
High Resolution
Color Dome Camera

MANUAL

680 TVL





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.







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

■ **SONY 1/3" 480K/570K-Effective Pixel Ex-view HAD CCD II**

Minimum Resolution 0.1 Lux (F1.2, 50 IRE)

■ **High Resolution: More than 680 TV Lines**

This camera has realized high resolution of 680 TV lines using the top-notch full digital image processing, 12 Bit A/D serial signal processing and special algorithm technologies.

■ **NR (Digital Noise Reduction)**

The DNR technology eliminates noise thus generating a distinct and clear image.

■ **High Color Reproduction**

White balance processing with wide-range color temperature support and high-saturation processing.

■ **DAY&NIGHT**

This camera has the Day/Night function which shows clear image in dark condition

■ **ATR (Adaptive Tone Reproduction)**

Automatically this function compensates the darker areas surrounding the object to provide naturally sharp picture and then improves contrast in bright/dark areas

■ **High sensitivity and high saturation signal**

This camera increases the number of horizontal pixels and achieves a high saturation signal level and high sensitivity that extends into the near infrared.

■ **Preset OSD(On Screen Display) menu (8 languages)**

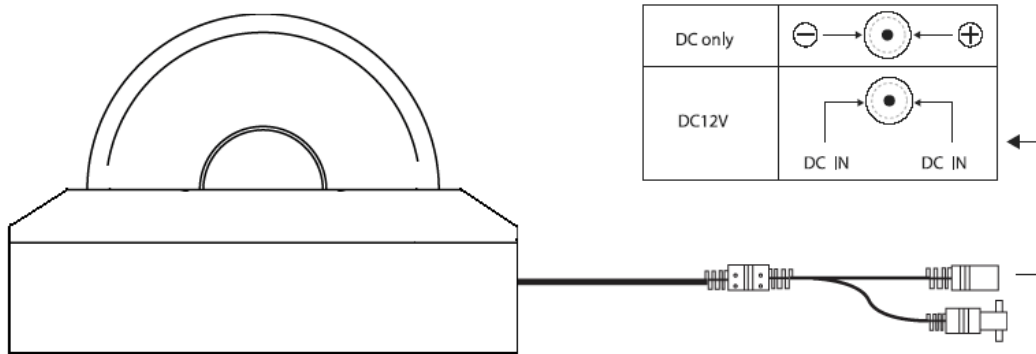
This camera supports the OSD function which is used with multi language. And so, the camera can be controlled via selecting text displayed on the monitor screen.

■ **Privacy Zone**

It has 8 privacy zone function to protect private area. It is possible to maximum 8 areas and free to adjust masking size & area

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

③ OSD PCB

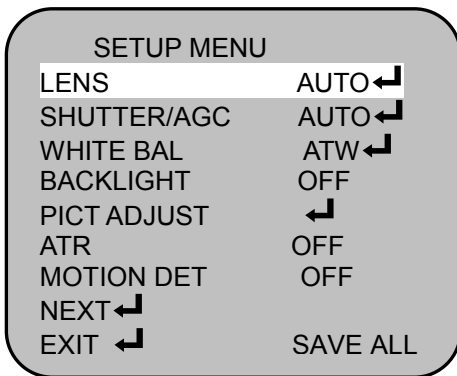
- **SETUP button** : Used for the menu display. This button can be used to confirm settings after changing the value of the selected function or current conditions.
- **UP & DOWN buttons** : Used for selecting items by moving the cursor up or down on the menu screen.
- **LEFT & RIGHT buttons** : Used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

3. Setup Menu Operation

- Please press the SETUP button to set OSD menu. The SETUP menu is displayed like under the picture on the monitor.
- if it has been selected. You may move up/down to use another function by up/down buttons and change the status by pressing left/right buttons.
- After finishing all desired setting, Please select 'EXIT'.

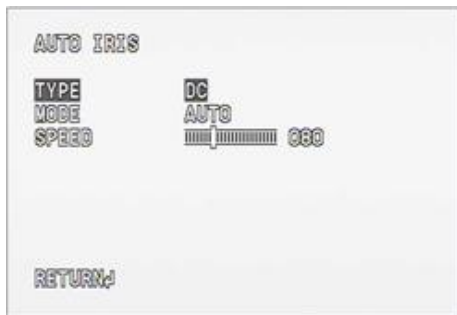
Note) If „↵“ appears at the mode you wish to operate, it means that there is a sub-menu which can be selected by pressing the SETUP button.

LENS



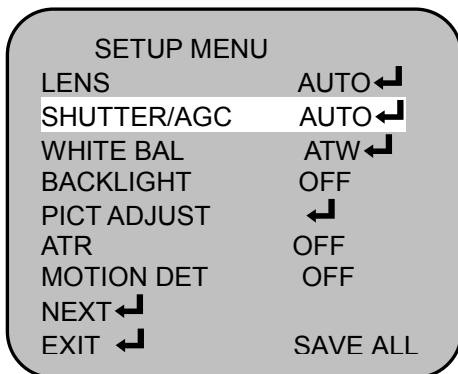
This menu is used to select kind of the lens.

- DC
- DC: Please select, when you use DC auto iris lens
- VIDEO: please select, when you use video iris lens
- MANUAL: please select, when you use manual lens



- MODE
- AUTO: The mechanical iris is controller automatically
- CLOSE: The mechanical iris is fixed to close
- OPEN: The mechanical iris is fixed to open
- SPEED: Set the convergence speed of the mechanical iris

SHUTTER/AGC



You can select either auto or manual shutter.

This function is used to set AE or ME.

•AUTO



(HIGH LUMINANCE)

- AUTO IRIS

Select this to control the shutter speed automatically.

-SHUT+AUTO IRIS

Select AE control on the medium and high brightness side

-Brightness

Select the high and medium brightness side reference

(LOW LUMINANCE)

-AGC

Select AE control on the low-brightness side

-Brightness

Select the low brightness side reference

•MANUAL



- MODE (SHUT+AGC)

“SHUT + AGC” is the only option available for the ME operation mode.

There are no other options.

-SHUTTER

Sets the ME shutter speed.

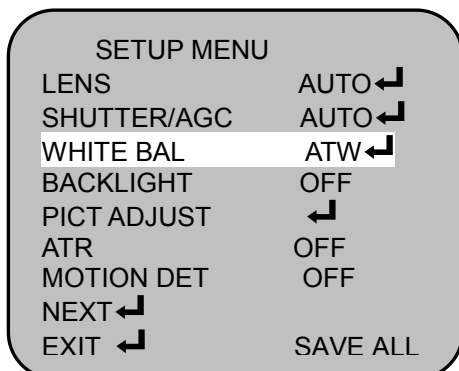
(1/60(1/50), 1/100(1/120), 1/250, 1/500, 1/1K, 1/2K, 1/4K, 1/10K)

-AGC

Sets the AGC value [dB] for ME

(6.00/12.00/18.00/24.00/30.00/36.00/42.00/44.80)

WHITE BAL



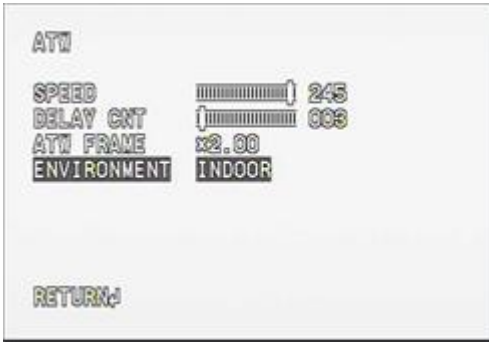
This function is used to set the white balance operation made.

•PUSH: All pull-in

•PUSH LOCK: Hold

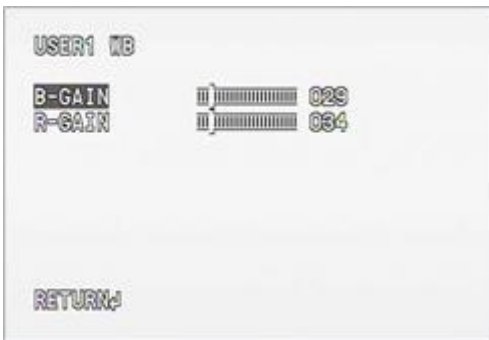
•ANTI CR: Color rolling suppression

•ATW



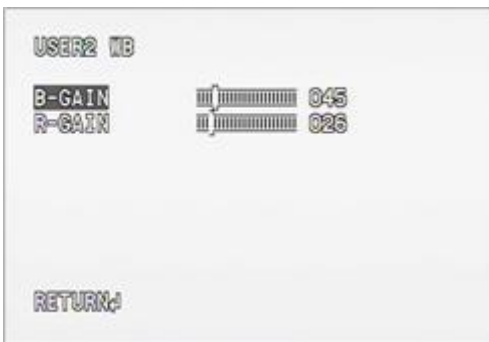
- SPEED
Adjusts the pull-in speed ATW
- DELAY CNT
Sets the time-based hysteresis of ATW
- ATW FRAME
Sets the pull-in frame magnification
- ENVIROMENT
Sets the pull-in frame(indoor/outdoor)of ATW

•USER1



- B-GAIN
Used for operating the B gain in the WB fixed gain mode
- R-GAIN
Used for operating the R gain in the WB fixed gain mode

•USER2



- B-GAIN
Used for operating the B gain in the WB fixed gain mode
- R-GAIN
Used for operating the B gain in the WB fixed gain mode

•MANUAL



- LEVEL
Sets the B and R gain values for manual WB (0-255)

BACKLIGHT

SETUP MENU	
LENS	AUTO ↵
SHUTTER/AGC	AUTO ↵
WHITE BAL	ATW ↵
BACKLIGHT	OFF
PICT ADJUST	↵
ATR	OFF
MOTION DET	OFF
NEXT ↵	
EXIT ↵	SAVE ALL

- OFF
Backlight compensation OFF
- BLC
Backlight compensation ON
- HLC
High light compensation ON

PICT ADJUST

SETUP MENU	
LENS	AUTO ↵
SHUTTER/AGC	AUTO ↵
WHITE BAL	ATW ↵
BACKLIGHT	OFF
PICT ADJUST	↵
ATR	OFF
MOTION DET	OFF
NEXT ↵	
EXIT ↵	SAVE ALL



- MIRROR: Sets the horizontal flip for display output
- BRIGHTNESS: Sets the screen brightness
- CONTRAST: Sets the screen contrast
- SHARPNESS: Sets the screen sharpness
- HUE: Adjusts the hue
- GAIN: Adjusts the gain

ATR (Adaptive Tone Reproduction)

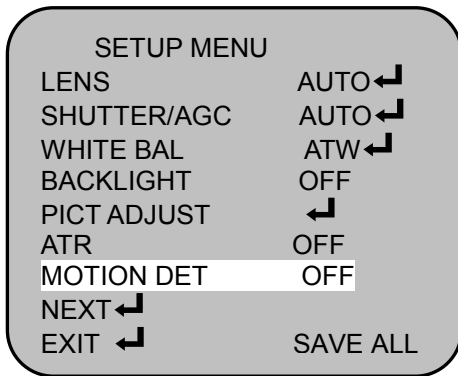
SETUP MENU	
LENS	AUTO ↵
SHUTTER/AGC	AUTO ↵
WHITE BAL	ATW ↵
BACKLIGHT	OFF
PICT ADJUST	↵
ATR	OFF
MOTION DET	OFF
NEXT ↵	
EXIT ↵	SAVE ALL

Automatically this function compensates the darker areas surrounding the object to provide naturally sharp picture and then improves contrast in bright/dark areas



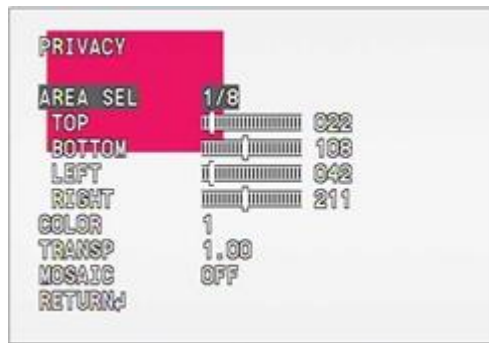
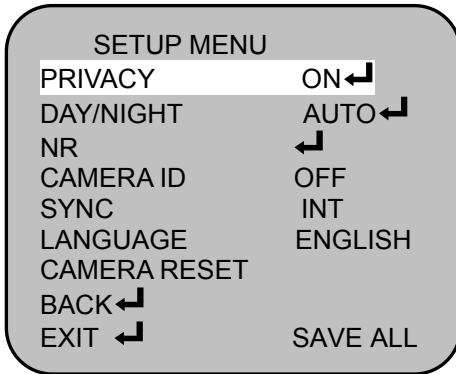
- LUMINANCE
Sets the extent of the luminance compression (LOW/MID/HIGH)
- CONTRAST
Sets the extent of the contrast enhancement (LOW/MIDDLE/MID/MIDHIGH/HIGH)

MOTION DET



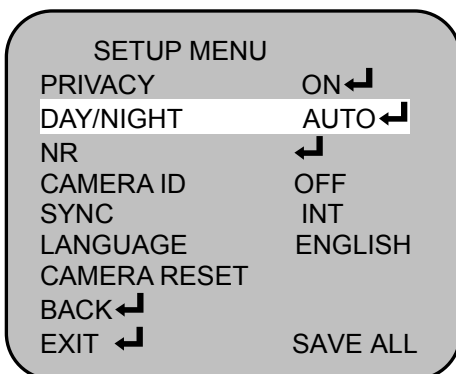
- DETECT SENSE: Sets the motion detection sensitivity
- BLOCK DISP OFF: Controls the ON/OFF status of the motion detection block display
- BLACK DISP ENABLE:
The display switches to the "dead band setting" screen when the Enter operation input is performed from the ENABLE selected status.
To come back previous menu, Press SET button during 3 seconds
- MONITOR AREA OFF:
Sets whether to use the monitoring frames
OFF: The monitoring frames are not used
ON: The monitoring frames are used
- AREA SEL
Monitoring frame 0 / Monitoring frame 1 / Monitoring frame 2 / Monitoring frame 3
- TOP
Set the top side of the monitoring frame selected by the AREA SEL parameter.
- BOTTOM
Set the bottom side of the monitoring frame selected by the AREA SEL parameter
- LEFT
Set the left side of the monitoring frame selected by the AREA SEL parameter.
- RIGHT
Sets the right side of the monitoring frame selected by the AREA SEL parameter

PRIVACY



- AREA SEL: Selects the mask frame to be adjusted
- TOP: Sets the top side of the mask frame selected by the AREA SEL parameter
- BOTTOM: Sets the bottom side of the mask frame selected by the AREA SEL parameter.
- LEFT: Sets the left side of the mask frame selected by the AREA SEL parameter.
- RIGHT: Sets the right side of the mask frame selected by the AREA SEL parameter
- COLOR: Sets the colors of the mask frames
- TRANSP: Sets the transparency ratio of the mask frames.
- MOSAIC: Sets the mask frame mosaic to ON or OFF

DAY/NIGHT



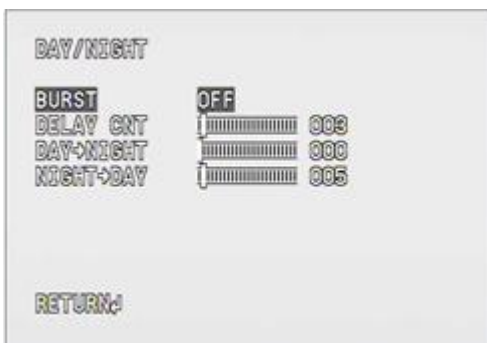
You can display pictures in color or black and white.

When the SETUP menu screen is displayed, select „DAY/NIGHT“ by using the UP and DOWN buttons so that the arrow indicates “DAY NIGHT”.

Please select the mode you wish to operate by pressing the LEFT or RIGHT button.

•AUTO

The mode is switched to „Color“ in a normal environment, but switches to „BW“ mode when ambient illumination is low.



-BURST

Burst signal OFF enable, Burst signal ON

-DELAY CNT

Sets the Night/Day identification transfer time

-DAY→NIGHT

Set the threshold for identifying the Night status from

the Day status.

-NIGHT→DAY

Set the threshold for identifying the Day status from the Night status.

•B/W



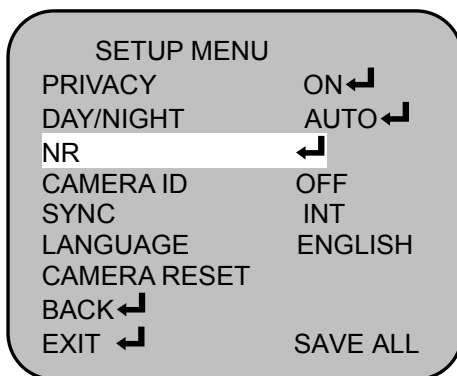
-BURST

Burst signal OFF enable, Burst signal ON

•COLOR

The picture is always displayed in color.

NR



The function is used to set the noise reduction

-NR MODE

OFF

Y:Y filter ON

C: filter ON

Y/C:Y and C filters ON

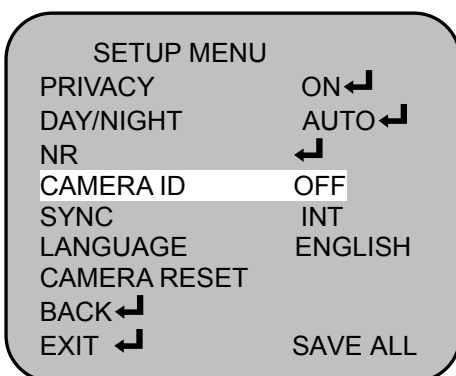
-Y LEVEL

Set the Y filter strength.

-C LEVEL

Set the Y filter strength.

CAMERA ID



The function is used to set the camera ID

•ON

Camera ID display OFF

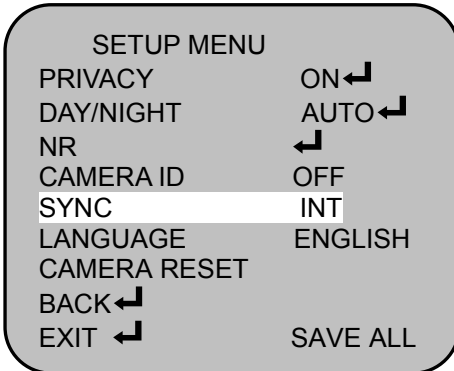
•OFF

Camera ID display ON



- ↑↓→←
The camera ID cursor moves
- CLR
The character selected by the camera ID cursor is cleared
- POS
The display switches to the camera ID display position setting screen

SYNC



- INT
Internal mode
- LL
Line lock mode

LANGUAGE

Select the language in which to display the internal OSD menu.

ENGLISH, JAPANESE, GERMAN, FRENCH, RUSSIAN, PORTUGUESE, SPAINS, CHINES

CAMERA RESET

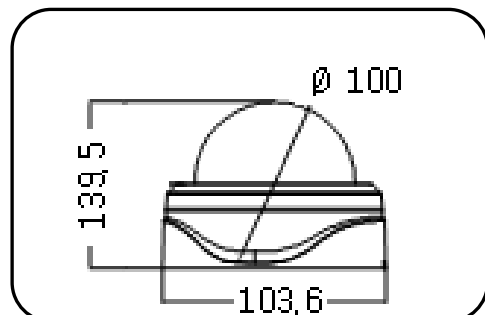
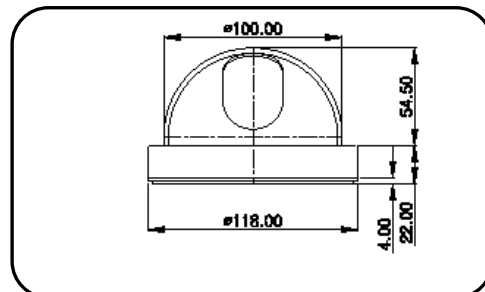
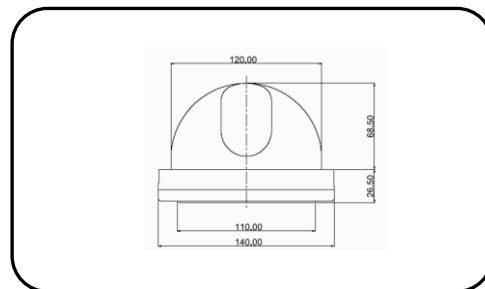
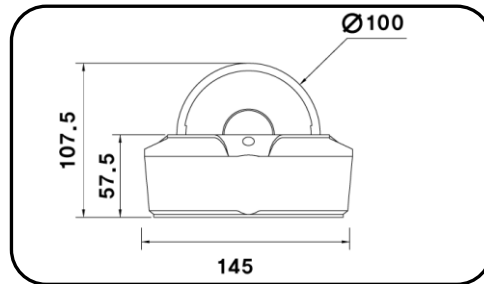
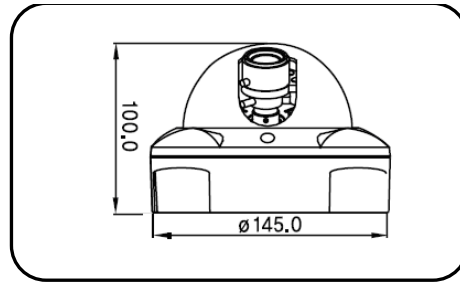
All the internal OSD menu settings are initialized.

4. 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.

5. Dimensions



6. Specifications

▪ GENERAL

Signal system	NTSC	PAL
Image Sensor	Sony 1/3" 480K/570K-Effective Ex-view HAD CCD II	
Total Pixels	1020(H) × 596(V)	1020(H) × 596(V)
Effective Pixels	976(H) × 494(V)	976(H) × 582(V)
Resolution	680 TV lines	
Syns. Inter. H/V	15.734/ 59.94Hz	15.625K/50Hz
MIN. ILLUMINATION(F1.2)	0.1Lux (50IRE)/0.02Lux(15IRE) B/W:0.08Lux(50IRE)/0.002Lux(15IRE)	
Day & Night	Color / Auto / B/W, True Day & Night with ICR (Option)	
Mirror	On / Off	
ATR	On / Off	
WHITE BALANCE	ATW / PUSH / USER1 / USER2 / ANTI CR / MANUAL /PUSH LOCK	
BLC / HLC	On / Off	
Sharpness	Level setting	
AGC	Level setting	
DNR	OFF / ON(2D)	
Privacy Zone & Motion Detection	OFF / ON (Motion:4 Zones, Privacy:8 Zones)	
Sharpness	0 ~ 31	
Camera ID	On / Off	
S/N Ratio	More than 52dB	
Video Output	Composite video output 75 ohm terminated	
Lens	3.6 mm Fixed Lens	
	2.8~12mm Auto Iris Lens (ICR: Option)	
	2.8~10mm Auto Iris Lens (ICR :Option)	
	9~22mm Auto Iris Lens	
	4~9mm Auto Iris Lens	
	mm	
Sync. System	Internal	
Operating Humidity	30 % ~ 90 % RH	
Operating Temp.	- 10°C to 50°	

Dome Type					
Install Type	Indoor	Indoor	Indoor	Outdoor(IP66)	Outdoor(IP66)
Dimension	φ100(Bubble) x 76(H)mm	φ120(Bubble) x 95(H)mm	φ100(Bubble) x 103(H)mm	φ100(Bubble) x 103(H)mm	φ100(Bubble)x 107.5(H)mm
3 Axis	2 Axis	2 Axis	3Axis	3 Axis	3 Axis
Material	Plastic Body & Bubble	Plastic Body & Bubble	PC Bubble & Plastic Body	PC Bubble, Aluminum Body	PC Bubble, Aluminum Body
Weight	300g	560g	600g	1.1Kg	1.1Kg
Power Consumption	Max 1.8W	Max 2.5W	Max 2.5W	Max 2.5W	Max 2.5W
Power Supply	DC12V (10.2V~14.5 V)	DC 12 V 500mA(10.2V~14.5 V) Dual Voltage(Option) : AC24V / DC12V			

