SAMSUNG TECHWIN

Positioning System

User Manual

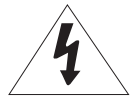
SCU-2370
SCU-9051
SCU-VAC
SCU-VAC1

SAMSUNG

Positioning System

User Manual

safety information



CAUTION

RISK OF ELECTRIC SHOCK.
DO NOT OPEN

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

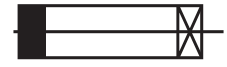
This symbol indicates that dangerous voltage consisting a risk of electric shock is present within this unit.

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

WARNING

- To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.
- To prevent injury, this apparatus must be securely attached to the floor/wall in accordance with the installation instructions.

- REPLACE WITH SAME TYPE F8AL 250V FUSE(F1, F2)



WARNING

1. Be sure to use only the standard adapter that is specified in the specification sheet.
   Using any other adapter could cause fire, electrical shock, or damage to the product.
2. Incorrectly connecting the power supply or replacing battery may cause explosion, fire, electric shock, or damage to the product.
3. Do not connect multiple cameras to a single adapter. Exceeding the capacity may cause abnormal heat generation or fire.
4. Securely plug the power cord into the power receptacle. Insecure connection may cause fire.
5. When installing the camera, fasten it securely and firmly. The fall of camera may cause personal injury.
6. Do not place conductive objects (e.g. screwdrivers, coins, metal parts, etc.) or containers filled with water on top of the camera. Doing so may cause personal injury due to fire, electric shock, or falling objects.
7. Do not install the unit in humid, dusty, or sooty locations. Doing so may cause fire or electric shock.
8. If any unusual smells or smoke come from the unit, stop using the product. In such case, immediately disconnect the power source and contact the service center. Continued use in such a condition may cause fire or electric shock.
9. If this product fails to operate normally, contact the nearest service center. Never disassemble or modify this product in any way. (SAMSUNG is not liable for problems caused by unauthorized modifications or attempted repair.)
10. When cleaning, do not spray water directly onto parts of the product. Doing so may cause fire or electric shock.

CAUTION - Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.

CAUTION

1. Do not drop objects on the product or apply strong blows to it. Keep away from a location subject to excessive vibration or magnetic interference.
2. Do not install in a location subject to high temperature (over 50°C), low temperature (below -50°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 lighting storm. Neglecting to do so may cause fire or damage to the product.

safety information

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. Do not expose the camera to radioactivity. Radioactivity exposure may damage the CCD.

FCC Statement

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

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

CAUTION

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.
This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

IC Compliance Notice

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

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

(Applicable in the European Union and other European countries with separate collection systems)
This marking on the product, accessories or literature indicates that the product and its electronic accessories (e.g. charger, headset, USB cable) should not be disposed of with other household waste at the end of their working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.
Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take these items for environmentally safe recycling.
Business users should contact their supplier and check the terms and conditions of the purchase contract.
This product and its electronic accessories should not be mixed with other commercial wastes for disposal.

Correct disposal of batteries in this product

(Applicable in the European Union and other European countries with separate battery return systems.)
This marking on the battery, manual or packaging indicates that the batteries in this product should not be disposed of with other household waste at the end of their working life. Where marked, the chemical symbols Hg, Cd or Pb indicate that the battery contains mercury, cadmium or lead above the reference levels in EC Directive 2006/66. If batteries are not properly disposed of, these substances can cause harm to human health or the environment.
To protect natural resources and to promote material reuse, please separate batteries from other types of waste and recycle them through your local, free battery return system.

important safety instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Clean only with dry cloth.
6. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
7. Do not install near any heat sources such as radiators, heat registers, or other apparatus (including amplifiers) that produce heat.
8. 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.
9. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
10. Only use attachments/accessories specified by the manufacturer.
11. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
12. Unplug this apparatus during lightning storms or when unused for long periods of time. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as powersupply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as powersupply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

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

WARNING
To prevent injury, this apparatus must be securely attached to the floor/wall in accordance with the installation instructions.

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

PRECAUTIONS ON INSTALLATION AND USE

- Be sure to install the product vertically. Do never place it in other ways or reversely.
- For safety reasons to prevent a risk of accidental drop-off, use a strong safety chain while installing the product.
- The wall where you intend to install the product should be firm and solid as well as the screws in order to prevent a risk of drop-off.
- Pay special attention to safe transportation. A sudden impact may cause a damage to the product.
- When connecting the power, communication, video and lightening device using the cable gland, seal off the cable gland with a Teflon tape (PTFE) so that no water can inflow.
- If you need to open the housing for the installation work, be sure to turn off the product before proceeding.
- Use only the provided or rated AC adapter.
- Use only power adapter with 24V AC, 6A or higher that satisfies the power specifications. (UL Listed Class 2 Adapter)
- Replace the battery if “Invalid RTC” message appears on the screen when turning on/off. (Note that the message “Invalid RTC” can appear when the time has been initialized too. Be sure to set the time when purchased or after the system initialization.)

- For product consulting, contact your nearest retailer. Note that servicing may be chargeable for using a special equipment such as an extension ladder.
- This is an assistant device to the monitoring system; the company do not take responsibility for any financial or physical damage to the product that may occur due to theft, fire or natural disasters.

CAUTIONS FOR OPERATING TEMPERATURE

1. The camera cannot operate properly at temperatures lower than -50ºC.
2. Even if the surrounding temperature is -50ºC or higher, the camera may not thaw itself and operate properly depending on the installation environment.
3. Always keep the power on, so the camera can maintain its internal temperature at -10ºC or higher.
4. If the camera was turned on after being left at temperatures lower than -50ºC for a long duration:
   - If the internal temperature is lower than -20ºC, the camera does not transmit video signals and displays a black screen along with the “Wait to warm up(xx Left)” message, instead of operating properly.
   - If the internal temperature is higher than -20ºC and lower than -10ºC, the “Wait to warm up(xx Left)” message disappears as the camera resets itself and enters the operation mode. However, only manual P/T operation is in effect while the Sequence and Turbo commands are limited in use.
   - If the internal temperature is higher than -10ºC, the camera activates all Sequence and Turbo commands.

contents

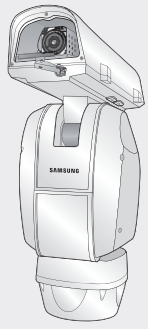
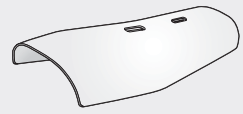
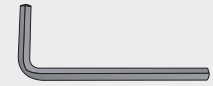
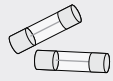
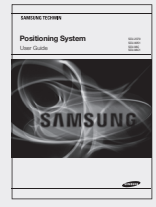
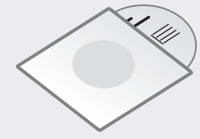
introduction

Features

- **Versatile protocols and coaxial communication**
  Supports RS-422/485 communications and coaxial communication (Pelco-C).
  - RS-422/485 (10 species) : SAMSUNG-T, SAMSUNG-E, Pelco(D/P), Panasonic, Honeywell, AD, Vicon, GE, Bosch.
  - Coaxial Communications: Pelco Coaxitron (automatic detection)
- **Wide Range Auto Security Functions**
  - Multiple Preset Function Saving : Up to 12 camera image properities can be saved individually to provide high quality pictures. (SCU-2370)
  - Image Holding : Provides Preset Freeze to reduce the eye fatigue of the observer when moving the group.
  - PTZ Trace : Patterns operated with the joystick can be saved and replayed by users.
  - Swing : Using the Swing function commands the camera to move between 2 selected locations, monitoring the route.
  - Group Search : Maximum 255 Preset positions are toured in order.
- **Area Masking**
  If a monitoring location includes a highly private area, the area can be selectively masked on the screen.
- **Smart P/T**
  The Smart P/T function automatically adjusts the control speed of the Pan and Tilt functions according to the current zoom ratio. It is useful to adjust the functions manually for detailed controls when monitoring at high zoom ratios. (SCU-2370/VAC)
- **Day & Night**
  With its daytime & nighttime switch and Sens-Up functions based on the ICR (Infrared Cut filter Removal) method, the camera provides high quality pictures regardless of whether it is day or night.
  - Sens-Up increases the CCD sensitivity by electrically extending the camera's exposure time.
  - Day & Night enables you to select between color and B/W modes depending on the lighting conditions.
- **OSD(On Screen Display)**
  The camera IDs, camera preset numbers, preset names, area names, and camera operation status are displayed on the monitor, allowing set up of various camera functions through the OSD menu screen.
- **Preset Position Saving and Loading**
  Up to 255 preset positions can be set. Using this function saves and brings up the camera feed of a selected monitoring location.

WHAT'S INCLUDED

Check if the following items are included in the product package.

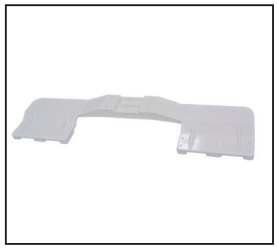
		
Main Body	Sunshield	L-type hexagon wrenches (4.0mm)
		
Fuse (2EA)	User Manual	CD Manual

Mount

The following items are sold separately from the camera.

SBU-220PM
Pedestal Mount

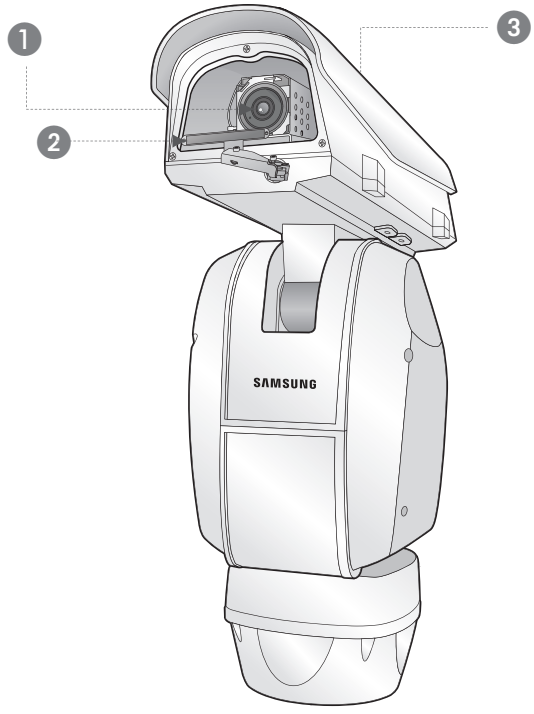
SBU-500WM
Wall Mount



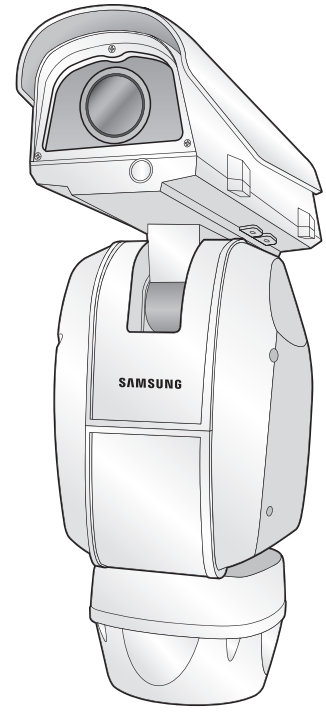
SBU-550IM
Light Projector Mount

COMPONENT NAMES AND FUNCTIONS

Front



(SCU-2370/VAC/VAC1)

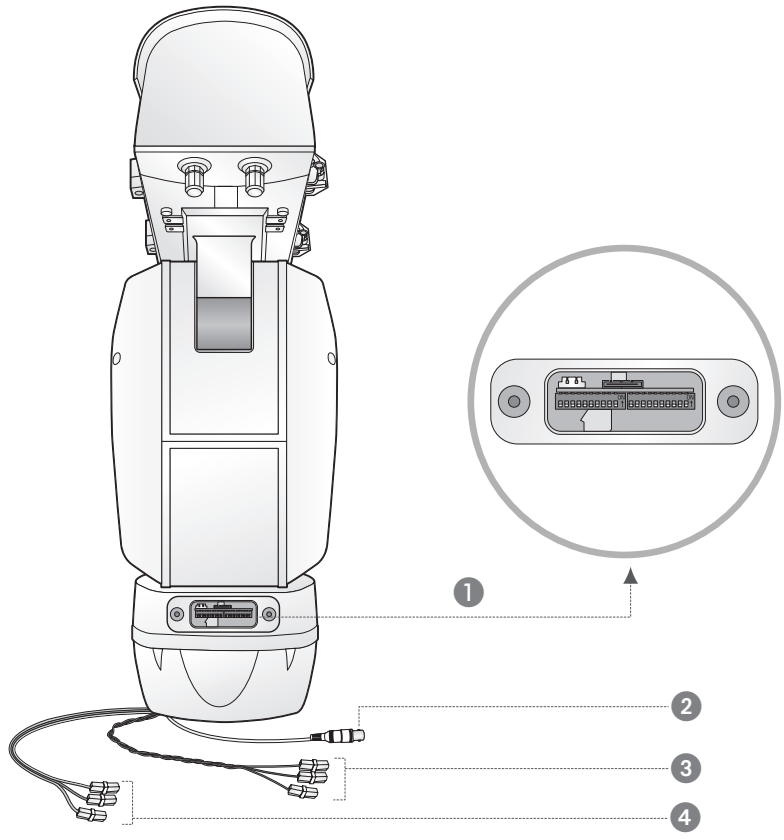


(SCU-9051)

1 Lens
2 **Wiper :** Use it to wipe out the front glass of the housing.
3 Sunshield

■ SCU-VAC/VAC1 models support various lens and camera installations upon user's requirement.

Back

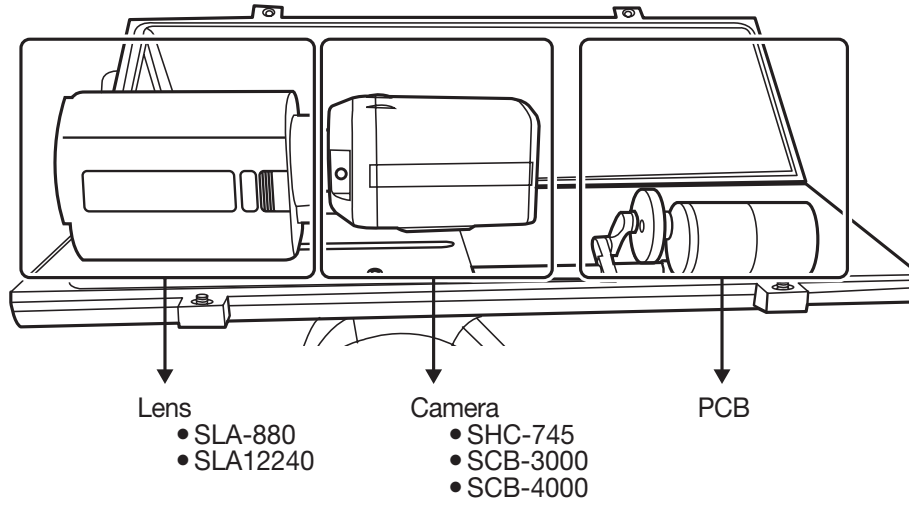


1. COM/ID Setup Switch
2. Video Out Cable
3. Communication Cable
4. Power Cable

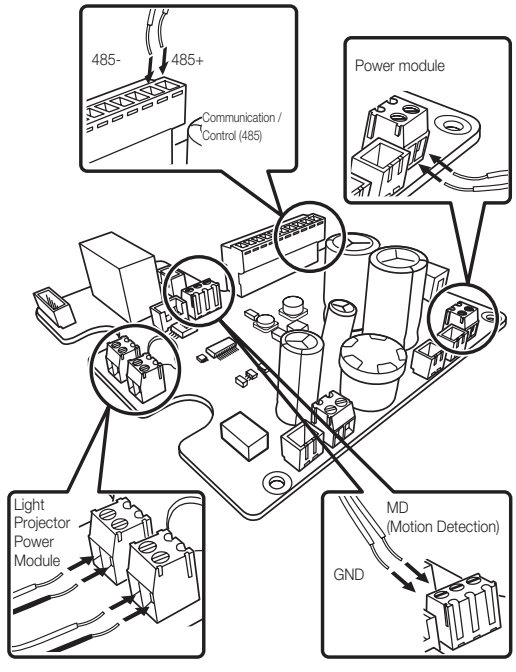
■ For the DIP switch settings, please refer to the on Pages 18~21.

connection & installation

- **Assembling Lens and Camera**

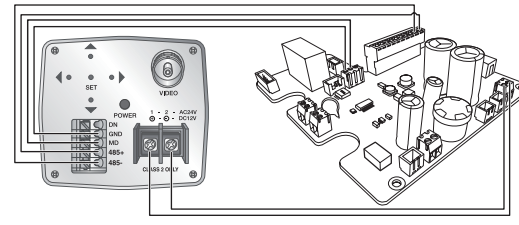


- Basic Wiring

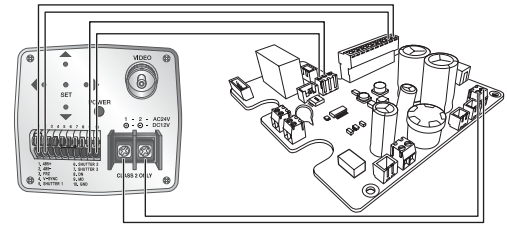


* The power adaptor (AC) has no polarity.

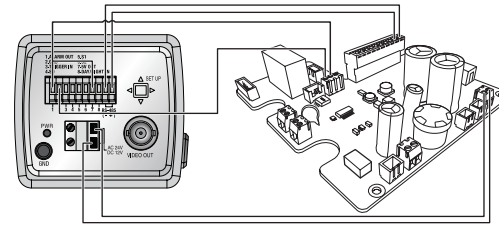
- How to connect (SHC-745)



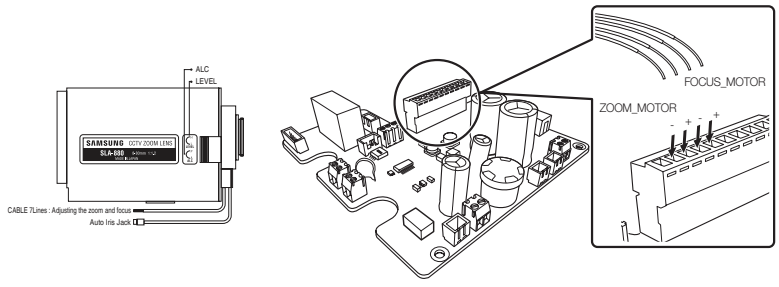
- How to connect (SCB-3000)



- How to connect (SCB-4000)

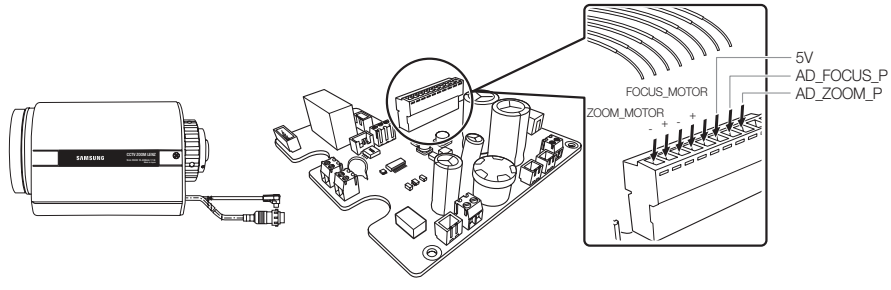


- How to connect (SLA-880)



	Lens Label	Board Label
Focus	GREEN (Far)	FOCUS_MOTOR+
	BLACK (Near)	FOCUS_MOTOR-
Zoom	YELLOW (Wide)	ZOOM_MOTOR+
	RED (Tele)	ZOOM_MOTOR-

- How to connect (SLA-12240)



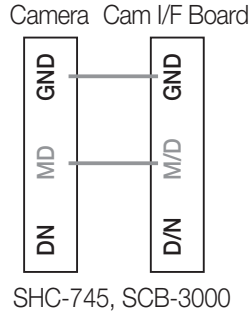
Lens Label	Lens Cable No.	Lens Cable Color	Board Label
Zoom Wiper	1	Pink	AD_ZOOM_P
Focus Wiper	3	Sky Blue	AD_FOCUS_P
Pot. Supply	7	Orange	+5V
Focus	5	Blue	FOCUS_MOTOR+
White +Near	2	White	FOCUS_MOTOR-
Zoom	4	Green	ZOOM_MOTOR+
Red +Tele	6	Red	ZOOM_MOTOR-
Pot. Return	8	Gray	GND

connection & installation

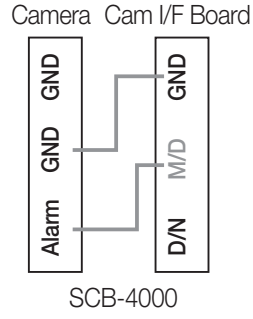
- SCU-VAC/9051

Model	SW1	SW2	SW3	SW4	Protocol		Lens	Iris Type
SCU-9051	■	□	□	□	SCB-9051	Samsung-T		
SCU-VAC	□	■	□	□	SHC-745	Samsung-T	SLA-880	Video
	□	□	□	□	SCB-3000		SLA-12240	DC
	□	■	□	□	SCB-4000	Samsung-E	■ : ON	□ : OFF

Motion Detection (SCU-VAC)

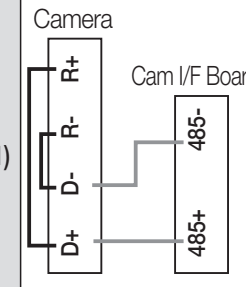


SHC-745, SCB-3000



SCB-4000

RS-485 (SCU-9051)

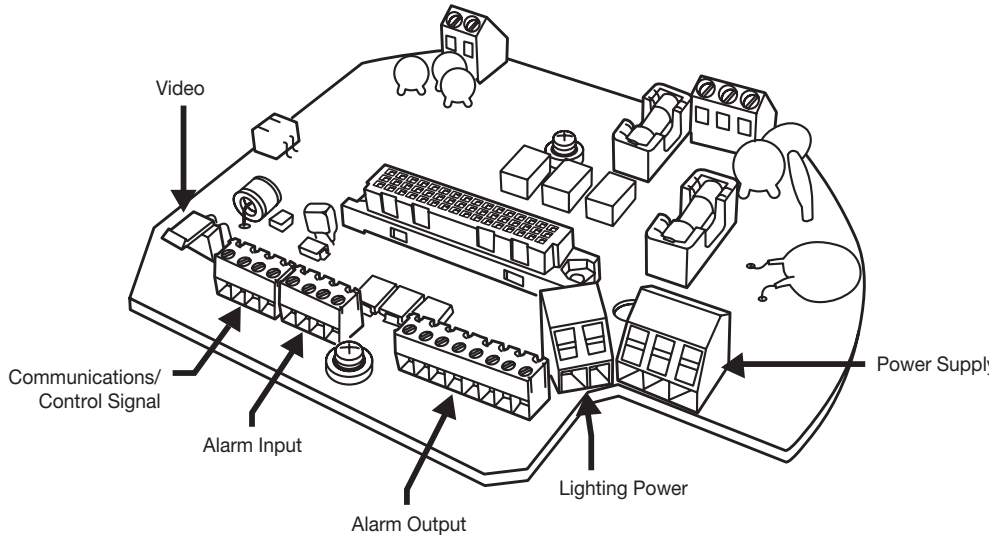


■ **Check !!** ID=1, Baudrate=9600-N-1 (SCU-9051 : 9600-E-1)

■ When shipped, all switches are set to OFF by default.

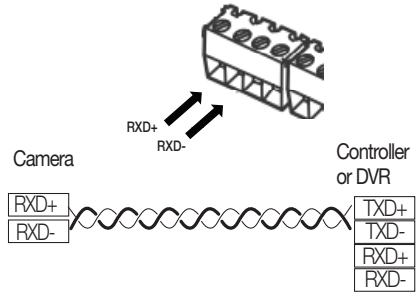
Camera Wiring Interface Board

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

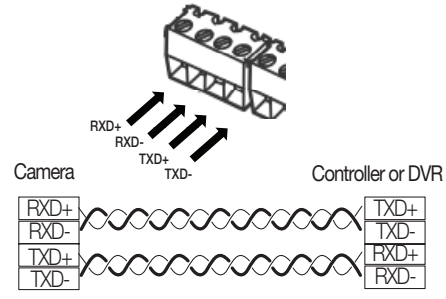


Communication/Control Signal Diagram

• RS-485 Communications

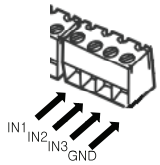


• RS-422 Communications



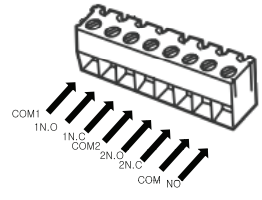
Alarm Connections

• Alarm Input



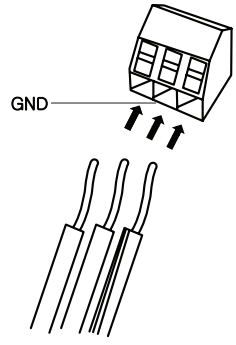
Name	Descriptions
IN1	Alarm Signal Input 1
IN2	Alarm Signal Input 2
IN3	Alarm Signal Input 3
GND	Ground

• Alarm Output



Type	Name	Descriptions
Alarm Output	COM1	Alarm Out 1 (Common)
	1N.O	Alarm Out 1 (for Normal Open)
	1N.C	Alarm Out 1 (for Normal Close)
	COM2	Alarm Out 2 (Common)
	2N.O	Alarm Out 2 (for Normal Open)
	2N.C	Alarm Out 2 (for Normal Close)
External Device	COM	External Device (AUX) Terminal
	N.O	External Device (for Normal Open) Terminal

Power Module Connection Diagram



※ The power adaptor (AC) has no polarity.

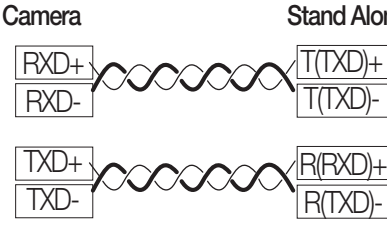
- The maximum power capacity of the built-in relay is 30VDC/2A, 125VAC/0.5A, and 250VAC/0.25A.
- A separate relay driver device is required if used with an adaptor which exceeds specified nominal specifications.
- Connecting the power connector and GND incorrectly to the NC/NO and COM ports may cause a short circuit and fire, damaging the camera.

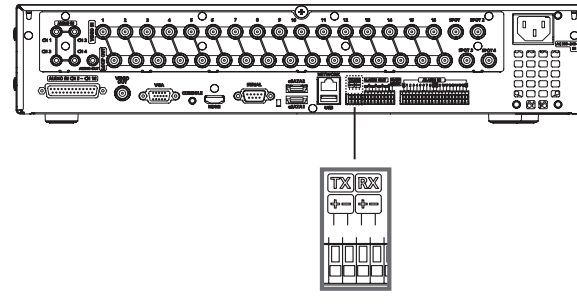
CAMERA AND APPLIANCES WIRING DIAGRAM

Connecting with Samsung Techwin's "Stand Alone DVR"

- RS-485 :

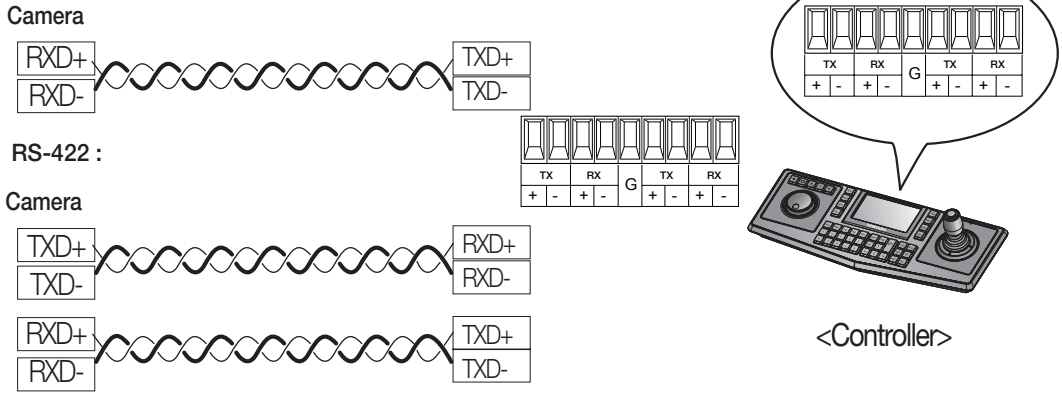
- RS-422 :





Connecting with the Samsung Techwin Controller SPC-6000

- RS-485 :

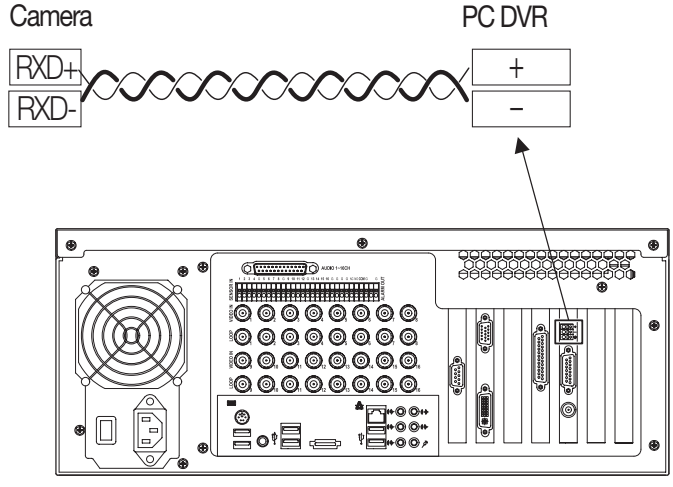


- RS-422 :

<Controller>

To connect to Samsung PC DVR

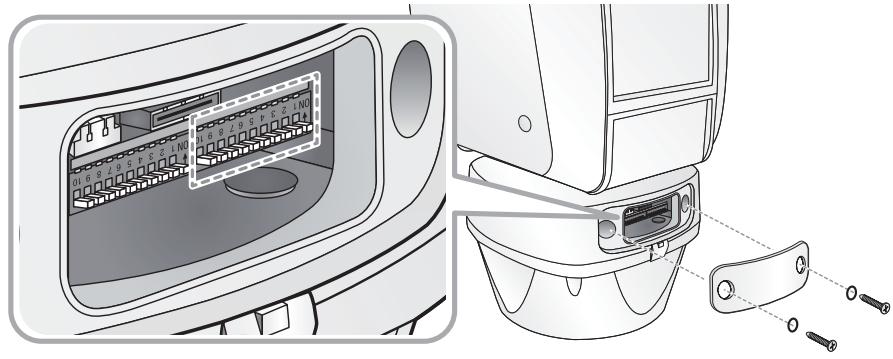
- RS-485 :



SRP-1610/1650

COMMUNICATION PROTOCOL DIP SWITCH SETTINGS

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



Pin No.	Purpose
1 ~ 4	Protocol Settings
5	Transfer Method (RS-485/422) Settings
6	Response Mode Settings
7	Terminal Resistance TX
8	Terminal Resistance RX
9	TEST
10	Factory Default

Protocol Settings

Select a communication protocol for the camera.

No	Protocol	#4	#3	#2	#1
1	SAMSUNG-T	OFF	OFF	OFF	OFF
2	SAMSUNG-E	OFF	OFF	OFF	ON
3	Pelco-D	OFF	OFF	ON	OFF
4	Pelco-P	OFF	OFF	ON	ON
5	Panasonic	OFF	ON	OFF	OFF
6	Vicon	OFF	ON	OFF	ON
7	Honeywell	OFF	ON	ON	OFF
8	AD	OFF	ON	ON	ON
8	GE	ON	OFF	OFF	OFF
10	Bosch	ON	OFF	OFF	ON

Communication Method Settings

Select a communication method for the camera.

	Function	ON	OFF
#5	Transfer Mode Switch	RS-422(4Wire)	RS-485(2Wire)

Communication Response Settings

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

	Function	ON	OFF
#6	Response Mode Switch	Response	No Response

Termination Settings

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

Camera Input Position	#7	#8
Terminal Resistance RX	ON	OFF
Terminal Resistance TX	OFF	ON

- When terminating for RS-485: #8 → ON
- When terminating for RS-422: #7, #8 → ON

Initialize

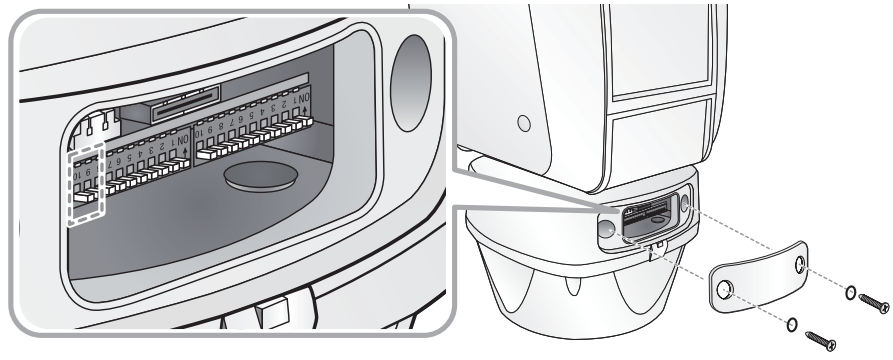
Initialize the system using the Initialize switch on the rear of the product.
Once initialized, all current settings will return to the factory default.

	Initialize	Do not use initialization
#10	ON	OFF

- If you do not set the Reset witch to OFF after resetting the system, all stored data will be lost when you restart the system.

Baud Rate Settings

Select the transfer speed of a selected communication protocol.



No	Baud Rate(BPS)	#9	#10
1	2,400	ON	ON
2	4,800	ON	OFF
3	9,600	OFF	OFF
4	19,200	OFF	ON

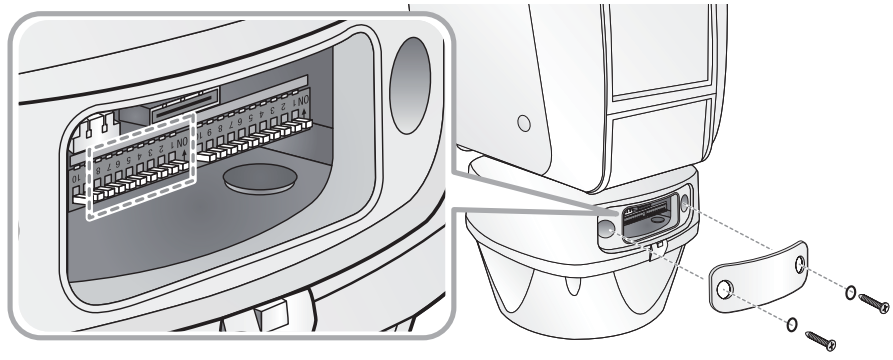
- To use a third party controller with this product, please contact our After-Sales Service or Technology Department.
- Controls Using Different Protocols

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

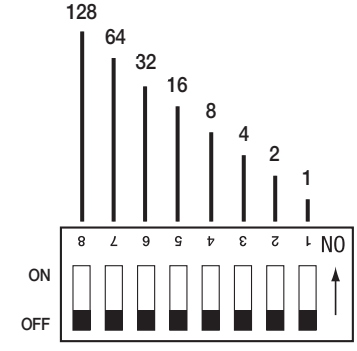
- For more information about the protocols, refer to our official website.
- The product's DIP switch is set to OFF when shipped, and the default values are presented as shadowed in corresponding settings table.
- Remove the rubber packing of the DIP switch cover to reveal the switch settings.

CAMERA ID DIP SWITCH SETTINGS

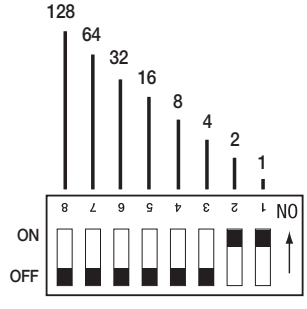
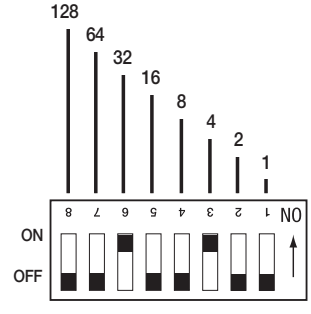
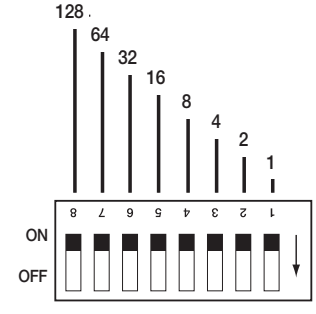
Assign a unique number for each camera to identify itself from others.



1. The initial value of the switch is “0”, and all of the 8 switches are defaulted to OFF.
2. Each switch has a unique value, and the board ID is the sum of the values of the switches.



▪ Refer to the example below for the board ID.

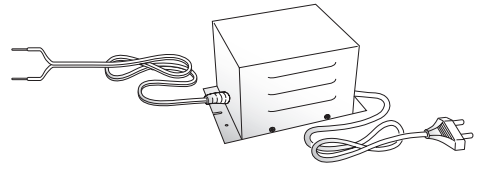
Example 1	Example 2	Example 3
		
1+2 = 3 (Board ID = 3)	4+32 = 36 (Board ID = 36)	1+2+4+8+16+32+64+128 = 255 (Board ID = 255)

▪ Use a unique ID for each Camera.

PREPARING ADAPTER AND CABLES

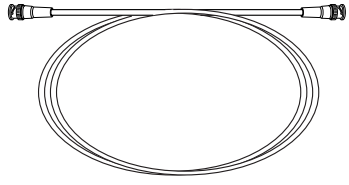
- **Power Adapter**

  Power adapter has the capacity of AC24V 6A. (UL Listed Class 2 Adapter)



- **Video Cable**

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

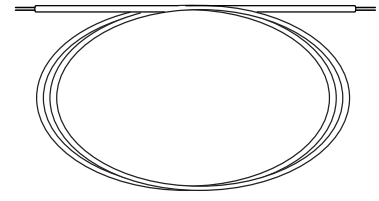


Distance	Recommended Cable Specification
300m	4C2V(RG-59/U)
450m	5C2V(RG-6/U)
600m	7C2V(RG-11/U)

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

- **Communications Cable**

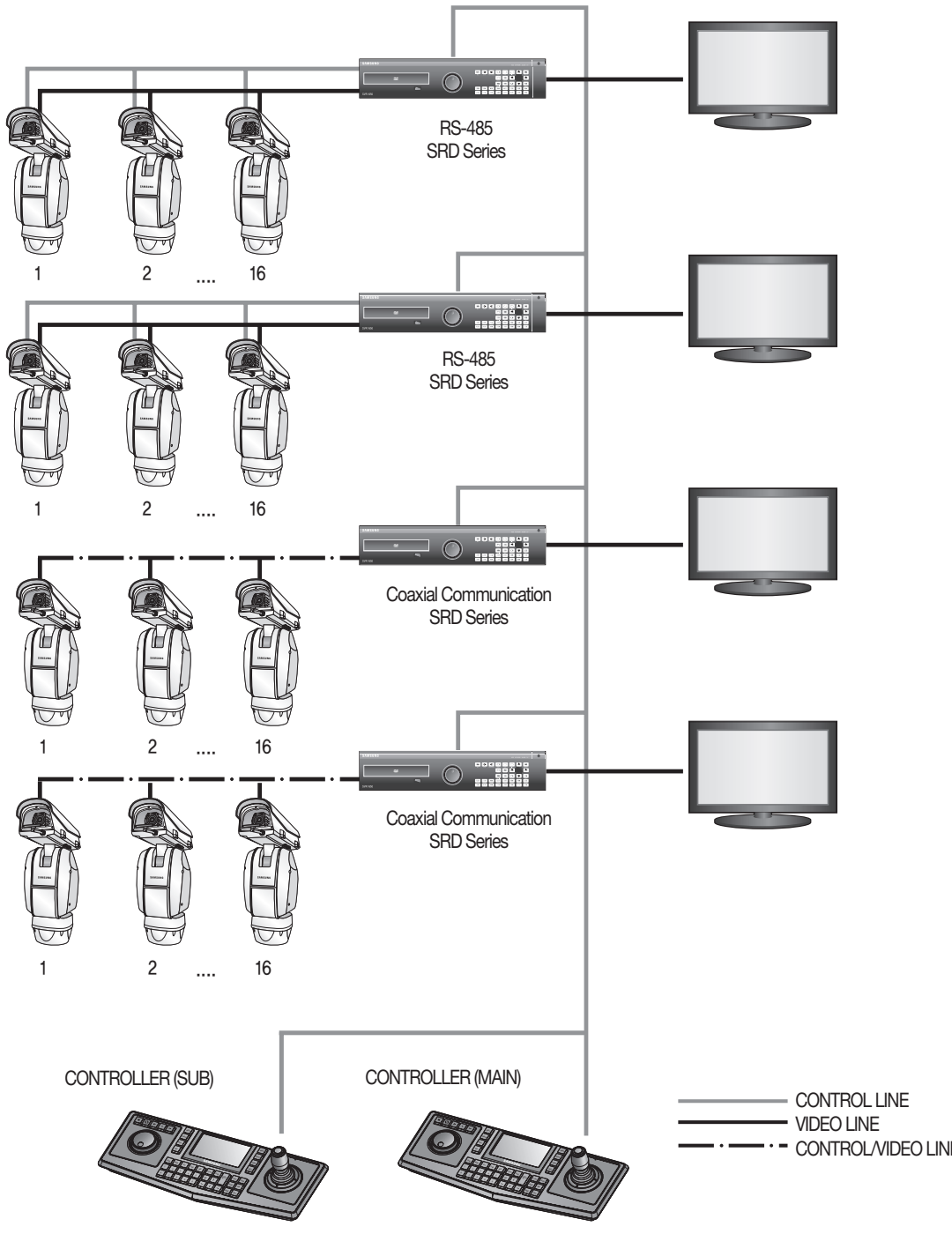
  For the camera to communicate with the controller, a RS-485/422 communications line is required. To ensure the quality of long distance communication and the accuracy of the overall communication it is recommended using a twisted pair cable such as UTP.



■ Depending on the camera's environment, the communications distance may vary.

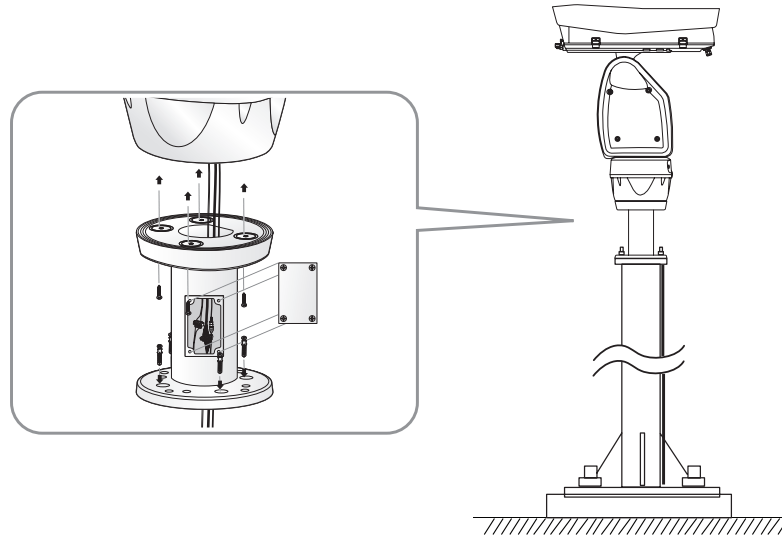
■ Neither the video nor communications cable is enclosed with the camera.

PRODUCT CONFIGURATIONS

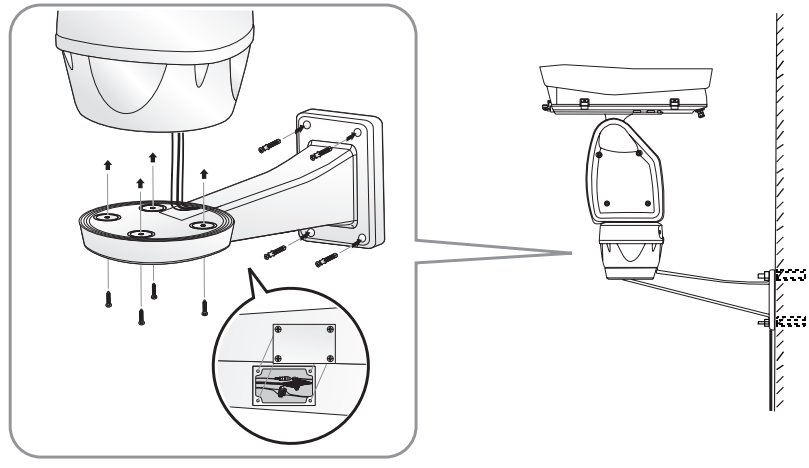


CAMERA INSTALLATION

- Pedestal Mount



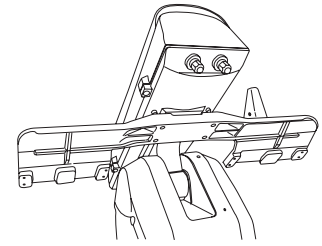
- Wall Mount



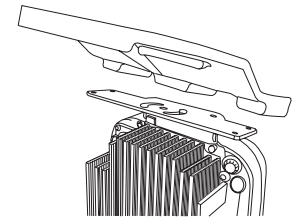
- Do not connect the camera to a power outlet until the installation is complete. Supplying power in the middle of the installation may cause fire or damage the product.
- Bend back the wiper before opening the housing.
- Ensure that the housing is closed completely before you turn on the product. Do not reset the system with the housing open. Otherwise, it may cause damage to the product.

- **To install the light projector**

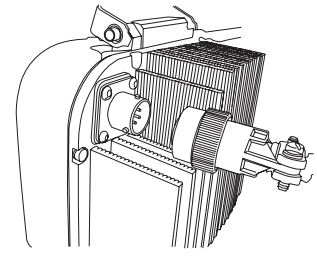
1. Fix 4 hex screws to secure the camera on the bracket through the holes prepared, from the bottom side of the bracket.



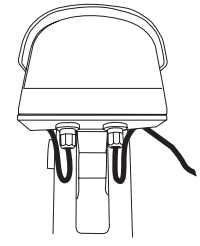
2. To secure the light projector on the bracket, fix 4 hex screws through the holes prepared on the boundary of the bracket, from the bottom side. Fix the center hex screw from the upper side of the bracket mount towards the light projector.
* Mounting and securing the light projector may vary depending on the light projector type.



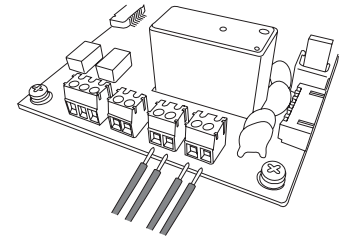
3. Connect the cables.



4. Insert the projector cables through the rear hole of the camera.



5. Light projector cable is to be connected to the power module.



INTERFACE SYMBOLS

- **Motion Detection Standby/Operation Display :**

  When in standby mode, the "D" in the upper right of the screen blinks and then changes to "🚶" if motion is detected.

- **Alarm Input Port Status Display :**

  "1", "2" and "3" in the upper right of the screen blink.

- **Current Alarm Port Display According to Input Alarm Ports(Priority) :**

  Only one of "❶", "❷", "❸" in the upper right of the screen blinks.

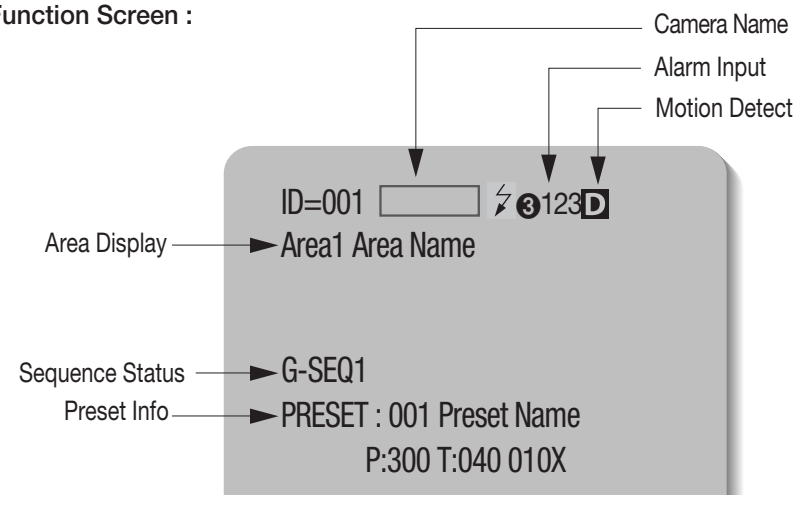
  ※ The alarm port indicator blinks only when the sequence is set .

- **Preset Number Display Settings :**

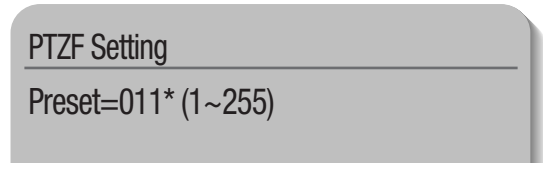
  '*' : If a preset number is already available

  'H' : If a preset location is the camera's home position

- **PTZ Function Screen :**

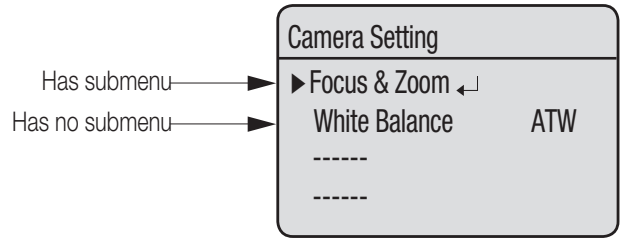


- **Preset Number Setting Screen :**



USING AND SETTING THE MENUS

OSD (On-screen Display) Indicators



Operating Your Camera

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

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

OSD Commands, Function Chart, and Menu Controls

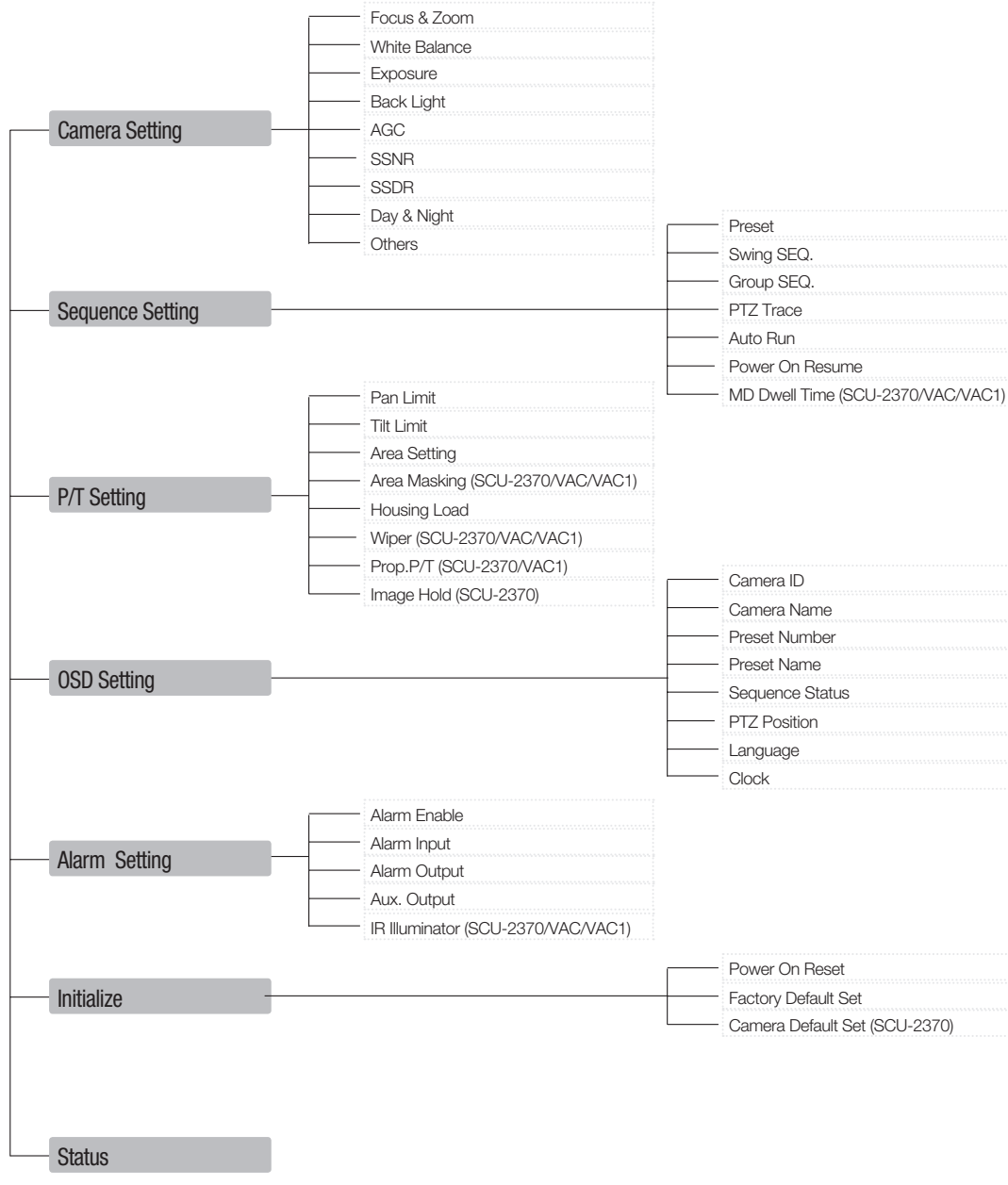
This camera can be operated using two methods: Using hot keys on its dedicated controller, or accessing the OSD (On Screen Display) on the video output.
The OSD menu commands are as follows:

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

OSD Menu Chart

You can have an overall view of the menu structure. For more information, refer to the applicable page or section in the manual.

※ For more information about SCU-VAC, refer to the “Camera Setting” section in the manual that was provided when you purchased the camera module.



CAMERA SETUP (SCU-2370)

※ The camera setting section in this manual is explained based on SCU-2370.
For SCU-9051, refer to page 40. For SCU-VAC products, refer to the own user manual provided separately.

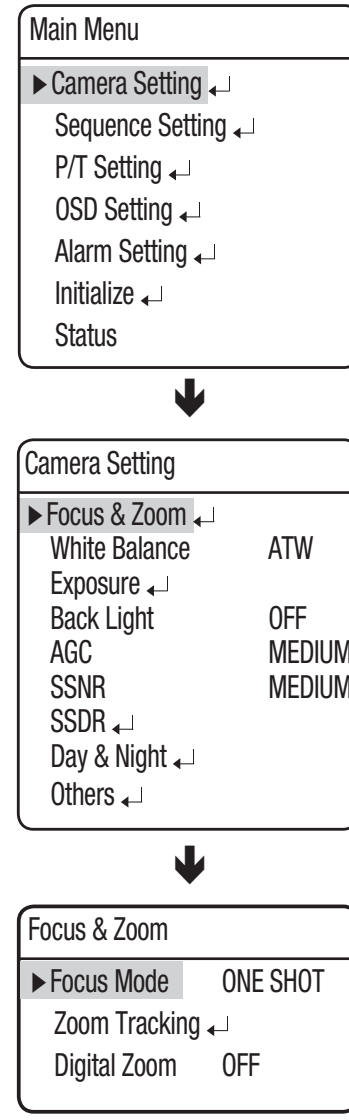
Focus and Zoom Settings

● **Focus Mode**

- AUTO : Performs continuous auto-focus.
- MANUAL : Changes the camera mode to Manual Focus.
- ONE SHOT : Auto-focuses the camera once after the Pan, Tilt, or Zoom function is used.

● **Digital Zoom**

Enables the maximum digital zoom.
Digital zoom magnifies from x2 to x16, which provides with zooming up to x592 in maximum when applied with the optical zoom.

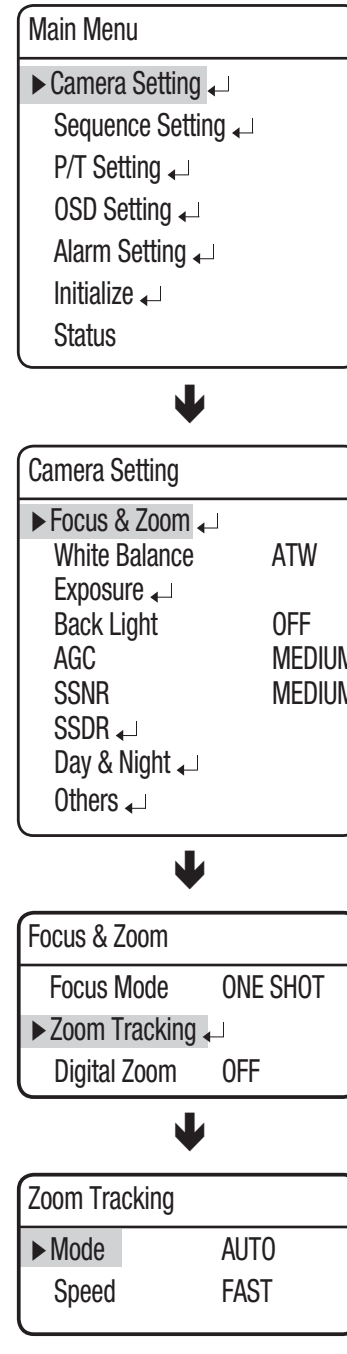


- Unlike the optical zoom, the graphics quality of the digital zoom decreases as its zoom ratio increases.
- The auto-focus function may not operate normally under the following conditions :
  - When background illumination is low
  - While Slow-Shutter is in operation
  - If the zoom level is set too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

Zoom Tracking

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

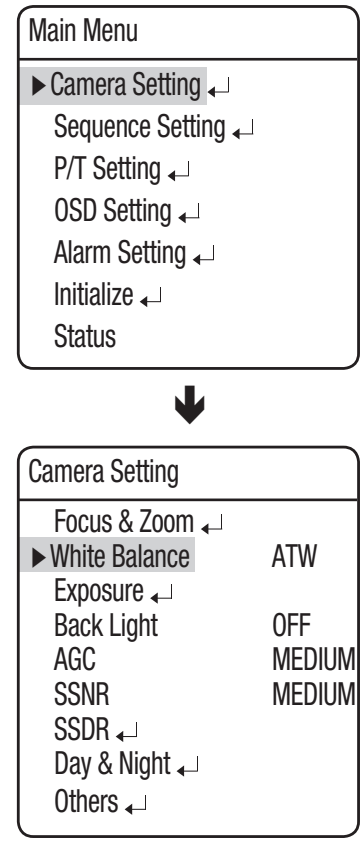
- **Mode**
  - AUTO : Auto-focuses when zooming.
  - TRACKING : Focuses manually when zooming.
  - OFF : Disable the focus modes when zooming. (Full manual mode)
- **Speed**
  SLOW/MEDIUM/FAST : Adjusts the zooming speed.



White Balance

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

- **ATW :** Adjusts the screen color automatically.
- **INDOOR :** Adjusts the screen color to be optimal in an indoor environment.
- **OUTDOOR :** Adjusts the screen color to be optimal in an outdoor environment.
- **AWC :** Adjusts the screen color to be optimized to the current lighting and monitor conditions. Using this setting may require an readjustment if the lighting conditions changes.
- **MANUAL :** Enables customization the Red and Blue gains.



■ White Balance may not work properly under the following conditions.

❶ When the color temperature of the environment surrounding the subject is out of the control range.(e.g. Clear sky or sunset)

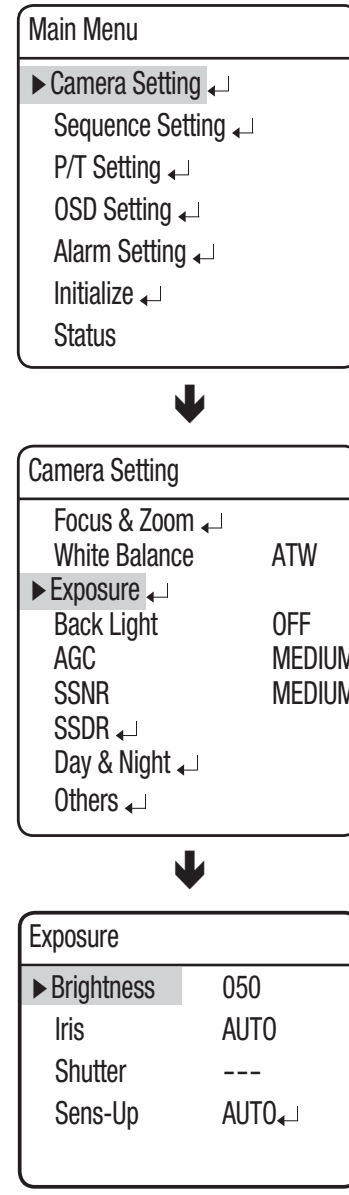
❷ When the ambient illumination of the subject is dim.

❸ If the camera is directed towards a fluorescent light or is installed in a place where illumination changes dramatically, White Balance adjustments may not deliver consistent results.

Exposure

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

- **Brightness :** Adjusts the screen brightness.
  (Over 50: Brighter, Under 50: Darker)
- **Iris**
  - AUTO : Automatically adjusts the exposure meter.
  - MANUAL : Enables manual adjustment of the exposure meter. (F1.6~Close: 18 levels)
- **Shutter :** Controls the camera's electronic shutter.
  - --- : The shutter speed is fixed at 1/60 for NTSC and 1/50 for PAL. Operates when Iris is on the Auto Mode.
  - ESC : Adjusts the shutter speed automatically according to the screen brightness. Operates when Iris is on the Manual Mode.
  - A.FLK : Select this setting when you experience picture flickering. Flickering can happen when artificial lighting frequencies clash with camera frame rates.
  - MANUAL : Enables manual adjustment of the shutter speed.
- **Sens-Up**
  - AUTO : Automatically detects light levels and maintains a clear picture at night or under low-light conditions.
  - Sens-Up Limit : Adjusts to the maximum-powered zoom per frame.

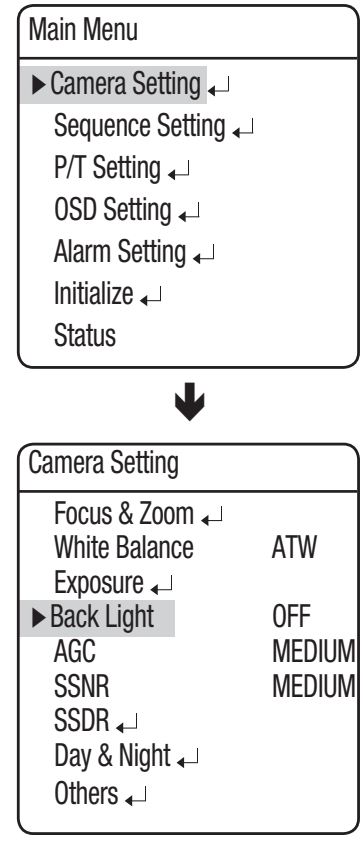


- For optimal performance of the A.FLK mode, avoid using the mode in conjunction with Backlight.
- While the Internal Sync mode is in effect, setting the shutter to '---' and facing the camera directly to a bright light source may cause poor camera performance.
- Sens-Up is disabled when the shutter is in Manual or A. FLK mode.

Back Light

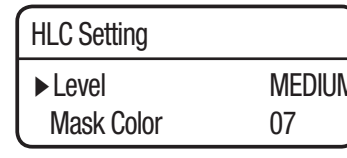
Unlike other cameras, Samsung Techwin's unique W-V DSP chip gives you a clear image of the subject even with bright backlight.

- **Back Light Mode**
  - OFF : Disables the Backlight mode.
  - HLC : Activates the High Light Compensation mode.
  - BLC : Activates a user defined backlight compensation mode.

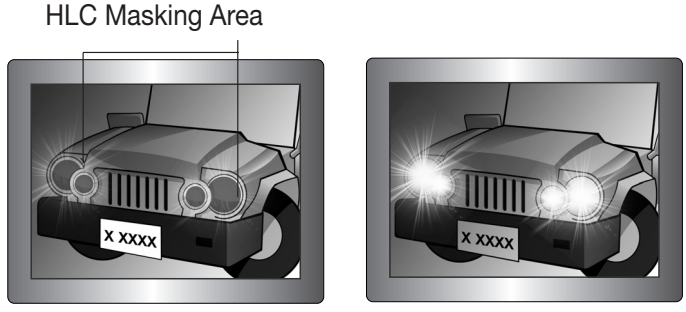


◈ **HLC Setting**

The HLC settings selectively eliminates high lights in a limited environment such as the entrance to an apartment parking lot or gas station, and is useful to detect a small objects like car license plates.



HLC is disabled during the daytime. While monitoring nigh time car traffic, if car headlights reflects too much bright light on the screen, the camera automatically eliminates the headlamp lights and adjusts the color of the license plate accordingly.



<HLC ON> <HLC OFF>

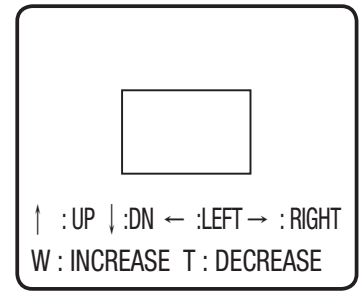
- Level : Adjusts the HLC sensitivity level.
- Mask Color : Adjusts the mask color on the high lighted area.

- Even if HLC is on, car license plates may not be detectable depending on the location and angle of the camera as well as the lighting condition.
- HLC does not function if in Digital Zoom or Freeze function is in use.

◈ BLC Setting

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

- Four-direction Joystick Controls :
  Moving the joystick in all four directions—upward, downward, left, and right—adjusts the location and size of a selected area.
- Zoom Control :
  - Zoom Tele : Enlarges the size of a selected area.
  - Zoom Wide : Reduces the size of a selected area.



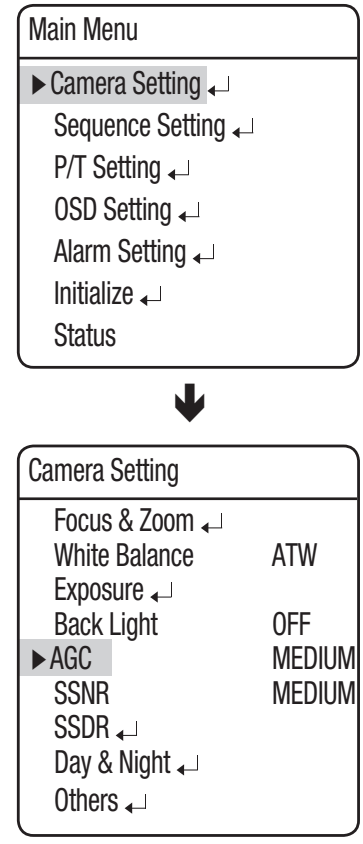
AGC(Auto Gain Control)

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

- **OFF:**
  AGC does not function.

- **LOW/MEDIUM/HIGH:**
  As the level increases to HIGH, brighter the captured screen in a dark lighting.

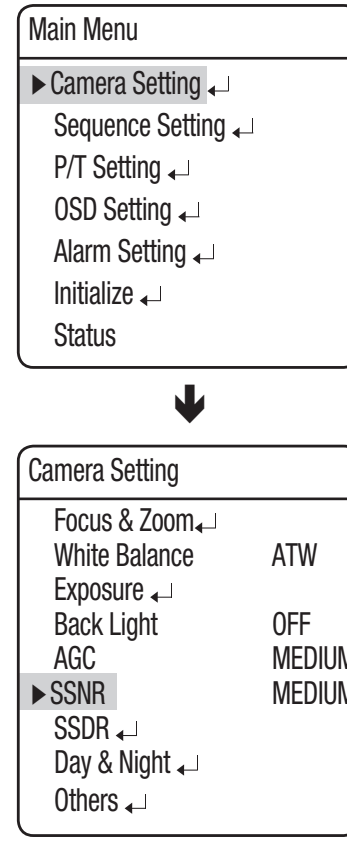
- **MANUAL:**
  AGC can be fine tuned by adjusting the level (5dB ~ 41dB).



SSNR(Samsung Super Noise Reduction)

SSNR significantly reduces the amount of low luminance noise.

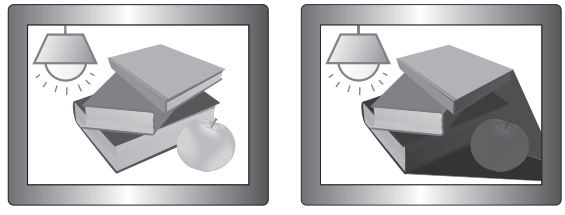
- OFF : Disables the noise reduction function.
- LOW : Reduces only a small amount of noise, but generates almost no afterimage.
- MEDIUM : The most commonly used mode. Reduces a suitable amount of noise while generating a subtle afterimage.
- HIGH : Reduces noise significantly, but generates obvious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



■ SSNR is not available if AGC is set to OFF or MANUAL.

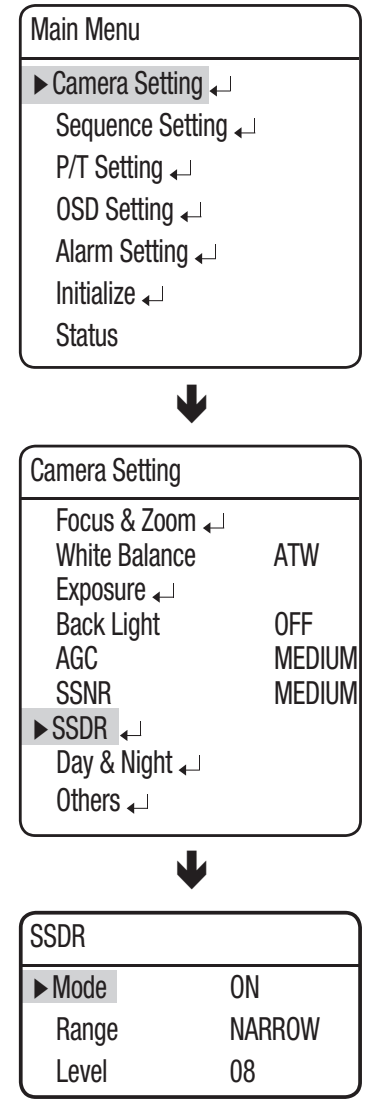
SSDR(Samsung Super Dynamic Range)

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



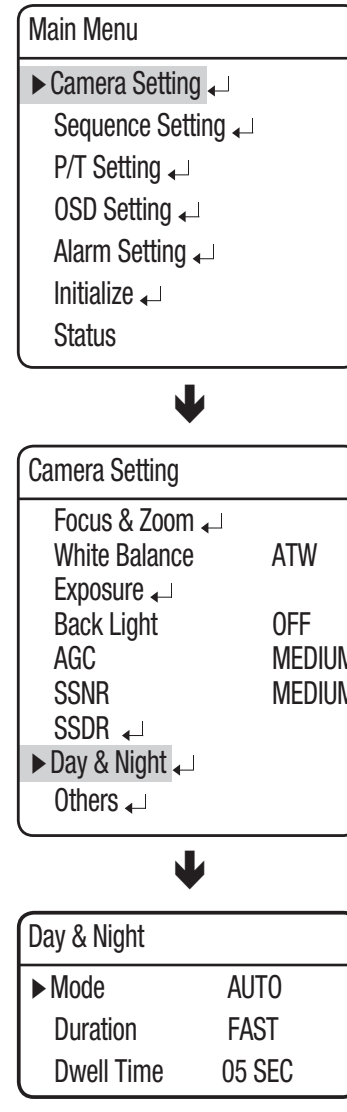
SSDR ON SSDR OFF

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



Day & Night

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



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

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

- **Duration :**
  - The camera’s light sensitivity is adjustable as in the chart below. The camera’s ambient light diversion performance may vary depending on its environment.

	Color → B/W	B/W → Color
FAST	2.5Lux	4Lux
SLOW	0.8Lux	6Lux

- **Dwell Time :**
  - The duration of both the lighting conditions can be customized to let the camera divert between the daytime and nighttime settings.

■ Auto mode is not available if AGC is set to OFF or MANUAL. Only available if it is set to COLOR or B/W.

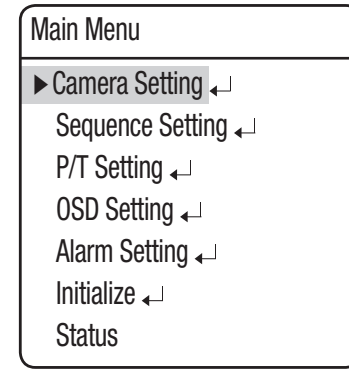
■ Using B/W mode under sunlight or a halogen lamp may decrease the focusing performance.

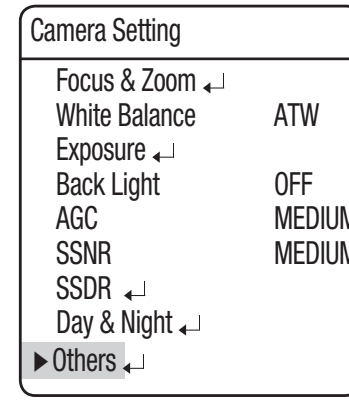
Others

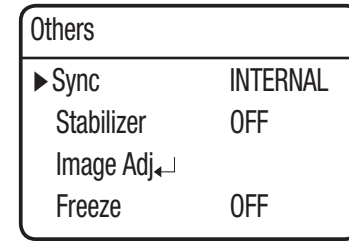
- **Sync :** Enables selecting Internal Synchronization or the external Line Lock.
  - INTERNAL : Synchronizes the camera's output timing to the internal crystal.
  - LINE LOCK : Synchronizes the camera's output timing to the AC adapter power to synchronize multiple cameras. This option is useful when using a switch such as Matrix Switcher.
  - LINE LOCK PHASE : Enables setting the adapter's synchronization phase between 0 and 359°.
- **Stabilizer :** The Stabilizer compensates for any small movements of the camera caused by due to the wind and other reasonable causes.

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

- **Image Adj :**
  - Sharpness : Sharpens outlines of an image.
  - Color : Adjusts the color density of an image.
- **Freeze :** Stops or reanimates an image.







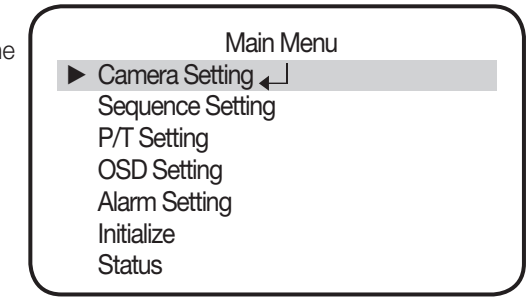
CAMERA SETUP (SCU-9051/VAC/VAC1)

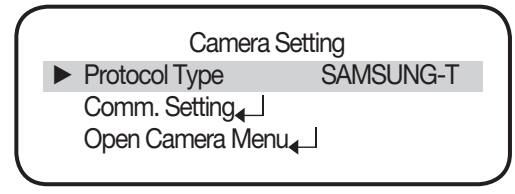
※ This setup guide is intended for SCU-9051/VAC/VAC1 that may differ depending on the camera module.

- **Protocol Type**

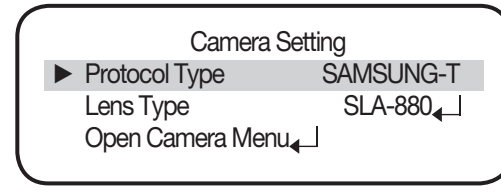
  This enables you to specify the protocol type of the camera module. Improper protocol settings may result in an abnormal operation of the product.
  - SAMSUNG-T: SCB-3000/SHC-745
  - SAMSUNG-E: SCB-4000

- **Lens Type (SCU-VAC/VAC1)**
  - FEEDBACK / NON F/B /SLA-12240 / SLA-880: Select a model if using a Samsung product (SLA-12240/SLA-880); select a model that supports feedback if using a third-party product.
  - Reversed Zoom: Depending on the wiring direction, Tele/Wide can be controlled reversely. This is what you can use to make the product work properly without changing the wiring. (OFF: Disabled, ON: Enabled)
  - Zoom Tele Pos.(Feedback/SLA-12240 Lens Specification): If the feedback value from the motorized zoom lens increases when you perform the zoom tele, you must set the value to Increase (Default) so that the zoom factor will be displayed accordingly. However, if an abnormal zoom factor is displayed, you must set the value to Decrease so that the zoom factor will be displayed accordingly.





<SCU-9051 >



<SCU-VAC/VAC1>

- Reversed Focus : Depending on the wiring direction, Far/Near can be controlled reversely. This is what you can use to make the product work properly without changing the wiring.
- Focus Near Pos.(Feedback/SLA-12240 Lens Specification): If the feedback value from the motorized zoom lens increases when you perform Focus Near, you must set the value to Increase (Default) so that the Focus function works properly. However, if the Focus function does not work properly, you must set it to Decrease so that it works properly.

● **Comm. Setting (SCU-9051)**

- Parity: You can set the parity bit. (default : EVEN)

■ The communication settings should be configured in accordance with the camera specification. Otherwise, the product may not work properly.

● **Open Camera Menu**

You can access the camera setup menu.

■ The OSD language of the camera setup menu does not sync with the positioning system.

■ The communication settings should be configured in accordance with the camera specification. Otherwise, the product may not work properly.

■ Per communication settings of the camera module

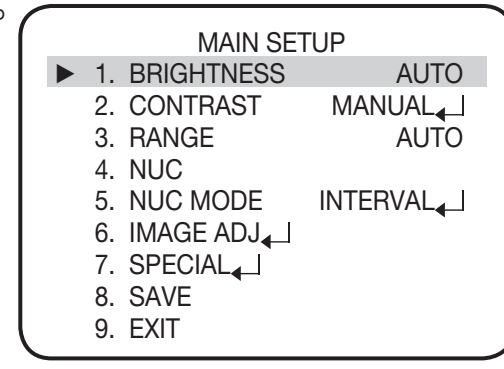
- SCU-VAC/VAC1: ID=1, baud rate =9600, communication mode= 8-N-1

- SCU-9051: ID=1, baud rate =9600, communication mode = 8-E-1

※ This instruction applies to SCU-9051. For VAC/VAC1 camera settings, refer to each product's user manual.

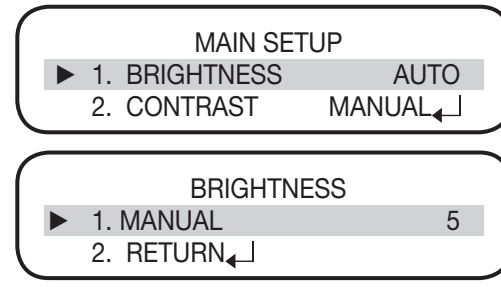
Main Setup

● Press the SET button to display the MAIN SETUP menu screen. The MAIN SETUP menu uses a tree structure. When you select a function, a sub menu will appear.



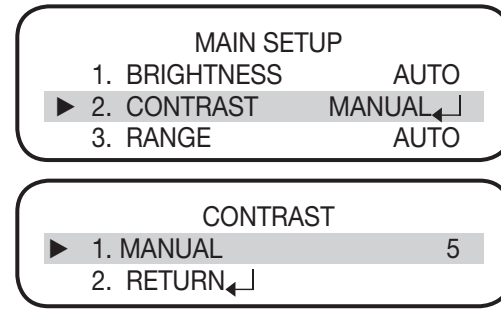
BRIGHTNESS

1. Press the SET button while the cursor is aligned with “1. BRIGHTNESS” to display the BRIGHTNESS sub menu shown below. Press the LEFT button or RIGHT button while the cursor is aligned with “AUTO” to switch the BRIGHTNESS AUTO ADJUST setting from : ON ➞ OFF ➞ ON.
Press the LEFT button or RIGHT button while the cursor is aligned with “MANUAL” to adjust the BRIGHTNESS over ten different levels: 1 ➞ 2 ➞ 3 ➞ 4 ➞ 5 ➞ 6 ➞ 7 ➞ 8 ➞ 9 ➞ 10 ➞ 1. Select “2. RETURN” to confirm the current setting and go back to the MAIN SETUP menu screen. (Default value : AUTO ON)



CONTRAST

2. Press the SET button while the cursor is aligned with “2. CONTRAST” to display the following sub menu. Press the LEFT button or RIGHT button while the cursor is aligned with “AUTO” to switch the CONTRAST AUTO ADJUST setting from : ON ➞ OFF ➞ ON.
Press the LEFT button or RIGHT button while the cursor is aligned with “MANUAL” to adjust the CONTRAST over ten different levels: 1 ➞ 2 ➞ 3 ➞ 4 ➞ 5 ➞ 6 ➞ 7 ➞ 8 ➞ 9 ➞ 10 ➞ 1. Select “2. RETURN” to confirm the current setting and go back to the MAIN SETUP menu screen. (Default value: 6)

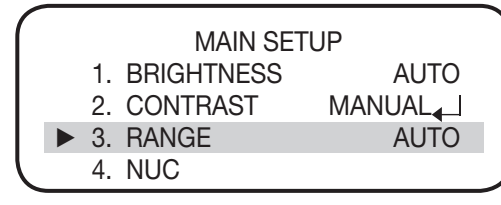


※ In order for the CONTRAST AUTO setting to be enabled, the BRIGHTNESS AUTO setting must already be turned on.
Accordingly, if AUTO cannot be set to “ON”, enable the BRIGHTNESS AUTO setting and then turn on the CONTRAST AUTO setting.

RANGE

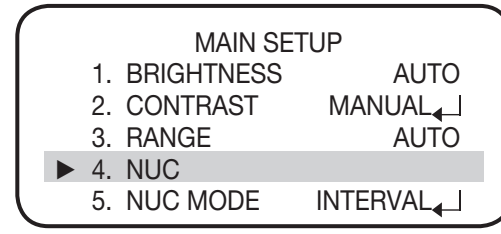
Use this option to switch between an L Range and H Range settings. Select “AUTO” to allow the settings to automatically change between L Range and H Range based on the surrounding temperature. Choose “L” to keep the temperature range at L Range regardless of the surrounding temperature. In the same way, select “H” to always have the temperature range set at H Range.

3. Press the LEFT button or RIGHT button while the cursor is aligned with “3. RANGE” to switch the RANGE setting from : AUTO ➞ L ➞ H ➞ AUTO. (Default value: AUTO)



NUC (Calibration)

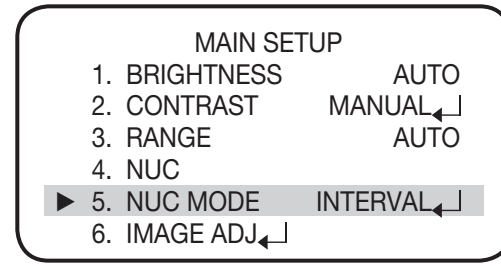
4. Press the SET button while the cursor is aligned with "4. NUC" to calibrate. Screen operations will then be temporarily suspended.



NUC MODE (Calibration Mode)

NUC(Non-uniformity Correction) is a menu calibrating all pixel's characteristics to get better image.
Select an NUC operation mode. If you choose "MANUAL", the user is to perform NUC manually, instead of having the device conduct calibration automatically.

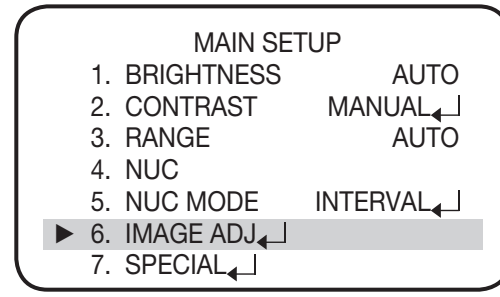
5. Press the SET button while the cursor is aligned with "5. NUC MODE" to display the following NUC MODE sub menu. Press the LEFT button or RIGHT button while the cursor is aligned with "5.NUC MODE" to switch from: INTERVAL → AMB → MANUAL → INTERVAL. Press the SET button again to adjust the sub menu. Select "2. RETURN" to confirm the current setting and go back to the MAIN SETUP menu screen. (Default value: INTERVAL)

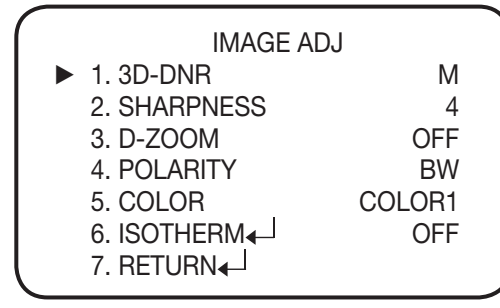


- INTERVAL : An NUC will be performed at the specified INTERVAL.
- AMB : An NUC will only be performed when a temperature change meeting the set temperature (0.1°C-10.0°C) is detected by the internal temperature sensor.
- MANUAL : An NUC will not be performed.

IMAGE ADJ

Use this menu to adjust images. After you select this option, the following sub menu will appear.





- **3D-DNR (Noise Reduction) :**
  Press the LEFT button or the RIGHT button to limit the amount of noise produced. (Default value: M)

- **SHARPNESS (Edge Emphasis) :**
  Use this option to use image processing to emphasize edges. Press the LEFT button or RIGHT button while the cursor is aligned with "2. SHARPNESS" to switch the SHARPNESS setting from 0-5. Select "5. RETURN" to confirm the current setting and go back to the MAIN SETUP menu screen. (Default value: 4)

- **ZOOM (Digital Zoom Settings) :**
  Press the LEFT button or RIGHT button while the cursor is aligned with "3. D-ZOOM" to switch the zoom setting from: OFF → X2 (times two) → X4 (times four) → OFF. Select "5. RETURN" to confirm the current setting and go back to the MAIN SETUP menu screen. (Default value: OFF)

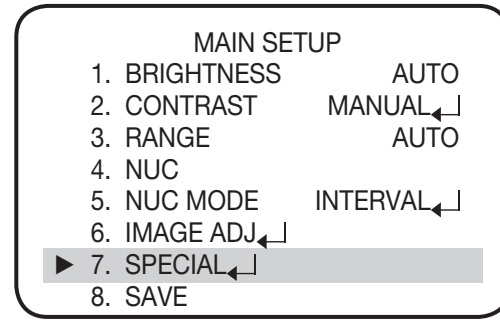
- **POLARITY :**
  Use this option to set the black/white properties of images. When "BW" is selected, high temperature areas will be shown in white, while low temperature areas will be displayed in black. If "WB" is chosen, black and white will be displayed in the opposite way as BW. Press the LEFT button or RIGHT button while the cursor is aligned with "4. POLARITY" to switch the black/white inversion setting from: BW → WB → BW. Select "7. RETURN" to confirm the current setting and go back to the MAIN SETUP menu screen. (Default value: BW)

- **COLOR :**
  Use this option to set the color of images. When "COLOR1" is selected, high temperature areas will be shown in red, while low temperature areas will be displayed in blue. If COLOR2 chosen, high temperature areas will be shown in yellow, while low temperature areas will be displayed in blue. When "MONO" is selected, high temperature areas will be shown in white, while low temperature areas will be displayed in black.

- **ISOTHERM :**
  ISOTHERM can apply colors to the area whose temperature range over "L RANGE TH" or "H RANGE TH" in the screen.
  L RANGE TH : Minimum temperature in the ISOTHERM's area when RANGE is L.
  H RANGE TH : Minimum temperature in the ISOTHERM's area when RANGE is H.
  RETURN Confirm the current setting and go back to the IMAGE ADJ sub menu screen.

SPECIAL (Environment Settings Mode)

Use this menu to adjust environment settings items related to areas such as screen display, video output, and communications. Press the SET button while the cursor is aligned with “7.SPECIAL” to display the following sub menu.

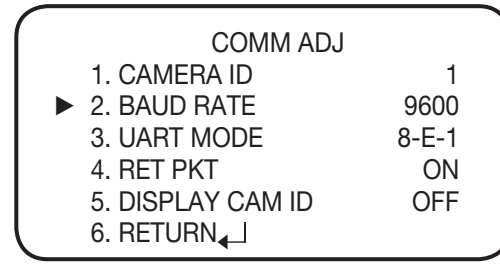


- **TV SYSTEM (Video Output Setting) :**
  Use this option to adjust the video output setting.
  Press the LEFT button or RIGHT button while the cursor is aligned with “1. TV SYSTEM” to switch the TV SYSTEM setting from: NTSC → PAL → NTSC. Select “6. RETURN” to confirm the current setting and go back to the MAIN SETUP menu screen. (Default value: NTSC)

- **LANGUAGE** : You can select a preferred language from ENGLISH, KOREAN and JAPANESE.

  ■ The language of the camera module does not sync with the positioning system.

- **COMM ADJ (Communication Settings mode)** :
  Improper communication settings of the camera module may cause an abnormal operation or inability of the camera.



  - CAMERA ID (Camera ID Settings) :
    Set the camera ID to 1.
  - BAUD RATE (Communications Speed Settings Mode) :
    Set the baud rate to 9600.
  - UART MODE (Parity Settings Mode) :Set the communication mode to 8-N-1.
  - RET PKT (Return Packet Setting) :
    Use this option to adjust the return packet (returned using the same status as the data entered) setting. Press the LEFT button or RIGHT button while the cursor is aligned with “4. RET PKT” to switch the RET PKT setting from: ON → OFF → ON. Select “6. RETURN” to confirm the current setting and go back to the SPECIAL SETUP menu screen. (Default value: ON)
  - DISPLAY CAM ID (ID Display Setting) :
    Use this option to adjust the display setting of the currently set Camera ID (appears on the top left of the screen). Press the LEFT button or RIGHT button while the cursor is aligned with “5. DISPLAY ID” to switch the CAMERA ID display setting from: ON → OFF → ON. Select “6. RETURN” to confirm the current setting and go back to the SPECIAL SETUP menu screen. (Default value: OFF)

- **TEMP ADJ :**
  Use this option to change the temperature unit. Press the button while the cursor is aligned with "4.TEMP ADJ" to change temperature display on/off and temperature unit °C/°F.

  - Temperature Display: You can set to display the temperature information. (Default: Enabled)
  - Celsius (°C) / Fahrenheit (°F):
    Change the temperature measurement unit according to your local metrology. (Default: Celsius (°C))

```
SPECLAL SETUP
1. TV SYSTEM          PAL
2. LANGUAGE           ENGLISH
3. COMM ADJ↵
▶ 4. TEMP ADJ↵
5. RESET
6. RETURN↵
```

■ Don't use SUB-9051 to detect anything. Measurement error is ±15°C for objects that have 0~100°C.

- **RESET :**
  Use this option to restore each item to its default setting.
  Press the SET button while the cursor is aligned with "5. RESET" to restore each item to its factory default setting. Please note, however, that neither TV SYSTEM nor COMM ADJ can be changed. Select "6. RETURN" to go back to the SPECIAL SETUP menu screen.

SAVE

Use this option to save device settings and establish the basic settings which will be used the next time you start up the device. Press the SET button while the cursor is aligned with "8. SAVE" to record your current settings to the internal memory. If you exit without saving, the MAIN SETUP menu will close without any values being updated.

■ Do not disengage the power while settings are being saved.

```
MAIN SETUP
1. BRIGHTNESS         AUTO
2. CONTRAST           MANUAL↵
3. RANGE              AUTO
4. NUC
5. NUC MODE           INTERVAL↵
6. IMAGE ADJ↵
7. SPECIAL↵
▶ 8. SAVE
9. EXIT
```

① After switching BRIGHTNESS and/or CONTRAST to MANUAL and saving your changes, images may not be displayed the next time you restart the device. To render images in such a case, set BRIGHTNESS and/or CONTRAST to "AUTO" or readjust the MANUAL setting.

② If you save after changing the RS-485 communications CAMERA ID, the ID will then be set/stored. If the CAMERA ID was set incorrectly, exit without saving.

EXIT (Close Menu)

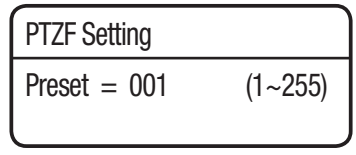
Press the SET button while the cursor is aligned with "9. EXIT" to close the MAIN SETUP menu.

Sequence Setting

Preset

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

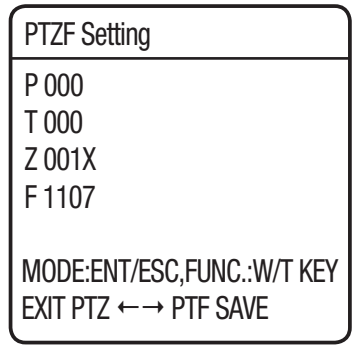
- **Setting Up Preset Numbers :**
  Selecting the Preset Setting menu brings up a screen as shown below. Move the joystick in all four directions to select the desired number.

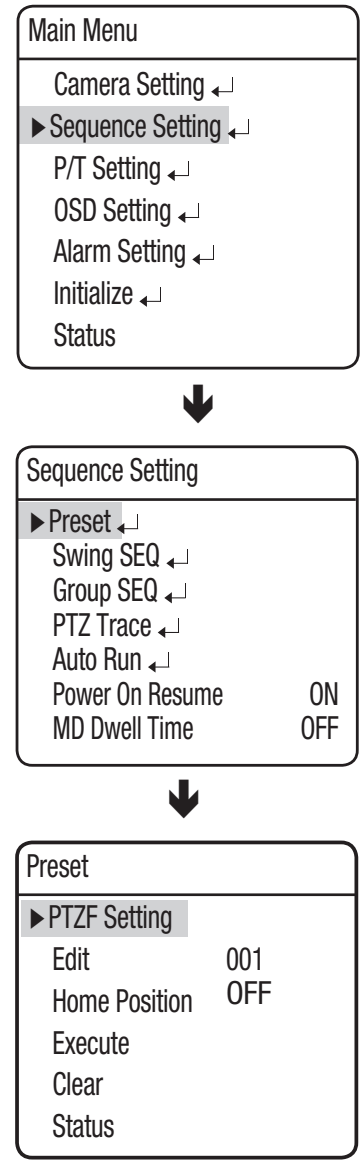


- **Saving Preset Locations :**
  Selecting a preset number and pressing the Enter key redirects the menu to the screen shown below.

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

  In Preset Settings, the Zoom and Focus command is controllable only by the Zoom command.

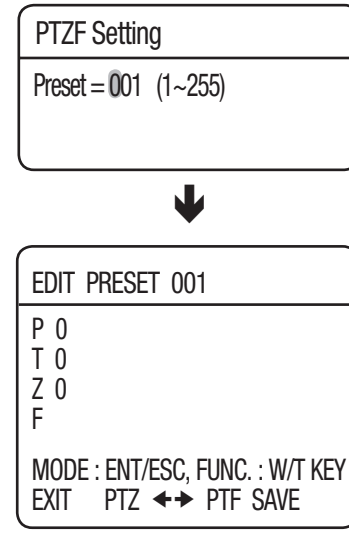




◈ PTZF Setting (SCU-VAC/VAC1)

1. If you open the PTZF setup menu, you will see the following window. You can use the joystick to select a desired number.

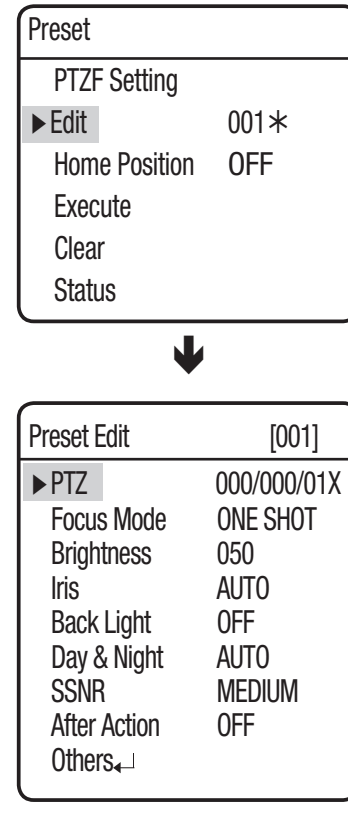
2. Select a preset number and press ENTER. You will move to the setup screen.
   Using the joystick, adjust the location of the Pan and Tilt functions and then set the Zoom and Focus command.
   In Preset Settings, the Zoom and Focus command is controllable only by the Zoom command.
   For switching modes, refer to the menu bar in the bottom.



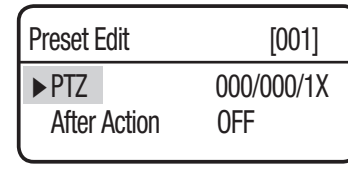
◈ Edit

With this feature, you can edit or save the video-related settings for each preset of the camera.

- Focus Mode : Refer to the section entitled Setting Up Your Camera.
- Brightness : Refer to the section entitled Setting Up Your Camera.
- Iris : Refer to the section entitled Setting Up Your Camera.
- Back Light : Refer to the section entitled Setting Up Your Camera.
- Day & Night : Refer to the section entitled Setting Up Your Camera.
- SSNR : Refer to the section entitled Setting Up Your Camera.
- After Action : Enables setting up an automatic action after the camera arrives at a selected preset location.
  MD : Commands the camera to perform the Motion Detection function. If Focus mode is set to Auto, the MD function may not work properly in a challenging environment.
  OFF : Select this when no action is desired.
- Others : You can set AGC, Stabilizer, SSDR, Shutter, Sens-Up and White Balance functions. For terms related to settings, refer to the camera settings commands.



- MD Function's Prerequisite when using SCU-VAC/VAC1 (SCB-3000) : Set Alarm Out of Camera Setting – Open Camera Menu – Special Intelligence menu to ON.
- For SCU-VAC/VAC1, the MD function will be activated 1.5 seconds after you have moved to the preset position.



- For SCB-3000
  - The MD function will operate normally after 1.5 seconds of system stabilization and 5 seconds of intelligence stabilization.
  - If using Group SEQ, set the dwell time to at least 8 seconds.
- MD restrictions according to the box camera module
  For SCU-VAC/VAC1, the MD function is the only after-action.
  - SHC-745 : Only motion detection is available.
  - SCB-3000 : If you come to use MD at the preset point while in intelligence mode, the current Intelligence mode will be deactivated.
  - SCB-4000 : If you come to use MD at the preset point while using "Advanced" of the intelligence functions, the current "Advanced" function will stay active.

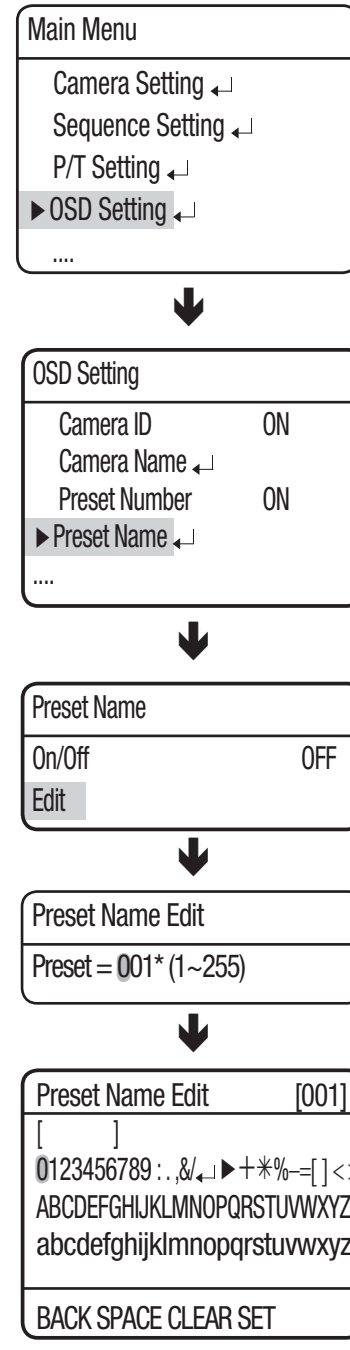
※ The PTZ menu may be displayed "PT", depending on the lens.

◈ Preset Name Setting

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

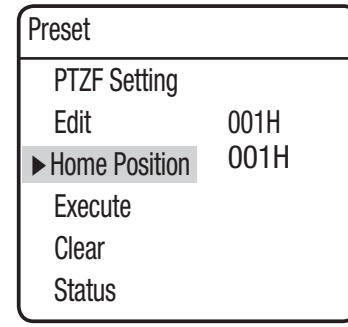
up to 12 characters.

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



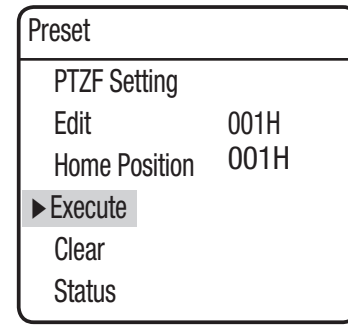
◈ Home Position

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



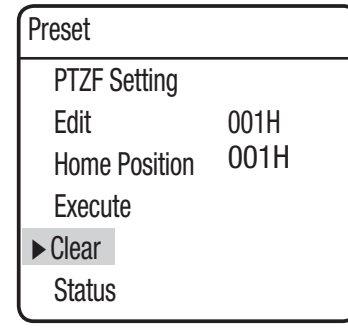
◈ Execute

Recalls a saved preset location.
While in Sequence mode operation, the actual movement can be slower than the specified when moving the camera in the direction of Pan and Tilt at the same time.



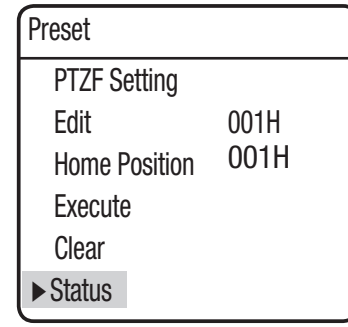
◈ Clear

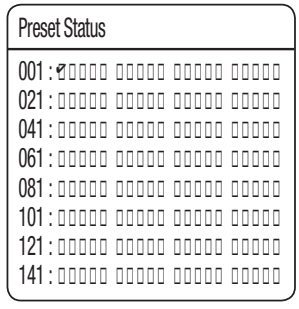
Deletes the selected preset location.

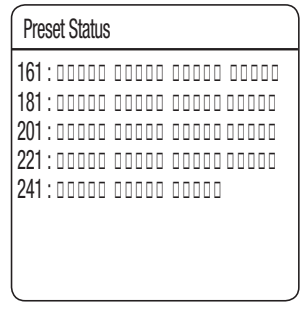


◈ Status

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



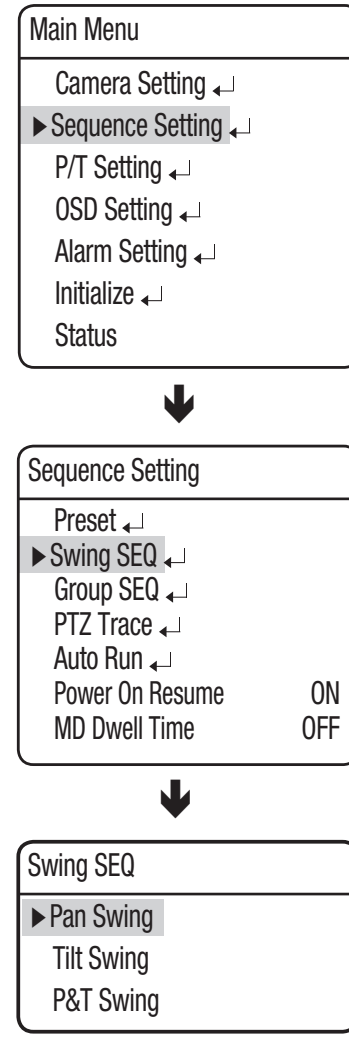


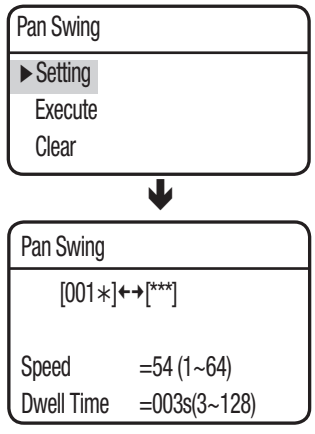


Swing SEQ

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

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





Select 2 preset locations by using the joystick.

Speed indicates the camera's movement speed. DWELL TIME indicates the camera's duration of stay at a preset location.

- Execute: Executes the Swing operation.
- Clear: Deletes data in the Swing memory.

■ While in Sequence mode operation, the actual movement can be slower than the specified when moving the camera in the direction of Pan and Tilt at the same time.

Group SEQ

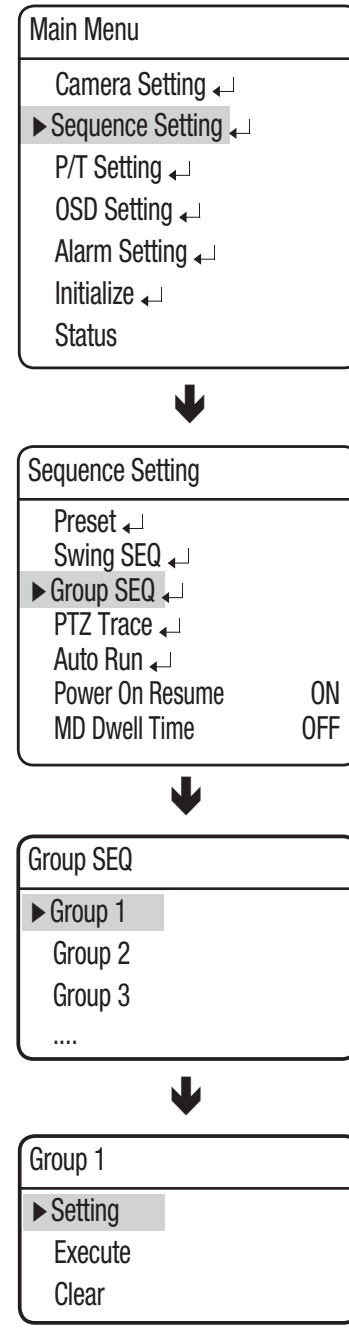
Selecting Group SEQ recalls a group of multiple preset locations in a consecutive manner. Up to 6 groups can be defined and up to 255 presets can be memorized for each group.

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

Group 1 Setting			
NO	PSET	DWT(s)	SPD
001:	*** :	003 :	54
002:	*** :	003 :	54
003:	*** :	003 :	54
004:	*** :	003 :	54
005:	*** :	003 :	54
006:	*** :	003 :	54
007:	*** :	003 :	54

- **Execute :**
  Executes the group operation.

- **Clear :**
  Deletes the selected group.



■ While in Sequence mode operation, the actual movement can be slower than the specified when moving the camera in the direction of Pan and Tilt at the same time.

PTZ Trace

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

- **Replay :**

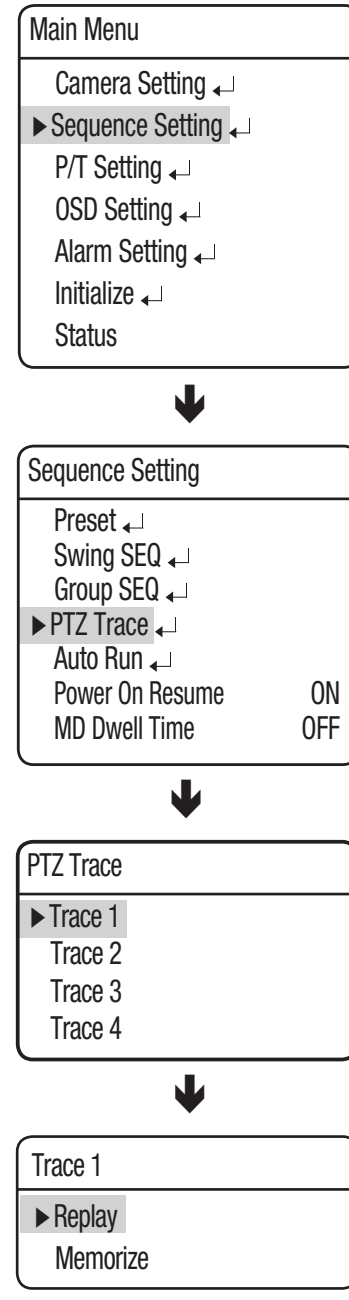
  Replays a route saved by the Trace function. You can stop replay by using the MENU (used for OSD menu) button.

- **Memorize :**

  The time for storing the event differs depending on the complexity of PTZ operations of your choice. When the memory is full, any further storing will be stopped.
  You can stop replay by using the MENU (used for OSD menu) button.

※ Using other protocols

Protocol	Representative Model	Stop saving the trace
PELCO-D/P	KDB300A	Ack, Iris Open
SAMSUNG-E	SSC-5000	OSD ON, Iris Open
PANASONIC	WV-CU161C	OSD ON
VICON	V1300X-DVC	Iris Open
HONEYWELL	HTX-3000	Iris Open
AD		OSD ON, Iris Open
GE	KTD-405	Iris Open
Bosch		Iris Open

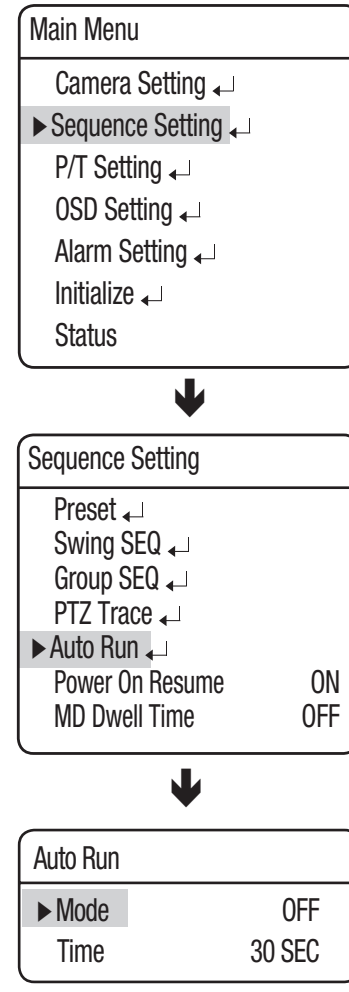


Auto Run

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

- **Mode :**
  - HOME : Auto run Home Position (Refet to the Preset Menu.)
  - PRESET : Auto run a selected preset number.
  - SWING : Auto run a selected Swing mode.
  - GROUP : Auto run a selected Group mode.
  - TRACE : Auto run a selected trace mode.
  - A.PAN : Auto run a 360-degree pan. To activate the panning command, you need to set up the camera's tilt angle and auto pan speed manually.
  - SCHEDULE : Execute Auto Run on the selected day of the week.

- **Time :**
  Enables setting up an Auto Run duration. (The duration can be 10~60 seconds, or 1~60 minutes.)



Power On Resume and MD Dwell Time

- **Power On Resume :**

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

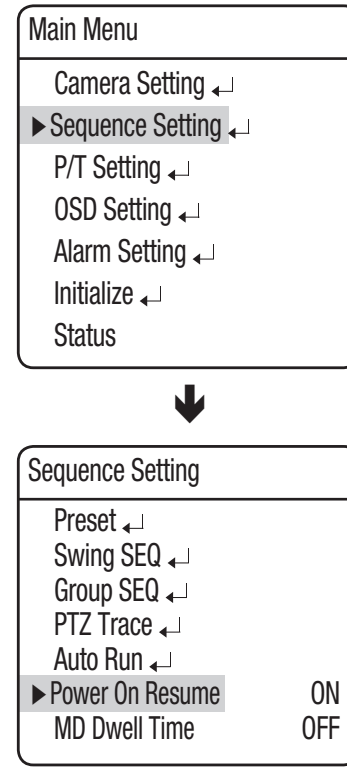
  If the camera was performing a sequence action prior to a power disconnection, the camera automatically resumes the action when the power is reconnected.

- **MD Dwell Time (SCU-2370/VAC/VAC1) :**

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

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

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

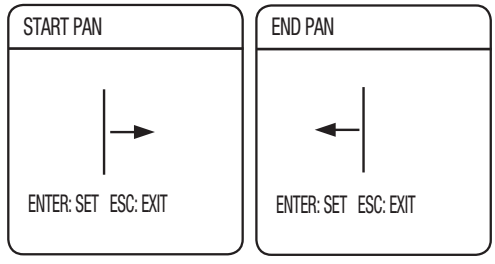


P/T Setting

Pan/Tilt Limit

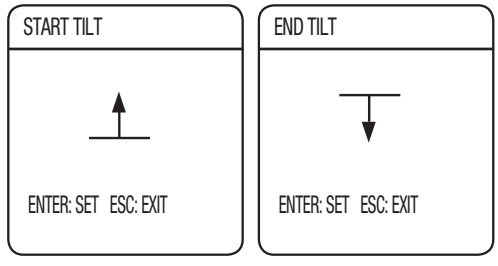
The moving ranges in the Pan/Tilt directions can be limited.

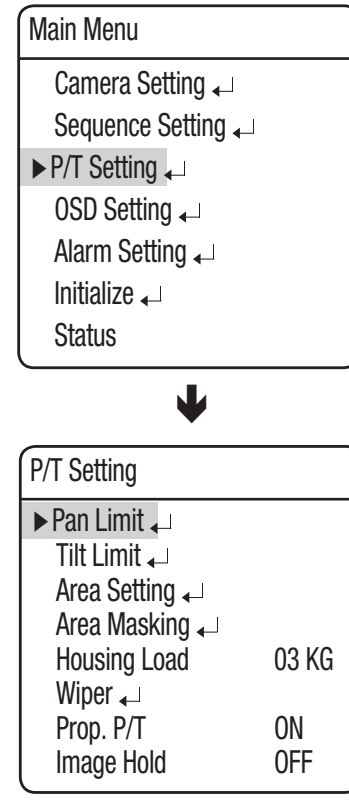
- **Position :**
  Selecting the Position menu brings up the following screen if it is for the Pan Limit setting. Move the joystick left and right to select a movement range from the starting point to the end.



The following picture shows the Tilt Limit setting.

Move the joystick left and right to select a movement range from the starting point to the end.





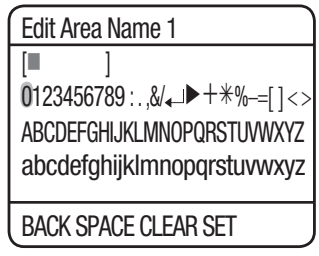
- **ON/OFF :**
  Sets the configured Pan/Tilt Limit function to use or not.

Area Setting

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

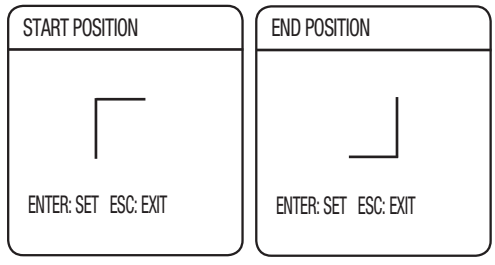
- **Area Name :**

  You can add names to selected areas. Names can be up to 12 characters and can be entered via the joystick and the Enter key. Once a name is entered, use the joystick and the Enter key to perform the Set command and save the name.



- **Position :**

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

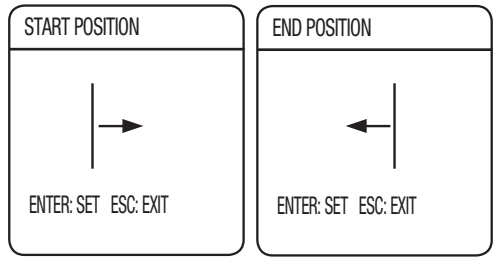


  The effective positioning range is between -45° and 40° in the tilting angle at the zoom factor of 1x.

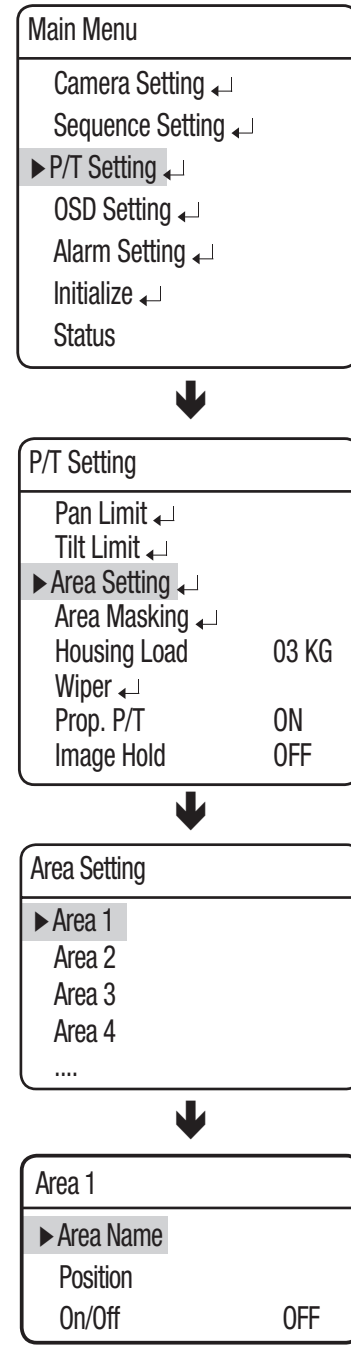
- **ON/OFF :**

  Cancels or activates the display function of selected areas.

■ Area naming for SCU-9051/VAC/VAC1



SCU-VAC/VAC1/9051 supports only the pan positioning regardless of the tilting angle.

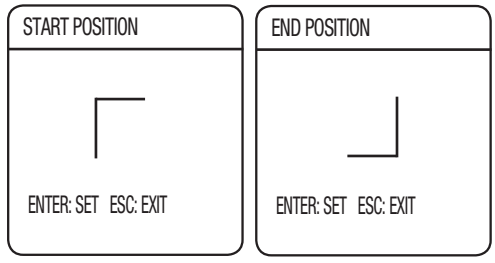


Area Masking (SCU-2370/VAC/VAC1)

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

- **Position :**

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

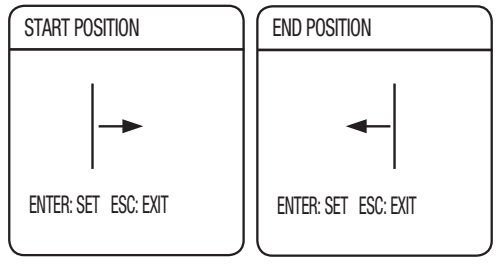


The effective positioning range is between -45° and 40° in the tilting angle at the zoom factor of 1x.

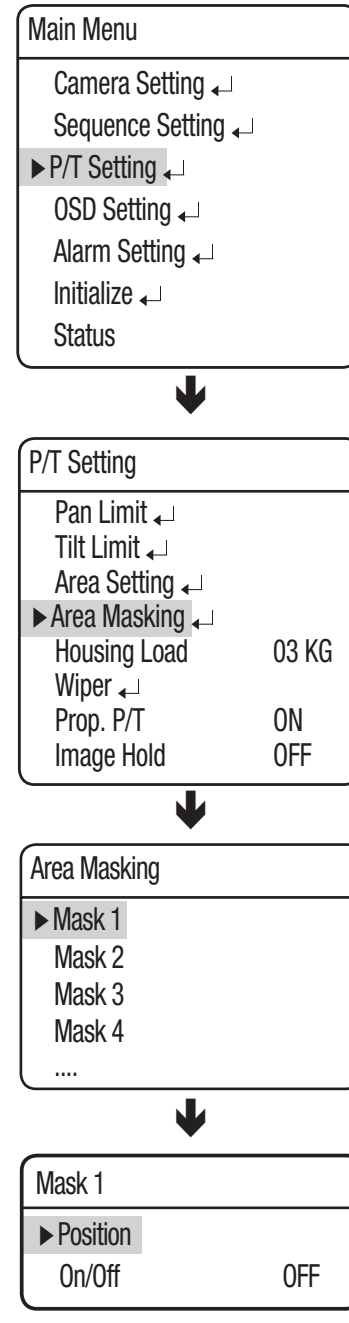
- **ON/OFF :**

  Cancels or activates the Area Masking function.

■ Area masking setting for SCU-VAC/VAC1



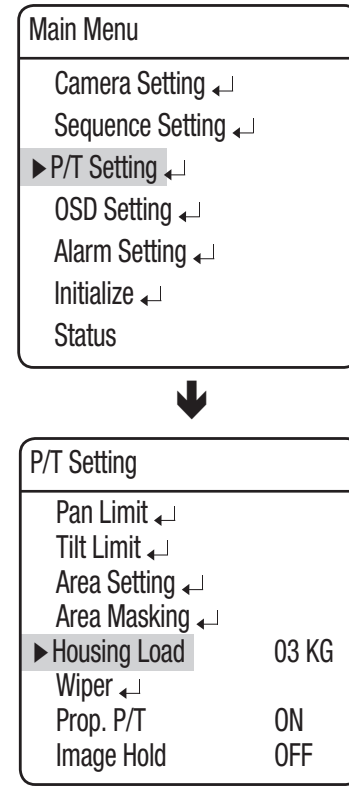
If the custom area includes the masking settings, the entire screen will be masked.



Housing Load

You can select a housing load of the camera module that will be installed on the housing.

- Pan/Tilt movement speed depends on the camera module's weight. For optimal speed control, set the weight of the camera module between 3 kg ~ 10 kg.



Wiper (SCU-2370/VAC/VAC1)

You can use Wiper to wipe out the front glass of the housing so as to secure a clear view.

To activate Wiper, set the menus below to your preference.

- **Pump Enable:**
  Activate or deactivate the pump function.
  - On: Activate the pump function that is connected to the wiper. Creates detailed submenu items related to the Pump function.
  - Off: Deactivate the pump function that is connected to the wiper.

  ※ With Enable On, the Aux output function in Alarm Setting will be disabled.

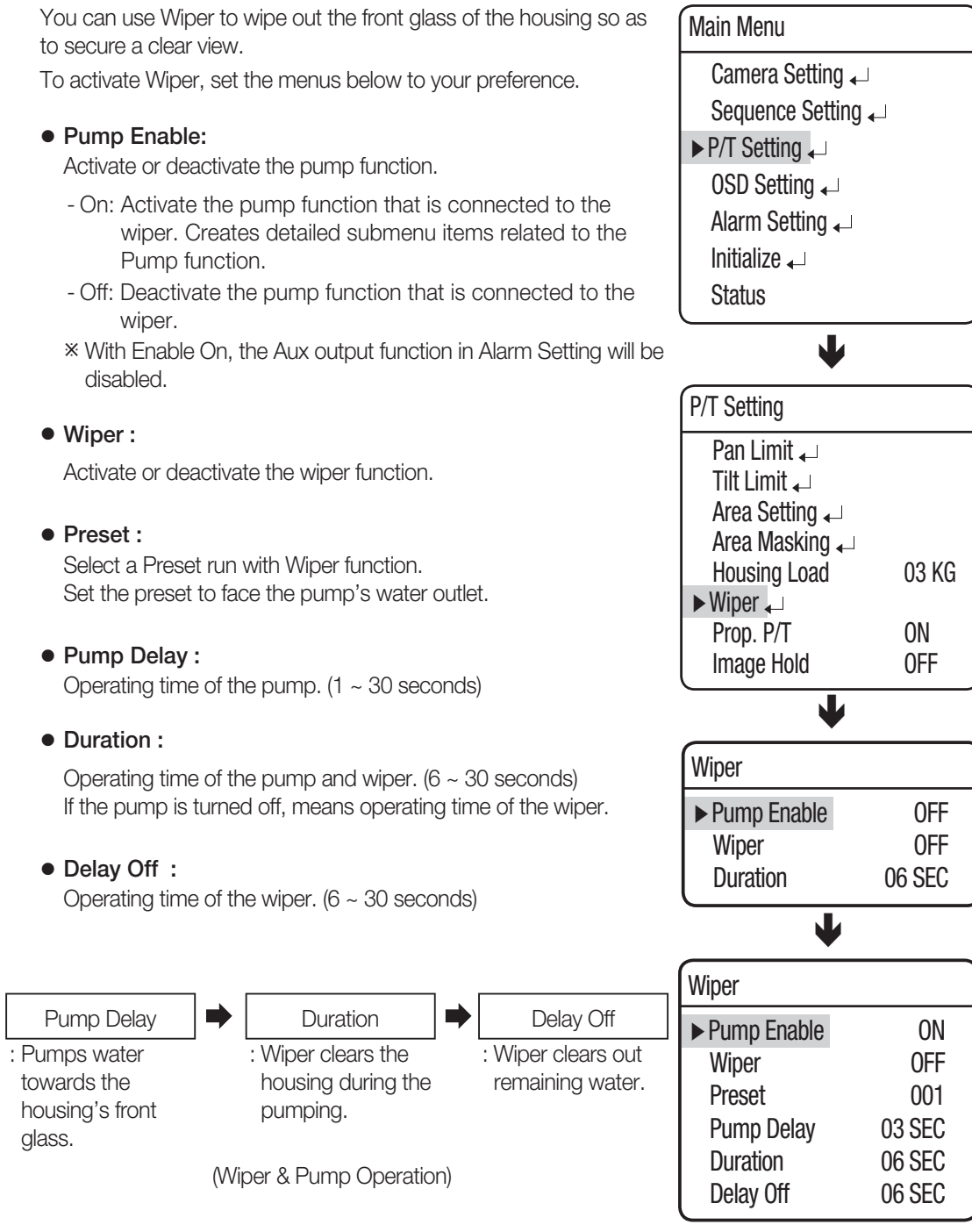
- **Wiper :**
  Activate or deactivate the wiper function.

- **Preset :**
  Select a Preset run with Wiper function.
  Set the preset to face the pump's water outlet.

- **Pump Delay :**
  Operating time of the pump. (1 ~ 30 seconds)

- **Duration :**
  Operating time of the pump and wiper. (6 ~ 30 seconds)
  If the pump is turned off, means operating time of the wiper.

- **Delay Off :**
  Operating time of the wiper. (6 ~ 30 seconds)



Pump Delay ➡ Duration ➡ Delay Off

: Pumps water towards the housing's front glass.

: Wiper clears the housing during the pumping.

: Wiper clears out remaining water.

(Wiper & Pump Operation)

Prop. P/T (SCU-2370/VAC1)

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

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

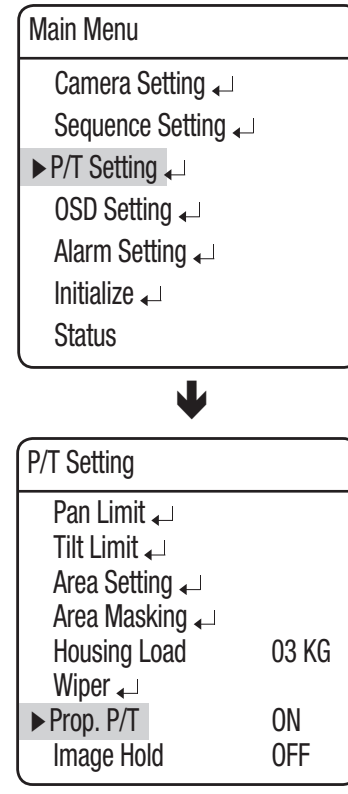
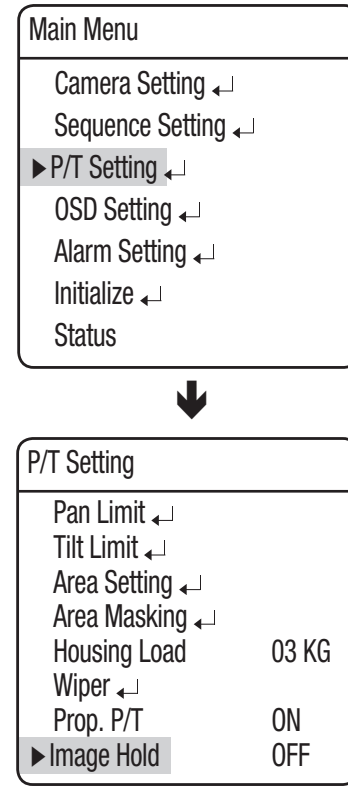


Image Hold (SCU-2370)

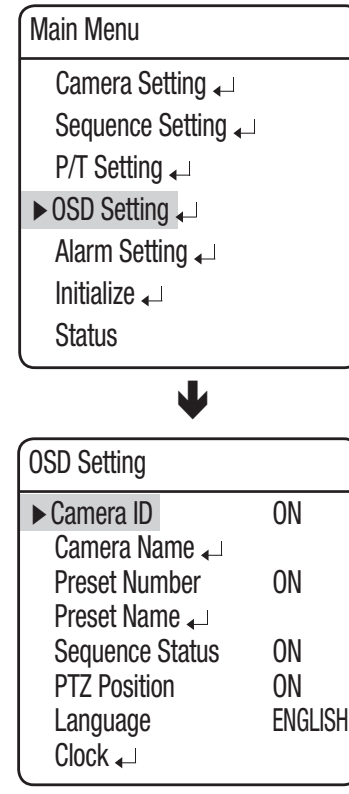
While in Group Trace, this will display still image of the last preset video until the camera moves to the next preset position.
This is useful to help the screen observer keep sharp eyes and to monitor multiple locations within a network.

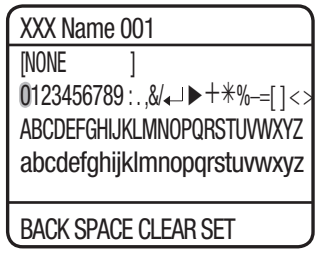


OSD SETTING

In this menu, you can configure the OSD (On Screen Display) settings.

- **Camera ID :**
  Displays or hides Camera ID in the upper left of the screen.
- **Camera Name :**
  Add a name to the camera. (First check the Note.)
- **Preset Number :**
  Displays or hides Preset Numbers on the screen.
- **Preset Name :**
  Add names to preset locations. (First check the Note.)
- **Sequence Status :**
  Displays or hides the status of a sequence action that is in progress.
- **PTZ Position :**
  Displays or hides the status of the Pan, Tilt, and Zoom operation that is in progress.
- **Language :**
  Enables changing the system language. This camera supports English, Chinese, French, German, Spanish, Italian and Portuguese.
- **Clock**
  Specify the time and date settings to your preference.





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

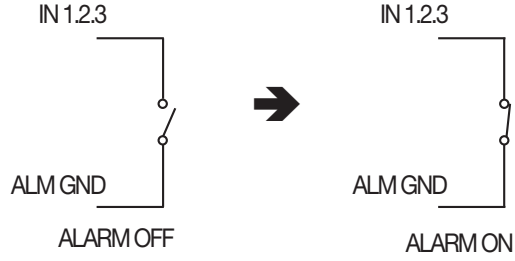
ALARM SETTING

Setting Up Alarm Input

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

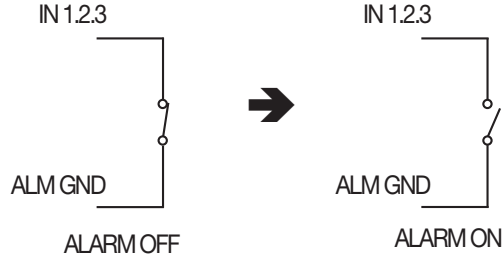
- **MOD**
  Enables selecting an Alarm Input method.

- NO (Normally Open)

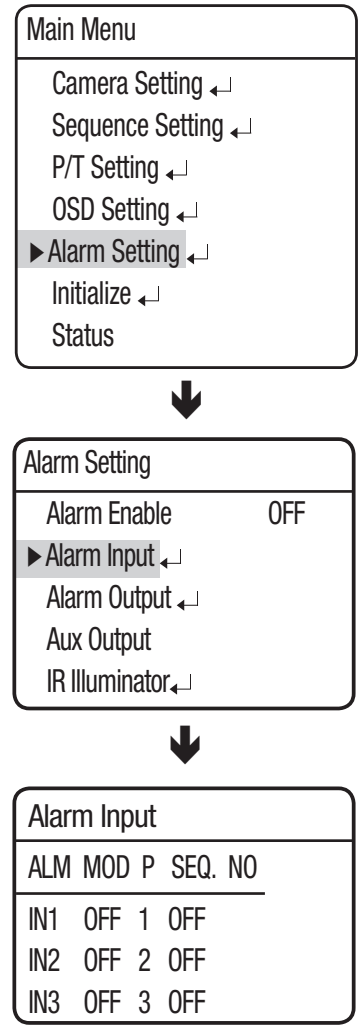


< Alarm input when N.O. is enabled >

- NC (Normally Closed)



< Alarm input when N.C. is enabled >



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

- **P(Priority) :**

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

- **SEQ. :**

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

Alarm Output

- **Setting 1,2 :**

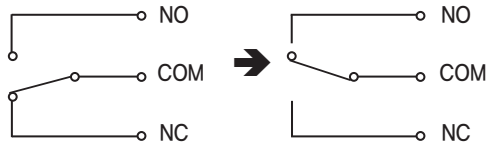
  Enables selecting an Alarm Output method.

  - Each of 1, 2, 3 and MD of the selected item indicates the applicable alarm input and motion detection ports. You can set the alarm output for each of 3 alarm inputs and MD. You can also assign more than one alarm input and MD to one alarm output port.

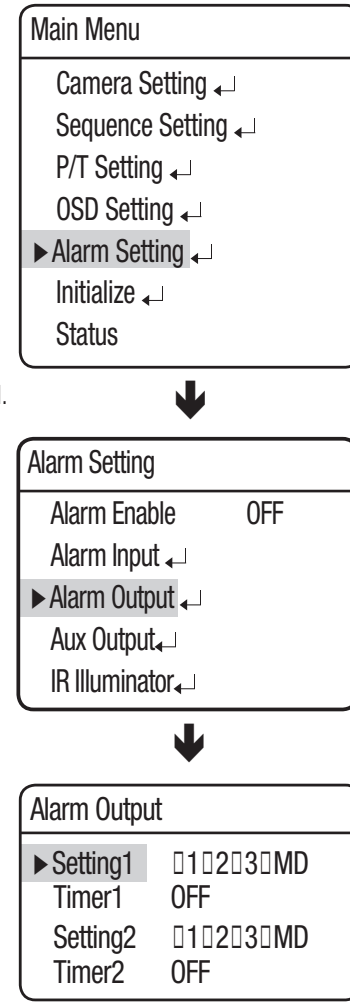
- **Timer 1, 2 :**

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

  - The Alarm Output is equipped with a relay circuit. The operation of the alarm output port is as shown in the diagram below. (Based on NO – Normal Open)



Alarm Out OFF Alarm Out ON



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

Aux Output

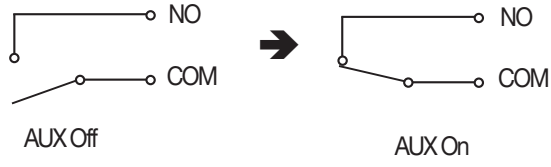
AUX Output menu is to operate the camera's peripheral devices such as lamps and sirens through the controller and switches as well as through network communications.

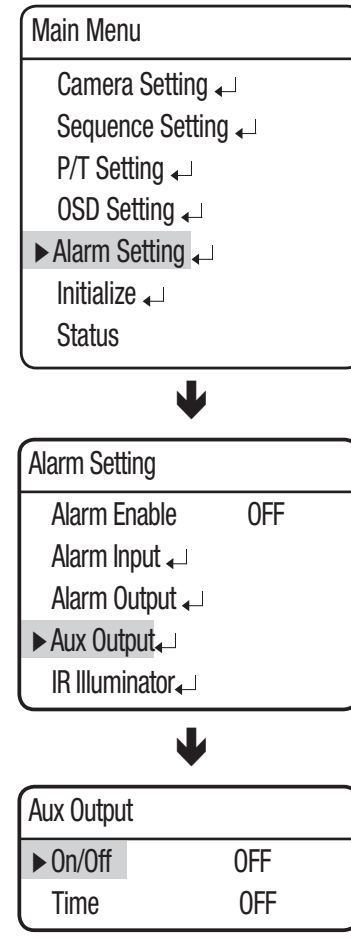
- **On/Off :**

  Cancels or activates the Aux function.

- **Time :**

  Enables setting up a duration for the Aux output when the Aux command is transmitted from the controller. A duration can be selected from a minimum of 1 second to a maximum of 60 minutes.





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

※ The Aux Output of Alarm Setting is not available if Wiper function is set to ON.

IR Illuminator Settings (SCU-2370/VAC/VAC1)

With IR Illuminator, you can control the red-infrared lighting.

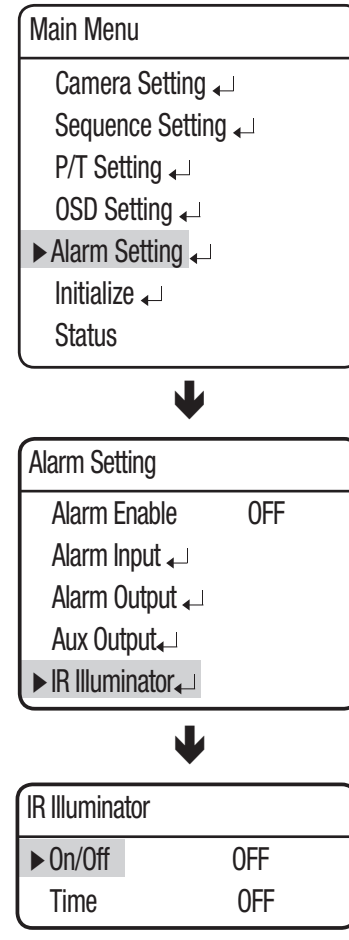
- **On/Off :**

  Activate or deactivate IR Illuminator.

- **Time:**

  Operates the infrared illuminator for the time specified by user (1 second ~ 60 hours).

■ The infrared illuminator is an optional accessory (sold separately).



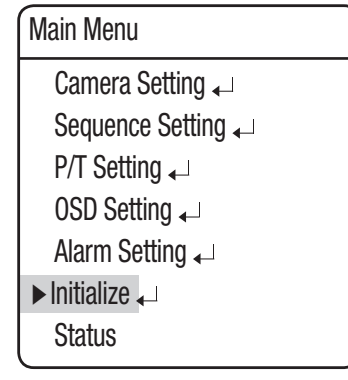
INITIALIZE

- **Power On Reset :**

  Restarts the camera.

- **Factory Default Set :**

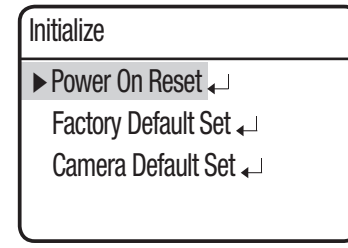
  Enables resetting the camera to its factory default settings. When the mode is selected, all custom data such as preset locations is deleted from the camera.
  Use this function if it is necessary to reset the settings of the camera.



- **Camera Default Set : (SCU-2370)**

  This mode can be used if the camera module has been replaced and you want to keep the camera's existing settings for the new module.

  To reset the camera, first replace the old module with a new camera module. When the replacement is properly installed, turn on the module, then execute this command.



STATUS

Displays the settings and version of the camera.

- **CAMERA INFO :**

  Display the model and zoom factor of the connected camera.

- **CAMERA VER. :**

  Display the software version of the connected camera.

- **MOTION VER. :**

  Main board F/W version

- **PROTOCOL:**

  Protocol settings

- **CONTROLLER :**

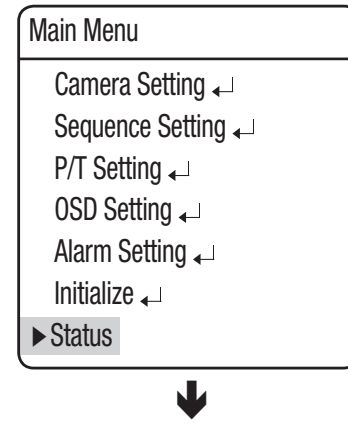
  Communication mode settings

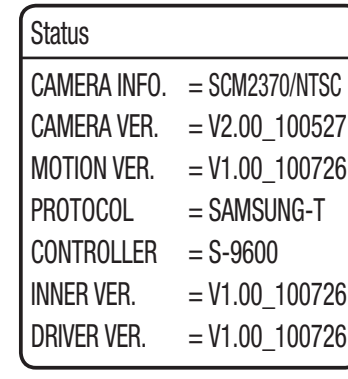
- **INNER VER. :**

  Inner board F/W version

- **DRIVER VER. :**

  Display the DSP F/W version of the main board.





TROUBLESHOOTING

If the product does not function properly, please see the below for trouble shooting.

Problem	Cause and Solution	Page
Controller does not work.	▶ Check if the camera and peripheral devices are properly connected.	23
	▶ Verify the setups of ID, protocol, and baud rates.	18~21
No picture is displayed on monitor.	▶ Check if power cable is securely connected to the camera and the monitor. Check if the video cable is properly connected. Consult the operation manual of the system controller connected to the camera.	12~17
	▶ Check if the iris of the lens is closed. Adjust the menu for the iris of the lens.	32
	▶ Check the camera's fixed shutter speed. Adjust the camera's shutter menu.	32
The picture is too dark/bright.	▶ Check the camera's Brightness menu. Adjust the camera's Brightness menu.	32
The monitor displays a white image.	▶ Check if the iris of the lens is open. Adjust the menu for the iris of the lens.	32
Picture is out of focus.	▶ Check if the cover or the camera lens is dirty or smudged. If it is, clean the dirt off.	-
	▶ Verify the distance between the camera and the subject, as well as the subject's surroundings. Camera may have difficulty focusing on a subject against a white background.	-
	▶ If Auto Focusing is having difficulty focusing on a particular subject, set Focus Mode to Manual and adjust the focus by yourself.	29~30
	▶ Use the camera's reset menu to restore the camera settings in order to default.	68
	▶ Adjust Sharpness level.	39
Digital noise appears in picture.	▶ Check if the video cable is properly connected.	-
	▶ Make sure that the power cable and video cable do not exceed the recommended maximum lengths.	22
	▶ Adjust Sharpness level.	39

Problem	Cause and Solution	Page
Picture's colors are not good.	▶ Check the White Balance.	31
	▶ Adjust Color Menu in Image Adj.	39
	▶ Check if the cover or the camera lens is dirty or smudged. If it is, clean the dirt off.	-
The picture is flickering.	▶ Check if the camera is pointing directly at a fluorescent light or sunlight. If so, change the camera's direction to remove the flickering.	-
Afterimages appear in picture.	▶ Check Sens-Up settings.	32
Camera switches between color and B&W modes frequently.	▶ Adjust Duration and Dwell Time in Day & Night menu.	38
Pan, tilt, zoom, and/or focus do not work.	▶ Check if power cable is securely connected to the camera and the monitor. Check if the video cable is properly connected. Consult the operation manual of the system controller connected to the camera.	12~17
	▶ Check if Pan Limit and/or Tilt Limit are set. If so, remove the limit(s).	57
	▶ A motor or the lens may be overheated. If so, contact your service personnel or system provider for assistance.	-
The camera's position differs from the position defined in a preset.	▶ This phenomenon may happen, since the motors have a margin error of ±0.1˚.	-
Sequence configuration of the camera does not work.	▶ Check if Preset or another operation mode has been set.	47~51
Camera suddenly turns on or moves to a preset position by itself.	▶ Check the Auto Run settings. Auto Run puts a camera through a predefined action sequence if the user does not use the Controller to operate the camera for a certain period of time.	55
The camera suddenly resets itself while displaying the black screen.	▶ Such symptoms may occur if the camera's temperature increases from -20º or lower to -20º or higher.	6
"Auto Refresh(Wait)" appears and the camera reboots.	▶ Such symptoms may occur if the camera's temperature increases from -10º or lower to -10º or higher to prevent the malfunction of motor.	-
The screen displays "Invalid RTC".	▶ Appears if the clock is not set or the battery is completely discharged. If the warning message appears after setting the clock, please replace the battery with a new one.	64
"Check System Homing Fail[XY]" appears.	▶ The product initialization has been abnormally finished. ▶ Check if installation site has enough free space for proper product operation. ▶ Do not operate the product by force, turn off and consult your dealer.	-

troubleshooting

Problem	Cause and Solution	Page
When coaxial communication is not available.	▶ Make sure that the camera and monitor are installed within the recommended distance.	-
	▶ Use the video amplifier equivalent to coaxitron if the recommended installation distance is exceeded.	-
Check the Power cord's by periods		
• The Power cord's coating has been damaged. • The power cord is hot to touch when the product is in operation. • The power cord gets hot after being folded or pulled on.	Continuing to use the product when its power cord is damaged constitutes an electrical and fire hazard. The power plug must be removed from the outlet immediately, and a qualified service personnel or your system provider should be contacted for assistance.	-

PRODUCT SPECIFICATIONS

<SCU-2370>

	NTSC	PAL
Imaging Device	1/4" Exview HAD CCD	
TV Standard	NTSC	PAL
Total Pixels	811(H) x 508(V)	795(H) x 596(V)
Effective Pixels	768(H) x 494(V)	752(H) x 582(V)
Scanning System	2:1 Interlace	
Synchronization	Internal / Line Lock	
Horizontal Scan Rate	15.734 KHz	15.625 KHz
Vertical Scan Rate	59.94 Hz	50 Hz
Horizontal Resolution	600 TV Line(Color)/700 TV Line(B/W)	
Min. Illumination	Color: 0.4 Lux/F1.6 (50 IRE) B/W: 0.02 Lux/F1.6 (50 IRE)	
S/N (Y Signal)	52 dB	
Video Output	CVBS:1.0Vp-p/75Ω	
Zoom Ratio	37X(Optical), 16X(Digital)	
Focal Length	3.5~129.5mm (F1.6 ~3.9)	
Min. Object Distance	1,500mm	
Angular Field of view	H : Appr. 55.5°(Wide) to 1.59°(Tele) V : Appr. 42.5°(Wide) to 1.19°(Tele)	
Focus	AUTO / MANUAL / ONE-SHOT	
Zoom Speed	2.8 sec	
IRIS	AUTO/MANUAL	
Lens Initialization	Built-In	
Horizontal Rotation Angle	360° Endless	
Horizontal Rotation Speed	Preset : 0.1°~120°/sec, Manual : 0.1°/sec ~ 36°/sec (Turbo: 120°/sec)	
Vertical Rotation Angle	-85° ~ 40°	
Vertical Rotation Speed	Preset : 0.1°~36°/sec, Manual : 0.1°/sec ~ 36°/sec	
Preset Position	Max. 255 Point	
Preset Accuracy	±0.1°	
Camera ID	1~255	
Day & Night	AUTO / COLOR / BW	
Backlight	BLC / HLC / OFF	
Motion Detection	ON/OFF	
Stabilizer	ON/OFF	
Privacy Mask	ON/OFF (8 Areas)	

product specifications

<SCU-2370>

	NTSC	PAL
SSNR	LOW/MEDIUM/HIGH/OFF	
Sens-up	On/Off (Selectable limit ~ 512X)	
Gain Control	LOW/MEDIUM/HIGH/MANUAL/OFF	
White Balance	ATW / INDOOR / OUTDOOR / Manual / AWC	
Electronic Shutter	AUTO(1/60~120,000sec)/MANUAL/A.FLK	AUTO(1/50~120,000sec)/MANUAL/A.FLK
Serial Com.	RS-422/485, coaxial communication (Pelco-C)	
Protocol	SAMSUNG-T, SAMSUNG-E, Pelco-D, Pelco-P, Pelco Coaxitron, Panasonic, Honeywell, AD, Vicon, GE, Bosch	
Alarm	3 In, 2 Out	
Aux	1 Out	
Operating Temperature /Humidity	-50°C to +50°C / Less than 90% RH	
Storage Temperature /Humidity	-20°C to +60°C / 20% to 95% RH	
Input Voltage	AC24V ± 10%	
Power Consumption	40W (max. 144W while the heater is operating)	
External Dimensions (WxHxD)	217.3mm × 587.5mm × 500mm	
Weight	17.5Kg	

※ The specification for this product may change without prior notice for product improvement.

<SCU-VAC/VAC1>

	SCU-VAC	SCU-VAC1
Horizontal Rotation Angle	360° Endless	
Horizontal Rotation Speed	Preset : 0.1°~100°/sec, Manual : 0.1°/sec ~ 30°/sec (Turbo: 100°/sec)	
Vertical Rotation Angle	-85° ~ 40°	
Vertical Rotation Speed	Preset : 0.1°~30°/sec, Manual : 0.1°/sec ~ 30°/sec	
Preset Position	Max. 255 Point	
Preset Accuracy	±0.1°	
Camera ID	1~255	
Motion Detection	ON/OFF	
Serial Com.	RS-422/485, coaxial communication (Pelco-C)	
Protocol	SAMSUNG-T, SAMSUNG-E, Pelco-D, Pelco-P, Pelco Coaxitron, Panasonic, Honeywell, AD, Vicon, GE, Bosch	
Alarm	3 In, 2 Out	
Aux	1 Out	
Operating Temperature/ Humidity	-50°C to +50°C / Less than 90% RH	
Storage Temperature/ Humidity	-20°C to +60°C / 20% to 95% RH	
Input Voltage	AC24V ± 10%	
Power Consumption	40W (max. 144W while the heater is operating)	
External Dimensions (WxHxD)	217.3mm × 587.5mm × 500.0mm	220.3mm × 636.0mm × 582.8mm
Weight	17Kg	18.6Kg

※ The specification for this product may change without prior notice for product improvement.

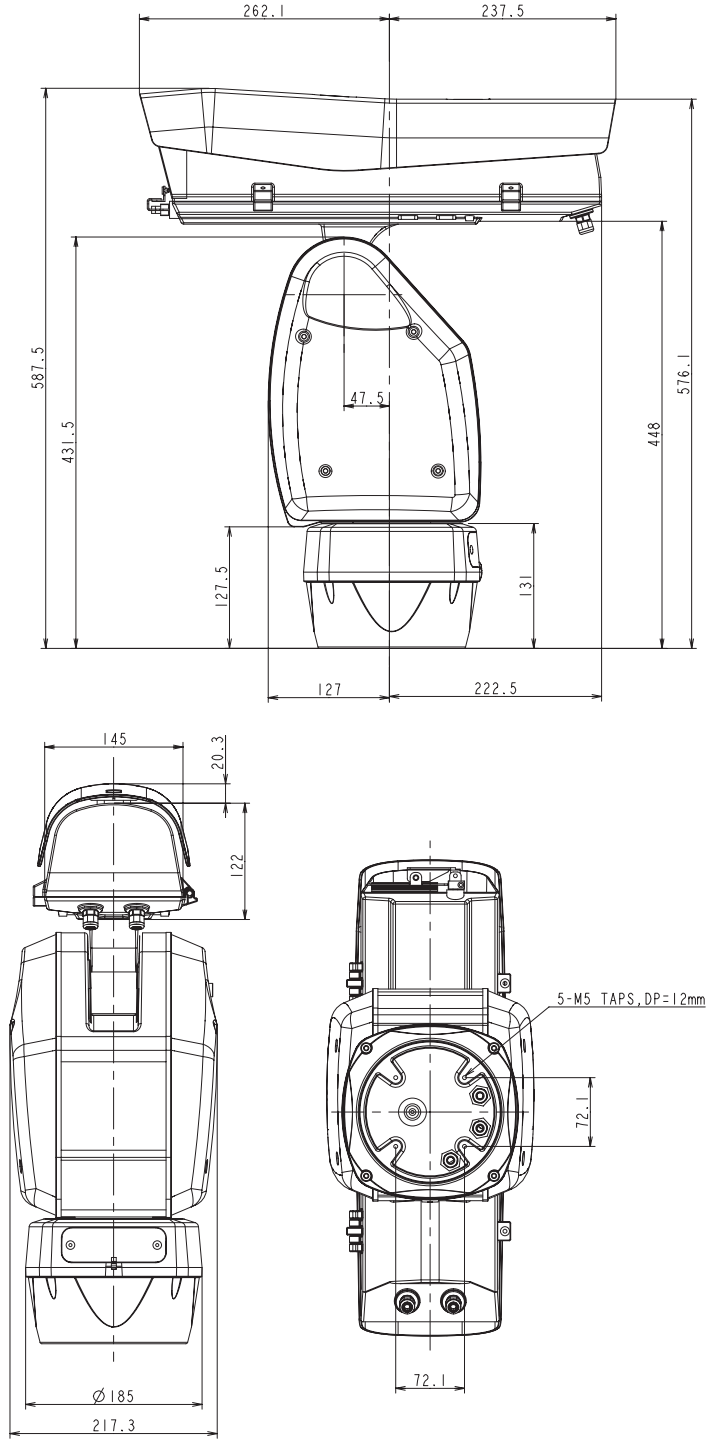
product specifications

<SCU-9051>

	NTSC	PAL
Detector	320(H)x240(H) Uncooled VOX Microbolometer	
Sensor Pitch	23.5μm x 23.5μm	
Measured wavelength range	8 ~ 14um	
Video ratio (Sensor)	NTSC : 30 fps	PAL : 25 fps
Video output	CVBS : 1.0VP-P, 75Ω composite	
Lens	F1.4, f=50mm	
Focus Range	27m ~ ∞, Pan Focus	
Viewing angle (H x V)	9.2˚ x 6.9˚	
IFOV (Instantaneous field of view)	0.47 mrad	
Digital zoom	2x ~ 4x	
Noise reduction function	3D-DNR (4step : Low/Midium/High/Off)	
Detecting temperature	Auto / Manual(2step) Low(-40~150), High(0~540)	
Image Processing	AGC & DDE	
NETD	80mK	
Horizontal Rotation Angle	360° Endless	
Horizontal Rotation Speed	Preset : 0.1°~100°/sec, Manual : 0.1°/sec ~ 30°/sec (Turbo: 100°/sec)	
Vertical Rotation Angle	-85° ~ 40°	
Vertical Rotation Speed	Preset : 0.1°~30°/sec, Manual : 0.1°/sec ~ 30°/sec	
Preset Position	Max. 255 Point	
Preset Accuracy	±0.1°	
Camera ID	1~255	
Serial Com.	RS-422/485, coaxial communication (Pelco-C)	
Protocol	SAMSUNG-T, SAMSUNG-E, Pelco-D, Pelco-P, Pelco Coaxitron, Panasonic, Honeywell, AD, Vicon, GE, Bosch	
Alarm	3 In, 2 Out	
Aux	1 Out	
Operating Temperature/ Humidity	-50°C to +50°C / Less than 90% RH	
Storage Temperature/ Humidity	-20°C to +60°C / 20% to 95% RH	
Input Voltage	AC24V ± 10%	
Power Consumption	40W (max. 144W while the heater is operating)	
External Dimensions (WxHxD)	217.3mm x 587.5mm x 500mm	
Weight	18Kg	

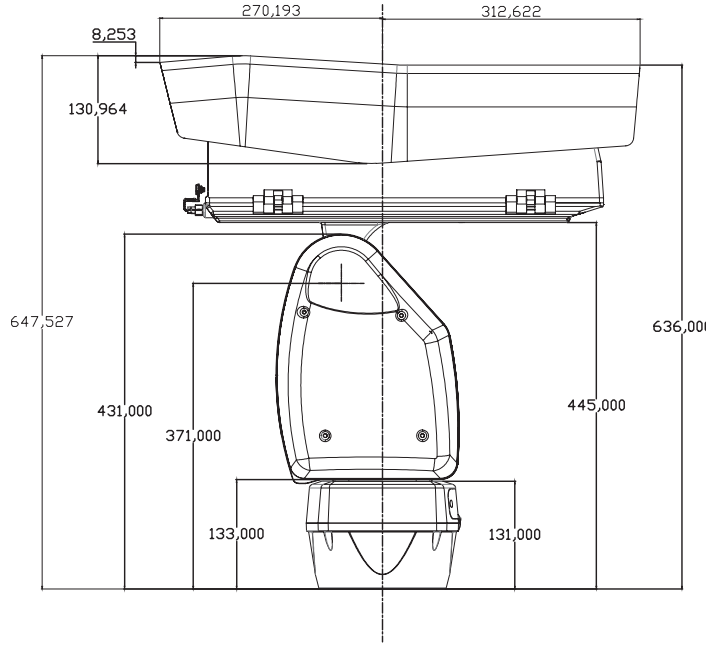
※ The specification for this product may change without prior notice for product improvement.

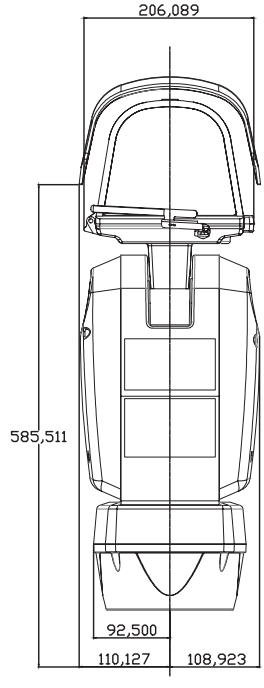
DIMENSIONS (SCU-2370/VAC/9051)

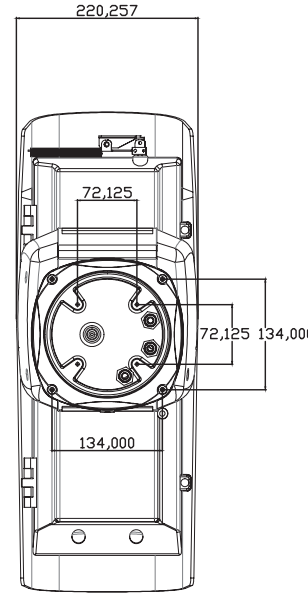


product specifications

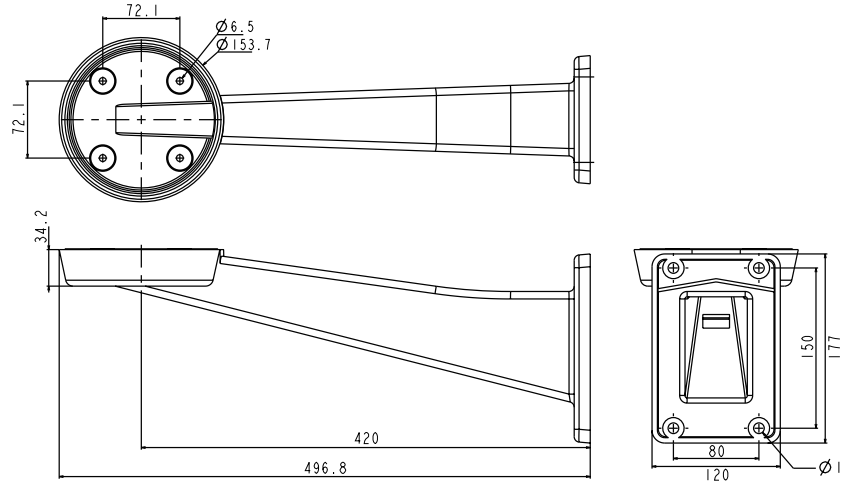
DIMENSIONS (SCU-VAC1)



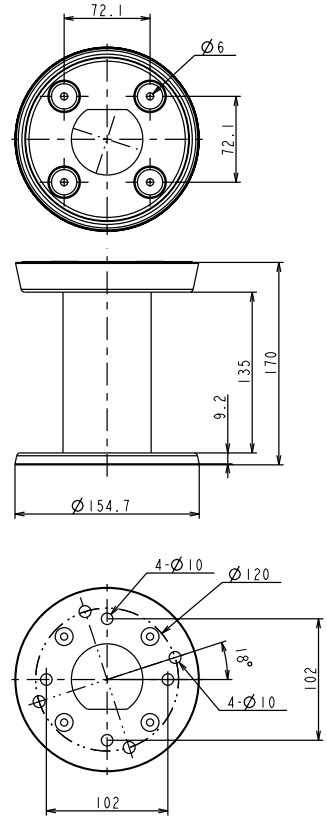




- Wall Mount



- Pedestal Mount



DECLARATION OF CONFORMITY

Application of Council Directive(s)	2004/108/EC
Manufacturer's Name	SAMSUNG TECHWIN CO., LTD
Manufacturer's Address	SAMSUNG TECHWIN CO., LTD
	42, SUNGJU-DONG CHANGWON-CITY,
	KYUNGNAM, KOREA, 641-716
Equipment Type/Environment	Positioning System
Model Name	SCU-2370/VAC/VAC1/9051
Conformance to	EN 55022 : 2006
	EN 50130-4 : 2003

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

Manufacturer	SAMSUNG TECHWIN CO., LTD	Legal Representative in Europe
Signature		Signature
Full Name	BONJENG GU	Full Name
Position	QUALITY CONTROL MANAGER	Position
Place	CHANGWON, KOREA	Place

MEMO

MEMO

MEMO

SALES NETWORK

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