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High Sensitivity, Day & Night 30X Zoom Color Camera
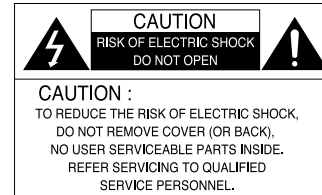
INSTRUCTION MANUAL

SDZ-330

About this manual
Please read this manual carefully before installing and using the camera. Be sure to keep the manual handy for later reference.

Features

30x Optical Zoom

The built-in SDZ-330 optical zoom lens is a highly durable component. It features auto focus, auto iris, and zoom functions.

SV-III DSP Chip

SDZ-330 features a powerful DSP that can efficiently remove image noise, producing crisp and clear images even under low lighting conditions.

Fine Picture Quality under Ultra Low Lighting

The integrated SV-III DSP Chip and 1/4" high density CCD allows the user to capture bright, high-quality images under ultra low lighting conditions.
- 0.4 Lux in normal color mode.

Wide Dynamic Range (WDR)

The WDR feature offers powerful compensation performance and thus allows for crisp, clear, and perfect light contract under any environment.

High Resolution

Featuring 520TV line horizontal resolution in color mode and 570TV line horizontal resolution in BW mode, the camera features Sony's Double Speed 410,000 pixel CCD and captures clean, noiseless, high-quality images.

Day & Night

The camera automatically determines whether it is night time or day time, selecting operating mode automatically. The camera operates in color mode during day light conditions and BW mode in night conditions for clearer identification.

Motion Detection

Once motion is detected, the camera sends an alert signal to the processing unit, which, if used in conjunction with an optional alarm, can provide effective surveillance of your property.

Miscellaneous Functions

Other miscellaneous functions of the camera include privacy zone masking, digital zoom, line lock synchronization (INT/LL), freeze, horizontal inversion, and user-configured presets.

Control via OSD Menu and RS-485

The OSD menu and RS-485 pins allow for remote control of the camera.
The user can also directly control the lens using external control connection.

Warning

The camera requires regular maintenance.

Contact an authorized technician for maintenance and/or servicing.

Do not continue to use if malfunctioning.

Prolonged use of the camera in abnormal operating conditions (produces smoke, overheats, etc.) may result in a fire.

Do not Install the camera on a surface that can not support it.

Installation on an unsuitable surface may cause the camera to fall and/or other hazards.

Do not handle the power cable with wet hands.

May result in an electric shock.

Do not disassemble the camera.

May result in a fire, electric shock, and/or other hazards.

Do not place the camera in the vicinity of inflammables.

May result in a fire and/or other hazards.

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.

Contents

Precautions

Do not install under extreme temperature conditions.

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

Do not install in high humidity environment.

May lower image quality.

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.

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

Wipe dry any liquids. Liquids may contain minerals that are corrosive to electronic components.

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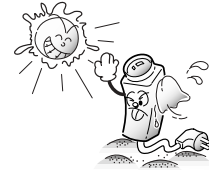
Radioactivity exposure may damage the CCD.

Do not install under unstable lighting conditions.
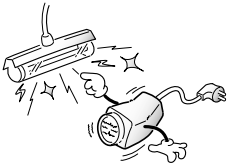
Severe lighting changes or flickering may hinder normal camera operation.

Avoid touching the camera lens.

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

Notes

- Exposure to a spotlight or an object emitting strong light may cause smear or blooming.
- Ensure that the power source complies with normal specifications before supplying it to the camera.

Top

1. 30x Zoom Color Camera
   SDZ-330

2. Instruction Manual

3. 6-Pin Connection Cable
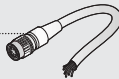
4. Front Cover Ring

5. Remote Controller (Optional)

Close

Open
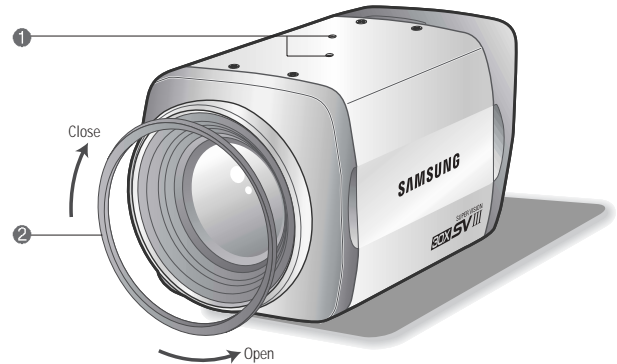
❶ **Tripod Mounting Bracket Screw Hole**
Used to fix tripod mounting bracket on top of the camera.

❷ **Front Cover Ring**
Removable for replacement with a filter.

Overview

Bottom
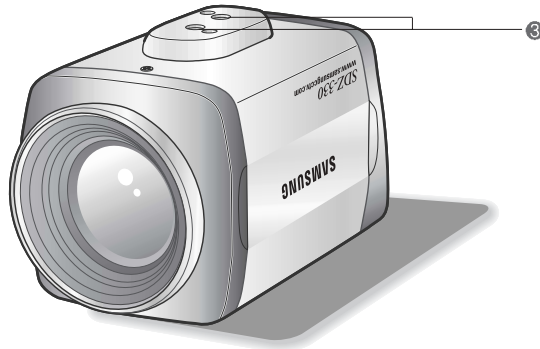
③ Tripod Mounting Hole
Used to install the camera on an optional tripod. The tripod must be equipped with screws with specifications shown on the right.

1/4"-20 UNC (20 THREAD)
L:4.5mm±0.2mm (ISO standard), or 0.197" (ASA standard)
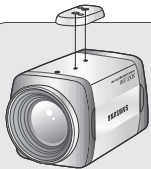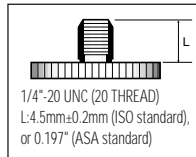
Attach the bracket to the top of the camera. Use screws included in the package or their equivalent (less than 6mm). Otherwise, the bracket may not assemble to the camera properly.

Back
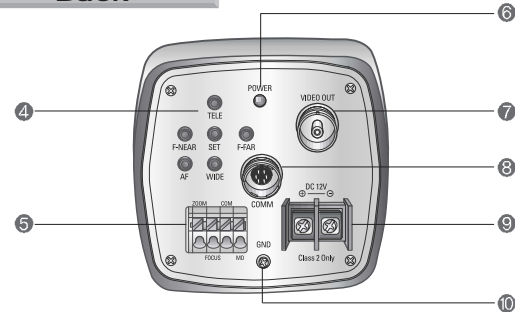
④ Key Buttons
· Following buttons control zoom, focus, and auto focus functions.
WIDE button   : To widen the view. (ZOOM OUT)
TELE button   : To close in on a far object. (ZOOM IN)
F-NEAR button : To see a near object clearly.
F-FAR button   : To see a far object clearly.
AF button   : To activate auto focus just once.
Pressing the 'SET' button locks the zoom control function of these buttons and prompts the main setup menu.

Notes
• The zoom postion is saved after 5 seconds when you set zoom function.

· Main setup menu can be navigated using these buttons.
SET : To access the main setup menu.
UP (WIDE button)   : To move the arrow indicator to up.
DOWN (TELE button)   : To move the arrow indicator to down.
LEFT (F-NEAR button)   : To move the arrow indicator to left.
RIGHT (F-FAR button)   : To move the arrow indicator to right.

Overview

⑤ External Control Connector
Relates to the motion detection output signal.
Zoom and focus functions can be controlled using external siganals.

⑥ Power LED
Illuminates when power is supplied.

⑦ Video Output Jack
Used to connect an external video monitor in jack.

⑧ Communication Control Connector
Used to connect the Remote Controller (Optional). Includes external 'SYNC' signal input pin, which is used for the line lock function.
Includes the RS-485 communication pin.

⑨ Power Input Terminal
Power supply terminal (DC12V±10%).

⑩ Frame Ground Terminal
It is the GND terminal of the motion detection signal.

Connection

Connecting to Monitor

Connect Video Out Jack to the monitor's Video In jack as shown below.

CCD Camera   Monitor

• Connection methods may vary depending on the video equipment. Please refer to the model specific instruction manual.
• Connect cables with the unit powered down.

• Set the 75Ω / Hi-Z selection switch as shown below if you have an intermediate device.

CCD Camera   Intermediate   End monitor
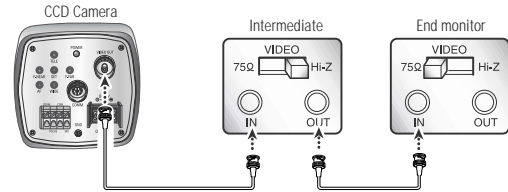
Connecting to Power

Connect the power cable to the camera's Power In as shown in the figure below.

Power Input Terminal

Frame Ground
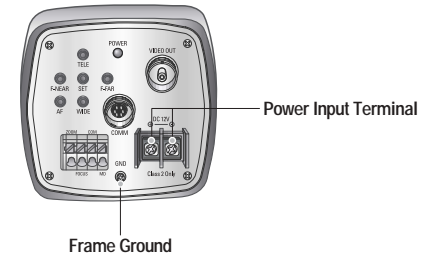
Notes
• Connect the power once the installation is complete.
• The wire is polarized. Match '+' and '-' terminals properly.
• Use a DC12V/500mA power source for SDZ-330.

Connection

Connecting to connection

External Control Connector

FOCUS (Input)
ZOOM (Input)
COM
MD (output)
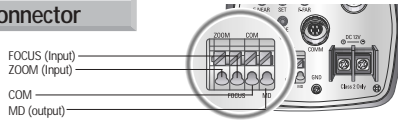
Connector	Function	Signal Level	I/O
ZOOM	Tele	+6V~+12V / COM	I
	Wide	COM / -6V~-12V	
FOCUS	Far	+6V~+12V / COM	I
	Near	COM / -6V~-12V	
COM		COM	-
MD		+4.0V~+5.0V There is motion / 0V There is no motion / 5±0.5sec	O

* MD (Motion Detection) Output Signal Level (less than 10mA)

* When using the MD function, the 'GND' should be connected to the frame ground.

Communication Control Connector

The camera can be controlled by using external controllers like a Remote controller. (RS485 Communication)

SCC-3000

Remote Controller
SCC-100, SDZ-160CO

6-Pin Connection Cable
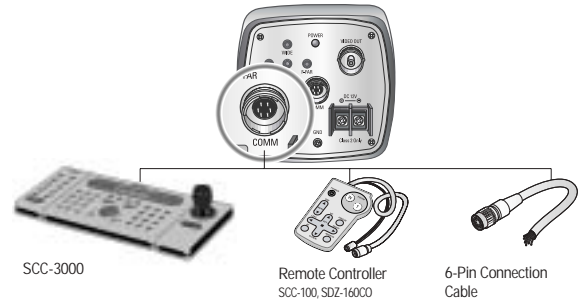
* Communication Control Connector Pin Description .

Number	Name	Description	Number	Name	Description
1	GND	-	4	TRX +	RS-485 Communication
2	EXT.SYNC	External 'SYNC' Signal	5	TRX -	RS-485 Communication
3	GND	-	6	Output Power	Remote Controller only

* EXT. SYNC
3V or 5V
0V
Min: 500ns
60Hz ± 0.1Hz(NTSC), 50Hz ± 0.1Hz(PAL)
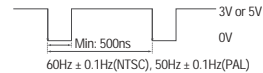
* Communication Setting can set the communication setting as shown in the table below. When you use to connect SCC-100 or SCC-3000, the default sets for SCC-100.

ITEM	SCC-100	SCC-3000
MODE	Serial	Serial
Data Bit	8 bit	8 bit
Bit/Sec	9600bps	9600bps
Parity	EVEN	NON
CAM ID NO.	0	1~255
RETURN PACKET	ENABLE	See the SCC-3000 settigs

Notes

· Contact an authorized technician for inspection.

Operating Your Camera

Menu Configuration

```
MAIN SETUP ─── CAM TITLE
MENU               • OFF           • ON

           ─── WHITE BAL.
               • ATW           • AWC           • MANUAL

           ─── BACKLIGHT
               • OFF           • WDR

           ─── MOTION DET.
               • OFF           • ON

           ─── FOCUS
               • MODE          • ZOOM TRK MODE
               • ZOOM TRK SPD  • D-ZOOM         • DISP ZOOM MAG
               • ZOOM INIT POS • LENS INIT      • END

           ─── EXPOSURE
               • BRIGHTENESS   • IRIS           • SHUTTER
               • AGC           • SSNR           • SENS-UP
               • END

           ─── SPECIAL
               • USER PRESET   • PRIVACY        • DAY/NIGHT
               • SYNC          • FREEZE         • H-REV
               • V-REV         • IMAGE ADJ      • COMMUNICATION
               • END

           ─── RESET

           ◯ EXIT
```

Menu Setup

Use the six buttons on back of the camera.

UP button
SET button
LEFT button
AF button
DOWN button
RIGHT button

POWER
TELE
VIDEO OUT
F-NEAR SET F-FAR
AF WIDE
DC 12V
COM/A
FOCUS M/B
GND
Class 2 Only
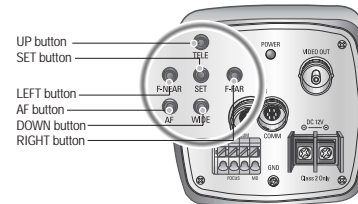
1. Press the SET button to access the main setup mode.
   • Main setup menu is displayed on the monitor screen.

```
            MAIN SETUP

▶ CAM TITLE         OFF
  WHITE BAL         ATW
  BACKLIGHT         OFF
  MOTION DET        OFF
  FOCUS↵
  EXPOSURE↵
  SPECIAL↵
  RESET
  EXIT
```
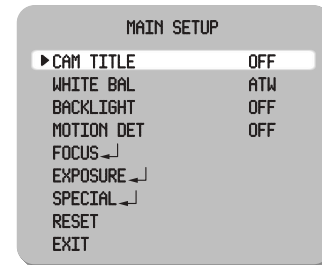
2. Select the desired feature using the UP or DOWN button.
   • Each pressing of the UP or DOWN button moves the indicator to the next or previous feature.
   • Move the arrow indicator to the desired feature item.

Operating Your Camera

```
          MAIN SETUP
  ▶CAM TITLE        OFF
   WHITE BAL        ATW
   BACKLIGHT        OFF
   MOTION DET       OFF
   FOCUS ↵
   EXPOSURE ↵
   SPECIAL ↵
   RESET
   EXIT
```

Select feature using the UP or DOWN button.

Change the status using the LEFT or RIGHT button.
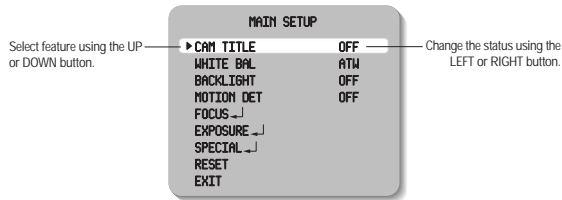
3. Change the status of the selected feature using the LEFT or RIGHT button.
4. When completed, move the arrow indicator to 'EXIT' and press the SET button.

Notes

• Features marked with a ↵ have an accessible submenu.
• Access the submenu by pressing the SET button.

Cam Title

Use this feature to designate a name for the camera, which will display on the monitor screen.

1. Press the SET button to display the main setup menu and move the arrow indicator to 'CAM TITLE' using the UP or DOWN button.
2. Set 'CAM TITLE' to 'ON' using the LEFT or RIGHT button.

Notes

• If the CAM TITLE feature is set to 'OFF', the name will not displayed in the monitor.

```
          MAIN SETUP
  ▶CAM TITLE        OFF
   WHITE BAL        ATW
   BACKLIGHT        OFF
   MOTION DET       OFF
   FOCUS ↵
   EXPOSURE ↵
   SPECIAL ↵
   RESET
   EXIT
```

3. Press SET button.

```
        CAM TITLE

  ABCDEFGHIJKLMNO
  PQRSTUVWXYZabcd
  efghijklmnopqrs
  tuvwsyz01234567
  89( )<>-/#!?,.↵

  ←  →  CLR POS END
```
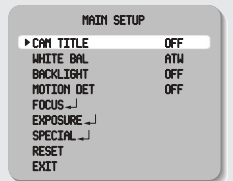
4. You can enter up to 20 characters.
   ❶ Move the cursor to the character entry field using the LEFT or RIGHT button.
   ❷ Use UP, DOWN, LEFT, and RIGHT buttons to select a desired character.

```
        CAM TITLE

  ABCDEFGHIJKLMNO
  PQRSTUVWXYZabcd
  efghijklmnopqrs
  tuvwsyz01234567
  89( )<>-/#!?,.↵

  ←  →  CLR POS END
```

   ❸ Press the SET button to confirm selection of the blinking character. The character is then saved, and the cursor in the entry field moves to the next position.
   ❹ Repeat steps ❶ through ❸ until the desired name has been entered.

Notes

• **Correcting Mistakes**
  Move the cursor to 'CLR' and press the SET button to clear the entire entry.
  To modify one character, use ← or → to position the cursor above the character to be modified and click the SET button after selecting the character to enter.

Operating Your Camera

5. Select on screen position of the CAM TITLE.

❶ Move the cursor to 'POS' and press SET button.

```
        CAM TITLE

ABCDEFGHIJKLMNO
PQRSTUVWXYZabcd
efghijklmnopqrs
tuvwsyz01234567
89( )<>-/#!?,.↵

←  →  CLR POS END
```

❷ The CAM TITLE is displayed on the top-left of the monitor screen. (Default position)

FRONT DOOR
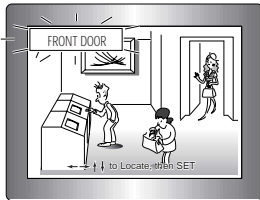
❸ Select the position by using the 4-directional buttons, then press the SET button to confirm the position.

FRONT DOOR

6. When completed, move the cursor to 'END' and press SET button.

White Balance Control

Your camera provides three 'WHITE BAL' control modes for your choosing in adjusting the white balance.

1. Press the SET button to access the main setup menu and move the indicator to 'WHITE BAL' using the UP or DOWN button.

2. Set 'WHITE BAL' using the LEFT or RIGHT button.

```
        MAIN SETUP

 CAM TITLE          OFF
▶WHITE BAL          ATW
 BACKLIGHT          OFF
 MOTION DET         OFF
 FOCUS↵
 EXPOSURE↵
 SPECIAL↵
 RESET
```
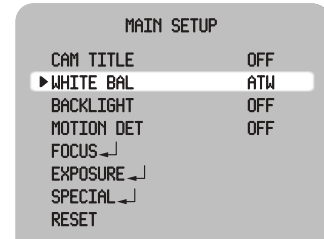
The three white balance control modes are as follows :

◗ **ATW (Auto Tracking White Balance):** When color temperature is 1800 ~ 10500°K, select this mode.

◗ **AWC (Auto White balance Control):** The white balance is automatically adjusted in a specific environment. In order to obtain the best result, press the SET button while the camera focuses on white paper. If the environment including the light source is changed, you have to adjust the white balance again.

◗ **Manual:** To fine adjust, select the Manual mode. You can increase or decrease the red or blue factor while monitoring the difference on the screen. Set to 'MANUAL' mode and press the SET button. Increase or decrease the value for red(R-Gain) and blue(B-Gain), watching the color of the picture, and press the SET button when you obtain the best color.

Operating Your Camera

Notes

• Proper White Balance may not be obtained under the following conditions.
 ❶ When the scene contains mostly high color temperature object, such as a blue sky or sunset.
 ❷ When the scene is dim.
 ❸ If your camera directly faces a fluorescent lamp or is used in an environment of varying lighting conditions.

Backlight

The built-in SVIII DSP chip provides intelligent light level control to overcome the severe 'BACKLIGHT' conditions.

1. Press the SET button to display the main setup menu and move the arrow indicator to 'BACKLIGHT' using the UP or DOWN button.

```
            MAIN SETUP

        CAM TITLE        OFF
        WHITE BAL        ATW
      ▶ BACKLIGHT        OFF
        MOTION DET       OFF
```
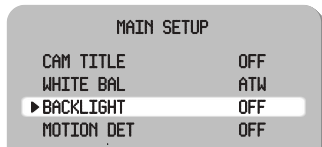
2. SET 'BACKLIGHT' to the desired mode using the LEFT or RIGHT button.
 ⊙ WDR: Compensates for scenes simultaneously containing bright and dark elements.
 ⊙ OFF: Deactivation

WDR   OFF

3. Select the ' WDR' mode and Press the SET button
 • You can adjust the LIMIT for WDR

```
            WDR SETUP

      WDR LIMIT        LOW


       Press SET to Return
```

You can select the level(LOW,MIDDLE,HIGH). WDR sensitivity is increased or decreased.

4. When completed, press the SET button.

Notes

• The WDR mode cannot be used if 'Shutter of Exposure Menu' is set to 'MANUAL'.
• The following phenomenon may occur when operating under the WDR mode. In such event, do not continue use under the WDR mode.
 ❶ Unnatural color change or screen phenomenon.
 ❷ Screen noise on bright elements.
• WDR performance vary on bright on screen elements. Adjust the camera angle accordingly when installing the camera to compensate.
• Making changes to the WDR LIMIT may result in unnatural screen phenomenon.

Motion Detection

alert signal upon detecting motion. When used in conjunction with an external alarm, the user can receive MD alerts. This feature is useful when monitoring several screens simultaneously.

1. Press the SET button to access the main setup menu and move the indicator to 'MOTION DET' using the UP or DOWN button.
2. Set 'MOTION DET' to ON using the LEFT or RIGHT button.

Operating Your Camera

```
        MAIN SETUP
   CAM TITLE        OFF
   WHITE BAL        ATW
   BACKLIGHT        OFF
 ▶ MOTION DET       ON
   FOCUS⏎
```

❶ Press the SET button.

```
      MOTION DETECTION
   SENSITIVITY    50 ·············

      Press SET to Return
```
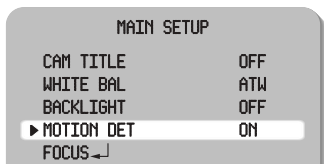
❷ Increase or decrease detection sensitivity by setting the 'SENSITIVITY' value.
· When completed, press SET button.

Notes

Tips on Using the Motion Detection Feature
• Once the sensitivity level has been set, perform a test to verify proper operation of the feature.
• The feature may not function properly under flickering light conditions.
• The camera interprets sudden changes in lighting and subsequent change in brightness of an object as motion.
• With the feature enabled, other algorithms may require additional time to operate than usual.
• This system does not guarantee prevention of fire or theft. The manufacturer shall not be held responsible for any accident or damage incurred.
• Connect an external alarm device to MD Out on back of the camera.
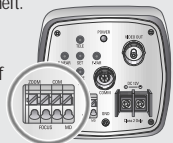
FOCUS

```
        MAIN SETUP
   CAM TITLE        OFF
   WHITE BAL        ATW
   BACKLIGHT        OFF
   MOTION DET       OFF
 ▶ FOCUS⏎
   EXPOSURE⏎
```
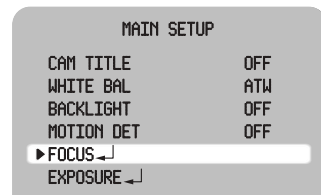
1. Press the SET button to access the main setup manu and then position the indicator over FOCUS using the UP or DOWN button.
2. Press the SET button.

   ◉**MODE:** You can select the most suitable zoom mode. Move the arrow indicator to 'MODE' using UP or DOWN button.

```
        FOCUS SETUP
 ▶ MODE            AUTO⏎
   ZOOM TRK MODE   ON
   ZOOM TRK SPD    FAST
   D-ZOOM          OFF
```

•**AUTO :** Select AUTO and press the SET button to confirm. Increase or decrease optical zoom (ZOOM) or digital zoom (D-ZOOM) positions using the UP or DOWN button while verifying the changes on screen. Enabling D-ZOOM (ON) means that digital zoom will activate once optical zoom ends. Focus is automatically adjusted with moving zoom.

```
     SET ZOOM & FOCUS

   ↑:TELE    ↓:WIDE
   Press SET to Return
```

Operating Your Camera

•ONE PUSH : Focus is automatically adjusted just once, after zoom position is changed. Select 'ONE PUSH' and press the SET button to confirm. Increase or decrease optical zoom (ZOOM) or digital zoom (D-ZOOM) positions using the directional buttons while verifying the changes on screen. Press the SET button once desired image quality is obtained.

```
SET ZOOM & FOCUS

↑:TELE    ↓:WIDE
←:NEAR    →:FAR

Press SET to Return
```

•MANUAL : Select 'MANUAL' and press the SET button to confirm. Increase or decrease optical zoom (ZOOM) or digital zoom (D-ZOOM) positions using the directional buttons while verifying the changes on screen. Press the SET button once desired image quality is obtained. Focus can be manually adjusted, independent of moving zoom.

```
SET ZOOM & FOCUS

↑:TELE    ↓:WIDE
←:NEAR    →:FAR

Press SET to Return
```

ZOOM TRK MODE: You can select to use 'ZOOM TRK MODE'. Move the arrow indicator to 'ZOOM TRK MODE' using UP or DOWN button. Set 'ZOOM TRK MODE' to on using LEFT or RIGHT button.

```
FOCUS SETUP

MODE                AUTO↵
▶ ZOOM TRK MODE      ON
```
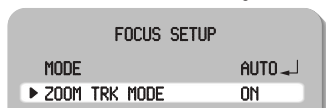
ZOOM TRK SPD: Configure zoom tracing speed using this feature. Position the indicator over 'ZOOM TRK SPEED' using the UP or DOWN button and then set to desired mode using the LEFT or RIGHT button.

```
FOCUS SETUP

MODE                AUTO↵
ZOOM TRK MODE        ON
▶ ZOOM TRK SPD       FAST
```
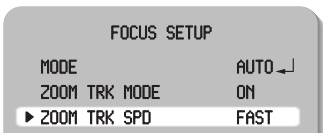
•FAST: To move zoom fast.   **•SLOW:** To move zoom slowly.

Notes
• The 'ZOOM TRK SPEED' mode cannot be used if 'MODE' is set to 'AUTO' and 'ZOOM TRK MODE' is 'ON'.

D-ZOOM: Configure magnification limit from x1, x2, x4, or x8 using this feature. Position the indicator over 'D-ZOOM' using the UP or DOWN button. Set 'D-ZOOM' to 'ON' and press the SET button to confirm.

```
FOCUS SETUP

MODE                AUTO↵
ZOOM TRK MODE        ON
ZOOM TRK SPD         FAST
▶ D-ZOOM             ON↵
```
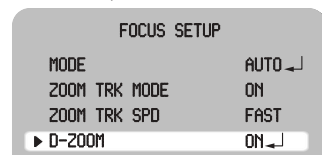
· Set 'ZOOM LIMIT' to the desired level using the LEFT or RIGHT button.

```
DIGITAL ZOOM

DZOOM LIMIT    x8

Press SET to Return
```

DISP ZOOM MAG: Use this feature to display the current zoom magnification level on screen. Position the indicator over 'DISP ZOOM MAG' using the UP or DOWN button. Then set to ON using the LEFT or RIGHT button.

```
FOCUS SETUP

MODE                AUTO↵
ZOOM TRK MODE        ON
ZOOM TRK SPD         FAST
D-ZOOM               OFF
▶ DISP ZOOM MAG      ON
```
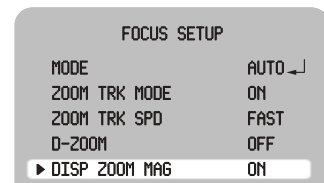
Operating Your Camera

ZOOM INIT POS: Moves to the controlled ZOOM position when the power truned on and is a function of the initial ZOOM position control.

```
            FOCUS SETUP

  MODE                AUTO⏎
  ZOOM TRK MODE       ON
  ZOOM TRK SPD        FAST
  D-ZOOM              OFF
  DISP ZOOM MAG       ON
▶ ZOOM INIT POS       ON⏎
  LENS INIT
```

```
      ZOOM INIT POS SETUP

   INIT POS        x1
```
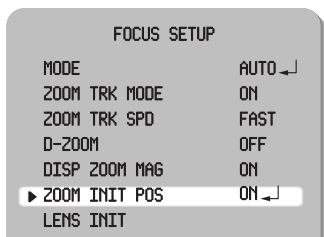
LENS INIT : Use this feature to initialize the lens. Position the indicator over LENS INIT. using the UP or DOWN button. Press the SET button to confirm.

```
            FOCUS SETUP

  MODE                AUTO⏎
  ZOOM TRK MODE       ON
  ZOOM TRK SPD        FAST
  D-ZOOM              OFF
  DISP ZOOM MAG       ON
  ZOOM INIT POS       OFF
▶ LENS INIT
  END
```
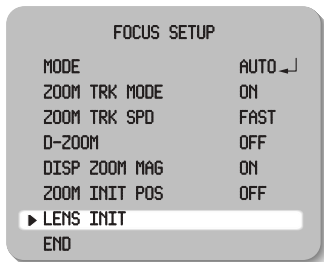
END: To revert to the main setup menu.

EXPOSURE

```
          EXPOSURE SETUP

  BRIGHTNESS         50.......
  IRIS               AUTO
  SHUTTER            ---
  AGC                MIDDLE
  SSNR               MIDDLE
  SENS-UP            AUTO⏎
  END
```
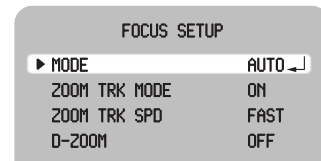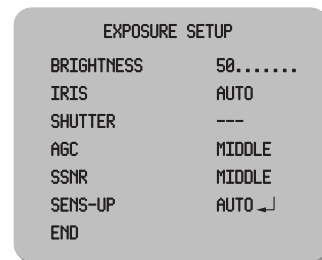
1. Press the SET button to access the main setup menu and then position the indicator over 'EXPOSURE' using the UP or DOWN button.
2. Press the SET button to confirm.

BRIGHTNESS: Use this feature to adjust image brightness. Position the indicator over 'BRIGHTNESS' using the UP or DOWN button. Then increase or decrease brightness level using the LEFT or RIGHT button while verifying the changes on screen. Set END once desired level is obtained.

```
          EXPOSURE SETUP

▶ BRIGHTNESS         50.......
  IRIS               AUTO
  SHUTTER            ---
  AGC                MIDDLE
```
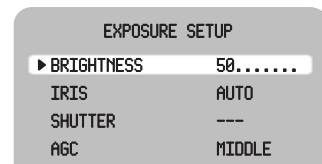
Operating Your Camera

IRIS: Set 'IRIS' to 'AUTO' or 'MANUAL'. Position the indicator over 'IRIS' using the UP or DOWN button and then select the desired iris mode using the LEFT or RIGHT button.

```
        EXPOSURE SETUP

   BRIGHTNESS      50.......
 ▶ IRIS            AUTO
   SHUTTER         ---
```

- **AUTO:** The iris is automatically activated upon illumination.
- **MANUAL:** Manual iris configuration. Set 'IRIS' to 'MANUAL' using the LEFT or RIGHT button and then press the SET button. Increase or decrease iris level using the LEFT or RIGHT button while verifying the changes on screen.

```
    LENS MANUAL SETUP

    IRIS MANUAL 50···············


    Press SET to Return
```

SHUTTER : Control image brightness by adjusting shutter speed.

1. Position the indicator over 'SHUTTER' using the UP or DOWN button. Then select the desired shutter mode (A.FLK, ESC, MANUAL) using the LEFT or RIGHT button.

```
        EXPOSURE SETUP

   BRIGHTNESS      50.......
   IRIS            AUTO
 ▶ SHUTTER         ---
   AGC             MIDDLE
```
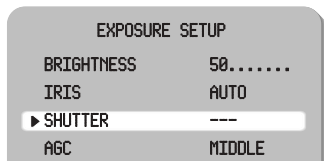
- **A.FLK (NTSC: 1/100, PAL: 1/120):** Flicker-free mode
- **ESC:** Automatic shutter speed setting (optimal)
- **MANUAL:** Manual shutter speed setting

2. If you choose 'MANUAL', select the optimal shutter speed.
   · In MANUAL mode, the optimal shutter speed needs to be designated. Select from 1/60 to 1/120,000 (NTSC) or from 1/50 to 1/120,000 (PAL).
     * 'Sens-Up' mode can be configured manually (2x to 128x).
   · Verify changes made to the shutter speed by referencing to changes in on screen brightness.

```
        SET SHUTTER

   >SHUTTER     1/60


    Press SET to Return
```

3. Press the SET button to complete.

Notes

- Set the 'WDR' mode under the Backlight menu to OFF for maximum A.FLK performance. 'A.FLK' will not function properly otherwise.
- Image may become unstable if the camera is set to 'ESC' mode and faces a strong fluorescent light.
- Under 'ESC' mode, the brightness can be adjusted using the LEFT or RIGHT button.
- The WDR feature is not available under MANUAL mode.
- Sens-up is disabled under 'MANUAL' or 'A.FLK' mode.

Operating Your Camera

AGC (Auto Gain Control): For brighter images.

1. Position the indicator over 'AGC' using the UP or DOWN button.
2. Set 'AGC' to the desired mode using the LEFT or RIGHT button.
   - **HIGH**   : Wide range gain value adjustment
   - **MIDDLE**   : Middle range gain value adjustment
   - **LOW**   : Narrow range gain value adjustment
   - **OFF**   : Disabled

```
            EXPOSURE SETUP

      BRIGHTNESS      50.......
      IRIS            AUTO
      SHUTTER         ---
   ▶ AGC             MIDDLE
```

SSNR(Samsung Super Noise Reduction): On screen noise reduction.

1. Position the indicator over 'SSNR' using the UP or DOWN button.
2. Set 'SSNR' to the desired mode using the LEFT or RIGHT button.
   - **LOW**   : Low noise reduction
   - **MIDDLE** : Medium noise reduction
   - **HIGH**   : High noise reduction
   - **OFF**   : Disabled

```
            EXPOSURE SETUP

      BRIGHTNESS      50.......
      IRIS            AUTO
      SHUTTER         ---
      AGC             MIDDLE
   ▶ SSNR            MIDDLE
```

Notes
- Changing 'AGC' setting from LOW to HIGH results in greater sensitivity, as well as on screen noise.
- Setting 'AGC' to OFF locks 'SSNR' configuration.

SENS-UP : This feature ensures clear images at night or under low lighting conditions.

1. Position the indicator over 'SENS-UP' using the UP or DOWN button.
2. Set 'SENS-UP' to the desired mode using the LEFT or RIGHT button.
   - **AUTO** : Select this mode for use in night time or under low lighting conditions.
   - **OFF**   : Disabled

```
            EXPOSURE SETUP

      BRIGHTNESS      50.......
      IRIS            AUTO
      SHUTTER         ---
      AGC             MIDDLE
      SSNR            MIDDLE
   ▶ SENS-UP         AUTO ↵
      END
```

Notes
- Once 'AUTO' mode is set, the user can configure Sens-Up limit by increasing /decreasing the shutter speed (e.g.: x2,...,x32, x64,..., x128).
- Enabling Sens-Up increases camera sensitivity and may result in additional noise and/or other phenomenons. This is normal.

Operating Your Camera

SPECIAL

```
        SPECIAL SETUP
USER PRESET        OFF
PRIVACY            OFF
DAY/NIGHT          COLOR ⏎
SYNC               INT
FREEZE             OFF
H-REV              OFF
V-REV              OFF
IMAG ADJ⏎
COMMUNICATION⏎
END
```

1. Press the SET button to access the main setup menu and then position the
   indicator over 'SPECIAL' using the UP or DOWN button.
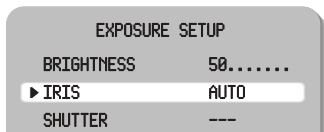2. Press the SET button to confirm.
   ⊕**USER PRESET:** Preset user-designated configurations using this feature. Position
   the indicator over 'USER PRESET' using the UP or DOWN button
   and then set to 'ON' using the LEFT or RIGHT button. Press the
   SET button to confirm.

```
        SPECIAL SETUP
▶USER PRESET        ON
 PRIVACY            OFF
 DAY/NIGHT          COLOR ⏎
 SYNC               INT
 FREEZE             OFF
 H-REV              OFF
```
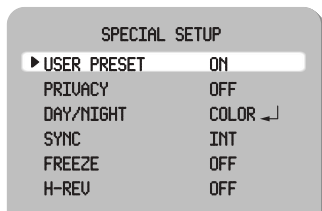
• **PRESET NO :** Up to eight different preset configurations are supported.

```
       SET USER PRESET
▶PRESET NO.        NO. 1
 PRESET MODE       OFF
 PRESET SAVE
 PRESET CLEAR
 END
      PRESET NOT DEFINED
```
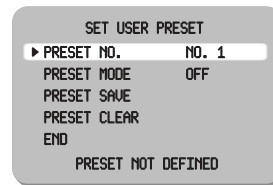
• **PRESET MODE :** Configure initial settings under FOCUS, EXPOSURE, etc.

```
   USER PRESET MODE SETUP
   FOCUS ⏎
   EXPOSURE ⏎
   ETC ⏎
   END
```
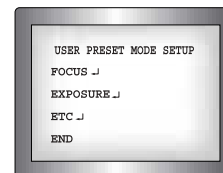
• **PRESET SAVE:** Save configured preset.

```
         SET USER PRESET
    PRESET NO.        NO. 1
    PRESET MODE       ON
  ▶ PRESET SAVE
    PRESET CLEAR
    END
         PRESET  DEFINED
```
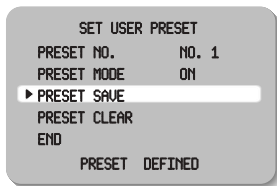
• **PRESET CLEAR:** Clear configured preset.

```
         SET USER PRESET
    PRESET NO.        NO. 1
    PRESET MODE       OFF
    PRESET SAVE
  ▶ PRESET CLEAR
    END
         PRESET NOT DEFINED
```
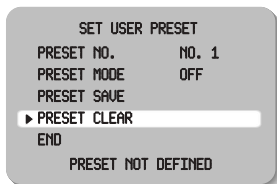
• **END:** Revert to the SPECIAL SETUP menu.

```
         SET USER PRESET
    PRESET NO.        NO. 1
    PRESET MODE       OFF
    PRESET SAVE
    PRESET CLEAR
  ▶ END
         PRESET NOT DEFINED
```
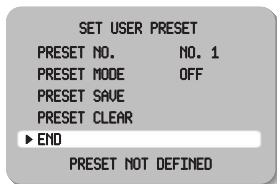
◎ **PRIVACY:** Mask privacy area using this feature. The mask area expand/contract upon the zoom position.

```
         SPECIAL SETUP
    USER PRESET       OFF
  ▶ PRIVACY           ON
    DAY/NIGHT         COLOR ⏎
    SYNC             INT
    FREEZE           OFF
```
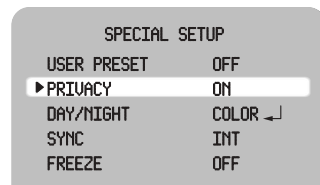
• **GROUP SEL** : Choose up to four groups. Each group can consist of eight mask areas.

• **MASK COLOR** : Select desired mask color(BLACK, BLUE, GREEN, WHITE).

• **AREA SEL** : Configure eight mask areas.

• **AREA MODE** : Mask area display.

• **TOP** : To move the mask area up.

• **BOTTOM** : To move the mask area down.

• **LEFT** : To move the mask area left.

• **RIGHT** : To move the mask area right.

```
              SET PRIVACY
    GROUP SEL            GROUP 1
    MASK COLOR           BLACK
    AREA SEL             AREA 1
    AREA MODE            OFF
    TOP            155
    BOTTOM         255
    LEFT           100
    RIGHT          220
        Press SET to Return
```

Operating Your Camera

DAY/NIGHT: Select from COLOR, BW or AUTO modes.

```
          SPECIAL SETUP

   USER PRESET        OFF
   PRIVACY            OFF
 ▶ DAY/NIGHT          COLOR ↵
   SYNC               INT
```

- **COLOR** : Color mode.
- **B/W** : BW mode.
- **AUTO** : The camera automatically detects lighting conditions and selects the mode accordingly.

SYNC : Two synchronization modes are available INTERNAL and EXTERNAL LINE-LOCK. In LINE-LOCK mode, it synchronizes the camera's video out signal to the external SYNC signal.

```
          SPECIAL SETUP

   USER PRESET        OFF
   PRIVACY            OFF
   DAY/NIGHT          COLOR ↵
 ▶ SYNC               INT
   FREEZE             OFF
   H-REV              OFF
```

- **INT** : Internal synchronization
- **LL** : External line-lock synchronization
- · If you choose 'LL', you can adjust the desired phase. Press the SET button.
- · You can adjust the desired phase from 0 to 359.

```
              LINE LOCK

   >PHASE         225....]....




        Press SET to Return
```

FREEZE : Use this feature to freeze capture an image. Position the indicator over 'FREEZE' using the UP or DOWN button and then set to 'ON' using the LEFT or RIGHT button. Press the SET button to confirm.

```
          SPECIAL SETUP

   USER PRESET        OFF
   PRIVACY            OFF
   DAY/NIGHT          COLOR ↵
   SYNC               INT
 ▶ FREEZE             ON
   H-REV              OFF
```

H-REV : Use this feature to horizontally inverse the screen. Position the indicator over 'H-REV' using the UP or DOWN button and then set to ON using the LEFT or RIGHT button. Press the SET button to confirm.

```
          SPECIAL SETUP

   USER PRESET        OFF
   PRIVACY            OFF
   DAY/NIGHT          COLOR ↵
   SYNC               INT
   FREEZE             OFF
 ▶ H-REV              ON
   V-REV              OFF
```

Operating Your Camera

V-REV : Use this feature to vertically inverse the screen. Position the indicator over 'V-REV' using the UP or DOWN button and then set to 'ON' using the LEFT or RIGHT button. Press the SET button to confirm.

```
           SPECIAL SETUP
    USER PRESET      OFF
    PRIVACY          OFF
    DAY/NIGHT        COLOR ↵
    SYNC             INT
    FREEZE           OFF
    H-REV            OFF
  ▶ V-REV            ON
    IMAG ADJ↵
```

IMAGE ADJ: Includes image quality or special function factors.
- **TONE**   : Increasing this value increases the overall brightness.
- **SHARPNESS** : Increasing this value sharpens object edges. Too high of a setting, however, produces noise and may obscure the image.
- **COLOR**   : Adjusting this value affects the chroma level only; the burst level is unaffected.

COMMUNICATION : Use this feature to select communication protocol (refer to p.48~ p.53 for details). Position the indicator over 'COMMUNICATION' using the UP or DOWN button.

```
       SET COMMUNICATION
   CAM ID NO.      0......
   CAM ID DISP     ON
   BAUD RATE       9600
   UART MODE       8-E-1
   RETURN PACKET   ENABLE
```

- **CAM ID NO.**   : Assign an ID number to the camera (1 to 255). Identification number zero is used for Remote controller setup.
- **CAM ID DISP** : Displays camera ID on top left corner of the screen.
- **BAUD RATE**   : Configure baud rate from 9600, 19200, or 38400bps.
- **UART MODE**   : Configure parity bit to NON, EVEN, or ODD. Data bit is set to 8bit, and stop bit to 1bit. Set the UART MODE to EVEN if using the Remote Controller.
- **RETURN PACKET** : Used to transfer a packet.

END: evert back to the USER PRESET menu.

RESET

To reset your camera to factory default condition.

EXIT

To finish setup menu.

Troubleshooting

Refer to the following table if you are experiencing trouble with your camera. Contact an authorized technician if the table does not provide you with a solution to the trouble.

Problem	Solution
No display	• Check the power cable and the wiring between the camera and the monitor. • Ensure proper video cable connection (Video Out Jack).
Dim display	• The lens could be dirty. Clean with a soft, clean piece of cloth. • Adjust monitor settings. • Adjust camera position if exposed to a strong light source.
Dark display	• Adjust the monitor's contrast level. • Set the intermediate device, if in use, to 75Ω/ Hi-z (refer to p.15).
The camera is not functioning properly and its surface is hot	• Check the power source for compliance with specifications.
Motion Detection feature is not active.	• Ensure that the feature is set to ON. • Check the SENSITIVITY level.
Uneven colors	• Adjust and configure WHITE BAL.

Problem	Solution
Flickering	• The camera may be facing the sun or a fluorescent light. Adjust the position of the camera.
Can't select LL mode	• The camera may be connected to a DC power source. Connect to an AC power source.
LL is not function properly.	• Check external SYNC signal frequency (should be 60Hz for NTSC, 50Hz for PAL).

Specifications

		NTSC (SDZ-330N)	PAL (SDZ-330P)
P O W E R	Input Voltage	DC12V (±10%)	
	Input Current	300 mA : Steady-state	
		450 mA : Max. (Zoom,Focus, Day&night motor operating)	
	Power Consumption	3.6 W : Steady-state	
C C D	Size	1/4 inch, Vertical double density interline 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)
O P T I C S	Optics	30X, f=3.3 to 99.0mm (F 1.6 to 3.2)	
	Min. Focus Distance	1000mm	
	D. ZOOM	X2, X4, X8	
	Angle Field of view	H : Appr. 58.0˚(Wide) to 2.22˚(Tele) V : Appr. 44.8˚(Wide) to 1.68˚(Tele)	
S Y N c.	Scanning System	2:1 Interlace	
	Synchronization	Internal / Line Lock	
	Frequency	Horizontal:15.734 KHz/Vertical :59.94 Hz	Horizontal: 15.625 KHz/Vertical : 50.00 Hz
E L E C T R I C A L	Camera Title	ON/OFF (Displayed 20 characters)	
	Camera ID	255 ID Selectable	
	Resolution	520 TV Lines(Min.) : Color 570 TV Lines(Min.) : B/W	
	Video Output	CVBS : 1.0Vp-p/75Ω	
	S/N (Y signal)	50 dB (AGC Off, Weight ON)	
	Min. Illumination	0.4Lux : Color 0.08Lux : B/W	
	WDR	52dB	
	Day & Night	AUTO/MANUAL(COLOR, B/W) (ICR type)	
	Gain Control	Low, Middle, High,OFF Selectable	
	White Balance	ATW/AWC/Manual (1800 ˚K ~ 10,500˚K)	
	Electronic shutter speed	AUTO/MANUAL (X128 ~ 1/60sec ~ 1/120,000sec) Sens-up Limit is selectable	AUTO/MANUAL (X128 ~1/50sec ~ 1/120,000sec) Sens-up Limit is selectable
	O.S.D	Built-In	
	Motion Detection	ON/OFF (output via Terminal)	
	SSNR	Low, Middle, High,Off	
	Focus	Auto / Manual / One Push	
	Zoom Movement Speed	5.2 Sec : Wide to Tele	5.4 Sec : Wide to Tele
	Lens Initialize	Built-In	
	Preset	8-Positions	
	Privacy Function	ON/OFF(32 Programmable Zone/ 8 Programmable Zone per Screen)	

		NTSC (SDZ-330N)	PAL (SDZ-330P)
E L E C T R I C A L	FLIP	LEFT/RIGHT, UP/DOWN	
	FREEZE	On/Off	
	IRIS Control	Auto/Manual	
	Control Output	RS-485(9,600bps, 19,200bps, 384,000bps Seclectable) / External Control by Voltage(ZOOM,FOCUS)	
	Operating Temperature/Humidity	-10℃ to +50℃ / 20% to 80% RH	
	Storge Temperature/Humidity	-20℃ to +60℃ / 20% to 95% RH	
	Dimension	67.4(W) x 67.6(H) x 120(D)mm (Without Tripod Base)	
	Weight	450g	
	Option	Remote Controller(RS-485 type)	

Protocol Command Description

Command Name		Byte1	Byte2	Byte3	Byte4 || Byte5	Byte6	Byte7	Byte8	Byte9	Byte10	Byte11
	Function	Execution Description.									
	Command Packet	STX	CAM ID	HOST ADDR	Command	Data3	Data4	Data5	Data6	ETX	CHECK SUM
	Return Packet	STX	CAM ID	HOST ADDR	Response	Data3	Data4	Data5	Data6	ETX	CHECK SUM
Reset	Function	Reset all data to factory default value.									
	Command Packet	A0h	CAM ID	HOST ADDR	000Fh	00h	00h	00h	00h	AFh	CHECK SUM
	Return Packet	A0h	CAM ID	HOST ADDR	000Fh	00h	00h	00h	00h	AFh	CHECK SUM
Focus Far	Function	Move focus lens to far direction.									
	Command Packet	A0h	CAM ID	HOST ADDR	0100h	00h	00h	00h	00h	AFh	CHECK SUM
	Return Packet	A0h	CAM ID	HOST ADDR	0100h	00h	00h	00h	00h	AFh	CHECK SUM
Focus Near	Function	Move focus lens to near direction.									
	Command Packet	A0h	CAM ID	HOST ADDR	0200h	00h	00h	00h	00h	AFh	CHECK SUM
	Return Packet	A0h	CAM ID	HOST ADDR	0200h	00h	00h	00h	00h	AFh	CHECK SUM
Zoom Wide	Function	Move zoom lens to wide direction.									
	Command Packet	A0h	CAM ID	HOST ADDR	0040h	00h	00h	00h	00h	AFh	CHECK SUM
	Return Packet	A0h	CAM ID	HOST ADDR	0040h	00h	00h	00h	00h	AFh	CHECK SUM
Zoom Tele	Function	Move wide lens to tele direction.									
	Command Packet	A0h	CAM ID	HOST ADDR	0020h	00h	00h	00h	00h	AFh	CHECK SUM
	Return Packet	A0h	CAM ID	HOST ADDR	0020h	00h	00h	00h	00h	AFh	CHECK SUM
AF Stop	Function	Stop zoom & focus lens moving.									
	Command Packet	A0h	CAM ID	HOST ADDR	0000h	00h	00h	00h	00h	AFh	CHECK SUM
	Return Packet	A0h	CAM ID	HOST ADDR	0000h	00h	00h	00h	00h	AFh	CHECK SUM
One push AF	Function	Unconditionally execute auto focus.									
	Command Packet	A0h	CAM ID	HOST ADDR	0045h	00h	00h	00h	00h	AFh	CHECK SUM
	Return Packet	A0h	CAM ID	HOST ADDR	0045h	00h	00h	00h	00h	AFh	CHECK SUM
ZOOM Direct	Function	Move to ZOOM position that is set up by users									
	Command Packet	A0h	CAM ID	HOST ADDR	00FFh	P1	P2	P3	00h	AFh	CHECK SUM
	Return Packet	A0h	CAM ID	HOST ADDR	00FFh	P1	P2	P3	00h	AFh	CHECK SUM
	Parameter	P1, P2 : ZOOM position set (0000h~06EAh) P3 : D-ZOOM position set(00h~03h)									
USER PRESET Save	Function	Save current user preset configuration information.									
	Command Packet	A0h	CAM ID	HOST ADDR	0003h	P1	00h	00h	00h	AFh	CHECK SUM
	Return Packet	A0h	CAM ID	HOST ADDR	0003h	P1	00h	00h	00h	AFh	CHECK SUM

Protocol Command Description ⬤

	Parameter	P1: 00h = USER PRESET 1									
		01h = USER PRESET 2									
		02h = USER PRESET 3									
		03h = USER PRESET 4									
		04h = USER PRESET 5									
		05h = USER PRESET 6									
		06h = USER PRESET 7									
		07h = USER PRESET 8									
USER PRESET EXEC.	Function	Execute selected user preset.									
	Command Packet	A0h	CAM ID	HOST ADDR	0007h	P1	00h	00h	00h	AFh	CHECK SUM
	Return Packet	A0h	CAM ID	HOST ADDR	0007h	P1	00h	00h	00h	AFh	CHECK SUM
	Parameter	P1: 00h = USER PRESET 1									
		01h = USER PRESET 2									
		02h = USER PRESET 3									
		03h = USER PRESET 4									
		04h = USER PRESET 5									
		05h = USER PRESET 6									
		06h = USER PRESET 7									
		07h = USER PRESET 8									
OSD Menu On/Off	Function	Display OSD menu on the screen.									
		Clear OSD menu and save current menu setup.									
	Command Packet	A0h	CAM ID	HOST ADDR	00B1h	P1	00h	00h	00h	AFh	CHECK SUM
	Return Packet	A0h	CAM ID	HOST ADDR	00B1h	P1	00h	00h	00h	AFh	CHECK SUM
	Parameter	P1: 00h = ON									
		01h = OFF									
OSD Menu Up	Function	Move OSD arrow to up.									
	Command Packet	A0h	CAM ID	HOST ADDR	0008h	00h	00h	00h	00h	AFh	CHECK SUM
	Return Packet	A0h	CAM ID	HOST ADDR	0008h	00h	00h	00h	00h	AFh	CHECK SUM

Protocol Command Description

OSD Menu Down	Function	Move OSD arrow to down.									
	Command Packet	A0h	CAM ID	HOST ADDR	0010h	00h	00h	00h	00h	AFh	CHECK SUM
	Return Packet	A0h	CAM ID	HOST ADDR	0010h	00h	00h	00h	00h	AFh	CHECK SUM
OSD Menu Left	Function	Move OSD arrow to left.									
	Command Packet	A0h	CAM ID	HOST ADDR	0004h	00h	00h	00h	00h	AFh	CHECK SUM
	Return Packet	A0h	CAM ID	HOST ADDR	0004h	00h	00h	00h	00h	AFh	CHECK SUM
OSD Menu Right	Function	Move OSD arrow to right.									
	Command Packet	A0h	CAM ID	HOST ADDR	0002h	00h	00h	00h	00h	AFh	CHECK SUM
	Return Packet	A0h	CAM ID	HOST ADDR	0002h	00h	00h	00h	00h	AFh	CHECK SUM
OSD Menu Set	Functio	Move to inside menu									
	Command Packet	A0h	CAM ID	HOST ADDR	0100h	00h	00h	00h	00h	AFh	CHECK SUM
	Return Packet	A0h	CAM ID	HOST ADDR	0100h	00h	00h	00h	00h	AFh	CHECK SUM
OSD Menu ESC	Function	Move to upper menu.									
	Command Packet	A0h	CAM ID	HOST ADDR	0200h	00h	00h	00h	00h	AFh	CHECK SUM
	Return Packet	A0h	CAM ID	HOST ADDR	0200h	00h	00h	00h	00h	AFh	CHECK SUM

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, 641-120
European Representative Name	
European Representative Address	
Equipment Type/Environment	CCTV Camera
Model Name	SDZ-330
Beginning Serial NO.	S5900001
Year of Manufacture	2005. 9. 1
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	*Young Taek, Son*	Signature	
Full Name	YOUNG TAEK SON	Full Name	
Position	QUALITY CONTROL MANAGER	Position	
Place	CHANGWON, KOREA	Place	
Date	2005. 9. 1	Date	

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