



# **Dome Camera**

## **Owner's Manual**

**MODEL: LPT-EP551PS / LPT-EP553PS  
LPT-EI551PS / LPT-EI553PS**

**Before installing and using the camera, please read this owner's manual carefully and retain for future reference.**



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



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

**WARNING:** Do not install this equipment in a confined space such as a bookcase or similar unit.

**CAUTION:** The apparatus should not be exposed to water (dripping or splashing) and no objects filled with liquids, such as vases, should be placed on the apparatus.

**FCC WARNING:** This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.



This product is manufactured to comply with the radio interference requirements of EEC DIRECTIVE 89/336/EEC, 93/68/EEC and 73/23/EEC.

#### Regulatory Notices For U.S.A

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

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

- A suitable conduit entries, knock-outs or glands shall be provided in the cable entries of this product in the end user.
- Caution: Danger of explosion if battery is incorrectly replaced. Replaced only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.
- Holes in metal, through which insulated wires pass, shall have smooth well rounded surfaces or shall be provided with brushings.

**WARNING:** This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

**WARNING:** Wiring methods shall be in accordance with the National Electric Code, ANSI/NFPA 70.

#### SERIAL NUMBER:

You can find the serial number on the back of the unit. This number is unique to this unit and not available to others. You should record requested information here and retain this guide as a permanent record of your purchase.

Model No. \_\_\_\_\_

Serial No. \_\_\_\_\_

# IMPORTANT SAFETY INSTRUCTIONS

**CAUTION: PLEASE READ AND OBSERVE ALL WARNINGS AND INSTRUCTIONS IN THIS OWNER'S MANUAL. AND THOSE MARKED ON THE PRODUCT. RETAIN THIS BOOKLET FOR FUTURE REFERENCE.**

This product has been designed and manufactured to assure personal safety. Improper use can result in electric shock or fire hazard. The safeguards incorporated in this product will protect you if you observe the following procedures for installation, use, and servicing.

This product does not contain any parts that can be repaired by the user.

**DO NOT REMOVE THE CABINET COVER, OR YOU MAY BE EXPOSED TO DANGEROUS VOLTAGE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL ONLY.**

1. **Read these instructions.** - All these safety and operating instructions should be read before the product is operated.
2. **Keep these instructions.** - The safety, operating and use instructions should be retained for future reference.
3. **Heed all warnings.** - All warnings on the product and in the operating instructions should be adhered to.
4. **Follow all instructions.** - All operating and use instructions should be followed.
5. **Do not use this product near water.** - For example: near a bath tub, wash bowl, kitchen sink, laundry tub, in a wet basement; or near a swimming pool; and other areas located near water.
6. **Clean only with dry cloth.** - Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners.
7. **Do not block any ventilation openings.** Install in accordance with the manufacturer's instructions. - Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from over-heating. The openings should never be blocked by placing the product on a bed, sofa, rug or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
8. **Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.**
9. **Do not defeat the safety purpose of the polarized or grounding-type plug.** A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. **Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the product.**
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 apparatus.** When a cart is used, use caution when moving the cart/product combination to avoid injury from tip-over.
13. **Unplug this product during lightning storms or when unused for long periods of time.**
14. **Refer all servicing to qualified service personnel.** Servicing is required when the product has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the product, the product has been exposed to rain or moisture, does not operate normally, or has been dropped.

# Introduction

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## About Dome Camera

The dome cameras are designed for installation in an indoor or outdoor video surveillance system.

The camera incorporates the digital signal processor, pan/tilt mechanism, x27 zoom lens and RS-485 communication interface in a compact outdoor enclosure.

A newly developed 1/4" CCD makes the camera suitable for use under extremely low illumination conditions as well as in daylight.

Setup menus allow the camera to perform surveillance tasks by such means as motion detection, digital flip, pattern-recording and privacy zones.

## Features

### ■ High Sensitivity Support

The camera provides the high quality picture with 1/4" EX-view CCD.

### ■ Preset Position

Preset position is the function to register camera monitoring positions (preset positions) associated with position numbers. By entering the position numbers, you can move cameras to the preset positions.

A maximum of 128 Preset Position is available. The moving speed and holding time are adjustable.

### ■ Preset Tour

You can tour all preset positions that has already been registered.

### ■ Preset Group Tour

You can create a preset group using the preset positions that has already been registered (maximum 9 groups) and you can tour the preset position within the group.

A preset group should have a maximum of 8 preset positions.

#### ■ Pattern Function

A routine of manual operations can be stored for 8 minutes at the maximum and reproduced repetitively. The Panning, Tilting and Zoom controls are available for recording the pattern.

**Note:** The available total time of pattern differs depending on camera's operation. When the time is over, the pattern setup will automatically stop.

#### ■ Privacy Mask

Privacy zone feature enables users to veil unwanted zones. This setting is used for masking unwanted zones, hiding them from display on the monitor screen. Up to 8 zones can be registered.

#### ■ Auto Pan

The camera has an Auto Pan function that enables to keep surveillance on every detail occurring around the specific area, which is preset to watch in advance.

The camera can pan among the maximum 8 points you will set. The moving speed and holding time are adjustable.

#### ■ Auto Flip

When the camera is operated to tilt through the 90°, it can be watched the opposite side of the locations by Auto Flip of a 180° horizontally.

#### ■ Sophisticated Design

This is the surveillance camera that can fit any indoor surroundings because it comes in the compact size and sophisticated design.

#### ■ Zoom Lens & Auto Focus

Zooming is possible from 27 times (the optical zoom limit), to a maximum of X2 times digital zoom.

#### ■ Sensor Linkage

The camera is capable of capturing a subject by the focus of camera moving promptly toward the subject at the rate of 240°/sec when the camera works with a detector (magnetic, beam, infrared rays), and a subject moving within a detection area is captured by a detector.

#### ■ Alarm In function (8 channels)

Alarm input signals are supplied from external devices through the ALARM IN connector to turn the camera to a preset position.

#### ■ Alarm Out function (4 channels)

When alarm inputs are supplied via the alarm input connector on the camera, the camera sends output signals via the alarm output connector on the camera.

#### ■ Controls by General Controller

This camera can be controlled by RS-485. Especially the camera has an excellent cost-saving effect because it can be controlled by the general RX point of contact signal.

#### ■ Connects with the maximum 256 cameras

This camera can be utilized after being connected with maximum 256 cameras.

Therefore, it is capable of performing an excellent job in the large buildings or department stores.

#### ■ Day & Night Function

This camera can be selected Color or Black & White. You can set Color in the daytime and Black & White at night due to the low illumination. (Filter Conversion type)

#### ■ DSS (Digital Slow Shutter) function

It is possible to highly sensitive surveillance because of DSS(Digital Slow Shutter) function.

#### ■ WDR (Wide Dynamic Range) function

The camera can be best condition to watch easily inside or outside in the strong back light.

**Note:** During Auto Pan, Preset Tour, or Pattern Record/Play, you can use only STOP key or Joystick on the controller.

#### ■ Power Supply

This camera must always be operated a AC 24V Certified/Listed, class 2 power supply only.

#### ■ Heat Pad

The heat pad is installed in this unit. If the unit's inside temperature is below than -1°C, the heat pad is operated to rise the temperature.

## Safety Precautions

### ■ Do not attempt to disassemble the camera

To prevent electric shock, do not remove screws or covers. There are no user serviceable parts inside. Ask a qualified service personnel for servicing.

### ■ Avoid the camera with direct sunlight

Do not aim the camera at bright objects. Whether the camera is in use or not, never face it with direct sunlight or other extremely bright objects. Otherwise blooming or smear may be caused.

### ■ Handle the camera with care

Do not abuse the camera. Avoid striking, shaking, etc. The camera could be damaged by improper handling or storage.

### ■ Do not use strong solvents or detergents

Use a dry cloth to the camera when it is dirty. If it is hard to remove the dirt on the camera, use a mild detergent and wipe it gently.

### ■ Do not install this camera upside down

This camera is designed for mounting on the ceiling or wall. If you install this camera upside down, for example, mounted on the floor, it may cause malfunction.

### ■ Do not use the camera in such places as shown below.

The lens may become cloudy due to condensation if the camera is used under the following conditions.

- Rapid temperature fluctuation by switching an air conditioner on and off.
- Rapid temperature fluctuation due to frequent door opening and closing.
- Use in an environment where eyeglasses become foggy.
- Use in a room filled with cigarette smoke or dust.

If the lens becomes cloudy due to condensation, remove the dome cover and wipe all moist surfaces with a soft cloth.

### ■ Before operating, please check proper temperature, humidity and power source ratings.

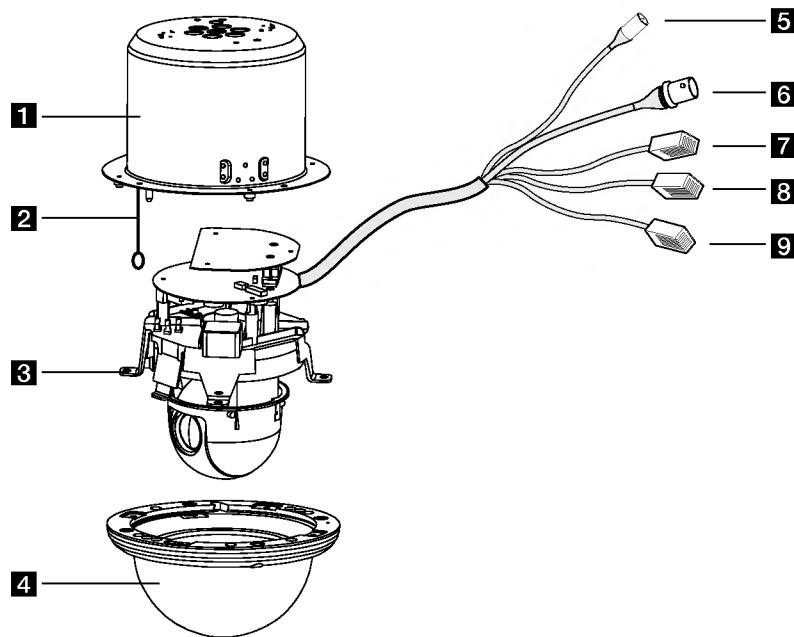
Use the camera under conditions where temperature is between  $-10^{\circ}\text{C}$  –  $+50^{\circ}\text{C}$  and humidity is below 80%.

The input power source is AC 24V.

### ■ Consumables

Parts having contacts such as the lens-drive motors, cooling fan built inside the camera are subject to wear with time. About replacement and maintenance of such parts, please ask the nearest service center.

## Identification of Camera



**1 Camera mounting bracket**

The bracket is optional for surface installation.

**2 Fall Prevention Wire**

Be sure to hook the fall prevention wire into an bracket.

**Caution:** When you fix the the dome cover to the dome camera body, you must insert the wire in the dome camera body. If not, the wire may obstruct the camera's moving.

**3 Dome camera body**

**4 Dome cover**

**5 Power cable (AC 24V)**

**6 Video output cable with BNC connector**

Connects with the video connector of the monitor.

**7 Data Communication Port (RJ45) - RS-485 and Alarm Input**

**8 Data Communication Port (RJ45) - RS-485 and Alarm Input**

**9 Data Communication Port (RJ45) - Alarm Output**

# Installation

## Precautions

- The following steps of installation and connection work should be done by qualified service personnel or system installers and should conform to all local codes.
- Be sure to switch the camera off before installation and connection.
- Do not install the camera near the air outlet of an air conditioner.
- Do not touch the dome cover's window.

## Mounting the Camera

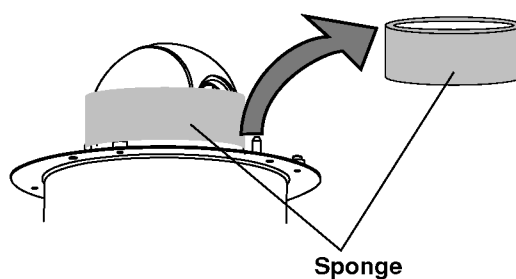
The figures show an example of the camera mounted on a ceiling or wall with a locally procured bracket. Refer to the instructions included with the bracket for filling gaps and holes with waterproof material.

**Note:** The camera have not been evaluated for wall or ceiling mounting.

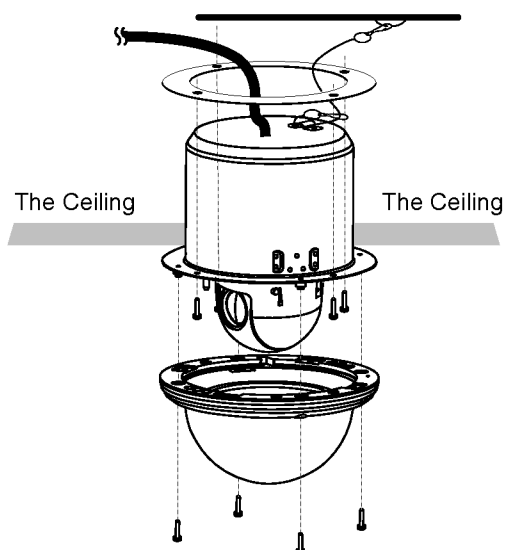
## Removing the Sponge

Before mounting the camera, remove the sponge for camera protection.

**Caution:** Remove the sponge carefully without remainder of the sponge in the camera.



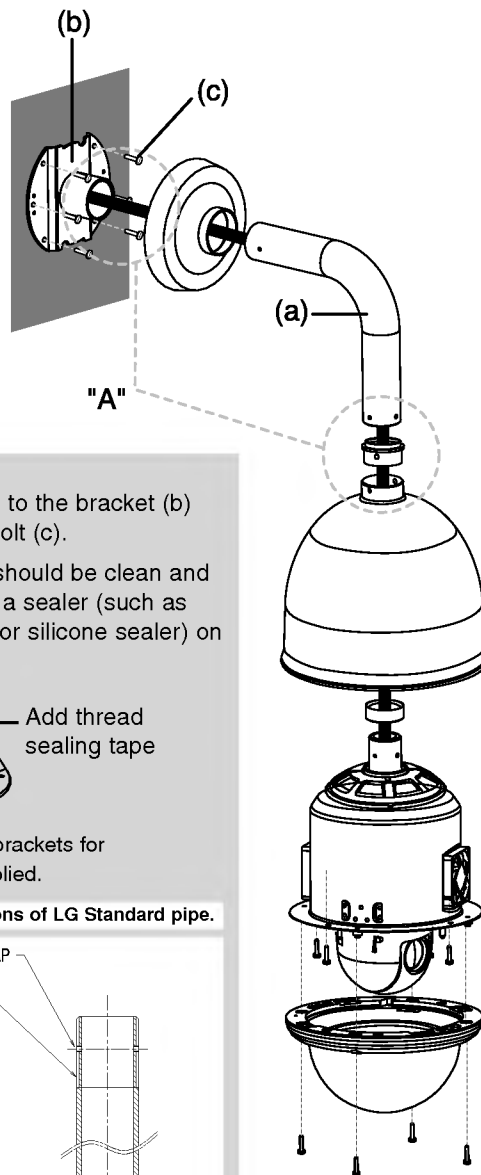
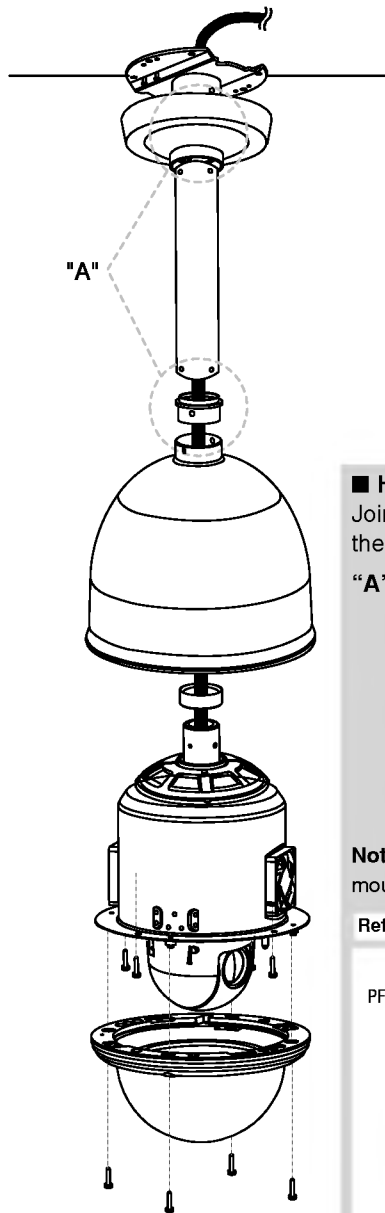
## Ceiling mount (LPT-EI551PS / LPT-EI553PS)





# Pendant mount (LPT-EP551PS / LPT-EP553PS)

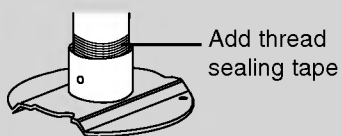
# Wall mount (LPT-EP551PS / LPT-EP553PS)



## How to install

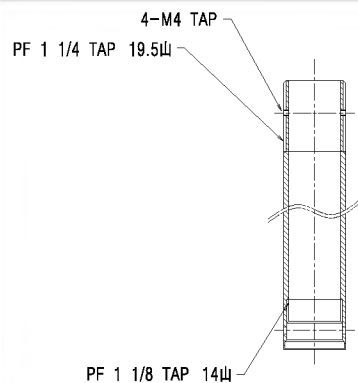
Join the cylinder (a) to the bracket (b) then fasten with a bolt (c).

“A” Pipe threads should be clean and rust free. Use a sealer (such as Teflon™ tape or silicone sealer) on the threads.



**Note:** The pipes and brackets for mounting are not supplied.

Reference: Specifications of LG Standard pipe.



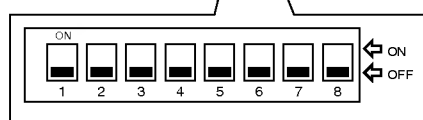
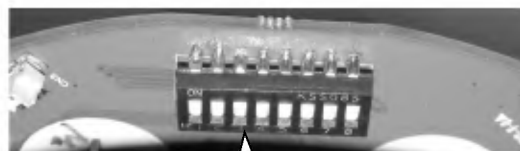
## Setting the Switch

The DIP switch of the camera is one 8-bit switches and employs RS-485 communication mode as basic use. Switch settings are read into the camera when the power is turned on. Make sure to turn it off, then turn it back after changing the switch settings.

### RS-485 Parameter Setup

The selected protocol, communication parameters, and set unit numbers are read into the camera when power is switched on.

1. Turn off the camera.
2. Remove the dome cover from the camera.
3. Separate the dome camera body from camera mounting bracket.
4. Set the DIP switch on the bottom part of the camera according to the function shown in the table of the below.
5. Turn on the camera. Setup is completed.



SW2 on main board

Switch position (5~8)	Function Effect
	When the camera is connected to the controller with LG Multix protocol. The controller with LG Multix protocol allow all control for this camera.
	When the camera is connected to the controller with LG protocol. The controller with LG protocol allow only limited control for this camera.

**Note:** If you are not using the controller with LG protocol, there may be some limitation of function control.

Switch position (1~4)	Function Effect
	Baud Rate 9,600 BPS communication speed
	Baud Rate 1,200 BPS communication speed
	Baud Rate 2,400 BPS communication speed
	Baud Rate 4,800 BPS communication speed
	Baud Rate 19,200 BPS communication speed
	Baud Rate 38,400 BPS communication speed
	Baud Rate 57,600 BPS communication speed
	Baud Rate 115,200 BPS communication speed

## Alarm Output Mode Setting

You can set the Alarm Output to the normal open or normal close mode.



SW1 on IF board

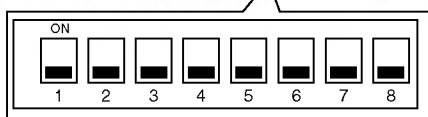
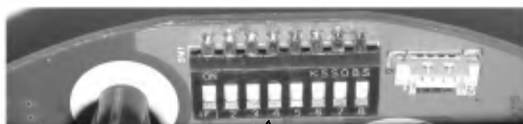
Alarm Output Number	Switch Number (Position)	Function Effect
1	1 (ON), 2 (OFF)	Normal Open mode
	1 (OFF), 2 (ON)	Normal Close mode
2	3 (ON), 4 (OFF)	Normal Open mode
	3 (OFF), 4 (ON)	Normal Close mode
3	5 (ON), 6 (OFF)	Normal Open mode
	5 (OFF), 6 (ON)	Normal Close mode
4	7 (ON), 8 (OFF)	Normal Open mode
	7 (OFF), 8 (ON)	Normal Close mode

## Camera ID Setting

This camera has the camera ID set to "0" at the time of the shipment. If you use 2 cameras or more simultaneously, change the ID to "2" using the 8-bit DIP switch of the 2 camera with a screwdriver.

Set the camera ID setting referring to the pictures and the table on the below.

- The default setting of the camera ID is 0.



SW1 on main board

## The table for the camera ID setting

ID	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
0	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
1	ON	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
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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

ID	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
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
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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
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

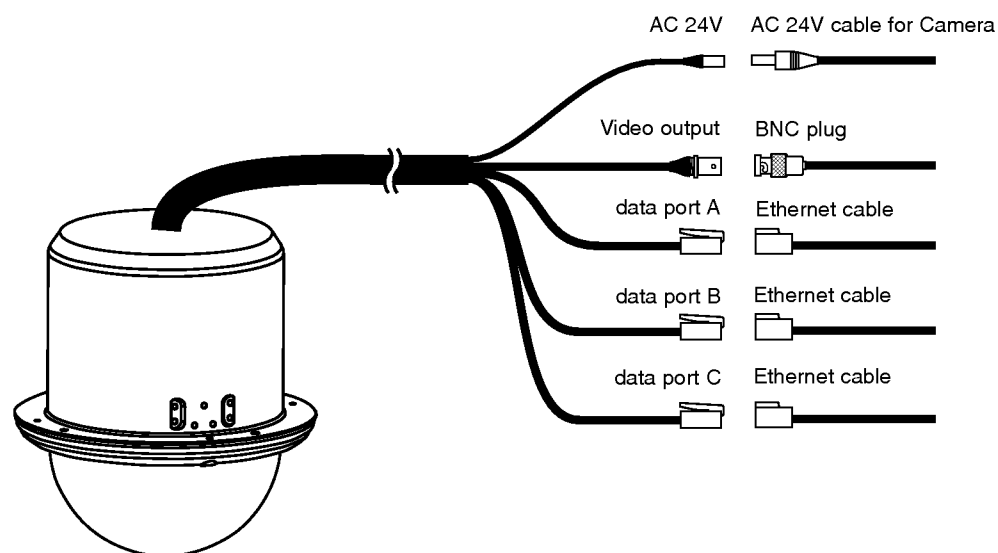
ID	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
106	OFF	ON	OFF	ON	OFF	ON	ON	OFF
107	ON	ON	OFF	ON	OFF	ON	ON	OFF
108	OFF	OFF	ON	ON	OFF	ON	ON	OFF
109	ON	OFF	ON	ON	OFF	ON	ON	OFF
110	OFF	ON	ON	ON	OFF	ON	ON	OFF
111	ON	ON	ON	ON	OFF	ON	ON	OFF
112	OFF	OFF	OFF	OFF	ON	ON	ON	OFF
113	ON	OFF	OFF	OFF	ON	ON	ON	OFF
114	OFF	ON	OFF	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
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

ID	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
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
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

ID	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
212	OFF	OFF	ON	OFF	ON	OFF	ON	ON
213	ON	OFF	ON	OFF	ON	OFF	ON	ON
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

# Connections

## Connection Preview



## Precautions

- The connections should be made by qualified service personnel or system installers in accordance with all local codes.
- AC 24V can be used.

**Note:** When powered up, the unit performs a self-check (including one panning, tilting, zooming and focusing operation).

## RS-485 Connection

Use the cable that is described below for RS-485 site communication.

- Shielded, twisted pair cable
- Low impedance
- Wire gauge size is thicker than AWG #22 (0.33 mm<sup>2</sup>).

## ALARM IN Connections

An 8-pin harness are supplied with the camera as standard accessories. Connect external sensors to this connector. Input specifications are low-active, non-voltage contact (ON when active) or open collector (Low when active).

### Cautions

- Alarm input connection must be connected to only one port of two communication ports.
- Do not connect one alarm sensor to the several camera's alarm input connector.

What is Alarm Input function?

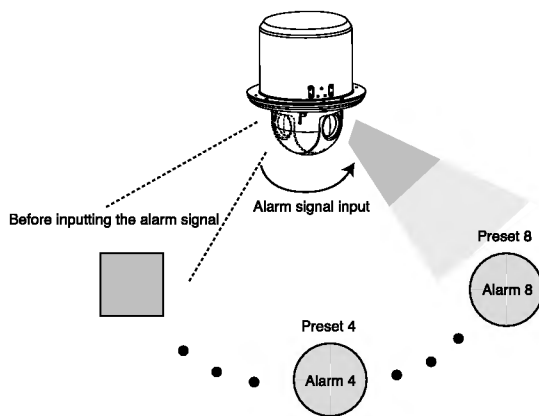
This speed dome camera has a terminal that can sense the alarm signals.

If the alarm sensor that has installed in a door, window, safe etc. sense a touch or shock, the alarm sensor send the alarm signal to the camera and the camera will observe the sensed position.

There are "Manual mode" and "Auto mode" for the Alarm Input function.

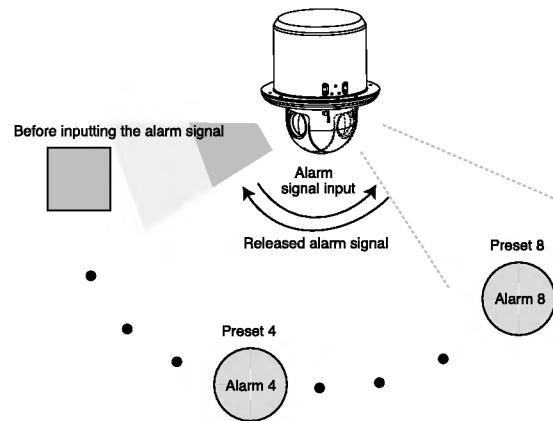
- Manual mode: Change the observe position to a sensor that senses a touch or shock then keep observe the sensed position. (Set the Duration Time of Alarm Input function to "0".)

<Example : If this unit receives signal from "Alarm 8">



- Auto mode: Change the observe position to a sensor that senses a touch or shock then return to the position that previously observed. . (Set the Duration Time of Alarm Input function to "1 to 255".)

<Example : If this unit receives signal from "Alarm 8">



**Note :** The Alarm In 1 is Preset 1, Alarm In 2 is Preset 2, Alarm In 3 is Preset 3,...,Alarm In 7 is Preset 7 and Alarm In 8 is Preset 8.

### Alarm Input function

Listed below are the camera actions of alarm input function by different function status in each mode

Function status	Manual mode	Auto mode
While observe a specific position.	Change the observe position to the alarmed position then keep observe the alarmed position.	Change the observe position to the alarmed position then return to the position that previously observed.
While operating Preset Tour function.	Stop preset touring and change the observe position to the alarmed position then keep observe the alarmed position.	Stop preset touring and change the observe position to the alarmed position then restart the preset touring again.
While operating Auto Pan function.	Stop auto panning and change the observe position to the alarmed position then keep observe the alarmed position.	Stop auto panning and change the observe position to the alarmed position then restart the auto panning again.
While operating Pattern function.	Stop operating pattern function and change the observe position to the alarmed position then keep observe the alarmed position.	Stop operating pattern function and change the observe position to the alarmed position then restart the pattern function again.

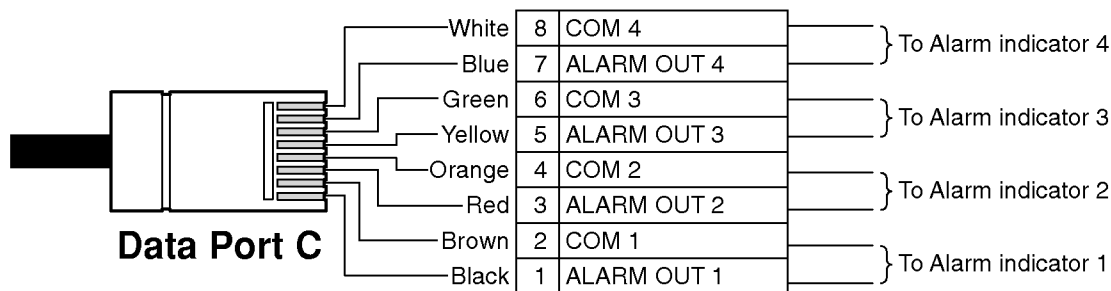
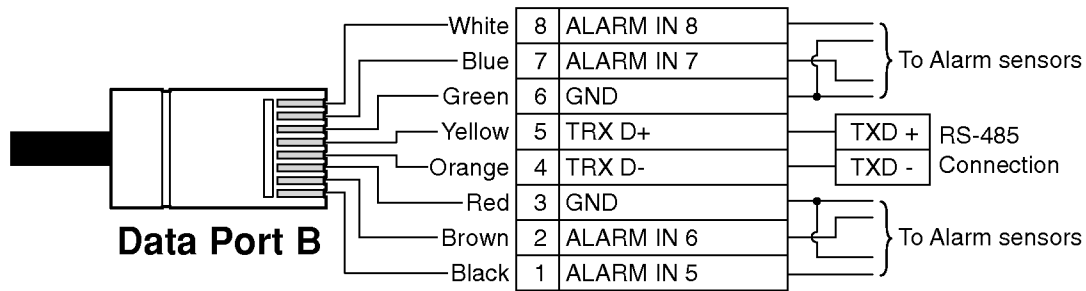
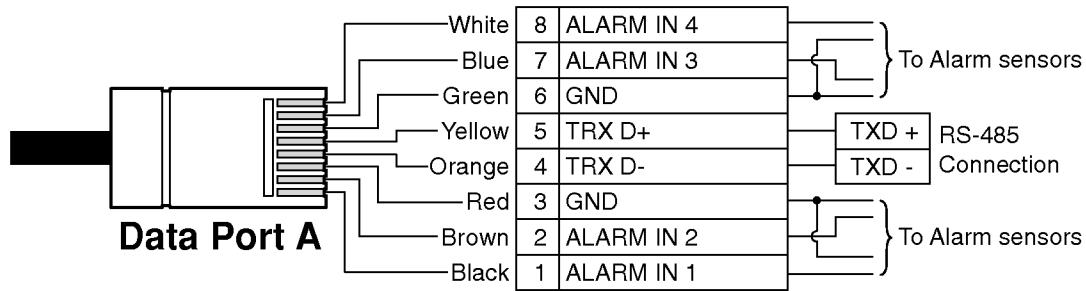
## ALARM OUT Connections

Connect an external device, for example, a buzzer or lamp, to this connector. Output specifications are low-active, open-collector and a drive capacity of 16 V DC 100 mA maximum.

**Note:** Use a relay if the voltage or current of the connected device exceeds the ratings.

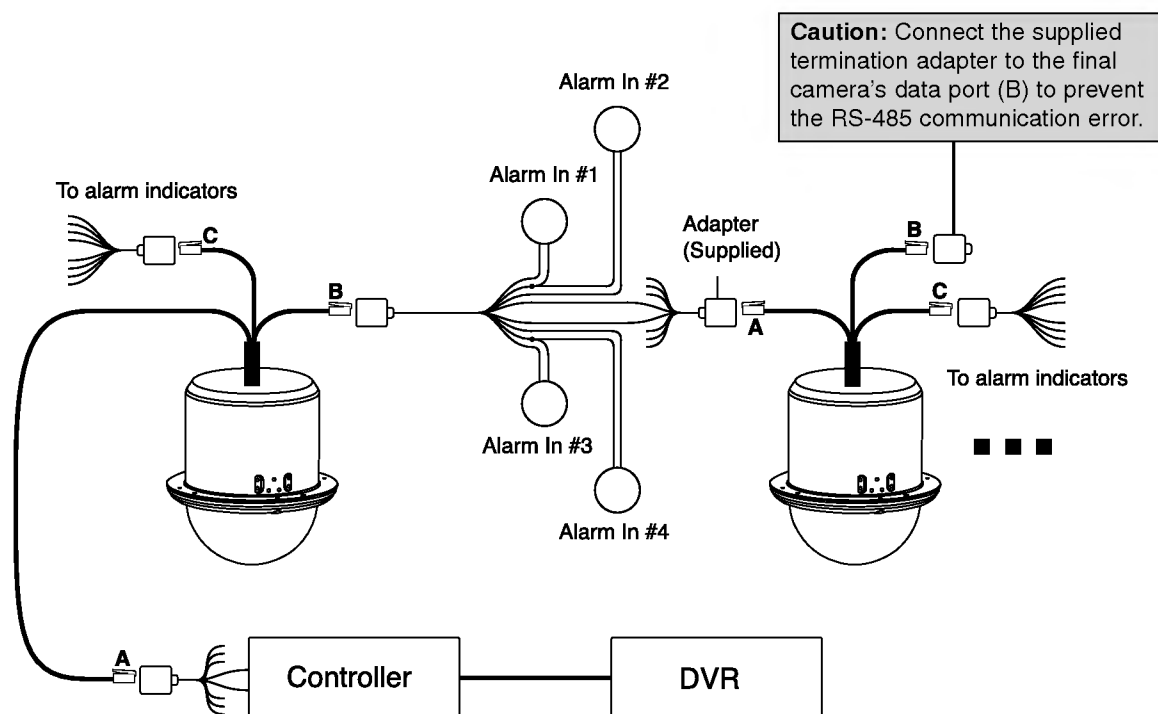


# Data Port Connections



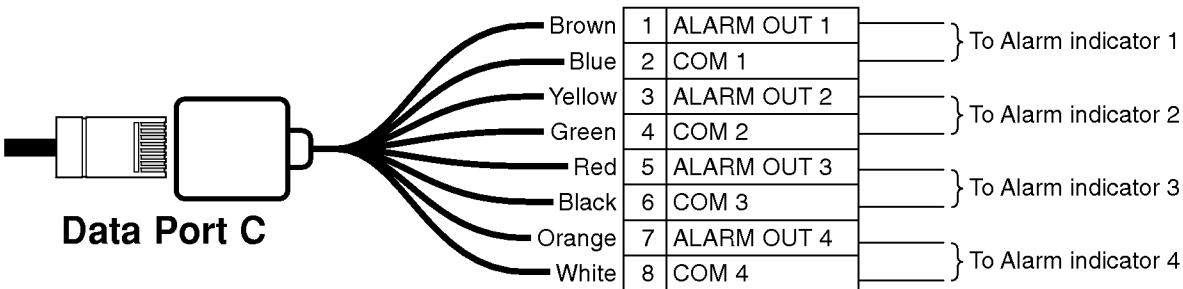
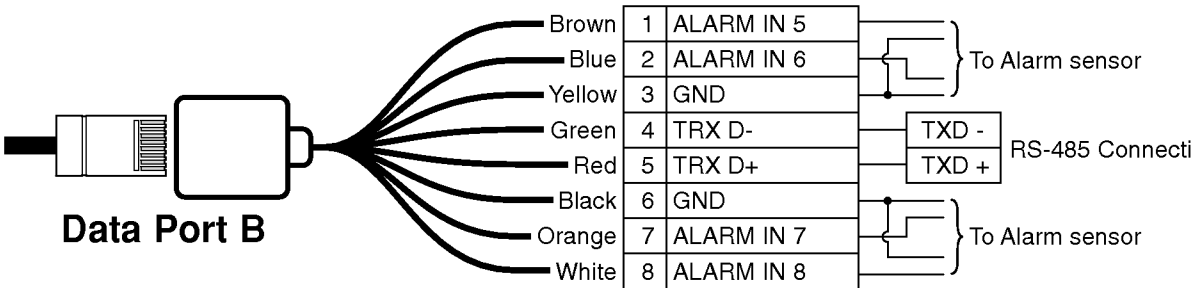
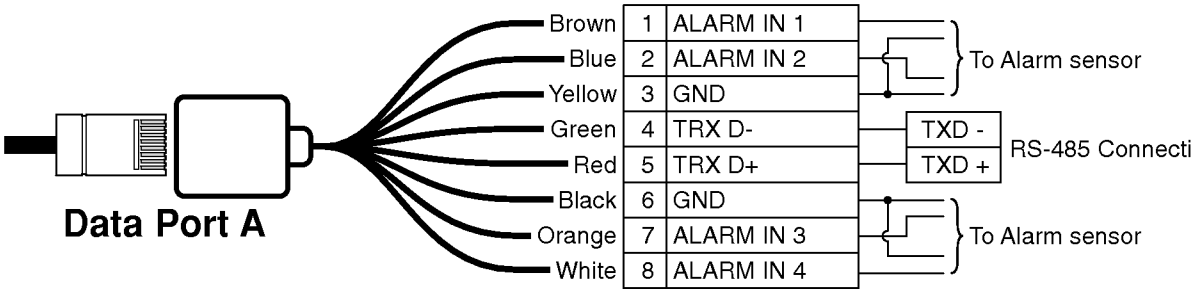
## System Connection

**Note:** When any peripheral is turned off and turned on again, the camera is also turned off and turned back on.



# Adapter Connections

The adapter is used to connect to another camera, alarm sensor, or controller with RS-485 protocol, etc.



# Setup Menu

## Setup Menu Overview

Setup menus are shown in the table below. You can adapt the camera to your requirements by setting up the respective items in these menus. Menus are incorporated in a hierarchical structure, from the setup menu at the top to manual mask area selection at the bottom. These menus are described on the following pages for reference. Switches, keys and the joystick are used in the setup operations

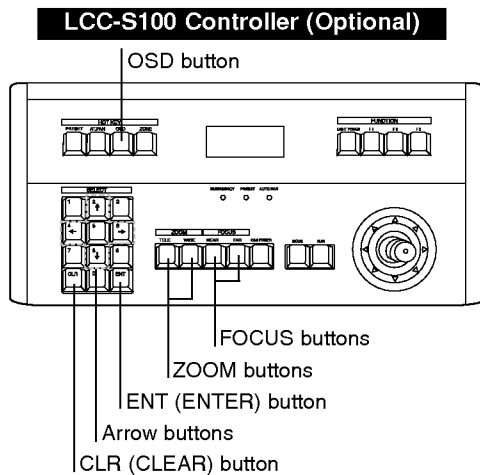
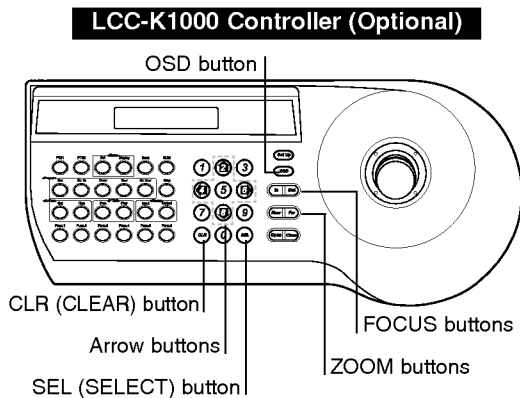
Main Menu	Sub Menu	Page
CAMERA ID		22
FOCUS SET	FOCUS MODE	22
	FOCUS DIST	22
	ZOOM START	23
	ZOOM END	23
	ZOOM SPEED	23
	ZTRK MODE	23
AWB SET	WBC MODE	24
	RED ADJUST	24
	BLUE ADJUST	24
AE MODE	AE MODE	25
	IRIS ADJUST	25
	AGC ADJUST	26
	BRIGHTNESS	26
	BACKLIGHT	26
	E SENSITIVE	27
	FLICKERLESS	27
	SHUTTER	27
AE LEVEL	BLC LEVEL	28
	WDR LEVEL	28

Main Menu	Sub Menu	Page
SPECIAL SET	USER TITLE	29
	SHARPNESS	29
	COLOR	30
	NEGATIVE	30
	D EFFECT	30
MOTION DET	DETECTION	31
	LEVEL SET	31
OSD DISP	FUNCTION	31
	MOTION DET	31
	CAMERA ID	31
	ZOOM MAG	31
	USER TITLE	31
	INIT TITLE	31
P MASKING		32
EXIT	Exits the menu.	-

**Note:** The Preset, Auto Pan, Pattern, Alarm, Privacy Mask functions could not be set on the OSD menu. To set these functions, use LCC-K1000 protocol or Multix protocol.

## Setting Camera Menu

The buttons on the connected controller are used for setup.



### Open Menu Display

1. Select the number of the camera you want to set up and a monitor to display MENU.
2. **LCC-K1000**; Press OSD button on the controller.  
**LCC-S100**; Press OSD button on the controller then use arrow (↑, ↓) to select [CAM OSD CALL] option then press ENT button.  
MENU appears on the monitor.

**Note:** Please refer to the manuals of the controller for details.

3. Use arrow (↑, ↓) to select an option then press SEL (or ENT) button.  
Submenu appears on the monitor.

MENU	
CAMERA ID	0
FOCUS SET	↓
AWB SET	↓
AE MODE	↓
AE LEVEL	↓
SPECIAL SET	↓
MOTION DET	↓
F OSD DISP	↓
P MASKING	↓
EXIT	↓

FOCUS	
FOCUS MODE	PUSH AUTO
FOCUS DIST	50CM
ZOOM START	x1
ZOOM END	x54
ZOOM SPEED	QUICK
ZTRK MODE	AUTO
INITIAL SET	ON
RETURN	↓

4. Use arrow (↑, ↓) to select a submenu option.
5. Use arrow (←, →) to select a value.
6. To close MENU, select [EXIT] option on the MENU then press SEL (or ENT).

### To return to MENU screen from submenu

Use arrow (↑, ↓) to select [RETURN] option then press SEL (or ENT) button on the sub menu.

### To exit MENU screen

Use arrow (↑, ↓) to select [EXIT] option then press SEL (or ENT) button on the main menu.

### To reset your parameters to the factory default settings

Use arrow (↑, ↓) to select [INITIAL SET] option then press SEL (or ENT) button on the menu.

## Camera Identification Setting

Only displays the camera's ID. Use the internal 8 bit-DIP switch if you want to set ID.

- Camera ID 0 can control all of camera independent of camera ID number.

MENU	
CAMERA ID	0
FOCUS SET	↓
AWB SET	↓
AE MODE	↓
AE LEVEL	↓
SPECIAL SET	↓
MOTION DET	↓
F OSD DISP	↓
P MASKING	↓
EXIT	↓

## Focus Settings

To avoid AF error or out of Focus, initialization of LENS system by using the "Remote Reset" command of Controller is highly recommended.

### General Operation

1. Move the cursor to [FOCUS SET] on the [MENU] screen
2. Press the right key and the FOCUS setting menu appears.

FOCUS	
FOCUS MODE	PUSH AUTO
FOCUS DIST	50CM
ZOOM START	x1
ZOOM END	x54
ZOOM SPEED	QUICK
ZTRK MODE	AUTO
INITIAL SET	ON
RETURN	↓

3. Move the cursor to the desired option.
4. Select an option (or value).
5. To reset the [FOCUS] settings to factory setting, use [INITIAL SET] option on the [FOCUS] menu.
6. To return to the previous menu, use [RETURN] option on the [FOCUS] menu.

## Focus Mode setting

Select [FOCUS MODE] option on the [FOCUS] menu, then select the following mode.

- PUSH AUTO: Auto-focus is activated only when the Push Auto key on the controller is pressed.
- MANUAL: Focus is activated only when the FOCUS (NEAR or FAR) keys on the controller is pressed.
- AUTO: Auto-focus is activated automatically while a manual pan, tilt or zoom operation is performed.

**Note:** If you press the FOCUS (NEAR or FAR) button on the controller while Auto-focus mode, the focus mode is automatically changed to [MANUAL].

FOCUS	
FOCUS MODE	PUSH AUTO
FOCUS DIST	50CM
ZOOM START	x1
ZOOM END	x54
ZOOM SPEED	QUICK
ZTRK MODE	AUTO
INITIAL SET	ON
RETURN	↓

## Focus Distance setting

Selects the minimum shooting distance for the focus.

Select [FOCUS DIST] option on the [FOCUS] menu, then select a Focus Distance value. (1CM, 10CM, 50CM, 1M, 3M, 5M)

FOCUS	
FOCUS MODE	PUSH AUTO
FOCUS DIST	50CM
ZOOM START	x1
ZOOM END	x54
ZOOM SPEED	QUICK
ZTRK MODE	AUTO
INITIAL SET	ON
RETURN	↓

### Zoom Start setting

Selects a zoom start position.

Select [ZOOM START] option on the [FOCUS] menu, then select a zoom's start position. (x1 - x26)

FOCUS	
FOCUS MODE	PUSH AUTO
FOCUS DIST	50CM
<b>ZOOM START</b>	<b>x1</b>
ZOOM END	x54
ZOOM SPEED	QUICK
ZTRK MODE	AUTO
INITIAL SET	ON
RETURN	↓

### Zoom End setting

Selects a zoom end position.

Select [ZOOM END] option on the [FOCUS] menu, then select a zoom's end position.  
(Zoom Start position+1 - x54)

FOCUS	
FOCUS MODE	PUSH AUTO
FOCUS DIST	50CM
ZOOM START	x1
<b>ZOOM END</b>	<b>x54</b>
ZOOM SPEED	QUICK
ZTRK MODE	AUTO
INITIAL SET	ON
RETURN	↓

### Zoom Speed setting

Selects a zoom speed.

Select [ZOOM SPEED] option on the [FOCUS] menu, then select a zoom speed. (SLOW, MIDDLE, QUICK)

FOCUS	
FOCUS MODE	PUSH AUTO
FOCUS DIST	50CM
ZOOM START	x1
ZOOM END	x54
<b>ZOOM SPEED</b>	<b>QUICK</b>
ZTRK MODE	AUTO
INITIAL SET	ON
RETURN	↓

### Zoom Tracking Mode setting

Selects a zoom tracking mode. Zoom tracking means focused zooming state.

Select [ZTRK MODE] option on the [FOCUS] menu, then select a zoom tracking mode (AUTO, MANUAL).

FOCUS	
FOCUS MODE	PUSH AUTO
FOCUS DIST	50CM
ZOOM START	x1
ZOOM END	x54
ZOOM SPEED	QUICK
<b>ZTRK MODE</b>	<b>AUTO</b>
INITIAL SET	ON
RETURN	↓

## White Balance Control Settings

You can set the white balance options using the [AWB] menu.

### General Operation

1. Move the cursor to [AWB SET] on the [MENU] screen

MENU	
CAMERA ID	0
FOCUS SET	↓
<b>AWB SET</b>	↓
AE MODE	↓
AE LEVEL	↓
SPECIAL SET	↓
MOTION DET	↓
F OSD DISP	↓
P MASKING	↓
EXIT	↓

2. Press the right key and the AWB setting menu appears.

AWB	
<b>WBC MODE</b>	<b>AUTO</b>
RED ADJUST	NOT USED
BLUE ADJUST	NOT USED
INITIAL SET	ON
RETURN	↓

3. Move the cursor to the desired option.
4. Select an option (or value).
5. To reset the [AWB] settings to factory setting, use [INITIAL SET] option on the [AWB] menu.
6. To return to the previous menu, use [RETURN] option on the [AWB] menu.

## Setting the WBC (White Balance Control) Mode

You can select one of four modes for white balance adjustment.

Select [WBC MODE] option on the [AWB] menu, then select the following mode.

- **AUTO** (Auto-Tracing White Balance): In this mode, the color temperature is monitored continuously and thereby white balance is automatically set. The color temperature range for the proper white balance is approximately 2 500 - 9 500K. Proper white balance may not be obtained under the following conditions:
  - 1) The color temperature is out of the 2 500 - 9 500K range.
  - 2) When the scene contains mostly high color temperature objects, such as a blue sky or sunset.
  - 3) When the scene is dim.
- **INDOOR**: The color temperature range for the proper white balance is approximately 3 200K.
- **OUTDOOR**: The color temperature range for the proper white balance is approximately 5 100K.
- **MANUAL**: You can set the white balance options manually.
  - 1) **RED ADJUST**: Obtains the optimum amount of red gain.
  - 2) **BLUE ADJUST**: Obtains the optimum amount of blue gain.

AWB	
<b>WBC MODE</b>	<b>MANUAL</b>
<b>RED ADJUST</b>	<b>124</b>
<b>BLUE ADJUST</b>	<b>92</b>
INITIAL SET	OFF
RETURN	↓

- **PUSH AUTO**: The White Balance will be adjusted automatically.



## Exposure Settings

You can set the exposure options using the [AE] menu.

### General Operation

1. Move the cursor to [AE] on the [MENU] screen

MENU	
CAMERA ID	0
FOCUS SET	↓
AWB SET	↓
<b>AE MODE</b>	↓
AE LEVEL	↓
SPECIAL SET	↓
MOTION DET	↓
F OSD DISP	↓
P MASKING	↓
EXIT	↓

2. Press the right key and the exposure setting menu appears.

AE	
<b>AE MODE</b>	<b>AUTO</b>
IRIS ADJUST	AUTO
AGC ADJUST	AUTO
BRIGHTNESS	128
BACKLIGHT	OFF
E SENSITIVE	x10 AUTO
FLICKERLESS	OFF
SHUTTER	AUTO
INITIAL SET	ON
RETURN	↓

3. Move the cursor to the desired option.
4. Select an option (or value).
5. To reset the [AE] settings to factory setting, use [INITIAL SET] option on the [AE] menu.
6. To return to the previous menu, use [RETURN] option on the [AE] menu.

### AE Mode setting

Selects an Automatic Exposure mode.

Select [AE MODE] option on the [AE] menu, then select an Automatic Exposure mode.

- **AUTO:** Use to compensate the exposure automatically.
- **IRIS MAN:** Use to change the value of Lens' Iris (IRIS of lens is fixed manually, and the action of exposure compensation depend on its of AGC).
- **SLOW MAN:** The change of Electronic Sensitive is available (x1 FIX - x20 FIX). (Electronic Sensitive of camera is fixed manually.)
- **SHUT MAN:** Use to change the Shutter Speed control. In this time, AE mode act automatically (10 steps control is available).

AE	
<b>AE MODE</b>	<b>AUTO</b>
IRIS ADJUST	AUTO
AGC ADJUST	AUTO
BRIGHTNESS	128
BACKLIGHT	OFF
E SENSITIVE	x10 AUTO
FLICKERLESS	OFF
SHUTTER	AUTO
INITIAL SET	ON
RETURN	↓

### Iris Adjust setting

Selects a iris' exposure value. This option is available only when [AE MODE] is set to [IRIS MAN].

Select [IRIS ADJUST] option on the [AE] menu, then select a value. (0 - 255)

AE	
AE MODE	AUTO
<b>IRIS ADJUST</b>	<b>AUTO</b>
AGC ADJUST	AUTO
BRIGHTNESS	128
BACKLIGHT	OFF
E SENSITIVE	x10 AUTO
FLICKERLESS	OFF
SHUTTER	AUTO
INITIAL SET	ON
RETURN	↓

## Automatic Gain Control (AGC) setting

If the images are too dark, change the maximum [AGC] value to make the images lighter. This option is available only when [AE MODE] is set to [SLOW MAN] or [SHUT MAN].

Select [AGC ADJUST] option on the [AE] menu, then select a value. (0 - 7)

AE	
AE MODE	AUTO
IRIS ADJUST	AUTO
<b>AGC ADJUST</b>	<b>0</b>
BRIGHTNESS	128
BACKLIGHT	OFF
E SENSITIVE	x10 AUTO
FLICKERLESS	OFF
SHUTTER	AUTO
INITIAL SET	ON
RETURN	↓

## Brightness Setting

The lens iris is fixed at the value that you have set regardless of the brightness of an object. This option is available only when [AE MODE] is set to [AUTO].

Select [BRIGHTNESS] option on the [AE] menu, then select a value. (0 - 255)

AE	
AE MODE	AUTO
IRIS ADJUST	AUTO
AGC ADJUST	0
<b>BRIGHTNESS</b>	<b>128</b>
BACKLIGHT	OFF
E SENSITIVE	x10 AUTO
FLICKERLESS	OFF
SHUTTER	AUTO
INITIAL SET	ON
RETURN	↓

## Backlight Setting

Improves an image that is darkened because of backlighting.

Select [BACKLIGHT] option on the [AE] menu, then select a value.

AE	
AE MODE	AUTO
IRIS ADJUST	AUTO
AGC ADJUST	0
BRIGHTNESS	128
<b>BACKLIGHT</b>	<b>OFF</b>
E SENSITIVE	x10 AUTO
FLICKERLESS	OFF
SHUTTER	AUTO
INITIAL SET	ON
RETURN	↓

- OFF: The back light compensation is not used.
- ON: The back light compensation is used.
- AUTO (Auto back light compensation): If you use an ordinary camera when there is an intense and concentrated illumination behind an object, the back light will shade the image on the monitor screen. The Backlight function prevents such a back light effect to secure a clear image under all illumination environments.
- WDR: The WDR camera is state of the art to enlarge the screen profit effectively, especially for taking photos of a window in a building. In short it revives both the indoor and outdoor status as they are clearly.

## Electronic Sensitive setting

The electronic sensitivity enhancement function varies the shutter speed to increase the sensitivity in low light conditions.

This option is available only when [AE MODE] is set to [AUTO] or [SLOW MAN].

Select [E SENSITIVE] option on the [AE] menu, then select a value.

There are two modes for Electronic Sensitive as follows:

AUTO mode: OFF, x2 AUTO - x20 AUTO (If you select x20 AUTO, the sensitivity is increased automatically up to x20.)

SLOW MAN mode: x1 FIX - x20 FIX (If you select x20 FIX, the sensitivity is increased to a fixed x20.)

AE	
AE MODE	AUTO
IRIS ADJUST	AUTO
AGC ADJUST	0
BRIGHTNESS	128
BACKLIGHT	OFF
<b>E SENSITIVE</b>	<b>x10 AUTO</b>
FLICKERLESS	OFF
SHUTTER	AUTO
INITIAL SET	ON
RETURN	↓

## Shutter Speed Setting

You can select a shutter speed from among AUTO, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000, 1/20000 and 1/50000 seconds.

This option is available only when [AE MODE] is set to [AUTO] and [FLICKERLESS] option is set to [OFF].

Select [SHUTTER] option on the [AE] menu, then select a shutter speed.

AE	
AE MODE	AUTO
IRIS ADJUST	AUTO
AGC ADJUST	0
BRIGHTNESS	128
BACKLIGHT	OFF
E SENSITIVE	x10 AUTO
FLICKERLESS	OFF
<b>SHUTTER</b>	<b>AUTO</b>
INITIAL SET	ON
RETURN	↓

## Flickerless Setting

Use for removing the flicker of picture. This option is available only when [AE MODE] is set to [AUTO].

Select [FLICKERLESS] option on the [AE] menu, then select an option (ON or OFF). Set to [ON] to remove the flicker.

AE	
AE MODE	AUTO
IRIS ADJUST	AUTO
AGC ADJUST	0
BRIGHTNESS	128
BACKLIGHT	OFF
E SENSITIVE	x10 AUTO
<b>FLICKERLESS</b>	<b>OFF</b>
SHUTTER	AUTO
INITIAL SET	ON
RETURN	↓

## Auto Exposure Level Settings

You can set the auto exposure options using the [AE LEVEL] menu.

### General Operation

1. Move the cursor to [AE LEVEL] on the [MENU] screen

MENU	
CAMERA ID	0
FOCUS SET	↓
AWB SET	↓
AE MODE	↓
<b>AE LEVEL</b>	↓
SPECIAL SET	↓
MOTION DET	↓
F OSD DISP	↓
P MASKING	↓
EXIT	↓

2. Press the right key and the auto exposure level setting menu appears.

AE LEVEL	
<b>BLC LEVEL</b>	<b>176</b>
WDR LEVEL	6
INITIAL SET	ON
RETURN	↓

3. Move the cursor to the desired option.
4. Select an option (or value).
5. To reset the [AE LEVEL] settings to factory setting, use [INITIAL SET] option on the [AE LEVEL] menu.
6. To return to the previous menu, use [RETURN] option on the [AE LEVEL] menu.

### BLC (Back Light Compensation) Level Setting

Selects a level for the BLC (back light compensation).

Select [BLC LEVEL] option on the [AE LEVEL] menu, then select a desired level (0-255).

AE LEVEL	
<b>BLC LEVEL</b>	<b>176</b>
WDR LEVEL	6
INITIAL SET	ON
RETURN	↓

### WDR (Wide Dynamic Range) Level setting

Selects a level for the WDR (Wide Dynamic Range).

Select [WDR LEVEL] option on the [AE LEVEL] menu, then select a desired level (0-255).

AE LEVEL	
BLC LEVEL	176
<b>WDR LEVEL</b>	<b>6</b>
INITIAL SET	ON
RETURN	↓

## Special Settings

You can set the special options using the [SPECIAL] menu.

### General Operation

1. Move the cursor to [SPECIAL SET] on the [MENU] screen

MENU	
CAMERA ID	0
FOCUS SET	↓
AWB SET	↓
AE MODE	↓
AE LEVEL	↓
<b>SPECIAL SET</b>	↓
MOTION DET	↓
F OSD DISP	↓
P MASKING	↓
EXIT	↓

2. Press the right key and the [SPECIAL] setting menu appears.

SPECIAL	
<b>USER TITLE</b>	■■■■■■■■■■
SHARPNESS	112
COLOR	ON
NEGATIVE	OFF
D EFFECT	NONE
INITIAL SET	ON
RETURN	↓

3. Move the cursor to the desired option.
4. Select an option (or value).
5. To reset the [SPECIAL] settings to factory setting, use [INITIAL SET] option on the [SPECIAL] menu.
6. To return to the previous menu, use [RETURN] option on the [SPECIAL] menu.

## User Title Setting

You can name the camera independently.

1. Move the cursor to [USER TITLE] on the [SPECIAL] menu. Arrow mark appears.
2. Move the arrow mark to the desired position then select a character.
3. Repeat step 2 to set the remain characters.

SPECIAL	
<b>USER TITLE</b>	↓ ■■■■■■■■■■
SHARPNESS	112
COLOR	ON
NEGATIVE	OFF
D EFFECT	NONE
INITIAL SET	ON
RETURN	↓

## Sharpness Setting

Sharpens the image outline.

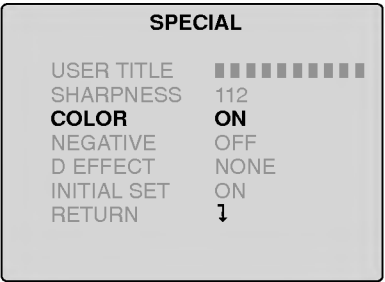
Select [SHARPNESS] option on the [SPECIAL] menu, then select a value. (0 - 255)

SPECIAL	
USER TITLE	■■■■■■■■■■
<b>SHARPNESS</b>	<b>112</b>
COLOR	ON
NEGATIVE	OFF
D EFFECT	NONE
INITIAL SET	ON
RETURN	↓

### Color Setting

You can switch the displayed picture to grayscale or color.

Select [COLOR] option on the [SPECIAL] menu, then select an option (ON or OFF). Set to [ON] to display the picture with color. Set to [OFF] to display the picture with grayscale.



### Digital Effect Setting

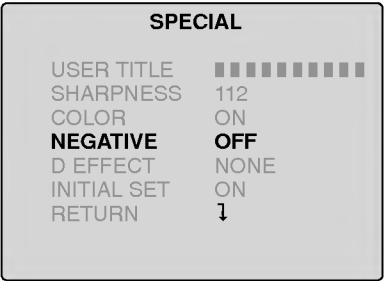
You cannot set a Digital Effect option.



### Negative Setting

You can use the negative effect.

Select [NEGATIVE] option on the [SPECIAL] menu, then select an option (ON or OFF).



## Motion Detection Setting

The motion detection detects the moving objects in the scene by monitoring changes in brightness level. You can select the level of sensitivity for motion detection.

When this camera is connected to a compatible intelligent CCTV system, the camera transmits an alarm signal by multiplexing it with the video signal.

1. Move the cursor to [MOTION DET] on the [MENU] screen

MENU	
CAMERA ID	0
FOCUS SET	↓
AWB SET	↓
AE MODE	↓
AE LEVEL	↓
SPECIAL SET	↓
<b>MOTION DET</b>	↓
F OSD DISP	↓
P MASKING	↓
EXIT	↓

2. Press the right key and the [MOTION] setting menu appears.

MOTION	
<b>DETECTION</b>	<b>ON</b>
LEVEL	10
DAY/NIGHT	AUTO
INITIAL SET	ON
RETURN	↓

3. Set [DETECTION] option to [ON] to use.
4. Use [LEVEL] option to obtain the optimum detection level (21 levels).
5. Use [DAY/NIGHT] option for day/night function.  
 AUTO: The camera selects black and white mode if the picture is dark, or color mode if the picture is bright enough.  
 NIGHT: Black-and-white mode enabled.  
 DAY: Color mode enabled.
6. To reset the [MOTION] settings to factory setting, use [INITIAL SET] option on the [MOTION] menu.
7. To return to the previous menu, use [RETURN] option on the [MOTION] menu.

## Function On-Screen Display Setting

You can set the Function On-Screen Display options using the [F OSD] menu.

The Function On-Screen Display of this camera can be turned on or off.

1. Move the cursor to [F OSD DISP] on the [MENU] screen

MENU	
CAMERA ID	0
FOCUS SET	↓
AWB SET	↓
AE MODE	↓
AE LEVEL	↓
SPECIAL SET	↓
MOTION DET	↓
<b>F OSD DISP</b>	↓
P MASKING	↓
EXIT	↓

2. Press the right key and the [F OSD] setting menu appears.

F OSD	
FUNCTION	DISP ON
MOTION DET	DISP ON
CAMERA ID	DISP ON
ZOOM MAG	DISP ON
USER TITLE	DISP ON
INIT TITLE	DISP ON
INITIAL SET	ON
RETURN	↓

3. Select an option (DISP ON or OFF).
  - DISP ON: Displays the Function On-Screen Display on the screen.
  - OFF: The Function On-Screen Display does not appear on the screen.
4. To reset the [F OSD] settings to factory setting, use [INITIAL SET] option on the [F OSD] menu.
5. To return to the previous menu, use [RETURN] option on the [F OSD] menu.

## Privacy Masking Settings

Using the LCC-K1000 or controller with Multix protocol for Privacy Zone Setting.

This function is aiming at the protection of personal privacy, selecting a screen part black not to be displayed in the screen.

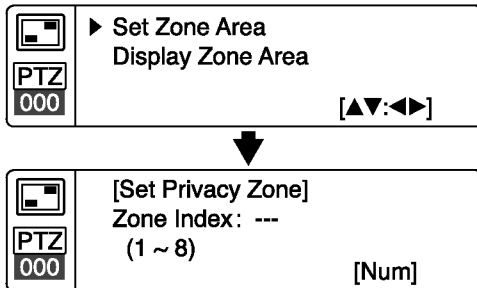
Up to 8 zones can be registered. Submenus are provided for zone number selection and parameter setting.

### To register a new privacy zone using the LCC-K1000

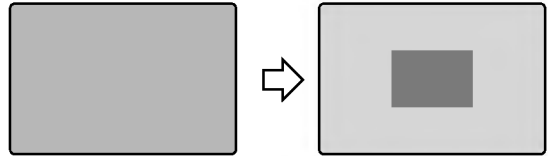
1. Press the Set Up button then select the [PRIVACY ZONE] icon.



2. Press SEL.  
The sub menu will appear for [PRIVACY ZONE] setting.
3. Select [Set Zone Area] option then press SEL.  
The sub menu will appear.



4. Use number buttons to select the zone index number then press SEL to confirm.  
The blue zone frame appears on the center of monitor.



5. Adjust the pan, tilt, and zoom position so that the desired position comes into the zone frame with the joystick.  
You can't move privacy mask zone and you can't change the size of privacy mask zone.
6. Press SEL.  
The mask color will be change into grey.  
The privacy zone setting has been completed and the setting is memorized in the camera's memory.
7. Repeat steps 3-6 to add additional position.



# Reference

## Specifications

Signal System	NTSC (High Resolution)	PAL (High Resolution)
Pick-Up Device	1/4" EX-view CCD	
Total Pixels No.	410K	470K
S/N Ratio	More Than 50 dB	
Horizontal Resolution	More Than 520 TV Lines	
Lens	X 27 Zoom (F 1.5(W), F 3.8(T) f=3.25-88.0 mm)	
Shooting Distance	Tele (1.2m), Wide (0.01 m)	
On Screen Display	On/Off (English only)	
Image Capture	1 field image Freezer, Image rotation, Up and Down inverting	
Minimum Illumination	1 Lux (F1.5, normal shutter) 0.03 Lux (20 Field Accumulated)/ 0 Lux (Infrared ON: Night Mode)	
Digital Zoom	x 2: Basic (Off at WDR)	
Sync System	Internal	
White Balance	Auto (ATW)/ Indoor/ Outdoor/ Manual/ Push Auto	
Control Method	RS-485 Control	
Alarm Input	8 Channel	
Alarm Output	4 Channel	
Video Output	Composite Output 1 Vp-p, 75Ω	
Electronic Shutter	1/4- 1/50,000 Sec (10 Step)	
Flickerless Mode	Manual On/Off	
Iris Control	Auto / Manual	
Wide Dynamic Range	Dual Shutter control (128 times of Dynamic Range)	
Panning Range (Speed)	0° - 360° (240° / Sec)	
Tilting Range (Speed)	0° - 180° (240° / Sec)	
Privacy Zone	8 Area Active Programmable Zone	
Preset / ID	128 Position / 256	
Auto Panning	2 - 8 points	
Pattern	Max. 8 minutes	
Group Tour	Max. 9 Groups	
Operation Temperature	-10° - 50°C	
Safekeeping Temperature	-20° - 60°C	
Power Supply	AC 24V	
Power Consumption	Max. 29W	
Dimension (ø x H)	LPT-EP551PS/LPT-EP553PS: ø230 x 300 mm LPT-EI551PS/LPT-EI553PS: ø220 x 170 mm	
Weight	LPT-EP551PS/LPT-EP553PS: Approx 3.3Kg LPT-EI551PS/LPT-EI553PS: Approx 2.6Kg	