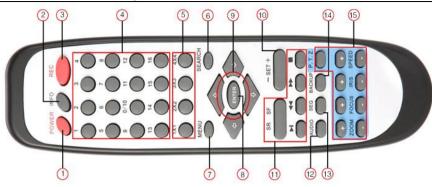
1. Check batteries poles

2. Check the remaining charge in the batteries

3. Check IR controller sensor is mask

If it still doesn't work, Please change a new remote controller to try, or contact your dealers

The interface of remote controller is shown in Fig2.7 Remote Controller.



## Fig 2.7 Remote Controller

Item	Name	Function	
1	Power Button	Soft switch off to stop firmware running. Do it before power off.	
2	INFOR Button	Get information about the DVR like firmware version, HDD information	
3	REC Button	To record manually	
4	Digital Button	Input digital or choose camera	
5	Multi Screen Button	To choose multi screen display mode	
6	SEARCH Button	To enter search mode	
7	MENU Button	To enter menu	
8	ENTER Button	To confirm the choice or setup	
9	Direction Button	Move cursor in setup or pan/title PTZ	
10	+/- Button	To increase or decrease the value in setup	
11	Playback Control Button	To control playback, Fast forward/rewind/stop/single frame play	
12	AUDIO Button	To enable audio output in live mode	
13	Auto Dwell Button	To enter auto dwell mode	
14	BACKUP Button	To enter backup mode	
15	PTZ Control Button	To control PTZ camera: Move camera/ZOOM/FOCUS/IRIS/SPEED control	

#### Operation processes with remote controller to control multi-DVR

The device ID of the DVR is 0. When use of remote controller to control single DVR, it's not necessarily to reset the device ID, user can do operation directly; when control multiple DVR with remote controller, please refer to below steps:

Step1: Activate remote controller to control DVR: enable DVR: turn the IR sensor of the remote controller to the IR receiver that on the front panel, press the number key 8 twice, then input device ID (Range from: 0-65535; the default device ID is 0.) with other digital number: 0-9, after that, press ENTER button to confirm.

Step2: User can check the device ID by enter into System configuration →Basic configuration →device ID. User also can set other DVRs with the same device ID. For more convenient to operate, we don't recommend user to set the device ID too long. Step3: Cancel controller to control DVR: turn the IR sensor of the remote controller to the IR receiver that on the front panel, press the number key 8 twice, then input the device ID that needs to be cancelled from controlling, press ENTER button to confirm. After that, the DVR will not be controlled by remote controller.

# 2.5 Control with Mouse

# 2.5.1 Connect Mouse

It supports USB mouse through the ports on the rear panel.

Detice: If mouse is not detected or doesn't work, check below steps:

1. Make sure the mouse plugs in the USB mouse port not the USB port 2. Change a mouse to try

# 2.5.2 Use Mouse

In live:

Double-click left button on one camera to be full screen display. Double-click again to return to the previous screen display. Click right button to show the control bar at the bottom of the screen as Fig 2.6 Remote Controller. Here are all control and setup. Click right mouse again to hide the control bar.

#### In setup:

Click left button to enter. Click right button to cancel setup, or return to the previous.

If want to input the value, move cursor to the blank and click. An input window will appear as Fig2.7. It supports digitals, letters and symbols input.



Fig 2.7 Digital Numbers and Letters Input Window

Users can change some value by the wheel, such as time. Move cursor onto the value, and roll the wheel when the value blinks.

It supports mouse drag. I.e. Set motion detection area: click customized, hold left button and drag to set motion detection area. Set schedule: hold left button and drag to set schedule time

#### In playback:

Click left button to choose the options. Click right button to return to live mode.

#### In backup:

Click left button to choose the options. Click right button to return to previous picture.

#### In PTZ control:

Click left button to choose the buttons to control the PTZ. Click right button to return to live.

b Notice: Mouse is the default tool in all the operation below unless Exceptional indication

# **3** Basic Function Instruction

# 3.1 Power On/Off

Before you power on the unit, please make sure all the connection is good.

#### 3.1.1 Power on

Step1: connect with the source power; switch on the power button near the power port in the rear panel

Step2: the device will be loaded, and the power indicator will display blue

Step3: before start, a WIZZARD window will be pop-up and show some information about time zone , time setup , network configuration, record configuration and disk management. User can setup here and refer to the concrete setup steps from the corresponding chapters. If users don't want to setup Wizard, please click Exit button to exit.

After the device power on, if there is no menu or only has live image display, user can long press ESC button to switch.

Notice: this serial device can only display menu on VGA monitor or BNC monitor at one time, if there is live image display without menu display, please check up whether other device has menu display firstly, or long press ESC key to wait for login dialog box to appear. Long press ESC key can switch the output between BNC and VGA.

#### 3.1.2 Power off

User can power off the device by using remote controller, keyboard and mouse.

#### By remote controller:

Step1: press Power button, the Shut down window will appear, click OK, the unit will power off after a while.

Step2: disconnect the power

#### By keyboard and mouse:

Step1: enter into Menu, then select "System Shut Down" icon, the Shut down window will appear Step2: click OK, the unit will power off after a while.

Step3: disconnect the power

# 3.2 Login

User can login and logout the DVR system. User cannot do any other operations except changing the multi-screen display once logout.

LOGIN		X
User Name		
admin		
Password		
	Login	Cancel

Fig 3-1 Login

b Notice: the default user name and password is "admin" and 123456"

The concrete operation steps for change password, add or delete user please refer to 4.7 User management configuration for more details.

# 3.3 Live preview

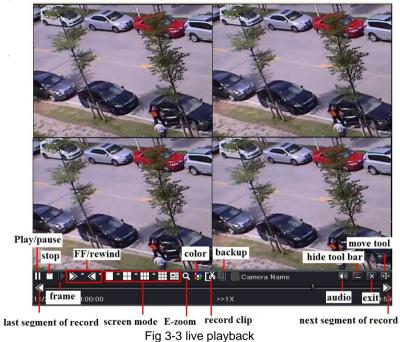


SymbolMeaningGreenManual recordYellowMotion detection recordRedSensor Alarm recordBlueSchedule record

Fig 3-2 live preview interface

# 3.3.1 Live playback

Click Play button to playback the record. Refer to Figure 3-3. User can do concrete operation by click the buttons on screen.



# 4 Main menu setup guide

Click right mouse or press ESC button on the front panel, the control bar will display on the bottom of the screen, refer to Fig 4-1:



Fig 4-1 menu toolbar

Click the 🖾 icon beside the screen display mode to display a channel select <u>dialog</u>. 6/8 channels can realize single channel big

screen. Images can drag to any place to display in the live interface. Click Law icon to set up picture-in-picture. Click the licon beside the playback icon to select the time to playback. For example, if 2 minutes is selected and then click playback button, it will start to playback from 2 minutes ago.

**Dwell**: Range of selecting to dwell is from single picture preview mode to 4/6/8 picture preview mode.

**Color**: Click this button; user can adjust the color of live pictures.

E-Zoom: Single channel large screen electronic amplification

Left click the channel which needs to amplify; Click the right mouse, select Zoom in button and then click the left mouse to amplify the image. Press left mouse to drug the cursor, user can view the image. Double-click the left mouse to exit. Click the right mouse to return to the main interface.

Volume: Enable sound.

**PTZ:** Click the PTZ button, user can control rotation position, speed of the dome and start track, auto scan or cruise in this interface. User can refer to PTZ configuration for more details.

Record: Click this button, user can start manual record.

Playback: Click this button, the device can playback the record files.

User can click button and drag it anywhere with the left mouse. Click Menu button, the interface will pop-up as Fig 4-2; press MENU button on the front panel or operate with remote controller also can display the main menu. Click Setup icon will pop-up the Setup menu:



# 4.1 Basic configuration

Basic configuration includes three sub menus: system、 date& time and DST.

## 4.1.1 System

Step1: enter into Setup→Basic→system; refer to Fig 4-3:

Step2: in this interface user can setup the device name, device ID, video format, max online users, Video Output and language, Screensaver and so on. The definitions for every parameters display as below:

**Device name:** the name of the device. It may display on the client end or CMS that help user to recognize the device remotely. **Video format:** two modes: PAL and NTSC. User can select the video format according to that of camera.

Password check: Enable this option. user needs to input user name and password can do corresponding operations with the relevant right in system configuration.

Show system time: display time in live.

Startup wizard: tick off this item, there will display an opening wizard with time zone and time setup information

Max online uses: set the max user amount of network connection

**Video output:** the resolution of live display interface, range from: VGA800\*600, VGA1024\*768, VGA1280\*1024 and CVBS.

Note : When switch between VGA and CVBS will change the menu output mode, please connect to relevant monitor.

Language: setup the menu language.

Note: after changed the language and video output, the device needs to login again.

**Screensaver:** user can setup the screensaver interval time (30s, 60s, 180s, 300s), if there is no any operation within the setting period, the device will auto logout and return to Login interface.

**No Image When Logout:** If this item is selected, there will be no image showing when logout.

#### 4.1.2 Time & date

Step1: enter into system configuration → basic configuration → time & date; refer to Fig 4-4:

Step2: set the date format, time format, time zone in this interface; user also can adjust system date manually Step3: click "default" button to resort default setting; click "apply" button to save the setting; click "exit" button to exit current interface.

le zone and time setu				
BASIC	X			
System Date & Time DST				
Device Name	EDVR			
Device ID	0			
Video Format	NTSC			
Password Check				
Show System Time				
Startup Wizard				
Max Online Users	5			
Video Output	VGA 1024X768 💽			
Language	English 💽			
Screensaver[S]	Never			
Default	Apply Exit			

Fig 4-3 basic configuration-basic

BASIC		X
System Date & Time DST		
Date Format	MM-DD-YY	Ð
Time Format	24 Hour	
Time Zone	GMT	
System Date	05 / 04 / 2010 25	
System Time	10 : 01 : 01	
	Save Now	
Defa	ult Apply E	Exit

Fig 4-4 basic configuration-time & date

# 4.1.3 DST

Step1: enter into system configuration→basic configuration→DST; refer to Fig 4-5:

System Date & Time DST	
Daylight Saving Time	
Time Offset [Hours]	1
Mode	Week O Date
From	01 / 01 / 2008 25
	00 : 00 : 00
Until	01 / 01 / 2008 25
	00 : 00 : 00
	Default Apply Exit

Fig 4-5 basic configuration-DST

Step2: in this interface, enable daylight saving time, time offset, mode, start & end month/week/date, etc.

Step3: click "default" button to resort default setting; click "apply" button to save the setting; click "exit" button to exit current interface.

# 4.2 Live configuration

Live configuration includes four submenus: live, main monitor. Spot and mask.

#### 4.2.1 Live

In this interface, user can setup camera name, adjust colors: brightness, hue, saturation and contrast.

Step1: enter into system configuration  $\rightarrow$  live configuration  $\rightarrow$  live; refer to Fig 4-6:

Note: Click Camera Name to see a soft keyboard. User can self-define the camera name. Click Shift button to input Capital letters; click Shift button again to input Chinese characters.

LIVE			×	Channel 1
Live M	ain Monitor Spot Mas	k		Brightness
сн	Camera Name	Show Name	Color	
1	CAMERA01		Setting	Hue
2	CAMERA02		Setting	
3	CAMERA03		Setting	Saturation
4	CAMERA07		Setting	Contrast
AII			X 3	
			Setting	Default
		D	efault Apply Exit	ок
	Fia 4-6 li	ve configuration	n→live	Fig 4-7 live-color ad

Step2: tick off camera name and click "setting" button to display a window as Fig 4-7:

Fig 4-7 live-color adjustment

Step3: in this interface, user can adjust brightness, hue, saturation and contrast in live; click "default" button to resort default setting, click "OK" button to save the setting.

Step4: user can setup all channels with same parameters, please tick off "all" and then do relevant setup.

Step5: click "default" button to resort default setting: click "apply" button to save the setting: click "exit" button to exit current interface.

#### 4.2.2 Main monitor

Step1: enter into system configuration→live configuration→main

monitor; refer to Fig 4-8:

Step2: select split mode: 1×1、2×2、2×3、3×3 and channel

Step3: dwell time: the time interval for a certain dwell picture display switching to next dwell picture display

Step4: selected the split mode, then setup current picture group.

Click Subutton to setup the previous channel groups of dwell

picture, click we button to set the latter channel groups of dwell picture.

Step5: click "default" button to resort default setting; click "apply" button to save the setting; click "exit" button to exit current interface.

LIVE	×
Live Main Monitor Spot Mask	
Split Mode 2x3 💌	
1 2 3	
4 • 5 • 6	
Dwell Time 5	
Default Apply	Exit

#### Fig 4-8 live configuration-host monitor

#### 4.2.3 Spot

Step1: enter into system configuration  $\rightarrow$  live configuration  $\rightarrow$  Spot; refer to Fig 4-9:

Step2: select split mode: 1×1and channel

Step3: dwell time: the time interval for a certain dwell picture display switching to next dwell picture display

Step4: selected the split mode, then setup current picture group.

Click Subutton to setup the previous channel groups of dwell

picture; click local button to set the latter channel groups of dwell picture.

Step5: click "default" button to resort default setting; click "apply" button to save the setting; click "exit" button to exit current interface

LIVE	X
Live Main Monitor Spot Mask	
Split Mode 1×1	
1 💌	
Dwell Time 5	
Max Group:16. Current Group:1     Default Apply	Exit

Fig 4-9 live configuration-Spot

#### 4.2.4 Mask

User can setup private mask area on the live image picture, max threes areas. **Setup mask area:** click Setting button, enter into live image to press left mouse and drag mouse to set mask area, refer to below picture. Click Apply button to save the setting.

**Delete mask area:** select a certain mask area, click left mouse to delete that mask area, click Apply button to save the setting.



Fig 4-10 live configuration-mask



Setup mask area



Live image mask area

# 4.3 Record configuration

Record configuration includes six sub menus: enable, record bit rate, time, recycle record, stamp and snap.

#### 4.3.1 Enable

Step1: enter into system configuration  $\rightarrow$  record configuration  $\rightarrow$  enable; refer to Fig 4-11:

RECOR	D				X
Enable	Record Bitrate	Time	Stamp	Recycle Record	Snap
СН	Record		Audio		
1					
2					
3					
4					
All					
			Default		Exit

Parameter	Meaning		
Record	Record switch of every channels		
Audio	Enable live record audio		

Fig 4-11 record configuration-enable

Step2: tick off record, audio and record time

Step3: user can setup all channels with same parameters, tick off "all", then to do relevant setup.

Step4: click "default" button to resort default setting; click "apply" button to save the setting; click "exit" button to exit current interface.

#### 4.3.2 Record stream

Step1: enter into system configuration  $\rightarrow$  record configuration  $\rightarrow$  record bit rate; refer to Fig 4-12:

Step2: setup rate, resolution, quality, encode and max bit stream

Step3: user can setup all channels with same parameters, tick off "All", then to do relevant setup.

Step4: click "default" button to resort default setting; click "apply" button to save the setting; click "exit" button to exit current interface.

Note: if the rate value set is over high the maximum resources of the device, the value will be adjusted automatically.

Enable F	Record Bitrate	Time	Stamp	Rec	ycle Record Snap
СН	Resolution	fp	s		Quality
1	CIF	<b>-</b> 3	0		Higher 🔽
2	CIF	3	0		Higher 🔽
3	CIF	3	0		Higher 🔽
4	CIF	3	0		Higher 🔽
5	CIF	3	0		Higher 🔽
6	CIF	3	0		Higher 🔽
7	CIF	3	0		Higher 🔽
8	CIF	63	0		Higher 💽
All Remaining : 0 (CIF), 0 (HD1), 0 (D1).					
	CIF	3	0		Higher 🔽
			Default		Apply Exit

Digital Video Recorder User Manual

Parameter	Meaning		
Resolution	Support CIF, D1, HD1		
fps	Range from 1-30 (NTSC) 1-25(PAL)		
Quality	The higher the value is, the clearer the Recorded image is. Six options: lowest, lower, low, medium, higher and highest.		

Fig 4-12 record configuration-record bit rate

# 4.3.3 Time

Step1: enter into system configuration  $\rightarrow$  record configuration  $\rightarrow$  time; refer to Fig 4-13:

Pre-alarm record time: the record time before event happen i.e. record time before motion detection or sensor alarm is triggered.

**Post-alarm record:** set the post recording time after the alarm is finished, five options: 10s, 15s, 20s, 30s, 60s, 120s, 180s and 300s.

Expire time: the hold time of saved records. If the set date is overdue, the record files will be deleted automatically.

Step2: user can setup all channels with same parameters. Tick off "all" to do relevant setup.

Step3: click "default" button to resort default setting; click "apply" button to save the setting; click "exit" button to exit current interface.

REC	ORD	×
Enab	ole Record Bitrate Time Stamp	o Recycle Record Snap
СН	Pre-alarm Record Time[S]	Post-alarm Record Time[S] Expire[Days]
1	5	5X60 🔽 Never 🔽
2	5	3X60 🔽 Never 🔽
3	5 🗸	2X60 Never
4	5	30 Never 🛡
5	5	30 💌 Never 🛡
6	5 🗸	30 🔽 Never 🔽
7	5 🗸	30 Never 🗸
8	5	30 Never 🛡
All		
	5	30 Never 🛡
		Default Apply Exit

Fig 4-13 record configuration-time

#### 4.3.4 Stamp

**Stamp**: User can overlap the channel name and time stamp on video.

Step1: enter into system configuration  $\rightarrow$  record configuration  $\rightarrow$  stamp; refer to Fig 4-14:

RECO	RD		X
Enable	e Record Bitrate	Time Stamp	Recycle Record Snap
СН	Camera Name	Time Stamp	Position
1			Setting
2			Setting
3			Setting
4			Setting
All			
			Setting
		Default	Apply Exit

Fig 4-14 record configuration-stamp

Step2: tick off camera name, time stamp; click Setting button, and then user can use cursor to drag the camera name and time stamp in random positions. Please refer to below Figures:



Before drag

after drag

Step3: user can also setup all channels with same parameters.

Step4: click "default" button to resort default setting; click "apply" button to save the setting; click "exit" button to exit current interface

#### 4.3.5 Recvcle record

Step1: enter into system configuration  $\rightarrow$  record configuration  $\rightarrow$  recycle record;

Step2: tick off recycle record to enable the recycle record function. It will cover the earlier recorded files and keep recoding when HDD is full; if disenabled, it will stop recording when HDD is full.

Step3: click "default" button to resort default setting; click "apply" button to save the setting; click "exit" button to exit current interface.

## 4.3.6 Snap

In this interface, User can set up Resolution, quality, snap interval, snap number.

# 4.4 Schedule configuration

Schedule configuration includes three sub menus: schedule, motion and alarm.

#### 4.4.1 Schedule

The volume means the seven days of a week from Monday to Sunday; the row means 24 hours of a day. Click the grid to do relevant setup. Blue means checked area, gray means unchecked area.

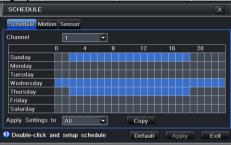


Fig 4-15 schedule configuration-schedule

Step2: select channel, double-click and a dialog box will pop-up as Fig 4-16, user can edit week schedule:

SCHEDULE	X
Week Days Sunday 💌	Apply Settings To Sunday 💌 Copy
Start Time	End Time
00:00	23:59
02:01	23:59
Add Delete	OK Exit

Fig 4-16 schedule-week schedule

① Click "add" button to add a certain day schedule; click "delete" button to delete the selected schedule;

Copy: user can copy the specify schedule to other dates.

Click "OK" button to save the setting, click "Exit" button to exit current interface.

② User can apply the schedule setting of certain channel to other or all channels. Just only select channel and click "Copy" button.

Step3: click "apply" button to save the setting.

### 4.4.2 Motion

Step1: enter into system configuration  $\rightarrow$  schedule configuration  $\rightarrow$  motion; refer to Fig 4-17: Step2: the setup steps of motion are familiar with schedule; user can refer to 4.4.1 Schedule for details.



Fig 4-17 schedule configuration-motion

Note: the default schedule of motion detection is full-selected, that is, the color of schedule setting interface is blue.

#### 4.4.3 Sensor

Step1: enter into system configuration → schedule configuration → alarm; refer to Fig 4-18:



Fig 4-18 schedule configuration-sensor

Step2: the setup steps of alarm are familiar with schedule; user can refer to 4.4.1 Schedule for details.

Note: the default schedule of sensor is full-selected, that is, the color of schedule setting interface is blue.

# 4.5 Alarm configuration

Alarm configuration includes five sub menus: sensor, motion, video loss, other alarm and alarm out.

# 4.5.1 Sensor

Sensor includes three sub menus: basic, alarm handling and schedule.

1 Basic

Step1: enter into system configuration → alarm configuration → sensor → basic; refer to Fig 4-19:

Step2: enable sensor alarm and set the alarm type according to triggered alarm type. Two option: NO and NC.

Step3: user can setup all channels with same parameters, please tick off "all", and then to do relevant setup.

Step4: click "default" button to resort default setting; click "apply" button to save the setting; click "exit" button to exit current interface.

SENSOR				
Basic Alarm Handling Schedule				
	Enable	Type Name		
1		NO 💆 SEN	SOR 1	
2		NO 🔽 SEN	50R 2	
3		NO 💆 SEN:	SOR 3	
4		NO 🔽 SEN:	SOR 4	
All				
		NO		
Default Apply Exit				

Fig 4-19 alarm configuration-sensor-basic

#### 2 Alarm handling

Step1: enter into system configuration  $\rightarrow$  alarm configuration  $\rightarrow$  sensor  $\rightarrow$  alarm handling; refer to Fig 4-20: Step2: select hold time and click Trigger button. Then a dialog box will pop-up as Fig 4-21:

SENSOR				
Basic Alarm Handling Schedule				
	Hold Time[s]		Trigger	
1	10		Trigger	
2	10		Trigger	
3	10		Trigger	
4	10		Trigger	
All				
	10		Trigger	
Default Apply Exit				

TRIGGER - Channel 1			
Alarm To Record To P.T.Z			
Buzzer			
Show Full Screen	None		
To Alarm Out	1		
Email			
Snap			
	5 6 7 8		
	OK Exit		

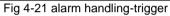


Fig 4-20 alarm configuration-sensor-alarm handling

Step3: After selecting Buzzer, there will be triggered buzzer alarm out;

Full screen alarm: when triggered alarm, there will pop up full screen alarm;

**Email:** tick of this function. When an alarm trigged, a notification email will be sent to user's designed email box including trigger events, time, snap pictures, device name, ID camera name etc.

**Snap:** Select channels. When an alarm is trigged, the system will automatically save the captured pictures from the selected channel. If user tick off Email function, these pictures will also be sent to user's designed email box.

To alarm out: When selecting the channel, there will be triggered alarm out in the designated channel. Click OK button to save the setting; click Exit button to exit the current interface.

**To record:** tick off recoding channels. It will record the camera when alarm triggered. Click OK button to save the setting; click Exit button to exit the current interface.

**To P.T.Z:** set linked preset and cruise for alarm. User can select any channel and multi channels as linked channels. Click OK button to save the setting; click Exit button to exit the current interface.

Step4: user can also setup all channels with same parameters.

Step5: click "default" button to resort default setting; click "apply" button to save the setting; click "exit" button to exit current interface.

#### ③ Schedule

Step1: enter into system configuration  $\rightarrow$  alarm configuration  $\rightarrow$  sensor  $\rightarrow$  schedule; refer to Fig 4-22:

Step2: the setup steps of sensor schedule are familiar with schedule; user can refer to 4.4.1 Schedule for details.



Fig 4-22 sensor-schedule

Note: the default schedule of sensor is full-selected, that is, the color of schedule setting interface is blue.

#### 4.5.2 Motion

Motion includes two sub menus: motion and schedule.

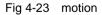
① Motion

Step1: enter into system configuration → alarm configuration → motion; refer to Fig 4-23:

Step2: enable motion alarm and set alarm hold time which means time interval between two adjacent detective motions. If there is other motion detected during the interval period which is considered continuous movement; otherwise, it will be considered that those two adjacent detective motions are two different motion events.

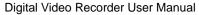
Click Trigger button to pop up a dialog box.

Motion Schedule						
сн	Enable	Holding Time[s]	Trigger	Area		
		10	Setting	Setting		
2		10	Setting	Setting		
		10	Setting	Setting		
4		10	Setting	Setting		



Step3: the setup steps of motion trigger are familiar with alarm handling; user can refer to Chapter 4.5.1 Sensor →alarm handling for more details.

Step4: click Area button to pop-up a window as Fig 4-24:



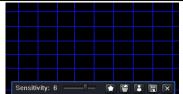
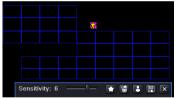


Fig 4-24 motion-area

Step5: in the Area interface, user can drag slide bar to set the sensitivity value (1-8), the default value is 4. The higher the value is the higher sensitivity you get. Due to the sensitivity is influenced by color and time (day or night), user can adjust its value according to the practical conditions; click icon, set the whole area as detection area; click icon, the set detection area will be cleared; click icon, user can test whether the sensitivity value and motion area are suitable accordingly (refer to following picture); Click icon, to save the setting; click icon, exit current interface.



Note: when user drag mouse to set motion detection area, they have to click 🛍 icon to clear all set detection area firstly, and then make the operation.

Step6: user can also setup all channels with same parameters.

Step7: click "default" button to resort default setting; click "apply" button to save the setting; click "exit" button to exit current interface.

2 Schedule

Step1: enter into system configuration  $\rightarrow$  alarm configuration  $\rightarrow$  schedule; refer to Fig 4-25:

Step2: the setup steps of alarm schedule are familiar with schedule; user can refer to 4.4.1 Schedule for details.

# 4.5.3 Video loss

Step1: enter into system configuration →alarm configuration →video loss; refer to Fig 4-26:

Step2: the setup steps of video loss trigger are familiar with alarm handling; user can refer to Chapter 4.5.1 Sensor →alarm handling for more details.

Step3: user can also setup all channels with same parameters.

Step4: click "apply" button to save the setting; click "exit" button to exit current interface.

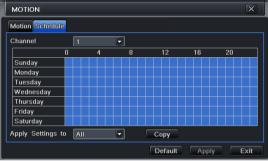


Fig4-25 alarm configuration-schedule

# 4.5.4 Other alarm

This tab gives a choice to configure alarm for Disk Full, IP Conflict, the Disconnect event, Disk Attenuation Warning or Disk Lost.

Step1: enter into system configuration  $\rightarrow$  other alarm; refer to Fig 4-27:

Step 2: Use the dropdown menu and select the event or the alarm.

Step 3: Check the required trigger options.

If the selected event is "Disk Full", then use the drop down box for "Disk Shortage Alarm" to choose a threshold value for remaining HDD space. If the threshold value is reached, the system will trigger the Disk Full Alarm. Click "Apply" to save settings; Click "Exit" to exit the current interface.



Fig 4-26 alarm configuration-video loss

OTHER ALARM	X
Alarm Type	IP Conflict 🥃
Buzzer	
To Alarm Out	☑ 1
	Default Apply Exit
	7 other clarm

#### 4.5.5 Alarm out

Alarm out includes three sub menus: alarm out, schedule and buzzer

Alarm out

Step1: enter into system configuration →alarm out; refer to Fig 4-28:

Step2: in this interface, set relay alarm out name, select hold time which means the interval time between the two adjacent alarms.

Step3: user can setup all channels with same parameters. Tick off "all" to do relevant setup.

2 Step4: click "apply" button to save the setting; click "exit" button to exit current interface.

out

③ Schedule

Step1: enter into system configuration  $\rightarrow$  schedule;

Step2: the setup steps of alarm out schedule are familiar with schedule; user can refer to 4.4.1 Schedule for details.

Note: the default schedule of motion detection is full-selected, that is, the color of schedule setting interface is blue.

④ Buzzer

Step1: enter into system configuration→buzzer;

Step2: tick off Buzzer, set buzzer alarm hold time

# 4.6 Network configuration

Network configuration includes five submenus: network, sub stream, Email, server and other settings.

#### 4.6.1 Network

Step1: enter into system configuration → network

configuration → network; refer to Fig4-29:

Step2: HTTP port: the default value is 80. If the value changed, user needs to add the port number when typing IP address in IE address blank .i.e. set HTTP port to 82, IP address: http://192.168.0.25, user needs to input that address: http://192.168.0.25;82 into IE browser.

ALARM OUT			
Alarm (	Out Schedule Buzzer		
	Relay Name	Hold Time[s]	
1	ALARM OUT 1	10	
All			
		10	
	Default	Apply	Exit

Fig 4-28 system configuration-alarm

Server port: communication port

Step3: After selecting the "Obtain an IP address automatically", the device will distribute IP address, subnet mask, and gateway IP and DNS server.

Step4: enable PPPoE to directly connect the DVR to internet via ADSL and then input the user name and password; click TEST button to test the effectiveness of the relevant information.

NETWORK	X
Network Sub-stream Email Server	Other Settings
HTTP Port	80
Server Port	6036
Obtain an IP address automatically	
IP Address	192.168.011.061
Subnet Mask	000.000.000.000
Gateway	192.168.011.001
Preferred DNS Server	192.168.011.001
Alternate DNS Server	000.000.000.000
PPPoE	
User Name	
Password	
	Test
Default	Apply Exit

Fig 4-29 network configuration-network

#### 4.6.2 Sub stream

Step1: enter into system configuration  $\rightarrow$  network configuration  $\rightarrow$  sub stream; refer to Fig 4-30:

Step2: select fps, resolution, quality.

Step3: user can also setup all channels with same parameters.

Step4: click "apply" button to save the setting; click "exit" button to exit current interface.

Netwo	ork Sub-stream	Email Server	Other Settings		
СН	Resolution	fps	Quality		
1	CIF 🔽	3 🔽	Higher 🔽		
2	CIF	3	Higher 🔽		
3	CIF 🛡	3	Higher 🔽		
4	CIF 🔽	3	Higher 🔽		
5	CIF 🛡	3	Higher 🔽		
6	CIF 🔽	3 🔽	Higher 🔽		
7	CIF 🔽	3	Higher 🔽		
8	CIF 🔽	3	Higher 🔽		
All	All Remaining : 32 (CIF).				
	CIF	3X8 💽	Higher 🛡		
		Default Ap	ply Exit		

Fig 4-30 network configuration-sub stream

# ParameterMeaningFPSRange from: 1-25ResolutionSupport CIFQualityThe higher the value is, the clearer the<br/>record image. Six options: lowest,<br/>lower, low, medium, higher and highest.

# 4.6.3 Email

Step1: enter into system configuration → network configuration → email; refer to Fig 4-31:

SMTP Server/Port: the name and port number of SMTP server. After selecting "This server requires a secure connection

(SSL)", user can setup mail servers (such as Gmail) according to actual needs.

Send address/password: sender's email address/password

Send address/password: sender's email address/password

Receive address: receiver's email address. Here user can add at least three mail addresses.

Click TEST button to test the validity of the mailbox.

Attaching image: Tick off this item. The system will attach images when sending the emails.

Network	Sub-stream	Ema	ail	Server	Other Settings
SMTP Se	rver		xx>	x	
Port		Ī	25		
SSL Che	ck	Ĩ			
Send Add	dress	[	xx>	@hotm	ail.com
Password	t	[	 		
Receive	Receive Address1		xxx@163.com		
Receive Address2		[			
Receive	Address3	[			
		ĺ		Test	
Advance	d				
Attaching	Attaching Image				
		)efau	ult	Ар	ply Exit

Fig 4-31 network configuration-email

#### 4.6.4 Server

This function is mainly used for connecting ECMS. The user needs to enable the active report first in the ECMS when adding a new device. Then enter into the server interface and enable it. Input the IP address and port of the transfer media server of ECMS. The default server port is 2009. If it is modified, please enter into the transfer media interface to check. After the user enables the active report, the ECMS system will auto allot a Device ID. The user needs to check this reported device ID in the ECMS.

Network Sub-stream	Email Server Other Settings		
Enable			
Server	192.168.3.123		
Server Port	2009		
Device ID	382		
Default Apply Exit			

Fig 4-32 network configuration-server

#### 4.6.5 Other settings

Step1: enable DDNS server: user needs to input user name, password and host domain name of the registered website, click TEST to test the effectiveness of the relevant information.

Step2: click "default" button to resort default setting; click "apply" button to save the setting; click "exit" button to exit current interface.

NETWORK				
Network Sub-stream Emai	Server Other Settings			
DDNS				
DDNS Type	www.dvrdydns.com 🛡			
User Name				
Password				
Host Domain				
DDNS Update [Hours]	3			
	Test			
• UPnP				
Defau	ılt Apply Exit			

Fig 4-33 network configuration-other settings

Note: The domain name server that selected by user is a banding domain name of DVR. User should logon the website which provided by the server supplier to register a user name and password firstly, and then apply a domain name on line for the server. After the successful apply, user can access the server from the IE client by inputting that domain name.

**Enable UPnP:** User may select UPnP and then enable UPnP function in the user's router. Then user can access DVR through WAN. When accessing the DVR through IE, user can check the IP address by the following method: Double-click the "My Network Places" icon on the desktop in PC, select "Show icons for networked UPnP devices" in the "Network Tasks" list box, a information window will pop up, click "YES" button, "Windows Components Wizard" dialog box will pop up as shown as below picture, press "Next" to continue. After finished the installation of configuring components, the UPnP icons will display. Users

can double-click certain icon and check the IP address of the device.



If "Show icons for networked UPnP devices" can't display in the "Network Tasks" list box, please follow the below operation:

- Click "Tools" -- "Folder options" .
- Select the "Show common tasks in folders" in the "Tasks" check box to display the UPnP icon. .

	Tools Help			
	Map Network Drive Disconnect Network Drive Synchronize	•	General View	
,	Folder Options		Show common tasks in folders     Use Windows classic folders	

Domain name Registration (Take www.dyndns.com for example) 1.

Note: Users can self-define the hostname, username and password.

Input www.dyndns.com in the IE address bar, user can access the domain name registration interface. Click" Dynamic DNS service "→" Create Free Hostname" to register. For example: Hostname is "abc.dyndns.tv.

After user fill in the blank, click "Add to cart", Dynamic DNS Hosts dialog box will be displayed.

Hostname:	abc	. dyndns.tv 🖌		
Wildcard Status:	Disabled [Want Wildcard support?]			
Service Type:	Host with IP address [?]     Webling Dedirect [3]			
	WebHop Redirect [?]     Offline Hostname [?]			
IP Address:	210.21.229.138 Your current location	n's IP address is 210.21.229.138		
Mail Routing:		figure Email routing. [?]		

Then create user account. For example, the username is "bcd", password is "123456". Click" Create Account" button to create user account.

#### 2. DVR Setting

(1) Domain name

According to the domain name registration of "DDNS", the domain name for DVR is "www. abc.dyndns.tv"

(2) Username and password

According to the above registration, username is "bcd". According to the above registration, password is "123456"

#### 3. Application

Connect DVR to the Network Client.

① Enter into Basic configuration→Network→other settings, tick off DDNS, and select "Dyndns" at the DDNS Sever pull down list box and input user name and password.

Username	bcd
Password	•••••
Confirm password	•••••
Email	abc@yahoo.com.cn
Confirm Email	abc@yahoo.com.cn
Security Image	5 2 5 1 7
	Enter the numbers from the above image:
	52517
Subscribe to	DynDNS.com newsletter (1 or 2 per month) Dyn Inc. press releases
✓ I agree with the second	e acceptable use policy (AUP) and privacy policy.
Create Account	)

2 Enter into configuration interface of the router to map the server port and IP address (if the user enables UPnP function, he can skip this step). Click Save button to save the setting

3 Login IE browser and input registered domain name "http://www.abc.dyndns.tv", connect to DVR client.

If the value changed, user needs to add the port number when typing IP address in IE address blank .i.e. set HTTP port to 82, IP address: http://192.168.0.25, user needs to input that address: http://192.168.0.25:82 into IE browser.

#### Definitions and descriptions of network configuration:

Note

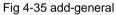
DDNS server	Website provided by dynamic domain name supplier. The
	optional: www.meibu.com , www.dyndns.com,
	www.no-ip.com and mintdns type.
User name	User name for log in the website of domain name supplier
Password	Password for log in the website of domain name supplier
Host domain	The domain name user registered at the supplier's website.
Update interval	The interval time of upgrading DVR IP address

# 4.7 User management configuration

Step1: enter into system configuration → user management configuration; refer to Fig 4-34: Step2: After clicking Add button, a dialog box will pop-up as Fig 4-35:

				ADD USER		$\overline{\mathbf{X}}$
				General Authority		
				User Name	guest	
USER MANAGER				Password		
User Name	User Type	PC MAC Address		Confirm Password		
				User Type	Normal	
admin	Admin	00-00-00-00-00-00		Binding PC MAC Address		
				PC MAC Address	00-00-00-00-00	
Add Setup	Delete	Change Password	Exit		ОК	Exit

Fig 4-34 user management configuration



① General: Input user name, password; select user type: normal and advance, input the MAC address of the PC; click OK button, this user will be added into the user list box; click Exit button to exit the current interface.

Note: when the default value of binding PC MAC address is 0, the user is not bind with the specify computer; the, the user can log in DVR on the binding computer after set the specific binding MAC address.

#### 2 Authority:

Step1: enter into Add user $\rightarrow$  authority referring to Fig 4-36:

Step2: In the authority interface, assign the definite operation right for that user.

Step3: in the user management interface, click Setup button to modify user name, user type and binding PC MAC address.

Step4: select the user that user wants to delete in the user list box and then click Delete button to delete this user.

Step5: click Change password button to modify the password and then click Exit button to exit the current interface.



#### Fig 4-36 add- authority

# 4.8 P.T.Z configuration

P.T.Z configuration includes two submenus: serial port and advance

① Serial port

Step1: enter into system configuration→P.T.Z configuration→serial port; refer to Fig 4-37

Step2: tick off Enable and setup the value of address, baud rate and protocol according to the settings of the speed dome.

P.T.Z					X			
Serial	Port Adva	nced				Para	ameter	Meaning
СН	Enable	Address	Baud Rate	Protocol	Simulative Cruise	Ad	ldress	The address of the PTZ device
1		1 🛡	9600 🛡	PELCOP 🛡				Baud rate of the PTZ device. Range form: 110,
2		2 🛡	9600 💌	PELCOP 🔽				300, 600, 1200, 2400, 4800, 9600, 19200,
3		3 🗸	9600 🛡	PELCOP 🔽		Bau	ud rate	34800, 57600, 115200, 230400, 460800,
4		4 🗸	9600 🛡	PELCOP 🔽				,,,,
5		5 💌	9600 🛡	PELCOP 🔽				921600.
6		6 🗸	9600 🛡	PELCOP 🛡				Communication protocol of the PTZ device.
7		7 💌	9600 🛡	PELCOP 🛡		Dr	oto ool	Range from: NULL, PELCOP, PELCOD, LILIN,
8		8 🛡	9600 🛡	PELCOP 🛡		PI	otocol	MINKING, NEON, STAR, VIDO, DSCP, VISCA,
All								SAMSUNG, RM110, HY, N-control.
			9600 🛡	PELCOP 🛡		Sim	ulative	If enabled, no matter whether the PTZ device
				Default	Apply Exit	С	ruise	supports cruise or not, the presets will cruise.

Fig 4-37 P.T.Z configuration-serial port

#### ③ Advance

Step1: enter into system configuration  $\rightarrow$  P.T.Z configuration  $\rightarrow$  advance; refer to Fig 4-38:

Step2: in the Advance interface, after clicking preset "Setting" button, a dialog box will pop-up as Fig 4-39:

X

#### Serial Port Advance Setting Settina Default Apply Exit

P.T.Z

Fig 4-38 P.T.Z configuration-advance

a, in the preset set interface, click Setting button to see a window as Fig 4-40

b. user can control the dome rotates up, up left, down, right down, left, left down, right and up right and stop rotating; adjust the rotate speed and the value of zoom, focus and iris of the dome;

c. select the serial number of the preset point. Click 🔯 button to enable the PTZ wiper and click 🔯 button to enable the PTZ light.

Note: PTZ must support wiper and light, these two functional buttons can take effect. At the same time these two buttons are just available when selecting PELCOP or PELCOD.

Click Save button to save the settings; click - icon to hide the tool bar, right-key can remerge it; click icon to exit the current interface.

d. in the preset interface, click OK button to save the setting; click Exit button to exit current interface.

Step3: in the Advance interface, click cruise "Setting" button, a dialog box will pop-up as Fig 4-41:

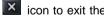
a. click Add button to add cruise line in the list box (max 8 cruise line can be added); select a cruise line and click Setup button, to see a window as Fig 4-42:



Fig 4-40 preset set-setting



Fig 4-39 advance-preset setting



		CRUISE PRESET			×
		No. 7	Name Cruise		]
		Preset	Speed	Time	+
CRUI	SE - Channel 1	256	1	5	
No.	Name	256	2	5	
1	Cruise	256	3	5	Ŧ
2	Cruise	258	4	5	<b>(</b>
	Cruise				
1/1		1/1			
Add			Prev	/iew OK Ex	it
	Fig 4-41 cruise setting	Fig 4-42 (	cruise set-modif	y cruise line	

b. click Add icon 📰 to set the speed and time of preset point; select a preset point and click Delete icon 🛍 to delete that

preset point; click Modify icon it to modify the setting of a preset point. User can click it is those icons to adjust the position of preset point. Click Preview button to preview the cruise line and then click OK button to save the setting. Next, click Exit button to exit current interface.

c. select a preset point in the cruise line list box and click Delete button to delete that cruise line; click Clear all button to clear all cruise line from the list box; click OK button to save the setting; click Exit button to exit current interface.

Step4: in the Advance interface, click track "Setting" button to pop up a dialog box as Fig 4-43:

 - Zoom +
 Track

 - Focus +
 Start Record

 - Iris +
 Start Track

 Speed: 5
 - X

Fig 4-43 track setting

a. user can control the dome rotates up, up left, down, right down, left, left down, right and up right and stop rotating; adjust the rotate speed and the value of zoom, focus and iris of the dome; click Start Record button to record the move track of PTZ and click this button again can stop record; click Start track button to play recorded track and click this button again can stop play.

b. click 📕 icon to hide the tool bar, right-key can remerge it; click 💌 icon to exit the current interface.

Step5: in the Advance interface, click "default" button to resort default setting; click "apply" button to save the setting; click "exit" button to exit current interface.

# 4.9 Advanced

Advanced configuration includes three submenus: reset, import/export and Block/Allow list.

#### 4.9.1 Reset

Reset all settings the device will reboot.

#### 4.9.2 Import/Export

User can export the data files into mobile storage devices as backup function, and then import specified data files from mobile storage device to DVR.

#### 4.9.3 Block/Allow list



#### Fig 4-44 Block/Allow list

Here authorized user can prohibit computer users within a certain IP address segment from accessing to DVR or admit computer users within a certain IP address segment into DVR. For example, if authorized user don't want computer users within IP address segment from 196.168.000.002 to 196.168.000.004 to access to DVR, authorized user can tick off Block list, and then input such IP address segment. After that, click Apply to save settings. If authorized users allow computer users within a certain IP address segment to access DVR, they can tick off Allow-list, and then operate in the same way.

# 5 Record search & playback and backup

Search configuration includes four submenus: Time Search, Event Search, File Management and Image.

# 5.1 Time search

Step1: enter into Search configuration → Time Search; refer to Fig 5-1:

SEAF	RCH													X
Time	Search	Event Search	File Mana	gement Imag	je								Sea	rch
			Start 1					201	1		2	2		
				23 / 2011 25			_	Su	Mo	Tu	We	Th	Fr	Sa
	00:00	04:00	08:00	12:00	16:00	20:00	_						4	5
1		++++					-					10	11	12
2		+ + + +					-	13	14	15	16	17	18	19
3 A		++++						20	21	22		24	25	26
5								27	28					
6														
7									1		2	<b>3</b>		]4
8									5		6	7 🗹	~	8

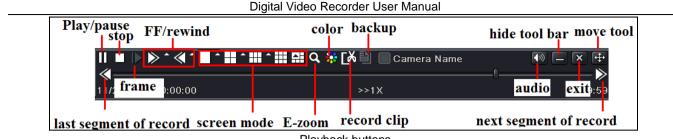
Fig 5-1 Search configuration-time search

Step2: select channel, screen display mode, the highlight date in the calendar means have record data

Step3: select a date and press Search button. Click the time grid to set the play start time or input play record time manually. The selected time match the blue grid.

Note: the vertical column means hours, horizontal column means channels.

Step4: click Play button to playback record; click the relevant buttons on the screen to do operation:



Playback buttons

Note: when the monitor resolution is VGA800\*600, the time search interface will appear a hide button. Click this button to expand the whole interface.

#### The method of record backup during a certain period in the playback interface:

Select the start time by dragging the slider and click icon. Then select the end time and click this icon again to confirm the record period. Next, click icon to backup the record during this period.

# 5.2 Event search

Step1: enter into Search configuration  $\rightarrow$  event search; refer to Fig 5-2:

Step2: After clicking Search button, the searched event information will displayed in the event list box. User can select date, channel. Tick off Motion, Sensor or All accordingly.

Step3: double check a certain record file to playback.

Note: when the monitor resolution is VGA800\*600, the event search interface will appear a hide button. Click this button to expand the whole interface.

SEAF	RCH										X
Time	Search Event	Search File Management	Image						]	Sea	arch
СН	Туре	Start Time	End Time		201	1			2		
1	Motion	02/22/2011 14:45:13	02/22/2011 14:45:22		Su	Mo	Tu	We	Th	Fr	Sa
1	Motion	02/22/2011 10:48:13	02/22/2011 10:59:36				1	2	3	4	5
1	Sensor	02/22/2011 10:20:33	02/22/2011 10:21:59						10	11	12
2	Motion	02/22/2011 14:45:13	02/22/2011 14:45:22	<b>-</b>	13	14	15	16		18	19
2	Sensor	02/22/2011 10:48:13	02/22/2011 10:59:36	11		21	22	23	24		26
2	Sensor	02/22/2011 10:20:33	02/22/2011 10:21:59		27	28					
3	Motion	02/22/2011 14:45:13	02/22/2011 14:45:22						<u> </u>		
3	Sensor	02/22/2011 10:48:13	02/22/2011 10:59:36	-111		<u></u>		2	3		24 28
1/2						5 🗹		6	7 🗹		<u>8</u>
Mo	otion	Sensor All									

Fig 5-2 Search configuration-event search

# 5.3 File management

Step1: enter into Search configuration  $\rightarrow$  file management; refer to Fig 5-3:

Step2: When clicking Search button, the searched files will be displayed in the file list box; user can select date, channels accordingly.

Lock: select a file and click Lock button to lock this file, after that, that file will not be deleted or covered.

Unlock: select a locked file and click Lock button to unlock this file

Delete: select an unlocked file and click Delete button to delete this file.

Step3: tick off "All" button and then user can lock/unlock or delete all files in the file management column.

Step4: double click an unlocked item to playback.

S	EARCH	I									X
Ti	me Sea	arch Event Search File M	anagement Image						[	Sea	arch
	СН	Start Time	End Time	Status	201				2		
	1	02/22/2011 14:45:13	02/22/2011 14:45:22		Su	Mo	Tu	We	Th	Fr	Sa
	1	02/22/2011 10:48:13	02/22/2011 10:59:36				1	2	3	4	5
	1	02/22/2011 10:20:33	02/22/2011 10:21:59								
	2	02/22/2011 14:45:13	02/22/2011 14:45:22			14		16		18	19
	2	02/22/2011 10:48:13	02/22/2011 10:59:36				22	23	24	25	26
	2	02/22/2011 10:20:33	02/22/2011 10:21:59		27	28					
	3	02/22/2011 14:45:13	02/22/2011 14:45:22								
	3	02/22/2011 10:48:13	02/22/2011 10:59:36			✓ 1		2 ]6	3		14 18
	3	02/22/2011 10:20:33	02/22/2011 10:21:59			25		16	7 🗹	E	98
1/:	2		All 🔲 🔣								
	Delete	Lock									

Fig 5-3 Search configuration-file management

# 5.4 Image

In this interface, user can set start, end time and channels to search the captured images and save, lock or delete these images. There are at most 2000 images which can be saved in the SATA disk. If there are more images saved in the SATA disks than 2000 images, those additional images will supersede prior images. Double click the image with the left mouse, it will automatically playback from the time of the image captured.

# 5.5 Backup

This unit supports backup by USB device, through the USB port on the front panel. User also can make backup by IE browser via internet. Refer to 7.3.2 Remote backup.

Step1: enter into backup configuration; refer to Fig 5-4:

BACKUP			X
CH 1 1 1 1 1 1 1 1 0 1 0 1 0 0 0 0 0	01/28/2010 11:04:02 01/28/2010 11:50:42 01/28/2010 16:01:49 01/28/2010 16:48:29	End Time 01/28/2010 10:17:22 01/28/2010 11:04:02 01/28/2010 11:50:42 01/28/2010 16:01:49 01/28/2010 16:48:29 01/28/2010 17:35:10 I	Start Time       14 / 06 / 2010       225         00 : 00 : 00       00         End Time       04 / 06 / 2010       225         23 : 59 : 59         Image: Image of the state o
			Backup Search Exit

Fig 5-4 backup configuration

Step2: set the start & end time, select channels and click Search button to display the searched data in the data backup list box Step3: checked a data file or tick off "All" to select all data files, click Backup button, Backup information dialog box will pop-up. Step4: in the backup information interface, user can check the relevant information of backup files, storage type, save file type, etc. click Start button to starting backup.

# 6 Manage DVR

# 6.1 Check system information

Check system information includes five submenus: system, event, log, network and online user.

#### 6.1.1 System information

In this interface, user can check the hardware version, MCU version, kernel version, device ID, etc.

#### 6.1.2 Event information

In this interface, user can check record events according to set date.

# 6.1.3 Log information

In this interface, user can check relevant log information according to set date;

# 6.1.4 Network information

In this interface, user can check relevant parameters of network.

# 6.1.5 Online information

In this interface, user can check the details of the current connection of online users.

Refresh: refresh the current interface.

**Disconnect:** the administrator authorized to disconnect the client terminal. When disconnected, that PC will not be able to access the device within five minutes.

# 6.1.6 Record information

In this interface, a user can check resolution, ftp and record status including sensor alarm recording, motion recording, manual recording or schedule recording.

# 6.2 Manual alarm

In this interface, user can check the relevant parameters of manual alarm.

# 6.3 Disk management

#### 1. Format the disk

Step1: enter into disk management interface

Note: please format the hard disk before record. If not being formatted, it will show the status of the disk-free space, and total space show OM at the bottom of screen.

Step2: click Refresh button to refresh the disk information of the list box; set the property of the disk then click Apply button to save the setting

Step3: select a hard disk and click Format button to star format.

#### Note: all recorded files in the hard disk will be lost after formatted.

#### 2. Advanced

User may check model, S/N, firmware, health status of the disk in this interface. User also can monitor the temperature, internal circuit, dielectric material of the disk, analysis the potential problems of the disk and warn so as to protect its data.

# 6.4 Upgrade

At present, it only supports USB update. Get the software from your vendor when there is a new software version, and make sure it is corresponding with the DVR. User can check the USB information in Disk management.

**Software Upgrade:** user needs to copy the upgrade software which get from vendor into the USB storage device and then connect to the USB port. Enter Menu→Upgrade, the upgrade software name is displayed in the upgrade list box, select that software and click Upgrade button to start upgrading. Please wait for a while when the system is rebooted. Please don't cut off power during upgrading. The original configuration will be reserved after upgrade.

# 6.5 Logoff

Click Log off icon, a log off dialogue box will popup, click OK button, the device will log off. If user wants to log in again, click is in the device will log off. If user wants to log in again, click is a click in the device will log off. If user wants to log in again, click is a click is a click in the device will log off. If user wants to log in again, click is a click is a click in the device will log off. If user wants to log in again, click is a click is a click in the device will log off. If user wants to log in again, click is a click in the device will log off. If user wants to log in again, click is a click in the device will log off. If user wants to log in again, click is a click in the device will log off. If user wants to log in again, click is a click in the device will log off. If user wants to log in again, click is a click in the device will log off. If user wants to log in again, click is a click in the device will log off. If user wants to log in again, click is a click in the device will log off. If user wants to log in again, click is a click in the device will log off. If user wants to log in again, click is a click in the device will log off. If user wants to log in again, click is a click in the device will log off. If user wants to log in again, click is a click in the device will log off. If user wants to log in the device will log off. If user wants to log in the device will log off. If user wants to log in the device will log off. If user wants to log in the device will log off. If user wants to log in the device will log off. If user wants to log in the device will log off. If user wants to log in the device will log off. If user wants to log in the device will log off. If user wants to log in the device will log off. If user wants to log in the device will log off. If user wants to log in the device will log off. If user wants to log in the device will log off. If user wants to log in the device will log off. If user wants to log in the device will log off. If user wants to log i

# 7 Remote Surveillance

# 7.1 IE Remote Surveillance

In order to view the DVR from a network it must be connected to a LAN/WAN or internet. The network setup should be done accordingly. Please refer to 4.6 Network Setup. This DVR supports IE browser, on Windows XP and Vista platform.

# 7.1.1 On LAN

Step 1: Enter into the DVR's Main Menu→Setup→Network interface to input IP address, Subnet Mask, etc .If using DHCP, please enable DHCP in both the DVR and the router.

Step 2: Enter Record Setup to set network video parameters like resolution, frame rate etc.

Step 3: Open IE on a computer on the same network. Input the IP address of the DVR in IE address bar and press enter.

Step 4: IE will download ActiveX component automatically. Enter the username and password in the subsequent window

**Notice**: If HTTP port is not 80, other number instead, need add the port number after IP address. For example, set HTTP port as 82, need input IP address like 192.168.0.25:82.

User name and password here are the same with that used on the DVR. The default is admin and 123456.

# 7.1.2 On WAN

There are two ways for the DVR to connect to internet.

#### 1. Connect the DVR to internet through router or virtual server

Step 1: Enter into the DVR's Main Menu→Setup→Network interface to input IP address, Subnet Mask, etc. If using DHCP, please enable DHCP in both the DVR and router.

Step 2: Forward IP address and port number in Virtual Server setup of the router or virtual server. Configure the firewall to allow accessing the DVR. (If the user has enabled the UPnP function in both the DVR and router, he can skip this step.)

Step 4: If users want to utilize dynamic domain name, please apply for a domain name in a DNS server supported by the DVR or router. Then add to the DVR or router.

This unit supports www.meibu.com , www.dyndns.com , www.no-ip.com and mintdns type.

Step 5: Open IE browser, input IP address, or dynamic domain name and enter. If HTTP port is not 80, add the port number

after IP address or domain name.

Step 6: IE will download ActiveX automatically. Then a window pops up and asks for user name and password. Input name and password correctly, and enter to view.

b Note: If you cannot download and install ActiveX, please refer to Appendix A FAQ8.

#### 2. Connect the DVR to internet directly.

Step 1: Enter into the DVR's Main Menu→Setup→Network interface to enable PPPoE and then input user name and password received from your ISP. Next, click 'Apply'. The DVR will connect to the server and would give a confirmation message.

Step 2: When accessing the remote interface of DVR, user can input WAN IP to access directly (user can enter into Main menu→Information→Network interface to check IP address). The browser will download Active X control



Fig 7-1 View with IE browser

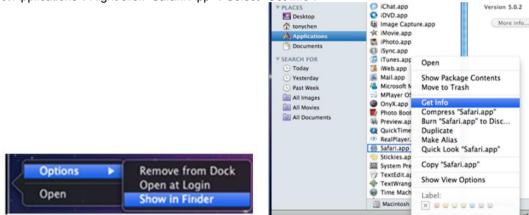
# 7.2 Remote Surveillance through Apple PC

**Note**: Because the current plug-in version of client end just only supports 32-bit mode, so the safari browser shall start 32-bit mode. If the browser is the earlier MACOS version, the default setting is 32-bit mode and the setting can be skipped.

The Setting steps are as follows:

First: Right click safari icon safari and select "Show in Finder".

Second: Select Applications → Right click "Safari. App" → Select "Get Info".



Third: Select "open in 32- bit mode".

▼ General:
Kind: Application (Intel)
Size: 57.3 MB on disk (48,525,663 bytes)
Where: /Applications
Created: 2009-8-20 Thu. 1:22 a. m
Modified: 2010-10-19 Tue.a.n 11:56
Version: 5.0.2, Copyright © 2003-2010 Apple Inc.
Label: 🗙 👜 🛶 🛶 🛶
Open in 32-bit mode
Open using Rosetta
Locked
▶ More Info:
▼ Name & Extension:
Safari.app
Ilide extension

#### 7.2.1 On LAN

Step 1: After starting Apple computer, click Apple icon. The following window will pop up. Please select "System Preferences"→"Internet &Wireless"→click "Network"

About This Mac Software Update Mac OS X Software	
System Preferences Dock	s
Recent Items	Þ
Force Quit Finder	て企業の
Sleep Restart Shut Down	℃∺▲
Log Out coodoo	企業Q

Step 2: Enter into Network interface and then click "Ethernet Connected" to check the internet connection of Apple PC.

Status:	Connected	
	Ethernet is currently active and has the IP address XXX. XXX. XXX. XXX	
Configure IPv4:	(Manually \$	
IP Address:	XXX. XXX. XXX. XXX	
Subnet Mask:	XXX. XXX. XXX. XXX	
Router:	XXX. XXX. XXX. XXX	
DNS Server:	XXX. XXX. XXX. XXX	
Search Domains:		
	Advanced	0

Step 3: After acquiring the IP address, Subnet Mask and so on, please enter into the DVR's Main Menu→Setup→Network interface to manually input IP address, Subnet Mask and Gateway according to the configuration of PC. The network segment should be the same as the PC. If using DHCP, please enable DHCP in the DVR and router.

Step 4: After finishing the above information, users can enter LAN IP and http port in the Safari browser. For example: input http://192.168.1.100:81(here 192.168.1.100 is LAN IP of DVR, 81 is the http port of DVR). Click " © "button, the browser will download Active X control as shown below:



Step 5: Click

icon and then select the Active X control, the welcome interface will be shown. Click "Continue"  $\rightarrow$  "Install"

button, the following window will pop up:

00	😓 Install WebClientPlugin-64	Downloads		
	Welcome to the WebClientPlugin-64 Installer	In-64.pkg		Type your password to allow Installer to make
Introduction		8 Downloads		changes.
Destination Select	You will be guided through the steps necessary to install this software.			Name: coodoo
Installation Type     Installation				Password:
Summary			▶ Details	
	Go Back Continue	)	?	Cancel OK

Input the name and password of Apple PC and then click "OK" to install this Active X control.

Step 6: After finishing installing the Active X control, please quit from the Safari browser. Right click Safari icon on the desktop and then select "Quit" button to quit the browser. Then restart Safari browser. Input the IP address and http port to enter into the login interface of DVR.

#### 7.2.2 On WAN

There are also two ways for DVR to connect to Internet.

#### 1. Connect the DVR to internet through router or virtual server

Step 1: The network setups are the same as step one to step four of point 1 on WAN of IE remote surveillance.

Step 2: Enter WAN IP and http port in the Safari browser to install the Active control. The concrete steps are the same as step 5 and 6 of Chapter 7.2.1.

#### 2. Connect the DVR to internet directly.

Step 1: The network setups are the same as step one of point 2 on WAN of IE remote surveillance.

Step 2: Enter WAN IP and http port in the Safari browser to install the Active control. The concrete steps are the same as step 5 and 6 of Chapter 7.2.1.

# 7.3 The remote live preview interface



Fig 7-2 Remote live preview interface

#### Symbol and function Definitions:

ſ	1	Channel indicator	2	Screen display mode	3	Volume
	4	Snapping picture	5	Start manual record	6	Start IE record
	7	Bidirectional talk	8	Playback	9	Color
	(10)	PTZ control	(11)	Master/sub stream status		

# Note: click **Rec** button to record manual and the record file will be saved in user's PC.

Screen display mode:

Click the 💌 icon beside the screen display mode, channel select dialog will appear as below:

Take 8-channel DVR for example: user can tick off

channels form 1-ch to 8-ch at random to display the live pictures, 6 channels can be selected at most. Then click

OK button to confirm the setting.

~	🗹 01	2 02	<b>V</b> 03	2 04
<b>V</b>	2 05	206	207	<b>V</b> 08
	OK			cel

Fig 7-3 Channel select dialog

Snap pictures

Click "Snap" icon, the system will automatically capture pictures and save those pictures in the computer. User should set up the save path for those picture in the Remote Preview interface  $\rightarrow$  Configuration  $\rightarrow$ Local configuration. Color adjustment:

Drag the slide bar to adjust Brightness, Contrast, Hue, and Saturation. Click Default to reset them to original value.

Buttons	Description	
<u>نې</u> 0	Drag the scroll bar to adjust the brightness of channel	
▲ 0	Drag the scroll bar to adjust the contrast of channel	
	Drag the scroll bar to adjust the saturation of channel	
Drag the scroll bar to adjust the hue of channel		
Ô	Click this button to recover the default value of brightness, contrast, saturation and hue.	
	Save the adjustment	

#### PTZ control

Please connect speed dome to the device via RS485 firstly, make sure the protocol of the speed dome is supported by the device and set the relative parameters manually. User can control the dome up, down, right, left or stop rotating on Control

Center, adjust rotation speed, Iris and zoom, focus on the dome, and set the presets, etc. Buttons definition:

Buttons	Description
	▲ means the dome rotate up. ▶ means the dome rotate up left. ▼ means the dome rotate up right ▼ means the dome rotate down. ▲ means the dome rotate left down. ◀ means the dome rotate right down. ◀ means the dome rotate left. ▶ means the dome rotate right.
	means the dome stop rotating.
	Drag the scroll bar to adjust rotating speed of the dome.
- • +	'Iris' button. Click +button near 'Iris' button to increase light of the dome. Click button near 'Iris' button to decrease light of the dome.
- • +	'Zoom' button. Click +button near 'Zoom' button to zoom in the locale picture of this camera. Click button near 'Zoom' button to zoom out the locale picture of this camera.
- • +	'Focus' button. Click +button near 'Focus' button to have long focus. Click -button near 'Focus' button to have short focus.
▶ ▼	Go to the Preset
	Select and do auto cruise
$\approx$	Track
$\mathbf{c}$	Auto scan
	Wiper button
	Light button

Digital Video Recorder User Manual

Click the right mouse on the live interface, a pull-down menu will appear as below Master Stream All to Master Stream All to Sub-stream Enable Audio Full Screen zoom in

Fig 7-4 right key sub menu

Stream: this DVR supports master stream and sub stream. Master stream has higher frame rate, max 25FPS (PAL) /30 FPS

(NTSC) for every channel, but it needs higher network bandwidth simultaneously; Sub-stream has low frame rate, max 6FPS

(PAL)/7FPS(NTSC) for every channel, it requires low network bandwidth. Therefore, users can select the stream according to their bandwidth.

All to master/sub stream: set all channel to master stream or sub stream.

Enable audio: enable or disenable audio

Full screen: the live preview picture will display with full screen and the tool bar will be hided; double click left mouse or click right mouse to return

Zoom in: Single channel large screen electronic amplification

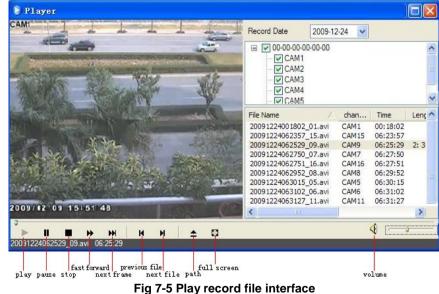
Left click the channel which needs to amplify; Click the right mouse, select Zoom in button and then click the left mouse to amplify the image. Press left mouse to drug the cursor, user can view the image. Double-click the left mouse to exit. Click the right mouse to return to the main interface.

# 7.4 Remote playback & backup

# 7.4.1 Remote playback

Click button to enter into record playback interface, refer to Fig 7-5:

Select the record date and channels; double-click the file name in the record file list box, user can play that file and preview the picture.



This DVR supports remote time search, event search and file management. **By Time Search:** 

**Step1:** Enter into Search → time search; refer to Fig 7-6:

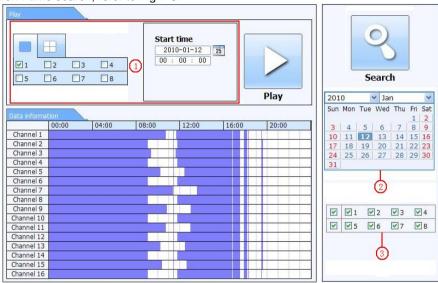


Fig 7-6 time search interface

**Step2:** click "Search" button. The record data will be displayed in the data information list box; the highlight date in the area<sup>(2)</sup> means have record data, click those data; select the record channels in area<sup>(3)</sup>

Step3: User can set the data playing time and display mode in the area (1) as required

**Step4:** Select certain item from the data information list box, click "play" button to playback

**Step5:** Click the relevant buttons in the interface; user can do some operations such as: FF, pause, change channel mode, research, etc. refer to Fig 7-7:



Fig 7-7 Time search playback

#### By Event Search:

**Step1:** Enter into Search → event search; refer to Fig 7-8:

CH	Start time	End time	Туре			6	$\cap$			
1	2010-01-09 00:01:07	2010-01-09 00:02:16	motion			1				
1	2010-01-09 00:03:28	2010-01-09 01:24:11	manual							
1	2010-01-09 00:08:36	2010-01-09 00:09:31	motion							
1	2010-01-09 00:10:10	2010-01-09 00:10:58	motion		0	S	earc	h	-	
1	2010-01-09 00:11:30	2010-01-09 00:12:15	motion			15				120
1	2010-01-09 00:14:48	2010-01-09 00:15:43	motion	20:		•	Joan	-		~
1	2010-01-09 00:15:45	2010-01-09 00:17:09	motion	Sun	Mon	Tue	Wed	Inu	Fri	Sat 2
1	2010-01-09 01:24:11	2010-01-09 02:46:11	manual	3	4	5	6	7	8	9
1	2010-01-09 02:46:11	2010-01-09 03:19:45	manual	10	11	12	13	14	15	16
1	2010-01-09 17:39:52	2010-01-09 17:57:12	manual	17	18	19	20	21		
2	2010-01-09 00:01:07	2010-01-09 00:01:53	motion	24	25	26	27	28	29	30
2	2010-01-09 00:02:18	2010-01-09 00:03:01	motion	31						_
2	2010-01-09 00:03:01	2010-01-09 00:04:12	motion	8						
2	2010-01-09 00:03:32	2010-01-09 00:54:27	manual							
2	2010-01-09 00:14:22	2010-01-09 00:15:03	motion		1	<b>V</b>	2 [	✓ 3	1	4
2	2010-01-09 00:21:54	2010-01-09 00:22:35	motion		5	~	6 [	7	~	8
2	2010-01-09 00:23:51	2010-01-09 00:24:33	motion						-	_
2	2010-01-09 00:25:12	2010-01-09 00:25:54	motion	1						
2	2010-01-09 00:26:57	2010-01-09 00:28:43	motion				otion			
2	2010-01-09 00:31:48	2010-01-09 00:32:30	motion				ensor			

Fig 7-8 event search interface

Step2: click the highlight date and select record channels and then tick off the event type: motion and sensor, click "search" button

Step3: the events will be display in the event list box. Double-click certain item to playback

#### File Management

**Step1:** Enter into Search $\rightarrow$  file management; refer to Fig 7-9:

Check	Channel	Start time	End time	Status							
	1	2010-01-09 00:01:07	2010-01-09 00:02:16	motion			0	(c			
	1	2010-01-09 00:03:28	2010-01-09 01:24:11	manual			6	~			
	1	2010-01-09 00:08:36	2010-01-09 00:09:31	motion							
	1	2010-01-09 00:10:10	2010-01-09 00:10:58	motion		L					
	1	2010-01-09 00:11:30	2010-01-09 00:12:15	motion			Se	arch	1		
	1	2010-01-09 00:14:48	2010-01-09 00:15:43	motion	-						_
	1	2010-01-09 00:15:45	2010-01-09 00:17:09	motion	201	0	1	🖌 Jar	1		1
	1	2010-01-09 01:24:11	2010-01-09 02:46:11	manual	Sun	Mon	Tue	Wed	Thu	Fri	
	1	2010-01-09 02:46:11	2010-01-09 03:19:45	manual			-	~	7	1	2
	1	2010-01-09 17:39:52	2010-01-09 17:57:12	manual	3	4	5	6 13		8 15	9
	2	2010-01-09 00:01:07	2010-01-09 00:01:53	motion	17	18	19	20	21		
	2	2010-01-09 00:02:18	2010-01-09 00:03:01	motion	24	25	26	27	28	29	30
	2	2010-01-09 00:03:01	2010-01-09 00:04:12	motion	31						
	2	2010-01-09 00:03:32	2010-01-09 00:54:27	manual							
	2	2010-01-09 00:14:22	2010-01-09 00:15:03	motion							
	2	2010-01-09 00:21:54	2010-01-09 00:22:35	motion	1			- F			
	2	2010-01-09 00:23:51	2010-01-09 00:24:33	motion		1	~		✓ 3	<b>V</b>	C3A
	2	2010-01-09 00:25:12	2010-01-09 00:25:54	motion		<b>≥</b> 5	¥	6	7	~	8
	2	2010-01-09 00:26:57	2010-01-09 00:28:43	motion							
	2	2010-01-09 00:31:48	2010-01-09 00:32:30	motion							
A11	None	verse 0/0									

Fig 7-9 file management interface

Lock: select certain file item in the file list box, click "Lock" button to lock this file that ca not be deleted or overlaid Unlock: select a locked file, click "unlock" button to unlock this file

Delete: select an unlock file, click "delete" button to delete this file from file list

### 7.4.2 Remote backup

Click Backup button to enter into backup interface, refers to Fig 7-10:

	CH	Start time	End time	Status	
	1	2010-01-09 00:01:07	2010-01-09 00:02:16		
	1	2010-01-09 00:03:28	2010-01-09 01:24:11		
	1	2010-01-09 01:24:11	2010-01-09 02:46:11		
	1	2010-01-09 02:46:11	2010-01-09 03:19:45		
	1	2010-01-09 17:39:52	2010-01-09 17:57:12		Search
<b></b>	2	2010-01-09 00:01:07	2010-01-09 00:01:53		
<b>V</b>	2	2010-01-09 00:02:18	2010-01-09 00:03:01		Start time
	2	2010-01-09 00:03:01	2010-01-09 00:54:27		2010-01-12 25
	2	2010-01-09 00:54:27	2010-01-09 01:47:11		00 : 00 : 00
	2	2010-01-09 01:47:12	2010-01-09 03:09:10		Find Barry
	2	2010-01-09 03:09:10	2010-01-09 03:19:45		End time 2010-01-12 25
	2	2010-01-09 15:11:08	2010-01-09 15:11:54		23 : 59 : 59
	2	2010-01-09 15:16:17	2010-01-09 15:17:03		23 . 65 . 65
	2	2010-01-09 15:19:30	2010-01-09 15:20:17		
<b>1</b>	2	2010-01-09 15:21:54	2010-01-09 15:22:41		
	2	2010-01-09 15:23:20	2010-01-09 15:24:04		
	2	2010-01-09 15:28:09	2010-01-09 15:28:53		
	2	2010-01-09 15:37:23	2010-01-09 15:38:09		
	2	2010-01-09 15:46:09	2010-01-09 15:46:52		
	2	2010-01-09 15:53:33	2010-01-09 15:54:19		

Fig 7-10 remote backup interface

Step1: select channels, set the start and end time and then click "search' button to display the file information in the file list box. Step2: select backup files, click "browse" button to set the save path, and then click "backup" button to start backup. The backup files will be saved on user's PC.

### 7.5 Remote System Configuration

User can remote setup the parameters of the device. Functions of remote configurations include: basic configuration, live configuration, record configuration, schedule configuration, alarm configuration, network configuration, PTZ configuration and user configuration. User should firstly select an item in the menu list on the left, and then setup the relative parameters. When one user setup parameters of a certain item, others cannot setup this one. Click Config to enter into the below interface refer to Fig 7-11:

main	i menu – LIVE	SEARCH	BACKU	P CO	NFIG	TOOLS	INFO
Local config						Apply	Default
- Cocar coming	Local Config						
Basic	Local View						
100 B	Snap Path	E:\					Browse
Live	Snap Amount	4					-
Record	Remote Playback						
	Snap Path	C:\Users\kevin\D	ocument <i>s</i>				Browse
25 Schedule	Snap Amount	10					•
	Local Record						
Alarm	Save Path	F:\15					Browse
Network	Record Channel						
	V V1 V2	☑ 3	₹4	<b>√</b> 5	<b>Ø</b> 6	7	<b>⊻</b> 8
P.T.Z	Audio Channel	1					·
Users			2	3		<b>4</b>	
			2	3			
sub menu						Apply	Default

Fig 7-11 remote menu setup

The sub menu lists and the options in every item are similar with those on the DVR. Please refer to Chapter 3 Main Menu Setup Guide for more details. Click "Apply" button to save above settings; click "default" button will recover the original settings. Note: There may be subtle differences with respect to functions of remote surveillance between through IE and through Apple PC. Here we only take IE remote access for example.

## 8 Mobile Surveillance

This DVR supports mobile surveillance by Iphone, Gphone or smart phones with Windows mobile and symbian OS. At the same time, it supports 3G network. We tested Dopod D600 (WM5) and Dopod S1 (WM6), which work fine with the DVR. It wants to make mobile surveillance, need first enable network service on the DVR, and refer to Chapter 4.6 Network configuration. The below is the use instructions on mobile client end for two OS.

### 8.1 By Phones with Windows mobile

**Step1** : Firstly activate the network access on mobile phone and then run "Internet Explorer". Input the server's address and the connection is built up shown as below:

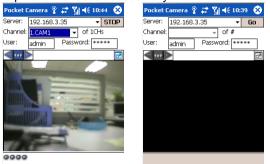
Step2 : Click on the software name. A dialog box pops up:



Step3 : Click "Yes" to start downloading and installing:

Step4 : PCam will be opened automatically after installed

**Step5** : Input the server's address, ID and password respectively in the columns of "Server", "User" and "Password", and click "Go" to log on the server. It will show the picture if access successfully.



Step6 : Camera 1 is the default channel after login. Change the channel in rolling-down menu of "Channel":



🖞 Notice: User name and password here are the same with that used on the DVR. The default is admin and 123456.

### 8.2 By Phones with Symbian

Please use the smart phones with symbian version supported by this unit.

Symbian S40	support
Symbian UIQ	support
Symbian S80	support
Symbian S60	support
Symbian S60 3 <sup>rd</sup> Edition-Symbian OS v9.1	support
Symbian S60 3 <sup>rd</sup> Edition with FP 1-Symbian OS v9.2	support
Symbian S60 3 <sup>rd</sup> Edition with FP2-Symbian OS v9.3	support
Symbian S60 5 <sup>th</sup> Edition-Symbian OS v9.4	support
Symbian S60 5.1 Edition-Symbian OS v9.5	support

- Step1 : Firstly enable the network access on mobile phone. Then run Web browser.
- Step2 : Input the DVR server's IP address in a new-built bookmark. Click this bookmark to connect to the DVR.
- Step3 : A welcome window will pop up and requires a package. Click the software name to download



- Step4 : A security windows will pop up after downloading and ask if install the package. Click YES to install.
- **Step5** : A Scam shortcut icon appears on the system menu after finished.

**Step6** : Run Scam program. It will enter a function interface.

Live view: to do mobile live view

Image view: to check the pictures snapped in live view

System setting: Login setting and Alarm setting.

Help: function indication and help

Step7 : Click System setting--->Login Setting to enter login interface.



**Step8** : Input the server's address, ID and password respectively. Then save.

Different Countries or from service providers.

Step9 : Enter Live View, it will connect the server and display pictures.

**Notice**: User name and password here are the same with that used on the DVR. The default is admin and 123456. **Step10**: In Live View, users can do snapshot, change channels and control PTZ.



### 8.3 The operation method for iPhone mobile clients 1. Install through iphone.

Step 1. Open App Store function of iphone

Step 2. Enable "search" SuperCam"



FREE 3

FREE )

50.99 3

Step 3: Click SuperCam, enter into "introduce" interface and then click "FREE", it will change into "INSTALL"



Step 4: Input iTunes Store password and then click "OK", the software will be installed automatically.

Note: if it was the first time for user to operate, please enter user ID; if there is no Store account, user needs to apply one.

#### 2. Install through PC

Step 1: Install iTunes store in PC and then login Step 2: Connect iPhone and PC





#### Step 4: Click "free application" button





Step 5: Input apple ID and password, then click "acquire"

Step 6: Tick off "synchronously apply program" and "SuperCam", and then click "apply" button

### **Operation Instruction for iphone**

1. Login interface



Enter server's IP address (or domain name), user name and password

Click "Remember server" to save the setting; click 🔻 button can quick input saved server address, user name and password.

#### 2. Main Interface



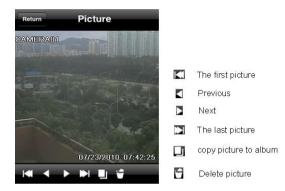
[Playback]	playback record file	[Image]	image view	
【Log】	log record	[Server List]	device list	
[Live]	live view	[Settings]	software setting	
[Information]	device information view	【Help】	software help center	
【Logoff】	logoff and return to login interface			

#### 3. Live View Interface

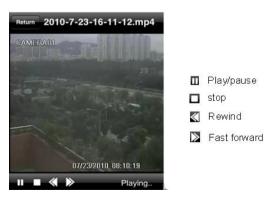


Mark 1	Current viewing channel	Mark 2	Channel status
	Switch channels	ē	PTZ, click to switch to Fig 2 interface
Ō	Snap picture	REC	Record
	Close the video of the current channel	<b>4</b> »	Live audio
	Switch to the single image		Switch to four images
	Upward rotates the PTZ		Downward rotates the PTZ
	Leftward rotates the PTZ		Rightward rotates the PTZ
	Stop rotating the PTZ	Ð	Zoom In/Focus In/Iris Add
Θ	Zoom Out/Focus Out/Iris Sub	Preset	elect the preset point
Group	Set the cruise line	Speed	Rotate speed of the PTZ
H-Reverse	Horizontal- Reverse	V-Reverse	Vertical- Reverse

4. Image view interface



5. Record Playback interface



Click the record file to playback.

6. Server list Interface

Config interface

7.



Main parameters for mobile phone video configuration

**Record file clip size**: Single video size. When the video size is greater than setup value, change another video files **Reserved disk space**: Reserved SD Card disk space, when the disk space is less than setup value, the video will be stopped **Display configuration :** 

Display mode: User can select one live picture display or four live picture displays Remember display order: User can choose whether to remember display order or not.

**Alarm** configuration : Select Audio Alarm. When Video Loss/Sensor/Motion happens, trigger sound alarm. Select shake Alarm. When Video Loss/Sensor/Motion happens, trigger vibrate alarm.

#### 8. Information View Interface

SuperCam Device Name: DVS Device ID<sup>.</sup> 0 Software version: 2070100 Build date:20100401

### Phone:

Software version: 2.1.2 Software build date:2010.05.15 Device name: the current device name Device ID: the current connection device ID Software version: the current connection device software version Build date: the current connection device build date Software version: the software version of mobile phone in use Software build date: the software build date of mobile

### phone in use

" supercam"

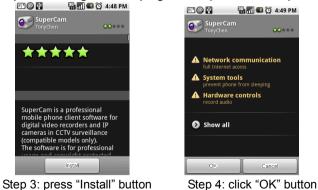
河 SuperCam

\*\*\*\*\*

## 8.4 The installation & operation methods for Android mobile clients Software Installation



Step 1: run Google Market program Step 2: search"SuperCam"





Step 5: user can view the download and install process in notifications; finished download, the software will install automatically.

Login



Enter into server's IP address (or domain name), user's ID and password.

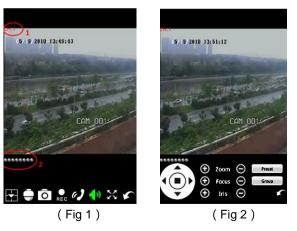
Click "Remember server" to save the setting; click 🔻 button can quick input saved server address, user name and password.

#### Main menu



[Playback]	playback record file	[Image]	image view	
[Log]	log record	[Server List]	device list	
[Live]	live view	[Settings]	software setting	
[Information]	device information view	【Help】	software help center	
[Logoff]	logoff and return to login interface			

Live view



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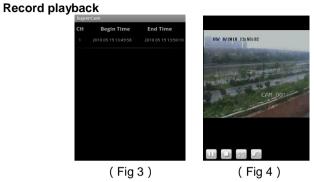
Mark 1	Current viewing channel	Mark 2	Channel status
	Switch channels	Ē	PTZ, click to switch to Fig 2 interface
ō	Snap	REC	record
G)	talk	<b>•</b> ())	Live audio
$\times$	Full screen	\$	Return
	Upward rotates the PTZ		Downward rotates the PTZ
<	Leftward rotates the PTZ		Rightward rotates the PTZ
	Stop rotates the PTZ	Ð	Zoom In/Focus In/Iris Add
$\Theta$	Zoom Out/Focus Out/Iris Sub	Preset	Select the preset point
Group	Set the cruise line		

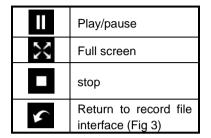
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### Image view



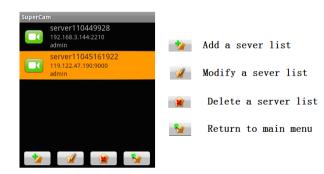
	Previous	Next
0	Zoom out	Delete
Ð	Zoom out	\$ Return to main menu





Click the record file (Fig 3) to playback (Fig 4)

#### Server list



#### Digital Video Recorder User Manual

### Config interface



	Tick off Sound Alarm , when Video Loss/Sensor/Motion
Alarm setting	happen, trigger sound alarm; Tick off Vibrate Alarm, when
	Video Loss/Sensor/Motion happen, trigger vibrate alarm
Storage setting	User can setup the relevant parameters of mobile video. This function can be valid only insert SD card.
Path	Save path for mobile video files, the default catalog is /SD
Fatti	Card/. Click 🔤 button to change path.
Reserved disk space	reserved SD Card disk space, when the disk space is less
	than setup value, the video will be stopped
Video clip size	Single video size. When the video size is greater than setup
	value, change another video files
Remove all recorder files before	delete all current video files

#### Information view

Return Inform	ation	
Device:		Device ID: the current connection device ID
Device Name:	DVR	Software version: the current connection device
Device ID:		software version
Software version:	2070100	Build date: the current connection device build date
Build date:	20100312	
Phone:		Software version: the software version of mobile phone in use
Software version:	2.1.0	Software build date: the software build date of
Build date:	2010-03-09	mobile phone in use

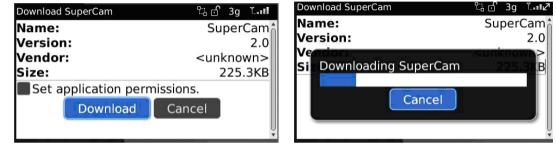
### 8.5 Installation and Operation methods for blackberry mobile phone Client

### 8.5.1 Installation instruction for Blackberry mobile phone client

- 1. Open the browser of BlackBerry phone and enter sever address
- 2. Click "SuperCam" to link

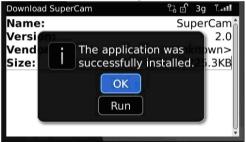


3. Click "Download" button on the popup interface and the download progress will be shown.



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4. Finished downloading, the software will be installed automatically.



#### Note: If the software fails to download, please check in accordance with the following steps:

- 1. Check whether the network of mobile phone is normal or not
- 2. Check whether DVR server connect network normally or not
- 3. Modify the option of Browser Configuration.

1) Enter into Menu->Option->Browser Configuration; configure referring to the following figure.

	Browser Configuration	
	Browser:	Browser
	Support JavaScript	
	Allow JavaScript popups	
	Terminate slow running Use Background Image	
	Support Embedded Me	
	Show Images: On W	
	Browser Identification:	BlackBerry
	Start Page:	Start Page
	Home Page Address: abou	t:start
2) Enter into Menu->Option->Cache O	perations, clear up browser of	cache.
	Cache Operations	
		Clear History
	Content Cache	North Contraction
		Size: 2.7K
		Clear
	Pushed Content	
		Size: 0.0K

Note : When user used the SuperCam software in mobile phone with touch screen, there will be compatible problem.

Size: 0 cookies

Cookie Cache

Solution: Enter into Options Menu->Advance options->Applications->SuperCam and click "Disable Compatibility" button. This problem will be solved.

#### 8.5.2 Operation method for Black berry mobile phone client

1. Login



Enter server's IP address (or domain name), user's ID and password.

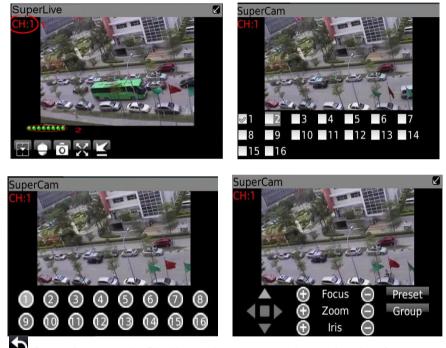
Click "Remember server" to save the setting; click 🔻 button can quick input saved server address, user name and password.

2. Main interface



[Playback]	playback record file	[Image]	image view	[Live]	live view
[Log]	log record	[Server List]	device list	[Settings]	software setting
[Information]	device information view	[Help]	software help center	[Logoff]	logoff and return to login interface

#### 3. Live view



Note: User can click Return button on the Blackberry phone to return the previous interface.

Mark 1	Current viewing channel	Mark 2	Channel status
	Switch channels		PTZ, click to switch to Fig 2 interface
ō	Snap	X	Full screen
M	Background alarm		Stop rotating the PTZ
	Upward rotates the PTZ		Downward rotates the PTZ
	Leftward rotates the PTZ		Rightward rotates the PTZ
$\odot$	Zoom In/Focus In/Iris Add	Θ	Zoom Out/Focus Out/Iris Sub
Preset	Select the preset point	Group	Set the cruise line

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#### 4. Server list

[Add] Add a server list
[Modify] Modify a server list
[Delete] Delete a server list

Software configuration 5.

SuperCam
Alarm type:
🛩 Video loss
Motion alarm
Sensor alarm
Alarm output type:
🖉 Audio alarm
✓Vibrate alarm

- Information view 6.

uperCam
Device:
Device name: EDVR
Device ID: 0
Software version: 3.1.2.P
Build date: 19740305
Phone:
Software version: 2.1.0
Build date: 2010.08.16

Alarm type: Setup the type of background alarm (Video Loss/Sensor/Motion) Alarm output type: Setup prompt type of backgound Alarm (sound alarm/ bibrate alarm)

Device ID: the current connection device ID Software version: the current connection device software version Build date: the current connection device build date

Software version: the software version of mobile phone in use

Software build date: the software build date of mobile phone in use

## Appendix A FAQ

#### Q1. Why the DVR cannot start after connected to the power?

- a. The adapter has been damaged. Please change an adapter
- b. The power of the adapter is not enough. Please remove the HDD to check
- c. Hardware problem

#### Q2. There is not menu output or only has live image display

a. Check up whether other devices can display menu or long press ESC key to wait for login dialog box to appear.

#### Q3. The indicator of the DVR lights, but no output. Why?

- a. The power of the adapter is not enough. Please remove the HDD or change an adapter to try.
- b. The video format of the DVR is different from that of the monitor.
- c. Connection problem. Please check the cable and the ports of monitor and DVR.

#### Q4. Why are no images displayed on parts or all of the channels of the DVR?

- a. Connection problem. Please check the cable and the ports of camera and DVR.
- b. Camera problem. Please check the cameras.
- c. The video format of the DVR is different from that of the cameras. Please change DVR system format.

#### Q5. Cannot find HDD

- a. The power of the adapter is not enough. Please change an adapter to try.
- b. Connection problem. Please check the power and data cables.
- c. The HDD is damaged. Change a new one.

#### Q6. Cannot record

- a. Don't format HDD. Please format it manually first.
- b. Don't enable record function or incorrect setup. Please refer to Chapter 5 Record search & playback and backup.
- c. HDD is full and not enables recycle function. Please refer to 4.3 Record configuration. Chang a new HDD or enable recycle.
- d. The HDD is damaged. Change a new one.

#### Q7. Cannot use mouse.

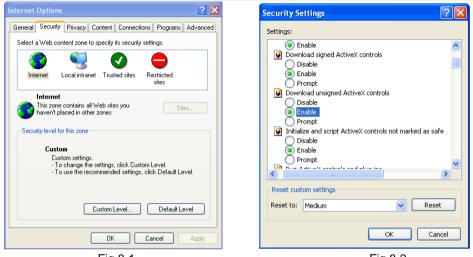
- a. wait 1-2 minutes after mouse connected.
- b. Not detected. Plug/unplug several times.
- c. The mouse is incompatible. Please change a mouse.

#### Q8. Cannot download ActiveX control.

- a. IE browser blocks ActiveX. Please do setup following below.
- 1) Open IE browser. Click Tools-----Internet Options....



- 2 select Security-----Custom Level....Refer to Fig 8-1
- ③ Enable all the sub options under "ActiveX controls and plug-ins" refer to Fig 8-2
- 4 Then click ok to finish setup.
- b. Other plug-ins or anti-virus block ActiveX. Please uninstall or close them.



Digital Video Recorder User Manual

Fig 8-1

Fig 8-2

### Q9: How to deal with when DVR starts, it displays "please wait..."all the time

First possible reason: hard-disk cable and data cable are not well connected.

Solution: Please check the connection of hard-disk cable and data cable and make sure they are well connected; If still not working, please unplug them and then try re-plugging again;

Second possible reason: It is forced to stop because hard disk has disabled track which causes the system checking hard disk cannot skip

Solution: Change another new hard disk or reformat the broken one

#### Q10: How to input password and digital numbers

The method to input password and digital numbers is to click the box behind password or items needing to input by numbers,

and then the small keyboard will appear. Please select number or letter to input (the initial password is 123456), or you can use the digital keys in the front panel, or the digital keys on the remote controller.

# Q11: Why is the hard disk used in a DVR identified a new hard disk if directly used to another same type DVR? And why must we format it again?

When DVR only uses one hard disk, the hard disk removed from one to another same type DVR can work normally without format. However, when a DVR adds to a new hard disk, it will identify the hard disk as a new one and inquire whether to format no matter whether this hard disk used or not in another same type DVR before. In this condition, it can be used normally after formatted according to the guide; if two or more hard disks used in different DVRs, when used in another DVR with the same type, they will be identified to be two or more new hard disks, and all of them need to format. In general, please do not try using more disks removed from different DVRs into another one in case the data lose.

PC Module	Parameters
CPU	Intel Celeron 2.4G
Motherboard	Intel 845
HDD	80G
RAM	512M
VGA	NVIDIA GeForce MX440/FX5200; ATIRADEON 7500/X300
OS	Windows 2000(SP4 above) /Windows XP(SP2 above) /VISTA
DirectX	9.0

#### Q12: What are the minimum configurations of PC for clients connecting?

Q13: How to handle the situation when codec Control is blocked to install in the VISTA or Win7 system? If user gets this problem, may have two ways to fix it:

a. Enter Control Panel  $\rightarrow$  User Account and Family Safety  $\rightarrow$  User Account Control(refer to below picture); click Turn User Account on or off. Cancel Use User Account Control (UAC) to help protect your computer.



b. Right click IE browser (refer to Fig 13-2), select Run as administrator to run browser.

	Open Open file location	
۲	Run as administrator	
	Restore previous versions	
	Send To	•
	Cut Copy	
	Create Shortcut	
	Delete	
	Rename	
	Properties	

## Appendix B Calculate Recording Capacity

Users can calculate the size of hard disk according to the saving time and DVR recording settings. The DVR uses fixed video bit rate. The below are the details at different settings.

Video Format	Resolution	Frame Rate Totally(FPS)	Video Quality	Bit Rate (kbps)	Used Space(MB/h)
			Highest	1M	465
			Higher	768k	297
NTSC		20	Medium	512k	230
NISC	SC CIF 30	30	Low	384k	173
		Lower	256k	115	
			Lowest	128k	56
			Highest	1M	466
			Higher	768k	295
PAL CIF	25	Medium	512k	297 230 173 115 56 466	
	CIF	20	Low		175
			Lower		112
			Lowest	128k	56.4

The calculation format is: Total Recording capacity =Used space per hour (MB/h) (coverage rate of hard disk) × recording time (hour) × channel numbers

For instance, one customer uses PAL cameras, set resolution to CIF, video quality to Lowest, frame rate to 25 fps for enabling total 16 channels. He wants the unit to record continuously in a month. Below is the calculation:

#### Total Recoding capacity =56.4 (mb/h) X 24(hours/day) X30(days) X16(channels)= 649728(MB)≈650(GB)

Therefore, customers just install one SATA HDD with 750GB, it can almost record for one month.

## Appendix C Compatible Devices

1. Compatible USB drive after test.

Brand	Capacity
SSK	512MB, 1G, 2GB
Netac	4GB
Kingston	2GB
Aigo	2GB
Smatter vider	1GB
SanDisk	4GB

#### 2. Compatible HDD list

Brand	Capacity
Seagate Barracuda LP ST3200542AS	2TB
Seagate Barracuda 7200.11 ST31500341AS	1.5T
Seagate SV35.3 ST31000340SV	1T
Seagate Pipeline HD.2	500G
Seagate Barracuda 7200.10	320G
Seagate Barracuda 7200.10 ST3250310AS	250G
Seagate Barracuda 7200.11 ST3160813AS	160G
Seagate Barracuda 7200.10 ST380815AS	80G
Maxtor Diamondmax 21 STM3160215AS	160G
HITACHI Deskstar	160G/80G
WD WD1600JS	160G
Samsung HD161HJ	160G

# Appendix D 4-CH Specifications

Compression format	Standard H.264 Baseline
Video output	Composite : 1.0V p-p/75 $\Omega$ BNC×2 , VGAX1
Video input	Composite : 1.0V p-p/75Ω BNC×4
VGA Resolution	1280*1024 /1024*768/ 800*600
Record Resolution	352*288/704*576 (PAL), 352*240/704*480(NTSC)
Display Frame Rate	100FPS (PAL), 120FPS (NTSC)
Record Frame Rate	100FPS/25FPS (PAL), 120FPS/30FPS (NTSC)
Audio input	RCA X4
Audio output	RCA X1
Alarm input	NO or NC 4CH
Alarm output:	1CH
Record Mode	Manual / Sensor /Timer / Motion detection
Simplex/Duplex/Triplex	Pentaplex
Network Interface	RJ45 (LAN, INTERNET)
PTZ control	YES
Communication interface	RS485, USB2.0 x 2(one for backup, another for USB mouse)
Disk info	SATA x 1
Remote controller	YES
Power supply	12V3A
Temperature	0℃-50℃
Humidity	10%-90%
Average Operating Power (Excluding HDD)	≤20W

## Appendix E 8-CH Specifications

Compression format	Standard H.264 Baseline
Video output	Composite : 1.0V p-p/75 $\Omega$ BNC×2 , VGAX1
Video input	Composite : 1.0V p-p/75Ω BNC×8
VGA Resolution	1280*1024 /1024*768/ 800*600
Record Resolution	352*288/704*576 (PAL), 352*240/704*480(NTSC)
Display Frame Rate	200FPS (PAL), 240FPS (NTSC)
Record Frame Rate	200FPS /50FPS(PAL), 240FPS/60FPS (NTSC)
Audio input	RCA X4
Audio output	RCA X1
Alarm input	NO or NC 8CH
Alarm output:	1CH
Record Mode	Manual / Sensor /Timer / Motion detection
Simplex/Duplex/Triplex	Pentaplex
Network Interface	RJ45 (LAN, INTERNET)
PTZ control	YES
Communication interface	RS485, USB2.0 x 2(one for backup, another for USB mouse)
Disk info	SATA x 1
Remote controller	YES
Power supply	12V3A
Temperature	0℃-50℃
Humidity	10%-90%
Average Operating Power (Excluding HDD)	≤20W

## Appendix F 16-CH Specifications

Compression format	Standard H.264 Baseline
Video output	Composite : 1.0V p-p/75Ω BNC×2, VGAX1
Video input	Composite : 1.0V p-p/75Ω BNC×16
VGA Resolution	1280*1024 /1024*768/ 800*600
Record Resolution	352*288/704*576 (PAL), 352*240/704*480(NTSC)
Display Frame Rate	400FPS (PAL), 480FPS (NTSC)
Record Frame Rate	400FPS/100FPS (PAL), 480FPS/120FPS (NTSC)
Audio input	RCA X4
Audio output	RCA X1
Alarm input	NO or NC 16CH
Alarm output:	1CH
Record Mode	Manual / Sensor /Timer / Motion detection
Simplex/Duplex/Triplex	Pentaplex
Network Interface	RJ45 (LAN, INTERNET)
PTZ control	YES
Communication interface	RS485, USB2.0 x 2(one for backup, another for USB mouse)
Disk info	SATA x 1
Remote controller	YES
Power supply	12V3A
Temperature	0°℃-50°℃
Humidity	10%-90%
Average Operating Power (Excluding HDD)	≤30W

## Appendix G 24-CH Specifications

Compression format	Standard H.264 Baseline
Video output	Composite : 1.0V p-p/75Ω BNC×2, VGAX1
Video input	Composite : 1.0V p-p/75Ω BNC×24
VGA Resolution	1280*1024 /1024*768/ 800*600
Record Resolution	352*288 (PAL), 352*240 (NTSC)
Display Frame Rate	600FPS (PAL), 720FPS (NTSC)
Record Frame Rate	600FPS (PAL), 720FPS (NTSC)
Audio input	RCA X4
Audio output	RCA X1
Alarm input	NO or NC 16CH
Alarm output:	1CH
Record Mode	Manual / Sensor /Timer / Motion detection
Simplex/Duplex/Triplex	Pentaplex
Network Interface	RJ45 (LAN, INTERNET)
PTZ control	YES
Communication interface	RS485, USB2.0 x 2(one for backup, another for USB mouse)
Disk info	SATA x 3
Remote controller	YES
Power supply	12V5A
Temperature	<b>0</b> ℃ <b>-50</b> ℃
Humidity	10%-90%
Average Operating Power (Excluding HDD)	≤30W

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