SAMSUNG

Ultra High Resolution Camera **SDC-435** User's Manual

Thank you for choosing this Samsung Ultra High Resolution Camera product.
Before attempting to connect or operate this product, please read the instructions
contained in this manual carefully.
Please keep this instruction manual for future reference.

ENGLISH

Thank you for purchasing a **SAMSUNG CCD CAMERA**.
Before operating the camera, confirm the camera model and proper input power voltage. In order to that you can understand this manual thoroughly, we'll introduce our model description.

■ **SDC-435 SERIES**
- NTSC MODEL
  SDC-435N
  SDC-435ND
- PAL MODEL
  SDC-435P
  SDC-435PD
  SDC-435PH

■ **MODEL DESCRIPTION**
- SDC-435XX

  ┌─ POWER SOURCE
  └─ SIGNAL SYSTEM

- SIGNAL SYSTEM
  N → NTSC MODEL
  P → PAL MODEL

- POWER SOURCE
  → AC 24V / DC 12V
  D → DC 12V
  H → AC 230V

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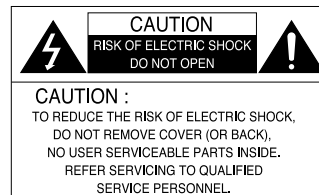
The lightning flash with an arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

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

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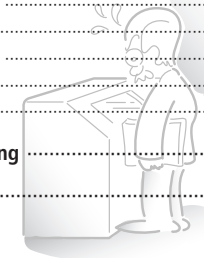
WARNING : Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

WARNING : To prevent electric shock and risk of fire hazards:
◆ Do NOT use power sources other than that specified.
◆ Do NOT expose this appliance to rain or moisture.

This installation should be made by a qualified service person and should conform to all local codes.

Contents

Features

High Resolution

By adopting a diagonal 6mm(1/3") 410,000 (NTSC) pixel, 470,000(PAL) pixel SONY CCD, the camera produces clear picture quality with a horizontal resolution of 600 TV lines for color.

Excellent Sensitivity

The built-in high sensitivity COLOR CCD enable a clear image even in 0.05Lux(COLOR), 0.0001Lux(SENS-UP) or lower illumination.

SSNR3 (Samsung Super Noise Reduction) Function

The high-performance W-V DSP chip effectively removes low-light gain noise and afterimage to provide clear images even in dark environments.

Electrical Day&Night

The camera identifies whether it is day or night and automatically switches to the appropriate mode, depending on its environment. By day, the camera switches to color mode in order to maintain optimal color. At night, it switches to B/W mode so as to obtain better picture definition.

Motion Detection

Since the camera detects motion without any additional external sensor, you can monitor activity more efficient.

SSDR (Samsung Super Dynamic Range)

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

DIS (Digital Image Stabilizer)

The DIS function compensates for any camera movement, to produce more stable pictures.

Video/DC Drive Lens Support

You can select Video or DC Drive Lens from the menu.

Communication

Coaxial communication methods are supported.
 - Protocol : Pelco Coaxitron

Miscellaneous Functions

HLC(High Light Compensation), SENS-UP, FLIP (H/V-REV), D-ZOOM, SHARPNESS, MOTION DETECTION and PRIVACY functions are provided.

OSD

The camera control is convenient by using 8 different foreign language O.S.D.
- NTSC : Korean, English, French, Spanish, Japanese, Portuguese
- PAL : English, French, German, Spanish, Italian, Chinese, Russian, Czech, Polish
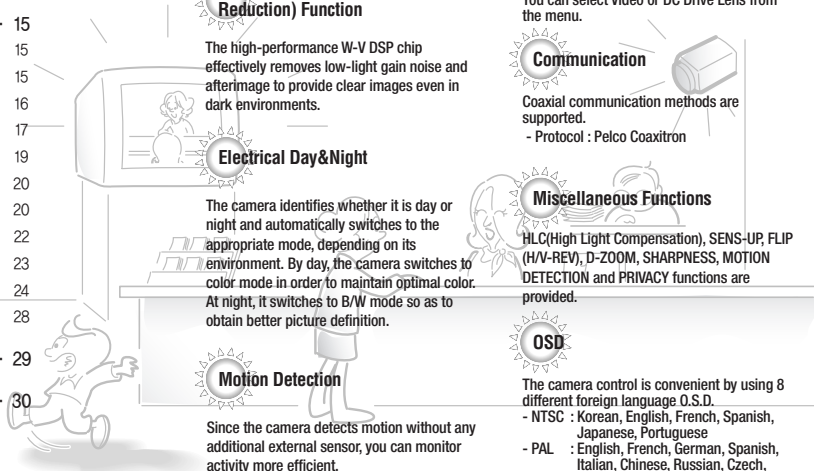
Samsung Techwin cares for the environment at all product manufacturing stages to preserve the environment, and is taking a number of steps to provide customers with more environment-friendly products.The Eco mark represents Samsung Techwin's will to create environment-friendly products, and indicates that the product satisfies the EU RoHS Directive.

Warnings & Cautions

This information is provided to ensure your safety and to prevent any losses, financial or otherwise. Please read it carefully and use the product accordingly.

* For product inquiries, please contact the retail shop where you bought the camera. The use of equipment such as an aerial ladder while providing after-sales service shall be at your expense.
* Separate the power plug during a thunder storm.
* This product is only part of a surveillance system. Therefore, we can't compensate for material loss and personal injuries by robbery, fire, natural disaster or something like this type.

Warning/Attention/Special Mark Messages

⚡	Ignoring this information may result in material loss and serious personal injuries including death.	⚠	Ignoring this information may result in material loss and a slight injuries.
🚫	Indicates "Never Allowed."	🚫	Indicates "No Disassembling."

Correct Disposal of This Product
(Waste Electrical & Electronic Equipment)
(Applicable in the European Union and other European countries with separate collection systems)

This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it 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 this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

Precautions

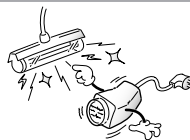### Do not install under extreme temperature conditions.

Use only under temperature conditions between -10°C and +50°C. Provide good ventilation when using in high temperature conditions.

Do not install in high humidity environment.

May lower image quality.

Do not install under unstable lighting conditions.

Severe lighting changes or flickering may hinder normal camera operation.

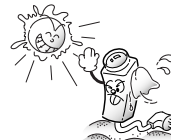### Avoid touching the camera lens.

The lens is the most important component of the camera. Be careful not to smear it with fingerprints.

Do not drop the camera or subject it to physical shock.

May cause a product malfunction.

Never keep the camera face to strong light directly.

May damage the CCD.

Precautions

Do not expose the camera to rain or other types of liquids.

Do not expose the camera to radioactivity.

May cause a product malfunction.Wipe dry any liquids. Liquids may contain minerals that are corrosive to electronic components.
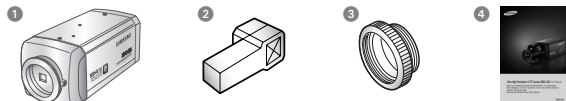
Radioactivity exposure may damage the CCD.

Notes

- Exposure to the spotlights or objects reflecting bright light, smearing or blooming may occur.
- Ensure that the power source complies with normal specifications before connecting it to the camera.

Components and Accessories

❶ Ultra High Resolution Camera SDC-435
❷ Auto iris lens connection plug
❸ C-Mount adaptor
❹ Instruction manual

Overview

Front View
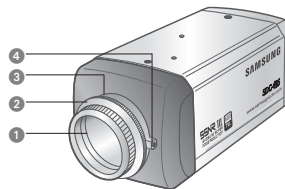
Side View
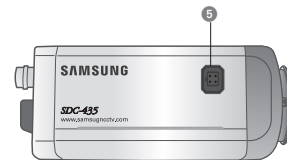
❶ **CCD protection cap** : Please cover the CCD SENSOR when not using it.
❷ **C-Mount lens adaptor** : Please install this adapter when using a C-Mount Lens.
❸ **CS-Mount lens adaptor** : Please remove the C-MOUNT lens adaptor and then attach it.
❹ **Back Focus clamp screw** : Please loosen the clamp screw with a screwdriver before adjusting the Back Focal length.
❺ **Auto Iris Lens Connector**

Bottom View

❻ **Tripod Mounting Bracket Screw Hole**
Used to fix the camera on a bracket or tripod.
The screw sizes for this hole are as follows:

1/4"-20 UNC (20 THREAD)
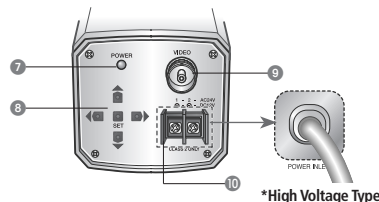L:4.5mm±0.2mm (ISO standard),
or 0.197" (ASA standard)
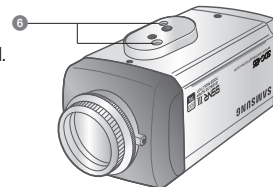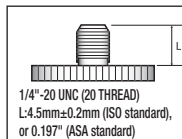
You can separate the Tripod Mounting Bracket and install it on the top or bottom of the camera. Make sure to use the Tripod Mounting Bracket when fixing the camera to a bracket or tripod. Otherwise the camera may not be secure, or the internal circuitry of the camera may be damaged.

Rear View

*High Voltage Type
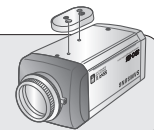
⑦ **Power lamp** : Lights up when the correct power is supplied to the camera.
⑧ **Function Setup Button**
  •SETUP button : Displays the menu on the screen and uses enter sub menu.
  •Up&Down button : Used to move the cursor up or down in the menu screen.
  •Left&Right button : Used to move the cursor left or right in the menu screen.
⑨ **Video output terminal** :
  Sends video signal and connects to the video input terminal of the monitor.
⑩ **Power input terminal** : Connects to the power appropriate to each model.

Installation

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.

Notes

• 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. Strip the insulation of the auto iris lens cable 8mm from the end.

8mm

2. Strip the insulation of the core of the auto iris lens cable to expose a 2mm length.


2mm
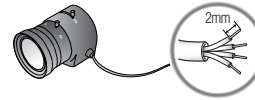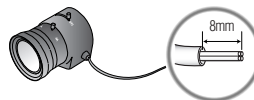
3. Remove the cover of the auto iris lens connector plug and solder the lens cable to the connector pin of the plug.

	LENS	
Pin No.	DC	VIDEO
No.1 Pin	Damping -	Red (power)
No.2 Pin	Damping +	NC
No.3 Pin	Drive +	White (video signal)
No.4 Pin	Drive -	Black (GND)

Lens cable
Connector
No.3 Pin
No.1 Pin
No.4 Pin
No.2 Pin
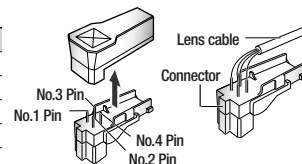
4. Please replace the auto iris lens connection plug cover and take off the CCD protection cap, and then attach the auto iris lens to the camera by screwing it in clockwise.
5. Please insert the connection plug that is connected to the auto iris lens cable into the auto lens connector, which is located on the side of the camera.
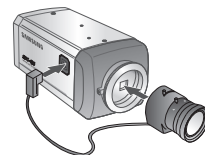

When using a C-Mount lens

Please take off the CCD protection cap and attach the C-Mount lens to the camera by screwing it in clockwise.
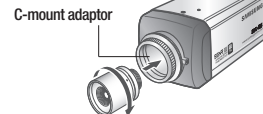
C-mount adaptor

Installation

When using a CS-Mount lens

1. Please take off the CCD protection cap and C-mount adaptor.

C-mount adaptor

CCD protection cap

2. Please attach the CS-Mount lens to the camera by screwing it in clockwise.


CS-mount adaptor
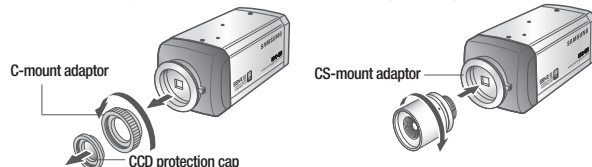
Notes

- Please use the specified lens connection parts as shown in the picture below. The use of the wrong sized parts of the wrong size may cause damage to the inside of the camera or result in poor fitting.
- Use of a lens which is too heavy affects the balance of the camera and may cause a malfunction. Please use a lens that weighs less than 450g.
- Please select Av mode if possible when adjusting the automatic light control (ALC) of an auto lens. Use of PK mode may cause hunting.

C-mount lens : 10 mm or less
CS-mount lens : 5 mm or less
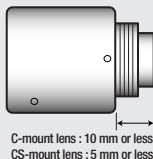
Connecting to the Monitor

Please connect the video output terminal located on the back of the camera to the monitor.

CCD Camera   Monitor
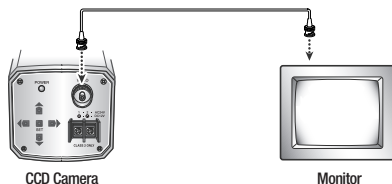
- The connection method varies depending on the type of monitor and accessories. Please refer to the user's manual for each instrument.
- Please turn off the power when connecting.
- Please select Hi-Z on the 75Ω/Hi-Z switch for the intermediate video TV set and select 75Ω for the Intermediate device as shown in the picture below.


CCD Camera   Intermediate   End monitor
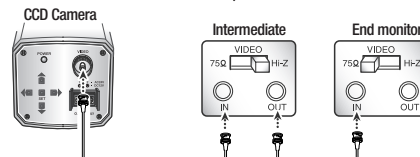
Using Coaxial Communications

- Coaxial Communications System
- OSD Control method

Controller Button	Camera Button
IRIS OPEN	SET KEY
JOYSTICK UP	UP KEY
JOYSTICK DOWN	DOWN KEY
JOYSTICK LEFT	LEFT KEY
JOYSTICK RIGHT	RIGHT KEY

Matrix / DVR
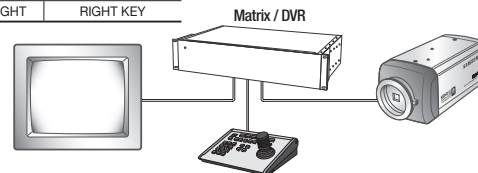
- Video Cable
  The camera's video output port is connected to the monitor with a BNC coaxial cable, shown below : If the distance between the camera and the monitor exceeds the recommended maximum, please use an auxiliary video amp.
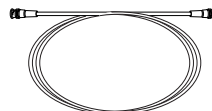
Distance	Recommended Cable Specification
300m	3C2V(RG-59/U)
450m	5C2V(RG-6/U)
600m	7C2V(RG-11/U)

Notes

- 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.
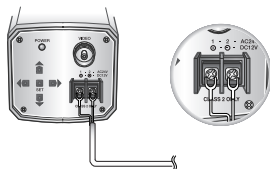
Connecting to the Power

Each model has a different power input specification. Please check the model type and standard power requirement before connecting to power.
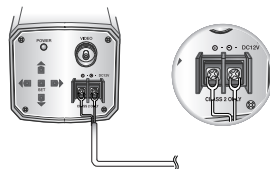
AC/DC Power Type

• Use AC24V, 300mA adaptor or DC12V, 500mA for SDC-435N/P

DC Power Type

• Use DC12V, 500mA for SDC-435ND/PD

High Voltage Type (AC230V, 50Hz)

• Use AC230V, 50Hz power source for SDC-435PH.

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

Copper wire size (AWG)	#24(0.22㎟)	#22(0.33㎟)	#20(0.52㎟)	#18(0.83㎟)
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 : DC 12V±10%, AC 24V±10%, AC 230V ±10% (SDC-435PH)
* There may be some deviation in voltage drop depending on the type of wire and the manufacturer.

Menu Configuration

MAIN MENU		
LENS	●DC ●VIDEO	●MANUAL
EXPOSURE	●BRIGHTNESS ●SHUTTER ●AGC ●SENS-UP ●RETURN	
WHITE BALANCE	●ATW ●OUTDOOR ●INDOOR ●MANUAL ●AWC→SET	
SSDR	●OFF ●ON	
BACKLIGHT	●OFF ●BLC ●HLC	
SSNR3	●OFF ●ON	
DAY/NIGHT	●COLOR ●B/W ●AUTO	
SPECIAL	●IMAGE ADJ. ●MONITOR ●CAM TITLE ●SYNC ●MOTION DET ●PRIVACY ●DIS ●LANGUAGE ●RETURN	
EXIT	●SAVE ●NOT SAVE ●RESET	

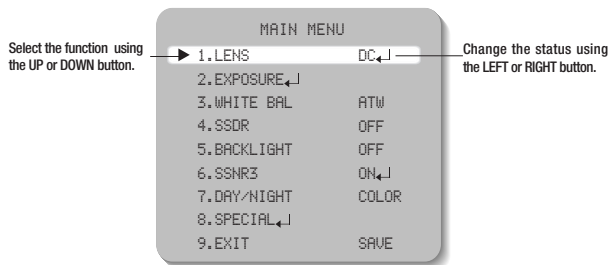※ This operating instruction has been written out as standard by F/W Version 1.0.

Menu Setup

You can set up functions using the 5 buttons on the rear of the camera.

UP button
SET button
LEFT button
DOWN button
RIGHT button
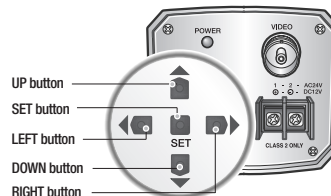
1. Press the SET button.
   • Main setup menu is displayed on the monitor screen.

Operating Your Camera

Select the function using the UP or DOWN button.

```
            MAIN MENU
   ▶ 1.LENS              DC↵
     2.EXPOSURE↵
     3.WHITE BAL         ATW
     4.SSDR              OFF
     5.BACKLIGHT         OFF
     6.SSNR3             ON↵
     7.DAY/NIGHT         COLOR
     8.SPECIAL↵
     9.EXIT              SAVE
```

Change the status using the LEFT or RIGHT button.

2. Select a desired function using the Up and Down buttons.
   • Place the cursor over a desired item.
3. Set up a selected item by using the Left and Right buttons.
4. To finish the setting, select 'EXIT' and press the SET button.

Notes

• An item with the ↵ icon also has sub menus. To select a sub menu, select an item with the icon and press the SET button.
• An item with the - - - icon is unavailable due to function settings.

LENS

Using this function, you can control the screen brightness.
1. When the SETUP menu screen is displayed, select 'LENS' by using the Up and Down buttons so that the arrow indicates 'LENS'.
2. Select the connected lens type by using the Left and Right buttons.

```
            MAIN MENU
   ▶ 1.LENS              DC↵
     2.EXPOSURE↵
```
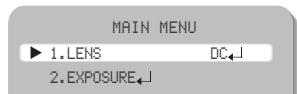
◖ DC/Video : Select Auto Iris Lens
  You can adjust the minimum shutter and maximum value of ESC shutter mode when DC Lens mode is selected.
◖ Manual : Select Manual Lens

3. Each Lens mode has sub menu items as listed below.
   - Brightness (DC, Manual) : Adjusts the video brightness.

- Level (VIDEO) : Adjusts the level of video iris signals; the higher the level is, the brighter the video looks.
- FOCUS ADJ. (DC, VIDEO) : To adjust the DC and VIDEO lens focus correctly, you must activate the Focus Settings mode under each lens menu. Activate the Focus Settings mode, adjust the lens focus, and then deactivate the settings mode. (The VIDEO lens requires an extra step: go to the sub menu of the Focus Settings mode and change the shutter speed to adjust the lens brightness.)
- IRIS SPEED (DC) : Adjusts the Iris control speed of the DC lens. If the control speed is too slow or fast, please use this menu to adjust the speed.

Notes

• When using VIDEO lens, adjust the lens VR explained below first and set the focus using 'FOCUS ADJ.' menu.
• If color rolling occurs when using a DC lens, set Shutter to A.FLK.
• Some lenses may not work properly, depending on the setting of the BRIGHTNESS LEVEL.
• When Using a Video-Type Auto Iris Lens
  ❶ Adjust the ALC adjustment terminal on the lens appropriately. In general, set it to AV (Average).
  ❷ It may not work properly depending on the installed lens. Set the Level VR of the lens to the optimal value.
  ❸ Set AGC to OFF and adjust the Lens VR to an appropriate brightness.
  ❹ Adjust the Lens VR, adjust the BRIGHTNESS, and then check if the screen brightness changes properly. Otherwise, adjust the Lens VR again.

EXPOSURE

```
            MAIN MENU
     1.LENS              DC↵
   ▶ 2.EXPOSURE↵
     3.WHITE BAL         ATW
```
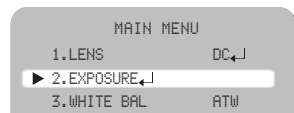
1. When the SETUP menu screen is displayed, select 'EXPOSURE' by using the Up and Down buttons so that the arrow indicates 'EXPOSURE'.
2. Select a desired mode using the Up and Down buttons.

```
          EXPOSURE SETUP
   ▶ 1.BRIGHTNESS ▭▭▮▭▭▭▭  25
     2.SHUTTER            ESC
     3.AGC               HIGH
     4.SENS-UP           OFF
     5.RETURN ↵
```
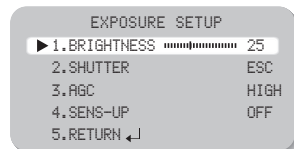
◔ SHUTTER : You can select either auto or manual shutter.
- A.FLK   : Select this when you experience picture flicker, which can happen when there is a clash with the frequency of the installed lighting.
- ESC   : Select this to control the shutter speed automatically. If ESC is selected, the shutter speed is automatically controlled depending on the ambient illumination of the subject.
- MANUAL : You can control shutter speed manually. (1/60 ~ 1/120,000)

Notes

• When you use a DC lens, set the shutter mode to A.FLK if color rolling occurs.
• When the SHUTTER is set to ESC after selecting the Internal Synchronization Type, the picture may become unstable if the camera faces a bright fluorescent light. Therefore, take care when choosing the installation position.
• When the SHUTTER is set to MANUAL or A.FLK mode, SENS-UP will be disabled.

◔ AGC(AUTO GAIN CONTROL) : The higher the gain level, the brighter the screen - but the higher the noise.
- OFF   : Deactivates the AGC function.
- LOW : Allows automatic gain control from 5.3dB to 32dB.
- HIGH : Allows automatic gain control from 5.3dB to 37dB.

◔ SENS-UP : When it is night or dark, the camera automatically detects the light level and maintains a clear picture if this mode is activated.
- OFF   : Deactivates the SENS-UP function.
- AUTO : Activates the SENS-UP function.

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

Notes

• If you press the SET button in 'AUTO' mode, You can adjust brightness by increasing or decreasing the shutter speed. (x2 ~ x512)
• Note that the higher the zoom level, the brighter the screen, but the more likely it is that an after-image will appear.
• Although Noise, Spots, and Whitish symptoms may occur in SENS-UP operation when the zoom level is increased, this is normal.

White Balance (White Bal.)

Use the White Balance function to adjust the screen color.
1. When the SETUP menu screen is displayed, select 'White Bal.' by using the Up and Down buttons so that the arrow indicates 'White Bal.' .
2. Select a desired mode using the Up and Down buttons.

```
            MAIN MENU
    1.LENS            DC↵
    2.EXPOSURE↵
 ▶  3.WHITE BAL       ATW
    4.SSDR            OFF
```
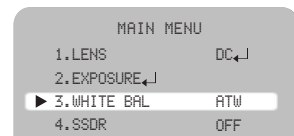
※ Select one of the following 5 modes, as appropriate for your purpose.
◔ ATW   : Select this when the color temperature is between 1,700°K and 11,000°K.
◔ OUTDOOR : Select this when the color temperature is between 1,700°K and 11,000°K. (sodium light inclusion)
◔ INDOOR   : Select this when the color 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 SET button.
◔ 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.

Notes

• White Balance may not work properly under the following conditions. In this case select the AWC mode.
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, the White Balance operation may become unstable.

# Operating Your Camera

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 images with high contrast between bright and dark spots.

```
            MAIN MENU
      1.LENS           DC↵
      2.EXPOSURE↵
      3.WHITE BAL      ATW
  ▶   4.SSDR           OFF
      5.BACKLIGHT      OFF
```
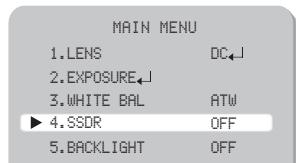
1. When the SETUP menu screen is displayed, select 'SSDR' by using the Up and Down buttons so that the arrow indicates 'SSDR'.
2. Use the Left/Right buttons to change the SSDR level in the sub menu according to the contrast between bright and dark spots.
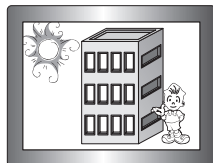
SSDR ON
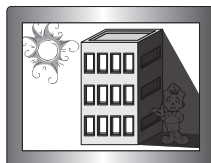
SSDR OFF

BACKLIGHT

This camera is designed so that it delivers a distinctive subject and background at the same time, even when the subject is in backlight, unlike conventional cameras, by adopting a proprietary W-V DSP chip.
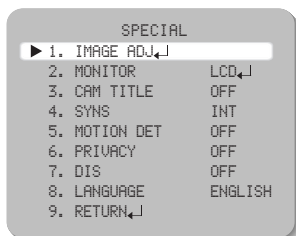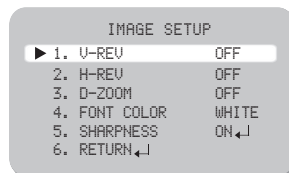1. When the SETUP menu screen is displayed, select 'BACKLIGHT' by using the Up and Down buttons so that the arrow indicates 'BACKLIGHT'.

```
            MAIN MENU
      1.LENS           DC↵
      2.EXPOSURE↵
      3.WHITE BAL      ATW
      4.SSDR           OFF
  ▶   5.BACKLIGHT      OFF
```
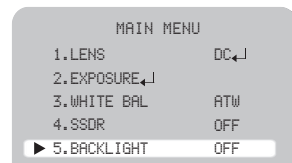
2. Select a desired mode using the Left and Right buttons depending on the camera purpose.
   ◯ BLC : Enables a user to directly select a desired area from a picture, and to view the area more clearly.
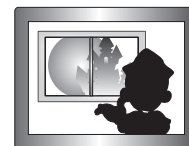
BLC ON   BLC OFF

   ◯ HLC (High Light Compensation) :
   If the scene contains extremely brightly light areas such as; from car headlight, the light can mask out much of the on-screen detail. Use Samsung Techwin's HLC feature to remove these exceptionally brightly light areas to allow detail such as car number plates to become visible.
   - LEVEL : Adjust level of the HLC function.
   - LIMIT : Enable to change the operating condition.
   - MASK COLOR/TONE : Change the color / brightness of the masking area.
                     (Black, Red, Blue, Cyan, Magenta)
   - TOP/BOTTOM/LEFT/RIGHT : Adjust the area to be enhanced.

HLC MASKING AREA
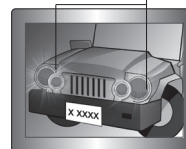
HLC ON   HLC OFF

   ◯ OFF : Not being used

Operating Your Camera

3. Select a desired mode using the Left and Right buttons and press the SET button.

➲ Select 'BLC' to adjust the area to be enhanced then adjust the level.

```
        BLC SETUP

▶ LEVEL          MIDDLE
  TOP                27
  BOTTOM             82
  LEFT               42
  RIGHT             126

   Press SET to Return
```

➲ HLC : Enable the user to change the level, limit, mask color/tone and area.
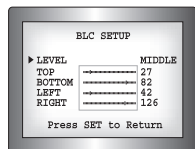
```
        HLC SETUP

▶ LEVEL          MIDDLE
  LIMIT          NIGHT ONLY
  MASK COLOR     BLACK
  MASK TONE  ╺═══════════  5
  TOP        ╺═══════════  38
  BOTTOM     ╺═══════════  109
  LEFT       ╺═══════════  54
  RIGHT      ╺═══════════  121
   Press SET to Return
```

SSNR3

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

1. When the SETUP menu screen is displayed, select 'SSNR' by using the Up and Down buttons so that the arrow indicates 'SSNR'.

```
           MAIN MENU

    1.LENS           DC↵
    2.EXPOSURE↵
    3.WHITE BAL      ATW
    4.SSDR           OFF
    5.BACKLIGHT      OFF
  ▶ 6.SSNR3          ON↵
    7.DAY/NIGHT      COLOR
```
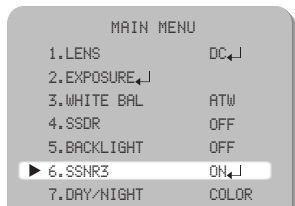
2. Select a desired mode using the Left and Right buttons.

➲ OFF : Deactivates SSNR. Noise is not reduced.

➲ ON : Activates SSNR so that noise is reduced.

3. Set the SSNR mode to 'ON' and press the SET button. Then you can adjust the noise reduction level.

Notes

• You cannot set the SSNR to 'ON' or 'OFF' when the AGC mode of the EXPOSURE menu is 'OFF'.
• When adjusting the noise reduction level in the SSNR mode, remember that the higher the level set, the more the noise level will be reduced, as will the brightness of the image.

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'.

```
           MAIN MENU

    1.LENS           DC↵
    2.EXPOSURE↵
    3.WHITE BAL      ATW
    4.SSDR           OFF
    5.BACKLIGHT      OFF
    6.SSNR3          ON↵
  ▶ 7.DAY/NIGHT      COLOR
    8.SPECIAL↵
```
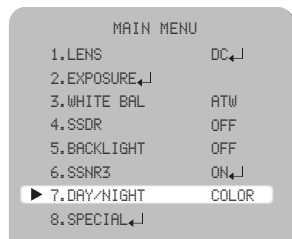
2. Select a desired mode using the Left and Right buttons according to the picture display you want.

➲ 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 signal on B/W mode.

➲ 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 SET button.
You can turn on or off the burst signal on B/W mode.

```
       AUTO SETUP

▶ DWELL TIME      5SEC
  BURST MODE       ON


   Press SET to Return
```

- DWELL TIME : You can select the duration time about changing the day/night mode.
→5s, 7s, 10s, 15s, 20s, 30s, 40, 60s

Operating Your Camera

SPECIAL

1. When the SETUP menu screen is displayed, select 'SPECIAL' by using the Up and Down buttons so that the arrow indicates 'SPECIAL'.

```
             MAIN MENU
     1.LENS            DC↵
     2.EXPOSURE↵
     3.WHITE BAL       ATW
     4.SSDR            OFF
     5.BACKLIGHT       OFF
     6.SSNR3           ON↵
     7.DAY/NIGHT       COLOR
   ▶ 8.SPECIAL↵
     9.EXIT            SAVE
```

2. Select a desired mode using the Up and Down buttons.

```
              SPECIAL
   ▶ 1. IMAGE ADJ↵
     2. MONITOR        LCD↵
     3. CAM TITLE      OFF
     4. SYNS           INT
     5. MOTION DET     OFF
     6. PRIVACY        OFF
     7. DIS            OFF
     8. LANGUAGE       ENGLISH
     9. RETURN↵
```
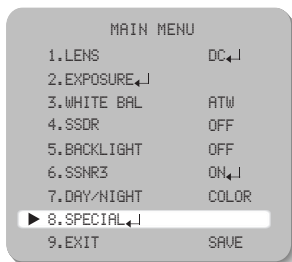
◗ IMAGE ADJ. :

1) When the SETUP menu screen is displayed, select 'IMAGE ADJ.' by using the Up and Down buttons so that the arrow indicates 'IMAGE ADJ'.

2) Select a desired mode using the Up and Down buttons.

```
            IMAGE SETUP
   ▶ 1. V-REV          OFF
     2. H-REV          OFF
     3. D-ZOOM         OFF
     4. FONT COLOR     WHITE
     5. SHARPNESS      ON↵
     6. RETURN↵
```

• V-REV   : You can flip the picture vertically on the screen.
• H-REV   : You can flip the picture horizontally on the screen.
• D-ZOOM   : You can use a digital zoom of x1 ~ x16.
• FONT COLOR : You can change the OSD font color. (White, Yellow, Green, Red, Blue)
• SHARPNESS   : As you increase this value, the picture outline becomes stronger and clearer. Adjust this value appropriately depending on the sharpness of the picture.
• RETURN   : Select this to save the settings for the IMAGE ADJ. menu and to return to the SETUP menu.

◗ Monitor : Please change the settings value of video appropriate to your monitor.

```
            USER MONITOR

   ▶ GAMMA              0.55
     PED LEVEL  ----+----17
     COLOR GAIN ----+----50

     Press SET to Return
```

- LCD   : Please select this menu item when using an LCD monitor.
- CRT   : Please select this menu item when using a CRT monitor.
- 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.
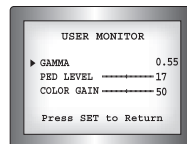
Operating Your Camera

○ CAM TITLE : If you enter a title, the title will appear on the monitor.

  1) If the SPECIAL menu screen is displayed, use the Up and Down buttons so that the arrow indicates 'CAM TITLE'.

  2) Set it to 'ON' by using the Left and Right buttons.

  3) Press the SET button.

  4) Use the 4 direction buttons to move to a desired letter and select the letter by pressing the SET button. Repeat this to enter multiple letters. You can enter up to 15 letters.

  5) Enter a title, move the cursor to 'POS' and press the SET button. The entered title appears on the screen. Select the position to display the title on the screen by using the 4 direction buttons and press the SET button. When the position is determined, select 'END' and press the SET button to return to the SPECIAL menu.

```
CAMERA TITLE SETUP
ABCDEFGHIJKLM
NOPQRSTUVWXYZ
abcdefghijklm
nopqrstuvwxyz
-.0123456789
←→CLR POS END
□ - - - - - - - - -
```

```
FRONT DOOR
[ ] to locate [SET]
```

Notes

• 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 SET button, all the letters are deleted. To edit a letter, change the cursor to the bottom left arrow and press the SET button. Move the cursor over the letter to be edited, move the cursor to the letter to be inserted and then press the SET button.

○ SYNC : In areas where the supply is at 60Hz, 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

  • Press the Function Setup switch.

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

```
SYNC
▶PHASE ———•——— 225

Press SET to Return
```

Notes

• When using AC power at 60Hz frequency, you can use the L/L type synchronization.
• When the power is DC 12V, the SYNC menu is fixed to the 'INT' mode.

○ MOTION DET :
This product has a feature that allows you to observe movement of objects in 8 different areas on the screen, and the words 'MOTION DETECTED' appear on the screen when movement is detected. you can monitor activity more efficient.
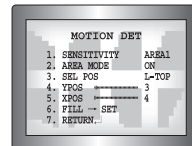
```
MOTION DET
1. SENSITIVITY    AREA1
2. AREA MODE      ON
3. SEL POS        L-TOP
4. YPOS ——•———    3
5. XPOS ———•——    4
6. FILL → SET
7. RETURN.
```

  1) When the SPECIAL menu screen is displayed, press the Up and Down buttons so that the arrow indicates 'MOTION DET'.

  2) Set up the mode using the 4 direction buttons.

   - SENSITIVITY : You can select up to 8 MD areas. When SENSITIVITY number is high, motion detection sensitivity is increased to recognize even small movement.

   - AREA MODE : Determines whether to use the MD area selected in SENSITIVITY.

   - SEL POS : Determines which of the 4 vertices of each MD area is to be used.

   - YPOS : Determines the coordinate of the vertical axis for SEL POS.

   - XPOS : Determines the coordinate of the horizontal axis for SEL POS.

   - FILL→SET : Fills in a selected MD area. Fills in a selected MD area. The color of filling is sequentially selected as brown, orange, blue, cyan, yellowish green, yellow and red.

   - RETURN : Select this to save the MOTION DET menu settings and return to the SPECIAL menu.

○ PRIVACY : Mask an area you want to hide on the screen.

```
PRIVACY AREA SETUP
▶1. AREA          AREA1
  2. MODE          OFF
  3. MASK COLOR     GREEN
  4. MASK TONE ••••••••••• 1
  5. TOP       •••••••••• 39
  6. BOTTOM    •••••••••• 79
  7. LEFT      •••••••••• 12
  8. RIGHT     •••••••••• 51
  9. RETURN
```

1) When the SPECIAL menu screen is displayed, press the Up and Down buttons so that the arrow indicates 'PRIVACY'.

2) Set up the mode using the 4 direction buttons.
- AREA SEL : You can select up to 12 PRIVACY areas.
- MODE : Determines whether to use the area selected in the AREA SEL.
- MASK COLOR : Determine area color. You can select Green, Red, Blue, Black, White, Gray.
- MASK TONE : Adjust the brightness of MASK COLOR.
- TOP/BOTTOM/LEFT/RIGHT : Adjust the size and position of the selected area.
- RETURN : Select this to save the PRIVACY menu settings and return to the SPECIAL menu.

◯ DIS (Digital Image Stabilizer) :
This function mitigates any picture movement due to external factors such as wind.

Notes

• As the DIS function uses the digital zoom the camera's resolution will decrease.
• DIS doesn't operate when background illumination is too low.
• DIS doesn't operate when object pattern is monotonic as like sky or white wall.

◯ LANGUAGE : You can select the menu language according to your requirements.

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

EXIT

Select a desired EXIT mode using the Left and Right buttons 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. Language and Monitor settings are not initialized.

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.

● **Nothing appears on the screen.**
  ▶ Check that the power cord and line connectionbetween the camera and monitor are fixed properly.
  ▶ Check that you have properly connected VIDEO cable to the camera VIDEO output jack.
  ▶ Check that the lens type is VIDEO lens or DC lens.

● **The image on the screen is dim.**
  ▶ Is lens stained with dirt? Clean your lens with soft, clean cloth.
  ▶ Set the monitor to proper condition.
  ▶ If the camera is exposed to too strong light, change the camera position.

● **The image on the screen is dark.**
  ▶ Adjust the contrast feature of the monitor.
  ▶ If you have an intermediate device, set the 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 SENS-UP function does not work.**
  ▶ Check that AGC of EXPOSURE SETUP menu is 'OFF'.
  ▶ Check that SHUTTER of EXPOSURE SETUP menu is 'A.FLK' or 'MANUAL'.

● **The Motion Detection function does not work.**
  ▶ Check that MOTION DET of SPECIAL SETUP menu is 'OFF'.

● **Color is not correct.**
  ▶ Check the setting of WHITE BAL SETUP menu .

● **The screen flickers continually.**
  ▶ Check that direction of camera turns toward 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

	SDC-435ND	SDC-435N	SDC-435PD	SDC-435P	SDC-435PH
ELECTRICAL					
Input Voltage	DC 12V	AC 24V / DC 12V	DC 12V	AC 24V / DC 12V	AC 230V, 50Hz
Power Consumption	Max 2.5W	Max 3.5W	Max 2.5W	Max 3.5W	Max 4.0W
VIDEO					
Imaging Device	1/3 inch, Diagonal 6mm Super HAD CCD				
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 Only	Internal /LineLock	Internal Only	Internal / Line-Lock	
Frequency	H : 15.734KHz V:59.54Hz		H: 15.625KHz V: 50.00Hz		
Horizontal Resolution	600TVL				
Min. Illumination	0.05 Lux(50IRE, No SENS-UP) / 0.0001Lux (SENS-UP x512) @F1.2				
S/N (Y Signal)	52dB (Weight Off, AGC Off)				
Video Output	CVBS : 1.0Vp-p, 75Ω composite				
OPERATIONAL					
IRIS Adustment	DC / VIDEO				
Electronic Shutter Speed	1/60 ~ 1/120K sec		1/50 ~ 1/120K sec		
On Screen Display	NTSC : Korean, English, Japanese, Spanish, French, Portuguese PAL : English,French,German,Spanish,Italian,Chinese,Russian,Polish,Czech				
SSDR	On / Off (Level adjustable)				
Backlight Compensation	BLC / HLC / OFF				
Day & Night	COLOR / BW / AUTO (Electric)				
Gain Control	Low / High / Off				
White Balance	ATW / OUTDOOR / INDOOR / MANUAL / AWC (1,700°K ~ 11,000°K)				
SENS-UP (frame Integration)	Auto /Off (Selectable x2 ~ x512)				
Motion Detection	On / Off (8 Programmable zones)				
Privacy Masking	On / Off (12 Programmable zones)				
3D Noise Filter (SSNRIII)	On / Off (Level adjustable)				
Digital Zoom	On / Off (x1 ~ x16)				
Digital Image Stabilization(DIS)	On / Off				
Camera Title	Off / On (Displayed 15 Characters)				
Sharpness	On / Off (Level adjustable)				
Flip / Mirror	On / Off				
Communication	Coaxial (Protocol : Pelco Coaxitron)				
ENVIRONMENTAL					
Operating Temp/Humid	-10°C ~ +50°C / 30% ~ 80% RH				
Storage Temp/Humid	-20°C ~ +60°C / 20% ~ 90% RH				
MECHANICAL					
Lens Mount	C / CS Mount				
Back Focus Adjustment	Manual				
Dimension	58(W) x 52(H) x 121(D)mm				
Weight	290g	310g	290g	310g	510g

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

DECLARATION OF CONFORMITY

Application of Council Directive(s)	89 / 336 / EEC
Manufacturer's Name	SAMSUNG TECHWIN CO., LTD
Manufacturer's Address	SAMSUNG TECHWIN CO., LTD
	42, SUNGJU-DONG CHANGWON-CITY,
	KYUNGNAM, KOREA, 641-716
European Representative Name	
European Representative Address	
Equipment Type/Environment	CCTV Camera
Model Name	SDC-435P, SDC-435PH, SDC-435PD
Beginning Serial NO.	C61S4010007
Year of Manufacture	2009.06.01
Conformance to	EN 50081-1 : 1992
	EMC-Directive 89/336 EEC and 92/31/EEC
	EN 50130-4 : 1996

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	*BJ Gu*	Signature
Full Name	BONJENG GU	Full Name
Position	QUALITY CONTROL MANAGER	Position
Place	CHANGWON, KOREA	Place
Date	2009.06.01	Date

SAMSUNG TECHWIN   SAMSUNG