



# HD-CCTV NVR

Digital Video Recorder

**UHN Series**

**User's Manual**

(EN Rev 1.0)

# HD-CCTV NVR

## Install & User Guide

### HD-CCTV NVR Manual.

Thank you for purchasing a Network Video Recorder. Before installation or operation please become familiar with the user manual and other referenced manuals mentioned in the booklet. User manual, software and hardware described here are protected by copyright by law. With the exception of copying for general use within fair use, copying and reprinting of the user manual, either partially or in entirety, or translating it into any another language without the consent of our Corporate office is strictly prohibited.

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The manufacturer does not assume any responsibility concerning the sale of this product and does not delegate any right to any third party to take any responsibility on its behalf. The product warranty does not cover cases of accidents, negligence, alteration, misuse or abuse. No warranty is offered for any attachments or parts not supplied by the manufacturer.

### The manufacturer does not assume any responsibility for followings

- ✓ Malfunctions due to negligence by user
- ✓ Deliberate disassembly and replacement by user
- ✓ Connection of power source other than a properly rated power source
- ✓ Malfunctions caused by natural disasters (fire, flood, tidal wave, earthquake, etc)
- ✓ The warranty period for HDD is one year
- ✓ Any data damage due to HDD damage

**The product is not for exclusive use of crime prevention but for assistance in cases as fire or theft. We take no responsibility for damage from any incident.**



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.



### Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems)

This marking on the product, accessories or literature indicates that the product and its electronic accessories (e.g. charger, headset, USB

Cable should not be disposed of with other household waste at the end of their working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product or their local government office, for details of where and how they can take these items for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product and its electronic accessories should not be mixed with other commercial wastes for disposal.



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This marking on the battery, manual or packaging indicates that the batteries in this product should not be disposed of with other household waste at the end of their working life. Where marked, the chemical symbols Hg, Cd or Pb indicate that the battery contains mercury, cadmium or lead above the reference levels in EC Directive 2006/66. If batteries are not properly disposed of, these substances can cause harm to human health or the environment.

To protect natural resources and to promote material reuse, please separate batteries from other types of waste and recycle them through your local, free battery return system.

Symbol	Publication	Description
	IEC60417, No.5032	Alternating current

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# Introduction

## Warning

### Warning

- ✓ Please do not bend or press power cord by force which could lead to fire.
- ✓ Be careful not to pull or plug with wet hands to avoid fire or electric shock.
- ✓ Must connect the power cord to a grounded outlet. It may cause electric shock and injury, and may cause product malfunction.
- ✓ In case of changing built-in lithium battery, it should be replaced with same brand or similar one to prevent a danger of explosion. Since old batteries could be a factor of environment contamination, please disposed of them properly.
- ✓ Do not throw the batteries in fire or heating units. Neither short circuit nor disassembly is prohibited.
- ✓ Do not open the top cover otherwise it could lead to electric shock and product damage.
- ✓ The previous recorded data is deleted if record continues when HDD is full so please check disk setup status.
- ✓ Manufacturer takes no responsibility for any damaged data due to customer's carelessness or negligence.

### A-rated device(Broadcasting Communication Equipment for business use only)

Users/Sellers should under this is A-rated device for business use only and it must not be used outside of family.

### Caution

- ✓ Do not place heavy objects on top of the product.
- ✓ Product is for indoor use only and it is not water or damp proof. Use product to its environmental specifications (Temperature & Humidity). To clean the product, gently wipe the outside with a clean dry cloth.
- ✓ Product uses AC power of 110V ~ 240V. Be cautious not to cause electric damages to the product.
- ✓ Be careful not to drop the product. Physical shocks may harm the product including internal HDD. In addition, please do not throw or drop it.
- ✓ Product is made of metal you can hurt another human if you throw or used as a weapon. Keep away from the reach of children and install in a safe place.
- ✓ If Product does not operate properly, please contact the manufacturer for service. Tampering or disassembling the product will void the warranty.
- ✓ The product can transmit real time video over network or internet and can be used for monitoring purpose depending on installation sites. So please check and review related regulations before installation.

Experience and technical skills are needed for the installation of this product. Improper installation may cause fire, electric shocks, or defects. Contact the nearest dealer for installations.

Contents of the manual can differ according to firmware or Software upgrade, and the appearance of products may be changed for the improvement of quality without an advance notice

#### ◆ System power off

In case user turn off device by force while device is working, it could give damage on HDD and device so please turn off device safely using OSD menu. You should install a UPS system for safe operation in order to prevent damage caused by an unexpected power failure.

#### ◆ Working Temperature

The working temperature of the product is 5°C~45°C or 41°F~113°F. NVR may not work properly if left in low temperature for a long period of time. If such is the case, then store at room temperature for some time before using it again.

## Main Specification by Models

Function	16 channel NVR	36 channel PoE NVR	64 channel NVR	64 channel HOT SWAP NVR
	UHN1600-H2	UHN3616P-H4	UHN6400-H8	UHN6400-H16S
HDD	SATA*2	SATA*4	SATA*8 + eSATA*2	SATA*16 + eSATA*1
HDD Hot Swap	X	X	X	O
Max Resolution of IP Camera	4K	4K	4M	4M
ONVIF	O	O	O	O
WESP	O	O	O	O
PoE	X	O (16 Ports)	X	X
LAN port	1	1	2	2
HDMI 4K	O	O	O	O
VGA	O	O	O	O
Remote DVR	O	O	O	O
Flame Detection	O	O	O	O
ALARM IN	X	O	O	O
ALARM OUT	X	O	O	O

(O: Supported / X: not-Supported)

### <Note>

- 1) It is highly recommended that category 6 ethernet cable. If you don't use category 6 gigabit ethernet cable, it may cause not saving video when data traffic is high.
- 2) Shielded ethernet cable must be used for PoE port.
- 3) The name of mobile application is WEBEYE.
- 4) 64 channel NVR has 2 eSATA ports, but currently, only one eSATA is supported. 2 eSATA will be supported soon.

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## Key Features

Products support IP camera supporting Onvif Profile-S or WESP. Products support real-time live monitoring, real-time recording/playback, backup, push alarm and audio of connected IP camera.

Other DVR's video channel can be treated as an IP camera and NVR supports all NVR functions to other DVR's video channel.

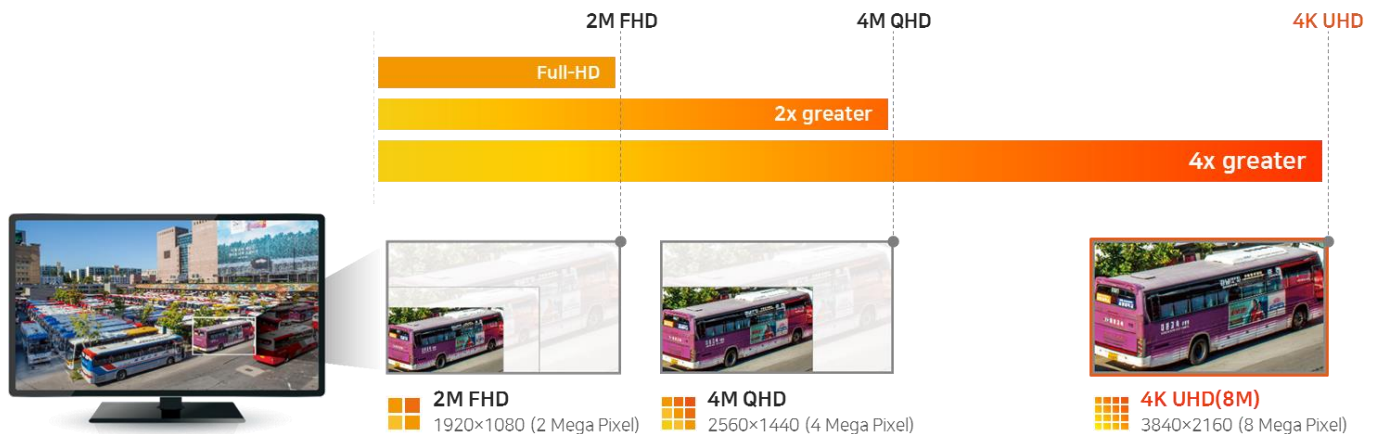
Also, it is possible to control NVR from other PC located in remote place such as Windows PC's 'remote desktop'. (Remote DVR function)

Products can record video from max 5 seconds before event occurrence and record up to 30 fps per channel.

- ✓ Supports IP camera
  - Onvif Profile-S
  - WESP
- ✓ Remote DVR function
- ✓ Supports Normal/Event Record, Schedule/Event Record, Emergency Record
- ✓ Supports archiving event list (sensor, video loss, motion detection, Text, Flame detection)
- ✓ Max 5 seconds pre-alarm recording per each channel

## UHD (Ultra High Definition)

The max supporting resolution of IP camera is 4K UHD. Also, 4K UHD video output is supported.



## PoE (Power over Ethernet)

The power can be supplied to IP camera using only ethernet cable (not required any other power cable). It is highly recommended that shielded Ethernet cable must be used for PoE port.

## Flame Detection

Flame detection camera (N1080BL-AF-F2) which is equipped with feature to detect flame can be connected to NVR and it will notify manager of flame alarm quickly throughout NVR, CMS and mobile phone.

## Screen Output

- ✓ Supports 4K UHD monitor output
- ✓ Various Multi-division Screen Mode –1, 2, 4, 6, 9, 10, 13, 16, 25, 36, 64, Custom A/B/C
- ✓ Auto Sequence, Event Pop-up

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## **Voice Recording**

Supports real time voice input and recording function.

- ✓ Real time 1ch voice input and recording function
- ✓ Input : 1ch RCA, Output : 1ch RCA (Rear), 1ch HDMI (Rear)
- ✓ Audio recording and playback can be performed simultaneously

## **Search and Playback**

Various useful functions for search & playback

- ✓ Simultaneous playback for every channel
- ✓ Playback by time, date, channel
- ✓ Time / Calendar / Event / Thumbnail / Bookmark search

## **Save and Backup**

You can record video data into the internal HDD, and image can be copied to USB memory.

- ✓ Backup device : USB memory stick (FAT32)
- ✓ External storage device : e-SATA HDD or NS04R (exclusive network storage device)
  - Support max 128 TB using internal storage and e-SATA

## **Network**

Supports LAN, xDSL, and etc., and key functions can easily be controlled by web browser or customized CMS program.

- ✓ Live monitoring/playback/backup from the remote site
- ✓ Multi-streaming feature for slow network environment (supports nHD monitoring)
- ✓ Sending event info(image) using E-Mail/ FTP
- ✓ Recorded video playback, save, search function, and NVR control function on PC via CMS
- ✓ Mobile application for android and iOS.
- ✓ Supports 10/100/1000 Mbps Ethernet/xDSL
- ✓ Managing up to 1024 NVRs with CMS
- ✓ Supports HTML5 Webviewer
- ✓ Remote DVR for controlling and monitoring NVR at remote place

## **Others**

- ✓ User friendly GUI and mouse
- ✓ Easy and simple firmware upgrade, and recorded video back up function using USB stick
- ✓ Using Ac the PC Playback function, replay the NVR's HDD on a PC  
(HDD set as RAID could not be played on the PC, even if HDD is connected to PC)
- ✓ Supports PTZ Control, PRESET and PATROL function
- ✓ Support Onvif Profile-S
- ✓ Booting logo and empty channel logo can be changed
- ✓ Changing multiple channel names using USB memory

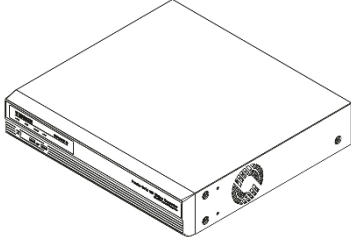

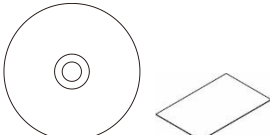
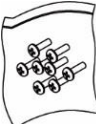
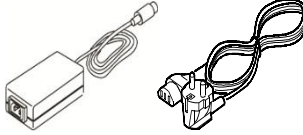
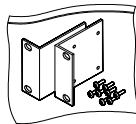


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## Components

Please check the below to make sure you have every part.

### 16 CHANNEL NVR / 36 CHANNEL PoE NVR / 64 CHANNEL NVR

		
NVR	Mouse	SW & Manual CD Quick guide
		
HDD mounting screw	Adapter & Power Cord (*)	19" Rack bracket & screw (*)

\* It can be differently applied depending on models.

### 16 CHANNEL HOT SWAP NVR – TBD

# Product Description

## 16 CHANNEL NVR

### Front view



Part name		Function description
1	REC	Shows record status and it turns on while recording
	NET	Shows network connection status and it turns on if network is connected
	PWR	It turns on when power is ON
2	USB 포트	USB port for USB memory or mouse.

### Rear view



No.	part name	function description
1	Ground Connection	Connection terminals that connects NVR to an outside device
2	DC12V	DC 12V adapter port
3	LAN	Network connection terminal (RJ-45)
4	VGA	Video output port for VGA monitor
5	HDMI	Video output port for main (HDMI) monitor
6	USB3.0	USB port for USB memory, mouse, etc. It supports upto USB 3.0.
7	AUDIO IN/AUDIO OUT	AUDIO IN : Audio input connection terminal AUDIO OUT : Speaker output terminal

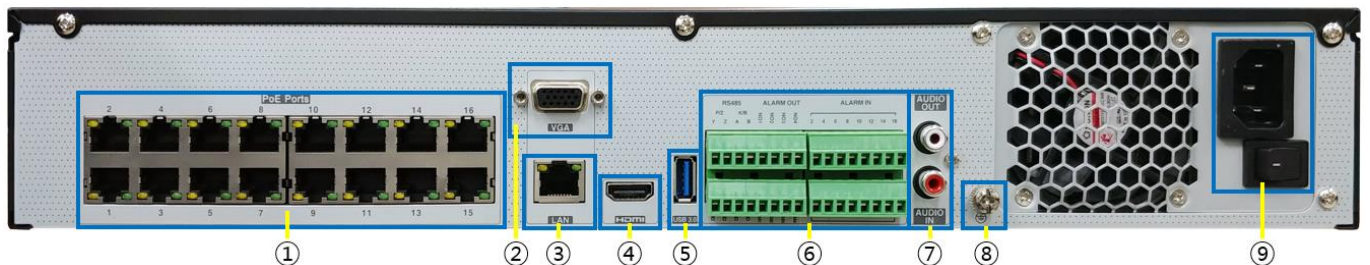
## 36 CHANNEL PoE NVR

### Front view



	part name	function description
1	REC	Shows record status and it turns on while recording
	NET	Shows network connection status and it turns on if network is connected
	PWR	It turns on when power is ON
2	USB port	USB port for USB memory or mouse.

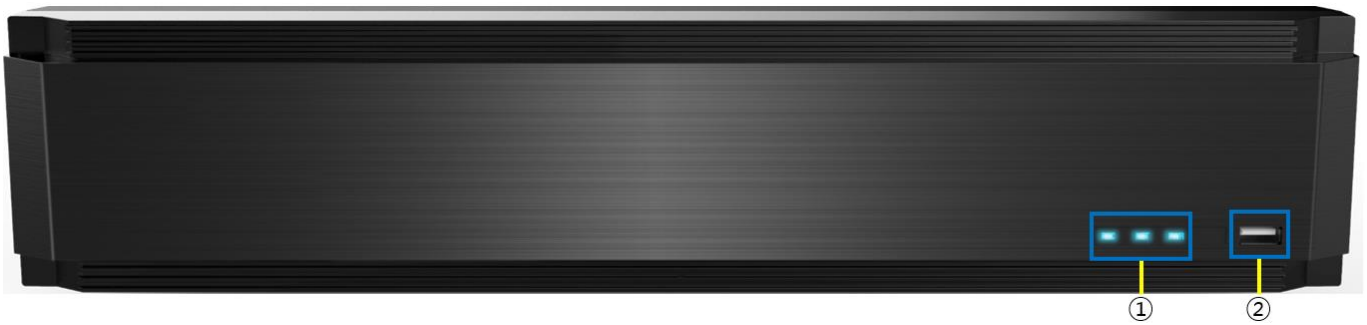
### Rear view



No.	part name	function description
1	PoE Ports	36 channel PoE NVR supports max 16 PoE. IP addresses of IP camera connected to PoE should have the same IP address band with 'IP address 2'.
2	VGA	Video output port for VGA monitor
3	LAN	Network connection terminal (RJ-45)
4	HDMI	Video output port for main (HDMI) monitor
5	USB3.0	USB port for USB memory, mouse, etc. It supports upto USB 3.0.
6	RS485 / ALARM OUT / ALARM IN	RS485 K/B: RS485 communication port. WKC-200 keyboard can be available. RS485 P/Z: not available ALARM OUT: Relay connection port ALARM IN: External sensor input port
7	AUDIO IN/AUDIO OUT	AUDIO IN : Audio input connection terminal AUDIO OUT : Speaker output terminal
8	Ground Connection	Connection terminals that connects NVR to an outside device
9	Power Input	AC100V~AC240V power cord socket. If power cord is not connected to an grounded outlet, it may cause damage or malfunction of the product.

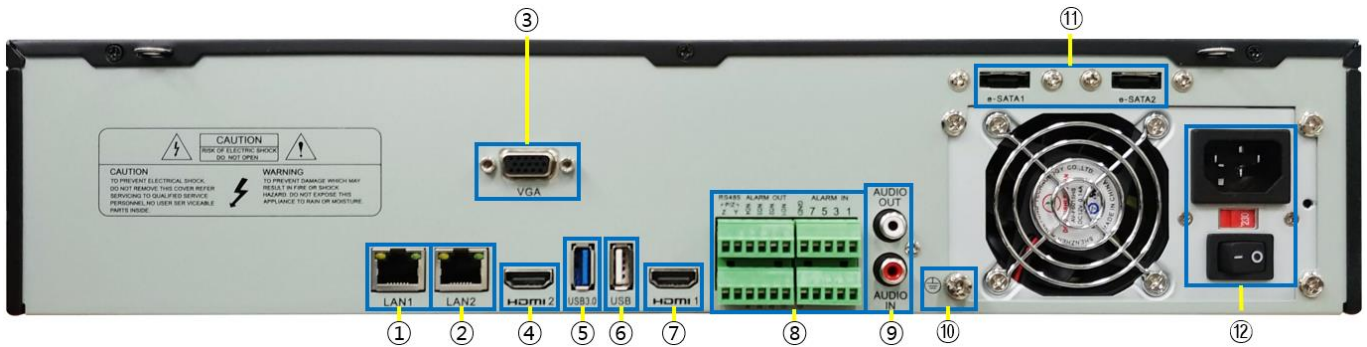
# 64 CHANNEL NVR

## Front view



	part name	function description
1	REC	Shows record status and it turns on while recording
	NET	Shows network connection status and it turns on if network is connected
	PWR	It turns on when power is ON
2	USB port	USB port for USB memory or mouse.

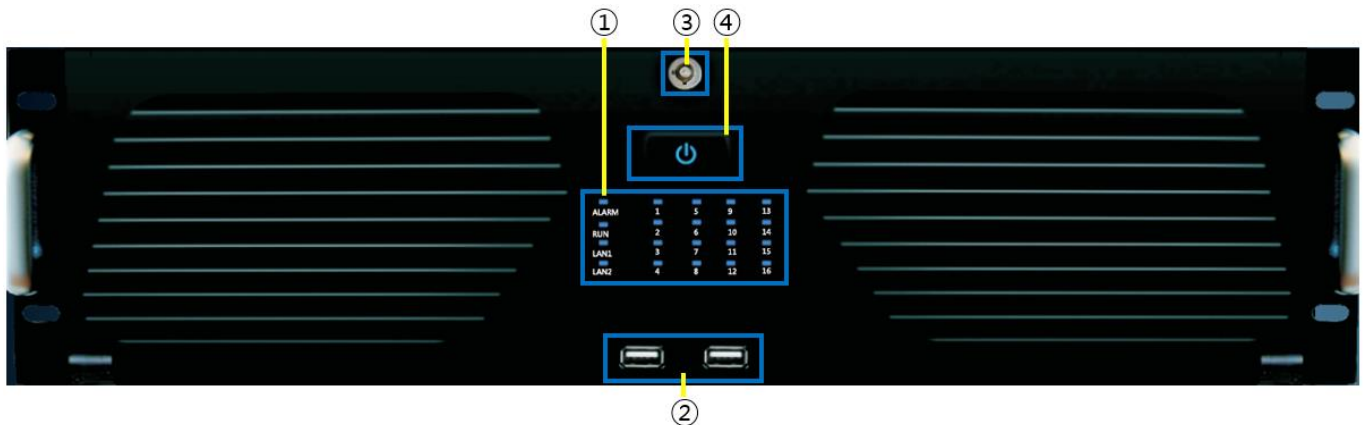
## Rear view



No.	part name	function description
1	LAN1	Network connection terminal (RJ-45) for 'IP address 1'
2	LAN2	Network connection terminal (RJ-45) for 'IP address 2'
3	VGA	Video output port for VGA monitor
4	HDMI2	Video output port for sub (HDMI) monitor
5	USB3.0	USB port for USB memory, mouse, etc. It supports upto USB 3.0.
6	USB port	USB port for USB memory or mouse.
7	HDMI1	Video output port for main (HDMI) monitor
8	RS485 / ALARM OUT / ALARM IN	RS485 K/B: RS485 communication port. WKC-200 keyboard can be available. RS485 P/Z: not available ALARM OUT: Relay connection port ALARM IN: External sensor input port
9	AUDIO IN/AUDIO OUT	AUDIO IN : Audio input connection terminal AUDIO OUT : Speaker output terminal
10	Ground Connection	Connection terminals that connects NVR to an outside device
11	e-SATA1 / e-SATA2	e-SATA ports for external SATA storage devices
12	Power Input	AC100V~AC240V power cord socket. If power cord is not connected to an grounded outlet, it may cause damage or malfunction of the product.

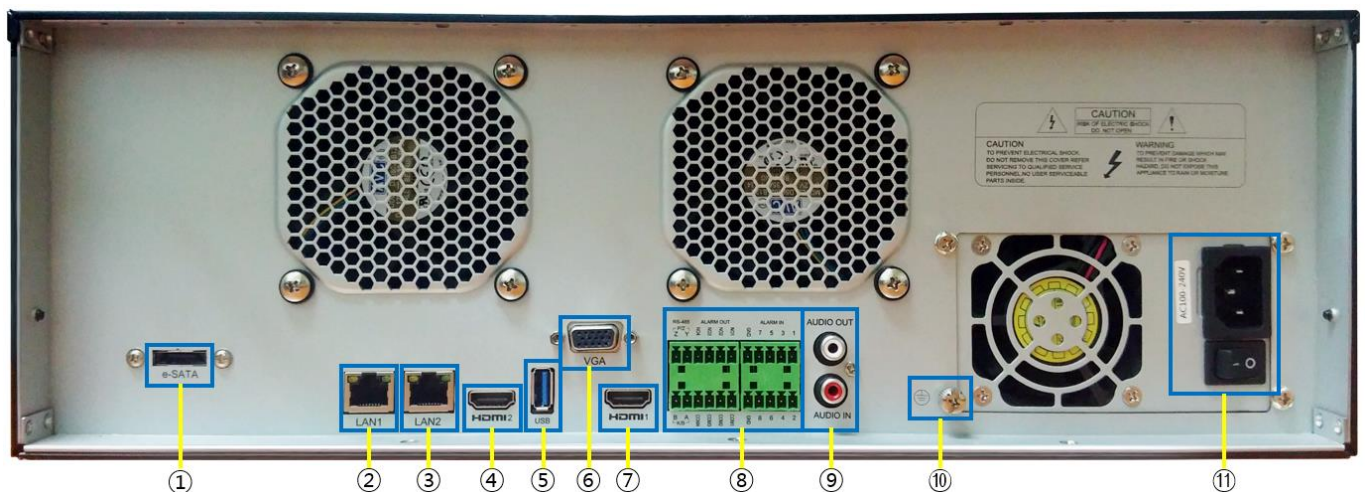
## 64 CHANNEL HOT SWAP NVR

### Front view



	part name	function description
1	ALARM	Shows event status and it turns on if event is occurred
	RUN	It turns on when power is ON
	LAN1	Shows network connection status of LAN1 and it turns on if network is connected
	LAN2	Shows network connection status of LAN2 and it turns on if network is connected
	1~16	Shows HDD status. I turns on if that HDD is connected and it flickers if that HDD is in use (read or write)
2	USB port	USB port for USB memory or mouse.
3	Front lock	Front lock for HDD exchange. User should unlock to exchange HDD.
4	Power button	Power button

### Rear view



No.	part name	function description
1	e-SATA	e-SATA ports for external SATA storage devices
2	LAN1	Network connection terminal (RJ-45) for 'IP address 1'
3	LAN2	Network connection terminal (RJ-45) for 'IP address 2'
4	HDMI2	Video output port for sub (HDMI) monitor
5	USB 3.0	USB port for USB memory, mouse, etc. It supports upto USB 3.0.
6	VGA	Video output port for VGA monitor
7	HDMI1	Video output port for main (HDMI) monitor
8	RS485 / ALARM OUT / ALARM IN	RS485 K/B: RS485 communication port. WKC-200 keyboard can be available. RS485 P/Z: not available ALARM OUT: Relay connection port
9	AUDIO OUT	
10	Power Jack	
11	Power Switch	

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No.	part name	function description
		ALARM IN: External sensor input port
9	AUDIO OUT/AUDIO IN	AUDIO IN : Audio input connection terminal AUDIO OUT : Speaker output terminal
10	Ground Connection	Connection terminals that connects NVR to an outside device
11	Power Input	AC100V~AC240V power cord socket. If power cord is not connected to an grounded outlet, it may cause damage or malfunction of the product.

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# Installation

## Check settings

This NVR is high quality security device with a high capacity built-in HDD and important circuits. Before installation, please read carefully below recommendations as high internal temperature of the product can lead to damages and shorten product life cycle.

### Power ground

Must connect the power cord to the grounded outlet.

If not, it may cause electrical shock, damage or malfunction of product.



### Recommendations on installing a NVR in a rack.

1. Don't seal the inside of rack where NVR is installed.
2. Keep airflow through inlet and outlet.
3. If there is another device installed in the rack, secure additional space or install air ventilation.
4. Installation of an air circulation fan around each inlet and outlet is strongly recommended.  
(Install filter around inlet or outlet for harmful substances)
5. Keep ambient temperature between 5°C~45°C around NVR.
6. Please connect the ground of NVR and ground of rack.

### Warnings if HDD is installed

1. Please be extra careful not to damage HDD as it easily breaks.
2. During installation, make sure insulated coat doesn't come off or isn't placed in the wrong place.
3. Don't lose screws and parts.  
(If screws and parts are not screwed or assembled correctly, product may not operate)
4. Check HDD compatibility list HDD  
(Please check with CS team of manufacturer.)
5. Partition table must be removed for HDDs used in PC or other NVR models before installation.

## Adding HDD

Remove the power cord before installation to protect NVR against possible damage and an electric shock. Please call the store you purchased the product from if it isn't operating correctly due to installation or configuration mistakes.

#### ✓ Warnings regarding Data loss

Please handle with care so HDD data isn't damaged.

Check HDD compatibility before installing additional HDD.

Be careful not to give any shock on HDD during operation which could lead to possible damage or malfunction

#### ✓ Cases when HDD and its data can be damaged.

To minimize the data loss, please copy data as often as you can.

Physical shock during disassembly or installation may lead to Data damage.

Sudden power outage or turn off of NVR can damage HDD.

Please don't try to move or shock NVR while HDD is working.



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## HDD installation

### 16 CHANNEL NVR

This series of the product supports 2 SATA hard drives. Please make sure that the device is powered off before the installation. The pictures of the installation are only for reference, please take the real object as the standard.



① Loosen the screws to open the cover.



② Slide the two screws slightly into the holes in the HDD.



③ Put the HDDs onto the bottom of the device.



④ Connect the power and data cables.



⑤ Turn over the machine and secure the HDD with the screws.



⑥ Install back the cover and secure it with the screws.

### 36 CHANNEL PoE NVR

This series of the product supports 4 SATA hard drives. Please make sure that the device is powered off before the installation. The pictures of the installation are only for reference, please take the real object as the standard.



① Loosen the screws to open the cover.



② Slide the two screws slightly into the holes in the HDD.



③ Turn over the machine and place the HDD with two screws onto the bottom of the case. Then lock the screws according to the order of the marks.



④ Install the other three HDDs according to above-mentioned method.



⑤ Connect the power and data cables.



⑥ Install the cover back and fix it.



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## 64 CHANNEL NVR

This series of the product supports 8 SATA hard drives. Please make sure that the device is powered off before the installation.



① Remove the cover and loosen the screws to take out two mounting bars.



② Screw the shorter pillar attached with the NVR into the bottom of the device.



③ Install back the lower mounting bar and tighten the screws of the lower HDD.



④ Connect the power and data cables and install the other three HDDs according to above-mentioned method.



⑤ Screw the longer pillar into the lower mounting bar.



⑥ Install back the upper mounting bar and tighten the screw of the pillar.



⑦ Install the upper four HDDs and install back the cover.



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## 64 CHANNEL Hot Swap NVR

This series of the product supports 16 SATA hard drives. Please make sure that the device is powered off before the installation.



① Get the brackets and screws of installing HDDs from the accessories and then fix two brackets to the HDD.



② Open the front panel of the device.



③ Use one hand to hold the handles of the two brackets respectively and push the HDD into the HDD slot. Clamp the HDD to make sure the HDD to install successfully.



④ Choose the number of installing HDDs according to your need as above-mentioned methods.

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## Connecting other devices

### VIDEO Output (HDMI) connection

Support HDMI monitor having 1920X1080 and UHD/4K (3840X2016) resolution. Also, NVR can automatically detect the max resolution of HDMI monitor when the HDMI resolution is set to "UHD/4K (Preferred)". So, if the monitor supports only FHD, the video output resolution will be FHD. If the monitor supports UHD/4K, the video output resolution will be UHD/4K.

Some monitor can be detected as FHD monitor even if the monitor supports UHD/4K. At that case, please set the NVR's HDMI resolution as "UHD/4K (Fixed)".

### VGA Monitor connection

VGA output supports main monitor output (HDMI duplicate). The supported resolutions are 800x600, 1024x768, 1280x1024 and 1920x1080. Please check the supported resolution of monitor.

<Note>

- ✓ **Reboot is required when the HDMI resolution is changed**  
Select the resolution at [Menu – Device – Monitor – HDMI Resolution] and reboot
- ✓ **Changing VGA output resolution**  
[Menu – Device – Monitor – VGA Resolution] : select resolution of VGA output.  
Please reboot after changing completed.

<Caution>

1. Must connect the power cord to the grounded outlet. If not, it may cause electric shock or injury, and may cause the damage or malfunction of product.
2. It is recommended to use certified HDMI cable. If the cable is not a certified cable, 4K UHD may not be displayed. (Recommended: HDMI 2.0 certified cable)
3. If HDMI resolution is set to "UHD/4K (Preferred)" and HDMI monitor does not support 3840x2160 (4K UHD), then the resolution of video output will be automatically changed to 1920x1080. If monitor supports 4K UHD, then the resolution of video output will be automatically changed to 4K UHD.

### Connecting a Camera

Please connect the network cable and register/connect the IP cameras using UI. IP cameras supporting Onvif Profile-S or WESP can be connected. Also, other DVR (supporting WESP)'s channel can be connected such as an IP camera.

### Connecting a power cord

When power cord is connected, NVR starts booting automatically.

### Connecting an audio

RCA cable to connect audio input/output devices to NVR.

## Connecting external device

### Connecting USB Device

USB port can be used for copy of recorded data and for mouse.

See below table for USB Device specifications.

USB specifications	Ver 2.0 or later
Usable device	USB Memory Stick
Voltage specifications	DC 5V / Max. 1A

<Note>

USB memory stick should be formatted as FAT32.

NVR may not recognize USB Flash memories that require additional program on MS Windows.

## Connecting eSATA Device

If external eSATA storage is used, it can be connected to a rear eSATA port. Additional power for eSATA device will be required as NVR doesn't supply power.

### <Note>

1. Check compatibility of eSATA with NVR as not all eSATA are compatible with NVR.
2. If eSATA is connected to NVR when it is on, it may not be recognized depending on external devices. So we recommend following the below steps.
  - 1) Turn off NVR.
  - 2) Turn off eSATA then connect it to NVR.
  - 3) Turn on eSATA.
  - 4) Turn on NVR.

## Connecting input/out terminals

### Wire end handling

See below for wire end handling used in terminal block. Please work on single line and multiple line as they have different thicknesses.

- Multiple lines: Peel off the recommended length (8~10mm) and lead-coat it. Use AWG 22 ~ 26.
- Single line: Peel off the recommended length (8~10mm) and use AWG 20 ~ 26.

## Connecting the sensor

### Specification

Below requirements need to be met in order to connect the sensor to ALARM IN port.

Specifications	Input Channel	16EA Transistor input
	Input Type	N.C, N.O support
	Supported sensor	Dry contact sensor
	Connection method	Connect the trimmed wire to terminal block

\* Adopted differently based on product specification

## Connecting relay

### Specifications

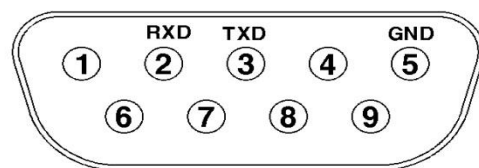
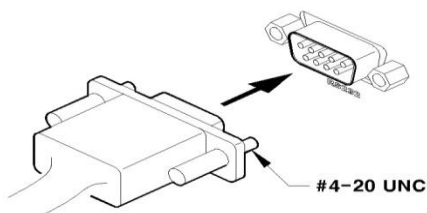
Please see the below table for alarm output requirements.

Specifications	Output Ch.	4ch relay output
	Output type	Dry Contact
	Connection method	Connect the trimmed wire to terminal block

## Connecting USB TO SERIAL

### Connecting Text Input Devices (ATM / POS / Access Control)

By connecting the USB TO SERIAL cable to USB port of NVR, it is possible to record text data which is input from external device such as POS/ATM through USB TO SERIAL cable with video.



Please set the serial configuration and text information at [Device] menu for RS232 (D-Sub 9pin) connection.

### <Note>

Currently, the model name "NEXT-RS232 4P" is available for USB TO SERIAL cable.

---

## Connecting RS485 K/B serial port to external device

Keyboard device can control all functions of NVR and IP PTZ camera connected to NVR when Keyboard device is connected to RS485 K/B serial port of NVR. Also, multiple keyboards connected in parallel can be used. Keyboard can select NVR's ID and can control specific NVR among parallel connected NVRs. Please refer the manual of PTZ and keyboard for more detail.

## Convenience Functions

### Changing Booting Logo and Empty Channel Logo

User can change the logo image for booting logo and empty channel (inactivated channel/unauthorized channel/unassigned channel) logo.

#### Changing Booting Logo

Copy the jpeg image file with the name "wgi\_boot\_logo.jpg" to USB memory. (Only 720x480 resolution supported) Insert USB memory to NVR and reboot after buzzer sounds. This image will be shown during booting.

#### Changing Empty Channel Logo

Copy the png file with the name "wgi\_app\_logo.png" to USB memory. (Recommended resolution is 640 x 360 with 16:9 ratio) Insert USB memory to NVR and reboot after buzzer sounds. This image will be shown in inactivated channel/unauthorized channel/unassigned channel position.

<Note>

Image with very low resolution will not be applied.

File name and resolution is not suitable, buzzer will not sound and logo will not be applied.

### Changing multiple channel names using USB memory

1. Please make new text (\*.txt) file using PC and describe the names of channels in the following format. You can skip channels you don't want to change.

CH1:Door CH3:Exit
----------------------

2. Please save the text file with the name "**wgi\_channel\_name.txt**" and MUST select the letters encoding as **UTF-8**.
3. Copy the "wgi\_channel\_name.txt" file to USB memory.
4. Insert the USB memory into the USB slot of NVR.
5. Automatically the channel names saved in txt file are applied. After all channel names are applied, buzzer will be beep.
6. When buzzer is beeped, please remove the USB memory from NVR.
7. After about 5 seconds, you can see that your channel name has changed.

<Note>

1. There must be only one file named "wgi\_channel\_name" in the USB memory regardless extension.
2. If firmware file and "wgi\_channel\_name.txt" file exists in one USB memory, channel names will be changed after firmware upgrade.

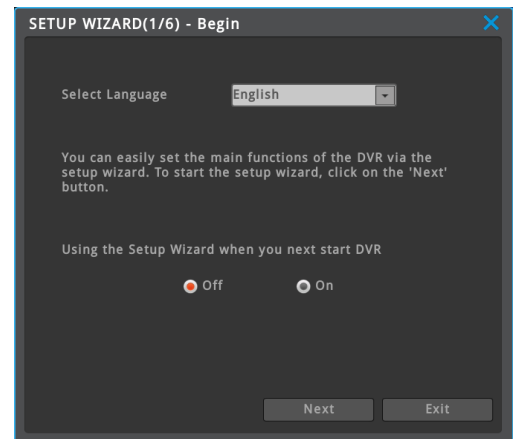
---

# Setup Wizard

Setup Wizard can help user setup "language, network, DDNS, time, haddisk, record mode" with ease. It runs automatically when NVR boots initially. User can run Setup Wizard on "Menu > System > Tool > Setup Wizard".

## Start

Select language and choose whether to use Setup Wizard or not.

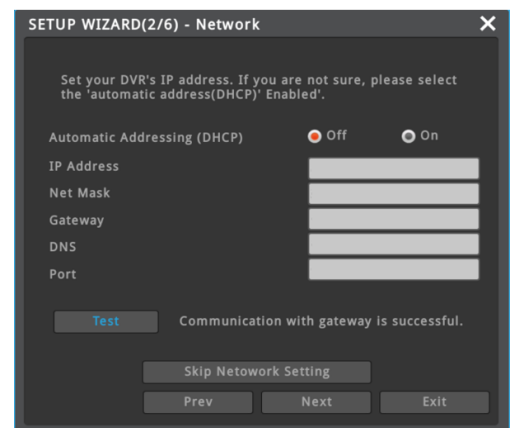


## Network

Set up IP address of NVR or skip network setup.

Press "Test" button to check if there's problem in network communication or not.

- 1) Network normal - "Communication with Gateway is successful."
- 2) Network abnormal - "Communication with Gateway is failed."



## DDNS

Setup DDNS of NVR or skip DDNS setup.

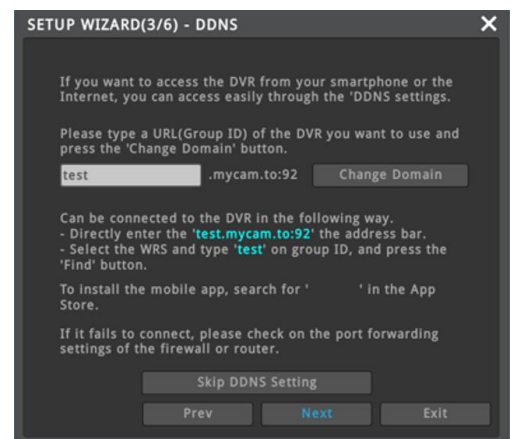
Enter domain name to use then press "domain change" to create domain name.

Connection method after Domain "test" created

- 1) Browser - Enter <http://test.mycam.to> in address bar
- 2) Mobile application – test.mycam.to
- 3) Exclusive software Control Center – test.mycam.to

Domain change message

- 1) Domain change normal – Success
- 2) Domain change fail – Domain can not be used



## Time and time zone

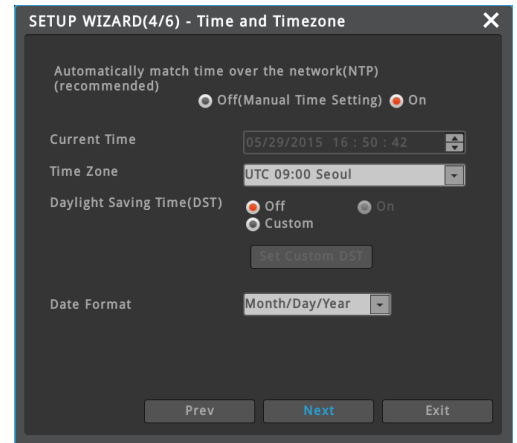
Setup time, standard time zone and daylight saving time (DST).

Network(NTP) autotime synchronizing

- 1) In case NVR is connected to internet – In use
- 2) In case NVR is not connected to internet – Not in use

Daylight saving time(DST, summer time)

- 1) DST saving time is used – In use
- 2) DST saving time is not used – Not in use



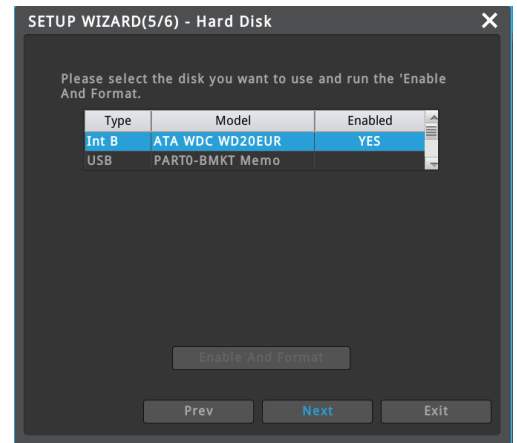
## Hard Disk

Connected hard disk is searched automatically and shown as inventory.

Select hard disk to use and run "Enable and format" to format and enable (start record) selected hard disk.

Enable (Start record)

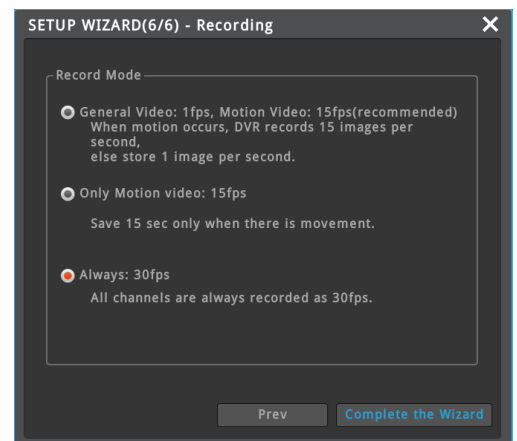
- 1) Hard disk starting record – Yes
- 2) Hard disk connected to NVR but not starting record – No



## Record mode

There are 3 type of record modes.

- 1) Normal image 1fps, Motion image 15fps (recommended)
  - If there's no movement 1 frame per second, if there's movement, 15 frames per second will be recorded.
- 2) Record 15fps only moving image
  - It doesn't record anything, If there's no movement, while it record 15 frames per second if there is movement.
- 3) Always record 30fps
  - All channels, always record 30fps.



---

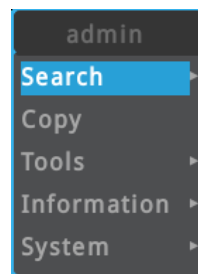
# Usage

## FUNC Menu

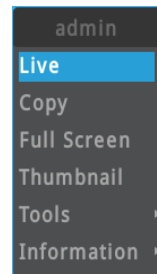
All NVR functions can be controlled by using Mouse.  
To open FUNC menu, click the mouse's right button at live or playback screen.

### FUNC menu at Live screen

- ✓ Search - Recording data Search/Playback
- ✓ Copy - Copy recorded data
- ✓ Tools - PTZ, Instant PTZ, Camera Setup, Multi, SEQ, Set Custom, Digital Zoom, Freeze, Snapshot, Manual Relay, Emergency Recording, All Event Confirm, Bookmark
- ✓ Information - Screen, Camera, Network, Recording, Disk, System, System Alarm
- ✓ System - Menu, Lock, Logout, Power off, Reboot



[Live]



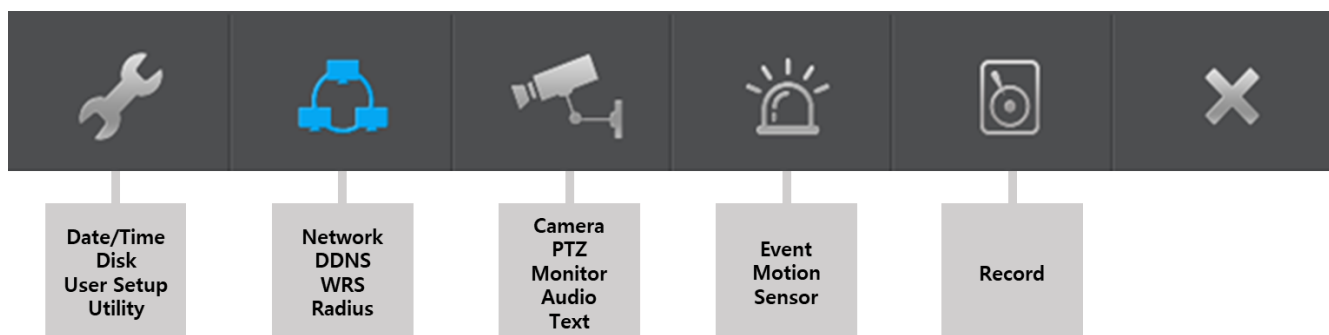
[Playback/Search]

### FUNC menu at Search/Playback

- ✓ Live - Turn into live screen
- ✓ Copy - Copy recorded data
- ✓ Full Screen - Turn into full sized screen
- ✓ Thumbnail - Run thumbnail search
- ✓ Tools - Digital Zoom, Snapshot, Multi screen, Bookmark
- ✓ Information - Screen configuration

## Menu structure

Please refer to menu structure below.





## Menu Structure

Press [MENU] key on front panel or click [Main Menu] button under FUNC menu to enter the setup menu. To exit menu, press "X".

### Main menu

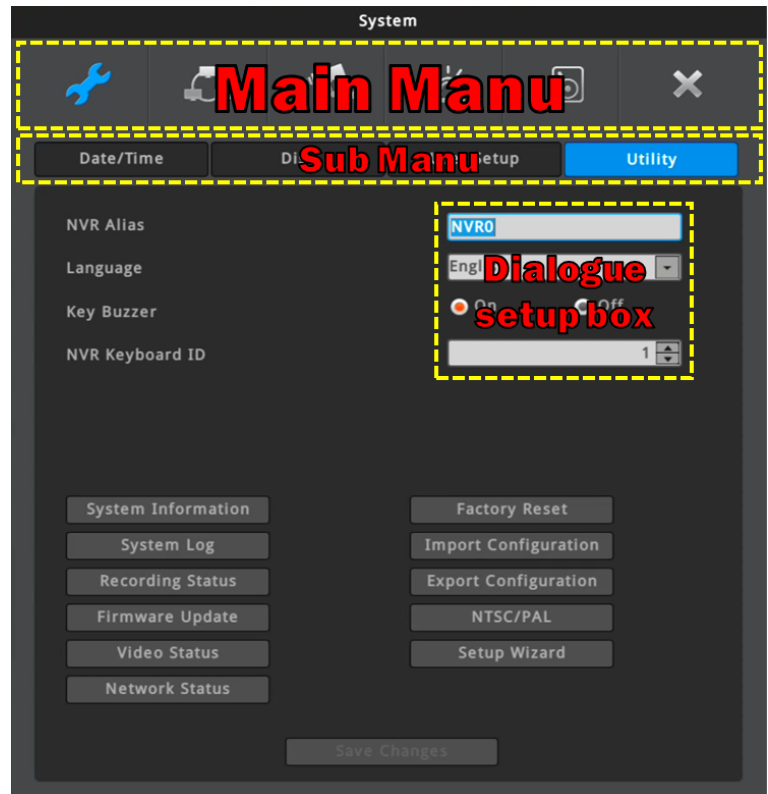
The selected tab is shown in bright color and the sub-menu box will show the chosen

### Sub-menu

Selected sub-menu will display the chosen item and the related setting will be shown. To move to the upper main menu, click the [Save Changes] at the bottom of menu, or press "X" button.

### Set-up dialogue box

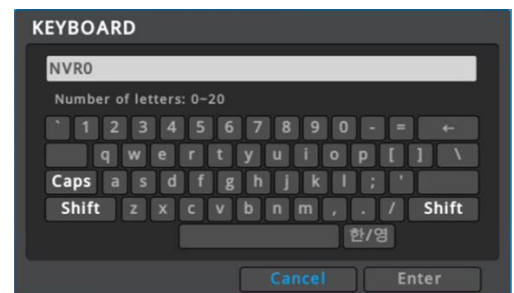
The selected tab is shown as orange, and to move to the previous/next tab.



## Dialogue box for string input

Dialogue box for string input is shown as follows. User can enter words or numbers using a mouse or direction buttons.

Mouse to enter it. To delete the entered letter, press [←] button, and to enter a space, press [SPACE] button. To exit the dialogue, press [ENTER] button to save string and exit or press [CANCEL] button to cancel the string.



# Monitoring

## Basic screen

The basic screen will be maximum multi screen NVR supports and if rebooted after multi-screen mode has been modified, previous multi-screen mode will be shown. (NVR default account admin / 12345)

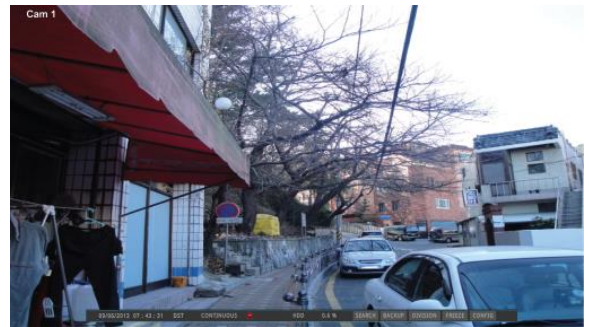
<Note>

The default password is very weak for security. It is highly recommended that user must change the password periodically. The responsibility for security problems by using default password is to user.

## Single screen

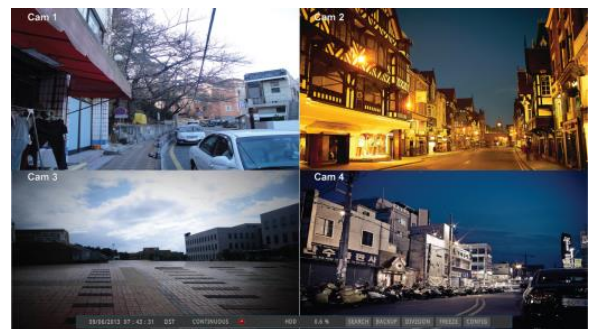
click the channel number you want to view or Double click the left mouse button.

Click [MULTI] button or Double click the left mouse button again to o return to multi-screen



## Multi screen

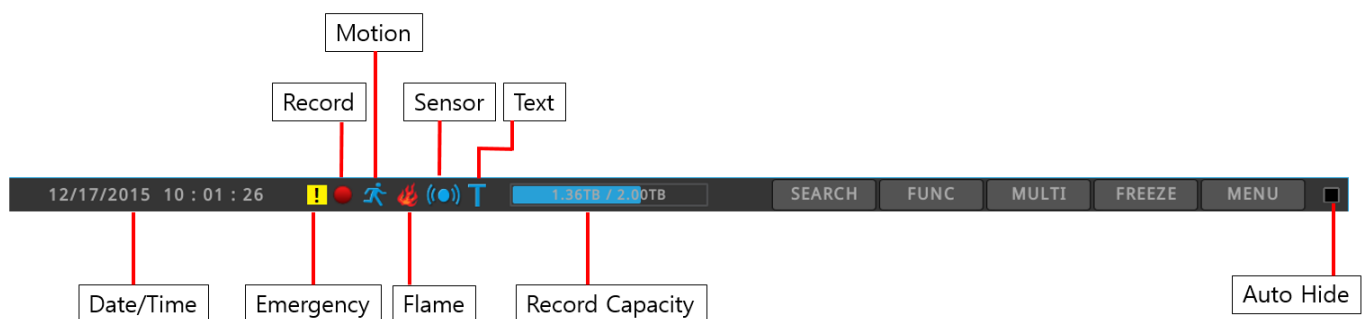
Click [MULTI] for multi-screen display to choose multi-screen mode.



## Screen description

Status bar represents status of NVR.

Status bar shows current date/time, emergency record, record, motion detection, fire, sensor, text, disk capacity, status bar auto hide.



## Auto switch mode (Sequence)

Auto switch screen mode is a feature in which the selected channel or multi screen division switches in sequence with the time interval of 1 – 60 seconds.

(Please refer to "Monitor setup" for further configuration method).

Auto Switch mode can be set in every division mode by pressing the [SEQ] button.

Press [SEQ] button once more to leave from Auto Switch mode.

---

## Check video

When turned on, NVR starts booting automatically and shows screen after the booting.



<Reference>

Auto login "ON": means login set without any login dialogue box (default - auto login ON, admin)

Auto Login "OFF": means there will be dialogue box requiring password.

## Event screen

It is available to set the selected screen pop-up automatically when an event is triggered

Users can choose events for pop-up from event source. Event source supports Sensor, Motion Detection, No video, Text, System event and so on.

If multiple events are triggered, the corresponding screens will pop up automatically.

For example, if events are triggered in 3 Channels, they will be displayed in 4 screen division automatically. To return to the original channel, press the button of one of the popped up channels.

Press [ESC] to return to original channel.

<Warning>

1. Image popup will be performed after setting image popup "enable" and selecting event source (sensor, motion detection, no video, text).
2. To use flame detection function, Webgate's flame detection camera (N1080BL-AF-F2) should be connected. After connection, NVR can automatically detect the sensor as a flame detector. (It is not possible to change the sensor type by manually.)


## Screen Zooming

Using D-Zoom on a single screen, users can enlarge the section they want to view.

Click on [Zoom] button or icon  in single / full screen or [FUNC] button then select Zoom button to activate Zoom mode.

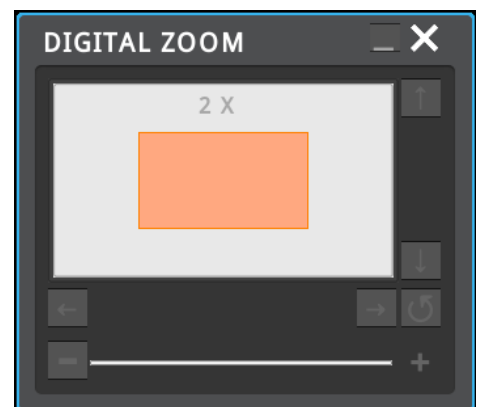
To expand or reduce, please use +, - button or use mouse wheel drag.

Enlarge mode can be used between 1.00X ~ 10.00X range.

 To return to the previous screen, select a button and press the enter or left click the mouse..

<Note>

Live/playback in multi channel mode doesn't support zoom. To use zoom, please make live and playback screen into single mode.



## Pausing the live screen

Just like in playback, live screen can be paused.

Click on [Freeze] button while live monitoring to pause image and to return to live again, please click on any button.

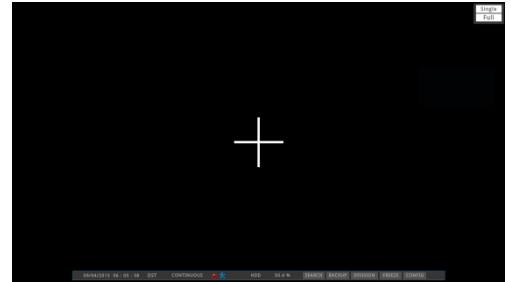
---

## Snapshot picture

Please click on Snapshot while image is Freeze in single live monitoring. Copy them to USB too.  
Click FUNC menu -> Tool -> Snapshot to copy image to USB memory without stopping or pausing image.

## Instant PTZ

If Instant PTZ in Tool menu is set activated, PTZ mode will be on automatically upon single channel, which PTZ function is set.  
+ Mark in the center of image will be on while PTZ function is working.



## PTZ control

Connect IP PTZ camera to NVR, and users can operate PTZ while users monitor the live video.

## PTZ

When PTZ is on, through PTZ button on front or PTZ buttons under FUNC menu, users can use pan/tilt, zoom, focus, aux, preset functions and Patrol.

### Pan/Tilt

Pan/tilt function for PTZ configuration channel  
Use "Up", "Down", "Left", "Right" to control pan/tilt.

### Zoom

Click "Tele", "Wide" buttons to create a preferred focal point.

### Focus

Click "near", "far" buttons to focus.

### Auxiliary On

Use direction keys or mouse wheel to select aux number (up to 16 Aux functions can be used). Select "on" and press enter or click a mouse)

### Auxiliary Off

Use direction keys or mouse wheel to select aux number Aux  
Select "on" and press enter or click a mouse.

### Loading preset

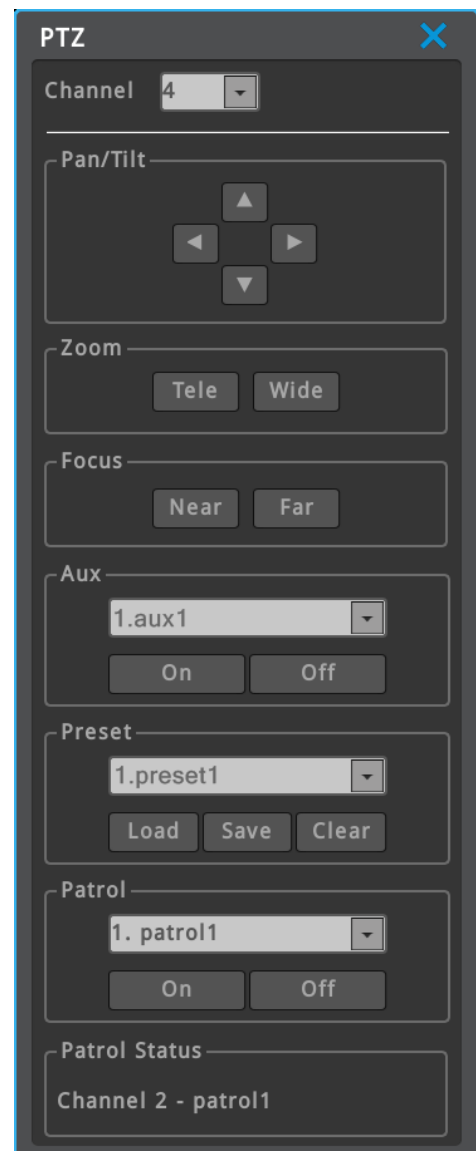
Used to move to set preset location.  
Select wanted Preset number and press [Load] button.

### Saving preset

Use to save new preset location.  
Use focus/zoom/pan/tilt to move to a location you want to save it and select a preset number and press [save] button.

## Patrol

This function can move the view position of PTZ device according to the stored sequences of multiple presets. 8 patrols are supported and each patrol can have 8 presets. Also, each patrol can set the sequences and interval of presets .



### Patrol On

Select the patrol number and click "On".

### Patrol Off

Refer the patrol status and select the patrol number which you want to off. And click "Off".

<Note>

Focus may not be controlled for Onvif IP camera channel.

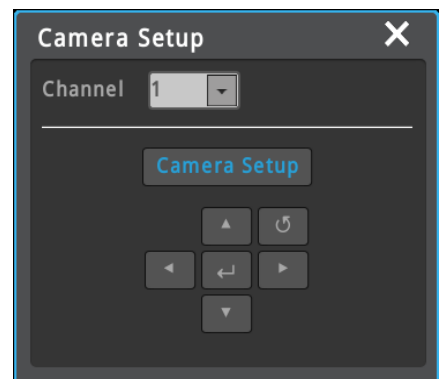
## Camera Setup

This menu is used to enter the OSD menu of connected camera. Please control camera menu using up, down, left, right.

<Note>


OSD can not be controlled for Onvif IP camera channel.

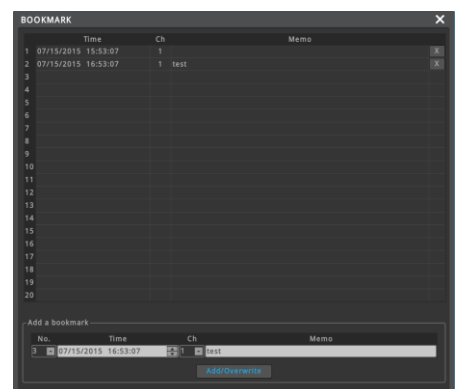
Please use webpage of IP camera to control OSD.



## Bookmark

Add / Edit bookmark No, Time, Channel and Memo in [Tool-Bookmark] of FUNC menu while live or playback.

Run bookmark icon "  "in Search, Copy, Thumbnail to load saved bookmarks.

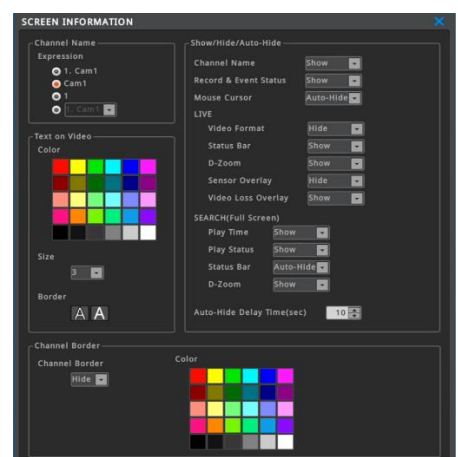


## Screen Information

Screen properties can be set by clicking [FUNC menu – Information – Screen]. User can change the expression of channel name, text color, font size, status bar, etc.

It is possible to show or hide the channel border line. Also, the color of border line can be set.

The expression of channel name can be 'channel number and channel name', 'channel name', 'channel number' or 'channel navigator'. It is possible to locate any channel you want on any position of multi-division screen you want if the expression of channel name is 'channel navigator'.





# Remote monitoring & control

Users can connect NVRs, control and monitor it remotely by using Control Center (CMS program)

## Installation of Control Center

Execute "Control Center Setup vx.x.x.exe" to install the Control Center.

## Start of Control Center


After installation is completed, click "Control Center Monitor" icon and execute it.  
(ID: admin / Password: admin)

## Screen configuration of Control Center

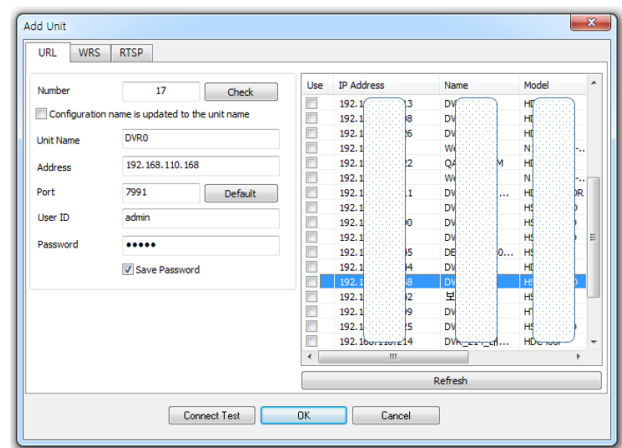


Item		Description
1	Menu/Toolbar	This is menu and function button used in program
2	Unit list window	This indicates unit/viewset/map registered in program. User can click on the list to show image
3	Image window	This indicates live monitoring image
4	Status & Action window	This indicates status of unit, event information and alarm log

## Add Unit

Click **[Add]** icon  on the toolbar or execute **[Add Unit]** by clicking mouse right button at "My Units".

- 1) Select "URL/IP Address"
- 2) Enter proper IP address and Port, then click **[Find]** button. If the NVR is located inside local network, you can easily find the NVR by clicking **[Auto Detect]** button.
- 3) Check whether the unit's information is properly displayed.
- 4) Enter NVR's ID and password, then click **[OK]**.
- 5) NVR will be listed on the unit list of "My Units".  
(NVR' Default ID/Password is admin/12345)



## NVR's live display

If you click a unit's icon in the "My Units", you can get live monitoring display. Split-screen will be displayed to show all channels of the unit.



### All channel display at the same time

If you click a unit's icon (1), all channels' video will be displayed on the split-screen (2). If you click a unit's icon again, then all video on screen (2) will be off.

### Display a specific one channel

If you click one channel icon, that channel on screen (2) will be off. If you drag and drop one channel from 1 to 2, that channel will be displayed on that position.

# Playback, Search and Copy

## Playback Screen Composition



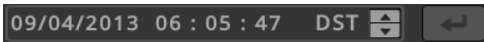
	name	function description
1	Time Search	Set the time to want to play.
2	Playback control button	Use buttons to control the playback. ▶: Forward x1 playback ◀: Backward x1 playback   : Pause ▶▶: Step forward during pause state, or playback speed changing during playback state. ◀◀: Step reverse during pause state, or reverse playback speed changing during playback state.
3	Playback State	Shows the state of playback.
4	Buttons	LIVE: Return to live monitoring mode COPY: Excute backup menu MULTI: Changing split screen mode THUMBNAIL: Excute thumbnail search mode
5	screen	Displays the playback videos.
6	Calendar	Show the date of current playback video. Also, user can select the date to playback.
	log viewer	Display the log that occurred within the time displayed on the timeline.
	Configuration	Set the configuration of time line and log viewer. ○ Show all channels: Display timeline and log for all channels ○ Show selected: Display timeline and log for selected channels ○ Link with videos: Display timeline and log for channels displayed on the playback screen
7	timeline	Displays whether there is recording data. Normal, pre-post alarm, motion, sensor/flame, text, bookmark are displayed with different colors and user can select the type of recorded data to be displayed on the timeline




## Playback Mode

To enter the playback mode, press "SEARCH" of status bar, or press right button of mouse and enter [FUNC] → [SEARCH] in monitoring mode.

### Time search



Set the time to want to play and press . Then the playback time will be moved to set time.

### Calendar search

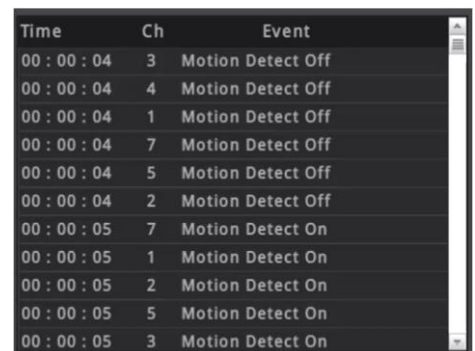
When calendar search is run, it marks the dates on which there were Recordings. Select a date from calendar you want to search, and it Moves to that date.



10/27/2013 10:15:52 DST ~ 10/30/2013 09:25:56 DST						
September 2013						
S	M	T	W	T	F	S
25	26	27	28	29	30	31
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	1	2	3	4	5

### Event search

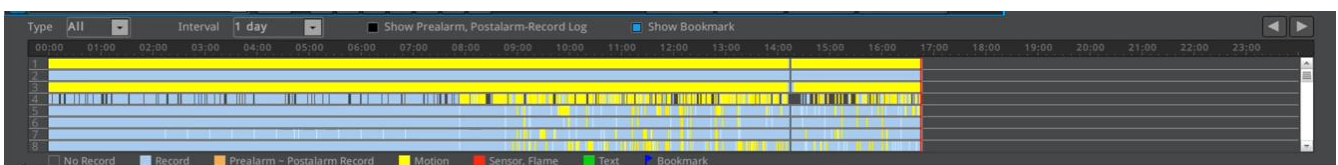
Event information on timeline (All, Motion, Sensor, Text, None) will be Shown on log viewer. If the user select one of the list, NVR's playback Time moves to the event time.



Time	Ch	Event
00 : 00 : 04	3	Motion Detect Off
00 : 00 : 04	4	Motion Detect Off
00 : 00 : 04	1	Motion Detect Off
00 : 00 : 04	7	Motion Detect Off
00 : 00 : 04	5	Motion Detect Off
00 : 00 : 04	2	Motion Detect Off
00 : 00 : 05	7	Motion Detect On
00 : 00 : 05	1	Motion Detect On
00 : 00 : 05	2	Motion Detect On
00 : 00 : 05	5	Motion Detect On
00 : 00 : 05	3	Motion Detect On

### Timeline search

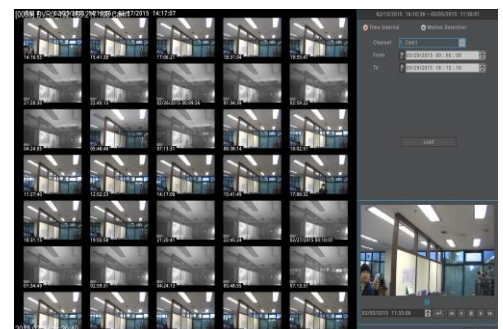
If the user clicks a position on the timeline, NVR's playback time moves to that time. User can click ◀ or ▶ button to move the previous/next time duration.



### Thumbnail Search

Thumbnail search will show 35 different thumbnail image on detected images by time interval or motion. Click on selected image for playback or copy.

- Time interval: 35ea thumbnail images are displayed by searching image between entered start and end time.
- Motion detection: 35ea thumbnail images are displayed by searching image on the motion between entered start and end time.



# Copy

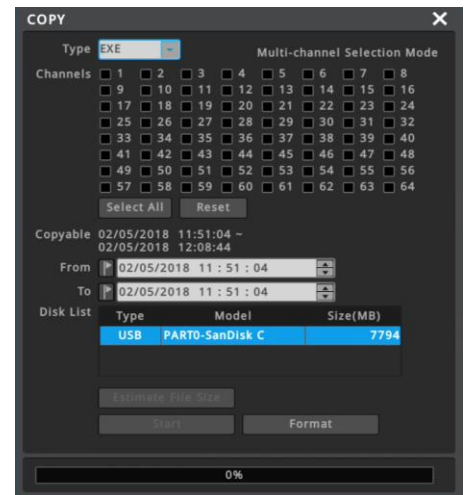
This menu is for copying (backup) recorded videos. There are 2 types of copying, EXE, and AVI. Only authorized users by security settings can use the Copy function. For more about authority settings, please refer to (user setup) section.

To run copy function, click COPY button under Function menu.

If a user runs copy menu during playback, playback time will be set as backup start time.

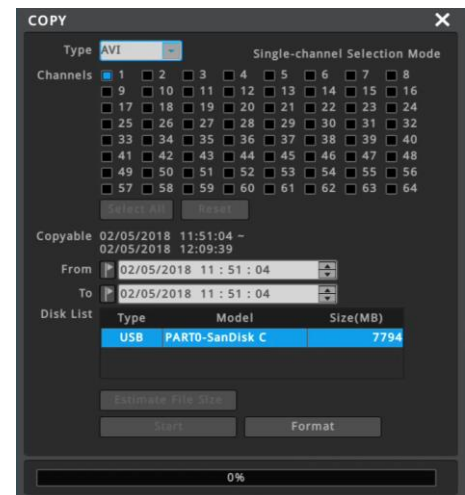
## EXE

Multiple selected channels can be copied as one exe file. Copied exe file can be played on Windows PC without any other software. Also, it can be played with Miniplayer or Control Center Playback.



## AVI

Only one channel can be copied as AVI file. AVI file can be played with general media player on PC or mobile.



Name	function description
<b>type</b>	Select the type of backup, EXE or AVI.
<b>channel</b>	Select channels to copy. Only one channel is available for AVI type. (Select All : select all channels / Reset : cancel the selection of all channels)
<b>Estimate File Size</b>	Display the estimated file size to copy in MB.
<b>format</b>	Can format a USB memory before copying. FAT32 file format is supported.

<Note>

Backup file which is not 100% completed cannot be played at PC.

Please install unified CODEC if the PC cannot be played according to the CODEC problem.

It could take long time if user set the copy duration too long.

Only FAT32 format is supported. Please be sure that the USB memory is formatted in FAT32.

---

# Configuration

## System configuration

Please set time/disk/authority.

### Date/time

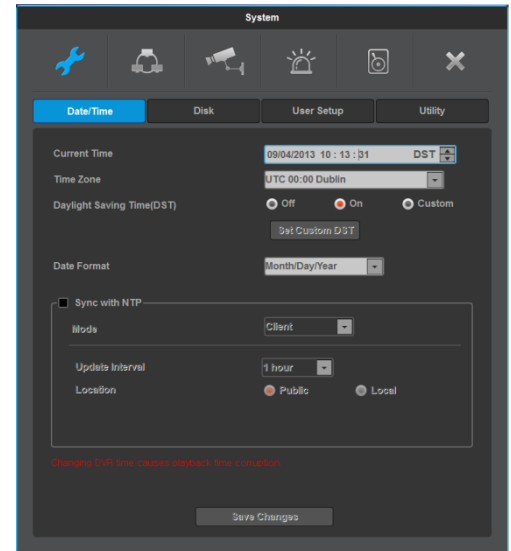
Menu → System → Date/Time

Before recording setting, NVR has proper time information.  
NVR has 'UTC +09:00 Seoul' as default time zone.

<Note>

1. To search NVR's recording data properly, NVR should have exact time zone information. If NVR has wrong time zone information, user may get wrong recording data during Search, copy, etc.

2. Please note that if user changes NVR's time information, recording data's time stamps in hard disks will be changed at the same time. NVR's system log has record for NVR's time change.



### Time settings

<Note>

Under recording, if a user changes time when it is already recording (saved in HDD), it will change the time of the previously recorded videos. Moreover, there will be a history of a time change on the system log.

#### Standard time zone

Set the timezone to the location a product is used in

#### daylight saving (DST)

This menu is synchronized with time zone configuration menu. It means only when daylight saving area is on, this function works. Daylight saving applicable area is the same as with Microsoft Windows time zone. Users can select whether to apply daylight savings or not when NVR is installed in Daylight saving applied zone

#### Date format

Date display settings. Select one of "yy/mm/dd", "mm/dd/yy", "dd/mm/yy".

#### Save changes

To apply the changes made for date/time, click "date/time apply" button.

<Warning>

Other configurations except date/time save automatically, but "date/time" Configuration doesn't save automatically since it can critically affect HDD recording file system.  
To apply the changed value, user must click [date/time apply] button

## NTP

Menu → System → Date/Time → Sync with NTP

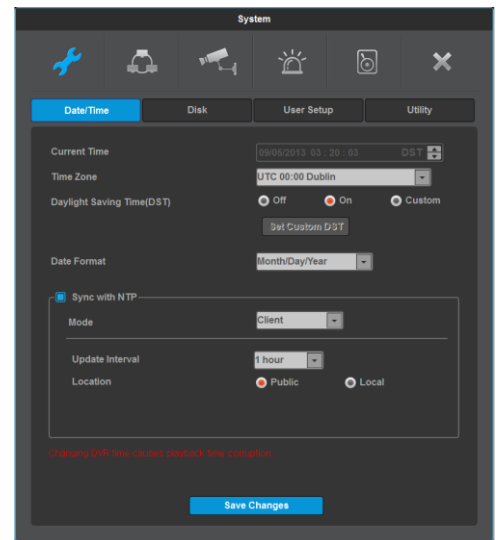
NTP (Network Time Protocol) synchronizes the time of all connected device. To set NVR time to standard time open server which offers standard time on the network and client which is connected to open server to receive time and synchronize it with standard time. Besides that NVR can be set as server to offer standard time to other devices and can be set as both server and client as well.

### NTP server location

Enabled when NTP mode is set as client/server. Select public or local where NTP server is.

### NTP local server IP

Enabled when NTP server is set as local and sets server IP address. Enter NTP server IP address located in local network or NVR IP address with NTP mode as a server.



## NTP mode

Set NVR NTP mode to client, server or both.

Name	function description
client	Receives standard time from external or internal server and enable time synchronization of NVR
server	Make NVR a NTP server and provide standard time to other NVR or devices.
both	use both client and server at the same time

## Interval

Configure interval of time sync.

## Disk

Menu → System → Disk

Internal, External HDD can be added, deleted or formatted.

### Overwrite (Auto Deletion)

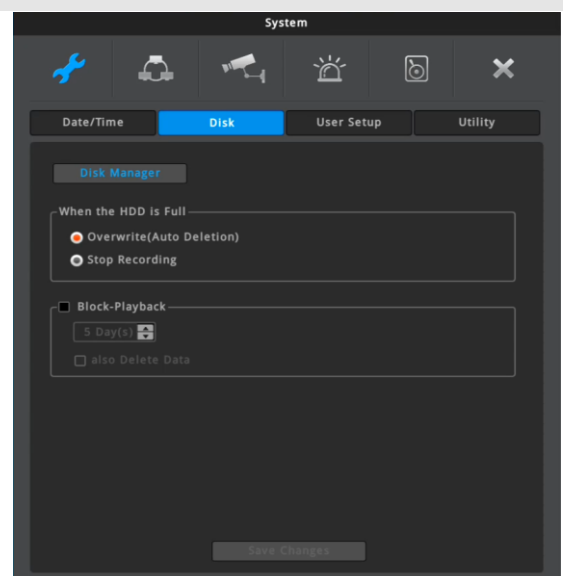
Image is recorded overwriting from the beginning of HDD when HDD is full.

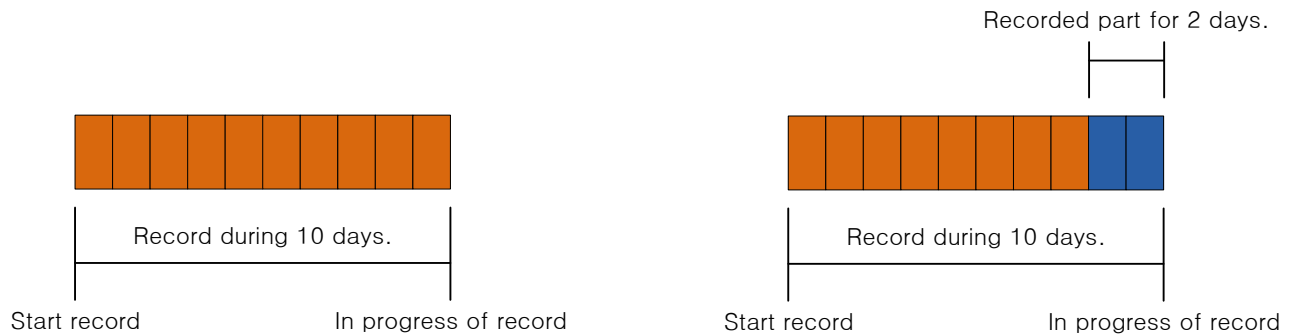
### Stop Recording

Record stops when HDD is full.

### Block Playback

This function allows only recordings of pre-assigned date to be viewed. For example, after 10 days of recording (picture 1), if playback block is set at 2 days (picture 2), then as shown in the picture, only the last 2 days of the recordings can be played back.





[Picture 1]

[Picture 2]

## Data deletion

This function allows only recordings of preassigned date to be viewed.

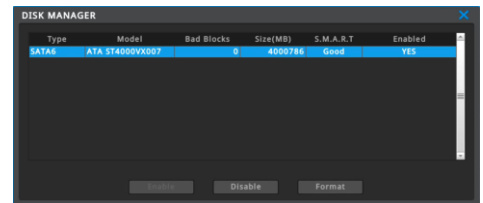
For example, if playback block is set at 3 days, then NVR will only save data for 3 days and will delete data more than 3 days old even if auto-deletion isn't on.

Once deleted, it can't be restored so please be extra careful.

## Disk manager

Menu → System → Disk → Disk Manager

This is menu for the management of internal or external HDD.  
It manages HDD status, bad block, capacity, and whether to use HDD or not.



name	Function description
<b>type</b>	Displays the location and types of a disk. SATA (internal A HDD), eSATA (external HDD), USB
<b>model</b>	Displays HDD model.
<b>BAD block</b>	Highlights the HDD with BAD block. 0 is shown when there is none. For HDDs not in use, no bad block is displayed.
<b>size</b>	HDD size will be in MB.
<b>S.M.A.R.T</b>	Displays if HDD can be used or not. <ul style="list-style-type: none"> <li>- Good: normal</li> <li>- BAD: abnormal (HDD needs to be replace.)</li> </ul>
<b>Enable</b>	Displays if HDD is in use or not. Yes : can be used / No : can't be used

### Enable YES

- Select HDD in HDD NO mode and click [enable] button.
- A HDD which is used for NVR does not need additional format. New HDD should be formatted by NVR.

### Enable NO

- Select HDD in HDD YES mode and click [disable] button.

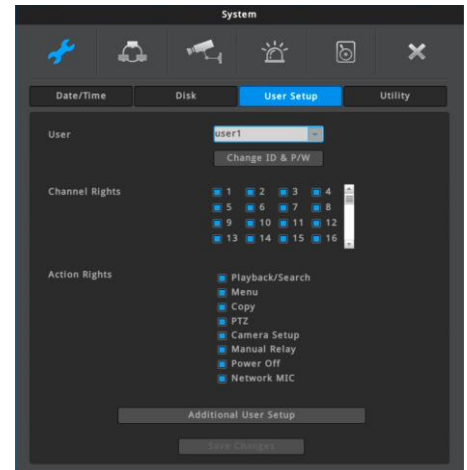
### FORMAT

- Can only run when enabled and click [format] after selecting HDD that needs to be formatted.

## User settings

Menu → System → User Settings

NVR users will either be manager or user. Managers can use all functions of NVR without limitation and can set up user settings. Up to 10 users can be registered and each user can only use functions for which they've been given access to.



### Channel Rights

A manager has an access to every channel.

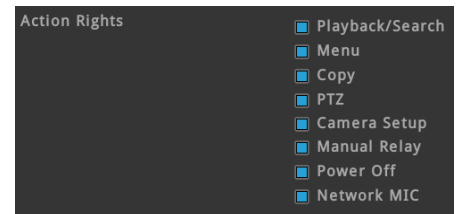
A manager can give access to channels to each user.



### Function access

"Admin" has the rights to all the functions.

The action rights to each function (Playback/Search, Menu, Copy, PTZ, Camera setup, Manual Relay, Power off, Network MIC) can be given by each user.

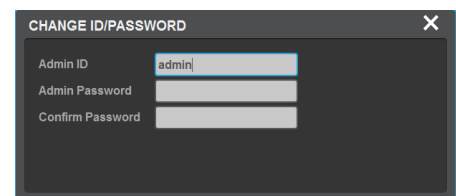


### ID & password change

For User 1~10, max 20 and 8 characters are allowed for ID and Password.

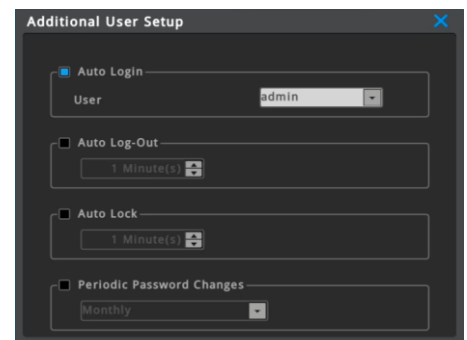
<reference>

Default manager Password is "12345" and for user 1 ~ 10, password will take a pattern of "11111" for user 1, "22222" for user 2 and so on. So user 10 will have a password of "00000".



### Additional User Setup

- Auto Login On: Select a user that can be automatically logged in when booting.
- Auto Login Off: Login popup will show up when booting. Video can be monitored after login.
- Auto Logout On: If there is no control of NVR during the selected interval, NVR will be automatically logged out.
- Auto Logout Off: Auto Logout will not work
- Auto Lock On : Auto lock features is on if there's no operation during time set by user
- Auto Lock Off : It doesn't use Auto lock feature
- Periodic Password Changes : User should change the password within set period.



## Utility

Menu → System → Utility

Utility sets up NVR name, language, etc.

### NVR alias

Set the NVR alias when connected to network.

### Language

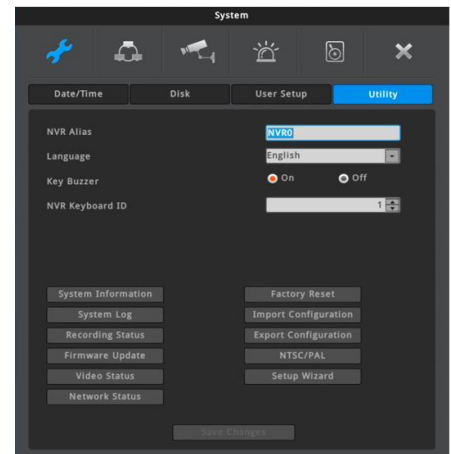
Select a language for a system.

### Key buzzer

Button sound can be turned on or off for keyboard.

### NVR keyboard ID

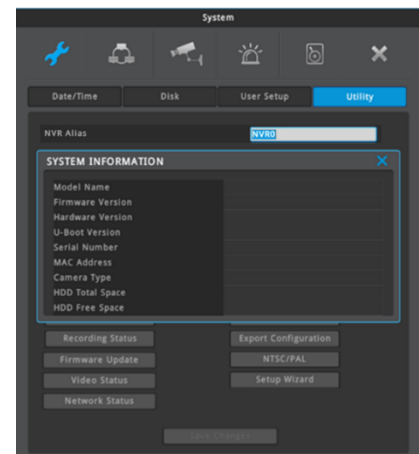
This menu sets the address of keyboard when using all functions of NVR by keyboard. Default value is "1". If user wants to control various NVR by one keyboard, its address should have different value. If designated address is configured the same as keyboard, user can control NVR function.



## System Information

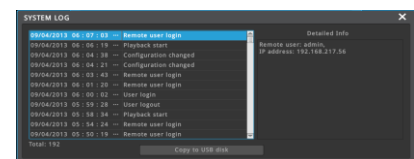
It shows NVR system's information.

System information includes model name, firmware version, hardware version, U-boot version, serial number, MAC address, camera type, HDD capacity, Remaining HDD capacity.



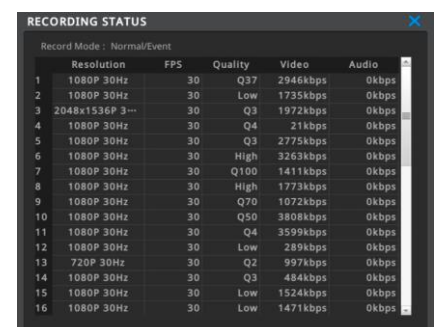
## System log

System log shows the log list of system booting, user login, Setting changes. User can scroll the list using up and down buttons on the front panel.



## Recording status

Displays NVR recording status.



## Firmware upgrade

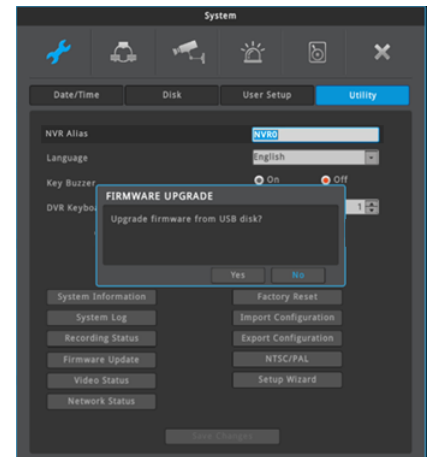
Can update firmware by USB Memory stick

### Steps for USB upgrade

- 1) Put firmware file into USB memory and insert it into NVR
- 2) Select "Firmware update" button
- 3) Select "Yes" to the popup "Upgrade firmware from USB disk?"
- 4) NVR will reboot automatically.
- 5) Firmware upgrade completed

<Note>

Firmware upgrade window runs automatically if higher version of firmware than that in use are recognized from USB memory.  
Please use USB memory formatted in FAT32.



## Video Status

It shows status of record per channels of NVR.

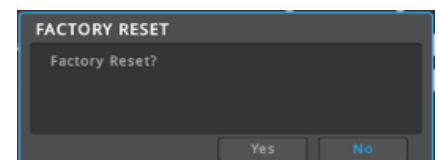
CAMERA STATUS					Total payload: 54.327Mbps
IP Address	Type	Resolution	FPS	Status	
1 192.168.110.162	IP-Onvif	1920x1080	31	29823kpbs	
2 192.168.110.163	IP-Onvif	1920x1080	30	16673kpbs	
3 192.168.110.170	IP-Onvif	2048x1536	20	19841kpbs	
4 192.168.110.176	IP-Onvif	1920x1080	7	10024kpbs	
5 192.168.110.177	IP-Onvif	1920x1080	25	27763kpbs	
6 192.168.110.181	IP-Onvif	1920x1080	24	2893kpbs	
7 192.168.110.182	IP-Onvif	1920x1080	26	13358kpbs	
8 192.168.110.184	IP-Onvif	1920x1080	28	18620kpbs	
9 192.168.110.185	IP-Onvif	1920x1080	30	11489kpbs	
10 192.168.110.186	IP-Onvif	1920x1080	30	3803kpbs	
11 192.168.110.219	IP-Onvif	1920x1080	22	3461kpbs	
12 192.168.110.189	IP-Onvif	1920x1080	30	2864kpbs	
13 192.168.110.190	IP-Onvif	1280x720	30	990kpbs	
14 192.168.110.192	IP-Onvif	1920x1080	30	4878kpbs	
15 192.168.110.194	IP-Onvif	1920x1080	36	1873kpbs	
16 192.168.110.196	IP-Onvif	1920x1080	29	1463kpbs	
17 192.168.110.198	IP-Onvif	1920x1080	30	7503kpbs	
18 192.168.110.197	IP-Onvif	1920x1080	25	1515kpbs	
19 192.168.110.200	IP-Onvif	1920x1080	33	2134kpbs	
20 192.168.110.217	IP-WEIP			Connection Fail - Check IP address	
21 192.168.110.218	IP-Onvif			Connection Fail - Check IP address	
22 192.168.110.222	IP-WEIP	1920x1080	28	4746kpbs	
23 192.168.110.225	IP-Onvif	1920x1080	23	3059kpbs	
24 192.168.110.227	IP-Onvif	2048x1536	20	2879kpbs	
25 192.168.110.228	IP-Onvif			Connection Fail - Check IP address	
26 192.168.110.229	IP-WEIP	1920x1080	10	1693kpbs	
27 192.168.110.230	IP-Onvif			Connection Fail - Check IP address	
28 192.168.110.231	IP-Onvif	1920x1080	28	3508kpbs	

## Factory reset

Change all set up values to default values.  
Only a manager can use this function.

<Note>

**Only a NVR system manager can use this function.**

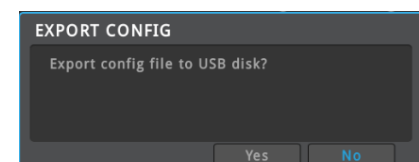
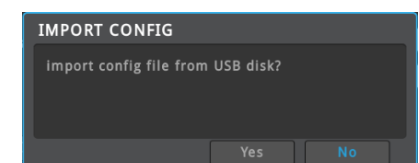


Refer to the (supplement – factor default value) for the factory reset.

## Configuration Import/Export

Export – Saves Configuration data in NVR to USB

Import – Apply exported Configuration data to relevant NVR or another NVR.





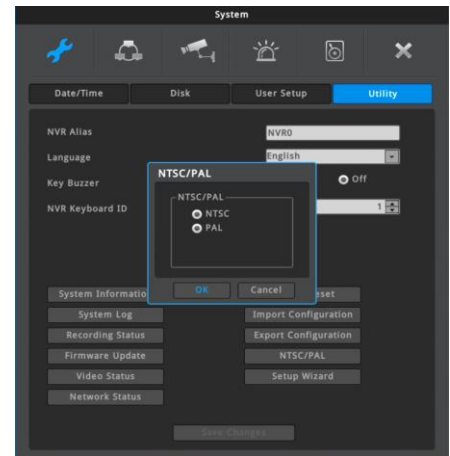
## NTSC/PAL

Setup NTSC/PAL mode of the NVR.

- NTSC-NVR is running on NTSC(60/30Hz) fixed mode
- PAL- NVR is running on PAL(50/25Hz) fixed mode

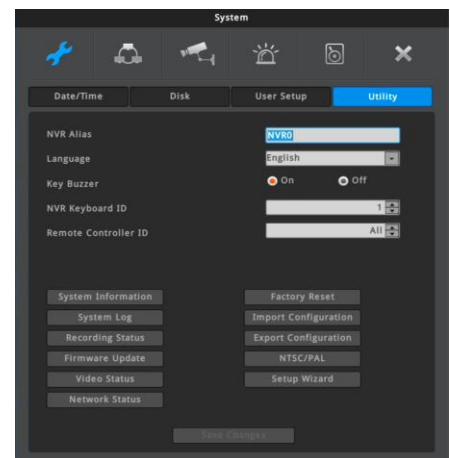
### <Note>

Please reboot to apply the changed setting.



## Setup Wizard

Setup wizard runs automatically on NVR's initial boots up. It can be run through "Menu > System > Tool > Setup Wizard".



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# Network

Configure network info when NVR is connected to a network.

## Network settings

Menu → Network → Network → Ethernet

Select NVR's network type between Ethernet Or XDSL.

### Ethernet

Select 'Ethernet' when the NVR is connected with dedicated line, cable modem or LAN environment.

### xDSL

Select 'xDSL' when the NVR is connected with xDSL line which uses PPPoE. But, if the xDSL is not using PPPoE, it should be selected as 'Ethernet'.

### Automatic Addressing (DHCP)

- 1) Off: If NVR's network does not have DHCP server, please select 'Off'. User should manually enter a specific IP address which is given by network administrator.
- 2) On: If NVR's network has DHCP server, user can select 'On'. If DHCP is enabled, DHCP server will assign NVR's IP address automatically.

The screenshot shows the 'Network' configuration page of an NVR. At the top, there are icons for various settings: a wrench for general settings, a network icon for the current page, a camera for video settings, a sun for alarm settings, a speaker for audio settings, and a close button. Below these are tabs for 'Network', 'DDNS', 'WRS', and 'Radius'. The 'Network' tab is active. It contains a 'Type' section with radio buttons for 'Ethernet' (selected) and 'xDSL'. Below this is the 'Automatic Addressing (DHCP)' section with radio buttons for 'Off' (selected) and 'On'. The 'Off' section includes input fields for 'IP Address' (192.168.110.173), 'Net Mask' (255.255.254.0), 'IP Address2(LAN2)' (192.168.10.2), 'Net Mask2' (255.255.255.0), and 'Gateway' (192.168.110.1). There is also a 'UPnP Port Forwarding' button. The 'On' section is currently disabled. Below the DHCP section are fields for 'DNS 1' (4.2.2.1), 'DNS 2' (0.0.0.0), and 'DNS 3' (0.0.0.0). A 'Port' field is set to 80. At the bottom, there are buttons for 'Video Streaming' (RTSP), 'IP Filtering', and 'Service Streaming'. A 'Save Changes' button is at the very bottom.

### IP Address

IP address is used for the communication between NVR and Control Center, and it is used for Webviewer to connect NVR. IP address should be assigned by the network administrator. Also Netmask, Gateway addresses given from the network administrator should be properly configured. (When DHCP is enabled, this item will be disabled)

### Net Mask

Net Mask defines the communication range of IP address. This information should be given from the network administrator. (When DHCP is enabled, this item will be disabled)

### IP Address2

#### (LAN2) – for 64 CHANNEL NVR

64 CHANNEL NVR has two LAN ports, and IP address2 (LAN2) is IP address for 2nd LAN (LAN2) port. IP Address2 (LAN2) must be set different subnet from NVR's IP Address and should be assigned by the network administrator. Also, DHCP can not be used, and external network which requires Gateway can not be connected through LAN2.

#### (PoE) – for 36 CHANNEL PoE NVR

IP Address2 (PoE) is IP address for communicating with IP cameras, PC, etc. which are connected to PoE port. IP Address2 (PoE) must be set different subnet from NVR's IP Address. All IP addresses of IP cameras connected to PoE port must be set same subnet with IP Address2 (PoE). Also, DHCP can not be used, and external network which requires Gateway can not be connected through PoE ports.

### Net Mask2

Net Mask2 is for IP Address2. Net Mask2 defines the communication range of IP address. This information should be given from the network administrator.

---

<Note>

If IP camera is connected to PoE port, user should do as follows to connect the webpage of that IP camera.

1. Connect LAN cable of PC or notebook PC with one of NVR's PoE port.
2. Set the IP address of PC (or notebook PC). IP address should be in the same subnet with IP Address2 (PoE) of NVR. (ex: If IP Address2 (PoE) is 192.168.110.5 and Net Mask2 is 255.255.255.0, then IP address of PC (or notebook PC) should be set 192.168.110.xxx and subnet mask should be 255.255.255.0.)
3. Connect to the webpage of IP camera connected to NVR's PoE port using PC's web browser.

### Gateway

NVR should have proper Gateway address to communicate with external network. This information should be given from the network administrator. (When DHCP is enabled, this item will be disabled)

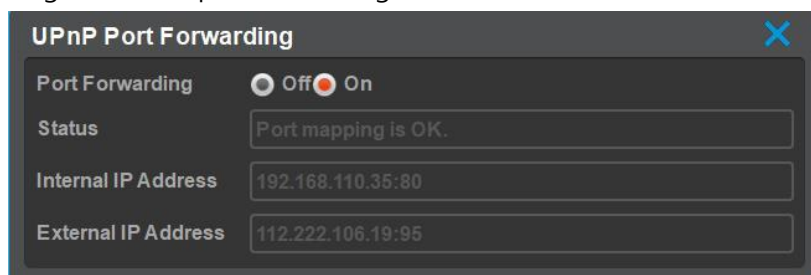
Gateway setting is for NVR's LAN (or LAN1 of 64 CHANNEL NVR).

### DNS

NVR should have proper DNS address to use various network services such as WRS, NTP, e-mail and so on. Please ask this information to network administrator.

### UPnP Port Forwarding

When using router supporting UpnP, NVRs which are connected to that router can be accessed through external internet by using automatic port forwarding feature of UPnP.



Set [Port Forwarding] as ON, then [Status] will show the status of port forwarding. If 'Port mapping is OK', user can access NVR through external internet by using [External IP Address]. (UPnP of router must be ON. Please refer the router's manual to set UPnP.)

### Port

Register port # in NVR and use it to connect to control center or webviewer.

<Notice>

Default port is 80 and be careful in entering the port # when used with PPPoE modem and router. To use port forwarding & UPnP port forwarding, network port change (e.g. 8000) might be necessary. Please ask this information to network administrator.

### Bandwidth limitation.

Bandwidth is to configure the maximum transmission speed. Its default value is unlimited and users don't have to set bandwidth value if there is no need to limit the network data size of NVR.

<Warning>

Please consult NVR manager if you want to modify bandwidth value.

### Default Network Value

DHCP: OFF

IP Address: 192.168.0.2

Subnet mask: 255.255.255.0

Gateway: 192.168.0.1

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## RTSP

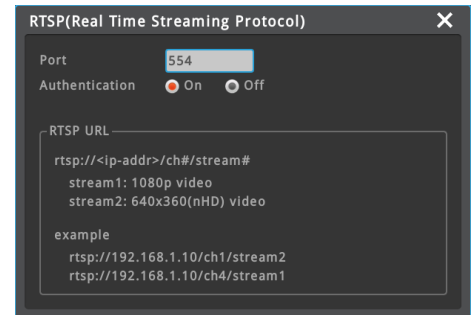
It is short for Real Time streaming Protocol) and streams real time live image of NVR

Authentication On: Only authorized users can view RTSP video.

Authentication Off: Non-authorized users can view RTSP video.

Stream1 : Main Stream

Stream2 : Sub Stream



In order to view channel 1 of NVR (Ex: 192.168.1.10), input "rtsp://192.168.1.10/ch1/stream1".

<Notice>

Use VLC player to view RTSP video on PC

## IP filtering

Maximum 10 ranges of IP addresses can be set to allow or deny remote network connection

Allow

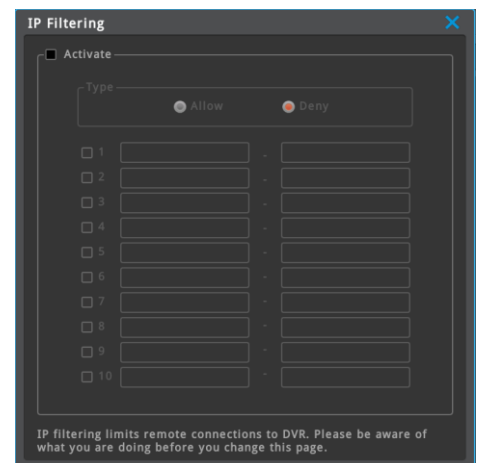
Allow 192.168.0.0 ~ 192.168.0.255 > another IP address that does not in the range will not be allowed for remote network connection

Deny

Deny 192.168.0.0 ~ 192.168.0.255 > another IP address that does not in the range will be allowed for remote network connection.

<Notice>

IP filtering limits remote connections to NVR. Please be aware of what you are doing before you change this page



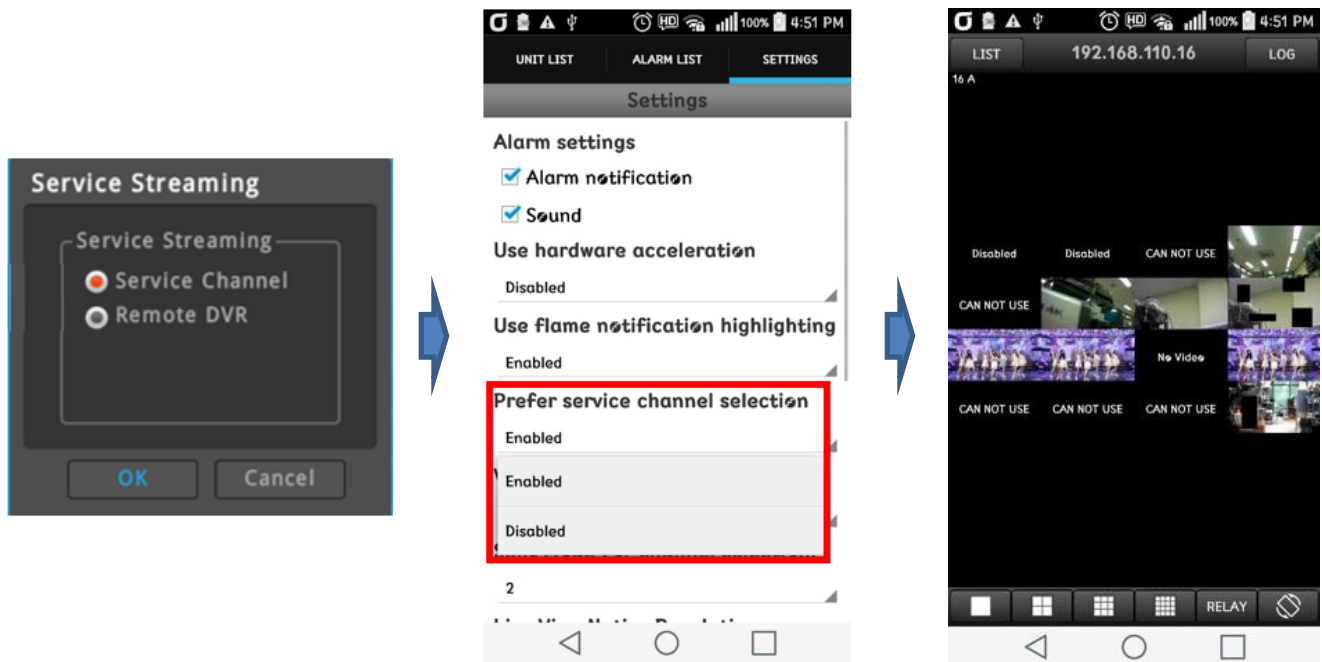
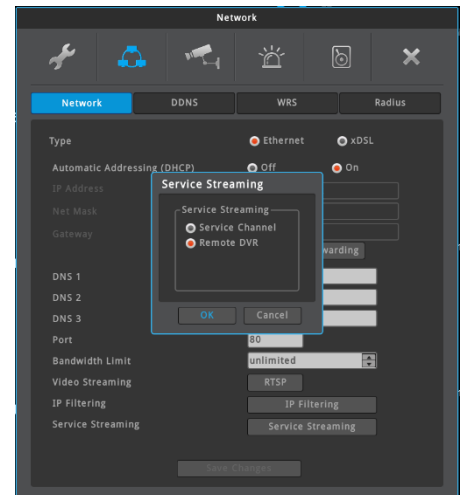
## Service streaming (Service Channel/Remote DVR)

User can select 'Service Channel' to provide multi channel realtime monitoring on mobile application or 'Remote DVR' to control and monitor the NVR from remote location.

### Service Channel (to be supported)

Each channel can be 30 fps (realtime monitoring) at mobile viewer even if multi division mode is selected. Please be sure that NVR is set to 'Service Channel' and mobile viewer is set to 'enabled' for service channel.

1. Go to [Menu – Network – Service Streaming] and select 'Service Channel'
2. If Service Streaming setting is changed, reboot is required.
3. Download the mobile viewer from App Store or PlayStore and install it on your smart phone.
4. Execute mobile viewer and register the unit (NVR).
5. Please enable the service channel on setting tab.
6. Touch the registered unit, then service channel will be displayed when multi-division.



### <Caution>

1. The name of mobile viewer is shown in 5 page.
2. Refer [Mobile Application] section to know the unit registration method.
3. Rebooting is required when the setting of service streaming is changed.
4. Service channel is supported from mobile viewer 4.0 or above.

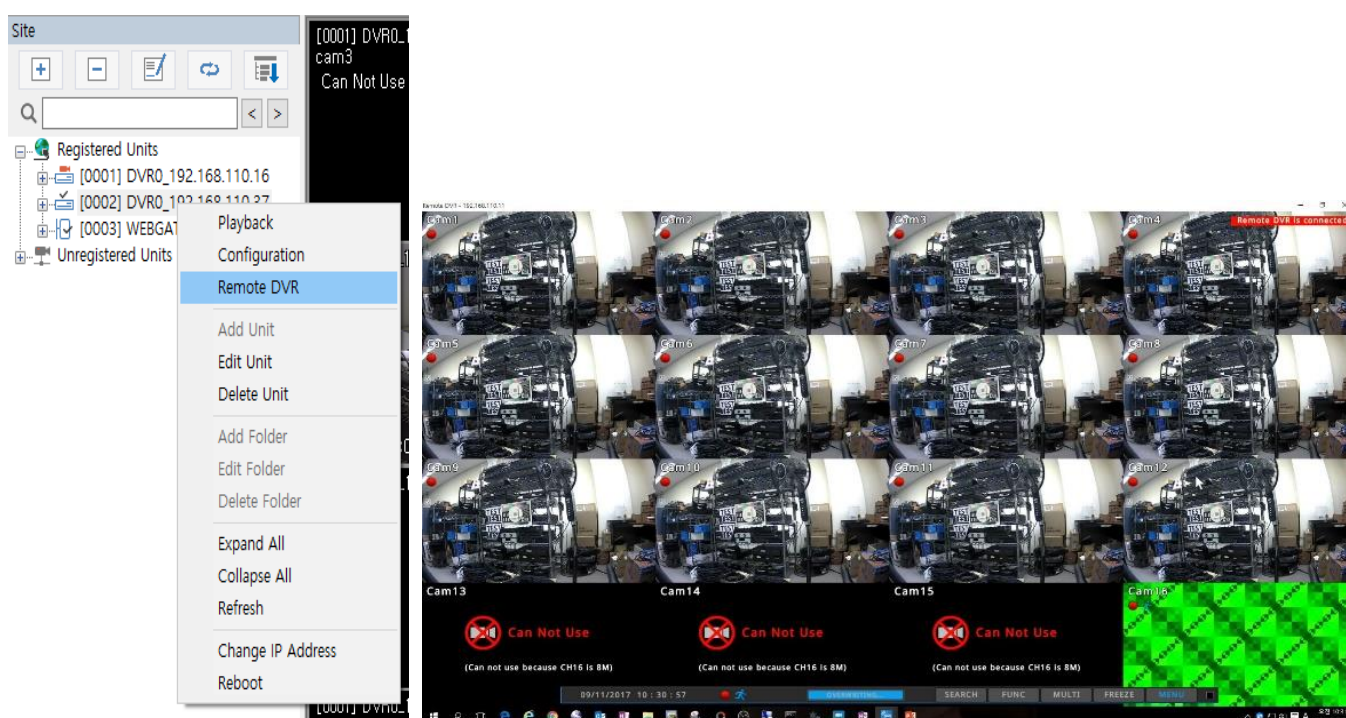
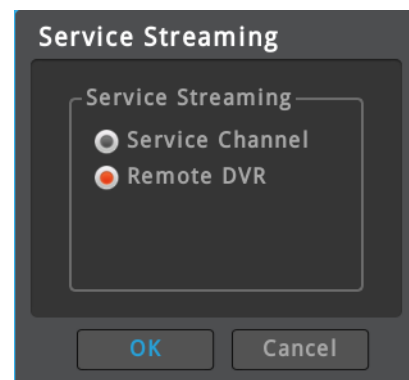
## Remote DVR

User can control the NVR from remote location by using Remote DVR function which is similar to remote desktop of Windows PC.

User can see NVR's main monitor output on PC (Control Center or WebViewer) and mouse control is possible.

Please follow below steps to use Remote DVR function on Control Center.

1. Go to [Menu – Network – Service Streaming] and select 'Remote DVR'.
2. Register the NVR on Control Center.
3. Click the right mouse button on the registered unit and select [Remote DVR] menu.
4. Popup window for Remote DVR will be shown and user can see the NVR's main monitor output and control the NVR.



### <Caution>

1. Service channel and Remote DVR can not be used simultaneously. Only one feature can be selected.
2. To use Remote DVR, please use Control Center 6.6 or above.
3. Rebooting is required when the setting of service streaming is changed.
4. Default value is Remote DVR.

---

## DDNS

Menu → Network → DDNS

User can give a domain name to a NVR by using DDNS service, WNS.

### DDNS setting at a NVR

1. Change NVR's port which is not in use (e.g. 8000)
2. Configure router's port forwarding setting. (i.e. port 8000 should be connected to NVR)
3. Activate DDNS(WNS) at NVR menu
4. Enter domain to use and run "domain change" (Ex: test)
5. If the entered domain name is available, NVR shows "Success". If the domain name is occupied by another user, NVR shows "Unavailable domain".
6. If you can connect a NVR by using assigned domain name, it means DDNS setting is properly completed.  
(e.g. <http://test.mycam.to:8000>)

### DDNS setting at a PC

1. Change NVR's port which is not in use (e.g. 8000)
2. Configure router's port forwarding setting. (i.e. port 8000 should be connected to NVR)
3. Activate DDNS(WNS) at NVR menu
4. Enter <http://www.mycam.to> into browser and connect to DDNS site.
5. Login by using DDNS account  
(If you do not have DDNS account, you can create it by "Create an account")
6. Click "+Add" button to add a domain.
7. Enter a domain (e.g. test) then click "Check Name" to check the availability.
8. If the entered domain name is available, it shows "Entered domain is available for use." If the domain name is occupied by another user, it shows "Someone is already using this domain. Please try another."
9. Enter NVR's serial number to "Serial Number" input.
10. Enter necessary information into "Description" and click "Add" button.
11. If you can connect a NVR by using assigned domain name, it means DDNS setting is properly completed.  
(e.g. <http://test.mycam.to:8000>)

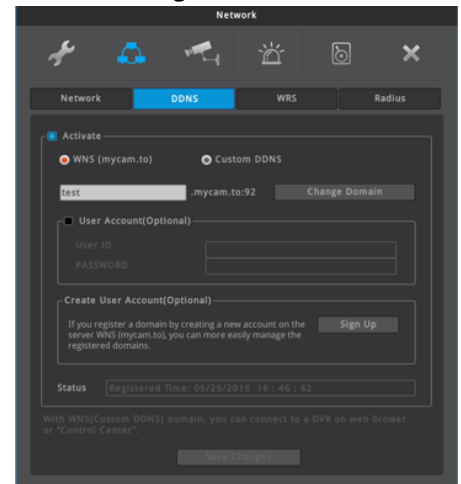
### Custom DDNS

Also, users can use public DDNS sites such as [www.dyndns.org](http://www.dyndns.org) or [www.no-ip.org](http://www.no-ip.org). Users should refer to those sites directly to get the registration process.

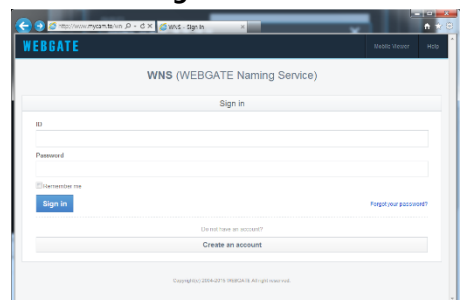
<Note>

Connection will be enabled in about 10 minutes after domain creates.

### DDNS setting at a NVR



### DDNS setting at a PC





## WRS

Menu → Network → WRS

If a NVR is connected to cable modem or xDSL modem, ISP (Internet Service Provider) may change NVR's IP address unexpectedly. So, the user can not get the IP address of the NVR.

If a user register a NVR to WRS server, the user can easily connect the NVR by using Control Center.

### WRS Setting

1. Change NVR's port which is not in use (e.g. 8000)
2. Configure router's port forwarding setting. (i.e. port 8000 should be connected to NVR)
3. Enable WRS service at NVR menu.
4. Enter a Group name (e.g. test)
5. Execute Control Center Monitor program, and execute "Add Unit".
6. Select "Server [WRS] Search" at this menu.
7. Enter the Group name (e.g. test) into Group name input box, and execute Search.
8. Find your NVR by checking MAC address or Serial number, and enter NVR's account information.
9. You could find the added unit at the tree menu and if you click the icon, you can get video from the NVR.

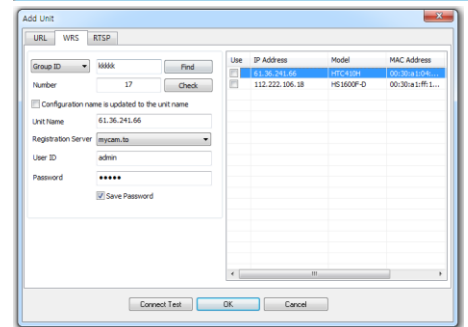
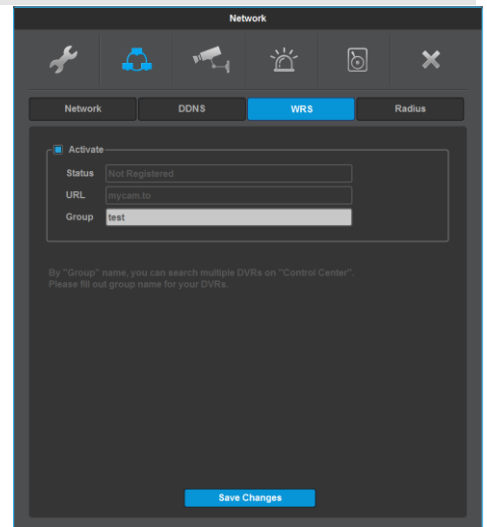
### Group

Group name must be a specific name.

Even if NVR has dynamic IP address, Control Center can easily connect the NVR by using the Group name.

### Status

It shows WRS registration status of the NVR.



## xDSL

Menu → Network → xDSL

NVR is connected to xDSL line and use PPPoE type, please change type by xDSL and configure user ID and Password. User ID and Password should be same as xDSL.

### User ID/Password

Configure user ID and Password when NVR is connected to xDSL.

### Status

It shows connection status of NVR.



---

## Radius

menu → network → RADIUS

Radius function manages many NVR accounts with one account using Radius server.

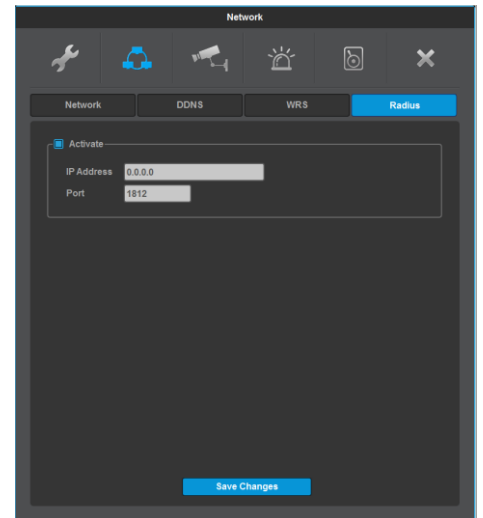
Radius menu configures status, IP address, and port. Status should be configured as enable in order to use Radius function. Port by default can use 1812 and if server assigns a port, then it needs to be configured..

'User ID', Password' and 'Radius Shared Key' are needed from administrator of Radius server after forwarding NVR account information to him.

Received 'ID/Password/Shared key' are used to register NVR at Control Center.

<Warning>

Please consult a server manager to use Radius function.



# Devie Settings

In Device setup, user can configure camera, monitor, audio, text, serial which are connected to NVR.

## Camera

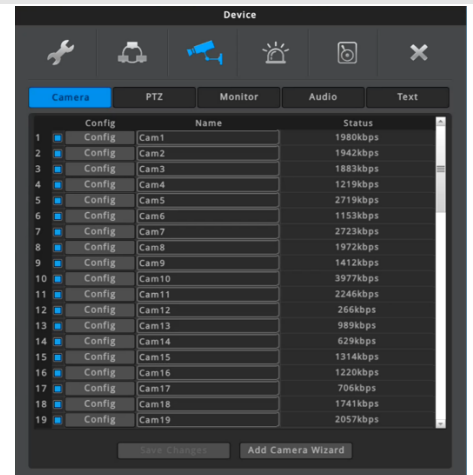
menu → device → camera

Conditions on IP camera connected to NVR can be set.

Each channel's config and name can be configurued, and IP camera's connection status is shown.

<Note>

1. Please use Category 6 or above for LAN cable.
2. If IP camera is connected to PoE port of NVR, please set the IP camera's IP address be in the same subnet with IP Address2(PoE) of NVR.
3. It is highly recommended that shield cable must be used for PoE port.



### IP Configuration

IP camera or other DVR's channel can be configured by clicking [Config] menu.

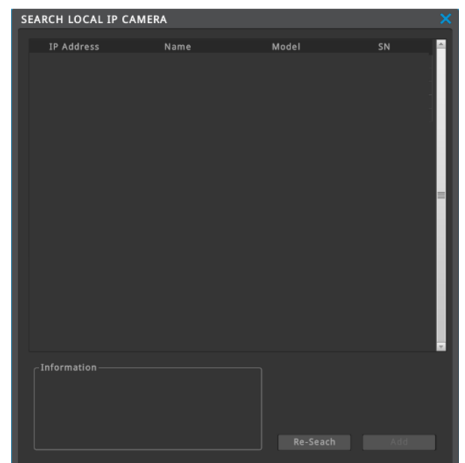
To register IP camera:

1. Select Protocol.
2. Click "Search Local IP Camera" button. It will show the list of IP camera and NVR connected in the same network.
3. Click the searched unit and click the "Insert" button. Or user can configure the IP address, port number, user ID and password manually.
4. Click the "Test" button to check login.
  - Model name, serial number, stream information are displayed.
  - If failed, please check the configurations.
5. If login succeed, close the window.
6. Click "Save Changes" button to apply.

\* "Clear" button can erase all configurations at once.

<Note>

1. IP camera registration
  - 1) Webgate's IP camera: select WESP
  - 2) IP camera supporting Onvif: select Onvif
2. DVR's channel Registration
  - 1) Supporting FW
    - (1) Lower than FW 8.2 – max 10 channels when no user is connected.
    - (2) FW 8.2 and above version – All channels of DVR
  - 2) Only WESP can be selected.
  - 3) Frame rate can be decreased by the number of connected users.



## ADD CAMERA WIZARD

All IP camera and DVR which are in the same subnet can be registered at once by using ADD CAMERA WIZARD.

The screenshot shows the 'ADD CAMERA WIZARD' window. It contains a table with 7 columns: IP Address, NVR Ch., Protocol, Name, Hardware, and Camera Ch. There are 24 rows of detected devices. Below the table is an 'Information' section with a text area. To the right of the information section are fields for 'User ID' (admin) and 'Password' (masked with dots), a 'Show Password' checkbox, and three buttons: 'Re-Search', 'Select All', and 'Add Selected Cameras'.

	IP Address	NVR Ch.	Protocol	Name	Hardware	Camera Ch.
1	192.168.110.9	Not Set	WESP	DVR0	UHD1604F-UR	1
2	192.168.110.15	Not Set	Onvif	NK1080CAM	NK1080D-IR30-AF-NTSC	
3	192.168.110.16	Not Set	WESP	HDD Test1_윤학현	UHD1604F-UR	1
4	192.168.110.23	Not Set	WESP	DVR0	HAC430F	1
5	192.168.110.25	Not Set	Onvif	NK1080CAM	NK1080D-IR30-AF-NTSC	
6	192.168.110.26	Not Set	Onvif	NK1080CAM	NK1080H-IR100-AF-NTSC	
7	192.168.110.31	Not Set	Onvif	NK1080CAM	NK1080H-IR100-NTSC	
8	192.168.110.34	Not Set	Onvif	NK1080CAM	NK1080H-IR100-AF-NTSC	
9	192.168.110.36	Not Set	WESP	hdd 호한성 test 김환	HS1620F-DR	1
10	192.168.110.45	Not Set	WESP	HDD Test2_윤학현	HSC1621F-D	1
11	192.168.110.58	Not Set	WESP	DVR0	WDC2216F-PE	1
12	192.168.110.64	Not Set	Onvif	NK1080CAM	NK1080D-IR30-AF-NTSC	
13	192.168.110.66	Not Set	WESP	LPR_TEST	HD1600M	1
14	192.168.110.70	Not Set	WESP	DVR0	UHD1604F-R	1
15	192.168.110.75	Not Set	Onvif	NK1080CAM	NK1080D-IR30-AF-NTSC	
16	192.168.110.96	Not Set	WESP	DVR-test	HS1620F-D	1
17	192.168.110.109	Not Set	Onvif	NK1080CAM	NK1080D-IR30-AF-NTSC	
18	192.168.110.160	Not Set	WESP	IPC Aging	UHD1604F-U	1
19	192.168.110.161	Not Set	Onvif	GITCAM	GIT-CAMW8000I	
20	192.168.110.163	Not Set	Onvif	SNO-8081R	SNO-8081R	
21	192.168.110.164	Not Set	Onvif	NK1080CAM	NK1080BL-IR48-AF-NTSC	
22	192.168.110.170	Not Set	Onvif	DS-2CD2132-I	DS-2CD2132-I	
23	192.168.110.175	Not Set	Onvif	Panasonic_WV-SF438	WV-SF438	
24	192.168.110.177	Not Set	Onvif	hd	HW0100302	

### IP Address

Show IP address of IP camera or DVR. Note that only IP cameras and DVRs which are in the same subnet can be shown in the list.

### NVR Ch.

Set the number of channel of NVR to register.

### Protocol

Show IP camera or DVR's protocol.

### Name

User defined device name of IP camera or DVR is shown.

User can manually change the name after registration is completed.

### Hardware

Model name of IP camera or DVR is shown.

### Camera Ch.

User should select the number of DVR's camera channel if the unit is DVR.

For IP camera, this menu will be inactivated.

### Information

Show the information of selected unit. The information is provided by the IP camera or DVR.

### User ID / Password

User ID and Password of the IP camera or DVR should be typed in this menu. Please use Admin ID.

User ID and password might be different by models. When multiple cameras are selected and ID and password of each of them is different, you can modify each camera's ID and password at [Device] – [Config].

## Select All

IP cameras or DVRs on the list can be automatically assigned to NVR channels.

## Add Selected Cameras

IP cameras (or DVRs) which are assigned to [NVR Ch.] can be added at once by clicking [Add Selected Cameras]. After clicking [Add Selected Cameras], [ADD CAMERA WIZARD] window will be closed.

To apply setting, please click [Save Changes] on [Device] window.

### <Caution for PoE IP camera registration>

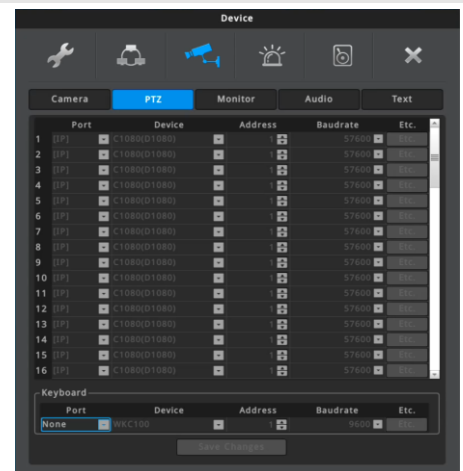
1. IP Address2 (PoE) of NVR must be set different subnet from NVR's IP Address.
2. All IP addresses of IP cameras connected to PoE port must be set same subnet with IP Address2 (PoE).
3. Shielded ethernet cable must be used for PoE port.

## PTZ

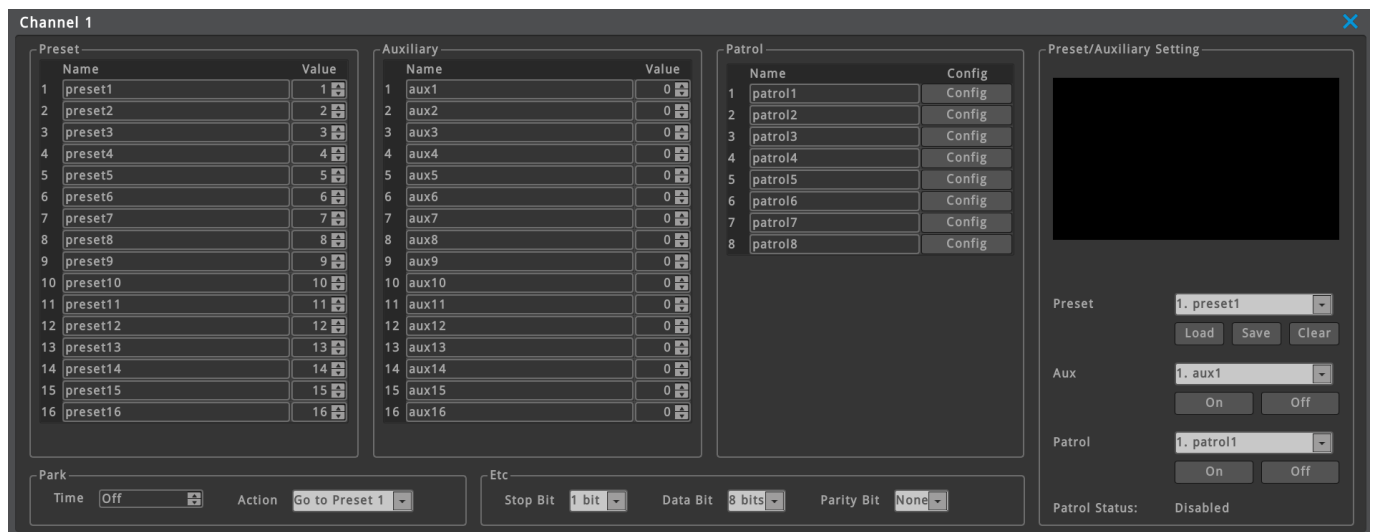
Menu → Device → PTZ

### Port, Device, Address, Baudrate

PTZ function of IP camera can be controlled by Onvif through network. Thus, items of this menu are inactivated.



## PTZ ETC



### Preset, Auxilliary

Max. 16 Preset and 16 Auxilliary can be configured on NVR. User can change the name of preset and auxiliary. 'Value' of preset means the preset number of IP camera, and 'Value' of auxiliary means the code of aux. For more details, please refer the manual of IP camera.

(Preset and Auxilliary menu can be inactivated according to the camera model.)

## Patrol

NVR support 8 patrols. User can change configuration and the name of patrol.

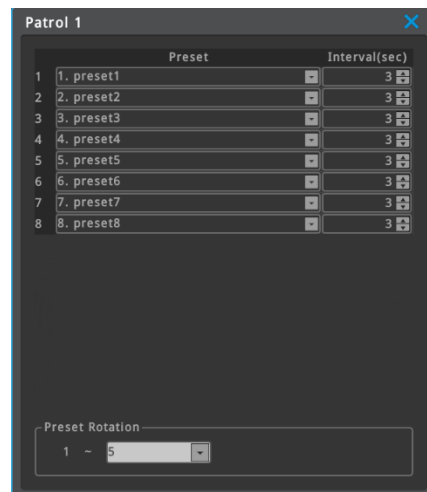
Preset: Patrol can have 8 presets. User can set the sequence of presets.

Interval(Sec): Set the interval of each preset. After interval time, PTZ is moved to the next preset position. The range of interval time is 1 ~ 255 sec.

Preset Rotation: Setting the number of preset to rotate. If you set "5", patrol will be operated from number 1 to number 5.

<Note>

1. Interval time includes the moving time of PTZ device.
2. During patrol, the current patrol number is displayed on the right upper side.



## Preset/Auxiliary Setting

Preview screen shows the video of IP camera and user can control PTZ with preview screen. Also, user can set or confirm the Preset, Auxilliary and Patrol setting.

- Preset: Load the selected preset, save or delete preset
- Auxiliary: Turn on or off the selected AUX

## Park

User can set time and action of Park. If there is no PTZ control during the set time, Action is performed. (Go to Preset x)

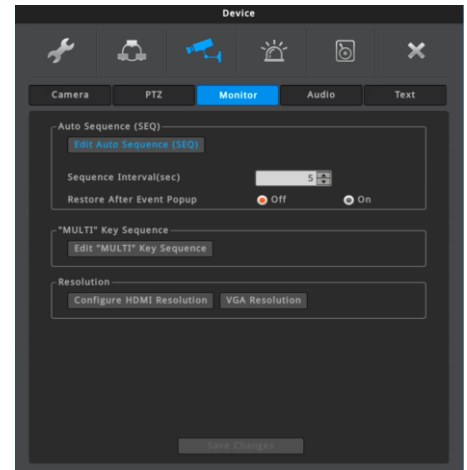
## Etc

This is not used menu.

# Monitor

menu → device → monitor

Configure SEQ, MULTI, HDMI Resolution, VGA Resolution.



## Auto Sequence (SEQ)

To use Auto Sequence, click [FUNC menu]-[Tool]-[SEQ]. To escape from Sequence mode, click again [FUNC menu]-[Tool]-[SEQ] or click [SEQ] on the right upper side of screen.

Click "Edit Auto Sequence (SEQ)" to edit the sequence of screen mode. Max. 64 modes can be sequentially changed, and each mode can be single channel mode or multi division mode.

Sequence mode is rotated from 1 to number which is set in "Sequence Rotation". Sequence rotation interval can be configured on "Sequence Interval(sec)". Sequence interval is available to set from 5 to 60 seconds.

The default value of "Restore after Event-Popup" is "Off". If alarm popup occurs during sequence mode, sequence mode will be stopped under this condition. But, if "Restore after Event-Popup" is "On", sequence mode will be activated again after alarm popup time finishes.

\* The max number of sequence rotation might be different by model.



## Multi Key Sequence set-up

Not used menu.

## HDMI RESOLUTION

Resolution of HDMI output can be changed. Selectable resolutions are 1920x1080, UHD/4K (Preferred), UHD/4K (Fixed). Rebooting is required after resolution is changed.

<Caution>

1. It is recommended to use certified HDMI cable. If the cable is not a certified cable, 4K UHD may not be displayed.
2. If HDMI resolution is set to "UHD/4K (Preferred)" and HDMI monitor does not support 3840x2160 (4K UHD), then the resolution of video output will be automatically changed to 1920x1080. If monitor supports 4K UHD, then the resolution of video output will be automatically changed to 4K UHD.
3. If HDMI resolution is set to "UHD/4K (Fixed)" and HDMI monitor does not support 3840x2160 (4K UHD), then monitor can not display anything. Please change the HDMI resolution to 1920x1080 by Remote Controller.





## VGA RESOLUTION

Resolution of VGA port can be changed.

Selectable resolutions are 800x600, 1024x768, 1280x1024, 1920x1080, Please reboot to apply new resolution.



## Audio

menu → device → audio

Configure audio channel, audio recording, volume, synchronization, mixing on this menu.

### Audio Channel

The channel number which audio is output. (same with video channel)

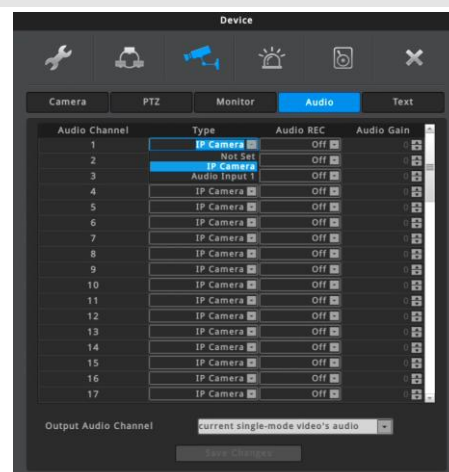
### Type

User select the type of audio.

Not Set: no audio

IP Camera: IP Camera's audio is used.

Audio Input 1: AUDIO IN in rear is used.



### Audio REC

Select ON or OFF. If set "Off", audio will not be recored and only can be heard with live-video. If set "On", audio will be recorded with video. During playback, audio will be output.

<Note>

Audio Gain is available only when Audio Input1 is selected.

The audio gain of IP camera must be configured on IP camera's webpage.

## Text

menu → device → Text

This menu is for configuring the device, baudrate, etc of text device.  
Max 4 text can be connectable using USB to serial cable.

### Recording

Set On/Off of recording of Text input.

### Video Ch

Select channel to synchronize with text.

### Device

Choose from Manual, Star Finger 007, VSI Pro, VSI Hydra for text input device.

### Baud Rate

Select baud rate of serial communication.

### Etc. (Manual Text Device Setting)

User can manually set header/delimiter/lines/timeouts. These values need to be exact and are different by devices, so please call the store you purchased the device from or refer to that device's manual.

#### Seek Header

If Text device is set manually and there is the text pointed out as Header, it is regarded starting of text information from the relevant letter. In case of not using Header, all text after Delimiter is regarded as new text.

#### Delimiter

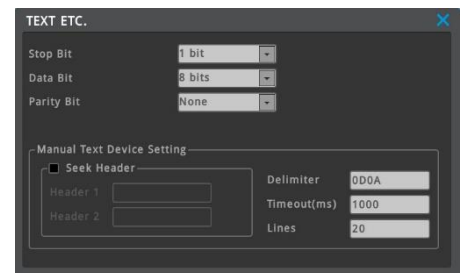
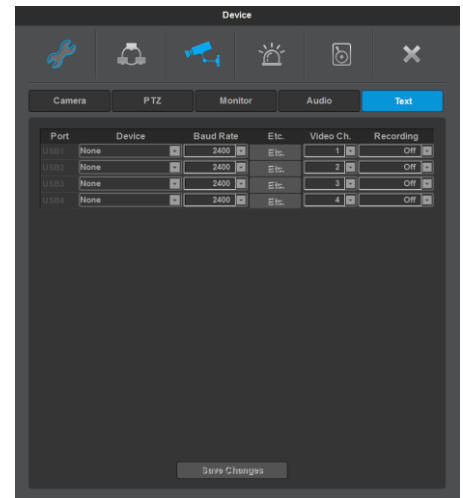
It is a constantly inserted info to search for the end of the line. If NVR finds delimiter, it will see the place as the end of the line.

#### Timeout(ms)

Even if text line is not full, if there is no further information during 'Timeout(ms)', NVR deals with the text information which is input from the device as one information.

#### Lines

It is to define how many lines single information has. For example, if user sets 30 lines, system recognize binding 30 lines as a single information.



<Notice>

Please refer to technical support of manufacturer to use text function using USB to serial cable.

Star Finger 007 and VSI Pro can be used based on protocol already interfaced, others must be used in Manual.

# Event Configuration

## Event

menu → event → event

Event set up has 3 set up procedures, event, motion, and sensor.

### Activate Event Check

User can activate the event check. If not checked, all events will be ignored.

If schedule is set to 'Always Check', event will always be checked. If schedule is set to 'Custom', event will be checked during only user defined schedule.

If schedule is set to 'Custom', user can define schedule by using 'EVENT CHECK SCHEDULE' window.

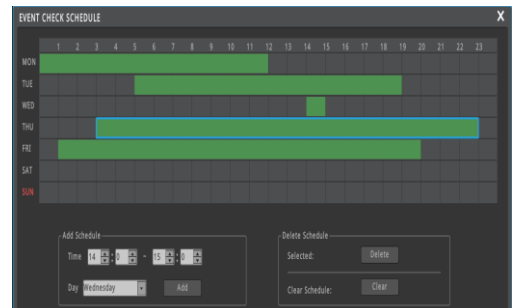
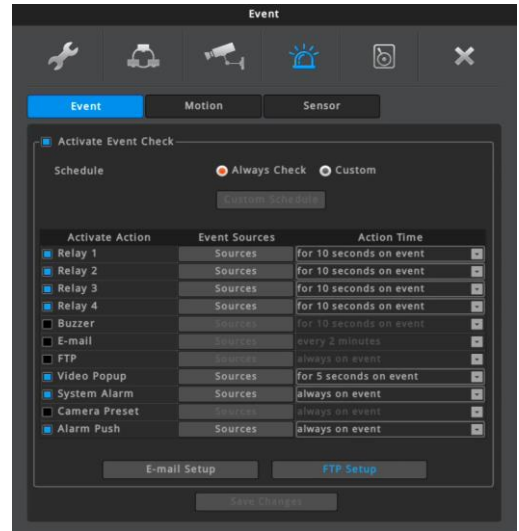
#### <Caution>

If not selected time, or 'Activate Event Check' menu is not checked, NVR ignores all events and event action or event recording is not performed.

### Custom Schedule

Set begin/end of event checking time and day, and click "Add". The corresponding info will be graphically displayed on day/time table.

- Day: set applicable day
- Time: set applicable time from begin to end of event checking time
- Add: schedule registration
- Delete Selected: Schedule unit which is graphically selected will be deleted. If user does not select schedule and click 'Delete', then previously selected item will be deleted first and deletion will be achieved in reverse of time set up.
- Delete All: whole schedule will be deleted



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## Sync event

Actions for event are activated and configured

### Relay

When events that have been selected in "Event Sources" occur, event notification by relay goes on for the time period set in "Action time".

### Buzzer

Event notification by buzzer goes on for the time period set in "Action time".

### E-mail Setup

When events occur, NVR sends text information and image of event to email address which is set by user.

### FTP

When events occur, NVR sends image of event to designated FTP server

### Video Popup

When selected event source's event is occurred, video which is mapped channel and sensor will be popup.

Multi channels and multi sensors can be mapped, and multi channel's video will popup in multi division mode.

### System alarm

Image will pop up to notify triggered events upon event from event source happens.

### Camera preset

When events occur, PTZ preset runs according to previous settings

### Alarm push

If event in event source happens, event notification will be delivered to mobile application in push alarm.

<Note>

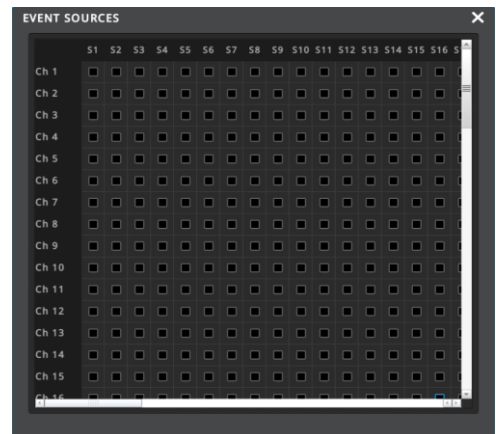
1. To use fire detection feature, please connect WEBGATE's flame detection camera (N1080BL-AF-F2).
2. Select sensor of fire detection camera channel as Flame Detector.
3. Alarm push feature will be working over v3.4.x version of Android/IOS mobile application.

### Action Time

- Dwelling time of relay or buzzer: Relay or buzzer remain for the selected time period
- E-mail: Sends email according to the interval
- FTP, System alarm, camera preset, Alarm push: Always operate on event

<Notice>

1. If Action time is off, action for events will not work.
2. Event action is working when action is enabled (checked).



## EVENT SOURCES

Select Sensor, Motion Detection, Video Loss, Text or System for activating event.

System event sources of HDD Fail, fan fail, password fail, WRS registration fail, power on and recording fail can be checked (some or all).

### HDD Fail

Event notification for HDD performance problems or connection status problems.

### HDD Almost Full

Event notification when data stored in HDD is larger than the set value. It is activated when "HDD Fail" is checked.

### Password Fail

Event notification when login password is incorrect.

### WRS Registration Fail

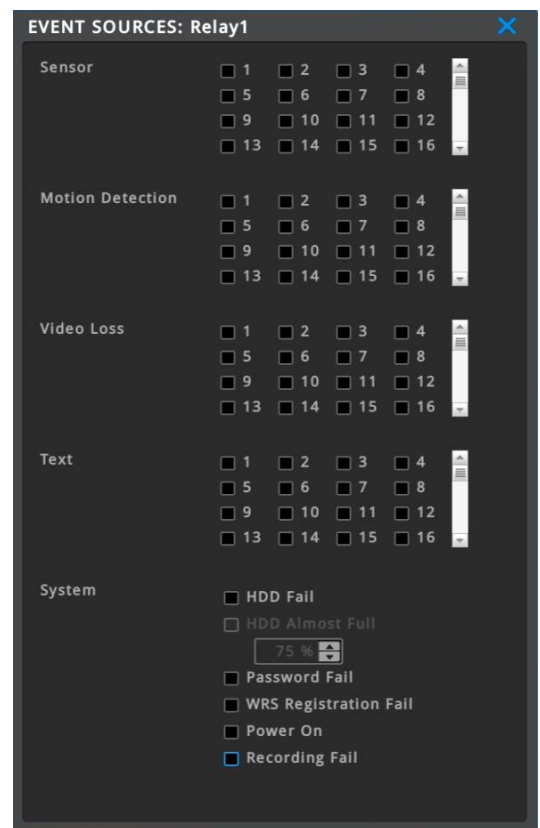
Event notification when WRS registration is failed.

### Power On

Relay will be operated during set action time when NVR is power on.

### Recording Fail

If recording is not working normally, popup window pops up with buzzer. Until HDD is recovered, popup window will pop up with buzzer every 10 minutes after user click 'Ok'. After HDD is recovered, pop up will not appeared.



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## E-mail Configuration

### Recipient Address

Input E-mail address with receiver's E-mail info.

E-mail format should be xxxx@xxxxxx.xxx and the users must only use combination of numbers and the English letters

Max. 3 recipients can be registered.

### Sender's E-mail address

Sender's E-mail address is set when user use E-mail for output selection and user setup E-mail address as xxxx@xxxxxx.xxx.

### Subject

User can modify the subject of e-mail. Max. 20 letters including symbols are supported.

### Picture attachment

When sensor, motion detector and video loss occur, relevant event info with channel video will be sent to an e-mail. Only system event info will be sent for system event.

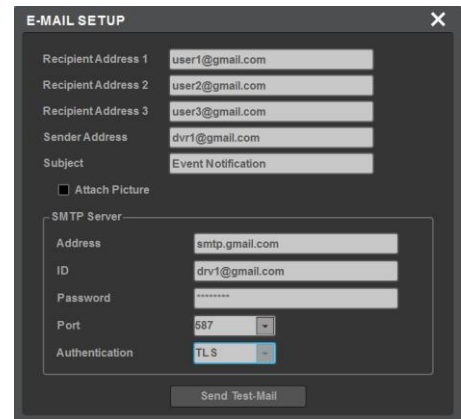
### Authentication

There are a few ways to send email (No authentication, SMTP server authentication and TLS authentication.)

- No authentication: sends email to the recipient address without server authentication
- SMTP authentication: sends email to the recipient after SMTP server authentication. The recipient address must support SMTP authentication
- TLS authentication: sends email to the recipient after TLS server authentication.

<Note>

If 2 step authentication is required by mail server, please follow the mail server's policy. (App password might be required.)



## FTP Configuration

The NVR sends 1 video image per event to a FTP server when an event occurs.

<Note>

Since FTP just transmits an image, if there is no image system event, it is not supported.

### Server IP/URL

Enter the FTP server address to send image

### user ID

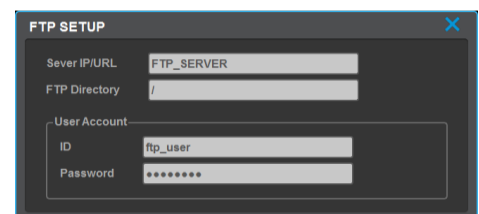
Enter the relevant ID when asked for FTP server authentication.

### password

Enter FTP server password.

### FTP Directory

Select Folder to save image If folder is not indicated, the image is sent to the folder which server selects



## Motion detection

Menu → event → motion

NVR can activate motion detection for each channel. The motion detection setting of the IP camera such as motion detection area and sensitivity should be done on the IP camera.

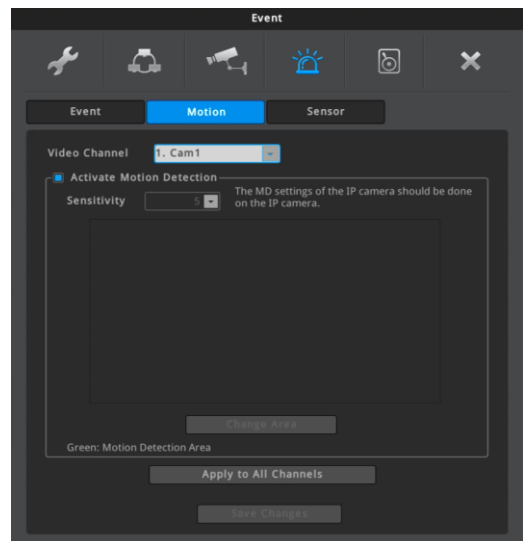
If motion detection is activated, motion detection can be a source of event.

### Video Channel & Activate Motion Detection

Select one of video channel and select activate or deactivate motion detection. Each channel can have different setting.

### Apply to All Channels

Current video channel's setting will be applied to all channels.



## Sensor

Menu → Event → Sensor

Sensor can be set by each channels and name can be changed.

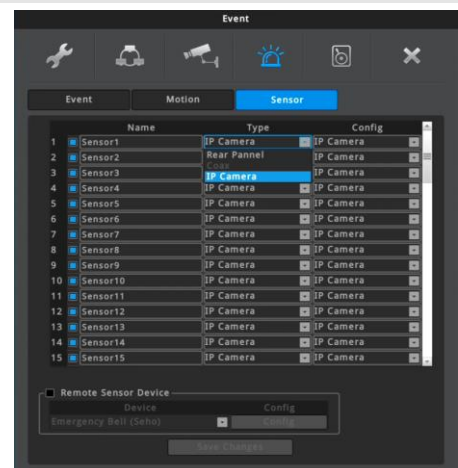
### Name

Name can have max 20 characters including number and symbol.

### Type

Real Pannel – Sensor which is connected to ALARM IN port of rear panel is used. Its Config can be set as Normal Open, Normal Close and Flame Detector. If Flame Detector is selected, sensor input will be recognized as a flame.

IP Camera – Sensor of IP camera is used. If IP flame detection camera (N1080BL-AF-F2) is connected, sensor Config will be automatically changed to Flame Detector.



Name	Description
<b>Normal Open</b>	If sensor's electric contacts become connected, NVR recognizes it as an alarm.
<b>Normal Close</b>	If sensor's electric contacts become disconnected, NVR recognizes it as an alarm.
<b>Flame Detector</b>	It works when flame detection signal is received from flame detection camera or sensor input.

<Note>

1. If sensor input is occurred, sensor name and alpha-blended red background color will be overlayed. To change the overlay setting, click [FUNC menu] – [Information] – [Screen].
2. Alarm push can be done if
  - 1) motion, sensor, flame detection or text event is on
  - 2) video event is on or off (whenever)

<Note>

What is sensor overlay? – Function to inform user by blinking the transparent red box and sensor name on video.





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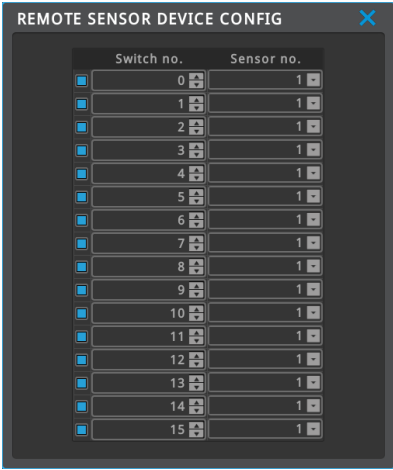
## Remote Sensor Device

User can map the input signal from remote sensor device to the sensor switch.

By using this function, remote sensor device can be used as an even source for relay, buzzer, email, FTP, video popup, camera preset, alarm push, etc.

<Note>

Currently, supported protocol of remote sensor device is emergency bell (Seho IS), and will be added more protocols.



The screenshot shows a configuration window titled "REMOTE SENSOR DEVICE CONFIG" with a close button (X) in the top right corner. The window contains a table with two columns: "Switch no." and "Sensor no.". There are 16 rows, each with a checkbox on the left, a numeric input field for the switch number, and a dropdown menu for the sensor number. The sensor number dropdowns are all set to "1".

	Switch no.	Sensor no.
<input type="checkbox"/>	0	1
<input type="checkbox"/>	1	1
<input type="checkbox"/>	2	1
<input type="checkbox"/>	3	1
<input type="checkbox"/>	4	1
<input type="checkbox"/>	5	1
<input type="checkbox"/>	6	1
<input type="checkbox"/>	7	1
<input type="checkbox"/>	8	1
<input type="checkbox"/>	9	1
<input type="checkbox"/>	10	1
<input type="checkbox"/>	11	1
<input type="checkbox"/>	12	1
<input type="checkbox"/>	13	1
<input type="checkbox"/>	14	1
<input type="checkbox"/>	15	1

# Record Setting

NVR can set frame rate (frame per second) of IP camera according to the record setting of NVR, but can not configure the quality (bit rate, bps). Please use the webpage of IP camera to configure the quality.

Record mode has 3 types as normal/event, schedule/event, and emergency record.

- Normal/Event record – Record start up upon bootup according to defined program.
- Schedule/Event record – Record start up upon defined schedule's program and time.
- Emergency record – Record at max fps regardless of record mode and program.

## Record

Menu → Record → Record Mode

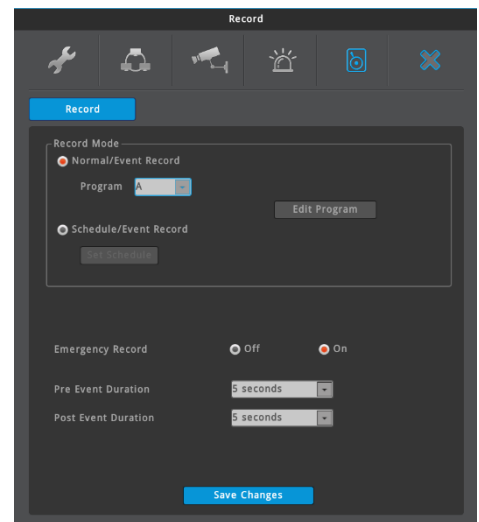
Both normal/event, schedule/event record can be achieved by selecting program and frame rate will be defined by program selection.

### Normal/Event Record

Normal Record means video recording when there is no event, and Event Record means video recording when there is event. Video is always recorded according to the selected program after booting. 9 programs from A to I are available. For more details on programs, please refer next session.

<Note>

1. Event record means the recording when event is occurred. Event sources are motion detection, sensor, text, flame detector, etc. Normal record means the recording when event is not occurred.
2. 'Event record' can set the video frame rate (fps) for event recording. This setting is applied only for event recording. 'Normal record' setting is independent from 'Event record' setting. 'Normal record' can set the video frame rate for normal recording.
3. Event record is more important than normal record, and thus, frame rate of event record can not be set less than the frame rate of normal record.
4. The video quality of IP camera can be set in webpage of IP camera, not in 'Program' page.



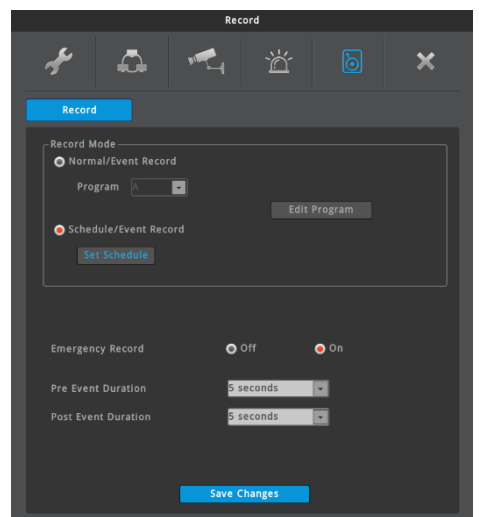
### Schedule/Event Record

Schedule/Event Record means recording only at a specified schedule time. User can set the time schedule and set the program for each time schedule. Program can be selected among 9 from A to I. One program can be applied on one schedule, at least one schedule per day and max 50 schedules per week can be defined.

#### Set Schedule

Set begin/end time to record, day and program, and click "Add". The corresponding info will be graphically displayed on day/time table.

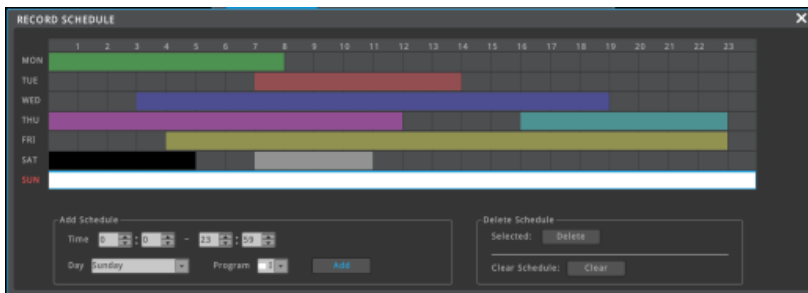
- Day: set applicable day
- Time: set applicable time from begin to end to record
- Program: set the record program to be applied to this schedule
- Add: schedule registration
- Delete Selected: Schedule unit which is graphically selected will



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be deleted. If user does not select schedule and click 'Delete', then previously selected item will be deleted first and deletion will be achieved in reverse of time set up.

- Delete All: whole schedule will be deleted



<Warning>

The time zone can not overlap with the previously set time zone. Max 50 schedules can be registered.

### Pre Event Duration (Record time before event)

User can select between 1~5sec and time ahead of event will be recorded as much as time set by user.

### Post Event Duration (Record time after event)

User can select between 1~30mins and time after event will be recorded as much as time set by user

## Emergency Record

Emergency record is configured as 'On' and click [FUNC menu]-[Tool]-[Emergency Recording]. Then emergency recording is started. It always records at max fps regardless of record mode and program until user click [FUNC menu]-[Tool]-[Emergency Recording] again. After stop emergency recording, record mode will be changed to previous mode.

## Edit Program

Menu → Record → Edit Program

'Edit Program' is menu for modifying record program. Number of program is 9 (from A to I) and each program has predefined setting. Each program can be modified by user. User can set the frame rate of each channel.

### Program

There are 9 programs from A to I. Select program to edit.

### Video

Display the video channel's resolution and fps.

### Normal Record

Select recording frame rate (FPS, number of frame per second) that are applied for normal record.

### Event Record

Select recording frame rate for video which event is occurred. When event occurs, NVR starts recording by the frame rate of Event Record.

### FPS

FPS means frames per second. Users can select 1 to 30 (NTSC) or 25 (PAL) fps.

### Quality

Note that Quality can not be edited. Please use webpage of IP camera to modify the quality.

### Record Capacity Usage and Minimum Recording Time

It indicates record capacity status of NVR along with amount of connected HDD.

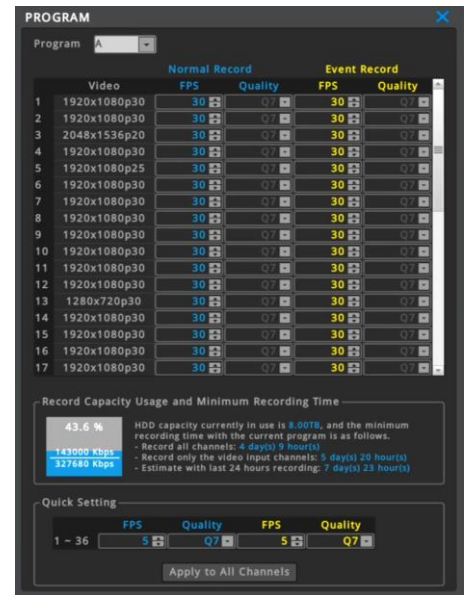
It also indicates storable time for all channels, for only the video input channels and for expected storable time based on amount of storage during last 24 hours.

### Quick Setting

Apply the same setting for all channels at once.

<Notice>

1. Frame rate of Normal Record can be '1' or the same with Event Record. No other frame rate are available.
2. The video quality of IP camera can be set in webpage of IP camera, not in 'Program' page.
3. If the recording setting exceeds 100% of the 'Record Capacity Usage', 'Program' page can not be closed. Please check the 'Record Capacity Usage' window.
4. Frame rate (fps) of Event Record can not be set less than frame rate of Normal Record.
  - If frame rate for Normal Record and Event Record is the same, lowering the frame rate for Event Record will lower the frame rate for Normal Record.
  - If frame rate for Normal Record and Event Record is the same, increasing the frame rate for Normal Record will increase the frame rate for Event Record.



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# WebViewer

WebViewer is Web application program loaded to monitor real-time image or to monitor the images recorded through Web browser to PC located remotely.

## System requirement

Items	Recommendation
CPU	Core i5 3.0GHz
Main Memory	8GB
Video Memory	512MB or higher
Display	1024MB PCI-E Graphic Card Support AGP Accelerate (AMD Radeon HD 7000 Series or Higher)
BUS	Support PCI-E 16X or higher
Network	100/1000 Ethernet NIC
OS	Windows 7(x64) / Windows 8(x64) / Windows 10(x64)
Browser	Internet Explorer 8 or higher
Others	DirectX 9.0 or higher

## Installation

### Webviewer Installer

Auto installation program is provided from login page to use Webviewer function. ActiveX installation is required to a PC which has first connection.

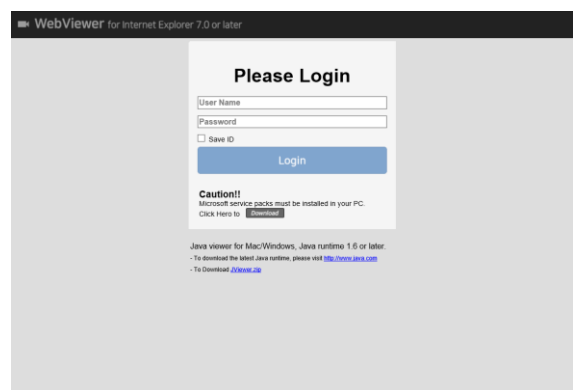
<Caution>

Please close all programs related to Control Center while Webviewer Installer is being installed. Otherwise, it may affect the installation.

## login

After inputting an IP address that is set to the system, the WebViewer Login page will be connected.  
Examples of input method in address box are  
<http://192.168.1.100> as IP address type or  
[www.addresstest.com](http://www.addresstest.com) as domain address. In case of changing the port value besides default value 80, just input the changed port value.

Input the set of User ID & Password, click 'LOGIN' to access.  
If password didn't change in Control Center, ID and Password will be admin/12345.

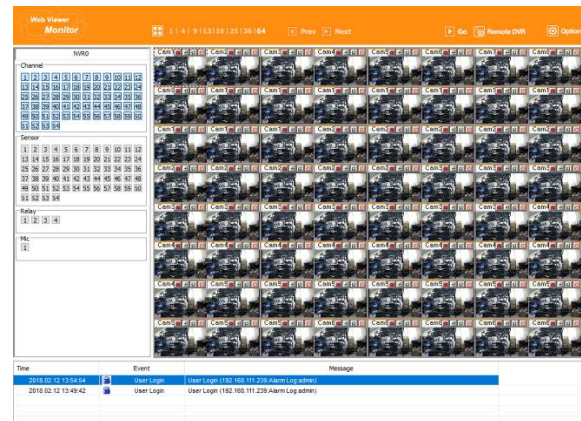


## User set up

To access WebViewer, user authority and password can be changed in NVR or the account menu of Control Center configuration.

# Monitor

When it is authorized with User ID & Password input at Login page, it moves to monitor page. At Monitor page, it is possible to monitor real time image of cameras connected to NVR, or it can control PTZ camera, Relay, and use Microphone function according to user's authorization.

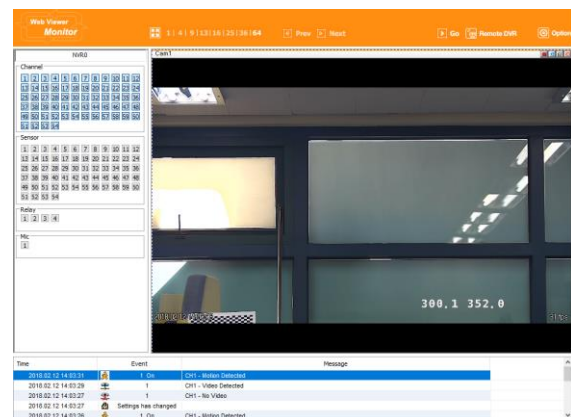


## Screen division and changing video position

The first monitor page will display the maximum screens of the connected model.




It can change to 1, 4, 9, 13, 16, 25, 36, 64 divisions by clicking the number on top of page. Also, it can change to 1 channel mode by double click any one of channel image. Double click again, it is restored to previous screen division.



At division screen, it can change screen location using mouse drag. If Ch3 image moves to Ch1, drag Ch3 image and drop on Ch1 location so as to exchange between 3ch and 1ch image.

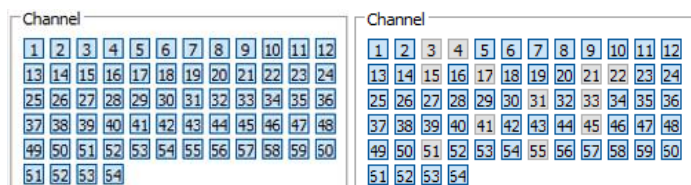
Press the very front icon on the upper screen on multi screen mode to switch to a full screen mode. To go back to normal screen mode from full screen mode, press ESC key

## Move to Playback

Click the  on the upper right to move to playback page.

## Channel On/Off

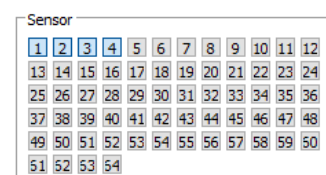
It is On/Off button for the Channel located to left in page. Click the channel wanted to On or Off. And Default is "On".



## Sensor indication

The icon indicates when sensor occurs in system

When it sensors, relevant sensor icon comes to Red, and indicates sensor number of video. When sensor is not triggered, icon keep as blue.



## Relay operation

It can On or Off Relay of the unit. Click the number button to activate Relay On, then the icon Changes from Blue to orange color.



Not activated Relay button means, the product is no supported. Relay is need user's authority. Refer to user manual in the unit for the setup of User's authority of Relay.

## Using microphone

Microphone can be set On or Off. Default is Off and it is changed from the projected type button to orange when click the button for the use Mic.








## Event information

Time	Event	Message
2011.03.29 11:27:18	1 On	CH1 - Motion Detected
2011.03.29 11:27:18	3 On	CH3 - Motion Detected
2011.03.29 11:27:18	2 On	CH2 - Motion Detected
2011.03.29 11:27:16	4 On	CH4 - Motion Detected
2011.03.29 11:27:16	3 On	CH3 - Motion Detected

It shows real time event data occurred at the bottom of monitoring page.

Indicated Event data list are as follow

button	description
	Motion Detect On
	Flame Detect Input
	Sensor Input
	Relay Output On
	No Video, Video Detected

## Video recording & save

### Video recording

Select by clicking "Rec Start" in right button of Mouse after selecting channel user wants to record during monitoring. It can record max. 10 minutes of video During Quick Recording, recording time is indicated on video.

If "Rec Stop" is pressed by clicking right mouse button, recroding stopped. Then, open the dialogue box to store recorded files. At this time, user can save it to the directory with any file name by user.

Saved recording file is saved into "\*.re4" file format. re4 file can playback through Control Center Playback program or Mini Player program.



### Saving video

There are 2 types for saving Video – jpg and bmp. Saving video means the function to record 1 frame of current monitoring channel.

To save video, select the channel and click right button of mouse. And select "Save As" and point out the location and press save button.



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## Using PTZ

During monitoring, select a channel with PTZ configuration and right-click to select "PTZ" to use PTZ. PTZ control lets users use Pan/Tilt, Zoom/Focu functions.

### Pan, Tilt control

There is a cross line in the middle and click image to operate Pan, Tilt. In the middle click Left/Right direction to control Pan, and Click Up/Down direction to control Tilt. The further it is clicked from the middle, the faster Pan/Tilt will operate.



### Zoom, Focus control

Move mouse to the edge of left & right to see slide bar for Zoom, Focus.

The unit Area Zoom In available has Zoom Zero operating button. It can zoom in/out using slide bar at left of image, left slide bar can control Focus.

### Move to Preset

In case of Preset set, Mouse on image press right button for pop-up menu and "Goto Preset" is indicated additionally. When select Preset list, it moves to Preset position selected. Preset should be set up by user in advance.

### Activating Auxiliary

In case of Preset set, "Auxiliary" is indicated additionally, and it operates action when select registered menu.

<Reference>

Supported PTZ camera list can be refereed to (PTZ manipulation).

## Using Audio

In case of Channel setup sync with Audio, press right mouse button on the image to activate pop-up menu to "Listen" and uncheck Mute. Audio Volue adjustment is available using slide bar.

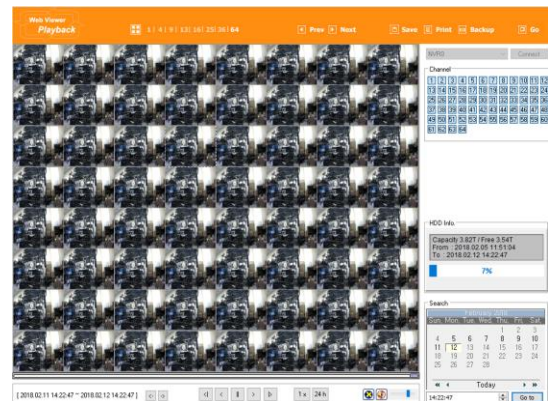


# Playback

This page is to playback recorded images, and user who has authority of 'HDD' among user ID or administrator can use this function.

Playback that is made up 16 divisions can play the images by searching through colander by recording period and moving the period. It can backup recorded image and also print Pause image or save to Bmp file.

Below are each title and function of Playback.



## Video Division & Changing Channel



Playback supports 1, 4, 9, 13, 16, 25, 36, 64 divisional screens. Select division using menu on top of page as shown in the above picture.



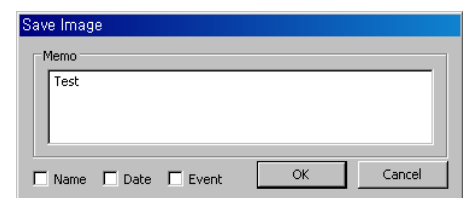
Press the very front icon on the upper screen in multi-screen mode to switch to a full screen mode. To back normal screen mode from full screen mode, press ESC key.

## Save image



It can save playback image to BMP file. Click mouse to channel to save. Dotted line will be surrounding to the selected channel, and click 'Save' button

Save image dialog box appears, then it can input message or select channel name, date, event and data.

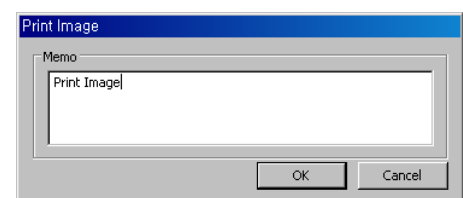


Press 'OK' to open dialog box for the saving location, then save bmp file.

## Print

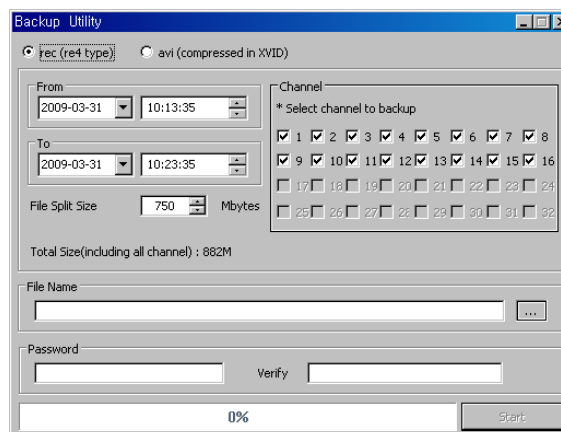
Select image with mouse for the channel to print image saved, and then click 'Print' button.

Window comes to input Memo, and click 'OK' button to print the image through the printer connected. Print material includes 'Printing Date', 'Channel name', 'Recording Date', 'Event', 'Memo'.



## Back up

There are re4 (Multi channel) and avi(single channel) Set From, To time and select the channel for backup Point out the location for backup. Input in Password/Verify. In case of playback backed up file, correct password should be input.



## Move to Web Monitor

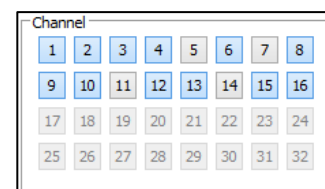
Click 'Go' button at top of page, and it can move Web monitor page.

## Channel On/Off

Same function as the Channel On/Off function at Web Monitor.

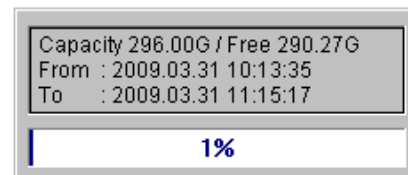
Located on the right, and click the wanted channel to "On" or "Off". All channels are On by Default.

Disabled Channel button means the product doesn't support it.



## Recording Duration & Checking Record Capacity

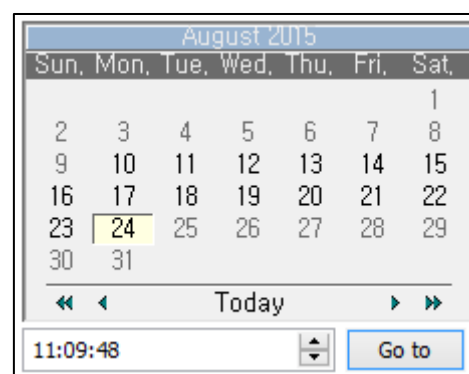
Displays the used and remaining space of HDD and the dates on which the first recording and last recording were done. It also shows in % how much space a user is using.



## Calendar search

Recorded date is enabled in black color, and others unrecorded date disabled in grey. Click [Go to] button after select date & time so as to playback images on the date & time selected.

[ 2011.09.27 17:30:47 ~ 2011.09.28 17:30:47 ] <- >



'When clicking the 'Go To' button, it indicates for 24hours from the time selected at left bottom. As above picture, it is possible to change the time zone with '24h' button.

## Function buttons on the bottom of an image



- ① Indicates playback range of recorded image.
- ② Press <,> button as the time set at (5) so as to change the time zone to playback in forwarding and reversing.
- ③ From left button, it can 'Move a frame back', 'Play backward', 'Stop', 'Play', 'Move a frame forward'.
- ④ It is the function to set play speed. After click the button, it can set the play speed '0.5x, 1x, 2x, 4x, 16x,

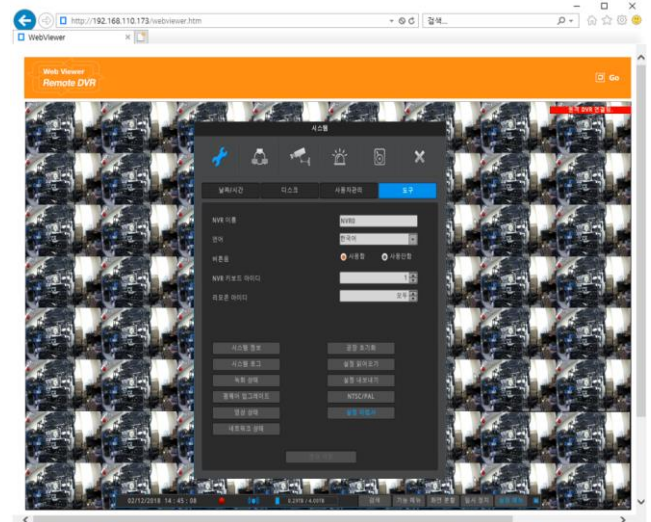
32x, 64x, and All'.

- ⑤ It is the function to set play area. After click the button, it can select play area '10min, 30min, 1hour, 3hour, 6hour, 12hour, 24hour'.
- ⑥ It can select DirectX use or not. If check DirectX mode, it can play image into Direct Draw based on graphic card and performance of PC.
- ⑦ It is the function to set audio play or not, and volume

## Remote DVR

Viewer supports Remote DVR function. Remote DVR is similar to the Remote Desktop of Windows PC and it can show the NVR's video output and can control NVR at remote location.

To use Remote DVR, click [Remote DVR] icon located in the right upper side.



# HTML5 Webviewer

HTML5 is the new technology which does not require any active-x or plug-ins and is not depend on OS. NVR supports HTML5 webviewer which can monitor the NVR with web browsers supporting HTML5. (Currently HTML5 Webviewer does not support 4M and 4K video input. HTML5 Webviewer will support 4M and 4K in the near future)

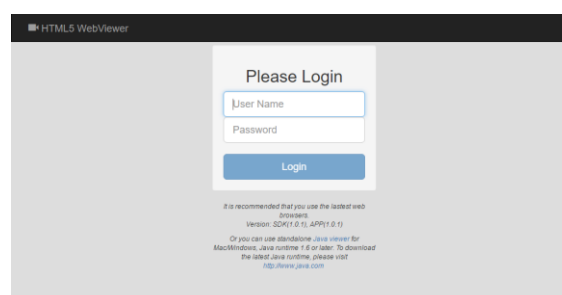
## System Requirements

Items	Recommended
CPU	Core i5 3.0GHz
Main Memory	4GB
Video Memory	512MB or higher
Display	1024MB PCI-E Graphic Card Support AGP Accelerate
BUS	Support PCI-E 16X or higher
Network	100/1000 Ethernet NIC
Web Browser	Chrome, Firefox, Safari
OS	Windows 7 / Windows 8 / Windows 10 / OS X Mavericks (version 10.9)

## Login

After inputting an IP address or domain address of NVR on web browser's address box, the Webviewer's Login page will be connected. (Examples of address are <http://192.168.1.100> as an IP address type or [www.addresses.com](http://www.addresses.com) as a domain address.) Default port number is 80. If you change the port number, then please input the changed port number to web browser's address box ([http://192.168.1.100:port\\_number](http://192.168.1.100:port_number)).

Input the user ID and password of NVR, and click 'Login' to access. Default ID is admin and default password is 12345.



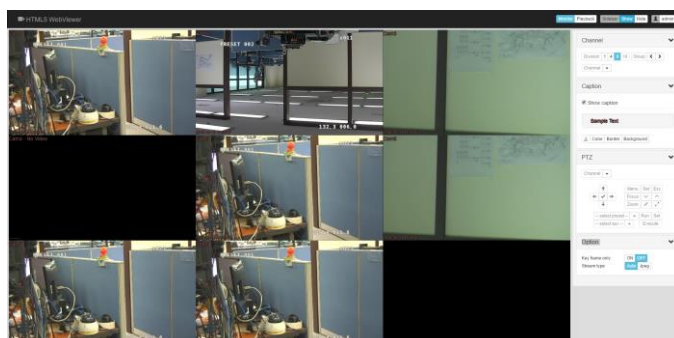
<Note>

1. If you connect the NVR via Internet Explorer, then previous Webviewer page will be shown. If you connect the NVR using mobile devices, then Mobile viewer page will be shown.
2. If you connect the NVR via web browsers supporting HTML5 such as Edge, Chrome, Firefox, Safari, etc., then HTML5 Webviewer page will be shown. (Currently, HTML5 Webviewer officially supports Chrome, Firefox and Safari.)
3. You can also use JavaViewer for Mac/Windows.
4. Supporting language is only English.

## Monitor

When it is authorized with User ID & Password input at Login page, it moves to monitor page.

At monitor page, user can monitor the real time video of connected NVR and can control PTZ camera, Relay, and Microphone functions according to user's authorization.



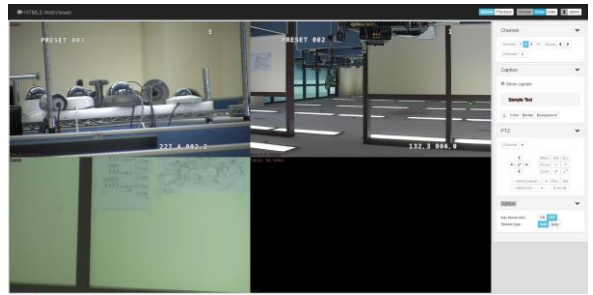


## Screen Division

At initial monitor page, all video channels will be shown with the maximum division. The number of video channels will be depend on the NVR model.

You can change the screen division mode by clicking

Division **1** 4 9 16 Icon.



## Single Division

Double click the video channel to see with single division mode. If double click again, the previous screen division mode will be shown.



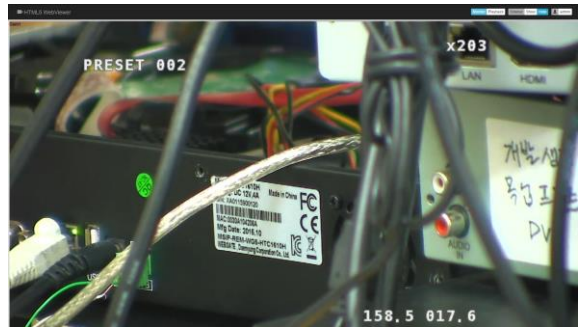
## Full Screen

Using full screen function of browser (such as F11 key), user can monitor the NVR with full screen.

<Note>

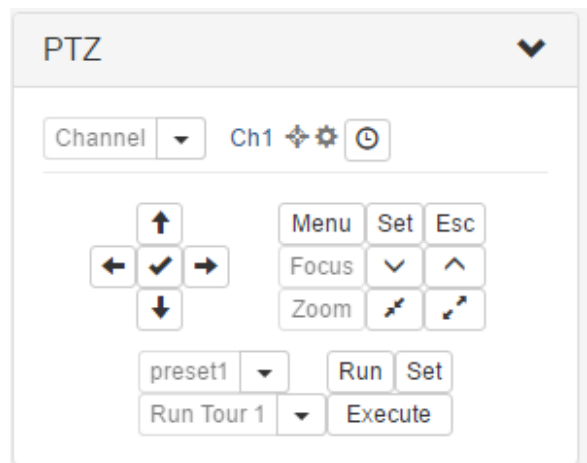
User can show or hide the 'Sidebar' by clicking

Sidebar **Show** **Hide** Icon.



## Using PTZ

User can control the PTZ by using PTZ menu on sidebar. After selecting video channel, user can control Pan/Tilt, Zoom/Focus, Preset, Auxiliary functions of PTZ camera.



# Playback

By clicking **Playback** icon at the top, user can playback the NVR's recorded video. Note that only authorized users for playback/search can use playback function.

At initial playback page, all video channels will be shown with the maximum division. The number of video channels will be depend on the NVR model.



## Status for the recording duration and capacity

This status menu shows the used space and remaining space of HDD. Also, it shows the recording start time and shows the last recording time.

100%	
Space	Capacity:2T, Free:0M
From	2016-10-03 05:40:00
To	2016-10-13 13:45:39

## Selecting channels

Select the channels to playback and click **Download and Play**. Then HTML5 Webviewer will playback that channels.

Channel				
<input checked="" type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	
<input checked="" type="checkbox"/> 5	<input checked="" type="checkbox"/> 6	<input checked="" type="checkbox"/> 7	<input checked="" type="checkbox"/> 8	
Select all		Clear all		

## Search and Playback

Recorded date is enabled in black color, and others unrecorded date disabled in grey.

Click **Download and Play** after selecting date & time, then HTML5 webviewer will playback the video recorded at that date & time.

<Note>

Audio is not supported.

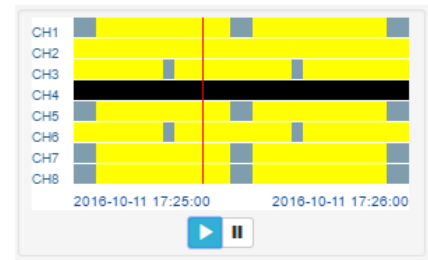
Date						
← 2016-10 →						
Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					
Time Range						
1Min 5Min 10Min 30Min 1Hour						
From: 2016-10-11 17:25:00						
To: 2016-10-11 17:26:00						
Download and Play						

## Timeline


Timeline shows the recording status including event information. Timeline with grey means 'no event'. Timeline with yellow means that motion is detected. Timeline with red means that sensor is input.

<Note>

Only x1 forward playback and pause are supported.



## Backup

User can backup by clicking  icon. The format of backup file is mp4 file.

### Sequence

1. Select the channel to backup.
2. Select the start and end time to backup (From, To).
3. Select the stream resolution, 'Main' (high resolution) or 'Sub' (low resolution).
4. Leave message (optional) and click 'Start'.
5. Select the directory to store the backup file after finishing backup.

<Note>

1. Only one channel can be backup at once. Please use Control Center to backup multi channels at once.
2. Audio is not supported.
3. Control Center supports very powerful and convenient functions. Please use Control Center for more powerful functions.

A 'Backup' dialog box with a close button (X) in the top right corner. It contains the following fields:

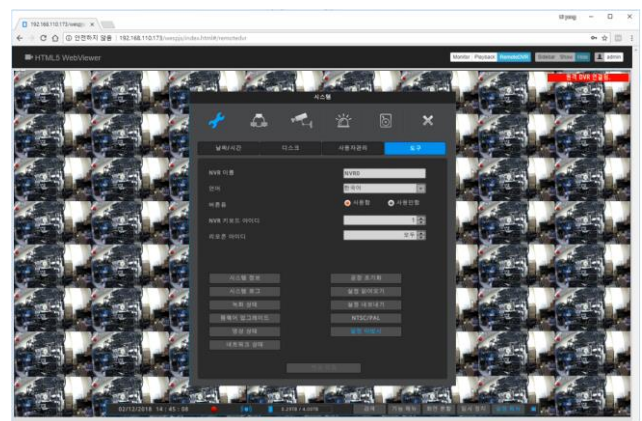
- Channel:** Radio buttons for channels 1 through 8. Channel 1 is selected.
- From:** A text field containing '2016-10-11 17:25:00'.
- To:** A text field containing '2016-10-11 17:26:00'.
- Stream:** Two buttons, 'Main' and 'Sub'. 'Main' is selected.
- Message:** A text area containing the word 'Ready'.
- At the bottom, there are three buttons: 'Start', 'Cancel', and 'Close'.

## Remote DVR

Weviewer supports Remote DVR function. Remote DVR is similar to the Remote Desktop of Windows PC and it can show the NVR's video output and can control NVR at remote location.

To use Remote DVR, click [Remote DVR] icon located in the right upper side.

**RemoteDVR**





# Mobile Application

Mobile application is supported for Smart Phone (Android and iOS). It is available to search and install as free of charge in Apple App store & Google Android Store. (Please refer 5 page to find out the name of application.)

- ✓ Available to register up to 100 units
- ✓ Supports multi-stream function
- ✓ Able to search system and event logs.

Supports Digital Zoom, PTZ Control, Image saving, Image e-mail sending, etc. in Single Monitoring Mode.

## registration method for iOS app

### URL register

1. Touch "+" button after application installed.
2. Select URL in category.
3. Touch "Find" button then there's unit name and IP address shown. Touch save button to finish unit register.
4. Touch unit created to enter unit's screen.

### WRS register

1. Select WRS in category.
2. Enter group ID created in the NVR.
3. Click on "search by group ID".
4. Touch "Find" button then there comes unit name of searched NVR and IP address and touch save button to finalize unit register.
5. Touch unit created to enter unit's screen.

### <Note>

WRS of NVR and port forwarding must be enabled to register unit.  
\*P2P feature might not be included based on types of model.

The image shows two screenshots of the iOS mobile application interface for unit registration. The top screenshot displays the 'Unit Input' screen with fields for Unit Name, Unit Address, Port (80), User ID (admin), and Password. Below these fields is a 'Find' button. The bottom screenshot shows the 'Unit Input' screen with a 'Group ID' field and a 'Find by Group ID' button. Below these fields are fields for Unit Name, Server Name (mycam.to), User ID (admin), and Password. At the bottom of the screen, there is a navigation bar with 'Edit', 'Unit List', and a '+' button. Below the navigation bar, there are two tabs: 'WEB' and 'DEMO'.

## Register method for Android app

### URL register

1. Touch "+" button after application installed.
2. Select URL in category.
3. Touch "Find" button then there's unit name and IP address shown. Touch save button to finish unit register.
4. Touch unit created to enter unit's screen.

Unit input

URL WRS P2P

WRS

Group ID Input Group ID

Search for Group ID

Site Input unit name

Server name mycam.tø

User ID admin

Password .....

Unit information

Unit name

Model

Save

Copied to Clip Tray

### WRS register

1. Select WRS in category.
2. Enter group ID created in the NVR.
3. Click on "search by group ID".
4. Touch "Find" button then there comes unit name of searched NVR and IP address and touch save button to finalize unit register.
5. Touch unit created to enter unit's screen.

Unit input

URL WRS P2P

URL

Site Input unit name

Unit Address Input Unit address

Port 80

User ID admin

Password .....

Unit information

Unit name

Model

Find

Save

### <Note>

WRS of NVR and port forwarding must be enabled to register unit.

\*P2P feature might not be included based on types of model.

UNIT LIST ALARM LIST

Edit Unit list +

web

DEMO

## Mobileviewer

This service allows users to view video by accessing to NVR from mobile device's web browser without certain applications. The device must support either wifi, 3G or Lte.

Input the form of <http://IP/svc/mviewer.html> to access to NVR from the web browser



# Appendix

## Problem solving [FAQ]

problem & symptom	solution
If system power isn't on, LED on the system front won't operate	<ul style="list-style-type: none"><li>✓ Check the power of system</li><li>✓ Check power voltage in out</li><li>✓ Check or replace power supply if power doesn't turn on after above procedure</li></ul>
No video on some channels with black screen	<ul style="list-style-type: none"><li>✓ Check the camera connected with relevant channel. Occasionally, the symptom may occur if camera video doesn't input correctly.</li><li>✓ Check if power is supplied to camera correctly.</li><li>✓ Occasionally, the symptom may occur with weak video signal from video distributor when the video is connected with variable systems. In this case, the symptom can be figured out/ solved connecting the camera directly to NVR.</li></ul>
Only logo screen shows repeatedly	<ul style="list-style-type: none"><li>✓ Do auto upgrade using front USB port.<ol style="list-style-type: none"><li>1. USB memory with FAT32 format is required.</li><li>2. Copy NVR's Firmware file (*.dat) to USB memory.</li><li>3. Insert that USB memory to NVR's front USB port.</li><li>4. Turn OFF and ON the NVR's power.</li><li>5. During booting, progress bar will be displayed on monitor and NVR will be automatically rebooted.</li></ol></li><li>✓ If auto upgrade is failed, main board may have a problem or SW is damaged. Please contact CS for a further check.</li></ul>
Cursor doesn't move in Calendar Search.	<ul style="list-style-type: none"><li>✓ Check if marked at channel and date you want playback</li><li>✓ Both channel and date should be checked to start playback.</li></ul>
"HDD FAIL" icon and error message pops up.	<ul style="list-style-type: none"><li>✓ Please check HDD connection status. Please contact local dealer if this message continues to pop up even if there is no problem in connection.</li></ul>
There is no added information of HDD after installing additional HDD.	<ul style="list-style-type: none"><li>✓ Please check if additional HDD is compatible with NVR. To know more about compatibility, please contact CS team of manufacturer.</li></ul>
Network setup using router is difficult.	<ul style="list-style-type: none"><li>✓ Please refer to product manual for details</li><li>✓ Please refer to UPnP section under "Network connection and setup" if a user is using router for network connection.</li></ul>
Lost password.	<ul style="list-style-type: none"><li>✓ Please contact CS team of manufacturer.</li></ul>
Copied data is not played in the PC.	<ul style="list-style-type: none"><li>✓ Please don't remove media during copy or don't turn off NVR.</li><li>✓ Please install multi codec for playback data copied in avi format.</li></ul>
Recording is not working.	<ul style="list-style-type: none"><li>✓ Please check if camera input is well connected</li><li>✓ Please check record mode.</li><li>✓ Please check HDD is ready for record.</li><li>✓ Please check if current time is included in scheduled record time in case record mode is continuous or event.</li><li>✓ Please press FUNC [TOOL – MANUAL RECORDING] button to start record.</li><li>✓ In case event record is not working please check event detection status.</li></ul>
Recorded picture quality is not good.	<ul style="list-style-type: none"><li>✓ Please set picture quality as higher quality on webpage of IP camera.</li></ul>

# Compatible HDD

For compatible HDD information, please refer to technical supports of manufacturer.

## Factory default set-up values

System			
Date/time	Time		Current time
	Time zone		UTC +09:00 Seoul
	Daylight Saving Time (DST)		Off
	Date Format		Month/Day/Year
	Sync with NTP		Off
Disk	Overwrite		On
	Block Playback		Off / 5Day
User Setup	User		admin
	Password		12345
	Additional User Setup	Auto Login	On / admin
		Auto Log-Out	Off / 1 Min
Auto Lock		Off / 1 Min	
Utility	NVR Alias		NVR0
	Language		Previous setting (Manually set when shipment)
	Key Buzzer		On
	NVR Keyboard ID		1
	NTSC/PAL		Previous setting (Manually set when shipment)
	Setup Wizard		Previous setting (initial setting : on)
Network (Previous setting is not changed when Factory Reset)			
Network	Type		Ethernet
	Automatic Addressing (DHCP)		Off
	IP Address 1		192.168.0.2
	Net Mask 1		255.255.255.0
	Gateway		192.168.0.1
	UPnP Port Forwarding		On
	DNS 1/2/3		4.2.2.1 / 0.0.0.0 / 0.0.0.0
	Port		80
	Bandwidth Limit (Mbps)		unlimited
	Video Streaming (RTSP)		Port 554 / Auth On
	IP Filtering		Off
	Service Streaming		Remote DVR
DDNS			inactivate
WRS			Inactivate
Radius			inactivate
Device			
Camera	Status		On
	Name		Cam 1 ~ 64
PTZ	Port		Inactivate
	Device		Inactivate
	Address		Inactivate
	Baudrate		Inactivate
	Keyboard	Port	None
Monitor	Edit Auto Sequence (SEQ)	Channel	Cam 1~64
		SEQ Rotation	1~64
	Sequence Interval		5 (Sec)
	Restore after Event popup		Off

	Resolution	HDMI resolution	1920x1080
		VGA resolution	1920x1080
<b>Event</b>			
Event	Activate Event Check		On
	Schedule		Always Check
	Event Actions	Buzzer	Off
		Email	Off
		FTP	Off
		Video Popup	Off
		System Alarm	Always on event
			System
			HDD Fail Password Fail
		Others	Inactivate
		Camera Preset	Off
		Alarm Push	Enable
			System
			HDD Fail
	E-mail Setup	Recipient Address 1	receiver@gmail.com
		Recipient Address 2	
		Recipient Address 3	
		Sender Address	dvr1@dvr.com
		Subject	Event Notification
		Attach Picture	Off
		SMTP Server Address	SMTP_SERVER
		SMTP Server ID	Email_id
		SMTP Server Password	xxxxxxx
		SMTP Server Port	25
		SMTP Server Authentication	Not Use
	FTP Setup	Server IP/URL	FTP_SERVER
		FTP Directory	/
		User Account ID	ftp_user
		User Account Password	xxxxxxx
Motion	Video Channel		All channel
	Activate Motion Detection		On
<b>Record</b>			
Record	Record Mode		Normal/Event Record
	Program		A (Normal/Event max fps for all channel)
	Emergency Record		On
	Pre Event Duration		5 seconds
	Post Event Duration		5 seconds

# Product specification

## 16 CHANNEL NVR

VIDEO INPUT			PTZ	
Video Input	Channel	16CH IP video Input	Protocols	IP Camera with Onvif protocol & WESP protocol
	Protocol	WESP, Onvif Profile S	NETWORK	
	Format	H264, H265*	Interface	1 Gigabit Ethernet RJ-45 port (10/100/1000Mbps)
	Resolution	1st stream: 720p~4K 2nd stream: Max 720p	Protocol	WESP, HTTP, RTSP/RTP, (Onvif), UPnP, RADIUS, TCP/IP, UDP, ARP, ICMP, DHCP, PPPoE, SMTP, SNMP, SNTP, TLS
	Performance	160Mbps	DDNS	WNS, DynDNS, NoIP, WRS
	Stream	RTSP over TCP, RTSP over HTTP	TX Performance	100Mbps
	PoE	Not supported	NTP	Mode : Server / C/Inet / Both Server : Public / Private
VIDEO OUTPUT				
Video output	Port	1HDMI, 1VGA	Users	10 Monitoring, 4 Playback, 1 Configuration tool
	Format	HDMI : 4K/1080p VGA : 1920×1080, 1280×1024, 1024×768, 800 X 600	Service Streaming	Service Channel*, Remote DVR
		SECURITY		
		Modes	Duplicate : HDMI, VGA main	User level
	Spot* : HDMI main, VGA spot		User privilege	Menu, PTZ, Playback, Power, Copy, Network MIC
	Main only : HDMI main, VGA off		IP filtering	10 IP address ranges
	Display	Main: 1, 4, 6, 9, 10, 13, 16 split-screen	STORAGE & BACKUP	
		Spot* : 1, 4, 9, 16 split-screen	Storage devices	2 SATA HDDs
			RAID Level	External storage including network storage(Level 1/5/10)*
RECORDING			File system	WebGate's own filesystem for high-performance DVR Safe data retention in power interrupt
Compression	H.264 / H.265*		Capacity	Max. 128TB with SATA
Resolution	1st stream : more than 720p 2nd stream : under 720p			Max. 256TB with Network Storage*
Rate	Total 480 fps, Max 30fps/ch @ 4K			8TB HDD Supported (Recommended to use more than 3TB capacity HDDs)
Bitrate	1st stream : Max. 8Mbps 2nd stream : Max. 2Mbps		Backup type	USB 2.0(1 port), USB 3.0(1 port) Max 32GB(FAT32)
Mode	Continuous / Manual / Emergency		Backup device	2 USB 2.0 drive (1 front, 1 rear)
Schedule	24hrs / 7days		S.M.A.R.T.	Temperature and Health checking
PLAYBACK			SERIAL & I/O	
Mode	Instant Playback / Search		Serial port	Not supported
Speed	1x, 2x, 4x, 8x, 16x, 32x, 64x		Sensor Input	sensor of IP camera
Search type	Time/Calender, Event, Thumbnail(Time, Motion), Text		Relay output	Not supported
Block playback	24hours ~ 99days		CONTROLLER	
EVENT & ALARM			Device	Joystick Keyboard, Mouse
Event source	Motion detection, Sensor Input, Video Loss, Text Input		SOFTWARE	
Event check Schedule	24hrs / 7days		HTML5 Webviewer	Monitoring / Event / PTZ / Playback for browser supporting HTML5
Event action	Buzzer, E-mail, FTP, Alarm Pop-Up		Webviewer	Monitoring / Event / PTZ / Playback for IE
SYSTEM ALARM			Mobile viewer	Monitoring / Playback / Alarm Push / PTZ / Audio / Log View with iPhone & Android
Alarm source	HDD fail, HDD almost full, Password fail, WRS Reg fail, Power On, Recording Fail		CMS	Control Center, Max. 1024 Units
Alarm action	Pop-up Message, Buzzer, E-mail		SDK	ActiveX(COM) SDK
AUDIO			ENVIRONMENTAL & PHYSICAL	
Input/output	1 Input(RCA Jack, Line-in, 1Vpp) / 1 output(HDMI & RCA)		Dimension	380(W)×267.8(D)×45(H)mm
Compression	ADPCM (128Kbps, 32KHz, 16bit Sampling)		Weight	1.5kg
Direction	Both		Operating Temperature	5℃ ~ 45℃ (41F ~ 113F)
			Operating Humidity	80% below, free of condensation
			Power	AC 100~240V, 50/60Hz
			Power Consumption	Max. 15W without HDD
			Approval	KC, FCC, CE, RoHS
			(* 표시- 지원 예정)	

(\* 표시- 지원 예정)

## 36 CHANNEL PoE NVR

VIDEO INPUT			PTZ	
Video Input	Channel	36CH IP video Input	Protocols	IP Camera with Onvif protocol & WESP protocol
	Protocol	WESP, Onvif Profile S	NETWORK	
	Format	H264, H265*	Interface	1 Gigabit Ethernet RJ-45 port (10/100/1000Mbps)
	Resolution	1st stream: 720p~4K	Protocol	WESP, HTTP, RTSP/RTP, (Onvif), UPnP, RADIUS, TCP/IP,
		2nd stream: Max 720p		UDP, ARP, ICMP, DHCP, PPPoE, SMTP, SNMP, SNTP, TLS
	Performance	320Mbps	DDNS	WNS, DynDNS, NoIP, WRS
	Stream	RTSP over TCP, RTSP over HTTP	TX Performance	100Mbps
VIDEO OUTPUT			NTP	Mode : Server / C/Inet / Both
				Server : Public / Private
Video output	Port	1HDMI, 1VGA	Users	10 Monitoring, 4 Playback, 1 Configuration tool
	Format	HDMI : 4K/1080p	Service Streaming	Service Channel*, Remote DVR
		VGA : 1920×1080, 1280×1024, 1024×768, 800 X 600	SECURITY	
	Modes	Duplicate : HDMI, VGA main	User level	1 admin, 10 users
		Spot* : HDMI main, VGA spot	User privilege	Menu, PTZ, Relay, Playback, Power, Copy, Network MIC
		Main only : HDMI main, VGA off	IP filtering	10 IP address ranges
	Display	Main: 1, 4, 6, 9, 10, 13, 16, 25, 36 split-screen	STORAGE & BACKUP	
		Spot* : 1, 4, 9, 16, 36 split-screen	Storage devices	4 SATA HDDs
			RAID Level	External storage including network storage(Level 1/5/10)*
RECORDING			File system	WebGate's own filesystem for high-performance DVR Safe data retention in power interrupt
Compression	H.264 / H.265*		Capacity	Max. 128TB with SATA
Resolution	1st stream : more than 720p			Max. 256TB with Network Storage*
	2nd stream : under 720p			8TB HDD Supported (Recommended to use more than 3TB capacity HDDs)
Rate	Total 1080 fps, Max 30fps/ch @ 4K		Backup type	USB 2.0(1 port), USB 3.0(1 port)
Bitrate	1st stream : Max. 8Mbps			Max 32GB(FAT32)
	2nd stream : Max. 2Mbps		Backup device	2 USB 2.0 drive (1 front, 1 rear)
Mode	Continuous / Manual / Emergency		S.M.A.R.T.	Temperature and Health checking
Schedule	24hrs / 7days		SERIAL & I/O	
PLAYBACK			Serial port	1 RS-485
Mode	Instant Playback / Search		Sensor Input	16 Dry-contacts + sensor of IP camera
Speed	1x, 2x, 4x, 8x, 16x, 32x, 64x		Relay output	4 Relays
Search type	Time/Calender, Event, Thumbnail(Time, Motion), Text		CONTROLLER	
Block playback	24hours ~ 99days		Device	Joystick Keyboard, Mouse
EVENT & ALARM			SOFTWARE	
Event source	Motion detection, Sensor Input, Video Loss, Text Input		HTML5 Webviewer	Monitoring / Event / PTZ / Playback for browser supporting HTML5
Event check Schedule	24hrs / 7days		Webviewer	Monitoring / Event / PTZ / Playback for IE
Event action	Buzzer, Relay, E-mail, FTP, Alarm Pop-Up		Mobile viewer	Monitoring / Playback / Alarm Push / PTZ / Audio / Log View with iPhone & Android
SYSTEM ALARM			CMS	Control Center, Max. 1024 Units
Alarm source	HDD fail, HDD almost full, Password fail, WRS Reg fail, Power On, Recording Fail		SDK	ActiveX(COM) SDK
Alarm action	Pop-up Message, Buzzer, Relay, E-mail		ENVIRONMENTAL & PHYSICAL	
AUDIO			Dimension	440(W)×390(D)×70(H)mm
Input/output	1 Input(RCA Jack, Line-In, 1Vpp) / 1 output(HDMI & RCA)		Weight	4.7kg
Compression	ADPCM (128Kbps, 32KHz, 16bit Sampling)		Operating Temperature	5℃ ~ 45℃ (41F ~ 113F)
Direction	Both		Operating	80% below, free of condensation
			Power	AC 100~240V, 50/60Hz
			Power Consumption	Max. 15W without HDD
			Approval	KC, FCC, CE, RoHS
			(* 표시- 지원 예정)	

(\* 표시- 지원 예정)

## 64 CHANNEL NVR

VIDEO INPUT			PTZ	
Video Input	Channel	64CH IP video Input	Protocols	IP Camera with Onvif protocol & WESP protocol
	Protocol	WESP, Onvif Profile S	NETWORK	
	Format	H264, H265*	Interface	2 Gigabit Ethernet RJ-45 port (10/100/1000Mbps)
	Resolution	1st stream: 720p~4M (4K*)	Protocol	WESP, HTTP, RTSP/RTP, (Onvif), UPnP, RADIUS, TCP/IP,
		2nd stream: Max 960x540		UDP, ARP, ICMP, DHCP, PPPoE, SMTP, SNMP, SNTP, TLS
	Performance	320Mbps	DDNS	WNS, DynDNS, NoIP, WRS
	Stream	RTSP over TCP, RTSP over HTTP	TX Performance	100Mbps
PoE	Not supported	NTP	Mode : Server / Clnet / Both	
VIDEO OUTPUT			Server : Public / Private	
Video output	Port	2HDMI, 1VGA	Users	10 Monitoring, 4 Playback, 1 Configuration tool
	Format	HDMI1: 4K/1080p / HDMI2 : same as VGA	Service Streaming	Service Channel*, Remote DVR
		VGA : 1920×1080, 1280×1024, 1024×768, 800 X 600	SECURITY	
	Modes	Duplicate : HDMI1, HDMI2, VGA main	User level	1 admin, 10 users
		Spot* : HDMI1 main, HDMI2 / VGA spot	User privilege	Menu, PTZ, Relay, Playback, Power, Copy, Network MIC
		Main only : HDMI1 main, HDMI2 / VGA off	IP filtering	10 IP address ranges
	Display	Main : 1, 4, 6, 9, 10, 13, 16, 25, 36, 64 split-screen	STORAGE & BACKUP	
		Spot* : 1, 4, 9, 16, 36, 49, 64 split-screen	Storage devices	8 SATA, 2 eSATA HDDs
RAID Level			External storage including network storage(Level 1/5/10)*	
RECORDING			File system	WebGate's own filesystem for high-performance DVR Safe data retention in power interrupt
Compression	H.264 / H.265*		Capacity	Max. 128TB with SATA/eSATA
Resolution	1st stream : more than 720p			Max. 256TB with Network Storage*
	2nd stream : under 720p			8TB HDD Supported (Recommended to use more than 3TB capacity HDDs)
Rate	Total 1920 fps, Max 30fps/ch @ 4M		Backup type	USB 2.0(2 port), USB 3.0(1 port)
Bitrate	1st stream : Max. 8Mbps			Max 32GB(FAT32)
	2nd stream : Max. 2Mbps		Backup device	3 USB 2.0 drive (1 front, 2 rear)
Mode	Continuous / Manual / Emergency		S.M.A.R.T.	Temperature and Health checking
Schedule	24hrs / 7days		SERIAL & I/O	
PLAYBACK			Serial port	1 RS-485
Mode	Instant Playback / Search		Sensor input	8 Dry-contacts + sensor of IP camera
Speed	1x, 2x, 4x, 8x, 16x, 32x, 64x		Relay output	4 Relays
Search type	Time/Calender, Event, Thumbnail(Time, Motion), Text		CONTROLLER	
Block playback	24hours ~ 99days		Device	Joystick Keyboard, Mouse
EVENT & ALARM			SOFTWARE	
Event source	Motion detection, Sensor Input, Video Loss, Text Input		HTML5 Webviewer	Monitoring / Event / PTZ / Playback for browser supporting HTML5
Event check Schedule	24hrs / 7days		Webviewer	Monitoring / Event / PTZ / Playback for IE
Event action	Buzzer, Relay, E-mail, FTP, Alarm Pop-Up		Mobile viewer	Monitoring / Playback / Alarm Push / PTZ / Audio / Log View with iPhone & Android
SYSTEM ALARM			CMS	Control Center, Max. 1024 Units
Alarm source	HDD fall, HDD almost full, Password fall, WRS Reg fail, Power On, Recording Fail		SDK	ActiveX(COM) SDK
Alarm action	Pop-up Message, Buzzer, Relay, E-mail		ENVIRONMENTAL & PHYSICAL	
AUDIO			Dimension	430(W)×453(D)×89(H)mm
Input/output	1 Input(RCA Jack, Line-in, 1Vpp) / 1 output(HDMI1 & RCA)		Weight	6.2kg
Compression	ADPCM (128Kbps, 32KHz, 16bit Sampling)		Operating Temperature	5℃ ~ 45℃ (41F ~ 113F)
Direction	Both		Operating	80% below, free of condensation
			Power	AC 100~240V, 50/60Hz
			Power Consumption	Max. 15W without HDD
			Approval	KC, FCC, CE, RoHS
			(* 표시- 지원 예정)	

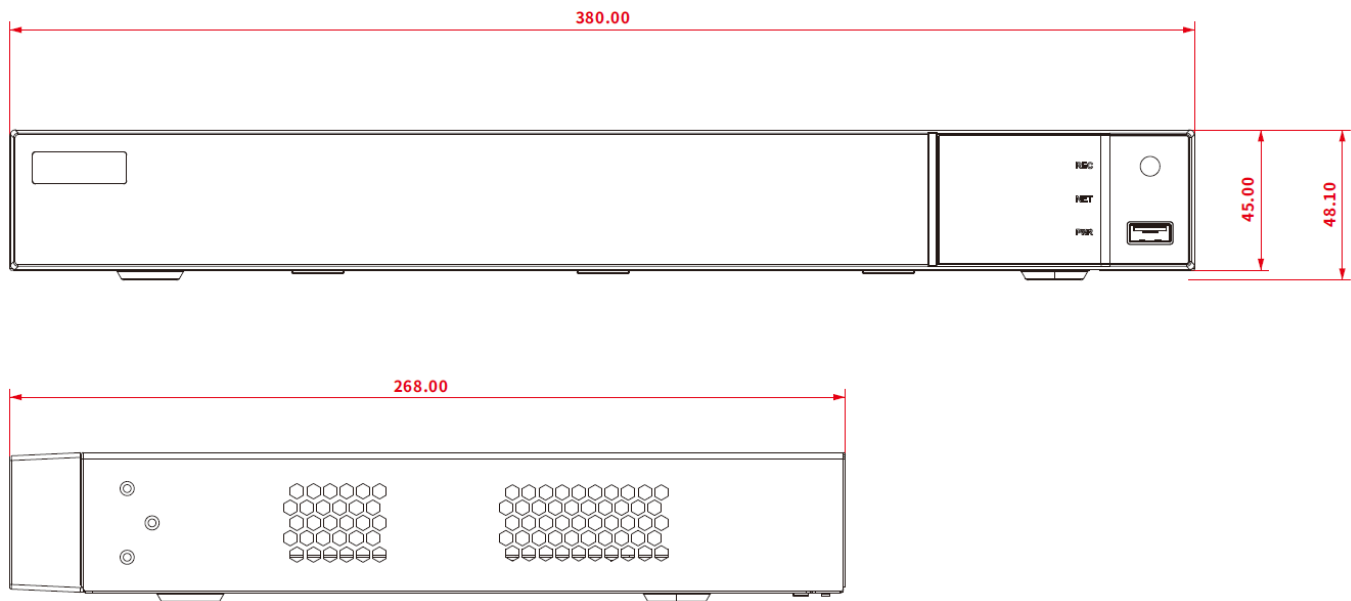


## 64 CHANNEL HOT SWAP NVR

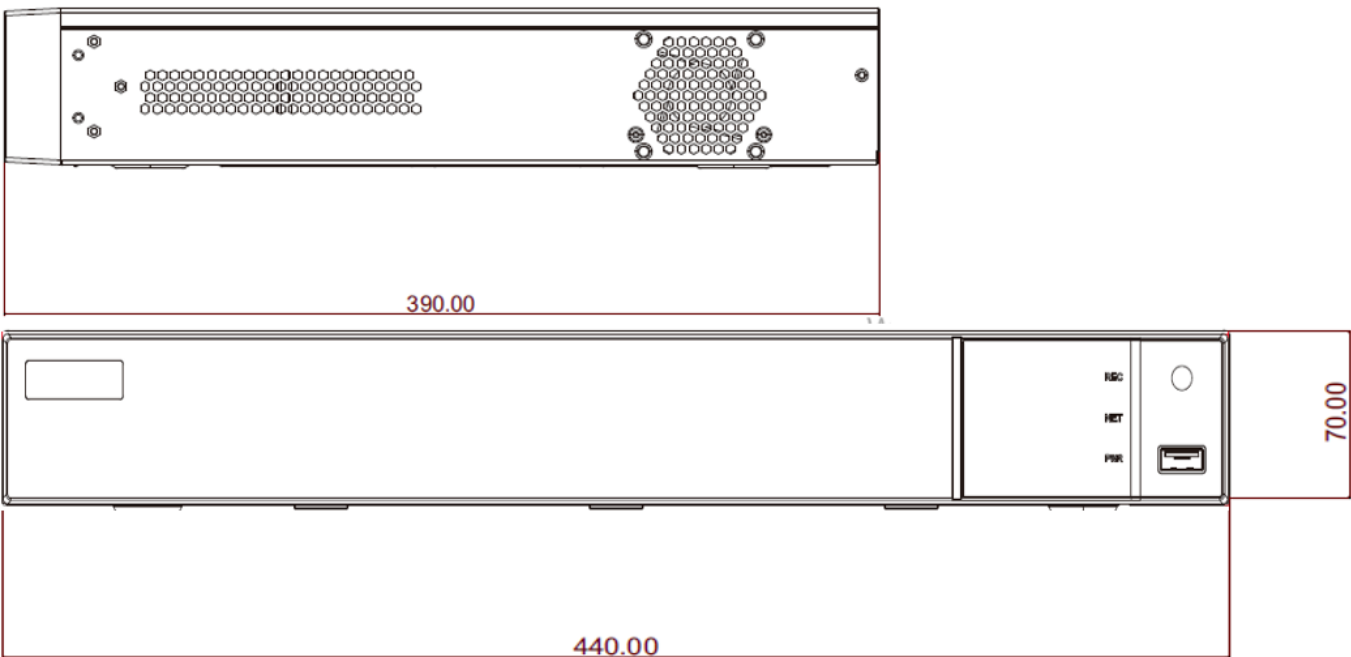
VIDEO INPUT			PTZ	
Video Input	Channel	64CH IP video Input	Protocols	IP Camera with Onvif protocol & WESP protocol
	Protocol	WESP, Onvif Profile S	NETWORK	
	Format	H264, H265*	Interface	2 Gigabit Ethernet RJ-45 port (10/100/1000Mbps)
	Resolution	1st stream: 720p~4M (H.264/H.265*)	Protocol	WESP, HTTP, RTSP/RTP, (Onvif), UPnP, RADIUS, TCP/IP,
		2nd stream: Max 960x540		UDP, ARP, ICMP, DHCP, PPPoE, SMTP, SNMP, SNTP, TLS
	Performance	320Mbps	DDNS	WNS, DynDNS, NoIP, WRS
	Stream	RTSP over TCP, RTSP over HTTP	TX Performance	100Mbps
PoE	Not supported	NTP	Mode : Server / Clnet / Both	
VIDEO OUTPUT			Server : Public / Private	
Video output	Port	2HDMI, 1VGA	Users	10 Monitoring, 4 Playback, 1 Configuration tool
	Format	HDMI1: 4K/1080p / HDMI2 : same as VGA	Service Streaming	Remote Playback, Service Channel*, Remote DVR
		VGA : 1920×1080, 1280×1024, 1024×768, 800 X 600	SECURITY	
	Modes	Duplicate : HDMI1, HDMI2, VGA main	User level	1 admin, 10 users
		Spot* : HDMI1 main, HDMI2 / VGA spot	User privilege	Menu, PTZ, Relay, Playback, Power, Copy, Network MIC
		Main only : HDMI1 main, HDMI2 / VGA off	IP filtering	10 IP address ranges
	Display	Main : 1, 4, 6, 9, 10, 13, 16, 25, 36, 64 split-screen	STORAGE & BACKUP	
		Spot* : 1, 4, 9, 16, 36, 49, 64 split-screen	Storage devices	8 SATA, 2 eSATA HDDs
			RAID Level	External storage including network storage(Level 1/5/10)*
RECORDING			File system	WebGate's own filesystem for high-performance DVR Safe data retention in power interrupt
Compression	H.264 / H.265*		Capacity	Max. 128TB with SATA/eSATA
Resolution	1st stream : more than 720p			Max. 256TB with Network Storage*
	2nd stream : under 720p			8TB HDD Supported (Recommended to use more than 3TB capacity HDDs)
Rate	Total 1920 fps, Max 30fps/ch @ 4M		Backup type	USB 2.0(2 port), USB 3.0(1 port)
Bitrate	1st stream : Max. 8Mbps 2nd stream : Max. 2Mbps			Max 32GB(FAT32)
Mode	Continuous / Manual / Emergency		Backup device	3 USB 2.0 drive (1 front, 2 rear)
Schedule	24hrs / 7days		S.M.A.R.T.	Temperature and Health checking
PLAYBACK			SERIAL & I/O	
Mode	Instant Playback / Search		Serial port	1 RS-485
Speed	1x, 2x, 4x, 8x, 16x, 32x, 64x		Sensor Input	8 Dry-contacts
Search type	Time/Calender, Event, Thumbnail(Time, Motion), Text		Relay output	4 Relays
Block playback	24hours ~ 99days		CONTROLLER	
EVENT & ALARM			Device	Joystick Keyboard, Mouse
Event source	Motion detection, Sensor Input, Video Loss, Text Input		SOFTWARE	
Event check Schedule	24hrs / 7days		HTML5 Webviewer	Monitoring / Event / PTZ / Playback for browser supporting HTML5
Event action	Buzzer, Relay, E-mail, FTP, Alarm Pop-Up		Webviewer	Monitoring / Event / PTZ / Playback for IE
SYSTEM ALARM			Mobile viewer	Monitoring / Playback / Alarm Push / PTZ / Audio / Log View with iPhone & Android
Sensor Input	Sensor input of IP camera (Max.1ea per Channel)		CMS	Control Center, Max. 1024 Units
Text Input	POS / ATM support		SDK	ActiveX(COM) SDK
Alarm source	HDD fail, HDD almost full, Password fail, WRS Reg fail, HDD Write Fail, S.M.A.R.T, Power On, Recording Fail		ENVIRONMENTAL & PHYSICAL	
Alarm action	Pop-up Message, Buzzer, Relay, E-mail		Dimension	430(W)×453(D)×89(H)mm
AUDIO			Weight	6.2kg
Input/output	1 Input(RCA Jack, Line-in, 1Vpp) / 1 output(HDMI1 & RCA)		Operating Temperature	5℃ ~ 45℃ (41F ~ 113F)
Compression	ADPCM (128Kbps, 32KHz, 16bit Sampling)		Operating	80% below, free of condensation
Direction	Both			
			Power	AC 100~240V, 50/60Hz
			Power Consumption	Max. 15W without HDD
			Approval	KC, FCC, CE, RoHS
			(* 표시- 지원 예정)	

# Product Dimension

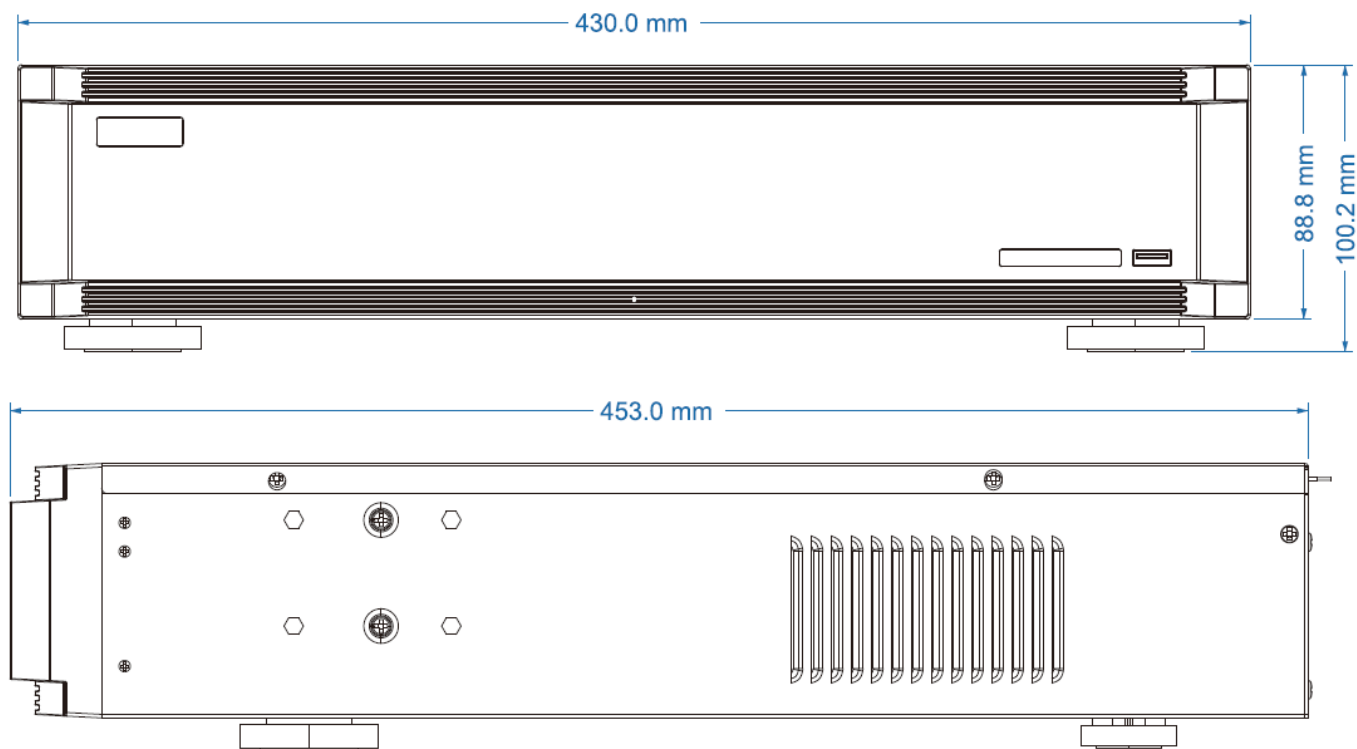
## 16 CHANNEL NVR



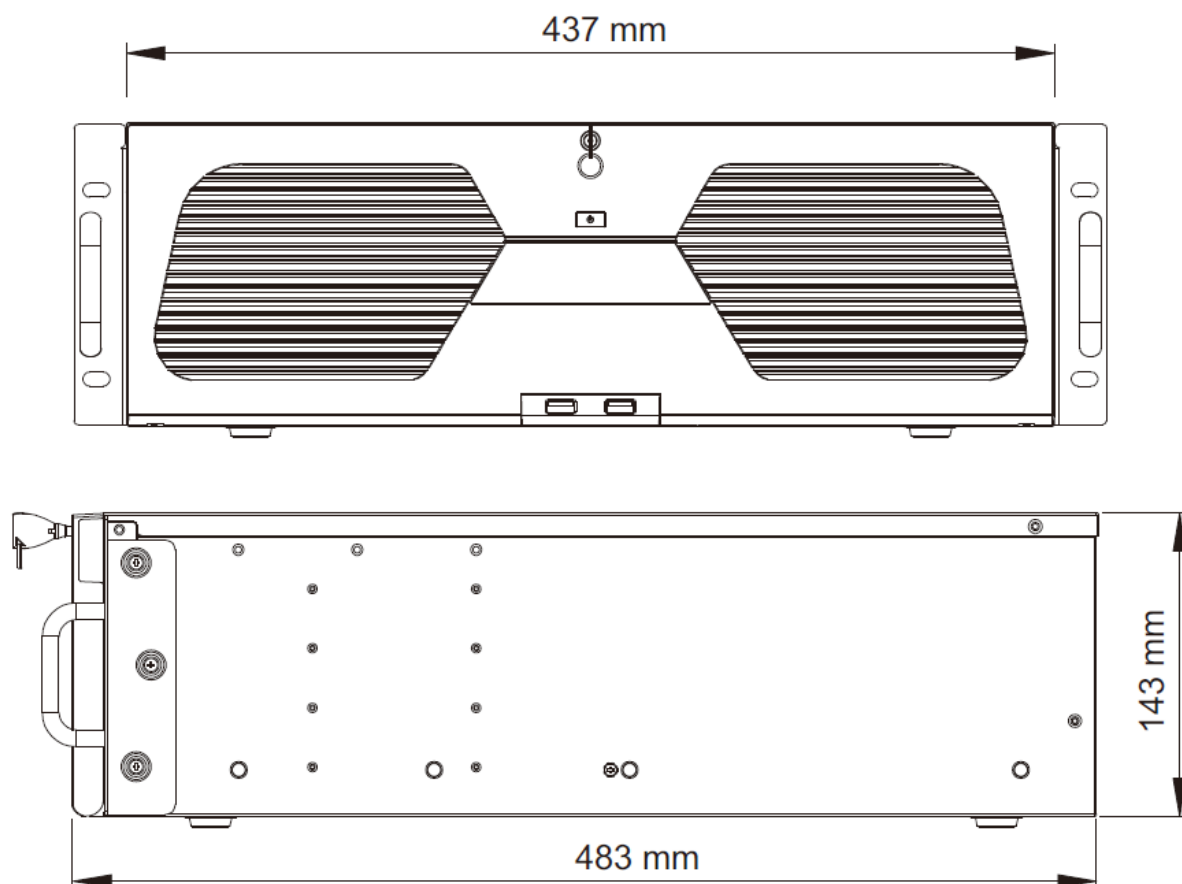
## 36 CHANNEL NVR



## 64 CHANNEL NVR



## 64 CHANNEL HOT SWAP NVR



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Preamble

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**1. Customer notice.**

- ✓ Please make regular schedule to check unit status (Daily check is recommended).
- ✓ Manufacturer will not take any responsibility on the physical/human damage caused by robbery, natural disaster.
- ✓ A/S will include product only manufactured by original manufacturer.
- ✓ Any damage caused during installation will be dealt with Installation Company.
- ✓ Manufacturer doesn't take any responsibility on wrong specified feature excluded in product manual or described improperly by other shopping mall.
- ✓ Please make sure to backup recorded data as recorded data will be removed while manufacturer repair the unit. Manufacturer will not be responsible for any data loss caused during repair service.

**2. Service request for product usage.**

- ✓ Service request on signal check according to usage environment, power check, network setting.

**3. Installation or explanation request on external device to be integrated with this product.**

**4. Simple assemble or disassemble, adjustment and any request for S/W upgrade.**

- ✓ Service request for any damage caused by other stuff coming into device.
- ✓ In case of simple adjustment without disassemble.
- ✓ Just for S/W upgrade (not for product repair)

**5. Others**

- ✓ Any damage comes from carelessness of customer or explanation request for usage.  
(Please contact manufacturer for consumable parts)
- ✓ Any damage comes from wrong media use and service request for this.
- ✓ Any damage comes from wrong installation.

**※ We recommend for user to contact (☎+82-1644-3421) before claiming customer service since customer service will require certain amount of cost.**

## Warranty

Product name	Digital Video Recorder	Warranty term
Model name	16 CHANNEL NVR 36 CHANNEL PoE NVR 64 CHANNEL NVR 64 CHANNEL HOT SWAP NVR	2 years after purchase (This warranty term can be changed by contract for supply.)
Date of purchase	/ /	
Warranty term	/ /	
Serial number		

Customer's address	Name	
	Contact	
Address of shop(Company name)	Name	
	Contact	

◆ Please fill out vacant area before selling products.

### ★ For customer service ★

Please read through product manual before claiming customer service.

Any simple malfunctions due to customer's misunderstanding on the product will be fixed by customer's side.

For requesting service?

Please inform details of malfunctions correctly.

Free or non-free repair will be decided based on details of warranty card.

### WebGate, Daemyung Corporation Co., Ltd.

6F Hanlim Venture Town B/D 284 Gongdanro Gunpo Gyeonggido, 435-862 Korea

Main TEL: +82-31-428-9300

Client Service TEL: +82-1644-3421

The damage coming from following condition will be repaired at customer's cost.

- 1) Any damage comes from customer's carelessness.
- 2) In case not recommended power is entered.
- 3) In case user repair unit at their own.
- 4) Any damage comes from natural disaster (Fire, Flood, earthquake, etc)
- 5) Consumable parts replacement.





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