

SAMSUNG TECHWIN

12X SPEED DOME CAMERA

User Manual

SCP-2120



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safety information



CAUTION
RISK OF ELECTRIC SHOCK.
DO NOT OPEN



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



This symbol indicates that dangerous voltage consisting a risk of electric shock is present within this unit.



This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.

WARNING

- To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.
- To prevent injury, this apparatus must be securely attached to the floor/wall in accordance with the installation instructions.
- Use only the 24V, 60Hz AC adaptor for power supply.

WARNING

1. Be sure to use only the standard adapter that is specified in the specification sheet. Using any other adapter could cause fire, electrical shock, or damage to the product.
2. Incorrectly connecting the power supply or replacing battery may cause explosion, fire, electric shock, or damage to the product.
3. Do not connect multiple cameras to a single adapter. Exceeding the capacity may cause abnormal heat generation or fire.
4. Securely plug the power cord into the power receptacle. Insecure connection may cause fire.
5. When installing the camera, fasten it securely and firmly. The fall of camera may cause personal injury.
6. Do not place conductive objects (e.g. screwdrivers, coins, metal parts, etc.) or containers filled with water on top of the camera. Doing so may cause personal injury due to fire, electric shock, or falling objects.

12X SPEED DOME CAMERA

User Manual

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Disclaimer

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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

safety information

7. Do not install the unit in humid, dusty, or sooty locations. Doing so may cause fire or electric shock.
8. If any unusual smells or smoke come from the unit, stop using the product. In such case, immediately disconnect the power source and contact the service center. Continued use in such a condition may cause fire or electric shock.
9. If this product fails to operate normally, contact the nearest service center. Never disassemble or modify this product in any way. (SAMSUNG is not liable for problems caused by unauthorized modifications or attempted repair.)
10. When cleaning, do not spray water directly onto parts of the product. Doing so may cause fire or electric shock
11. 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.
12. 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.

CAUTION

1. Do not drop objects on the product or apply strong blows to it. Keep away from a location subject to excessive vibration or magnetic interference.
2. Do not install in a location subject to high temperature (over 50°C), low temperature (below -10°F), or high humidity. Doing so may cause fire or electric shock.
3. If you want to relocate the already installed product, be sure to turn off the power and then move or reinstall it.
4. Remove the power plug from the outlet when there is a lighting storm. Neglecting to do so may cause fire or damage to the product.
5. Keep out of direct sunlight and heat radiation sources. It may cause fire.
6. Install it in a place with good ventilation.
7. Avoid aiming the camera directly towards extremely bright objects such as sun, as this may damage the CCD image sensor.
8. Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.
9. The Mains plug is used as a disconnect device and shall stay readily operable at any time.
10. When using the camera outdoors, moisture may occur inside the camera due to temperature difference between indoors and outdoors. For this reason, it is recommended to install the camera indoors. For outdoor use, use the camera with built-in fan and heater.

FCC STATEMENT

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions :

- 1) This device may not cause harmful interference, and
- 2) This device must accept any interference received including interference that may cause undesired operation.

CAUTION

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of 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.



IC Compliance Notice

This Class A digital apparatus meets all requirements of the Canadian Interference.-Causing Equipment Regulations of ICES-003.



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.



Correct disposal of batteries in this product

(Applicable in the European Union and other European countries with separate battery return systems.)

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

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

important safety instructions

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, 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 is 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 powersupply 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.



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



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FEATURES

- A/F 12X Optical Zoom**
 The built-in 12X optical zoom lens with auto-focus is combined with a 16x digital zoom, providing a maximum of 192x zoom.
- Versatile protocols and coaxial communication**
 RS-485, Coaxial communication methods are supported.
 - RS-485 (10 protocols) : Samsung Techwin, Pelco (D / P), Samsung Electronics, Panasonic, Honeywell, AD, Vicon, GE, BOCOSH
 - Coaxial Communications: Pelco Coaxitron (automatic detection)
- Wide Range Auto Security Functions**
 - Multiple Preset Function Saving : Up to 13 camera image properties can be saved individually to provide high quality pictures.
 - Image Holding : When moving between presets in Group and Tour functions, using this Preset Freeze function holds the image status and helps reduce visual fatigue.
 - PTZ Trace : Patterns operated with the joystick can be saved and replayed by users.
 - Swing : Using the Swing function commands the camera to move between 2 selected locations, monitoring the route.
 - Group Search : Maximum 128 Preset positions are toured in order.
 - Tour Search : Maximum 6 Group Search functions are toured in order.
- Digital Flip**
 The Digital Flip function is useful to monitor moving objects or people passing directly under the camera. When an object or a person passes directly under the camera, its tilt motor follows the object or person over 100 degrees to the other side of the tilt area without panning. The screen inversion starts to occur at 100 degrees or higher is digitally adjusted.
- Smart P/T**
 The Smart P/T function automatically adjusts the control speed of the Pan and Tilt functions according to the current zoom ratio. It is useful to adjust the functions manually for detailed controls when monitoring at high zoom ratios.
- Day & Night**
 With its daytime & nighttime switch and Sens-Up functions based on the ICR (Infrared Cut filter Removal) method, the camera provides high quality pictures regardless of whether it is day or night.
 - Sens-Up increases the CCD sensitivity by electrically extending the camera's exposure time.
 - Day & Night enables you to select between color and B/W modes depending on the lighting conditions.

- **OSD (On Screen Display)**

The camera IDs, camera preset numbers, preset names, area names, and camera operation status are displayed on the monitor, allowing set up of various camera functions through the OSD menu screen.

- **Preset Position Saving and Loading**

Up to 255 preset positions can be set. Using this function saves and brings up the camera feed of a selected monitoring location.



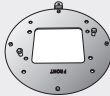





- **SSDR (Samsung Super Dynamic Range)**

For images with high contrast between bright and dark Areas from difficult lighting conditions such as backlighting, this camera selectively illuminates darker Areas while retaining the same light level for brighter Areas to even out the overall brightness.

- **Area Masking**

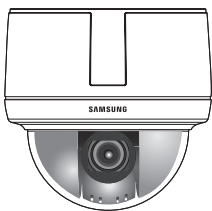
If a monitoring location includes a highly private area, the area can be selectively masked on the screen.

COMPONENTS AND ACCESSORIES

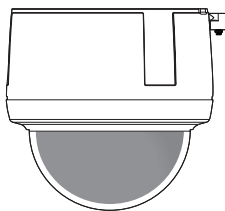
		
Body	User Guide	Mount Bracket
		
7Pin Terminal Block	8Pin Terminal Block	BNC Cable
		
Screw(M4x20, 4ea)	Template	

COMPONENT NAMES AND FUNCTIONS

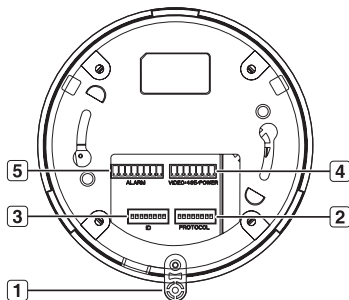
❖ Front



❖ Side



❖ Bottom

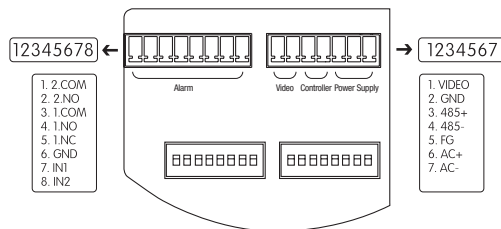


- 1** Screw Hole
- 2** Communication Setup Switch
- 3** ID Setup Switch
- 4** Video/Communication/Power
- 5** Alarm

 For the DIP switch settings, please refer to the "Installing Your Camera" on Page 17.

Camera Wiring Interface Board

For the camera wiring, please refer to the picture below. The camera's wiring interface board is fitted to the housing, this is sold separately. (When using coaxial communication, a separate control signal connection is not required.)



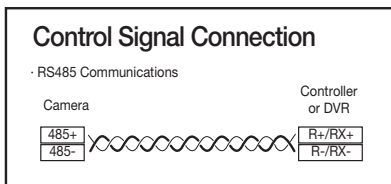
Controller & Auxiliary Signal Connection

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

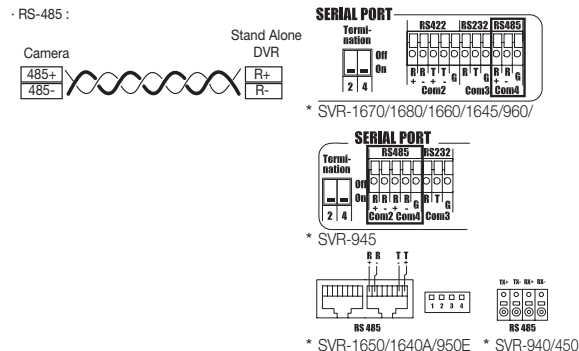
Camera Wiring Interface Board



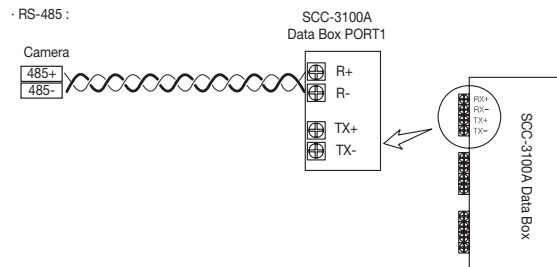
- The maximum power capacity of the built-in relay is 30V DC/2A, 125V AC/0.5A, and 250V AC/0.25A.
- Connecting the power connector and GND incorrectly to the NC/NO and COM ports may cause a short circuit and fire, damaging the camera.

SPEED DOME CAMERA AND APPLIANCES WIRING DIAGRAM

Connecting with Samsung Techwin's "Stand Alone DVR"



Connecting with the Samsung Techwin Controller SCC-3100A

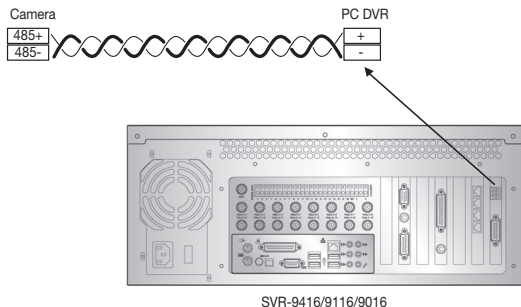


- To control this camera via a computer, please contact our After-Sales Service or Technology Department.

installing your camera

Connecting with the Samsung Techwin PC DVR

· RS-485 :

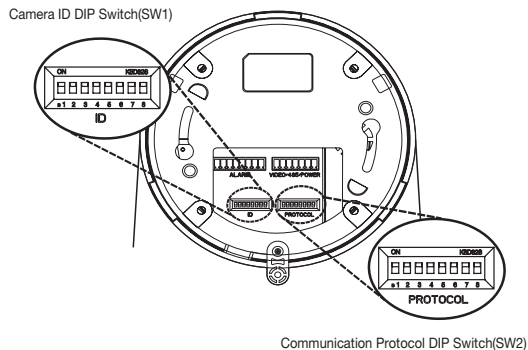


- The following is a list of DVRs that can fully control the PTZ dome camera via RS-485.
 - 32 Channels: SVR-3200
 - 16 Channels: SVR-1680/1660/1645/1650E/1640A/9416/9116/9016
 - 9 Channels: SVR-960/945/950E/940
 - 4 Channels: SVR-440/450/470/480
 - The following is a list of Samsung Techwin DVRs that can fully control the PTZ dome camera via a coaxial cable and RS-485.
 - 16 Channels: SVR-1680C/1660C/1670
 - 9 Channels: SVR-960C
- ※This model supports both coaxial and RS-485 communications.

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	OFF	OFF	OFF	ON
3	Pelco-D	OFF	OFF	ON	OFF
4	Pelco-P	OFF	OFF	ON	ON
5	Samsung Elec	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

❖ 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.

installing your camera

◆ 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

installing your camera

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

installing your camera

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

installing your camera

PREPARING ADAPTER AND CABLES (SOLD SEPARATELY)

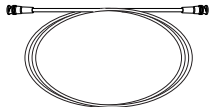
- Power Adapter

Power adapter has the capacity of AC24V 2.5A.



- Video Cable

The camera's video output port is connected to the monitor with a BNC coaxial cable, shown below : If the distance between the camera and the monitor exceeds the recommended maximum, please use an auxiliary video amp.

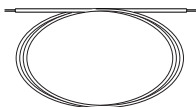


Distance	Recommended Cable Specification
300m	4C2V(RG-59/U)
450m	5C2V(RG-6/U)
600m	7C2V(RG-11/U)

- ⚠ If the camera is controlled through coaxial communication, please use a video amp intended for coaxial communications. Regular video amps do not transfer coaxial signals.

- Communications Cable

For the camera to communicate with the controller, a RS-485 communications line is required. To ensure the quality of long distance communication and the accuracy of the overall communication it is recommended using a twisted pair cable such as UTP.

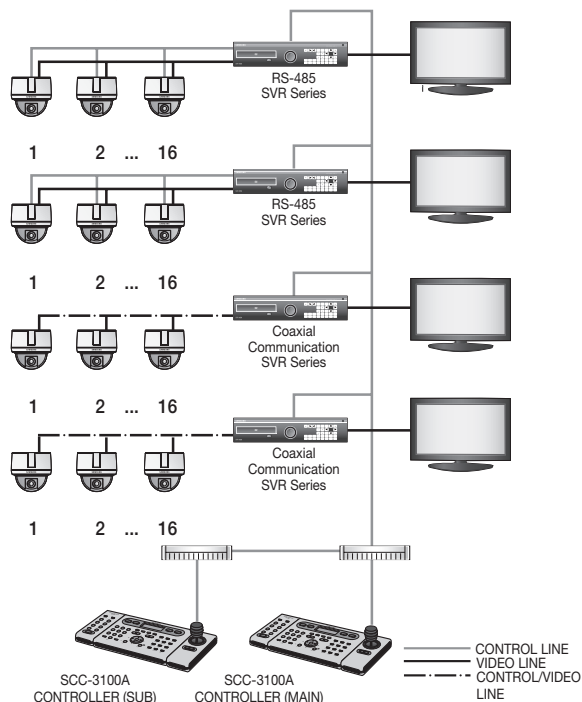


- ⚠ Depending on the camera's environment, the communications distance may vary.
- ⚠ Power Adapter, Video cable and communications cable are not provided in this product's package.

PREPARING AND INSTALLING CAMERA BRACKET

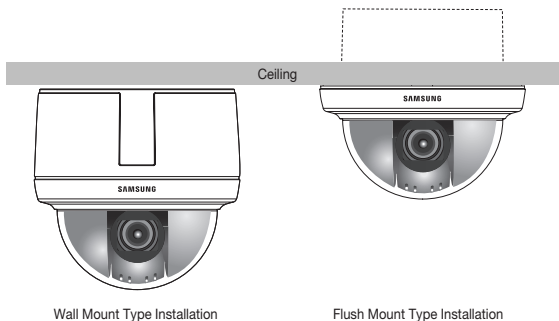
For the installation guidelines for the brackets and housings, refer to the user's manual enclosed with the bracket or housing that is sold separately.

- Camera Wiring Diagram



INSTALLATION EXAMPLES

- The pictures below show the front view of the camera installed with a wall or flush bracket. For more instructions on installing the camera, please refer to the following guidelines.

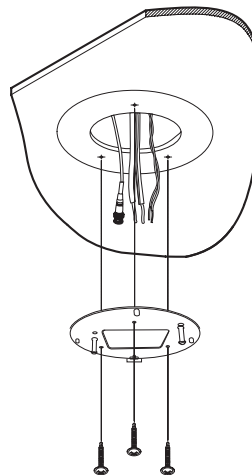


Wall Mount Type Installation

Flush Mount Type Installation

ON-CEILING MOUNT TYPE INSTALLATION EXAMPLE

1. Attach Template
Attach the template on the ceiling, facing the "Front" mark to the main monitoring direction. Drill a hole in the ceiling according to the 60 mm diameter hole marked on the template, and then drop the camera cables down through the hole.
2. Mount Bracket
Using the 4 screws, install the mount brackets on the ceiling, matching its directional guides with those of the template.

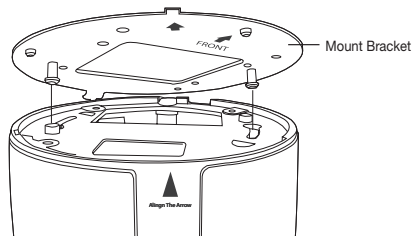


- ⚠ Do not connect the camera to a power outlet until the installation is complete. Supplying power in the middle of the installation may cause fire or damage the product.

installing your camera

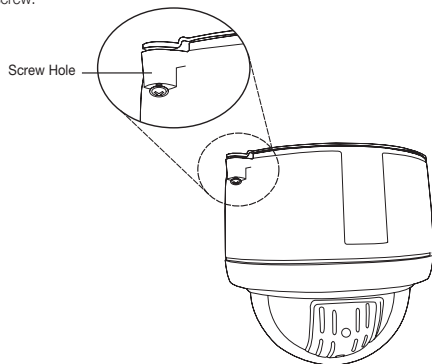
3. Assemble Camera & Bracket

- Cameras on the sides 'Align The Arrow' triangle corner mount bracket and the arrow shows a match to match.
- Insert the mount bracket to the matching holes in the camera, and then turn the camera clockwise.



4. Secure the Camera

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

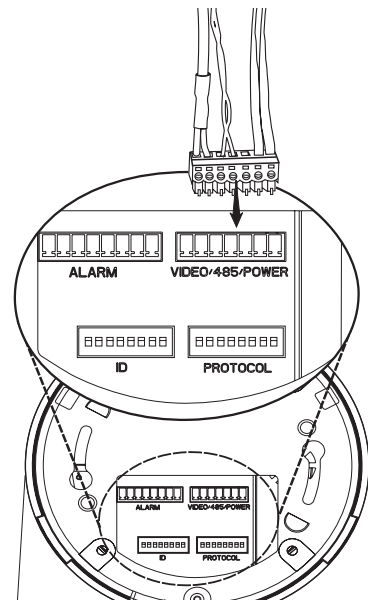


5. Connect Cables

Connect each camera cable to the proper terminals on the bottom of the camera. For more detailed instructions, please refer to Page 13: "Camera Wiring Interface Board".

6. Camera DIP Switch Setup

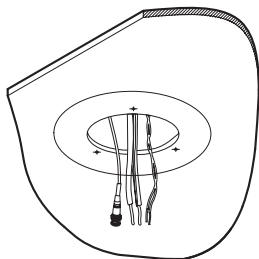
DIP switches for communication and ID setup are located on the bottom of the camera. For more instructions, please refer to Page 18.



FLUSH MOUNT TYPE INSTALLATION EXAMPLE

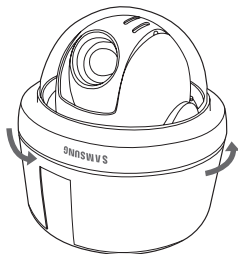
1. Drill Hole on the Ceiling

Attach the template, and then drill a hole according to the 120 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.



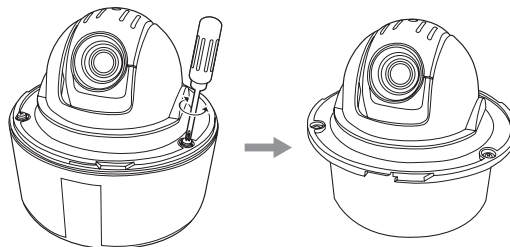
2. Exiting Camera OSD

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



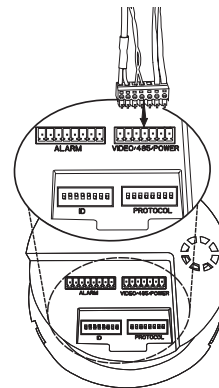
3. Detach the Mount Housing

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



4. Connect Cables & Camera Setup

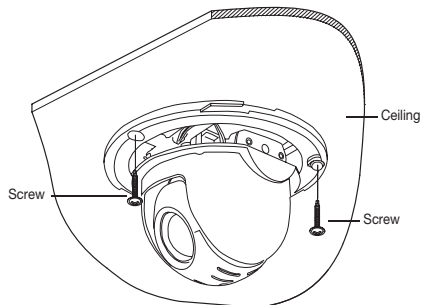
Connect each camera cable to the proper terminals on the bottom of the camera (Refer to Page 13: "Camera Wiring Interface Board"). Configure the DIP switches on the bottom of the camera for communication and ID (Refer to Page 18).



installing your camera

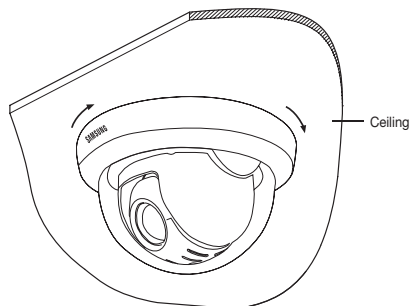
5. Install Camera

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



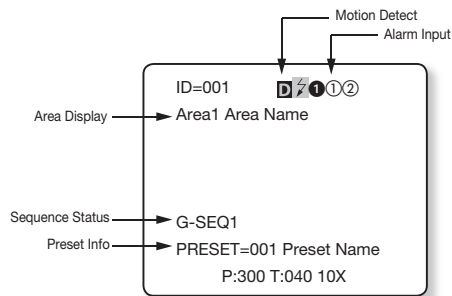
6. Assemble Dome Cover

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

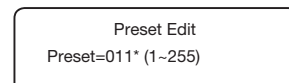


interface symbols

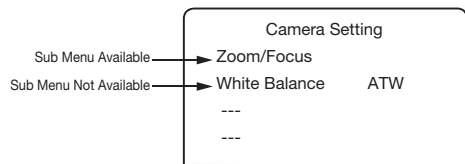
- Motion Detection Standby/Operation Display :
 - When in standby mode, the **D** in the upper right of the screen blinks and then changes to **👤** if motion is detected.
- Alarm Input Port Status Display :
 - "①", "②" in the upper right of the screen blink.
- Current Alarm Port Display According to Input Alarm Ports(Priority) :
 - Only one of **👤**, **①**, **②** in the upper right of the screen blinks.
- Preset Number Display Settings :
 - "'': If a preset number is already available
 - 'H': If a preset location is the camera's home position
- If an OSD Menu has Sub Menu :
 - **👤** displays at the end of the menu.
- If an OSD Menu Does Not Have Sub Menu :
 - No symbol appears at the end of the menu.
- PTZ Function Screen :



- Preset Number Setting Screen :



- OSD Menu Screen :



OPERATING YOUR CAMERA

- Panning and Tilting
 - Use the joystick of the controller or its direction buttons.
- Controlling Zoom
 - Move the joystick clockwise (Tele) or counterclockwise (Wide), or use the zoom buttons.
- Accessing Screen Menus
 - Press the Menu or OSD button on the controller.

* For more detailed information about controls using a third party controller or a DVR, refer to the user's manual of the product.

OSD COMMANDS, FUNCTION CHART, AND MENU CONTROLS

This dome camera can be operated using two methods: Using hot keys on its dedicated controller, or accessing the OSD (On Screen Display) on the video output. The OSD menu commands are as follows:

Command	Function
Move the joystick up/down/left/right	Moves the OSD menus up/down/left/right, respectively.
Enter/Focus Far	Selects a menu and allows access to the sub menus.
ESC/Focus Near	Cancels a command and moves back to an upper-level menu.

OSD MENU CHART

	P1	P2	P3	P4	P5
Camera Setting	Zoom/Focus	Focus Mode	AUTO/MANUAL/ONESHOT		
		Zoom Tracking	Mode	AUTO/OFF/TRACKING	
			Speed	SLOW/MEDIUM/FAST	
		Digital Zoom	OFF/2X/3X/4X/5X.../16X		
	White Balance	ATW/ATW(IN)/ATW(OUT)			
		AWC	Press Enter to Start AWC		
		Manual	Red	0-100	
	Blue		0-100		
	Exposure	Brightness	0-100		
		Iris	AUTO		
			MANUAL	Iris Value(CLOSE, F1.6-F2.8)	
		Shutter	---(Displays ESC in the Manual IRIS Mode)		
			A.FLK	MANUAL	
		Sens-Up	---(When the Shutter is A.FLK or MANUAL)		
	OFF		Auto		Sens-up Limit 2X/4X...512X
	Back Light	OFF			
		HLC	Level	LOW/MEDIUM/HIGH	
			Mask Tone	0-10	
	BLC	Level Change/Up/Down/Left/Right/Increase/Decrease			
	AGC	OFF/LOW/MEDIUM/HIGH			
MANUAL		AGC Level			
SSNR	OFF/LOW/MEDIUM/HIGH				
SSDR	Mode	ON/OFF			
	Range	NARROW/WIDE			
	Level	0-15			
Day/Night	Mode	Auto			
		Color	Burst Level(0-100)		
	BW	Burst ON/OFF			
	Duration	SLOW/FAST			
Dwell Time	5/7/10/15/20/30/40/60 SEC				

	P1	P2	P3	P4	P5	
Others		Sync	INTERNAL			
			LINE LOCK	Line Lock Phase 0~359		
		Image Adj.	Sharpness	1~32		
			Color	0~100		
		Freeze	ON/OFF			
Presets		Setting/Edit/Home Position/Execute/Clear/Status				
Swing SEQ.		Pan Swing	Setting/Execute/Clear			
		Tilt Swing	Setting/Execute/Clear			
		P/T Swing	Setting/Execute/Clear			
Group SEQ.		Group1~6			Setting/Execute/Clear	
Tour SEQ.		Setting/Execute/Clear				
PTZ Trace		Trace1~4				
Sequence Setting	Auto Run	Mode	OFF			
			SCHEDULE	Sunday~Saturday		
			A.PAN	AutoPan Speed/Tilt Angle		
			TRACE	Trace(1~4)		
			TOUR			
			GROUP	Group No(1~6)		
			SWING	Swing Mode (PAN,TILT,P/T)		
			PRESET HOME	Presets No(1~255)		
			Time	5~30(SEC), 1~5(MIN)		
			Power On Resume		ON/OFF	
Pan Limit		Position				
		Activation	ON/OFF			
Tilt Limit		Position				
		Activation	ON/OFF			
Area Setting	Area 1~8	Area Name				
		Position	Left Upper Bound/ Right Lower Bound			
		Activation	ON/OFF			
Area Masking	Mask1~8	Position	Left Upper Bound/ Right Lower Bound			
		Activation	ON/OFF			
Prop.P/T		ON/OFF				
Digital Flip		ON/OFF				

	P1	P2	P3	P4	P5	
OSD Setting		Image Hold	ON/OFF			
		Jog Speed	Manual/10/20/30/40/50/60			
		Max Speed Level	1~7			
		Camera ID	ON/OFF			
		Camera Name	ON/OFF			
			Edit	Camera Name		
		Presets Number	ON/OFF			
		Presets Name	ON/OFF			
			Edit			
		Sequence Status	ON/OFF			
		Area Name	ON/OFF			
		PTZ Position	ON/OFF			
		Language	ENGLISH/CHINESE/FRENCH/GERMAN/SPANISH/ITALIAN/ PORTUGUES/KOREAN			
		Others	Direction	On/Off	ON/OFF	
			Set North Dir.	Set North Direction		
	Display		ON/OFF			
	Clock Setting		Date Format			
			Set Date			
		Time Format				
		Set Time				
Alarm Setting	Alarm Enable	ON/OFF				
	Alarm Input	In1	MOD:NC/NO/OFF, P:1~2			
		In2	SEQ:OFF/HOME/PRESET/SWING/GROUP/ TOUR/TRACE/A.PAN			
	Alarm Output	Setting 1~2	1,2,MD,AUX			
		Timer 1~2	OFF/MOMENTARY			
			ON	1~60(Sec), 1~60(Min)		
		Out Off 1~2				
MD Dwell Time	OFF					
	ON	1~60(Sec), 1~60(Min)				
Initialize	Power On Reset	Cancel/Execute				
	Factory Default Set	Cancel/Execute				
	Camera Default Set	Cancel/Execute				
Auto Refresh		OFF				
	ON	1~7Day(s)				
Password Setting		On/Off				
	Edit Password	Old Pwd/New Pwd				
Status						

CAMERA SETTING

Zoom/Focus Settings

Focus Mode and Digital Zoom Setting Menu

► 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.

Main Menu	
Camera Setting ↕	
Sequence Setting ↕	
P/T Setting ↕	
OSD Setting ↕	
Alarm Setting ↕	
Initialize ↕	
Password Setting ↕	
Status ↕	

Camera Setting	
Zoom/Focus ↕	
White Balance	ATW
Exposure ↕	
Back Light	OFF
AGC	HIGH
SSNR	MEDIUM
SDDR ↕	
Day/Night ↕	
Others ↕	

Zoom/Focus	
Focus Mode	ONESHOT
Zoom Tracking ↕	
Digital Zoom	OFF

Zoom Tracking

► Main Menu/Camera Setting/Focus/Zoom/Zoom Tracking

Through this menu you can set up the camera's focus mode when zooming.

• Mode :

- AUTO : Auto-focuses when zooming.
- TRACKING : Focuses manually when zooming.
- OFF : Disable the focus modes when zooming. (Full manual mode)

• Speed :

- SLOW/MEDIUM/FAST : Adjusts the zooming speed.

Main Menu	
Camera Setting ↕	
Sequence Setting ↕	
P/T Setting ↕	
OSD Setting ↕	
Alarm Setting ↕	
Initialize ↕	
Password Setting ↕	
Status ↕	

Camera Setting	
Zoom/Focus ↕	
White Balance	ATW
Exposure ↕	
Back Light	OFF
AGC	HIGH
SSNR	MEDIUM
SDDR ↕	
Day/Night ↕	
Others ↕	

Zoom/Focus	
Focus Mode	ONESHOT
Zoom Tracking ↕	
Digital Zoom	OFF

Zoom Tracking	
Mode	AUTO
Speed	FAST

White Balance

► Main Menu/Camera Setting/White Balance

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

- ATW : Adjusts the screen color automatically.
- ATW(IN) : Adjusts the screen color to be optimal in an indoor environment.
(Operating Temperature: about 4,500°K ~ about 8,500°K)
- ATW(OUT) : Automatically adjusts the screen color to be optimal in bright outdoors environments.

※ This product is designed to be used indoors. Installing outdoors may cause the product to malfunction. (Operating Temperature: about 1,700°K ~ about 11,000°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.

Main Menu

- Camera Setting ▾
- Sequence Setting ↕
- P/T Setting ↕
- OSD Setting ↕
- Alarm Setting ↕
- Initialize ↕
- Password Setting ↕
- Status ↕

Camera Setting

- Zoom/Focus ↕
- White Balance ATW
- Exposure ↕
- Back Light OFF
- AGC HIGH
- SSNR MEDIUM
- SSDR ↕
- Day/Night ↕
- Others ↕

 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.

Exposure

► Main Menu/Camera Setting/Exposure

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

- **Brightness** : Adjusts the screen brightness.
(Over 50: Brighter, Under 50: Darker)
- **Iris** :
 - AUTO : Automatically adjusts the exposure meter.
 - MANUAL : Enables manual adjustment of the exposure meter. (Over 50: Brighter, Under 50: Darker)
- **Shutter** : Controls the camera's electronic shutter.
 - --- : The shutter speed is fixed at 1/60 for NTSC and 1/50 for PAL. Operates when Iris is on the Auto Mode.
 - ESC : Adjusts the shutter speed automatically according to the screen brightness. Operates when Iris is on the Manual 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.

Main Menu


- Camera Setting ▾
- Sequence Setting ↕
- P/T Setting ↕
- OSD Setting ↕
- Alarm Setting ↕
- Initialize ↕
- Password Setting ↕
- Status ↕

Camera Setting

- Zoom/Focus ↕
- White Balance ATW
- Exposure ▾
- Back Light OFF
- AGC HIGH
- SSNR MEDIUM
- SSDR ↕
- Day/Night ↕
- Others ↕

Exposure

- | | |
|------------|--------|
| Brightness | 050 |
| Iris | AUTO |
| Shutter | --- |
| Sens-Up | AUTO ↕ |

-  ■ For optimal performance of the A.FLK mode, avoid using the mode in conjunction with Backlight.
- 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.
- Sens-Up is disabled when the shutter is in Manual or A. FLK mode.

Backlight

Backlight Mode Settings

► Main Menu/Camera Setting/Back Light

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

• Back Light Mode :

- OFF : Disables the Backlight mode.
- HLC : Activates the Highlight Compensation (HLC) mode.
- BLC : Activates a user defined backlight compensation mode.

Main Menu	
Camera Setting	↕
Sequence Setting	↕
P/T Setting	↕
OSD Setting	↕
Alarm Setting	↕
Initialize	↕
Password Setting	↕
Status	↕

Camera Setting	
Zoom/Focus	↕
White Balance	ATW
Exposure	↕
Back Light	OFF
AGC	HIGH
SSNR	MEDIUM
SSDR	↕
Day/Night	↕
Others	↕

HLC

► Main Menu/Camera Setting/Back Light/HLC

HLC masks strong light sources from the camera lens, blocking them from saturating the monitor screen.

• Level :

Three HLC operation levels are available: LOW, MEDIUM, and HIGH.

• Mask Tone :

Adjusts the masking brightness.

Main Menu	
Camera Setting	↕
Sequence Setting	↕
P/T Setting	↕
OSD Setting	↕
Alarm Setting	↕
Initialize	↕
Password Setting	↕
Status	↕

Camera Setting	
Zoom/Focus	↕
White Balance	ATW
Exposure	↕
Back Light	HLC
AGC	HIGH
SSNR	MEDIUM
SSDR	↕
Day/Night	↕
Others	↕

HLC Setting	
Level	LOW
Mask Tone	05



- HLC performance varies depending on the size of bright areas on the screen; please set the installation angle of your camera to at least 30 degrees for the best HLC performance.
- HLC activates only in Night mode when the camera receives a certain amount of a highlight in the dark.
- HLC does not activate in Night mode when there is no light or too much light.
- HLC does not activate while the Digital Zoom mode is ON.

BLC Setting

► Main Menu/Camera Setting/Back Light/BLC

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

• Four-direction Joystick Controls :

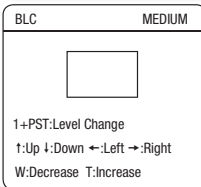
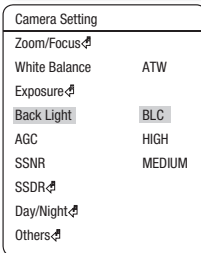
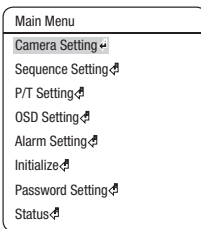
- Moving the joystick in all four directions—upward, downward, left, and right—adjusts the location and size of a selected area.

• Zoom Control :

- Zoom Tele : Enlarges the size of a selected area.
- Zoom Wide : Reduces the size of a selected area.

• Changing Levels :

- To change the level from LOW to MEDIUM or HIGH, press the number 1 and Preset keys.

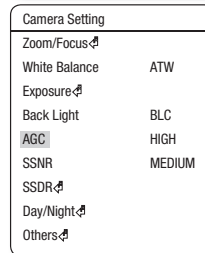
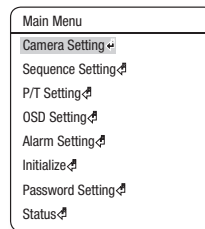


AGC

► Main Menu/Camera Setting/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.

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

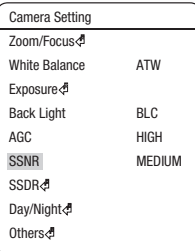
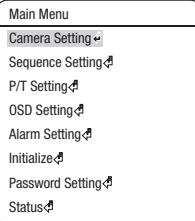


SSNR (Samsung Super Noise Reduction)

► Main Menu/Camera Setting/SSNR

SSNR significantly reduces the amount of low luminance noise.

- 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.



 SSNR is disabled when the AGC mode is turned off.

SSDR(Samsung Super Dynamic Range)

► Main Menu/Camera Setting/SSDR

SSDR 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.

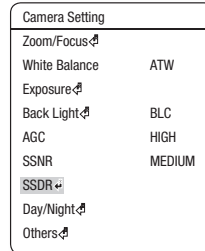
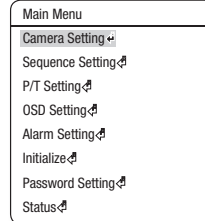


SSDR ON



SSDR OFF

- Mode : Enables or disables SSDR.
- Range : Defines a range of SSDR.
- Level : Changes the contrast between bright and dark spots by the level.



Day/Night

► Main Menu/Camera Setting/Day/Night

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

• Modes :

- 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."

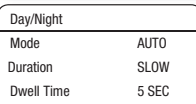
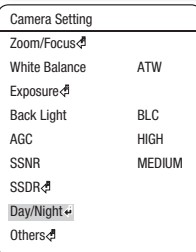
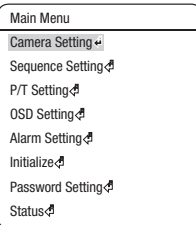
• Duration :

The camera's light sensitivity is adjustable as in the chart below. The camera's ambient light diversion performance may vary depending on its environment.

	Color → B/W	B/W → Color
Fast	2.5 Lux	4 Lux
Slow	0.8 Lux	6 Lux

• 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.



Others

► Main Menu/Camera Setting/Others

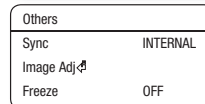
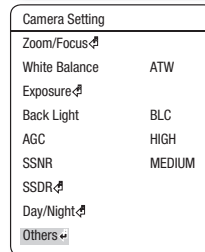
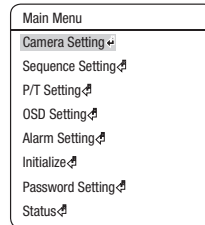
• Sync :

- INTERNAL : Synchronizes the camera's output timing to the internal crystal.
- LINE LOCK: Synchronizes the camera's output timing to the AC adapter power to synchronize multiple cameras. This option is useful when using a switch such as Matrix Switcher.
- LINE LOCK PHASE : Enables setting the adapter's synchronization phase between 0 and 360°.

• Image Adj :

- Sharpness : Sharpens outlines of an image.
- Color : Adjusts the color density of an image.

• Freeze : Stops or reanimates an image.



 The Auto mode is not available when AGC is OFF. (Only the COLOR and B/W modes are available.)

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

SEQUENCE SETTING

Preset

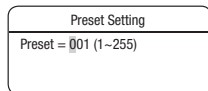
Preset Location Saving

- ▶ Main Menu/Sequence Setting/Preset/Setting

This function enables the memorization of a selected location and activates the Pan, Tilt, and Zoom functions at that location. Saved locations can be recalled using the Preset Execute command.

- **Setting Up Preset Numbers :**

Selecting the Preset Setting menu brings up a screen as shown below. Move the joystick in all four directions to select the desired number.

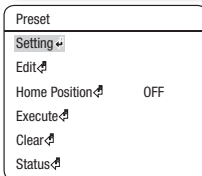
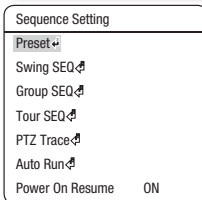
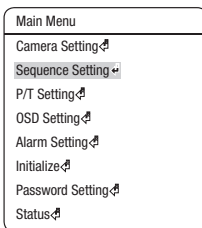
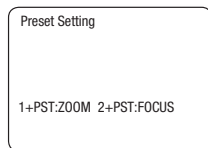


- **Saving Preset Locations :**

Selecting a preset number and pressing the Enter key redirects the menu to the screen shown below.

Using the joystick, adjust the location of the Pan and Tilt functions and then set the Zoom and Focus command.

In Preset Settings, the Zoom and Focus command is controllable only by the Zoom command. To switch between Zoom and Focus, use the Preset 1 and 2 commands as shown below.

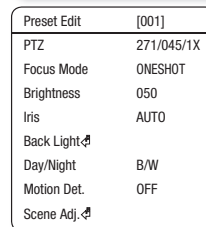
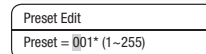
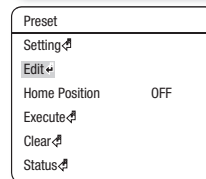
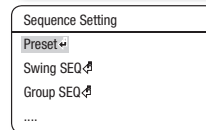
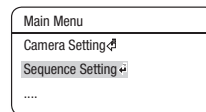


Preset Edit

- ▶ Main Menu/Sequence Setting/Preset/Edit

You can edit the 13 preset items such as Pan/Tilt location, Zoom and Focus, which are selected among camera functions.

- **PTZ :**
Recalls saved locations using the Preset Settings command.
- **Focus Mode :**
Refer to the section entitled Setting Up Your Camera.
- **Brightness :**
Refer to the section entitled Setting Up Your Camera.
- **Iris :**
Refer to the section entitled Setting Up Your Camera.
- **Back Light :**
Refer to the section entitled Setting Up Your Camera.
- **Day/Night :**
Refer to the section entitled Setting Up Your Camera.
- **Motion Det. :**
Commands the camera to perform Motion Detection after it arrives at a selected preset location.
- **Scene Adj. :**
Enables setting the Shutter, AGC, SSNR, SDR, Sens-Up, White Balance and for more information about interface terminology, please refer to the section entitled Setting Up Your Camera.



Preset Name Setting

► Main Menu/OSD Setting/Preset Name/Edit

Using this function, you can add names to preset locations.

up to 12 characters.

Once a name is entered, use the joystick and the Enter key to perform the Set command and save the name.

Main Menu	
Camera Setting ↕	
Sequence Setting ↕	
P/T Setting ↕	
OSD Setting ↕	
Alarm Setting ↕	
Initialize ↕	
Password Setting ↕	
Status ↕	

OSD Setting	
Camera ID	ON
Camera Name ↕	
Preset Number	ON
Preset Name ↕	
....	

Preset Name	
ON/OFF	OFF
Edit ↕	

Preset Edit	
Preset = 001*	(1~255)

Preset Name[_]	
ABCDEFGHIJKLMNPOQRSTUVWXYZ	
abcdefghijklmnpqrstuvwxyz	
1234567890 ()	
[]-#*!?,.	
BACK SPACE CLR SET	

Preset Execution/Deletion/Memory Check

► Main Menu/Sequence Setting/Preset

• Home Position :

Sets one of the currently configured preset positions as the home position.


• Execute :

Recalls a saved preset location.

• Clear :

Deletes the selected preset location.

• Status :

Opens a map of saved preset locations. An area saved as a preset location is displayed with the  icon.

Main Menu	
Camera Setting ↕	
Sequence Setting ↕	
P/T Setting ↕	
OSD Setting ↕	
Alarm Setting ↕	
Initialize ↕	
Password Setting ↕	
Status ↕	

Sequence Setting	
Preset ↕	
Swing SEQ ↕	
Group SEQ ↕	
Tour SEQ ↕	
PTZ Trace ↕	
Auto Run ↕	
Power On Resume	ON

Preset Status	
001 :	□□□□ □□□□ □□□□ □□□□
021 :	□□□□ □□□□ □□□□ □□□□
041 :	□□□□ □□□□ □□□□ □□□□
061 :	□□□□ □□□□ □□□□ □□□□
081 :	□□□□ □□□□ □□□□ □□□□
101 :	□□□□ □□□□ □□□□ □□□□
121 :	□□□□ □□□□ □□□□ □□□□

Preset Status	
001 :	□□□□ □□□□ □□□□ □□□□
021 :	□□□□ □□□□ □□□□ □□□□
041 :	□□□□ □□□□ □□□□ □□□□
061 :	□□□□ □□□□ □□□□ □□□□
081 :	□□□□ □□□□ □□□□ □□□□
101 :	□□□□ □□□□ □□□□ □□□□
121 :	□□□□ □□□□ □□□□ □□□□

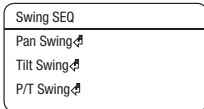
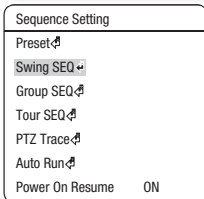
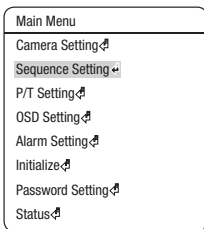
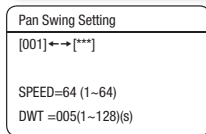
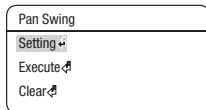
Preset	
Setting ↕	
Edit ↕	
Home Position	OFF
Execute ↕	
Clear ↕	
Status ↕	

Swing SEQ

► Main Menu/Sequence Setting/Swing SEQ

The Swing function commands the camera to move between 2 selected locations, monitoring the route.

- **Pan Swing :**
Activates the Pan function for the Swing operation.
- **Tilt Swing :**
Activates the Tilt function for the Swing operation.
- **P/T Swing :**
Activates both the Pan and Tilt functions for the Swing operation.
- **Swing Settings/Execute/Clear :**
- Settings : Each of the Swing menus have sub menus with the settings.



- Select 2 preset locations by using the joystick. Speed indicates the camera's movement speed. DWT indicates the camera's duration of stay at a preset location.
- Execute: Executes the Swing operation.
 - Clear: Deletes data in the Swing memory.

Group SEQ

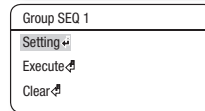
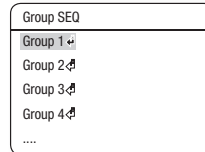
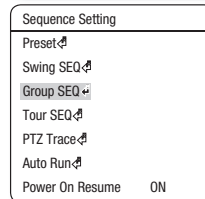
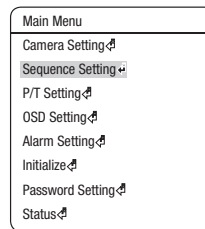
► Main Menu/Sequence Setting/Group SEQ

Selecting Group SEQ recalls a group of multiple preset locations in a consecutive manner. A group can contain up to 128 preset locations.

- **Setting :**
Using the joystick, enter desired preset numbers into the PSET section. DWT indicates the camera's duration of stay at a preset location. SPD shows the camera's movement speed by 64 different levels.

Group SEQ 1			
NO	PSET	DWT(s)	SPD
001	***	003	64
002	***	003	64
003	***	003	64
004	***	003	64
005	***	003	64
006	***	003	64
007	***	003	64

- **Execute :**
Executes the group operation.
- **Clear :**
Deletes the selected group.



Tour SEQ

► Main Menu/Sequence Setting/Tour SEQ

Selecting Tour SEQ recalls groups of preset locations in a consecutive manner. Up to 6 groups can be listed for this function.

• Settings :

Selecting the Settings menu brings up the following screen.

Using the joystick, you can enter desired group numbers to the Group section. DWT indicates the camera's standby time before a new group is recalled.

Tour SEQ		
NO	Group	DWT(s)
01	*	003
02	*	003
03	*	003
04	*	003
05	*	003
06	*	003

• Execute :

Executes the group operation.

• Clear :

Deletes the selected group.

Main Menu

Camera Setting ↗

Sequence Setting ↕

P/T Setting ↗

OSD Setting ↗

Alarm Setting ↗

Initialize ↗

Password Setting ↗

Status ↗

Sequence Setting

Preset ↗

Swing SEQ ↗

Group SEQ ↗

Tour SEQ ↕

PTZ Trace ↗

Auto Run ↗

Power On Resume ON

Tour SEQ

Setting ↕

Execute ↗

Clear ↗

PTZ Trace

► Main Menu/Sequence Setting/PTZ Trace

Maximum 4 patterns of the manual operation paths (for Pan, Tilt, Zoom and Focus) are memorized and replayed.

• Replay :

Replays a route saved by the Trace function. Use the Stop button to stop the replay.

• Replay Once :

Replays a saved Trace route once.

• Memorize :

Up to 120 seconds of a memory can be saved. The memory duration varies depending on the difficulty level of the PTZ Trace action. As a trace is saved, the remaining capacity of the memory card is displayed. When the memory card is full, it turns off with a message, "Mem. Left: 000%", on the screen.

* Use the OSD On button to pause while saving a trace. (When using the SCC-3100A/SCC-1000 controller)

* When Using Different Protocols

Protocol	Product	Memorize Pause
PELCO-D/P	KBD300A	Ack, Iris Open
SEC	SCC-5000	OSD On, Iris Open
PANASONIC	VV-CU161C	OSD ON
VICON	VT300X-DVC	Iris Open
HONEYWELL	HTX-3000	Iris Open
AD	.	OSD On, Iris Open
GE	KTD-405	Iris Open
BOSCH	.	Iris Open

• Clear :

Deletes a saved Trace route.

Main Menu

Camera Setting ↗

Sequence Setting ↕

P/T Setting ↗

OSD Setting ↗

Alarm Setting ↗

Initialize ↗

Password Setting ↗

Status ↗

Sequence Setting

Preset ↗

Swing SEQ ↗

Group SEQ ↗

Tour SEQ ↗

PTZ Trace ↕

Auto Run ↗

Power On Resume ON

PTZ Trace

Trace 1 ↕

Trace 2 ↗

Trace 3 ↗

Trace 4 ↗

PTZ Trace 1

Replay

Replay Once

Memorize

Clear

Auto Run

► Main Menu/Sequence Setting/Auto Run

If there is no controller operation by the user for a certain time, the sequence operation designated by the user will be executed.

• Mode :

- HOME : Auto run Home Position (Refer to the Preset Menu.)
- PRESET : Auto run a selected preset number.
- SWING : Auto run a selected Swing mode.
- GROUP : Auto run a selected Group mode.
- TOUR : Auto run a selected Tour mode.
- TRACE : Auto run a selected trace mode.
- A.PAN : Auto run a 360-degree pan. To activate the panning command, you need to set up the camera's tilt angle and auto pan speed manually.
- SCHEDULE : Schedule a sequencing action by day and time. Refer to the next page.

• Time :

Enables setting up an Auto Run duration. (The duration can be 5~30 seconds, or 1~5 minutes.)

Main Menu	
Camera Setting ↕	
Sequence Setting ↕	
P/T Setting ↕	
OSD Setting ↕	
Alarm Setting ↕	
Initialize ↕	
Password Setting ↕	
Status ↕	

Sequence Setting	
Preset ↕	
Swing SEQ ↕	
Group SEQ ↕	
Tour SEQ ↕	
PTZ Trace ↕	
Auto Run ↕	
Power On Resume	ON

Auto Run	
Mode	OFF
Time	30 SEC

Schedule

Schedule enables you to schedule a sequencing action by day and time.

• Select Day :

At Auto Run, select SCHEDULE to set up each day of the week, as shown on the side picture. Select a day, change to ON, and then press Enter.

• Select Time :

When turning ON a day, a timetable appears as shown on the side picture. (Up to 6 timelines can be selected for a day.) Select the beginning time and sequencing action to schedule the action.

Auto Run	
Mode	SCHEDULE ↕
Time	30 SEC

Schedule Set	
Sunday	ON ↕
Monday	OFF
Tuesday	OFF
Wednesday	OFF
Thursday	OFF
Friday	OFF
Saturday	OFF

Schedule Set			
No	START	SEQ	No
1	09:00	HOME	
2	00:00	OFF	
3	00:00	OFF	
4	00:00	OFF	
5	00:00	OFF	
6	00:00	OFF	
Clear ↕			



- Auto mode is disabled when AGC is turned OFF. This function is only available when Color or B/W mode is selected. The camera time must be setup properly prior to using this option. If the camera does not perform a scheduled sequencing action, please reconfigure the camera time under OSD Setting > Others > Clock Setting (Refer to Page 73).

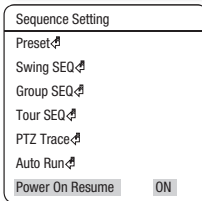
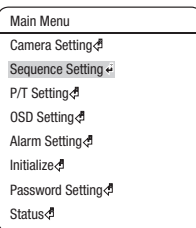
Power On Resume


► Main Menu/Sequence Setting/Power On Resume

• Power On Resume :

This is useful when the power is disconnected and reconnected due to power failures or other power interruptions.

If the camera was performing a sequence action prior to a power disconnection, the camera automatically resumes the action when the power is reconnected.



-  "Power On Resume" cannot resume a sequence action if the camera's internal battery is completely discharged after the camera was left without power supply for a long time. (The data of the sequence action, however, remains safe even if the internal battery is completely discharged.)

P/T SETTING

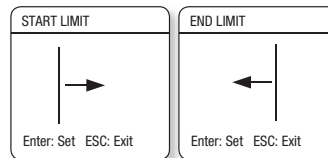
Pan Limit

► Main Menu/P/T Setting/Pan Limit

The moving ranges in the Pan directions can be limited.

• Position :

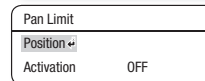
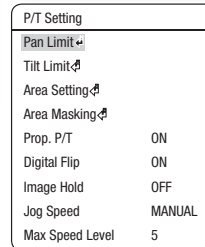
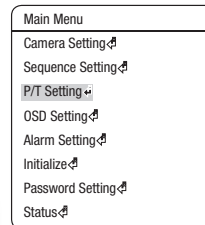
Selecting the Position menu brings up the following screen if it is for the Pan Limit setting. Move the joystick left and right to select a movement range from the starting point to the end.



The following picture shows the Tilt Limit setting. Move the joystick left and right to select a movement range from the starting point to the end.

• ON/OFF :

Cancels or activates the Pan/Tilt Limit functions.



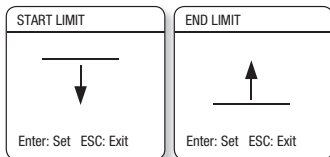
Tilt Limit

► Main Menu/P/T Setting/Tilt Limit

These settings limit the movement range of the Tilt operation.

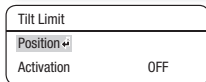
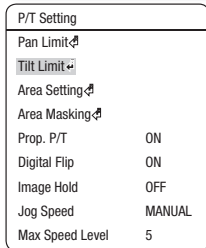
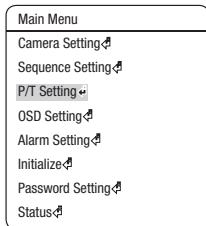
• Position :

Selecting the Position menu brings up the following screen if it is for the Tilt Limit setting. Move the joystick left and right to select a movement range from the starting point to the end.



• ON/OFF :

Enables or disables Tilt Limit.



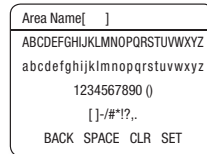
Area Setting

► Main Menu/P/T Setting/Area Setting

The Area Setting menu enables selecting certain locations in the course of the Pan and Tilt operation, and then display the areas with the OSD (On Screen Display) texts when the camera passes through them. Up to 8 areas can be selected.

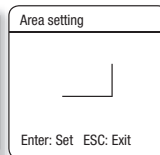
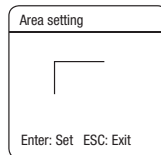
• Area Name :

You can add names to selected areas. 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.



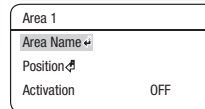
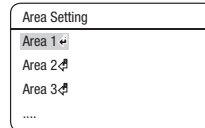
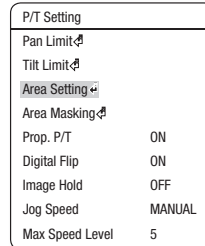
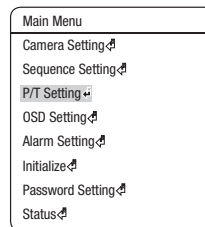
• Position :

As shown in the picture below, move the joystick to select the upper left corner and lower right corner of an area.



• ON/OFF :

Cancel or activates the display function of selected areas.



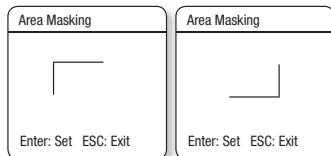
Area Masking

► Main Menu/P/T Setting/Area Masking

If a monitoring location includes a highly private area, the area can be selectively excluded from monitoring.

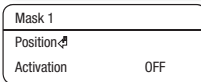
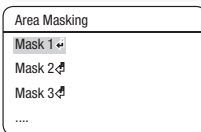
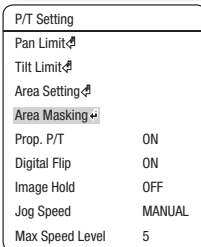
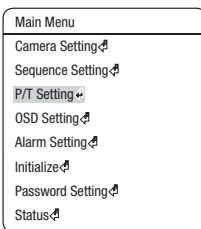
• Position :

As shown in the picture below, move the joystick to select the upper left corner and lower right corner of an area.



• On/Off :

Cancels or activates the Area Masking function.

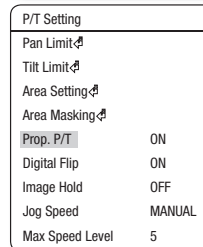
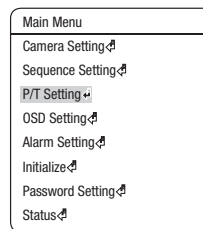


Prop. P/T

► Main Menu/P/T Setting/Prop.P/T

This commands the camera to change the Pan and Tilt speed automatically according to the current zoom ratio. Moving the joystick clockwise (Tele) slows down and counterclockwise (Wide) accelerates the Pan and Tilt speed, allowing detailed adjustments.

Turning this "Off" executes the function the optical 1x zoom speed regardless of how far the lens is zoomed in.



Digital Flip

► Main Menu/P/T Setting/Digital Flip

Digital Flip is useful to monitor a moving object or a person passing directly under the camera.

When an object or a person passes directly under the camera, the camera tilt monitor follows the object or person over 100 degrees to the other side of the tilt area without panning. The screen inversion occurs at 100 degrees or higher and is digitally adjusted.

Main Menu	
Camera Setting	↕
Sequence Setting	↕
P/T Setting	↕
OSD Setting	↕
Alarm Setting	↕
Initialize	↕
Password Setting	↕
Status	↕

P/T Setting	
Pan Limit	↕
Tilt Limit	↕
Area Setting	↕
Area Masking	↕
Prop. P/T	ON
Digital Flip	ON
Image Hold	OFF
Jog Speed	MANUAL
Max Speed Level	5

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.

Main Menu	
Camera Setting	↕
Sequence Setting	↕
P/T Setting	↕
OSD Setting	↕
Alarm Setting	↕
Initialize	↕
Password Setting	↕
Status	↕

P/T Setting	
Pan Limit	↕
Tilt Limit	↕
Area Setting	↕
Area Masking	↕
Prop. P/T	ON
Digital Flip	ON
Image Hold	OFF
Jog Speed	MANUAL
Max Speed Level	5

Jog Speed

► Main Menu/P/T Setting/Jog Speed

If the speed of your controller or DVR's Pant/Tilt command protocol is fixed and causes slow panning and tilting, you can use Manual mode.

- **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.

Main Menu	
Camera Setting	↕
Sequence Setting	↕
P/T Setting	↕
OSD Setting	↕
Alarm Setting	↕
Initialize	↕
Password Setting	↕
Status	↕

P/T Setting	
Pan Limit	↕
Tilt Limit	↕
Area Setting	↕
Area Masking	↕
Prop. P/T	ON
Digital Flip	ON
Image Hold	OFF
Jog Speed	MANUAL
Max Speed Level	5

Max Speed Level

► Main Menu/P/T Setting/Max Speed Level

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

- Pan and Tilt operations can be set up to 650°/sec.

Main Menu	
Camera Setting	↕
Sequence Setting	↕
P/T Setting	↕
OSD Setting	↕
Alarm Setting	↕
Initialize	↕
Password Setting	↕
Status	↕

P/T Setting	
Pan Limit	↕
Tilt Limit	↕
Area Setting	↕
Area Masking	↕
Prop. P/T	ON
Digital Flip	ON
Image Hold	OFF
Jog Speed	MANUAL
Max Speed Level	5

OSD SETTING

OSD Setting

► 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. (First check the Note.)

• **Preset Number :**

Displays or hides Preset Numbers on the screen.

• **Preset Name :**

Add names to preset locations. (First check the Note.)

• **Sequence Status :**

Displays or hides the status of a sequence action that is in progress.

• **Area Name :**

Displays or hides the Area Name for the Area Settings on the screen.

• **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.

Main Menu	
Camera Setting ↻	
Sequence Setting ↻	
P/T Setting ↻	
OSD Setting ↻	
Alarm Setting ↻	
Initialize ↻	
Password Setting ↻	
Status ↻	

OSD Setting	
Camera ID	ON
Camera Name ↻	
Preset Number	ON
Preset Name ↻	
Sequence Status	ON
Area Name	OFF
PTZ Position	ON
Language	ENGLISH
Others ↻	

XXX Name []
ABCDEFGHIJKLMNORSTUVWXYZ
abcdefghijklmnpqrstuvwxy
1234567890
[]-#*!?,.
BACK SPACE CLR SET

OSD Setting(Others)

► Main Menu/OSD Setting/Others

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

• **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.

- Set Date

Enter a date.

- Time Format

Changes the display format of the camera time: 24 or 12 hours.

- Set Time

Enter a time.

Main Menu	
Camera Setting ↻	
Sequence Setting ↻	
P/T Setting ↻	
OSD Setting ↻	
Alarm Setting ↻	
Initialize ↻	
Password Setting ↻	
Status ↻	

OSD Setting	
Camera ID	ON
Camera Name ↻	
Preset Number	ON
Preset Name ↻	
Sequence Status	ON
Area Name	OFF
PTZ Position	ON
Language	ENGLISH
Others ↻	

OSD Setting	
Direction ↻	
Clock Setting ↻	

ALARM SETTING

Alarm Setting

Setting Up Alarm Input

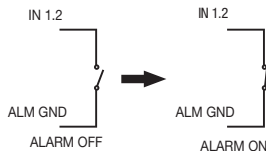
► Main Menu/Alarm Setting/Alarm Input

- **Alarm Enable :**

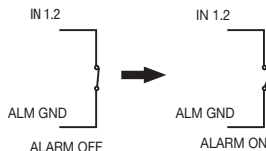
- On/Off : Enables or disables the Alarm function.

- **MOD :**

- Enables selecting an Alarm Input method.
- NO (Normally Open)



- NC (Normally Closed)



Main Menu	
Camera Setting ↕	
Sequence Setting ↕	
P/T Setting ↕	
OSD Setting ↕	
Alarm Setting ↕	
Initialize ↕	
Password Setting ↕	
Status ↕	

Alarm Setting	
Alarm Enable	OFF
Alarm Input ↕	
Alarm Output ↕	
MD Dwell Time	OFF

ALM	MOD	P	SEQ	NO
IN1	OFF	1	OFF	
IN2	OFF	2	OFF	

✍ As shown in the picture above, the Alarm Input must be entered with the Open or Closed switch signals. Supplying power without entering the signals may damage the product.

- **P (Priority) :**

Set the priority of Alarm Inputs. If more than one alarm is simultaneously activated, the alarm with the highest priority activates before the others. Once the alarm is canceled, the next highest priority alarm activates.

- **SEQ :**

Enables setting up a sequence action for the camera in response to an alarm. Available sequence actions are Home, Preset, Swing, Group, Tour, Trace and A.Pan.

* For the Auto Pan settings, the first number under the Number menu indicates the speed while the second is the Tilt angle. (Refer below.)

ALM	MOD	P	SEQ	NO
IN 1	NO	1	A.PAN	20/20
IN 2	NC	2	A.PAN	20/20

— Tilt Angle
— Speed

- **MD Dwell Time :**

When Motion Detection under the Preset Edit menu is selected, MD Dwell Time performs the Tour or Group function.

While the camera is performing a sequence action, if motion is detected from a selected preset location, the camera pauses the sequence action operation and starts monitoring the location instead for a duration that is set under the MD Dwell Time menu.

If the motion is no longer detectable or the duration expires, the camera aborts the monitoring operation and then resumes the sequence action.

Alarm Output

► Main Menu/Alarm Setting/Alarm Output

• Setting 1,2 :

Enables selecting an Alarm Output method.

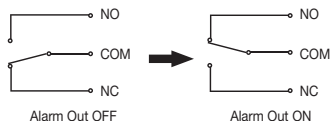
- 1, 2, Motion, and Support Device indicate alarm input ports, Motion Detection, and support device input. A total of 4 alarms, Motion Detection, and support devices can be set up to output alarms. 1 alarm output port can be used for more than 2 alarm inputs and Motion Detection.

• Timer 1,2 :

Enables selecting an Alarm Output method.

- On : Retains an alarm output for a set duration from a minimum of 1 second to a maximum of 60 minutes upon the alarm occurrence.
- Momentary : Retains an alarm output only until the alarm is canceled.

* The Alarm Output is equipped with a relay circuit. The operation of the alarm output port is as shown in the diagram below.



Main Menu	
Camera Setting	↕
Sequence Setting	↕
P/T Setting	↕
OSD Setting	↕
Alarm Setting	↕
Initialize	↕
Password Setting	↕
Status	↕

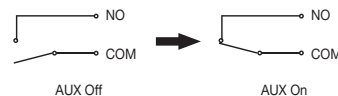
Alarm Setting	
Alarm Enable	OFF
Alarm Input	↕
Alarm Output	↕
MD Dwell Time	OFF

Alarm Output	
Setting 1	□1 □2 □MD □AUX
Setting 2	□1 □2 □MD □AUX
Timer 1	OFF
Timer 2	OFF
OUT Off 1	
OUT Off 2	

AUX Output menu is to operate the camera's peripheral devices such as lamps and sirens through the controller and switches as well as through network communications.

• OUT Off 1,2 :

- When an alarm event occurs, the output force can be terminated.



- Connecting the power connector and GND incorrectly to the Aux terminal's NO and COM ports may cause a short circuit and fire, damaging the camera.
- The maximum power capacity of the built-in relay is 30VDC/2A, 125VAC/0.5A, and 250VAC/0.25A. Operating the camera beyond the capacity may decrease the camera's lifespan and damage it.



- Connecting the power connector and GND incorrectly to the NC/NO and COM ports may cause a short circuit and fire, damaging the camera.
- The maximum power capacity of the built-in relay is 30VDC/2A, 125VAC/0.5A, and 250VAC/0.25A. Operating the camera beyond the capacity may decrease the camera's lifespan and damage it.

INITIALIZE

Initialization Menu

► Main Menu/Initialize

• **Power On Reset :**

Restarts the camera.

• **Factory Default Set :**

Enables resetting the camera to its factory default settings. When the mode is selected, all custom data such as preset locations is deleted from the camera.

Use this function if it is necessary to reset the settings of the camera.

• **Camera Default Set :**

Resets the camera zoom module to the Factory Default mode; use if you want to reset all camera settings including Exposure and Backlight.

• **Auto Refresh :**

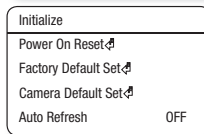
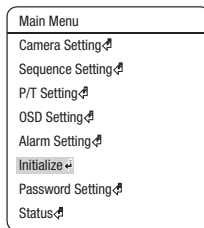
Enables optimizing the status of the camera's built-in electric circuits and components on a regular basis. (A regular operation can be scheduled.)

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.



PASSWORD SETTING

Password Setting

► Main Menu/Password Setting

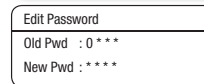
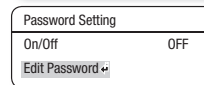
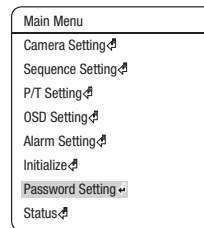
The Password feature enables you to configure a password for rebooting the camera and accessing the OSD and preventing unauthorized modification of existing camera settings.

• **On/Off :**

Enables or disables Password protection.

• **Edit Password :**

- Change the password; enter the current password and then a new one, consisting of 4 hexadecimal characters (0~F).
* The default password is "0000".



- In case you have forgotten the current password, use the controller and perform Preset 255 to access the OSD without the password.
- Upon using "Factory Default Set" at "Main Menu > Initialize," the password is reset to the default, "0000".

STATUS

Status

► Main Menu/Status

Displays the settings and version of the dome camera.

• CAM MODEL :

Indicates the model name of the camera.

• CAM VERSION :

Indicates the software version of the camera.

• DOME VERSION :

Indicates the version of the camera control board.

• COAX VERSION :

Indicates the software version of the Coax communication.

• CON PROTOCOL :

Indicates the status of the current protocol.

• DOME ID :

Camera ID

• CONTROLLER :

Indicates the settings of the current communications mode.

Main Menu

Camera Setting ↻

Sequence Setting ↻

P/T Setting ↻

OSD Setting ↻

Alarm Setting ↻

Initialize ↻

Password Setting ↻

Status ↻

Status

CAM MODEL = 12N

CAM VERSION = V1.3

DOME VERSION = V1.00

COAX VERSION = V1.00

CON PROTOCOL = SAMSUNG TW

DOME ID = 001

CONTROLLER = Simplex-9600

TROUBLESHOOTING

Problem	Cause and Solution	PAGE
Controller does not work.	Check if the camera and peripheral devices are properly connected.	27
	Verify the setups of ID, protocol, and baud rates.	18-25
No picture is displayed on monitor.	Check if power cable is securely connected to the camera and the monitor. Check if the video cable is properly connected. Consult the operation manual of the system controller connected to the camera.	13-27
	Check if the iris of the lens is closed. Adjust the menu for the iris of the lens.	43
	Check the camera's fixed shutter speed. Adjust the camera's shutter menu.	43
The picture is too dark/bright.	Check the camera's Brightness menu. Adjust the camera's Brightness menu.	43
The monitor displays a white image.	Check if the iris of the lens is open. Adjust the menu for the iris of the lens.	43
Picture is out of focus.	Check if the dome cover or the camera lens is dirty or smudged. If it is, clean the dirt off.	-
	Verify the distance between the camera and the subject, as well as the subject's surroundings. Camera may have difficulty focusing on a subject against a white background.	-
	If Auto Focusing is having difficulty focusing on a particular subject, set Focus Mode to Manual and adjust the focus by yourself.	40
	Use the camera's reset menu to restore the camera settings in order to default.	78
	Adjust Sharpness level.	51

troubleshooting

Problem	Cause and Solution	PAGE
Digital noise appears in picture.	Check if the video cable is properly connected.	-
	Make sure that the power cable and video cable do not exceed the recommended maximum lengths.	26
	Adjust Sharpness level.	51
Picture's colors are not good.	Check the White Balance.	42
	Adjust Color Menu in Image Adj.	51
The picture is flickering.	Check if the dome cover or the camera lens is dirty or smudged. If it is, clean the dirt off.	-
	Check if the camera is pointing directly at a fluorescent light or sunlight. If so, change the camera's direction to remove the flickering.	-
Afterimages appear in picture.	Check Sens-Up settings.	43
Camera switches between color and B&W modes frequently.	Adjust Duration and Dwell Time in Day & Night menu.	50
A circular object appears on screen when the camera is pointing straight down.	You are seeing a pinpoint-like injection artifact on the dome cover. The camera is functioning normally.	-
Pan, tilt, zoom, and/or focus do not work.	Check if power cable is securely connected to the camera and the monitor. Check if the video cable is properly connected. Consult the operation manual of the system controller connected to the camera.	13-27
	Check if Pan Limit and/or Tilt Limit are set. If so, remove the limit(s).	63-64
	A motor or the lens may be overheated. If so, contact your service personnel or system provider for assistance.	-

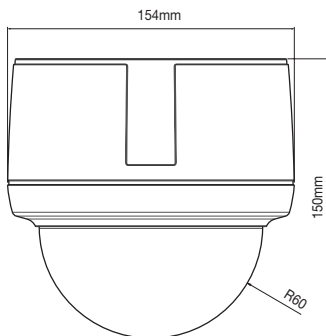
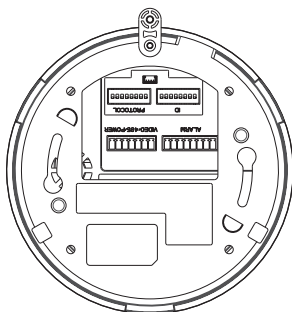
Problem	Cause and Solution	PAGE
The camera's position differs from the position defined in a preset.	This phenomenon may happen, since the motors have a margin error of $\pm 0.1^\circ$.	-
Sequence configuration of the camera does not work.	Check if Preset or another operation mode has been set.	52-55
	Check the Auto Refresh settings.	78
The upper side of the picture is dark when the camera is on the horizontal reference point.	You are seeing the camera's internal cover. The camera is functioning normally.	-
Camera suddenly turns or moves to a preset position by itself.	Check the Auto Run settings. Auto Run puts a camera through a predefined action sequence if the user does not use the Controller to operate the camera for a certain period of time.	60
<ul style="list-style-type: none"> The Power cord's coating has been damaged. The power cord is hot to touch when the product is in operation. The power cord gets hot after being folded or pulled on. 	Continuing to use the product when its power cord is damaged constitutes an electrical and fire hazard. The power plug must be removed from the outlet immediately, and a qualified service personnel or your system provider should be contacted for assistance.	-

PRODUCT SPECIFICATIONS

	SCP-2120
Imaging Device	1/4 inch, Super HAD color CCD
TV Standard	NTSC/PAL
Total Pixels	NTSC : 811(H) × 508(V) / PAL: 795(H) × 596(V)
Effective Pixels	NTSC : 768(H) × 494(V) / PAL: 752(H) × 582(V)
Scanning System	2:1 Interlace
Synchronization	Internal / External (AC Line Lock)
Horizontal Scan Rate	NTSC : 15.734 KHz / PAL:15.625 KHz
Vertical Scan Rate	NTSC : 59.94 Hz / PAL:50Hz
Horizontal Resolution	600 TV Line(Color) / 700 TV Line(B/W)
Min. Illumination	Color : 0.2Lux(50IRE@F1.6), 0.002Lux(SENS-UP, x128) B/W : 0.004Lux(50IRE@F1.6), 0.00003Lux(SENS-UP, x128)
S/N (Y Signal)	52 dB
Video Output	CVBS : 1.0Vp-p/75Ω
Zoom Ratio	12X (Optical), 16X (Digital)
Focal Length	3.94~46.05mm (F1.67~1.88)
Min. Object Distance	1.0m
Angular Field of view	H : 51.54°(Wide) ~ 4.49°(Tele) V : 39.28°(Wide) ~ 3.39°(Tele)
Focus	AUTO / MANUAL / ONE-SHOT
Zoom Speed	1.9sec
IRIS	AUTO / MANUAL
Lens Initialization	Built-In
Auto Tracking	Built-In
Horizontal Rotation Angle	360° Endless
Horizontal Rotation Speed	Manual : 0.05~120°/sec (Turbo:200°/sec), Preset : 650°/sec
Vertical Rotation Angle	-5° ~ 185°
Vertical Rotation Speed	Manual : 0.05~120°/sec, Preset : 650°/sec
Preset Position	255
Preset Accuracy	±0.1°

	SCP-2120
Camera ID	255
Day & Night	AUTO / COLOR / BW
Backlight	BLC / HLC / OFF
Motion Detection	ON / OFF
Privacy Mask	ON / OFF (8 Areas)
SSNR	LOW / MEDIUM / HIGH / OFF
Sens-up	Auto / Off (Selectable limit X2~ 512X)
Gain Control	Auto / Off
White Balance	ATW / ATW(IN) / ATW(OUT) / AWC / MANUAL
Electronic Shutter	AUTO(NTSC:1/60~120,000sec, PAL:1/50~120,000sec) / MANUAL / A.FLK
Serial Com.	RS485, Coaxial Communication
Protocol	STW, Pelco-D, Pelco-P, Pelco Coaxitron, Panasonic, Honeywell, AD, Vicon, SEC, BOSCH, GE
Alarm	2 In, 2 Out
Digital Flip	ON/OFF
Operating Temperature/ Humidity	-10°C to +50°C / 20% to 80% RH
Storage Temperature/ Humidity	-20°C to +60°C / 20% to 95% RH
Input Voltage	AC24V ± 10%
Power Consumption	Max. 12W
External Dimensions (Ø×D)	Ø154×150mm
Weight	Approx. 1 kg

DIMENSIONS



DECLARATION OF CONFORMITY

Application of Council Directive(s)	2004/108/EC
Manufacturer's Name	SAMSUNG TECHWIN CO., LTD
Manufacturer's Address	SAMSUNG TECHWIN CO., LTD 42, SUNGJU-DONG CHANGWON-CITY, KYUNGNAM, KOREA, 641-716
European Representative Name	
European Representative Address	
Equipment Type/Environment	Speed Dome Camera
Model Name	SCP-2120
Beginning Serial NO.	C324
Conformance to	EN 55022 : 2006 EN 50130-4 : 2003

We, the undersigned, hereby declare that the equipment specified above conforms to the above Directive(s).

Manufacturer	SAMSUNG TECHWIN CO., LTD	Legal Representative in Europe
Signature	<i>B. J. Gu</i>	Signature
Full Name	BONJENG GU	Full Name
Position	QUALITY CONTROL MANAGER	Position
Place	CHANGWON, KOREA	Place
Date	2009.1.27	Date



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