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IP Series

NVR USER MANUAL

PROVISION-ISR

NVR-16400(1U)

User Manual

16CH 720P Real-Time Conventional NVR

For H.264 16-channel network video recorder

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CAUTION

- Read this user manual carefully and use the device correctly and safely.
- NVR warranty requires an intact serial number located on the bottom of the NVR **and** a valid invoice or receipt with the date of purchase.
- We do not warrant all the content is correct.
- The contents of this manual may be out-dated.
- If you are not certain of something, you should contact technical support before making any change, or installing the NVR.
- This device should be operated only from the type of power supply indicated on the marking label. The voltage of the power must be verified before using.
- If you plan not to use the NVR for a long time, shut it down and unplug the power cable.
- Don't install this device close to a heat sources (e.g. radiators, heat registers, stoves, ec't).
- Do not install this device near water.
- Clean only with a dry cloth.
- Do not block the ventilation openings.
- Place the device in a ventilated place.
- Do not unplug the DVR when the device is working: the correct method to shut down DVR is to perform software shutdown by pressing the “shut down” button from the main menu.
- PROVISION-ISR NVR-16400(1U) is intended for indoor use only.
- Do not expose the NVR-16400(1U) to rain or moist conditions.
- If any solid or liquid gets inside the NVR, shut down the NVR and unplug the power supply as soon as possible, and get it checked by a qualified technician.
- Refer all servicing to qualified service personnel.
- Do not try to repair the device by yourself without technical aid or approval.
- This manual is suitable for the 16 channel Network video recorder NVR-16400(1U)

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1 Introduction

1.1 NVR Introduction

This series of devices are standard 16 CH real-time 1080P/720P/D1 high resolution NVR, which adopt the most advanced SOC technique to ensure high definition recording in each channel and realize outstanding robustness of the system. The series of product support 16 CH IP input, simultaneous 16 CH playback, and HDMI 1080 P high resolution display. All of these features make the device meet different security requirements of home, financial, commerce, enterprise, transportation and government, etc.

1.2 Main Features

COMPRESSION FORMAT

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

LIVE SURVEILLANCE

- Support HDMI/CVBS/ VGA output
- 16 CH 1080@15fps or 4CH 1080P @ 30 fps or 16 CH 720P@ 30fps IP video input
- Support channel security by hiding live display
- Display the local record state and basic information
- Support USB to make full control

RECORD MEDIA

- Support two SATA HDDs to record for a longer time without any limitation

BACKUP

- Support USB 2.0 devices to backup
- Support built-in SATA DVD writer 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
- Two record search mode: time search and event search.
- Support 4 screen playback simultaneously
- Support deleting and locking the recorded files one by one
- Support remote playback in Network Client through LAN or internet

ALARM

- 8 CH alarm inputs and 1 generic output
- 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

SECURITY

- Customize user right: log search, system setup, two way audio, file management, disk management, remote login, live view, manual record, and playback.
- Support 1 administrator and 63 user designated usernames and passwords.
- 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
- Support remote full menu setup, changing all the NVR parameters remotely
- Support mobile surveillance by phones with iPhone & Android OS
- Support CMS/NVMS to manage multi devices on internet

2 Hardware Installation

Check the unit and the accessories after getting the device. Please don’t power up the unit till

the physical installation is complete.

2.1 Install Hard Drive &DVD Writer

2.1.1 Install Hard Drive

***Notice**: 1. This series supports two SATA hard drives. Please use the hard drive the manufacturers recommend specially for security and safe field.*

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

Step1: Loosen the screws to open the top cover of the NVR.

Step2: Connect the power and data cables and place the HDD onto the bottom case as Fig 2-1.

Step3: Secure the HDD with the screws as Fig 2-2.

Fig 2-1 Connect HDD

Fig 2-2 Screw HDD

***Note**: For convenience installation, please connect the power and data cables first and then secure the HDD by tightening the screws.*

2.1.2 Install DVD Writer

***Notice**: 1. The writers must be the compatible devices we recommend. Please refer to*

"Appendix C Compatible Devices"

2. This device is only for backup.

Step1: Loosen the screws to open the top cover of the NVR.

Step2: Connect the power and data cables and place the DVD writer onto the bottom case as Fig 2-3.

Step3: Secure the DVD writer with the screws as Fig 2-4.

Fig 2-3 Connect the DVD Writer

Fig 2-4 Screw the Writer

2.2 Front Panel Descriptions

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

Type	Name	Description
Work state indicator	Power	The power indicator turns blue when NVR is powered up.
	HDD	The light turns blue when HDD is writing and reading.
	Net	The light turns blue when it is able to access the network.
	Backup	The light turns blue when backing up files and data.
	Play	The light turns blue when playing video.
	REC	The light turns blue when recording.
Function button	Number 1~9	Input number 1~9 or choose camera
	MENU/+	1. Enter menu in live 2. Increase the value in setup
	BACKUP/-	1. Decrease the value in setup 2. Enter backup mode in live
	0/10+	Input number 0, 10, and the above number together with other digital keys
	Focus	1. Record manually 2. FOCUS function enables at PTZ mode.
	Speed	1. Rewind key 2. SPEED function enables at PTZ mode
	IRIS	1. Enter play interface 2. IRIS function enables at PTZ mode
	P.T.Z	1. Fast forward 2. Enter PTZ mode in live
Input button	Direction button	Change direction to select items.
	Multi-screen	Change screen display mode like1/4/8 channel.
	Enter button	Confirm selection.
IR receiver	IR	For remote controller
USB	USB port	To connect external USB devices like USB flash, USB HDD for backup or update firmware; or connect to USB mouse.

2.3 Rear Panel Instructions

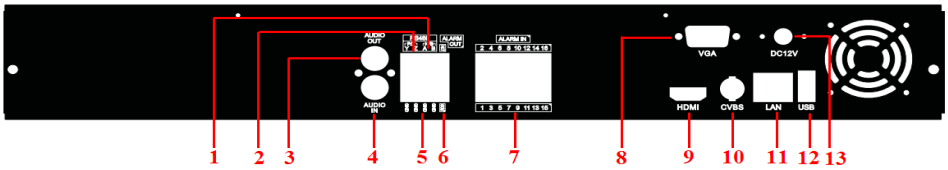
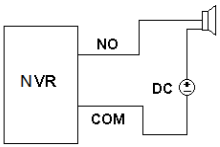


Fig 2-7 Rear Panel for 16-ch

Item	Name	Description
1	K/B	Connect to Keyboard, A is TX+, B is TX-
2	P/Z	Connect to speed dome (unavailable temporarily)
3	Audio out	Audio output, connect to the sound box
4	Audio in	1 CH audio input
5	GND	Grounding
6	Alarm Out	Relay Output. Connect to external alarm.
7	Alarm in	Alarm Inputs for connecting sensors
8	VGA port	VGA output, connect to monitor
9	HDMI port	Connect to high-definition display device
10	CVBS port	Connect to monitor
11	LAN	Network port
12	USB port	Connect to external USB devices like USB flash, USB mouse, etc
13	DC12V	Power input

Alarm Out Connection:

Pull out the green terminal blocks and loosen the screws in the alarm out port. Then insert the wires of the alarm output devices into the port of NO and COM separately. Finally, tighten the screws. The external alarm output devices also need power supply, you can connect the power supply as per the following figures.



2.4 Remote Controller

It uses two AAA size batteries.

- Open the battery cover of the Remote Controller.
- Place batteries. Please take care of the polarity (+ and -).
- Replace the battery cover.

The interface of remote controller is shown in Fig 2-9 Remote Controller.

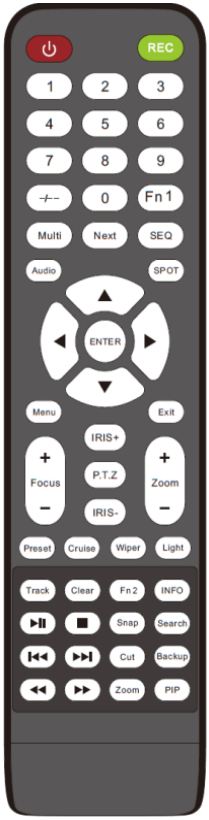


Fig 2-9 Remote Controller

Button	Function
Power Button	Switch off—to stop NVR. Use it before turning off the power
Record Button	To record manually
-/-- /0-9 Digital Button	Input number or choose camera
Fn1 Button	Unavailable temporarily
Multi Button	To choose multi screen display mode
Next Button	To switch the live image
SEQ	To enter into auto dwell mode
Audio	To enable audio output in live mode
Switch	To switch the output between BNC and VGA
Direction button	To move cursor in setup or pan/title PTZ
Enter Button	To confirm the choice or setup
Menu Button	To enter into menu
Exit Button	To exit the current interface
Focus/IRIS/Zoom/PTZ	PTZ Control button
Preset/Cruise/Track/Wiper/Light Button	Enter preset/cruise/Track/Wiper/Light setup in PTZ mode. You shall press PTZ button to go into PTZ setup mode. Then select a channel and press PTZ button again prior to enabling these buttons
Clear Button	To return to the previous interface
Fn2 Button	Unavailable temporarily
Info Button	Get information about NVR like firmware version, HDD information
	To control playback. Play/Pause/Stop/Previous Section/Next Section/Rewind/Fast Forward
Snap Button	To take snapshots manually
Search Button	To enter into search mode
Cut Button	To set the start/end time for backup in playback mode
Backup Button	To enter into backup mode
Zoom Button	To zoom in the images
PIP Button	To enter into picture in picture setting mode

Operation processes with remote controller to control multi-NVR

The default device ID of the NVR is 0. It's not necessary to reset the device ID when a remote is to be used to control a single NVR. However when controlling multiple NVRs with multiple remote controllers, you would need to configure the device ID, please refer to below steps:
Activate remote controller to control the NVR: Turn the IR sensor of the remote controller towards the IR receiver on the front panel, press the number key 8 twice on the remote, then input device ID of the NVR to be controlled (Range from: 0-65535; the default device ID is 0) press ENTER to confirm.

You can check the device ID of a NVR from System Setup→Basic→Device ID. You can also set multiple NVRs with the same device ID however this can cause interference if the NVRs are kept close to each other.

Key points to check in case the remote doesn't work.

1. Check batteries polarity and the remaining charge in the batteries.

2. Check IR controller sensor for any masking.

3. Check the ID of the remote with respect to the NVR.

If it still doesn't work, please try using a good known remote, or contact your dealer.

2.5 Control with Mouse

2.5.1 Connect Mouse

It supports USB mouse through the ports on the rear panel.
If mouse is not detected or doesn't work, check below steps:
1. Make sure the mouse is plugged in the USB mouse port.
2. Try with a good know mouse.

2.5.2 Use Mouse

During live:
Double-click on any camera window to see the full screen. Double-click again to return to the previous screen.
Right click to reveal the control menu on the screen. Right click again to hide the menu.

In Configuration:
Click to enter a particular option. Right click to cancel the option or to return to the previous menu.
In order to input a value in a particular screen, move cursor to the input box and click. An input window will appear as Fig 2-10. It supports digits, alphabets and symbols input. Click Shift button to input Capital letters and symbols; click Shift button again to return.

It supports mouse drag. Take setting up motion detection area for example: Click customized, hold down the left button and drag to set motion detection area.

Fig 2-10 Digital Numbers and Letters Input Window

In Playback:
Click to choose the options. Right click to return to live mode.

In Backup:
Click to choose the options. Right click 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.

***Note**: Mouse is the default tool for all operations unless an exception, as indicated.*

3 Basic Function Instruction

3.1 Startup and Shutdown

Please make sure all the connections are done properly before you power on the unit. Proper startup and shutdown are crucial to expanding the life of your NVR.

3.1.1 Startup

Step 1: Connect with the power.

Step 2: The device will boot and the power LED would turn blue.

Step 3: A WIZZARD window will pop up and show some information about time zone, time setup, network configuration, record configuration and disk management. You can set up here and refer to the concrete setup steps from the corresponding chapters. If you don't want to set up Wizard, please click Exit button to exit.

Note: The default output is HDMI output. Hold and press ESC key to switch the video output.

3.1.2 Shutdown

You can shut down the device by using IR remote controller and mouse.

By IR remote controller:

Step 1: Press Power button. This will bring up a shutdown window. The unit will shut down by clicking "OK" button.

Step 2: Disconnect the power.

By mouse:

Step 1: Click button and select "Shut Down" icon. This will take you to a shutdown window.

Step 2: Click OK. Then the unit will power off after a while.

Step 3: Disconnect the power.

3.2 Login

You can login or log off the NVR system. Once logged off you cannot do any other operation except changing the multi-screen display.

Fig 3-1 Login

Notice: *The default user name and password is "admin" and 123456".*
For complete operational steps for changing password, adding or deleting user please refer to section 5.7 User management Configuration.

3.3 Live preview

Fig 3-2 Live Preview Interface

Symbol	Meaning
Green	Manual record
Yellow	Motion detection record
Red	Sensor Alarm record
Blue	Schedule record

3.4 Live playback

Click Play button to playback the record. Refer to Figure 3-3. You can do complete operation by clicking the buttons on screen.

Fig 3-3 Live Playback

4 Add IP Cameras

This chapter mainly introduces how to connect multiple IP cameras through NVR. Once you finish adding IP cameras, you can see the live images through the monitor of the NVR.

To add IP cameras via LAN:

Step 1: Please Enter into Menu→IP Camera tab. Refer to Fig 4-1. Click "Search" button to search the devices in the same local network.

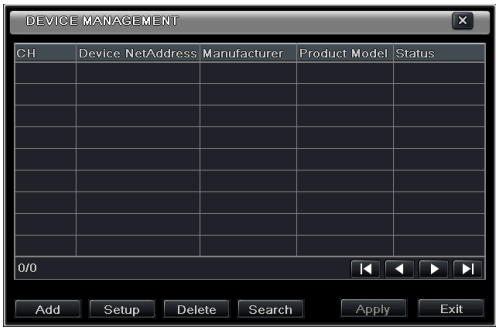


Fig 4-1 Device Management

Step 2: Enter into the search tab. Click "Refresh" to refresh the searched devices. You can modify the IP address of the searched device by checking the device and clicking "Setup" button.

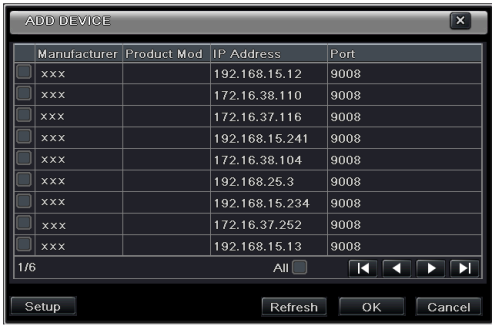


Fig 4-2 Search Devices

***Note**: If the network of IP cameras and NVR are in LAN, their IP address must be in the same network segment. For example: If the IP address of NVR is 192.168.013.057, the IP address of IP camera must be 192.168.013.XXX.*

Step 3: Choose the searched devices and click "OK" button to add these devices. The added

cameras will be listed in the device management interface.

Step 4: Choose the camera device and click "Setup" button to enable the camera. Refer to Fig 4-3. Check the "enable" checkbox, select channel and input the username and password of this device. Then click "OK" to save settings.

Fig 4-3 Add Device

To add IP cameras via WAN:

Step 1: Please enter Menu→IP Camera tab. Refer to Fig 4-1.

Step 2: Click "Add" button to pop up a window similar to Fig 4-3. You need to check "Enable" box, select channel, manufacturer and product model and manually input IP address, server port, username and password of this device.

***Note**: If the NVR and the IP cameras you want to add are in WAN, the IP address of the IP camera input here must be WAN IP. You should forward the LAN IP address and port of the IP camera in the router and use its WAN IP address, provided that the IP camera is in local area network, otherwise, the NVR cannot connect this IP camera.*

---

5 Main Menu Setup Guide

Click right mouse or press ESC/Stop button on the front panel to display the main menu toolbar on the bottom of the screen. Refer to Fig 5-1:

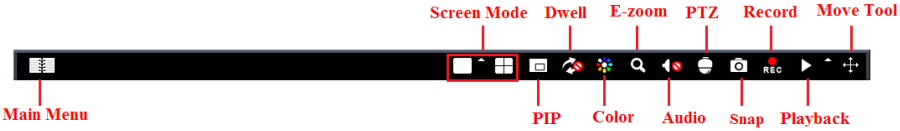


Fig 5-1 Main Menu Toolbar

Click the icon beside the screen mode to display a channel select dialog.

Screen Mode: You can choose a screen display mode to show the live images.

PIP: Click this button to set PIP. Click this button to choose the bigger picture and then click the little PIP button beside the word "None" to set the smaller picture. After that, you can see a picture in picture.

Dwell: Dwell means to display live images from different cameras in a sequence. The images may be displayed as a single channel or in a grid fashion from different cameras. Dwell mode is enabled only when the chosen display mode is not able to display all the available cameras.

Color: If this button is enabled, you can adjust the color of live images.

E-Zoom: Single channel large screen electronic amplification.

Audio: Enable sound.

PTZ: Click the PTZ button to control rotation position, speed and auto scan of the PTZ connected to the IP camera.

Record: Click this button to start/stop recording.

Playback: Click this button to playback the recorded files.

You can click Move Tool button and drag it anywhere with the left mouse to move the main menu bar anywhere.

Click Main Menu button to pop up a window as Fig 5-2; you can also press MENU button on the front panel or operate with remote controller to display the main menu. Clicking Setup icon will pop up the configuration menu:

Fig 5-2 Main Menu

System Setup

5.1 Basic configuration

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

5.1.1 System

Step 1: Enter into Menu→Setup→Basic→System. Refer to Fig 5-3:

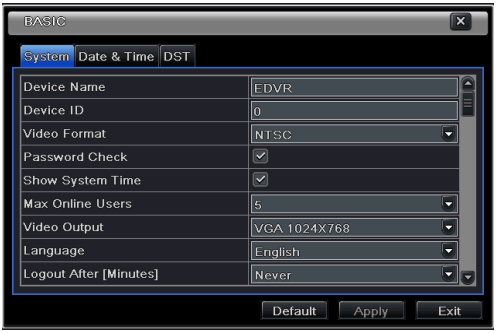


Fig 5-3 Basic Configuration-Basic

Step 2: In this interface you can set up the device name, device ID, video format, max network user, VGA resolution and language. The definitions for every parameters display as below:

Device Name: The name of the device as it may display on the client end or on CMS, this would help the user to recognize the device remotely.

Device ID: This ID is used to map the NVR with IR remote controller and speed dome cameras.

Video Format: Two modes: PAL and NTSC. User can select the video format according to the cameras being used.

Password Check: If enabled the user would need to input the user name and the password for performing corresponding operations.

Show System Time: If selected, displays the current time during live monitoring.

Max Online Users: To set the maximum number of concurrent user logins in the NVR.

Show wizard: If selected, the GUI would launch the startup wizard on every boot, allowing user to do basic setup.

Video Output: Resolution of live display interface, ranges from: VGA800*600, VGA1280*1024, VGA1024*768 and HDMI.
Language: To set up the menu language.

> ***Note**: After changing the language and video output, the device needs to login again.*

Logout After (Minutes): You can set up the screen interval time (30s, 60s, 180s, 300s). If there is no any operation within the setting period, the device will auto logout and return to the login interface.
No Image When Logout: If selected, there will be no image showing when logout.

5.1.2 Date & Time

Step 1: Enter into Menu→Setup→Basic→Date & Time tab. Refer to Fig 5-4:

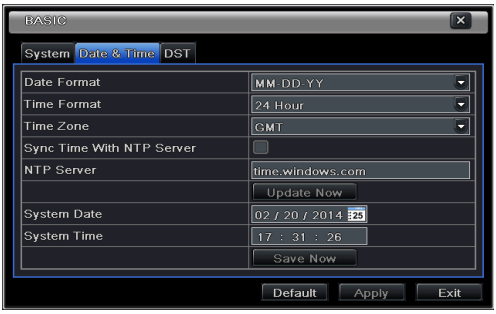


Fig 5-4 Basic Configuration-Date & Time

Step 2: Set the date format, time format, time zone in this interface; checkmark "sync time with NTP server" to refresh NTP server date. You can adjust system date manually
Step 3: Click "Apply" button to save the settings.

5.1.3 DST

Step 1: Enter into Menu→Setup→Basic →DST interface. Refer to Fig 5-5:
Step 2: In this interface, enable daylight saving time, time offset, mode, start & end month/ week/date, etc.
Step 3: Click "Apply" button to save the setting.

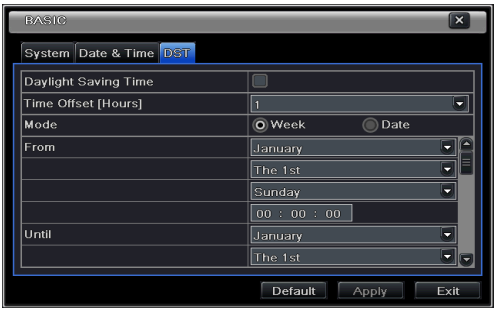


Fig 5-5 Basic Configuration-DST

5.2 Live Configuration

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

5.2.1 Live

In this interface, you can set up camera name.

To set up camera name:

Step 1: Enter into Menu→Setup→Live. Refer to Fig 5-6:

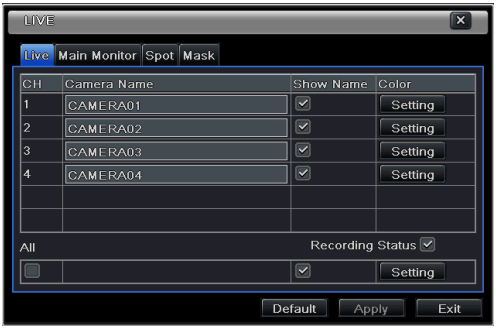


Fig 5-6 Live Configuration→Live

Step 2: A software keyboard will pop up by clicking camera name area. Click the letters and (or) digital numbers on the keyboard to input the name you want to display in live image.
Step 3: Checkmark the camera name in the show name area.
All channels will show the camera name by checking “All” checkbox.

To set up color:

Step 1: Click “Setting” button for a particular camera/channel to see a window as below:
Step 2: In this interface, you can adjust brightness, hue, saturation and contrast in live. Click “OK” button to save the setting.

5.2.2 Main Monitor

The main monitor settings allow you to set camera sequence in live display mode.

Operate the following steps to set main monitor:

Step 1: Enter into Menu→Setup→Live →Main Monitor interface. Refer to Fig 5-7:

Step 2: Select display mode and channel.

Step 3: Select dwell time. Click button to set up the dwell time of the previous channel. Click button to set the dwell time of the latter channel groups.

Step 4: Click "Apply" to save the setting.

Fig 5-7 Live Configuration-Main Monitor

5.2.3 Mask

If there is something you don't want to display in the live image. You can set mask. For a given channel a maximum of three areas can be masked. If the mask function is not available in the added IP camera, the mask function here will not take effect.

To set up mask area:

Step 1: Enter into Menu→Setup→Live →Mask interface.

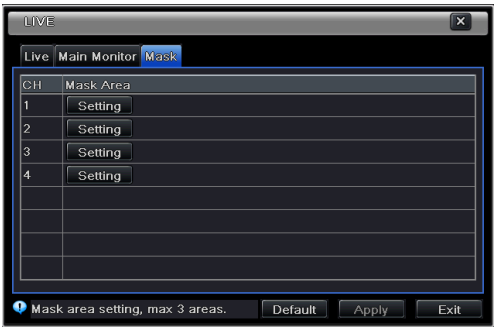


Fig 5-8 Live Configuration-Mask

Step 2: Click Setting button to go into live image.
Step 3: Press and drag the left mouse button to set mask area as shown below.
Step 4: Right click to exit the mask setting interface.
Step 5: Click Apply button to save the setting.

To delete mask area
Step 1: Click Setting button in the mask interface.
Step 2: Select a certain masked area and double click to delete that masked area.
Step 3: Then click Apply button to save the setting.

Fig 5-9 Setting Mask Area

5.3 Record Configuration

Record configuration includes six sub menus: enable, record bit rate, time, recycle record, stamp and snap.
Before Configuration, please make sure your NVR has been installed with HDD and has completed its initialization.

5.3.1 Enable

Step 1: Enter into Menu→Setup→Record→Enable tab. Refer to Fig 5-10:
Step 2: Checkmark record and audio.
Step 3: Select All to set up the same settings for all channels.

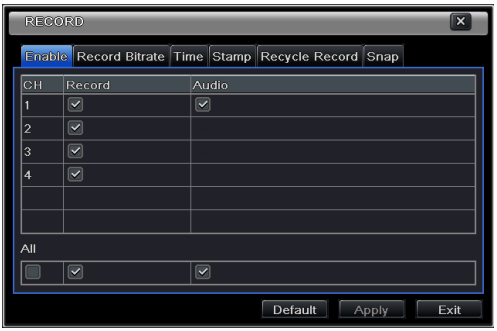


Fig 5-10 Record Configuration-Record

Parameter	Meaning
Record	To enable/disable recording for the channel
Audio	To enable/disable audio recording for the channel

5.3.2 Record Bitrate

Step 1: Enter into Menu→Setup→Record →Record Bitrate. Refer to Fig 5-11:
Step 2: Set up rate, resolution, quality, encode and max bit stream.
Step 3: Select "All" to set the same settings for all channels.
Step 4: Click "Apply" button to save the setting.

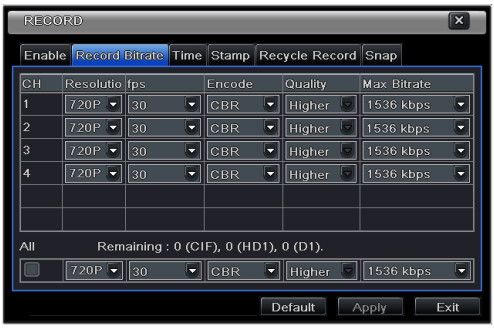


Fig 5-11 Record Configuration-Record Bitrate

Parameter	Meaning
Rate	Range from: 1-30（NTSC）1-25(PAL)
Resolution	Supports1080P, 720P, D1. Please select it as per the resolution your IP camera supports.
Quality	The higher the value is, the clearer the recorded image is. Six options: lowest, lower, low, medium, higher and highest.
Encode	VBR and CBR
Max bit stream	Range from: 256~12288kbps

If the value of the parameter is set to exceed the maximum resources of the system, the system

will automatically adjust it.

5.3.3 Time

Step 1: Enter into Menu→Setup→Record → Time interface to set recording time. Refer to Fig 5-12:

Step 2: Set Pre-alarm record time and post-alarm record time. Select "All" to set the same settings for all channels.

Step 3: Click "Apply" to save the setting.

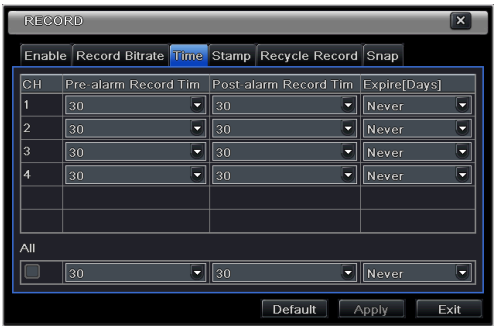


Fig 5-12 Record Configuration-Time

Pre-alarm Record Time: Set the time in seconds to pre-record before the actual recording begins.

Post-alarm Record Time: Set the time in seconds to post-record after the actual recording has finished, five options: 10s, 15s, 20s, 30s, 60s, 120s, 180s and 300s.

Expire Time: Set the expiration time for recorded video. If the set date is overdue, the recorded files will be deleted automatically.

5.3.4 Stamp

This provides an option to enable or disable the Camera Name and the Time stamp on the video. The user can also choose a position for the stamp on the screen**.**

To set up stamp as follows:

Step 1: Enter into Menu→ Setup→Record→Stamp interface. Refer to Fig 5-13:

Fig 5-13 Record Configuration-Stamp

Step 2: Checkmark camera name and time stamp. Click Setting button to set up the position of the stamp. You can drag the camera name and time stamp at random positions. Refer to below Figures:

Before drag

After drag

Step 3: Select "All" to set up all channels with the same parameters.

5.3.5 Recycle Record

This option is used to recycle the HDD space once it is full. If enabled, the system will automatically delete the old records and recycle the space if it is completely utilized. The setting steps are as follows:

Step 1: Enter into Menu→Setup→Record →Recycle Record interface;

Step 2: Checkmark recycle record to activate auto recycling. If the option is disabled or not selected, the NVR would stop recording once HDD is full.

Step 3: Click "Apply" button to save the setting.

5.3.6 Snap

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

5.4 Schedule Configuration

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

5.4.1 Schedule

This tab allows defining schedule for normal recording for seven days of a week, 24 hours of a day. Every row denotes an hourly timeline for a day. Click the grid to do relevant setup. A highlighted area denotes selected timeline. Operate the following steps to set schedule:

Step 1: Enter into Menu→Setup→Schedule interface. Refer to Fig 5-14:

Step 2: Select channel and click " " button to add a certain day schedule. Click " " button to delete the selected schedule.

If you want to apply the schedule setting of a certain channel to other or all channels, you need to select channel and click "Copy" button.

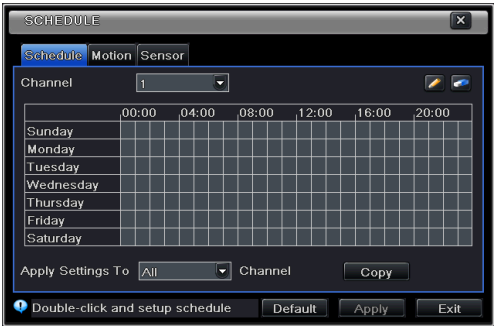


Fig 5-14 Schedule Configuration-Schedule

You can also set week schedule by double clicking in the grinding area. This will take you to see a dialog box as Fig 5-15.

Step 1: Select a day and click "Add" button to schedule start time and end time. Then click to save.

Step 2: Select other days and add schedule or copy settings from one schedule to the others under the Apply Settings To item.

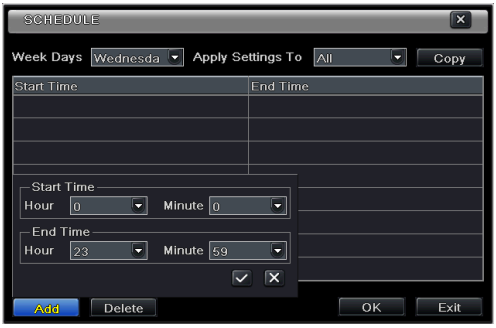


Fig 5-15 Schedule-Week Schedule

5.4.2 Motion Schedule

This tab allows setting schedule for motion based recording. The setting steps are as follows:

Step 1: Enter into Menu→Setup→Schedule →Motion tab.

Step 2: The setup steps for schedule for motion based recording are similar to normal schedule setup. You can refer to 5.4.1 Schedule for details.

> ***Note:*** *The default schedule of motion based recording is 24 x7. If you want to activate motion based recording, you must enable motion alarm and set up schedule for motion alarm (see Chapter 5.5.2 Motion Alarm for more details).*

5.4.3 Sensor Schedule

This tab allows to set schedule for sensor based recording. The setting steps are as follows:
Step 1: Enter into Menu→Setup→Schedule→Sensor interface.
Step 2: The setup steps for schedule for sensor based recording are similar to normal schedule setup (see Chapter 5.4.1 Schedule for details).

> ***Note:*** *The default schedule of sensor based recording is 24 x7. If you want to activate sensor based recording, you must enable sensor alarm and set up schedule for sensor alarm (see Chapter 5.5.1 Sensor Alarm for more details).*

5.5 Alarm Configuration

Alarm configuration includes four sub menus: sensor, motion, other alarm and alarm out.

5.5.1 Sensor Alarm

Sensor includes three sub menus: basic, alarm handling and schedule.
Operate the following steps to configure sensor alarm:
Step 1: Enter into Menu→Setup→Alarm →Sensor→Basic tab. Refer to Fig 5-16:

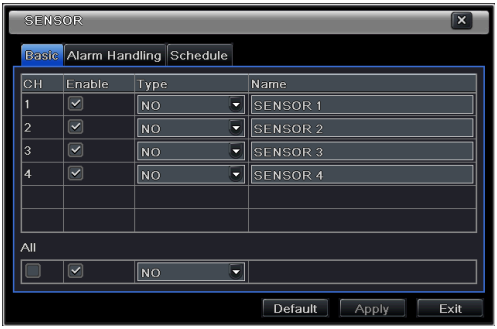


Fig 5-16 Alarm Configuration-Sensor-Sensor

Step 2: Enable channels by checking the checkboxes beside the desired channels.
Step 3: Set the alarm type according to triggered alarm type. Two option: NO and NC.
Step 4: Click "Apply" button to save the setting.
Step 5: Enter into Alarm Handling tab. Refer to Fig 5-17. Select hold time and then click "Setting" button to pop up a dialog box as shown in Fig 5-18.

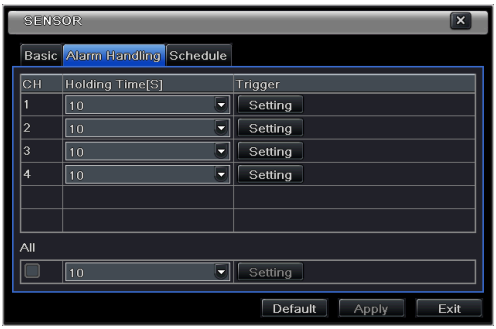


Fig 5-17 Alarm Configuration-Sensor-Alarm Handling

Step 6: Enter into alarm tab to select the options to handle alarm.

Fig 5-18 Alarm Handling-Trigger

Buzzer: If selected, the local buzzer would be activated on an alarm.
Show Full Screen: If selected, there will pop up the chosen channel on the monitor on an alarm trigger.
To Alarm Out: If selected, this would trigger external relay output on an alarm.
Email: If selected, the NVR will send an email alert to the preconfigured email address in case of a sensor based alarm from the particular input.
Snap: If selected, the system will snap images of the checked channels on an alarm and save them in the HDD automatically.

Step 7: Enter into To Record tab. Select recording channels. It would be recorded in case of an alarm. Click OK button to save the setting.
Step 8: Enter into Schedule tab. The setting steps for schedule for sensor based alarm are similar to normal schedule setup. You can refer to 5.4.1 Schedule for details. This step is very important for sensor alarm. Even if you have enabled the sensor alarm for all channels and set up the trigger, you will not see the result of sensor alarm if no schedule is added.
If you have set schedule for sensor based recording in the same timeline, recordings can also be triggered.

5.5.2 Motion Alarm

Motion includes two sub menus: motion and schedule. The steps to set motion alarm are as follows:

Step 1: Enter into Menu→Setup→Alarm →Motion→Motion tab. Refer to Fig 5-19:

Step 2: Enable motion alarm, set alarm hold time which refers to the time till which the system will wait for further detection of motion. e.g. If the holding time is set to 10 seconds, once the system detects a motion, it will go into alarm but would not detect any other motion alarm (specific to channel) until 10 seconds. If there is other motion detected during this period it is considered it as continuous movement, otherwise it will be considered as a single motion.

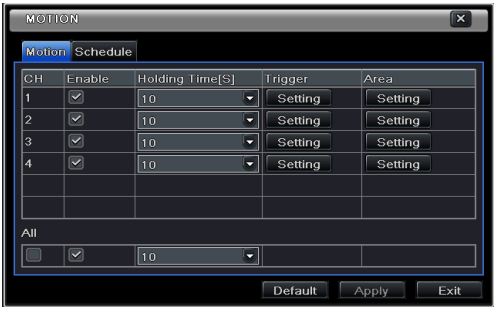


Fig 5-19 Alarm Configuration-Motion

Step 3: The setup steps of motion trigger are similar to "Alarm Handling" (See Chapter 5.5.1 Sensor →Alarm Handling setting for more details).

Step 4: After clicking Area button, a dialog box will pop up as Fig 5-20:

Fig 5-20 Motion-Area

Step 5: In the Area interface, you can drag slide bar to set the sensitivity value (1-8). The higher the value is the more sensitive it is to motion. Since the sensitivity is influenced by color and time (day or night), you can adjust its value according to the practical conditions. Left click the grid and drag to delete area. Click icon to set the whole area as detection area. Click icon to clear the set detection area. Click icon to test the sensitivity as per the local conditions. Once motion is sensed, it displays a figure icon. Click icon, to

save the setting. Click icon to exit the current interface.

Note: *Prior to setting motion detection field it is recommended that you click* *icon to clear the existing field and set afresh.*

Step 6: Select "All" to set the same settings for all channels.
Step 7: Click "Apply" button to save the setting.
Step 8: Enter into Schedule tab. The setting steps for schedule for motion based alarm are similar to normal schedule setup (see Chapter 5.4.1 for more details).

5.5.3 Other Alarm

This tab gives a choice to configure alarm for Disk Full, IP Conflict, the Disconnect event or Disk Attenuation.
Step 1: Enter into Menu → Setup →Other Alarm. Refer to Fig 5-21:

Fig 5-21 Other Alarm

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.
Step 4: Click "Apply" to save the setting.

5.5.4 Alarm Out

Alarm out includes three sub menus: alarm out, schedule and buzzer.
To set up alarm out:
Step 1: Enter into Menu→Setup→Alarm Out. Refer to Fig 5-22:

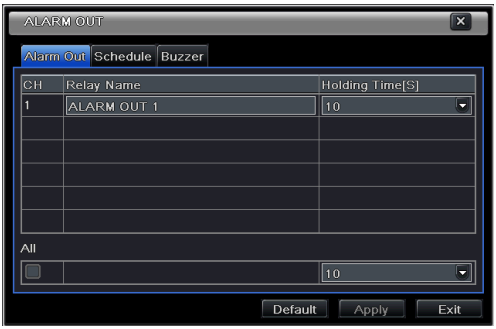


Fig 5-22 System Configuration-Alarm Out

Step 2: Input relay name and select hold time.
Step 3: Enter into Schedule tab. This will go into schedule setup interface. The setting steps for schedule for alarm out are similar to normal schedule setup (see Chapter 5.4.1 for details). This step is very important for alarm out. Even if you have enabled alarm out in the motion based alarm or sensor based alarm, you will not see the result of alarm out if no schedule is added here.

To set up buzzer:
Step 1: Enter into Menu→Setup→Alarm Out →Buzzer.
Step 2: Checkmark Buzzer and set buzzer alarm hold time. This would trigger the buzzer when the system is on an alarm.

5.6 Network Configuration

Network configuration includes four submenus: network, Email, Server and other settings. Network settings must be configured if NVR is used for monitoring over network.

5.6.1 Network

To set up network:
Step 1: Enter into Menu→Setup→Network→Network tab. Refer to Fig 5-23:

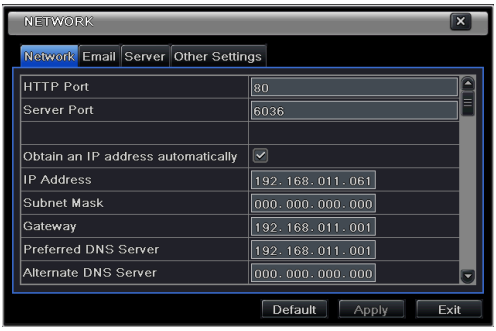


Fig 5-23 Network Configuration-Network

Step 2: Set HTTP port. The default HTTP port is 80. If the value is changed, you shall add the port number when typing IP address in IE address blank. e.g. If HTTP port is set to 82 and IP address is http://192.168.0.25, you should input the following IP address: http://192.168.0.25:82 into IE browser.
Step 3: Set server port. The default server port is 6036.
Step 4: Connect internet. There are three ways to connect internet.

- If you have a DHCP server running and would like your NVR to automatically obtain an IP address and other network settings, check the checkbox beside "Obtain an IP address automatically". Then the device will distribute IP address, subnet mask, and gateway IP and DNS server.
- If you want to configure your own settings, disable “Obtain an IP address automatically” item and input the IP address, subnet mask, gateway IP and DNS server.
- If you connect internet through PPPoE, disable “Obtain an IP address automatically” item and check PPPoE checkbox and then enter username and password. Once the setup is completed, your NVR will automatically dial up into your network.

Step 5: Test the effectiveness of the network by clicking “Test” button after you set up the network.
Step 6: If the network is well connected, please click “Apply” button to save the setting.

5.6.2 Email

To set up Email:
Step 1: Enter into Menu→Setup→ Network→Email tab. Refer to Fig 5-24:
Step 2: Set SMTP Server and port.
SMTP Server/Port: The name and port number of SMTP server. You can set up SSL check (such as Gmail) according to actual needs.
Step 3: Set sender’s address and password.
Step 4: Set receiver’s email address and click “Test” button to test the validity of the mailbox.

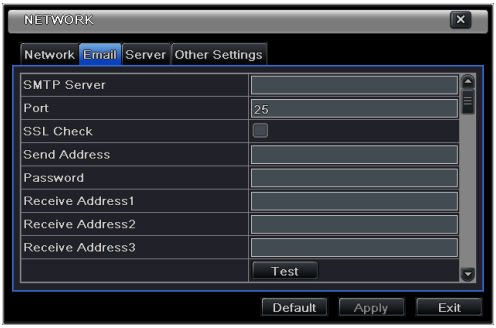


Fig 5-24 Network Configuration-Email

5.6.3 Server

This function is mainly used for connecting ECMS/NVMS. The setting steps are as follows:
Step 1: In the server interface, select “Enable” as shown in the Fig 5-25.

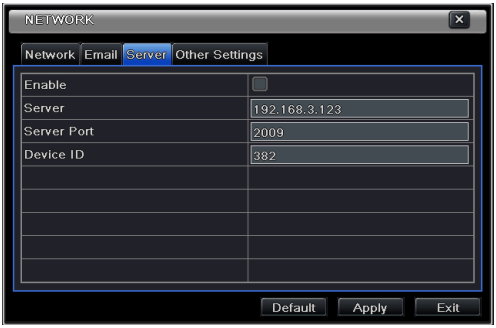


Fig 5-25 Network Configuration-Server

Step 2: Check the IP address and port of the transfer media server in the ECMS/NVMS. The default server port for auto report is 2009. If it is modified, please enter into the transfer media interface to check.
Step 3: Enable the auto report in the ECMS/NVMS when adding a new device. Then self-define device ID and input the remaining information of the device in the ECMS/NVMS.
Step 4: Input the above-mentioned server IP, server port and device ID in the server interface. Then click “Apply” button to save the setting. Now, the ECMS/NVMS system will automatically connect this device.

5.6.4 Other Settings

If your NVR is set to use PPPoE as its default network connection, you may set up DDNS to be used in connection. The setting steps are as follows:

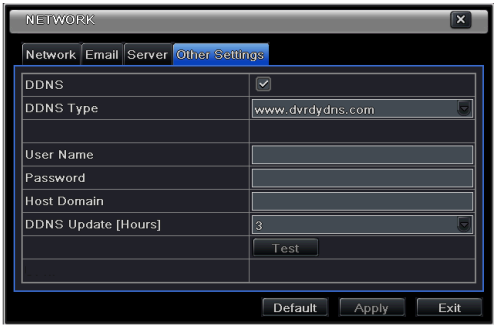


Fig 5-26 Network Configuration-Other Settings

Step 1: Enable DDNS server.
Step 2: Select DDNS server.
Step 3: Enter user name, password and host domain name of the registered website.

Step 4: Click “Test” button to test the effectiveness of the relevant information.
Step 5: Click “Apply” button to save the setting.

Note: *The domain name selected by user is a banding domain name of NVR. User should logon the website provided by the server supplier to register a user name and password and then apply for a domain name online. After the successful application, user can access the device from the IE client by inputting that domain name.*

1． Domain name Registration （http://provision-isr-dns.com）

Note: DDNS is used to register for a hostname with DDNS username and password.

Provision ISR now allows you to use our mint DDNS server in order to create a virtual address for your DVR on the internet. Each account can create up to 35 different addresses using your preferred domain name address instead of using IP addresses. Follow the steps below to register your DVR's name and to configure your DVR to use Provision ISR's Mint DDNS server.

(a) <u>To register a domain with Provision-ISR DDNS server follow these steps:</u>

1) Visit our website:

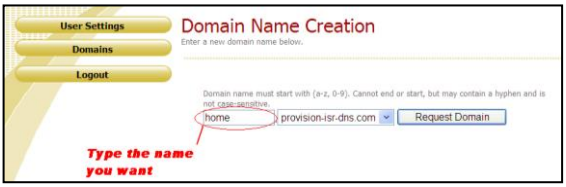
http://provision-isr-dns.com and

register for a domain name by

clicking "**Registration**"

2) Fill in the registration form, then click "**Submit**"

3) Fill in the host name you want to apply for and press "**Request Domain**" (for example "**home**")



4) If there is no problem with the domain registration you will see the following message: "**Your domain was successfully created.**"

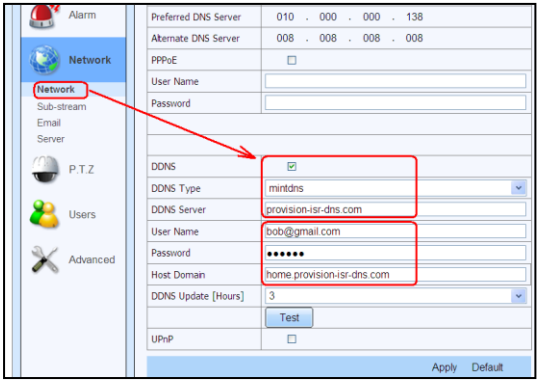
If you do not see this message, the domain name you requested is already in use and you will be requested to provide an alternate domain name (please note: *domain name* is sometimes called *host name*).

You can create up to 35 domain records under a single account

5) The domain name is added at the beginning of your DVR's address, for example the domain "*home*" will appear as **home.provision-isr-dns.com.**

(b) <u>Setting up your DVR to work with the DDNS server</u>

1) The DDNS server will work only if the three steps are completed; (1) domain registration, (2) correct network configuration with correct preferred/alternate DNS servers, and (3) correct port forwarding configurations are set on the local network (your router).



2) On the DVR Under Main menu => Settings => “Config” => “Network” set the correct DNS servers;

For example take a look at the correct settings on the figure below; the router's IP address is **10.0.0.138**, the e-mail account registered is **bob@gmail.com**, and the host domain registered is "**home.provision-isr-dns.com**".

3) As shown on figure above: Check the “DDNS” check box, select “mintdns” for DDNS type, and fill in all the other fields.

4) Make sure you have the preferred & alternate DNS servers filled in (under the “Network” settings section): the preferred server should be the Internet gateway and the alternate server should be a different DNS server– for example one of Google's DNS servers (IP 8.8.8.8 or 8.8.4.4)

5) Click the “Test” button

   a. If the test succeeds click the “Apply” button

   b. If the test fails check all fields again or call the support helpline

6) Now you can access the DVR using the DDNS (**http://home.provision-isr-dns.com**)

5.7 User Management Configuration

This tab allows you to add normal or advanced users. To add user and set up user authority:
Step 1: Enter into Menu→Setup→Users. Refer to Fig 5-27:

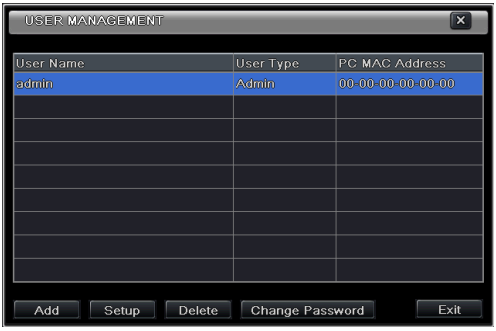


Fig 5-27 User Management Configuration

Step 2: Click Add button to display a dialog box as Fig 5-28:

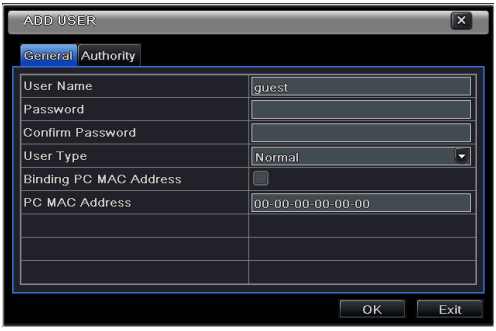


Fig 5-28 Add-General

Step 3: In General tab, input username, password and select user type. You can also check "Binding PC MAC Address" and input this address.
Step 4: Click "OK" to save the setting.

> ***Note:*** *When the default value of binding PC MAC Address is 0, the user is not bound with the specified computer. If the bind option is used, the user would be able to log into the NVR only through the specific computer (carrying the MAC address).*

Step 5: Select Authority tab and then assign the operation rights for particular user. Refer to Fig 5-29.
Step 6: Click OK to save the setting.

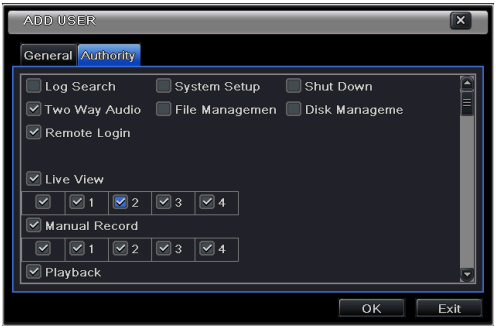


Fig 5-29 Add User-Authority

To delete user:
Step 1: Enter into Menu→Setup→Users interface.
Step 2: Select the added user you want to delete and then click "Delete" button.

To modify user:

Step 1: Enter into Menu→Setup→Users interface.

Step 2: Select the added user you want to modify and then click "Modify" button to do the relevant operation.

To change user password

Step 1: Enter into Menu→Setup→Users interface.

Step 2: Select the added user you want to change its password and then click "Change Password" button.

5.8 Advanced

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

5.8.1 Reset

Reset all settings the device will reboot.

5.8.2 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 NVR.

5.8.3 Block/Allow List

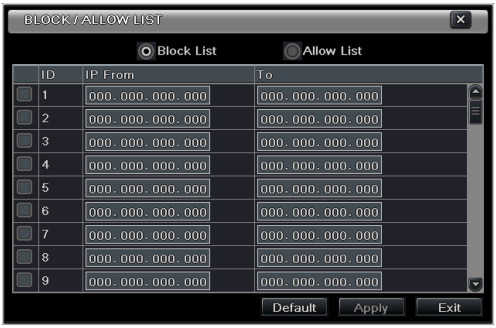


Fig 5-30 Block/Allow List

Here authorized user can prohibit computer users within a certain IP address range from accessing to NVR or allow computer users within a certain IP address range to access NVR. E.g. if an admin user doesn't want computer users within IP address range from 192.168.000.002 to 192.168.000.004 to access the NVR, he can check Block list option, and then input such IP address range. If it is required that computer users within a certain IP address range access NVR, they can check Allow List option and then do the required setting.

6 Search, Playback & Backup

Search configuration includes four submenus: time search, event search, file management and image.

6.1 Time Search

Step 1: Enter into Menu→Search →Time Search. Refer to Fig 6-1:

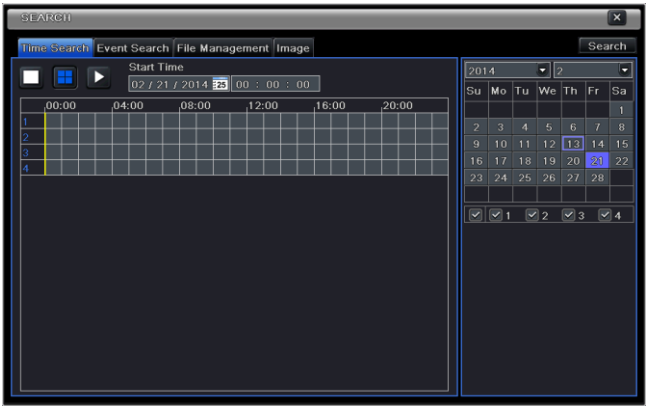
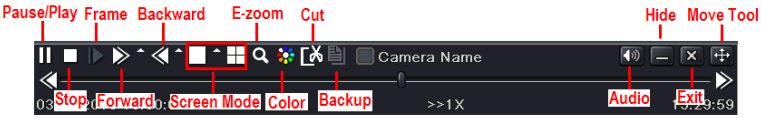


Fig 6-1 Search Configuration-Time Search

Step 2: Select date and channels on the right hand side and press the 'Search' button. A date with highlighted borderline indicates presence of data.

Step 3: Set the start time by clicking a particular grid or by entering the specific value in the start time field.

Step 4: Select the channel display mode and click Play button to play record. Use the playback toolbar to control the playback.



To set backup during a certain period in the playback interface:

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

6.2 Event Search

Step 1: Enter into Menu→Search→Event Search button. Refer to Fig 6-2:

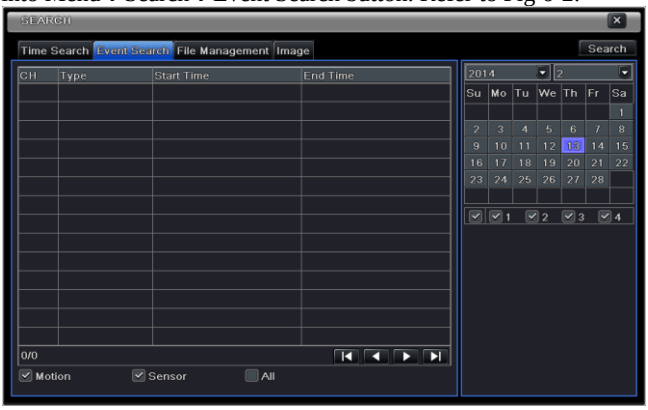


Fig 6-2 Search Configuration-Event Search

Step 2: Select date and channels on the right hand side. A data with highlighted borderline indicates presence of data.

Step 3: Checkmark Motion, Sensor or All accordingly.

Step 4: Click Search button to display the searched event information in the event list box.

Step 5: Double check a certain record file to playback.

6.3 File Management

Step 1: Enter into Menu→Search→File Management interface. Refer to Fig 6-3:

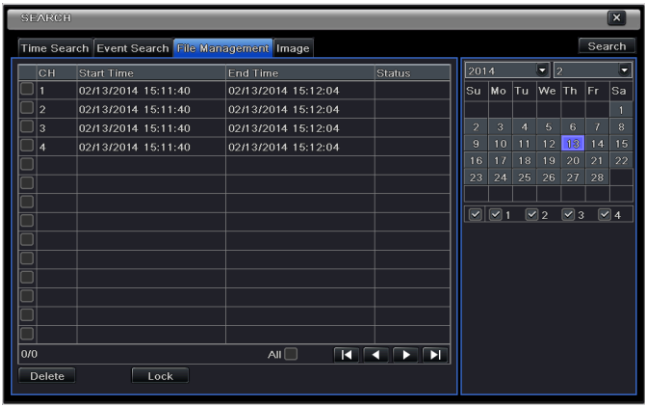


Fig 6-3 Search Configuration-File Management

Step 2: Select date and channels. The date with highlighted borderline indicates presence of data.
Step 3: Click Search button to display the searched files in the file list box.
Step 4: Use "All" button to lock/unlock or delete all files in the file management column.
Step 5: Double click an unlocked item to play.

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.

6.4 Search by Image

Step 1: Enter into Menu → Search → Image tab.
Step 2: Select data and channels on the right hand side.
Step 3: Press "Search" button to search for a recorded image.
Step 4: Once an alarm image has been identified, the user can double click the image to play recording.

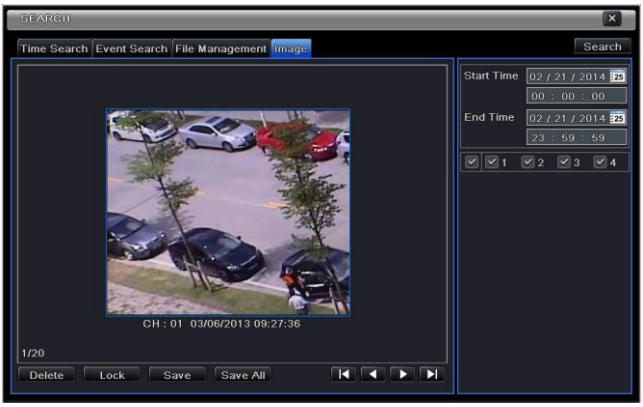


Fig 6-4 Search Configuration-Image

Lock: Select the image and click “Lock” button to lock this image.
Save: Click “Save” button to copy the image on the HDD.
Save All: Click “Save All” button to copy all images on the HDD.

6.5 Backup

This unit supports backup by built-in SATA DVD Writer with USB Flash. You can also make backup by IE browser via internet (see section 8.3.2 Remote backup).
Step 1: Enter into backup configuration. Refer to Fig 6-5:
Step 2: Set the start & end time, select channels and click Search button to display the searched data in the data backup list box.

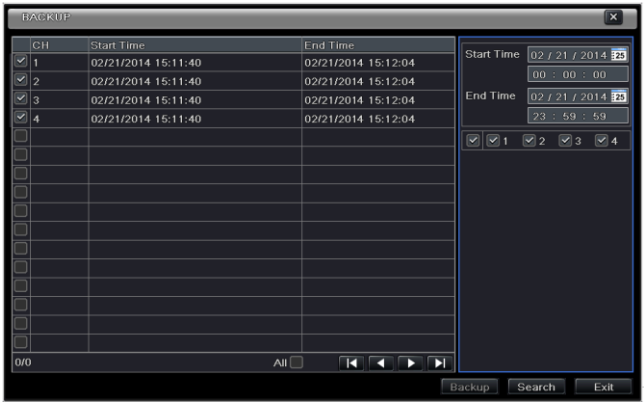
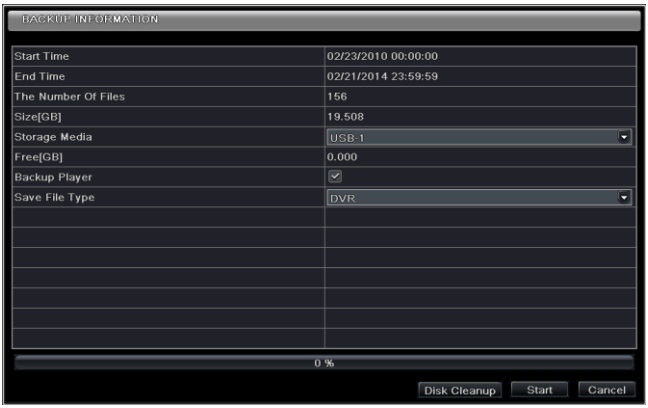


Fig 6-5 Backup Configuration

Step 3: Select a required file or checkmark “All” to select all data files. Click Backup button to display Backup information window.



Step 4: In the backup information interface, you can check the relevant information of backup files, storage type, save file type, etc. Then click Start button to start backup.

Note: *If the backup files are saved in DVR format, please check backup player. Only this player can play these files in DVR format. If the backup files are saved in AVI format, you can play these files with common media player.*

7 Manage NVR

7.1 Check System Information

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

7.1.1 System Information

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

7.1.2 Event Information

In this tab, you can search for events like motion, sensor and video loss. The utility provides an interface to have a date based and a channel based search. This report can further be saved on a USB flash drive as an html file using the export button.

7.1.3 Log Information

In this tab, you can search for relevant logs as per the set date and event which includes operation, setup, playback, backup, search, check information and error. This report can further be saved on a USB flash drive as an html file using the export button.

7.1.4 Network Information

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

7.1.5 Online Information

In this tab, you can check the details of the connected online users.
Refresh: refresh the current interface.
Disconnect: Disconnect the online users to access NVR. If this function is used by the admin, the particular PC will not be able to access the device for five minutes.

7.1.6 Record Information

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

7.2 Manual Alarm

In this interface, user can trigger a manual alarm.

7.3 Disk Management

1. Format the disk

Step 1: Enter into disk management tab.

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

Step 2: Click Refresh button to refresh the disk information in the list box.
Step 3: Select a hard disk and click Format button to start format.

Note: All recorded files in the hard disk will be lost once it is 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.

7.4 Upgrade

The NVR can be upgraded by using USB flash drive. Get the upgrading software from your vendor when there is a new software version.

Upgrade Steps:

Step 1: Copy the upgrade software which gets from vendor into the USB storage device.

Step 2: Connect the USB flash drive to the USB port.

Step 3: Enter Menu→Upgrade tab. Then the upgrade software name would be displayed in the upgrade list box.

Step 4: Select that software and then click upgrade button. It will upgrade automatically.

Note: Please wait for a while when the system reboots. Never cut off power during upgrading. The original configuration will be reserved after upgrade.

7.5 Logoff

Enter Main Menu → Logoff tab. A log off dialogue box will pop up. The device will log off by clicking "OK" button. If you want to log in again, click Main Menu icon to enter into user name and password to re-login.

8 Remote Surveillance

8.1 IE Remote Surveillance

In order to view the NVR from a network it must be connected to a LAN/WAN or internet. The network setup should be done accordingly. Please refer to 5.6 Network Setup. This NVR supports IE browser, on Windows XP and Vista platform.

8.1.1 On LAN

Step 1: Enter into the NVR's Main Menu→Setup→Network tab to input IP address, Subnet Mask, etc. If using DHCP, please enable DHCP in both the NVR 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 NVR 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 NVR. The default is admin

and 123456.

8.1.2 On WAN

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

1. Connect the NVR to internet through router or virtual server

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

Note: Port forwarding settings may be different in different routers and server. Please refer to the router's manual for details.

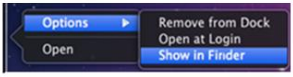
Step 3: Open IE browser, input IP address, or dynamic domain name and enter. If HTTP port is not 80, add the port number after IP address or domain name.
Step 4: IE will download ActiveX control automatically. Then a window pops up and asks for user name and password. Input name and password correctly, and enter to view.
Note: If you cannot download and install ActiveX control, please refer to FAQ Q8.

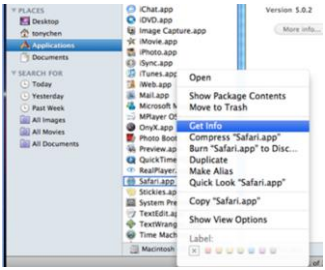
2. Connect the NVR to internet through PPPoE directly.
Step 1: Enter into the NVR's Main Menu→Setup→Network interface to enable PPPoE and then input user name and password received from your ISP. Next, click 'Apply'. The NVR will connect to the server and would give a confirmation message.
Step 2: When accessing the remote interface of NVR, user can input WAN IP to access directly (user can enter into Main menu→Information→Network interface to check IP address).
Step 3: If users want to utilize dynamic domain name, please apply for a domain name in a DNS server supported by the NVR or router. Then add to the NVR.
Step 4: Open IE browser to input WAN IP address or domain name and then enter. If HTTP port is not 80, add the port number after IP address or domain name.

8.2 Remote Surveillance through Apple PC

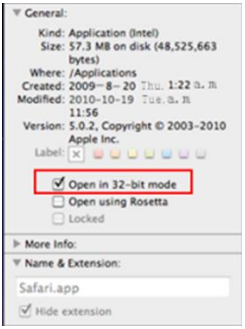
Note: Because the current plug-in version of client end just only supports 32-bit mode, so the safari browser shall start 32-bit mode. If the browser is the earlier MACOS version, the default setting is 32-bit mode and the setting can be skipped.

The Setting steps are as follows:
First: Right click safari icon and select "Show in Finder".
Second: Select Applications→Right click "Safari. App"→Select "Get Info".





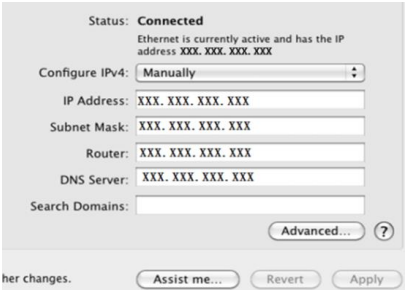
Third: Select “open in 32- bit mode”.



8.2.1 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” .

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



Step 3: After acquiring the IP address, Subnet Mask and so on, please enter into the NVR'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 NVR 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 NVR, 81 is the http port of NVR). 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"→ "Install" button，the following window will pop up：

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 NVR.

8.2.2 On WAN

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

1. Connect the NVR 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 X control. Then a window pops up and asks for user name and password. Input name and password correctly, and enter to view.

2. Connect the NVR 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 or domain name in the Safari browser to install the Active control. Then a window pops up and asks for user name and password. Input name and password correctly, and enter to view.

8.3 Remote Preview

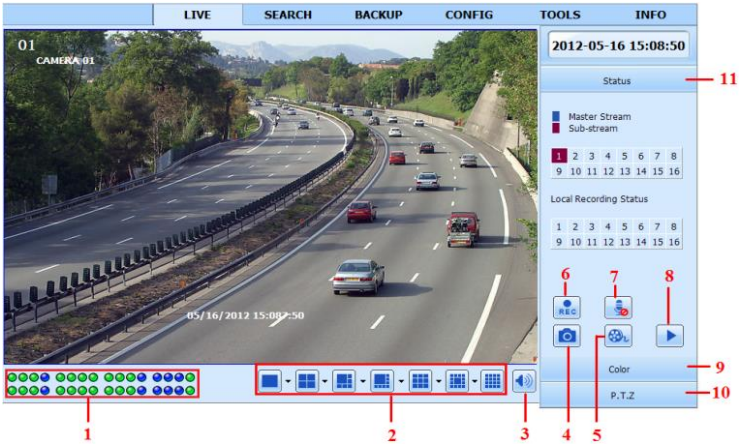


Fig 8-1 Remote Live Preview

Symbol and function Definitions:

1	Channel indicator	2	Screen display mode	3	Volume
4	Snap	5	Start IE record	6	Start manual record
7	Start Talk	8	Playback	9	Color
10	P.T.Z	11	Master/sub stream status		

Note: Click

button to record manual and the record file will be saved in user's PC.

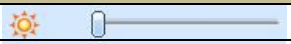
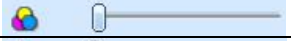
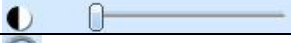
Screen display mode:

Snap pictures

The system will automatically capture pictures and save those pictures in the computer by clicking "Snap" icon. You should set up the path for those pictures in the Configuration→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
	Drag the scroll bar to adjust the brightness of channel
	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
	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
	to rotate the dome upwards. to rotate the dome diagonally up-left. to rotate the dome diagonally up-right to rotate the dome downwards. to rotate the dome diagonally down-right to rotate the dome diagonally down-left to rotate the dome towards left. to rotate the dome towards right to stop rotating the dome.
	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
	Track
	Auto scan
	Wiper button
	Light button

Click the right mouse on the live interface to display a pull-down menu as below.

Stream: The NVR supports master stream and sub stream. Master stream has higher frame rate, max 25fps (PAL)/30fps (NTSC) for every channel, but it needs higher network bandwidth; second stream has low frame rate, max 6fps (PAL)/7fps (NTSC) for every channel, but it requires low network bandwidth as compared to the master stream. Therefore, users can select the stream according to their bandwidth.

Fig 8-2 Right Key Sub Menu

All to sub stream: Set all channel to master stream or sub stream.

Enable audio: Enable or disable audio.

Full screen: The live preview picture will display in full screen and the tool bar will be hidden; double click left or click right mouse to return.

Zoom in: Single channel large screen electronic amplification. Click the channel which needs to be zoomed. Right click to select zoom in button to zoom in the image. Double click or right click to exit.

8.4 Remote Playback & Backup

8.4.1 Remote Playback

Click button to enter into record playback interface. Refer to Fig 8-3:

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

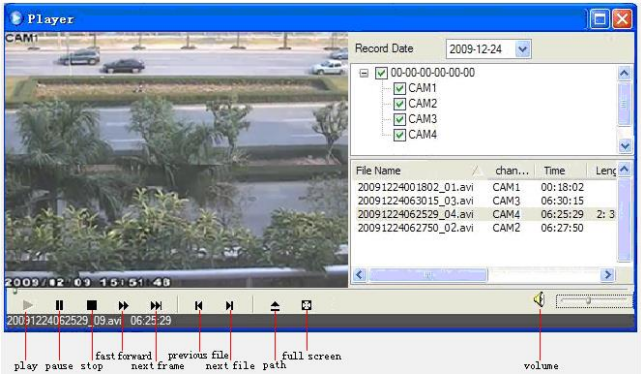


Fig 8-3 Play Record File Interface

This NVR supports remote time search, event search and file management.

By Time Search:

Step 1: Enter into Search→Time search. Refer to Fig 8-4:

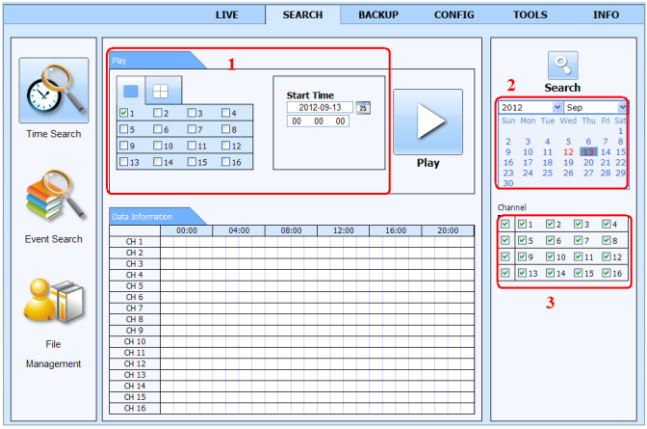


Fig 8-4 Time Search Interface

Step 2: The highlight date in the area②indicates recorded data. Select the date in the area ② and record channels in area③

Step 3: Click "Search" button. The record data will be displayed in the data information list box.

Step 4: Set the Start time and display mode in the area①as required.

Step 5: Click "Play" button to playback.

Step 6: Click the relevant buttons in the interface for operation, like FF, pause, change channel mode, research, etc. Please refer to Fig 8-5:

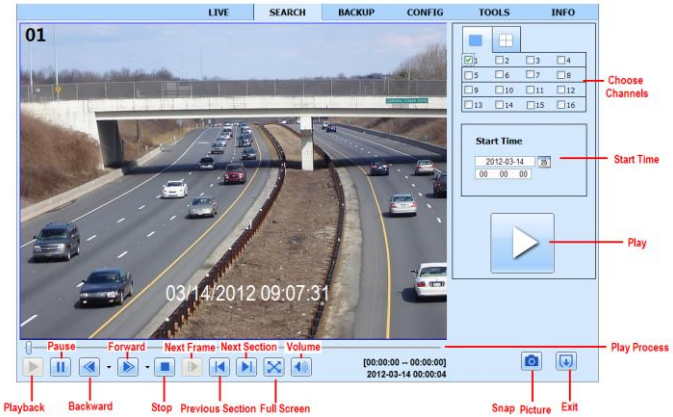


Fig 8-5 Time Search Playback

By Event Search:

Step 1: Enter into Search→Event Search. Refer to Fig 8-6:

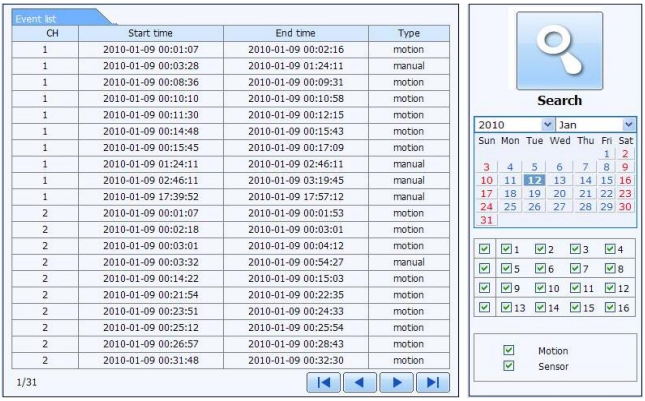


Fig 8-6 Event Search Interface

Step 2: Click the highlight date and select record channels.

Step 3: Checkmark the event type: motion and sensor.

Step 4: The events will be displayed in the event list box by clicking Search button.

Step 5: Double-click certain item to playback.

File Management

Step 1: Enter into Search→File management. Refer to Fig 8-7:

Step 2: Select highlighted date and channels.

Step 3: Click "Search" button to search the recorded files.

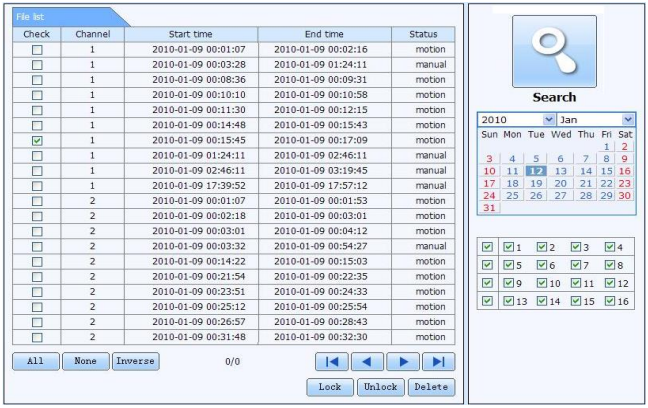


Fig 8-7 File Management Interface

Lock: Select certain file item in the file list box and then click "Lock" button to lock this file

that cannot be deleted or overlaid.

Unlock: Select a locked file and then click “Unlock” button to unlock this file.

Delete: Select an unlock file and then click “Delete” button to delete this file from file list.

8.4.2 Remote Backup

Click Backup button to enter into backup interface. Refer to Fig 8-8:

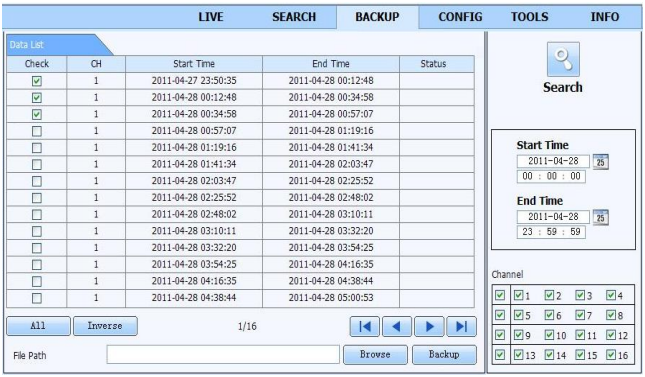


Fig 8-8 Remote Backup Interface

Step 1: Select channels, set the start and end time and then click “Search” button to display the file information in the file list box.

Step 2: Select backup files and click “Browse” button to set the path. Then click “Backup” button to start backup. The backup files will be saved on user’s PC.

8.5 Remote System Configuration

You can do remote setup of the device which includes functions like basic configuration, live configuration, record configuration, schedule configuration, alarm configuration, network configuration and user configuration. You should select an option from the menu list on the left and then set up the relative parameters. Only one user can do configuration setup at a given point of time. Click Config tab to enter into the below interface as Fig 8-9:

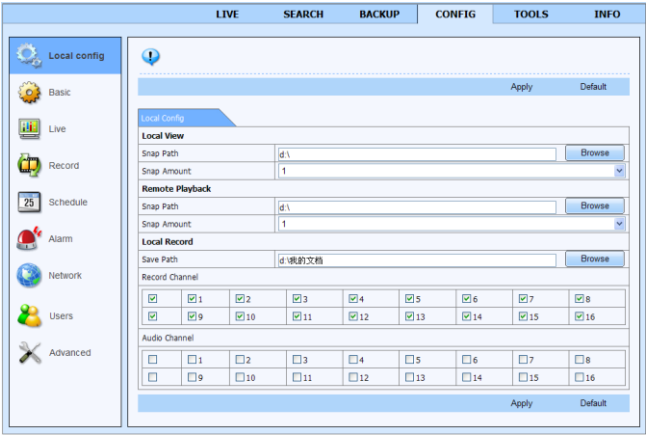


Fig 8-9 Remote System Configuration

The sub menu list and the options in every menu are similar to that of the NVR. Please refer to Main Menu Setup Guide for more details.

8.6 Tools

Click on tool's tab to access the disk management tool. You can view the status of the HDD, change/view the read/write properties and can also format the HDD remotely.

8.7 Remote Information

The Info tab provides a web based interface to access the general information pertaining to the NVR's settings. It includes five submenus: System, Event, Log, Network and Online users. The sub menu list and the options in every menu are similar to that of the NVR. Please refer to System information for more details.

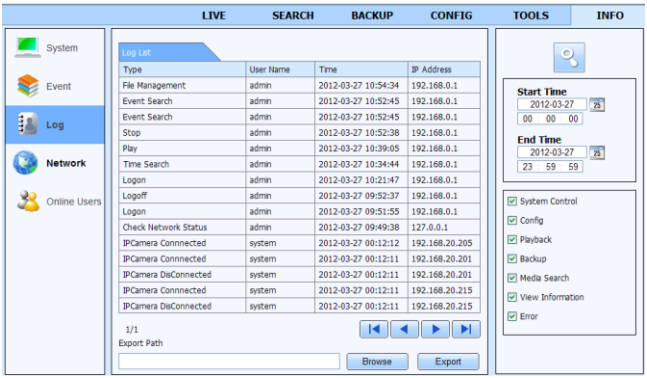


Fig 8-10 Remote Information Search

Note: There may be slight differences with respect to functions of remote surveillance between through IE and through Apple PC. Here we only take IE remote access for example.

8.8 By Phones with iPhone OS

- **Install through Iphone.**

Step 1: Open App Store software as shown in the figure on the left.
Step2: Search “Provision Cam” and click “Free” button as shown in the figure on the right.

Step 3: Click “Install App” button as shown in the figure on the left.
Step 4: Input iTunes Store password and then click “OK”. The software will be installed automatically.

- **Install Software through PC**

Step 1: Install iTunes store in PC and then login.

Step 2: Connect iPhone and PC.
Step 3: Search “Provision Cam” and select it.
Step 4: Click “Download” button.
Step 5: Input username and password.
Step 6: Synchronously apply "Provision Cam" software to iPhone/iPad.

- **"Provision Cam" Instruction**

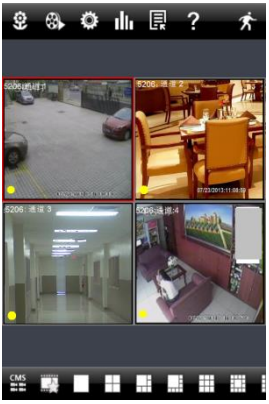
1. Login

Step 1: Choose network type. There are two network connection ways:
3G/3G +WIFI, well video quality. This network supports main stream and sub stream. The real-time image will be displayed by using sub stream.
3G-, poor video quality contrast to the above mentioned network.
Step 2: Input server, account and password.

Server: WAN IP address (or domain name) plus HTTP port of the device. For example: 210.21.183:89 or 123.dvrdydns.com:89.
Note: The default http port of the device is 80. If this port is modified, please use the modified port.
Account and Password: The login account and password of the device. The default account is admin and the default password is 123456.

Step 3: Click【Login】button to access the device.

2. Main Interface



There are many buttons in the main interface, such as, screen mode, favorite channel, snap, record, open/close audio, talk, PTZ., etc.

: Image view button. The pictures snapped in the live will be checked by clicking this button.

: Playback button. Click this button to enter into playback interface.

: Settings button. Click this button to set local configuration (Some can also support remote configuration).

: Information button. Click this button to check lots of information including local information, device information, network information, etc.

: Server list button. Click this button to add server list.

: Help button. Help you know about the use of this software quickly.

: CMS button. Make you preview the live image of multi-devices.

: Log off button. Click this button to return to the login interface.

: Screen mode button. You can choose 1 , 4 , 6 , 8 , 9 , 13 or 16 screen display mode.

: Favorite channel display button. If you save your favorite channel in the favorite server list, clicking this button will directly play all favorite channels you have saved.

: Snap button. Choose the channel and click this button to capture the channel image.

: Local record button. Choose the channel and click this button to start recording.

: Open/Close audio. Choose the channel and click this button to open/close the audio of this channel.

: Open/Close talk. Click this button to pop up the servers which support talk function. Select the device to start talking.

: Set video parameter button. Select the channel and click this button to set the video parameters including brightness, hue, saturation and contrast.

: PTZ button. Click this button to pop up PTZ control panel.

: Choose bitrate priority or quality priority according to your network condition.

Channel indicator instruction:

: Video loss

: Schedule recording

: Others

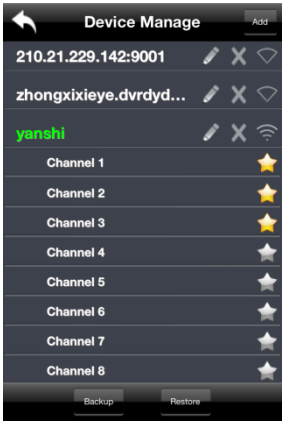
: Sensor alarm

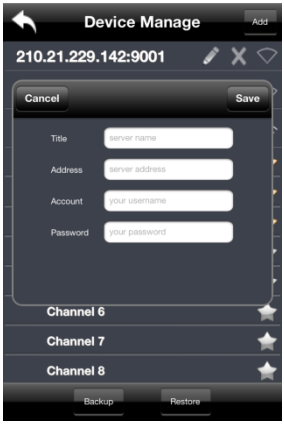
: Motion alarm

: Motion /sensor alarm based recording or manual recording

3. Server list

Click button to pop up the following picture.





➢ Add device: Click “Add” button in the top right corner to pop up a dialog box as shown in the following left picture. Input the relative information of the device and click “Save” button.

➢ Delete device: Click button behind the device name to delete this device.

➢ Edit device: Click button behind the device name to edit the information of this device.

➢ Backup & restore: It is recommended to click “Backup” button to reserve the information of

all devices. Then you can click “Restore” button to restore all device information after you re-install the client or delete the device uncarefully.

- indicates the device has been connected;
- indicates the device is connecting;
- indicates the device is not connected.

4. Live Preview

Once you access the device, the system will automatically display the screen mode in accordance with the channel number of the device

Note: The maximum number of channels which can be connected are nine after login.

1. Click “Screen mode” button to select channel as shown in Fig 1.

2. When there is video playing in a screen, you can switch the channel by long pressing the screen as shown in Fig 2.

3. When no video is playing in a screen, click this screen to choose channel as shown in Fig3.

4. When the single channel is playing, you can zoom in/out the image by swiping you finger up and down as shown in Fig 4.

5. When the single channel is playing, the channel can be switched by swiping your finger left or right as shown in Fig 5.

6. When multi channels are playing, drag one channel screen to the other channel screen. This will make these two channels change the position of each other.

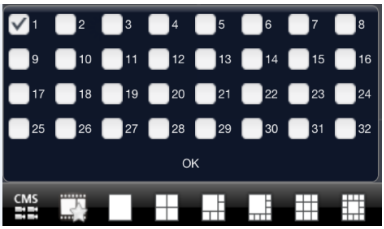


Fig 1

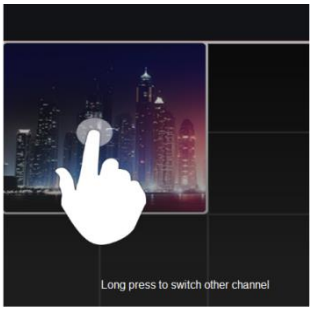


Fig 2

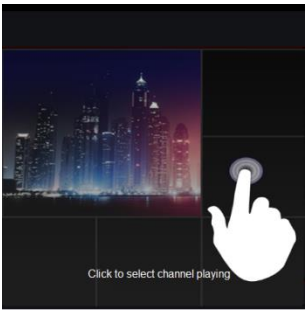


Fig 3

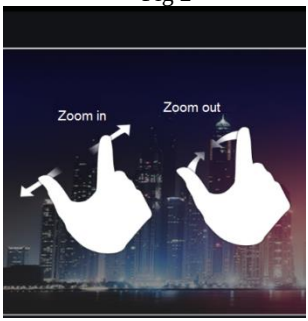


Fig 4

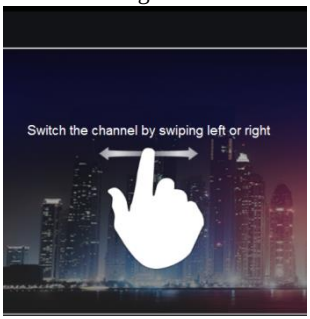


Fig 5

5. CMS Function

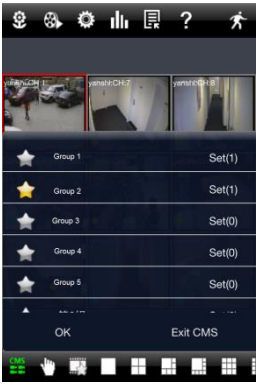
This function makes multi-device managements and preview come true.

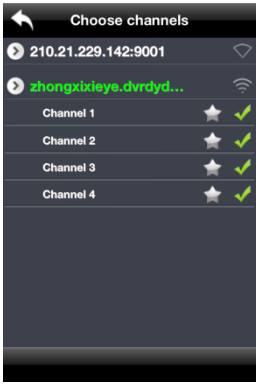
Step 1: Click

to enable CMS function. When this icon turns green, it means this function is enabled.

Step 2: Click

to choose channel as shown in the right picture. After you choose the channel, click "ok", the system will display the related image automatically.





- If channels have been added into the group, you can see the images by clicking the group name.
- On viewing the group channel images, click button and select channels to check other channel images.
- Click "Exit CMS" to exit CMS mode and return to the main interface of the device.

6. Favorite Channel/Group

There are two kinds of favorite channels: favorite channels of the device and favorite group of CMS.

- **Favorite channels of the device**

Step 1: Click to enter into device management list. Click the device name to extend channel. Enlighten the channels to save favorite channels as shown in the following picture on the left.

Step 2: Return to the main interface and click button to play the favorite channels.

- **Favorite groups of CMS**

Enable CMS function and enlighten the group to save the favorite groups as shown in the following picture on the right.

Then click button to play. Only one favorite group can be collected.

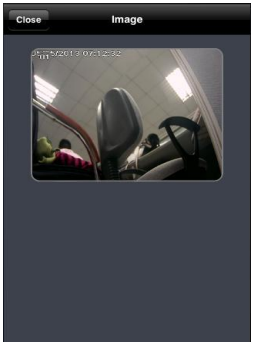
: Color means the channel or group has been collected. Grey means the channel or group isn't collected.

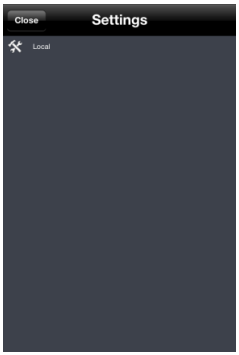
7. Playback Interface

Click "Playback" button to enter the playback interface. Then click "Search" button to search the file. To play the record by click this file name.

8. Image View

Click button to view the captured pictures.





9. Settings Interface

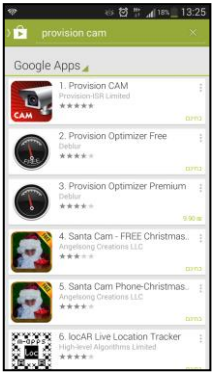
In this interface, you can configure the local settings.

10. Information Interface

In this interface, you can view system information.

8.9 By Phones with Android

Software Installation



Step 1: Run “Play Store” (or Google market) program.

Step 2: Search “Provision Cam”.

Step 3: Press “Install” button.

Step 4: Install the software subject to the notes. Once the downloading is done, the software will install automatically

Login Menu

Step 1: Configure the network of your device and mobile phone.

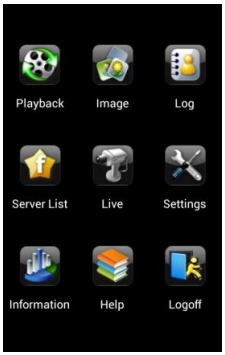
Step 2: Input the WAN IP address/domain name and port of your device in the sever column. The port should be HTTP port of your device. The default http port of the device is 80. If you have changed your http port, please enter the new port here. For example: 210.21.228.183:89 or 123.dvrdydns.com:89.

Step 3: Input the account and password of your device. The default account name is admin and the default password is 123456.

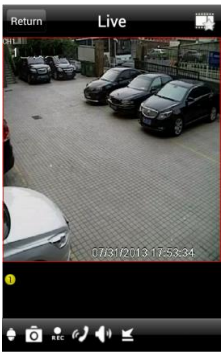
Step 4: Check “Remember Server” to save the setting. When you login next time, you can click ▼ button to select this server for quick access.

	PTZ
	Snap
REC	Record
	Talk
	Enable/disable audio
	Hide
	Playing favorite channel

Main Menu



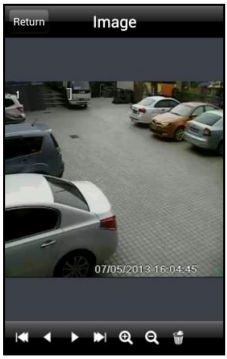
Live View



Record Playback:

	The first picture
	The previous picture
	Next picture
	The last picture
	Zoom in
	Zoom out
	Delete

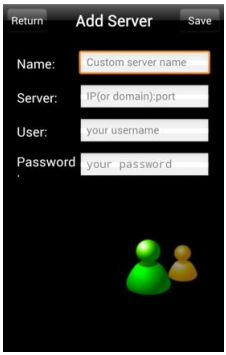
Click “Playback” in the main menu interface to enter playback interface. Then choose the channel you want to playback. This will take you to see the record file. Click this file to play.



	Pause/Play
	Stop
	Forward
	Backward

Server List:

In the main menu interface, click “Server list” to see the above picture on the left hand.

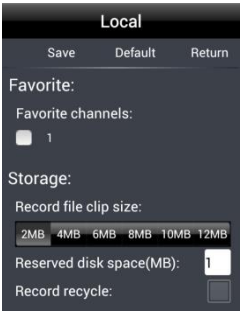


Add Server: Click Add button to pop up a window as shown in the above picture on the right hand. Enter the name, server, user and password of the device you want to add. Then click “Save” button to save the server. When you log in next time, you can choose and quickly access this server by clicking the little triangle button in the server column.

Modify Server: Click Modify button to modify the server information. Delete Server: Click Delete button to delete the server information.

Settings:

In the main menu interface, click “Settings” to enter the settings interface where you can configure local settings. Click “Local” to enter local settings interface. In this interface, you can set favorite channel and storage.



Favorite Channel:

Check the favorite channels and click “Save” button to save these channels. Then go into live interface and click button to play these favorite channels.

Storage: Setup the relevant parameters of mobile video.

Information View: view the DVR/NVR basic information as shown in the picture on the right.

Appendix A FAQ

Q1. Why can't the NVR turn on even after connecting to the power?

a. The power adapter could have gone bad. Please change a new power adapter.

b. The power from the adapter may be not enough for operating the NVR. Please use the power adaptor supplied along with the NVR.

c. It could be a hardware problem.

Q2. There is no menu displayed and only has live image display, why?

a. Check whether the monitor is connected to the main monitor. The monitor might be connected to VGA /HDMI port whereas the NVR may be set for output through BNC. Long press ESC/Stop key to toggle the output modes.

Q3. The NVR LED turns on, however there is no output. Why?

a. The power from the adapter may be not enough for operating the NVR. Please use the power adaptor supplied along with the NVR.

b. It could be a wiring issue. Please check the connection for the same.

c. Check the monitor settings.

Q4. Why are no images displayed on few or all the channels of the NVR?

a. It could be a wiring issue. Please check the cable and the ports of the cameras.

b. The problem can also be related to cameras. Please check the same.

c. Please make sure that you have added and enabled the cameras.

Q5. Why can't I find the HDD?

a. The power from the adapter may be not enough for operating the NVR. Please use the power adaptor supplied along with the NVR.

b. It could be a wiring issue. Please check the power and data cables of the HDD.

c. The HDD could have gone bad. Change a new one.

Q6. The system cannot record, why?

a. Make sure the HDD was formatted prior to use.

b. Maybe the user hasn't enabled the record function or has done incorrect setup. Please refer to Record Configuration for more details .

c. Maybe HDD is full and thus the NVR is not able to record. Check HDD information from Disk management and if required, please enable the recycle function.

d. Check the attributes of the HDD. It might be set to read only mode.

e. The HDD could have gone bad. Please change another one.

Q7. Mouse does not work. How can I do?

a. The mouse should be connected to the USB port at the rear side.

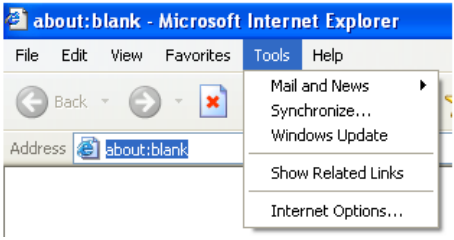
b. After connecting the mouse, allow the NVR to detect the mouse for seconds. If not detected, try restarting the NVR.

c. The mouse may be incompatible or faulty. Please change a mouse.

Q8. ActiveX control cannot be downloaded. How can I do?

a. IE browser blocks ActiveX control. Please do setup as per the steps mentioned below.

①Open IE browser. Click Tools-----Internet Options.



②select Security------Custom Level….Refer to Fig 8-1.

③Enable all the sub options under "ActiveX controls and plug-ins". Refer to Fig 8-2.

④Then click Ok to finish setup.

b. Other plug-ins or anti-virus may block ActiveX. Please disable or do the required settings.

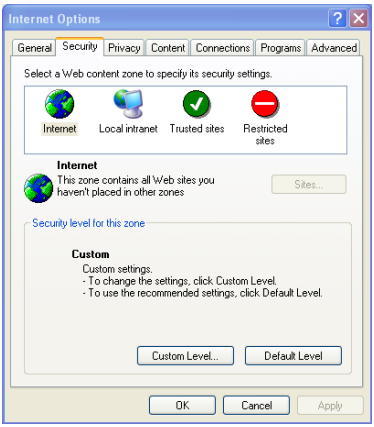


Fig 8-1

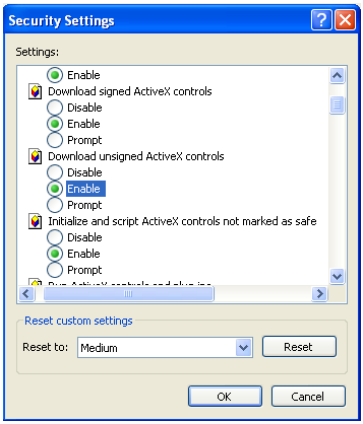


Fig 8-2

Q9: NVR displays "please wait…"all the time. Why and How can I do?

a.HDD power cable and data cable may not be well connected. Please check the connections for HDD.

b. It is also possible that the NVR was forced to stop because HDD has a bad sector and it may have caused the system to halt. Check with a good known HDD or try formatting the existing HDD.

Q10: How to input password and numbers in the interface?

Click the password or the input box to pop up a small keyboard. Please select characters to be input (the initial password is 123456), or you can use the digital keys on the front panel, or the digital keys on the remote controller.

Q11: A hard disk is being identified as a new device however it was being used with another NVR of same model. Should it be formatted prior to use?

It is possible to migrate an HDD from one NVR to another provided that the NVRs are of the same model and that the HDD being migrated would be used as the sole disk in the new NVR. However in cases where the new NVR already contains a HDD, the migrated disk being installed would have to be formatted. In general migrating disks from one NVR to another is not recommended.

Q12: What is the minimum configuration required for remote monitoring?

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

Q13: How to handle the situation that the codec Control is blocked when downloading in the VISTA or Win7 system?

This problem can be fixed in two ways:

a. Enter Control Panel→User Account and Family Safety → User Account Control (refer to Fig 13-1); 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.

Fig 13-1

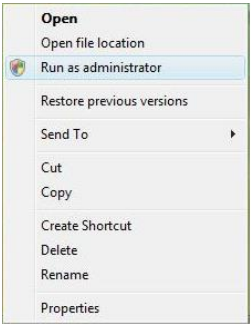


Fig 13-2

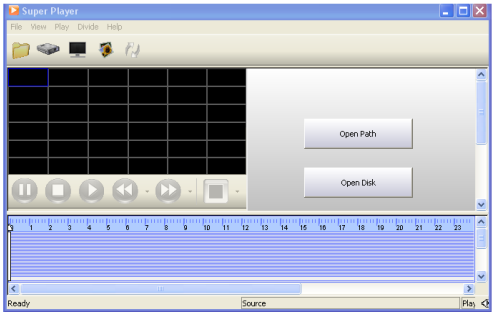
Q14. How to play the backup file?

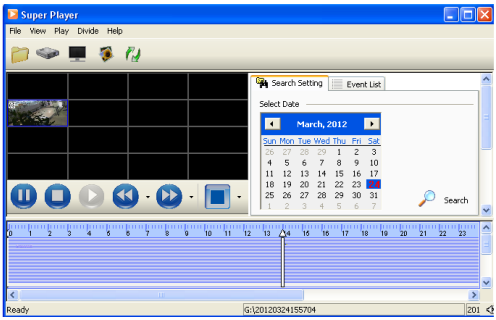
a. Insert your USB device where the backup files are saved in the USB port of PC. If your

files are saved in DVR format, you must have already downloaded the backup player box before doing backup. Then double click to open your USB disk to find your backup files and backup player. Double click

icon to install backup player.

b. After you install it, open this player and click “Open Path” button to open your backup file. Next, click play button to play the backup file. Double click the image and then right click to enable audio. If you save your backup files in AVI format, you can directly open your file by using the media player which supports this format.





Appendix B Calculate Recording Capacity

You can calculate the size of hard disk according to the storage time and NVR recording settings. The formula is as follows in full frame rate condition. Used space per hour (MB/h) = Bitrate(kbps) ÷ 8 × 3600 ÷ 1024. The below are the details at different settings.

Resolution	Frame Rate	Bit Rate (kbps)	Used Space(MB/h)
1080P	15fps (NTSC)	12M	2700
		8M	2025
		7M	1575
		5M	1350
		4M	900
720P	30fps (NTSC)	6M	2700
		4M	1800
		2M	900
		1M	450
		256	113

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 sets resolution to1080P, frame rate to 15fps, bitrate to 4M and enables total 4 channels. He wants the unit to record continuously in a month. Below is the calculation:

Total Recoding capacity =900 (mb/h) X 24(hours/day) X30(days) X4 (channels)= 2592000 (MB)=2531.25(GB)

Therefore, customers just install two SATA HDDs with 1.5TB, 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 SATA CD/DVD writers after test

Brand	Model
TECLAST	GH22NP20/TL-22XD
BENQ	DW220S-0K4
LITEON	DH—20A6S01C
LITEON	DH-20A4P02C
SAMSUNG	TS-H653B

3. Compatible HDD list

Brand	Capacity
Seagate Barracuda	80G/160G/250G/320G /1.5T/2TB/3TB
Seagate SV35.3	1T
Seagate Pipeline HD.2	500G
Maxtor Diamondmax	160G
HITACHI Deskstar	80G/160G
WD WD1600JS	160G
Samsung HD161HJ	160G

Appendix D NVR Specifications

Model/Specifications	NVR-16400(1U)
Format	ONVIF NVR
Number of Channels (PoE)	16 (No)
Playback Channels (remote)	16 (4)
Live Preview While Playback	No
Loop (Image Capture)	No (No)
Output Type	CVBS,VGA,HDMI
Dual Display	Yes
Case	1U
Audio Input (Output)	Depends on Camera (1)
Two Way Audio (Mic In)	Yes (1)
Alarm In (out)	16 (1)
PTZ Control	RS485
Recording CIF (960H)	No (No)
Recording D1	400/480 FPS (Total)
Recording Channels D1	16ch @ 25/30 FPS
Recording 720P	400/480 FPS (Total)
Recording Channels 720P	16ch @ 25/30 FPS
Recording 1080P	200/240FPS(Total)
Recording Channels 1080P	16ch @ 12/15FPS
H.264 Compression	High profile
HDD/ E-SATA	2 (up to 3TB each) / No
USB Port / Ethernet	2 / 1000Mbps
DVD Burner	Optional
Master Stream	1-12/15 FPS @1080P 1-25/30 FPS @720P/D1
Network Stream	1-25/30 FPS @720P / CIF
Max Simultaneous Users	20
IR Remote / IR Extention	Yes / Optional
Mouse	Yes
Power Supply	DC12V/4A

Notes:

www.provision-isr.com