

**SAMSUNG TECHWIN**

# **NETWORK CAMERA**

User Manual

SNP-3120/  
3120V/3120VH



**SAMSUNG**

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# Network Camera

## User Manual

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### Warranty

If the product does not operate properly in normal conditions, please let us know. Samsung Techwin will resolve the problem for free of charge. The warranty period is 3 years. However, the followings are excluded:

- If the system behaves abnormally because you run a program irrelevant to the system operation.
- Deteriorated performance or natural worn-out in process of time

❖ **Design and specifications are subject to change without prior notice.**

❖ **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.**

## 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.

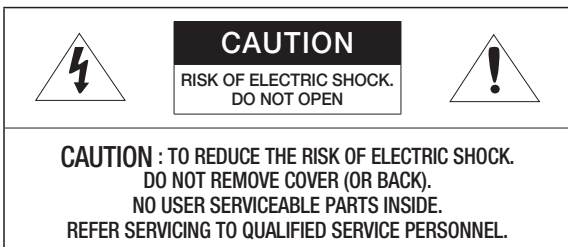


## WARNING

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.

When used outside of the U.S., it may be used HAR code with fittings of an approved agency is employed.

## CAUTION

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.

The BNC Out terminal of the product is provided for easier installation, and is not recommended for monitoring purposes.

If you keep the BNC cable connected, a risk of lightening may cause damage or malfunction to the product.

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



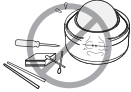





Do not expose the product to the direct airflow from an air conditioner. Otherwise, it may cause moisture condensation inside the Clear Dome due to temperature difference between internal and external of the dome camera.

If you install this product in a low-temp area such as inside a cold store, you must seal up the wiring pipe with silicon, so that the external air can not flow inside the housing.

Otherwise, external high, humid air may flow inside the housing, pooling moisture or vapor inside the product due to a difference between internal and external temperature.

# overview

Please read the following recommend safety precautions carefully.

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

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

The meaning of the using sign in the book is following

- 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.



This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.



Samsung Techwin cares for the environment at all product manufacturing stages, and is taking measures to provide customers with more environmentally friendly products.

The Eco mark represents Samsung Techwin's devotion to creating environmentally friendly products, and indicates that the product satisfies the EU RoHS Directive.



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

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

This marking on the product, accessories or literature indicates that the product and its electronic accessories (e.g. charger, headset, USB cable) should not be disposed of with other household waste at the end of their working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.

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

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

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## PRODUCT FEATURES

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- **Multi-Streaming**

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



- However, MPEG4 video can not be played on a web page. Use CMS software if you want to play the video on a web page.

- **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 email specified by the user or saved to the SD memory, or the event signal will be sent to the Alarm Out port.

- **Intelligent Video Analysis**

Analyzes the event video according to the user-specified rules to recognize the event.

- **ONVIF (Spec 1.02) Compliance**

This product supports ONVIF Core Spec. 1.02.  
For more information, refer to [www.onvif.org](http://www.onvif.org).



Driving network video through global standardization

## RECOMENDED PC SPECIFICATIONS

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- CPU : Intel(R) Core(TM)2 2.00 GHz or higher
- Operating System : Windows XP, VISTA, 7  
Mac OS
- Resolution : 1280X1024 pixels or higher
- RAM : 1GB or higher
- Web Browser : Internet Explorer 6.0 or higher  
Firefox, Google Chrome, Safari
- Video Memory : 128MB or higher

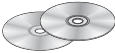





## RECOMENDED SDHC/SD MEMORY CARD SPECIFICATIONS

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- 2GB ~ 32GB
- To ensure proper recording of video data, we recommend you use a memory card that supports at least read/write speed 10Mbps and Class 6.

## WHAT'S INCLUDED

Please check if your camera and accessories are all included in the product package.

Appearance	Item Name	Quantity	Description	Model Name
	User Manual, Installer S/W DVD, CMS S/W DVD	2		SNP-3120/3120V/ 3120VH
	Quick Guide	1		
	7Pin Terminal Block	1	For communications	
	8Pin Terminal Block	1	For alarm I/O	
	Cable for the testing monitor	1	Used to test the camera connection to a portable display device	
	Audio cable	1		

# overview

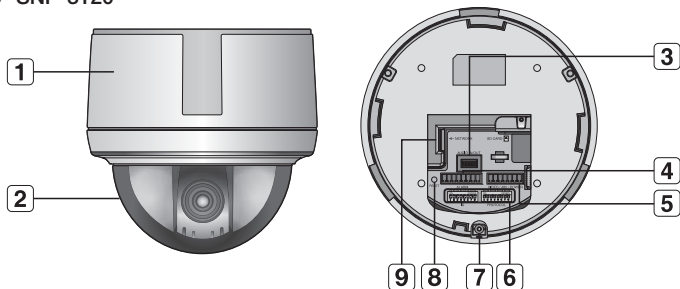
Appearance	Item Name	Quantity	Description	Model Name
	Template	1	Product installation guide	SNP-3120
	ASSY-Tapping Screw	4	Used for installation on the wall or ceiling	
	Mount Bracket	1		SNP-3120
	L Wrench	1	Used to remove/fix the dome cover	SNP-3120V/3120VH



- The Test Monitor Cable is connected to a portable displayer and used for testing the camera. If you intend to use it for an actual monitoring camera, use the BNC cable instead.

## AT A GLANCE

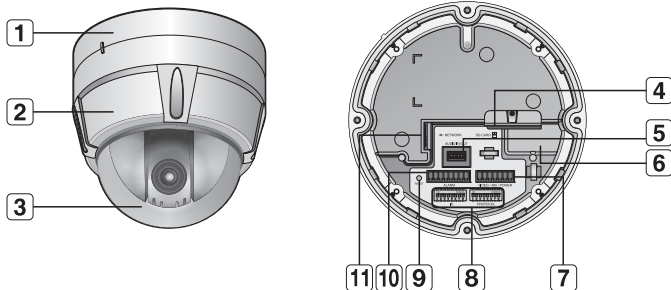
### ❖ SNP-3120



Item	Description
<b>1</b> Main unit	Main unit includes the lens, switch board, PCB boards and screws.
<b>2</b> Dome Cover	Dome cover for the lens and unit protection.
<b>3</b> Audio	Audio I/O port.
<b>4</b> Alarm In / Out terminals	Used to connect alarm in/out terminal block.
<b>5</b> Video, RS-485, Power	Used to connect monitor, RS-485 device or power.
<b>6</b> ID setup switch	Used to setup the camera ID or communication protocol.
<b>7</b> Screw Hole	Used to fix the camera to the wall or ceiling.
<b>8</b> Reset Button	Resets the camera settings to the default. Press and hold it for about 5 seconds to turn off the system indicator and restart the system. <b>!</b> If you reset the camera, the network settings will be adjusted so that DHCP can be enabled. If there is no DHCP server in the network, you must run the IP Installer program to change the basic network settings such as IP address, Subnet mask, Gateway, etc., before you can connect to the network.
<b>9</b> Network port	Used to connect a PoE or LAN cable.

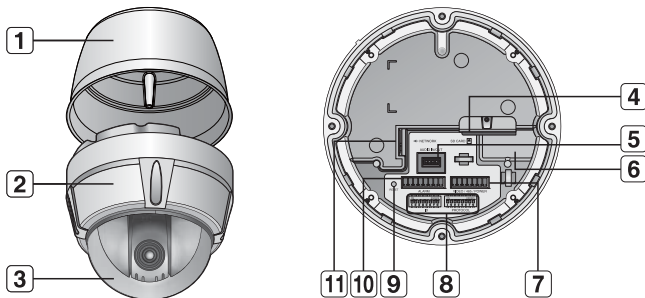
# overview

## ❖ SNP-3120V



Item	Description
<b>1</b> Surface Mount Bracket	Used to install the camera directly on the ceiling. After separating this cover, mount this bracket on to ceiling.
<b>2</b> Main unit	Main unit includes the lens, switch board, PCB boards and screws.
<b>3</b> Dome Cover	Dome cover for the lens and unit protection.
<b>4</b> SD Memory Card Compartment	Compartment for the SD memory card.
<b>5</b> Audio	Audio I/O port.
<b>6</b> Heater	Activated when the ambient temperature is under 5°C to prevent the dome cover from being covered with frost.
<b>7</b> Video, RS-485, Power	Used to connect monitor, RS-485 device or power.
<b>8</b> ID setup switch	Used to setup the camera ID or communication protocol.
<b>9</b> Reset Button	Resets the camera settings to the default. Press and hold it for about 5 seconds to turn off the system indicator and restart the system. <b>!</b> If you reset the camera, the network settings will be adjusted so that DHCP can be enabled. If there is no DHCP server in the network, you must run the IP Installer program to change the basic network settings such as IP address, Subnet mask, Gateway, etc., before you can connect to the network.
<b>10</b> Alarm In / Out terminals	Used to connect alarm in/out terminal block.
<b>11</b> Network port	Used to connect a PoE or LAN cable.

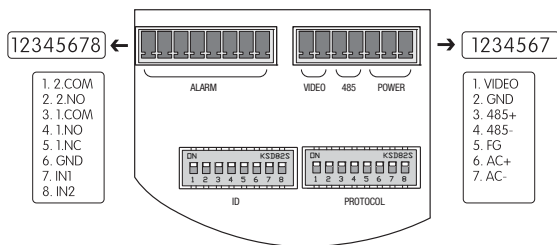
## ❖ SNP-3120VH



Item	Description
<b>1</b> Sun Shield Housing	Used to protect the main unit from the sunlight.
<b>2</b> Main unit	Main unit includes the lens, switch board, PCB boards and screws.
<b>3</b> Dome Cover	Dome cover for the lens and unit protection.
<b>4</b> SD Memory Card Compartment	Compartment for the SD memory card.
<b>5</b> Audio	Audio I/O port.
<b>6</b> Heater	Activated when the ambient temperature is under 5°C to prevent the dome cover from being covered with frost.
<b>7</b> Video, RS-485, Power	Used to connect monitor, RS-485 device or power.
<b>8</b> ID setup switch	Used to setup the camera ID or communication protocol.
<b>9</b> Reset Button	Resets the camera settings to the default. Press and hold it for about 5 seconds to turn off the system indicator and restart the system. <b>I</b> If you reset the camera, the network settings will be adjusted so that DHCP can be enabled. If there is no DHCP server in the network, you must run the IP Installer program to change the basic network settings such as IP address, Subnet mask, Gateway, etc., before you can connect to the network.
<b>10</b> Alarm In / Out terminals	Used to plug terminal block to connect alarm in/out.
<b>11</b> Network port	Used to connect a PoE or LAN cable.

## ❖ Camera Wiring Interface Board

For the camera wiring, please refer to the picture below. When using coaxial communication, a separate control signal connection is not required.



### Controller & Auxiliary Signal Connection

No.	Name	Usage
1	2.COM	Alarm Output 2 (Common)
2	2.NO	Alarm Output 2 (Normal Open)
3	1.COM	Alarm Output 1 (Common)
4	1.NO	Alarm Output 1 (Normal Open)
5	1.NC	Alarm Output 1 (Normal Open)
6	GND	Ground
7	IN1	Alarm Input Sensor Terminal 1
8	IN2	Alarm Input Sensor Terminal 2



## Power, Video & Communication Signal Connection

No.	Name	Usage
1	VIDEO	Video Output
2	GND	Ground
3	485+	Controller Data Line
4	485-	Controller Data Line
5	FG	Field Ground
6	AC	AC 24V
7	AC	AC 24V



- The provided BNC cable's blue line is Video Output, while the black line is the Ground.
- Power supply adaptor (AC) has no polarities.



- The maximum power capacity of the built-in relay is 30V DC/2A, 125V AC/0.5A, and 250V AC/0.25A.
- Connecting the power connector and GND incorrectly to the NC/NO and COM ports may cause a short circuit and fire, damaging the camera.
- When connecting the camera to an external over-rated product, use a separate relay device to ensure proper operation.
- To prevent possible inflow of lightning while in test monitoring, perform the test with the FG terminal grounded.

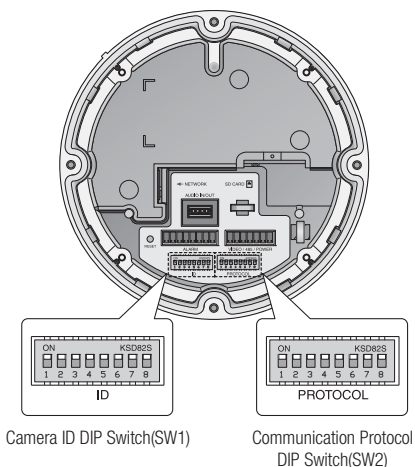
# installation & connection

## DIP SWITCH SETTING

### How to set up Protocols and ID DIP Switches

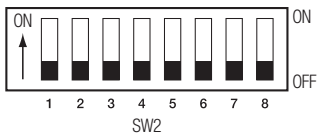
You can control various settings of the camera system using the Communication and ID DIP switches. Before installing the product, please set up the DIP switches according to the installation environment.

1. Detach the camera frame from the install base, and place the bottom of the frame toward you as shown in the picture below.
2. Set the switches according to your installation environment. For more detailed setup information, please refer to the chart on the next page.
3. The camera may malfunction if the switches are not fully turned On/Off; please double check the switches before finishing setup.



## Communication Protocol DIP Switch Settings (SW2)

Coaxial communication automatically detects signals, and so does not require a separate communication setup process.



SW2 Pin No.	Purpose
1~4	Protocol Settings
5~6	Baud Rate Settings
7	Response Mode Settings
8	Termination Settings

### ● Protocol Settings

Select a communication protocol for the camera.

No.	Protocol	SW2-#1	SW2-#2	SW2-#3	SW2-#4
1	AUTO DETECT	OFF	OFF	OFF	OFF
2	Samsung-T	OFF	OFF	OFF	ON
3	Pelco-D	OFF	OFF	ON	OFF
4	Pelco-P	OFF	OFF	ON	ON
5	Samsung-E	OFF	ON	OFF	OFF
6	Panasonic	OFF	ON	OFF	ON
7	Vicon	OFF	ON	ON	OFF
8	Honeywell	OFF	ON	ON	ON
9	AD	ON	OFF	OFF	OFF
10	GE	ON	OFF	OFF	ON
11	BOSCH	ON	OFF	ON	OFF
12	Reserved	ON	OFF	ON	ON
13	Reserved	ON	ON	OFF	OFF
14	Reserved	ON	ON	OFF	ON
15	Reserved	ON	ON	ON	OFF
16	Reserved	ON	ON	ON	ON

# installation & connection

## • Baud Rate Settings

Select the transfer speed of a selected communication protocol.

No.	Baud Rate (BPS)	SW2-#5	SW2-#6
1	2,400	ON	ON
2	4,800	ON	OFF
3	9,600	OFF	OFF
4	19,200	OFF	ON

## • Communication Response Settings

Select a communication response method for the camera and controller: Response or No Response.

	Function	ON	OFF
SW2- #7	Response Mode Switch	Response	No Response

## • Termination Settings

To prevent the attenuation of communication signals between the camera and controller, the items at the end of line must be set up with the termination settings.

Camera Input Position	SW2- #8
Termination of Longest Path	ON
On the Path	OFF

- This model is provided with factory defaults of all DIP switches set to OFF. The default settings are shaded in the table.



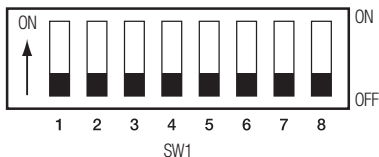
- To use a third party controller with this product, please contact our After-Sales Service or Technology Department.
- Controls Using Different Protocols

	AD Protocol	VICON Protocol	GE Protocol
Entering Camera OSD	3+Auxiliary ON	IRIS OPEN	IRIS OPEN
Exiting Camera OSD	3+Auxiliary OFF	IRIS CLOSE	IRIS CLOSE
ENTER	IRIS OPEN	IRIS OPEN	IRIS OPEN
ESC	IRIS CLOSE	IRIS CLOSE	IRIS CLOSE

- For more information about the protocols, refer to our official website.

### Camera ID DIP Switch Settings (SW1)

To set up camera IDs, refer to the “**Camera ID Chart**” next.



# installation & connection

## • Camera ID Chart

ID	SW1-#1	SW1-#2	SW1-#3	SW1-#4	SW1-#5	SW1-#6	SW1-#7	SW1-#8
1	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
2	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
3	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
4	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
5	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF
6	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF
7	ON	ON	ON	OFF	OFF	OFF	OFF	OFF
8	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF
9	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF
10	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF
11	ON	ON	OFF	ON	OFF	OFF	OFF	OFF
12	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF
13	ON	OFF	ON	ON	OFF	OFF	OFF	OFF
14	OFF	ON	ON	ON	OFF	OFF	OFF	OFF
15	ON	ON	ON	ON	OFF	OFF	OFF	OFF
16	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF
17	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF
18	OFF	ON	OFF	OFF	ON	OFF	OFF	OFF
19	ON	ON	OFF	OFF	ON	OFF	OFF	OFF
20	OFF	OFF	ON	OFF	ON	OFF	OFF	OFF
21	ON	OFF	ON	OFF	ON	OFF	OFF	OFF
22	OFF	ON	ON	OFF	ON	OFF	OFF	OFF
23	ON	ON	ON	OFF	ON	OFF	OFF	OFF
24	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF
25	ON	OFF	OFF	ON	ON	OFF	OFF	OFF
26	OFF	ON	OFF	ON	ON	OFF	OFF	OFF
27	ON	ON	OFF	ON	ON	OFF	OFF	OFF
28	OFF	OFF	ON	ON	ON	OFF	OFF	OFF
29	ON	OFF	ON	ON	ON	OFF	OFF	OFF
30	OFF	ON	ON	ON	ON	OFF	OFF	OFF
31	ON	ON	ON	ON	ON	OFF	OFF	OFF
32	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF
33	ON	OFF	OFF	OFF	OFF	ON	OFF	OFF
34	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
35	ON	ON	OFF	OFF	OFF	ON	OFF	OFF
36	OFF	OFF	ON	OFF	OFF	ON	OFF	OFF
37	ON	OFF	ON	OFF	OFF	ON	OFF	OFF
38	OFF	ON	ON	OFF	OFF	ON	OFF	OFF
39	ON	ON	ON	OFF	OFF	ON	OFF	OFF
40	OFF	OFF	OFF	ON	OFF	ON	OFF	OFF
41	ON	OFF	OFF	ON	OFF	ON	OFF	OFF

ID	SW1-#1	SW1-#2	SW1-#3	SW1-#4	SW1-#5	SW1-#6	SW1-#7	SW1-#8
42	OFF	ON	OFF	ON	OFF	ON	OFF	OFF
43	ON	ON	OFF	ON	OFF	ON	OFF	OFF
44	OFF	OFF	ON	ON	OFF	ON	OFF	OFF
45	ON	OFF	ON	ON	OFF	ON	OFF	OFF
46	OFF	ON	ON	ON	OFF	ON	OFF	OFF
47	ON	ON	ON	ON	OFF	ON	OFF	OFF
48	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF
49	ON	OFF	OFF	OFF	ON	ON	OFF	OFF
50	OFF	ON	OFF	OFF	ON	ON	OFF	OFF
51	ON	ON	OFF	OFF	ON	ON	OFF	OFF
52	OFF	OFF	ON	OFF	ON	ON	OFF	OFF
53	ON	OFF	ON	OFF	ON	ON	OFF	OFF
54	OFF	ON	ON	OFF	ON	ON	OFF	OFF
55	ON	ON	ON	OFF	ON	ON	OFF	OFF
56	OFF	OFF	OFF	ON	ON	ON	OFF	OFF
57	ON	OFF	OFF	ON	ON	ON	OFF	OFF
58	OFF	ON	OFF	ON	ON	ON	OFF	OFF
59	ON	ON	OFF	ON	ON	ON	OFF	OFF
60	OFF	OFF	ON	ON	ON	ON	OFF	OFF
61	ON	OFF	ON	ON	ON	ON	OFF	OFF
62	OFF	ON	ON	ON	ON	ON	OFF	OFF
63	ON	ON	ON	ON	ON	ON	OFF	OFF
64	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF
65	ON	OFF	OFF	OFF	OFF	OFF	ON	OFF
66	OFF	ON	OFF	OFF	OFF	OFF	ON	OFF
67	ON	ON	OFF	OFF	OFF	OFF	ON	OFF
68	OFF	OFF	ON	OFF	OFF	OFF	ON	OFF
69	ON	OFF	ON	OFF	OFF	OFF	ON	OFF
70	OFF	ON	ON	OFF	OFF	OFF	ON	OFF
71	ON	ON	ON	OFF	OFF	OFF	ON	OFF
72	OFF	OFF	OFF	ON	OFF	OFF	ON	OFF
73	ON	OFF	OFF	ON	OFF	OFF	ON	OFF
74	OFF	ON	OFF	ON	OFF	OFF	ON	OFF
75	ON	ON	OFF	ON	OFF	OFF	ON	OFF
76	OFF	OFF	ON	ON	OFF	OFF	ON	OFF
77	ON	OFF	ON	ON	OFF	OFF	ON	OFF
78	OFF	ON	ON	ON	OFF	OFF	ON	OFF
79	ON	ON	ON	ON	OFF	OFF	ON	OFF
80	OFF	OFF	OFF	OFF	ON	OFF	ON	OFF
81	ON	OFF	OFF	OFF	ON	OFF	ON	OFF
82	OFF	ON	OFF	OFF	ON	OFF	ON	OFF
83	ON	ON	OFF	OFF	ON	OFF	ON	OFF
84	OFF	OFF	ON	OFF	ON	OFF	ON	OFF

# installation & connection

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ID	SW1-#1	SW1-#2	SW1-#3	SW1-#4	SW1-#5	SW1-#6	SW1-#7	SW1-#8
85	ON	OFF	ON	OFF	ON	OFF	ON	OFF
86	OFF	ON	ON	OFF	ON	OFF	ON	OFF
87	ON	ON	ON	OFF	ON	OFF	ON	OFF
88	OFF	OFF	OFF	ON	ON	OFF	ON	OFF
89	ON	OFF	OFF	ON	ON	OFF	ON	OFF
90	OFF	ON	OFF	ON	ON	OFF	ON	OFF
91	ON	ON	OFF	ON	ON	OFF	ON	OFF
92	OFF	OFF	ON	ON	ON	OFF	ON	OFF
93	ON	OFF	ON	ON	ON	OFF	ON	OFF
94	OFF	ON	ON	ON	ON	OFF	ON	OFF
95	ON	ON	ON	ON	ON	OFF	ON	OFF
96	OFF	OFF	OFF	OFF	OFF	ON	ON	OFF
97	ON	OFF	OFF	OFF	OFF	ON	ON	OFF
98	OFF	ON	OFF	OFF	OFF	ON	ON	OFF
99	ON	ON	OFF	OFF	OFF	ON	ON	OFF
100	OFF	OFF	ON	OFF	OFF	ON	ON	OFF
101	ON	OFF	ON	OFF	OFF	ON	ON	OFF
102	OFF	ON	ON	OFF	OFF	ON	ON	OFF
103	ON	ON	ON	OFF	OFF	ON	ON	OFF
104	OFF	OFF	OFF	ON	OFF	ON	ON	OFF
105	ON	OFF	OFF	ON	OFF	ON	ON	OFF
106	OFF	ON	OFF	ON	OFF	ON	ON	OFF
107	ON	ON	OFF	ON	OFF	ON	ON	OFF
108	OFF	OFF	ON	ON	OFF	ON	ON	OFF
109	ON	OFF	ON	ON	OFF	ON	ON	OFF
110	OFF	ON	ON	ON	OFF	ON	ON	OFF
111	ON	ON	ON	ON	OFF	ON	ON	OFF
112	OFF	OFF	OFF	OFF	ON	ON	ON	OFF
113	ON	OFF	OFF	OFF	ON	ON	ON	OFF
114	OFF	ON	OFF	OFF	ON	ON	ON	OFF
115	ON	ON	OFF	OFF	ON	ON	ON	OFF
116	OFF	OFF	ON	OFF	ON	ON	ON	OFF
117	ON	OFF	ON	OFF	ON	ON	ON	OFF
118	OFF	ON	ON	OFF	ON	ON	ON	OFF
119	ON	ON	ON	OFF	ON	ON	ON	OFF
120	OFF	OFF	OFF	ON	ON	ON	ON	OFF
121	ON	OFF	OFF	ON	ON	ON	ON	OFF
122	OFF	ON	OFF	ON	ON	ON	ON	OFF
123	ON	ON	OFF	ON	ON	ON	ON	OFF
124	OFF	OFF	ON	ON	ON	ON	ON	OFF
125	ON	OFF	ON	ON	ON	ON	ON	OFF
126	OFF	ON	ON	ON	ON	ON	ON	OFF
127	ON	ON	ON	ON	ON	ON	ON	OFF



ID	SW1-#1	SW1-#2	SW1-#3	SW1-#4	SW1-#5	SW1-#6	SW1-#7	SW1-#8
128	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON
129	ON	OFF	OFF	OFF	OFF	OFF	OFF	ON
130	OFF	ON	OFF	OFF	OFF	OFF	OFF	ON
131	ON	ON	OFF	OFF	OFF	OFF	OFF	ON
132	OFF	OFF	ON	OFF	OFF	OFF	OFF	ON
133	ON	OFF	ON	OFF	OFF	OFF	OFF	ON
134	OFF	ON	ON	OFF	OFF	OFF	OFF	ON
135	ON	ON	ON	OFF	OFF	OFF	OFF	ON
136	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON
137	ON	OFF	OFF	ON	OFF	OFF	OFF	ON
138	OFF	ON	OFF	ON	OFF	OFF	OFF	ON
139	ON	ON	OFF	ON	OFF	OFF	OFF	ON
140	OFF	OFF	ON	ON	OFF	OFF	OFF	ON
141	ON	OFF	ON	ON	OFF	OFF	OFF	ON
142	OFF	ON	ON	ON	OFF	OFF	OFF	ON
143	ON	ON	ON	ON	OFF	OFF	OFF	ON
144	OFF	OFF	OFF	OFF	ON	OFF	OFF	ON
145	ON	OFF	OFF	OFF	ON	OFF	OFF	ON
146	OFF	ON	OFF	OFF	ON	OFF	OFF	ON
147	ON	ON	OFF	OFF	ON	OFF	OFF	ON
148	OFF	OFF	ON	OFF	ON	OFF	OFF	ON
149	ON	OFF	ON	OFF	ON	OFF	OFF	ON
150	OFF	ON	ON	OFF	ON	OFF	OFF	ON
151	ON	ON	ON	OFF	ON	OFF	OFF	ON
152	OFF	OFF	OFF	ON	ON	OFF	OFF	ON
153	ON	OFF	OFF	ON	ON	OFF	OFF	ON
154	OFF	ON	OFF	ON	ON	OFF	OFF	ON
155	ON	ON	OFF	ON	ON	OFF	OFF	ON
156	OFF	OFF	ON	ON	ON	OFF	OFF	ON
157	ON	OFF	ON	ON	ON	OFF	OFF	ON
158	OFF	ON	ON	ON	ON	OFF	OFF	ON
159	ON	ON	ON	ON	ON	OFF	OFF	ON
160	OFF	OFF	OFF	OFF	OFF	ON	OFF	ON
161	ON	OFF	OFF	OFF	OFF	ON	OFF	ON
162	OFF	ON	OFF	OFF	OFF	ON	OFF	ON
163	ON	ON	OFF	OFF	OFF	ON	OFF	ON
164	OFF	OFF	ON	OFF	OFF	ON	OFF	ON
165	ON	OFF	ON	OFF	OFF	ON	OFF	ON
166	OFF	ON	ON	OFF	OFF	ON	OFF	ON
167	ON	ON	ON	OFF	OFF	ON	OFF	ON
168	OFF	OFF	OFF	ON	OFF	ON	OFF	ON
169	ON	OFF	OFF	ON	OFF	ON	OFF	ON
170	OFF	ON	OFF	ON	OFF	ON	OFF	ON

# installation & connection

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ID	SW1-#1	SW1-#2	SW1-#3	SW1-#4	SW1-#5	SW1-#6	SW1-#7	SW1-#8
171	ON	ON	OFF	ON	OFF	ON	OFF	ON
172	OFF	OFF	ON	ON	OFF	ON	OFF	ON
173	ON	OFF	ON	ON	OFF	ON	OFF	ON
174	OFF	ON	ON	ON	OFF	ON	OFF	ON
175	ON	ON	ON	ON	OFF	ON	OFF	ON
176	OFF	OFF	OFF	OFF	ON	ON	OFF	ON
177	ON	OFF	OFF	OFF	ON	ON	OFF	ON
178	OFF	ON	OFF	OFF	ON	ON	OFF	ON
179	ON	ON	OFF	OFF	ON	ON	OFF	ON
180	OFF	OFF	ON	OFF	ON	ON	OFF	ON
181	ON	OFF	ON	OFF	ON	ON	OFF	ON
182	OFF	ON	ON	OFF	ON	ON	OFF	ON
183	ON	ON	ON	OFF	ON	ON	OFF	ON
184	OFF	OFF	OFF	ON	ON	ON	OFF	ON
185	ON	OFF	OFF	ON	ON	ON	OFF	ON
186	OFF	ON	OFF	ON	ON	ON	OFF	ON
187	ON	ON	OFF	ON	ON	ON	OFF	ON
188	OFF	OFF	ON	ON	ON	ON	OFF	ON
189	ON	OFF	ON	ON	ON	ON	OFF	ON
190	OFF	ON	ON	ON	ON	ON	OFF	ON
191	ON	ON	ON	ON	ON	ON	OFF	ON
192	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON
193	ON	OFF	OFF	OFF	OFF	OFF	ON	ON
194	OFF	ON	OFF	OFF	OFF	OFF	ON	ON
195	ON	ON	OFF	OFF	OFF	OFF	ON	ON
196	OFF	OFF	ON	OFF	OFF	OFF	ON	ON
197	ON	OFF	ON	OFF	OFF	OFF	ON	ON
198	OFF	ON	ON	OFF	OFF	OFF	ON	ON
199	ON	ON	ON	OFF	OFF	OFF	ON	ON
200	OFF	OFF	OFF	ON	OFF	OFF	ON	ON
201	ON	OFF	OFF	ON	OFF	OFF	ON	ON
202	OFF	ON	OFF	ON	OFF	OFF	ON	ON
203	ON	ON	OFF	ON	OFF	OFF	ON	ON
204	OFF	OFF	ON	ON	OFF	OFF	ON	ON
205	ON	OFF	ON	ON	OFF	OFF	ON	ON
206	OFF	ON	ON	ON	OFF	OFF	ON	ON
207	ON	ON	ON	ON	OFF	OFF	ON	ON
208	OFF	OFF	OFF	OFF	ON	OFF	ON	ON
209	ON	OFF	OFF	OFF	ON	OFF	ON	ON
210	OFF	ON	OFF	OFF	ON	OFF	ON	ON
211	ON	ON	OFF	OFF	ON	OFF	ON	ON
212	OFF	OFF	ON	OFF	ON	OFF	ON	ON
213	ON	OFF	ON	OFF	ON	OFF	ON	ON

ID	SW1-#1	SW1-#2	SW1-#3	SW1-#4	SW1-#5	SW1-#6	SW1-#7	SW1-#8
214	OFF	ON	ON	OFF	ON	OFF	ON	ON
215	ON	ON	ON	OFF	ON	OFF	ON	ON
216	OFF	OFF	OFF	ON	ON	OFF	ON	ON
217	ON	OFF	OFF	ON	ON	OFF	ON	ON
218	OFF	ON	OFF	ON	ON	OFF	ON	ON
219	ON	ON	OFF	ON	ON	OFF	ON	ON
220	OFF	OFF	ON	ON	ON	OFF	ON	ON
221	ON	OFF	ON	ON	ON	OFF	ON	ON
222	OFF	ON	ON	ON	ON	OFF	ON	ON
223	ON	ON	ON	ON	ON	OFF	ON	ON
224	OFF	OFF	OFF	OFF	OFF	ON	ON	ON
225	ON	OFF	OFF	OFF	OFF	ON	ON	ON
226	OFF	ON	OFF	OFF	OFF	ON	ON	ON
227	ON	ON	OFF	OFF	OFF	ON	ON	ON
228	OFF	OFF	ON	OFF	OFF	ON	ON	ON
229	ON	OFF	ON	OFF	OFF	ON	ON	ON
230	OFF	ON	ON	OFF	OFF	ON	ON	ON
231	ON	ON	ON	OFF	OFF	ON	ON	ON
232	OFF	OFF	OFF	ON	OFF	ON	ON	ON
233	ON	OFF	OFF	ON	OFF	ON	ON	ON
234	OFF	ON	OFF	ON	OFF	ON	ON	ON
235	ON	ON	OFF	ON	OFF	ON	ON	ON
236	OFF	OFF	ON	ON	OFF	ON	ON	ON
237	ON	OFF	ON	ON	OFF	ON	ON	ON
238	OFF	ON	ON	ON	OFF	ON	ON	ON
239	ON	ON	ON	ON	OFF	ON	ON	ON
240	OFF	OFF	OFF	OFF	ON	ON	ON	ON
241	ON	OFF	OFF	OFF	ON	ON	ON	ON
242	OFF	ON	OFF	OFF	ON	ON	ON	ON
243	ON	ON	OFF	OFF	ON	ON	ON	ON
244	OFF	OFF	ON	OFF	ON	ON	ON	ON
245	ON	OFF	ON	OFF	ON	ON	ON	ON
246	OFF	ON	ON	OFF	ON	ON	ON	ON
247	ON	ON	ON	OFF	ON	ON	ON	ON
248	OFF	OFF	OFF	ON	ON	ON	ON	ON
249	ON	OFF	OFF	ON	ON	ON	ON	ON
250	OFF	ON	OFF	ON	ON	ON	ON	ON
251	ON	ON	OFF	ON	ON	ON	ON	ON
252	OFF	OFF	ON	ON	ON	ON	ON	ON
253	ON	OFF	ON	ON	ON	ON	ON	ON
254	OFF	ON	ON	ON	ON	ON	ON	ON
255	ON	ON	ON	ON	ON	ON	ON	ON

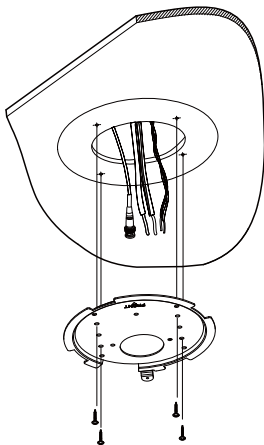
# installation & connection

## INSTALLATION (SNP-3120)

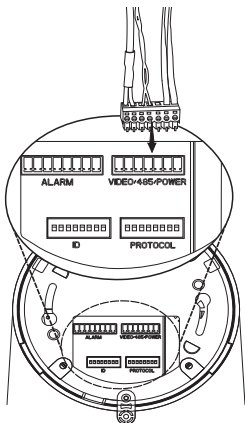
### On-ceiling installation

1. Drill a hole of 60mm diameter on the ceiling and run the wires down through it.
2. Install the Mount Bracket onto the hold and fix it using 4 screws.

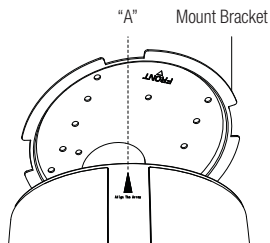
- !** Do not connect the camera to a power outlet until the installation is complete. Supplying power in the middle of the installation may cause fire or damage the product.



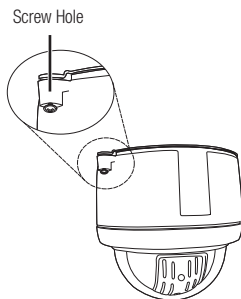
3. Connect each camera cable to the proper terminals on the bottom of the camera. For more detailed instructions, please refer to Page 16: "Camera Wiring Interface Board".
4. DIP switches for communication and ID setup are located on the bottom of the camera. For more instructions, please refer to Page 22.



5. Align the **“Align The Arrow”** triangular edge of the camera to the marking (shown as **“A”** in the diagram) on the left of the **“FRONT”** side of the Mount Bracket.
6. After inserting the camera into the Mount Bracket, turn the camera module clockwise about 25°.



7. Match the screw holes in the camera and mount bracket, and then fasten with the screw.

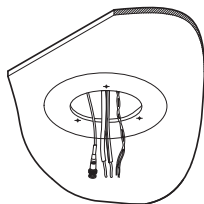


# installation & connection

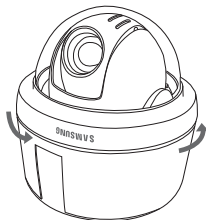
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## Flush Mount Type Installation Example

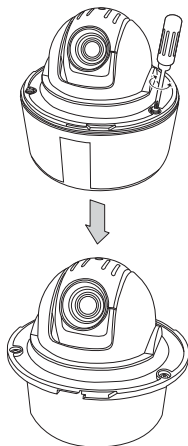
1. Attach the template, and then drill a hole according to the 143 mm diameter hole marked on the template. Drop down the camera cables through the hole. Drill another small hole for a screw to secure the camera.



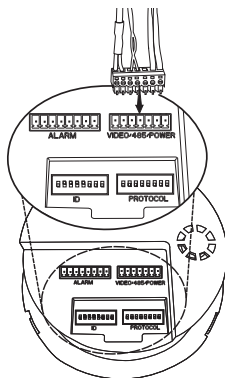
2. Rotate the dome cover counterclockwise to detach it from the camera.



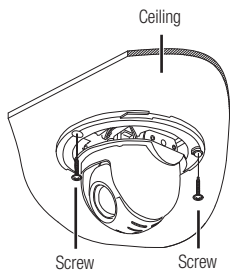
3. Remove the 3 screws, and then detach the mount housing from the camera.



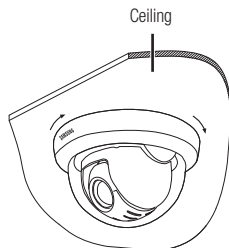
4. Connect each camera cable to the proper terminals on the bottom of the camera (Refer to Page 16: “**Camera Wiring Interface Board**”). Configure the DIP switches on the bottom of the camera for communication and ID (Refer to pages 19~21).



5. Install Camera Fit the camera to the hole on the ceiling, and then secure the camera using 3 Product-enclosed Fixture Screws (M4x20).



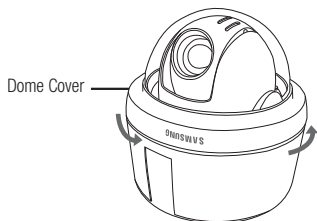
6. Assemble Dome Cover Insert the grooves on the dome cover into ones on the camera, and then turn clockwise to fasten.



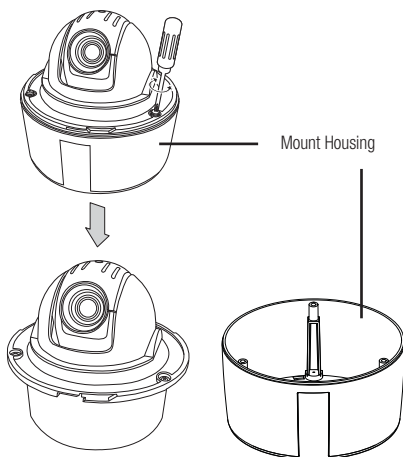
# installation & connection

## INSTALLING WITH ACCESSORIES (SOLD SEPARATELY)

1. Turn the Dome Cover counter-clockwise and separate from the camera.



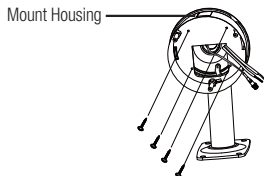
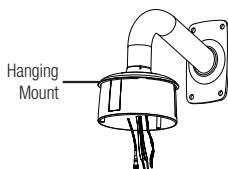
2. Remove 3 screws and separate the Mount Housing from the camera.



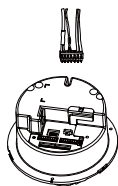


3. Fix the Mount Housing onto the Hanging Mount (SBP-300HM) with 4 screws (M4xL16).

- !** Note that the recommended torque for the screw fastening is less than 3 kgf, to prevent deformation of the mount housing.



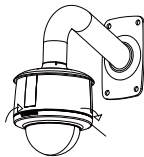
4. Connect wires to the Terminal Block and attach it to the bottom side of the camera.  
(Refer to the “**Camera Wiring Interface Board**” at page 16.)  
Set the communication protocol and ID DIP switches on the bottom of the camera unit. (Refer to pages 19~21.)



5. Fix the camera to the Mount Housing by using 3 screws removed in the step 2.



6. Attach the Dome Cover and turn it clockwise to fix.

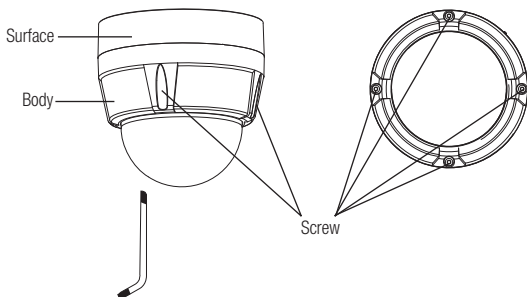


# installation & connection

## INSTALLATION (SNP-3120V)

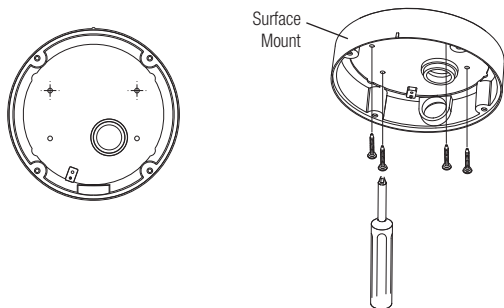
### Ceiling Mount

1. Use the provided L-shaped wrench to remove the surface mount by loosening 4 screws counter clockwise.

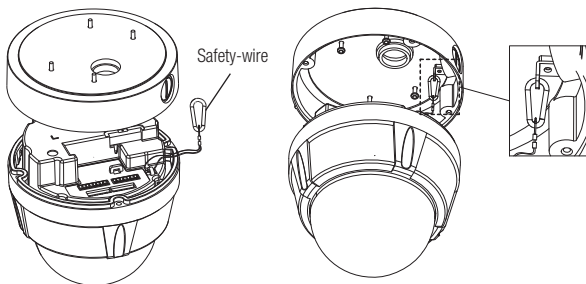


2. Drill holes (5 mm in diameter and at least 35 mm in depth for each) for the screws (x4) to be inserted in the bottom of the surface mount, and insert the provided plastic anchor (HUD5) to the end.

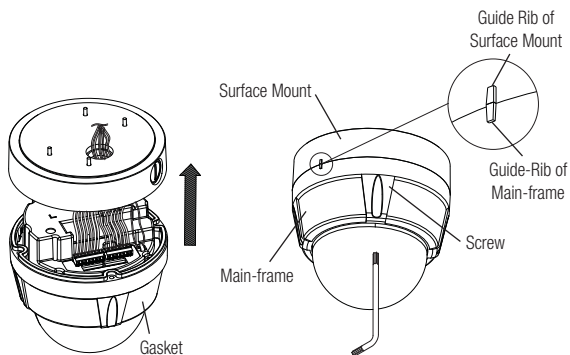
Insert the cables into the cable hole, and fix the SCREW-TAPPING (TH M4xL30) to the plastic anchor that was inserted in the hole for fixing the surface mount. (x4)



3. Connect the safety wire (attached to the camera) to the surface mount as shown. Then, arrange the cables.
- For more information about the wiring, refer to "**Camera Wiring Interface Board**". (Page 16)



4. Arrange the cables inside the surface mount so that they should not be entangled or stuck in, and align the guide rib of the camera with that of the surface mount. Use the L-shaped wrench to tighten the screws (x4) so that the camera is secured to the mount. To ensure waterproofness, take caution lest that the outer gasket should get loose or be stuck in.

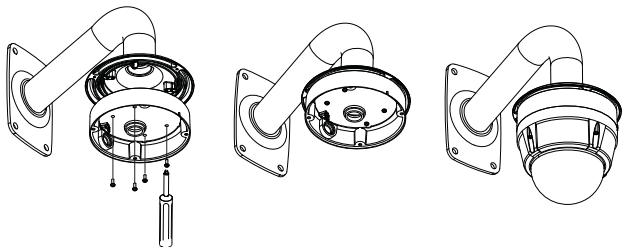


# installation & connection

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## Mount onto the optimal adaptor

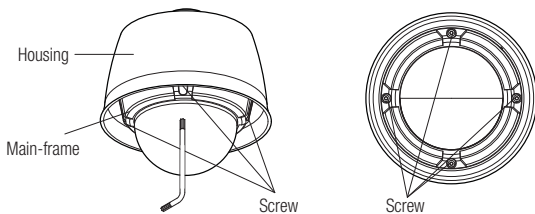
1. Follow step 1 in **"Ceiling Mount"** above and remove the surface mount.
2. Insert the cables into the cable hole on the surface mount and fix them to SBP-300HM (HANGING MOUNT) using SCREW-MACHINE (BH, M4xL10, x4).



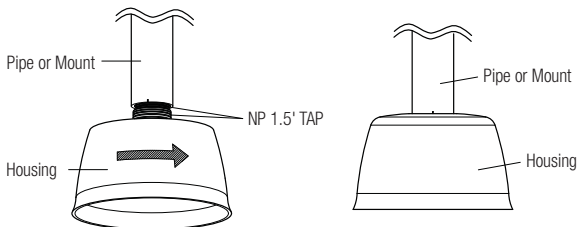
3. Repeat step 3 through step 4 in **"Ceiling Mount"** above to complete the installation.

## INSTALLATION (SNP-3120VH)

1. Use the provided L-shaped wrench to loosen 4 screws counter clockwise, which will help removing the housing.

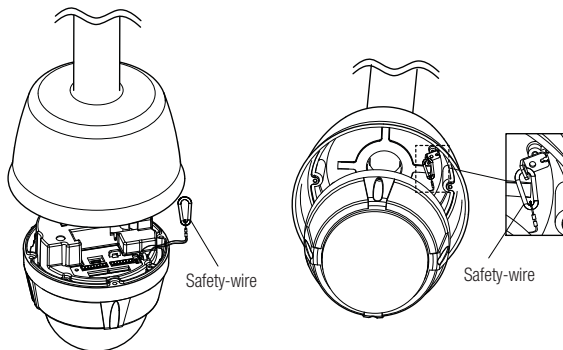


2. Fix the housing to the NP 1.5" tapped pipe, wall mount (SBP-300WM) or ceiling mount (SBP-300CM) by turning it clockwise. For waterproofness and lock between the two component parts, use the Teflon tape to wrap them around.

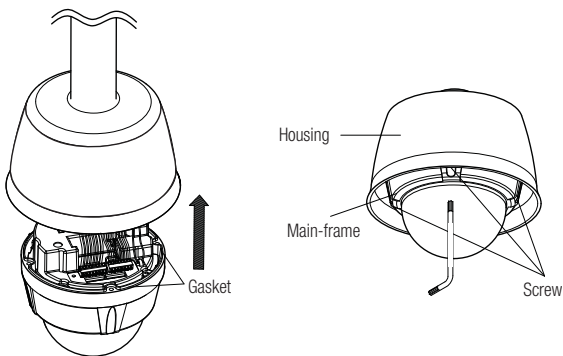


# installation & connection

- Secure the safety wire (attached to the product) to the housing as shown.
  - For details about the cable connection, refer to the **"Camera Wiring Interface Board"** section in this manual.



- Arrange the cables inside the housing lest they be damaged or stuck in, and use the L-shaped wrench to tighten 4 screws to the housing. To ensure waterproofness, this step needs your special care. Otherwise, the gasket on the outer side of the product may be loose or just stuck in.



## Optional Accessories for Installation

For your easier installation, you can purchase appropriate optional accessories available.

### 1. When installing the camera on a wall

- SNP-3120, SNP-3120V :  
Wall mount (SBP-300WM) + Hanging mount (SBP-300HM)

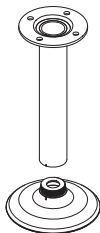


- SNP-3120VH :  
Wall mount (SBP-300WM)

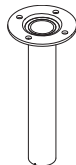


### 2. When installing the camera on a ceiling

- SNP-3120, SNP-3120V :  
Ceiling mount (SBP-300CM) + Hanging mount (SBP-300HM)



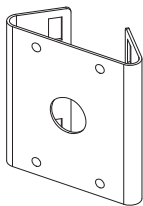
- SNP-3120VH :  
Ceiling mount (SBP-300CM)



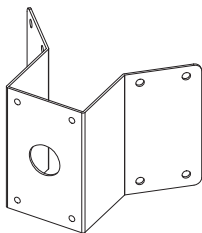
# installation & connection

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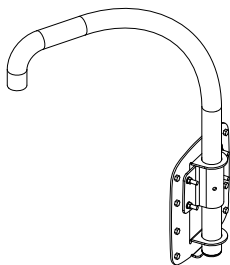
3. When installing the Wall Mount (SBP-300WM) on a pole bigger than 80mm in diameter :  
Pole Mount (SBP-300PM)



4. When installing the Wall Mount (SBP-300WM) on a cornered wall :  
Corner Mount (SBP-300KM)



5. When installing SNP-3120VH on a rooftop of a building :  
Parapet Mount (SBP-300LM)

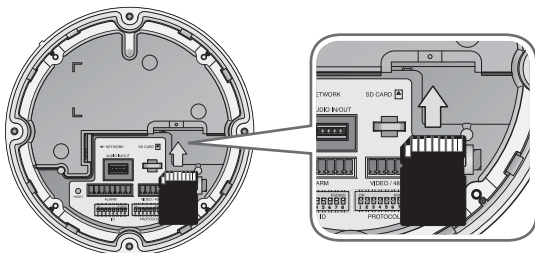




## INSERTING/REMOVING AN SD MEMORY CARD

### Inserting an SD Memory Card

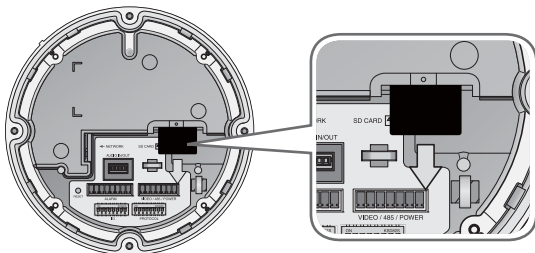
Push the SD memory card in the direction of the arrow shown in the diagram.




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

### Removing an 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 remove the SD memory card, set **<Record>** to **<Off>** from **<SD record>** and press **[Apply (  )]**. (page 94)
- If you have saved data in the SD memory card, removing the SD memory card prior to setting record to OFF will cause damage to the data stored in the card.

## 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 camera supports SDHC memory cards.

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

For your camera, we recommend you use a memory card from the following manufacturers:

SDHC/SD Memory Card : Sandisk, Transcend, Kingston

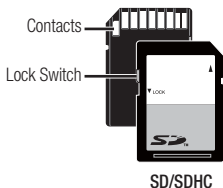
Playback performance can be affected depending on the speed of memory card, so use the high-speed memory card.

### Memory Card Use

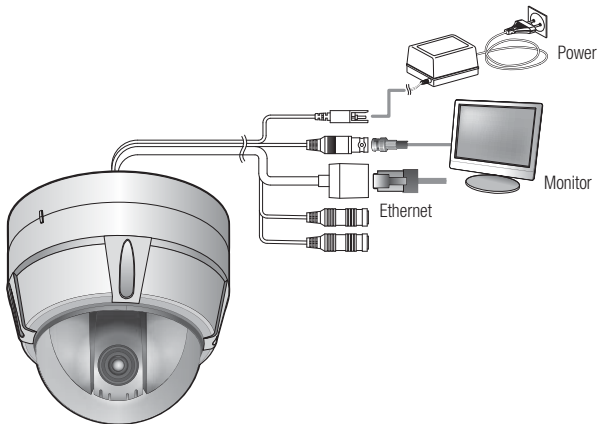
SD and SDHC memory cards feature a switch that disables writing data on to the media.

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



## CONNECTING WITH OTHER DEVICE



### Connecting to the monitor

Connect the video out port of the camera to the video input port of the monitor.



- In the initial installation of the camera, you can connect the camera to the monitor for checking the connection status.
- Connect the monitor test cable to the output port of the monitor.

### Ethernet Connection

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

### Power Supply

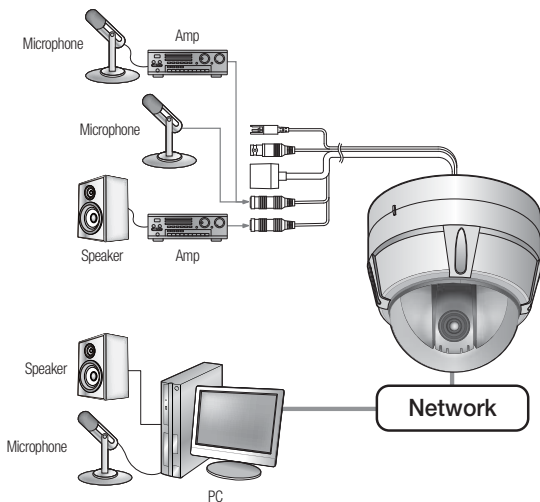
Use the screwdriver to connect each line (+, -) of the power cable to the corresponding power port of the camera.



- You can also use a router featuring PoE (Power over Ethernet) to supply power to the camera.
- If using PoE, the heater will not operate at all. (SNP-3120V/VH)  
Use an adaptor if the installation site requires heater operations. Adaptor is sold separately.  
For the power specifications, refer to the "**Appendix**". (page 108)

# installation & connection

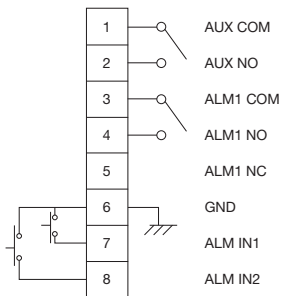
## Connecting to Audio Input/Output



1. Connect the AUDIO IN port of the camera 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 camera with the LINE IN port of the speaker.
3. Check the specifications for audio input.

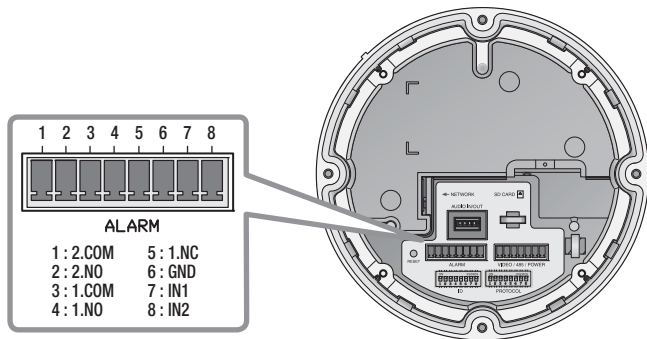
- **Audio Codec**  
G.711 PCM.  $\mu$ -law 64kbps 8kHz sampling
- **Full duplex Audio**
- **Audio in**  
Used for mono signal line input (Max.2.4 Vpp)
- **Audio out**  
Used for mono signal line output (Max.2.4 Vpp)
- **Line out impedance**  
600 $\Omega$

## Alarm I/O Wiring Diagram



## Connecting to the I/O port box

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



- For further details on each terminal refer to "Camera Wiring Interface Board" (page 16)

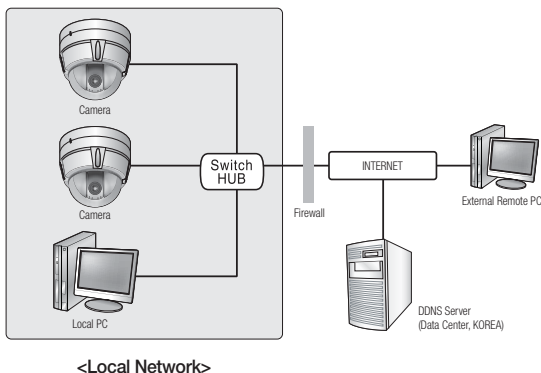
# network connection and setup

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

## CONNECTING THE CAMERA DIRECTLY TO LOCAL AREA NETWORKING

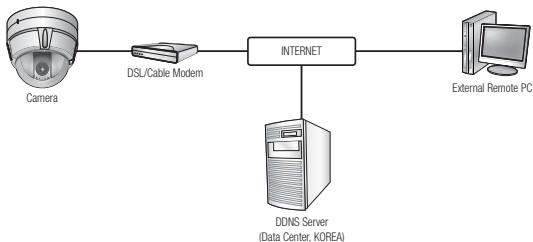
### Connecting to the camera from a local PC in the LAN

1. Launch an Internet browser on the local PC.
2. Enter the IP address of the camera 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 camera 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.
- 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 51)

## CONNECTING THE CAMERA DIRECTLY TO A DHCP BASED DSL/CABLE MODEM



1. Use the cross LAN cable to connect the network cable directly to your PC.
2. Run the IP Installer and change the IP address of the camera 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 camera.
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 camera, which was removed from your PC, directly to the modem.
8. Restart the camera.



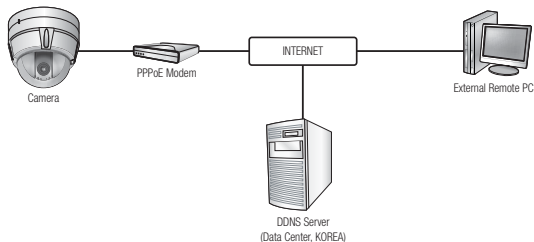
- For registering the DDNS settings, refer to "**Registering with DDNS**". (page 90)
- For configuring the DDNS settings, refer to "**DDNS**". (page 89)
- For setting the network type, refer to "**Interface**". (page 88)

# network connection and setup

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## CONNECTING THE CAMERA DIRECTLY TO A PPPoE MODEM

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1. Use the cross LAN cable to connect the network cable directly to your PC.
2. Run the IP Installer and change the IP address of the camera 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 camera.
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 [**PPPoE**].
7. Connect the camera, which was removed from your PC, directly to the modem.
8. Restart the camera.

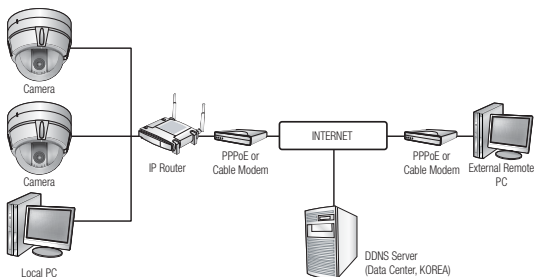


- For registering the DDNS settings, refer to "**Registering with DDNS**". (page 90)
- For configuring the DDNS settings, refer to "**DDNS**". (page 89)
- For setting the network type, refer to "**Interface**". (page 88)



## CONNECTING THE CAMERA TO AN IP 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 an IP router

Configuring the network settings of the local PC connected to an IP router, follow the instructions below.

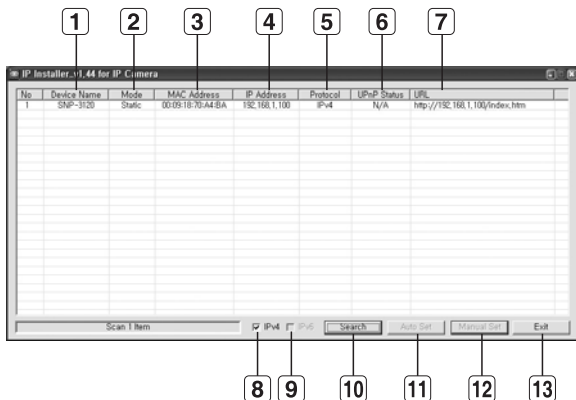
- Select : <Network Neighborhood> → <Properties> → <Local Area Connection> → <Properties> → <General> → <Internet Protocol (TCP/IP)> → <Properties> → <Obtain an IP address automatically> or <Use the following IP address>.
- Follow the instructions below if you select <Use the following IP address>:
  - ex1) If the address (LAN IP) of the IP 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 IP 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 IP 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 IP router, refer to the product's documentation.
- Refer to the "**Port Range Forward (Port Mapping) Setup**" section of the IP Router's documentation. (Page 55)

# network connection and setup

## BUTTONS USED IN IP INSTALLER



Item	Description
<b>1</b> Device Name	Model name of the connected camera. Click the column to sort the list by model name. However, search will be stopped if clicked during the search.
<b>2</b> Mode	Displays either <Static> or <Dynamic> for the current network connection status.
<b>3</b> MAC(Ethernet) Address	Ethernet address for the connected camera. Click the column to sort the list by Ethernet address. However, search will be stopped if clicked during the search.
<b>4</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. The factory default is "192.168.1.100".
<b>5</b> Protocol	Network setting for the camera. The factory default is "IPv4". Cameras with the IPv6 setting will be displayed "IPv6".
<b>6</b> UPnP Status	This function is not currently implemented.

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 camera if DDNS registration has failed.
<b>8</b> IPv4	Scans for cameras with the IPv4 setting.
<b>9</b> IPv6	Scans for cameras with the IPv6 setting.
<b>10</b> Search	Scans for cameras 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 DVD or use the latest one if available. You can download the latest version from the product website.

## STATIC IP SETUP

### Manual Network Setup

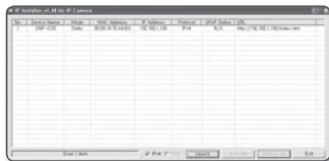
Run <IP Installer\_vX.XX.exe> to display the camera search list.

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



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

- Select a camera in the search list.  
Find the MAC (Ethernet) address labeled on the rear of the camera.  
Both the [Auto Set] and [Manual Set] buttons will be activated.
- Click [Manual Set].  
The Manual Setting dialog appears.  
The default values of <IP Address>, <Subnet Mask>, <Gateway>, <HTTP Port> and <VNP Port> of the camera will be displayed.



# network connection and setup

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

- MAC (Ethernet) Address : The MAC (Ethernet) address of the applicable camera will be set automatically so you don't need to input it manually.



- You can configure the static IP settings only if the DHCP checkbox is unchecked.

Address	<input type="checkbox"/> DHCP	Port	HTTP Port	80
MAC Address	08:00:30:00:00:00	VNP Port	4520	
IP Address	192 - 168 - 1 - 100			
Subnet Mask	255 - 255 - 255 - 0			
Gateway	192 - 168 - 1 - 1			
Password	<input type="text"/>			
OK		Cancel		

## If using an IP router

- IP Address : Enter an address falling in the IP range provided by the IP router.  
ex) 192.168.1.2~254,  
192.168.0.2~254,  
192.168.XXX.2~254
- Subnet Mask : The <Subnet Mask> of the IP router will be the <Subnet Mask> of the camera.
- Gateway : The <Local IP Address> of the IP router will be the <Gateway> of the camera.

Internet Setup	Automatic Configuration - DHCP <input checked="" type="checkbox"/>
Router Name	Router_1
Host Name	
Domain Name	
MTU	Manual <input type="checkbox"/>
Size	1492
Local IP Address	192 - 168 - 1 - 1
Subnet Mask	255 - 255 - 255 - 0



- The settings may differ depending on the connected IP router model. For more information, refer to the user manual of the applicable router.
- Refer to the "**Port Range Forward (Port Mapping) Setup**" section of the IP Router's documentation. (Page 55)

## If not using an IP 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 camera using the Internet browser, defaulted to 80. Use the spin button to change the HTTP Port value.
- VNP Port : Used to control the video signal transfer, defaulted to 4520.

Address	<input type="checkbox"/> DHCP	Port	HTTP Port	80
MAC Address	08:00:30:00:00:00	VNP Port	4520	
IP Address	192 - 168 - 1 - 100			
Subnet Mask	255 - 255 - 255 - 0			
Gateway	192 - 168 - 1 - 1			
Password	<input type="text"/>			
OK		Cancel		

5. Enter the password.

- This is the login password for the "admin" user who accesses the camera. The default password is "4321".



- 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.

6. Click [OK].

Manual network setup will be completed.

7. When the manual setup including IP is completed, the camera will restart.

**If the IP router has more than one camera connected**

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

Category		Camera #1	Camera #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 camera.  
ex) http://IP address : HTTP Port  
http://192.168.1.100:8080

**Auto Network Setup**

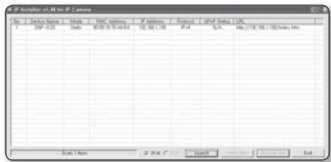
Run <IP Installer\_vX.XX.exe> to display the camera search list.

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



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

1. Select a camera in the search list.  
Find the MAC (Ethernet) address labeled on the rear of the camera.  
Both the [Auto Set] and [Manual Set] buttons will be activated.
2. Click [Auto Set].  
The Auto Setting dialog appears.  
The <IP Address>, <Subnet Mask>, and <Gateway> will be set automatically.



# network connection and setup

### 3. Enter the password.

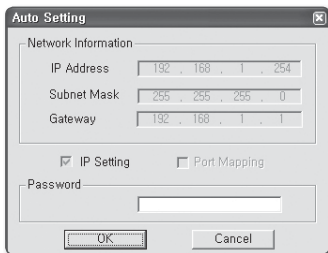
This is the login password for the “admin” user who accesses the camera. The default password is “4321”.

- 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.

### 4. Click [OK].

Auto network setup will be completed.



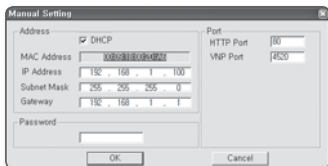
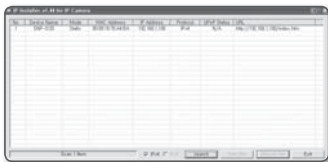
## DYNAMIC IP SETUP

### Dynamic IP Environment Setup

- Example of the Dynamic IP environment
  - If an IP router, with cameras connected, is assigned an IP address by the DHCP server
  - If connecting the camera directly to modem using the DHCP protocols
  - If IPs are assigned by the internal DHCP server via the LAN

### Checking the Dynamic IP

1. Run the IP Installer on the user's local machine to display cameras allocated with <Dynamic IP> addresses in the list.
2. Select a camera in the list, and click [Manual Set] to check the <Dynamic IP> of the camera.  
If you uncheck <DHCP>, you can change IP or <Port> to <Static>.



## PORT RANGE FORWARD (PORT MAPPING) SETUP

If you have installed an IP router with a camera connected, you must set the port range forwarding on the IP router so that a remote PC can access the camera in it.

### Manual Port Range Forwarding

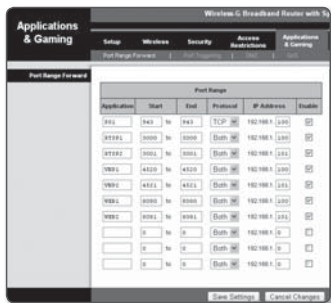
1. From the Setup menu of the IP router, select **<Applications & Gaming>** - **<Port Range Forward>**.


For setting the port range forward for a third-party IP router, refer to the user guide of that IP router.

2. Select **<TCP>** and **<UDP Port>** for each connected camera to the IP router.

Each port number for the IP router should match that specified in **<Network>** - **<Port>** from the camera's Setup menu.

3. When done, click **[Save Settings]**.  
Your settings will be saved.



-  ■ Above sample instructions are based on the CISCO's IP Router (Model: LINKSYS).
- The settings may differ depending on the connected IP router model.  
For more information, refer to the user manual of the applicable router.

# network connection and setup

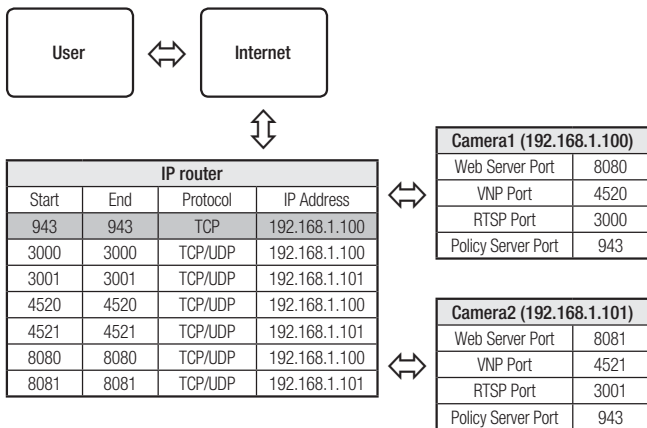
## Setting up Port Range Forward for several network cameras

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

**!** 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 camera.

- TCP 943 port is a port for the Silverlight policy server of a camera.

When Camera1 and Camera2 are connected to a router :

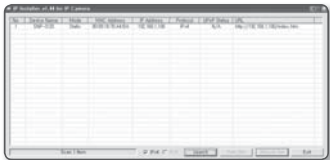


- You can set a rule of Port Forwarding on the IP router device through its configuration web page.
- You cannot change the Silverlight policy server port of a camera.
- You can change the ports of the camera except the policy server port through its configuration web pages.



## CONNECTING TO THE CAMERA FROM A SHARED LOCAL PC

1. Run the IP Installer.  
It will scan for connected cameras and display a list of them.
2. Double-click a camera to access.  
The Internet browser starts and connects to the camera.



- Access to the camera can also be gained by typing the camera's IP address in the address bar of the Internet browser.

## CONNECTING TO THE CAMERA FROM A REMOTE PC VIA THE INTERNET

Since using the IP Installer on a remote computer that is not in the IP Router's network cluster is not allowed, users can access cameras within an IP Router's network by using the camera's DDNS URL.

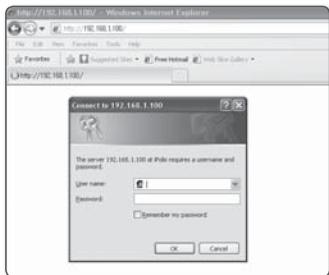
1. Before you can access a camera in the IP router network, you should have set the port range forward for the IP router.
2. From the remote PC, launch the Internet browser and type the DDNS URL address of the camera, or the IP address of the IP router in the address bar.  
ex) [http://www.samsungipolis.com/\[Product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

## CONNECTING TO THE CAMERA

---

### Normally, you would

1. Launch the Internet browser.
2. Type the IP address of the camera 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:0000:0000:ffff:1111]



### If the HTTP port is other than 80

1. Launch the Internet browser.
2. Type the IP address and HTTP port number of the camera 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 camera in the address bar.
  - ex) URL address : http://www.samsungipolis.com/[Product ID]  
- the Login dialog should appear.

## To check the DDNS address

If the camera 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.

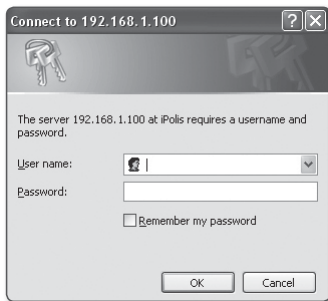
Once you register a dynamic IP-based device with the DDNS server, you can easily check the changed IP when you try to access the device.



To add the IP address to the <DDNS> server, visit [www.samsungipolis.com](http://www.samsungipolis.com) and register your device, and set the DDNS option to <Samsung DDNS> before providing the host name for the DDNS server.

## LOGIN

The default user ID is “admin”, and the default password is “4321”.

1. Enter “admin” in the <User Name> input box.
2. Enter “4321” in the <Password> input box.  
If the password is changed, enter the changed password instead.
3. Click [OK].  
If you have logged in successfully, you will the Live Viewer screen.



- 
  - For security purposes, ensure that you change the password in <System> - <User>.  
The administrator ID, “admin”, is fixed and can not be changed.
  - 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.
  - If you check the “Remember my password” option when your input is done, in future you will be logged in automatically without being prompted to enter the login information.
- 
  - If you are using Internet Explorer 7.0 or 8.0 as the default web browser, you can view the best quality image with a screen ratio of 100%. Reducing the ratio may cut the image on the borders.

# web viewer

---

This network camera uses Microsoft Silverlight for displaying the video.

## INSTALLING SILVERLIGHT RUNTIME

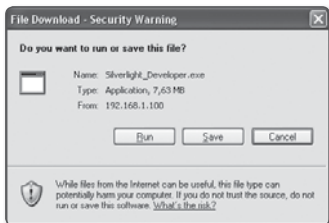
---

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.

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>.



6. Close and restart the web browser, and try to access the Web Viewer. When Silverlight Runtime is properly installed, you will see the Live screen.



- For normal installation, set the Block Popup setting as follows:  
**Internet Explorer → Tools → Block Popup → Always allow popups from the current site(A)**

- However, MAC OS X users who are not connected to the Internet can use the provided installation DVD to install Silverlight Runtime (Run the executable "Silverlight\_xxx.dmg" in the DVD. You will be guided through installation of the software).



## USING THE LIVE SCREEN




Item	Description
<b>1</b> Monitoring	Move to the monitoring screen.
<b>2</b> Playback	Switch to the monitoring screen that plays recording data in the SD memory.
<b>3</b> Setup	Move to the Setup screen.
<b>4</b> Viewer Screen	Displays the Live video on the screen.
<b>5</b> Alarm Output	Activate the Alarm Out port.
<b>6</b> Audio	Display the audio Listen and Talk toggle button on the screen.
<b>7</b> Hide the alarm indicator	Hides the alarm indicator near the border of the viewer screen.
<b>8</b> Camera Menu	Used to retrieve and customize the Camera Setup menu. For selecting and saving each menu item, refer to "Using the Camera Menu". (page 67)

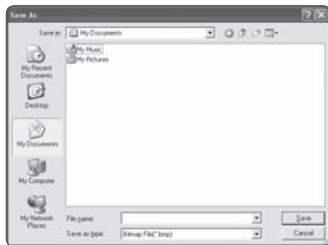
Item	Description
9 PTZ	You can adjust the Pan/Tilt angle of the camera as well as the zoom factor.
10 Digital PTZ	You can use the mouse wheel to activate the digital zooming.
11 Screen Optimization, Full Screen	Adjust the screen to the optimal size, and display the Full Screen icon on the Live screen.
12 Capture	Saves the snapshot as an image file in the .bmp format.
13 Video Format	<p>You can select a profile type in &lt;Video profile&gt; under the &lt;Audio &amp; Video&gt; setup menu.</p> <p><input checked="" type="checkbox"/> For IE 6.0 users, press the Browse button next to the &lt;Video profile&gt; dialog and select a profile type again if the selected profile is not played.</p> <p><input checked="" type="checkbox"/> If the "Invalid codec" message is displayed, select a profile type from the profile list again.</p>

- If the temperature drops below the operational range, video signal may not be produced. In such cases, please wait for the video.

## To capture the snapshot

- Click [  ] on the scene to capture. The Capture dialog should appear.
- Click [Save] button. The screenshot will be saved in the specified path.

- If you are using the IE8 as the default web browser, select "**Tools-Internet Options-Security**" and uncheck "**Use protected mode**".




## To toggle the audio sound

1. Click the **[Audio (  )]** button.  
The corresponding button will be displayed in the Viewer.
2. Click the button to listen to / mute the sound as you wish.  
This button operates as a toggle button.



## To toggle the microphone sound

1. Click the **[Mic (  )]** button.  
The corresponding button will be displayed in the Viewer.

-  **“Cannot find audio recording device”** message appears if there is no Microphone.





2. Click the button to start / stop talking.  
This button operates as a toggle button.  
The Silverlight permission dialog appears when you click the microphone button.

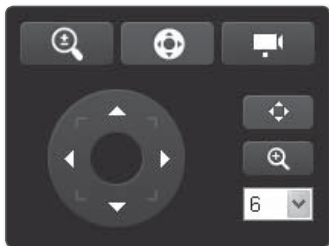
## To fit the full screen

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

## To control the PTZ

1. Press the **[PTZ (  )]** button.
2. When the PTZ button bar 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 **“PTZ setup”**. (page 83)







## To activate a preset




To perform the designated preset in the Live screen, right-click the mouse and select your desired preset number.

## PLAYBACK

1. Click the **[Playback (  )]** button.
2. Specify the start time and end time of your search.
3. Select a search type.
4. Click the **[Search (  )]** button.  
The search results will be displayed in the list.



- If more than 500 events are recorded within the search period, your search will be limited up to the date when the 500th 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 (  )]**.  
To return to the search screen, click **[Exit (  )]**.



## To check time information of the playing video

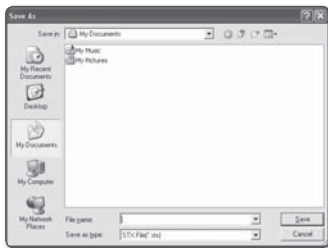
1. Click the **[About (  )]** button.
2. Date and time information appears on the screen.

## To back up the searched video

1. Click [  ] on the scene to back up. Save as window appears.
2. Click [Save].  
The screenshot will be backed up to the specified path.



- If you are using the IE8 as the default web browser, select “Tools-Internet Options-Security” and uncheck “Use protected mode”.



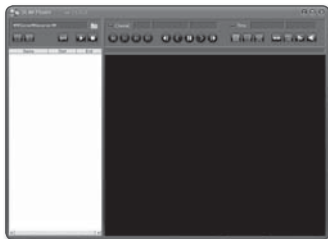
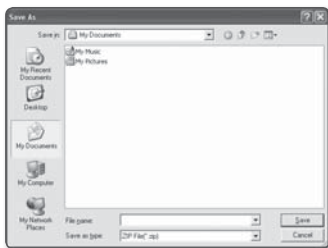
## PLAYING THE BACKUP RECORDINGS

---

You can play backup recordings by using the SlimPlayer.

### To download SlimPlayer





1. Click [SlimPlayer (  )].  
You will see a download dialog where you can specify the download path.
2. Specify the path with a proper file name and click [Save].
3. Unzip the downloaded file and run the executable.




# camera setup

## USING THE CAMERA MENU

Follow the steps below if you run the Web Viewer for setting the menus.

1. Launch the Web Viewer.
2. Click [**Camera Menu** (  )] in the left corner of the Live screen.  
The camera setup menu appears.
3. Use the Up/Down (▲/▼) buttons to move to a desired item.
4. Click [**Enter** (  )]. Then, use the up/down (▲/▼) button to move to a desired item.
5. To access a sub menu item, click [**Enter** (  )].
6. To move to previous menu or exit the menu setup, click [**Cancel** (  )] button.




: This arrow appears next to a menu that contains sub items.

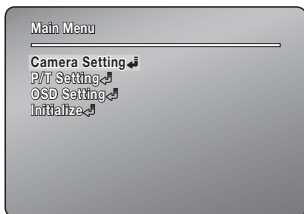
 ■ If <IV analysis function> is enabled, camera's OSD menu operation can be set as an event.

## CAMERA SETTING

You can set up the general functions of camera module.

### Starting the Menu

1. Click [**Camera Menu** (  )] button.
2. When main menu shows up on screen, move to desired menu by using direction button.

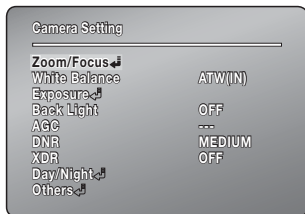


# camera setup

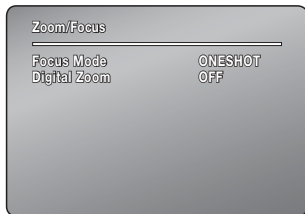
## Zoom/Focus

Main Menu ⇨ Camera Setting ⇨ Zoom/Focus

- Focus Mode
  - AUTO : Performs continuous auto-focus.
  - MANUAL : Changes the camera mode to Manual Focus.
  - ONESHOT : Auto-focuses the camera once after the Pan, Tilt, or Zoom function is used.
- Digital Zoom : Enables the maximum digital zoom. Setting the digital zoom to 16X provides a total zoom of 192X.



- Unlike the optical zoom, the graphics quality of the digital zoom decreases as its zoom ratio increases.
- The auto-focus function may not operate normally under the following conditions :
  - When background illumination is low
  - While Slow-Shutter is in operation
  - If the zoom level is set too high
  - When background illumination is too high
  - If a long distance object and a close distance object appear together within a monitoring area
  - If there is no contrast, e.g. Ceiling or a wall
  - If the camera is facing a thin horizontal line
- Auto Focus focuses on an object in the center of the screen; objects around the screen edges may not be properly in focus.

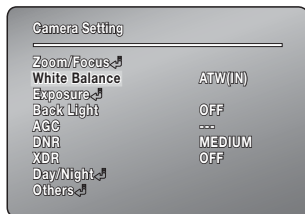


## White Balance

The White Balance menu adjusts the balance of the screen colors under different lighting conditions.

### Main Menu ⇨ Camera Setting ⇨ White Balance

- **ATW(IN)** : Adjusts the screen color to be optimal in an indoor environment. (Operating Temperature: about 2,500°K ~ about 9,300°K)
- **ATW(OUT)** : Automatically adjusts the screen color to be optimal in bright outdoors environments. (Operating Temperature: about 2,000°K ~ about 10,000°K)
- **AWC** : Adjusts the screen color to be optimized to the current lighting and monitor conditions. Using this setting may require an readjustment if the lighting conditions changes.
- **MANUAL** : Enables customization of the Red and Blue gains.



- White Balance may not work properly under the following conditions.
  - When the color temperature of the environment surrounding the subject is out of the control range.
  - When the ambient illumination of the subject is dim.
  - If the camera is directed towards a fluorescent light or is installed in a place where illumination changes dramatically, White Balance adjustments may not deliver consistent results.

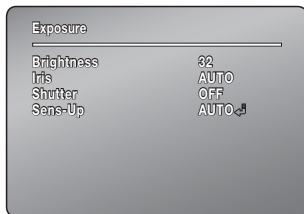
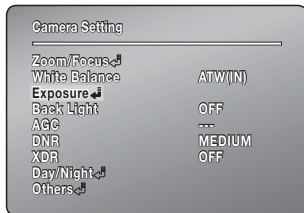
# camera setup

## Exposure

The Exposure settings are to control the camera's exposure meter.

### Main Menu ⇨ Camera Setting ⇨ Exposure

- Brightness : Adjusts the screen brightness.  
(Over 32: Brighter, Under 32: Darker)
  - It may not fully operable under extremely low lighting condition.
- Iris
  - AUTO : Automatically adjusts the exposure meter.
  - MANUAL : Enables manual adjustment of the exposure meter.  
(Over 32: Brighter, Under 32: Darker)
- Shutter : Controls the camera's electronic shutter.
  - OFF : The shutter speed is fixed at 1/60 for NTSC and 1/50 for PAL.  
Operates when Iris is on the Auto Mode.
  - A. FLK : Select this setting when you experience picture flickering.  
Flickering can happen when artificial lighting frequencies clash with camera frame rates.
  - MANUAL : Enables manual adjustment of the shutter speed.
- Sens-Up
  - AUTO : Automatically detects light levels and maintains a clear picture at night or under low-light conditions.
  - Sens-Up Limit : Adjusts to the maximum-powered zoom per frame.



- While the Internal Sync mode is in effect, setting the shutter to '---' and facing the camera directly to a bright light source may cause poor camera performance.
- Brightness is disabled when the Iris is in Manual mode.
- Shutter is disabled when the WDR is turned on.
- Sens-Up is disabled when the shutter is in Manual mode.

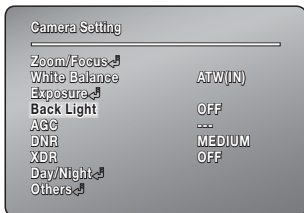
## Back Light

### Backlight Mode Settings

Unlike other cameras, Samsung Techwin's unique A1 DSP chip gives you a clear image of the subject even with bright backlight.

Main Menu ⇒ Camera Setting ⇒ Back Light

- Back Light
  - OFF : Disables the Backlight mode.
  - WDR : Activates the Wide Dynamic Range mode.
  - BLC : Activates a user defined backlight compensation mode.

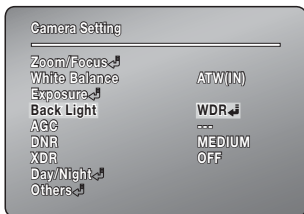


### WDR

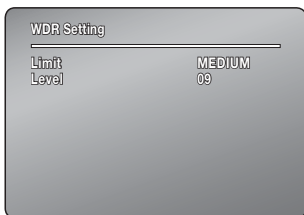
When there are both bright and dark areas at the same time, this mode makes both areas distinctive.

Main Menu ⇒ Camera Setting ⇒ Back Light ⇒ WDR

- Limit : Three WDR sensitivity levels are available in 3 : LOW, MEDIUM, and HIGH. Note that the higher the sensitivity level, the lower the contrast in the light and dark areas becomes.
- Level : Adjusts the screen brightness in WDR mode.



- WDR is disabled when the VPS mode is turned on.
- WDR is disabled if the Iris is in Manual mode.
- During WDR operation, noise, discoloration, spots, and whitish symptoms may occur depending on lighting conditions. If they occur, stop using WDR.



# camera setup

## BLC

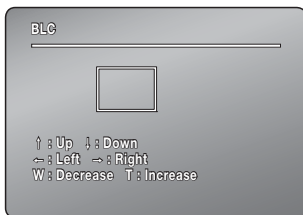
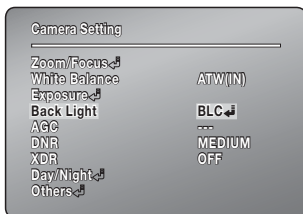
You can selectively choose a screen area to see objects within the area more clearly than others.

Main Menu ⇨ Camera Setting ⇨ Back Light ⇨ BLC

- You can adjust the position and size of the backlight compensation area.



- BLC is disabled if the Iris is in Manual mode.
- Color saturation may occur depending on the environment.



## AGC

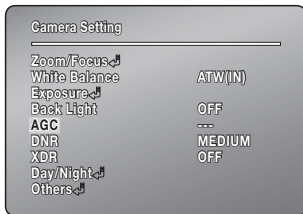
AGC (Automatic Gain Control) adjusts the camera's gain control and the screen brightness if the camera has captured an object under low-light conditions.

Main Menu ⇨ Camera Setting ⇨ AGC

- The OFF, LOW, MEDIUM, HIGH, and MANUAL modes are available.



- If you select the AUTO for Day/Night, you cannot use the AGC menu.



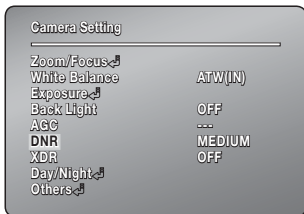


## DNR (Dynamic Noise Reduction)

DNR significantly reduces the amount of low luminance noise.

Main Menu ⇒ Camera Setting ⇒ DNR

- OFF : Disables the noise reduction function.
- LOW : Reduces only a small amount of noise, but generates almost no afterimage.
- MEDIUM : The most commonly used mode. Reduces a suitable amount of noise while generating a subtle afterimage.
- HIGH : Reduces noise significantly, but generates obvious afterimages.

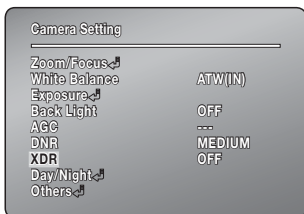


## XDR (eXtended Dynamic Range)

XDR illuminates darker spots of an image while retaining the same light level for brighter spots to even out the overall brightness of the image with high contrast between bright and dark spots.

Main Menu ⇒ Camera Setting ⇒ XDR

- The OFF, LOW, MEDIUM and HIGH modes are available.



# camera setup

## Day/Night

The Day & Night function allows the camera to switch between the Color and B/W modes.

### Main Menu ⇒ Camera Setting ⇒ Day/Night

- Mode

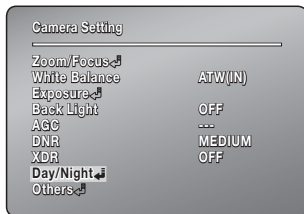
- AUTO : Operates in Color mode most times, and switches to B/W mode if a low light level is detected during nighttime.
- COLOR : Operates in Color mode at all times.
- BW : Operates in B/W mode at all times. By using the Burst On/Off sub menu, burst signals can be retained or disabled.

- If the camera is in B/W mode and connected to equipment that requires external sync through burst signals, set the Burst On/Off option to "On".

- Dwell Time : The duration of both the lighting conditions can be customized to let the camera delay the switching between the daytime and night-time settings.



- Using B/W mode under sunlight or a halogen lamp may decrease the focusing performance.



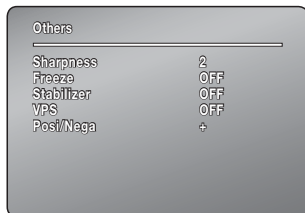
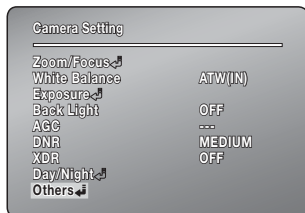
## Others

Main Menu ⇒ Camera Setting ⇒ Others

- Sharpness : Sharpens outlines of an image.
- Freeze : Stops or reanimates an image.
- Stabilizer : The Stabilizer compensates for any small movements of the camera caused by due to the wind and other reasonable causes.
- VPS : This function enhances the outline of moving subject, which improves the sharpness of a captured image as fine as a still image.
- Posi/Nega : Setting to + outputs normal video, where setting to – outputs inverted brightness and color.



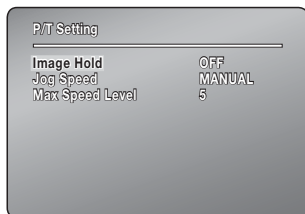
- The Stabilizer uses the digital zoom and may cause low picture quality.
- The Stabilizer is disabled if the ambient light is too low.
- The Stabilizer is disabled if the field of view has very low or no contrast, e.g. The sky or a white wall.
- VPS is disabled when the Freeze is turned on.



## Image Hold

Main Menu ⇒ P/T Setting ⇒ Image Hold

- When the camera is moving between presets locations, this function freezes the cameras image until the camera reached the next location. This is useful to help the screen observer keep sharp eyes and to monitor multiple locations within a network.



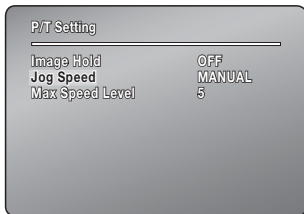
# camera setup

## Jog Speed

You can adjust the pan/tilt speed of the controller in use.

Main Menu ⇒ P/T Setting ⇒ Jog Speed

- MANUAL : The angle of the controller handle determines the speed of Pan and Tilt; the more you tilt the controller, the faster the camera spins.
- 10/20/30/40/50/60 : Maintains speed regardless of the angle of the controller handle.

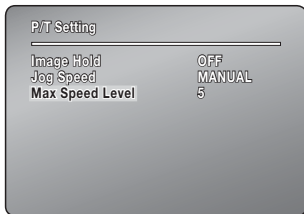


## Max Speed Level

Adjusts the maximum speed of Pan and Tilt while performing the Preset and Sequencing actions.

Main Menu ⇒ P/T Setting ⇒ Max Speed Level

- 1~7 : Pan and Tilt operations can be set up to 650°/ sec.



# OSD SETTING

## OSD Setting

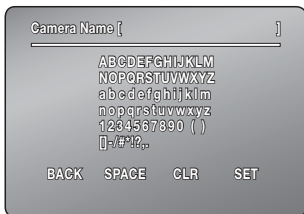
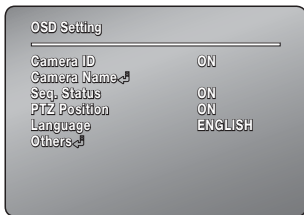
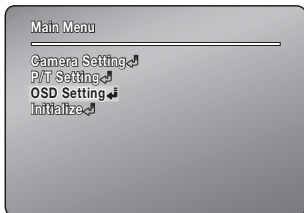
OSD Setting is to set up the OSD (On Screen Display) functions.

### Main Menu ⇒ OSD Setting

- Camera ID : Displays or hides Camera ID in the upper left of the screen.
- Camera Name : Add a name to the camera.
- Seq. Status : Displays or hides the status of a sequence action that is in progress.
- PTZ Position : Displays or hides the status of the Pan, Tilt, and Zoom operation that is in progress.
- Language : Enables changing the system language. This camera supports English, Chinese, French, German, Spanish, Portuguese, Korean and Italian.



- When selecting the Camera Name and Preset Name, the screen displays the Left keypad.
- Names can be up to 12 characters and can be entered via the joystick and the Enter key. Once a name is entered, use the joystick and the Enter key to perform the Set command and save the name.

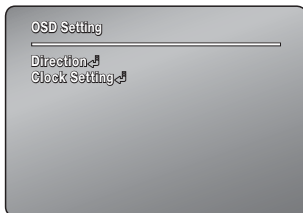
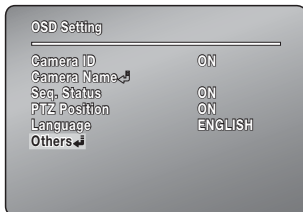


# camera setup

## OSD Setting (Others)

Main Menu ⇨ OSD Setting ⇨ Others

- Direction : Indicates the current angle of the camera: East, West, South, North, Southeast, Southwest, Northeast, or Northwest.
  - Set North Dir. : Set up a North direction for the camera.
- Clock Setting : Customize the camera clock; you can schedule sequence actions to perform automatically.
  - Display : Shows or hides the clock from the screen.
  - Date Format : Changes the display format of the camera date:  
DD/MM/YYYY or MM/DD/YYYY.



# INITIALIZE

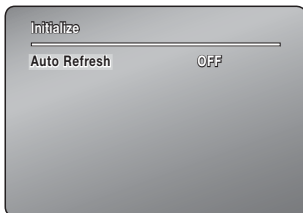
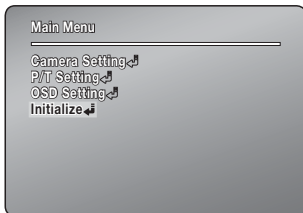
## Initialize

Main Menu ⇨ Initialize

- Auto Refresh : Enables optimizing the status of the camera's built-in electric circuits and components on a regular basis. (A regular operation can be scheduled.) This mode can be used to maintain and repair the current settings of the camera when anomalous operations occur: e.g. The camera happened to directly face a light source, or the settings have been canceled after the camera repeatedly rotated in all four directions for a long time to monitor a specific location. The default setting is Off.
  - OFF, 1~7 Days : Selecting Off disables Auto Refresh and selecting 1~7 Days automatically executes it after 1~7 days has passed.




- Auto Refresh takes approximately 10 seconds to finish. If Auto Refresh activates in the middle of a sequence action, the camera pauses the sequence action and performs an Auto Refresh, then resumes the sequence action once the refresh is complete.



# setup screen



## SETUP

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

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

## AUDIO & VIDEO SETUP

### Video profile

1. From the Setup menu, select the **<Audio & Video (  )>** tab.
  2. Click **<Video profile>**.
  3. Select a **<Video profile>** number.
  4. 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 : This is the default video profile.
  - Fixed framerate profile : Fix the frame rate of the selected profile regardless of the settings of other profiles.
  - 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.
5. When done, click **[Apply (  )]**.



- Profiles using H.264 codec can be stored in the SD memory only in resolutions of 640x480 or less.  
MPEG4 videos can not be stored in the SD memory.



## To add a video profile

You can add as many codecs as necessary so that a variety of profiles can be applied according to the recording condition.

1. Select a profile number.
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.
  - Resolution : Set the video size of the MPEG4, H.264, and MJPEG files.
  - Framerate : Specify the frame rate.
  - Compression : Specify the compression rate of the video.
  - 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.
  - 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.
  - GOP size : Select a GOP size between 1 and 15.
  - Profile : You can select the H.264 profiling method.
  - Entropy coding : Reduce the possible compression loss due to encoding.
  - Multicast(VNP) : Specify the use of the VNP protocol.
    - IPv4 : 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 VNP packet.
  - Multicast(RTP) : Specify the use of the RTP protocol.
    - IPv4 : 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.

### What is GOP size?

GOP (Group of Pictures) is a set of video frames for MPEG4 and H.264 format compression, indicating a collection of frames from the initial I-Frame (key frame) to the next I-Frame. GOP 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.





You can set between 1 and 15 for the MPEG4 and H.264 CODEC.

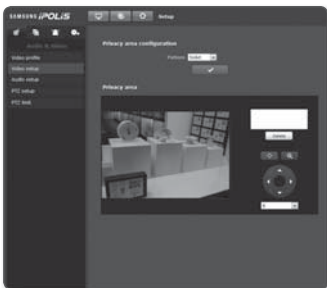
# setup screen

## Video setup

### To set the privacy zone



You can specify a certain area of the camera video to be protected for your privacy.

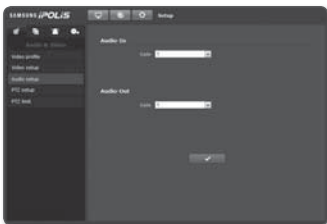
1. From the Setup menu, select the <Audio & Video (  )> tab.
2. Click <Video setup>.
3. Select a <Pattern> that will be applied to the privacy zone.
  - If you select [Solid] from the <Pattern> items, the selected zone will be displayed in grey.
  - If you select one from [P1~P3], the selected zone will be displayed in mosaic pixels.
4. Click an area on the image and select 4 corner points to specify a desired zone. A popup appears where you enter a name for the zone and click [Apply (  )].
  - Do not drag an area to specify a privacy zone; it does not work.
5. To delete the selected area, click [Delete (  )].
6. When done, click [Apply (  )].
  - You can specify up to 12 zones.



## Audio setup













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

1. From the Setup menu, select the <Audio & Video (  )> tab.
2. Click <Audio setup>.
3. Adjust the audio I/O levels to your preference.
  - Audio-In : Set the audio input value.
  - Audio-Out : Set the audio output value.
4. When done, click [Apply (  )].




## PTZ setup

You can change the direction of lens and activate the zoom.


1. Select the <Audio & Video (  )> tab from Setup menu.
2. Click <PTZ setup>.
3. Click [Direction Adjustment (  )].
  - [Change direction to (  )/(  )/(  )/(  )] : Change the direction of camera lens.
  - [Moving speed control (  )] : The bigger the number is, the faster the moving speed becomes.
4. Set the zoom and focus control buttons.
  - [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.
5. Set the preset.



### 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.

# setup screen

## To move a preset

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

## To set the camera operation for the preset

1. Select the number of preset that you want to configure.
2. Press the [  ] button.
3. When the Setup window appears, select each item and set appropriately.
  - PTZ Coordinate : Set the Pan/Tilt/Zoom position of the preset.
  - Focus / Zoom : Select MANUAL/AUTO or set One Shot AF mode to OFF, or select a speed rate between 2 and 12.
  - White Balance : Set INDOOR/OUTDOOR/Manual(Red Gain, Blue Gain) as appropriate.
  - Exposure : Configure the settings for Brightness/Iris/Iris Level/SHUTTER Mode (Off, Manual, A.FLK)/Shutter Speed, Sens-up Mode(Off,ON)/Sens-up Limit.
  - BackLight : Select one from Off/WDR (WDR Level, WDR Limit)/User.
  - Day / Night, AGC : Select one from Color/Black and White/Auto.
  - Others : Set DNR (Off/Low/Middle/High)/XDR(Off/Low/Middle/High) as appropriate.
4. When done, click [Apply (  )].






## To configure the swing settings

Swing is a monitoring function that moves between two preset points and enables you to trace the motion.

1. Set <Mode> in <Sequence setup> to <Swing>.  
The menu screen will switch to the swing setting screen.
2. Select a swing setting mode.
  - Pan swing : You can set the swing monitoring only using the PAN function.
  - Tilt swing : You can set the swing monitoring only using the Tilt function.
  - Pan & Tilt swing : You can set the swing monitoring only using both PAN and Tilt functions.





3. Set **<First preset>** and **<Second preset>** to specify a swing range.
4. Set the moving speed and dwell time.
5. Press the [  ] button.  
The first preset, second preset, speed and dwell time will be saved in set mode.
6. Press the [  ] button.
7. Press the [  ] button.  
The running swing will be stop.

### To set a group

The group function enables you to group various presets before calling them in sequence. Each group can contain up to 128 presets.

1. Set **<Mode>** in **<Sequence setup>** to **<Group>**.  
The menu screen will switch to the group setting screen.



2. Select a group setting mode.
  - Group No. : Select a group number.
  - Preset No. : Select a preset number.
  - Speed : Specify the speed of movement.
  - Dwell time : Specify the duration for which an operation is kept at the preset position.
3. Press the [  ] button.  
Your settings will be entered in the right list.
4. Press the [  ] button.  
Selected group data will be deleted.

### To configure the tour settings




The tour function enables you to call groups of your presets in sequence.

1. Set **<Mode>** in **<Sequence setup>** to **<Tour>**.  
The menu screen will switch to the tour setting screen.
2. Configure the tour settings in detail.
  - Group No. : Select a group number.
  - Dwell time : Specify a waiting time before a new group is called.



# setup screen

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3. Press the [  ] button.  
Your settings will be entered in the right list.
4. Press the [  ] button.  
Set data on the right list will be saved.
5. Press the [  ] button.  
Selected tour data will be deleted.

## To set the tracing function

Tracking remembers the trace of movements instructed using the direction button and reproduces it for your reference.

1. Set <Mode> in <Sequence setup> to <Trace & Auto Run>.  
The menu screen will switch to the PTZ tracking and Auto operation menu screen.



2. Select a tracking number.  
You can save the trace in memory within 120 seconds.  
The saving time may differ depending on the difficulty of the PTZ operation.  
The operation will be saved in memory (with the memory status displayed). When the memory is full and the "EEPROM: 000%" message appears, tracking will be terminated.
3. Press the [  ] button.  
Selected tracing number will be saved.
4. Press the [  ] button.  
Selected tracing number will be activated as set.
5. Press the [  ] button.  
Tracing will be stop.

## To set the auto run

This will perform the sequence operation that you have specified if no controller manipulation is made for a certain time.

1. Set <Mode> in <Sequence setup> to <Trace & Auto Run>.

The menu screen will switch to the PTZ tracking and Auto execution menu screen.




2. Select an auto run mode.

- Home : Automatically executes the operation to the home position.
- Preset : Automatically executes the operation to the preset number.
- Swing : Automatically executes the operation in Swing mode.
- Group : Automatically executes the operation in Group mode.
- Tour : Automatically executes the operation in Tour mode.
- Trace : Automatically executes the operation in Trace mode.
- Auto pan : Automatically executes the 360° rotation in the pan direction. Auto Pan requires two options that need your settings: tilting angle and pan speed.




3. Press the [  ] button.

## PTZ limit

You can specify restrictions on the pan or tilt function.

1. From the Setup menu, select the <Audio & Video (  )> tab.
2. Click <PTZ limit>.
3. Decide if you want to limit the PTZ operations. If so, specify the details.



- Pan / Tilt Limit : Select a mode to set between Pan limit and Tilt limit.
  - Use : Select whether to use limit in set mode.
  - [  ] : Start limit setting.
  - [  ] : The starting point will be saved.
  - [  ] : The ending point will be saved then the limit mode runs in specified range between the start point and end point respectively.

## 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.
  - IPv6 use : Specify the use of IPv6.
  - IPv6 address : Obtains the IPv6 address to access the IPv6 network.
4. When done, click **[Apply (✔)]**.

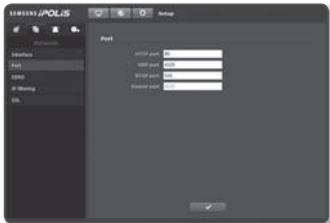


-  The IP addressing system will be defaulted to DHCP. However, if the DHCP server is still not found after 1 minute, the IP system will switch to Static automatically.




## 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 camera via the web browser.  
The default is 80(TCP).
  - VNP 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.
  - Viewer port : Used to transfer videos to the Web Viewer; the default is 4520.
    - The port range of the Viewer is between 4502 and 4534. If the VNP port is with this effective range, the Viewer port should be specified the same as the VNP port.
4. When done, click [Apply (  )].



## DDNS

DDNS is an abbreviation of Dynamic Domain Name Service that converts the IP address of a camera 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 <DDNS>.
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.
  - Public DDNS : Select one of provided public DDNS servers when you use a public DDNS server.
    - Host name : Enter the name of the host (i.e., host name of Dyndns) that is registered with the DDNS server.



# setup screen

- User name : Enter the user name for the DDNS service. (i.e., user ID that is registered with DynDNS)
- Password : Enter the password for the DDNS service. (i.e., password that is registered with DynDNS)

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

## 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 domain.
  - You must perform the duplicate check for the domain 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.



### To connect to the Samsung DDNS in camera setup

1. From the DDNS setup page, set <DDNS> to <Samsung DDNS>.
2. Provide the <Host name> that you registered product domain 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 Camera 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 (  )].

# setup screen

## 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. Provide the IP that you want to grant or deny access from.
5. When done, click **[Apply (  )]**.




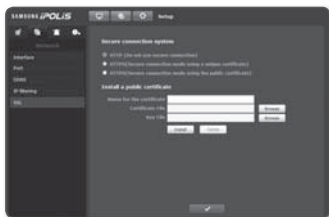
## SSL

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 camera using HTTPS mode, you have to type the IP address for the camera in the form of "https://<Camera\_IP>".
4. Search for the public certificate that you want to install on the camera.

To install the certificate on the camera, 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** (  )]

### Deleting the certificate

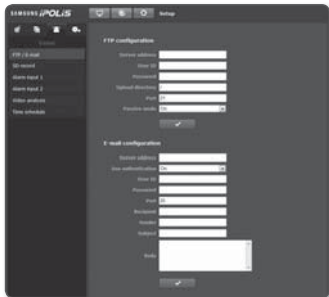
1. Click [**Delete** (  )]

## EVENT SETUP

### FTP / E-mail

You can configure the FTP/E-mail server settings so that you can transfer the images stored in the 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 images to.
    - User 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 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.



# setup screen

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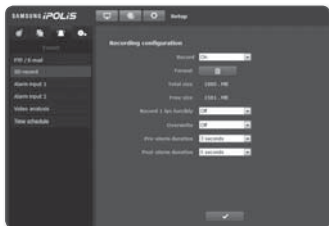
- E-mail configuration
  - Server address : Enter the IP address of the email server that you use for the email transfer.  
ex) SMTP. hotmail. com
  - Use authentication : Select whether to use authorization.
  - User ID : Enter the user ID for logging into the email server.
  - Password : Enter the 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 images to the email that you are preparing.

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


## SD record

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 **<SD record>**.





### To make recording on the SD memory

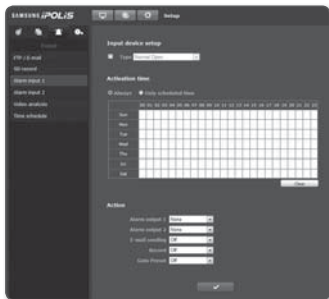
1. Check the <Total size> and the <Free size>.
2. If the SD memory has a sufficient free space, set <Record> to <On>. Otherwise, check the stored data and if you find them not important, then click <Format> to format the SD memory.
  - If your SD memory card writes slowly, only one frame per second will be stored.
  - For a SD memory card with a large capacity, the formatting will be slowed down accordingly.
  - If the size of data grows with time, only 1 fps can be stored even if you set the record quality to Full Frame.
3. Specify the record conditions.
  - Record 1 fps forcibly : Only one frame per second will be recorded regardless of the existing record profile.
  - 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.
4. When done, click [Apply (  )].

# setup screen

## Alarm input1/Alarm input2


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

1. From the Setup menu, select the <Event (  )> tab.
2. Click <Alarm input>.
3. 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.
4. Specify the <Activation time>.
  - Always : Always check if an alarm occurs. It activates in operated mode when the alarm occurs.
  - 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.
5. Specify an operation that will perform if an alarm occurs.
  - Alarm output1/Alarm output2 : Select whether to set the alarm output if an alarm is incoming, and specify the alarm output time.
  - E-mail sending : Specify the use of email transfer in the alarm input setup.
  - Record : Specify the use of recording in the alarm input setup.
  - Goto Preset : Moves to the specified preset location when setting the alarm input.
6. When done, click [Apply (  )].






## Video analysis

1. From the Setup menu, select the <Event (  )> tab.
2. Click <Video analysis>.
3. Specify the use of Intelligent Video Analysis.
4. Set the resolution value and sensitivity level to detect an object.

Resolution Value	Object Size
1	32 of 8x8 pixel
2	24 of 8x8 pixel
3	16 of 8x8 pixel
4	8 of 8x8 pixel
5	1 of 8x8 pixel

- If you set the Resolution Value high, the camera can detect detail motion of the object.
5. Set the Motion Detection type.  
Sets to detect and trace the moving object.
    - Tracking : Detects a moving object and perform additional functions.
    - Detection : Detects a moving object.
  6. Set whether to use the Additional Motion Functions or not.  
Detects any motion of an object, displays the video with any changes, and trace the moving path.
    - If you select the <Moved/Fixed>, you can display the corresponding area when an object disappears from the screen or an object appears and stays in the screen for a specified time period.
  7. Set whether to use the Motion Display function or not.
  8. Set the activation time and condition.
    - Refer to the "Alarm input1/Alarm input2" for how to set the <Activation time> and <Action>. (page 96)
  9. Select whether to display the mask zone.  
You can set maximum of 4 mask zones. To set mask area, drag the designed area with mouse. Motion detection is not activated in set mask area. To delete set area, click [Delete (  )] button.



# setup screen



- Even if the <Video analysis> is enabled, the video analysis function does not work when entering through the operating menu in the camera.
- If camera is capturing a close object, the video analysis capability may degrade. In the following cases, the video analysis function may not produce a proper result on the default event and motion detections.
  - The object color or brightness is similar to the background
  - Multiple movements continue occurring at random due to a scene change or other reasons.
  - A fixed object continues moving in the same position.
  - 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
  - A moving object comes close to the camera

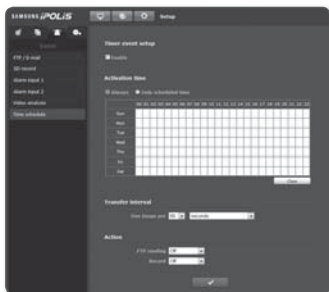
## Time schedule


You can configure so that an event will occur at a scheduled time regardless of the actual occurrence of the event.

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

### To set the timer event



1. Set <Timer event setup> to <Enable>.
2. Specify the <Activation time>.
  - Always : Always activates in operated mode at the set interval.
  - Only scheduled time : Periodically activates in operated mode at a specified time and date.

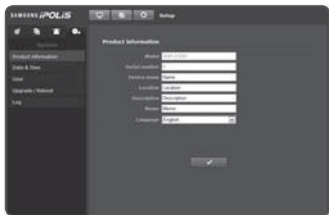



3. Specify the <Transfer interval>.
4. Specify the activation conditions.
  - FTP sending : Specify the use of the FTP transfer if an event occurs.
  - Record : Specify the use of recording if an event occurs.
5. When done, click **[Apply (  )]**.

## SYSTEM SETUP

### Product information



1. From the Setup menu, select the <System (  )> tab.
2. Click <Product information>.
3. Check the camera information, or provide details according to your network environment.
  - Location : Specify the location where the camera is installed.
  - Description : Provide detailed information about the camera location.
  - Memo : Provide an explanation about the camera for better understanding.
  - Language : Selects the language to display in the Web Viewer.
4. When done, click **[Apply (  )]**.




- 
  - You should change the camera menu language in camera menu.
  - Product related information only allows English for input.

# setup screen


## 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 camera.
  - 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 : Synchronize the time with the connected PC.
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.


## User

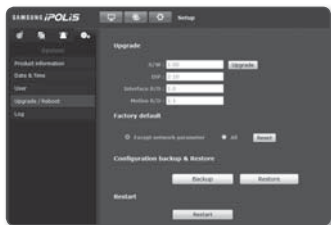
1. From the Setup menu, select the <System (  )> tab.
2. Click <User>.
3. Provide the necessary user information.
  - Administrator Password Change : Change the current password for the administrator.
    - The default password can be exposed to a hacking thread so it is recommended to change the password after installing the product.Note that the security and other related issues caused by the unchanged password shall be responsible for the user.



- Guest setup : If <Guest access> is permitted, any guest can access the Web Viewer screen but can view only the Live viewer screen.
  - Current users : You can change the user information and adjust the permission level for a user who is set to <Enable>.
    - Video : You can select a video profile in the Live viewer screen.
    - Audio-In : The audio input option will be activated in the Live Viewer screen.
    - Controls : You can control the camera menu, PTZ, Mic. and Alarm button.
4. When done, click [Apply (  )].

## 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 : Reset the other settings except for the interface/port/DDNS/IP filtering/SSL settings.
    - All : Resets all settings including the camera settings. (however, the log information will not be reset)
      - If you reset the camera, the network settings will be adjusted so that DHCP can be enabled. If there is no DHCP server in the network, you must run the IP Installer program to change the basic network settings such as IP address, Subnet mask, Gateway, etc., before you can connect to the network.
  - 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.

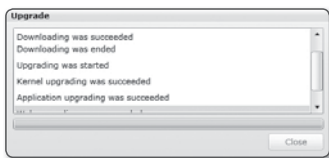
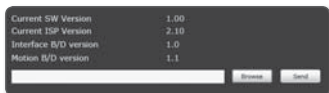


# setup screen

## To perform the upgrade

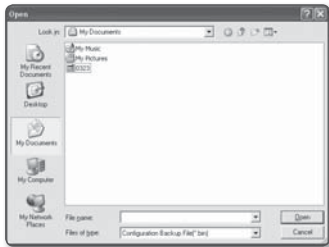
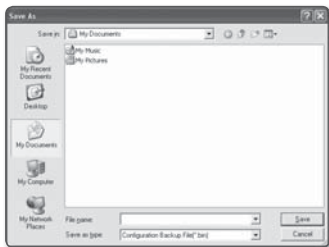
1. Click [**Upgrade**].
2. Click [**Browse**] and specify a file to upgrade.
3. Click [**Send**].
4. The “**Upgrade**” dialog appears where the progression will be shown in the bottom.

-  ■ If you forcibly terminate the upgrade process, upgrade will not be completed properly.




## To save the current settings and restore the backup settings

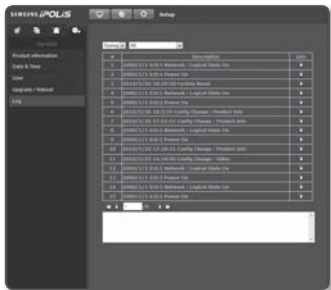
1. Click [**Backup**].  
The Save As dialog should appear.
2. Specify the backup path with a proper file name, and click [**Save**].  
The backup file will be saved to the specified path in the format of “.bin”.
3. To restore the backup settings, click [**Restore**].
4. Select a backup file and click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




## 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.
  - Syslog : You can check the system logs where any system changes are recorded including the time information.
  - Evtlog : 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.

## SPECIFICATION

	Items	Description		
		SNP-3120	SNP-3120V	SNP-3120VH
Video	Imaging Device	1/4" Ex-view HAD PS CCD		
	Total Pixels	NT : 811(H) x 508(V), PAL : 795(H) x 596(V)		
	Effective Pixels	NT : 768(H) x 494(V), PAL : 752(H) x 582(V)		
	Scanning System	Progressive(VPS ON) (If WDR on, Interlaced Scan)		
	Synchronization	Internal / Line lock		
	Frequency	NT : H : 15.734KHz / V : 59.94Hz, PAL : H : 15.625KHz / V : 50Hz		
	Horizontal Resolution	Color : 600 TV lines		
	Min. Illumination	Color : 0.7 Lux (F 1.65, 50 IRE, VPS OFF), 0.001 Lux (Sens up 512X) B/W : 0.07 Lux (F 1.65, 50 IRE, VPS OFF), 0.0001 Lux (Sens up 512X)		
	S / N Ratio	50dB		
	Video Out	CVBS : 1.0 Vp-p / 75Ω composite		
Lens	Focal Length (Zoom Ratio)	3.69~44.32mm (12X)		
	Max. Aperture Ratio	F1.65(Wide) / F2.01(Tele)		
	Angular Field of View	H : 54.44°(Wide) ~ 4.62°(Tele) / V : 42.32°(Wide) ~ 3.58°(Tele)		
	Min. Object Distance	0.2m (Wide) / 0.8m (Tele)		
	Focus Control	AF / One-Shot AF / Manual		
	Zoom Movement Speed	-		
	Lens Type	DC Auto Iris		
	Mount Type	-		



Items		Description		
		SNP-3120	SNP-3120V	SNP-3120VH
Pan / Tilt / Rotate	Pan Range	360° Endless		
	Pan Speed	Preset : 650°/sec, Manual : 0.05°/sec ~120°/sec (Turbo:200°/sec)		
	Tilt Range	-5° ~185°		
	Tilt Speed	Preset : 650°/sec, Manual : 0.05°/sec ~120°/sec		
	Rotate Range	-		
	Preset	255 ea		
	Preset Accuracy	±0.1°		
	Auto Tracking	-		
Operational	On Screen Display	NT : English, French, German, Spanish, Italian, Korean, Portuguese PAL : English, French, German, Spanish, Italian, Chinese, Portuguese		
	Camera Title	Off / On (Displayed up to 12 characters)		
	Day & Night	Auto (ICR) / Color / B/W		
	Backlight Compensation	Off / BLC / WDR		
	Wide Dynamic Range	NT : 128X / PAL : 160X		
	Dynamic Range	XDR (eXtended Dynamic Range) (Off/Low/Medium/High)		
	Digital Noise Reduction	Motion Adaptive 2D+3D Noise Filter (Off/Low/Medium/High)		
	Digital Image Stabilization	Off / On		
	Motion Detection	Yes		
	Privacy Masking	Off / On (12 Polygonal programmable zones)		
	Sens-up (Frame Integration)	Off / Auto (2X ~ 512X)		

# appendix

Items		Description		
		SNP-3120	SNP-3120V	SNP-3120VH
Operational	Gain Control	Off / Low / Medium / High / Manual		
	White Balance	ATW (In) / ATW (Out) / AWC / Manual		
	Electronic Shutter Speed	Off / A.FLK / Manual (1/120 ~ 1/10Ksec)		
	Digital Zoom	16X		
	Flip / Mirror	Digital Flip		
	Profile	-		
	VPS	Off / On		
	Intelligent Video Analytics	Moved / Fixed		
	PIP	-		
	Schedule	-		
	Alarm I/O	Input 2ea / Output 2ea (Relay)		
	RS-485 Protocol	SAMSUNG T/E, PELCO-P/D, Panasonic, Honeywell, AD, Vicon, GE, Bosch		
Network	Ethernet	RJ-45 (10/100BASE-T)		
	Video Compression Format	H.264, MPEG4, MJPEG		
	Resolution	NT : 704x480, 640x480, 352x240, 320x240 PAL : 704x576, 640x480, 352x288, 320x240		
	Max. Framerate	NT : 30fps / PAL : 25fps		

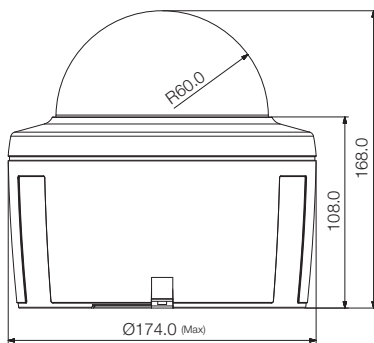
Items	Description			
	SNP-3120	SNP-3120V	SNP-3120VH	
Network	<b>Video Quality Adjustment</b>	H.264/MPEG4 : Compression Level, Target Bitrate Level Control MJPEG : Quality Level Control		
	<b>Bitrate Control Method</b>	H.264/MPEG4 : CBR or VBR MJPEG : VBR		
	<b>Streaming Capability</b>	Multiple Streaming (Up to 10 Profiles)		
	<b>Audio I/O</b>	Line in / Line out		
	<b>Audio Compression Format</b>	G.711 $\mu$ -law		
	<b>Audio Communication</b>	2-Way		
	<b>IP</b>	IPv4, IPv6		
	<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		
	<b>Security</b>	HTTPS(SSL) Login Authentication Digest Login Authentication IP Address Filtering User access Log		
	<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 : Windows XP / VISTA / 7, MAC OS Supported Browser : Internet Explorer 6.0 or Higher, Firefox, Google Chrome, Apple Safari		
<b>Central Management Software</b>	NET-i viewer			

# appendix

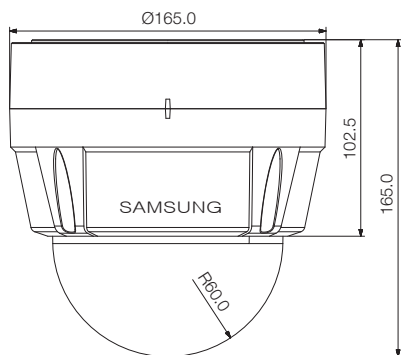
Items		Description		
		SNP-3120	SNP-3120V	SNP-3120VH
Environmental	Operating Temperature / Humidity	-10°C ~ +50°C (+14°F ~ +122°F) /~90% RH	-50°C ~ +50°C (-58°F ~ +122°F) / ~90% RH	
	Ingress Protection	-	IP66	
Electrical	Input Voltage / Current	24V AC, hPoE(IEEE802.3at)		
	Power Consumption	Max. 15W	Max. 15W (Heater Off), Max. 45W (Heater On)	
Mechanical	Color / Material	Body : Ivory / Plastic	Body : Ivory / Aluminum (Vandal Resistance)	Body : Ivory / Aluminum (Vandal Resistance), Sun-Shield Built-in
	Dimension (Ø x H)	Ø174.0 x H168.0 mm (6.85" x 6.61")	Ø165.0 x H165.0 mm (6.5" x 6.5")	Ø200.0 x H203.0 mm (7.87" x 7.99")
	Weight	1.2Kg (2.65 lb)	1.9Kg (4.19 lb)	2.4Kg (5.29 lb)

## PRODUCT OVERVIEW

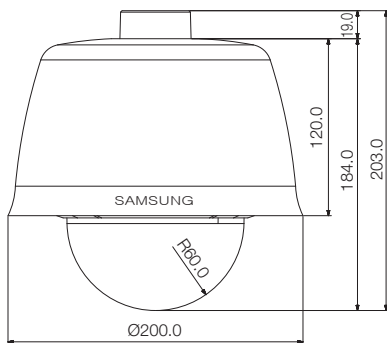
### ❖ SNP-3120



### ❖ SNP-3120V



## ❖ SNP-3120VH



## TROUBLESHOOTING

PROBLEM	SOLUTION
<p><b>I can't access the camera from a web browser.</b></p>	<ul style="list-style-type: none"> <li>• Check to make sure that the camera's Network settings are appropriate.</li> <li>• Check to make sure that all network cables have been connected properly.</li> <li>• If connected using DHCP, verify that the camera is able to acquire dynamic IP addresses without any problem.</li> <li>• If connected using a DDNS URL, verify that the MAC address has been properly entered.</li> <li>• If the camera is connected to a router, verify that port forwarding is properly configured.</li> </ul>
<p><b>Viewer got disconnected during monitoring.</b></p>	<ul style="list-style-type: none"> <li>• Connected Viewers become disconnected upon any change to camera or network configurations.</li> <li>• Check all network connections.</li> <li>• If the camera is connected over an PPPoE network, it's possible for Viewer to disconnect under poor network conditions.</li> </ul>
<p><b>I cannot connect to the system using a tab browser of Internet Explorer 7.0.</b></p>	<ul style="list-style-type: none"> <li>• When you try to connect to the system using a tab browser, the same cookie information is shared, resulting in errors when connected. Therefore, instead of using a tab browser, open a new browser window to connect to the system.</li> </ul>
<p><b>The camera connected to the network is not detected in the IP installer program.</b></p>	<ul style="list-style-type: none"> <li>• Turn off the firewall settings on your PC and then search the camera again.</li> </ul>
<p><b>Images overlap.</b></p>	<ul style="list-style-type: none"> <li>• Check whether two or more cameras are set to a single multicast address instead of different addresses. If a single address is used for multiple cameras, the images may overlap.</li> </ul>
<p><b>No image appears.</b></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 camera is connected to.</li> </ul>

# appendix

PROBLEM	SOLUTION
<b>No JPEG file is transferred via e-mail on occurrence of intelligent video analysis event of camera even when the &lt;IV analysis function&gt; is set to &lt;Enable&gt;.</b>	<ul style="list-style-type: none"><li>• Verify the settings in the following sequence:<ol style="list-style-type: none"><li>A. Check &lt;Data &amp; Time&gt; settings.</li><li>B. The &lt;IV analysis function&gt; should be set to &lt;Enable&gt;.</li><li>C. Alarm Video Transmission must be enabled.</li></ol></li></ul>
<b>Can &lt;Set Rules&gt; be configured even when the &lt;IV analysis function&gt; is set to &lt;Disable&gt;?</b>	<ul style="list-style-type: none"><li>• Yes, it can be. You can set rules for events despite of the intelligent video analysis setting.</li></ul>
<b>No signal is found at the Alarm Output port even when an intelligent video analysis event is generated.</b>	<ul style="list-style-type: none"><li>• Check alarm output port settings.</li></ul>
<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 card is inserted but the camera 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 camera unit</li><li>• Format the memory card again in &lt;Setup&gt; → &lt;Event&gt; → &lt;SD Record&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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librtsp 1.20	BSD 1.0	

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