INSTRUCTION MANUAL

Intensifier K Series

HTINT70K

(Bullet Camera)

HTINT60K

(Turret Camera)

HTINT59K

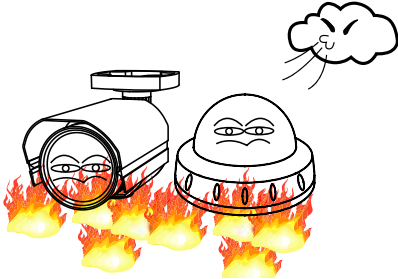(Dome Camera)
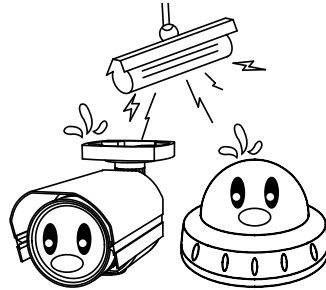
speco technologies®

Contents

Precautions

Do not install the camera in extreme temperature conditions.
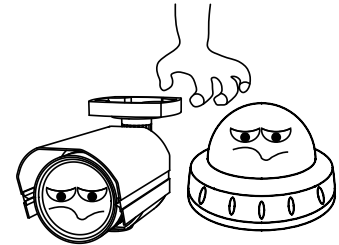
Only use the camera under conditions where temperatures are between -10°C and +50°C. Be especially careful to provide ventilation when operating under high temperatures.

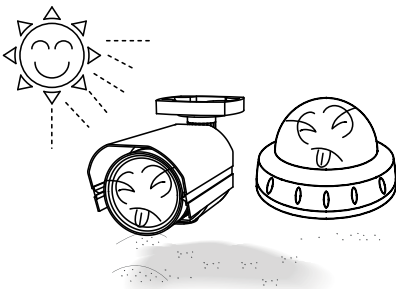Do not install the camera under unstable lighting conditions.

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.

Never keep the camera pointed directly at strong light.

It can cause malfunctions to occur.

Do not drop the camera or subject it to physical shocks.
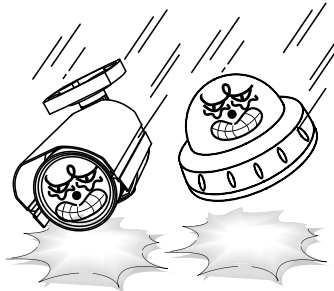
Housing damage can compromise weatherproof ratings.

Do not expose the camera to radioactivity.
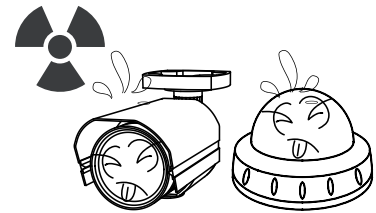
If exposed to radioactivity the CCD will fail.

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.

In USA and Canada, Use Class 2 Power Supply Only

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 int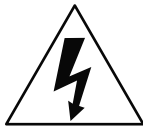erference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.
Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their 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.

Safety Instructions

Precautions for use

◑ This camera should be installed by qualified personnel only

◑ There are no user serviceable parts inside

◑ Do not disassemble this camera other than to make initial adjustments

◑ Use a UL approved regulated 24 volt AC or 12 volt DC power supply

◑ Use appropriate low voltage power cable to prevent fire or electrical shock

◑ Please insure that your installation area can support the weight of the camera

Please handle this camera carefully :

◑ Do not use a strong or abrasive detergent when cleaning the camera

◑ Do not install near cooling or heating device

Package Contents

Please make sure that the following items are included in the Package:

1) HTINT70K
- • 1 Video Test Connector, Power Jack
- • 1 Focus Adjustment
- • 1 Bracket Base
- • 1 Wrench
- • Set Screw
  - 4 Tapping Screws 4x25
  - 4 Hexagon Socket Screws M5x10

2) HTINT60K
- • 1 Video Test Connector, Power Jack
- • 2 Wrenches
- • Set Screw
  - 3 Tapping Screws 4x25

3) HTINT59K
- • 1 Video Test Connector, Power Jack
- • 1 Chameleon Cover
- • 1 Wrench
- • Set Screw
  - 3 Tapping Screws 3.5x20

CAMERA INSTALLATION

CONNECT POWER CABLE

1. WHEN USING 12 VOLTS DC (constant voltage 500 mA)

Power Input :RED

Center : (+)

DC 12V Power Supply
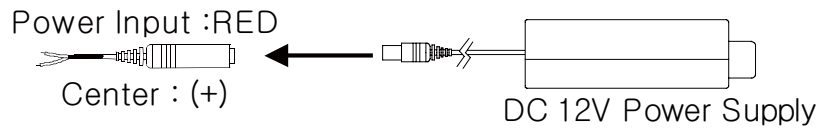
2. WHEN USING 24 VOLTS AC (40 Volt Amps)

RED(+)

BLACK:(-)

AC 24V

Power Supply

3. CONNECT VIDEO CABLE
– CONNECT BNC CABLE TO THE BNC JACK.
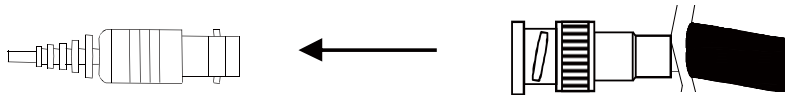
CAMERA INSTALLATION

Compatibility

1) HTINT70K
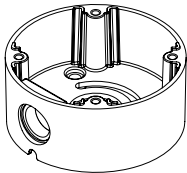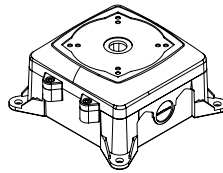
CVCJBB INTJBS INTCM
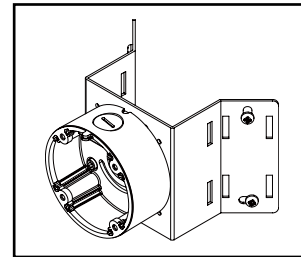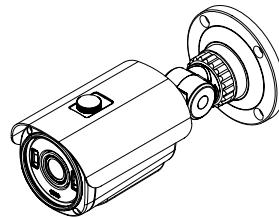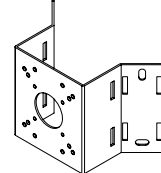
2) HTINT60K

CVCJBD
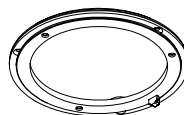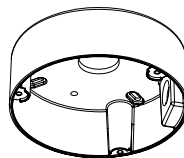
→ Adaptor plate(60PLATE) with rubber
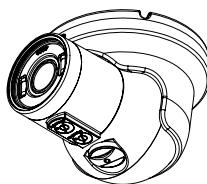
CAMERA INSTALLATION

Compatibility

3) HTINT59K

CVCJBD
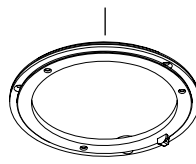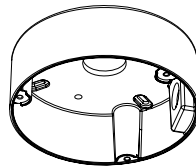
→ Adaptor plate(59PLATE) with rubber
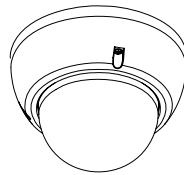
CAMERA INSTALLATION

1. HTINT70K

WALL

SCREW TS T1, 4X25, TH, SUS, 4EA

3AXIS BRACKET

SCREW M5X10, HEXAGON SOCKET, SUS, BK, 4EA
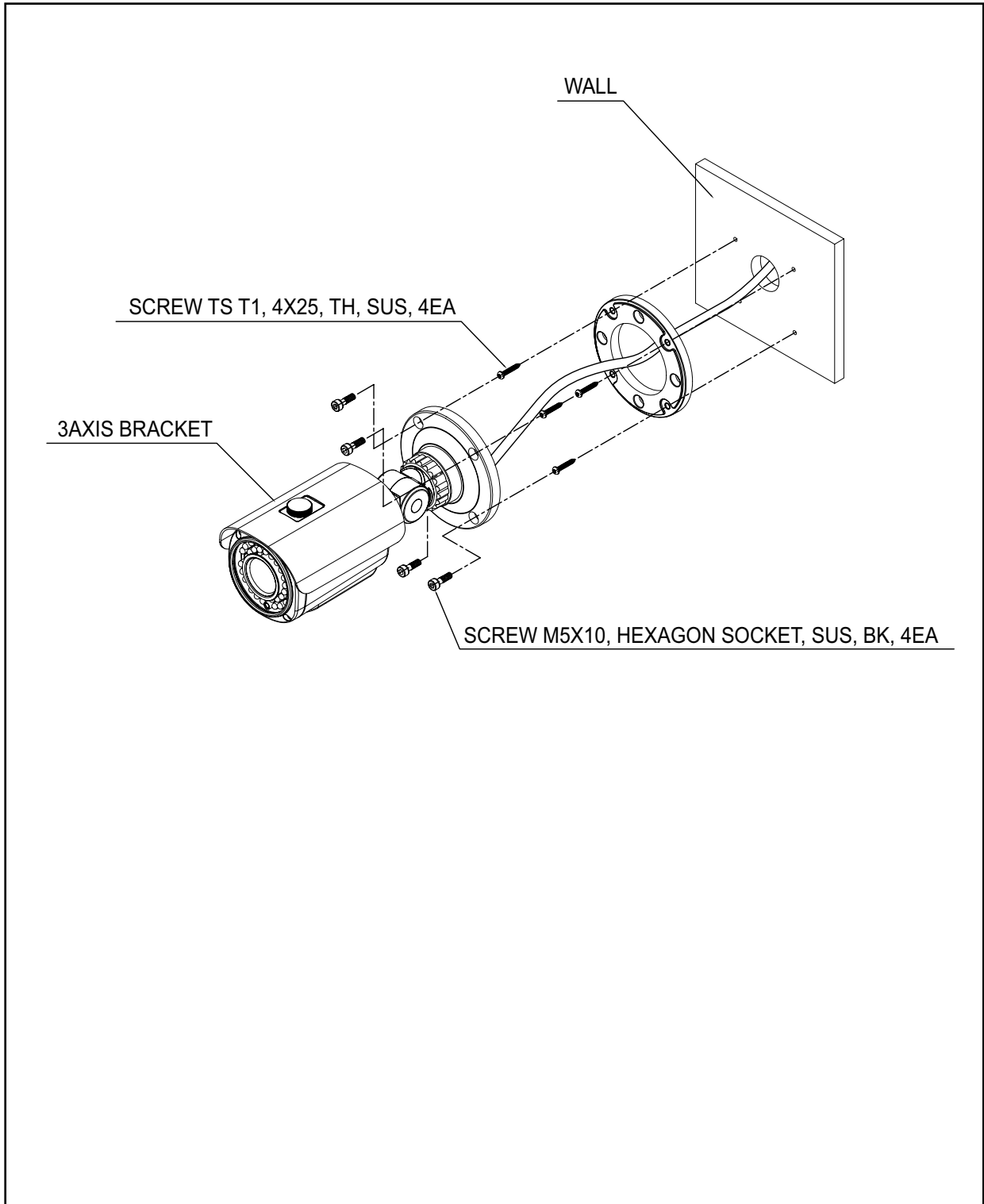
CAMERA INSTALLATION

2. HTINT60K

BALL DOME BASE

SCREW TS T1, 4X25, TH, SUS, 3EA

BALL DOME

BALL DOME BODY
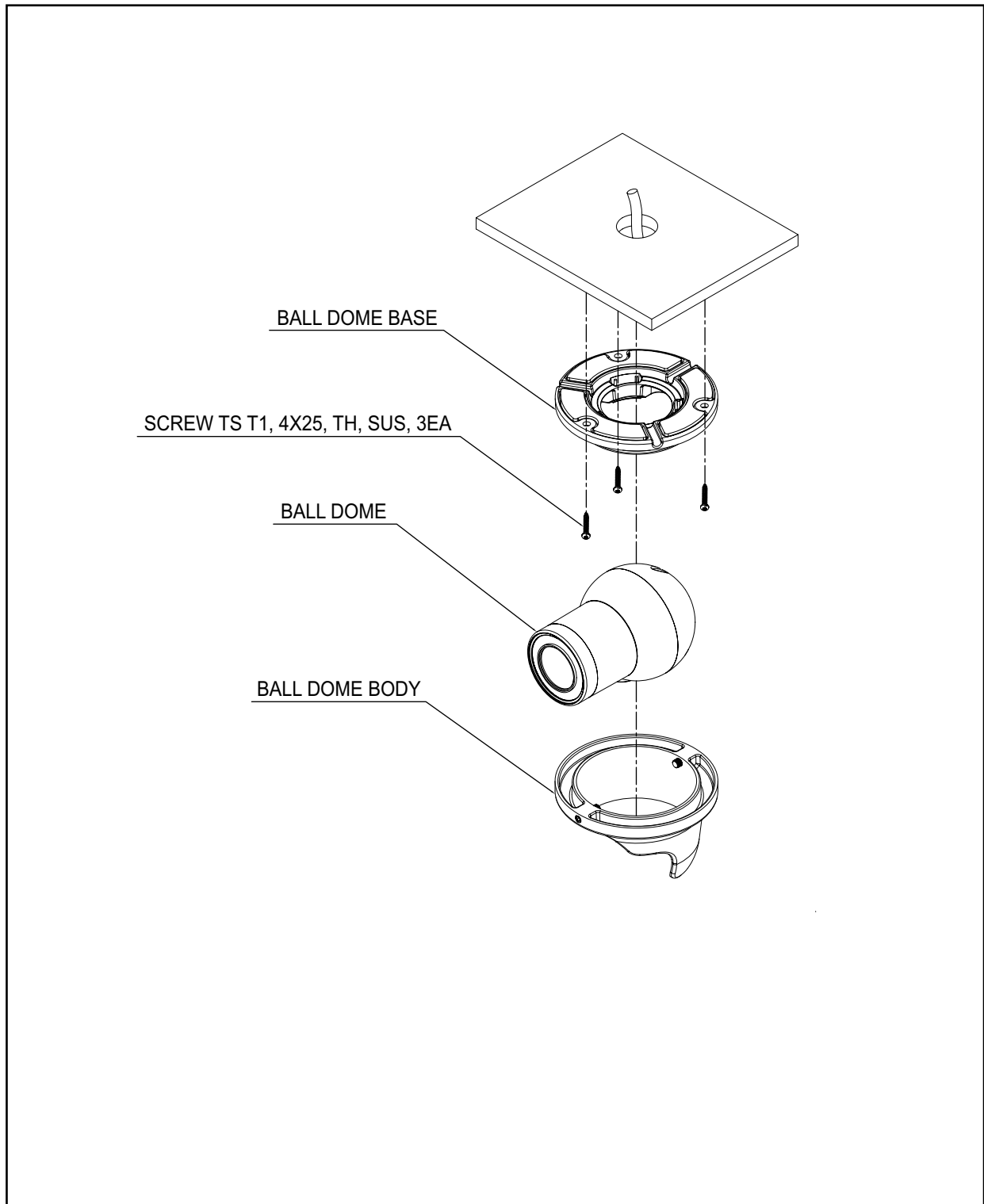
CAMERA INSTALLATION

3. HTINT59K

VANDAL DOME BASE

SCREW TS T1, 3.5X20, PH, SUS, 3EA

VANDAL DOME BODY

BODY OUTER COVER SPECO
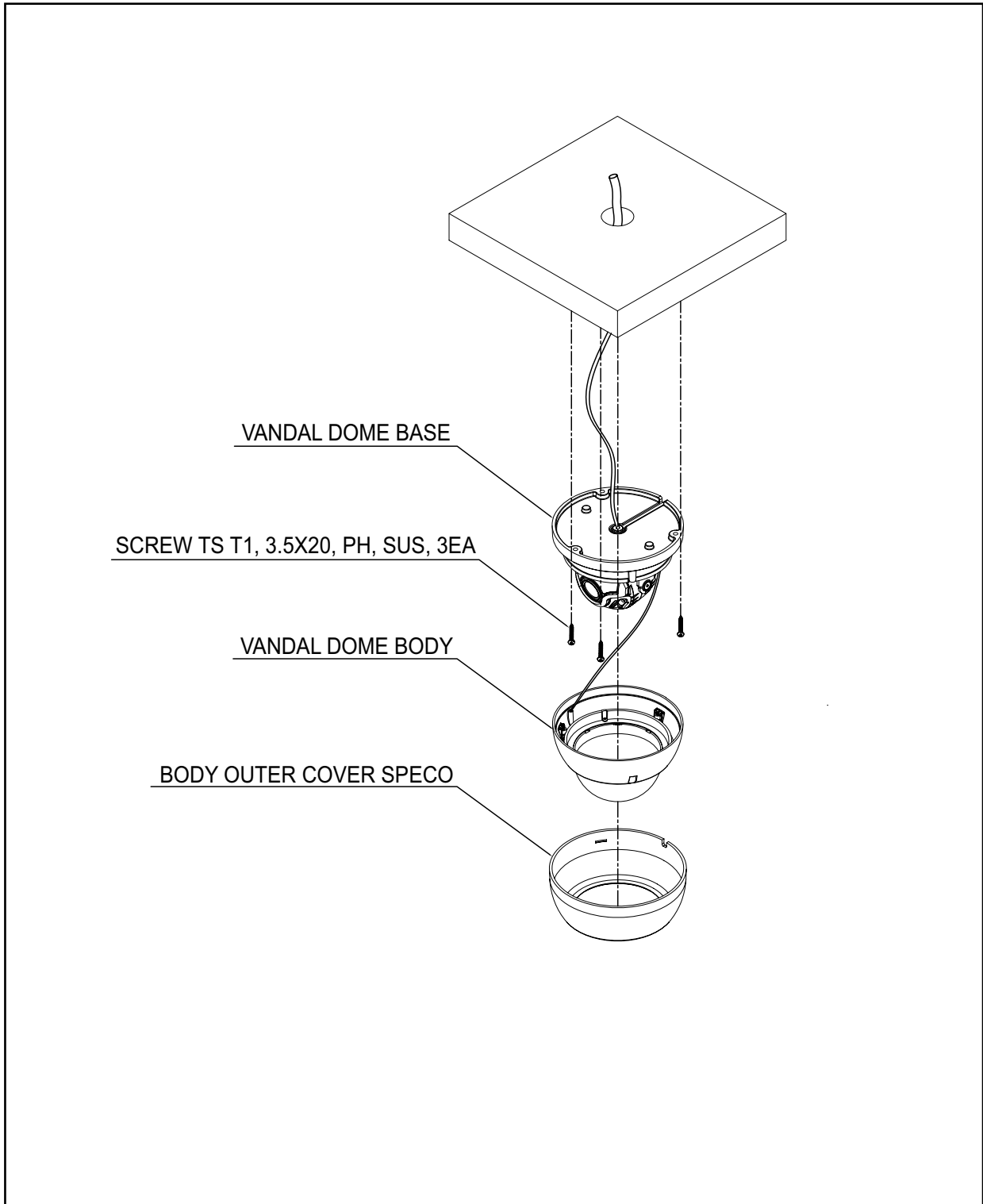
Intensifier K Series
DC Auto Iris Varifocal Lens 2.8-12mm

■ HTINT70K

SPECIFICATIONS

MODEL	HTINT70K
Image Sensor	1/3" 1.3MP SONY Sensor
Resolution	1000TV Lines
Effective Pixels	1305(H) X 1049(V), 1.37M Pixels
Total Pixels	1312(H) X 1069(V), 1.40M Pixels
Scanning System	Progressive Scan
S/N Ratio	More than 50dB
Frame rate	MAX 50P/60P
Video Output	CVBS : 1.0Vp-p/75 Ohm
Minimum Illumination	0.00001Lux(Sens-up x32)
LENS	DC/MANUAL
Electronic Shutter Speed	AUTO / Manual(1/60Sec ~ 1/60000Sec) / FLICKER
OSD	Built-in
BLC	O
HSBLC	O
WDR (Wide Dynamic Range)	ON(LOW,MIDDLE,HIGH) / OFF
Digital WDR	ON(LOW/MIDDLE/HIGH) / OFF
Day&Night	Color/BW/Auto/EXT
White Balance	AUTO/AUTO ext/AWC->SET/MANUAL
Smart-IR	0~20(Level Adjustable), Default : 0
Sense-Up	x2 ~ x32, Default : x8
Motion Detection	ON / OFF (Programmable 4 Zones)
Motion Tracking (Quick Zoom)	ON/OFF
OSD output for Anti Shifting	ON/OFF
OSD output for Anti Blocking	ON/OFF
3D DNR	OFF/LOW/MIDDLE/HIGH
Defog	ON(AUTO/MANUAL) / OFF
Brightness	0~20 (Level Adjustable), Default : 10
AGC	0~20 (Level Adjustable), Default : 20
Privacy Masking	ON / OFF (Programmable 16 Zones)
Mirror / V-FLIP	ON/OFF
Sharpness	0~15 (Level Adjustable), Default : 7
LensShading Compensation (LSC)	ON/OFF
RS-485(Protocol)	Available
View Angle	WIDE 4:3 / Normal / WIDE 16:9
CVBS OUTPUT	NTSC / PAL selectable
Communication	Coaxial Control
Language	English
Power Supply	DC12V/AC24V Dual Voltage Operation
Power Consumption	DC 12V 590mA / AC 24V 230mA
Storage Temperature	-4°F ~ +140°F(Humidity : 20%RH ~ 95%RH)
Operating Temperature	-4°F ~ +140°F(Humidity : 20%RH ~ 95%RH)
Lens	DC Auto Iris Varifocal Lens(2.8mm-12mm)
Dimension	3.94"(W) * 3.94"(H) * 8.27"(D)
Weight	3.09 lbs

Intensifier K Series
DC Auto Iris Varifocal Lens 2.8-12mm

■ **HTINT60K**

SPECIFICATIONS

MODEL	HTINT60K
Image Sensor	1/3" 1.3MP SONY Sensor
Resolution	1000TV Lines
Effective Pixels	1305(H) X 1049(V), 1.37M Pixels
Total Pixels	1312(H) X 1069(V), 1.40M Pixels
Scanning System	Progressive Scan
S/N Ratio	More than 50dB
Frame rate	MAX 50P/60P
Video Output	CVBS : 1.0Vp-p/75 Ohm
Minimum Illumination	0.00001Lux(Sens-up x32)
LENS	DC/MANUAL
Electronic Shutter Speed	AUTO / Manual(1/60Sec ~ 1/60000Sec) / FLICKER
OSD	Built-in
BLC	O
HSBLC	O
WDR (Wide Dynamic Range)	ON(LOW,MIDDLE,HIGH) / OFF
Digital WDR	ON(LOW/MIDDLE/HIGH) / OFF
Day&Night	Color/BW/Auto/EXT
White Balance	AUTO/AUTO ext/AWC->SET/MANUAL
Smart-IR	0~20(Level Adjustable), Default : 0
Sense-Up	x2 ~ x32, Default : x8
Motion Detection	ON / OFF (Programmable 4 Zones)
Motion Tracking (Quick Zoom)	ON/OFF
OSD output for Anti Shifting	ON/OFF
OSD output for Anti Blocking	ON/OFF
3D DNR	OFF/LOW/MIDDLE/HIGH
Defog	ON(AUTO/MANUAL) / OFF
Brightness	0~20 (Level Adjustable), Default : 10
AGC	0~20 (Level Adjustable), Default : 20
Privacy Masking	ON / OFF (Programmable 16 Zones)
Mirror / V-FLIP	ON/OFF
Sharpness	0~15 (Level Adjustable), Default : 7
LensShading Compensation (LSC)	ON/OFF
RS-485(Protocol)	Available
View Angle	WIDE 4:3 / Normal / WIDE 16:9
CVBS OUTPUT	NTSC / PAL selectable
Communication	Coaxial Control
Language	English
Power Supply	DC12V/AC24V Dual Voltage Operation
Power Consumption	DC 12V 570mA/AC 24V 220mA
Storage Temperature	-4°F ~ +140°F(Humidity : 20%RH ~ 95%RH)
Operating Temperature	-4°F ~ +140°F(Humidity : 20%RH ~ 95%RH)
Lens	DC Auto Iris Varifocal Lens(2.8mm-12mm)
Dimension	4.65"(Dia) * 3.80"(H)
Weight	1.99 lbs

Intensifier K Series
DC Auto Iris Varifocal Lens 2.8-12mm

■ **HTINT59K**

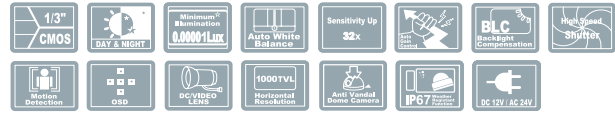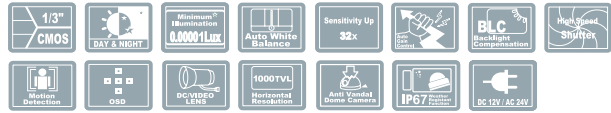## SPECIFICATIONS

MODEL	HTINT59K
Image Sensor	1/3" 1.3MP SONY Sensor
Resolution	1000TV Lines
Effective Pixels	1305(H) X 1049(V), 1.37M Pixels
Total Pixels	1312(H) X 1069(V), 1.40M Pixels
Scanning System	Progressive Scan
S/N Ratio	More than 50dB
Frame rate	MAX 50P/60P
Video Output	CVBS : 1.0Vp-p/75 Ohm
Minimum Illumination	0.00001Lux(IR LED ON)
LENS	DC/MANUAL
Electronic Shutter Speed	AUTO / Manual(1/60Sec ~ 1/60000Sec) / FLICKER
OSD	Built-in
BLC	O
HSBLC	O
WDR (Wide Dynamic Range)	ON(LOW,MIDDLE,HIGH) / OFF
Digital WDR	ON(LOW/MIDDLE/HIGH) / OFF
Day&Night	Color/BW/Auto/EXT
White Balance	AUTO/AUTO ext/AWC->SET/MANUAL
Smart-IR	0~20(Level Adjustable), Default : 0
Sense-Up	x2 ~ x32, Default : x8
Motion Detection	ON / OFF (Programmable 4 Zones)
Motion Tracking (Quick Zoom)	ON/OFF
OSD output for Anti Shifting	ON/OFF
OSD output for Anti Blocking	ON/OFF
3D DNR	OFF/LOW/MIDDLE/HIGH
Defog	ON(AUTO/MANUAL) / OFF
Brightness	0~20 (Level Adjustable), Default : 10
AGC	0~20 (Level Adjustable), Default : 20
Privacy Masking	ON / OFF (Programmable 16 Zones)
Mirror / V-FLIP	ON/OFF
Sharpness	0~15 (Level Adjustable), Default : 7
LensShading Compensation (LSC)	ON/OFF
RS-485(Protocol)	Available
View Angle	WIDE 4:3 / Normal / WIDE 16:9
CVBS OUTPUT	NTSC / PAL selectable
Communication	Coaxial Control
Language	English
Power Supply	DC12V/AC24V Dual Voltage Operation
Power Supply	DC 12V 590mA / AC 24V 230mA
Storage Temperature	-4°F ~ +140°F(Humidity : 20%RH ~ 95%RH)
Operating Temperature	-4°F ~ +140°F(Humidity : 20%RH ~ 95%RH)
Lens	DC Auto Iris Varifocal Lens(2.8mm-12mm)
Dimension	4.72"(Dia) * 3.35"(H)
Weight	2.20 lbs

CAMERA DIMENSION

1) HTINT70K

3.94" dia
3.38"
3.01"
3.46"
2.95"

8.27"
4.80"

2) HTINT60K

3.80"
2.66"
3.01"

4.65" dia
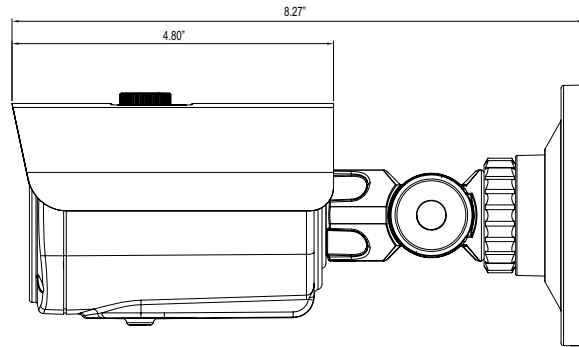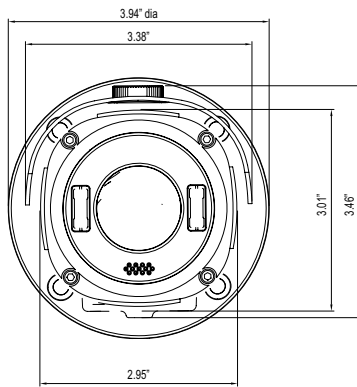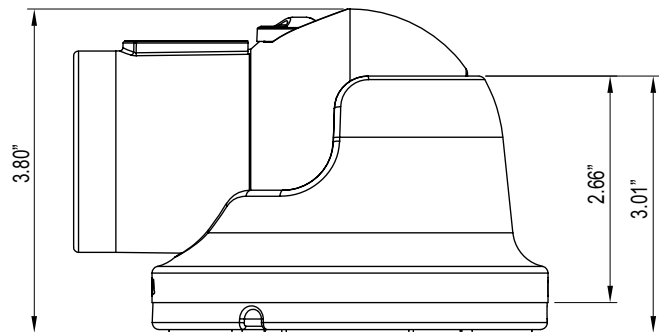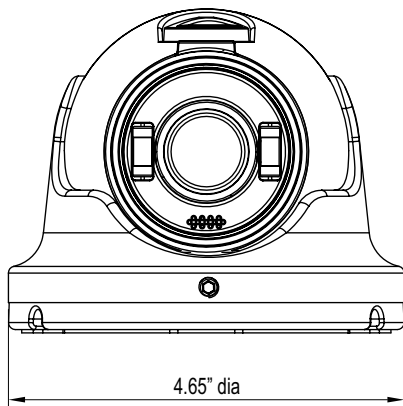
CAMERA DIMENSION

3) HTINT59K

4.72" dia

3.23" dia

3.35"

1.82"
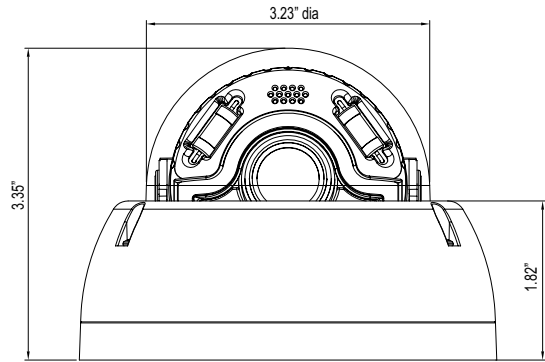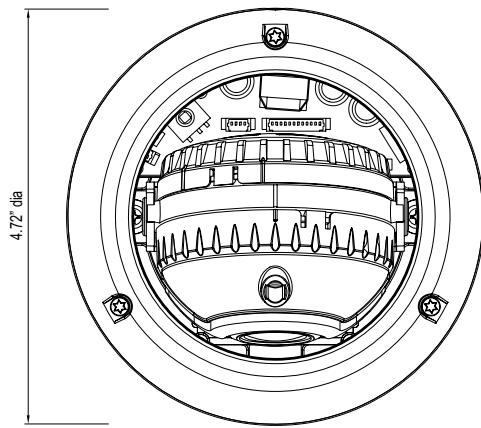
General Features

● 1000 TV Lines
1.3 MEGA HD ANALOG 1000 TVL combined with SONY EXMOR SENSOR (IMX 138)

● WDR (Wide Dynamic Range)
A powerful and ultra-advanced technology that captures cleaner and superior high resolution picture even where images appear dark because there is a strong back light present.

● PRESET
Preset (Indoor, Outdoor, Low light, Hallway, Lobby, Elevator) is provided to maximize user convenience.

● DNR (Digital Noise Reduction)
SMART 3D DNR prevents the image blurring of moving objects and activates only when moving objects appear on the scene.

● SMART IR
No saturation image, vivid image in darkness. it makes very sharp video image in darkness. This technology eliminates saturation of video image of the closer object in darkness by control of the IR sensitivity.

● SENS UP
Sens-Up - Max. up to x32 helps get dark images visible and make it clear images in a low light environment.

● DEFOG
Defog function improve the clarity of images taken in poor conditions such as fog, smoke, rain or snow.

● CVBS (Composite Video Blanking and Sync)
TV System is switchable into 'NTSC' or 'PAL' with built-in OSD.

● INTELLIGENCE
An extraordinary technology enables to become an ultimate analog solution by providing intelligent features based on motion tracking. it strengthens crime prevention & detection.

How to Set Up the camera menu

● Setup Menu

PRESET MODE MENU

MAIN SETUP						
PRESET	INDOOR	OUTDOOR	LOW LIGHT	HALL WAY	LOBBY	ELEVATOR
MAIN SETUP						
EXIT						

LENS	**DC**	MODE	INDOOR / OUTDOOR/ DEBLUR		
		RETURN			
	MANUAL	MODE	NORMAL / DEBLUR		
		RETURN			
EXPOSURE		BRIGHTNESS	0 ~ 20		
		SHUTTER	AUTO		
			MANUAL	SPEED	1/60 ~ 1/60000
				RETURN	
			FLICKER		
		SENS-UP	OFF / X2 ~ X32		
		AGC	0 ~ 20		
		RETURN			
WHITE BAL	**ATW**				
	AWB				
	AWC-SET				
	MANUAL	KELVIN	LOW / MIDDLE / HIGH		
		R-GAN	0 ~ 20		
		B-GAN	0~ 20		
		RETURN			
BLACKLIGHT	**OFF**				
	HLC	LEVEL	0 ~ 20		
		MODE	ALL DAY / NIGHT ONLY		
		RETURN			
	BLC	H-POS	0 ~ 20		
		V-POS	0 ~ 20		
		H-SIZE	0 ~ 20		
		V-SIZE	0 ~ 20		
		RETURN			
	WDR	WEIGHT	LOW / MIDDLE / HIGH		
		RETURN			

How to Set Up the camera menu

● Setup Menu

DNR	OFF			
	LOW			
	MIDDLE			
	HIGH			
DAY&NIGHT	AUTO	SMART IR	0 ~ 20	
		AGC THRES	0 ~ 20	
		AGC MARGIN	0~ 20	
		DELAY	LOW / MIDDLE / HIGH	
		RETURN		
	COLOR			
	B/W	SMART IR	0 ~ 20	
		RETURN		
	EXTERN	SMART IR	0 ~ 20	
		EXTERN S/W	LOW/HIGH	
		DELAY	LOW/MIDDLE/HIGH	
		RETURN		
IMAGE		SHARPNESS	0 ~ 10	
		GAMMA	0.45 ~ 0.65	
		PEDSTAL	0 ~ 20	
		COLOR GAIN	0 ~ 20	
		MIRROR	OFF / ON	
		FLIP	OFF / ON	
		RETURN		
SYSTEM		COM.	CAM ID	0 ~ 255
			BAUDRATE	2400 / 4800 / 9600 / 57600 / 115200
			RETURN	
		VIEW ANGLE	WIDE 4 : 3	
			WIDE 16 : 9	XY ADJUST
			NORMAL	XY ADJUST
		CVBS	NTSC / PAL	
		LANGUAGE	ENG / CHN / CHN(S) / JAN / KOR	
		RESET	ON	PUSHING
		RETURN		

How to Set Up the camera menu

● Setup Menu

SPECIAL		D-ZOOM	1.0X ~ 8.0X			
		D-WDR	OFF / LOW / MIDDLE / HIGH			
		DEFOG	OFF			
			ON	MODE	AUTO	
					MANUAL	
				LEVEL	LOW	
					MIDDLE	
					HIGH	
				RETURN		
		SHADING	OFF			
			ON	WEIGHT	0 ~ 100%	
				RETURN		
		PRIVACY	OFF			
			ON	ZONE NUM	0 ~ 15	
				ZONE DISP	ON / OFF	
				H-POS	0 ~ 40	
				V-POS	0 ~ 32	
				H-SIZE	0 ~ 40	
				V-SIZE	0 ~ 32	
				Y LEVEL	0 ~ 20	
				CR LEVEL	0 ~ 20	
				CB LEVEL	0 ~ 20	
				RETURN		
		INTELLIGENT	MTN TRACKER	ON	DET . SETTING	SENSITIVITY	0 ~ 20
						OBJ KEEP	LV 0 ~ LV 60
						MOTION EST	0 ~ 20
						SIGNAL OUT	OFF / ON
						RETURN	
					WINDOW TONE	0 ~ 6	
					WINDOW ZONE	0 ~ 3	
					WINDOW USE	OFF / ON	
					DET H-POS	0 ~ 40	
					DET V -POS	0 ~ 32	
					DET H - SIZE	0 ~ 40	
					DET V - SIZE	0 ~ 32	
					RETURN		
			ALARM	ANTI-SHIFT	OFF / ON	
				SHIFT SCALE	0 ~ 20	
				ANTI-BLOCK	OFF / ON	
				BLOCK SCALE	0 ~ 20	
				RETURN		
			QUICK ZOOM	MOVING	0 ~ 240 sec	
				ZOOM IN	0 ~ 240 sec	
				STANDBY	0 ~ 240 sec	
				SYNCHRONOUS	OFF / ON	
				TRACKING	OFF / ON	
				REPEAT	OFF ON	
				RETURN		
		RETURN				
EXIT						

MENU

Menu setting can be selected by the button inside the camera.

1. Press the set button.

* MENU will be displayed on the monitor.

◆ MENU
→ PRESET : Preset is provided to maximize user convenience.
        (PRESET : Indoor // Outdoor // Low light // Hallway // Lobby // Elevator)

→ MAIN SETUP : Enter the MAIN SETUP to adjust further settings.

MENU SETUP

Menu setting can be selected by the button inside the camera.

1. Press the set button.

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

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

* Move the triangular indicator Up or Down to select the desired feature by pressing

   the Up or Down button.

3. Change 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 Changing the setting move the arrow indicator to EXIT and press the

     SET button to EXIT.

NOTE

   * Move to the available submenu by moving ⏎ arrow to desired feature.

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

1. LENS

This function is to adjust the brightness of the monitor.

1. Move the triangular 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 of Right button.
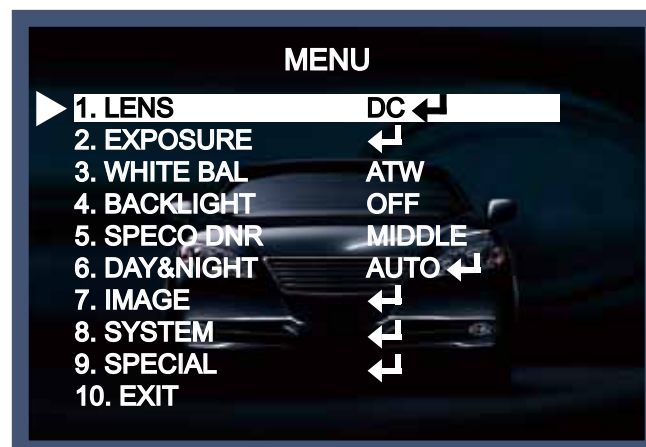
```
                    MENU
 ▶ 1. LENS              DC ⏎
   2. EXPOSURE             ⏎
   3. WHITE BAL         ATW
   4. BACKLIGHT         OFF
   5. SPECO DNR         MIDDLE
   6. DAY&NIGHT         AUTO ⏎
   7. IMAGE               ⏎
   8. SYSTEM              ⏎
   9. SPECIAL             ⏎
   10. EXIT
```

2. EXPOSURE

On this manu, users can control exposure by selecting one of modes (Brightness, Shutter, Sens-up, AGC)

1. Move the triangular indicator to EXPOSURE on the SETUP menu screen using the Up and Down button
2. Select the desired mode using the Left or Right buttons.


```
                    MENU
   1. LENS              DC
 ▶ 2. EXPOSURE          ↵
   3. WHITE BAL         ATW
   4. BACKLIGHT         OFF
   5. SPECO DNR         MIDDLE
   6. DAY&NIGHT         AUTO ↵
   7. IMAGE             ↵
   8. SYSTEM            ↵
   9. SPECIAL           ↵
   10. EXIT
```

◆ EXPOSURE

→ BRIGHTNESS : It is used to adjust overall brightness level.
  (BRIGHTNESS : 0 ~ 20 // default value : 10)


```
             2. EXPOSURE

 ▶ BRIGHTNESS      ▥▥▥▥|▥▥▥▥ 10
   SHUTTER         AUTO
   SENSE-UP        X16
   AGC             ▥▥▥▥|▥▥▥▥ 15
   RETURN
```

→ SHUTTER : Users adjust electronic shutter speed by selecting one of modes(AUTO, MANUAL, FLICKER).
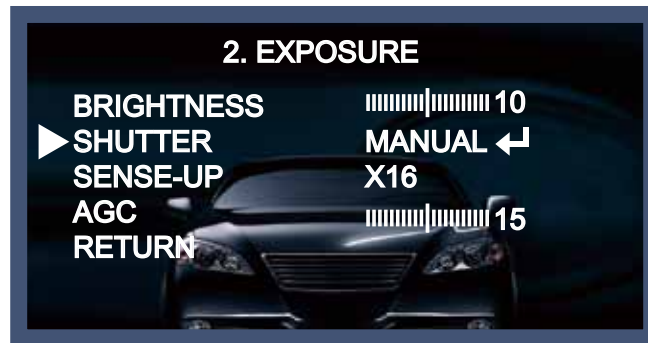
Manaul mode : shutter speed is adjustable from 1/60 up to 1/60,000.
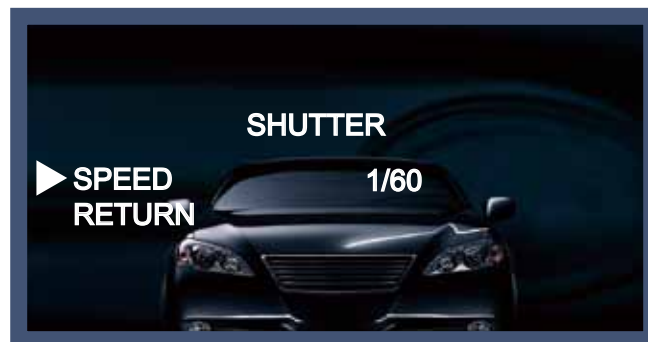
→ SENSE-UP : The brighter image can be displayed by operating digital slow shutter speed in low light environment.
(digital slow shutter : x2 ~ x32 // default value : x16)

→ AGC   : the brighter image can be displayed by adjusting AGC(Auto Gain Control) level.
(AGC : 0 ~ 20 / default : 15 // default value : 15)

3. WHITE BALANCE

Use this function when the color adjustment of a screen is needed.

1. Move the triangular 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.

```
                     MENU
      1. LENS              DC ↵
      2. EXPOSURE            ↵
   ▶  3. WHITE BAL        ATW
      4. BACKLIGHT        OFF
      5. SPECO DNR        MIDDLE
      6. DAY&NIGHT        AUTO ↵
      7. IMAGE              ↵
      8. SYSTEM             ↵
      9. SPECIAL            ↵
      10. EXIT
```
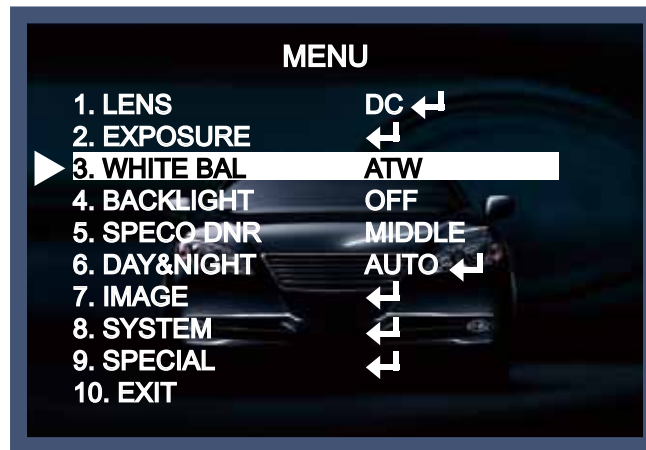
Use the appropriate mode according to your purposes among these three modes.

* ATW   : Use this mode when the color temperature is from 1,800K to 10,500K.
* AWB   : The function to search for the color which is matched well with the ambient environment. This
             be used when the color temperature is from 3,000K to 7,000K.
* AWC→SET : After letting camera focus on the blank white paper to the best condition of current
             lighting environment, press the SET button. If the lighting condition is changed, Re-adjustment
             should be needed.

* MANUAL : Manual compensation make the more detailed control possible. First, after adjusting the
             white balance using the ATW or AWB mode, change the mode into the manual compensation mode
             and then press Set button. While looking at the color change of the subject seen on the screen after
             setting up the proper color temperature, increase the each value of the blue and the red.

```
                  MANUAL

    KELVIN           MIDDLE
    R-GAIN           ‖‖‖‖‖|‖‖‖‖ 10
    B-GAIN           ‖‖‖‖‖|‖‖‖‖ 10
    RETURN
```

The White Balance may not be worked properly in the following conditions. If this doesn't work, use the AWB mode.

* When there is a very high color temperature in the circumstances of the subject.
   (for example, clear sky, Sunset)

* It is very dark.

* If the camera is headed to the fluorescent light directly or if there is a drastic lighting change, The operation of White balance may become unstable.

4. BACK LIGHT

On this menu, back light image can be compensated by users selecting one of modes (HLC, BLC, and WDR).
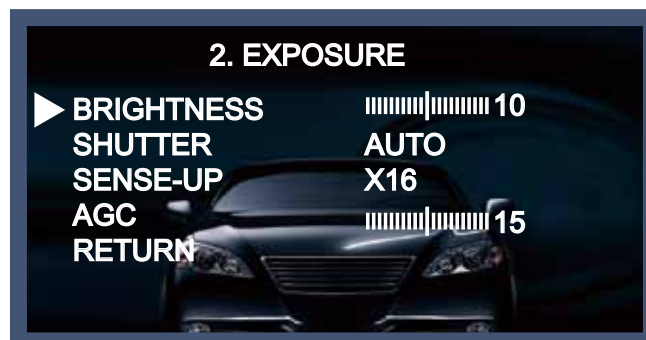
  1. Move the triangular indicator to BACKLIGHT on the SETUP menu screen using the Up and Down button

 2. Select the desired mode using the Left or Right buttons.

```
                    MENU
      1. LENS              DC ↵
      2. EXPOSURE             ↵
      3. WHITE BAL        ATW
    ► 4. BACKLIGHT        OFF
      5. SPECO DNR        MIDDLE
      6. DAY&NIGHT        AUTO ↵
      7. IMAGE               ↵
      8. SYSTEM             ↵
      9. SPECIAL            ↵
      10. EXIT
```
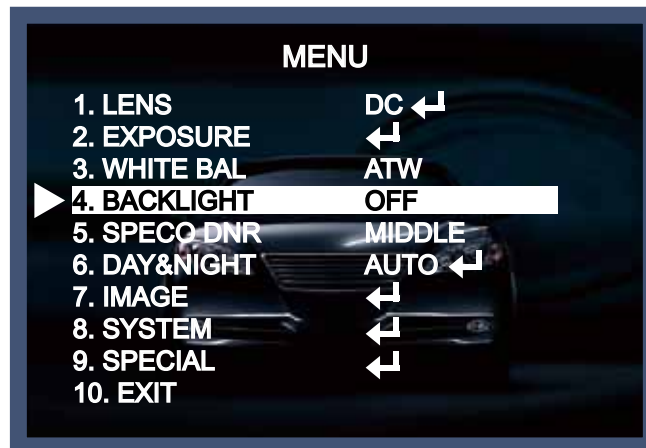
◆ HLC (Highlight Light Compensation) : When there is a car head light turned on
at the entrance of the gas station or in some place in the parking lot, the numbers of the car plate
can be recognized by blocking only the light from the car headlight. At the area is set up specifically,
you can recognize the car plate numbers by blocking the strong light signal.

```
                        MENU
        1. LENS              DC ↵
        2. EXPOSURE              ↵
        3. WHITE BAL         ATW
      ► 4. BACKLIGHT         HLC ↵
        5. SPECO DNR         MIDDLE
        6. DAY&NIGHT         AUTO ↵
        7. IMAGE                 ↵
        8. SYSTEM                ↵
        9. SPECIAL               ↵
        10. EXIT
```

```
                    HLC

        LEVEL                ▥▥▥▥▥|▥▥▥▥▥10
        MODE                 ALL DAY
        RETURN
```

| Nomarl | HLC |

28
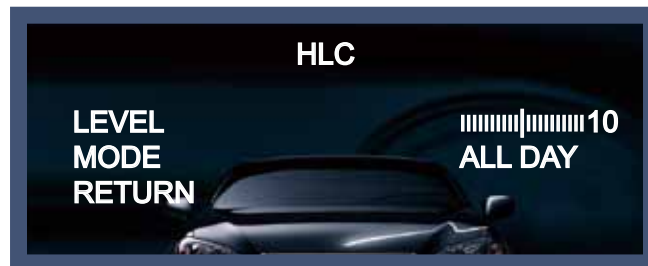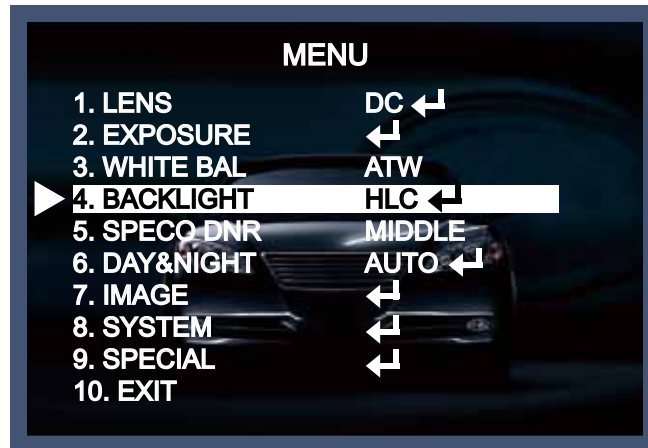
◆ BLC (Back Light Compensation) : The camera with 3D-DNR provides the intelligent light level control to overcome strong backlight conditions.

→ BLC : The set up area can be seen vividly by the user who set up the desired area to compensate the back light directly according to the installation environment.

```
                        MENU
        1. LENS              DC ↵
        2. EXPOSURE              ↵
        3. WHITE BAL        ATW
   ▶    4. BACKLIGHT        BLC ↵
        5. SPECO DNR        MIDDLE
        6. DAY&NIGHT        AUTO ↵
        7. IMAGE                ↵
        8. SYSTEM               ↵
        9. SPECIAL             ↵
        10. EXIT
```

```
                  BLC

     V-POS                    7
    H-SIZE                    5
    V-SIZE                    6
    RETURN                    4
```
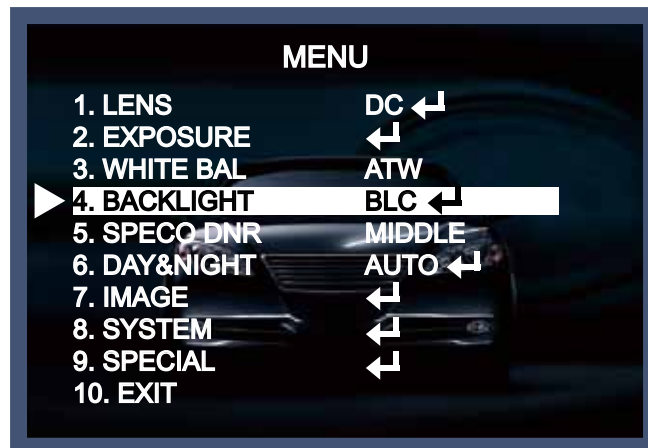
H-POS	Adjust the H(Horizontal)-position of the BLC area.
V-POS	Adjust the V(Vertical)-position of the BLC area.
H-SIZE	Adjust the H(Horizontal)-size of the BLC area.
V-SIZE	Adjust the V(Vertical)-size of the BLC area.

◆ WDR(wide dynamic range) : the function is intended to provide clear images even under back light circumstances where intensity of illumination can vary excessively, namely when there are both very bright and very dark areas simultaneously in the field of view of the camera.
(To adjust WDR level, select the LOW, MIDDLE, HIGH by pressing the left or the right button)

MENU

1. LENS	DC ↵
2. EXPOSURE	↵
3. WHITE BAL	ATW
▶ 4. BACKLIGHT	WDR↵
5. SPECO DNR	MIDDLE
6. DAY&NIGHT	AUTO ↵
7. IMAGE	↵
8. SYSTEM	↵
9. SPECIAL	↵
10. EXIT	

WDR

WEIGHT   HIGH
RETURN

WDR OFF

WDR ON

30
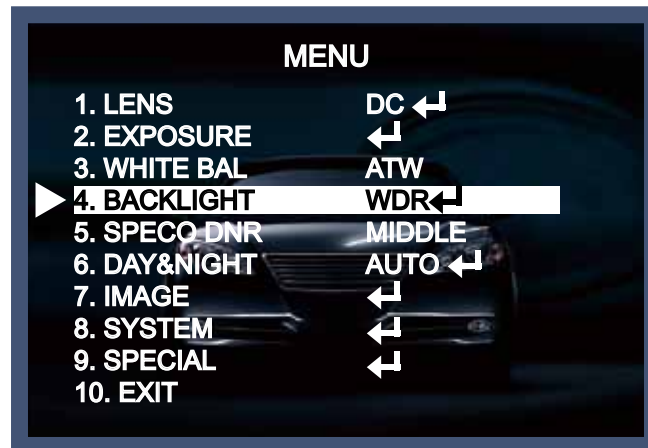
5. DNR

This function makes the noise of the low light background decrease and is a highlighted feature.

1. Move the triangular indicator to DNR on the SETUP menu screen using the Up and Down button

2. Select one of modes(OFF, LOW, MIDDLE, HIGH) to use DNR by pressing the Right or Left button.

```
                    MENU
      1. LENS              DC ↵
      2. EXPOSURE             ↵
      3. WHITE BAL        ATW
      4. BACKLIGHT        OFF
    ▶ 5. SPECO DNR        MIDDLE
      6. DAY&NIGHT        AUTO ↵
      7. IMAGE               ↵
      8. SYSTEM             ↵
      9. SPECIAL            ↵
      10. EXIT
```
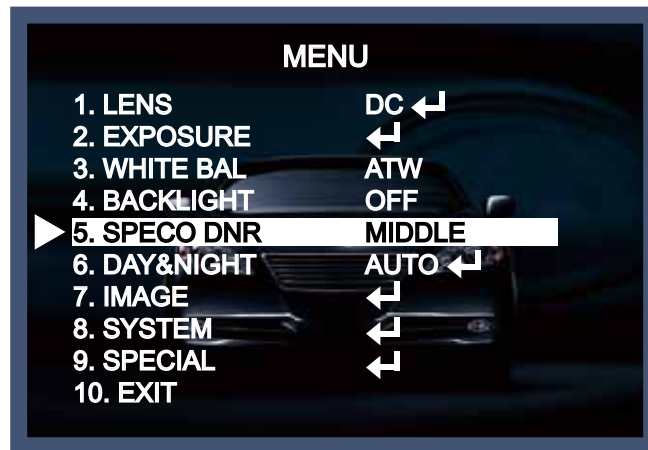
NOTE

* If DNR function is activated, digital noise om image get reduced.

The higher the compensation proportion raises, the better noise cancellation effect is.

However, high DNR value might cause ghost effect on image to occur.

6. DAY&NIGHT

You can change the color mode of color or black / white by setting up the mode.

1. Select DAY&NIGHT using the Up or Down button on the Set Up menu screen.

2. Select one of modes (EXTERN, AUTO, COLOR, B/W) using the Left or Right buttons.

```
                    MENU
        1. LENS              DC
        2. EXPOSURE          ↵
        3. WHITE BAL         ATW
        4. BACKLIGHT         OFF
        5. SPECO DNR         MIDDLE
    ▶   6. DAY&NIGHT         AUTO ↵
        7. IMAGE             ↵
        8. SYSTEM            ↵
        9. SPECIAL           ↵
        10. EXIT
```
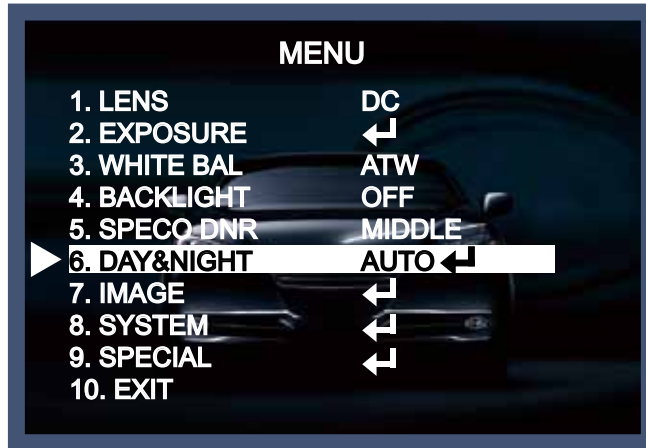
◆ EXT : it can change into COLOR or B/W mode automatically through the connection with the ground terminal. Users can adjust SMART-IR level (0 ~ 20), EXTERN S/W Level, and working time of the D/N filter.

```
            6. DAY&NIGHT

    SMART IR            |IIIIIIIIIIII| 0
    EXTERN S / W        LOW
    DELAY               LOW
    RETURN
```

◆ Auto : Automatically, It shifts into the color mode in the bright environment and the B/W mode in the low light condition. It can adjust the delay time, starting brightness and end brightness according to the ambient conditions by pressing the Set button.

```
            6. DAY&NIGHT

    SMART IR            |IIIIIIIIIIII| 0
    AGC THRES           |IIIIIII|IIIII| 10
    AGC MARGIN          |IIIIIII|IIIII| 10
    DELAY               LOW
    RETURN
```

* SMART IR   : It is used to compensate IR saturation (0 ~ 20)
* AGC THRES   : AGC threshold level (0 ~ 20)
* AGC MARGIN : AGC D/N margin level (0 ~ 20)

32

◆ COLOR : Making the video output color always.

◆ B / W : Making the video output B/W always. By selecting the color signal On or Off, this lets the burst signal be disappeared or not.

6. DAY&NIGHT

SMART IR	|IIIIIIIIIIIIIII| 0
RETURN	

7. IMAGE

This can be used when you want to select the additional function control.

1.When the SETUP menu is displayed, select IMAGE using the Up and Down button.

2. Select one of the mode using the Left or Right buttons.

MENU

1. LENS	DC
2. EXPOSURE	↵
3. WHITE BAL	ATW
4. BACKLIGHT	OFF
5. SPECO DNR	MIDDLE
6. DAY&NIGHT	AUTO ↵
7. IMAGE	↵
8. SYSTEM	↵
9. SPECIAL	↵
10. EXIT	

7. IMAGE

SHARPNESS	|IIIIIII|IIIIIII 7
GAMMA	0.55
PEDESTAL	|IIIIIIII|IIIIIII 8
COLOR GAIN	|IIIIII|IIIIIIII 10
MIRROR	OFF
FLIP	OFF
RETURN	
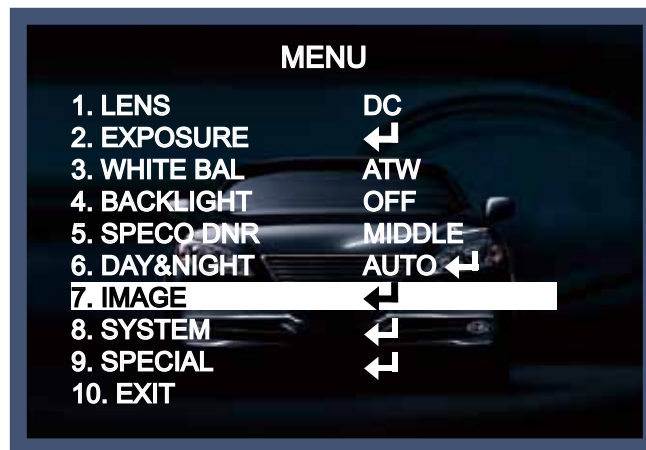
◆ IMAGE

→ SHARPNESS : the outline of an image becomes sharp and more distinct as the level of sharpness increases.
It has better be used to adjust the value to the proper one depending on a sort of image.
(SHARPNESS : 0 ~ 20)

→ GAMMA   : Gamma value is adjustable   (GAMMA : 0.45 ~ 0.65)
→ PEDSTAL   : Pedstal value is adjustable   (PEDSTAL : 0 ~ 20)
→ COLOR GAIN : Color gain value is adjustable (COLOR GAIN : 0 ~ 20)

→ MIRROR   : The image of the monitor is reversed horizontally.
→ FLIP   : The image of the monitor is reversed vertically.

8. SYSTEM

This can be used when you want to select the additional function control.
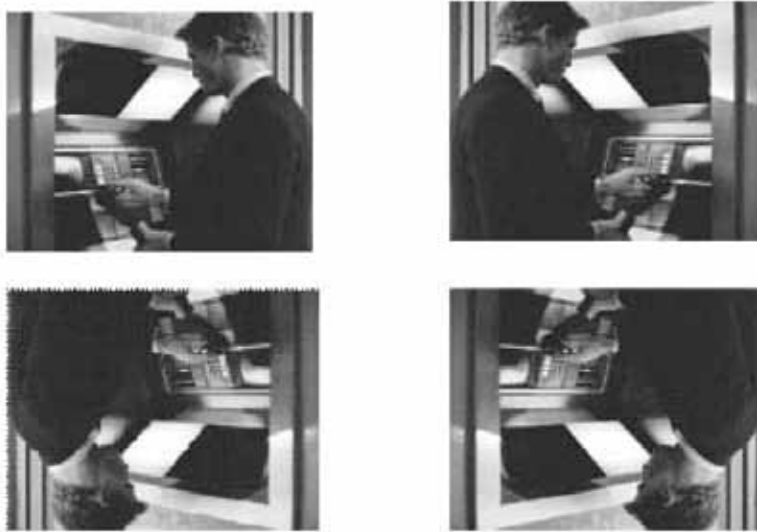
1.When the SETUP menu is displayed, select SYSTEM using the Up and Down button.

2. Select one of the mode using the Left or Right buttons.

8. SYSTEM

COM.   ↵
VIEW ANGLE   WIDE 4 : 3
CVBS   NTSC
LANGUAGE   ENG
RETURN
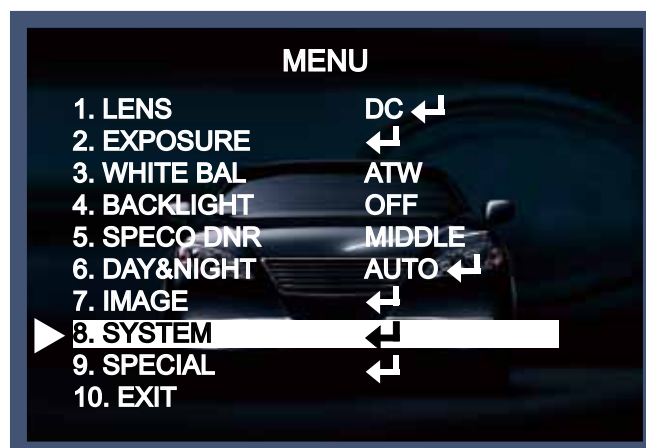
◆ SYSTEM

→ COM : this menu is used for RS-485 communication.

       Users are able to select 'CAM ID (0 ~ 255)' and 'BAUDRATE (2400 / 4800 / 9600 / 57600 / 115200)'.

COM.

▶ CAM ID   1
   BAUDRATE   115200
   RETURN

→ VIEW ANGLE : users are able to adjust aspect ratio by selecting 'WIDE 4:3', 'WIDE 16:9' or 'NORMAL'
              depending on monitor aimed for surveilance. (default value : WIDE 4:3)

8. SYSTEM

COM.   ↵
VIEW ANGLE   WIDE 4 : 3
CVBS   NTSC
LANGUAGE   ENG
RETURN

SYSTEM

COM.   ↵
VIEW ANGLE   WIDE 16 : 9
XY ADJUST   ↵
LANGUAGE   ENG
RETURN

SYSTEM

COM.   ↵
VIEW ANGLE   NORMAL
XY ADJUST   ↵
LANGUAGE   ENG
RETURN

For further adjustment, please enter into 'XY ADJUST' on 'WIDE 16:9' or 'NORMAL'.

XY ADJUST

LEFT / RIGHT   (+0 /±0)
UP /DOWN   (+0 /±120)

ENTER - RETURN

XY ADJUST

LEFT / RIGHT   (+0 /±160)
UP /DOWN   (+0 /±120)

ENTER - RETURN
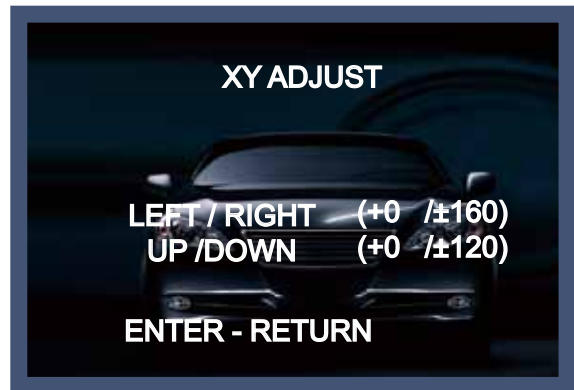
→ CVBS : TV system is manually switchable to 'PAL' or 'NTSC' on CVBS(Composite Video Blanking and Sync).

9. SPECIAL

This can be used when you want to select the additional function control.

1.When the SETUP menu is displayed, select SPECIAL using the Up and Down button.

2. Select one of the mode using the Left or Right buttons.

◆ SPECIAL

→ D-ZOOM : diginal zoom supports up to x8 available (x1 ~ x8)
The higher the digital zoom magnification is, the lower the resolution is.

→ D-WDR : This camera which is using 3D-DNR DSP provides intelligent light level control to overcome even strong backlight conditions. (OFF / LOW / MIDDLE / HIGH)

→ DEFOG : This function helps to recognize the object in a foggy or dusty weather condition.


DEFOG OFF

DEFOG ON

→ SHADING : It is used to increase brightness in case angle of lens set as wide cause darker image on both sides than that on the center.

→ PRIVACY : This is used to hide certain areas on the monitor. You can designate each different 15 area. The size of a designated area can be adjusted.

```
                    PRIVACY
  ▶ ZONE NUM              0
    ZONE DISP             OFF
    H-POS                 12
    V-POS                 2
    H-SIZE                3
    V-SIZE                3
    Y  LEVEL         |▮▮▮▮▮|▮▮▮▮▮|10
    CR  LEVEL        |▮▮▮▮▮|▮▮▮▮|10
    VB  LEVEL        |▮▮▮▮▮|▮▮▮▮|10
    RETURN
```
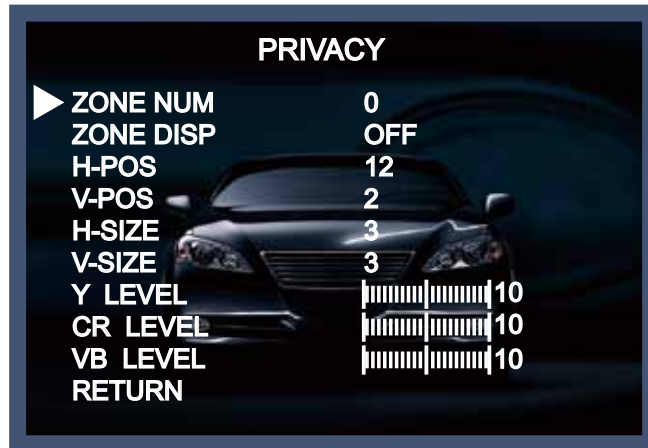
→ INTELLIGENT : It is used for crime prevention & detection by providing intelligent functions based on
motion tracking.

```
                  INTELLIGENT
     ▶ MTN TRACKER    OFF
       ALARM                ↵
       QUICK ZOOM     OFF
       RETURN
```
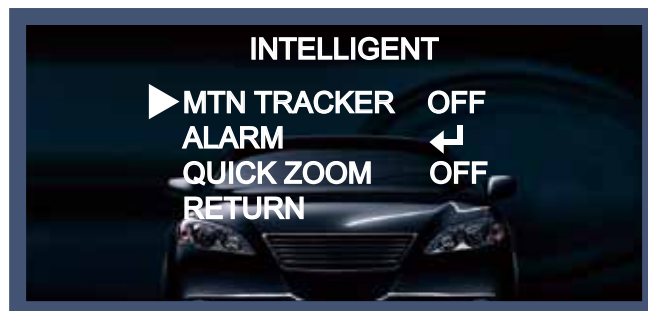
◆ INTELLIGENT (MTN TRACKER, ALARM, QUICK ZOOM)

1) MTN TRACKER : it is used to adjust a certain area for motion tracking.


```
               MTN TRACKER

   ▶ DET. SETTING       ↵
     WINDOW TONE    0
     WINDOW ZONE    0
     WINDOW USE     OFF
     DET  H-POS     1
     DET  V-POS     2
     DET  H-SIZE    16
     DET  V-SIZE    12
     RETURN
```
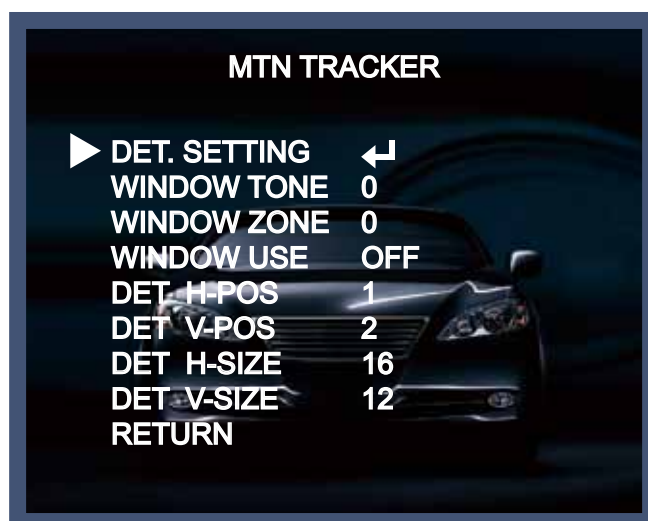
2) ALARM : it is used to set 'ANTI-SHIFT' or 'ANTI-BLOCK' based on
motion tracking. scale level of these functions are adjustable.
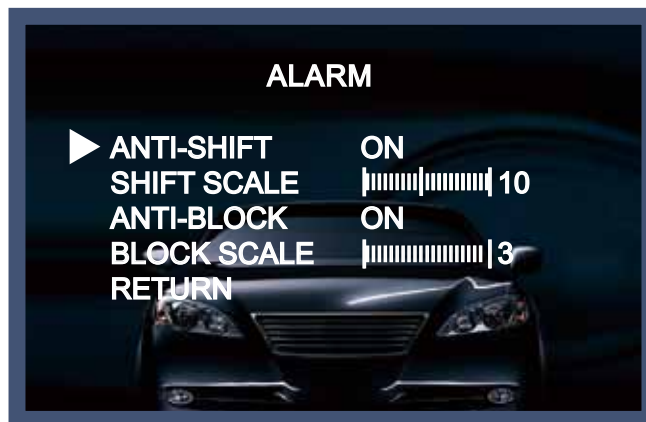
* ANTI-SHIFT : If someone intends to change or shift camera direction by their hands or objects,
it will be automatically detected by a warning message(SHIFTING DETECTED !!!)
on monitor.

* ANTI-BLOCK: If someone intentionally block the front of camera by hands or spray, etc.,
it will be automatically detected by a warning message(BLOCKING DETECTED !!!)
on monitor.

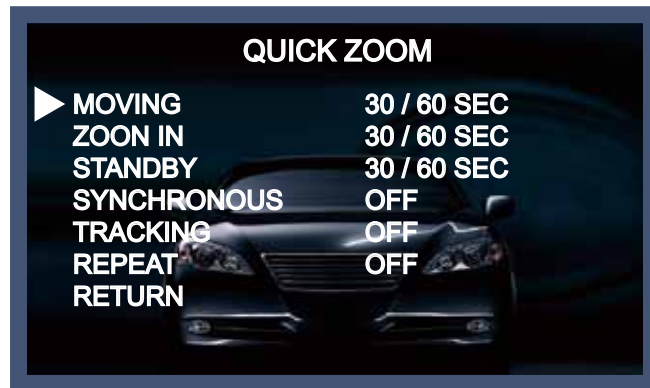3) QUICK ZOOM : Digital 'zoom-in' is operated to precisely detect objects when objects get in a designated motion-detection area. The area setting is available on MTN TRACKER(P. 27).

QUICK ZOOM

▶ MOVING	30 / 60 SEC
ZOON IN	30 / 60 SEC
STANDBY	30 / 60 SEC
SYNCHRONOUS	OFF
TRACKING	OFF
REPEAT	OFF
RETURN	

MOTION DETECTED !!!

10. EXIT

MENU

1. LENS	DC ↵
2. EXPOSURE	↵
3. WHITE BAL	ATW
4. BACKLIGHT	OFF
5. SPECO DNR	MIDDLE
6. DAY&NIGHT	AUTO ↵
7. IMAGE	↵
8. SYSTEM	↵
9. SPECIAL	↵
▶ 10. EXIT	

Press 'EXIT' button to save the current settings and exit the setup menu.

• Trouble Shooting

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 is not activated.	☞Has MOTION DET been set to ON in the menu? ☞Has MD AREA been properly defined?
The color 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 INTENSIFY does not work.	☞Check that the AGC setting in the EXPOSURE menu is not set to OFF. ☞Check the EXPOSURE menu and make sure SHUTTER is set to------.

LIMITED WARRANTY - VIDEO PRODUCTS

speco technologies®

THIS WARRANTY IS VALID ONLY ON PRODUCTS PURCHASED AND USED IN THE UNITED STATES OF AMERICA AND CANADA. THIS WARRANTY APPLIES ONLY TO THE ORIGINAL USER.

SUBJECT TO CONDITIONS AND EXCLUSIONS FOUND BELOW, THIS PRODUCT IS WARRANTED AGAINST MANUFACTURING DEFECTS IN MATERIAL AND WORKMANSHIP FOR THE FOLLOWING PERIOD FOR PARTS AND LABOR:

SPECO TECHNOLOGIES CAMERAS .... 5 YEARS	**DVRs** .... 3 YEARS
SPECO TECHNOLOGIES IP CAMERAS ...... 2 YEARS	**NVRs** .... 3 YEARS
SPECO PTZ AND VL CAMERAS .... 1 YEAR	**BALANCE OF**
SPECO TECHNOLOGIES MONITORS .... 1 YEAR	**SPECO TECHNOLOGIES LINE** .... 1 YEAR
IR LEDS .... 90 DAYS	

SPECO TECHNOLOGIES WILL REPAIR OR REPLACE (AT OUR DISCRETION) ANY PARTS FOUND TO BE DEFECTIVE FOR THE WARRANTY PERIOD SPECIFIED. WE WILL PROVIDE A REPLACEMENT FOR ANY DEFECTIVE PART.

CONDITIONS

1. YOU MUST OBTAIN A RETURN AUTHORIZATION (RA) NUMBER FOR ANY MERCHANDISE BEING RETURNED TO SPECO TECHNOLOGIES, WHETHER FOR RETURN/EXCHANGE OR REPAIR, WHETHER IN OR OUT OF WARRANTY.

2. THIS WARRANTY WILL BE HONORED ONLY UPON PRESENTATION OF THE ORIGINAL DATED BILL OF SALE OR SALES SLIP.

3. TRANSPORTATION OF THE PRODUCT TO OUR SERVICE DEPARTMENT IS THE RESPONSIBILITY OF THE USER. REPAIRED OR REPLACED PRODUCT WILL BE RETURNED PREPAID DURING THE WARRANTY PERIOD.

4. SPECO TECHNOLOGIES DOES NOT AUTHORIZE ANY INTERNET OR MAIL ORDER PRODUCT SALES. IF A SPECO TECHNOLOGIES PRODUCT IS PURCHASED FROM AN UNAUTHORIZED DISTRIBUTOR OR OTHER SOURCE, INCLUDING RETAILERS, MAIL ORDER SELLERS AND ONLINE SELLERS, IT WILL NOT BE HONORED OR SERVICED UNDER THE EXISTING SPECO TECHNOLOGIES WARRANTY POLICY. ANY SPECO TECHNOLOGIES PRODUCT PURCHASED FROM THESE ONLINE MERCHANTS WILL VOID THE APPLICABLE WARRANTY AND IS INELIGIBLE FOR TECHNICAL SUPPORT. IF YOU HAVE QUESTIONS ABOUT A RESELLER, PLEASE CONTACT SPECO TECHNOLOGIES AT 1-800-645-5516 FOR A LIST OF UNAUTHORIZED DEALERS, VISIT: **www.specotech.com/unauthorized.**

EXCLUSIONS

1. THIS WARRANTY SHALL NOT COVER ADJUSTMENT OF CUSTOMER OPERATED CONTROLS AS EXPLAINED IN THE APPROPRIATE Model 's INSTRUCTION MANUAL OR PRODUCTS WHICH HAVE BEEN ALTERED, ABUSED, OR HAVE MISSING OR ALTERED SERIAL NUMBERS.

2. THIS WARRANTY SHALL NOT APPLY TO UNCRATING, SETUP, INSTALLATION, OR THE REMOVAL AND REINSTALLATION OF PRODUCTS AFTER REPAIR.

3. THIS WARRANTY SHALL NOT APPLY TO REPAIRS OR REPLACEMENTS NECESSITATED BY ANY CAUSE BEYOND THE RESULT OF MANUFACTURE INCLUDING, BUT NOT LIMITED TO, ANY MALFUNCTION, DEFECTS OR FAILURE CAUSED BY OR RESULTING FROM UNAUTHORIZED SERVICE OR PARTS, IMPROPER MAINTENANCE, MODIFICATION OR REPAIR BY THE USER, ABUSE, MISUSE, NEGLECT, ACCIDENT, FIRE, FLOOD, OR OTHER ACTS OF NATURE, INCORRECT LINE VOLTAGE, DAMAGE OR IMAGE BURNS TO TELEVISION PICTURE TUBES CAUSED BY OR ATTRIBUTABLE TO THE USE OF ANY ACCESSORY, ELECTRONICS GAME OR DEVICE, OR DAMAGE CAUSED TO IMAGE PICKUP DEVICES BY EXCESSIVE LIGHT.

THE FOREGOING IS IN LIEU OF ALL OTHER EXPRESSED WARRANTIES AND WE DO NOT AUTHORIZE ANY PARTY TO ASSUME FOR US ANY OTHER OBLIGATION OR LIABILITY. IN NO EVENT SHALL WE BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING FROM

THE USE OF THIS PRODUCT, OR FOR ANY DELAY IN THE USE OF THIS PRODUCT DUE TO CAUSES BEYOND OUR CONTROL. SOME STATES DO NOT ALLOW LIMITATIONS OF HOW LONG AN IMPLIED WARRANTY LASTS AND/OR DO NOT ALLOW THE EXCLUSION OR LIMITATION OF CONSEQUENTIAL DAMAGES. THE ABOVE LIMITATIONS ON IMPLIED WARRANTY AND CONSEQUENTIAL DAMAGES MAY NOT APPLY TO YOU.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

NOTE: FOR YOUR PROTECTION IN THE EVENT OF THEFT OR LOSS OF THIS PRODUCT, PLEASE FILL IN THE INFORMATION REQUESTED BELOW AND RETAIN WITH YOUR SALES RECEIPT.

MODEL NO.: _____ SERIAL NO.: _____
(LOCATED ON BACK OR BOTTOM OF UNIT)

DATE OF PURCHASE: _____

WHERE PURCHASED: _____ PURCHASE PRICE:_____

Speco Technologies
200 New Highway
Amityville, NY 11701
www.specotech.com

FOR MORE INFORMATION REGARDING SERVICE OR RETURN, CALL US TOLL FREE: 1-800-645-5516 IN METRO NY: 631-957-8700

ALWAYS USE DISCRETION WHEN INSTALLING VIDEO AND/OR AUDIO SURVEILLANCE EQUIPMENT ESPECIALLY WHEN THERE IS AN EXPECTATION OF PRIVACY. INQUIRE REGARDING FEDERAL, STATE AND/OR LOCAL REGULATIONS APPLICABLE TO THE LAWFUL INSTALLATION OF VIDEO AND/OR AUDIO RECORDING OR SURVEILLANCE EQUIPMENT. PARTY CONSENT MAY BE REQUIRED.

12-300 5/12

▶MEMO

44

▶MEMO

45

▶MEMO

speco technologies®

200 New Highway

Amityville, NY 11701

631-957-8700

1 800 645 5516

www.specotech.com