

## **CAM620 WDR NiteDevil Dome**

The CAM620 *NiteDevil* Dome Camera produces high quality images and works in very low light conditions 0.00019 Lux. The dome was originally developed for bars and nightclubs but is also a good choice for external dimly lit areas such as car parks and compounds. The dome has many features including a 3D axis mounting inner bracket for wall mounting, 600 TVL, SONY SuperHad CCD, 2.8mm ~ 11mm varifocal lens and an OSD facility providing options for motion detection, privacy masking and camera setup options. No need for additional lighting with this camera. It is truly amazing.



### **Electronic Features**

- ✓ 1/3" SONY SUPER HAD 600 TVL CCD
- ✓ Low illumination down to 0.00019 Lux
- ✓ Digital 16 Bit Image Enhanced Technology
- ✓ Menu for Motion Detection & camera setup
- ✓ Dual power consumption 12vDC/24vAC
- ✓ Accidental Surge & Electronic Shock protected.

### **Mechanical Features**

- ✓ Vandalproof, Weatherproof & Tamperproof
- ✓ 3 Axis 3D built-in bracket
- ✓ Vari-focal 2.8 ~ 11 mm Auto DC Iris Lens
- ✓ Aluminium housing with Polycarbonate
- ✓ Smoked Cover

### **Mounting the Camera**

The camera is for mounting on a wall, ceiling or outdoor fascia board. An optional wall bracket is also available. Note that this camera has a 3D gimble allowing wall mounting as well as ceiling surface mounting. Note that fitting the screws into a ceiling will require support for the screws. N.B Please be aware that when refitting camera, the dome cowling does not obscure the lens. Further details about positioning the camera angle is detailed at the end of these instructions.

### **Powering the Camera**

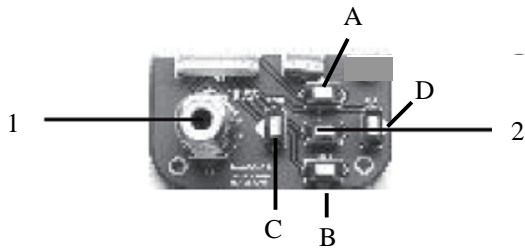
The dome requires a 12V DC regulated/24vAC power supply. Connections are not polarity sensitive therefore the power can be connected either way round. The camera is provided with a fly lead with a 2.1 jack connector for power. This camera draws a maximum of 250mA at 12v DC. Ensure that a regulated power supply is used if using 12vDC and allow adequate headroom i.e only use a power supply with a minimum rating of 350mA.

### **Connecting the camera to control equipment.**

The dome camera comes with a fly lead for video out. To reduce installation time the video out lead is terminated into a male BNC connector. This allows the installer to effortlessly connect the camera to control equipment via a female BNC-BNC lead. A special setup joystick controller is located on the side of the PCB board and this allows access to the OSD menu. A special RCA socket is located to the left of the joystick controller to connect an optional test video monitor.

**OSD (On Screen Display) Function.**

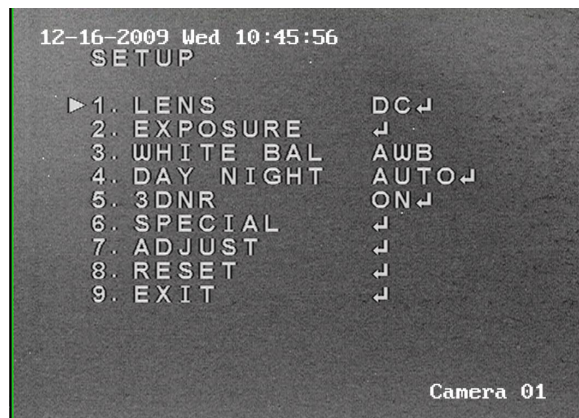
Remove the dome cover using the allen key supplied to access the pcb board for entering the menu.



To enter menu press SET button (2)  
(joystick controller)

1. RCA CONNECTOR FOR TEST MONITOR
  2. PRESS SET < Display MENU >  
< ⬅ extra options > < save >
- |               |                      |
|---------------|----------------------|
| A. UP/TELE    | < Move to function > |
| B. DOWN/WIDE  | < Move to function > |
| C. LEFT/FAR   | < Change Mode >      |
| D. RIGHT/NEAR | < Change Mode >      |

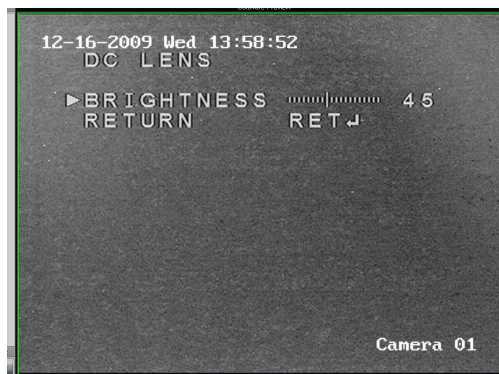
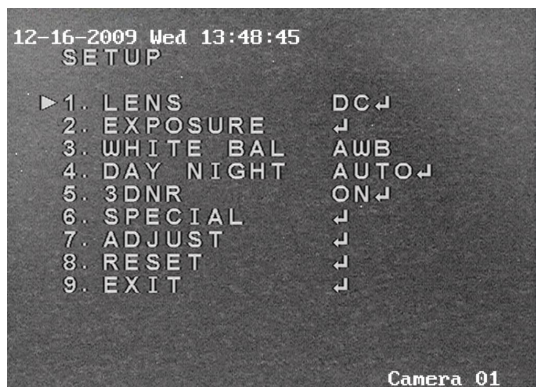
The following menu will be displayed on your monitor on pressing SET button (Joystick controller):



Menu Structure Functions

LENS	DC			
EXPOSURE	SHUTTER SENSE-UP	BRIGHTNESS BLC / HSBLC	AGC D-WDR	
WHITE BAL	AWB INDOOR	AWC-SET OUTDOOR	MANUAL ATW	
DAY NIGHT	COLOUR	AUTO	EXT	B/W
3 DNR	ON	OFF		
SPECIAL	CAM TITLE PRIVACY	D-EFFECT SYNC	RS485 (N/A) LANGUAGE	MOTION
ADJUST	SHARPNESS	BLUE	RED	
RESET	FACTORY			
EXIT				

**NOTE:** All items with the icon allow you to access a submenu by pressing the SET button down.  
Any item showing - - - icon functionality is not available on this camera.



**LENS**

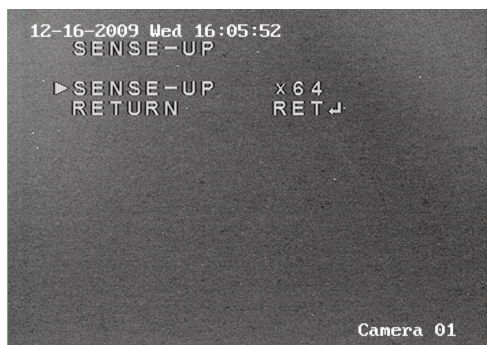
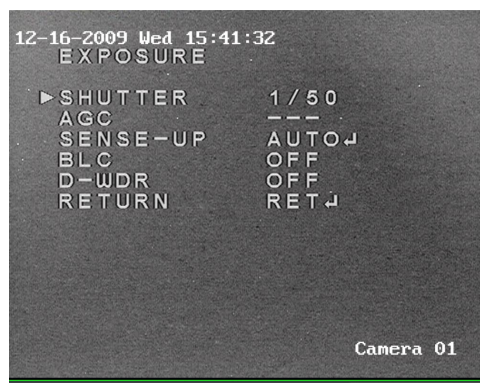
This option allows the screen brightness to be adjusted. Range of brightness setting is 0 ~ 100.

**EXPOSURE**

**SHUTTER** The shutter speed is set at 1/50, x2, X4, x8, x16, x32, x64, x128, x256, 1/100000, 1/10000, 1/5000, 1/200, 1/500, 1/250, FLK.

**NOTE:** Changing shutter speed affects brightness.

**AGC** Low / Middle / High / OFF  
You can adjust the gain level, but the brighter the screen the higher the noise level.



**SENSE-UP** When it is dark the camera automatically detects the light level and maintains a clear picture. The following options can be set: x256, x128, x64, x32, x16, X8, x4, x2.

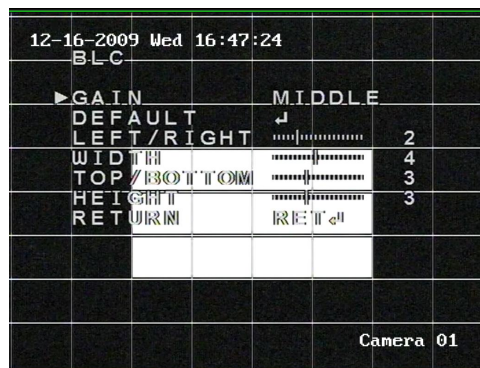
**NOTE:** This function deactivates if AGC and/or DAY/NIGHT is switched off. Also the higher the setting, ghosting increases.

**BLC** The backlight compensation balances strong Light evenly across the video image. The options are: OFF, BLC and HSBLC.

The BLC option allows the desired area in a picture to be viewed more clearly.

**GAIN** Can be set to Low, Middle or High.

The other settings allow the BLC area to be defined.



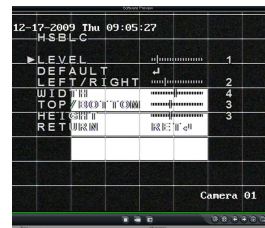
**HSBLC** This where high sensitivity for light levels are required and a similar menu to BLC is used. This is shown below:



HSBLC OFF



HSBLC ON



HSBLC MENU

**NOTE:** HSBLC can be activated for both day and night conditions. When headlights for example reduce the overall light level making car number plate recognition more difficult, using the HSBLC option can help to provide more light to see the number plate.

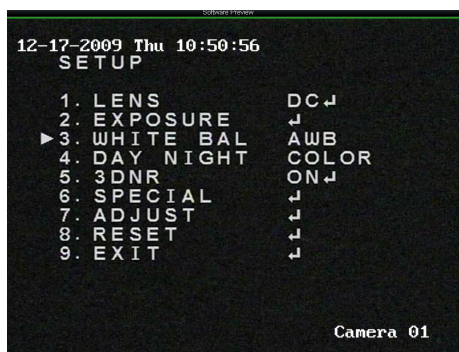
**D-WDR** Wide Dynamic Range  
If there is a bright and dark area, for example shaded area, displayed on screen, the D-WDR option can be set to even out the overall brightness. There are three options that can be selected, OFF / INDOOR / OUTDOOR



D-WDR ON



D-WDR OFF



**WHITE BALANCE** Alters the background white balance

The following options can be selected:  
AWB, ATW, OUTDOOR, INDOOR, MANUAL & AWC-SET

**AWB** Select this when colour temperature is between 2000°K and 18000°K. This uses stored settings for white balance and is most suitable where there is little change in light source.

**ATW** Select this when colour temperature is between 2500°K and 9800°K. Suitable for viewing objects with changing colour temperature.

**OUTDOOR** Select this when colour temperature is around 5100°K.

**INDOOR** Select this when colour temperature is around 3100°K.

**MANUAL** Set this to fine tune the white balance manually. Set the White Balance first by using the ATW or AWC mode. After that switch to MANUAL mode. Adjust the BLUE and RED for optimum settings.

**AWC-SET** This is used to set the white level according to the current luminance level. Point the camera at a sheet of white paper and press the SET button. If the overall white level changes make adjustments using other settings.



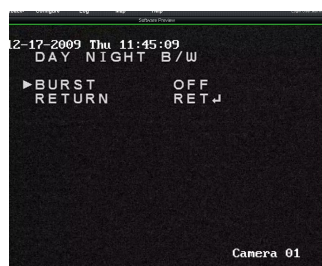
**NOTE:** Use AWC mode if you have problems settings white balance options.

**DAY / NIGHT** You can display pictures in colour or black & white. The following options are available: COLOR, B/W, EXT and AUTO.

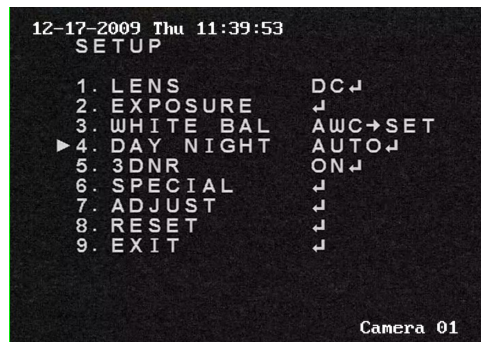
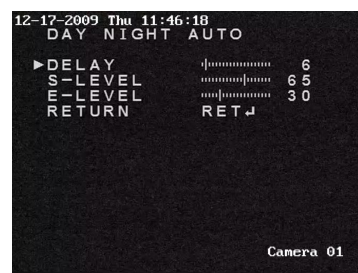
**COLOR** The picture is always displayed in colour.

**EXT** This deactivates the EXT function.

**B/W** The picture is always displayed in Black & White. You have the option to switch on BURST if required

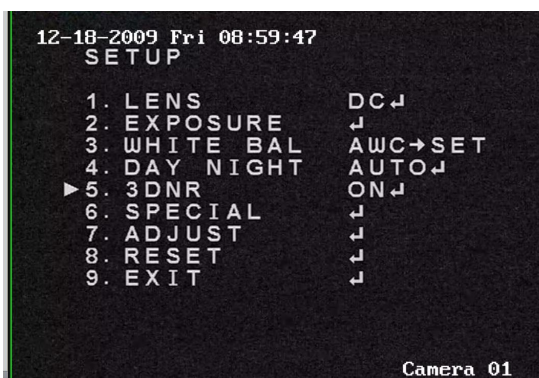


**AUTO** This option allows colour pictures during day and switches to B/W mode when ambient light levels drop. A menu is provided to smooth out switching by allowing DELAY to set seconds before switching and the S start and E end light levels for switching.



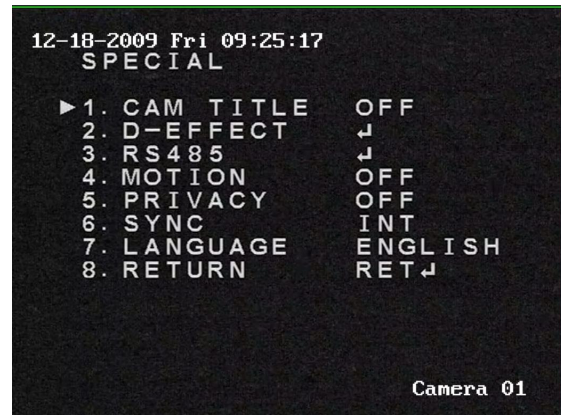
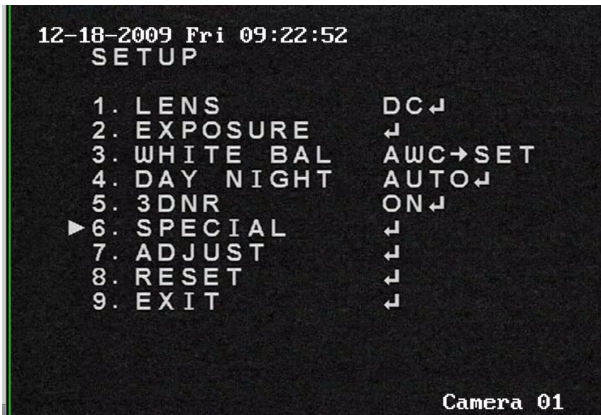
**NOTE:** You cannot control the DAY / NIGHT menu when AGC in the EXPOSURE menu is switched to OFF. Both Day and Night mode will remain in colour.

**3DNR** DIGITAL NOISE REDUCTION OFF / ON  
Digital Noise Reduction reduces the background noise in low light levels. If the SET button is pressed when switched ON, you can adjust the level of noise reduction.



**NOTE:** You cannot set 3DNR to OFF or ON when the AGC mode in the EXPOSURE menu is switched to OFF. When setting the 3DNR level, the higher the level is set, the higher the level of ghosting will be seen.

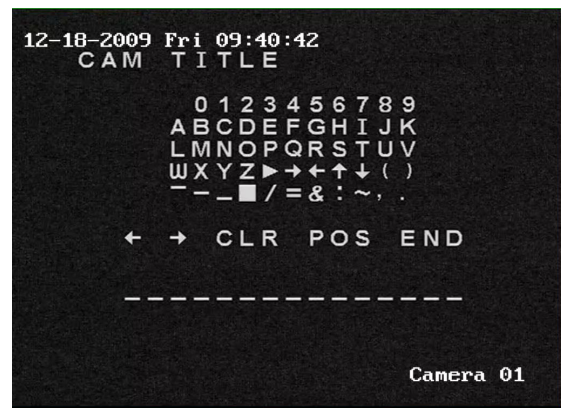
**SPECIAL**



**CAM-TITLE OFF / ON**

This is the camera title option. Set this to ON by pressing the left or right direction keys and then pressing SET button

Use the four direction buttons to move to the desired letter and select the letter by pressing the SET button. Repeat to enter up to 15 letters. If you enter a wrong title move cursor to CLR and press the SET button to clear the complete title. If you enter an incorrect letter, select the letter by clicking on the left or right arrow and press the SET button to position over the incorrect letter, then select the correct letter and press SET.



When the title is completed select POS and press SET.

The entered title now appears on the screen. Select the position where the title is to be displayed using the direction keys and then press SET button. If okay press END followed by SET to return to previous menu.

**D-EFFECT**

FREEZE OFF / ON

The frame can be frozen by switching to ON.

MIRROR OFF / ROTATE / V-FLIP / MIRROR

The image can be inverted to provide a mirror image, rotated or turned upside down.

D-ZOOM OFF / ON

This option allows 0 ~ 32x magnification.

GAMMA 0.45 Standard Value

This value can be altered between 0.05 ~ 1.00

NEG. IMAGE OFF / ON

Select to ON to reverse colour images to negative.

**RS485**

This option is not available.



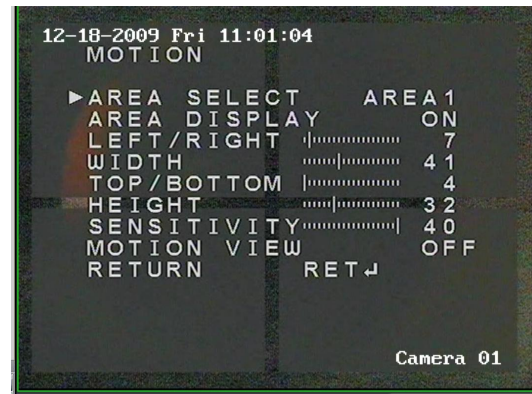
**MOTION** OFF / ON

The motion detection facility if set to ON will display the words MOTION DETECTION whenever the camera detects movement. The motion can be selected in each of the 4 areas defined in the camera picture.

The parameters available allow each of the four areas to be selected for motion and sensitivity.

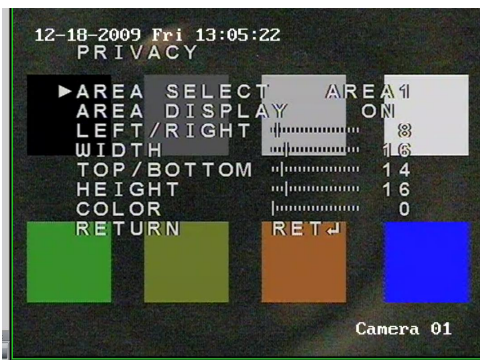
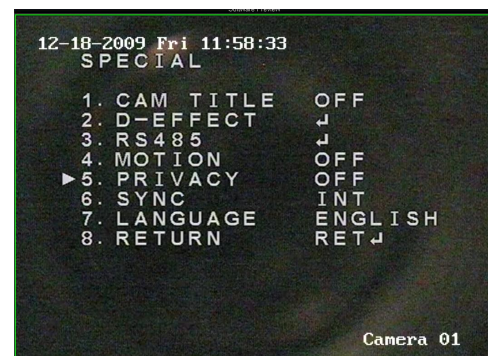
The MOTION VIEW option if selected to ON the area displaying movement will be outlined in a contrasting colour.

NOTE: As the four motion areas are not shown on the monitor, they can be displayed using the MOTION VIEW function.



**PRIVACY** OFF / ON

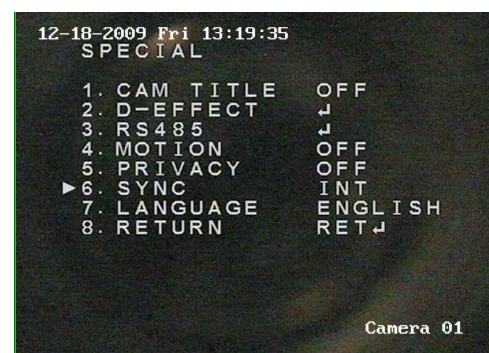
This function enables you to hide an area on the screen. Select this by pressing the SET button.



AREA SELECT Select an area between 01 ~ 08  
 AREA DISPLAY ON / OFF Switch OFF area required.  
 The remaining parameters allow each area size to be adjusted to requirements. To delete settings select RESET

**SYNC** In areas where the AC power is 60Hz you can synchronise the output phase of camera using the power synchronisation function (Line Lock) without using a sync generator.

When using 12v DC, the SYNC menu is fixed to the INTERNAL (INT) sync mode.

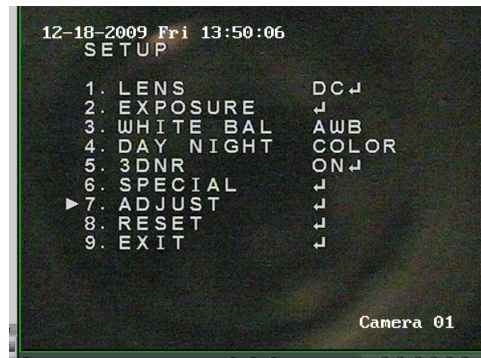
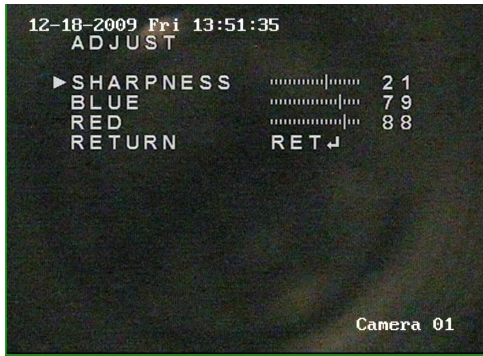


**LANGUAGE** ENGLISH / CHINESE / JAPANESE

You can select from the above languages which will initiate 5 seconds later.

**ADJUST**

This option allows picture sharpness adjustment plus changes to BLUE and RED colour.



**RESET**

This is the factory RESET option.

RETURN Select RET to return to main menu or END to close menu.

**EXIT**

Press the SET button to save the current settings and exit the MAIN menu setup.



**Special Features**

Troubleshooting

No screen display connection

\* check power

- \* check video line
- \* check brightness of Auto Iris Lens

Unclear video image

- \* check lens is clean
- \* adjust monitor contrast
- \* ensure display screen is not exposed di

Screen is dark

- \* adjust monitor contrast
- \* adjust brightness level of the Auto Iris Lens – Refer LENS settings
- \* adjust lens focus lever

Optional Wall Bracket CAM610





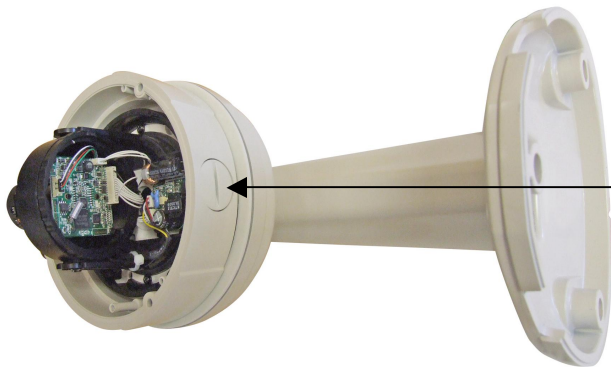
### Repositioning camera for additional viewing angles

Although the camera has a 3D gimble, when fitted to the optional wall bracket, movement to certain positions may be restricted.

The picture to the right shows the wall bracket with the fixing holes for fitting the base of the CAM620.



The CAM620 has four bolts connecting the camera base to the wall bracket.



When the camera assembly is in the normal position, you will see the external screw plug pointing towards the wall bracket fixing plate.

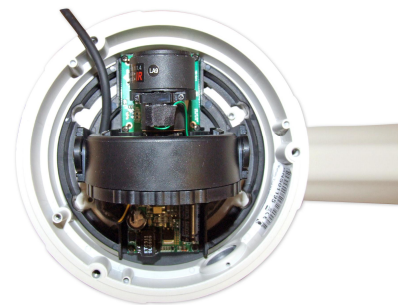
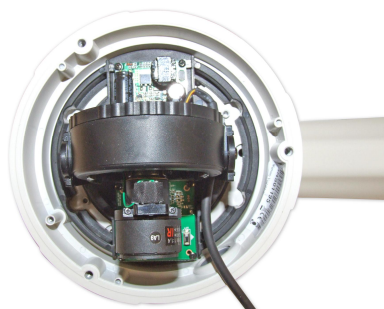
or

By fitting the camera base into either of two different locations, this will allow setting the camera at a right angle. Note that only two bolts will be fitted.



or

The camera can then be secured with the two black locking screws as shown. Ensure that you check the direction required.



**Technical Specifications**

Function	Specification
Imaging Sensor	1/3" SONY Super HAD CCD
Signal System	PAL 625 lines
Scanning system	2:1 Interface
Scanning Frequency	H:15.625 kHz / V:50 Hz
S/N Ratio	More than 52 dB (AGC Off)
Horizontal Resolution	Horizontal: 600 TVL Colour / 700 TVL Black & White
Video Output Level	1.0 v p~p (75Ω, composite)
Lens	Built-in DC Iris Vari-focal Lens (2.8 ~ 11mm, F= 1.4)
Minimum Illumination	Colour: 0.03Lux(50IRE@F1.2), 0.00019(Sens-up 256x)
Sync System	Internal / Line Lock (Dual Option)
OSD	Built-in(Multi-language support)
Electronic Shutter Speed	Auto / FLK PAL: (1/50 sec ~ 1/100,000 sec) / NTSC: (1/60 sec ~ 1/100,000 sec)
White Balance	AWB / AWC Set / Manual / Indoor / Outdoor / ATW
Backlight Compensation	BLC / HSBLC / Off
D-WDR	Indoor / Outdoor / Off
Gain Control	Low / Middle / High / Off
Adjust	Contrast / Sharpness / CB_Gain / CR_Gain (Level Adjustment)
Language	Korean / English / Chinese / Japanese (selectable)
Camera Title	On / Off (selectable)
Day & Night	Auto / B&W / Colour / EXT (selectable)
Digital Zoom	On / Off (0x ~ 32x)
Privacy Masking	On / Off (8 zone selectable)
3DNR (digital noise reduction)	On / Off (selectable)
Sens-up (Frame Integration)	On / Off (selectable limit ~ 256x)
D-Effect	Freeze / Mirror / Gamma / Neg. Image
Supplied voltage	12vDC & 24v AC ± 10%
Power Consumption	Maximum 3 watts
Dimensions	Base 140mm, Dome 100mm
Weight	Approximately 250g.

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WEE/CG0783SS