SAMSUNG TECHWIN

High Resolution Camera

User Manual

SCB-2004



CE

SAMSUNG

High Resolution Camera

User Manual

Copyright
© 2013 Samsung Techwin Co., Ltd. All rights reserved.

Trademark

SAMSUNG TECHWIN is the registered logo of Samsung Techwin Co., Ltd.
The name of this product is the registered trademark of Samsung Techwin Co., Ltd.
Other trademarks mentioned in this manual are the registered trademark of their respective company.

Restriction

Samsung Techwin Co., Ltd shall reserve the copyright of this document. Under no circumstances, this document shall be reproduced, distributed or changed, partially or wholly, without formal authorization of Samsung Techwin.

Disclaimer

Samsung Techwin makes the best to verify the integrity and correctness of the contents in this document, but no formal guarantee shall be provided. Use of this document and the subsequent results shall be entirely on the user's own responsibility. Samsung Techwin reserves the right to change the contents of this document without prior notice.

Warranty

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

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

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

Before operating the camera, confirm the camera model and correct input power voltage.
To help you understand this manual thoroughly, we'll introduce our model description.

■ SCB-2004 SERIES

- NTSC MODEL
  SCB-2004N / 2004ND
- PAL MODEL
  SCB-2004P/2004PD

- POWER SOURCE
  SCB-2004N, SCB-2004P : DC12V,AC24V
  SCB-2004ND, SCB-2004PD : DC12V

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 exclamation point symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING

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

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

1. Do not drop objects on the product or apply strong shock to it. Keep away from a location subject to excessive vibrationor magnetic interference.
2. Do not install in a location subject to high temperature (over 55°C), low temperature (below -10°C), or high humidity. Doing so may cause fire or electric shock.
3. If you want to relocate the already installed product, be sure to turn off the power and then move or reinstall it.
4. Remove the power plug from the outlet when then there is a lightning. Neglecting to do so may cause fire or damage to the product.
5. Keep out of direct sunlight and heat radiation sources. It may cause fire.
6. Install it in a place with good ventilation.
7. Avoid aiming the camera directly towards extremely bright objects such as sun, as this may damage the CCD image sensor.
8. Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.
9. The Mains plug is used as a disconnect device and shall stay readily operable at any time.
10. Do not expose the camera to radioactivity. Radioactivity exposure may damage the CCD.

Safety information



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.



Samsung Techwin cares for the environment at all product manufacturing stages to preserve the environment, and is taking a number of steps to provide customers with more environment-friendly products.The Eco mark represents Samsung Techwin's will to create environment-friendly products, and indicates that the product satisfies the EU RoHS Directive.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus.



13. Unplug this apparatus when a card is used. Use caution when moving the cart/ apparatus combination to avoid injury from tip-over.
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

Contents

INTRODUCTION 9

9 Features
10 What's included
11 Component names and Functions

CONNECTION 13

13 Lens
15 Connecting to Monitor
15 Connecting to Power
16 Using coaxial communications

SETUP 18

18 Menu Configration
18 Menu Setup

TROUBLESHOOTING 28

28 Troubleshooting

SPECIFICATIONS 29

29 Specifications
31 Dimension

FEATURES

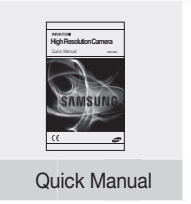
- **High Resolution**
  By adopting a diagonal 6mm (1/3") 520,000 pixel (NTSC), 610,000 pixel (PAL) SONY CCD, the camera produces clear picture quality with a horizontal resolution of 700TV lines(ER mode).
- **Excellent Sensitivity**
  The built-in high sensitivity COLOR CCD produces a clear image.
  0.1Lux (50IRE@F1.2) / 0.0002Lux (50IRE@F1.2, SENS-UP x512)
- **SSNR3 (Samsung Super Noise Reduction) Function**
  The high-performance W6 DSP chip effectively removes low-light gain noise and afterimage to provide clear images even in dark environments.
- **Day & Night**
  This camera has a function that automatically selects the mode that is appropriate for daytime or night-time conditions. The COLOR mode operates in daytime conditions to provide optimum colors, and B/W mode operates in night-time conditions to enhance the definition of the image.
- **Defog**
  The camera is able to recognize the concerntration of fog in the image, and automatically defog, correct image of the bad weather such as fog, rain, mist, fumes, etc to make it clear.
- **SSDR (Samsung Super Dynamic Range)**
  For images with high contrast between bright and dark areas from difficult lighting conditions such as backlighting, this camera selectively illuminates darker areas while retaining the same light level for brighter areas to even out the overall brightness.
- **Miscellaneous Functions**
  HLC(High Light Compensation),SENS-UP, H-REVERSE, SHARPNESS, PRIVACY and MOTION DET. functions are provided.
- **Communication**
  Coaxial communication methods are supported.
  - Protocol : Pelco Coaxitron
- **OSD**
  The camera control is convenient by using 17 different foreign language O.S.D.
  - NTSC : English, Japanese, Spanish, French, Portuguese, Korean
  - PAL : English, French, German, Spanish, Italian, Chinese, Russian, Polish, Czech, Romanian, Serbian, Swedish, Danish, Turkish, Portuguese

WHAT'S INCLUDED

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



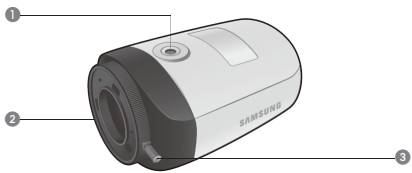
SCB-2004



Quick Manual

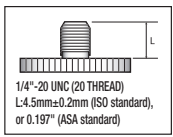
COMPONENT NAMES AND FUNCTIONS

Front



❶ **Tripod Mounting Bracket Screw Hole :** Used to fix the Tripod Mounting Bracket .

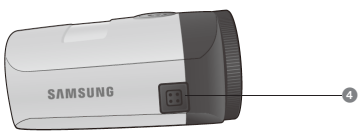
* The camera have two hole at the top and bottom, please according to condition to install. The screw sizes for this hole are as follows:



❷ **Mount Lens Adapter :** Install this adapter to use a CS-Mount Lens.

❸ **Back Focus Control Lever :** Adjust focus by this Back Focus Control Lever.

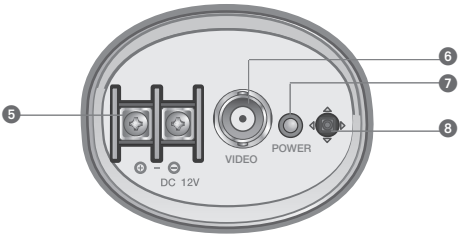
Side



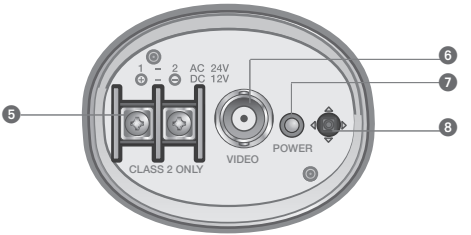
❹ **Auto Iris Lens Connector :** Used to connect Auto Iris Lens plug.

▪ **Tripod is not supplied with the camera. Please check the installed documentation of tripod for the installation of cameras.**

Back



< DC12V(SCB-2004D)>



<AC24V/DC12V(SCB-2004)>

❺ **Power input terminal** : Connects to the power appropriate to each model.

❻ **Video OUT Terminal** : Sends video signal and connects to the video input terminal of the monitor.

❼ **Power LED** : This lamp is lit when the camera is receiving power normally.

❽ **Function Setup Button** : Display the menu on the screen and move the cursor to four directions to confirm ststus or after changing a selected item.

Lens

The lens is not supplied with this camera. Purchase a lens suitable for your environment. This camera accepts the auto iris lens and both C-and CS-mount lens.

- To use the functions of this camera effectively it is recommended that a DC type Auto Iris lens is used.
- Keep the lens surface clean, if it becomes contaminated with dirt or fingerprints the picture quality suffers.

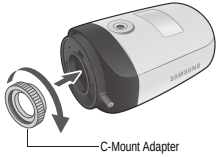
When Using Auto Iris Lens

1. Remove the protective cover from the front of the camera, and fasten the auto iris lens by turning it clockwise.
2. Put the cover of the auto iris lens connector plug in the auto iris lens connector.

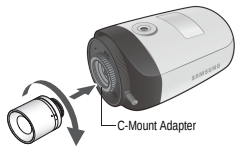


When Install a C-Mount lens

1. Remove the protective cover from the front of the camera, and turn the C-Mount adapter clockwise to install it.



2. Turn the C-Mount lens clockwise to install it.

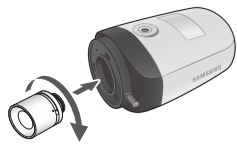


3. Set focus of camera using Back Focus Control Lever of camera side after combining C-Mount lens.

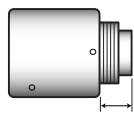
▪ Note that C-Mount adaptor is not supplied with camera.

When Install a CS-Mount lens

Remove the protective cover from the front of the camera, and turn the CS-Mount lens clockwise to install it. And set focus of camera using Back Focus Control Lever of camera side after combining CS-Mount lens.



- Use the lens connector shown in the following figure. If the dimensions of the connector are not correct, it may damage the camera, or the lens may not be installed firmly.
- If the lens is too heavy, the camera becomes unbalanced and there may be problems. Use a lens that weighs less than 450g.



C-Mount Lens: 10mm or less
CS-Mount Lens: 5mm or less

CONNECTING TO MONITOR

Connect the Video OUT port on the rear panel of the camera to a monitor.



SCB-2004 Monitor

- As the connecting method varies with the instruments, refer to the manual supplied with the instrument.
- Only connect the cable when the power is turned off.

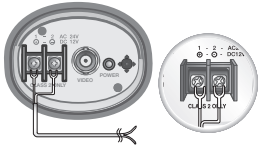
CONNECTING TO POWER

Since power specifications differ depending on the model, make sure to check your model name and specifications before connecting power.
You can connect power as shown in the following figure.

For AC / DC power

- Since SCB-2004 the power specification supports both AC and DC, connect AC 24V, 500mA Adaptor or DC 12V, 500mA Adaptor.

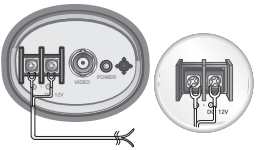
SCB-2004



For DC power

- Since SCB-2004D the power specification support DC, connect DC 12V, 500mA Adaptor.

SCB-2004D



When the resistance value of copper wire is at [20°C(68°F)]

Copper wire size (AWG)	#24(0.22mm²)	#22(0.33mm²)	#20(0.52mm²)	#18(0.83mm²)
Resistance (Ω/m)	0.078	0.050	0.030	0.018
Voltage Drop (V/m)	0.028	0.018	0.011	0.006

- As shown in the table above, voltage decreases as the wire gets longer. Therefore use of an excessively long adaptor output line for connection to the camera may affect the performance of the camera.

  * Standard voltage for camera operation :
    SCB-2004N / SCB-2004P : DC 12V±10%, AC 24V±10%
    SCB-2004ND / SCB-2004PD : DC 12V±10%

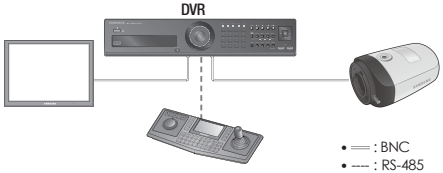
  * There may be some deviation in voltage drop depending on the type of wire and the manufacturer.

- Be sure to connect power only after all the installation is complete.
- Note that AC / DC adaptor is not supplied with camera.
- Ground should be connected to the GND terminal.

Using coaxial communications

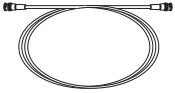
- Coaxial Communications System
- OSD Control method

CAMERA	DVR	CONTROLLER
SET	MENU/ENTER	OSD KEY
UP	UP KEY	JOYSTICK UP
DOWN	DOWN KEY	JOYSTICK DOWN
LEFT	LEFT KEY	JOYSTICK LEFT
RIGHT	RIGHT KEY	JOYSTICK RIGHT



- 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	3C2V(RG-59/U)
450m	5C2V(RG-6/U)
600m	7C2V(RG-11/U)

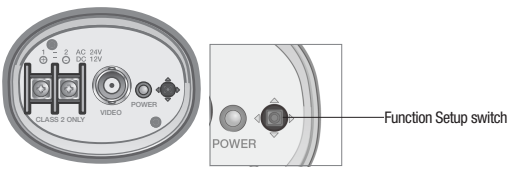
- It is recommended that pure copper coax cable is used and not copper coated steel, as this will cause issues with the communication over the coaxial cable.
- To ensure picture quality, only single-channel video output connector can be used while camera connected to other video equipments.

MENU CONFIGRATION

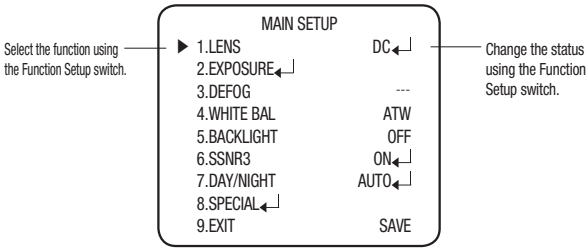
MAIN SETUP			
LENS	● DC	● MANUAL	
EXPOSURE	● BRIGHTNESS ● SENS-UP	● SHUTTER ● RETURN	● AGC
DEFOG	● AUTO	● MANUAL	● OFF
WHITE BAL	● ATW ● MANUAL	● OUTDOOR ● AWC→SET	● INDOOR
BACKLIGHT	● OFF	● USER BLC	● HLC
SSNR3	● ON	● OFF	
DAY/NIGHT	● AUTO	● COLOR	● B/W
SPECIAL	● IMAGE ADJ ● MOTION DET ● SSDR	● CAM TITLE ● SYNC ● RETURN	● PRIVACY ● COAX
EXIT	● SAVE	● NOT SAVE	● RESET

MENU SETUP

Use the Function Setup switch within the camera.



1. Press the Function Setup switch.
   - Main setup menu is displayed on the monitor screen.



2. Select a desired function using the Function Setup switch.
   - Place the cursor over a desired item.
3. Set up a selected item by using the Function Setup switch.
4. To finish the setting, select 'EXIT' and press the Function Setup switch.

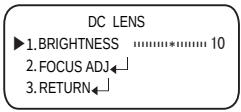
⚠
- An item with the ↵ icon also has sub menus. To select a sub menu, select an item with the icon and press the Function Setup switch.
- An item with the - - - icon is unavailable due to function settings.

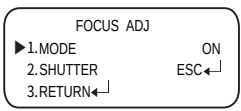
LENS

Using this function, you can choose lens type.

1. When the SETUP menu screen is displayed, select 'LENS' by using the Function Setup switch so that the arrow indicates 'LENS'.
2. Select the connected lens type by using the Function Setup switch.

- DC : Select Auto Iris Lens.
- Manual : Select Manual Lens.
  - Brightness (DC, Manual) : Adjusts the video brightness.
  - FOCUS ADJ (DC) : To adjust the DC lens focus correctly, you must activate the Focus ADJ mode under each lens menu. To setting the Focus ADJ mode on, and according to your need to adjust the shutter mode. (MANUAL, A.FLK)

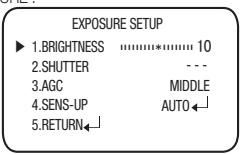




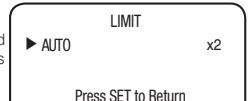
  - RETURN (DC, MANUAL) : Select this to save the menu settings and return the MAIN SETUP menu.

EXPOSURE

1. When the SETUP menu screen is displayed, select EXPOSURE by using the Function Setup switch so that the arrow indicates 'EXPOSURE'.
2. Select a desired mode using the Function Setup switch.



- BRIGHTNESS : Adjusts the video brightness.
- SHUTTER : You can select the shutter.
  - A.FLK : Select this when you experience picture flicker, which can happen when there is a clash with the frequency of the installed lighting.
  - MANUAL : You can control shutter speed manually. (NTSC MODEL : 1/60~1/120,000 , PAL MODEL : 1/50~1/120,000)
  - --- : Shutter speed is fixed.
  - ESC : Select this to control the shutter speed automatically. If ESC is selected, the shutter speed is automatically controlled depending on the ambient illumination of the subject.
- AGC (AUTO GAIN CONTROL) (OFF/ LOW/ MIDDLE/ HIGH) : The higher gain level, the brighter screen but the higher noise.
- SENS-UP : When it is night or dark,the camera automatically detects the light level and maintains a clear picture if this model is activated.
  - OFF : Deactivates the SENS-UP function.
  - AUTO : Activates the SENS-UP function. (x2 ~x512)



- RETURN : Select this to save the changes in the EXPOSURE menu and return to the SETUP menu.

- **When the AGC is set to OFF, SENS-UP will be disabled.**
- **When the SENS-UP is set to OFF, the SHUTTER optional mode is A.FLK,MANUAL or ---.**

DEFOG

Through the defogging function, camera can automatically recognize fog concentration of the image, defog, self correct in hazy, rainy, flue gas and other inclement weather to get a clear image.

1. When the SETUP menu screen is displayed, select 'DEFOG' by using the Function Setup switch.
2. Select a desired mode.



- AUTO : The camera will automatically correct image according to the defogging level (low, middle, high) set by the user.
- Manual : The camera will adjust the definition of the image according to user's preferences through the defogging level (low, middle, high).
- OFF: Turn off Defogging function.

■ Defogging and SSDR function cannot be run simultaneously. When defogging function is set to AUTO or MANUAL mode, SSDR function is not available. When SSDR functions is turned on, defogging would become inactive .

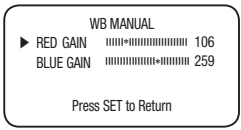
WHITE BAL (WHITE BALANCE)

Use the White Balance function to adjust the screen color.

1. When the SETUP menu screen is displayed, select 'White Bal' by using the Function Setup switch so that the arrow indicates 'White Bal'.
2. Select a desired mode using the Function Setup switch.

※ Select one of the following 5 modes, as appropriate for your purpose.

- **ATW** : Select this when the color temperature is between 1,800°K and 10,500°K.
- **OUTDOOR** : Select this when the color temperature is between 1,800°K and 10,500°K.(sodium light inclusion)
- **INDOOR** : Select this when the color temperature is between 4,500°K and 8,500°K.
- **MANUAL** : Select this to fine-tune White Balance manually. Set White Balance first by using the ATW or AWC mode. After that switch to MANUAL mode, fine-tune the White Balance and then press the Function Setup switch.



- **AWC→SET** : To find the optimal luminance level for the current environment, point the camera towards a sheet of white paper and press the Function Setup switch. If the environment changes, readjust it.

■ White Balance may not work properly under the following conditions.In this case select the AWC mode.

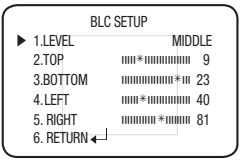
1. When the color temperature of the environment surrounding the subject is out of the control range (e.g. clear sky or sunset).
2. When the ambient illumination of the subject is dim.
3. If the camera is directed towards a fluorescent light or is installed in a place where illumination changes dramatically, the White Balance operation may become unstable.

BACKLIGHT

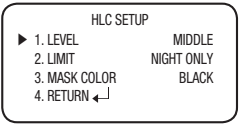
The SCB-2004 is designed to deliver a distinctive subject and background at the same time, even when the subject is backlight, by adopting a function of the proprietary W6 DSP chip.

1. When the SETUP menu screen is displayed, select 'BACKLIGHT' by using the Function Setup switch so that the arrow indicates BACKLIGHT .
2. Select a desired mode using the Function Setup switch depending on the camera purpose.

- **USER BLC** : Enables a user to directly select a desired area from a picture, and to view the area more clearly.
  - LEVEL : Adjust level of the BLC function.
  - TOP/BOTTOM/LEFT/RIGHT : Adjust the area to be enhanced.



- **HLC (High Light Compensation) :** This function masks the strong light to minimize white out due to over exposure and preserve much of the on-screen details when the camera aims a strong light source.
  - LEVEL : Adjusts the brightness level of a monitoring area.
  - LIMIT : Enable to change the operating condition.
  - MASK COLOR : Change the color of the masking area. (Black, Red, Blue, Gray, Magenta)



- **OFF** : Not being used

SSNR3

This function reduces the background noise in a low luminance environment.

1. When the SETUP menu screen is displayed, select 'SSNR3' by using the Function Setup switch so that the arrow indicates 'SSNR3'.
2. Select a desired mode using the Function Setup switch.
   - **OFF** : Deactivates SSNR3. Noise is not reduced.
   - **ON** : Activates SSNR3 so that noise is reduced.
3. Set the SSNR3 mode to 'ON' and press the Function Setup switch.
4. Then you can adjust the noise reduction level.

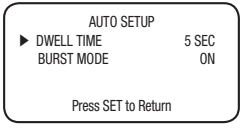


- You cannot set the SSNR3 to 'ON' or 'OFF' when the AGC mode of the EXPOSURE menu is 'OFF'.
- When adjusting the noise reduction level of the SSNR3 mode, remember that the higher the level set, the more the noise level will be reduced but that after image may also occur.

DAY/ NIGHT

You can display pictures in color or black and white.

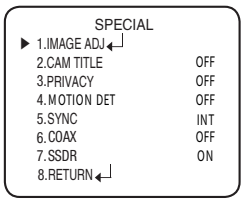
1. When the SETUP menu screen is displayed, select 'DAY/NIGHT' by using the Up and Down buttons so that the arrow indicates 'DAY/NIGHT'.
2. Select a desired mode using the Left and Right buttons according to the picture display you want.
   - **AUTO** : The mode is switched to 'Color' in a normal environment,but switches to 'B/W' mode when ambient illumination is low. To set up the switching time for AUTO mode, press the Function Setup switch. You can turn on or off the burst signal on B/W mode.



     - DWELL TIME : You can select the duration time about changing the day/night mode. → 3s, 5s, 7s, 10s, 15s, 20s, 30s, 40s, 60s
     - BURST MODE : You can turn on or off the burst mode on B/W mode.
   - **COLOR** : The picture is always displayed in color.
   - **B/W** : The picture is always displayed in black and white. You can turn on or off the burst mode on B/W mode.

SPECIAL

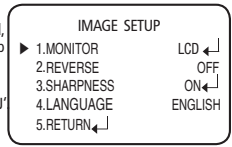
1. When the SETUP menu screen is displayed, select 'SPECIAL' by using the Function Setup switch so that the arrow indicates 'SPECIAL'.
2. Select a desired mode using the Function Setup switch.



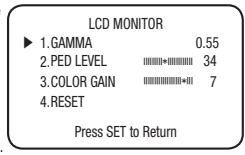
- IMAGE ADJ

  1) When the SPECIAL menu screen is displayed, select 'IMAGE ADJ' by using the Function Setup

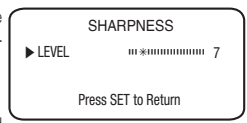
  2) Select a desired mode using the Function Setup **switch**.so that the arrow indicates 'IMAGE ADJ'



- **Monitor** : Please change the settings value of video appropriate to your monitor.
  - LCD: Please select this menu item when using an LCD monitor. You can change the gamma, PED level and color gain in the sub menus.
  - USER : Please use this menu item when using a monitor other than standard ones. You can change the gamma, PED level and color gain in the sub menus.

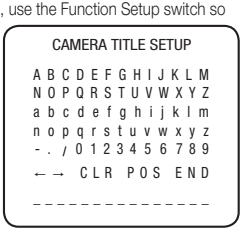


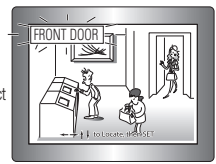
- **REVERSE** : You can reverse the picture.
  - OFF : You don't reverse the picture.
  - H-REV : You can flip the picture horizontally on the screen.
- **SHARPNESS** : As you increase this value, the picture outline becomes stronger and clearer. Adjust this value appropriately depending on the sharpness of the picture.
  - OFF: Turn off Sharpness function.
  - ON : The higher the level is,the sharper and clearer the outline of the image becomes.
  - ER (Enhanced Resolution) : Choosing this mode can increase the sharpness of the picture under the colour mode.



- **LANGUAGE** : You can select the menu language according to your requirements.
- **RUTURN** : Select this to save the IMAGE ADJ menu settings and return to the SPECIAL menu.

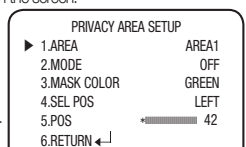
- **CAM TITLE :** If you enter a title, the title will appear on the monitor.
  1. If the SPECIAL menu screen is displayed, use the Function Setup switch so that the arrow indicates 'CAM TITLE'.
  2. Set it to 'ON' by using the Function Setup switch.
  3. Press the Function Setup switch.
  4. Use the Function Setup switch to move to a desired letter and select the letter by pressing the switch. Repeat this to enter multiple letters. You can enter up to 15 letters. Move the cursor to → for entering a space, then press the Function Setup switch, the cursor will skip to the next.
  5. Enter a title, move the cursor to 'POS' and press the Function Setup switch. The entered title appears on the screen. Select the position to display the title on the screen by using the Function Setup switch and press. When the position is determined, select 'END' and press the Function Setup switch to return to the SPECIAL menu.



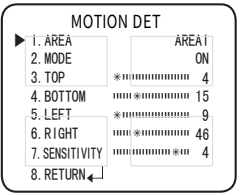


- **When the CAM TITLE menu is 'OFF', no title will be displayed on the monitor screen even if you enter one.**
- **Only English is available in this mode.**
- **If you move the cursor to CLR and press the Function Setup switch, all the letters are deleted. To edit a letter, change the cursor to the bottom left arrow and press the Function Setup switch. Move the cursor over the letter to be edited, move the cursor to the letter to be inserted and then press the Function Setup switch.**

- **PRIVACY** : Mask an area you want to hide on the screen.
  1. When the SPECIAL menu screen is displayed, press the Function Setup switch so that the arrow indicates 'PRIVACY'.
  2. Set up the mode using the Function Setup switch.
  - AREA : You can select up to 8 PRIVACY areas.
  - MODE : Determines whether to use the area selected.
  - MASK COLOR : Determine area color. You can select GREEN, RED, BLUE, BLACK, WHITE and GRAY.
  - SEL. POS/POS : Adjust the size and position of the selected area.
  - RETURN : Select this to save the PRIVACY menu settings and return to the SPECIAL menu.



- MOTION DET : This product has a feature that allows you to observe movement of objects in 4 different areas on the screen, and the words 'MOTION DETECTED' appear on the screen when movement is detected. You can monitor activity more efficient.



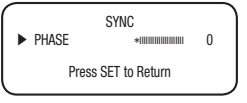
❶ When the SPECIAL menu screen is displayed, press the Function Setup switch so that the arrow indicates 'MOTION DET'.

❷ Set up the mode using the Function Setup switch.

- AREA : You can select up to 4 MD areas.
- MODE : Determines whether to use the MD area selected in AREA.
- TOP/BOTTOM/LEFT/RIGHT : Adjust the area to be enhanced.
- SENSITIVITY : Adjust the sensitivity of MD. the lower level, the higher sensitivity.
- RETURN : Select this to save the MOTION DET menu settings and return to the SPECIAL menu.

▪ **MOTION DET areas show only MOTION DET menu. Therefore, MOTION DET areas don't display on the monitor screen.**

- **SYNC** : In areas where the supply is at 60Hz(NTSC), 50Hz(PAL), you can synchronize the output phase of multiple cameras using the power synchronization function (Line-Lock) without using a synchronization signal generator.



- INT: Internal Synchronization Type
- L/L : Power Synchronization Type, Line-lock

❶Press the Function Setup switch.

❷You can select a desired phase from 0 to 359 when select 'phase'.

▪ When using AC power at 60Hz(NTSC), 50Hz(PAL) frequency, you can use the L/L type synchronization.

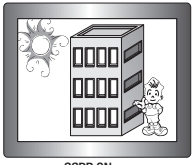
▪ When the power is DC 12V, the SYNC menu is fixed to the 'INT' mode.

- **COAX** : COAX option is set to "On" will specify the use of coaxial communication.

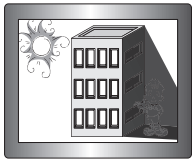
- **SSDR(Samsung Super Dynamic Range)** :
  SSDR illuminates darker areas of an image while retaining the same light level for brighter areas to even out the overall brightness of images with high contrast between bright and dark areas.



1. When the SETUP menu screen is displayed, select 'SSDR' by using the Function Setup switch so that the arrow indicates 'SSDR'.
2. Use the Function Setup switch to change the SSDR level in the sub menu according to the contrast between bright and dark areas.



SSDR ON



SSDR OFF

- RETURN : Select this to save the SPECIAL menu settings and return to the MAIN SETUP menu.

EXIT

Select a desired EXIT mode using the Function Setup switch depending on the camera purpose.

- **SAVE** : Save the current settings and exit the MAIN SETUP menu.
- **NOT SAVE** : Do not save the current settings and exit the MAIN SETUP menu.
- **RESET**: Resets the camera settings to the factory defaults. Monitor, Language and COAX settings are not initialized.

TROUBLESHOOTING

If you have trouble operating your camera, refer to the following table. If the guidelines do not enable you to solve the problem, contact an authorized technician.

PROBLEM	SOLUTION
Nothing appears on the screen.	▶ Check that the power cord and line connection between the camera and monitor are fixed properly. ▶ Check that you have properly connected VIDEO cable to the camera VIDEO output jack.
The image on the screen is dim.	▶ Is the lens stained with dirt? Clean your lens with a soft, clean cloth. ▶ Check the monitor and DVR settings. ▶ If the camera is exposed to very strong light, change the camera position.
The image on the screen is dark.	▶ Adjust the contrast feature of the monitor or DVR. ▶ If you have an intermediate device, set the 75Ω / Hi-z properly.
The camera is not working properly, and the surface of the camera is hot.	▶ Check that you have properly connected the camera to an appropriate power source.
The DAY/NIGHT function does not work.	▶ Check that AGC of EXPOSURE SETUP menu is 'OFF'.
Color is not correct.	▶ Check the setting of WHITE BAL SETUP menu .
The screen flickers continually.	▶ Check that the camera is not pointing at the sun.
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.

SPECIFICATIONS

	SCB-2004ND	SCB-2004N	SCB-2004PD	SCB-2004P
Video				
Imaging Device	1/3" Super HAD CCD II (Double Scan)			
Total Pixels	1020(H) x 508(V)		1020(H) x 596(V)	
Effective Pixels	976(H) x 494(V)		976(H) x 582(V)	
Scanning System	2:1 Interlace			
Synchronization	Internal	Internal / Line Lock	Internal	Internal / Line Lock
Frequency	H : 15.734KHz / V : 59.94Hz		H : 15.625KHz / V : 50Hz	
Horizontal Resolution	700 TV lines(ER Mode)			
Min. Illumination	0.1Lux (50IRE@F1.2) / 0.0002Lux (50IRE@F1.2, SENS-UP x512)			
S / N Ratio	52dB (AGC off, Weight on)			
Video Output	CVBS : 1.0Vp-p, 75Ω composite			
Lens Type				
Lens Type	Manual / Auto Iris (DC)			
Mount Type	C / CS			
Operational				
On Screen Display	English, Japanese, Spanish, French, Portuguese, Korean		English, French, German, Spanish, Italian, Chinese, Russian, Polish, Czech, Romanian, Serbian, Swedish, Danish, Turkish, Portuguese	
Camera Title	Off / On (Displayed 15 characters)			
Day & Night	Auto (Electrical) / Color / B/W			
Backlight Compensation	OFF / USER BLC / HLC			
Contrast Enhancement	SSDR (Off/On)			
Digital Noise Reduction	3D DNR (Off/On)			
Defog	Off / Auto / Manual			
Motion Detection	Off / On			
Privacy Masking	Off / On (8 programmable zones)			

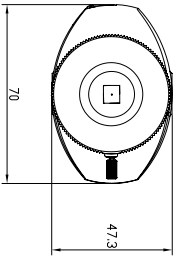
Specifications

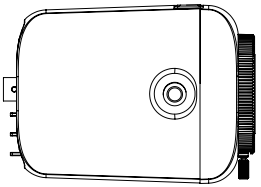
	SCB-2004ND	SCB-2004N	SCB-2004PD	SCB-2004P
Gain Control	Off / Low / Middle / High			
Electronic Shutter Speed	1/60 ~ 1/120,000sec		1/50 ~ 1/120,000sec	
White Balance	ATW / Outdoor / Indoor / Manual / AWC → SET (1,800K° ~10,500K°)			
Reverse	OFF / H-REV			
Communication	Coaxial Control (SPC-300 Compatible)			
Protocol	Coax : Pelco-C (Coaxitron)			
Environmental				
Operating Temperature / Humidity	-10°C ~ +55°C (+14°F ~ +131°F) / Less than 90% RH			
Electrical				
Input Voltage	DC 12V±10%	AC 24V ± 10% , DC 12V±10%	DC 12V±10%	AC 24V ± 10% , DC 12V±10%
Current	0.11A	0.2A	0.11A	0.2A
Mechanical				
Dimension(WxHxD)	99.7 x 70 x 47.3mm			
Weight	117g	117g	117g	117g

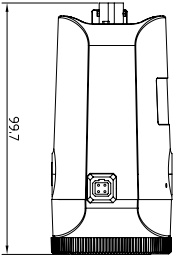
※ This specification can be changed without notice for performance improvement of product.

DIMENSION

Unit: mm









SALES NETWORK

SAMSUNG TECHWIN CO., LTD.
Samsung Techwin R&D Center, 6, Pangyo-ro 319beon-gil, Bundang-gu, Songnam-si, Gyeonggi-do 463-400, Korea
TEL : +82-70-7147-8740~60, FAX : +82-31-8018-3745

SAMSUNG TECHWIN AMERICA Inc.
100 Challenger Rd. Suite 700 Ridgefield Park, NJ 07660
Toll Free : +1-877-213-1222 Direct : +1-201-325-6920
Fax : +1-201-373-0124
www.samsungcctvusa.com

SAMSUNG TECHWIN EUROPE LTD.
Samsung House, 1000 Hillswood Drive, Hillswood Business Park
Chertsey, Surrey, UNITED KINGDOM KT16 0PS
TEL : +44-1932-45-5300, FAX : +44-1932-45-5325

www.samsungtechwin.com
www.samsungsecurity.com

P/NO. : PT01-001708A