CHANNEL VISION™
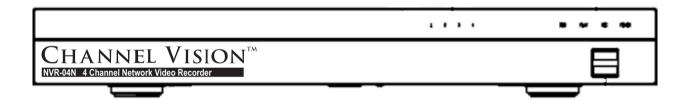
NVR-04N   4 Channel Network Video Recorder

NVR-4
4 Channel Network Video Recorder

INSTRUCTION MANUAL

To obtain the best performance and ensure device function correctly, please read this instruction manual carefully and completely.

FCC Compliance

USER-INSTALLER CAUTION: YOUR AUTHORITY TO OPERATE THIS FCC VERIFIED EQUIPMENT COULD BE VOIDED IF YOU MAKE CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE TO PART 15 OF THE FCC RULES.

NOTE: THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS A DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES. THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS.

OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

THIS CLASS A DIGITAL APPARATUS MEETS ALL REQUIREMENTS OF THE CANADIAN INTERFERENCE-CAUSING EQUIPMENT REGULATIONS.
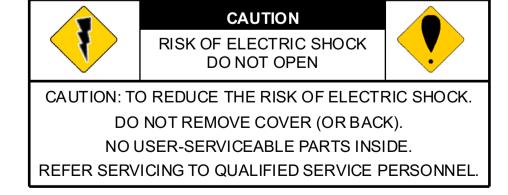
WARNINGS, CAUTIONS & COPYRIGHT

WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MISTURE.
DO NOT INSERT ANY METALLIC OBJECT THROUGH VENTILATION GRILLS.

CAUTION

	CAUTION	
⚡	RISK OF ELECTRIC SHOCK DO NOT OPEN	❗
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK. DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.		

Explanation of Graphical Symbols

⚡ (lightning flash symbol)	The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of insinuated "dangerous voltage" within the products enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.
❗ (exclamation point symbol)	The exclamation point within an equilateral rhombus is intended to alert the user to the presence of important operating and maintenance (servicing) instruction in the literature accompanying the product.

USERS OF THE SYSTEM ARE RESPONSIBLE FOR CHECKING AND COMPLYING WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND STATUTES COIPCERNING THE MONITORING AND RECORDING OF VIDEO AND AUDIO SIGNALS. ULTRAK SHALL NOT BE HELD RESPONSIBLE FOR THE USE OF THIS SYSTEM IN VIOLATION OF CURRENT LAWS AND STATUTES.

COPYRIGHT

TABLE OF CONTENTS

1   INTRODUCTION

1.1   FEATURES

- Supports 4 channel PoE for IP cameras input.
- Power management for PoE channel.
- Supports H.264 / MPEG4 decoding.
- Plug & Play
- Real-time Display & Playback.
- Supports 5 Megapixel IP Camera for each channel.
- Supports 4TB HDDs x2, each up to 4TB
- Support HDMI Video interface.
- Supports CMS (Central Management System) control
- Audio Backup for all channels
- Supports time-point backup function under Ethernet remote control mode. User can select any time period to process backup from remote side.
- Supports time-search & event-search function under Ethernet remote control mode.
- Up to four online clients for independent remote control; individual live-time, play-back & time-search function available
- Powerful mobile surveillance function, supports i-Phone & Android

1.2   SPECIFICATIONS

MODEL		4CH
System		
OS		Embedded Linux
Connector	WAN Ethernet	RJ-45 x1, 10/100/1000 Mbps
	LAN Ethernet	RJ-45 x4, 10/100 Mbps
	Video output	HDMI x1 / VGA x1
	USB 2.0	Front: 2 ports Back: 1port
Power Input		DC48V 12V
Power Output		RJ-45 x 4, PoE 802.3at Max. Power supply: 60W
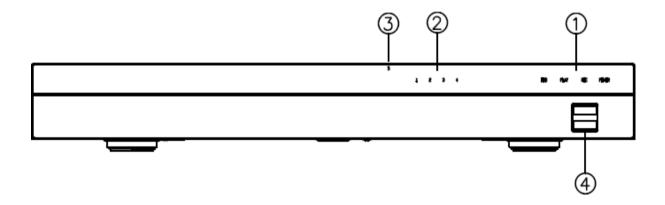
Video and Audio	
IPCam Video input	4 channels
IPCam Audio input	4 channels
NVR Functions	
Camera Name	Max. 20 characters
Screen Split Control	1, 4
Image Control	Contrast / Brightness / Saturation / Hue
Recording mode	Manual / Schedule / Alarm
Searching and Playback	
Search Method	Date / Time / Event
Date/ Time / Event Search	Selectable on the calendar
Log Search	Through the log data to find the video event / time
Backup Type	USB
Remote Client Software	
Monitoring Environment	Channel Vision IP Cam for Android and IOS
IP cam Live View	4 Channels
Remote Search	Web site remote time / event search
System Monitoring and Recovery	
Monitoring	Watchdog
Alarm	
Alarm Input	4 Alarm in
Alarm output	1 Relay out
Peripheral Devices	
Audio in	Back:3.5mm phone jack
Audio out	Back: 3.5mm phone jack
RS 485	2- pin terminal
STORAGE & BACKUP DEVICE	
INTERNAL HDD SUPPORT	SATA HDD x 2
EXTERNAL USB BACKUP DEVICE	USB x 3
E-SATA	N/A
Networking	
Type	Static/ DHCP/ PPPoE/DDNS
Environment	
Operating Temp.	0 - 45 ℃ / 32~113 F

Humidity	0~80% RH (non-condensing)
Language	
Type	English / Traditional Chinese / Simplified Chinese / Russian / Italian / Japanese / Czech / France / Germany / Spanish / Portuguese / Dutch / Slovak / Finnish / Thai / Turkish / Vietnamese / Greek / Hungarian / Slovene
Physical	
Color	Black
Dimensions (W x H x D)	360(W) x 44(H) x 301(D)
Weight	2KG

* SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE

2   HARDWARE OVERVIEW
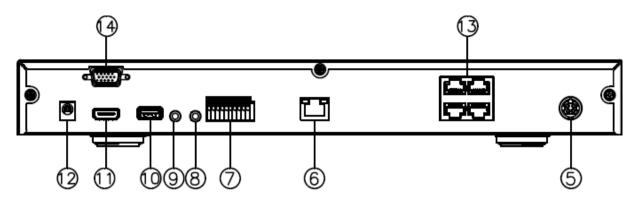
2.1   FRONT PANEL

NVR OPERATION

NO.	LABEL	OPERATION
1.	**LED**	POWER / REC / PLAY / ALARM LED indicators
2.	**LED**	CHANNEL 1/ 2 / 3 / 4 LED indicators
3.	**LED**	PoE LED Indicator
4.		USB Connector/ USB Mouse Connector
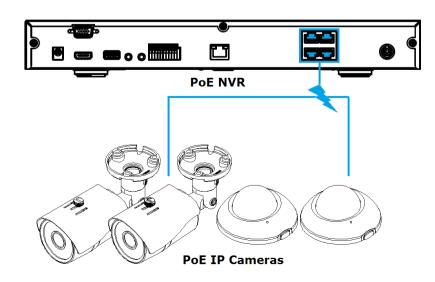
2.2 BACK PANEL

NO.	LABEL	OPERATION
1.	**POWER**	Connect to power adapter (DC 48V)
2.	**ETHERNET**	RJ-45 connector
3.	**DI / DO & Relay In / Out**	4 alarm in/ Relay / RS485
4.	**AUDIO IN**	Microphone input(Phone Jack)
5.	**AUDIO OUT**	Earphone output(Phone Jack)
6.	**USB**	USB Connector/ USB Mouse Connector
7.	**VIDEO OUT (HDMI)**	HDMI video output
8.	**POWER**	Connect to power adapter (AC 12V/5A)
9.	**POWER OVER ETHERNET (PoE)**	RJ-45 connector with power supply (802.3af, 15.4W)
10.	**VIDEO OUT (VGA)**	Connect to LCD monitor

Note: This NVR needs to have both 5&12 connected to power adaptors to be able to work.

2.3 PoE (Power Over Ethernet)

PoE NVR

PoE IP Cameras

Power over Ethernet (PoE) is a technology that integrates power into a standard LAN infrastructure, enabling power to be provided to a network device using the same cable as the network connection. IP cameras can be installed for uninterruptible power supplies without power outlets in various locations.

2.4 ALARM TRIGGER

There are four types of alarms: <u>Motion detection</u>, <u>Video Loss Alarm</u>, <u>External Alarm</u>, and <u>Digital Input from Camera</u>. The following are the possible actions when the alarm is triggered. Every action is configurable (Ex. the screen display pattern, the relay triggered time.etc) and will be explained in the later chapter.

A. When <u>Motion detection</u> occurs:
   a. The live screen pattern can be switch to single channel screen or split screen.
   b. The external relay/ built-in buzzer can be triggered.
   c. The alarm timepoint can be recorded in the event list, and you can search for the event in playback.
   d. On the channel which the alarm is triggered, the icon pops up to remind the user.
   e. The pre/ post-alarm recording video can be sent to e-mail/ uploaded to FTP.
   f. The CGI can be sent to an http server.

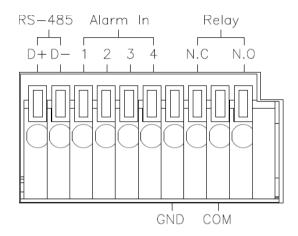B. When <u>External Alarm</u> or <u>Digital Input from Camera</u> happen:
   a. The external relay/ built-in buzzer can be triggered.
   b. The alarm timepoint can be recorded in the event list, and you can search for the event in playback.
   c. On the channel which the alarm is triggered, the icon pops up to remind the user.
   d. The pre/ post-alarm recording video can be sent to e-mail/ uploaded to FTP.
   e. The CGI can be sent to an http server.

C. When <u>Video Loss Alarm</u> occurs:
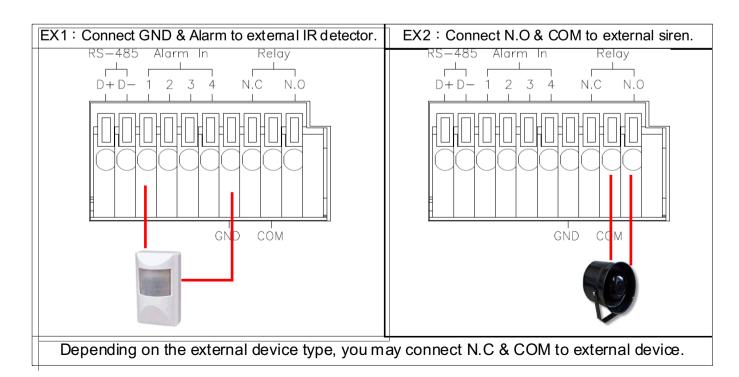   a. The external relay/ built-in buzzer can be triggered.
   b. Alarm time-point can be recorded in event list which can be searched in playback.

a. On the channel which the alarm is triggered, the icon pops up to remind the user.

b. The CGI can be sent to an http server.
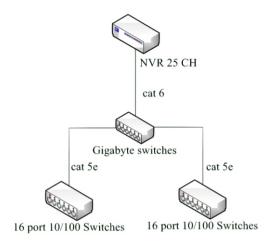
2.5 ALARM IN CONNECTION

D+	RS-485: sends +/ receives +
D -	RS-485: sends -/ receives -
GND	Ground
ALARM IN 1-4	Alarm inputs
N.C	Relay: Normally close
N.O	Relay: Normally open
COM	Relay: Common

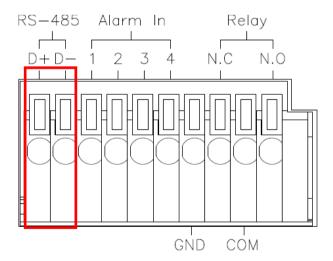| EX1：Connect GND & Alarm to external IR detector.	EX2：Connect N.O & COM to external siren.
Depending on the external device type, you may connect N.C & COM to external device.	

2.6 NETWORK ENVIRONMENT RECOMMENDATION

When setting up 4Mbps per channel, it's not recommended to connect more than 25 IP cameras under a 10/100 switch. It is suggested to connect 1~16 IP cams on each 10/100 switch when you setting up 4Mbps per channel.
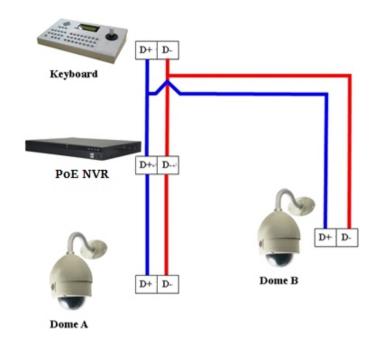
Make sure of using Cat.6 Ethernet cable when connecting a Giga switch.

2.7 PTZ (PAN, TILT AND ZOOM) CAMERA

The following diagram shows the connection between the NVR and a PTZ camera & joystick controller. To control the PTZ camera via NVR please check the CAMERA ID, BANDRATE (default at 9600 bps) and the RS-485 cable.

Under "Two Core" connection, the controller can control the speed dome without any built-in protocol into the NVR. Moreover, one keyboard can be connected to a of MAX 256 units.

3 SYSTEM SETUP

3.1 MENU SETUP INTERFACE(GUI)

A. CAMERA SETUP

CAMERA

IPCam Setup
IPCam Video Setup
IPCam Image Setup
Motion Setup
Mask Setup
IPCam Audio Setup
Quick Setup
PIR Detection Setup
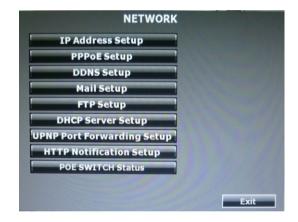
Exit

B. RECORD SETUP

RECORD

Pre-Alarm Record Time	◄ 10 ► Sec
Post-Alarm Record Time	◄ 10 ► Sec
Record Mode	Schedule ▼
Alarm Record Channel	Alarm channel ▼

Schedule Setup
Mail Schedule Setup
FTP Schedule Setup
Mobile Streaming Setup

Save   Cancel

C. ALARM SETUP

Alarm Setup

Alarm Trigger Setup
Alarm Output Setup
Alarm Event Setup

Exit

D. NETWORK SETUP

NETWORK

IP Address Setup
PPPoE Setup
DDNS Setup
Mail Setup
FTP Setup
DHCP Server Setup
UPNP Port Forwarding Setup
HTTP Notification Setup
POE SWITCH Status

Exit

E. AUTHORITY SETUP

AUTHORITY

☑ HDD Format (Require Password Confirmation)
☐ Anonymous Remote User Login
☐ Local User Login(Password Protection)
☐ Keyboard Lock
☐ Auto logout when Menu closed

User Management

Save   Cancel

F. HDD MANAGEMENT

HDD

Overwrite Mode	OFF
HDD Full Warning	20%
Auto Deletion	ON
Reserve Day	◄ 01 ►
HDD Warning Time	◄ 05 ► Minute

Storage Information

Format HDD

Connection Status

Save   Cancel

G. **SYSTEM SETUP**   **H.** **EXIT**

SYSTEM

NVR Name	NVR-04
NVR ID	◄ 00 ►
Language	English
Date Format	YYYY-MM-DD
Version	O0930-V1.0.14_1610
Onvif Version	2.20

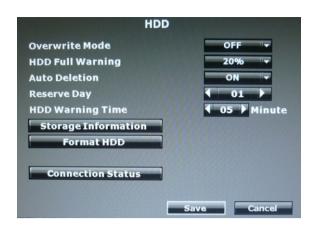|	
Software Update	Configuration Setup
Time Setup	Daylight Saving Time
Status Display Setup	Monitor Adjust
Reboot	Automatic IPCam Setup

Save   Cancel

3.2   LIVE VIEWING AND POP-UP MENU

NOTE：***The pop-up menu can be activated by moving the mouse cursor to the bottom of the live viewing screen.**
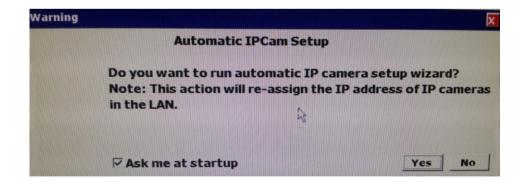
A. **PLUG & PLAY**

When turning on the machine by the first time or when one of the IP address are set **ENABLE:OFF**, the system will ask you for assigning an IP address to the IP Cams for getting automatic connection. The system will check addresses from 192.168.X.0, with X being the NVR LAN.

Once the user executes the function, the IP address of the IP Cam will be changed if the IP Cam and NVR are under different LAN. The IP address will be assigned from 192.168.X.50.

However, since the NVR provides a PoE connection with power supply, it is recommended to connect your IP cameras with the PoE connector first, then connect the NVR within the LAN. This way, the IP camera will be assigned within the LAN along with the NVR connection.

B. **GUI MENU BAR**

On live viewing mode, press this button to get into the GUI menu.

C. DIGITAL ZOOM

In the live full screen mode, left-click the button of the mouse to pull a range to zoom in or zoom out the image. The user can right-click the button of the mouse to disable this function. (NOTE: When using the mouse for operating digital zoom, the image can be zoom-in to max. 16x.)

D. PTZ CONTROLLER

In the live-viewing mode, click this button to call the PTZ control panel.

NOTE：Only for PTZ cameras.

PTZ CONTROL

Press the minimization icon then the control panel becomes smaller:

Move the mouse and the arrow will follow the mouse and change direction. In this mode user can click on the live view to control direction instead of the direction key on control panel.
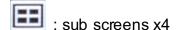
If a fisheye camera is connected:

E. PTZ Steps:

(1) Select the channel number you want to setup, if there are several ones.

(2) Select the View Mode, 360 degree or 180 degree.

(3) Select the camera location, ceiling, desk, or wall.

(4) Select split screen pattern

 : 360 degree panorama view + sub screens x4

 : 180 degree flat view + sub screens x2

 : sub screens x4

(5) After you decide the screen pattern, use the fisheye channel list to select one of the sub screens. (as the green circle on the picture above). The selected one will be indicated in a red frame.

(6) For the selected sub screen, use the 4-direction arrows and the "+" (zoom in) "-" (zoom out) icon for E-PTZ control.

(7) Control Mode: Select the E-PTZ moving mode, step by step or continuous.

(8) The AutoPan, Stop, and Patrol buttons are invalid here if the fisheye camera doesn't support those function.

F. **AUDIO VOLUME**

Press this button, and the audio volume control board will pop up.

G. **AUTO SWAP**

Press it to start switch dwell. The interval depends on the setting in IP Cam Image Setup when it's on single channel view. For split screen the switch dwell interval is 5 sec.

H. **DISPLAY CONTROL**

Within live-viewing or playback mode, use display control to switch the camera channel.

I. **RECORD AND PLAYBACK CONTROL**

Same as the front panel controller.

J. **BROADCASTING**

Press the bottom to enable or disable the one way audio. Broadcasting can be applied to multiple channels simultaneously.

K. **FULLSCREEN**

Press the bottom for full-screen mode.

L. **SOUND INPUT/ SOUND OUTPUT / PTZ CONTROL**

There are little icon on the right top of the live vide of every channel. Click

to enable the two way audio. Click to enable the sound output. Click the

 button to call out the control board. Note that if those functions are not

supported by the camera linked, you will not see the corresponding icons.

The sound options do not affect the audio recorded into the video. As long as the audio setup is enabled, the playback video includes audio even if the sound output is turned off.

M. RECORDING STATUS

Beneath the date and time, it displays the current recording type:

Record mode: Schedule – NO REC period	2012/10/15 MON 13:46:22 | X | 1%

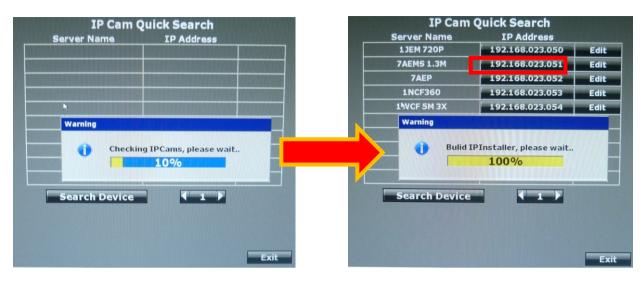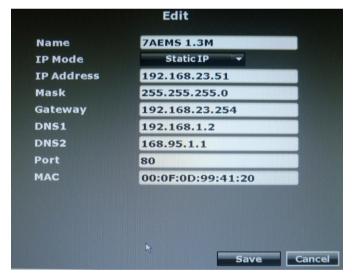|	
Record mode: Schedule – ALARM REC period Record mode: Alarm trigger	2012/10/15 MON 13:46:47 | A | 1%
Record mode: Manual – Stop Recording	2012/10/15 MON 13:52:35 1%
Record mode: Schedule – FULL REC period Record mode: Manual – Recording	2012/10/15 MON 13:47:14 REC 1%

3.3 CAMERA SETUP

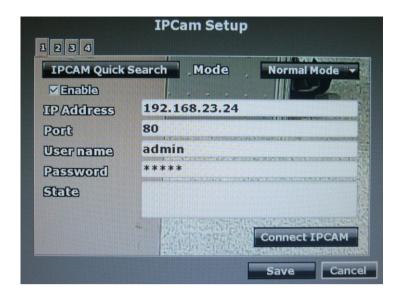**A. IP Cam Setup**

A-1. IP Cam Quick Search

Click **IPCam Quick Search**, and click **Search Device**. The NVR will search for any IP Cam device that is in connection with the NVR. Clicking on the **IP Address** of the IP Cam from the list will import the device information to the channel without manually key-in step.
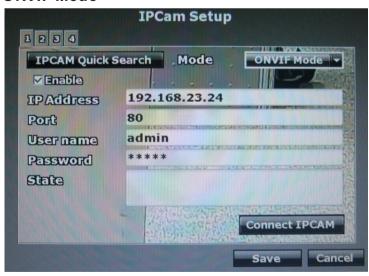

The IP Cam has to be under the same LAN with NVR in order to be successfully connected. For example, if the NVR IP address is 192.168.10.33, the IP Cam IP address should be 192.168.10.X. You can edit the IP address of the IP Cam by clicking **Edit**. Click **Save** to confirm the change.
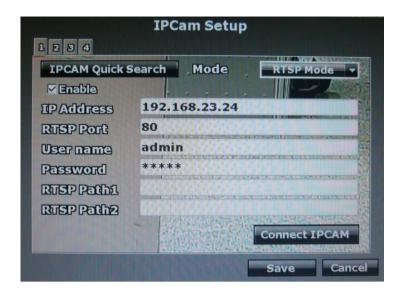
A-2. Normal Mode

1. Enable: Choose "Normal Mode"
2. IP Address：Insert the IP address of the connecting device.
3. Port：Insert the port number of the connecting device. Default port: 80
4. User：Insert the user name of the connecting device.
5. Password：Insert the password of the connecting device.
6. State：After clicking the "connect IP CAM" button to test the IP CAM device, the connection state will reveal among this column.
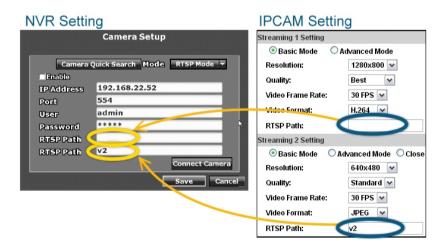
A-3. ONVIF Mode

The camera device supports connection under the service of ONVIF protocol, but does not support PTZ functions.
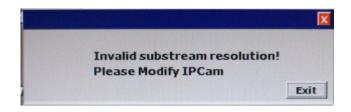
A-4. RSTP Mode

Under RTSP Mode, the NVR only support IP address indication, live video, and video recording. Other functions like motion detection are not supported.

Key-in the IP address, port, username, and password of the device you are connecting to the NVR. You can find the information on the IP Cam.
To link to the IP camera, check the RTSP Path settings of your IP camera, and key-in the corresponding values of two streams in "RTSP Path 1" and "RTSP Path 2".

Note: When you select RTSP mode, make sure the sub-stream resolution of camera is VGA(640x480), otherwise you will receive a warning message when you try to connect to the camera:

Examples of some RTSP settings:

RTSP Path 1 (IP Cam Main stream)	RTSP Path 2 (IP Cam Sub stream)	Result
1920 x 1080	640 x 480	OK. NVR takes 1920x1080 streaming for single channel view mode, and 640x480 streaming for split screen mode.
1920 x 1080	N/A (Fill in nothing on "RTSP Path 2")	Error Message: "Invalid Substream Resolution! Please modify IP Cam." NVR takes 1920x1080 streaming for both single channel view moe and split screen mode. However, it can only allow 640x480 resolution for split screen, so it shows a error in return.
640 x 480	N/A (Fill in nothing on "RTSP Path 2")	OK. NVR takes a 640x480 streaming for both single channel view mode and split screen mode.
N/A (Fill in nothing on "RTSP Path 1")	640 x 480	OK. NVR takes a 640x480 streaming for both single channel view mode and split screen mode.
640 X480	1920 x 1080	OK. NVR takes 1920x1080 streaming for single channel view, and 640x480 streaming for split screen.
1920 x 1080	1920 x 1080	Error Message: "Invalid Substream Resolution! Please modify IP Cam." NVR takes 1920x1080 streaming for both single channel view and split screen. However, it can only allow 640x480 resolution for split screen, so it shows error in return.

A-5. ROI

This function allows users to set up the channel as an attached channel. An attached channel is based on a normal/ RTSP channel that has been set up, and can display the same live view as the normal/ RTSP channel. The attached channel is not physically linked to any camera, so it doesn't increase the bandwidth loading. The users cannot setup motion detection or image adjustment on the attached channel.

1. **Enable:** Choose "ROI".
2. **Attached Channel:** Select a connected normal/ RTSP channel in the drop-down menu.
3. **Ratio:** Use the arrows to adjust the zoom ratio, and press the red frame to drag it to the area that you want it to show on the live view screen.

B. IP Cam Video Setup

B-1. Resolution

Click the drop down list to change the resolution of connecting device.

B-2. Quality

Click the drop down list to change the image quality.

For H.264 IP Cam above 1 Megapixel, the resolution options support "1M, 2M, 4M, 6M, 8M".

For H.264 IP Cam less than 1 Megapixel, the resolution options support" 2Mbps, 1.5Mbps, 1Mbps, 512Kbps, 256Kbps"

For MPEG IP Cam, the resolution options support "Standard, Medium, Low". (The highest resolution option is "standard" due to the chip performance limits of IP Cam)
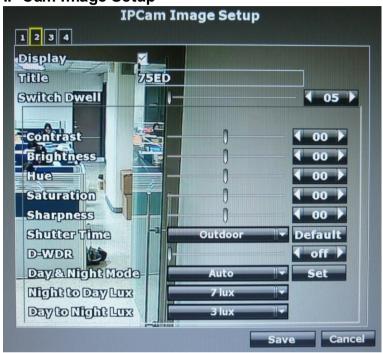
B-3. Frame Rate

Click drop down list to change the frame rate of connecting device.

Click **Save** after the quality rate of the camera is set. All the streaming qualities of each channel are displayed under the frame containing the setup options.

The picture above shows as an example. of the total image rate of of all the

channels / the maximum image rate the NVR is able to display. Assign the image quality to each camera within the maximum limit of 24Mbps

C. IP Cam Image Setup

C-1. Display
Use the mouse to enable or disable the camera display on the screen.

C-2. Title
Use the mouse to setup the title of the connecting IP device.

C-3. Switch Dwell
Press ? or ? to change auto switch second ranged from 0~99.
C-4. Contrast
Press ? or ? to change contrast level ranged from 0~255.

C-5. Brightness
Press ? or ? to change brightness level ranged from 0~255.

C-6. Hue
Press ? or ? to change hue level ranged from 0~255.

C-7. Saturation

Press ? or ? to change saturation level ranged from 0~255.

C-8. Sharpness

Press ? or ? / mouse wheel to change sharpness level ranged from 0~15.

C-9. Shutter Time

Choose the location of your camera or a fixed shutter time. The shorter the shutter time is the less light the camera receives and the image becomes darker. Note: When you select a number in Shutter Time, the shutter time will vary in a range corresponding to the camera automatically.

C-10. D-WDR

This function enables the camera to reduce the contrast in the view to avoid dark zones as a result of over and under exposure. The available values are: **OFF, 1, 2, 3, 4, 5, 6, 7, 8.**

C-11. Day & Night Mode

There are 3 types of sub-modes under this mode to suit different needs of user's recording preference: Color, Auto, and Gray. For Set Time mode, the camera can be operated by the time this mode has assigned with.
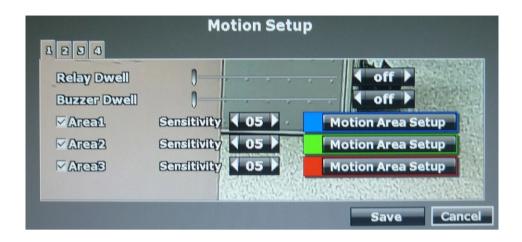
C-12. Night to Day Lux

Click to choose the lux level ranged from 5~50 at night.

C-13. Day to Night Lux

Click to choose the lux level ranged from 1~40 at day time.

D. Motion Setup

D-1.   **Relay**   **Dwell**

Press ? or ? to change the relay time or disable the relay function.

D-2.   **Buzzer**   **Dwell**

Press ? or ? to change the buzzer time or disable the buzzer function.

D-3. Area1 / 2 / 3 Sensitivity

Press ? or ? to change the sensitivity value of setup motion in 3 Areas from 1, 2, and 3. Click "Motion Area Setup" and right-click your mouse button to drag a **blue**, **green**, or **red** area for motion detection.
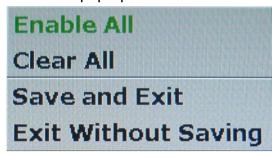

The pictures above show how all 3 different areas are set within 3 different frames. Each framed area is assigned to each color.

D-3. Area Setup

Right-click the mouse button in the setup page for more options. A mini

menu will pop up.

Save and Exit: Confirm the motion area setting and return to previous menu.

Enable All: Set motion detection for the whole area of the screen.

Clear All: Clear the area of the current color in the view.

Exit Without Saving: Return to previous menu and abandon the change.

E. Mask Setup

The masked area will not show both in the live view and playback recording.

E-1. Area1 / 2 / 3

Tick the "Area1/2/3" box and click "**Area Setup**". Start dragging your masked areas in **blue**, **green** or **red** by clicking your mouse anywhere on the screen.
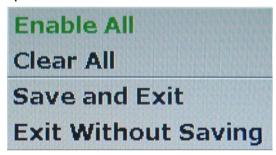
The pictures above show how all 3 different areas are set within 3 different frames. Each framed area is assigned to each color.

E-2. Area Setup

Right-click the mouse in the setup page for more options. A mini menu will pop up.

Save and Exit: Confirm the mask creation and return to previous menu.

Enable All: Mask the whole area of the screen.

Clear All: Clear the area of the current color in the view.

Exit Without Saving: Return to previous menu and abandon the change.

Too see how the masked areas are blocked, tick in the boxes right beside Area1/2/3 in the Mask Setup page. The live view will display the masked areas once Area1/2/3 boxes are ticked.
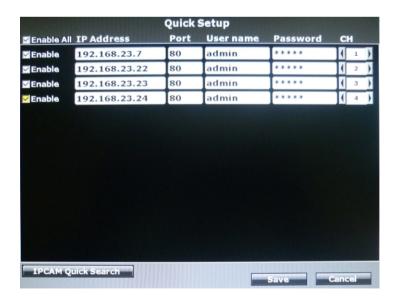
F. IP Cam Audio Setup

The channel ticked means the sound from camera will be recorded into the playback video. On the contrary, no sound will be recorded in the playback video of the channel which is not ticked.

G. Quick Setup

Other than "IP CAM Setup", you can choose another way to complete the IP camera connection job: using Quick Setup.

G-1 Key-in information manually

All the channel list are displayed. You can key-in the IP address, port, and user name & password of the IP camera, and then assign the channel
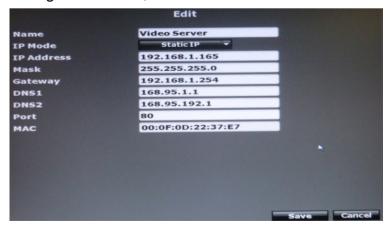
number. Tick "Enable" to connect to the IP camera.

G-2 IP CAM Quick Search

With Quick Search, you do not need to type the IP address. Click "IP CAM Quick Search" to enter the search menu.

The NVR searches for all the IP devices listed in the LAN. Find the IP camera you want to connect to, assign a channel number for it, and tick "Enable" so for enabling this IP camera and adding it to all-channel list.

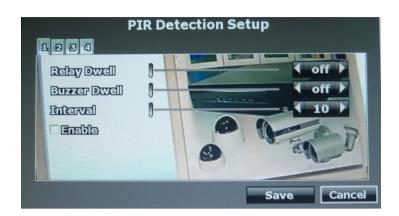Back to the all-channel list, you can key-in the user name and password, and tick "Enable" to connect to the camera. If you want to revise the IP setting of a camera, click "Edit":

The IP Cam has to be under the same LAN with NVR in order to connect successfully. Ex. If the NVR IP address is 192.168.10.33, the IP Cam IP address should be 192.168.10.X. You can edit the IP Cam IP address here or on the IP Cam.

H. PIR Detection Setup

Adjust the Buzzer Dwell time and its Interval after the Enable box is ticked. Please be sure your camera also supports the PIR device.
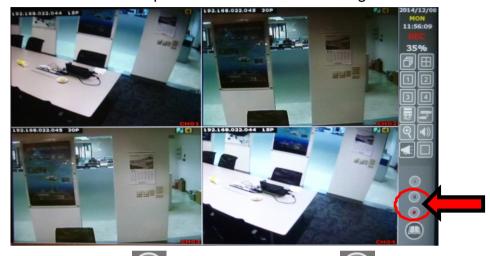

3.4 RECORD SETUP

A. Pre-Alarm Record Time / Post-Alarm Record Time

Pre-alarm record means the recording before the alarm is triggered; the post-alarm record means the recording after the alarm is triggered. If you set 5 seconds for pre-alarm and 5 seconds for post-alarm, the alarm recording length will be 10 seconds in total.

B. **Record** **Mode**

The record mode will be applied to all channels simultaneously. During the recording, the NVR will record both main streaming and sub streaming from the IP Cam. Use the drop down list to switch recording modes.
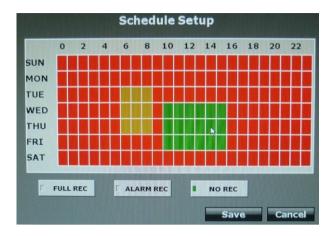

1. Manual: Click [icon] to start recording. Click [icon] to stop recording.

2. Schedule:

Click on the drop down list from the **Record Mode** on the right, and select **Schedule**. There will be three Setup options available: **Schedule Setup**, **Mail Schedule Setup**, and **FTP Schedule Setup**.

a. Schedule Setup:

Click the tag "**FULL REC**"(Red) / "**ALARM REC**"(Yellow) / "**NO REC**"(Green), and then draw on the calendar. The recording type will follow the schedule. The tag "**ALARM REC**" includes all the alarm types.

b. Mail Schedule Setup:

Select the time that the recording video is sent to the mail address. No mail will be sent during "**NO MAIL**" period even the motion detection is triggered.

The tag "**ALARM MAIL**" refers to both external alarm and DI from camera.

c. FTP Schedule Setup:

Select the time that the recording video is uploaded to FTP. No file will be uploaded during "**NO MAIL**" period even the motion detection is triggered.

The tag "**ALARM FTP**" refers to both external alarm and DI from camera.

B3. Alarm Trigger

Start recording when any type of alarm event occurs. The recording video length is according to the setting of "Pre-Alarm Record Time/Post-Alarm Record Time".

C. Mobile Streaming Setup

Choose "ON" to record the streaming for mobile viewing.

3.5 **ALARM SETUP**

Alarm Setup

Alarm Trigger Setup
Alarm Output Setup
Alarm Event Setup

Exit

A. Alarm Trigger Setup

Alarm Trigger Setup

Alarm Auto Switch	FULL SCREEN
Alarm Auto Switch Timer	◄ 05 ►
Video Loss Detection	Enable
Digital Input (IPCam)	Enable
Ext.Alarm Detection	Enable
Ext.Alarm Mode	N.O
HDD Temp. Warning	Enable
HDD Temp. Limit Value	◄ 55 ►

Save   Cancel

A-1. Alarm Auto Switch

Use the drop down list to switch the alarm auto switch. When the alarm is triggered, the screen will switch to full screen, 4CH split screen or disable. Set the lasting seconds in Switch Timer for full / split screen modes.

A-2. Video Loss Detection

Use the drop down list to switch the video loss detection. When the video loss is detected, the alarm will be triggered.

A-3. Digital Input (IP Cam)

Use the drop down list to switch on /off the Digital Input from IP camera.

When the DI signal is received from the camera, the alarm will be triggered.

A-4. Ext. Alarm Detection

Use the drop down list to switch the external alarm detection. When the external alarm is detected, the alarm will be triggered.

A-5. Ext. Alarm Mode

Use the drop down list to switch the external alarm mode. If the external alarm is setup for normal open, the option has to switch to N.O.; for the contrary, the option has to switch to N.C.

A-6. HDD Temp Warning

Select **Enable** from the drop-down list to trigger the buzzer whenever the storage device gets overheated

A-7. HDD Temp. Limit Value

Set the temperature limit between 55~70 .

A. Alarm Output Setup

This control item is divided into two parts, "Buzzer Time" and "Relay Time". The user can press ? or ? to switch the external buzzer time and video loss buzzer time in "Buzzer Time" option. The adjustment value is from 5 to 99 seconds. Moreover, among "Relay Time" option, users can press ? or ? to switch the external buzzer time and video loss buzzer time. The adjustment value is also

from 5 to 99 seconds.

The Value of Ext. Alarm Buzzer / Relay Time determine the buzzer / relay time of both external alarm in and digital input (IP Cam).

A. Alarm Event Setup

There are nine types of events that can be selected. When the selected items occur and triggered, the log will be recorded in the event playback list.

B. Alarm Action and Trigger Condition List

Action \ Type	Motion detection	External Alarm	DI (IP CAM)	Video Loss
Necessary Condition (All the actions below can be execute only when the necessary condition is met.)	Camera Setup >>Motion Setup >>Tick "Area 1/2/3" and set up the area	Alarm Setup >>Alarm Trigger Setup >>"Ext. Alarm Detection" set to "Enable"	Alarm Setup >>Alarm Trigger Setup >>"Digital Input (IP Cam)" set to "Enable"	Alarm Setup >>Alarm Trigger Setup >>"Video Loss Detection" set to "Enable"
Action \ Type	Motion detection	External Alarm	DI (IP CAM)	Video Loss
Switch to Single Channel Screen / Split Screen	Condition: Alarm Setup >>Alarm Trigger Setup >>"Alarm Auto Switch" set to "Full Screen(/Split Screen)"	X	X	X

Trigger Relay/ Buzzer	Condition: Camera Setup >>Motion Setup >>"Relay(/Buzzer) Dwell" not set to "Off"	(It's enabled as long as the necessary condition is meet) *p: Trigger length setting: Alarm Setup >>Alarm Output Setup >>Relay(/Buzzer) Time *p："Ext. Alarm Relay(/Buzzer) Time" length setting determines the trigger lenth of both "External Alarm" and "DI(IP CAM)"	
Written in Log (Can be used for event search playback)	Condition: Alarm Setup >>Alarm Event Setup >>Tick "Motion Even" / "Ext. Alarm Event" / "Digital Input Event" / "Video Loss Event"		
Icon on Live Screen			

Action \ Type	Motion detection	External Alarm	DI (IP CAM)	Video Loss
Pre- / Post-alarm Recording	O			Pre-:O Post-:X
Send E-mail / Upload to FTP with Pre-/ Post-alarm Recording (*p[1])	Condition 1: Network Setup >>Mail(/FTP) Setup >>Tick "Motion(/Alarm)"; And Record Setup >>"Record Mode" set to "Manual"; And it's on recording when alarm is triggered Condition 2: Network Setup >>Mail(/FTP) Setup >>Tick "Motion(/Alarm)"; And Record Setup >>"Record Mode" set to "Alarm Trigger" Condition 3: Record Setup >>"Record Mode" set to "Schedule"; And Record Setup >>Schedule Setup >>It's on "Full Rec" or "Alarm Rec" period when alarm is triggered; And Record Setup >>Mail(/FTP) Schedule Setup >>It's on "Motion/(Alarm) Mail(/FTP)" period when alarm is triggered ※It's enabled when both necessary nondition and one of above three conditions are met. *p: Mail/FTP server setting: Network Setup>>Mail(/FTP) Setup>>Fill in server information *p: Pre-/ Post-alarm recording length setting: Record Setup>>Pre(/Post)-Alarm Record Time			X

Http CGI	Network Setup>>HTTP Notification Setup>>Fill in Http server information and tick "Enable"

*p[1]: Another interpretation:

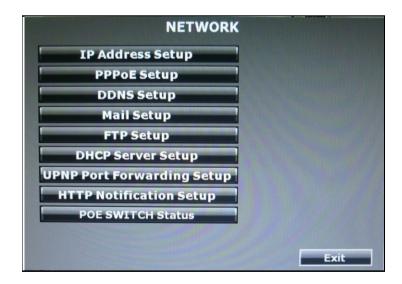|	
Send E-mail / Upload to FTP with Pre-/ Post-alarm Recording	Condition 1: Record Setup >>"Record Mode" set to "Manual" or "Alarm Trigger". It's not on "Stop Rec" period; And Network Setup >>Mail(/FTP) Setup >>Tick "Motion(/Alarm)" Condition 2: Record Setup >>"Record Mode" set to "Schedule". It's not on "No Rec" period; And Mail(/FTP) Schedule Setup >> It's not on "No Mail(/FTP)" period ※It's enabled when both Necessary Condition and one of above two conditions are met.

3.6 NETWORK SETUP

A. IP ADDRESS SETUP

A-1. IP Mode

Press drop down list to change IP mode to Static IP or DHCP.

A-2. IP Address

Give the NVR IP Address.

A-3. NetMask

Give the subnet mask which we usually set to 255.255.255.0.

A-4. Gateway

Give NVR gateway.

A-5. DNS1 & DNS2

Key-in DNS1 and DNS2 that provided by ISP.

A-6. WebPage Port

Give the NVR http port for web browser. Default is 80.

B. PPPoE SETUP

PPPoE Setup

PPPoE Setting	Disable ▾
Username	
Password	
Password Confirm	
State	IDLE
Send Mail After Dialed	Enable ▾
Subject	NVR is dialed

Save   Cancel

B-1. PPPoE Setting

Press the drop down list to enable or disable PPPoE.

B-2. User Name

Insert the user name (ADSL account) which provided from local ISP.

B-3. Password

Insert the password which provided from local ISP.

B-4. Password Confirm

Insert the password again to confirm the password.

B-5. State
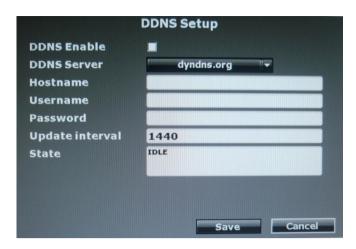
Present the current status of PPPoE function.

B-6. Send Mail After Dialed

Click the drop down list to enable or disable the function.

B-7. Subject

Insert the mail subject when dialed successfully.

C. DDNS SETUP

C-1. DDNS Enable

Click the checkbox to enable or disable the DDNS function.

C-2. DDNS Server

Click the drop down list to select the DDNS server.

C-3. Host Name

Insert the registered host name in the selected provider.

C-4. User Name

Insert the registered user name in the selected provider.

C-5. Password

Insert the registered password in the selected provider.

C-6. Update Interval

A period of time to update IP address.

C-7. State

The state after applied to DDNS.

Updating: Information update.

Idle: Stop service.

DDNS registered successfully, now log by

http://<username>.ddns.camddns.com: Registered successfully.

Updating Failed: the name is already registered.

Updating Failed: please check your internet connection.

D. MAIL SETUP

D-1. Enable

Tick "Alarm" to send video to the mail address when external alarm or DI from IP Cam is triggered. Tick "Motion" to send video to the mail address when motion detection is triggered.

D-2. Event Mail

Please see **E. EVENT MAIL SETUP** for further reference.

D-3. Mail Server

The IP address of Mail Server

D-4. SMTP Port

The port of SMTP (Simple Mail Transfer Protocol). (Default value is 25)

D-5. Username

The user name while log in to the mail server.

D-6. Password

The password while log in to the mail server.

D-7. Sender's Mail

Enter the sender's account when the mail is sent via this mail server.

D-8. Receiver's Mail

Enter the receiver's mail account.

D-9. BCC Mail

Enter the receiver's BCC mail account.

D-10. Subject

Enter the subject of the mail.

D-11. Secure Connection

When ticked, the user can choose connection type between SSL or TSL

E. EVENT MAIL SETUP

E-1. Video Mail

- **Alarm / Motion / PIR Detection**

  Sends a <u>video notification</u> via email for Alarm-in and/or Motion detection

E-2. Message Mail

- **Power On**

  A notification will be sent via email when the NVR starts or reboots.

- **Start Record**

    A notification will be sent via email when the NVR starts recording.

- **Record Error**

    A notification will be sent via email when the recording fails.

- **HDD Warning**

    A notification will be sent via email while recording in the HDD fails.

- **Video Loss**

    A notification will be sent via email when the image is lost or the Internet connection is lost.
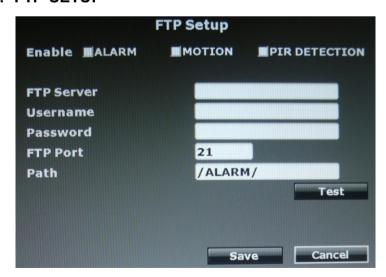
- **Stop Record**

    A notification will be sent via email when the NVR stops recording.

- **Load Default**

    A notification will be sent via email when the NVR load the default settings.

F. FTP SETUP

F-1. Enable

Tick "**ALARM**" to upload video to FTP when external alarm or DI from IP

- Cam is triggered.
- Tick "**Motion**" to upload video to FTP when motion detection is triggered.
- Tick "**PIR DETECTION**" to upload video to FTP when PIR detection is triggered.

F-2. FTP Server

The IP address of FTP Server.

F-3. User Name

The username while log in to the FTP server.

F-4. Password

The password while log in to the FTP server.

F-5. FTP Port

The port number of file transmission. (Default value is 21)

F-6. Path

The ftp path where the user wants to save the information.

Finally, dick **Test** to see if the settings can fully function.

G. DHCP Server Setup

G-1. Enable

Tick the Enable box to enable or disable the DHCP Server function. Once

the function is activated, the NVR can act as the DHCP server. It will assign or distribute one of the IP addresses according to the setup IP address range (start and end IP Address.) to the connecting IP CAM (setup DHCP function).

G-2. Start IP Address

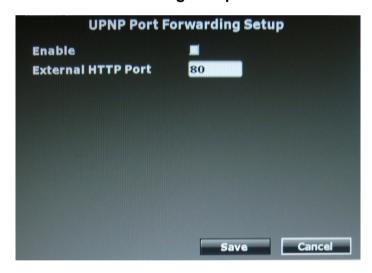Use the virtual keypad to insert the start IP Address of DHCP server.

G-3. End IP Address

Use the virtual keypad to insert the end IP Address of DHCP server.

G-4. Lease Time

Press ? or ? to change the lease time of DHCP server.

H. UPNP Port Forwarding Setup

H-1. Enable

Use the checkbox to enable or disable UPNP port setup.

H-2. External HTTP Port

Use the virtual keypad to insert the external http port.

I. HTTP Notification Setup

I-1. Enable

Use the checkbox to enable or disable HTTP Notification. This function allows users to set up the CGI command to a HTTP server. The server can be any device that can receive CGI via HTTP protocol. When any alarm events occur, the NVR sends the CGI to that server.

I-2. HTTP Server

Key-in the server IP address.

I-3 HTTP Port

Key-in the server port used for http protocol.

I-4 User Name

Key-in the server username.

I-5 Password

Key-in the server password.

I-6 HTTP CGI

Key-in the CGI that you would like to send to the server when alarm events occur.

J. POE SWITCH Status

POE SWITCH Status

Port1:	Port2:	Port3:	Port4:
Used Power:	Used Power:	Used Power:	Used Power:
N/A	N/A	N/A	N/A
Restart:	Restart:	Restart:	Restart:

Click in the POE SWITCH Status button to check on the POE connection status.

3.7   **AUTHORITY SETUP**

AUTHORITY

☑ HDD Format (Require Password Confirmation)
☐ Anonymous Remote User Login
☐ Local User Login(Password Protection)
☐ Keyboard Lock
☐ Auto logout when Menu closed

User Management

Save   Cancel

A. HDD Format (Require Password Confirmation)

Tick the box to enable or disable the operation which allows the user to insert the password before performing the HDD formatting.

B. Anonymous Remote User Login

Tick the box to enable or disable the authority of the anonymous user login. Once enabled, the user can view the live image via IE browser without having to insert the username/password.

C. Local User Login (Password Protection)

Tick the box to enable or disable the authority of password protection.

D. Keyboard Lock

Tick the box to enable or disable the control bar of live view. During this

only buttons are allowed to perform operations.

E. Auto logout when Menu closed

Tick the box to enable or disable the operation. Enabling this operation will allow the system to log out automatically after the menu is closed.

F. User Management

The administrator can set up the user management permission & user authority management.

F-1. Permission

Use the mouse for clicking the checkbox to modify and alter the user authority.
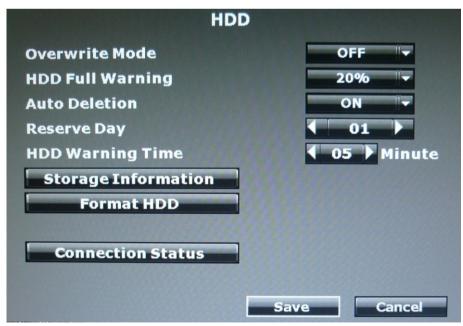

F-2. Add User

After clicking the **Add User** button, the setup page will be called-out as the following. The administrator can distribute the authority and the permission for the new user.

3.8 HDD MANAGEMENT

A. Overwrite Mode

Select "ON" for the oldest recording data to be overwritten by new recording data. Select "OFF" for the NVR to stop writing data into the HDD when it is full.

A. HDD Full Warning

Under non-overwrite mode, click the drop down list to change value from 20%, 15%, 10%, to 5%. When the HDD space is less than the setting ratio, the buzzer will start buzzing.

B. Auto Deletion

If select "ON" the users cannot find the recording data that is older than the reserve day.

For example:The auto deletion is set as "ON" on 2012/10/19 17:40. The reserve day is set as 3. If the recording data is older than 2012/10/16 17:40 will not be indicated on the playback menu.

C. Reserve Day

Use ? or ? to setup the saving days day between 1~30 days.
Note: If the "Overwrite Mode" is set OFF and the NVR keeps recording, the HDD will finally get full regardless if "Auto Deletion" is ON.

E. HDD Warning Time

Set up the interval for displaying a warning message regarding the health condition of the storage device to the user from 1~60 minutes.
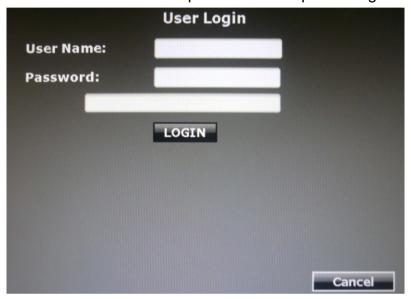
F. Storage Information

The information of storage device will be displayed on this page.

Storage Information

HDD Device List:

HDD	CAPACITY	LEFT	TEMP.	STATUS	HEALTH
HDD1	500GB	32%	32'C	WRITING	GOOD

USB Device List:

HDD	CAPACITY	LEFT
NON		

Exit

Your **Hard Disk Device** needs to be replaced if its health condition is displayed in yellow or red.

G. Format HDD

Insert the user name and password while performing the HDD format function.

H. Connection Status

Insert the user name and password while performing the HDD format function.

Network Connectivity Status		
	Receive(Rx):	Transmit(Tx):
bits/sec:	11.21 Mbit/s	340 kbit/s
max	49.05 Mbit/s	892 kbit/s
average	12.27 Mbit/s	372 kbit/s
min	0 kbit/s	0 kbit/s
packets/sec:	1092	776
max	4223	2095
average	1190	844
min	00	00

Remaining Recording Time: 000 Days 00:00:00

Exit

3.9 SYSTEM SETUP

A. NVR Name

Use the virtual keypad to insert the name of the NVR.

B. NVR ID

Use ? or ? to setup the NVR ID. The adjustment value is between 0~32

C. Language

Use the drop down list to change the NVR language. Currently, there are 18 types of different languages available.

D. Date Format

Use the drop down list to change DATE. There are three modes: DD/MM/YYYY, YYYY/MM/DD and MM/DD/YYYY.

E. Version

The firmware version of the NVR will show in this column.

F. Onvif Version

The ONVIF version of the NVR will show in this column.

G. Software Update

Click [Software Update] button to perform firmware updating

H. Configure Setup

Click the checkbox to select which item can be setup by the user. The user can also load the setting to factory default, load the configuration from USB and backup the configuration to USB.

I. Time Setup

Click the SYNC button within the "Time" block for adjusting and synchronize the time of the NVR as the system time of the PC. Moreover, if the user clicks the enable checkbox and the SYNC button within the "NTP Setup" block, the time of the NVR will be synchronized as the NTP Server.

J. Daylight Saving Time

After enabling the daylight saving time function, the user can use the drop down list to select the start time and the end time of daylight saving time. After complete the setting, please click the Save button to save the settings.
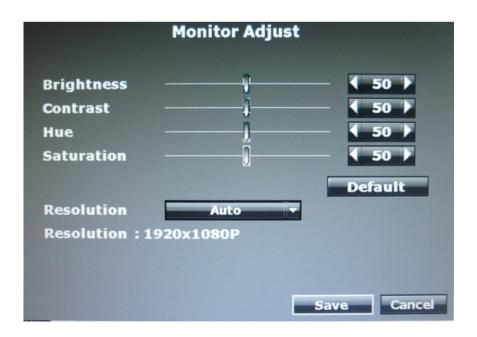
K. Status Display Setup

Tick the options with the mouse. Options include "Date and Time Display", "Record Information Display", "Camera Title Display" and "Camera IP Display".

L. Monitor Adjust

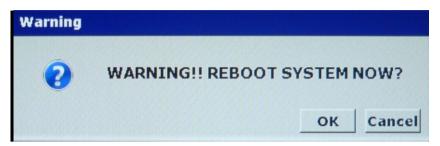The user can use ? or ? to adjust the monitor settings: "Brightness", "Contrast", "Hue" and "Saturation".

The Resolution can be adjusted. Please check the frame rate which your LCD monitor supports before any adjustment. If you select a resolution not compatible

with the LCD monitor, the system will automatically undo the recent changes.

M. Reboot

Click to reboot the NVR.

Warning

WARNING!! REBOOT SYSTEM NOW?

OK | Cancel

N. Automatic IPCam Setup

Automatic IPCam Setup

Automatic IPCam Setup Item:

☑ Ask me at startup
☐ Ask me when IPCam startup

Save | Cancel

If **Ask me at startup** is ticked, the NVR will activate the [PLUG & PLAY icon] **PLUG & PLAY**
function to ask for your permission locating any network device within its LAN.

When **Ask me when IPcam startup** is ticked, every time there is someone
executing IP Installer to search for a device in the same network, the **PLUG &**
PLAY menu will pop up, even when someone is just plugging in a network
device, the NVR will automatically start locating any unconnected network
device within its LAN.

3.10 **DEBUG MESSAGE**

The purpose of the following procedure is to export a HDD debug message file. If the user has problems with the NVR, the technician can analyze the file and find the cause of problem.

- Plug in a USB disk.
- Enter the Authority Setup page and make sure the option "HDD Format (Require Password Confirmation)" is ticked.

- Enter the Disk Setup page. Click "Format HDD".

Key-in "@k" in the user name column to login. No password is required.
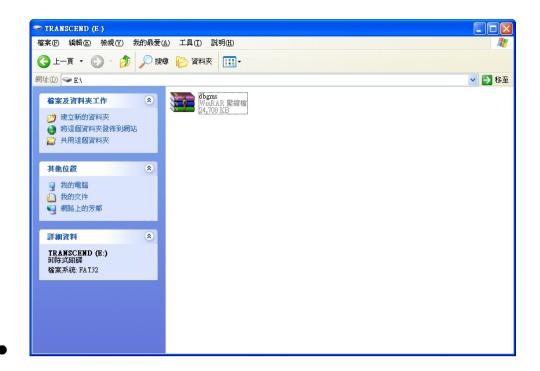
-

- The screen turns to the Advance Setup page. Click download. It takes about 10 seconds to export the file.

- When the downloading is complete, a message pops up to remind the user. Click" OK".

Now the debug message file should have been in your USB disk. Please turn the file" dbgms.tar" to the technician.

●

4 NVR PLAYBACK

On the side menu control bar, click icon to enter Playback mode. There will be a window popping up at the center screen.

Click on icon to enter **Time Search** page where you can see the time frame of

your recorded video. (For more functions, please read on 4.1 Time Search)

Place your mouse cursor on the grid under the time frame. It will be highlighted in blue.

Click on **Start Play** button to enter the Playback page.

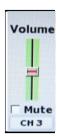**Note: In Playback mode, the sound output is only enabled on full screen mode.**

A. **RECORD BACKUP**

On playback mode, press this button to backup recording (.ha0 video) to the USB disk .Press this button again to finish the backup. To perform a single image backup (.jpg single image backup), press or first and then click the "Record Backup" button to back up any necessary images.

B. AUDIO VOLUME

Press this button for the audio volume control board to pop up.

C. DISPLAY CONTROL

On playback mode, use the display control to switch the camera channel.

D. DIGITAL ZOOM

On live full screen mode, left-click the button of the mouse to pull a range to zoom in or zoom out the image. The users can right-click to disable this function. (NOTE: By using the mouse to operate digital zoom, the image can zoom-in to max. 16x.)
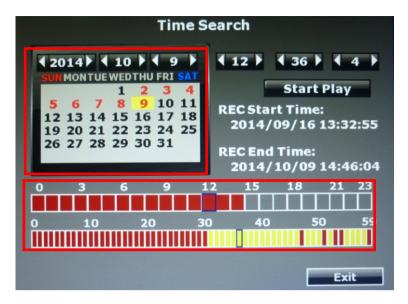
E. FULLSCREEN

Press the bottom for full-screen mode.

F. RECORD AND PLAYBACK CONTROL

Click on different icons to perform rewind, fast forward in different speeds, pause and play. Or click on stop sign to go back to the previous page.

4.1 TIME SEARCH

Select the start of the playback time and then click the button to playback the recorded data. If a period of time contains the recorded data, the time point within this page will become red.

If any of the time point displays in yellow, it means there might be events happening during this time. Double-click on the yellow grid to look at the video.

4.2 **EVENT SEARCH**

After entry to the event search page, the user can click on the event log item which is shown on the list to start playback. Move the mouse cursor to highlight upon the event. Moreover, the user could click the **Event Filter** button to enter a list of events and select specific types to be included for being recorded on the video.

Event Filter

Event Type
☑Power On   ☑Power Off
☑Video Loss   ☑Motion
☑Record   ☑Stop Record
☑Camera Digital Input ☑Ext. Alarm
☑PIR Detection

Event Channel
☑CH01   ☑CH02   ☑CH03   ☑CH04

HDD NO.
☑HDD 1

Save   Cancel

4.3 BACKUP

Note: You must insert a storage device to enable this function in order for the NVR to target its backing up path. If nothing shows up in the **Device** drop down list, then you may press **Check USB Device** button to see if the NVR can read your storage device or not.
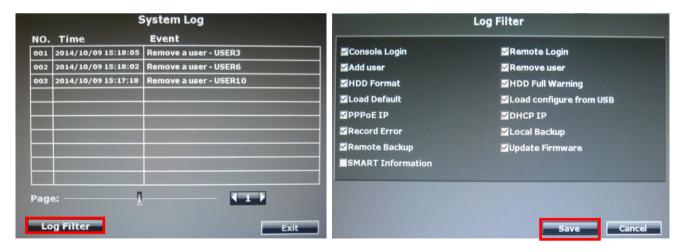

Backup

REC Start Time   2014/12/05 18:30:53
REC End Time   2014/12/08 14:19:08
Device: None   Free Size:
Start Time: ◀2014▶ / ◀12▶ / ◀08▶ ◀14▶ : ◀19▶ : ◀00▶
End Time: ◀2014▶ / ◀12▶ / ◀08▶ ◀14▶ : ◀19▶ : ◀00▶
Backup Size:
Select Channel
        ☑CH 01 ☑CH 02 ☑CH 03 ☑CH 04

Check USB Device
Backup Now   **NO DEVICE**   Exit

Backup

REC Start Time   2014/12/05 18:30:53
REC End Time   2014/12/08 14:19:08
Device: USB   Free Size:
Start Time: ◀2014▶ / ◀12▶ / ◀08▶ ◀14▶ : ◀19▶ : ◀00▶
End Time: ◀2014▶ / ◀12▶ / ◀08▶ ◀14▶ : ◀19▶ : ◀00▶
Backup Size:
Select Channel
        ☑CH 01 ☑CH 02 ☑CH 03 ☑CH 04

Check USB Device
Backup Now   **WITH USB DEVICE**   Exit

After you click ? or ? to set **Start Time** and **End Time** for backup, the NVR will display the **Backup Size** for your information to prevent overloading. You may also tick boxes to select channels in **Select Channel** for managing the backup.
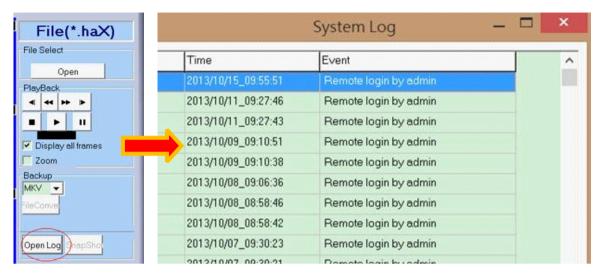

Once you have confirmed all the settings, click **Backup** button to proceed.

4.4 SYSTEM LOG

The system log holds all of the system records. The maximum quantity of records is 2000. Click the **Log Filter** button to perform further data filter actions

After completing the specific selection, click the **Save** button to save the settings. When returning to the system log page, it will only reveal the specific selected items.

After finishing the backup, use D6Viewer to open the log file.

5   BACKUP PLAYBACK

SYSTEM REQUIREMENT

CPU: Intel Celeron 1.6G

MEMORY: 256MB.

VGA: 32MB

VGA RESOLUTION: 1024 x 768.

OS: Windows XP / 2000 or above

SUGGESTED REQUIREMENT

CPU: Intel P4 2.8G

MEMORY:512MB or above

VGA:64MB or above

VGA RESOLUTION:1024 x 768

OS: Windows XP / 2000 or above

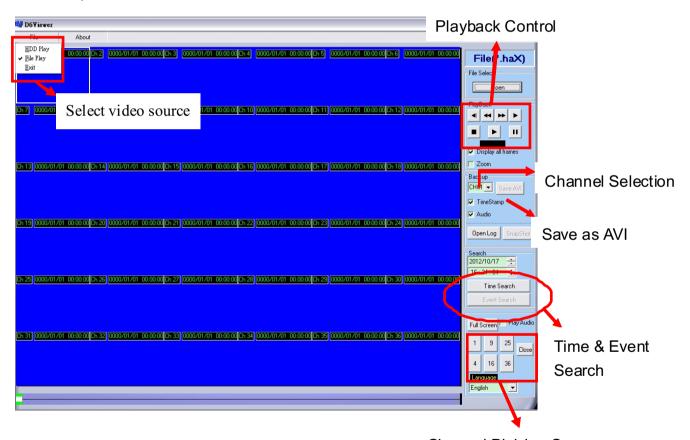NETWORK BANDWIDTH: Upload Speed is 256kbps or above

5.1 MAIN SCREEN SETTING

The player (D6Viewer.exe) is used to play the NVR backup video. D6Viewer.exe can be obtained via the Internet; moreover, while performing USB backup and DVD-RW backup, the software will be built automatically as well.
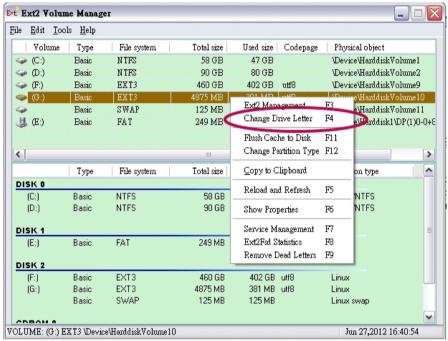
A. MAIN SCREEN

Open the D6Viewer. Use Overlay mode can improve the system resource performance.
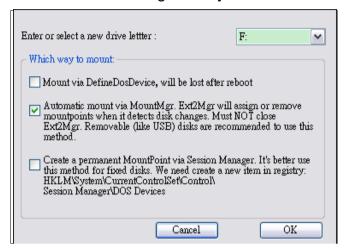
B. HDD PLAY

1. Remove the NVR HDD and connect it to the PC. The NVR HDD uses a Linux format, so the Windows system may not read it. Please use the software "Ext2Fsd" to assign a drive letter to the HDD. "Ext2Fsd" is in the attached CD or can be downloaded from the Internet.

● Start the Ext2Fsd, and it will detects all the disks connected with your PC. Right-click on the NVR HDD and choose "Change Drive Letter".
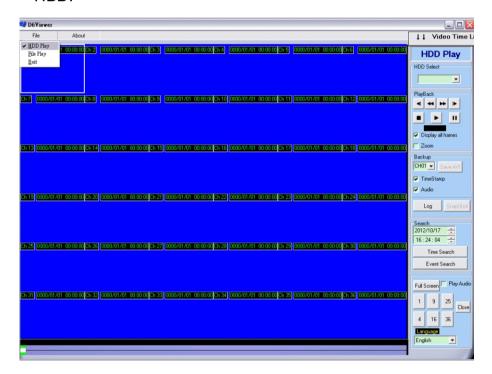

● Click "Add"

● Assign a letter to the HDD, then click "OK" so that the HDD get a drive letter and can be recognized by Windows.
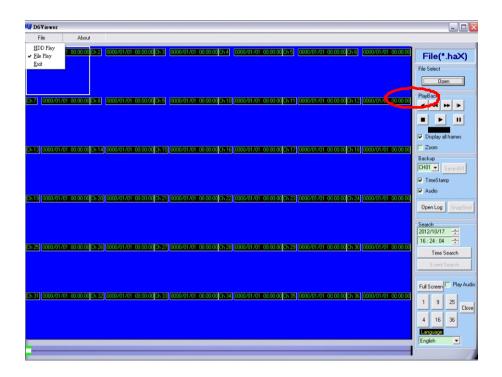

1. Under HDD play mode, select the NVR HDD to load the video file in the HDD.
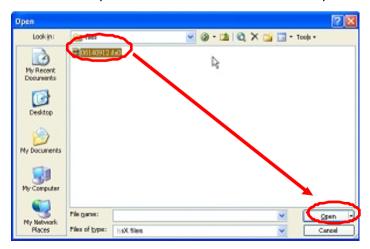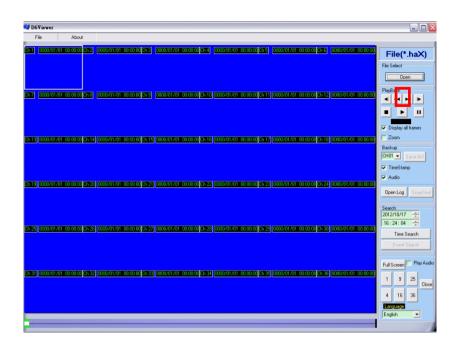
C.   File Play

1. You can use D6Viewer to open a single video backup file. Under file play mode, select "Open".

2. Choose the path the .haX file reserved and pick the file to playback.

1. Press the play icon to play the video or pause picture.

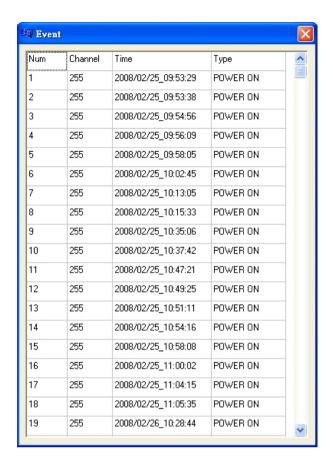## 5.2   PLAYBACK OPERATION

A. TIME SEARCH

Select the Date and Time and then click Time Search to play the video.
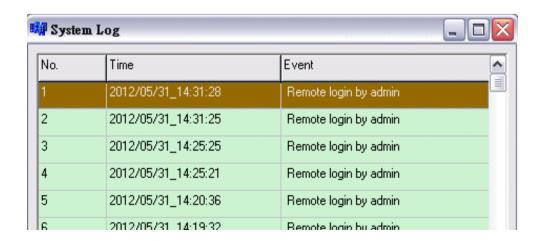

B. EVENT SEARCH

After pressing the Event Search button, it will display all the events which are saved within the NVR HDD (Shown in the following image).
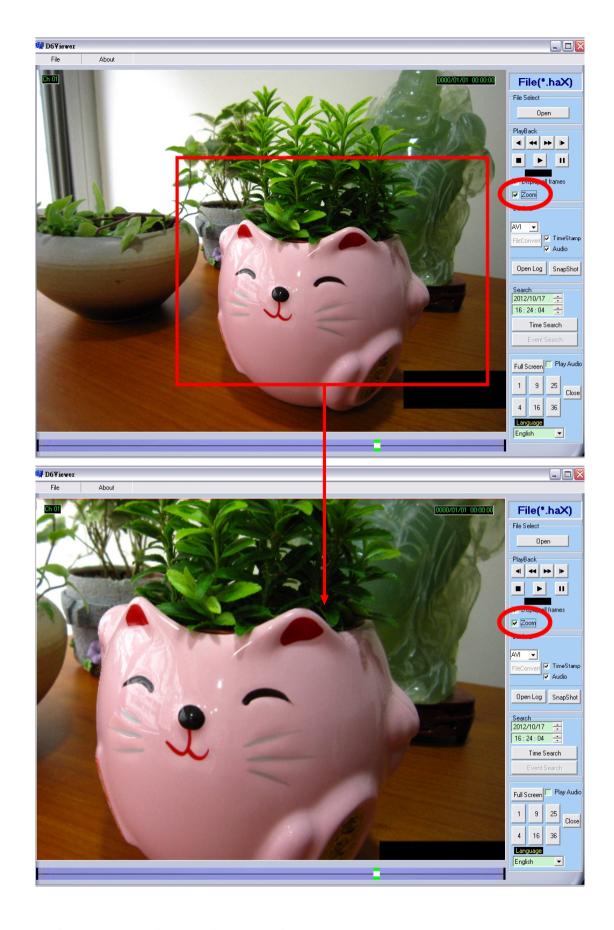
Event

Num	Channel	Time	Type
1	255	2008/02/25_09:53:29	POWER ON
2	255	2008/02/25_09:53:38	POWER ON
3	255	2008/02/25_09:54:56	POWER ON
4	255	2008/02/25_09:56:09	POWER ON
5	255	2008/02/25_09:58:05	POWER ON
6	255	2008/02/25_10:02:45	POWER ON
7	255	2008/02/25_10:13:05	POWER ON
8	255	2008/02/25_10:15:33	POWER ON
9	255	2008/02/25_10:35:06	POWER ON
10	255	2008/02/25_10:37:42	POWER ON
11	255	2008/02/25_10:47:21	POWER ON
12	255	2008/02/25_10:49:25	POWER ON
13	255	2008/02/25_10:51:11	POWER ON
14	255	2008/02/25_10:54:16	POWER ON
15	255	2008/02/25_10:58:08	POWER ON
16	255	2008/02/25_11:00:02	POWER ON
17	255	2008/02/25_11:04:15	POWER ON
18	255	2008/02/25_11:05:35	POWER ON
19	255	2008/02/26_10:28:44	POWER ON

C. LOG

Click [Log] to check the log records.

System Log

No.	Time	Event
1	2012/05/31_14:31:28	Remote login by admin
2	2012/05/31_14:31:25	Remote login by admin
3	2012/05/31_14:25:25	Remote login by admin
4	2012/05/31_14:25:21	Remote login by admin
5	2012/05/31_14:20:36	Remote login by admin
6	2012/05/31_14:19:32	Remote login by admin

D. ZOOM

Tick "Zoom" box and drag an area on the screen. Click the area to zoom in.
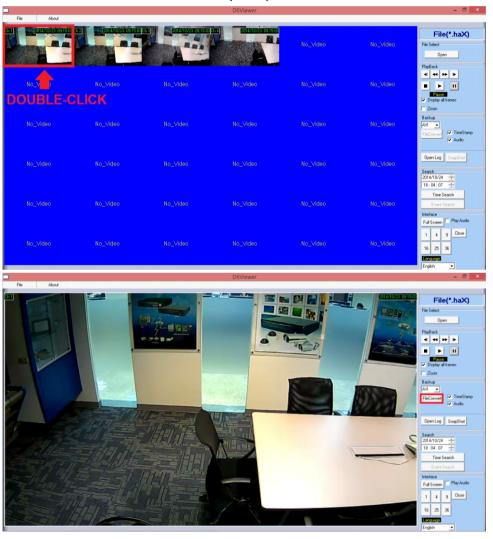
E. BACKUP FILE TO MKV OR AVI FORMAT

1. There are two types of video formats: MKV and AVI. With AVI file, you

can choose to either include Time Stamp and Audio or not.

MKV   **AVI**

2. After double-clicking on one specific channel display image, the 'File Convert' button will be available. Select the type of video format you would like to convert to from the Backup drop down list.

Click on FileConvert button to begin the backup.

3. A window will pop up. Enter a file name and edit the file path directory.

4. While the converting is in process, you may press the **Stop Save** button to pause at any time before it is completed.
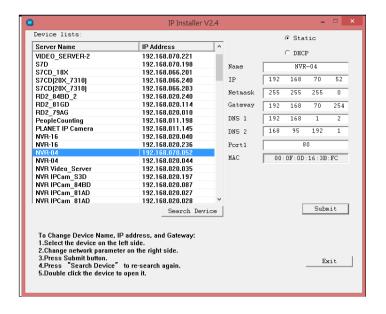
6 NETWORK VIEWING & PLAYBACK

SYSTEM REQUIREMENT	SUGGESTED REQUIREMENT
CPU: Intel Celeron 1.6G	CPU: Intel P4 2.8G
MEMORY: 256MB.	MEMORY:512MB or above
VGA: 32MB	VGA: 64MB or above
VGA RESOLUTION: 1024 x 768.	VGA RESOLUTION:1024 x 768
OS: Windows XP / 2000	OS: Windows XP / 2000
	NETWORK BANDWIDTH: Upload Speed is 256kbps or above

6.1 IP ADDRESS SETUP ON PC SITE

When installing cameras inside the LAN or using a network cable to connect them to PC, IPInstallerEng.exe will set up the IP address of those cameras. On Windows XP SP2 or above, the following Windows Security Alert will popup. Please click on **Unblock**.

Then, the IPInstallerEng.exe will popup. The NVR default IP address is 192.168.070.052

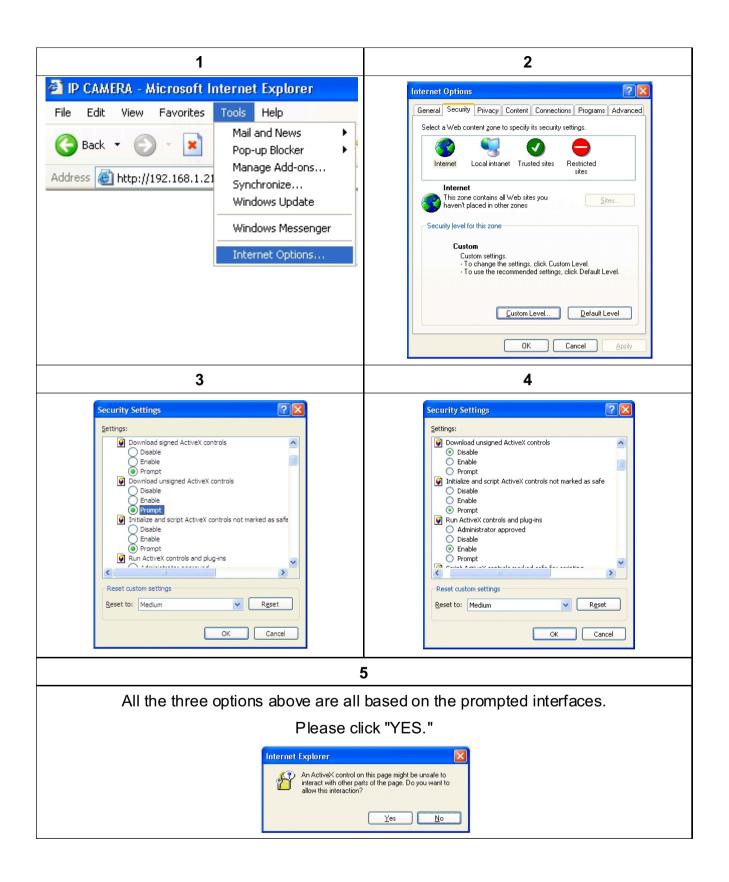**NOTE:** Please input correct network parameters without blank spaces.

On "Device Lists", the software lists all servers. By clicking on the server the IP settings will be show on the right side. After editing the parameters and clicking on "Submit", the following dialogue box will popup. Then, it will reboot the device with the new parameters.
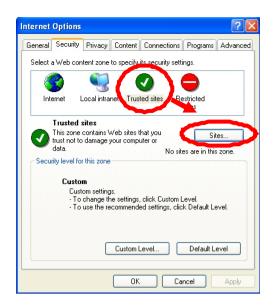

6.2 OPTIONAL MICROSOFT INTERNET EXPLORER SETUP
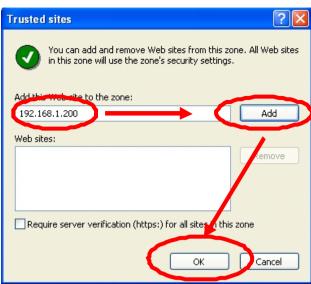
OPTION 1: DISABLE ACTIVEX WARNING

A. IE → Tools → Internet Options → Security → Custom Level → Security Settings → Download unsigned ActiveX controls → Enable or Prompt (recommend).

B. IE → Tools → Internet Options → Security → Custom Level → Security Settings →Initialize and script ActiveX controls not marked as safe → Enable or Prompt

1	2
3	**4**

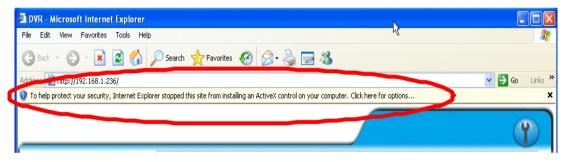| 5 |
|---|
| All the three options above are all based on the prompted interfaces.

 Please click "YES."

  |

OPTION 2: ADD TO TRUSTED SITES

IE → Tools → Internet Options → Security → Trusted sites → Sites

6.3 LOGIN

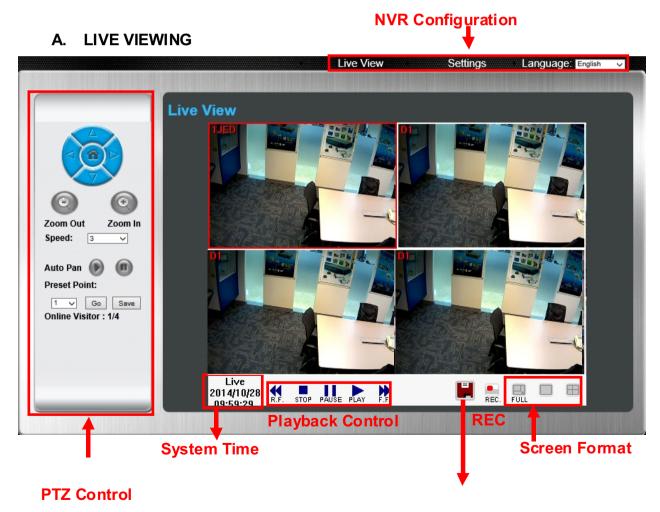### A. INSTALL ACTIVEX

B. START INSTALL ACTIVEX

C. ACCOUNT & PASSWORD LOGIN

After the IP setup and connecting to the network or LAN; type directly the IP address on the IE Browser directly. The following User name & Password Login window will popup.
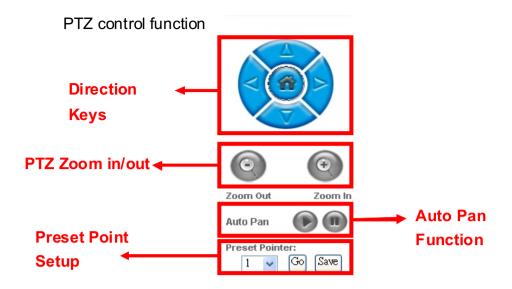
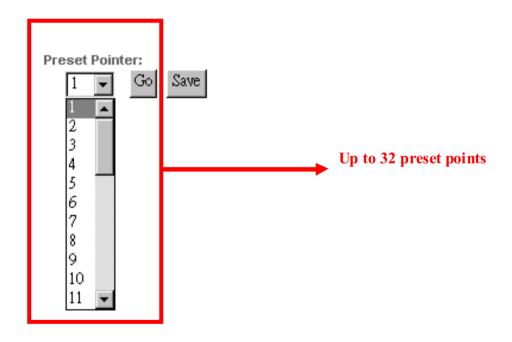**Default user name:** admin

Default password: admin

\   6.4 REMOTE CONTROL

NVR Configuration

A.   LIVE VIEWING

PTZ Control

System Time

Playback Control

REC

Screen Format

Time-Point Backup

1.   PTZ Control

PTZ control function

Direction Keys

PTZ Zoom in/out

Zoom Out   Zoom In

Auto Pan

Preset Point Setup

Preset Pointer:
1   Go Save

Auto Pan Function

Preset Pointer:
1   Go Save

1
2
3
4
5
6
7
8
9
10
11

Up to 32 preset points

1. NVR Configuration

   Get into the NVR network menu.

2. SYSTEM   TIME

   Live viewing mode: The current live viewing time.

3. SCREEN FORMAT

   Switch screen format and click twice to switch channels with full screen.

1. ⊞ Full Screen

    Click again to return.

2. ▣ REC.

    Click to start record the live video to the PC or storage device. The saved file is *.ha0 file.
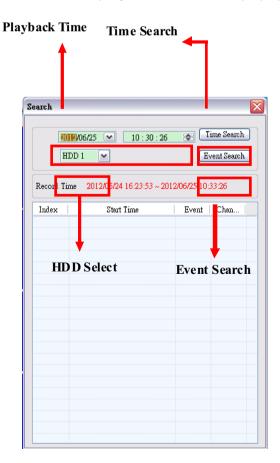
3. ▶ PLAY Playback

    Click and select time playback or event playback.

4. 💾 Time-Point Backup

    Click to select backup time point. The saved file is *.ha0 format.

B. PLAYBACK by TIME SEARCH & EVENT SEARCH

Click the ▶ PLAY button for the playback window to popup

Playback Time   **Time Search**

HDD Select   **Event Search**

1. HDD Select

   The user can select HDD1 or HDD2 for playback

2. Playback Time

   The user can select the time by pressing "Time Search" for playback.
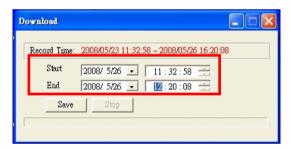
3. Time Search

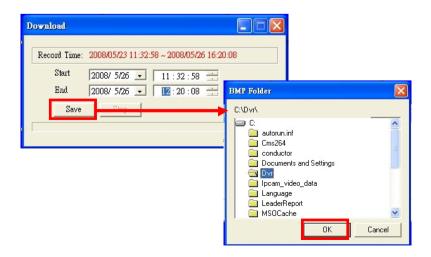   The user can select the time by pressing "Time Search" for playback.

4. Event Search

   The user can select the event item by pressing "Event Search" for playback.

C.   TIME-POINT BACKUP

Click to operate Time-Point backup. Select the Start and End backup time.

Then, click the Save button to select the path on the PC where the user is going to backup the data. After that, press the OK button to start the backup.
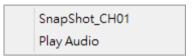

Finally, double-click to open the saved backup file. The backup file will named as the

time when started to backup, such as, (20080526113258.ha0) will be 2008/05/26 11:32:58.

6.5 OTHER FUNCTIONS

Right-click on any channel. The following menu will pop up:

SnapShot_CH01
Play Audio

A. Snapshot:

Save a single picture from the image.

B. Play audio:

Play audio off the channel.

Note: The playback performance is not affected if the sound is being recorded.

6.6 CONFIGURATION

A. System - System Information

1. SYSTEM INFORMATION

SERVER NAME: This name will be shown on the IP Installer.

MAC ADDRESS: The MAC address. (It cannot be changed)

2. NTP Setting

TIME ZONE: It can only be modified via adjust "DATE" and "TIME SETUP "in the NVR Menu).

NTP SERVER: Change the time of the NVR via NTP Server.

A. SYSTEM – USER MANAGEMENT

The User Management provides 3 levels of authority: Administrator (the highest), User, and Guest.

Administrator:

Posses the highest level of authority to operate full functions within network.

User:

Live Image and Video Playback authority. PTZ controlled is included as well.

Guest: Live Image authority only.

Default administrator account: Username: admin & Password: admin

B-1   AUTHORITY   SETTING:

Enable or Disable these options to limit the authority.

B-2 USER MANAGEMENT:

User Setup
Username:	
Password:	
Confirm:	

☐ Network Login
☐ Record ON/OFF
☐ Play/Event
☐ PTZ
☐ Backup
☐ Menu Setup
☐ Camera Setup
☐ Record Setup
☐ Alarm Setup
☐ Network Setup
☐ Disk Setup
☐ System Setup

Masking Channels in Playback and Network

☐ CH01   ☐ CH02
☐ CH03   ☐ CH04
☐ CH05   ☐ CH06
☐ CH07   ☐ CH08
☐ CH09

[OK]

Add: Key-in the Username and Password. The manager can give authority to the new user by ticking at the choice below. (Ex. Ticking at "PTZ" allows the new user to control the PTZ functions). You can apply the authority settings to the channel you choose. The new user has no authority in those channels that are not selected.

Modify: Click **Edit** for the following window to pop-up. After typing the Password and confirming it, click on **OK**. You can also change the masking channel here.

Remove: Click on the user name on the user list and click on **Remove**.

A. SYSTEM / SYSTEM UPDATE

C1. Firmware Upgrade: Click on the "Browse" button to select the latest firmware and then press the "Upgrade" button to upgrade the firmware.

C2. Load Default: Click "Browse" to choose a file. You can load the setup from your computer if you clicked on "Download" and saved the settings before.

C3. ActiveX Updating: The ActiveX control should be also updated when you update the NVR firmware. Use the tool in the attached CD to uninstall the old ActiveX control so that the newest version can be registered.

● Automatic Uninstall

Please follow the steps:
1. After updating the NVR firmware, close the web browser.

2. Run the "unreg" file in the CD to automatically remove the existing ActiveX component "WATCH_16R" from your PC.

3. Log in the NVR via web browser again, and the browser will require you to install the new version of ActiveX control.

● Manual Uninstall

If the tool does not work, please follow the following steps to uninstall the

ActiveX control manually.

1. Look for the files "KConfig.ocx" and "WATCH_16R.ocx" in one of the possible paths:

   "C:\WINDOWS\Downloaded Program Files"
   "C:\WINDOWS\W16R"
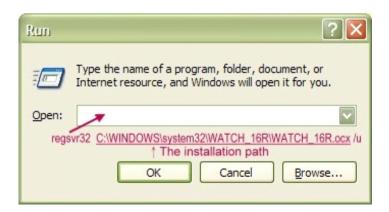   "C:\WINDOWS\system32\WATCH_16R"

2. "Start" -> "Run" -> Key-in: regsvr32(The path of KConfig.ocx) /u -> Click "OK"

   Ex.: regsvr32 C:\WINDOWS\system32\WATCH_16R\KConfig.ocx /u

3. "Start" -> "Run" -> Key-in: regsvr32(The path of WATCH_16R.ocx) /u -> Click "OK"

   Ex.: regsvr32 C:\WINDOWS\system32\WATCH_16R\WATCH_16R.ocx /u

4. Log-in again into the NVR via web browser. The browser will ask you to install the new version of ActiveX control.

A. NETWORK – IP SETTING

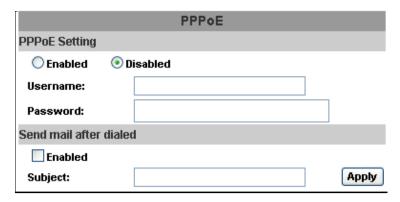| IP Setting	
IP Assignment	
○ DHCP	
◉ Static	
IP Address:	192.168.1.211
Subnet Mask:	255.255.255.0
Gateway:	192.168.1.254
DNS 1:	168.95.1.1
DNS 2:	168.95.192.1
Web Page Port:	80
UPNP Port Forwarding	
☐ Enabled	
External HTTP Port:	80
External RTSP Port:	554
	Apply

D-1   IP ASSIGNMENT

DHCP: In Dynamic Host Configuration Protocol (DHCP) mode, the DHCP server setting is done automatically.

STATIC IP: Input the IP address, Subnet Mask, and Gateway based on the network environment.

D-2   UPNP PORT FORWARDING

When a router is used, you can enable this function to allow the user to link the device in the intranet.

A. NETWORK – PPPoE

E-1 PPPoE SETTING

Click on Enabled to enable the ADSL dial function.
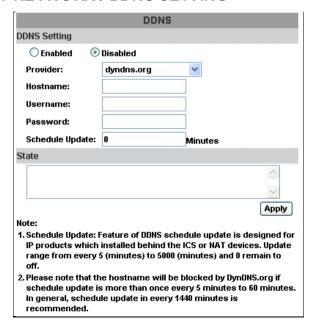
Username: Username for ADSL account.

Password: Password for ADSL account.

After dialed successfully, new IP address will appear.
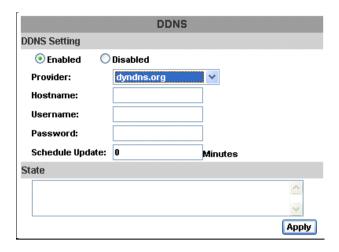
E-2 SEND MAIL AFTER DIALED

Click on Enabled to enable the SEND MAIL AFTER DIALED function. You can also give a subject for the mail.

B. NETWORK / DDNS SETTING

Click on Enabled to enable the DDNS function.

F-1 DYNDNS.ORG

DDNS SETTING - DYNDNS.ORG

PROVIDER: Select dyndns.org

HOSTNAME: The registered hostname in DYNDNS.ORG.

USERNAME: The registered username in DYNDNS.ORG.

PASSWORD: The registered password in DYNDNS.ORG.

SCHEDULE UPDATE: A period of time to update IP address.

STATE

1. Updating: Information update.

   2. Idle: Stop service.

3. DDNS registered successfully, now log by

   http://<username>.ddns.camddns.com: Registered successfully.

   4. Updating Failed, the name is already registered.

   5. Updating Failed, please check your internet connection.

F-2 DDNS.CAMNNDS.COM

DDNS SETTING – DDNS.CAMDDNS.COM

PROVIDER: Select the ddns.camddns.com

USERNAME: Type-in the registered username in DDNS.CAMDDNS.COM.
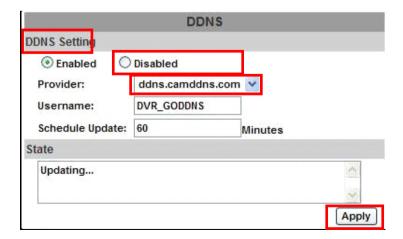
SCHEDULE UPDATE: The period of time to update IP address.
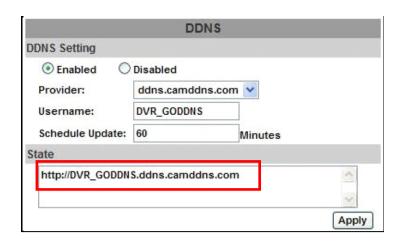
STATE

1. Updating: Information update.

2. Idle: Stop service.

3. DDNS registered successfully, now log by

http://<username>.ddns.camddns.com: Registered successfully.

4. Updating Failed, the name is already registered.

5. Updating Failed, please check your internet connection.

DDNS Setting Steps:

Tick "ENABLE" to enable the DDNS function and select "**ddns.camddns.com**" of the provider from the drop down list. In the following, type the username to apply (e.g. **NVR_GODDNS**). After that, click on the "Apply" button.

Finally, the NVR domain name **(http://NVR_GODDNS.ddns.camddns.com)** will be shown on the state block.
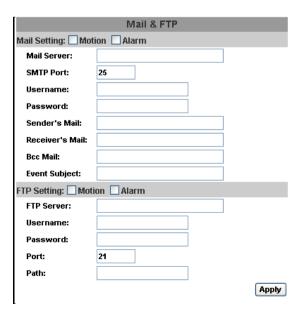
NOTES: 1. If the user selects another provider as is ddns2.ydsNVR.com, all of the setting steps are the same as ddns.camddns.com setting.

2. However, if dyndns.org provider is selected, please go to www.dyndns.org to register the account first. The user has to fill-in the username, password and hostname for applying the account. After the user applied the account successfully, the dyndns.org will provide complete DDNS domain name to the user.

3. If setting up the IP schedule update too frequently, the IP may be blocked. In general, scheduling an update every day (1440 minutes) is recommended.

G.   NETWORK / Mail & FTP

Tick "Motion" or "Alarm" to enable Mail Setting and FTP Setting function.

Mail Setting: Tick "Alarm" to send video to the mail address when a external alarm or DI from IP Cam is triggered. Tick "Motion" to send video to the mail address when motion detection is triggered.

Mail Server: The IP address of the Mail Server (e.g. mail.huntelec.com.tw).

SMTP Port: The port of SMTP (Simple Mail Transfer Protocol). Default value: 25.

Username: The username for logging into the mail server.

Password: The password for logging into the mail server.

Sender's Mail: The sender's account for sending mail via this mail server.

Receiver's Mail: The receiver's mail address.

Bcc Mail: The receiver's mail address for Bcc Mail.

Event Subject: The subject of this mail. (The default value is ALARM MAIL)

FTP Setting: Tick "Alarm" to upload video to FTP when external alarm or DI from IP Cam is triggered. Tick "Motion" to upload video to FTP when motion detection is triggered.

FTP Server: The IP address of FTP Server.

Username: The username for logging into the ftp server.

Password: The password for logging into the ftp server.

Port: The port number for file transmission. (Default value is 21)

Path: The ftp path where for saving the information.

Finally, click on the Apply button to save the settings.

H. NETWORK /DHCP Server Setup

Give the IP address to set up the DHCP Server. The IP will change between the Start IP and the End IP.

DHCP Server Setup

Enabled

Start IP Address: 168.95.1.1

End IP Address: 168.95.1.254

Lease Time: 10
Days:

Apply

I. HTTP Notification

Use the checkbox to enable or disable HTTP Notification. This function allows users to set up the CGI command to a HTTP server. The server can be any device that can receive CGI via HTTP protocol. When alarm events occurs the NVR sends CGI to that server.

HTTP Notification

HTTP Notification Setup

Enable

HTTP Server:

HTTP Port

Username:

Password:

CGI:

Apply

HTTP Server: Key-in the server IP address.

HTTP Port: Key-in the server port used for http protocol.

User Name: Key-in the server username.

Password: Key-in the server password.

HTTP CGI: Key-in the CGI that you would like to send to the server when alarm events occurs.

J. OTHERS / Player Downloaded
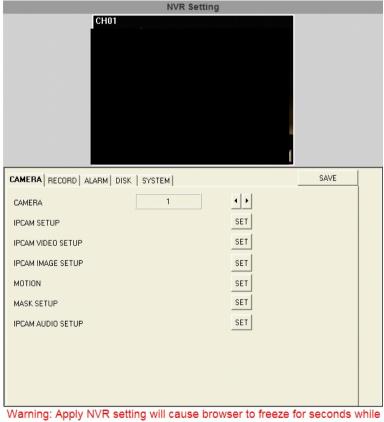
Click "Player" on the left list, and your browser will start downloading D6Viewer.exe to your PC.

Please refer to 5.1MAIN SCREEN SETTING for more information regarding D6Viewer.

K. OTHERS/ NVR Setting
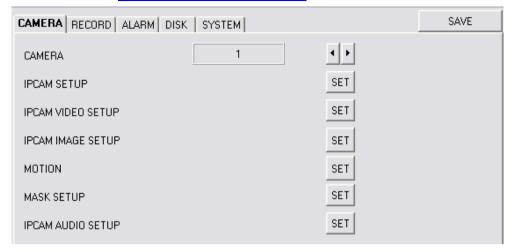
The NVR settings can be changed via the Internet.

K-1 CAMERA Setting

Please refer to Chapter3.3-Camera Setup.
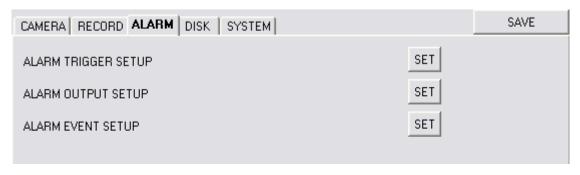
K-2 RECORD SETTING

Please refer to Chapter3.4- Record Setup

K-3 ALARM SETTING

Please refer to Chapter3.5-Alarm Setup
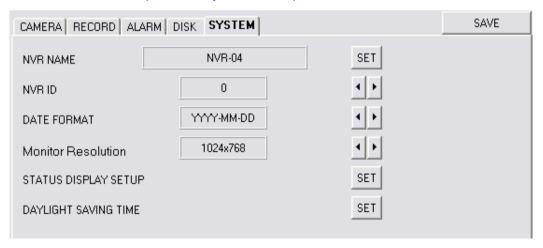
K-4 DISK SETTING

Please refer to [Chapter3.8-Disk Setup](#)

CAMERA	RECORD	ALARM	**DISK**	SYSTEM		SAVE

OVERWRITE MODE	OFF	◄ ►
HARD DISK FULL WARNING	15%	◄ ►
AUTO DELETION	ON	◄ ►
RESERVE DAY	27	◄ ►

K-5 SYSTEM SETTING

Please refer to [Chapter3.9-System Setup](#)

CAMERA	RECORD	ALARM	DISK	**SYSTEM**		SAVE

NVR NAME	NVR-04	SET
NVR ID	0	◄ ►
DATE FORMAT	YYYY-MM-DD	◄ ►
Monitor Resolution	1024x768	◄ ►
STATUS DISPLAY SETUP		SET
DAYLIGHT SAVING TIME		SET

APPENDIX A: RECORDING TIME LAPSE (HOURS)

2TB		UNIT：Hours	
IMAGE QUALITY (Mbps)	LOW(0.25M)	MEDIUM(0.5M)	STANDARD(1M)	HIGH(1.5M)
	AVERAGE	AVERAGE	AVERAGE	AVERAGE
16CH	960	480	240	160
4TB		UNIT：Hours	
IMAGE QUALITY (Mbps)	LOW(0.25M)	MEDIUM (0.5M)	STANDARD (1M)	HIGH (1.5M)
	AVERAGE	AVERAGE	AVERAGE	AVERAGE
16CH	1920	960	480	320
6TB		UNIT：Hours	
IMAGE QUALITY (Mbps)	LOW(0.25M)	MEDIUM (0.5M)	STANDARD (1M)	HIGH (1.5M)
	AVERAGE	AVERAGE	AVERAGE	AVERAGE
16CH	2880	1440	720	480
8TB		UNIT：Hours	
IMAGE QUALITY (Mbps)	LOW(0.25M)	MEDIUM (0.5M)	STANDARD (1M)	HIGH (1.5M)
	AVERAGE	AVERAGE	AVERAGE	AVERAGE
16CH	3840	1920	960	640

* The value is for reference only

APPENDIX B: HDD COMPATIBILITY TABLE

Brand	Model	Capacity	Others
SEAGATE	ST3500320SV	500GB	SV35.3
	ST3500410SV	500GB	SV35.5
	ST3500413AS	500GB S3	Barracuda 7200 12
	ST3500418AS	500GB	7200 12
	ST500NM0011	500GB	
	ST500DM002	500GB S3	Barracuda
	ST31000333AS	1TB	7200 11
	ST31000340AS	1TB	7200 11
	ST31000340NS	1TB	Barracuda ES.2
	ST31000340SV	1TB	SV35.3
	ST31000322CS	1TB	Pipeline HD .2
	ST31000525SV	1TB	SV35.5
	ST31000526SV	1TB	SV35.5
	ST31000524AS	1TB S3	7200 12
	ST1000DM003	1TB S3	Barracuda
	ST1000VX000	1TB S3	SV35
	ST1500DL003	1.5TB S3	Barracuda LP
	ST31500341AS	1.5TB	7200 11
	ST2000DL003	2TB S3	Barracuda LP
	ST3000DM001	3TB	
	ST33000651AS	3TB S3	Barracuda XP
	ST3000VX000	3TB	SV35
	ST4000DM000	4TB	
WD	WD1600AAJS	160GB	7200 CB
	WD2500AAKS	250GB	7200 CB
	WD2500AVVS	250GB	7200 GP
	WD3200AVVS-73L2B0	320GB	7200 GP

WD5000AACS	500GB	7200 GP
WD5000AVVS	500GB	7200 GP
WD5000AAKS	500GB	7200 CB
WD5002ABYS	500GB	7200 RE
WD5000AVDS	500GB	AV-GP
WS5003ABYX	500GB	Enterprise Storage
WD5000AAKX	500GB S3	Caviar Blue
WD5000AUDX	500GB S3	AV-GP
WD5003AZEX	500GB S3	Caviar Black
WD6400AAKS	640GB	7200 BLUE
WD6400AVVS	640GB	7200 GP
WD7500AACS	750GB	7200 GP
WD7500AVVS	750GB	7200 GP
WD1003FBYX	1TB	Enterprise Storage
WD1002FAEX	1TB S3	Caviar Black
WD10EACS	1TB	7200 GP
WD10EADS	1TB	Caviar Green
WD10EALX	1TB S3	Caviar Blue
WD10EARS	1TB	Caviar Green
WD10EFRX	1TB	
WD10EURX	1TB S3	AV-GP
WD10EZEX	1TB	Caviar Blue
WD10EVDS	1TB	Green Power
WD10EVVS	1TB	7200 GP
WD15EADS	1.5TB	7200 GP
WD15EARS	1.5TB	7200 GP
WD15EURS	1.5TB	7200 GP
WD5000AVDS-63U7B0	1.5TB	7200 GP
WD15EVDS	1.5TB	7200 GP
WD20EADS	2.0TB	7200 GP
WD20EVDS-63T3B0	2.0TB	7200 GP
WD20EARS	2.0TB	Caviar Green
WD20EURS	2.0TB	7200 GP
WD20EZRX	2.0TB	Caviar Green
WD20EURX	2.0TB	Green Power
WD30EURS	3TB	CE-GP

	WD30EFRX	3TB	WD Red NAS Hard Drive
WD	WD4000F9YZ	4TB	WD SE
	WD4001FAEX	4TB	WD Black
HITACHI	HDS721616PLA380	160GB	7200
	HDT725025VLA380	250GB	7200
	HDT725032VLA360	320GB	7200
	HDP725050GLA360	500GB	7200
	HCP725050GLA380	500GB	7200
	HDS721050CLA362	500GB	
	HDT721010SLA360	1TB	7200
	HDS721010CLA332	1TB	7200
	HDS721010CLA362	1TB	
	HDS721010DLE630	1TB S3	7200
	HDS722020ALA330	2TB	7200
	HDS723020BLA642	2TB S3	7200
TOSHIBA	DS7SAE202	2TB	
	DT01ACA050	500GB	
	DT01ACA100	1TB	
	DT01ACA200	2TB	
	DT01ABA050V	500GB	
	DT01ABA100V	1TB	
	DT01ABA200V	2TB	
	DT01ACA300	3TB	
	DT01ABA300V	3TB	

APPENDIX C: ERROR MESSAGE LIST

ERROR MESSAGE	ERROR STATUS & REASON
DISK ACCESS ERROR!	H.D.D. Data structure un-normal. The data is not recorded into the NVR or there bad sectors on NVR H.D.D. Please install another H.D.D. and perform the record again.
UPDATE FILE ERROR!	Please re-download the update file and update again.
FIRMWARE UPGRADE FAILED	Please reboot the NVR and upgrade the firmware. Please send the NVR back to repair when the NVR is not functional.
MEDIA ACCESS FAIL!	The USB file format is incorrect (Please format the pen drive to FAT32) or the Pen Drive is set up to ONLY READ mode when saving the data by using Pen Drive. Please change the ONLY READ mode. The data cannot be burn into the CD/DVD disc. Please change for another CD/DVD disc and backup the file in CD/DVD disc storage.
NO FILE!	There is no upgrade file within the Pen Drive or the name of upgrade file does not correspond with the NVR format. Please adjust the upgrade file name based on the following information. 04CH -> UpdateNVR04.bin
USB DEVICE NOT FOUND NO USB	The pen Drive undetected. Please Unplug the Pen Drive and plug it again.
BACKUP START TIME ERROR	Backup start time error.
BACKUP END TIME ERROR	Backup end time error.
DISK ERROR	The data cannot be burn into the CD/DVD disc. Please change for another CD/DVD disc and backup the file.
FAN FAILED	Fan Error Warning.
NO LOG DATA	No Events Record.
SCHEDULE RECORD	The condition is caused by trying to stop recording when performing the schedule record. Please setup the record to manual mode and then stop the recording.