

**SAMSUNG TECHWIN**

# **NETWORK VIDEO ENCODER**

User Manual

SPE-100



**SAMSUNG**

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# Network Video Encoder

## User Manual

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- ❖ Design and specifications are subject to change without prior notice.
- ❖ The initial administrator ID is "admin" and the password should be set when logging in for the first time. Please change your password every three months to safely protect personal information and to prevent the damage of the information theft.  
Please, take note that it's a user's responsibility for the security and any other problems caused by mismanaging a password.

## IMPORTANT SAFETY INSTRUCTIONS

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1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings, Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety, If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/ accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. This product is intended to be supplied by a Listed power supply unit marked "Class 2" and rated from 12 V dc, min 1.5A.

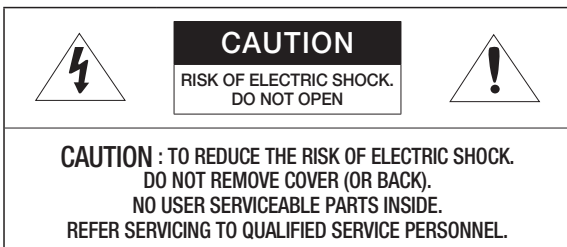


## WARNING

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

Apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

## CAUTION



## EXPLANATION OF GRAPHICAL SYMBOLS



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

## Class I construction

An apparatus with CLASS I construction shall be connected to a MAINS socket outlet with a protective earthing connection.

## Battery

Batteries(battery pack or batteries installed) shall not be exposed to excessive heat such as sunshine, fire or the like.

## CALIFORNIA USA ONLY

This Perchlorate warning applies only to primary CR (Manganese Dioxide) Lithium coin cells in the product sold or distributed ONLY in California USA. "Perchlorate Material - special handling may apply, See [www.dtsc.ca.gov/hazardouswaste/perchlorate](http://www.dtsc.ca.gov/hazardouswaste/perchlorate)."

## CAUTION

Risk of explosion if battery is replaced by an incorrect type.  
Dispose of used batteries according to the instructions.

These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

Please use the input power with just one encoder and other devices must not be connected.

# overview

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Please read the following recommend safety precautions carefully.

- Do not Place this apparatus on an uneven surface.
- Do not install on a surface where it is exposed to direct sunlight, near heating equipment or heavy cold area.
- Do not place this apparatus near conductive material.
- Do not attempt to service this apparatus yourself.
- Do not place a glass of water on the product.
- Do not install near any magnetic sources.
- Do not block any ventilation openings.
- Do not place heavy items on the product.

User's Manual is a guidance book for how to use the products.

The meaning of the symbols are shown below.

- Reference : In case of providing information for helping of product's usages
- Notice : If there's any possibility to occur any damages for the goods and human caused by not following the instruction
- ※ Please read this manual for the safety before using of goods and keep it in the safe place.

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## PRODUCT FEATURES

- **Multi-Streaming**

This network video encoder can display videos in different resolutions and qualities simultaneously using different CODECs.



- However, MPEG-4 video can not be played on a web page. Use CMS software if you want to play the video on a web page.

- **Support various communication protocols**

- **Web Browser-based Monitoring**

Using the Internet web browser to display the image in a local network environment.

- **Alarm**

If an event occurs, the event-related video will be transferred to the FTP/email specified by the user or saved to the SD memory, or the event signal will be sent to the ALARM OUT port.

- **ONVIF Compliance**

This product supports ONVIF.

For more information, refer to [www.onvif.org](http://www.onvif.org).



Driving network video through global standardization

## RECOMMENDED PC SPECIFICATIONS

- CPU : Intel Core 2 Duo 2.4 GHz or higher
  - Web Plug-in is optimized to SSE 4.1 Instruction Set.
- Operating System : Windows XP, VISTA, 7, Mac OS X 10.7 or higher
- Resolution : 1280X1024 pixels or higher (32 bit color)
- RAM : 2GB or higher
- Web Browser : Internet Explorer 7.0 or higher, Firefox 9.0 or higher, Chrome 15.0 or higher, \*Safari 5.1 or higher
  - Neither a beta test version unlike the version released in the company website nor the developer version will be supported.
  - For IPv6 connection, Window 7 or higher is recommended.
  - For Mac OS X, only the Safari browser is supported.
- Video Memory : 256MB or higher
  - ! ▪ If the driver of the video graphic adapter is not installed properly or is not the latest version, the video may not be played properly.
  - For a multi-monitoring system involving at least 2 monitors, the playback performance can be deteriorated depending on the system.

## RECOMMENDED SD/SDHC MEMORY CARD SPECIFICATIONS







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- 4GB ~ 32GB
- For your network video encoder, we recommend you use a memory card from the following manufacturers : SD/SDHC Memory Card : Sandisk, Transcend
- It is recommended you use a memory card that supports at least Class 6.

## WHAT'S INCLUDED

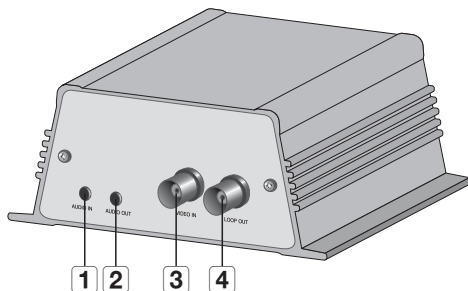
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Please check if your network video encoder and accessories are all included in the product package.

Appearance	Item Name	Quantity	Description
	Network Video Encoder	1	
	Instruction book, Installation CD	1	User manual, Quick Guide, IP Installer S/W Program
	CMS S/W DVD	1	NET-i viewer S/W Program
	Quick Guide (Optional)	1	
	Warranty card (Optional)	1	
	ASSY-Tapping Screw	4	Used for installation on the wall or ceiling

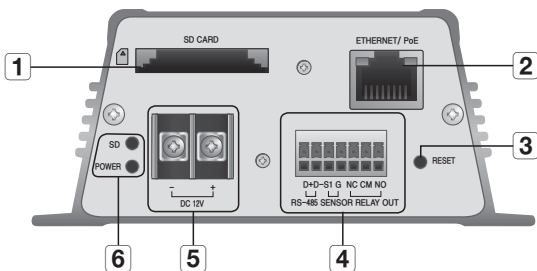
## AT A GLANCE

### Front Side



Item	Description
<b>1</b> AUDIO IN	Audio input terminal which brings sound to the network video encoder. Used to connect the microphone.
<b>2</b> AUDIO OUT	Audio output terminal which outputs sound from the network video encoder. Used to connect the speaker.
<b>3</b> VIDEO IN	Used to connect the BNC video input signal.
<b>4</b> LOOP OUT	Used to monitor the BNC video signal.

## Rear Side



Item	Description	
<b>1</b> SD Memory Card Compartment	Compartment for the SD memory card.	
<b>2</b> Network Port	Used to connect a PoE or Ethernet cable.	
<b>3</b> Reset Button	Hold it down for 5 seconds to return all your settings to the factory default.	
<b>4</b> I/O Port	D+	RS-485 Data Line
	D-	RS-485 Data Line
	S1	Alarm In
	G	GND
	NC	Alarm Out (for Normal Close)
	CM	Alarm Out (Common)
	NO	Alarm Out (for Normal Open)

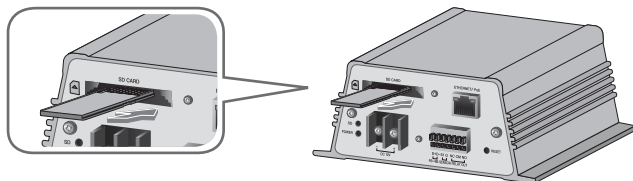
Item	Description	
<b>5</b> Power Port	Used to connect the specified power source.	
<b>6</b> SD, Power Indicators	SD	ON : A memory card is inserted and operates normally. Flashing : Failed to record, insufficient space, or inserted abnormally. OFF : Network Video Encoder is off, network video encoder is restarting, memory card is not in place, When record is off.
	POWER	ON : While the power is on. OFF : If the power is off.

# installation & connection

## INSERTING/REMOVING A SD MEMORY CARD

### Inserting a SD Memory Card

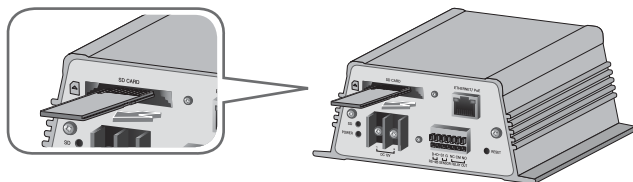
Push the SD memory card in the direction of the arrow shown in the diagram.



- ! Do not insert the SD memory card while it's upside down by force. Otherwise, it may damage the SD memory card.

### Removing a SD Memory Card

Gently press down on the exposed end of the memory card as shown in the diagram to eject the memory card from the slot.



- ! Pressing too hard on the SD memory card can cause the card to shoot out uncontrollably from the slot when released.
- To pull out the SD memory card, turn off the encoder power or set the device to **<Off>** of **<Storage>** and press the **[Apply (Apply)]** button. (page 69)
- If you turn off the encoder or remove the SD memory card that contains data from the product, the data may be lost or damaged.
- If the SD memory is inserted and when record is on, the SD LED indicator on the rear of the network video encoder will turn on.
- If there occurs a problem in the SD memory, the SD LED indicator will blink.

## MEMORY CARD INFORMATION (NOT INCLUDED)

### What is a memory card?

The memory card is an external data storage device that has been developed to offer an entirely new way to record and share video, audio, and text data using digital devices.

### Selecting a memory card that's suitable for you

Your network video encoder supports SD/SDHC memory cards.

You may, however, experience compatibility issues depending on the model and make of the memory card.

For your network video encoder, we recommend you use a memory card from the following manufacturers : SD/SDHC Memory Card : Sandisk, Transcend

It is recommended you use a memory card that supports at least Class 6.

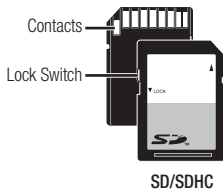
Playback performance can be affected depending on the speed of memory card, so use the high-speed memory card.

### Memory Card Use

SD and SDHC memory cards feature a switch that disables writing data on to the media.

Having this switch to the Lock position will prevent accidental deletion of data stored in the memory card but at the same time will also prevent you from writing data on to the media.

### Memory Card Components



# installation & connection

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## CONNECTING WITH OTHER DEVICE

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### Connecting to the monitor

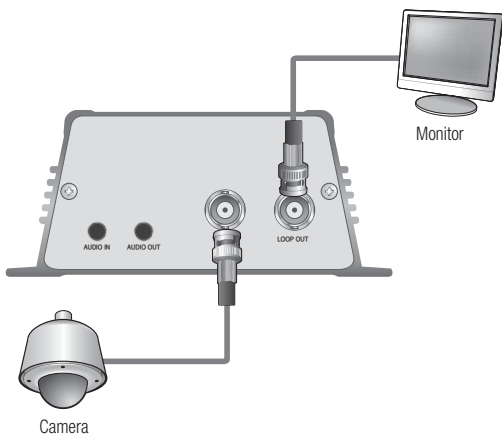
Connect the [LOOP OUT] port of the network video encoder to the video input port of the monitor.



- In the initial installation of the network video encoder, you can connect the network video encoder to the monitor for checking the connection status.
- LOOP OUT is provided for output test monitoring.

### Connecting the camera

Connect the [VIDEO IN] port of the network video encoder to the video output port of the camera.





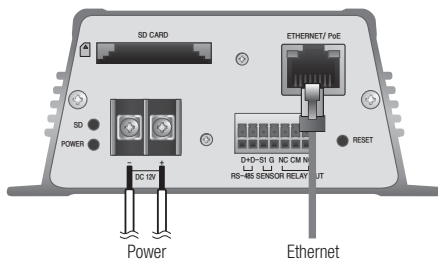
## Ethernet Connection

Connect the Ethernet cable to the local network or to the Internet.

## Power Supply

Use the screwdriver to connect each line (+, -) of the power cable to the corresponding power port of the network video encoder.

- !
  - Be careful not to reverse the polarity when you connect the power cable. You can also use a router featuring PoE (Power over Ethernet) to supply power to the device.
  - If PoE and DC 12V are both applied, this device will get supplied with power from PoE.
  - If you want to connect an external device, you must turn off the external device before proceeding.



## Electrical Resistance of Copper Wire at [20°C (68°F)]

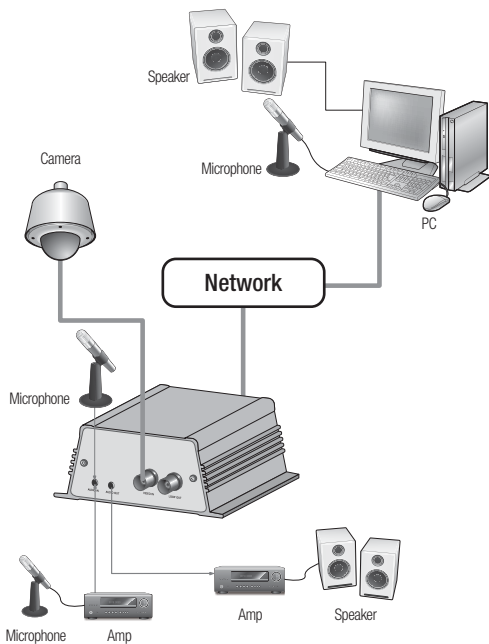
Copper Wire Gauge (AWG)	#24(0.22mm <sup>2</sup> )	#22(0.33mm <sup>2</sup> )	#20(0.52mm <sup>2</sup> )	#18(0.83mm <sup>2</sup> )
Resistance (Ω/m)	0.078	0.050	0.030	0.018
Drop Voltage (V/m)	0.028	0.018	0.011	0.006
Recommended Distance (m)	Less than 20	Less than 30	Less than 30	Less than 30

- As shown in the table above, you may encounter a voltage-sag depending on the wire length. If you use an excessively long wire for network video encoder connection, the network video encoder may not work properly.
  - Network Video Encoder Operating Voltage : DC 12V±10%
  - Voltage drop measurements on the chart above may vary depending on the type and manufacture of the copper cable.

# installation & connection

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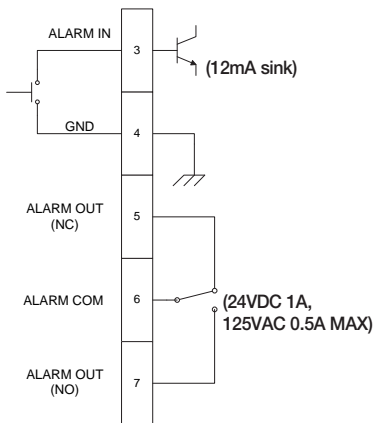
## Connecting to Audio Input/Output



1. Connect the AUDIO IN port of the network video encoder with the microphone directly or LINE OUT port of the amplifier that the microphone is connected to.
2. Connect the AUDIO OUT port of the network video encoder with the speaker or LINE IN port of the amplifier that the speaker is connected to.
3. Check the specifications for audio input.

- **Audio Codec**  
G.711 PCM.  $\mu$ -law 64kbps 8kHz sampling
- **Full duplex Audio**
- **Audio in**  
Used for mono signal line input (Max.2.4 Vpp)
- **Audio out**  
Used for mono signal line output (Max.2.4 Vpp)
- **Line out impedance**  
600 $\Omega$

### Alarm I/O Wiring Diagram

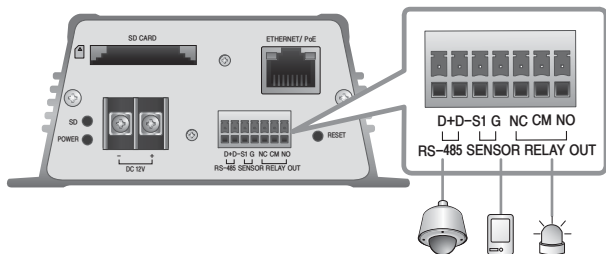


- For controlling the power with electrical contacts, a separate circuit is required.

# installation & connection

## Connecting to the I/O port box

Connect the Alarm I/O signal to the corresponding port of the rear port box.



Port	Description	Port	Description
D+	RS-485 Data Line	NC	Alarm Out (for Normal Close)
D-	RS-485 Data Line	CM	Alarm Out (Common)
S1	Alarm In	NO	Alarm Out (for Normal Open)
G	GND		

## Connecting to the RS-485 device

Connect the external device to the [RS-485 D+, D-] ports.

You can connect and control PTZ camera that supports RS-485 communication.

- Depending on camera's type, connection polarity can be different.  
For further information, refer to the corresponding PTZ Camera's documentation.

## Connecting to the Alarm Input

Connect one signal cable (out of 2) of applicable sensor to the [S1] port, and the other to the [G] port.

## Connecting the Alarm Output

Connect one signal cable (out of 2) of applicable external device to the [Alarm Out(NC, NO)], and the other to the [CM] port.

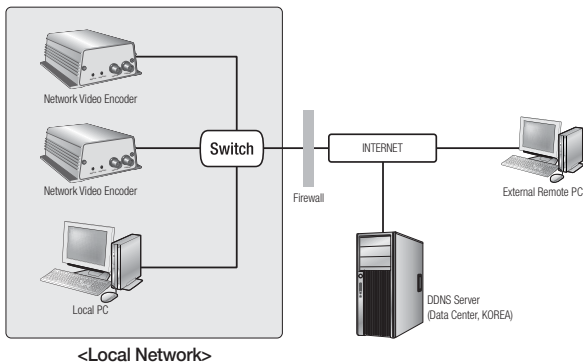
# network connection and setup

You can set up the network settings according to your network configurations.

## CONNECTING THE NETWORK VIDEO ENCODER DIRECTLY TO LOCAL AREA NETWORKING

### Connecting to the network video encoder from a local PC in the LAN

1. Launch an Internet browser on the local PC.
2. Enter the IP address of the network video encoder in the address bar of the browser.



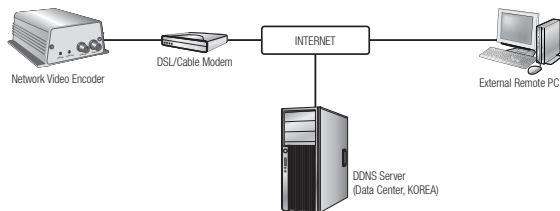
- A remote PC in an external Internet out of the LAN network may not be able to connect to the network video encoder installed in the intranet if the port-forwarding is not properly set or a firewall is set.  
In this case, to resolve the problem, contact your network administrator.
- In the IP installer, you can use the initial password, "4321" to set IP Address, Subnet Mask, Gateway, HTTP Port, VNP Port, IP type. After changing the network interface, for better security, access the web viewer and change the password.
- By factory default, the IP address will be assigned from the DHCP server automatically. If there is no DHCP server available, the IP address will be set to 192.168.1.100. To change the IP address, use the IP Installer.  
For further details on IP Installer use, refer to "Static IP Setup". (Page 26)

# network connection and setup

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## CONNECTING THE NETWORK VIDEO ENCODER DIRECTLY TO A DHCP BASED DSL/CABLE MODEM

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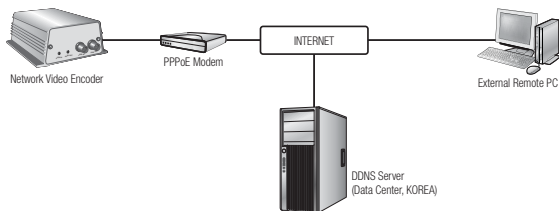


1. Connect the user PC directly with the network video encoder.
2. Run the IP Installer and change the IP address of the network video encoder so that you can use the web browser on your desktop to connect to the Internet.
3. Use the Internet browser to connect to the web viewer.
4. Move to **[Setup]** page.
5. Move to **[Network] – [DDNS]** and configure the DDNS settings.
6. Move to **[Network] – [Interface]**, and set the network type to **[DHCP]**.
7. Connect the network video encoder, which was removed from your PC, directly to the modem.
8. Restart the network video encoder.



- For registering the DDNS settings, refer to **"Registering with DDNS"**. (page 61)
- For configuring the DDNS settings, refer to **"DDNS"**. (page 60)
- For setting the network type, refer to **"Interface"**. (page 58)

## CONNECTING THE NETWORK VIDEO ENCODER DIRECTLY TO A PPPoE MODEM



1. Connect the user PC directly with the network video encoder.
2. Run the IP Installer and change the IP address of the network video encoder so that you can use the web browser on your desktop to connect to the Internet.
3. Use the Internet browser to connect to the web viewer.
4. Move to **[Setup]** page.
5. Move to **[Network]** – **[DDNS]** and configure the DDNS settings.
6. Move to **[Network]** – **[Interface]** Setup Page, set the network type to **[PPPoE]**, and enter the ID and password.
7. Connect the network video encoder, which was removed from your PC, directly to the modem.
8. Restart the network video encoder.

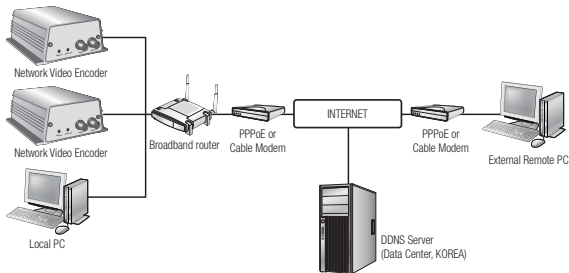


- For registering the DDNS settings, refer to **"Registering with DDNS"**. (page 61)
- For configuring the DDNS settings, refer to **"DDNS"**. (page 60)
- For setting the network type, refer to **"Interface"**. (page 58)

# network connection and setup

## CONNECTING THE NETWORK VIDEO ENCODER TO A BROADBAND ROUTER WITH THE PPPoE/CABLE MODEM

This is for a small network environment such as homes, SOHO and ordinary shops.



### Configuring the network settings of the local PC connected to a broadband router

Configuring the network settings of the local PC connected to a broadband router, follow the instructions below.

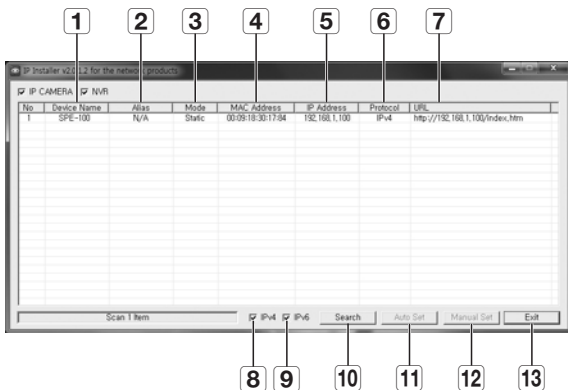
- Select : <Network Neighborhood> → <Properties> → <Local Area Connection> → <Properties> → <General> → <Internet Protocol (TCP/IP)> → <Properties> → <Obtain an IP address automatically> or <Use the following IP address>.
- Follow the instructions below if you select <Use the following IP address>:
  - ex1) If the address (LAN IP) of the Broadband router is 192.168.1.1  
IP address : 192.168.1.100  
Subnet Mask : 255.255.255.0  
Default Gateway : 192.168.1.1
  - ex2) If the address (LAN IP) of the Broadband router is 192.168.0.1  
IP address : 192.168.0.100  
Subnet Mask : 255.255.255.0  
Default Gateway : 192.168.0.1
  - ex3) If the address (LAN IP) of the Broadband router is 192.168.xxx.1  
IP address : 192.168.xxx.100  
Subnet Mask : 255.255.255.0  
Default Gateway : 192.168.xxx.1



- For the address of the Broadband router, refer to the product's documentation.
- For more information about port forwarding of the broadband router, refer to "Port Range Forward (Port Mapping) Setup". (Page 30)



## BUTTONS USED IN IP INSTALLER



Item	Description
<b>1</b> Device Name	Model name of the connected network device. Click the column to sort the list by model name. However, search will be stopped if clicked during the search.
<b>2</b> Alias	This function is not currently implemented.
<b>3</b> Mode	Displays either <Static>, <Dynamic> or <PPPoE> for the current network connection status.
<b>4</b> MAC(Ethernet) Address	Ethernet address of the connected network device. Click the column to sort the list by Ethernet address. However, search will be stopped if clicked during the search.
<b>5</b> IP Address	IP address. Click the column to sort the list by IP address. However, search will be stopped if clicked during the search.
<b>6</b> Protocol	Network settings of the network device. The factory default is "IPv4". Network device with the IPv6 setting will be displayed "IPv6".

# network connection and setup

Item	Description
<b>7</b> URL	DDNS URL address enabling access from the external Internet. However, this will be replaced with the <IP Address> of the encoder if DDNS registration has failed.
<b>8</b> IPv4	Scans for network device with the IPv4 setting.
<b>9</b> IPv6	Scans for network device with the IPv6 setting. Activated in an IPv6 compliant environment.
<b>10</b> Search	Scans for network devices that are currently connected to the network. However, this button will be grayed out if neither IPv4 nor IPv6 is checked.
<b>11</b> Auto Set	The IP Installer automatically configures the network settings.
<b>12</b> Manual Set	You should configure the network settings manually.
<b>13</b> Exit	Exits the IP Installer program.



- For the IP installer, use only the installer version provided in the installation CD or use the latest one if available. You can download the latest version from the Samsung web site ([www.samsungcctv.com](http://www.samsungcctv.com)).

## STATIC IP SETUP

### Manual Network Setup

Run <IP Installer\_v2.XX.exe> to display the network device search list. At the initial startup, both [Auto Set] and [Manual Set] will be grayed out.



- For network devices found with the IPv6 setting, these buttons will be grayed out as the network devices do not support this function.

- Select a network device from the search result.  
Check the MAC address of the device on the network device's label.  
Both the [Auto Set] and [Manual Set] buttons will be activated.



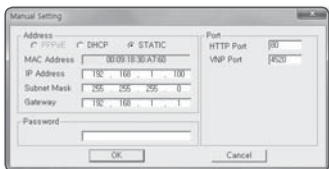
- Click [Manual Set].  
The Manual Setting dialog appears.  
<IP Address>, <Subnet Mask>, <Gateway>, <HTTP Port>, and <VNP Port> of the network devices are displayed in the preset values.

3. In the <Address> pane, provide the necessary information.

- MAC (Ethernet) Address : The MAC address imprinted on the network device label is automatically displayed and requires no user setting.



- IP related parameters can be set only when DHCP is not checked.



#### If using a broadband router

- IP Address : Enter an address falling in the IP range provided by the Broadband router.

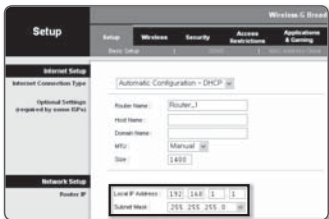
ex) 192.168.1.2~254,  
192.168.0.2~254,  
192.168.XXX.2~254

- Subnet Mask : The <Subnet Mask> of the Broadband router will be the <Subnet Mask> of the network video encoder.

- Gateway : The <Local IP Address> of the Broadband router will be the <Gateway> of the network video encoder.



- The settings may differ depending on the connected Broadband router model. For more information, refer to the user manual of the applicable router.
- For more information about port forwarding of the broadband router, refer to "**Port Range Forward (Port Mapping) Setup**". (Page 30)

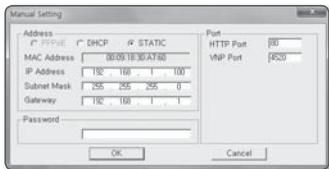


#### If not using a broadband router

For setting <IP Address>, <Subnet Mask>, and <Gateway>, contact your network administrator.

4. In the <Port> pane, provide necessary information.

- HTTP Port : Used to access the network device using the Internet browser, defaulted to 80.
- VNP Port : Used to control the video signal transfer, defaulted to 4520.



5. Enter the password.

Enter the password of "**admin**" account, which was used to access the network device.

# network connection and setup

- ! For the security purposes, you are recommended to use a combination of numbers, alphabets uppercase and lowercase and special characters for your password.
- If you want to change the password, refer to "**Administrator password change**" of the user setup. (page 82)

6. Click **[OK]**.

Manual network setup will be completed.

## If the Broadband router has more than one network video encoder connected

Configure the IP related settings and the Port related settings distinctly with each other.

Category		Network video encoder #1	Network video encoder #2
IP related settings	IP Address	192.168.1.100	192.168.1.101
	Subnet Mask	255.255.255.0	255.255.255.0
	Gateway	192.168.1.1	192.168.1.1
Port related settings	HTTP Port	8080	8081
	VNP Port	4520	4521

- ✍ If the <HTTP Port> is set other than 80, you must provide the <Port> number in the address bar of the Internet browser before you can access the network video encoder.  
ex) http://IP address : HTTP Port  
http://192.168.1.100:8080

## Auto Network Setup

Run <IP Installer\_v2.XX.exe> to display the network device search list.

At the initial startup, both **[Auto Set]** and **[Manual Set]** will be grayed out.

- ✍ For network devices found with the IPv6 setting, these buttons will be grayed out as the network devices do not support this function.

1. Select a network device from the search result.  
Check the MAC address of the device on the network device's label.  
Both the **[Auto Set]** and **[Manual Set]** buttons will be activated.

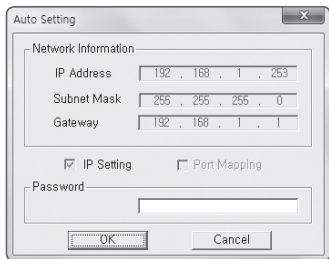


- Click [**Auto Set**].  
The Auto Setting dialog appears.  
The <**IP Address**>, <**Subnet Mask**>, and <**Gateway**> will be set automatically.

- Enter the password.  
Enter the password of “**admin**” account, which was used to access the network device.

- !**
- For the security purposes, you are recommended to use a combination of numbers, alphabets uppercase and lowercase and special characters for your password.
  - If you want to change the password, refer to “**Administrator password change**” of the user setup. (page 82)

- Click [**OK**].  
Auto network setup will be completed.



## DYNAMIC IP SETUP

### Dynamic IP Environment Setup

- Example of the Dynamic IP environment
  - If a Broadband Router, with a network device connected, is assigned an IP address by the DHCP server
  - Network device is connected to a DHCP based modem directly
  - If IPs are assigned by the internal DHCP server via the LAN

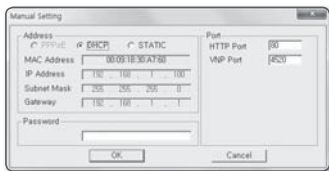
### Checking the Dynamic IP

- Run the IP Installer on the user's local computer.  
Network devices allocated with <**Dynamic IP**> address are shown in the list.
- Select a network device from the search result.



# network connection and setup

3. Click the **[Manual Set]** button and check the network device's **<Dynamic IP>** address.  
If you uncheck **<DHCP>**, you can change IP to **<Static>**.

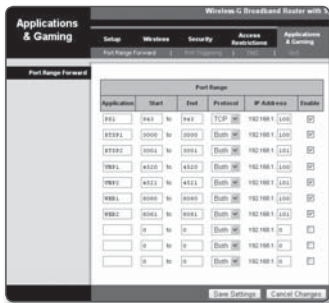


## PORT RANGE FORWARD (PORT MAPPING) SETUP

If you have installed a broadband router with a network video encoder connected, you must set the port range forwarding on the Broadband router so that a remote PC can access the network video encoder in it.

### Manual Port Range Forwarding

1. From the Setup menu of the Broadband router, select **<Applications & Gaming>** - **<Port Range Forward>**. For setting the port range forward for a third-party Broadband router, refer to the user guide of that Broadband router.
2. Select **<TCP>** and **<UDP Port>** for each connected network video encoder to the Broadband router. Each port number for the Broadband Router should match that specified in **<Setup>** - **<Network>** - **<Port>** from the encoder's web viewer menu.
3. When done, click **[Save Settings]**. Your settings will be saved.



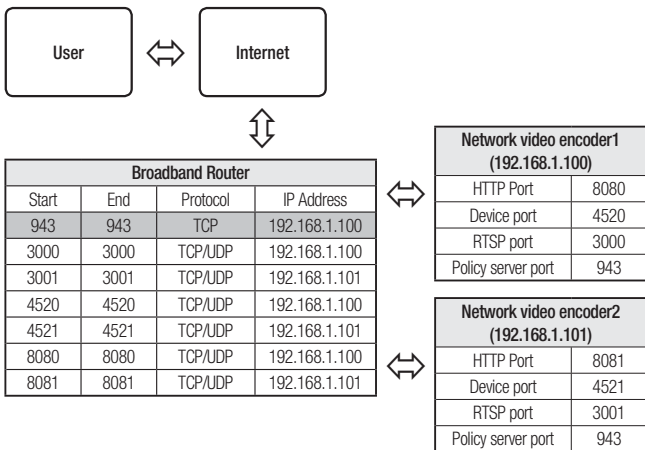
- Above sample instructions are based on the CISCO's Broadband router.
- The settings may differ depending on the connected Broadband router model. For more information, refer to the user manual of the applicable router.

## Setting up Port Range Forward for several network video encoders

When several network video encoder connect to one Broadband router device, you should forward the TCP 943 port of the router to the TCP 943 port of a connected network video encoder.

- !
■ If you don't set properly the TCP 943 port of the router, you cannot get any video stream from the web page of the network video encoder.
- TCP 943 port is a port for the Silverlight policy server of a network video encoder.
- You can set a rule of Port Forwarding on the Broadband router device through its configuration web page.
- You cannot change the Silverlight policy server port of a network video encoder.
- You can change the ports of the network video encoder except the policy server port through its configuration web page.

When Network video encoder1 and Network video encoder2 are connected to a router :



- ✍
■ Port forwarding can be done without additional router setup if the router supports the UPnP (Universal Plug and Play) function.  
 After connecting the encoder, set <Quick connect> of <Samsung DDNS> to <On> in the "Setup → Network → DDNS" menu.

# network connection and setup

---

## CONNECTING TO THE NETWORK DEVICE FROM A SHARED LOCAL PC

---

1. Run the IP Installer.  
Searches for connected network devices and displays on the list.
2. Double click the desired network device to connect to.  
The Internet browser starts and connects to the network device.



- You can also access the video encoder in such way you type the IP address of the found network device in the address bar of the Internet browser.

## CONNECTING TO THE NETWORK VIDEO ENCODER FROM A REMOTE PC VIA THE INTERNET

---

Since using the IP Installer on a remote computer that is not in the Broadband router's network cluster is not allowed, users can access network video encoders within a broadband router's network by using the network video encoder's DDNS URL.

1. Before you can access a network video encoder in the Broadband router network, you should have set the port range forward for the Broadband router.
2. From the remote PC, launch the Internet browser and type the DDNS URL address of the network video encoder, or the IP address of the Broadband router in the address bar.  
ex) <http://www.samsungipolis.com/Product ID>

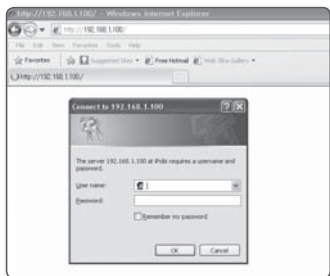
- For registering the DDNS settings, refer to "**Registering with DDNS**". (page 61)



## CONNECTING TO THE NETWORK VIDEO ENCODER

### Normally, you would

1. Launch the Internet browser.
2. Type the IP address of the network video encoder in the address bar.
  - ex) • IP address (IPv4) : 192.168.1.100  
→ http://192.168.1.100  
- the Login dialog should appear.
  - IP address (IPv6) : 2001:230:abcd:ffff:0000:0000:ffff:1111  
→ http://[2001:230:abcd:ffff::ffff:1111]  
- the Login dialog should appear.



### If the HTTP port is other than 80

1. Launch the Internet browser.
2. Type the IP address and HTTP port number of the network video encoder in the address bar.
  - ex) IP address : 192.168.1.100:HTTP Port number(8080)  
→ http://192.168.1.100:8080 - the Login dialog should appear.

### Using URL

1. Launch the Internet browser.
2. Type the DDNS URL of the network video encoder in the address bar.
  - ex) URL address : http://www.samsungipolis.com/Product ID  
- the Login dialog should appear.



- Network connection is disabled in the LAN only environment.

## To check the DDNS address

If the network video encoder is connected directly to the DHCP cable modem, DSL modem, or PPPoE modem, the IP address of your network will be changed each time you try to connect to the ISP (Internet Service Provider) server.

If this is the case, you will not be informed of the IP address changed by DDNS.

Once you register a dynamic IP-based device with the DDNS server, you can easily check the changed IP when you try to access the device.

To register your device to the <DDNS> server, visit [www.samsungipolis.com](http://www.samsungipolis.com) and register your device first, and then set the Web Viewer's <Network> - <DDNS> to <Samsung DDNS>, as well as providing <Product ID> that had been used for DDNS registration.

## PASSWORD SETTING

When you access the product for the first time, you must register the login password.

When the “**Password change**” window appears, enter the new password.



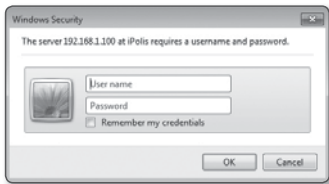
- A new password should be eight to fifteen letters long and a combination of at least two of uppercase/lowercase alphabets, numbers and special characters.
  - Special characters that are allowed: ~!@#\$\$%^()\*\_+=|{}[].?!/
- You cannot use your ID as your password. You cannot repeat same letters more than twice and you cannot use the three consecutive keyboard buttons.
- If you lost your password, you can press the [RESET] button to initialize the product. So, don't lose your password by using a memo pad or memorizing it.

## LOGIN

Whenever you access the product, the login window appears.

Enter the User ID and password to access the product.

1. Enter “**admin**” in the <User name> input box.  
The administrator ID, “**admin**”, is fixed and can not be changed.
2. Enter the password in the <Password> input field.
3. Click [OK].  
If you have logged in successfully, you will the Live Viewer screen.



- If you check the “**Remember my credentials**” option when your input is done, in future you will be logged in automatically without being prompted to enter the login information.
- You will experience the best video quality if the screen size is 100%. Reducing the ratio may cut the image on the borders.

## INSTALLING SILVERLIGHT RUNTIME

---

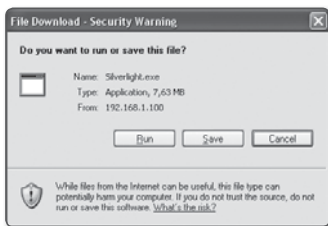
If your PC has not installed Silverlight Runtime or has just installed an old runtime version, you will be redirected to the Silverlight Runtime installation page automatically when accessing the web viewer.

### To install on Windows OS

1. Click **<Click Here>**.



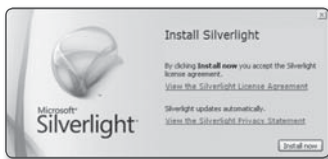
2. When the file download dialog pops up, click **<Run>**.



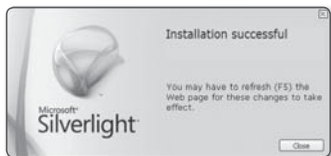
3. When the download is completed, click **<Run>**.



4. The Silverlight Runtime installation page will be displayed. **<Install now>** to proceed with the installation.



5. When done, click <Close>.



## To install on MAC OS

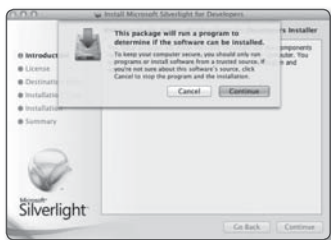
1. Run the file trailing with ".dmg".



2. Run the install package file automatically created, ending with ".pkg".



3. Click <Continue>.



# web viewer

4. Select your language on the language selection screen, and click <Continue>.



5. Click <Agree>.



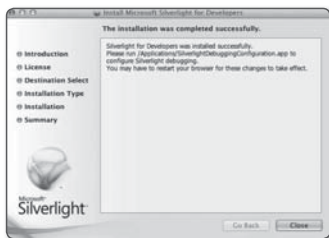
6. Click <Install>.



7. Enter the password of the account currently logged in, and click <Install Software> and continue.



8. Once completed, click <Close>.



## INSTALLING STW WebViewer PLUGIN

---

If connecting to an encoder for the first time, you will see the installation message. Then, install the required WebViewer Plugin to access the encoder and control the video from it in real time.

1. When the monitoring page is accessed for the very first time, the installation page is displayed. Click **[Click Here]** to begin installation.

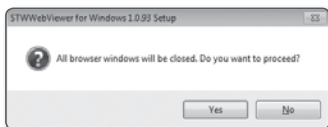


- If the plug-in installation file download status is suspended at 99% in the Internet Explorer browser, retry it after selecting "Release SmartScreen filter" in "Tool → SmartScreen filter".

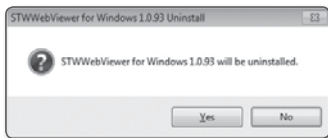
2. Click **[Run]** in the message window.



3. Click **[Yes]** when the notice window saying that all browser windows will be closed.



4. When the old version of the Web Viewer Plug-in is installed, a notice window saying the old version will be deleted is displayed. Click **[Yes]** when the notice window is displayed.

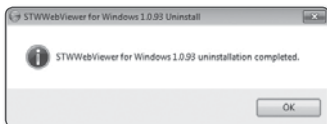


- Steps 4 and 5 will be skipped if no Web Viewer Plug-in is installed.

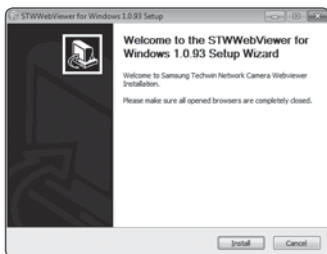




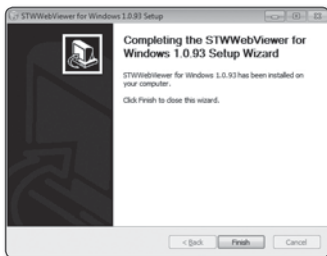
5. Click **[OK]**.  
The old version of Web Viewer Plug-in is deleted.



6. Click **[Install]** to begin installation of the Web Viewer Plug-in.



7. Click **[Finish]**.  
STW Web Viewer Plug-in installation is completed.




## USING THE LIVE SCREEN



Item	Description
1 Monitoring	Move to the monitoring screen.
2 Playback	Switch to the monitoring screen that plays recording data in the SD memory.
3 Setup	Move to the Setup screen.
4 Viewer Screen	Displays the Live video on the screen. <ul style="list-style-type: none"> <li>You can use the mouse wheel to activate the digital zooming in Viewer screen.</li> </ul>
5 Profile type	You can select a profile type in <Video profile> under the <Video & Audio> setup menu. <ul style="list-style-type: none"> <li>When the Web Viewer is connected, the profile information currently using is displayed.</li> </ul>
6 Screen Optimization	The video size of the camera will switch to as big as the Web browser.
7 Fix the resolution	Regardless of the resolution setup configured in the camera, it sets the resolution to 640x480. Press it again to switch back to the default resolution.

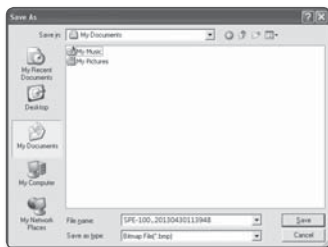
Item	Description
<b>8</b> Full Screen	Switch the current video to the maximum size of the monitor.
<b>9</b> Capture	Saves the snapshot as an image file in the .bmp or .jpg format.
<b>10</b> Audio/Microphone Control	Enable Audio and Microphone are control the Audio volume. <ul style="list-style-type: none"> <li>Only the Audio volume can be controlled.</li> </ul>
<b>11</b> Alarm output	Activate the Alarm Out port.
<b>12</b> External PTZ	Connect the external PTZ to the RS-485 terminal and control the PTZ camera lens direction with the arrow keys. <ul style="list-style-type: none"> <li>The pan/tilt operations will be enabled only if the camera is connected to a pan/tilt-compliant receiver.</li> </ul>
<b>13</b> Hide the context menu	The left-corner context menu will disappear but only the menu icon.

## To capture the snapshot


- Click [**Capture** (  )] on the scene to capture.  
The Capture dialog should appear.
- Confirm the save path and click [**Save**] button.  
The screenshot will be saved in the specified path.



- If you encounter an interrupted video when capturing the image with IE8 on a Windows 7-based PC, deselect "**Turn On Protected Mode**" from "**Tools – Internet Options – Security**".
- If the screen is not captured by IE browser in Windows 7 or 8, run the IE Browser with the Admin privilege.





## To fit the full screen

1. Click the **[Full Screen (  )]** button.
2. This will fit the Viewer to the full screen.
3. To exit the full screen mode, press **[Esc]** on the keyboard.




- For the Internet Explorer and Google Chrome browser, you can switch to the full screen.

## To Use Audio

1. Click **[Audio (  )]** icon to activate audio communication.
2. Use **[  ]** bar to control the volume.




- If there is no sound from pulling in and out the audio jack while it is in operation, click the **[Audio (  )]** icon to enable it again.

## To Use Microphone

Click **[Mic (  )]** icon to activate the microphone.

## To control the PTZ

1. Click the **[PTZ (  )]** tab.
2. When the PTZ icon appears on the screen, use the direction buttons to adjust the camera angle, zoom factor or focus to your preference.



- For further details on PTZ use, refer to **"External PTZ setup"**. (page 55)

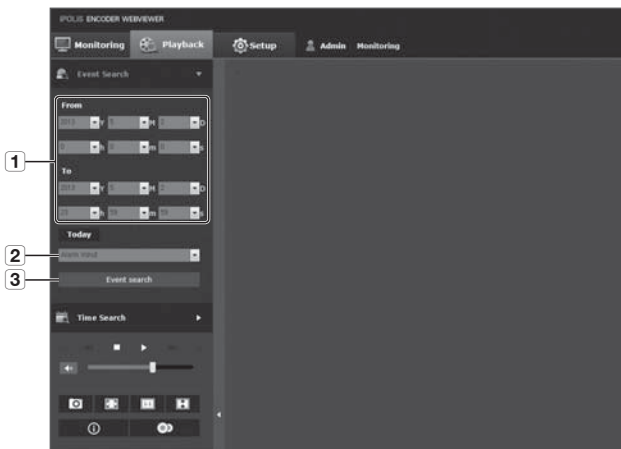


## PLAYING THE RECORDED VIDEO



- Before you can play the video, you must configure the record settings. For details on record settings, refer to "Storage". (page 69)

### Name of event search screen and its function



Item	Description
1 Search range setting	Set the search date and time from the data saved in the SD memory card.
2 Search event setting	Set the event type to search within the search period.
3 Event search	Run the event search.

## To play the content after searching by event

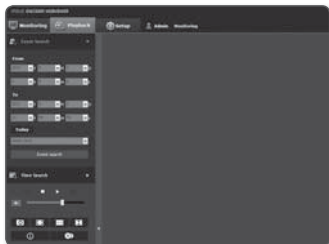
1. Click the **[Playback (⏮)]** tab.
2. Specify the start time and end time of your search.
3. Select an event type for your search within the specified period.
4. Click the **[Event search]** button.  
The search results will be displayed in the list.



- If more than 800 events are recorded within the search period, your search will be limited up to the date when the 800th event is recorded.

For instance, if the search period is between 10th and 15th day of the month, and more than 800 events were recorded 10th through 11th, your search will be limited up to 11th day with a total of 800 events, and events after then (from 12th) will not be found.

5. Select a data item to play in the search list.
6. Click the **[Play (▶)]** button.
7. To stop playing the video, click **[Stop (■)]**.
8. To return to the search screen, click **[Exit (↶)]**.










## Name of time search screen and its function



Item	Description
<b>1</b> Time bar	The section in the specific period is played by moving the time bar.
<b>2</b> Search date setting	Set the search date using the calendar. <ul style="list-style-type: none"> <li>Dates for which there is video in the SD memory card are displayed within the boxes on the calendar.</li> </ul>
<b>3</b> Screen optimization	The camera image is converted to fit the Web browser window.
<b>4</b> Fix the resolution	Regardless of the resolution setup configured in the camera, it sets the resolution to 800x600. Press it again to switch back to the default resolution.
<b>5</b> Full screen	The current image is converted to cover the maximum size of the monitor.
<b>6</b> Capture	The current image is saved as a .jpg or .bmp image file.

Item	Description
<b>7</b> Video information	Time data of the replayed video is displayed on the screen.
<b>8</b> Backup	Time zone is set to back up the video saved in the SD memory card. <ul style="list-style-type: none"><li>■ Can be set as up to 5 minutes.</li></ul>



## To play after searching by time

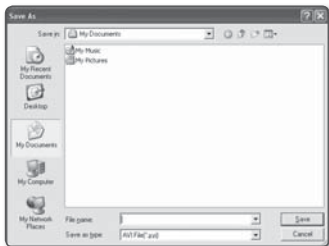
1. Click the [Time Search (  )] tab.
2. Click a desired date in the calendar.  
The video on the specified date will be played.
3. If the video playback is stopped, select a time and click [Play (  )].  
The video on the selected time will be played.
4. While the video is being played, the recording time for the current video will be shown.
5. Search for the video forward or backward, and control the play speed.
  - To control the play speed  
If selecting  , the button will switch to x1, x2, x4, x8, and the play speed will increase accordingly.  
When the  button is selected, the playing speed is decreased to -1x, -2x, -4x, -8x and the playing speed slows down gradually. Subsequently the quick playing speed is returned to the normal speed and the reverse playing speed increases.
  - To control the playback direction  
If you see the  button with the play speed displayed, the video will be played forward; Whereas, if you see the  button with the play speed displayed, the video will be played backward.
6. Move [Time bar (  )] to a desired time point of the video before playing it.  
The time containing a normal recording file will be highlighted in blue; the time with the event recording will be highlighted in red.





## To back up the searched video

1. During playback, click [  ] on the scene to back up.  
The scheduling window for backup start and end time appears.
2. Click [  ] button.  
The Save As window appears.
3. Confirm the save path and click [Save] button.  
The screenshot will be backed up to the specified path.



## To play the backup video

The backed up images are saved in an .avi format. Gom Player, VLC Player, and Window Media Player are recommended as the media player compatible with this format.

-  In case of Windows Media Player, download the latest codec from [www.windows7codecs.com](http://www.windows7codecs.com) and install it prior to use.

## To Play an AVI File

! The AVI file does not contain the recording time data.

1. Separate the SD memory card from the encoder.

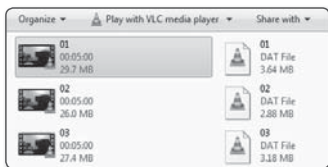
! Before separating the SD memory card, set the <Device> to <Off> in the "Setup → Event → Storage" menu.

2. Insert the SD memory card into the PC.

3. Play the AVI file in the "\\ch00\img\YYYY\_MM\_DD" directory, using a media player.

✍ The file name begins with "01.avi" and the file number increments by 1.


■ Once corrupted, the data in the SD memory card cannot be replayed in Web Viewer Playback.




# setup screen

## SETUP


You can configure the video & audio, network, event and system settings of the encoder in the network.

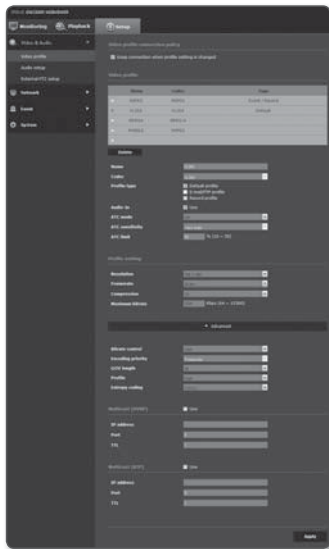
1. In the Live screen, click [Setup (  )].
2. The Setup screen appears.

-  Microsoft Silverlight 5.0 or higher is required to be installed on the PC for setup pages that provide preview video.  
If not installed already, automatically moves to the Silverlight setup.

## VIDEO & AUDIO SETUP

### Video profile

1. From the Setup menu, select the <Video & Audio (  )> tab.
2. Click <Video profile>.
3. Set the <Video profile connection policy>.
  - Keep connection when profile setting is changed : Changing profile properties that is used by existing connection does not affect such connection and remains with old profile setup.  
If not selected, changing a profile used by an existing connection resets such connection.
4. Select each profile properties.  
For more details, refer to "To Add/Change the Video Profile". (Page 53)
5. Click the input box of each item and enter / select a desired value.
  - The context menu may differ depending on the selected codec type.
  - Default profile : If no profile is selected when using the Web Viewer, the default video profile is applied.



# setup screen

- E-mail/FTP profile : Video profile to be transferred to the specified email or FTP site.
    - Only the MJPEG codec can be set as the E-mail/FTP profile.
  - Record profile : This is the profile that is applied to video recording.
  - Audio-In : Sets whether to use audio for video recordings.
6. According to your situation, set ATC (Auto Transmit Control) mode.

- ATC mode : It adjusts the video properties according to the variance in the network bandwidth, controlling the bit rate. Adjusting the bit rate depends on the ATC mode.



- Control framerate : Reduce the frame rate if the network bandwidth drops down.
- Control compression : Control the compression rate if the network bandwidth drops down.  
Compression adjustment can cause deterioration of the image quality.
- If <Bitrate control> is set to <CBR>, the encoding priority according to the ATC mode will be fixed as below:

Bitrate control / ATC mode	Control framerate	Control compression
CBR	Framerate	Compression

- ATC sensitivity : Affect the transfer rate according to the variance in the network bandwidth.  
The transfer rate will be adjusted to the fastest if the bandwidth is <Very high>, and adjusted to the latest if the bandwidth is <Very low>.
- ATC limit : If the quality or frame rate is adjusted, the property will be changed to the applied value (%) against the previous setting value (100%).  
Note that if you reduce the property value too much, you may encounter flickering on the screen. So it is advisable to adjust the value within the threshold.




- It is recommended to apply ATC control only for encoders supporting ATC.
- Set the ATC sensitivity to <Very low> in a network environment with high variance in the network bandwidth.
- If the network connection is unstable, you may encounter flickering on the screen.

7. When done, click [Apply (  )].


## To Add/Change the Video Profile

The profile setup can be added or modified to accommodate various profiles depending on the recording conditions.

1. Select one from the <Video profile> options.
2. Provide the name and select a codec.
3. Specify the conditions under which the codec will be applied.
4. Specify the details of the selected codec including resolution and frame rate. Click <Advanced> to display the context menu.
  - Resolution : Set the video size of the MPEG-4, H.264, and MJPEG files.
  - Framerate : Specify the frame rate.
  - Compression : Specify the compression rate of the video.
  - Maximum bitrate : Specify the maximum bit rate of the video.

 As the bit rate can be adjusted limitedly according to the resolution, frame rate and screen complexity, the actual bit rate can be greater than the maximum bit rate. So you must consider the use conditions when setting the value.

  - Bitrate control : You can select one from constant bit rate and variable bit rate for compression. Constant bit rate (CBR) varies the video quality and fixes network transfer bit rate, while variable bit rate emphasizes the quality by varying network transfer bit rate.

 If the bit-rate control is set to the Constant Bit Rate, the actual transmission frame rate may be less than the set frame rate because the Frame Rate First Mode is changed to the Compression Rate First Mode to ensure the highest image quality at a bit rate which is set depending on the complexity of the screen.

  - Target bitrate : Specify the bit rate at which you will transfer the video.
  - Encoding priority : You can set the video transfer method to Framerate or Compression.
  - GOV length : It specifies the distance (in terms of number of frames) between two consecutive I-Frames in a video sequence when H.264 codec was selected. (One I-Frame + 0~Several P-Frames)
  - Profile : You can select the H.264 profiling method.
  - Entropy coding : Reduce the possible compression loss due to encoding.
  - Multicast(SVNP) : Specify the use of the SVNP protocol.
    - IP address : Enter an IPv4 address with which you can connect to the IPv4 network.
    - Port : Specify the video communication port.
    - TTL : Set the TTL for the SVNP packet.

# setup screen

- Multicast(RTP) : Specify the use of the RTP protocol.
  - IP address : Enter an IPv4 address with which you can connect to the IPv4 network.
  - Port : Specify the video communication port.
  - TTL : You can set the TTL for the RTP packet.



- If you set the Multicast address to 224.0.0.0~224.0.0.255, multicast may not work properly in all environments. In that case, we recommend you change the multicast address.

## What is GOV length?

GOV(Group of Video object planes) is a set of video frames for MPEG-4 and H.264 compression, indicating a collection of frames from the initial I-Frame (key frame) to the next I-Frame.


GOV consists of 2 kinds of frames: I-Frame and P-Frame.

I-Frame is the basic frame for the compression, also known as Key Frame, which contains one complete image data. P-Frame contains only the data that has changed from the preceding I-Frame.


For MPEG-4 and H.264 codec, you can determine the GOV length.

## Audio setup

You can configure the I/O settings of the audio source from the encoder.


1. From the Setup menu, select the <Video & Audio (  )> tab.
2. Click <Audio setup>.
3. Set the audio input value.
  - Gain : Specify the audio input amplification.



- Sound quality deterioration or howling may occur if the loudness of the sound source or gain value were set excessively.
4. Set the audio output level.
    - Enable : Sets whether to use audio output.
    - Gain : Specify the audio output amplification.
  5. When done, click [Apply (  )].

## External PTZ setup

Set the connection value for an external PTZ camera to control the PTZ by using the RS-485 connection of the camera.

1. Select the <Video & Audio (  )> from Setup menu.

2. Click <External PTZ setup>.

3. Specify the serial port.

Once a camera is connected, you can set the RS-485 communication mode.

- Protocol : Select the same protocol as your camera from SAMSUNG-T / SAMSUNG-E / PELCO-D / PELCO-P / SUNGJIN / PANASONIC / HONEYWELL / AD / VICON / GE / BOSCH.

- Camera ID : Displays the fixed camera ID.

- Baudrate : Transfer rate for RS-485 communications.

- Data bit : Specify the data bit.

- Parity bit : Specify the parity bit.

- Stop bit : Specify the stop bit.

4. When done, click [Apply (  )].



- To do this, you have to make sure the camera and the device are connected properly via RS-485 communication ports. In addition, the serial port for the connected camera should be able to function properly.

5. Set the menu for the connected camera.

For more details, refer to the section of “**To set the camera menu**”. (page 57)

6. Click the <PTZ> button in the upper right corner and move to the PTZ setting menu.



# setup screen

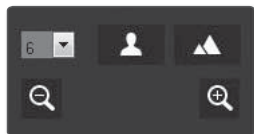
---

## 7. Adjust the direction.

- **[Change direction to ( )/( )/( )/( )/( )/( )/( )/( )]** : The camera direction is adjusted.
- **[Moving speed control ( )]** : The bigger the number is, the faster the moving speed becomes.

## 8. Set the zoom and focus.

- **[Zoom In ( )]** : Zooms in the screen.
- **[Zoom Out ( )]** : Zooms out the screen.
- **[Adjust Focus ( / )]** : Adjusts the focus in the screen.
- **[Zoom Speed Control ( )]** : The bigger the number is, the faster the zoom speed becomes.



## 9. Set the preset.



- Only when the camera and device's RS-485 communication ports are connected and the <Serial setup> is normal, you can control Pan/ Tilt/ Zoom.

### To add a preset

1. Select the preset number to add.
2. Set the name for the preset.
3. Press the [ ] button.

### To delete a preset

1. Select the preset number to delete.
2. Press the [ ] button.

### To move a preset

1. Select a preset number that you want to move.
2. Press the [ ] button.



## To set the camera menu

Run the web viewer to retrieve the camera setting menu and change the setting.

1. Click on the <OSD> button in the upper right corner and move to the OSD setting menu.
2. Click the [ ▲ / ▼ ] button to move to the desirable menu.
3. Click the [ ✕ ] button or [ ↩ ] button to move to the menu or cancel.



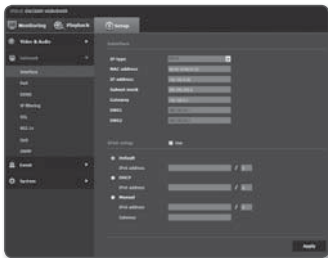
- The camera menu may differ depending on the type of camera connected.



## NETWORK SETUP

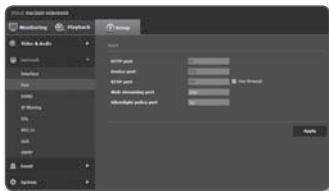
### Interface



1. From the Setup menu, select the **<Network (🌐)>** tab.
2. Click **<Interface>**.
3. Set the **<Interface>** and **<IPv6 setup>** as necessary.
  - IP type : Select an IP connection type.
    - Manual : Specify the IP address, Subnet mask, Gateway, DNS1, and DNS2.
    - DHCP : Specify the DNS1 and DNS2.
    - PPPoE : Specify the DNS1, DNS2, ID and Password.
      - If you set it to **<Manual>**, you should specify the IP, Subnet mask, Gateway, DNS 1 & 2 manually.
  - MAC address : Shows the MAC address.
  - IP address : Displays the current IP address.
  - Subnet mask : Displays the **<Subnet mask>** for the set IP.
  - Gateway : Displays the **<Gateway>** for the set IP.
  - DNS1/DNS2 : Displays the DNS(Domain Name Service) server address.
4. Set the **<IPv6 setup>**.
  - Set to **<Use>** to use IPv6 address.
    - Default : Use the default IPv6 address.
    - DHCP : Display and use the IPv6 address obtained from the DHCP server.
    - Manual : Enter IP address and gateway manually and use it.
5. When done, click **[Apply (Apply)]**.
  - ! ■ The IP addressing system will be defaulted to DHCP. If no DHCP server is found, the previous settings will be restored automatically.
  - Once completed with editing, click **[Apply (Apply)]** to apply changes and the browser exits. After a while, connect again with the changed IP.



## Port

1. From the Setup menu, select the <Network (  )> tab.
2. Click <Port>.
3. Type in each item in the Port menu as necessary.




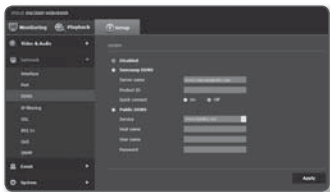
- Neither the port range between 0 and 1023 nor port 3702 is available.
  - HTTP port : HTTP port used to access the encoder via the web browser. The default is 80(TCP).
    - Setting the HTTP port for Safari and Google Chrome browsers to 65535 is not allowed by security policy.
  - Device port : Set a port used to transfer video signals with the Samsung protocols.
  - RTSP port : Used to transfer videos in the RTSP mode; the default is 554.
  - Web streaming port : Used to transfer videos to the Web Viewer; the default is 4520.
  - Silverlight policy port : Silverlight is used to permit to acquire a network connection; the default is 943.
-  ■ If changed the HTTP port, the browser exits. Afterwards, address should contain the newly assigned HTTP port trailing the IP.  
 ex) IP address: 192.168.1.100, HTTP port : Assigned 8080 → http://192.168.1.100:8080  
 (If HTTP port is set to 80, no need to specify the port number)
- The port range of the Web Streaming is between 4502 and 4534. If the Device port is with this effective range, the Web Streaming port should be specified the same as the Device port.
  - You cannot change the Web Streaming/Silverlight policy server port of an encoder.
4. When done, click [Apply (  )].

# setup screen

## DDNS

DDNS is an abbreviation of Dynamic Domain Name Service that converts the IP address of an encoder into a general Host Name so that the user can easily remember it.

1. From the Setup menu, select the <Network (  )> tab.
2. Click <DDNS>.
3. Select the <DDNS> connection type.
4. Type in the DDNS items according to the selected type.



- Samsung DDNS : Select this if you use the DDNS server provided by Samsung Techwin.
  - Product ID : Enter the product ID that is registered with the Samsung DDNS service.
  - Quick connect : It sets port forwarding automatically when used with a UPnP (Universal Plug and Play) supporting router.
- Public DDNS : Select one of provided public DDNS servers when you use a public DDNS server.
  - Service : Select desired public DDNS service server.
  - Host name : Enter the name of the host that is registered with the DDNS server.
  - User name : Enter the user name for the DDNS service.
  - Password : Enter the password for the DDNS service.

5. When done, click [Apply (  )].



- If selected <Quick connect>, be sure to select Samsung DDNS service.

## Registering with DDNS

To register your product with the Samsung DDNS

1. Visit the iPOLiS web site ([www.samsungipolis.com](http://www.samsungipolis.com)) and sign in with a registered account.



2. From the top menu bar, select <DDNS SERVICE> - <MY DDNS>.



3. Click [PRODUCT REGISTRATION].
4. Enter the product ID.
  - You must perform the duplicate check for the ID that you entered.




5. Select a <CLASSIFICATION> and specify the <MODEL NUMBER>.
6. Specify the product location with a description if necessary.
7. Click [REGISTRATION].  
The product will be added to the product list that you can check.





# setup screen

## To connect to the Samsung DDNS in encoder setup

1. From the DDNS setup page, set <DDNS> to <Samsung DDNS>.
2. Provide the <Product ID> that you registered product ID with the DDNS site.
3. Click [Apply (  )].  
When the connection is successfully made, you will see the message of <(Success)> on the screen.



## Configuring public DDNS in encoder Settings

1. Open the DDNS settings page and select <Public DDNS> for <DDNS>.
2. Enter the corresponding site's host name, user name and password.
3. Click [Apply (  )] button.  
If the connection properly establishes, <(Success)> appears.
4. When done, click [Apply (  )].



- To use DDNS service properly, both DDNS setup and the router's port forwarding setup are required.  
For port forwarding setup, refer to "Port Range Forward (Port Mapping) Setup". (page 30)

## IP filtering

You can create a list of IPs that you want to grant or deny access to them.


1. From the Setup menu, select the <Network (  )> tab.

2. Click <IP filtering>.

3. Select <Filtering type>.

- Deny : If selecting this, access from those IPs that are added to the filtering will be restricted.
- Allow : If selecting this, access from only those IPs that are added to the filtering will be accepted.



4. Click the [Add (  )] button.

The IP list will be created.


5. Provide the IP that you want to grant or deny access from.

When you enter an IP address and a Prefix, the list of IP addresses available will appear in the right-side filter range column.



- If selected <Allow> for IP Filtering and <IPv6 setup> of <Interface> is set to <Use>, both IPv4 and IPv6 addresses of the computer currently configuring should be assigned.
- The IP address of the computer used for the current setup cannot be added to <Deny>, it should be added to <Allow>.
- Only the IP addresses that are set to <Use> will be displayed in the filter column.

6. Select an IP to delete from the list.

Click the [Delete (  )] button.

7. When done, click [Apply (  )].

# setup screen

## SSL

You can select a secure connection system or install the public certificate for this purpose.

1. From the Setup menu, select the **<Network (  >** tab.

2. Click **<SSL>**.

3. Select a secure connection system.

- To access the encoder using HTTPS mode, you have to type the IP address for the encoder in the form of "https://<Encoder\_IP>".

If you failed to configure the Web viewer

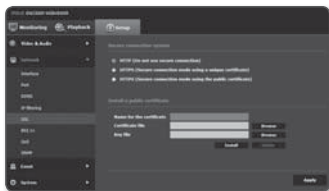
settings in HTTPS mode with Internet Explorer, edit the Internet options as follows: **<Menu → Tools → Internet Options → Advanced → Security → Uncheck TLS 1.0, and check TLS 1.1, TLS 1.2>**

4. Search for the public certificate that you want to install on the encoder.

To install the certificate on the encoder, you need to provide a certificate name (it can be arbitrarily assigned by the user), certificate file issued from the certification authority and a key file.


- The **<HTTPS (Secure connection mode using the public certificate)>** item will be active only if there exists a public certificate installed.

5. When done, click **[Apply (  )]**.



## Installing the certificate

1. Enter the certificate name.

2. Select the certificate file to be installed and certificate key, and click **[Install (  )]** button.

## Deleting the certificate


1. Click **[Delete (  )]** button.

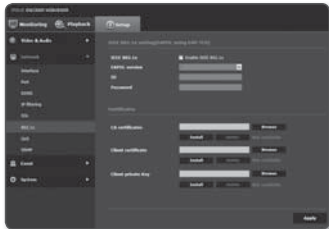
2. To delete a public certificate, you should access the network video decoder in the mode of **<HTTP (Do not use secure connection)>** or **<HTTPS (Secure connection mode using a unique certificate)>**.




## 802.1x

When connecting network, you can choose whether using 802.1x protocol, and then install the certification.




1. From the Setup menu, select the <Network (  )> tab.
2. Click <802.1x>.
3. Set the <IEEE 802.1x setting(EAPOL using EAP-TLS)>.
  - Enable IEEE 802.1x : Specify the use of the 802.1x protocol.
  - EAPOL version : Select version 1 or 2.
  - ID : Enter the client certificate ID.
  - Password : Enter the client private key password. If the key file used is not encrypted, you don't need to enter it.



-  ■ If the connected network device does not support the 802.1x protocol, the protocol will not operate properly even if you set it.

4. Install/remove the certificate.
  - CA certificates : Select a public certificate that contains the public key.
  - Client certificate : Select a public certificate that contains the client certificate key.
  - Client private key : Select a public certificate that contains the client private key.
5. When done, click [Apply (  )].



### To install/remove 802.1x related certificates

1. Press the [Browse (  )] button for each item and select a certificate to install.
2. If no certificate is installed, you will see “Not Available” appearing next to the selected item.
3. Press the [Install (  )] button to start installation with a message of “Installed” next to the item.
4. Press the [Delete (  )] button to remove the certificate.



# setup screen

## QoS

You can specify the priority to secure a stable transfer rate for a specific IP.


1. From the Setup menu, select the <Network (  )> tab.
2. Click <QoS>.
3. Click the [Add (  )] button.  
The IP list will be created.
4. Enter an IP address to which you will apply QoS.



- The default prefix for IPv4 is 32; For DSCP, the default is set to 63.
  - Only the IP addresses that are set to <Use> can be prioritized.
5. Select an IP to delete from the list.  
Click the [Delete (  )] button.
  6. When done, click [Apply (  )].



## SNMP

With the SNMP protocols, the system or network admin can monitor the network devices on a remote site, and configure the environment settings.

1. From the Setup menu, select the <Network (  )> tab.
2. Click <SNMP>.
3. Specify the <SNMP>.
  - Enable SNMP v1 : SNMP version 1 will be active.
  - Enable SNMP v2c : SNMP version 2 will be active.



- Read community : Provide the name of the read community where you can access to the SNMP information. The default name is <public>.
- Write community : Provide the name of the write community where you can access to the SNMP information. The default name is <write>.


- Enable SNMP v3 : SNMP version 3 will be active.
    - Password : Specify the default password for SNMP version 3. The default password is <admin4321>.
      - The default password can be exposed to a hacking thread so it is recommended to change the password after installing the product.  
Note that the security and other related issues caused by the unchanged password shall be responsible for the user.
      - Password should be longer than 8 characters, no more than 16 characters.
4. When done, click **Apply** (  ).
-  ■ SNMP v3 is only able to be set when the secure connection mode is HTTPS.  
Refer to "SSL". (page 64)

## EVENT SETUP

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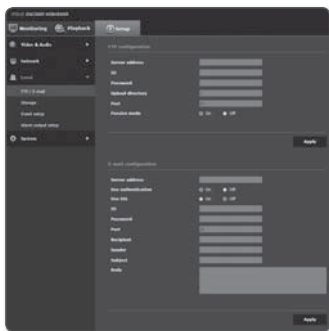
### FTP / E-mail

You can configure the FTP/E-mail server settings so that you can transfer the images taken with camera to your PC if an event occurs.

1. From the Setup menu, select the <Event (  )> tab.
2. Click <FTP / E-mail>.
3. Select <FTP configuration> or <E-mail configuration> and enter / select a desired value.

- FTP configuration

- Server address : Enter the IP address of the FTP server that you transfer the alarm or event images to.
- ID : Enter the user ID with which you will log in to the FTP server.
- Password : Enter the user account password for logging into the FTP server.
- Upload directory : Specify the FTP path where you will transfer the alarm or event images.
- Port : The default port of the FTP server is 21; however, you can use a different port number according to the FTP server settings.
- Passive mode : Select <On> if you need to connect in passive mode due to the firewall or the FTP server settings.



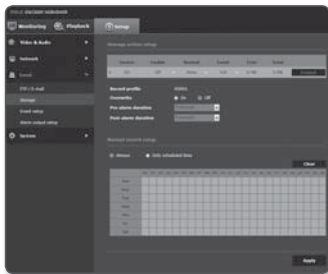
- E-mail configuration
  - Server address : Enter the IP address of the email server that you transfer the alarm or event images to.
  - Use authentication : Select whether to use authorization.
  - Use SSL : Specify the use of SSL.
  - ID : Enter the user ID for logging into the email server.
  - Password : Enter the user account password for logging into the email server.
  - Port : The default port of the email server is 25; however, you can use a different port number according to the email server settings.
  - Recipient : Enter the address of the email recipient.
  - Sender : Enter the address of the email sender. If the sender address is incorrect, the email from the sender may be classified as SPAM by the email server and thus may not be sent.
  - Subject : Enter a subject for your email.
  - Body : Provide the text for the message. Attach the alarm or event images to the email that you are preparing.

4. When done, click **[Apply (  )]**.

## Storage

You can set the record conditions or the use of recording for the SD memory, check the size of stored data, or format the SD memory itself.

1. From the Setup menu, select the **<Event (  )>** tab.
2. Click **<Storage>**.



# setup screen




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## To make recording on the SD memory

1. Check the memory card's <Free> size and <Total> size.
2. If there are sufficient free space, set the device to <On>. Otherwise, check the stored data and if you find them not important, then click <Format> to format the SD memory.
  - Some frames may be skipped if the SD memory card operates at the lower speed than recommended. For more details, refer to "**Recommended SD/SDHC Memory Card Specifications**". (Page 10)
  - For a SD memory card with a large capacity, the formatting will be slowed down accordingly.
  - The data traffic will increase when the encoder is set to higher resolution, higher bit rate, and/or higher framerate. If there is too much data traffic, some frame may be skipped although it is stored in a full frame.
3. Specify the storage action.
  - Record profile : Shows recording profile's codec type.
  - Overwrite : If the SD memory is full, this will delete old data and store new data in replacement.
  - Pre-alarm duration : Specify the time point before the occurrence of the alarm; starting from the time point, the images will be transferred. You can specify up to 5 seconds before the occurrence of the alarm.
  - Post-alarm duration : Specify the time point after the occurrence of the alarm; to the specified time point, the images will be transferred. You can specify up to 120 seconds after the occurrence of the alarm.
  - Normal : Make recording at a certain frame rate.
  - Event : Set the recording type for a certain event that occurs.
4. Specify the <Normal record setup>.
  - Always : Always save recorded video in the SD memory card.
    - If set to Always, the activation time cannot be changed.
  - Only scheduled time : Records only on the specified time of the specified day of week.
  - [Clear ( **Clear** )] : Reset all settings.
5. When done, click [Apply ( **Apply** )].

## Alarm input

You can set the alarm input type, activation time, and operation mode.


- From the Setup menu, select the <Event (  )> tab.
- Click <Event setup>.
- Select <Alarm input> from <Event action setup>.
- Set whether or not to <Enable>.
- Specify an input device.
  - Type
    - Normal open : It is normally open, but if it is closed, an alarm will be triggered.
    - Normal close : It is normally closed, but if it is open, an alarm will be triggered.
- Specify the <Activation time>.
  - Always : Always check if an alarm occurs. It activates in operated mode when the alarm occurs.
    - ▀ If set to <Always>, the activation time cannot be changed.
  - Only scheduled time : Check if an alarm occurs at a specified day of the week for a specified time period. It activates in operated mode when the alarm occurs.
  - [Clear (  )] : Reset all settings.
- Specify an operation that will perform if an alarm occurs.
  - FTP : Specify the use of FTP transfer in the alarm input setup.
  - E-mail : Specify the use of email transfer in the alarm input setup.
  - Record : Specify the use of recording in the alarm input setup.
  - Alarm output : Select whether to set the alarm output if an alarm is incoming, and specify the alarm output time.
  - Goto preset : Moves to the specified preset location when setting the alarm input.
    - ▀ Only if the camera pan/tilt receiver is installed, Goto preset is available.
- When done, click [Apply (  )].





# setup screen

## Time schedule

You can set to save the video data at a certain interval as scheduled regardless of the actual occurrence of the event.

1. From the Setup menu, select the <Event (  )> tab.
2. Click <Event setup>.
3. Select <Time schedule> from <Event action setup>.
4. Set whether or not to <Enable>.
5. Specify the <Transfer interval>.
6. Specify the activation time and activation condition.
  - For more information about <Activation time> and <Action>, refer to "Alarm input". (page 71)



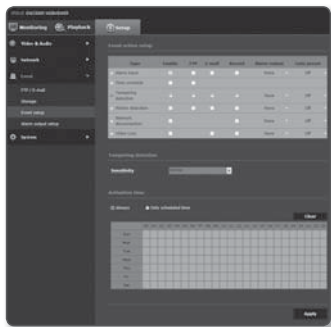
-  The transfer interval setting value must be smaller than the preset activation interval to succeed in image transmission.
7. When done, click [Apply (  )].



## Tampering detection

You can set to detect tampering attempts and trigger events, such as sudden change of camera's framing direction, blocked lens and other overall change of scenes from the video.

1. From the Setup menu, select the **<Event (🔔)>** tab.
2. Click **<Event setup>**.
3. Select **<Tampering detection>** from **<Event action setup>**.
4. Set whether or not to **<Enable>**.
5. Set the tampering detection sensitivity. The higher the sensitivity, detects the minutest tampering attempts.
6. Specify the activation time and activation condition.
  - For more information about **<Activation time>** and **<Action>**, refer to "Alarm input". (page 71)
7. When done, click **[Apply (Apply)]**.





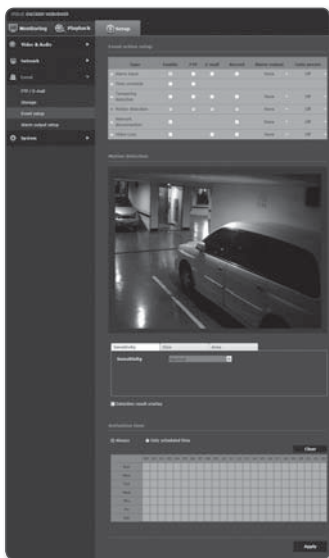
- The default tampering detection function may not work properly in the following cases:
  - Under circumstances of simple background or low illumination and night time may lower the detection sensitivity.
  - A severe shaking of the camera or a drastic change to the illumination can be considered a tampering by mistake.
  - Detection of the tampering may take some time (maximum 5 seconds) right after the tampering was made.
  - Once a tampering is detected, the camera will resume a normal operating after a certain stability time (approx. 5 seconds) during which no detection will be performed.

# setup screen

## Motion detection

Events of motion detection can be set to trigger event signal output.

1. From the Setup menu, select the **<Event (  >** tab.
2. Click **<Event setup>**.
3. Select **<Motion detection>** from **<Event action setup>**.
4. Set whether or not to **<Enable>**.
5. Set **<Sensitivity>**, **<Size>** and **<Area>**.
6. Set whether to use **<Detection result overlay>**.  
When a motion is detected, its size and position is marked with a rectangle on the screen.
  - Green : All targets detected as moving.
7. Specify the activation time and activation condition.
  - For more information about **<Activation time>** and **<Action>**, refer to "Alarm input". (page 71)
8. When done, click **[Apply (  )]**.





- Before using, set the minimum and maximum motion sizes to suit desired motion range to be detected.
- Detected size of an object may have difference with the actual size according to its shape.
- Up to 16 objects from the top side of the screen can be displayed.
- In the following cases, motion detection function may be degraded or cause improper detection.
  - The object color or brightness is similar to the background.
  - Small activities around the border area of the camera's field of view.
  - Multiple movements continue occurring at random due to a scene change, rapid lighting changes or other reasons.
  - A fixed object continues moving in the same position.
  - Motions of less position changing such as approaching to the camera or fading away from the camera.
  - Moving object approaches to the camera too close
  - An object hides other objects behind.
  - Two or more objects overlap or one object divides in multiple portions.
  - Too fast object (for a proper detection, one object should be found overlapping between contiguous frames).
  - Reflection / blur / shadow due to a strong light such as direct sunlight, illumination, or headlamp.
  - In severe snow, rain, wind or in dawn / dusk.

# setup screen

## To use Motion detection

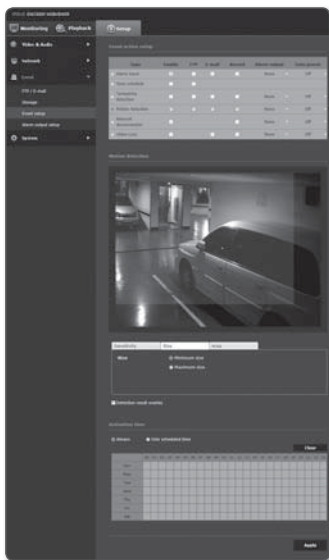
It detects a motion that meets all conditions specified by sensitivity, size and area.

1. Select a motion detection mode.
2. Select **<Sensitivity>** tab to set the sensitivity level. You can set the sensor's sensitivity to detect a motion out of the background from the monitoring video.

! In a situation that definitely distinguishes objects out of backgrounds, set this to a low sensitivity level. For opposite case that is hard to distinguish objects like low illuminated situation, set this to a high level.

3. Select **<Size>** tab.  
You can limit the minimum/maximum size of motion to be detected.
  - Minimum Size : To set the minimum size of detected motions, select **<Minimum Size>** and then point and drag to the desired size on the screen using the mouse.
  - Maximum Size : To set the maximum size of detected motions, select **<Maximum Size>** and then point and drag to the desired size on the screen with your mouse.


! Motions smaller than the specified minimum size or bigger than the maximum size are not detected. To avoid unintended detections caused by great and small noises, set minimum/maximum motion sizes appropriately in accordance to your environments.  
Note that same motions on the same location can be differently detected in their detection size; it is recommended to consider and include the tolerable difference when setting the minimum/maximum detection sizes.

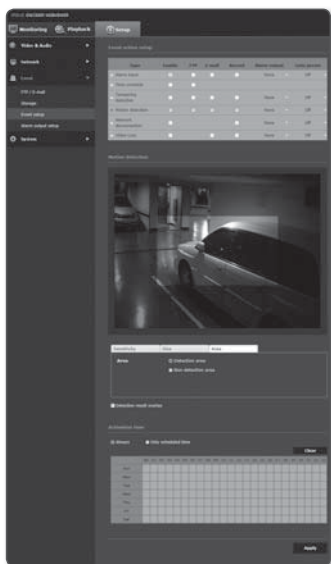


4. Select <Area> tab.

You can specify an area on the screen to include or exclude the area to/from detection.

You can specify up to 4 areas.



- Detection area : Sets the entire screen as excluded from detection, and adds specified area as motion detection area. Select 4 vertices in the image with your mouse to specify the detection area.
  - Non detection area : Sets the entire screen as motion detection area, and excludes specified area as not to be detected. Select 4 vertices in the image with your mouse to specify the non-detection area.
5. To delete an area, right click on the screen to open popup context menu and select Delete, and [OK] button.
6. When done, click [Apply (  )].

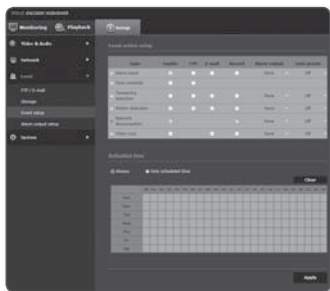


# setup screen

## Network disconnection



You can receive and save events of a physically disconnected network.

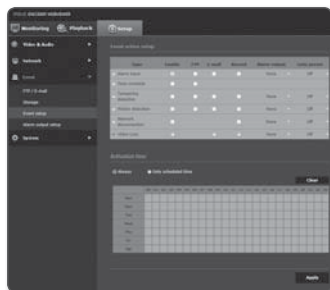
1. From the Setup menu, select the <Event (  )> tab.
2. Click <Event setup>.
3. Select <Network disconnection> from <Event action setup>.
4. Set whether or not to <Enable>.
5. Specify the activation time and activation condition.
  - For more information about <Activation time> and <Action>, refer to "Alarm input". (page 71)
6. When done, click [Apply (  )].




## Video Loss

You can set the alarm to be generated on a camera disconnection, which causes a video loss.

1. From the Setup menu, select the <Event (  )> tab.
2. Click <Event setup>.
3. Select <Video Loss > from <Event action setup>.
4. Set whether or not to <Enable>.
5. Specify the activation time and activation condition.
  - For more information about <Activation time> and <Action>, refer to "Alarm input". (page 71)
6. When done, click [Apply (  )].




## Alarm output setup

1. From the Setup menu, select the <Event (  )> tab.
2. Click <Alarm output setup>.
3. Set the encoder's type of alarm output.
  - If you change the alarm output type, the alarm out button on the monitoring page and alarm output type displayed on Event Setup page will be changed accordingly.



- Type
    - Normal open : Considers “Open circuit” status of the sensor or alarm input device as normal, and triggers alarm event if becomes “Closed circuit” status.
    - Normal close : Considers “Closed circuit” status of the sensor or alarm input device as normal, and triggers alarm event if becomes “Open circuit” status.
4. Set the alarm output button.
 


This setup is for the alarm output button in the monitoring page.

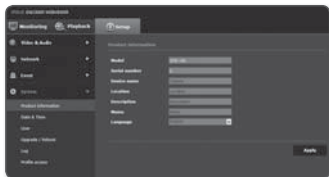
    - Mode: Sets the alarm output method.
      - There is difference between operations when clicked alarm output button while disabled.
      - Pulse : It is activated during the time period specified by the duration (switching interval) and then becomes inactive automatically.
      - Active/Inactive : It maintains as activated until the user clicks the button again to make it inactive.
    - Duration : Set the alarm duration that maintains activated if the mode is set to pulse, from 1 to 15 seconds.
  5. When done, click [**Apply** (  )].

## SYSTEM SETUP

---

### Product information

1. From the Setup menu, select the **<System (  )>** tab.
2. Click **<Product information>**.
3. Check the encoder information, or provide details according to your network environment.



- Model : Model name of the product.
- Serial number : Product serial number.
- Device name : Provide a device name that will be displayed on the Live screen.
- Location : Specify the location where the encoder is installed.
- Description : Provide detailed information about the encoder location.
- Memo : Provide an explanation about the encoder for better understanding.
- Language : Select a preferred language for the Web Viewer OSD.





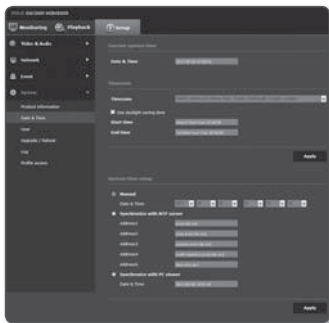
- The default language is set to **<English>**.

4. When done, click **[Apply (  )]**.



## Date & Time

1. From the Setup menu, select the <System (  )> tab.
2. Click <Date & Time>.
3. Specify the time and date that will be applied to the encoder.
  - Current system time : Displays the current time settings of your system.
  - Timezone : Specify the local time zone based on the GMT.
  - Use daylight saving time : If checked, the time will be set one hour before the local time zone for the specified time period. This option will be displayed only in areas where DST is applied.
  - System time setup : Specify the time and date that will be applied to your system.
    - Manual : Specify the time manually.
    - Synchronize with NTP server : Sync with the time of the specified server address.
    - Synchronize with PC viewer : Sets to the time of the computer connected.
4. When done, click [Apply (  )].




-  If you select the <Synchronize with PC viewer>, the standard timezone should be set the same as the current timezone in PC.

# setup screen

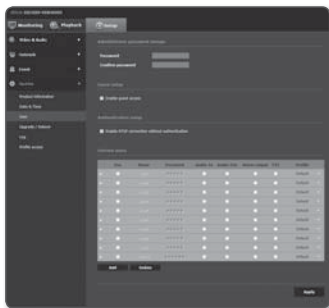
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## User

1. From the Setup menu, select the <System (  )> tab.
2. Click <User>.
3. Provide the necessary user information.




- For the security purposes, you are recommended to use a combination of numbers, alphabets uppercase and lowercase and special characters for your password.
- It is recommended to change your password once every three months.
- The password length and limits are shown as follows.
  - A combination of at least two types of upper case, lower case, numeric, and special characters: 8 to 15 characters.
  - Should be different from the ID.
  - Cannot repeat the same letter, number of special characters more than three times.
  - Cannot use three consecutive letters (e.g. abc, 123, 321, or ascii code values in the sequential increasing or decreasing order)
  - Special characters that are allowed: `~!@#%^(*)_+={|}[].?/`
  - After the factory setting, the admin and user passwords are initialized. You need to reset the password.
  - When you access the product web page for the first time or access it after the initialization, you will be moved to the admin password setting menu.
  - In this menu, you need to login again with the new password before using the product web page menus.

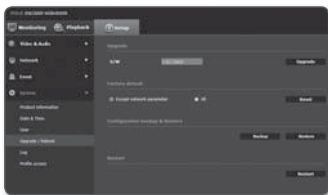


- If the existing password is not matched, when you change the admin password, you cannot change the password.
  - After changing your password, if there is a product connected to a CMS or NVR client, then you need to re-register it with the newly changed password. If the product is still connected with the same password, then the account may be locked because a client uses the previous password.
    - If you try to login with the registered account, 5 or more consecutive password authentication has failed, and then the account may be locked for thirty seconds.
    - When the password is changed while multiple connections are active from a PC, the browser may malfunction. In that case, reconnect to the server.
  - Guest setup : If you select **<Enable guest access>**, the guest account can access the Web viewer screen but can only view the live Viewer screen.
    - The ID/password for the guest account is **<guest/guest>**, which cannot be changed.
  - Authentication setup : If you select **<Enable RTSP connection without authentication>**, you can access RTSP without logging in and view the video.
  - Current users : If you select **<Use>**, you can set or change the user permissions.
    - The administrator can set the audio input, audio output and alarm output permissions.
    - Profile : If you select **<Default>**, you can only see the default profile video; if selecting **<All>**, you can see the full profile videos.
  - ! ■ ONVIF functions available to a registered user allowed to use ONVIF functions are limited to those of granted with permission.
  - Video Transfer and Changing Video Information: Set the profile to **<All>**, and set Audio Input and Audio Output.
  - Video Transfer, Changing Video Information, Alarm Output : Set the profile to **<All>**, and select at your preference for the rest.
  - PTZ control : Select **<PTZ>**.
4. When done, click **[Apply (  )]**.

# setup screen

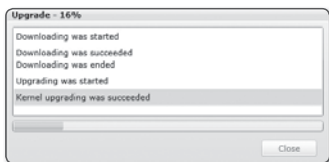
## Upgrade / Reboot

1. From the Setup menu, select the <System (  )> tab.
2. Click <Upgrade / Reboot>.
3. Select a desired item and set it appropriately.
  - Upgrade : Performs upgrading the system.
  - Factory default : Resets the system to the factory default.
    - Except network parameter : Initialize all setup parameters except for network setup.
    - All : Resets all settings including the encoder settings. (however, the log information will not be reset)
      - The IP addressing system will be defaulted to DHCP if you reset the encoder. If no DHCP server is found, the previous settings will be restored automatically.
  - Configuration backup & Restore : Backs up the current system settings before performing the restoration process. The system is automatically restarts after backup or restoration.
  - Restart : Restarts the system.



## To perform the upgrade

1. Click [Upgrade].
2. Click [Browse] and specify a file to upgrade.
3. Click [Send].
4. The "Upgrade" dialog appears where the progression will be shown in the bottom.
5. Once completed upgrading, the browser exits and the encoder restarts.

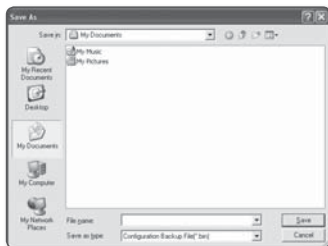




- It may take a max of 20 minutes for the upgrade process.  
If you forcibly terminate the upgrade process, upgrade will not be completed properly.
- During restarting the system, accessing with web viewer will not be made.
- You can download the latest version from the Samsung web site ([www.samsungcctv.com](http://www.samsungcctv.com)).

### To back up the current settings

1. Click [**Backup**].  
The Save As dialog should appear.
2. Specify the backup path with a proper file name, and click [**Save**].  
The backup file will be saved to the specified path in the format of “.bin”.

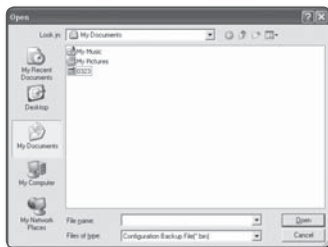


### To restore the backup settings

1. To restore the backup settings, click [**Restore**].
2. Select a backup file and click [**Open**].



- If you perform the backup or restoration, the web browser will be closed and the encoder will reboot.






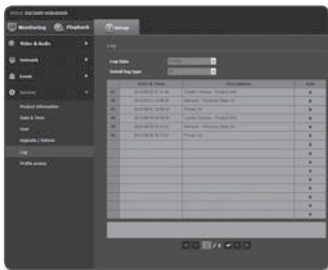
# setup screen

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## Log


You can check the system log or event log.

1. From the Setup menu, select the <System (  )> tab.
  2. Click <Log>.
  3. Select a log type.
    - System : You can check the system logs where any system changes are recorded including the time information.
    - Event : You can check the event logs including the time information.
  4. From the right log list, select an item to search for.
    - If you select <All> in the top left dropdown list, all logs for the applicable log type will be displayed.
  5. If one page can not display all the logs available, use the bottom buttons to move to the previous, next, or the last item.
-  ■ If you want to view the details of a log, click [Info (  )] in the right column of the log; the log information will be shown in the bottom pane.
- Each page displays 15 logs with the latest one displayed at the top.
  - The event/system log list can contain up to 1000 logs; after that, the existing logs will be deleted from the oldest one each time a new log is created.



## Profile access

You can check the profile information.

1. From the Setup menu, select the <System (  )> tab.
2. Click <Profile access>.
  - Profile access : Show the information of the newly added profile.
    - Profile : Show the information of the newly added codec.
    - Bitrate(kbps) : Show both the actual bit rate and the set bit rate.
    - Framerate(fps) : Show both the actual frame rate and the set frame rate.
    - ATC(%) : Show the ATC status.
    - Concurrent users count : Show the number of concurrent users who access the profile.
  - Current users : Shows information on users accessing web viewer and displaying monitoring video.
    - Profile : Show the name of the profile accessed by the user.
    - Bitrate(kbps) : Show the current bit rate.
    - Network connection status : You can check the network connection status.
    - IP : Show the IP address of the current user.



- To check information on the profile currently used, click <Profile access> again to refresh it.

## SPECIFICATION

	Items	Description
Operational	Video In	CVBS : 1.0 Vp-p / 75Ω composite, NTSC/PAL Auto Detection
	Video Out	CVBS : 1.0 Vp-p / 75Ω composite, Loop out
	De-interlacing Filter	Built-in
	Event Trigger	Motion Detection, Alarm Input, Video Loss, Tampering, Network Disconnection
	Alarm I/O	Input 1ea / Output 1ea (Relay)
	Remote Control Interface	RS-485
	RS-485 Protocol	Samsung-T/E, Pelco-P/D, Panasonic, Honeywell, AD, Vicon, GE, Bosch, Sungjin
Network	Ethernet	RJ-45 (10/100BASE-T)
	Video Compression Format	H.264, MPEG-4, Motion JPEG
	Resolution	NT : 704x480, 640x480, 352x240, 320x240 PAL : 704x576, 640x480, 352x288, 320x240
	Max. Framerate	NT : 30fps / PAL : 25fps
	Video Quality Adjustment	H.264/MPEG-4 : Compression Level, Target Bitrate Level Control Motion JPEG : Quality Level Control
	Bitrate Control Method	H.264/MPEG-4 : CBR or VBR Motion JPEG : VBR
	Streaming Capability	Multiple Streaming (Up to 10 Profiles)
	Audio I/O	1ea Line in / 1ea Line out
	Audio Compression Format	G.711 μ-law
	Audio Communication	Bi-directional audio
	IP	IPv4, IPv6

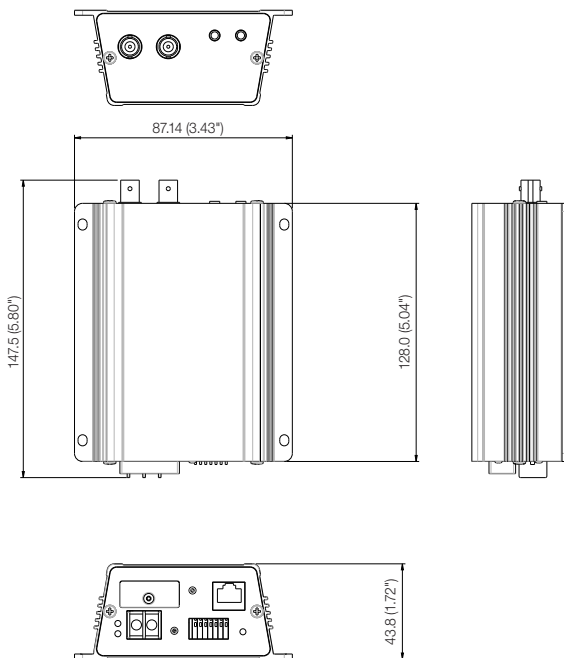


Items	Description
Network	<b>Protocol</b> TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTSP, NTP, HTTP, HTTPS, SSL, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, UPnP
	<b>Security</b> HTTPS(SSL) Login Authentication Digest Login Authentication IP Address Filtering User access Log 802.1x
	<b>Streaming Method</b> Unicast / Multicast
	<b>Max. User Access</b> 10 users at Unicast Mode
	<b>Memory Slot</b> SD/SDHC Memory Slot
	<b>ONVIF Conformance</b> Yes
	<b>Web Viewer</b> Supported OS : Window XP / VISTA / 7, Mac OS X(10.7 or higher) Supported Browser : Internet Explorer (7.0 or higher), Firefox (9.0 or higher), Chrome (15.0 or higher), Safari (5.1 or higher)
<b>Central Management Software</b>	SmartViewer 4.0, NET-i viewer
Environmental	<b>Operating Temperature / Humidity</b> -10°C ~ +50°C (+14°F ~ +122°F) / 20% ~ 80% RH
	<b>Ingress Protection</b> -
Electrical	<b>Input Voltage / Current</b> 12V DC, PoE(IEEE802.3af)
	<b>Power Consumption</b> Max. 4W
Mechanical	<b>Color / Material</b> Silver / Metal
	<b>Dimensions (WxHxD)</b> W87.14 x H43.8 x D128.0mm (3.43" x 1.72" x 5.04")
	<b>Weight</b> 391g

## PRODUCT OVERVIEW

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Unit : mm (inch)



## TROUBLESHOOTING

PROBLEM	SOLUTION
<p>I can't access the network video encoder from a web browser.</p>	<ul style="list-style-type: none"> <li>• Check whether the Network settings of the network video encoder are valid and correct.</li> <li>• Check to make sure that all network cables have been connected properly.</li> <li>• If connected using DHCP, verify that the network video encoder is able to acquire dynamic IP addresses without any problem.</li> <li>• If the network video encoder is connected to a router, verify that port forwarding is properly configured.</li> </ul>
<p>Viewer got disconnected during monitoring.</p>	<ul style="list-style-type: none"> <li>• The existing Web Viewer connection can be expired if the network setting or configuration of the network video encoder is modified by another user.</li> <li>• Check all network connections.</li> <li>• Web Viewer connection may be interrupted by poor network traffic or condition if the network video encoder is connected to a PPPoE network.</li> </ul>
<p>I cannot connect to the system using a tab browser of Internet Explorer 7.0.</p>	<ul style="list-style-type: none"> <li>• An error may be generated when connecting with a new window or tab since the cookie data are shared. Do not use a new window or tab, select "File → New session".</li> </ul>
<p>The network video encoder connected to the network is not detected in the IP installer program.</p>	<ul style="list-style-type: none"> <li>• Turn off the firewall settings on your PC and then search the network video encoder again.</li> </ul>
<p>Images overlap.</p>	<ul style="list-style-type: none"> <li>• Check whether two or more network video encoders are set to a single multicast address instead of different addresses. If a single address is used for multiple network video encoders, the images may overlap.</li> </ul>
<p>No image appears.</p>	<ul style="list-style-type: none"> <li>• If the transmission method is set to multicast, check whether there is a router that supports multicast in the LAN the network video encoder is connected to.</li> </ul>

# appendix

PROBLEM	SOLUTION
<b>Cannot record into the SD memory card.</b>	<ul style="list-style-type: none"><li>• Check if the memory card is defective.</li><li>• Check if the write protection tab of the memory card is set to "LOCK".</li></ul>
<b>SD memory indicator does not turn on even when the SD memory card is inserted.</b>	<ul style="list-style-type: none"><li>• Check if the memory card is defective.</li><li>• Check if the device to used in &lt;Setup&gt; → &lt;Event&gt; → &lt;Storage&gt; menu.</li></ul>
<b>SD memory card is inserted but the network video encoder does not operate properly.</b>	<ul style="list-style-type: none"><li>• Check if the memory card is inserted in the proper direction. Operation of memory card that is formatted by other devices is not guaranteed with this network video encoder unit.</li><li>• Format the memory card again in &lt;Setup&gt; → &lt;Event&gt; → &lt;Storage&gt; menu.</li></ul>
<b>Cannot format the SD memory card.</b>	<ul style="list-style-type: none"><li>• Check if the write protection tab of the memory card is set to "LOCK".</li></ul>

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If you want to obtain the complete Corresponding Source code in the physical medium such as CD-ROM, the cost of physically performing source distribution might be charged.

- GPL Software : [alsa-lib-1.0.12](#), [alsa-utils-1.0.12](#), [bash-4.1](#)(<http://ftp.gnu.org/gnu/bash/>), [busybox-1.15.3](#)(<http://www.busybox.net/>), [ethtool-3.5](#), [iproute-1.15.3](#), [iptables-1.3.7](#), [mii-diag-2.11](#), [wpa\\_supplicant-0.7.3](#)([http://hostap.epitest.fi/wpa\\_supplicant/](http://hostap.epitest.fi/wpa_supplicant/))
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- MPL Software : [Mozilla Firefox](#)(<http://www.mozilla.org/products/firebird/>)
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- [dropbear-0.52](#)(<https://matt.ucc.asn.au/dropbear/dropbear.html>)
- [OpenSSL License](#): [openssl-0.9.8e](#)(<http://www.openssl.org/>)
- [Bzip2 License](#) : [bzip2-1.0.5](#)
- [JPEG License](#) : [Code project – Generating Outline OpenGL](#), [libjpeg](#)

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Component Name	URL
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