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 & CE 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 those specified.

◆ Do NOT expose this appliance to rain or moisture.

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

Contents

■ Features

High Resolution Colour for Crisp, Clear Video

· Progressive image capture
· 690TVL Effective

Wide Dynamic Range (WDR)

The camera delivers clear high quality pictures, even when backlit, by increasing exposure in dark areas while decreasing it in bright areas; a corrected image with clear details results.

· 120dB maximum dynamic range

DNR (Digital Noise Reduction)

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

Day & Night

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

High Sensitivity for low-light images

The built-in high sensitivity PIXIM SEAWOLF Sensor enables a clear image even at 0.1Lux

Motion Detection

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

Programmable GAMMA Processing

Controlled by OSD Menu

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

Additional Functions

SYNC (INT/LL), SENS-UP, FREEZE, FLIP (H/V-REV), D-ZOOM, SHARPNESS and PRIVACY functions are provided.

3 Axis built-in 100mm Dome Housing

Warning ■

The camera requires periodic inspection.

Contact an authorised technician to carry out the inspection.

Stop using your camera when you find it malfunctioning.

If the camera emits smoke or is unusually hot for a long period, a fire may be caused.

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

If the camera is installed on an inappropriate surface, it may fall and cause injury.

Do not hold plug with wet hands.

It could cause an electric shock.

Do not dis-assemble the camera.

It may result in an electric shock or other hazards.

Do not use the camera close to a gas or oil leak.
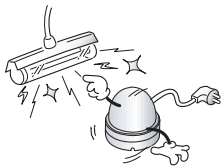
It may result in a fire or other hazards.

■ 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.

This is one of the most important parts of the camera. Be careful not to leave fingerprints on the lens cover.

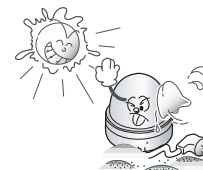**Do not drop the camera or protect it from physical shocks.**

It can cause malfunctions to occur.

Never keep the camera pointed directly at strong light.

It can damage the CMOS.

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.
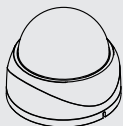
Do not expose the camera to radioactivity.

If exposed to radioactivity the CMOS will fail.

Note

· If the camera is exposed to spotlight or an object reflecting strong light, smear or blooming may occur.
· Please check the power supply satisfies the normal specification before connecting the camera.

1. COLOUR DOME CAMERA

2. SCREWS

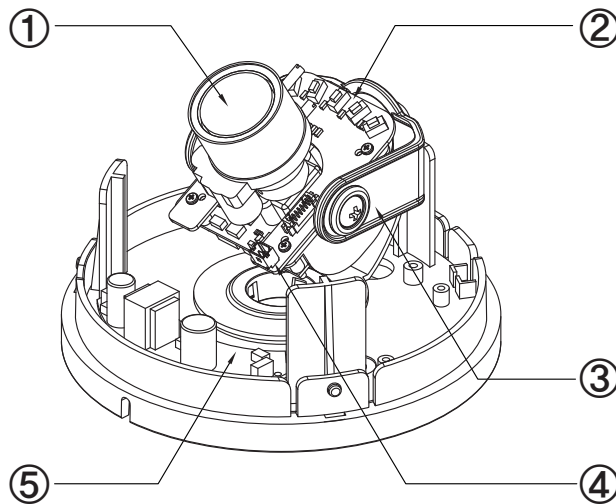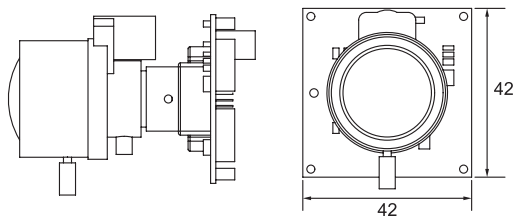3. WIRE FOR VBS-EXTRA

4. INSTRUCTION GUIDE

① ② ③ ④ ⑤

① **LENS** : Vari-Focal DC Auto Iris Lens

42
42

② **OSD PCB**
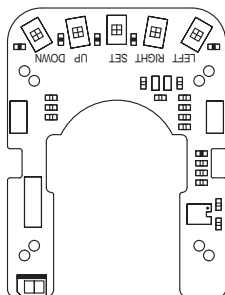
● **SET button :** Used for the menu display. This button can be used to confirm settings after changing the value of the selected function or current conditions.

● **UP & DOWN buttons :** Used for selecting items by moving the cursor up or down on the menu screen.

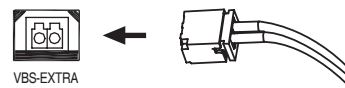● **LEFT & RIGHT buttons :** Used when changing item values, by moving the cursor to the left or right on the menu screen.

③ **3 AXIS BRACKET**
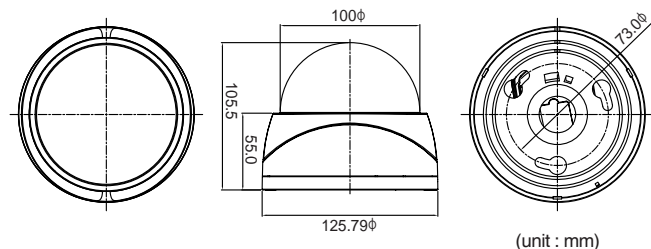Adjust the pan and tilt to give the correct angle of view.

④ **VBS-EXTRA FOR CONNECTING TO LCD**
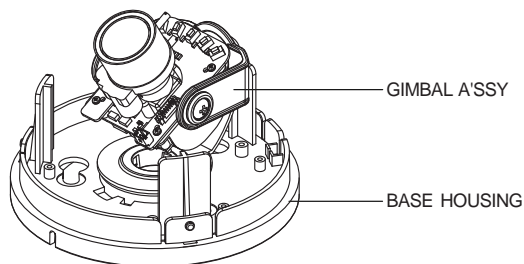Please use the supplied wire when connecting to external monitor

VBS-EXTRA

⑤ **SMPS PCB FOR DUAL POWER - IF APPLICABLE**

100φ
105.5
55.0
125.79φ
73.0φ

(unit : mm)

■ Installation

DECORATION RING

DOME COVER

GIMBAL A'SSY

BASE HOUSING
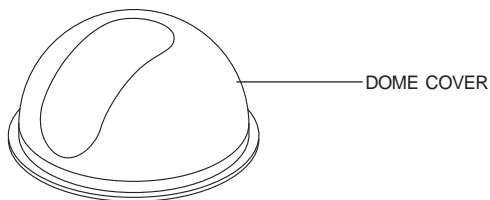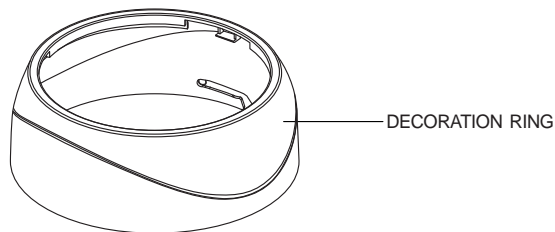
1. Dome Base Mounting
- Open the dome cover by loosening the 3 screws using the special wrench provided.
- Mount the base of camera to a sturdy surface using the 4 screws (1.5 inch) and the 4 premade holes on the base of the dome.

2. Power Connection & Monitor Impedance
- DC12V/300mA regulated power supply (DC12V only)
  AC24V Class 2 power supply (AC24V/DC12V)
- To avoid fire or shock hazard, always use a UL to CE listed power supply.
- Set the monitor impedance switch to 75Ω. Check the impedance switch if the screen appears blurred.

3. Camera Module Adjustment
- Loosen screws for the 3-axis camera bracket to adjust the cameras angle of view.
- Make sure to retighten the camera bracket screws.
- Use the OSD buttons to select the different camera functions.

4. Dome Cover Mounting
- Replace the dome cover to the base and tighten the 3 screws.

Cable Connections ■

POWER

VIDEO

DC only	⊖ ⟶ (•) ⟵ ⊕
AC24V DC12V	(•) AC IN DC IN AC IN DC IN

Adaptor Plate

∅3.5x25 tapping screw (provided)

Camera Body

Unlocking direction

Locking direction

Unlocking direction

Locking direction

Dome Cover
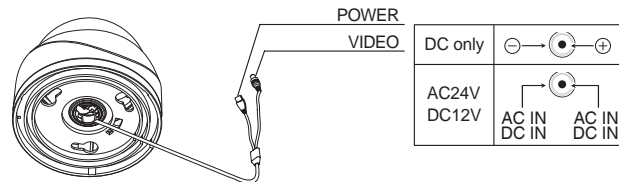
* When installing on an adaptor plate bracket.
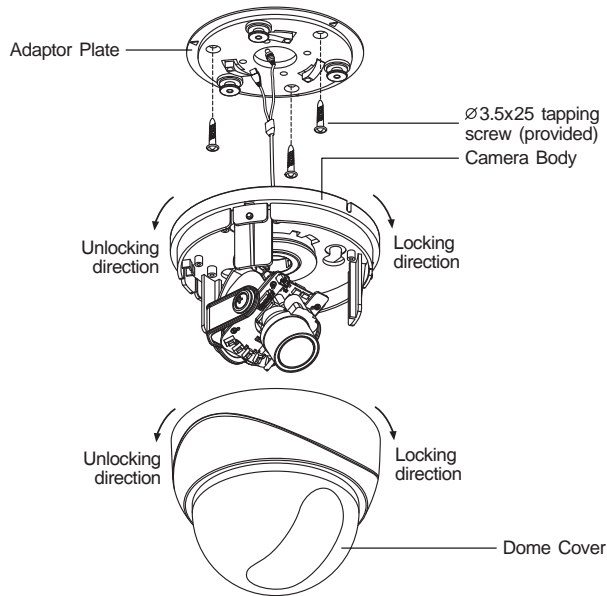
① Place the adaptor plate bracket on a flat installation surface and fix it with the screws provided.

② When placing the camera body onto the plate, insert the plate pin into the corresponding holes on the camera body as shown in figure-1. Lock the camera in place by turning the camera body clockwise.

③ When placing the camera body on the plate, make sure that the power and video cables pass through.

④ After installation and adjustment of the camera is complete, secure the dome cover by turning it clockwise.

■ **Menu**

SETUP menu		
PRESETS	· NORMAL · INDOOR · OUTDOOR · BACKLIGHT		
EXPOSURE	· LENS SELECT · BLC · EXPOSURE MODE · AGC · DNR · HIGHLIGHT · COLOR ROLL · SENS-UP		
WDR	· MIDDLE · HIGH · USER · LOW		
WHITE BALANCE	· ATW · INDOOR · OUTDOOR · AWB · MANUAL		
DAY&NIGHT	· AUTO · COLOR · BW		
IMAGE ADJ.	· FREEZE · FLIP · SHARPNESS · COLOR GAIN · GAMMA · FOCUS		
SPECIAL	· CAMERA ID · VIDEO OUT · DZOOM · MOTION · PRIVACY MASK · SYNC · RESET		
EXIT MENU	· VERSION · SAVE&EXIT · DEFAULT · CANCEL		

■ How to Use the Camera

■ Settings

Settings can be made using the 5 buttons located in the camera.
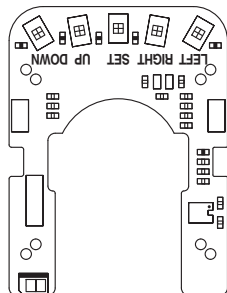
1. Press the SET button
  · Settings can now be made. The SETUP menu is displayed on the monitor.

```
               SETUP
 ▶ PRESETS            NORMAL
   EXPOSURE..
   WDR               MIDDLE
   WHITE BALANCE     ATW
   DAY&NIGHT         AUTO..
   IMAGE ADJ..
   SPECIAL..
   EXIT MENU.
```

2. Select a menu item from the list available by using the UP and DOWN
   buttons.
   · Funtions are selected using up and down buttons.
   · The selected position is displayed in blue.

Select the function
using the UP or
DOWN button.
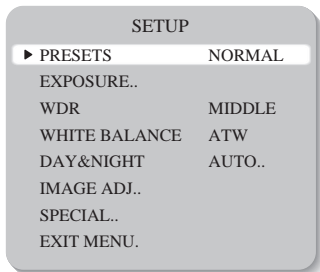
```
               SETUP
 ▶ PRESETS            NORMAL
   EXPOSURE..
   WDR               MIDDLE
   WHITE BALANCE     ATW
   DAY&NIGHT         AUTO..
   IMAGE ADJ..
   SPECIAL..
   EXIT MENU.
```

Change the status
using the LEFT or
RIGHT button.
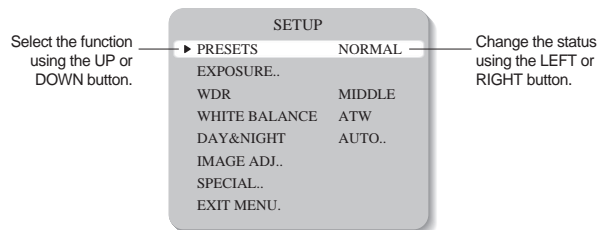
3. Set up a selected item by using the Left and Right buttons.
4. To finish and save the settings, select 'EXIT MENU' and press the SET button.

Note
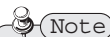
• An item with the .. icon also has sub-menus. To select a sub-menu,
press the SET button.

PRESETS

```
               SETUP
 ▶ PRESETS            NORMAL
   EXPOSURE..
   WDR               MIDDLE
   WHITE BALANCE     ATW
   DAY&NIGHT         AUTO..
   IMAGE ADJ..
   SPECIAL..
   EXIT MENU.
```
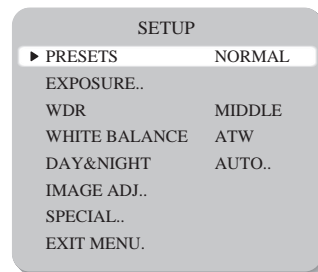
● **NORMAL** : Normal environment.
● **INDOOR** : Indoor environment.
● **OUTDOOR** : Outdoor environment.
● **BACKLIGHT** : Backlight environment.

■ How to Use the Camera

EXPOSURE

```
              SETUP
   PRESETS            NORMAL
 ▶ EXPOSURE..
   WDR                MIDDLE
   WHITE BALANCE      ATW
   DAY&NIGHT          AUTO..
```

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

```
             EXPOSURE
 ▶ LENS SELECT        DC..
   BLC                OFF
   EXPOSURE MODE      50 i
   AGC                MEDIUM
   DNR                MIDDLE
   HIGHLIGHT          ON
   COLOR ROLL         OFF
   SENS-UP            2X
   PREVIOUS PAGE..
```
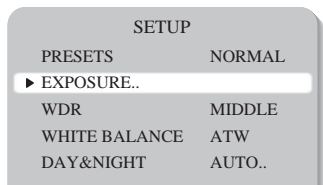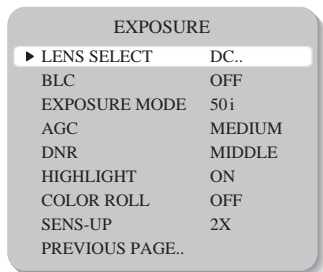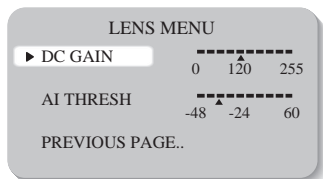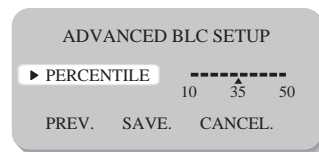
● **LENS SELECT** : Using this function, you can control the screen brightness.
 · DC / Manual : Select Lens Type.

```
             LENS MENU
 ▶ DC GAIN          ----------
                    0    120    255
   AI THRESH        ----------
                    -48   -24    60
   PREVIOUS PAGE..
```

● **BLC** : To optimize the scene when there is a strong backlight behind the object.
  - ON / OFF selectable

```
        ADVANCED BLC SETUP
 ▶ PERCENTILE    ----------
                 10     35     50
   PREV.    SAVE.    CANCEL.
```

● **EXPOSURE MODE** : To select the number of fields and number of exposure cycles.
  - 50i/25p selectable

● **AGC (AUTO GAIN CONTROL)** : In dark environments, the higher the gain level, the brighter the screen but the higher the noise.
  - OFF / LOW / MEDIUM / HIGH selectable

● **DNR (Digital Noise Reduction)** : The level of background noise in low light decreases automatically as the level of gain changes.
  - OFF / LOW / MIDDLE / HIGH selectable

● **HIGHLIGHT** : To optimise the scene when high dynamic range lighting is detected.
  - ON : bright parts of the image are most visible.
  - OFF : dark parts of the image are most visible.

● **COLOR ROLL** : To control a detector that finds colour fluorescent roll.
  - OFF / LOW / HIGH selectable

● **SENS-UP** : When it is night or dark, the camera automatically detects the light level and maintains a clear picture if this mode is activated.
  - 2X, 4X, 8X, 16X, 32X
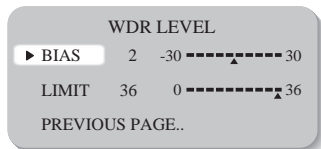 - OFF : Deactivates the SENS-UP function.

■ How to Use the Camera

WDR

```
              SETUP
   PRESETS           NORMAL
   EXPOSURE..
 ▶ WDR               MIDDLE
   WHITE BALANCE     ATW
   DAY&NIGHT         AUTO..
   IMAGE ADJ..
   SPECIAL..
   EXIT MENU.
```
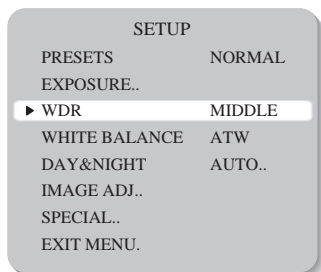
● **WDR** : When the image has simultaneous bright and dark areas, the
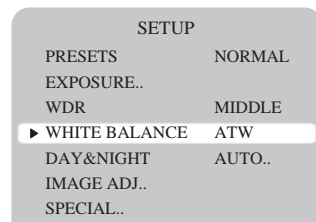Wide Dynamic Range makes both areas distinct.
- LOW / MIDDLE / HIGH / USER selectable

```
           WDR LEVEL
 ▶ BIAS      2    -30 ▬▬▬▬▬▬▬ 30

   LIMIT    36     0 ▬▬▬▬▬▬▬▬ 36

   PREVIOUS PAGE..
```

WHITE BALANCE

Use the White Balance function to adjust the screen colours.
1. Position the cursor to point to WHITE BAL on the SETUP menu screen,
   select using the Up and Down buttons.
2. Select the desired mode using the Left and Right buttons.

```
              SETUP
   PRESETS           NORMAL
   EXPOSURE..
   WDR               MIDDLE
 ▶ WHITE BALANCE     ATW
   DAY&NIGHT         AUTO..
   IMAGE ADJ..
   SPECIAL..
```

※ Select one of the following 5 modes, as appropriate.
   ● **ATW** : The ATW mode continuously monitors.
   ● **INDOOR** : Select when the colour temperature is between 4000˚K
                and 8500˚K
   ● **OUTDOOR** : Select when the colour temperature is between 2000˚K
                 and 11000˚K
   ● **AWB** : To obtain the optimum state under the current luminance
           levels, direct the camera to point toward a sheet of white paper and
           press the SET button. If the environment changes, including the light
           source, the white balance will require re-adjustment.
   ● **MANUAL** : Select to "fine-tune" the White Balance manually. Set
              White Balance first using the ATW or AWB mode. Afterwards switch
              to MANUAL mode, fine-tune the White Balance and then press
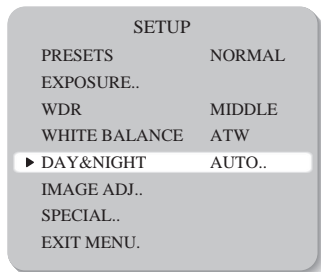   the SET button.

```
        MANUAL WHITE BALANCE
 ▶ RED        -18   -20 ▬▬▬▬▬▬▬ 20

   BLUE       13    -20 ▬▬▬▬▬▬▬ 20

   PREVIOUS PAGE..
```
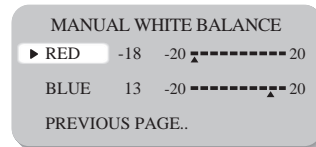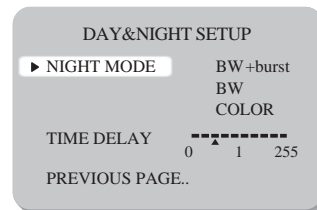
■ How to Use the Camera

🎗 (Note)

• Under the following conditions White Balance may not work properly.
  In such cases, select the AWC mode.
① When the colour temperature of the subject environment has a very
  high temperature range (e.g. clear sky, or sunset)
② When the ambient illumination of the subject is low.
③ If the camera is directed toward a fluorescent light, or is installed in
  a place where illumination changes dramatically, the White Balance
  operation may become unstable.

DAY&NIGHT

```
                SETUP
PRESETS            NORMAL
EXPOSURE..
WDR                MIDDLE
WHITE BALANCE      ATW
▶ DAY&NIGHT        AUTO..
IMAGE ADJ..
SPECIAL...
EXIT MENU.
```
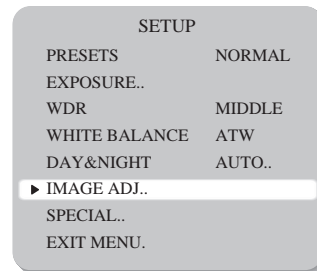
● **AUTO** : This camera has a function which automatically changes to
  the appropriate mode according to lighting levels. To set up the switching
  time for the AUTO mode press the SET button.

```
        DAY&NIGHT SETUP
▶ NIGHT MODE       BW+burst
                   BW
                   COLOR
TIME DELAY      ▬▬▬▬▬▬▬▬
                0    1    255
PREVIOUS PAGE..
```

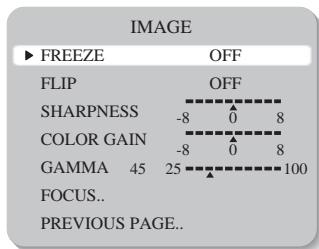● **COLOR** : The picture is displayed in colour.

● **B/W** : The picture is always displayed in black and white.

IMAGE ADJ.

When the SETUP menu screen is displayed, select 'IMAGE ADJ.' using
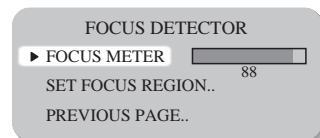the Up and Down buttons.

```
                SETUP
PRESETS            NORMAL
EXPOSURE..
WDR                MIDDLE
WHITE BALANCE      ATW
DAY&NIGHT          AUTO..
▶ IMAGE ADJ..
SPECIAL...
EXIT MENU.
```

```
                    IMAGE
  ▶ FREEZE              OFF
    FLIP                OFF
    SHARPNESS        -------------
                     -8    0    8
    COLOR GAIN       -------------
                     -8    0    8
    GAMMA       45  25 ----------100
    FOCUS..
    PREVIOUS PAGE..
```

● **FREEZE** : View still pictures.
   - OFF / ON selectable

● **FLIP :** OFF / HORIZ / VERT / BOTH selectable
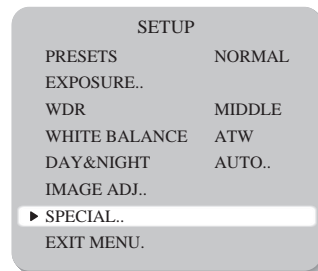
OFF	HORIZ
VERT	BOTH
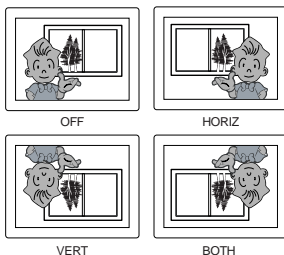
● **SHARPNESS** : The outline of the video image becomes cleaner and more distinctive as the level of SHARPNESS increases. If the level gose up excessively, however, it may affect the video image and generate noise.
   - The available range of level is -8 ~ 8

● **COLOR GAIN** : To control the colour level in the video.
   - The available range of level is -8 ~ 8

● **GAMMA** : Users can change the gamma setting between 25 and100
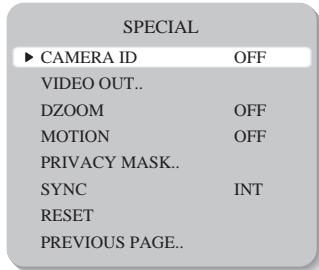
● **FOCUS** : To adjust the lens focus.

```
              FOCUS DETECTOR
  ▶ FOCUS METER    [▭▭▭▭▭▭ ]
                            88
    SET FOCUS REGION..
    PREVIOUS PAGE..
```

```
            SET FOCUS REGION
              ┌──────────┐
              │          │
              │          │
              └──────────┘
```

SPECIAL

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

```
                    SETUP
    PRESETS            NORMAL
    EXPOSURE..
    WDR                MIDDLE
    WHITE BALANCE      ATW
    DAY&NIGHT          AUTO..
    IMAGE ADJ..
  ▶ SPECIAL..
    EXIT MENU.
```

■ How to Use the Camera

```
              SPECIAL
 ▶ CAMERA ID              OFF
   VIDEO OUT..
   DZOOM                  OFF
   MOTION                 OFF
   PRIVACY MASK..
   SYNC                   INT
   RESET
   PREVIOUS PAGE..
```

● **CAMERA ID** : User can enter a unique name for the respective camera.
The maximum length of the ID is ten characters.
・ You can choose the ON and OFF with the selector. If you select ON,
  the entered camera ID is displayed at the selected position in the video
  picture (normal operation).
・ Please select the setup button while in On mode.
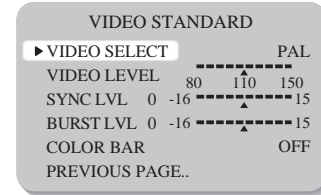・ Select the desired position with the selector.

```
             CAMERA ID
 ▶ ID                  CAM-001
   POSITION            UP-LEFT
   PREVIOUS PAGE..
```
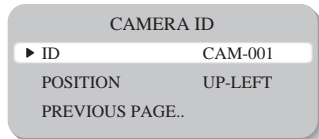
① Move the cursor to the letter required by using the Set-Up button.
② Select an ID from A,B~Y,Z, a,b~y,z, 0,1~8,9 by using the LEFT and
   RIGHT buttons.
③ Repeat the above steps until the ID is complete.

```
             CAMERA ID
   ID                  CAM-001
 ▶ POSITION            UP-LEFT
   PREVIOUS PAGE..
```
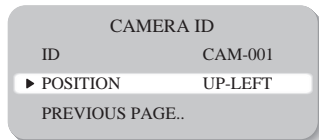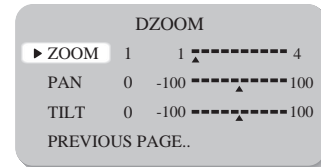
① Select the position where the ID is to be displayed by using the
   LEFT and RIGHT buttons.

● **VIDEO OUT** : Move the cursor to select the video system
  - VIDEO STANDARD : You can control NTSC / PAL, Video level,
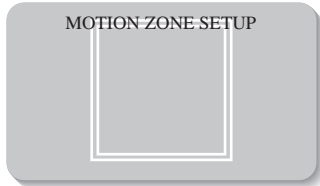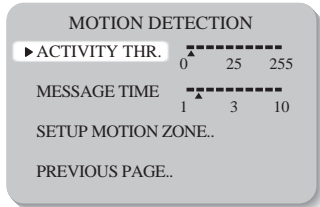   Sync level, Burst level.

```
           VIDEO STANDARD
 ▶ VIDEO SELECT              PAL
   VIDEO LEVEL     80   110  150
   SYNC LVL   0  -16          15
   BURST LVL  0  -16          15
   COLOR BAR                 OFF
   PREVIOUS PAGE..
```

● **DZOOM** : Digital P/T/Z are used to create a zoom lens effect.
Zoom Factor (1X to 4X), Pan ($\pm$100%, center of image can be moved
to left and right edges of screen), Tilt ($\pm$100%, center of image can
be moved to top and bottom edges of screen)

```
               DZOOM
 ▶ ZOOM     1      1          4
   PAN      0   -100        100
   TILT     0   -100        100
   PREVIOUS PAGE..
```
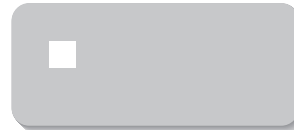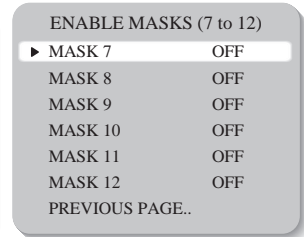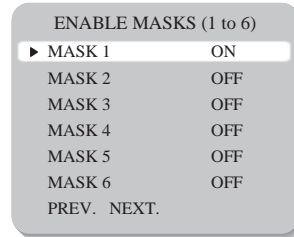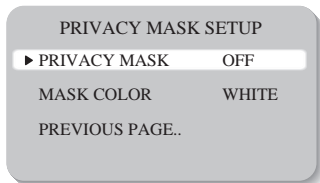
● **MOTION** : This product has a feature that allows you to observe
movements of objects in on the screen, hence a single individual can
conduct supervision efficiently.
The camera detects an object's movement by sensing disparity of
outline, and level of brightness and colour.

MOTION DETECTION

▶ ACTIVITY THR.

0   25   255

MESSAGE TIME

1   3   10

SETUP MOTION ZONE..

PREVIOUS PAGE..

MOTION ZONE SETUP

・ White : MOTION ZONE Position movement
   Green : MOTION ZONE Size enlargement
   Red   : MOTION ZONE Size reduction

・ For MOTION ZONE Confirm, long press SET button

● **PRIVACY MASK** : Hide an area you want to hide on the screen.

PRIVACY MASK SETUP

▶ PRIVACY MASK   OFF

MASK COLOR   WHITE

PREVIOUS PAGE..

ENABLE MASKS (1 to 6)	
▶ MASK 1	ON
MASK 2	OFF
MASK 3	OFF
MASK 4	OFF
MASK 5	OFF
MASK 6	OFF
PREV. NEXT.	

ENABLE MASKS (7 to 12)	
▶ MASK 7	OFF
MASK 8	OFF
MASK 9	OFF
MASK 10	OFF
MASK 11	OFF
MASK 12	OFF
PREVIOUS PAGE..	

・ White : PRIVACY-ZONE
           Position movement
   Blue : PRIVACY-ZONE Size
           enlargement or reduction
・ For PRIVACY-ZONE Confirm,
   long press SET button

● **SYNC** : Two synchronisation modes are available, INTERNAL and EXTERNAL LINELOCK. In LINE-LOCK mode, it synchronises the video signal between cameras without a synchronous generator. The line-lock synchronisation is only used in areas of 60Hz (NTSC) / 50Hz (PAL).

- INT : Internal synchronisation
- LL : External line-lock synchronisation
・ If 'LL' is selected, it can be adjusted to the desired phase.
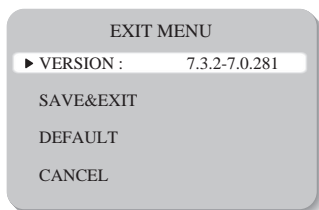   Press the SET button.

LINE LOCK

▶ V PHASE

0   299   624

PREVIOUS PAGE..
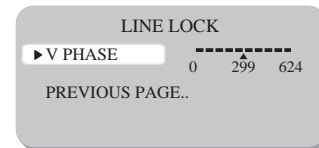
・ Adjust to the desired phase from 0 to 624.

● **RESET** : Resets the camera.

EXIT MENU.

```
            EXIT MENU

  ▶ VERSION :          7.3.2-7.0.281

    SAVE&EXIT

    DEFAULT

    CANCEL
```

● **VERSION** : 7.3.2-7.0.281

● **SAVE&EXIT** : Saves all the setting menus and then exits.

● **DEFAULT** : Resets the camera settings to the factory defaults.

● **CANCEL** : Cancel to the camera settings.

If you have trouble operating your camera, refer to the following table. If the guidelines do not enable you to solve the problem, contact an authorised technician.

Problem	Solution
Nothing appears on the screen.	• Check the power connections. • Check the VIDEO signal line connection.
The image on the screen is not clear.	• Make sure the lens is clean. Clean the lens with a soft clean lint free cloth. • Adjust the monitor contrast & brightness controls. • Re-position the camera if necessary.
The image on the screen is dark.	• Adjust the contrast control of the monitor. • If you have an intermediate device, set the 75 / Hi-z properly.
The camera is not working properly, and the surface of the camera is hot.	• Check that an appropriate power source is connected to the camera.
The SENS-UP function does not work.	• Check that AGC in the EXPOSURE menu is not set to 'OFF'.
The Motion Detection function does not work.	• Check that MOTION DET in the SETUP is not set to 'OFF'.
Colour is not correct.	• Check the WHITE BAL settings in the SETUP menu.
The screen flickers continually.	• Check that the camera isn't facing toward a bright light source, such as the sun.

■ Specifications

ITEM	SPEC.
Power Consumption	170mA (AC24V) / 250mA (DC12V) 160mA (DC12V Only)
Image Sensor	PIXIM 1/3" High Sensitivity Digital Sensor
Signal processing	17-bit Digital Signal Processing
Transfer Format	Progressive with Segmented Frames
Sync. System	Internal / Line Lock
Effective Pixels	758(H) x 540(V)
Lens	Tamron 2.8mm ~10.5mm DC AI VF Lens
Horizontal Angle of View	93.7˚ ~ 28.3˚
Dynamic Range	120dB(Max), 102dB(Typical)
Horizontal Resolution	690TVL Effective
Min. Illumination	0.1Lux
Day & Night	AUTO / COLOR / B/W
White Balance	ATW / AWB / INDOOR / OUTDOOR / MANUAL
WB Range	2000˚K~11,000˚K
Shutter Speed	up to 1/30, 720 sec
Sens-up	AUTO / OFF (Selectable x2 ~ x32)
Privacy Masking	12 Zones
AGC	OFF / LOW / MEDIUM / HIGH
Image Flip	OFF / HORIZ / VERT / BOTH
Camera ID	ON / OFF
S/N Ratio	More than 50dB
Video Output	Composite video output 75 ohm terminated
OSD	Built-in
Operating Humidity	30% ~ 90% RH
Operating Temp.	-10˚C to 50˚
Weight	Appro. 370g

※ **POWER OPTION - DC12V Only : MD83SPX/12**
   WHITE COLOUR : MD83SPX/W

Genie
CCTV

PIXIM Digital Day/Night Dome Camera

Instruction Guide

Genie
CCTV

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