Operation Manual

High Resolution
Digital BOX Camera

WDAC-5700C [HIGH]

Please read carefully before using and keep in a safe place.
Design and specifications are subject to change without notice.

V.11I

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK),
NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

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.

Regulatory Notice

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions :

(1)This device may not cause harmful interference, and

(2) this device must accept any interference received, including

interference that may cause undesired operation.

This equipment has been tested and found to comply with the 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 in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and use in accordance with the instructions, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause 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 users 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.

1.0 Features

- 1/3"Sony Super HAD CCD II : 410K(NTSC)/470K(PAL) pixels

- High Resolution 600 TV Lines

- Day & Night (ICR)

- Digital Wide Dynamic Range

- Digital Noise Reduction

- Privacy mask Function

- On Screen Display

- Motion detection

- Parking Line

- High Light Compensation

- IR Smart

2.0 Warnings

- **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.

3.0 Precautions

Do not install the camera in extreme temperature conditions.

Only use the camera under conditions where temperatures are between -10 Deg. C and +50 Deg. C.(14 Deg. F and 122 Deg. F) 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.

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

Do not drop the camera or subject them 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.

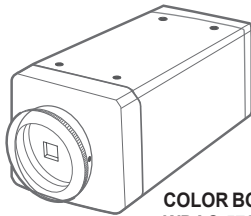**Do not expose the camera to radioactivity.**

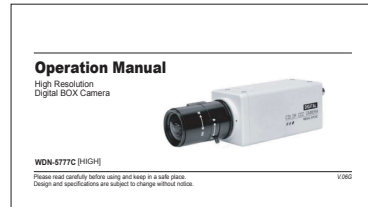If it is exposed to radioactivity, For heated CCD, it will be out of order.

Contents

4.0 Components

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C-Mount adaptor

5.0 Names and Functions of Parts
5.1 Front

❶ **Lens protection cap**
Please cover the lens when not using it.

❷ **C-Mount lens adaptor**
Please attach the C-Mount lens here.

❸ **CS-Mount lens adaptor**
Please remove the C-MOUNT lens adaptor and then attach it.

❹ **Back Focus clamp screw**
Please loosen the clamp screw with a screwdriver
before adjusting the Back Focal length.
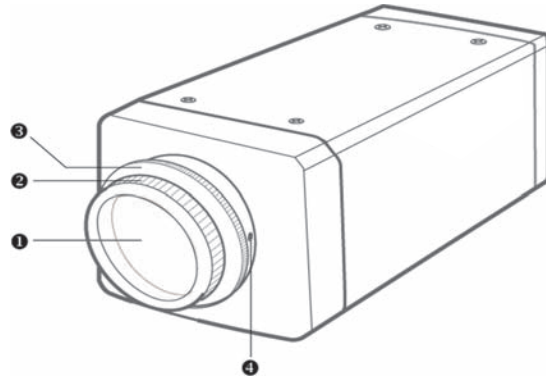
5.2 Bottom

5 **Mounting bracket screw hole**
Please use the screw hole when fixing the camera onto the mounting bracket.
Please use the clamp screw as specified below.

❑ The mounting bracket can be separated
and attached to the top of the camera.
In this instance please do not tighten
the screw to a depth of more than 5mm,
otherwise serious damage can occur
to the inside of the camera.

6 **MIC. Microphone**
MIC. Input.
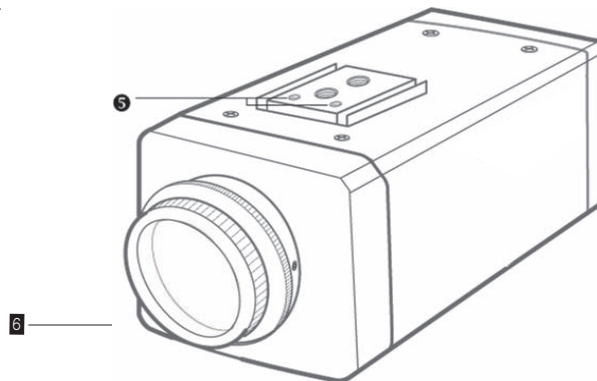
5.3 Back

1 Video output terminal
Sends video signals and connects to the video input terminal of the monitor.

2 Audio output terminal

Sends audio signals and connects to the audio input terminal of the monitor.

3 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.

It is Jog Controller then you move Left&Right / Up & Down.

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.

4 Power lamp
Lights up when the correct power is supplied to the camera.

5 Lens Connector

Connects C/ CS Lens mount

6 Power input terminal
Connects to the power appropriate to each model.
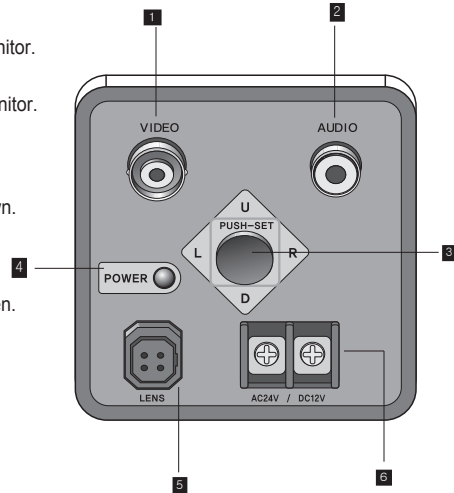
6.0 Installation

6.1 Lens
Lenses are sold separately. Lenses such CS-Mount lens and C-Mount lens can be used.

• When using a C-Mount lens
Please take off the lens protection cap and attach the
C-Mount lens to the camera by screwing it in clockwise.
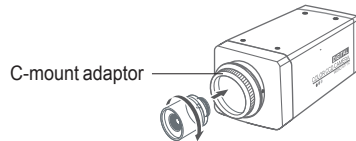
C-mount adaptor

• When using a CS-Mount lens
➊ Please take off the lens protection cap and C-mount adaptor.
➋ Please attach the CS-Mount lens to the camera by
screwing it in clockwise.

C-mount adaptor

Lens protection cap   C-mount adaptor
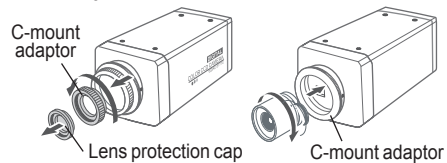
6.2 Connecting to a Monitor
Please connect the video output terminal located on the back of the camera to the monitor.

6.3 Connecting to Power
Each model has a different power input specification.
Please check the model type and standard power requirement before connecting to power.

AC Power Type (AC 24V, 500mA)
DC Power Type (DC 12V, 500mA)
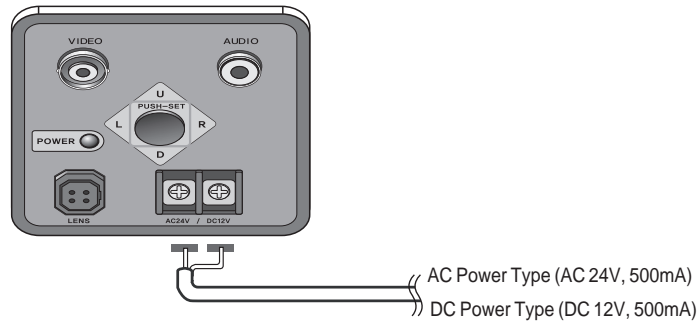
7.0 Setup Menu

7.1 MAIN MENU

```
            SETUP
LENS                DC
EXPOSURE            ↵
WHITE BAL           ATW1
BACKLIGHT           OFF
DAY&NIGHT           AUTO ↵
DPC                 ↵
SPECIAL             ↵
RESET               ↵
EXIT
```

The menu consists of the "Main Menu" and "Sub Menu".
The main menu is 8 kinds of camera functons can
be selected.To the right of each main menu selection,
the sub-menu is displayed.

LENS
• LENS : Select lens type
▷ DC /VIDEO / MENUAL

7.2 EXPOSURE

```
            SETUP
LENS                DC
EXPOSURE            ↵
WHITE BAL           ATW1
BACKLIGHT           OFF
DAY&NIGHT           AUTO ↵
DPC                 ↵
SPECIAL             ↵
RESET               ↵
EXIT
```

```
          EXPOSURE
SHUTTER             AUTO
BRIGHTNESS          50
AGC                 ----
DWDR                OFF
RETURN              RET ↵
```

• SHUTTER : You can set to auto or manual mode.
  ▷ AUTO, 1/60(50), FLK, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/5000,
   1/10000, 1/100000sec

• BRIGHTNESS : You can adjust brightness level.
  ▷ 0(dark) ~ 255 (bright) steps

• AGC : You can select auto gain control level
  ▷ OFF / LOW / MIDDLE / HIGH

• DWDR : You can select WDR (Wide Dynamic Range) level.
  ▷ DWDR : OFF / ON
    ▶ LEVEL : 0~35 steps

7.3 WHITE BALANCE

SETUP	
LENS	DC
EXPOSURE	↵
WHITE BAL	ATW1
BACKLIGHT	OFF
DAY&NIGHT	AUTO ↵
DPC	↵
SPECIAL	↵
RESET	↵
EXIT	

→

WB MANUAL	
COLOR TEMP	MANUAL
BLUE	111
RED	095
RETURN	RET ↵
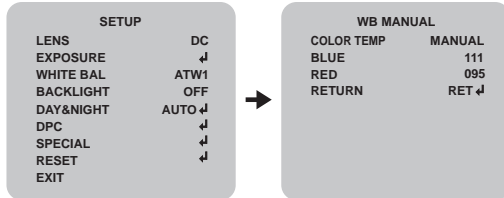
- WHITE BAL : You can select white balance mode.
  ▷ ATW1 / ATW2 / AWC → SET / MANUAL
    (INDOOR / OUTDOOR /MANUAL)
    ▶ ATM1 : Automatically adjusts color according to the available lighting. (2500°K → 9500°K)
    ▶ ATW2 : Automatically adjusts color according to the available lighting. (2300°K → 10000°K)
    ▶ AWC→SET : It is a fixed white balance mode that may be automatically readjusted only by
    ▶ pressing SET Button in ONE PUSH mode.
    ▶ OUTDOOR : Set color temperature to be Outdoor light (5400°K)
    ▶ INDOOR : Set color temperature to be Indoor light (3200°K)
    ▶ MANUAL : Color can be corrected when the user increases or decreases " Red Gain" or
              "Blue Gain"
      ▶ RED GAIN : Adjust R gain value 0 ~ 255
      ▶ BLUE GAIN : Adjust B gain value 0 ~ 255

7.4 BACKLIGHT

SETUP	
LENS	DC
EXPOSURE	↵
WHITE BAL	ATW1
BACKLIGHT	OFF
DAY&NIGHT	AUTO ↵
DPC	↵
SPECIAL	↵
RESET	↵
EXIT	

→

BLC	
AREA SEL	AREA1
AREA STATE	ON
GAIN	042
HEIGHT	005
WIDTH	004
LEFT/RIGHT	006
TOP/BOTTOM	005
RETURN	RET ↵

- BACKLIGHT :Select OFF / BLC / HLC
  ▷ BLC (Back Light Compensation)
    ▶ BLC : Select area, gain
    ▶ AREA SEL : Select AREA1, AREA2
    ▶ AREA STATE : Select OFF / ON
    ▶ GAIN : Select 0 ~ 255 steps
    ▶ HEIGHT : Select 0 ~ 15 steps
    ▶ WIDTH : Select 0 ~ 15 steps
    ▶ LEFT / RIGHT : Select 0 ~ 15 steps
    ▶ TOP / BOTTOM : Select 0 ~ 15 steps

7.5 DAY & NIGHT

SETUP	
LENS	DC
EXPOSURE	↵
WHITE BAL	ATW1
BACKLIGHT	OFF
DAY&NIGHT	AUTO ↵
DPC	↵
SPECIAL	↵
RESET	↵
EXIT	

→

HLC	
LEVEL	200
MODE	ALL DAY
RETURN	RET ↵

▷ HLC (High Light Compensation)
  ▶ LEVEL : Select 0 ~ 255 steps
  ▶ MODE: ALL DAY, NIGHT ONLY

SETUP	
LENS	DC
EXPOSURE	↵
WHITE BAL	ATW1
BACKLIGHT	OFF
DAY&NIGHT	AUTO ↵
DPC	↵
SPECIAL	↵
RESET	↵
EXIT	

→

D&N AUTO	
DN → LEVEL	184
DN → DELAY	3SEC
ND → LEVEL	018
ND → DELAY	3SEC
RETURN	RET ↵

- DAY & NIGHT :Select AUTO / COLOR / B/W /EXT
  ▷ AUTO : Day & night Auto mode
    ▶ D→ N LEVEL : 128 ~192 steps   ▶ N→ D LEVEL : 0 ~ 64 steps
    ▶ D→ N DELAY : 1 ~ 30 SEC   ▶ N→ D DELAY : 1 ~ 30 SEC
  ▷ COLOR : Day & Night only color mode
  ▷ B/W : Day & night B/W mode
    ▶ BURST : OFF / ON
    ▶ IR SMART : OFF / ON
      ▶ R GAIN : 0 ~ 255
      ▶ HEIGHT : 0~ 15
      ▶ WIDTH : 0~ 15
      ▶ LEFT / RIGHT : 0~15
      ▶ TOP / BOTTOM : 0 ~ 15
    ▶ IR LEVEL : HIGH / LOW
  ▷ EXT : Day & Night EXT mode

7.6 DPC (Dead Pixel Compensation)

```
        SETUP
LENS              DC
EXPOSURE          ↵
WHITE BAL         ATW1
BACKLIGHT         BLC
DAY&NIGHT         AUTO ↵
DPC
SPECIAL           ↵
RESET             ↵
EXIT
```
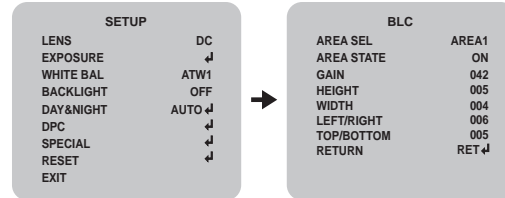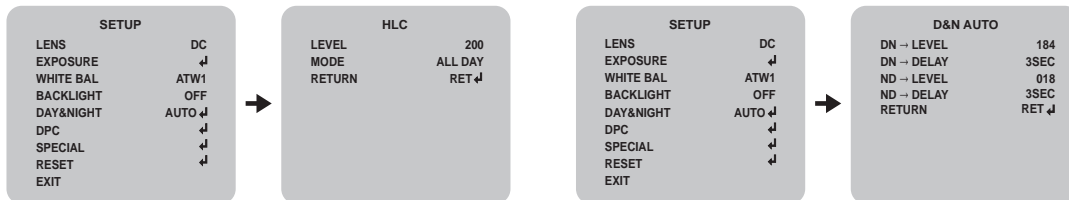
→

```
  COVER THE LENS

      THEN

  PRESS ENTER KEY
```

• DPC : Select dead pixel compensation processing

7.7 SPECIAL

```
        SETUP
LENS              DC
EXPOSURE          ↵
WHITE BAL         ATW1
BACKLIGHT         BLC
DAY&NIGHT         AUTO ↵
DPC               ↵
SPECIAL           ↵
RESET             ↵
EXIT
```

→

```
        SPECIAL
CAM TITLE         OFF
MOTION            OFF
PRIVACY           OFF
PARK.LINE         OFF
IMAGE ADJ.        ↵
COMM ADJ.         ↵
LANGUAGE          ENGLISH
VERSION           21 01 10
RETURN            RET ↵
```

• CAM TITLE : Select camera title menu (Text edit).
• MOTION : Select camera title menu (Text edit)
  ▶ AREA SEL : Select AREA1, AREA2, AREA3, AREA4
  ▶ AREA STATE : Select OFF / ON
  ▶ HEIGHT : Select 0 ~ 15 steps
  ▶ WIDTH : Select 0 ~ 15 steps
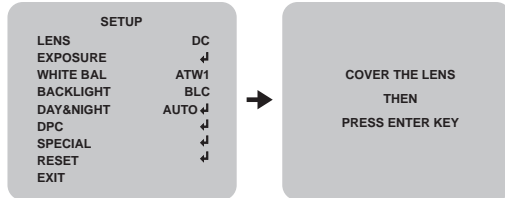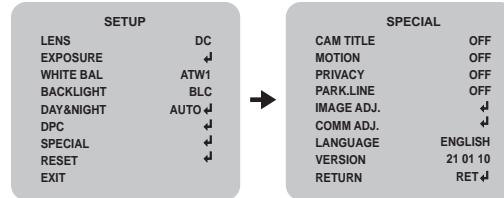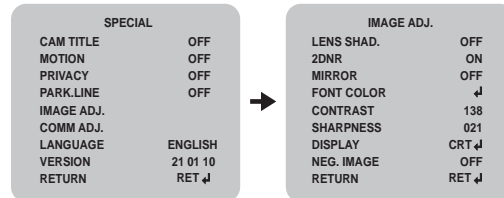 ▶ LEFT / RIGHT: Select 0 ~ 15 steps
  ▶ TOP / BOTTOM : Select 0 ~ 15 steps
  ▶ DEGREE : Select 0 ~ 255 steps
  ▶ VIEW : OFF / ON

7.7 SPECIAL

• PRIVACY : You can select Hide an area on the screen.
  ▷ AREA SEL : Select AREA1, AREA2, AREA3, AREA4, AREA5,
                AREA6, AREA7, AREA8
  ▷ AREA STATE : Select OFF / ON
  ▷ HEIGHT : Select 0 ~ 124 steps
  ▷ WIDTH : Select 0 ~ 200 steps
  ▷ LEFT / RIGHT: Select 0 ~ 200 steps
  ▷ TOP / BOTTOM : Select 0 ~ 124 steps
  ▷ COLOR : Select 0 ~ 15 steps

• PARK. LINE : You can select parking line on the screen.
  ▷ LT : You can adjust the top left area on screen.(0 ~ 255 steps)
  ▷ LB : You can adjust the bottom left area on screen.(0 ~ 255 steps)
  ▷ RT : You can adjust the top right area on screen.(0 ~ 255 steps)
  ▷ RB : You can adjust the bottom right area on screen.(0 ~ 255 steps)
  ▷ F : You can adjust the front area on screen.(0 ~ 255 steps)
  ▷ N : You can adjust the near area on screen.(0 ~ 255 steps)
  ▷ T : You can adjust the parking line thickness.(0 ~ 15 steps)

7.7 SPECIAL

```
        SPECIAL
CAM TITLE         OFF
MOTION            OFF
PRIVACY           OFF
PARK.LINE         OFF
IMAGE ADJ.
COMM ADJ.
LANGUAGE          ENGLISH
VERSION           21 01 10
RETURN            RET ↵
```

→

```
      IMAGE ADJ.
LENS SHAD.        OFF
2DNR              ON
MIRROR            OFF
FONT COLOR        ↵
CONTRAST          138
SHARPNESS         021
DISPLAY           CRT ↵
NEG. IMAGE        OFF
RETURN            RET ↵
```

• IMAGE ADJ. : You can adjust camera image.
  ▷ LENS SHAD : You can adjust lens shading on screen.
    ▶ LEVEL : 0 ~ 255 steps
  ▷ 2DNR : You can select Digital Noise Reduction on screen. (OFF/ON)
  ▷ MIRROR : You can select mirror on screen. (OFF/ON)
  ▷ FONT COLOR : You can select font color on screen.
    ▶ FONT : O ~ 15 steps
    ▶ ID & TITLE : O ~ 15 steps

7.7 SPECIAL

▷ CONTRAST : You can adjust contrast on screen. (0 ~ 255 steps)
▷ SHARPNESS : You can adjust sharpness on screen. (0 ~ 31 steps)
▷ DISPLAY : You can adjust display. (CRT / LCD / USER)

- ▶ CRT (Cathode Ray Tube, Braun tube)
    - ▶ PED LEVEL : 0 ~ 63 steps
    - ▶ COLOR GAIN : 0 ~ 255 steps

- ▶ LCD (Liquid Crystal Display)
    - ▶ GAMMA : 0.05 ~ 1.00 steps
    - ▶ PED LEVEL : 0 ~ 63 steps
    - ▶ COLOR GAIN : 0 ~ 255 steps

- ▶ USER
    - ▶ GAMMA : 0.05 ~ 1.00 steps
    - ▶ PED LEVEL : 0 ~ 63 steps
    - ▶ COLOR GAIN : 0 ~ 255 steps

▷ NEG.IMAGE : You can select negative display. (OFF/ON)

7.7 SPECIAL

```
          SPECIAL                           COMM ADJ.
CAM TITLE          OFF           CAM ID              001
MOTION             OFF           BAUD RATE          9600
PRIVACY            OFF           PROTOCOL         PELCO-D
PARK.LINET         OFF           DISPLAY ID          OFF
IMAGE ADJ.                       ID POS               ↵
COMM ADJ.                        RETURN            RET ↵
LANGUAGE        ENGLISH
VERSION         21 01 10
RETURN           RET ↵
```

- COMM ADJ. : You can adjust command.
    - ▷ CAM ID : Select the camera ID
        - ▶ 0 ~ 255
    - ▷ BAUD RATE : Select serial communication speed.
        - ▶ 2400 / 4800 / 9600 / 19200 / 38400 / 57600 bps
    - ▷ PROTOCOL : Select operating protocol
        - ▶ PELCO-D / PELCO-P
    - ▷ DISPLAY ID : Select display item.
        - ▶ OFF/ON
    - ▷ ID POS : You can adjust ID position on screen.
- LANGUAGE : You can select language
    - ▷ ENGLISH / CHINESE
- VERSION : Factory vision.
- RESET : Factory default reset.

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8 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.	• Please check the power connection. • Please check the video signal line connection. • Please check and make sure that the lens mode is set to DC (VIDEO) when using a VIDEO (DC) lens.
The video image is not clear.	• Please clean the lens with a clean cloth or brush. • Please adjust that the screen is not exposed directly to a bright light. • Please move the camera if necessary. • Please readjust the back-focus of the camera.
The screen is dark.	• Please adjust the contrast feature of the monitor. • If you have an intermediate device, set the 75Ω /Hi-Z properly, and check the terminals. • Please check if an auto iris lens is being used and adjust the brightness level.
The MOTION DETECTION function is not working	• Please check if "MOTION DETECTION" mode is turned on. • Please check if the MD Sensitivity is too low. • Please check the setting of the MD AREA.

Problems	Troubleshooting
The WDR function is not working	• Please check if the WDR Level is too low. • Please check if the AE Mode is set to MANUAL. The WDR doesn't work in MANUAL Exposure mode.
Colors are not quite right.	• 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.
The Day&Night function doesn't work	• Please check if the AGC of EXPOSURE menu is set to OFF. • The Auto Day&Night Function doesn't work in AGC OFF.

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9 Specification

Model	NTSC	PAL
Image Sensor	1/3" SONY Super HAD CCD II	
Total Pixels	811(H) × 508(V)	795(H) x 596(V)
Scanning system	2:1 Interlace	
Scanning Frequency	15.734KHz(H),59.94Hz(V)	15.625KHz(H),50Hz(V)
Sync. System	Internal	
Resolution	Max 600 TV lines in color (650TV lines in B/W)	
Min. illumination	Color : 0.1 lux , BW : 0.05 lux (0 lux @ IR LED on)	
Video Output	1.0 Vp−p (75 ohm, composite)	
S/N Ratio	more than 50dB (AGC off)	
Exposure	Shutter/Brightness/AGC/DWDR	
Lens	DC / VIDEO / MANUAL	
Gain Control	Off / Low / Middle / High	
Shutter Speed	1/60 ~ 1/100,000 sec	1/50 ~ 1/100,000 sec
DWDR	Off / On (0 ~ 35 steps)	
Flickerless	Off / On	
Brightness	0 ~ 255steps	
White Balance	ATW1 / ATW2 / AWC / Outdoor / Indoor / Manual	
BLC	Off / BLC / HLC	
BLC	Area / Gain selectable	
HLC	All Day / Night / (0~255 steps)	
Day&Night	Auto / Color / BW / Ext	
Auto	Level / Delay selectable	
BW	Burst off/on / IR Smart off/on (Gain/level selectable)	
DPC	Dead Pixels Compensation	
Special	Title / MD / PM / Parking / Image / Comm / Language / Version	

9 Specification

Model	NTSC	PAL
Cam Title	Text Edit	
Motion	Off / On (4 position)	
Privacy	Off / On (8 position)	
Park. Line	Off / On (variable size)	
Comm ADJ.	Cam ID / Baud Rate 2400, 4800, 9600, 19200, 38400, 57600	
	Protocol (Pelco-P/D) / ID Display (Position)	
Language	English / China	
Image ADJ	Lens Shad / DNR / Mirror / Font color / Contrast /	
	Sharpness / Display / Neg. Image	
Lens Shading	Off / On (0~255 steps)	
DNR	Off / On	
Mirror	Off /On	
Font Color	ID & Title / OSD Font color selectable	
Contrast	0~255 steps	
Sharpness	0~31 steps	
Display	CRT / LCD / User	
Negative Image	Off / On	
Power Source	AC24V / DC12V	
Power Input	Connector	
Operating Temperature	−10℃ ~ +50℃	
Operating Humidity	0 ~ 86% (non-condencing)	
Storage Temperature	−20℃~ +60℃	