USER MANUAL

WDR TRUE DAY&NIGHT CAMERA ZW2812

Genie
C C T V

Contents

About WDR/BLC/ 3D DNR

WIDE DYNAMIC RANGE

WDR is a powerful and ultra-advanced technology that captures cleaner and superior high resolution pictures even where images appear dark because there is a strong back light present.

WDR

WDR OFF

WDR ON

SPOTLIGHT BLC FUNCTION

Spotlight BLC function is especially effective for reading vehicle number plates at night time. Users can select and define the required observation area for the target object and ignore strong spotlight areas.

BLC

NORMAL

SPOTLIGHT BLC

3D FILTERING METHOD ADVANCED DNR TECHNOLOGY

Newly developed 3 D filtering enhances Digital Noise Reduction at low light levels. 3D filtering of the video signal optimises the signal to noise ratio, giving vastly improved low light visibility and a powerful Sens-Up function (up to 256 times magnification).

3D DNR

DNR OFF

DNR ON

Specification

INTUS True Day/Night Colour Camera

WDR
OSD
Wide Dynamic Range
Camera OSD Control

560TV Lines
DC Auto Iris Varifocal
Lens(2.8mm−12mm)
True Day/Night Capability
ICR − IR Cut Filter Removable
Dual Voltage
IP66

SPECIFICATIONS

MODEL	ZW2812
C C D Sensor	1/3" SONY Vertical Double Density Interline CCD
Total Pixels	NTSC=811(H) * 508/(V) / PAL=795(H) * 595(V)
Effective Pixels	NTSC=768(H) * 494(V) / PAL=752(H) * 582(V)
Scanning System	2:1 Interlace
Synchronisation	Internal
O.S.D	Built-in (English, Japanese, Spanish)
E L E C T R I C A L Dynamic Range	52dB (x128)
Backlight	WDR / BLC / OFF Selectable
Resolution	560TV Lines
S/N (Y signal)	52dB (AGC OFF / Weight ON)
Min. Illumination	0.001 Lux (Sens-Up x128)→0.00004 Lux F1.2 (Sens-Up x256)
White Balance	ATW / AWC / Manual / Outdoor / Indoor
Electronic Shutter Speed	AUTO (NTSC=1/50sec ~ 1/100,000sec / PAL=1/60sec ~ 1/120,000sec) / MANUAL / A.FLK
Sens-Up	AUTO (Selectable limit x2 ~ x256) / OFF
Gain Control	HIGH / LOW / OFF Selectable
DNR	OFF/ON (1~32 Level Adjustable)
Motion Detection	ON/OFF (8 Zone, ALARM Output)
PRIVACY	ON/OFF (8 Zone)
MIRROR(H-REV)	ON/OFF
FLIP(V-REV)	ON/OFF
Freeze	ON/OFF
SHARPNESS	ON/OFF (Level Adjustable)
D&N Selection	COLOUR / BLACK & WHITE / AUTO / EXT
DIS	ON/OFF
Digital Zoom	ON (x10) / OFF
Blemish Compensation	256 Point (Even 128 Point, ODD 128 Point)
Communication	RS-485 (Pelco-D Protocol) - Option
Power Supply	DC 12V / AC 24V - Dual Voltage
Power Consumption	CDS ON: 350mA
Lens	DC Auto Iris Varifocal Lens(2.8mm-12mm)
Operating Temperature/Humidity	-20 ~ +50 Deg C. RH 95% Max.
Storage Temperature/Humidity	-20 ~ +60 Deg C. RH 95% Max.
Dimension	88mm(W) * 115mm(H) * 245mm(D)
Weight	1600g

WDR DAY & NIGHT COLOUR CAMERA   **WDR DAY & NIGHT COLOUR CAMERA**

Safety Instructions

Precautions for use

☞ Please read this manual thoroughly before using the camera to become familiar with the correct operational procedures.

Cautions When Using

☞ Do not open the camera body and touch any electrical parts to avoid possible electric shocks.
☞ Do not insert objects into the camera body to prevent fire hazards and electric shock.
☞ Do not touch the camera with wet hands to avoid electric shock.
☞ Do not disconnect the power cord from a power plug when still connected to the outlet.
☞ Always disconnect the power by removing the plug from the power socket.
☞ If the camera emits a burning smell, immediately disconnect it from the power source and report the problem to your distributor.

Cautions When Install

☞ Only apply power after installation of the product.
☞ Do not install the camera in a position facing directly at a strong light source.
☞ Do not install or use the camera in areas of high humidity.
☞ Do not install near any cooling or heating equipment.
☞ Do not install the camera in dusty environments.
☞ Do not install the camera in places where the camera is subjected to physical shocks.
☞ This products must be used with a regulated DC 12V or AC 24V adaptor for power.

General Features

◆ WDR (Wide Dynamic Range)

The Genie INTUS range of camera uses very advanced WDR technology, which gives clear images even where the scene is strongly backlit. Adjustable sensitivity.

◆ 560TV Lines

The combination of Sony Super HAD CCD image sensor and DNR DSP provides an excellent resolution of 560 TV Lines.

◆ Day & Night

Depending on luminance levels the camera switches automatically between colour and monochrome. The camera's IR Cut-Filter gives perfect colour rendition during the day.

◆ Illumination

SDNR technology has solved the problem of ghosting and now displays clearer, superior high resolution images even in extremely low light conditions.

◆ Disk Saving Effects

Advanced SDNR technology improves picture quality and saves hard drive space, as less noise means much smaller file sizes - much smaller than standard CCTV camera images.

◆ DNR DSP Chip

The DNR DSP chipset has various powerful functions that give superior high resolution Day & Night images. It removes the camera noise and Sens-Up provides quality images at very low luminance levels. The most advanced technology is combined on a single DSP chipset, resulting in enhanced surveilance images.

◆ Additional Functions

OSD - On Screen Display menu with Multi-Language support - 8 Countries
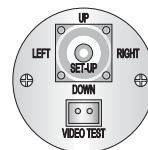Privacy Masking - 8 Zones
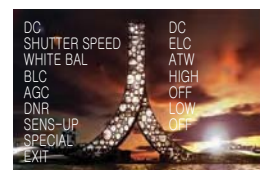Sens-Up - x256 Magnification
Digital Zoom - x10

Set - Up Menu

SET UP MENU	DEFAULT SET	MENU	
① LENS	DC / MANUAL	2.8 - 12mm DC Auto IRIS Vari-Focal Lens	
② EXPOSURE	SHUTTER :- AGC: LOW SENS-UP: OFF	SHUTTER	A.FLK MANUAL(x256-120K) ESC(BRIGHTNESS: Level Selectable)
		AGC: OFF / LOW / HIGH	
		SENS-UP: OFF / AUTO(2-256 Level Selectable)	
		RETURN	
③ WHITE BAL.	ATW	INDOOR / OUTDOOR / AWC / ATW MANUAL (RGAIN : Level Selectable, BGain : Level Selectable)	
④ BACKLIGHT	OFF	WDR: LOW / MIDDLE / HIGH (Level 0-100) BLC: TOP / BOTTOM / LEFT / RIGHT LEVEL: LOW / MIDDLE / HIGH HLC: MASK COLOUR (Level 0-220)	
⑤ SDNR	ON	ON (RANGE: 0 ~ 32 Level Selectable) / OFF	
⑥ DAY & NIGHT	AUTO	COLOUR / B/W / AUTO / EXTERNAL DWELLTIME: 5 ~ 60SEC DURATION TIME: SLOW / FAST	
⑦ IMAGE ADJ.	FREEZE: OFF V-REV: OFF H-REV: OFF DZOOM: OFF SHARPNESS: ON	FREEZE: ON / OFF V-REV: ON / OFF H-REV :ON / OFF DZOOM: ON / OFF(0 ~ 230 Level Selectable) SHARPNESS: ON / OFF(I ~ 3 I Level Selectable) RETURN	
⑧ SPECIAL	Refer to the next page		
⑨ EXIT		Save the SETUP Menu and exit	

◆ SETTINGS

Settings can be made using the OSD buttons
Located on the bottom of the camera.

OSD Control Board

OSD

WDR DAY & NIGHT COLOUR CAMERA   WDR DAY & NIGHT COLOUR CAMERA

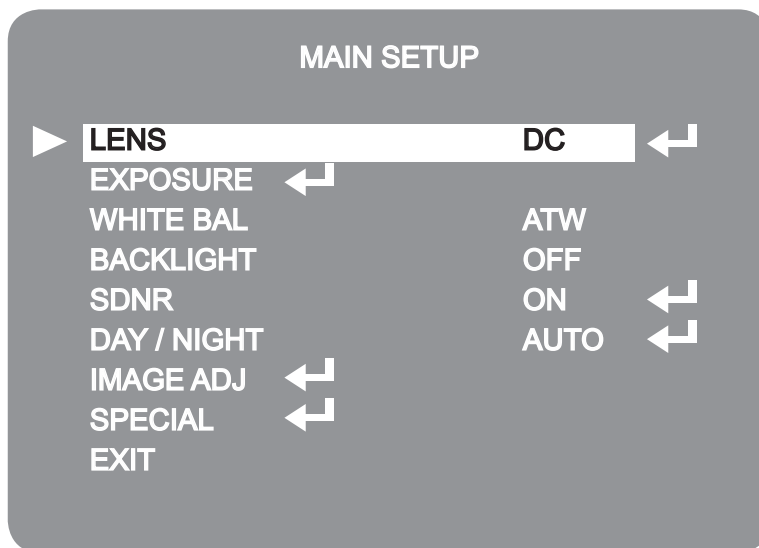| SET UP MENU	DEFAULT SET	MENU
① CAMERA TITLE	OFF	ON / OFF
② SYNC	INT	INT / ----
③ MOTION DET.	OFF	SENSITIVITY: AREA I AREA MODE: OFF SEL POS: L - TOP X POS: Level Selectable Y POS: Level Selectable FILL → SET RETURN
④ PRIVACY	OFF	AREA SEL: AREA I AREA MODE: TOP / BOTTOM / LEFT / RIGHT MASK COLOUR: GREEN / RED / BLUE BLACK / WHITE / GREY TRANSP. : Level Selectable RETURN
⑤ DIS	OFF	ON / OFF
⑥ COMM ADJ.	CAM ID: 0 BAUD RATE: 38400 PARITY: 8-N-1 RET PKT: ENABLE DISP CAM ID: OFF	CAM ID: ID Selectable BAUD RATE: 2400 / 4800 / 9600 / 19200 / 38400 / 57600 PARITY: 8-N-1 RET PKT: ENABLE DISP CAM ID: OFF
⑦ LANGUAGE	ENGLISH	
⑧ RESET	-	RETURNS TO FACTORY SETTINGS
⑨ RETURN	-	RETURNS TO THE SETUP MENU

Menu Set Up

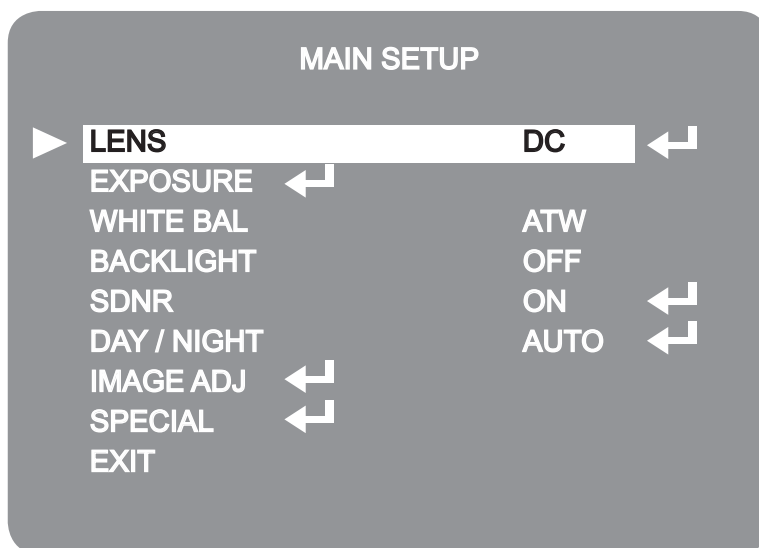Menu items can be selected by using the OSD buttons of the camera.

I. Press the Set Up button.

● The Set Up menu will be displayed on the monitor.

```
                    MAIN SETUP

    ▶  LENS                    DC        ↵
       EXPOSURE      ↵
       WHITE BAL              ATW
       BACKLIGHT             OFF
       SDNR                  ON         ↵
       DAY / NIGHT          AUTO       ↵
       IMAGE ADJ     ↵
       SPECIAL       ↵
       EXIT
```

2. Move and select the required function using the Up and Down button.

● Move the arrow indicator Up or Down to select the desired feature by pressing the Up or Down button.

```
                    MAIN SETUP

    ▶  LENS                    DC        ↵
       EXPOSURE      ↵
       WHITE BAL              ATW
       BACKLIGHT             OFF
       SDNR                  ON         ↵
       DAY / NIGHT          AUTO       ↵
       IMAGE ADJ     ↵
       SPECIAL       ↵
       EXIT
```

3. Changing menu settings using the Left or Right button.
● Available values or Status are displayed by pressing the Left or Right buttons.
  Press the button until desired value / status is displayed.
4. After completing the setting move the arrow indicator to EXIT and press the SET button to EXIT.
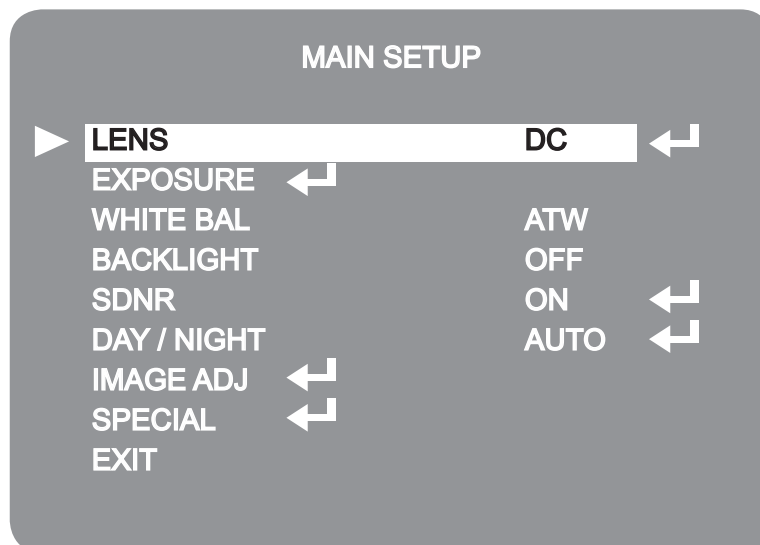
NOTE

● Move to available submenu by moving ↵ arrow to desired feature.

● Submenu is not available when this symbol is displayed " -----".

Lens

This function controls the image brightness.
  I. Move the arrow indicator to LENS using the Up and Down buttons on the Set Up menu screen.
  2. Select the desired lens type by pressing the Left or Right button.

```
              MAIN SETUP

 ►  LENS                   DC      ↵
    EXPOSURE      ↵
    WHITE BAL             ATW
    BACKLIGHT            OFF
    SDNR                  ON       ↵
    DAY / NIGHT          AUTO      ↵
    IMAGE ADJ     ↵
    SPECIAL       ↵
    EXIT
```
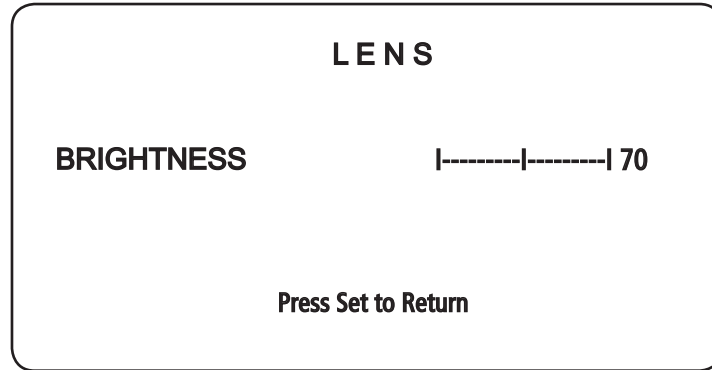
→ DC : DC Auto IRIS Lens

● When DC is selected the brightness can be adjusted.

The brightness control range is 1 ~ 70.

```
┌──────────────────────────────────────────┐
│                 L E N S                   │
│                                           │
│   BRIGHTNESS          I--------I--------I 70 │
│                                           │
│              Press Set to Return          │
└──────────────────────────────────────────┘
```
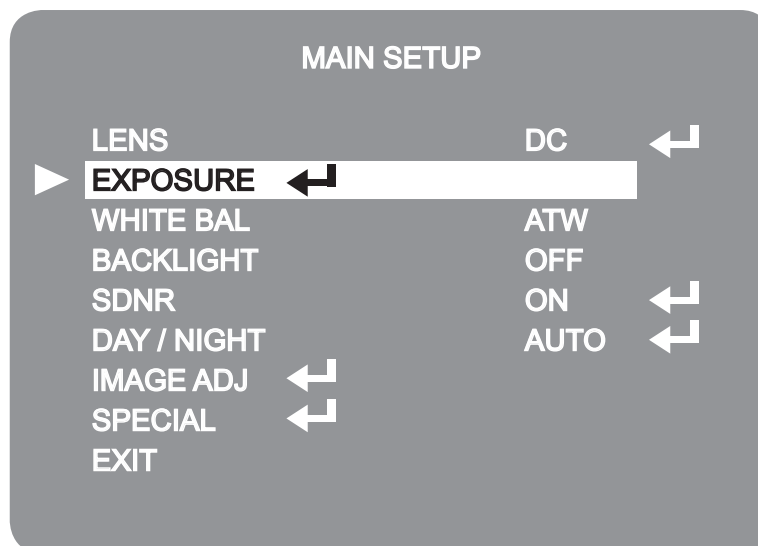
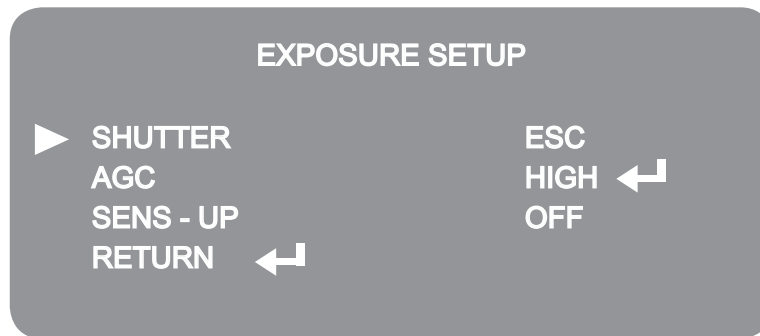3. Press the SETUP button to return to the previous menu.

Exposure ((((

This function is used to select Automatic or Manual shutter speed control.

I. On the Set Up menu screen select EXPOSURE by using the Up or Down button.

2. Select the desired shutter mode by pressing the Left or Right button.

```
┌──────────────────────────────────────────┐
│               MAIN SETUP                  │
│                                           │
│     LENS                 DC        ↵      │
│  ▶  EXPOSURE    ↵                          │
│     WHITE BAL            ATW               │
│     BACKLIGHT            OFF               │
│     SDNR                 ON        ↵      │
│     DAY / NIGHT          AUTO      ↵      │
│     IMAGE ADJ   ↵                          │
│     SPECIAL     ↵                          │
│     EXIT                                   │
└──────────────────────────────────────────┘
```

◈ FLK: Select FLK mode when flickering occurs; caused by the unmatched frequency of electric lights.

◈ ESC: Automatic shutter speed control. The image brightness is automatically controlled when ESC mode is selected.

◈ MANUAL: Shutter speed can be selected manually.

```
                    EXPOSURE SETUP

    ▶   SHUTTER                    ESC
        AGC                        HIGH  ↵
        SENS - UP                  OFF
        RETURN     ↵
```

┌───┐
│ ┌──────────────────┐   │
│ │   NOTE   │   │
│ └──────────────────┘   │

● To produce better results with FLK, do not use it in conjunction with the WDR mode in the
   BACKLIGHT menu.
● When the SHUTTER is set to ESC and the CAMERA is using internal synchronisation, the picture
   may become unstable if the camera is facing a bright fluorescent light.
   So take special care when choosing the installation position.
● When the SHUTTER is set to MANUAL or FLK mode, SENS-UP will be disabled.
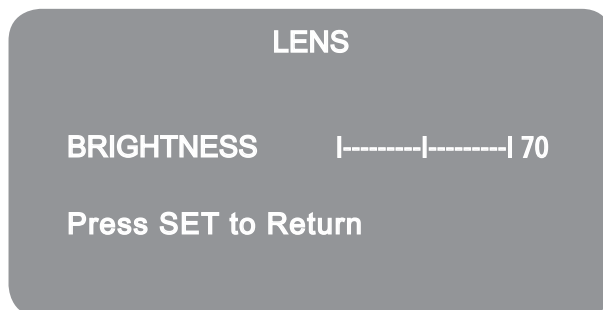● ESC and MANUAL modes are only available together when the lens is set to MANUAL.

◈ AGC(AUTO GAIN CONTROL):
   A higher gain increases brightness but also increases any noise.

   OFF: Deactivates the AGC function.
   LOW: Allows automatic gain control from 0 ~ 30dB.
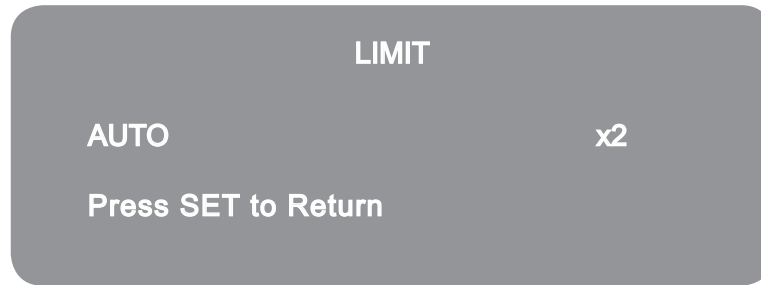   HIGH: Allows automatic gain control from 0 ~ 42dB.

```
                         LENS


    BRIGHTNESS        I---------I---------I 70

    Press SET to Return
```

◈ SENS - UP:

At night and/or in dark conditions, the camera automatically detects the light level and maintains a clear picture when this mode is activated.

OFF: Disables the SENS-UP function.
AUTO: Enables the SENS-UP function.

```
                          LIMIT

        AUTO                              x2

        Press SET to Return
```

◈ RETURN:

Select Return to save the changes in the EXPOSURE menu and retun to the SETUP menu.

NOTE

● Pressing the SET button in AUTO mode allows adjustment of image brightness by increasing or decreasing the shutter speed (x2 ~ x256).

● The higher the level, the brighter the image becomes, but it is possible that an after the image (ghosting) could appear.

● When SENS-UP is activated the increased magnification can induce noise and pixelation; this is quite normal.

White Balance

The White Balance function is used to control the "on-screen" colours.

  I. Move the arrow indicator to WHITE BAL on the SETUP menu screen using the Up and Down button.

  2. Select the desired mode by using the Left or Right button.

```
                        MAIN SETUP

        LENS                    DC        ⏎
        EXPOSURE        ⏎
   ▶    WHITE BAL               ATW
        BACKLIGHT               OFF
        SDNR                    ON        ⏎
        DAY / NIGHT             AUTO      ⏎
        IMAGE ADJ       ⏎
        SPECIAL         ⏎
        EXIT
```
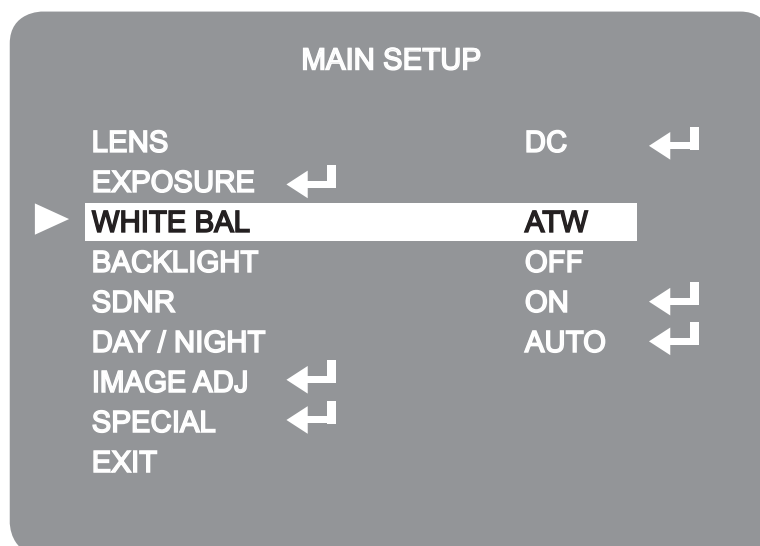
* There are three user selectable White Balance settings available.

◈ ATW: Normal setting; when the colour temperature range is from 1,800 • K to 10,500 • K.

   INDOOR: Select this mode when the colour temperature range is between 4,500 • K to 8,500 • K.

   OUTDOOR: Select this mode when the colour temperature range is between 1,800 • K to 10,500 • K.

◈ AWC → SET: To obtain the best results press the SET button while the camera is focused onto white

               paper. If the environment, and/or light source changes, the White Balance will require

               re-adjustment.

◈ MANUAL: Used for fine adjustment of White Balance. Set White Balance first using ATW or AWC then

            change to MANUAL and press SETUP button. Increase or decrease the value of R-Gain(Red)

            and B-Gain(Blue) while monitoring the colour of the image.
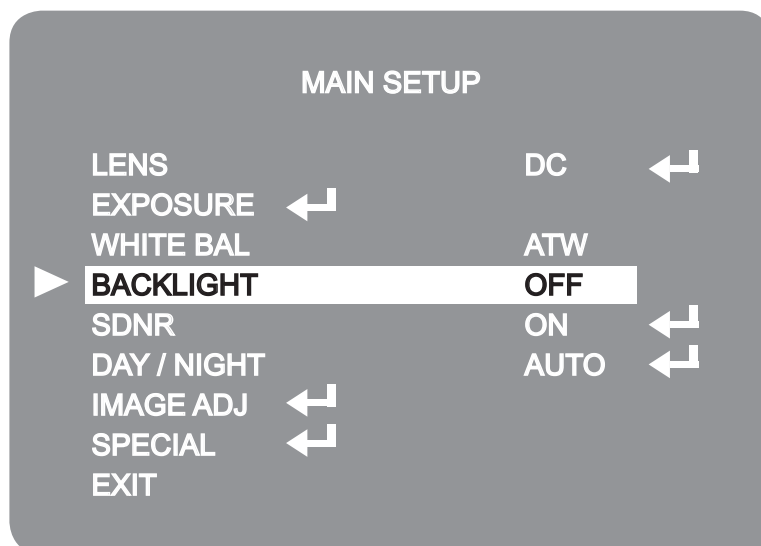
```
                        MANUAL

        RED     ------------------------------ 256

        BLUE    ------------------------------ 256

        Press SET to Return
```

Back Light (BLC)

This camera provides intelligent light level control to overcome even strong backlight conditions.

I. Move the arrow indicator to BACKLIGHT using the Up or Down button on the SETUP menu screen.

2. Select the desired level by using the Left or Right button.

```
                    MAIN SETUP

        LENS                  DC      ↵
        EXPOSURE     ↵
        WHITE BAL             ATW
    ►   BACKLIGHT             OFF
        SDNR                  ON      ↵
        DAY / NIGHT           AUTO    ↵
        IMAGE ADJ    ↵
        SPECIAL      ↵
        EXIT
```

◆ WDR : When there are simultaneous brightness & dark image areas WDR makes both distinct.

◆ OFF: WDR function does not operate.

◆ BLC: Users can select and define a specific area in a scene and view the area clearly.

◆ HLC: If there is a high light installed in a limited environment such as an apartment parking garage or gas station entrance,removing the high light makes it possible to view car license plates efficiently.

WDR ON   WDR OFF

. Select a mode using the Left and Right buttons then press the SET button.

Select WDR to ad ust the WDR LIMIT and LE EL.

◆ LIMIT: Ad ust the WDR sensitivity by selecting LOW, MIDDLE or HIGH.

◆ LE EL: Ad ust the WDR brightness between   .


```
                    WDR LIMIT

LIMIT    ---------------------------- LOW
LEVEL    ---------------------------- 100

Press SET to Return
```

Select BLC to define the backlight enhancement area and the enhancement level.


```
                    BLC SETUP

TOP      ----------------------------- 85
BOTTOM---------------------------- 132
LEFT     ----------------------------- 91
RIGHT    ----------------------------- 165
LEVEL    ----------------------------- LOW
Press SET to Return
```

HLC : Enable a user to select a mask color of high light area from picture.
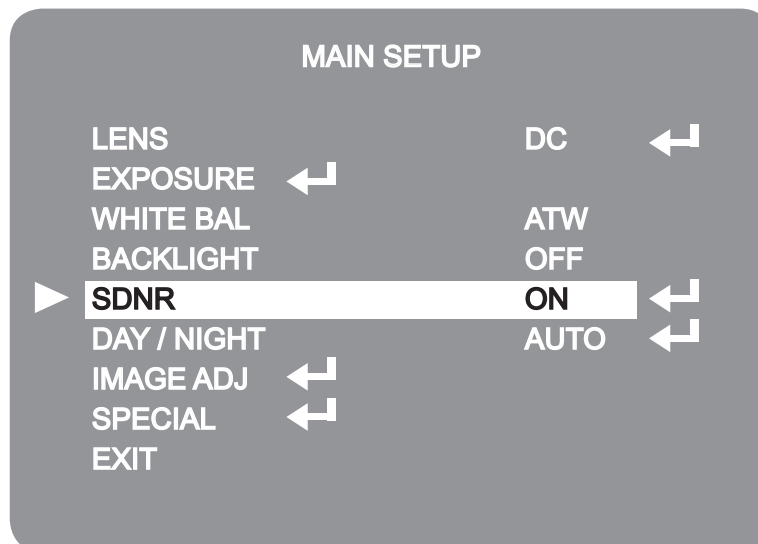


```
                    HLC SETUP

MASK COLOR  ---------------------·

Press SET to Return
```

SDNR

SDNR is used to reduce the level of background noise in a low luminance environment.

I. When the SETUP menu screen is displayed select SDNR using the Up and Down button.

```
              MAIN SETUP

    LENS                  DC      ↵
    EXPOSURE      ↵
    WHITE BAL             ATW
    BACKLIGHT             OFF
 ▶  SDNR                  ON      ↵
    DAY / NIGHT           AUTO    ↵
    IMAGE ADJ     ↵
    SPECIAL       ↵
    EXIT
```

2. Select whether or not to activate SDNR by using the Left and Right buttons.

◈ ON: Activates SDNR - noise is reduced.

◈ OFF: Deactivates SDNR - noise is not reduced.

3. Select the SDNR mode to ON and press the SET button to adjust noise reduction level.

```
                    SDNR

    LEVEL  ----------------------------- 20

    Press SET to Return
```
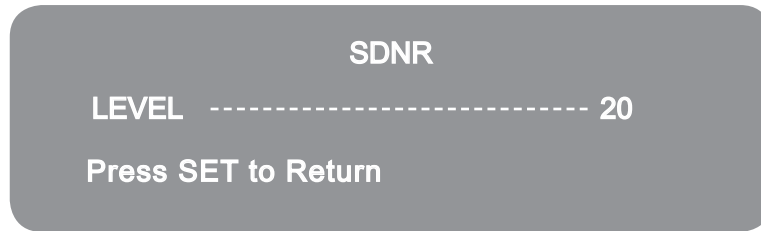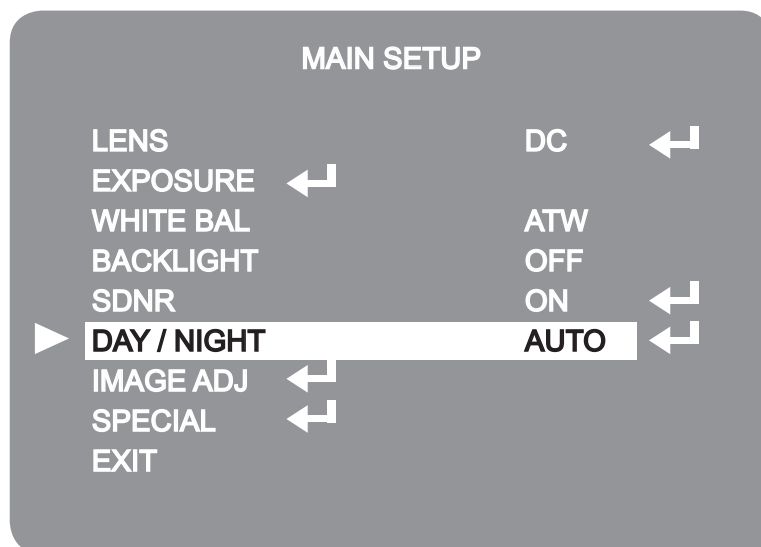
NOTE

- SDNR cannot be set to ON or OFF when AGC is OFF, AGC mode is in the EXPOSURE menu .
- When adjusting the SDNR noise reduction level, please remember that when higher SDNR levels are set noise is greatly reduced, but this can cause ghosting to occur.

Day / Night ((((

Picture can be displayed in either colour or black and white.

I. Select DAY / NIGHT using the Up or Down button on the MAIN SETUP menu screen.

```
                MAIN SETUP

    LENS                    DC        ↵
    EXPOSURE      ↵
    WHITE BAL               ATW
    BACKLIGHT               OFF
    SDNR                    ON        ↵
 ►  DAY / NIGHT             AUTO      ↵
    IMAGE ADJ     ↵
    SPECIAL       ↵
    EXIT
```
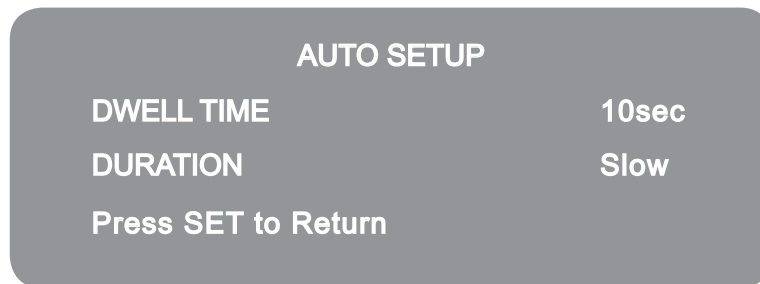
2. Select the desired mode using the Left and Right buttons.

COLOUR: The picture is always displayed in colour.

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

AUTO: The mode automatically switches to COLOUR in normal conditions and switches to B/W mode when ambient illumination is low. To set the switching time or speed in AUTO mode, press the SET button.

```
                    AUTO SETUP

DWELL TIME                      10sec
DURATION                        Slow

Press SET to Return
```

DWELLTIME: Adjust the delay when changing between COLOUR and B/W.

→ 5s,7s,10s,20s,30s,40s,50s,60s.

DURATION: The illumination brightness can be used to control switchover.

	Colour → B/W	B/W → Colour
Fast	2.5 Lux	4 Lux
Slow	0.8 Lux	6 Lux

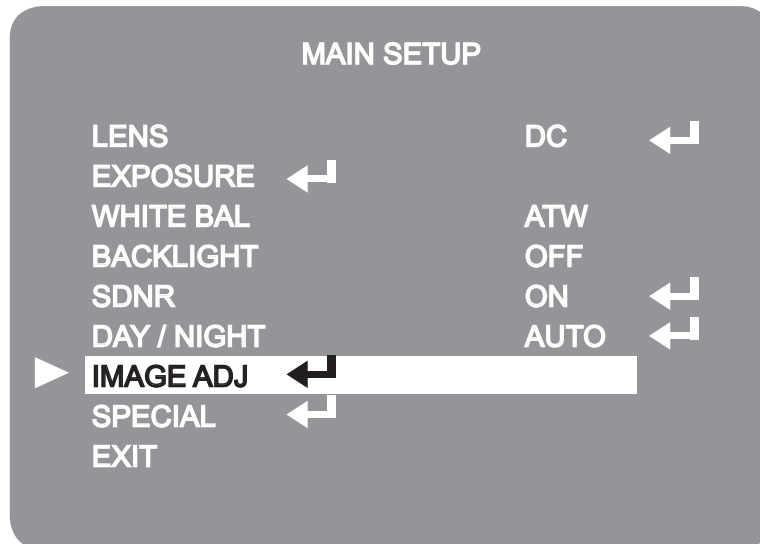* The environmental illumination is extremly changeable.

EXTERN :This mode allows the application of a filter to external signals.
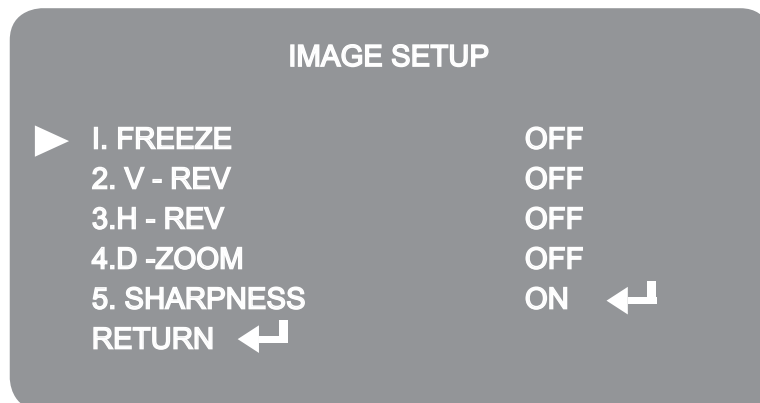
NOTE

- When using Video Drive lens with the lens level set to low, it automatic switching between colour and monochrome may not occur.

- The DAY/NIGHT menu cannot be controlled if AGC is set to OFF in the EXPOSURE menu.
  In instance, where DAY/NIGHT is already selected and AGC is switched off the camera functions as if in COLOUR mode.

- The OSD key does not work for 3 seconds when switching between COLOUR and B/W, this is to ensure stable camera operation.

- The camera responds well to infra-Red as it equipped with an Infra-Red Cut-Filter.

- Since the camera may not focus as well under infrared illumination at night as it does under normal illumination, install an Extra-Low dispersion lens to obtain sharp pictures.

Image Adj.

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

```
                    MAIN SETUP

     LENS                    DC        ←┘
     EXPOSURE      ←┘
     WHITE BAL               ATW
     BACKLIGHT               OFF
     SDNR                    ON        ←┘
     DAY / NIGHT             AUTO      ←┘
  ▶  IMAGE ADJ       ←┘
     SPECIAL            ←┘
     EXIT
```

2. Select the desired mode by using the Up or Down button.

```
                   IMAGE SETUP

  ▶  I. FREEZE                OFF
     2. V - REV               OFF
     3.H - REV                OFF
     4.D -ZOOM                OFF
     5. SHARPNESS             ON       ←┘
     RETURN     ←┘
```
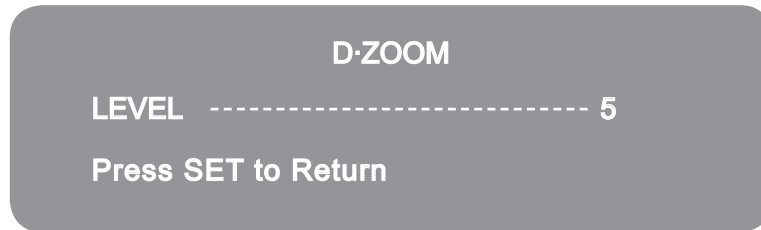
FREEZE: Image freezing or moving Image.

V - REV: Flip the image vertically on the screen.

H - REV: Flip the image horizontally on the screen.

D - ZOOM : Digital zoom available, range x1 ~ x I0.

```
                        D·ZOOM

        LEVEL   -------------------------- 5

        Press SET to Return
```

SHARPNESS: Improves image clarity. The level can be adjusted to obtain an improved image.

                  However, when the level is set too high it can distort the image or cause noise.
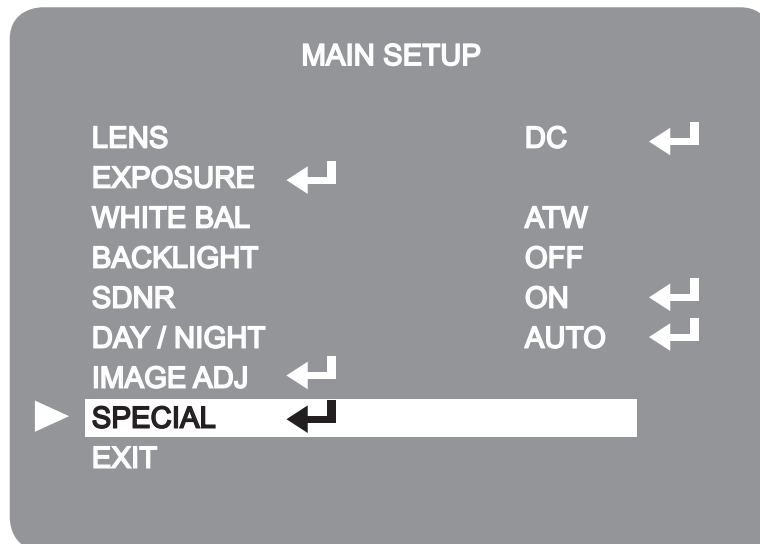
```
                       SHARPNESS

        LEVEL   ----------------------------- 10

        Press SET to Return
```

RETURN: Select Return and press SET to save the settings for the IMAGE Adj. menu and return to the SETUP
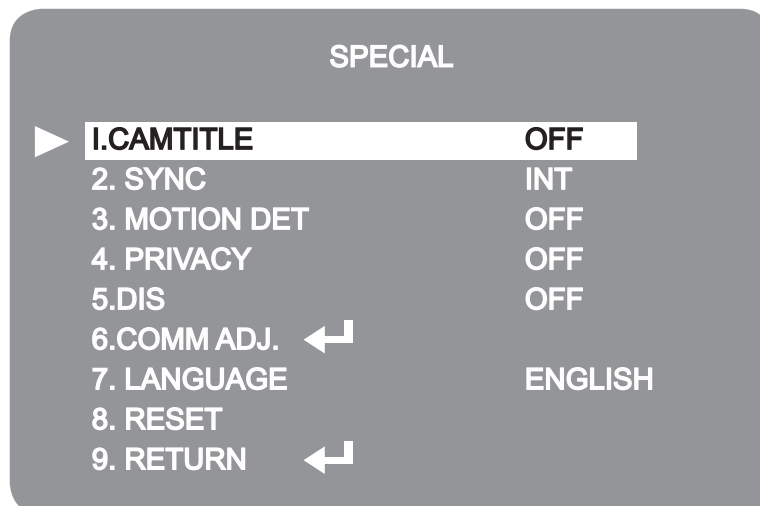
           menu.

NOTE

- When H - REV or V - REV is selected, any text in the picture also will be flipped horizontally or vertically.
- If the SHARPNESS level is set too high, the picture may become distort or noise may appear.

Special

When the SETUP menu screen is displayed, select SPECIAL using the Up and Down buttons.

```
                    MAIN SETUP


        LENS                    DC        ↵
        EXPOSURE      ↵
        WHITE BAL               ATW
        BACKLIGHT               OFF
        SDNR                    ON        ↵
        DAY / NIGHT             AUTO      ↵
        IMAGE ADJ     ↵
  ▶     SPECIAL       ↵
        EXIT
```

Select one of the mode using the Up and Down button.

```
                     SPECIAL


  ▶     I.CAMTITLE              OFF
        2. SYNC                 INT
        3. MOTION DET           OFF
        4. PRIVACY              OFF
        5.DIS                   OFF
        6.COMM ADJ.   ↵
        7. LANGUAGE             ENGLISH
        8. RESET
        9. RETURN     ↵
```

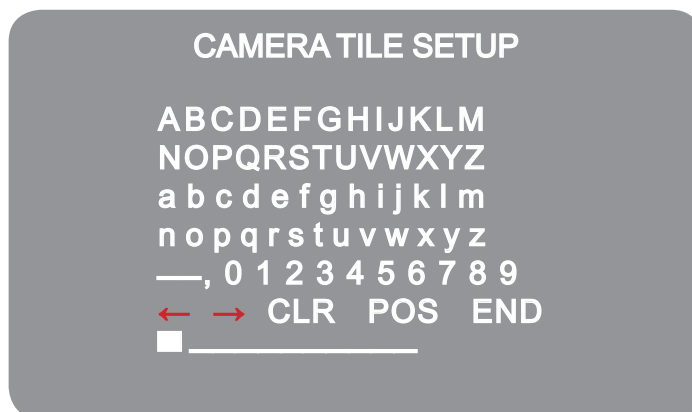1. CAM TITLE: When input, the Camera ID is displayed on the monitor.

1-1) Move the arrow indicator to CAMERA ID using the Up or Down button on the SETUP menu screen.
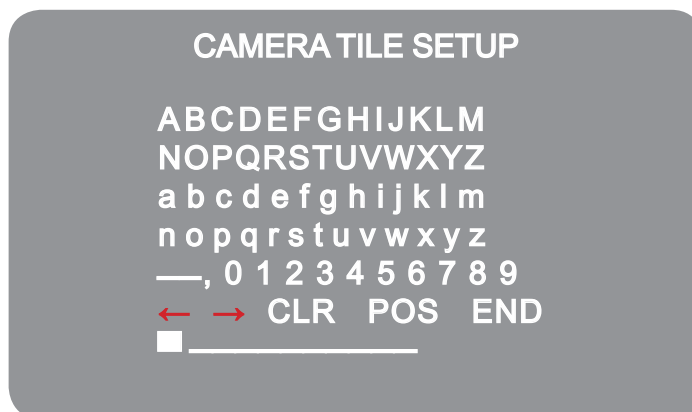
1-2) Set to ON using the Left or Right button.

1-3) Press the SETUP botton.

```
        CAMERA TILE SETUP

   A B C D E F G H I J K L M
   N O P Q R S T U V W X Y Z
   a b c d e f g h i j k l m
   n o p q r s t u v w x y z
   ——, 0 1 2 3 4 5 6 7 8 9
   ←  →  CLR  POS  END
   ■ _____
```

1-4) The CAMERA TITLE can be up to 15 alphanumeric characters in length.

① Move the cursor to choose an alphanumeric character.

```
        CAMERA TILE SETUP

   A B C D E F G H I J K L M
   N O P Q R S T U V W X Y Z
   a b c d e f g h i j k l m
   n o p q r s t u v w x y z
   ——, 0 1 2 3 4 5 6 7 8 9
   ←  →  CLR  POS  END
   ■ _____
```

② Choose a character in displayed range A-Z, a-z, 0-9 using the Up, Down, Left and Right buttons.

③ Select the desired character by pressing the SETUP button.

- The cursor moves to the next position, after character input by pressing the SETUP button.
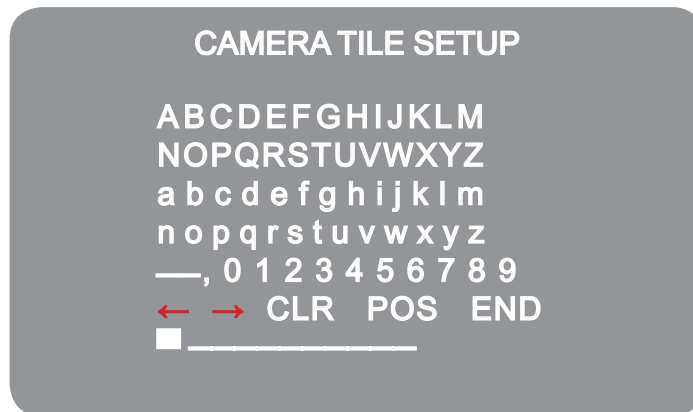
④ Repeat the above steps until the Camera ID has been created.

● In cases where the wrong Camera ID has been input........

Move the cursor to CLR and press SETUP button to erase characters from left to right, and repeat

the above steps to input the characters again.

1-5) To select the position where the Camera ID should be displayed on the screen.

① Move the cursor to POS and press the SET button.


```
CAMERA TILE SETUP

A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z
a b c d e f g h i j k l m
n o p q r s t u v w x y z
──, 0 1 2 3 4 5 6 7 8 9
←  →  CLR  POS  END
■_____
```

② Created camera ID is displayed.

(Factory default position)

CAM I

③ Select a new position by using the four
directional buttons. Press the SET button
to confirm the position.

1-6) Move the cursor to END and press the SET button after completing the above process.

   2. SYNC:

      -INT : Internal Synchronisation

3. MOTION DETECTION(MD):
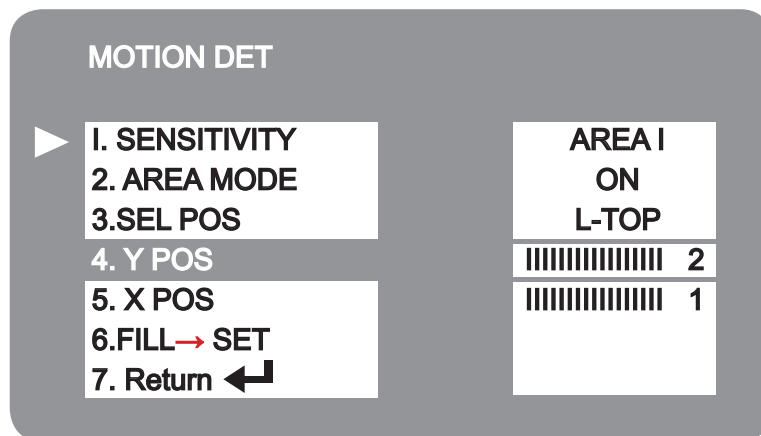
3-1) When the special menu screen is displayed use the Up or Down botton to access the MOTION DET. menu.

3-2) Set up the detection areas using the four direction buttons.

① SENSITIVITY: Select up to 8 MD areas. When the SENSITIVITY is set too high, motion detection sensitivity
                is increased and responds to even small movements.

② AREA MODE: Determines whether the MD area selected in SENSITIVITY is used.

③ SEL POS: Determines which of the four vertices of each MD area is to be used.

④ Y POS: Determines the coordinates of the vertical axis for SEL POS.

⑤ X POS: Determines the coordinates of the horizontal axis for the SEL POS.

⑥ FILL → SET: Fills in a selected MD area. The colour filling is sequentially selected as brown, orange, blue,
                cyan, green, yellow, magenta and red.

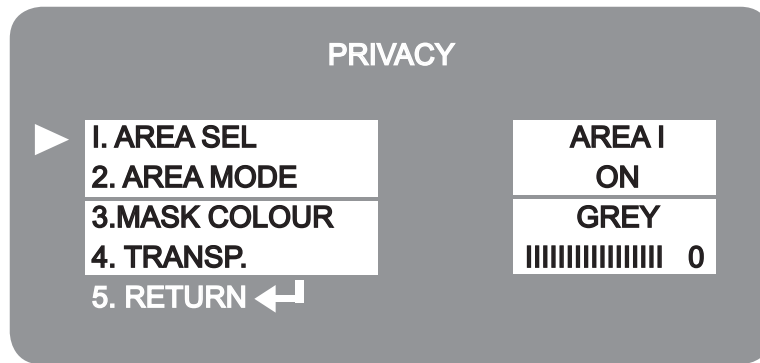⑦ RETURN: Select this to save the MOTION DET. menu settings and return to the SPECIAL menu.

NOTE

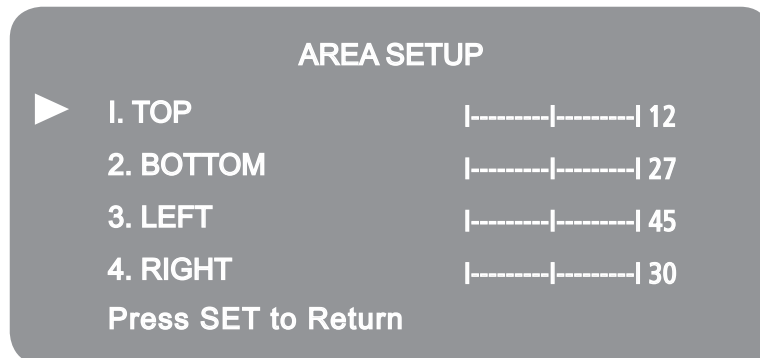● MD area only shown on the MOTION DET. menu. MD areas are not displayed on the monitor screen.

4. PRIVACY

Hide an area you want to hide on the screen.

4-1) When the SPECIAL menu screen is displayed press the Up and Down buttons to set to PRIVACY.

```
                    PRIVACY

   ▶  I. AREA SEL              AREA I
      2. AREA MODE                ON
      3.MASK COLOUR             GREY
      4. TRANSP.          IIIIIIIIIIIIIII  0
      5. RETURN ↵
```

4-2) Set up the area mode using the 4 direction buttons.

① AREA SEL: You can select up to 8 MD area.

② AREA MODE: Determines whether to use the area selected in the AREA SEL, and the size and the position
of the area.

```
                 AREA SETUP

   ▶  I. TOP           |---------|---------| 12
      2. BOTTOM        |---------|---------| 27
      3. LEFT          |---------|---------| 45
      4. RIGHT         |---------|---------| 30
      Press SET to Return
```

③ MASK COLOUR: Set area colour. Select either Gray, Green, Red, Blue, Black and White.

④ TRANSP.: Determines the transparency of selected area, the range is 0 ~ 3.

⑤ RETURN: Select to save the PRIVACY menu settings and return to the SPECIAL menu.

5. DIS (Digital Image Stabiliser)

This picture negates any picture movement due to external factors, such as, wind.

- The chance of resolution decrease exists with the DIS function and the digital zoom.
- DIS does not operate if the background illumination is too low.
- DIS does not operate when the object pattern is monotonic, such as, blue sky or white walls.

6. COMM Adj. (Communication Adjustment) :- Operation for RS485 Connection.

This function sets up the camera communication status when controlling the camera through

an external control device. ----(NOT AVAILABLE ON WDR CAMERA SERIES.)

```
            COMMUNICATION SETUP

 ▶   I. CAM ID              IIIIIIIIIIIIIIII  1
     2. BAUD RATE                 9600
     3.UART MODE                  8-N-1
     4. RET PKT                  ENABLE
     5. DISP ID                   OFF
```

6-1) When the SPECIAL menu screen is displayed, press the UP and DOWN buttons to adjust "COMM ADJ"
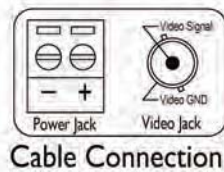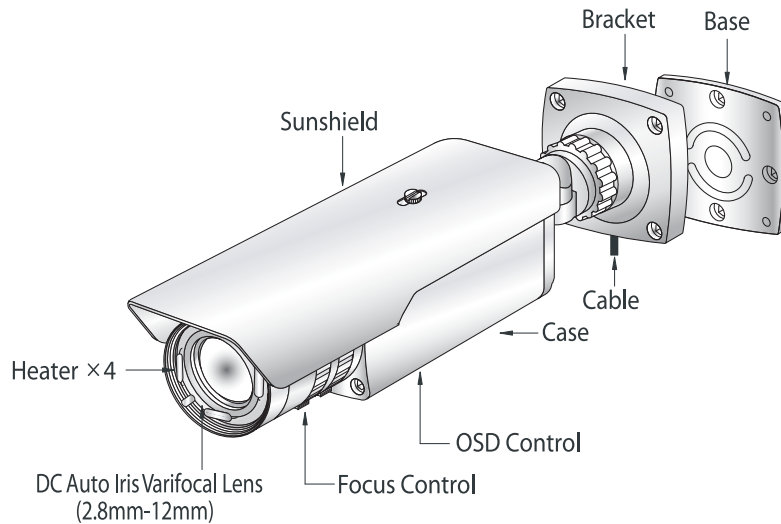
6-2) Set up the mode using the 4 direction buttons.

① CAM ID: Determines the camera's identification number(between 0 and 25).

② BAUD RATE: You can select 2400/ 4800/ 9600/ 19200/ 38400/ 57600 bps.

③ UART MODE: You can select NONE, EVEN, ODD for parity bits.

④ RET PKT: Determines whether to send a command back to the controller device when a communication
             control command is sent to the camera.

⑤ DISP ID: Display camera title on top left of the screen.

7. LANGUAGE: Select the menu language according to local requirements through the multi language settings.

8. RESET: Resets the camera settings to the factory defaults.

9. RETURN: Select this to save the SPECIAL menu settings and return to the SETUP menu.

EXIT ((((

Press the SET button in the EXIT menu to save the current settings and exit the SETUP menu.

Bracket   Base

Sunshield

Cable

Case

Heater ×4

OSD Control

DC Auto Iris Varifocal Lens
(2.8mm-12mm)

Focus Control

NIGHT   DAY
FILTER CHANGE
True Day & Night
(ICR-IR Cut Filter Removable)

Video Signal

Video GND
Power Jack   Video Jack
Cable Connection

* Camera Adjustment

① Connect Video & Power Line (AC 24V or DC 12V Regulated Power)

② Position the camera for the correct angle of view.

③ Loosen the locking screws and focus the camera.

④ Re-tighten the locking screws.

PROBLEM	POSSIBLE CAUSE
Northing appears on the screen.	☞ Check the power cable, power supply output and video connection between the camera and monitor.
The image on the screen is dim.	☞ Are the camera lens or the lens glass dirty? Clean the lens /glass with a soft clean cloth. ☞ Adjust the monitor controls, as required. ☞ If the camera is facing a very strong light, change the camera position. ☞ Adjust the lens focus.
The image on the screen is dark.	☞ Adjust the contrast control of the monitor. ☞ If there is an intermediate device, correctly set the 75Ω/ Hi-z.
The camera is not working properly and the surface of the camera is hot.	☞ Check the camera is correctly connected to an appropriate regulated power source.
Motion Detection function is not activated.	☞ Has MOTION DET been set to ON in the menu? ☞ Has MD AREA been properly defined?
The colour of the picture is not correct.	☞ Check the settings in WHITE BALANCE menu.
The image on the screen flickers.	☞ Make sure that the camera isn't facing direct sunlight or fluorescent lighting. If necessary, change the camera position.
The SENS-UP does not work.	☞ Check that the AGC setting in the EXPOSURE menu isn't set to OFF. ☞ Check the EXPOSURE menu and make sure SHUTTER is set to ESC.