
Digital Day & Night IR Color Camera

MANUAL



IR LED type



Without IR LED type



The lightning flash with an arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of un insulated 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.

CAUTION: 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

■ Warning

-  **The camera needs periodic inspection.**
Contact an authorized technician for inspection.
-  **Stop using your camera when you find a malfunction.**
If you use your camera around smoke or unusual heat for a long time, fire may be caused.
-  **Do not install the camera on a surface that can not support it.**
Unless the surface is suitable, it could cause falling or other hazards.
-  **Do not hold plug with wet hands.**
It could cause an electric shock.
-  **Do not disassemble the camera.**
It may result in fire, electric shock or other hazards.
-  **Do not use the camera close to a gas or oil leak.**
It may result in fire or other hazards.

■ Precautions

Do not install the camera in extreme temperature conditions.

Only use the camera under conditions where temperatures are between -10°C and +50°C. Be especially careful to provide ventilation when operating under high temperatures.

Do not install or use the camera in an environment where the humidity is high.

It can cause the image quality to be poor.

Do not install the camera under unstable lighting conditions.

Severe lighting change or flicker can cause the camera to work improperly.

Do not touch the front lens of the camera.

It is one of the most important parts of the camera. Be careful not to be stained by fingerprint.

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

It can cause malfunctions to occur.

Never keep the camera face to strong light directly.

It can damage the CCD.

Do not expose the camera to rain or spill beverage on it.

If it gets wet, wipe it dry immediately. Liquids can contain minerals that corrode the electronic components.

Do not expose the camera to radioactivity.

If it is exposed to radioactivity, For heated CCD, it will be out of order.

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1. Features

☺ **Horizontal Resolution 600 TV Lines**

Clear image quality has been achieved by employing a SONY CCD with 410,000 (Effective) pixels, which provides a horizontal resolution of **600** TV lines.

☺ **DAY & NIGHT**

This camera has a function that automatically selects the mode that is appropriate for daytime or night-time conditions. The COLOR mode operates in daytime conditions to provide optimum colors, and BW mode operates in nighttime conditions to enhance the definition of the image.

☺ **Electronic IRIS**

The electronic IRIS function enables continuous automatic control of the shutter between 1/60~1/120,000 seconds.

☺ **PRIVACY Function**

The PRIVACY function conceals the areas you do not wish to appear on the screen.

☺ **CCVC (Camera Control Via Coaxial cable)**

This is a remote control function that overlaps the coaxial cable (for a transfer of the Video signal) with the control signal. In installation or repair, this helps you control the communication controller (optional) without additional cabling.
* Coaxial controller (Option **SCX-RD100**).

☺ **High Sensitivity**

The built-in high sensitivity SONY COLOR CCD enables a clear image even in 0.3Lux (0.1Lux B/W) or as low as 0.0004Lux with SENS-UP.

☺ **DNR (Digital Noise Reduction)**

The amount of low luminance noise has been significantly reduced, and the signal-to-noise ratio (S/N ratio) as well as horizontal resolution has been improved, resulting in a clear and sharp image display even in the dark.

☺ **Controlled by OSD Menu**

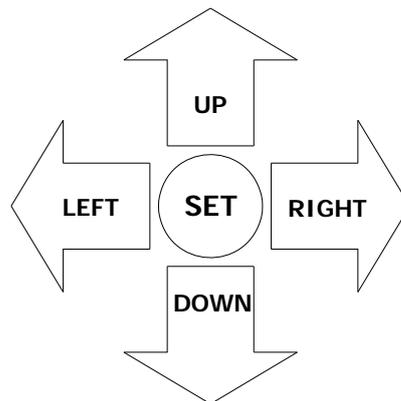
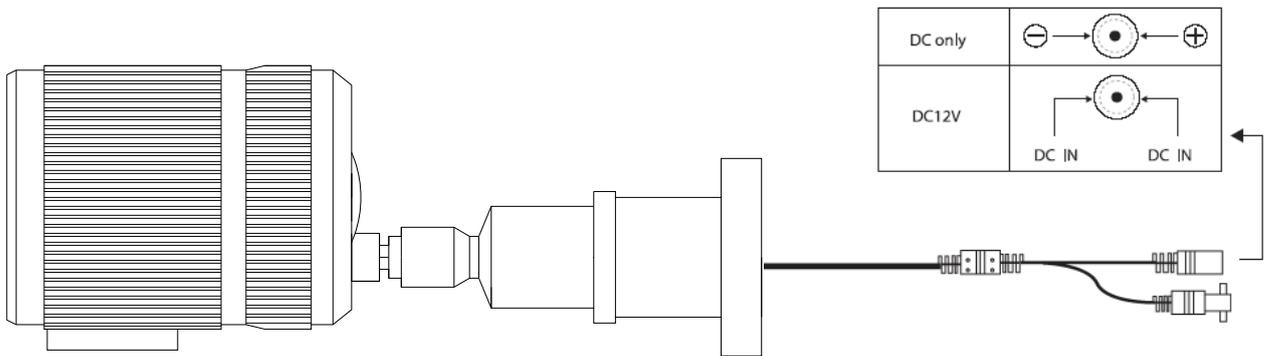
The camera can be controlled by selecting text displayed on the monitor screen.

☺ **Additional Functions**

Sens-up, Motion Detection, Mirror functions are also available.

2. Cable Connection & OSD Control

1) Cable Connection



2) OSD Control

① 3AXIS BRACKET

- Please loosen screws and fix tilted and panned position.

③ LENS : Vari-Focal Auto Iris Lens (6.0mm ~ 50mm)

③ OSD PCB

- **SETUP button** : Used for the menu display. This button can be used to confirm settings after changing the value of the selected function or current conditions.
- **UP & DOWN buttons** : Used for selecting items by moving the cursor up or down on the menu screen.
- **LEFT & RIGHT buttons** : Used when changing item values, by moving the cursor to the left or right on the menu screen

3. Setup Menu Operation

□ USING ICONS IN THE MENU

◆  (EXIT) Exits the menu setting. Before you exits the menu setting, select SAVE to save your settings, or select QUIT to cancel.

◆  (RET) Returns to the previous menu

◆  (HOME) Returns to the main menu.

◆  (SAVE) Used to save your settings of MASK AREA, PRIVACY ZONE and more. Once you save your settings, they will remain even if you select QUIT in the menu.

◆  (DEL) Used to deletes your settings of MASK AREA, PRIVACY ZONE and more. Once you delete your settings, they will not be restored even if you select QUIT in the menu.

□ OSD Menu Structure

MAIN MENU	Description
CAMERA SET	Camera related functions and data.
INTELLIGENCE	Motion detection, and more.
PRIVACY ZONE	Privacy related settings
OTHER SET	Configure for Factory Defaults, and more.
COMMUNICATION	Communication set.
SYSTEMINFO	Displays the system information.
LANGUAGE	Select a language on the OSD menu.
CAMERA SET	Description
CAMERA ID	ON/OFF, Make the camera ID and set the place. 54 characters.(2 line)
IRIS	ALC (Video/DC)/ELC, Select lens and control the iris level. Setting the BLC function.
AGC(MOTION)	Setting the Max Gain under the low light.
DNR	Digital Noise Reduction fuction
SHUTTER	Set the shutter speed. (High shutter speed)
SENS-UP	Set the shutter speed. (Slow shutter speed)
FLICKERLESS	Shutter speed : NTSC(1/60 →1/100sec), PAL (1/50 →1/120sec)
DAY/NIGHT	Day / Night Mode (COLOR/BW/AUTO/EXT), Level set.
WHITE BAL	White Balance Mode (ATW1/ATW2/AWC/MANUAL)
DIGITALZOOM	Digital Zoom ratio set (x1 ~ x10 : x0.1 step)
DETAIL	Aperture gain set
V-SYNC	Internal/Line lock mode set
AGC COLOR SUP	Color suppression amount at the AGC function
REVERSE	Horizontal/Vertical Reverse
POSI/NEGA	Positive or Negative Video output set
PIP	Picture In Picture at Digital Zoom operation
DIS	Digital Image Stabilization set
INTELLIGENCE	Description
MOTION	Motion detection function
MASK AREA	Set the motion detection exception area
DISPLAY	Motion Detection display ON/OFF
SENSITIVITY	Motion Detection sensitivity
RESOLUTION	Motion Detection resolution
ALARM OUT	Alarm out set
PRIVACY ZONE	Description
PRIVACY SET	Set the privacy zone
STYLE	Set the privacy style (Mosaic, Color, etc)
OTHER SET	Description
FACTORY DEFAULTS	Set the privacy zone
OSD COLOR	OSD menu color set

□ MAIN MENU

◆ CAMERA SET

Configure Camera related functions and data.

◆ INTELLIGENCE

You can configure the settings of motion detection and more.

◆ PRIVACY ZONE

You can configure the privacy related settings.

◆ OTHER SET

You can configure for Factory Defaults, and more.

◆ COMMUNICATION

Configures the settings regarding the UART communication.

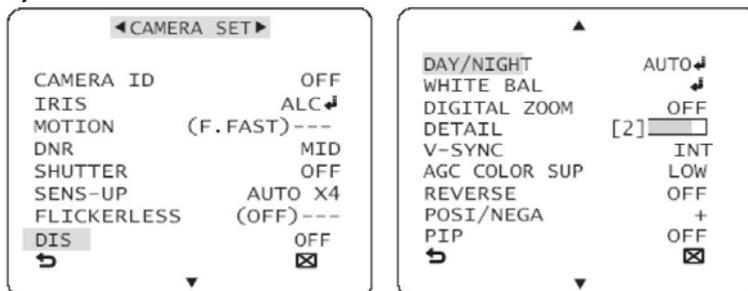
◆ SYSTEM INFO.

Displays the system information including the camera version and communication settings.

◆ LANGUAGE

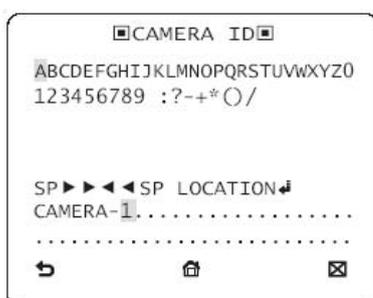
Select a preferred one from the supported languages.

1) CAMERA SETUP



Setup the general functions of zoom camera module. Use the ▲▼◀▶ switch to select a menu item.

● CAMERA ID [OFF, ON]

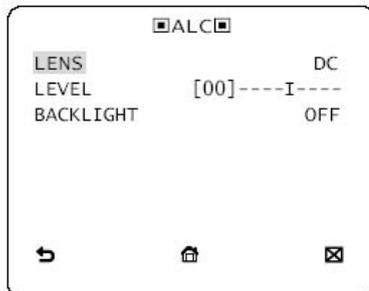


The **CAMERA ID** menu is used for you to assign a unique name to a camera. If you press the **SET** switch with the **CAMERA ID** menu selected, you will see the appropriate screen. You can enter up to 54 alphanumeric or special characters for the **CAMERA ID**. Select **LOCATION** and press the **SET** switch to move the display position of the **CAMERA ID**.

- **IRIS [ALC, ELC]** The **IRIS** menu is used if you want to adjust the intensity of radiation incoming to the camera.

- **ALC (Automatic Light Control)**

- ① If you press the **SET** switch with an **ALC** based sub menu selected, you will see the appropriate screen.

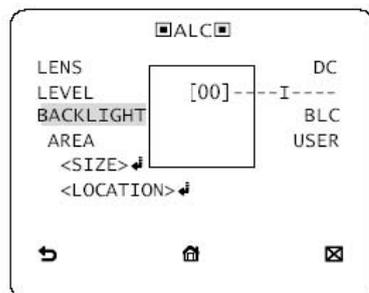


The **LENS** menu is used if you select a type of the AI lens. For normal operation, you must select **DC** for a DC-type lens, and select **VIDEO** for a VIDEO type lens.

The **LEVEL** menu is used to adjust the overall brightness, where “+” will increase the brightness and “.” will decrease it.

- ② If you set the **BACKLIGHT** option to **BLC**, you will see a menu where you can set the **BLC** area.

You can set the desired **BLC** zone by defining the size and location.

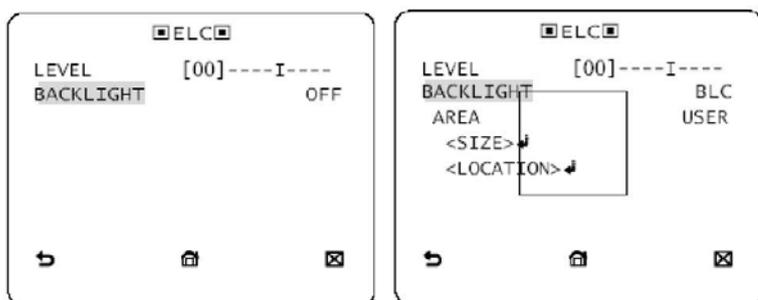


If you use an ordinary camera in a scene with an intensive back light, the object will be displayed dark on the monitor affected by the back light. To solve this problem, you can use the **BLC** (Back Light Compensation) function to improve the sharpness of the image in such a high contrast scene.

- **ELC (Electronic Light Control)**

- ① If you press the **SET** switch when the **ELC** sub menu is selected, the corresponding screen appears. You can make the **ELC** (Electronic Light Control) function active or not.

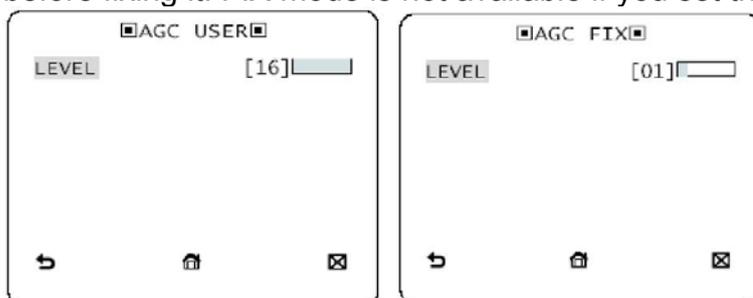
- ② In similar to **ALC** setting, you can specify the **BLC** area.



● **AGC [OFF, VERYLOW, LOW, MID, HIGH, VERYHIGH, USER, FIX]**

The **AGC** (Auto Gain Control) menu is used to set the **AGC** level of the camera. When the **AGC** is active, the camera automatically increases the sensitivity by amplifying the Video signal when the strength of the signal falls below the normal value. If **OFF** or **FIX** mode is selected in the **SENS-UP** menu, you can specify the **AGC** level. If you press the **SET** switch with a **USER** sub menu selected, you will see the appropriate screen. In **USER** mode, you can break down the level in 16 steps from **VERY LOW** to **VERY HIGH** to your preference.

If you press the **SET** switch with a **FIX** sub menu selected, you will see the appropriate screen. As a fixed value of the **AGC** gain is used in **FIX** mode, you can select one of the 16 detailed levels from **VERY LOW** to **VERY HIGH** before fixing it. **FIX** mode is not available if you set the **BACKLIGHT**



※ **Note:**

- If the **DAY/NIGHT** menu of the **CAMERA SET** is set to **AUTO**, the **AGC** menu will be deactivated.

- If **FLICKERLESS** is set to **ON**, the **AGC FIX** mode will be disabled.

● **MOTION [S.SLOW, SLOW, NORM, FAST, F.FAST]**

The **MOTION** menu is used to adjust the strength of the **AGC** level for a control of the camera motion. This is available only if the **SENS-UP** menu is set to **AUTO**. You can select one from **S.SLOW**, **SLOW**, **NORM**, **FAST** and **F.FAST** for the **AGC** level. If you monitor a fast moving object in a low contrast scene, select **F.FAST** while select **S.SLOW** for a hardly moving object in the same lighting condition.

※ **Note:**

- If the **DAY/NIGHT** menu of the **CAMERA SET** is set to **AUTO**, the **MOTION** menu will be deactivated.

● **DNR [OFF, LOW, MID, HIGH, USER (1~16)]**

You can configure the **DNR** (Digital Noise Reduction) related settings. Reduces the noise on the screen. This is especially useful for a severely distorted screen. You can set the level if you set **DNR** to **USER**.

● **SHUTTER [OFF, AUTO1/100(PAL:1/120), AUTO1/250, AUTO1/500, AUTO1/1000, AUTO1/2000, AUTO1/4000, AUTO1/10K, 1/100(PAL:1/120), 1/250,1/500, 1/1000, 1/2000, 1/4000, 1/10K, EXT]**

The **SHUTTER** menu is used to set the fixed high-speed electronic shutter, auto high speed electronic shutter and external high speed electronic shutter (EXT). You can select one of 7 options from 1/100(PAL:1/120) to 1/10K for the fixed high speed electronic shutter, which is mostly used for imaging a fast moving object. The auto high speed electronic shutter operates as the fixed high speed shutter in a high contrast scene but automatically focuses the target if the iris opens fully in a low contrast scene like in **ELC** mode. When it gets brighter back, the mode will switch to the fixed high speed electronic shutter mode. However, the auto high speed shutter operates properly only in a camera featuring a DC or VIDEO lens.

※ **Note:**

-If **IRIS** mode is set to **ELC**, the **SHUTTER** menu will be deactivated as you adjust the brightness using the electronic shutter.-If the **SENS-UP** function is set to **AUTO**, only items of **OFF** and **AUTO** are available in the **SHUTTER** menu.-If the **SENS-UP** mode is set to **FIX**, the **SHUTTER** menu will be deactivated.-If the **FLICKERLESS** function is set to **ON**, the **SHUTTER** menu will be deactivated.

● **SENS-UP[OFF, AUTOX2, AUTOX4, AUTOX6, AUTOX8, AUTOX12, AUTOX16, AUTOX24, AUTOX32, AUTOX48, AUTOX64, AUTOX96, AUTOX128, AUTOX256, FIXX2, FIXX4, FIXX6, FIXX8, FIXX12, FIXX16, FIXX24, FIXX32, FIXX48, FIXX64, FIXX96, FIXX128, FIXX256]**

Automatically detects the ambient level of darkness in the dark or low contrast scene to extend the accumulated time, keeping the image bright and sharp; it can be also used as **FIX** mode.

※ **Note:**

-If the **SHUTTER** option is set to fixed electronic shutter or **EXT** mode, the **SENS-UP** menu will be deactivated.-If **FLICKERLESS** is set to **ON**, the **FIX** mode of the **SENSUP** menu will be disabled.-If the **IRIS** menu is set to **ELC**, the electronic shutter will control the brightness so the **SENS-UP** function can not be set to **FIX** mode, but to **OFF** or **AUTO** mode.-If the **SHUTTER** menu is set to **AUTO**, the **SENS-UP** menu can be set to either **OFF** or **AUTO** mode.

● **FLICKERLESS [OFF, ON]** If set to **ON**, the shutter speed will be fixed to 1/100(PAL:1/120) second. This will prevent possible screen distortion due to a mismatch between the vertical sync frequency and the blinking frequency of the lighting.

※ **Note:**

-If the **IRIS** function is set to **ELC**, the **FLICKERLESS** menu will be deactivated. If the **SHUTTER** menu is set to **AUTO**, **FIX** or **EXT** mode, the **FLICKERLESS** menu will be deactivated.

-If the **SENS-UP** function is set to **FIX** mode, the **FLICKERLESS** menu will be deactivated.

-If **AGC** is set to **FIX** mode, the **FLICKERLESS** function will be disabled.

● **DIS [OFF, ON]**

Digital Image Stabilization will set the anti-shake compensation.

※ **Note :**

-If you set DIS to ON, the compensation area will be enlarged as set in the digital zoom factor.

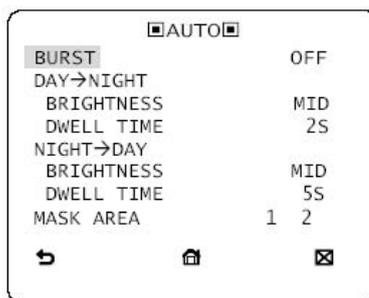
-If you set the digital zoom factor to greater than the enlarged zoom factor for the compensation, the DIS function will be deactivated.

● **DAY/NIGHT[DAY, NIGHT, AUTO, EXT]**

◇ **DAY** If set to **DAY**, it will be fixed to **DAY** mode regardless of the ambient conditions.

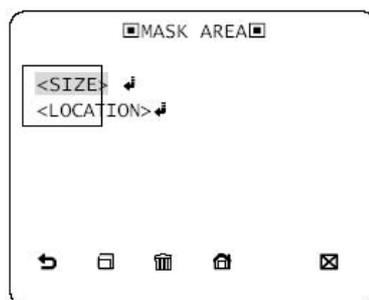
◇ **NIGHT** If set to **NIGHT**, it will be fixed to Black-and-White mode regardless of the ambient conditions. If you press the **SET** switch with a **NIGHT** sub menu selected, you will see a menu where you can set Burst to **OFF/ON**. If **BURST** is set to **ON**, the Burst signal will output together with the black-and-white composite video signal. If **BURST** is set to **OFF**, the Burst signal does not output. You can set the **BURST** option to **OFF/ON**, or select to output the Burst signal in **NIGHT** mode.

◇ **AUTO** the camera will automatically switch between **DAY** and **NIGHT** modes, according to the lighting condition. If you press the **SET** switch with an **AUTO** based sub menu selected, you will see the appropriate screen.



You can set the **BURST** option to **OFF/ON**, or select to output the Burst signal in **NIGHT** mode. You can select from **LOW, MID** and **HIGH** for the brightness of **DAY→NIGHT**, which is a brightness level in switching from the color filter to Black-and-White. Closing to **LOW** from **HIGH** will switch the filter in a low contrast scene. The **DWELL TIME** of **DAY→NIGHT** is a time required to determine the need for switching the filter. You can select from **LOW, MID** and **HIGH** for the brightness of **NIGHT→DAY**, which is brightness

level in switching from the Black-and-White filter to color. Closing to **LOW** from **HIGH** will switch the filter in a low contrast scene. The **DWELL TIME** of **NIGHT→DAY** is a time required to determine the need for switching the filter. The **MASK** menu is used to prevent a filter switch error or inability of determining the switch in existence of a high spot light source at night. If you press the **SET** switch in item 1 or 2 of the **MASK** menu, you will see a menu where you can specify an area to mask.



You can specify Mask 1 and 2 simultaneously. The mask is used only for determining the filter switch and any excessive bright area at night will be masked.

※ **Note:**

-If **BACKLIGHT** is set to **BLC**, the **MASK AREA** function will be deactivated.

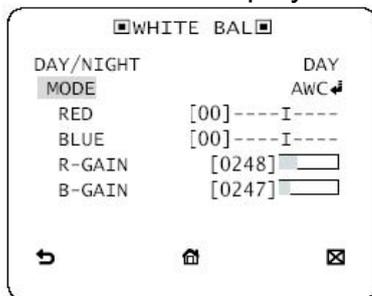
◇ **EXT**

This enables an auto switch between **DAY** and **NIGHT** modes using the interface with the external sensor. **(For IR LED models, inside CDS sensor will control IR LED ON/OFF.)**

● **WHITE BAL [DAY/NIGHT]**

If you want to adjust the color scheme, use the **WHITE BALANCE** function.

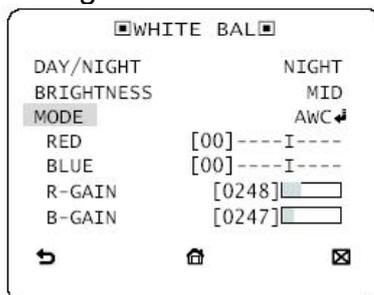
◇ **DAY** in **DAY** mode, you can set the color values of **RED** and **BLUE**. The screen will be displayed in colors according to your settings.



※ **Note:**

-You can set the values of **R-GAIN** and **B-GAIN** only in **AWC** mode.

◇ **NIGHT** Use the **NIGHT** mode if you want to set the white balance differently according to the ambient luminance. If the **NIGHT** mode is set to **OFF**, the white balance will always operate as set in **DAY** mode; if not to **OFF**, the camera will switch to as set in **DAY/NIGHT** mode according to the brightness. In **NIGHT** mode, you can set the values of **RED**, **BLUE** and **BRIGHTNESS**. The screen will be displayed in colors according to your settings.



※ **Note:**

-You can set the values of **R-GAIN** and **B-GAIN** only in **AWC** mode. -If **AGC** is set to **OFF** or **FIX**, you can not access the **NIGHT** menu.

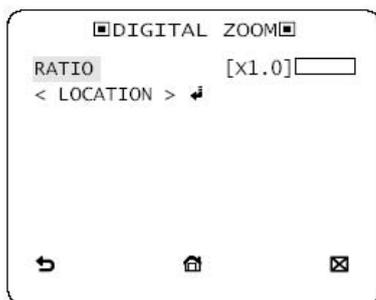
For adjusting the white balance, the following 5 modes are provided:

◇ **ATW1 (Auto Tracing White Balance mode 1):** The camera can automatically adjust the color temperature in real time, according to the ambient conditions. The color temperature ranges from approx. 2500K to 9300K.

- ◇ **AWC (Auto White Balance Control)**: If you press the **SET** switch in the appropriate item position, Auto White Balance will perform once.
- ◇ **3200K** : Set color temperature to 3200K
- ◇ **5600K** : Set color temperature to 5600K
- RED** : Adjusts the strength of the red color.
- BLUE** : Adjusts the strength of the blue color.
- R-GAIN/B-GAIN**: Enables you to set the current color temperature manually.
- BRIGHTNESS**: Select a brightness level in switching from setting in **DAY** mode to setting in **NIGHT** mode.

- **DIGITAL ZOOM [ON/OFF]**

You can set the digital zoom factor and position. If you press the **SET** switch with the **DIGITAL ZOOM** function set to **ON**, you will see the appropriate screen. When the zoom factor and position are defined, the digital zoom function will operate.



- ◇ **LOCATION:**

If you press the **SET** switch in the condition where the image is enlarged as much as the ratio setting, you can watch an invisible area of the effective screen as well using the **▲ ▼ ◀ ▶** switch.

- ※ **NOTE:**

-The DIGITAL ZOOM function enlarges the pixel itself, which can cause deterioration of the quality.

- **DETAIL [0~3]**

Controls the horizontal or vertical distinction.

- **V-SYNC [INT, LINE]**

Select the vertical sync mode for **INT** or **LINE**. If you select **INT**, the camera will use the internal synchronization. If selecting **LINE**, the camera will use the external power source frequency for the synchronization. You can adjust the **LL-PHASE**.

※ **Note:** No input the L-Pulse signal will fix **V-SYNC** to **INT**, which can not be changed.

- **AGC COLOR SUP [LOW, MID, HIGH]**

Adjust the color scheme according to the **AGC** value.

- **REVERSE [OFF, H, V, H/V]**

Mirrors video signals horizontally, vertically, or both.

- **POS/NEGA [+ , -]**

Outputs as it is or mirror the video brightness signal.

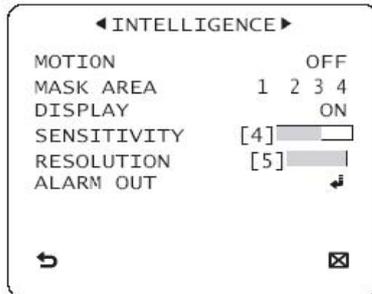
- **PIP [OFF, ON]**

Displays a sub image together with the main image on the same screen using the Picture in Picture function.

※ **Note:**

-If more than one privacy zone is set and the **PRIVACY SET** is set to **ON**, the **PIP** function will be deactivated.

2). INTELLIGENCE



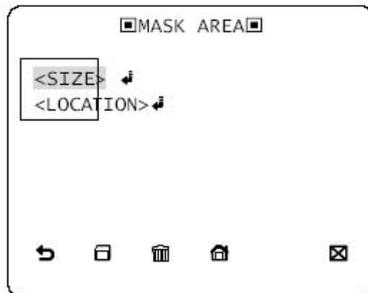
You can set the motion detection and tracking in the **INTELLIGENCE** menu.

- **MOTION [OFF, TRACKING, DETECTION]**

- ◇ **TRACKING** Detects and tracks a moving object.
- ◇ **DETECTION** Detects a moving object.

- **MASK AREA [1~4]**

Specify a detection exception area to mask.
Select a mask number and specify the size and position.



- **DISPLAY [ON, OFF]** With the **DISPLAY** option set to **ON**, a motion function will be displayed on the screen, if detected.

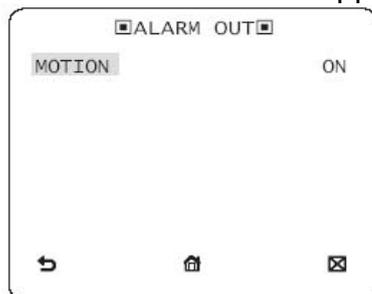
- **SENSITIVITY [1 ~ 7]**

Set the sensitivity of the motion detection.

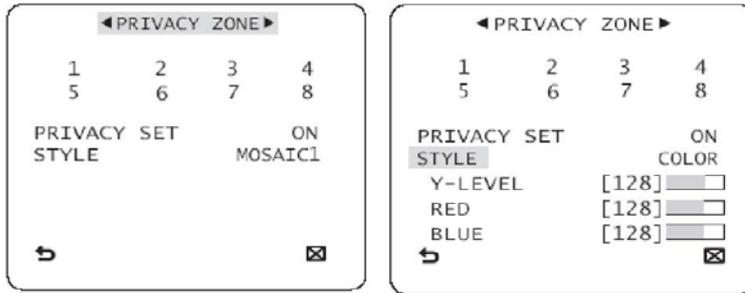
- **RESOLUTION [1 ~ 5]**

If setting it to high, the camera can detect even a trivial movement of the target.

- **ALARM OUT** If you set a desired menu item to **ON**, the camera will sound an alert if it detect the appropriate motion.

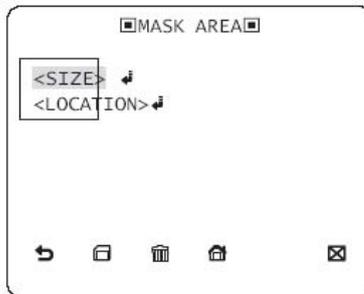


3) PRIVACY ZONE SETUP



The **PRIVACY** function will protect your privacy by screening the privacy area that you have specified during monitoring. You can specify up to 12 privacy zones. If you set the **PRIVACY SET** to **ON**, your **PRIVACY ZONE** settings will be applied. You can change the style to adjust the mosaic size and color of the **PRIVACY ZONE**.

Use the **▲▼◀▶** switch to select one from **PRIVACY** 1 through 8. Select one from **PRIVACY**1~12 and press the **SET** switch to confirm your setting. You can specify a pixel that moves as you change the **PIXEL LEVEL** to set the position.



How to set the point: You can set each position of the 4 points.

① If you press the **SET** switch in **<POINT>**, you will see the points available in the **PRIVACY ZONE**. Each time you press the **SET** switch, the points available will move.

② Use the **▲▼◀▶** switch to set the position of each point. Set each position of the four points and press the **SET** switch to complete the positioning.

How to set the position: You can move the position of the overall area.

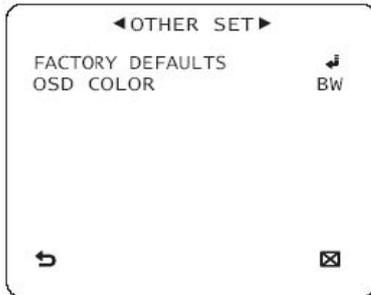
① By pressing the **SETUP** switch in **<POSITION>**, you can move the overall position of the privacy zone.

② Use the **▲▼◀▶** switch to move the position and press the **SET** switch to confirm it.

※ **Note:**

If more than one **PRIVACY ZONE** is specified and the **PRIVACY SET** is set to **ON**, the **PIP** function will be deactivated. If the 12th **PRIVACY ZONE** is specified, the **LINE** function of **FENCE** will be deactivated.

4) OTHER SET



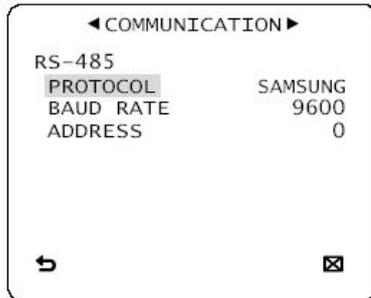
- **FACTORY DEFAULTS**

All the settings will be restored to the factory default. However, the settings of **PROTOCOL**, **BAUDRATE**, **ADDRESS** and **LANGUAGE** will not be restored to the default.

- **OSD COLOR [BW, R/G/B]**

You can set the OSD (On-screen Display) color to COLOR or B/W.

5) COMMUNICATION



The **COMMUNICATION** menu is used to configure the settings regarding UART communications.

Use the connector of the camera to connect to UART

Use the ▲ ▼ ◀ ▶ switch to specify the protocol and baud rate for communications.

- **PROTOCOL [SAMSUNG, PELCO-P/D, VICON, PANASONIC, PHILIPS, ERNA, DIAMOND, VCLTP, KALATEL]**

Select a communication protocol.

- **BAUD RATE [2400, 4800, 9600, 19200, 38400]**

Select a baud rate.

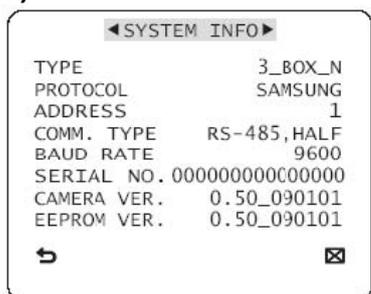
※ **Note:**

The baud rate differs, depending on the specified protocol.

- **ADDRESS [0~255]**

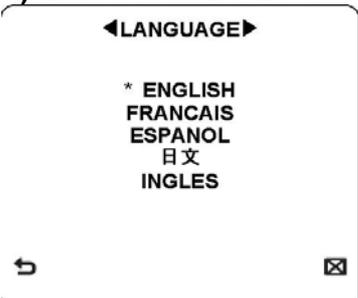
Select an address.

6) SYSTEM INFORMATION



You can view the system information including the protocol, address, baud rate, serial number, camera version, and **EEPROM** version.

7) LANGUAGE SET UP



The camera supports 5 different languages. Select a preferred language.

5. Troubleshooting

If there are problems in operation, please refer to the items below. If the problem persists, please contact the agent you purchased this product from.

Problems	Troubleshooting
Nothing appears on the screen.	<ul style="list-style-type: none"> • Please check the power connection. • Please check the video signal line connection. • Please check and make sure that the auto lens switch is set to DC (VIDEO) when using a VIDEO (DC) lens.
The video image is not clear.	<ul style="list-style-type: none"> • Please check if the lens is clean. Please clean the lens with a clean cloth or brush. • Please adjust the contrast feature of the monitor. • Please readjust the back focus of the camera.
The screen is dark.	<ul style="list-style-type: none"> • Please adjust the contrast feature of the monitor. • If you have an intermediate device, set the 75 / Hi-z properly, and check the terminals. • Please check if an auto iris lens is being used and adjust the brightness level.
There is a problem with the camera operation.	<ul style="list-style-type: none"> • Please check if an appropriate power source to the camera complies with the manufacturer's Standard requirement, or if the voltage keeps changing.
The MOTION DETECTION function is not working.	<ul style="list-style-type: none"> • Please check if 'MOTION DETECTION' mode is turned on. • Please check if the MD LEVEL is too low. • Please check the setting of the MD AREA.
Colors are not quite right.	<ul style="list-style-type: none"> • Please check the 'WHITE BAL' setting
The screen is flickering.	<ul style="list-style-type: none"> • Please check if the camera is facing directly into sunlight or fluorescent light. • Please check if an auto iris lens is being used. • Please check the connection of the lens connector cable.
COLOR mode is not working.	<ul style="list-style-type: none"> • Please check if the AGC menu is set to the OFF position.
SENS-UP function is not Working.	<ul style="list-style-type: none"> • Please check if the AGC menu is set to the OFF position. • Please check if the SHUTTER menu is set to MANUAL mode.

6. Protocol Setting Manual

How to set the protocol

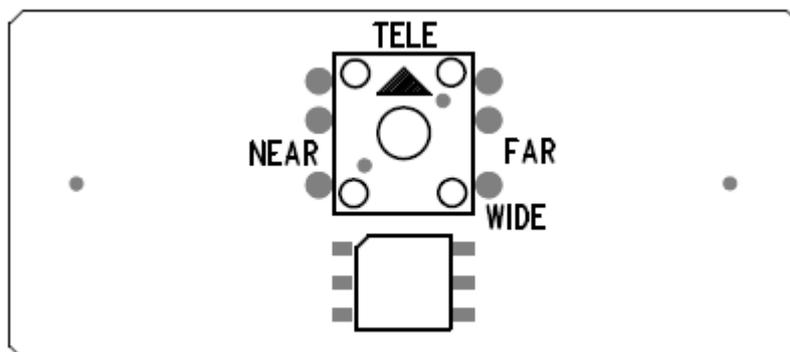
1. Turn off the power
2. Set the Rotary Hexa Switch (0~F) to '0'. The Rotary Hexa Switch is located in bottom side of the below picture.
3. Supply the power and then wait for around 3 sec -> It will be entered to Protocol setting mode.
4. Turn the Rotary Hexa Switch (0~F) to any one of 1~6.
1: PELCO-D 2400BPS
2: PELCO-D 4800BPS
3: PELCO-D 9600BPS
4: D-MAX 2400BPS
5: D-MAX 4800BPS
6: D-MAX 9600BPS
5. Press down the mini joystick button (vertically). The mini joystick button is located in upper side of the picture. (Menu key)
6. Turn off the power (Fished the selection of protocol)
7. Select Camera ID with Rotary Hexa Switch (0~F)
8. 1~E: Possible to be set for Camera ID.

Caution

0: Not allowed to be set – It is using for protocol setting ID. Not allowed to be set for Camera ID

F : Not allowed to be set – It is using for Lock ID of automatic zoom/focus. Not allowed to be set for Camera ID

9. Turn on the power and connect the communication line to check the operation.
* No need additional protocol setting once it is set.



How to set the Camera ID

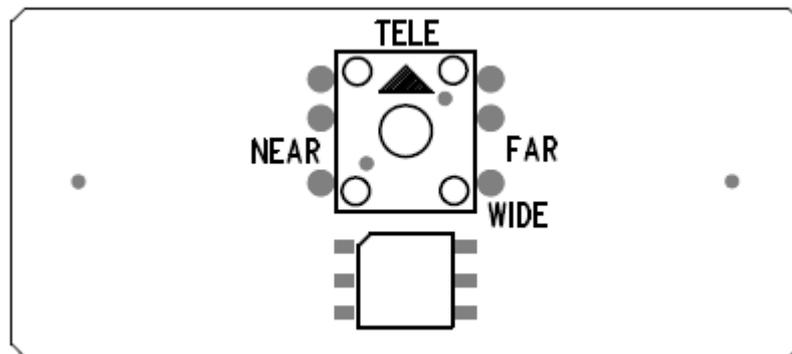
1. Turn off the power of Camera.
2. Select one value among 1~E for the Rotary Hexa switch in bottom side of the picture.

Caution

0: not allowed to be set – It is using for protocol setting ID. Not allowed to be set for Camera ID

F : Not allowed to be set – It is using for Lock ID of automatic zoom/focus. Not allowed to be set for Camera ID

3. Turn off the power of Camera
4. Turn on the power again.
5. Start to communicate with the changed ID.



How to operate the LENS (with Switch)

1. Move the joystick up/down/left/right.
 - Press down the joystick for menu call (vertically).
 - It is changed to Lens operating mode if there is no any key input for 6 sec. after menu calling. But menu OSD is displaying on the screen, you can press the menu key to call the menu again.

The protocol on OSD menu and the camera ID are set with the rotary switch on the back side of camera. Therefore setting by joystick is no meaning.

2. Electrical Locking of Lens

Set the rotary switch (0~F) for 'F' after power off. And turn on the camera.

The of joystick is only available for OSD operating but not Lens operating.

Lens is not working by network communication

How to operate the Camera by Networking

1. Control the camera by the connected Keyboard after setting of Baudrate and Protocol ID.
 - In case using PELCO-D protocol, the calling key is Preset 30. Use Preset key as menu key because there is no menu key in PELCO-D. But D-MAX supplies a menu key.
 - The lightness of LED can be controlled in both PELCO-D and D-MAX protocol. Preset 1 is for the increasing of the lightness, Preset 2 is for the decreasing of the lightness. Once it is set, the current value is saved to the memory to keep the operation as the setting even after power off.
(The controlling of current is available on night time)

7. Specifications

Sub-items	NTSC		PAL	
CCD Device	SONY 1/3" CCD		SONY 1/3" CCD	
Total Pixel	811 x 508		795 x 596	
Effective Pixel	768 x 494		752 x 582	
Inter. H/V Sync	15,734/59.94Hz		15,625/50Hz	
LL H/V Sync	15,750/60Hz		15,625/50Hz	
Horizontal Resolution	More than 560(Color) / 600(BW)TV Lines			
Minimum illumination (F1.2)	Color mode	50 IRE	25 IRE	15 IRE
	Sens Off	0.4 Lux	0.2 Lux	0.12 Lux
	Sens x256	0.001 Lux	0.0007 Lux	0.0004 Lux
	BW mode	50 IRE	25 IRE	15 IRE
	Sens Off	0.04 Lux	0.02 Lux	0.012 Lux
	Sens x256	0.0001 Lux	0.00007 Lux	0.00004 Lux
S/N Ratio	52dB			
OSD	E/F/S/J/P, (E/K)		E/F/G/S/I,(Chinese)	
Privacy Zone	8ea(Polygonal Method,4points)			
Day & Night	Out put the Filter changing signal			
Motion Detection	Off/On (Advanced)			
D-Zoom	x1~x10 (x0.1STEP)			
High Speed Shutter	1/60(1/50)~1/10Ksec			
Flickerless	Off/On			
Sens Up (Low Shutter)	x2 ~ x256			
BLC	Off/On(Area Setting)			
AGC	Off/On(Max. Level Setting)			
ALC(Auto Level Control)	AI Lens (DC/VIDEO)			
ELC(Electronic Level Control)	Off/On (~ 1/200Ksec)			
Camera ID	Off/On(Max.54ea/2Line)			
White Balance	ATW1/ATW2/AWC/MANUAL(ATW1:2500~9300°K,A TW2:2000~10000°K)			
DNR	Off/On (Adaptive 3D+2D)			
DIS	Off/On			
Etc. Function	Detail,Reverse(H/V),Posi/Nega,PIP			
Alarm Output	1ea(Open Collector)			
Remote Control	UART(Txd/RXd,3Vp-p)CCVC(withSCX-RD100)			
Video Output	VBS1.0Vp-p(75ohm Terminated)			
Power Input	DC+12V±10%			
Power Consumption	DC12V / 2000Ma (IR LED ON)			
Operating Temperature	Absolute:-10°C~+50°C			
Operating Humidity	Less than 90%			
Dimension	88mm x 95mm x 124mm			

