



x37 Analog PTZ Outdoor

DWC-PTZ37X
DWC-PTZ37XAL
DWC-PTZ37XFM

User's Manual

Before installing and using the camera, please read this manual carefully.
Be sure to keep it handy for future reference.

Safety Information

	CAUTION RISK OF ELECTRIC SHOCK. DO NOT OPEN	
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). THERE ARE 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 exclamation point symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance

WARNING

To prevent damage which may result in fire or electric shock hazard, do not expose this appliance to rain or moisture.

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. A falling camera may cause personal injury.
6. Do not place conductive objects (e.g. screw drivers, coins, metal things, 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.
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.
10. When cleaning, do not spray water directly onto parts of the product. Doing so may cause fire or electric shock.
11. When ambient temperature is below the freezing point, the dome cover will frost and the power will fail. In this case, install or reboot the system, and the frost will disappear 3 hours after turning on the power.
[Note that the lowest guaranteed operating temperature is -45°C (-49°F) without wind.]

Safety Information

CAUTION

1. Do not drop objects on the product or apply strong shock 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°C), 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 lightning. 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 Main plug used to disconnect the device shall stay readily operable at any time.

Safety Instructions

WARNING

1. Read these instructions.
2. Keep these instructions.
3. Regard all warnings.
4. Follow all instructions.
5. Do not use this camera near water.
6. Clean only with a 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 cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the camera.
13. Unplug this camera when a cart is used. Use caution when moving the cart that contains the camera to avoid injuries that can result from the camera falling over.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has spilled on the camera, objects have fallen into the camera, the camera has been exposed to rain or moisture, the camera does not operate normally, or the camera has dropped.



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Features

CAMERA SPECIFICATIONS

- CCD Sensor: EX-View HAD™ CCD
- Zoom Magnification: ×37 Optical, ×16 Digital Zoom
- Wide Dynamic Range
- Day & Night Function: ICR (IR Cut filter Removal)
- Various Focus Mode: Auto Focus/Manual Focus/Semi-Auto Focus
- Independent or Global Camera Settings for Each Preset Location

POWERFUL PAN/TILT FUNCTIONS

- Maximum 360°/SEC High Speed Pan/Tilt Motion
- Vector Drive Technology: Pan/Tilt Motions are accomplished in the shortest path. As a result, time to target view is reduced dramatically and the video on the monitor is very natural to watch.
- Ultra low speed (0.05°/SEC) enables operator to locate camera to desired target view with accuracy and ease.
- Zoom-Proportional Pan/Tilt speed helps operator to move the camera easily.

PRESET, PATTERN, SCAN, GROUP, PRIVACY ZONE, SCHEDULE, AND MORE...

- Maximum 127 presets are assignable. Each of them have independent characteristics, such as white balance, auto exposure, label, alarm input/output, etc.
- Maximum 8 set of scans can be stored. This enables user to move camera repetitively between two preset positions with designated speed.
- Maximum 4 patterns can be recorded and played back. This enables the camera to follow any trajectory operated by the joystick as closely as possible.
- Maximum 8 set of group actions can be stored. This enables the camera to move repetitively between different combination of preset, pattern, or scan. A group is composed of maximum 20 entities of preset, pattern, or scan.
- Maximum 8 privacy zones can be set up to protect privacy of other people.
- 7 rules of schedule can be assigned by day and time. Appropriate actions (such as home, preset, scan, pattern, and group) can be defined for each rule. Also, it is possible to use weekday and all days to simplify the rule.

PTZ (PAN/TILT/ZOOM) CONTROL

- With RS485 communication, a maximum of 255 cameras can be controlled at the same time.
- Auto, Pelco-D, Pelco-P, Samsung, Panasonic, Kalatel, AD(American Dynamics) protocol can be selected as a control protocol in the current version of firmware.

OSD(ON-SCREEN DISPLAY) MENU

- OSD Menu is provided to display the status of camera and to configure the functions interactively.
- Camera ID, Pan/Tilt/Zoom/Direction, Alarm Input/Output, Date/Time, Current Temperature, and Preset are displayed on screen.
- Each display item can be turned on or off independently.

ALARM I/O FUNCTIONS

- 8 Alarm sensor inputs and 4 relay output are available.
- To reject external electric noise and shock perfectly, alarm sensor input is decoupled with photo coupler.
- The signal range of sensor input is from DC 5.0 to 12.0 Volts to adopt various applications.
- If an external sensor is activated, camera can be set to move to the corresponding preset position.
- Relay outputs can be assigned to work with a certain Preset.

RESERVED PRESETS FOR SPECIAL PURPOSE

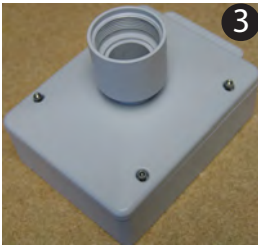
- Most of camera settings are directly changed by calling reserved presets, not entering into OSD Menu. For more information, refer to "Reserved Presets"(page 18) of this manual.

Product & Accessories

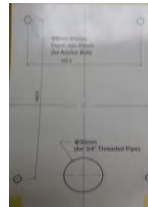
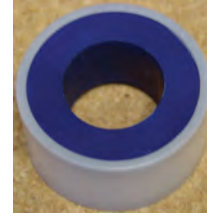
❏ Product



1. PTZ Mechanism
2. Sunshield & Upper Housing
3. Mounting Box (Sold Separately)*
4. Inner Box Switches
5. Dome Cover



❏ Accessories



❏ Additional Tools for Installation:

1. AC Power Adapter + Cable
2. Dual Cable for RS485 (PTZ Remote Control)
3. At Least Two (2) Terminal Boxes
(Matching the camera's RS-485 Terminal and your Joystick Controller DVR, Alarm Sensor, and Audio In and Out)
4. Drill
5. Screw Driver



Mounting Accessory for the DWC-PTZ37X is sold separately with the camera's wiring module. For wiring module in the dome, see DWC-PTZ37XFM and DWC-PTZ37XAL models.

Part Name & Function

1 Wall/Pendant Mount Bracket

The Wall/Pendant Mount Bracket is used to secure the camera onto a wall or ceiling. It includes a built-in junction box. Depending on the camera's model, the Junction box may include the inner box. The junction box accommodates the inner box.

2 Inner Box

The inner box includes the dip switches and terminal locks. See page 9-10 for further information on what are dip switches and how to set them up. The inner box also includes the camera's power supply outlet, and video, communication, and alarm input/output.

3 Sunshield & Upper Housing

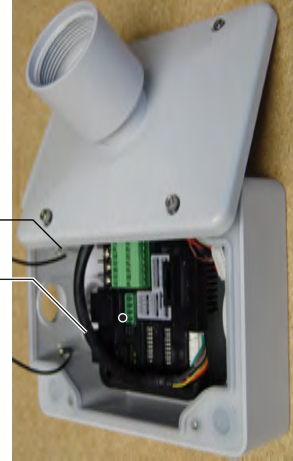
The Sunshield protects the PTZ mechanism from the sun rays and rain fall. The upper housing, which is attached to the sunshield, accommodates the PTZ mechanism. The Upper housing is also connected to both the mounting brackets and the dome cover. The upper housing has a built-in fan and heater to remove moisture on the bubble dome.

4 Dome Cover

Do not detach protection vinyl from dome cover until the installation process is completed. The vinyl will protect the dome cover from scratches and dust.

1 Wall Mount Bracket

2 Inner Box



3 Sunshield & Upper Housing



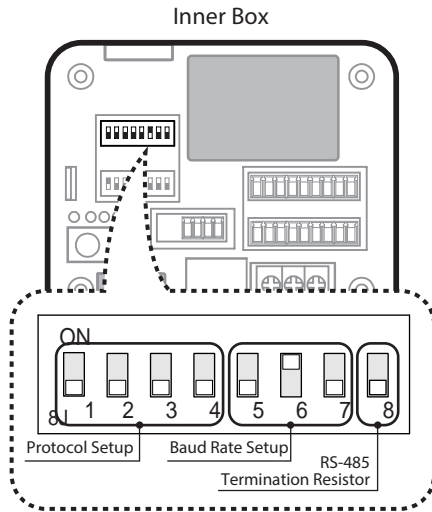
PTZ Mechanism



4 Dome Cover

DIP Switch Setup

✘ The DIP Switch is a control panel that is setup to a specific protocol so the camera can communicate with other devices, such as: Joystick Controller, DVR, PTZ Remote Controlling, Alarm Sensor, etc. Before installing the camera, you should set the DIP Switch to configure the Camera ID and Communication Protocol.

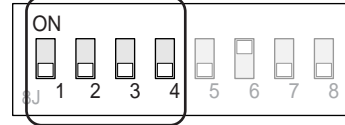


1. Communication Protocol Setup

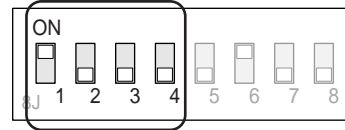
Configure the appropriate protocol using the DIP switch combination.

- If you set the protocol as AUTO protocol (factory default), camera will automatically recognize the type of protocol being used; however, this will not recognize the AD protocol.
- If you want to control the camera using the DVR or system keyboard, the protocol set in the camera's inner box must be identical to the camera protocol setup in the DVR. Otherwise, you will not be able to control the camera. See page ____ for further information.
- If you change the camera protocol by adjusting the DIP switch, the change will be effective after you reboot the camera.

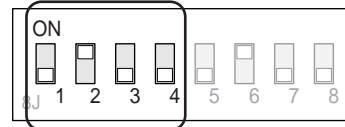
1 AUTO- Factory Default



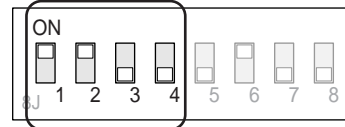
2 PELCO-D



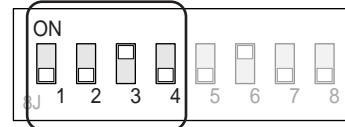
3 PELCO-P



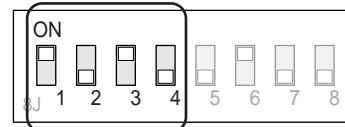
4 SAMSUNG



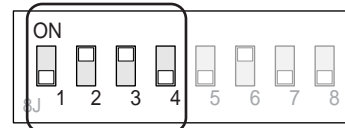
5 PANASONIC



6 GE(Kalatel)



7 AD (American Dynamics)

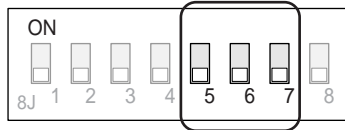


DIP Switch Setup

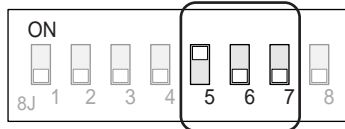
2. Communication Baud Rate Setup

Select the appropriate Baud Rate with DIP switch combination. As factory Default, the camera's Baud Rate is set to 2400 BPS.
See page ____ for further information.

1 2400 BPS



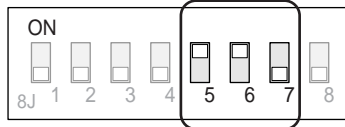
2 4800 BPS



3 9600 BPS - Factory Default



4 19200 BPS



5 38400 BPS

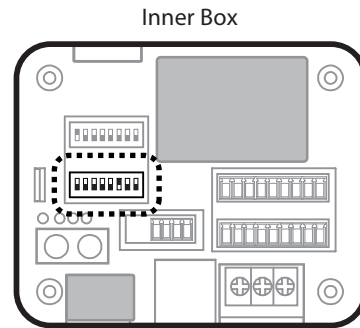


3. RS-485 Termination Resistor



- The last Pin on the top line on the right, is used to turn ON/OFF RS-485 termination. Normally, if you are connecting only one PTZ camera connected, keep the Switch on the OFF state. This will allow the camera to communicate with the controller. By default, the RS-485 Termination Resistor is OFF.
- When you have a long daisy chain style connection, turn ON this termination switch for the camera furthest from the controller.

4. Camera ID Setup



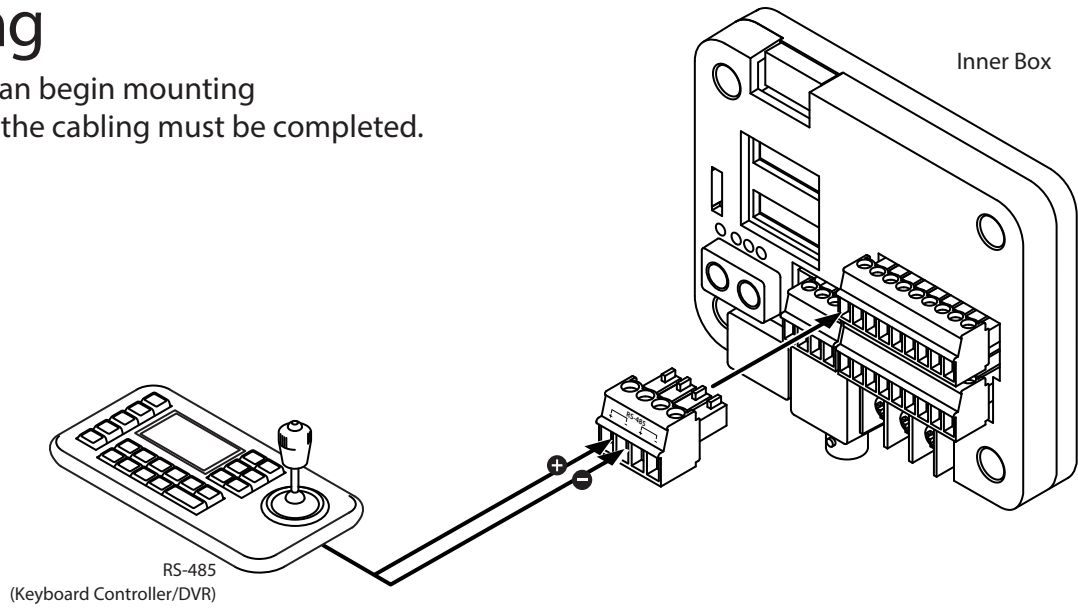
ID number of camera is set using binary number. The example is shown below.

Pin	1	2	3	4	5	6	7	8
ID Value	1	2	4	8	16	32	64	128
ex) ID=5	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF
ex) ID=10	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF

- If you want to control a certain camera, you must match the Camera ID with CAM ID, setting of DVR or controller.
- The range of ID is 0~255. Factory default of Camera ID is 1.
- For a full list of all the ID numbers and their corresponding Pin Switches, please see Appendix I

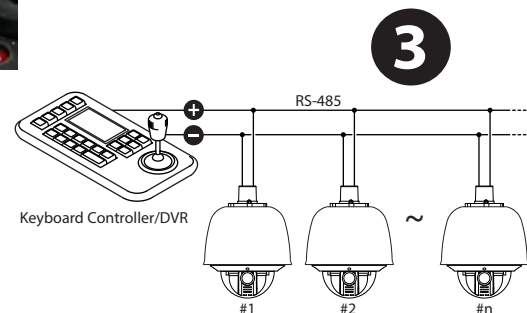
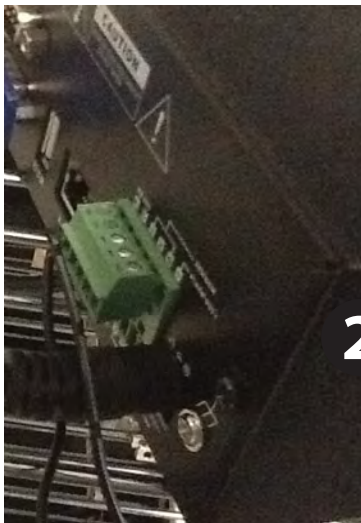
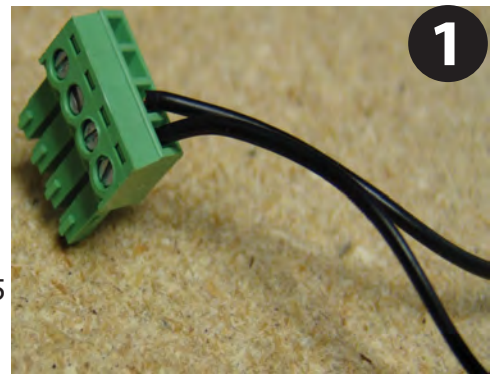
Cabling

Before you can begin mounting the PTZ37X, the cabling must be completed.



RS-485 Communication (DVR/Keyboard)

1. Connect RS-485 cable to terminal box matching the camera's Inner box RS-485 Terminals. Connect the other end of the cable to a terminal box matching the DVR or keyboard controller RS-485 Terminals.
2. Make sure not to flip negative and positive parts of the cable from one terminal box to the other and connect each terminal box to its matching device.
3. To control multiple cameras at the same time, the RS-485 communication lines are connected in parallel as here.

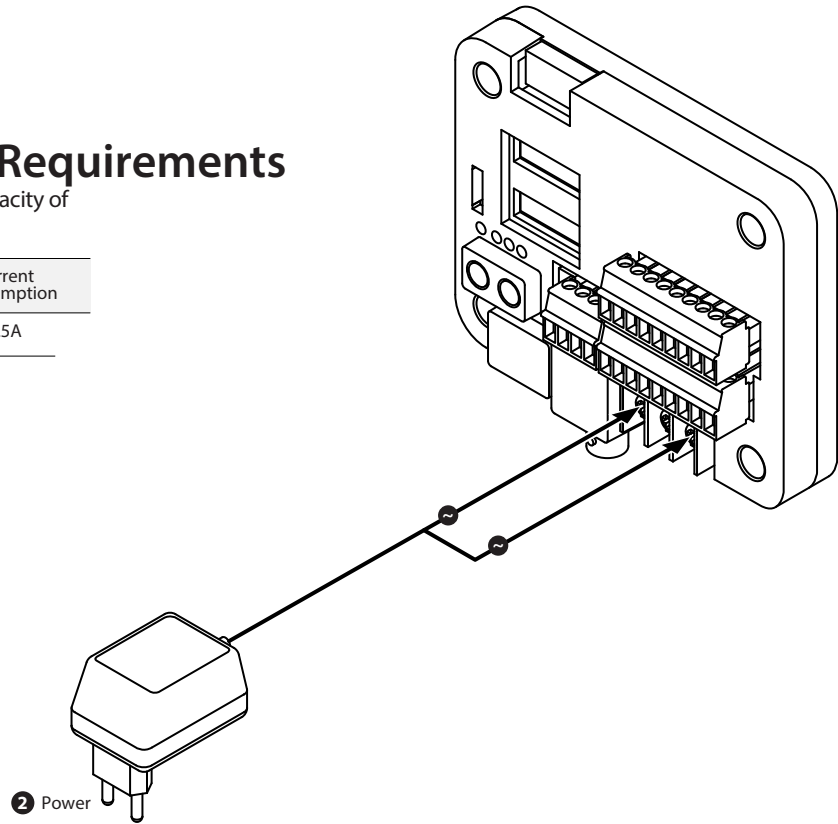


Cabling

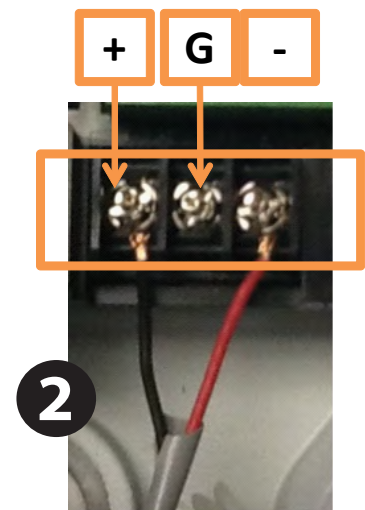
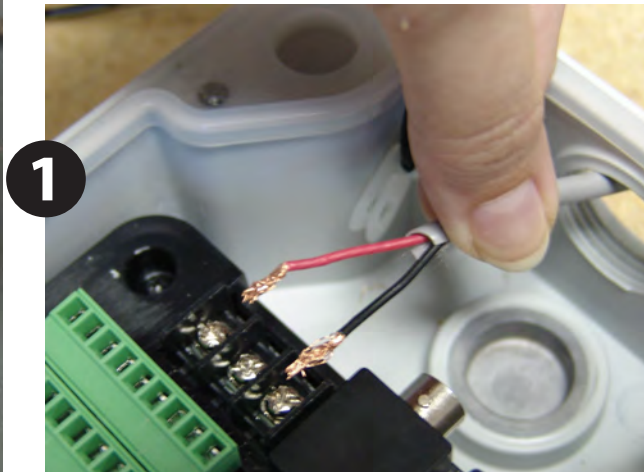
⊠ Power Connection Requirements

Please check the voltage and the current capacity of the rated power carefully.

Rate Power	Input Voltage Range	Current Consumption
AC 24V	AC 19V ~ 29V	2.5A



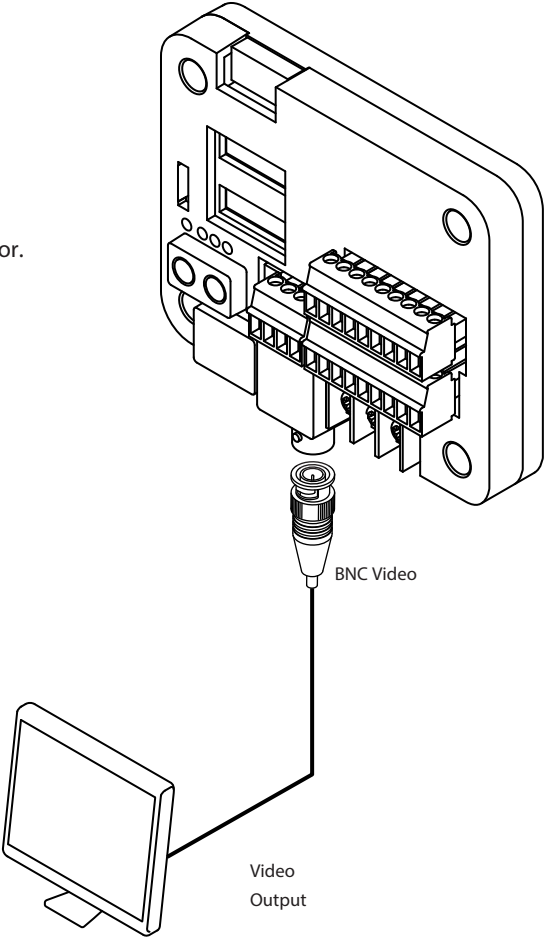
1. Connect AC power adapter to the camera's inner box.
2. Make sure to connect positive and negative in their corresponding locations.



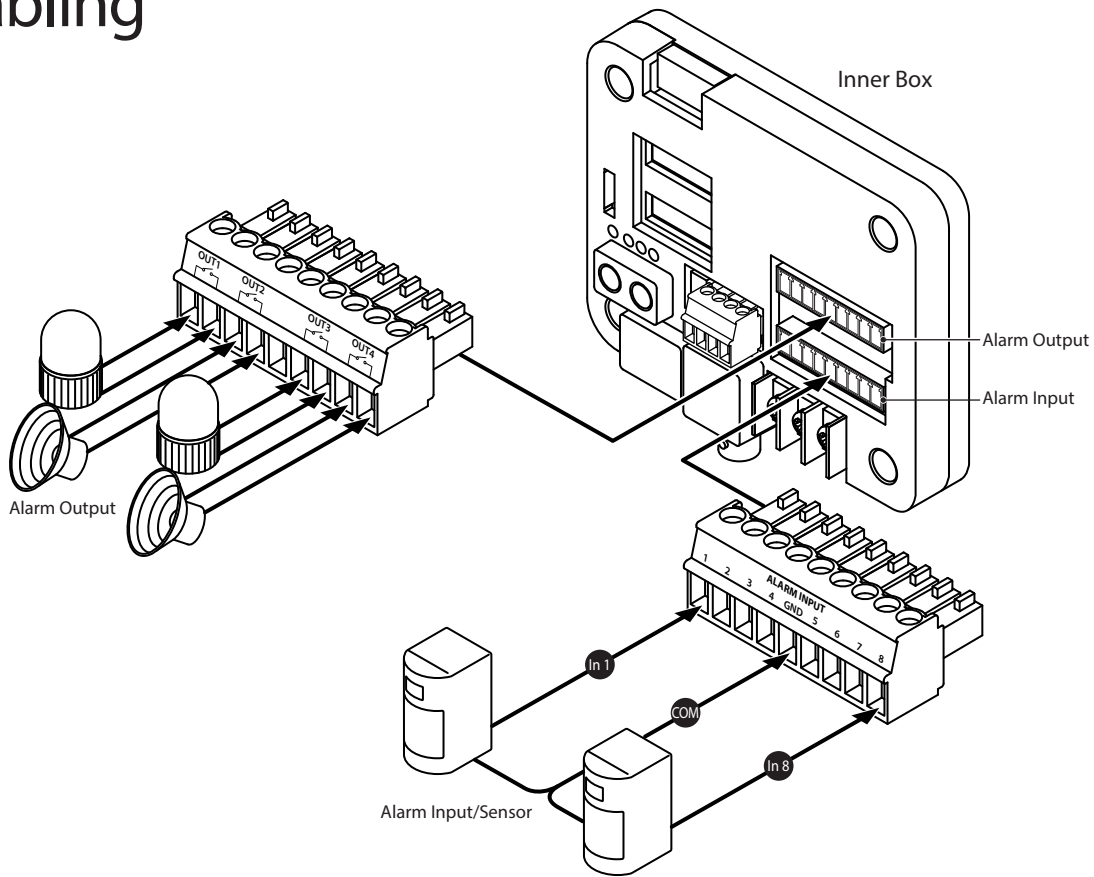
Cabling

✘ Video Output

- 1. Connect BNC coaxial cable to camera's inner box.
- 2. Connect the other end of the BNC Coaxial cable to a DVR or Monitor.

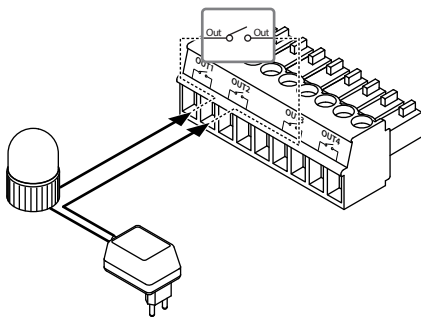


Cabling



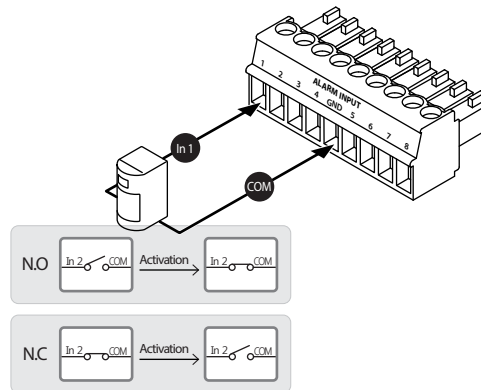
Alarm Output

The 4 alarm outputs are the relay contact type. Therefore, you do not have to worry about the polarity, AC/DC, and isolations between channels. However, care must be taken for the power capacity of the relay contact written above.



Sensor Input

To use alarm input, select the type of sensor you wish to use. The sensor types are "Normal Open" and "Normal Close." If sensor type is not selected properly, the alarm can be activated reversely.



⊗ It is noted that short circuit between GND and Input Pin means alarm activation.

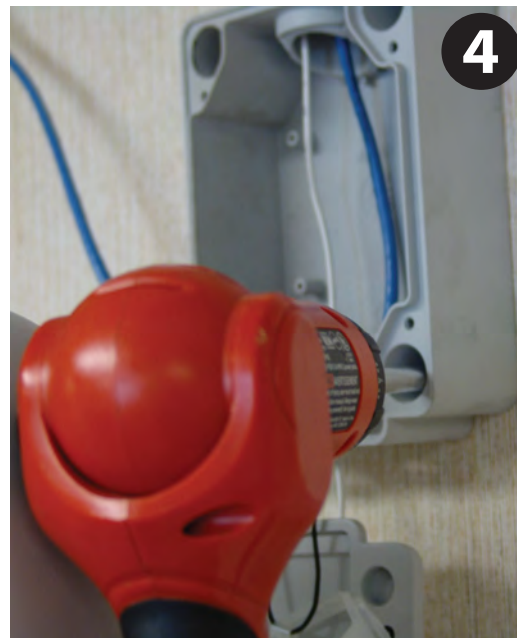
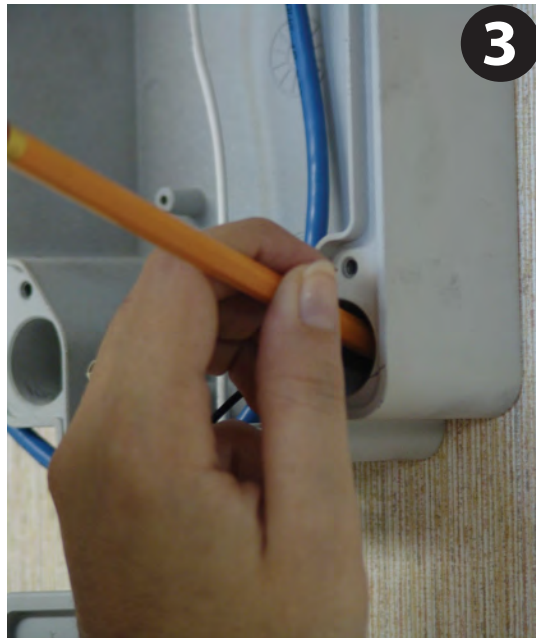
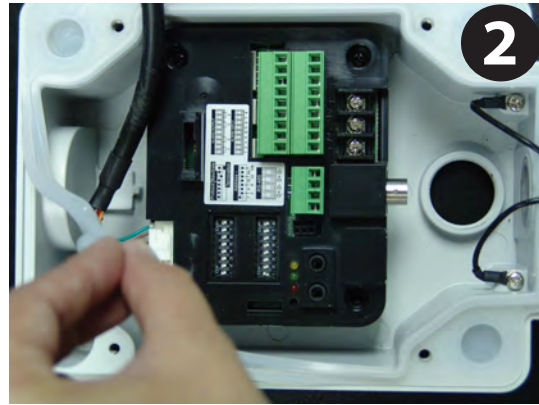
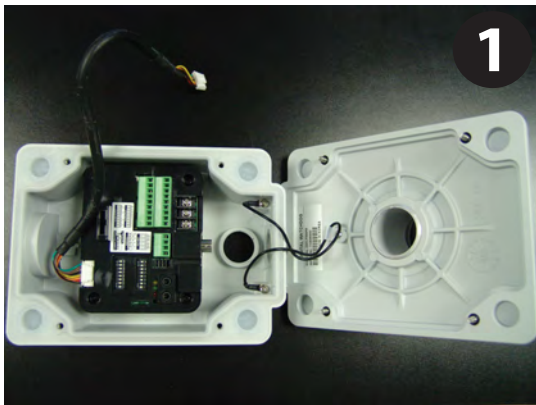
Installation

1. Unscrew the top cover of the Mounting Box.
2. Remove the protective plastic to expose the four (4) screw holes.
3. Using the Mounting Box or the Mounting Template, locate on the wall/ ceiling the locations for the four (4) bolts.

Note: the Anchor bolts included in with the camera kit are for concrete. Be sure to consult with your installer what bolts are necessary depending on the wall/ ceiling surface.

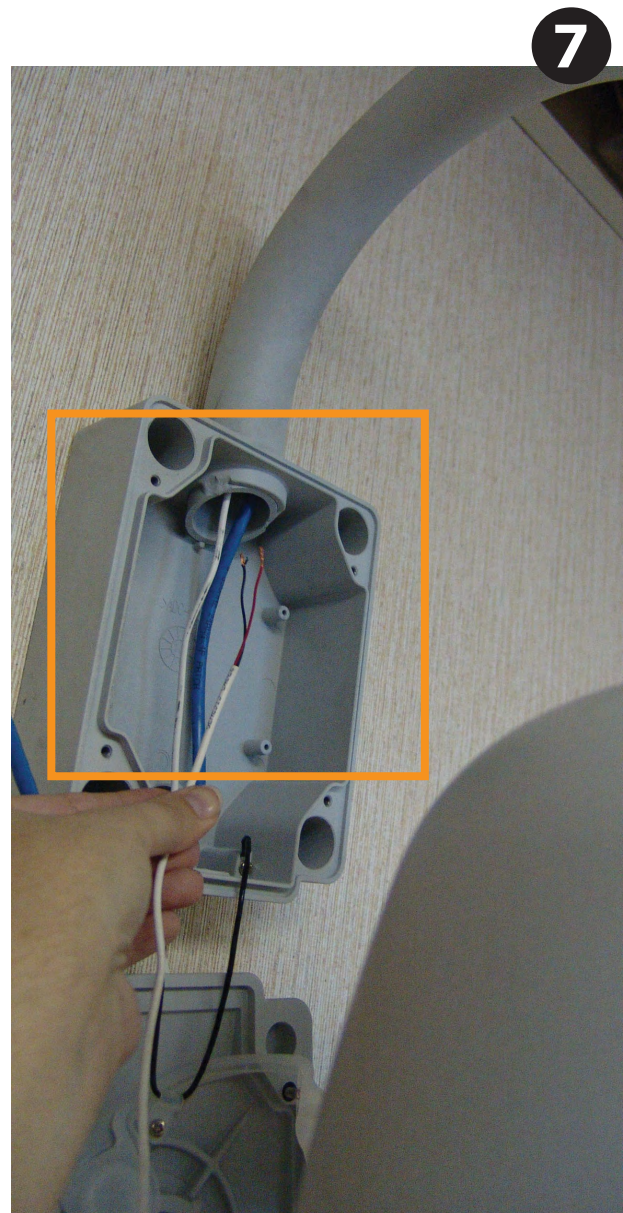
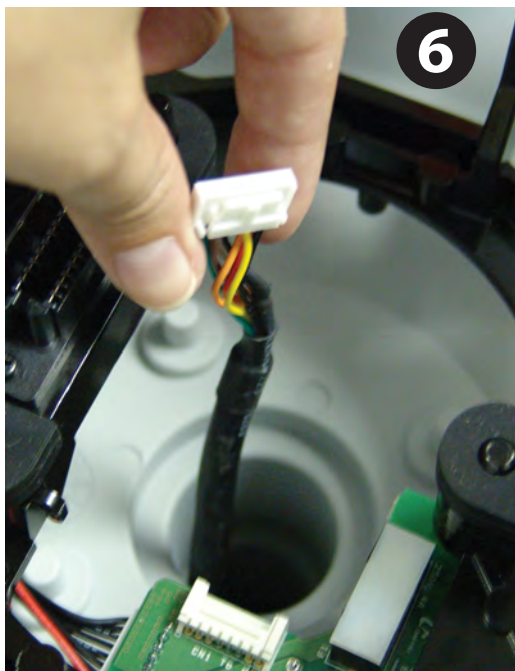
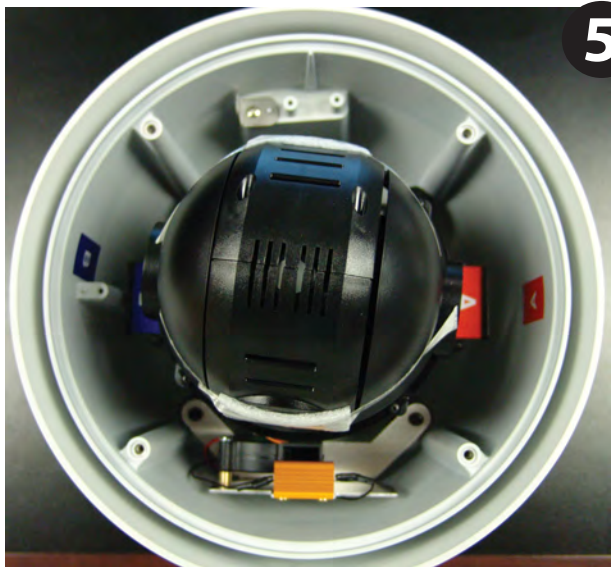
4. Using a drill, drill four (4) holes for the bolts.
Mount the Mounting box on the wall/ceiling.

Note: If your camera model includes the inner box inside the Mounting Box, make sure the cables remain intact during installation.



Installation

5. Remove the PTZ mechanism from the upper housing. To detach camera mechanism, press down and hold both black handles on the camera mechanism. Pull them up to detach the camera.
6. Pass the cable connector from the inner box through the upper housing pipe.
7. If inner box is located in the upper housing, connect the desired bracket and run the wires through the bracket.



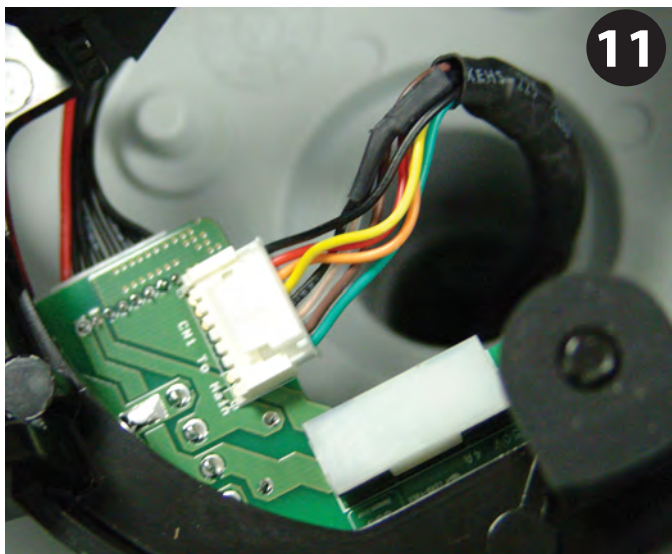
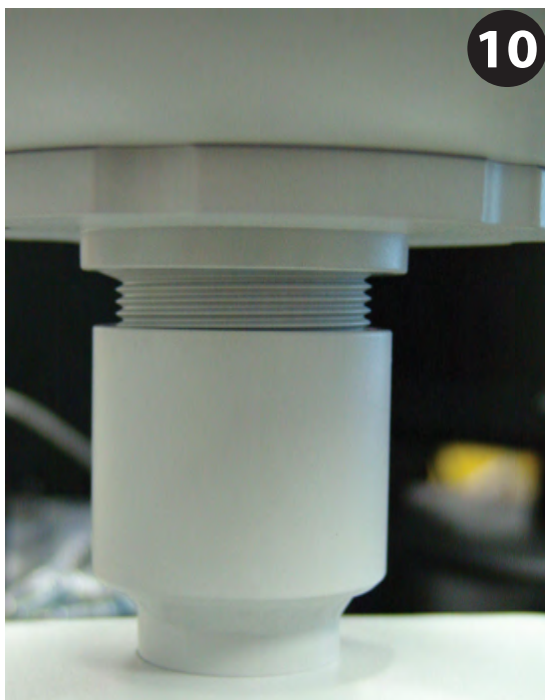
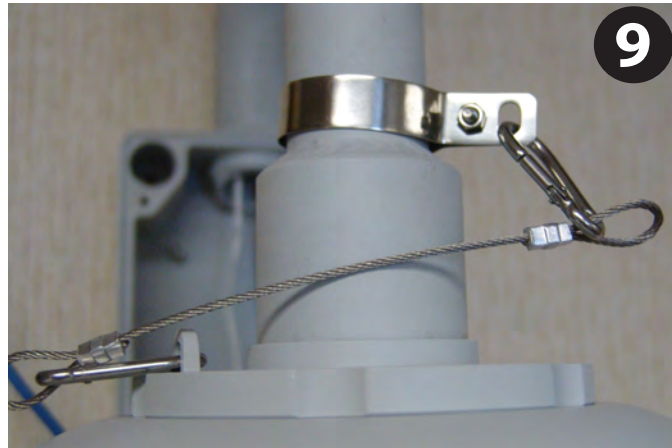
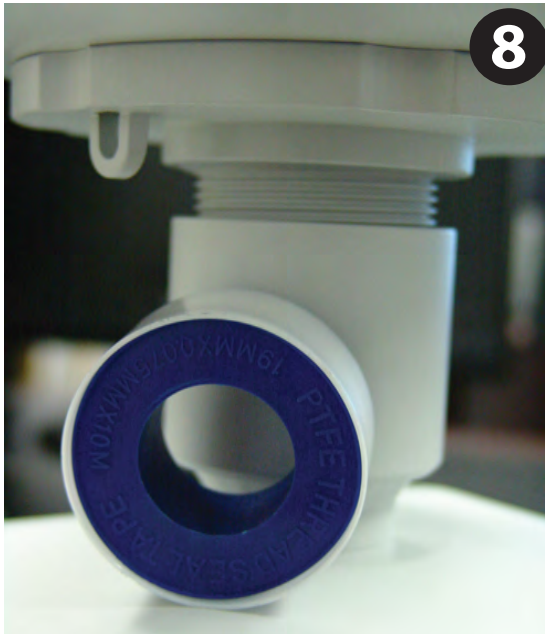
Installation

8. For outdoor installations, wind the weatherproof tape around the pipe of the upper housing.

9. Hook the safety wire to the safety hook on the upper housing and using the safety hanger, secure it to the mounting box/bracket.

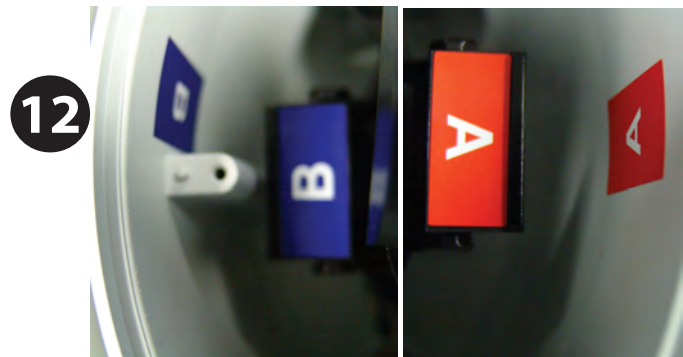
10. Screw in the upper housing to the Mounting box/bracket. Turn the upper housing at least seven (7) times to secure a tight connection.

11. Plug cable connector from the inner box to the upper housing.



Installation

12. Snap camera back into the upper housing. Make sure the two black handles marked 'A' and 'B' correspond with the 'A' and 'B' markings on the sides of the upper housing. Note: Before snapping the camera back into the housing, make sure the cables are properly secured.
13. Remove protecting gear from the camera's lens
14. Connect the cover dome to the upper housing by securing the safety wire.



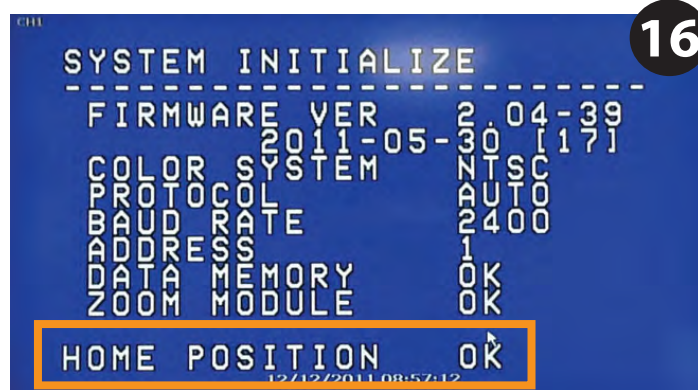
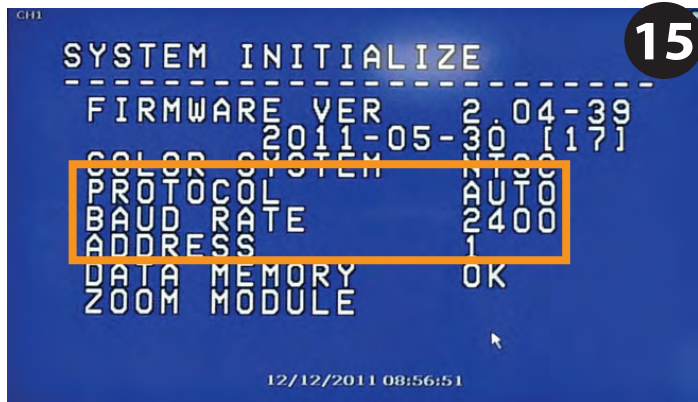
Installation

Connect camera to power and make sure it is operating properly.

15. Camera will show Initializing Setup screen.

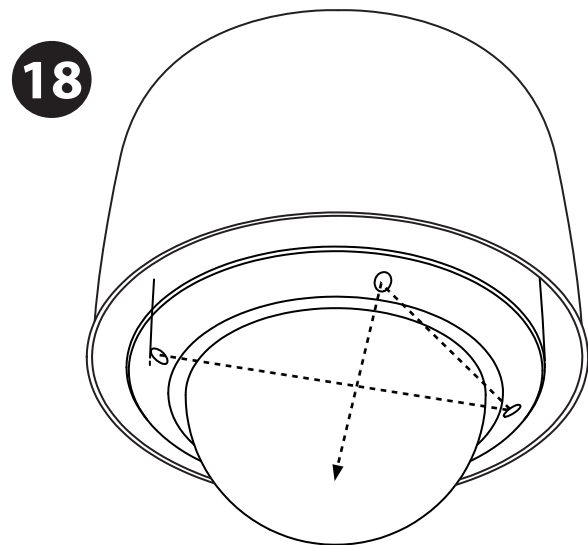
Note: Please record the information on this screen, especially the Protocol (If set to Auto, it is probably Pelco-D), Baud Rate, and Camera's Address.

16. When initializing System is complete, screen will display camera's video.



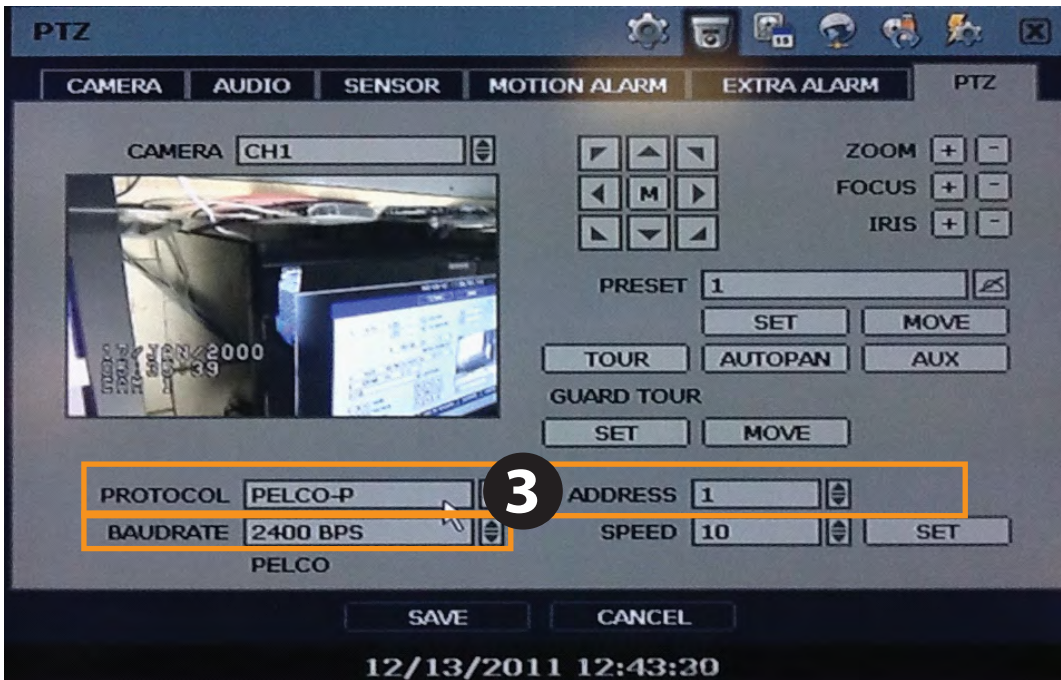
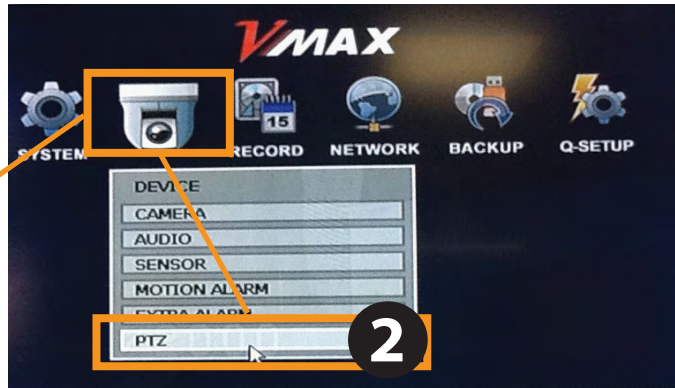
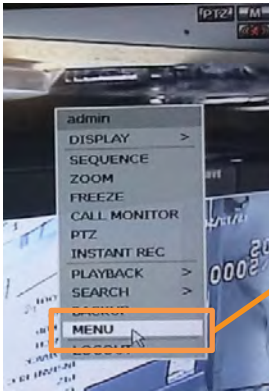
Installation

17. If no adjustments need to be made to the wiring, place the dome cover on the upper housing.
 18. Secure dome to camera by fastening the screws on the dome in the order shown below.
- Note: This order of fastening the screws guarantees optimal sealing and protects the camera mechanism from the elements.



Check Points Before Operation

1. Before you can start controlling your PTZ37X camera, you need to make sure the Camera's ID, Baud Rate and Protocol are setup in the DVR or Joystick Controller.
2. In the DVR, go to Menu --> Device --> PTZ
3. Setup the Protocol, Baud Rate and Address to match the information collected from the Initializing System page.
Note: If you do not have the information from the Initializing System screen, go to the PTZ37X's OSD menu, System Information. Please see page ____ for further information on how to navigate in the OSD menu using a DVR's mouse.
4. Since the operation method can be different for each controller available, refer to the manual for your controller if camera can not be controlled properly



Reserved Presets

What is a Preset?

A Preset is a unique command users can assign the camera.

The PTZ37X supports up to 255 different Presets.

Users can use 127 Presets to setup different positions for the camera

Users can setup 1~128 Presets for different camera positions, except for preset 95.

Preset 95 is reserved for starting the camera's OSD menu.

For a complete list of all the reserved presets, see below.

Reserved Preset

Some preset numbers are reserved to special functions.

Preset key + 95: Enters into OSD menu

Preset key + 131~134: Runs pattern function 1 ~ 4

Preset key + 141~148: Runs scan function 1 ~ 8

Preset key + 151~158: Runs group function 1 ~ 8

Preset key + 161~164: Sets relay 1~ 4 output to OFF

Set key + 161~164: Sets relay 1~ 4 output to ON

Preset key + 165: Sets auto calibration to ON

Preset key + 166: Sets auto calibration to OFF

Preset key + 167: Zoom proportional jog ON

Set key + 167: Zoom proportional jog OFF

Preset key + 170: Sets camera BLC mode to OFF

Preset key + 171: Sets camera BLC mode to HIGH

Preset key + 174: Sets camera focus mode to AUTO

Preset key + 175: Sets camera focus mode to MANUAL

Preset key + 176: Sets camera focus mode to SEMI-AUTO

Preset key + 177: Sets day & night mode to AUTO

Preset key + 178: Sets day & night mode to NIGHT

Preset key + 179: Sets day & night mode to DAY

Preset key + 190: Sets OSD display mode to AUTO (except privacy mask)

Preset key + 191: Sets OSD display mode to OFF (except privacy mask)

Preset key + 192: Sets OSD display mode to ON (except privacy mask)

Preset key + 193: Sets all privacy mask display to OFF

Preset key + 194: Sets all privacy mask display to ON

Preset key + 200: Sets digital zoom to ON

Preset key + 201: Sets digital zoom to OFF

Auto Calibrate

Auto Calibration

If the camera is continuously subjected to very high temperatures (over 50°C or 122°F) for a long period, the camera can lose focus and produce blurry images. In this case, it is recommended to turn on AUTO CALIBRATION by running preset 165.

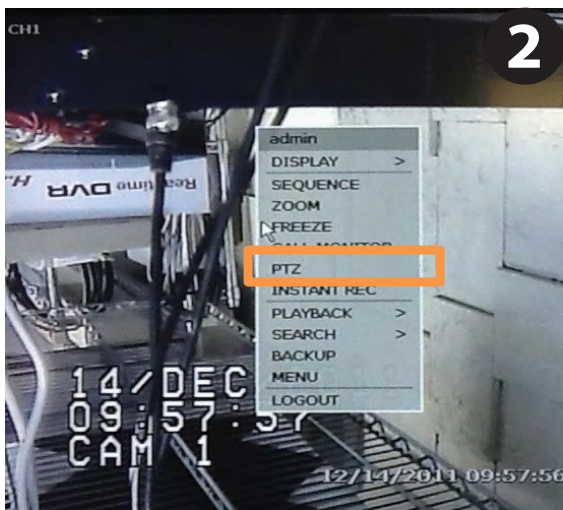
If you execute AUTO CALIBRATION, the camera will calibrate its focus for 10 seconds every 24 hours. To turn OFF this function, please run preset 166.

How to Move Around the OSD Menu

Start OSD Menu

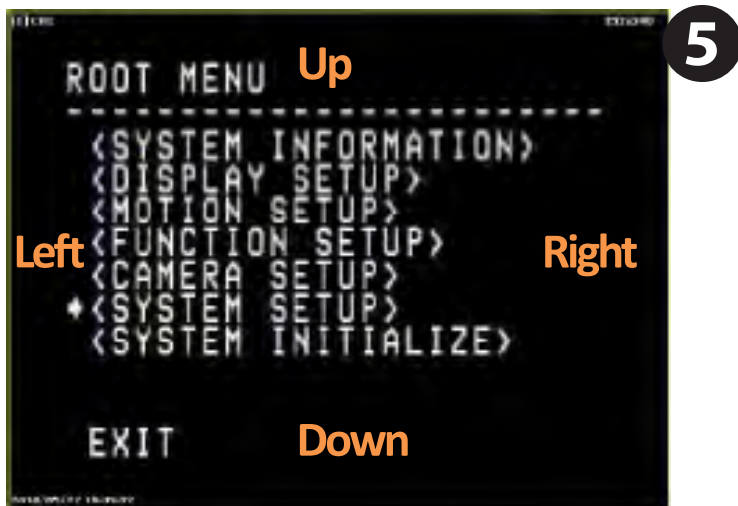
Using the OSD menu, preset, pattern, scan, group, and alarm input function can be configured for each application.

1. Select Full Screen view on the selected PTZ camera
2. Right-Click the screen & Select 'PTZ'
3. Right-Click the screen again, & select 'Preset'
4. Enter 95 to access the OSD menu



How to Move Around the OSD Menu

- Using the mouse, click on the are of the screen labeled:
 - UP: to scroll up the menu
 - DOWN: to scroll down the menu
 - Left: Vertically move from one edit tab to the one to its left
 - RIGHT: Vertically move from one edit tab to the one to its right.
- Using the mouse's wheel, move:
 - Forward: to save changes and enter from the Root menu to a sub-menu
 - Backwards: to cancel changes and exit a sub-menu back to the Root menu



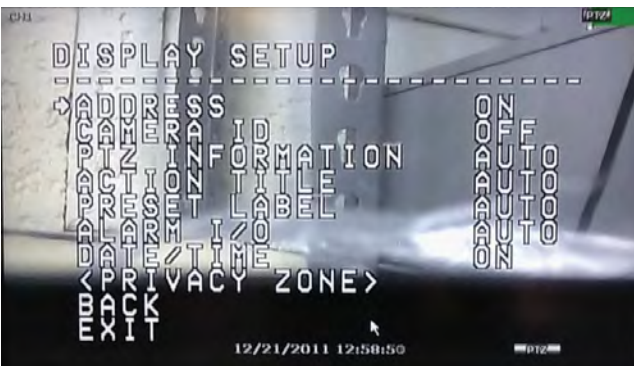
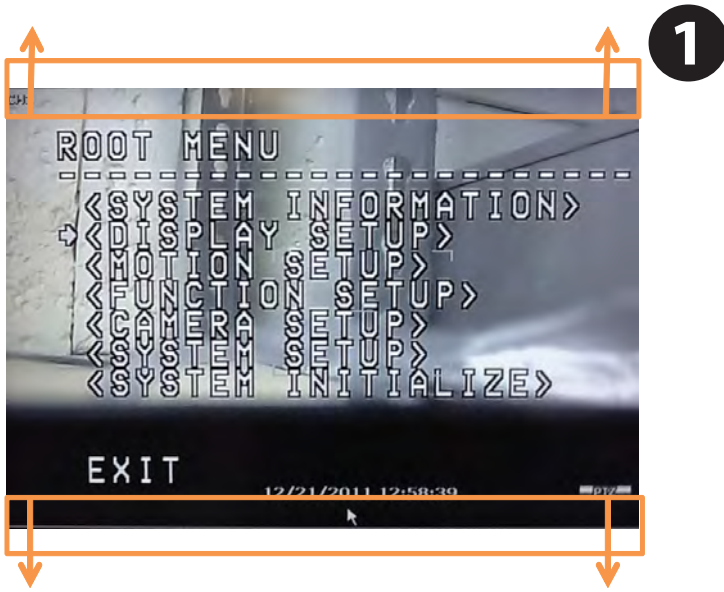
How to Move Around the OSD Menu

To move to a sub-menu

1. Click on the top/bottom of the screen to select the desired sub-menu from the list.
2. Once you have selected the sub-menu you want to enter, scroll the mouse's wheel forward

To exit a sub-menu

3. When you have completed all desired modifications, scroll the mouse's wheel backwards to return to the Root menu.

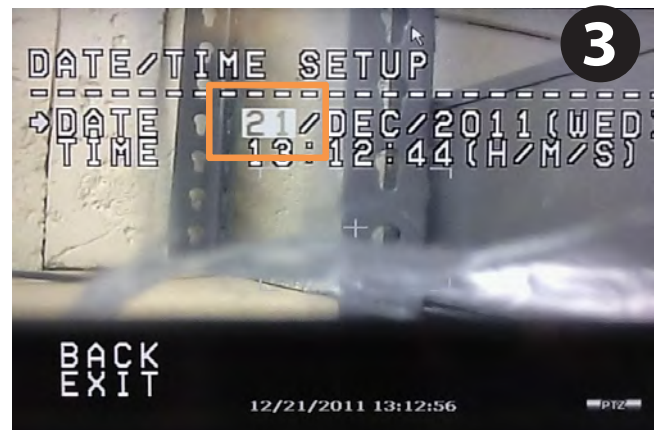


Note: Different controllers may have different instructions. Please consult your controller's manual for safe handling of your controller.

How to Move Around the OSD Menu

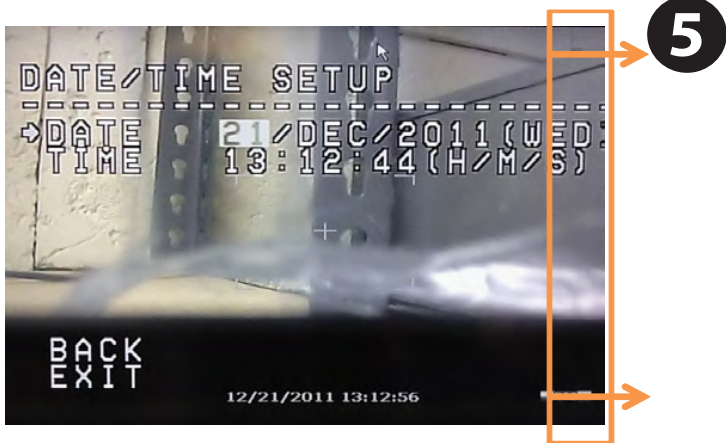
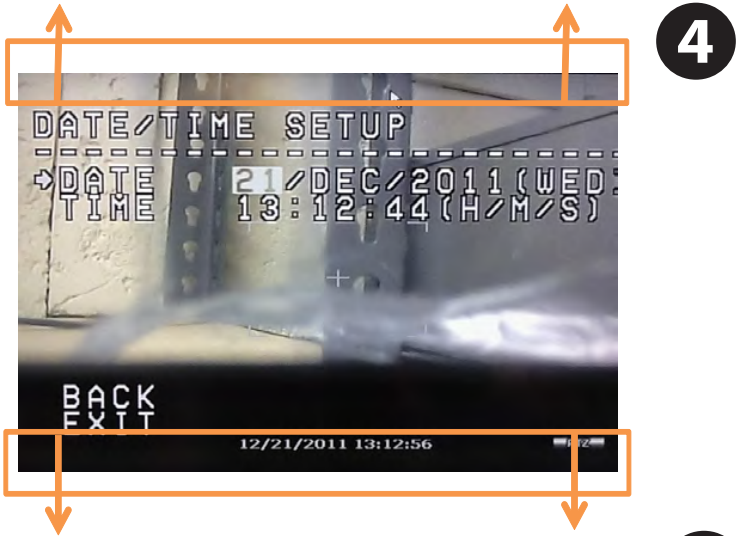
To move between input tabs

1. Using previous instructions, select the sub-menu and category you wish to modify
2. Scroll the mouse's wheel forward to enter edit mode
3. The system will show it is in edit mode by highlighting the first tab



How to Move Around the OSD Menu

- 4. Click on the top/bottom of the screen to increase/reduce the values of the data you are modifying
- 5. When you have completed modifying the first data tab, click on the left side of the screen to move to the next data tab.
- 6. The system will show it is in edit mode by highlighting the second tab
- Repeat as necessary
- 7. When editing is complete, scroll the mouse's wheel forward to save all changes, or backwards to cancel all changes.



Functions

1 Preset

Maximum 127 positions can be stored as preset positions. The preset number can be assigned from 1 to 128, but 95 is reserved for starting OSD menu.

See section "ROOT MENU > FUNCTION SETUP > PRESET SETUP."

1. Set Preset

Method 1) Use keyboard controller:
☒ Refer to your system keyboard manual.
Method 2) Use OSD menu.

2. Run Preset

Method 1) Use keyboard controller:
Preset key + Number key (1~128)

3. Delete Preset

To delete preset, use OSD menu.

2 Scan

The scan function allows camera to move repeatedly between 2 preset positions.

See section "ROOT MENU > FUNCTION SETUP > SCAN SETUP."

1. Set Scan

To set scan, use OSD menu.

2. Run Scan

Method 1) Scan key + Scan no. (1~8) + Enter key
Ex. Run scan 2 = Scan key + [2] + Enter key
Method 2) Preset key + [Scan no. (1~8) + 140]
Ex. Run scan 2 = Preset key + [142]

3. Delete Scan

To delete scan, use OSD menu.

3 Pattern

Pattern function is where the camera memorizes a path created by a joystick controller and revives the path exactly as it memorized for an assigned time.

See section "ROOT MENU > FUNCTION SETUP > PATTERN SETUP."

1. Set Pattern

To set pattern, use OSD menu.

2. Run Pattern

Method 1) Pattern key + Patter no. (1~4) + Enter key
Ex. Run pattern 2 = Pattern key + [2] + Enter key
Method 2) Preset key + [Pattern no. (1~4) + 130]
Ex. Run pattern 2 = Preset key + [132]

3. Delete Pattern

To delete pattern, use OSD menu.

☒ When the pattern is saved/executed, the pan/tilt is operated with "AUTO FLIP-OFF."

4 Group

The group function allows you to run sequence of presets, pattern, and/or scans.

See section "ROOT MENU > FUNCTION SETUP > GROUP SETUP."

1. Set Group

To set group, use OSD menu.

2. Run Group

Method 1) Group key + Group no. (1~8) + Enter key
Ex. Run group 2 = Group key + [2] + Enter key
Method 2) Preset key + [Group no. (1~8) + 150]
Ex. Run group 2 = Preset key + [152]

3. Delete Group

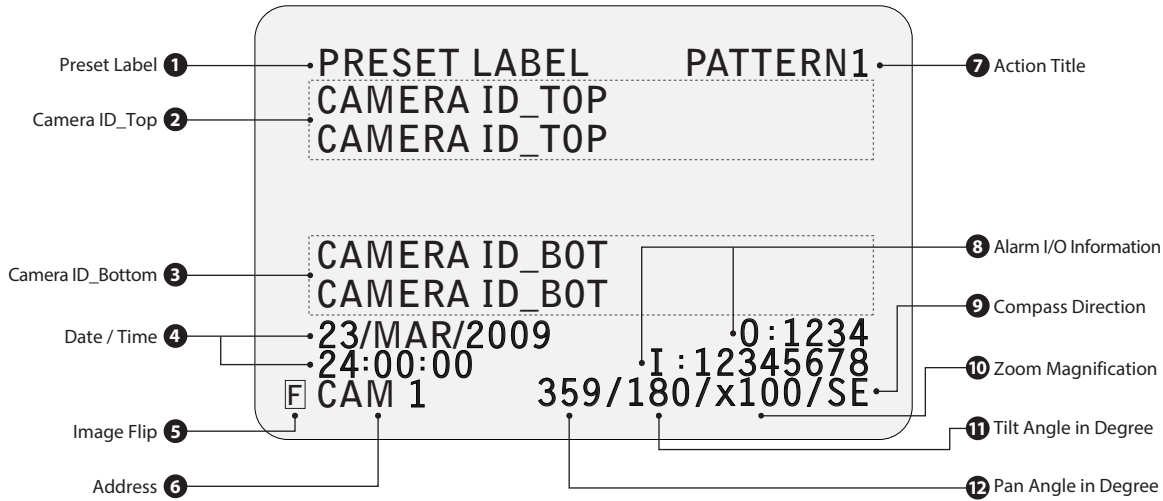
To delete group, use OSD menu.

5 Schedule

The schedule function allows you to run an appropriate function like preset, scan, group, pattern, home, or move at a designated day and time.

See section "ROOT MENU > FUNCTION SETUP > SCHEDULE SETUP."

OSD Display of Main Screen



1 Preset Label

- The label stored for a specific preset.
- See section "ROOT MENU > FUNCTION SETUP > PRESET SETUP > LABEL."

2 Camera ID_Top

- If CAMERA ID is set to TOP, Camera ID will display in this area.
- See section "ROOT MENU > DISPLAY SETUP > CAMERA ID."

3 Camera ID_Bottom

- If CAMERA ID is set to BOT, Camera ID will display in this area.
- See section "ROOT MENU > DISPLAY SETUP > CAMERA ID."

4 Date / Time

- Shows the current date and time.
- See section "ROOT MENU > SYSTEM SETUP > DATE/TIME SETUP."

5 Image Flip

- Shows images that are currently reversed by the auto flip function.
- See section "ROOT MENU > CAMERA SETUP > IMAGE FLIP."

6 Address

- Shows the current RS-485 address information.
- See section "ROOT MENU > SYSTEM INFORMATION."

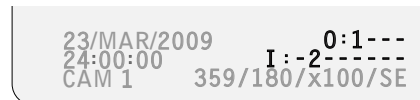
7 Action Title

The following are possible action titles and their descriptions.

Action Title	Description
SET PRESET 123	Store preset 123.
PRESET 123	It reached preset 123.
PATTERN 9	The camera is running pattern 9.
SCN 1/PRESET 123	The camera is running scan 1.
RANGE OVER	The action received is not within the range supported.
UNDEFINED	The action received is not defined.

8 Alarm I/O Information

- This information shows the current status of alarm input and output.
- "I" means input, and "O" means output.
- If the alarm input is ON, it will show the number of the input. If an input is OFF, "-" will be displayed. "O:1 - - -" means output 1 is ON and other outputs are OFF.
- Ex. When input 2 is ON and output 1 is ON, OSD will display as below.



9 Compass Direction

- Shows the current compass direction of the camera.
- The direction is shown as N(North), S(South), E(East), W(West), NE(Northeast), NW(Northwest), SE(Southeast), SW(Southwest).
- See section "ROOT MENU > SYSTEM SETUP > SET NORTH DIRECTION."

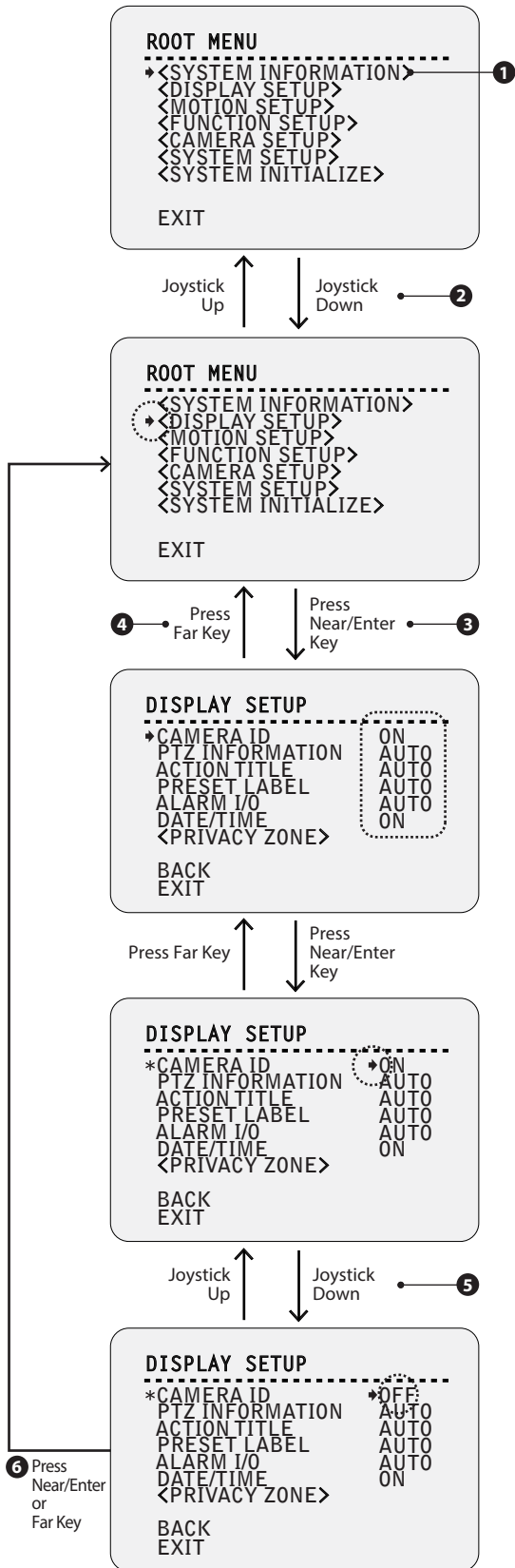
10 Zoom Magnification

Shows the current zoom magnification.

11 12 Tilt / Pan Angle in Degree

Shows the current tilt (0 ~ 180) and pan(0 ~ 359) angle.

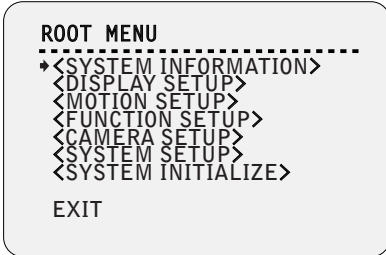
General Rules of Key Operation for Menu



- 1 The menu items surrounded with < > always has a sub menu.
- 2 Move among the different selections in the menu using the joystick in the Up/Down or Left/Right direction.
- 3 To go into the sub-menu from all menu level, press Near or Enter key.
- 4 To go back a menu, press Far key.
- 5 To change a value of an item, move the joystick in the Up/Down direction.
- 6 Press Near or Enter key to save values and press Far key to cancel values.

OSD - ROOT MENU & SYSTEM INFORMATION

1



1 ROOT MENU

<SYSTEM INFORMATION>

Shows information and current system configuration.

<DISPLAY SETUP>

Enable/Disable OSD display on main screen.

<MOTION SETUP>

Configures motion related settings.

<FUNCTION SETUP>

Configures various functions such as preset, scan, pattern, group, and schedule.

<CAMERA SETUP>

Configures camera related functions and data.

<SYSTEM SETUP>

Configures the basic system setup.

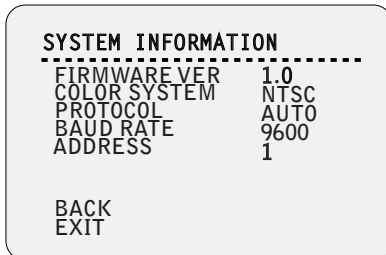
<SYSTEM INITIALIZE>

Initializes system configuration and sets all data to factory default configuration.

EXIT

Exit the OSD setting.

1



1 SYSTEM INFORMATION

FIRMWARE VER

Shows the current firmware version.

COLOR SYSTEM

Shows the current analog video system.

PROTOCOL

Shows the current PTZ control protocol.

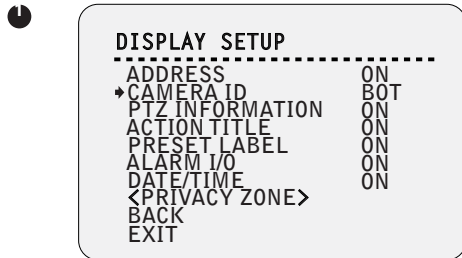
BAUD RATE

Shows the current baud rate of the PTZ control.

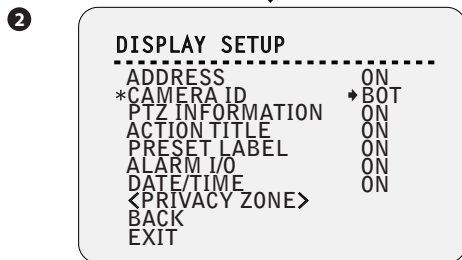
ADDRESS

Shows the current camera ID of the PTZ control.

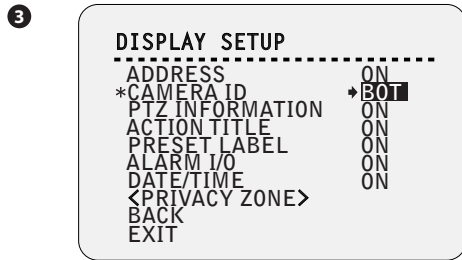
OSD - DISPLAY SETUP > CAMERA ID



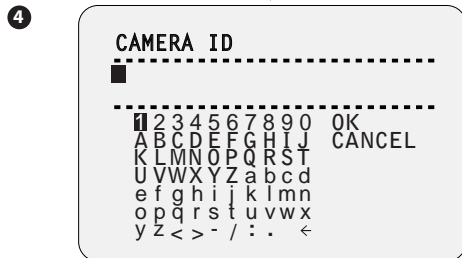
Press
Near/Enter
Key



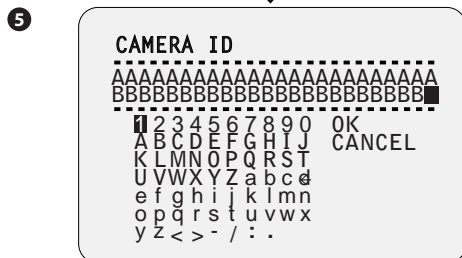
Joystick
Right



Press
Near/Enter
Key



Press
Near/Enter
Key



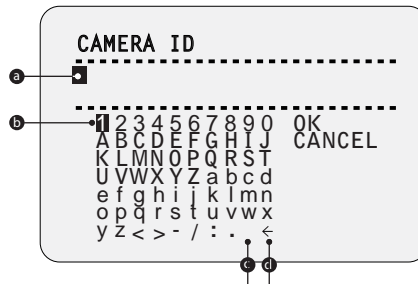
1 DISPLAY SETUP

This menu defines what is displayed on the OSD of the main screen. If an item is set as AUTO, the item is displayed only when it is changed.

ADDRESS	ON / OFF
CAMERA ID	BOT / TOP / OFF
Select the camera ID location. Refer to "OSD Display of Main Screen."	
PTZ INFORMATION	ON / OFF / AUTO
ACTION TITLE	ON / OFF / AUTO
PRESET LABEL	ON / OFF / AUTO
ALARM I/O	ON / OFF / AUTO
DATE/TIME	ON / OFF
<PRIVACY ZONE>	
Starts Privacy Zone Mask Setup Menu.	

3 CAMERA ID - Alphabet Input

- Set the Camera ID to display on top (TOP) or bottom (BOT).
- Give the Camera ID a unique name. The menu will appear when TOP or BOT is selected.
- Maximum 48 characters, including space, are allowed.

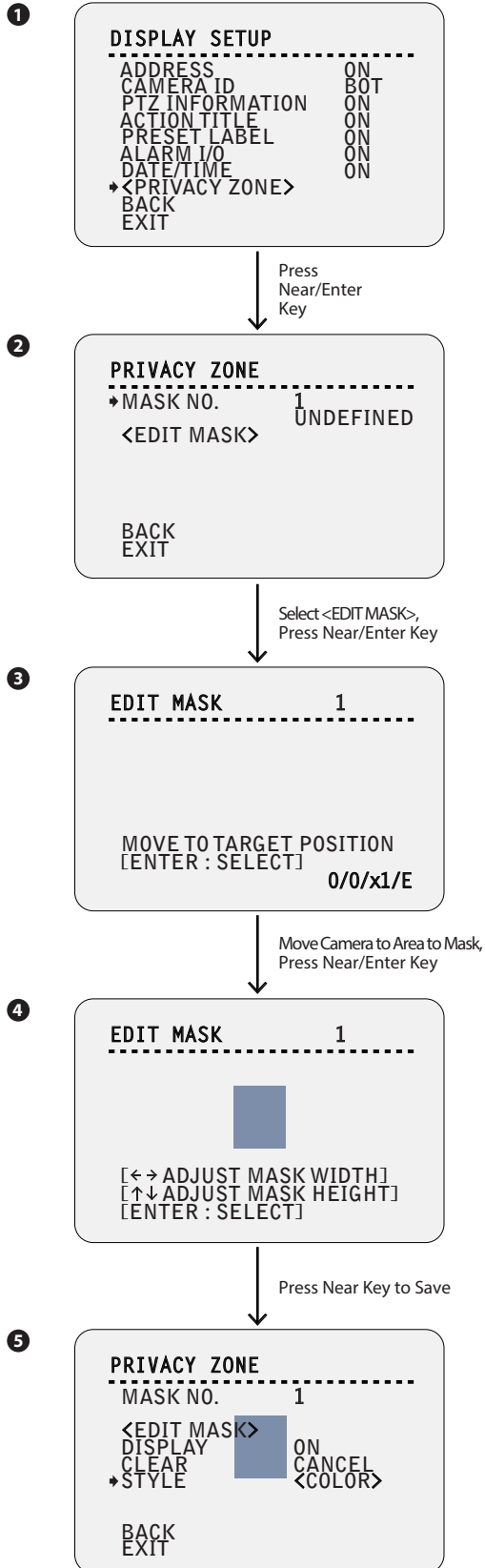


- a Current Cursor Position:** In the CAMERA ID menu, a black box functions as a cursor. As soon as a character is selected, cursor moves to the next digit.
- b Selecting Alphabet:** Move the joystick Up/Down/Left/Right to the appropriate character from the character set you wish to select. To choose the character, press the Near or Enter key.
- c Space:** If you want to use blank, choose the space character.
- d Backspace:** If you want to delete a character in front, use backspace character.

4 CAMERA ID - Complete Editing

When you complete the camera ID editing, move the cursor to OK and press Near key to save the completed camera ID. To abort the current change, move the cursor to CANCEL and press the Near key.

OSD - DISPLAY SETUP > PRIVACY ZONE



1 DISPLAY SETUP

See the previous page.

3 EDIT MASK - Move to Target Position

Move camera to the area you wish to mask. Then, the menu to adjust the mask size will be displayed.

☒ If the tilt angle is located in the range between 0° to 90°, you can not set up privacy zone mask.

☒ If a tilt angle over 90° (image flipped region) is designated, camera will automatically move to that position by moving the pan angle 180° and then adjusting the tilt angle as necessary.

4 EDIT MASK - Adjust Mask Size

Adjust mask size. Use joystick or arrow buttons to adjust mask size.

- Move Joystick Left/Right(◀▶): Adjust Mask Width.

- Move Joystick Up/Down(▲▼): Adjust Mask Height.

☒ To hide a certain zone completely regardless of high speed pan/tilt motions, it is recommended that the size of mask must be 20% bigger than original target size.

☒ It is noted that during pan/tilt control like jog action, the object behind the privacy mask can be disclosed in a short period of time.

5 PRIVACY ZONE

Selects area in image to mask.

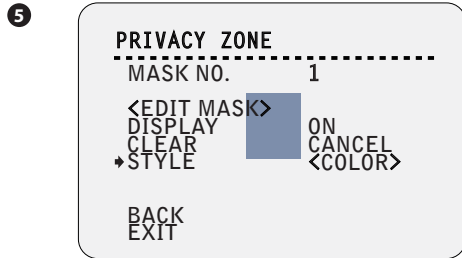
MASK NO. 1 ~ 12
Selects mask number. If the selected mask has already been saved, camera moves as it was set. Otherwise, UNDEFINED will be displayed under MASK NO.

DISPLAY ON / OFF
Sets the camera to display or hide the masks on images.

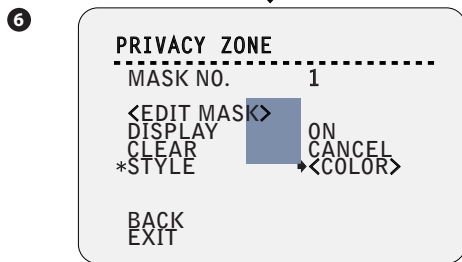
CLEAR MASK CANCEL / OK
Deletes data in the selected mask no.

STYLE <COLOR> / MOSAIC 1 ~ 4
Sets the style of the mask.
See the next page.

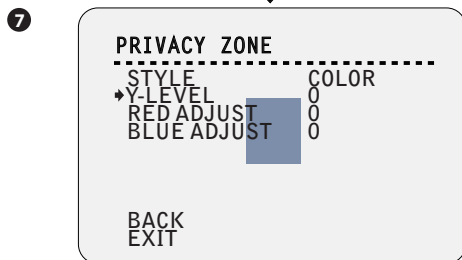
OSD - DISPLAY SETUP > PRIVACY ZONE



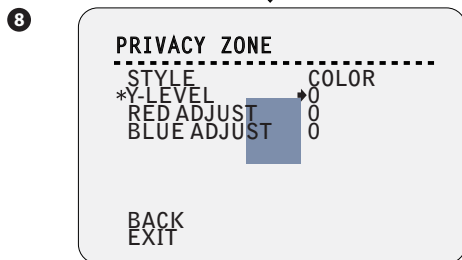
Press
Near/Enter
Key



Press
Near/Enter
Key



Press
Near/Enter
Key



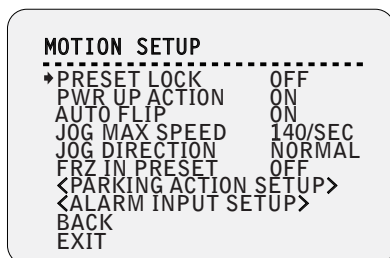
7 PRIVACY ZONE - STYLE > COLOR

Set the color of the mask.

Y-LEVEL	0 ~ 100
Set the color "Y-LEVEL" of the mask.	
RED ADJUST	0 ~ 100
BLUE ADJUST	0 ~ 100

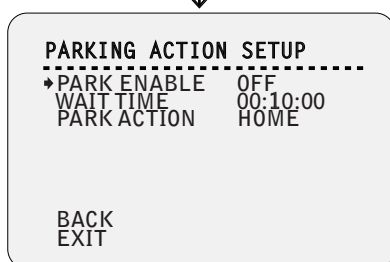
OSD - MOTION SETUP

1



Press
Near/Enter
Key

2



1 MOTION SETUP

Setup the general functions of pan/tilt motions.


PRESET LOCK ON / OFF

If motion lock is set to ON, it is impossible to set up or delete preset, scan, pattern, and/or group. It is only possible to run those functions. To set up and delete those functions, go to OSD menu.

PWR UP ACTION ON / OFF

This function enables you to resume the last action executed before the power went down. Most actions such as preset, pattern, scan, and group work for this function, but jog action does not resume with this function.

AUTO FLIP ON / OFF

When the tilt angle arrives to the top of tilt orbit (90°), zoom module camera continues moving opposite of the tilt direction (180°) to continue tracing targets. As soon as zoom module camera passes through the top of the tilt direction (90°), images should be reversed automatically and  appears on the screen. If this function is set to OFF, tilt movement range is 0° ~ 90°.

JOG MAX SPEED 2/SEC ~ 200/SEC

Sets maximum jog speed. Jog speed is inversely proportional to zoom magnification. As zoom magnification goes up, pan/tilt speed goes down.

JOG DIRECTION INVERSE / NORMAL

If you set this to NORMAL, the view on the screen is moving in the same direction with jog tilting. If INVERSE is selected, the view on the screen is moving reversely.

FRZ IN PRESET ON / OFF

When present movement begins, the camera captures the image of the beginning point. Camera will display the captured image during the present movement and will not display the images the camera receives during the movement. As soon as the camera stops at the preset end point, the camera begins to display the live images it receives at the end point.

<PARKING ACTION SETUP>

Opens PARKING ACTION SETUP screen.

<ALARM INPUT SETUP>

Opens ALARM INPUT ACTION screen.

2 PARKING ACTION SETUP

If PARK ENABLE is set to ON, camera runs assigned function automatically if there is no PTZ command during assigned WAIT TIME.

PARK ENABLE ON / OFF

WAIT TIME 00:00:05 ~ 04:00:00

The time is displayed in "hh:mm:ss" format, and the time can be changed by 1 second unit.

1. To place the cursor on the time marked as shown below, press Near key.



2. Move joystick left/right to adjust hours, minutes and seconds.

3. Move joystick up/down to select the digit.

4. By pressing near key, save the current setting.

PARKING ACTION HOME / PRESET 1~128 / SCAN 1~8 / PATTERN 1~4 / GROUP 1~8

Ex. If HOME is selected for park action, camera will move to home position when there is no PTZ command during the assigned WAIT TIME.

OSD - MOTION SETUP

1

```

MOTION SETUP
-----
PRESET LOCK      OFF
PWR UP ACTION   ON
AUTO FLIP       ON
JOG MAX SPEED   140/SEC
JOG DIRECTION   NORMAL
FRZ IN PRESET   OFF
<PARKING ACTION SETUP>
* <ALARM INPUT SETUP>
BACK
EXIT
    
```

Press
Near/Enter
Key

2

```

ALARM INPUT SETUP
-----
* ALARM 1 N.O NOT USED
ALARM 2 N.O NOT USED
ALARM 3 N.O NOT USED
ALARM 4 N.O NOT USED
ALARM 5 N.O NOT USED
ALARM 6 N.O NOT USED
ALARM 7 N.O NOT USED
ALARM 8 N.O NOT USED
BACK
EXIT
    
```

Press
Near/Enter
Key

3

```

ALARM INPUT SETUP
-----
* ALARM 1 N.O NOT USED
ALARM 2 N.O NOT USED
ALARM 3 N.O NOT USED
ALARM 4 N.O NOT USED
ALARM 5 N.O NOT USED
ALARM 6 N.O NOT USED
ALARM 7 N.O NOT USED
ALARM 8 N.O NOT USED
BACK
EXIT
    
```

Joystick
Right

4

```

ALARM INPUT SETUP
-----
* ALARM 1 N.O NOT USED
ALARM 2 N.O NOT USED
ALARM 3 N.O NOT USED
ALARM 4 N.O NOT USED
ALARM 5 N.O NOT USED
ALARM 6 N.O NOT USED
ALARM 7 N.O NOT USED
ALARM 8 N.O NOT USED
BACK
EXIT
    
```

Joystick
Down

5

```

ALARM INPUT SETUP
-----
* ALARM 1 N.O PRESET 1
ALARM 2 N.O NOT USED
ALARM 3 N.O NOT USED
ALARM 4 N.O NOT USED
ALARM 5 N.O NOT USED
ALARM 6 N.O NOT USED
ALARM 7 N.O NOT USED
ALARM 8 N.O NOT USED
BACK
EXIT
    
```

2 ALARM INPUT SETUP

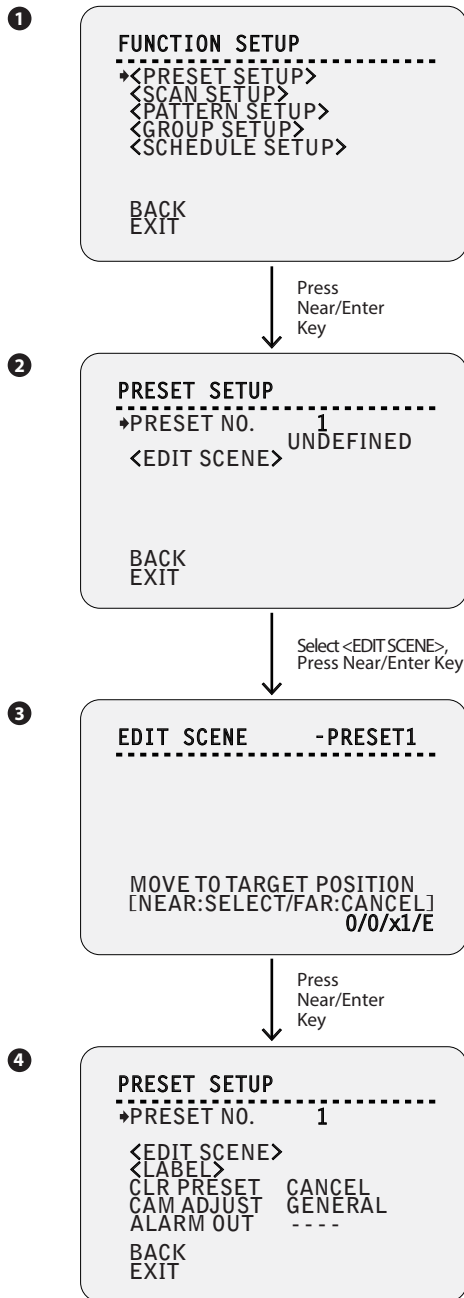
If an external sensor is activated, camera will move to the corresponding action.

Alarm Type: N.O (Normal Open) / N.C (Normal Close)
Sets the sensor input type.

Alarm Action NOT USED / HOME / PRESET 1~128 /
SCAN 1~8 / PATTERN 1~4 / GROUP 1~8

For each alarm input, you can assign the counteraction functions (Preset, Scan, Pattern, Group).

OSD - FUNCTION SETUP > PRESET SETUP



1 FUNCTION SETUP

Configure 5 special functions with this menu.

2 PRESET SETUP - Undefined

127 presets (1 ~ 128) can be assigned excluding the number 95, which is reserved for menu.

PRESET NO. 1 ~ 128 (Excluding 95)

If a selected preset is already defined, camera moves to pre-defined position, and preset characteristics such as label and relay outputs appear on monitor. (Refer to screen 4) If a selected preset is not defined, UNDEFINED will appear on monitor.

<EDIT SCENE>

Redefine the current preset scene position (i.e. PTZ).

3 EDIT SCENE

1. Using the joystick, move camera to the desired position.
2. By pressing Near key, save the current PTZ data.
3. Press Far key to cancel.

4 PRESET SETUP

If the preset is defined, the information will be shown on the OSD menu with the setting, and the alarm device (if defined) will be activated.

PRESET NO. 1 ~ 128 (Excluding 95)

<EDIT SCENE>

<LABEL>

Edits Label to show on the monitor when the preset runs. Maximum 10 characters are allowed.

CAM ADJUST GENERAL / SPECIAL

- WB(White Balance) and AE(Auto Exposure) can be set independently for each preset.

- **GENERAL:** WB or AE can be set completely and simultaneously for all presets in "ROOT MENU > CAMERA SETUP" menu.

- **SPECIAL:** WB or AE can be set independently or separately for each preset in each preset setup menu.

- Each special WB/AE value should be activated correspondingly when camera arrives at each preset location. During jog operation, general WB/AE value should be applied.

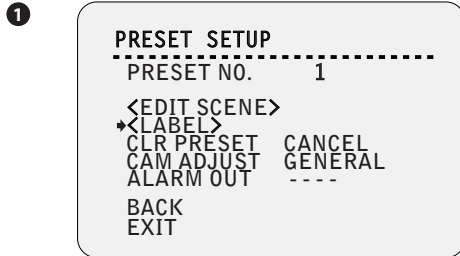
- The special WB/AE value should not be changed when the general WB/AE value is changed. If SPECIAL is selected, the menu to set the special WB/AE appears on the monitor.

ALARM OUT ---- ~ 1 2 3 4

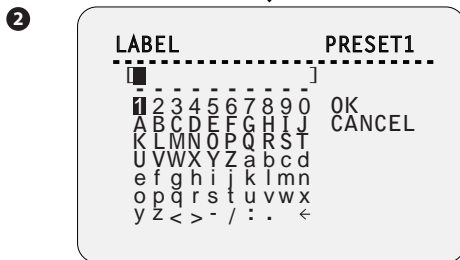
The status of four alarm outputs can be freely controlled in conjunction with preset run. The character "-" means the alarm output is OFF, and the number representing the alarm means ON.

Ex. "- 2 3 -" means output relay 2 and 3 will be ON, and 1 and 4 will be OFF, when you run this preset.

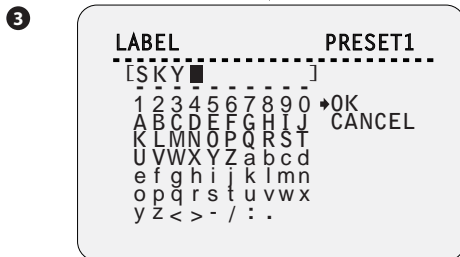
OSD - FUNCTION SETUP > PRESET SETUP



Press
Near/Enter
Key

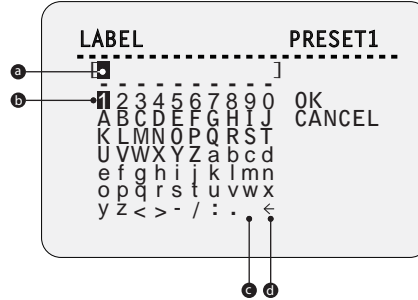


Press
Near/Enter
Key



2 LABEL

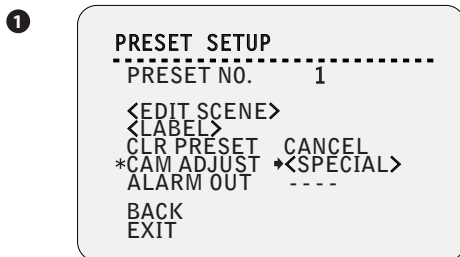
Edits the label to show on monitor when camera arrives at presets.



- a **Current Cursor Position:** In edit label menu, a reverse rectangular is cursor. As soon as finishing selecting alphabet, cursor moves to the next digit.
- b **Selecting Alphabet:** Using left/right/up/down of joystick, move to an appropriate character from the character set. To choose the character, press the Near or Enter key.
- c **Space:** If you want to use blank, choose the space character.
- d **Backspace:** If you want to delete a character in front, use backspace character.

3 LABEL - Complete Editing

If you complete the label editing, move the cursor to "OK" and press Near key to save the completed label. To abort the current change, move the cursor to "CANCEL" and press the Near key.



Press
Near/Enter
Key



2 CAM ADJUST

Edits label to show on monitor when the camera arrives at presets.

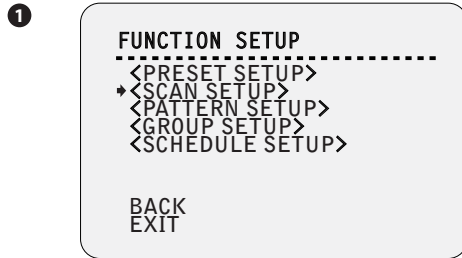
<WHITE BALANCE SETUP>

See the section "ROOT MENU > CAMERA SETUP > WB SETUP."

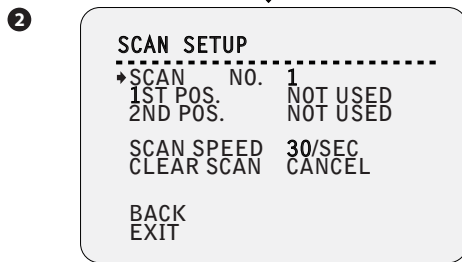
<AUTO EXPOSURE SETUP>

See the section "ROOT MENU > CAMERA SETUP > AE SETUP."

OSD - FUNCTION SETUP > SCAN SETUP



Press
Near/Enter
Key

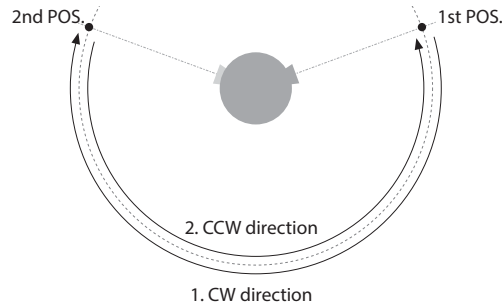


2 SCAN SETUP

By using the scan function, you can make the camera to move between 2 preset positions repeatedly.

When the scan function runs, the camera moves from the preset assigned as the 1st point to the preset assigned as the 2nd point in CW(Clockwise) direction. Then the camera moves from the preset assigned as the 2nd point to the preset assigned as the 1st point in CCW(Counterclockwise) direction.

In case that the preset assigned as the 1st point is same as the preset assigned as the 2nd point, the camera turns on its axis by 360° in CW direction and then it turns on its axis by 360° in CCW direction.

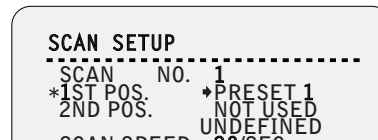


SCAN NO. 1 ~ 8

Selects the scan number to edit. If a selected scan has not defined, 'NOT USED' is displayed in 1st position and 2nd position.

1ST POS. / 2 ND POS. PRESET 1 ~ 128 / NOT USED

Set up the 2 position for scan function. If a selected preset is not defined, 'UNDEFINED' will be displayed as shown below.



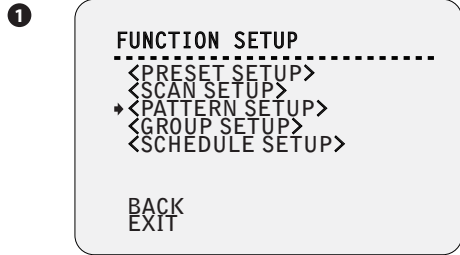
SCAN SPEED 1/SEC ~ 180/SEC

Sets the scan speed.

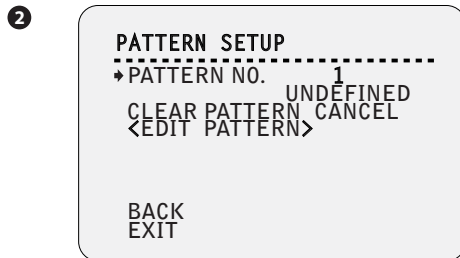
CLEAR SCAN CANCEL / OK

Deletes the current scan data.

OSD - FUNCTION SETUP > PATTERN SETUP



Press
Near/Enter
Key



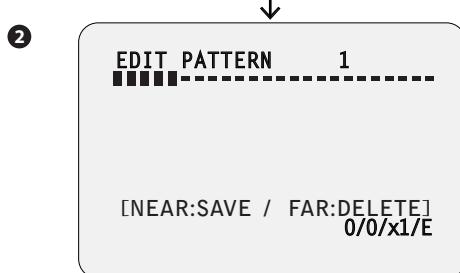
Select <EDIT PATTERN>,
Press Near/Enter Key



Move Camera to Area,
Press Near/Enter Key



Record the Path of the Pattern
by Camera Control



2 PATTERN SETUP

Pattern function is when a camera memorizes the path (mostly curve path) created by a joystick controller and revives the path exactly as it memorized for an assigned time.

4 patterns are available and maximum 1000 communication commands can be stored in a pattern.

PATTERN NO. 1 ~ 4
Select pattern number to edit. If a selected pattern number is not defined, "UNDEFINED" will be displayed under the selected pattern number.

CLEAR PATTERN CANCEL / OK
Deletes data in the current pattern.

<EDIT PATTERN>
Starts editing pattern.

3 EDIT PATTERN - Selects the Position

1. By using joystick, move to the start position with appropriate zoom.
2. To start the pattern recording, press Near or Enter key.
3. To exit this menu, press Far key.

4 EDIT PATTERN - Recording

1. Move the camera with joystick controller or run preset function to memorize the path (mostly curve path) in a selected pattern.
2. The total memory size and the rest memory size is displayed in the form of bar.
3. To save data and exit, press Near key.
4. To cancel recording and delete the recorded data, press Far key.

OSD - FUNCTION SETUP > GROUP SETUP

1

```

FUNCTION SETUP
-----
<PRESET SETUP>
<SCAN SETUP>
<PATTERN SETUP>
* <GROUP SETUP>
<SCHEDULE SETUP>

BACK
EXIT
    
```

Press
Near/Enter
Key

2

```

GROUP SETUP
-----
* GROUP NO.      1  UNDEFINED
CLEAR GROUP
<EDIT GROUP>

BACK
EXIT
    
```

Select <EDIT GROUP>,
Press Near/Enter Key

3

```

EDIT GROUP      1
-----
* NO. ACTION NO. DWELL OPT
1 NONE
2 NONE
3 NONE
4 NONE
5 NONE
-----
SAVE
CANCEL [NEAR:EDIT]
    
```

Press
Near/Enter
Key

4

```

EDIT GROUP      1
-----
NO. ACTION NO. DWELL OPT
* 1 NONE
2 NONE
3 NONE
4 NONE
5 NONE
-----
SAVE [NEAR:EDIT ACT]
CANCEL [FAR :EDIT END]
    
```

Press
Near/Enter
Key

5

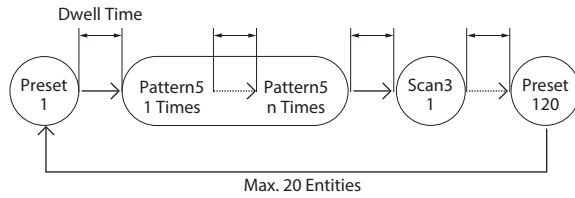
```

EDIT GROUP      1
-----
NO. ACTION NO. DWELL OPT
* 1 NONE
2 NONE
3 NONE
4 NONE
5 NONE
-----
SAVE [←→:MOVE CURSOR]
CANCEL [↑↓:CHANGE VAL.]
    
```

2 GROUP SETUP

The group function allows you to run sequence of presets, pattern, and/or scans. Maximum 8 group can be stored. Each group can have max 20 action entities which can be preset, pattern, or scan.

The preset speed and the repeat number of pattern & scan can be set in group setup. Dwell time between actions can also be adjusted.



GROUP NO. 1 ~ 8

Selects group number to edit. If a selected group number is not defined, "UNDEFINED" will be displayed under the selected group number.

CLEAR GROUP CANCEL / OK
Deletes the data in the current group.

<EDIT GROUP>
Starts editing group.

3 EDIT GROUP - Initial Screen

Press Near or Enter key in "NO" list to start group setup.

ACTION NO. NONE / PRESET 1~128(Excluding 95) /
PATTERN 1~4 / SCAN 1~4

DWELL TIME 00:03 ~ 04:00 (min:sec)
Sets dwell time between function by moving joystick up/down.

OPT PRESET: 2~360 / PATTERN & SCAN: 1~255
Represents preset speed (2~360) when preset is selected. It should be the number of repetition (1~255) when pattern or scan is selected for "ACTION."

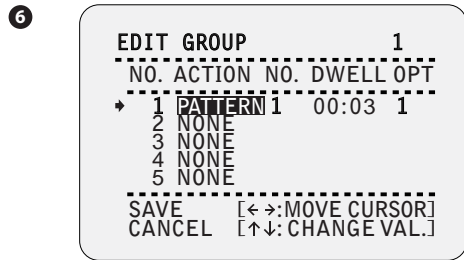
4 EDIT GROUP - Select Function Sequence

Note that maximum 20 functions are allowed in a group. Move cursor up/down and press Near or Enter key to set.

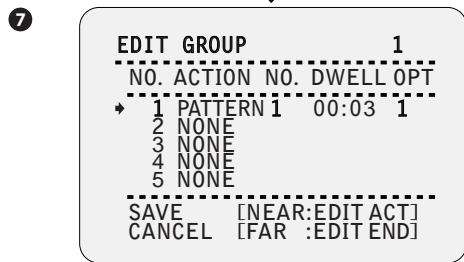
5 6 EDIT GROUP - Assign Function

Set up ACTION, DWELL and OPT. Note that selected item is displayed in reverse. Move cursor left/right to select items and move cursor up/down to change each value.

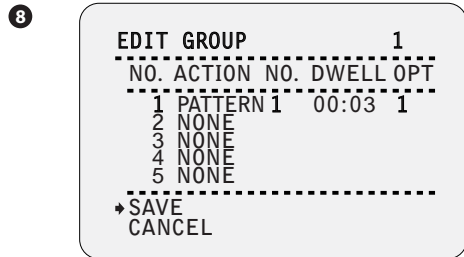
OSD - FUNCTION SETUP > GROUP SETUP



Press
Near/Enter
Key



Press
Far Key



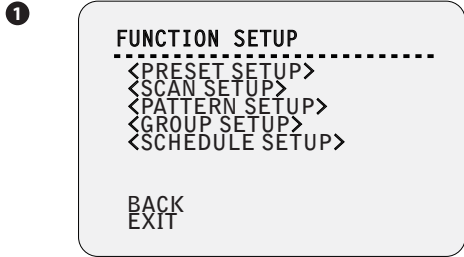
7 EDIT GROUP - Selects Function Sequence

When you finish setting up an ACTION, press Near or Enter key to one-upper-level menu. Move cursor up/down to select ACTION NO. and repeat to step 4 ~ step 6 to edit the selected group.

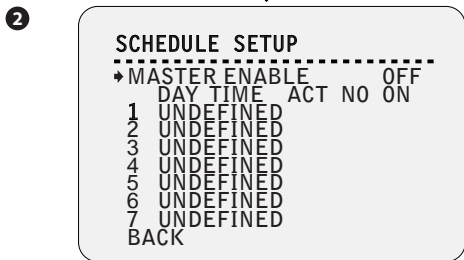
8 EDIT GROUP - Saves the Setting

After completing the setup of all actions, press Far key to exit. Then cursor should be moved to SAVE. Press Near or Enter key to save the data.

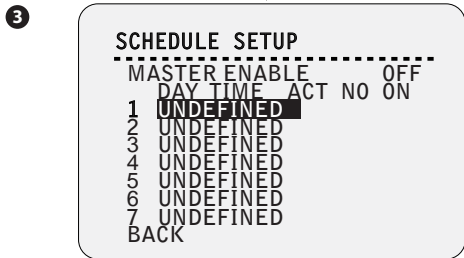
OSD - FUNCTION SETUP > SCHEDULE SETUP



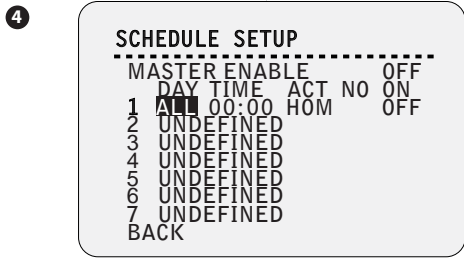
Press
Near/Enter
Key



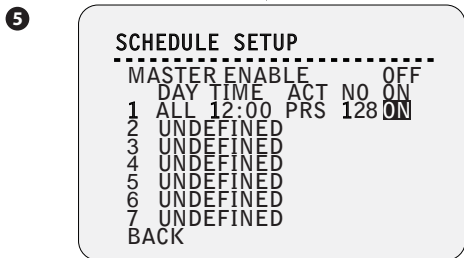
Joystick Down,
Press Near Key



Joystick
Down



Assign Value



2 SCHEDULE SETUP SCREEN

The schedule function allows running an appropriate function like preset, scan, pattern, group, home move at designated day and time.

EX. If you setup a rule "Tuesday at 9:00AM" and "Preset 1(say main gate)," the camera will move to main gate every Tuesday at 9:00 AM. If you choose weekday, camera will move to main gate everyday except weekend.

It is noted that due to the real time clock (ROOT MENU > SYSTEM SETUP > DATA/TIME SETUP), the time data will be kept regardless of blackout. The initial time and day setup is essential to proper schedule function.

MASTER ENABLE	ON / OFF
Decide whether schedule function is active or not.	
DAY	UNDEFINED / ALL / WKD / SUN ~ MON
Set the day for scheduling.	
- Undefined: Inactivate.	
- All: Applies to every day.	
- WKD: Applies to every day except for Saturday and Sunday.	
- SUN-MON: Applies to designated day only.	
TIME	00:00 ~ 23:59 (hour:min)
Set the time.	
ACT NO	HOM(HOME) / PRS(Preset) 1~255(Excluding 95) / SCN(Scan) 1~8 / PTN(Pattern) 1~4 / GRO(Group) 1~8
Set the function and no.	
ON	ON /OFF
Decide to make this rule effective or not.	

4 5 SCHEDULE SETUP - Assign Value

Each field (DAY, TIME, ACT, NO., ON) can be selected by left/right keys and the values in the field are changed using up/down keys.

OSD - FUNCTION SETUP > SCHEDULE SETUP

SCHEDULE SETUP				

	MASTER	ENABLE		
	DAY	TIME	ACT	NO ON
1	MON	01:20	HOM	ON
→ 2	WED	07:00	PRS	12 ON
3	THU	11:40	SCN	3 ON
4	ALL	12:00	SCN	1 ON
5	UNDEFINED			
6	UNDEFINED			
7	UNDEFINED			
BACK				

EX.

The second rule means camera will move to preset 12 at 7:00 every Wednesday.

- ☒ If the rules conflict with each other, the higher number will have priority over the others.
- ☒ If you assign undefined function, there will be no action.
- ☒ Using reserved preset, you can make various schedules. For example, PRS179 and PRS178 are "DAY" and "NIGHT" mode respectively. (Refer to "Reserved Preset" list on page 18 in this manual.)

OSD - CAMERA SETUP > WB SETUP

1

```

ZOOM CAMERA SETUP
-----
FOCUS MODE          SEMIAUTO
DIGITAL ZOOM        ON
IMAGE FLIP          OFF
FLICKERLESS        OFF
DIS MODE            OFF
* <WHITE BALANCE SETUP>
<AUTO EXPOSURE SETUP>
<SPECIAL>
BACK
EXIT
    
```

Press
Near/Enter
Key

2

```

WB SETUP
-----
* DAY/NIGHT          DAY
- WB MODE            ATW2
- RED ADJUST         0
- BLUE ADJUST        0

BACK
EXIT
    
```

Joystick Down,
Press Near Key

3

```

WB SETUP
-----
DAY/NIGHT           DAY
*- WB MODE          * ATW2
- RED ADJUST        0
- BLUE ADJUST       0

BACK
EXIT
    
```

Joystick Down

4

```

WB SETUP
-----
DAY/NIGHT           DAY
*- WB MODE          * AWC>
- RED ADJUST        0
- BLUE ADJUST       0
- R-GAIN            0
- B-GAIN            0

BACK
EXIT
    
```

Joystick Right

5

```

WB SETUP
-----
DAY/NIGHT           DAY
*- WB MODE          * AWC>
- RED ADJUST        0
- BLUE ADJUST       0
- R-GAIN            74
- B-GAIN            52

BACK
EXIT
    
```

1 ZOOM CAMERA SETUP

Basically the camera setup is same as x27, x33, x36, x37 except for "DIS MODE," "<SPECIAL>."

DIS MODE ON / OFF
Sets the digital image stabilization mode.

<SPECIAL>
Goes to "SPECIAL SETUP" screen.

2 WB SETUP - DAY

DAY/NIGHT DAY / NIGHT
The day/night mode can be set independently.

Night mode will only be deactivated if "AGC" in "CAMERA SETUP" is set to "OFF" or "FIX."

WB MODE ATW1 / ATW2 / AWC / 3200K / 5600K / OFF

- **ATW1**: The color temperature is adjusted automatically between 2500K and 9300K.

- **ATW2**: The color temperature is adjusted automatically between 2000K and 10000K.

- **AWC**: The color temperature is adjusted automatically once, then adjusted value of "R-GAIN, B-GAIN" are maintained. Gain value can be adjusted manually by the user. It can be fixed as 3200K or 5600K.

- **OFF**: Only activated when "NIGHT" is selected. At night, the setting will be same as day's setting.

RED/BLUE ADJUST -32 ~ +32
In every mode except "OFF," users can adjust the red/blue adjust value to have the image they want.

R/B - GAIN 0 ~ 1023
If AWC is on, the adjusted value will be marked. Also, the user can adjust the values after it was adjusted automatically.

6 WB SETUP - NIGHT

```

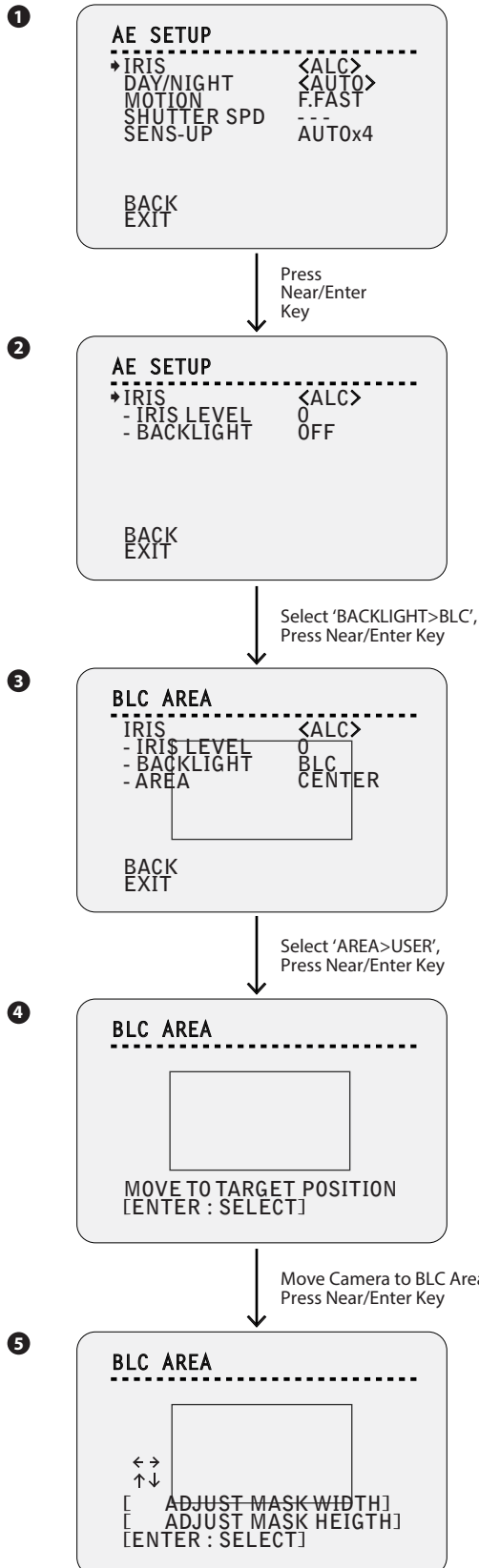
WB SETUP
-----
DAY/NIGHT           NIGHT
*- WB MODE          * AWC>
- BRIGHTNESS        MIDDLE
- RED ADJUST         0
- BLUE ADJUST        0
- R-GAIN            74
- B-GAIN            52

BACK
EXIT
    
```

BRIGHTNESS LOW / MIDDLE / HIGH
When "NIGHT" is selected, it sets the criterion of the automatic day/night selection.

If set to "LOW," the image has to be very dark to be recognized as night among 3 settings. If set to "HIGH," the image will be recognized as night even though it is a little dark.

OSD - CAMERA SETUP > AE SETUP



1 AE SETUP

IRIS ALC / MANUAL
See below 2 AE SETUP - IRIS > ALC.

DAY/NIGHT DAY / NIGHT / AUTO
Color filter or B/W filter can be selected. If DAY/NIGHT is set to <AUTO>, the DAY/NIGHT editing screen will appear. See the next page 2 DAY/NIGHT.

⊗ This is changed to AGC or MOTION according to the SENS-UP setting.

AGC VERY LOW / LOW / MIDDLE / HIGH / VERY HIGH / USER 1~16 / FIX 1~16

Enhances the brightness of the image by amplifying gain when the illumination is low.

MOTION S.SLOW / SLOW / NORMAL / FAST / F.FAST
If MOTION is set as S.SLOW, the shutter speed will be slower to obtain more light. There will be less noise, but this can cause the ghost effect of the moving object. If MOTION is set as F.FAST, there will be more noise, but this will reduce the ghost effect for any moving objects.

SHUTTER SPD OFF / 1/100 ~ 1/10K
If this speed is faster, the moving object can be photographed without the ghost effect. However, the images can be dark if the scene lacks sufficient lighting.

⊗ If SENS-UP is set to AUTO, SHUTTER SPD is deactivated.

SENS-UP OFF / AUTO x2 ~ AUTO x256 / FIX x2 ~ FIX x256

Activates the slow shutter function when the luminance of image is too dark for the CCD to accumulate the amount of light it is set to obtain.

2 AE SETUP - IRIS>ALC

If ALC is selected, the iris will be controlled automatically.

IRIS LEVEL -32 ~ +32

BACKLIGHT OFF / BLC / WDR

This function improves the backlight effect, which is when the subject is dark on the monitor because of the intensive backlight.

- **BLC**: You can select the desired area you wish to brighten. If it is set on a bright area, note that the area will appear even brighter.

- **WDR**: See 2 AE SETUP - IRIS > ALC > BACKLIGHT > WDR on the next page.

3 BLC AREA

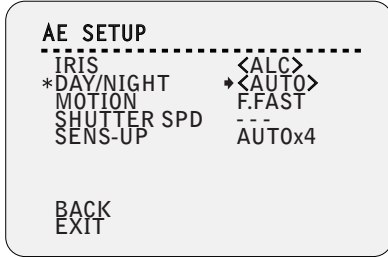
AREA TOP / BOTTOM / LEFT / RIGHT / USER

If set to USER, the user can set the specific area.

See screen 4 5 on this page.

OSD - CAMERA SETUP > AE SETUP

1



Press
Near/Enter
Key

2



2 DAY/NIGHT

The camera automatically detects the change by the brightness of the scene.

BURST ON / OFF

If BURST is set to ON, the burst signal is produced although the camera is changed to B/W filter.

BRIGHTNESS LOW / MIDDLE / HIGH

As the camera switches from Color to B/W with BRIGHTNESS set as LOW, the images will appear darker. As the camera switches from B/W to Color with BRIGHTNESS set as HIGH, the image will appear brighter.

DWELL TIME 2 SEC / 3 SEC / 5 SEC / 10 SEC / 15 SEC / 20 SEC / 25 SEC / 30 SEC

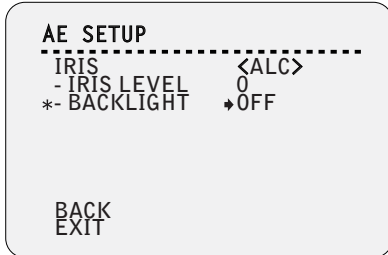
When the switching criterions are satisfied, the filter is changed after the status is maintained during the dwell time.

MASK AREA 1 / 2

If streetlights or traffic lights are present, the mode might not be changed to B/W. In this incident, setting MASK AREA to those lights will correct the problem.

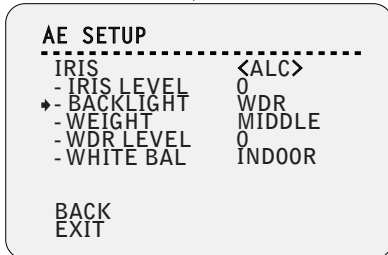
☒ If BACKLIGHT is set to BLC, MASK AREA function is deactivated.

1



Joystick Down

2



2 AE SETUP - IRIS > ALC > BACKLIGHT > WDR

In WDR mode, the brightness is adjusted in all area of the picture by combining high speed shutter and low speed shutter.

WEIGHT LOW / MIDDLE / HIGH

If WEIGHT is set to HIGH, the area applying high speed shutter is expanded.

WDR LEVEL -9 ~ +9

As WDR LEVEL gets higher, the speed of the high speed shutter becomes faster.

WHITE BAL INDOOR / OUTDOOR

If WHITE BAL is set to INDOOR, the color temperature adjusts based on the darker areas. If WHITE BAL is set to OUTDOOR, the color temperature adjusts based on the brighter areas.

☒ When WDR is used, the internally operating VPS function stops.

OSD - CAMERA SETUP > SPECIAL

①

ZOOM CAMERA SETUP	
FOCUS MODE	SEMIAUTO
DIGITAL ZOOM	ON
IMAGE FLIP	OFF
FLICKERLESS	OFF
DIS MODE	OFF
<WHITE BALANCE SETUP>	
<AUTO EXPOSURE SETUP>	
▶ <SPECIAL>	
BACK	
EXIT	

↓
Press
Near/Enter
Key

②

SPECIAL	
▶ DNR	MIDDLE
ZOOM SPEED	4
DETAIL	2
AGC COLOR SUP	MIDDLE
PIP	OFF
POSI/NEGA	+
BACK	
EXIT	

① ZOOM CAMERA SETUP

DIS MODE ON / OFF
Sets the Digital Image Stabilization mode.

<SPECIAL>
Opens SPECIAL SETUP menu.

② SPECIAL

Sets the special function related to the image.

DNR OFF / LOW / MIDDLE / HIGH / USER 1~16
Reduces the noise caused by AGC. If set to HIGH, the noise will be reduced but the ghost effect on moving objects will increase.

ZOOM SPEED 1 ~ 4
The speed it takes to adjust zoom in/zoom out. 1 is the slowest, and 4 is the fastest.

DETAIL 0 ~ 3
The distinction is separated into 4 levels. If the level is high, the outline is clear, but the noise is increased.

AGC COLOR SUP LOW / MIDDLE / HIGH
The color range of the noise caused by AGC can be reduced. If set to HIGH, the color range of the noise will decrease, but the overall quality of the color will also decrease.

PIP ON / OFF
Turn ON to display the sub-screen. Sub-screen will appear on the bottom right corner of the main display. Even though the main display enables digital zoom, the sub-screen will only display with maximum optical zoom.

POSI/NEGA + / -
If set as +, the camera will produce the normal image; however, if set as -, the brightness signal and color signal of the produced image will be reversed.

OSD - SYSTEM SETUP

1

```

SYSTEM SETUP
-----
* <DATE/TIME SETUP>
  <RELAY TYPE>
  <PASSWORD>
  <SET HOME POSITION>
  <SET NORTH DIRECTION>
  LANGUAGE ENGLISH

BACK
EXIT
    
```

Press
Near/Enter
Key

2

```

DATE/TIME SETUP
-----
* DATE      01/JAN/2008(TUE)
  TIME      00:00:01(H/M/S)

BACK
EXIT
    
```

3

```

RELAY TYPE SETUP
-----
* RELAY1    NORMAL OPEN
  RELAY2    NORMAL OPEN
  RELAY3    NORMAL OPEN
  RELAY4    NORMAL CLOSE

BACK
EXIT
    
```

4

```

EDIT PASSWORD
-----
[ ] [ ] [ ] [ ]
1 2 3 4 5 6 7 8 9 0 OK
ABCDEFGHIJ CANCEL
KLMNOPQRST
UVWXYZabcd DISABLE
efghijklmn
opqrstuvw
yz<>- / : . <
    
```

1 SYSTEM SETUP

<DATE/TIME SETUP>

Opens DATE/TIME SETUP menu.

<RELAY TYPE>

Opens RELAY TYPE menu.

<PASSWORD>

Opens PASSWORD menu.

<SET HOME POSITION>

Opens SET HOME POSITION setup.

<SET NORTH DIRECTION>

Opens SET NORTH DIRECTION setup.

LANGUAGE ENGLISH / ESPAÑOL / FRANÇAIS / DEUTSCH
/ ITALIANO / РУССКИЙ / PORTUGUÊS

Select a preferred language for the OSD display.

After selecting a language, press Near or Enter key.

2 DATE/TIME SETUP

After you press the Near or Enter key, move between the different fields using the left/right keys. Use the up/down keys to change the values of each field. To save the updated data, press the Near or Enter key again.

DATE 01 / JAN / 2000 ~ 31 / DEC / 2037

Date is displayed in DD/MM/YYYY format.

The day is automatically calculated, when you set the date.

TIME

Time is displayed in HH:MM:SS format.

3 RELAY TYPE SETUP

RELAY1, 2, 3, 4 NORMAL OPEN / NORMAL CLOSE

Define the type of relay output for each of the four relays.

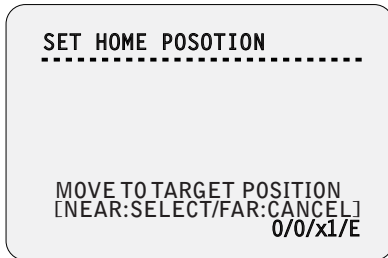
4 EDIT PASSWORD

Sets a password that consist of 4 characters. If this function is set as ENABLE, the password is required whenever you open the OSD menu.

- ✘ The default password is '4321', and the master password is '- -> g'.

OSD - SYSTEM SETUP

5



5 SET HOME POSITION

Home position means the origin of pan angle calculation. The value of pan angle displayed on the screen is based on this home position.

By using joystick, move the camera to the desired position and press near key.

Home is not effective to tilt angle.

If you change the location of the home position, all horizontal location of functions such as preset, scan, pattern, group and privacy zone mask will be shifted based on the changed home position.

If there are no setup for those functions like preset, pattern, scan, group camera will automatically move to home position after rebooting.

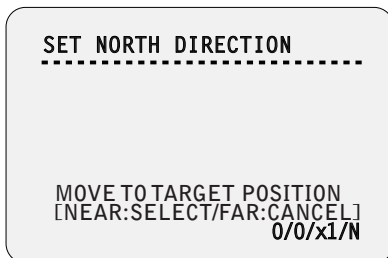
If power up action is set to be on, camera will continue the function which is executed lastly after rebooting.

☒ Set Home Position?

When you replace the camera block or the orientation of camera is changed due to maintenance operations, it is very difficult to maintain the same pan orientation. Therefore, all function data depending on pan orientation such as preset, scan, pattern, group and privacy zone mask are not useful any more accordingly.

However, even in this case, you can reuse the data if you redefine set home position on the previous home position.

6



6 SET NORTH DIRECTION

By using joystick, move the camera to the desired north position and press enter (near/save).

The direction will be displayed in the screen

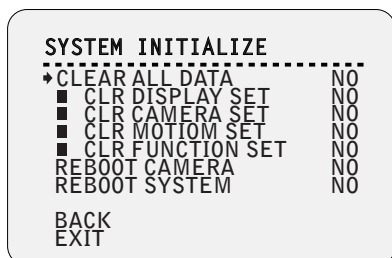


Direction will be displayed from:

N(North) / S(South) / E(East) / W(West) / NE(Northeast) /
NW(Northwest) / SE(Southeast) / SW(Southwest).

OSD - SYSTEM INITIALIZE

1



1 SYSTEM INITIALIZE

CLEAR ALL DATA NO / YES
Deletes all configuration data such as display, camera, motion setup and so on.

CLR DISPLAY SET NO / YES
Initializes display configuration.

CLR CAMERA SET NO / YES
Initializes camera configuration.

CLR MOTION SET NO / YES
Initializes motion configuration.

CLR FUNCTION SET NO / YES
Deletes preset data, scan data, pattern data, group data and schedule data.

REBOOT CAMERA NO / YES
Reboots zoom camera module.

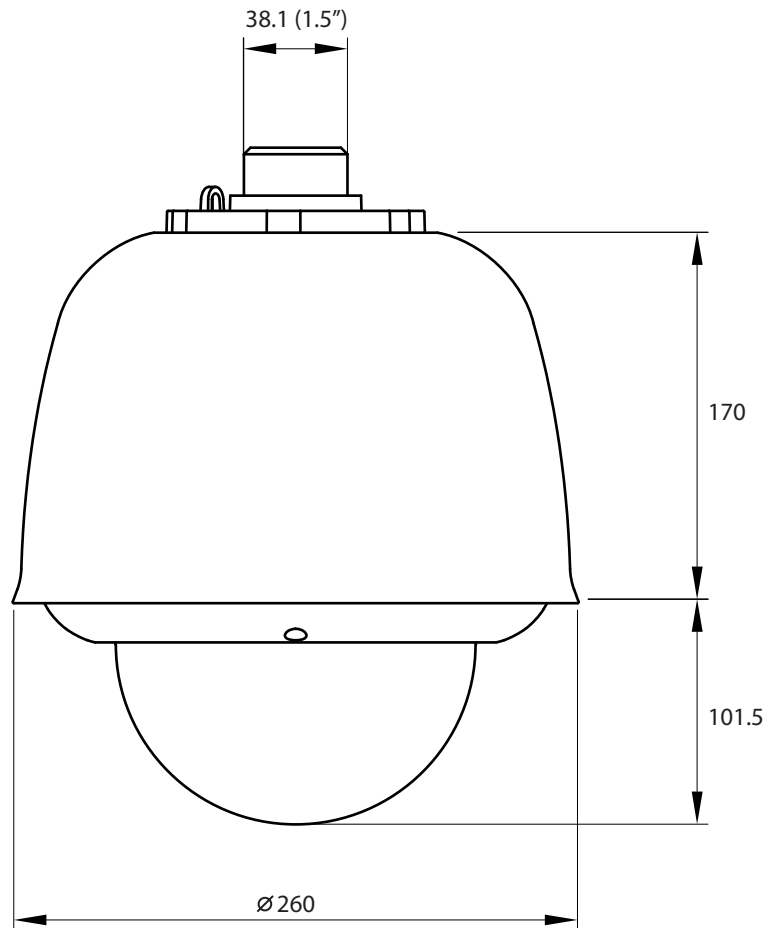
REBOOT SYSTEM NO / YES
Reboots speed dome camera.

Initial Configuration Table

Address	ON	
Camera ID	OFF	
PTZ Information	AUTO	
Action Title	AUTO	Display
Preset Label	AUTO	
Alarm I/O	AUTO	
Date/Time	ON	
Privacy Zone	Undefined	
Preset Lock	OFF	
Power Up Action	ON	
Auto Flip	ON	
Jog Max Speed	140°/sec	Motion
Jog Direction	NORMAL	
Freeze In Preset	OFF	
Park Action	OFF	
Alarm I/O Action	OFF	
Preset 1~128	Undefined	
Auto Pan 1~8	Undefined	
Pattern 1~4	Undefined	Function
Scan 1~8	Undefined	
Schedule 1~7	Undefined	
Focus Mode	AUTO	
Digital Zoom	ON	
Image Flip	OFF	
Flickerless	OFF	
DIS Mode	Off	
Day/Night	DAY	
WB Mode	ATW2	
Red Adjust	0	
Blue Adjust	0	
Day/Night	NIGHT	
WB Mode	OFF	
Iris	ALC	
Iris Level	0	Camera
Backlight	OFF	
Day/Night	AUTO	
Burst	OFF	
Brightness	MIDDLE	
Dwell Time	5 SEC	
Mask Area	Undefined	
Motion	F.FAST	
Sens-up	AUTOx4	
DNR	MIDDLE	
Zoom Speed	4	
Detail	2	
AGC Color Sup	MIDDLE	
PIP	OFF	
Posi/Nega	+	
Motion	OFF	
Advanced	OFF	
Mask Area	Undefined	
Display	ON	Intelligence
Sensitivity	4	
Resolution	3	
Alarm Out>Motion	ON	
Alarm Out>Fix/Move	ON	
Protocol	AUTO	Communication
Baud Rate	9600	

Specifications - Dimension

Unit: mm



Specifications - Specification_x37

Signal Format	NTSC	PAL	
Camera	Image Device	1/4" ExView-HAD PS CCD	
	Total Pixel	410K pixels [811 (H) x 508 (V)]	470K pixels [795 (H) x 596 (V)]
	Effective Pixel	380K pixels [768 (H) x 494 (V)]	440K pixels [752 (H) x 582 (V)]
	H. Resolution	Color: 560 TV Lines B/W: 600 TV Lines	
	S/N Ratio	52dB (AGC Off)	
	Zoom	x37 Optical Zoom & x16 Digital Zoom	
	Focal Length	F 1.6 (W) 3.7 (T) f=3.4 ~ 132.6mm	
	Angle of View	H: 57.54° (W) ~ 1.56° (T)	V: 44.44° (W) ~ 1.16° (T)
	Min. Illuminance(Sens Off)	Color: 0.7 Lux / F1.6 (50 IRE)	B/W: 0.12 Lux / F1.6 (50 IRE)
	Day & Night	Color / BW / Auto (D/N Filter)	
	Focus	Auto / Manual / Semi-Auto	
	Iris	Auto / Manual	
	Shutter Speed	1/60(1/50) ~ 1/10Ksec	
	White Balance	ATW1(2,500 ~ 9,500°K) / ATW2(2,000 ~ 10,000°K) / AWC / Manual	
	Sens Up(Low Shutter)	x2 ~ x512	
	Flickerless	On / Off	
	AGC	On / Off	
	WDR	On / Off	
	BLC	On / Off	
	DNR	On / Off	
	DIS	On / Off	
	Intelligent Video	Yes (Moved/Fixed)	
	Video Out	VBS: 1.0 V _{pp} (75ohm Terminated)	
	Other Functions	Frame Freeze Function, Detail, Reverse(H/V), Posi/Nega, PIP	
Pan/Tilt	Range	Pan: 360° (Endless) Tilt: 0° ~ 180° (Auto-Flip On), 0° ~ 90° (Auto-Flip Off)	
	Pan/Tilt Speed	Preset: 360°/sec	
		Manual: 0.05° ~ 200°/sec (Zoom Proportional)	
		Scan: 1° ~ 180°/sec	
	Preset	127 Presets with Labels / Independent Camera Setup	
	Pattern	4 Patterns, 1000 Commands / Pattern, (Approx. 5 Minutes for Each Pattern)	
	Scan	8 Scans	
	Group	8 Groups (Max. 20 Enters per Group)	
	Schedule	7 Rules (Condition: Day, Time → Action: Preset, Scan, Group, Pattern)	
Other Functions	Image Auto Flip, Auto Parking, Power-up Action & etc.		
General	Communication	RS-485	
	Protocol	Auto, Pelco-D, Pelco-P, Samsung, Panasonic, Kalatel, AD(American Dynamics) Selectable	
	Privacy Zone	12 Zones	
	Sensor In/Out	Built-in 8 Input / 4 Relay Output	
	OSD	Menu / PTZ Information etc, Support 7 Languages: ENGLISH / ESPAÑOL / FRANÇAIS / DEUTSCH / ITALIANO / РУССКИЙ / PORTUGUÊS	
	Power	AC 24V, 24W(Heater Off) / 57W(Heater On)	
	Dimension	Net: 260 x 552 x 405 (mm)	
		Package: 580 x 390 x 500 (mm)	
	Weight	Net: about 6.4 Kg Package: about 11 Kg	
	Operating Temp.	-45°C ~ 50°C / -49°F ~ 122°F	
Outdoor Housing	IP 66/ Vandal Proof Structure (Housing & Accessories : AL Die-cast), (Dome Cover: PC)		

Troubleshooting

Before sending your camera for repair, check the following or contact our technical support specialists.

PROBLEM	SOLUTION
Not image appears on the screen.	Check that the power cable is connected properly to the camera and that it meets the camera's power requirements. Check that the line connection between the camera and monitor is fixed properly. Check that you have properly connected BNC cable to the camera.
The image on the screen is dim.	Is the lens stained with dirty? Clean your lens with a soft, clean cloth. Check the monitor and DVR settings. If the camera is exposed to very strong light, change the camera position.
The image on the screen is dark.	Adjust the contrast feature of the monitor . If you have an intermediate device, set the $\Omega 75$ / Hi-z properly.
The camera is properly, and the surface of the camera is hot.	Check that you have properly connected the camera to an appropriate power source.
The DAY/NIGHT menu does not work.	Check that AGC under the CAMERA SETUP> AE SETUP menu is 'OFF'.
Color is not correct.	Check the setting of CAMERA SETUP> WB SETUP menu .
The screen flickers continually.	Check that the camera is not pointing at the sun.
When RS485 communication is not available	Make sure that the camera and monitor are installed within the recommended distance. Make sure the cables are properly connected to the +/- on both the DVR and the Camera. Make sure you set the appropriate Baudrate pending on the distance between the camera and the DVR. When setting up the camera communications on the DVR side, make sure you enter the same protocol and baudrate as set in the camera. If your DVR supports more than one RS485 connection, make sure the cables are connected to the corresponding Channel.
The camera is out of focus.	Check that you have properly adjusted the zoom/focus adjustment lever of lens. Try setting the FOCUS to AUTO and see if the camera adjusts itself correctly. If necessary, change the FOCUS option to SEMI-AUTO or MANUAL and adjust the focus of the camera manually.
The OSD menu is frozen	Reboot the camera (unplug from the power supply) to set camera to INITIALIZE mode.

WARRANTY INFORMATION

Digital Watchdog (referred to as “the Warrantor”) warrants the Digital Watchdog Camera against defects in materials or workmanship as follows:

LABOR : For the initial two (2) years and one (1) year on PTZ Zoom Module from the original purchase date, if the camera is determined to be defective, the Warrantor will repair or replace the unit with a new or refurbished product at its option at no charge.

PARTS : In addition, the Warrantor will supply replacement parts for the initial two (2) years and one (1) year on PTZ Zoom Module.

To obtain warranty or out of warranty service, please contact a Technical Support Representative at 1-866-446-3595 Monday through Friday from 8:30AM to 8:00PM Eastern Standard Time.

A purchase receipt or other proof of the original purchase date is required before warranty service is rendered. This warranty only covers failures due to defects in materials and workmanship which arise during normal use. This warranty does not cover damage which occurs in shipment or failures which are caused by products not supplied by the Warrantor or failures which result from accident, misuse, abuse, neglect, mishandling, misapplication, alteration, modification, faulty installation, set-up adjustments, improper antenna, inadequate signal pickup, maladjustment of consumer controls, improper operation, power line surge, improper voltage supply, lightning damage, rental use of the product or service by anyone other than an authorized repair facility or damage that is attributable to acts of God.

LIMITS AND EXCLUSIONS

There are no express warranties except as listed above. The Warrantor will not be liable for incidental or consequential damages (including, without limitation or damage to recording media) resulting from the use of these products, or arising out of any breach of the warranty. All express and implied warranties, including the warranties of merchantability and fitness for particular purpose, are limited to the applicable warranty period set forth above.

Some States do not allow the exclusion or limitation of incidental or consequential damages or limitations on how long an implied warranty lasts, so the exclusions or limitations listed above may not apply to you. This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

If the problem is not handled to your satisfaction, then write to the Address listed on the next page.

Service calls which do not involve defective materials or workmanship as determined by the Warrantor, in its sole discretion, are not covered. Costs of such service calls are the responsibility of the purchaser.

Appendix I

Setting the Camera's ID using the DIP Switch

Use the following table as a quick reference to the Pin values and positions required for each individual ID number. The unique Pin combination equals a different ID you can use to define your camera in a situation where you want to control multiple cameras.

Pin	1	2	3	4	5	6	7	8
Pin Value	1	2	4	8	16	32	64	128
ID								
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

Appendix I

Setting the Camera's ID using the DIP Switch

Pin	1	2	3	4	5	6	7	8
Pin Value	1	2	4	8	16	32	64	128
ID								
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
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
85	ON	OFF	ON	OFF	ON	OFF	ON	OFF
86	OFF	ON	ON	OFF	ON	OFF	ON	OFF

Appendix I

Setting the Camera's ID using the DIP Switch

Pin	1	2	3	4	5	6	7	8
Pin Value	1	2	4	8	16	32	64	128
ID								
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
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

Appendix I

Setting the Camera's ID using the DIP Switch

Pin	1	2	3	4	5	6	7	8
Pin Value	1	2	4	8	16	32	64	128
ID								
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
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

Appendix I

Setting the Camera's ID using the DIP Switch

Pin	1	2	3	4	5	6	7	8
Pin Value	1	2	4	8	16	32	64	128
ID								
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
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

Appendix I

Setting the Camera's ID using the DIP Switch

Pin	1	2	3	4	5	6	7	8
Pin Value	1	2	4	8	16	32	64	128
ID								
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



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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.