INSTRUCTION MANUAL

960H Intensifier3™ Series

HT7246H

(Weatherproof Dome Camera with Chameleon™ Cover)

HTINTB8H / HTINTB8HW

(Weatherproof Bullet Camera with mount plate)
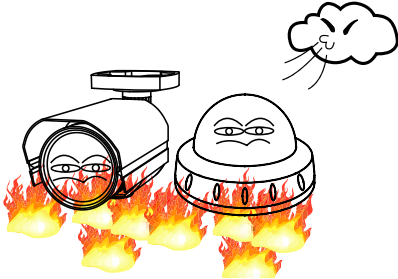
HTINTD8H / HTINTD8HW

(Weatherproof Dome Camera)
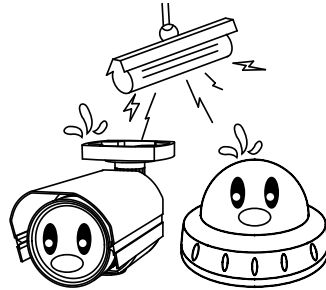
speco technologies®

Contents

Precautions

Do not install the camera in extreme temperature conditions.

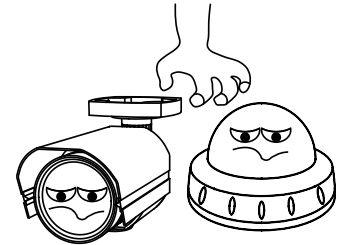Only use the camera under conditions where temperatures are between -10°C and +50°C. Be especially careful to provide ventilation when operating under high temperatures.

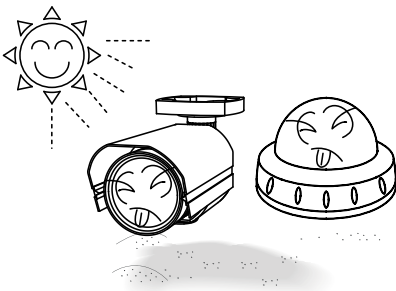**Do not install the camera under unstable lighting conditions.**

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.
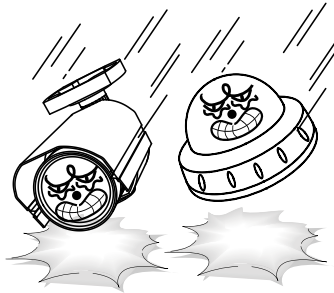
Housing damage can compromise weatherproof ratings.

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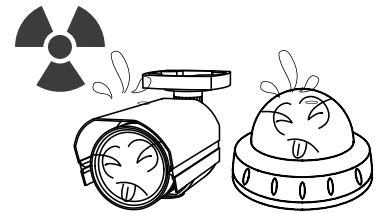
If exposed to radioactivity the CCD will fail.

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.

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.
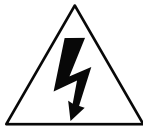
The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

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

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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) HT7246H
- • 1 Video Test Connector, Power Jack
- • 1 Chameleon Cover
- • 1 Wrench
- • Set Screw
- - 3 Tapping Screws 4x40
- - 3 Plastic Anchor

2) HTINTB8H, HTINTB8HW
- • 1 Video Test Connector, Power Jack
- • 1 Bracket Base
- • 2 Wrenches
- • Set Screw
- - 4 Tapping Screws 4x25
- - 4 Hexagon Socket Screws 5x10

3) HTINTD8H, HTINTD8HW
- • 1 Video Test Connector, Power Jack
- • 2 Wrenches
- • Set Screw
- - 3 Tapping Screws 4x25
- - 2 Hexagon Socket Screws M6x20

CAMERA INSTALLATION

CONNECT POWER CABLE

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

Power Input :RED

Center : (+)

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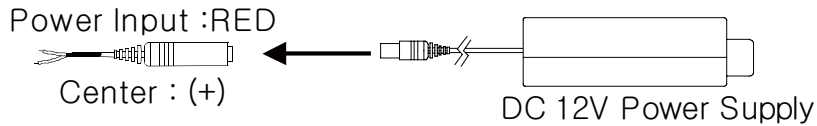
2. WHEN USING 24 VOLTS AC (40 Volt Amps)

RED(+)

BLACK:(-)

AC 24V

Power Supply

3. CONNECT VIDEO CABLE
− CONNECT BNC CABLE TO THE BNC JACK.
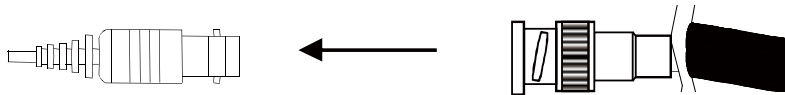
4. CONNECT Alarm output (Relay output)
− Connect (+ , COM) for Positive activation and (−. COM) for
  Negative activation of External Alarm Device when Motion
  Detection is 'ON' in the camera.

+

COM

−

Alarm Output

Positive Alarm Device

Negative Alarm Device
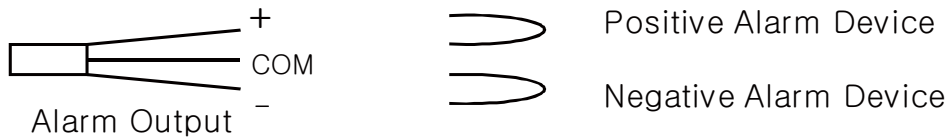
CAMERA INSTALLATION

Compatibility

1) HT7246H
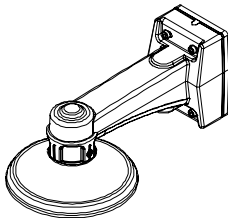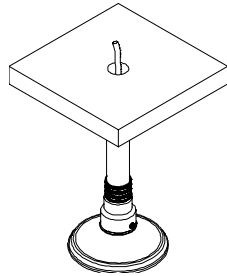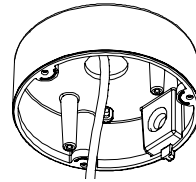
| INTWM | INTPM | CVCJBD | DFM |
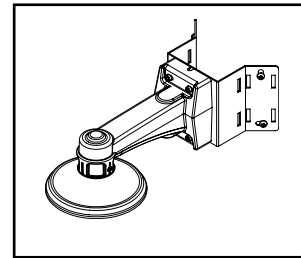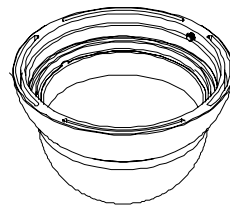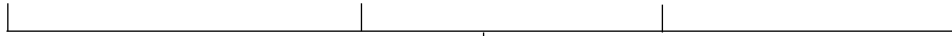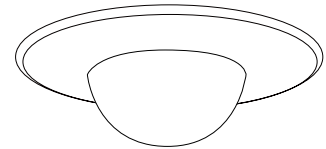
2) HTINTB8H, HTINTB8HW
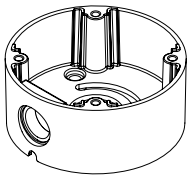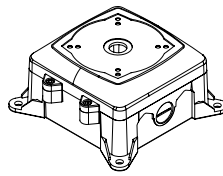
| CVCJBB | INTJBS | INTCM |
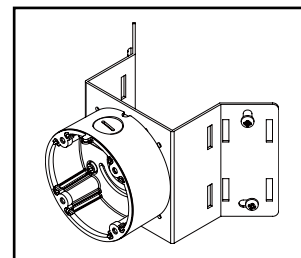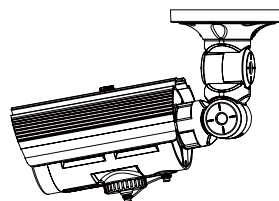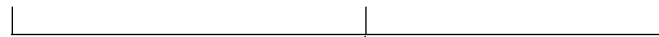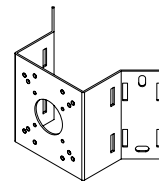
CAMERA INSTALLATION

Compatibility

3) HTINTD8H, HTINTD8HW

INTWM   INTPM   JB03TG
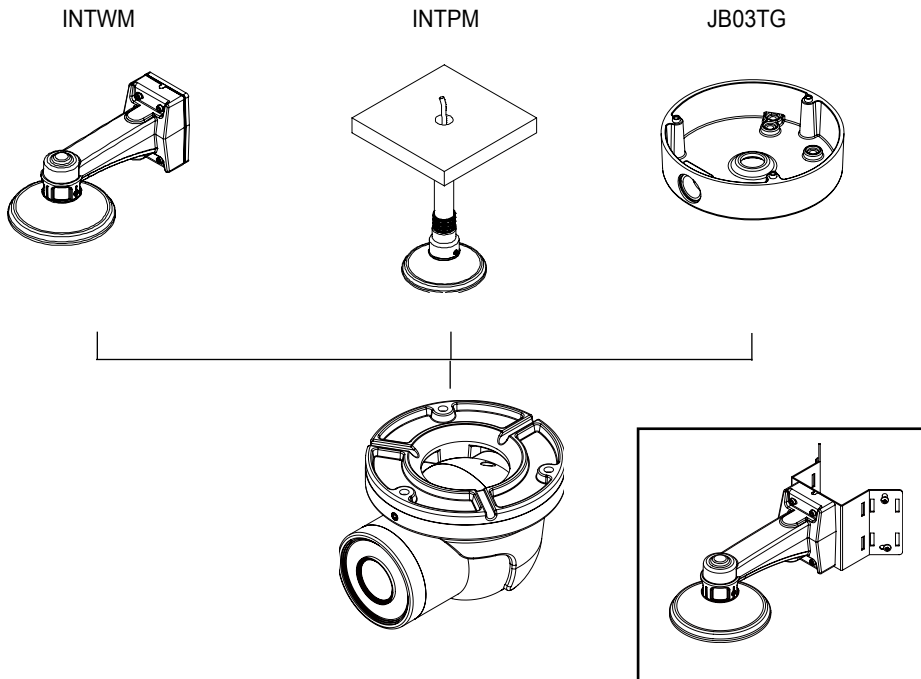
CAUTION : <u>The installation instructions in this manual</u> are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

CAMERA INSTALLATION

1. HT7246H

PLASTIC ANCHOR 6x30, 3EA

VANDAL DOME BASE ASSEMBLY

TAPPING SCREW 4X40, 3EA

VANDAL DOME BODY ASSEMBLY

BODY OUTER COVER
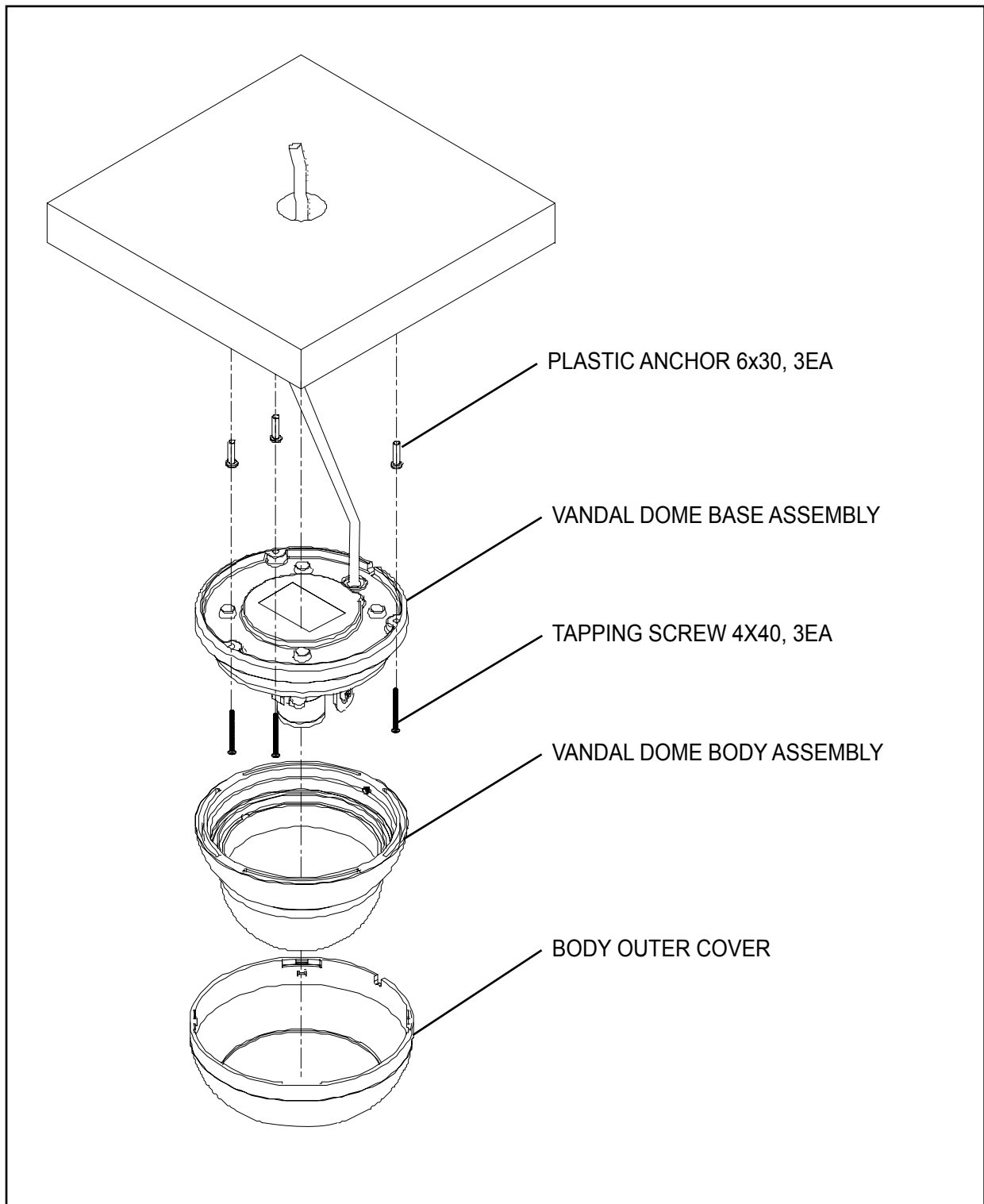
CAMERA INSTALLATION

2. HTINTB8H, HTINTB8HW

CAMERA ASSEMBLY

BASE ADAPTOR BRACKET

TAPPING SCREW 4X25, 4EA

HEXAGON SOCKET SCREW M5X10, 4EA
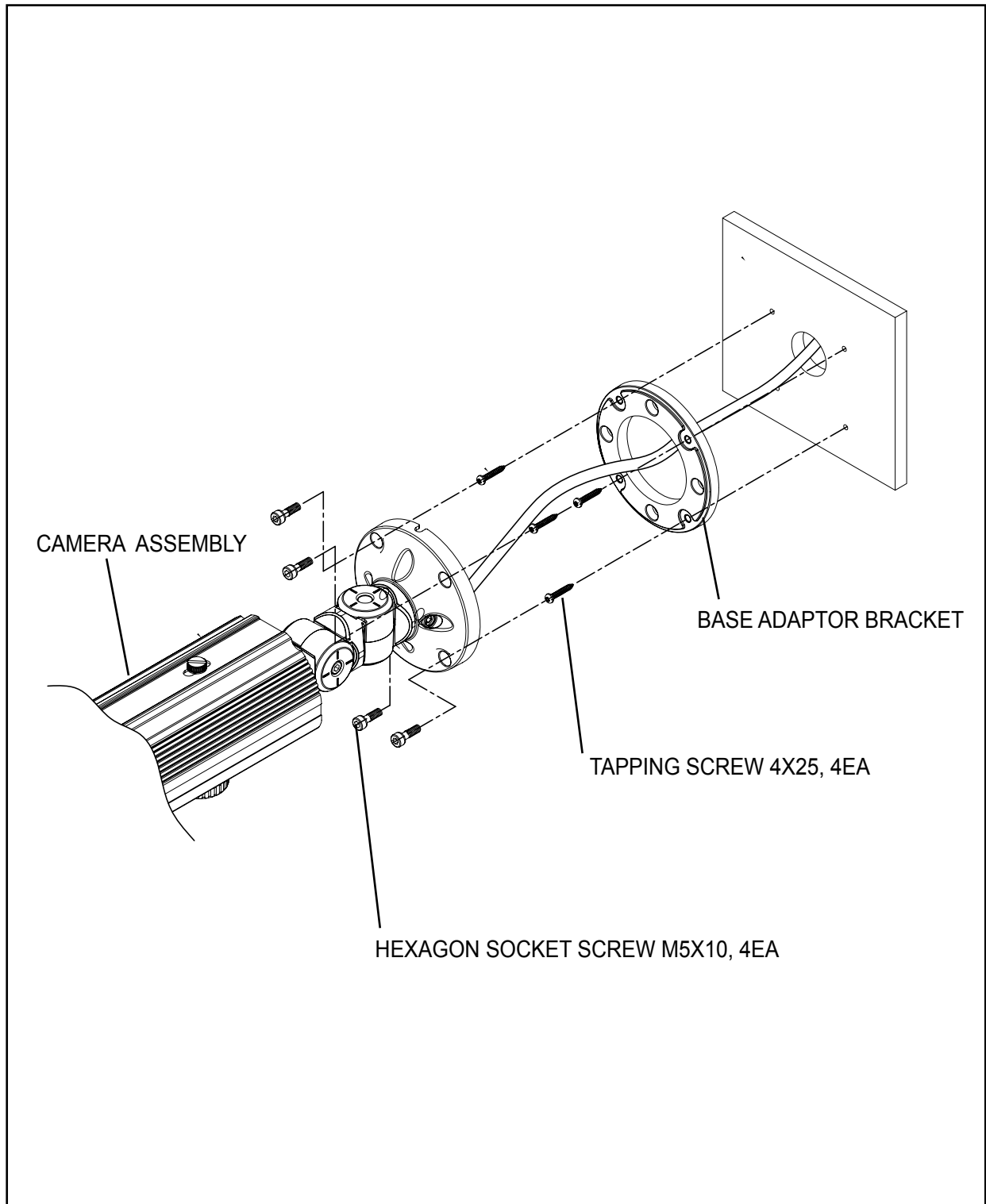
CAMERA INSTALLATION

3. HTINTD8H, HTINTD8HW

DOME BASE

TAPPING SCREW 4X25, 3EA

DOME ASSEMBLY

HEXAGON SOCKET SCREW M6X20, 2EA

DOME BODY
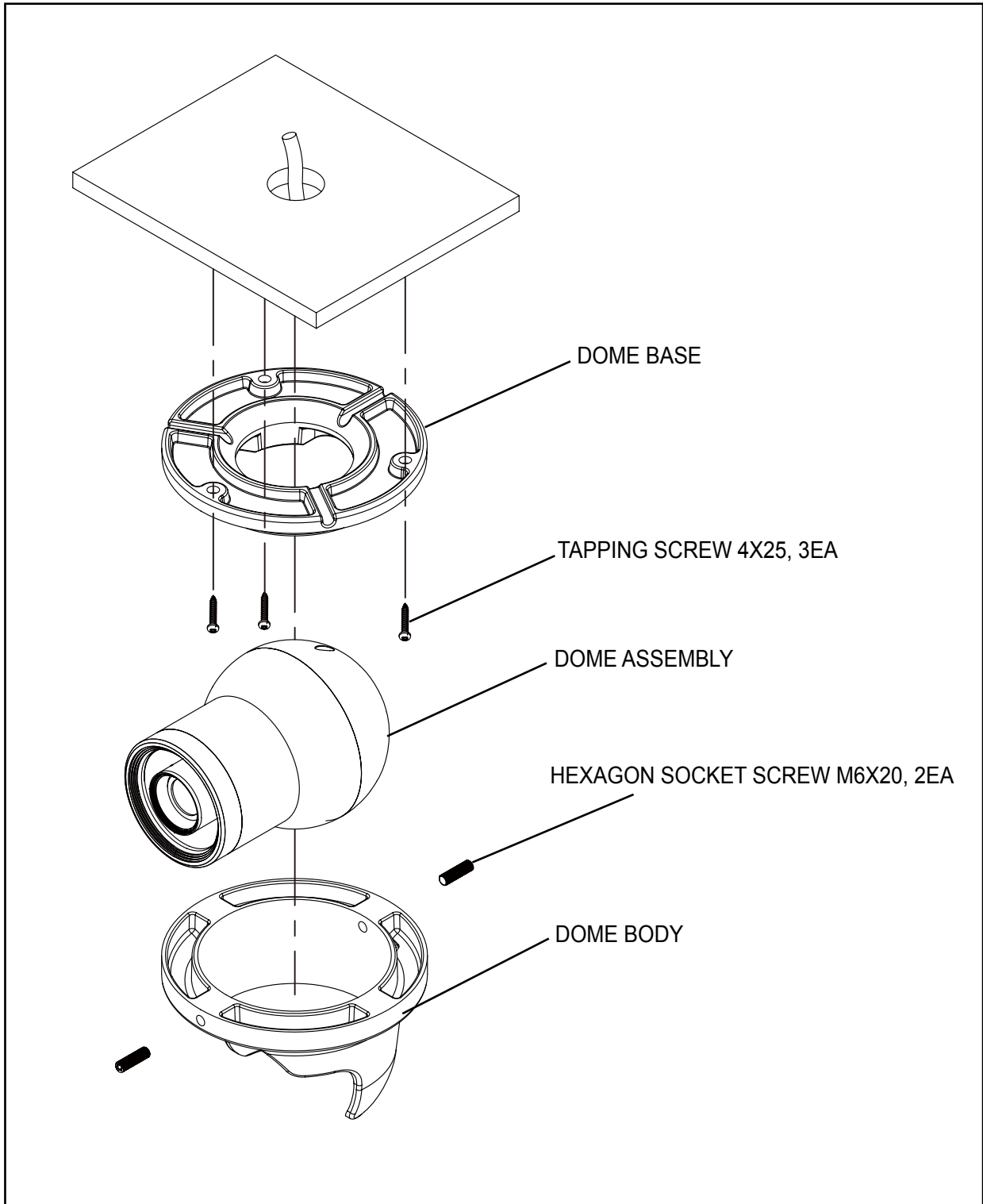
960H Intensifier3
(Weatherproof Dome Camera with Chameleon™ Cover)

DC Auto Iris Varifocal Lens 2.8-12mm

■ **HT7246H**
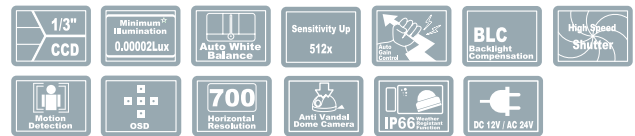
SPECIFICATIONS

| MODEL	HT7246H
Image Pick-Up Device	1/3″ 960H Sony Super HAD CCD
TV System	NTSC, PAL
Total Pixels	NTSC=1020(H) * 508(V) / PAL=1020(H) * 596(V)
Effective Pixels	NTSC=976(H) * 494(V) / PAL=976(H) * 582(V)
Scanning Frequency	NTSC=15.734KHz(H) & 59.94Hz(V) / PAL=15.625KHz(H) & 50.00Hz(V)
Scanning System	2:1 Interlace
Synchronization	Internal
Resolution	700TV Lines
Minimum Illumination	CDS OFF: 0.15 Lux, CDS ON: 0.00002 Lux
S/N Ratio	More than 52dB
Video Output	CVBS: 1.0Vp-p / 75Ω
Electronic Shutter Speed	NTSC=(1/60sec~1/120,000sec) / PAL=(1/50sec~1/120,000sec)
OSD	Available
WDR	On / Off (Level adjustable)
BLC	BLC / HLC / OFF
Day & Night	Color / BW / AUTO / EXT
Gain Control	Low / High / Off
White Balance	ATW / Outdoor / Indoor / Manual / AWC (1,700°K ~ 11,000°K)
Intensify	Auto / Off (Selectable x2 ~ x512)
Motion Detection	On / Off (8 Programmable Zones)
Privacy Masking	On / Off (12 Programmable Zones)
SPECO DNR	On / Off (Level adjustable)
Digital Zoom	On / Off (x1 ~ x16)
DIS (Digital Image Stabilization)	On / Off
Sharpness	On / Off (Level adjustable)
Flip / Mirror	On / Off
Power Supply	DC 12V / AC24V(Dual Voltage)
Power Consumption	DC 12V 250mA / AC24V 100mA
Lens	DC Auto Iris Varifocal Lens 2.8-12mm
Operational Temp.	-4°F~140°F RH 95% Max
Storage Temp.	-4°F~140°F RH 95% Max
Dimension	5.10"(Dia) * 3.46"(H)
Weight	1 lbs

960H Line Intensifier3
(Weatherproof Bullet Camera with mount plate)
DC Auto Iris Varifocal Lens 2.8-12mm

■ **HTINTB8H**
■ **HTINTB8HW**

SPECIFICATIONS

MODEL	HTINTB8H / HTINTB8HW
Image Pick-Up Device	1/3″ 960H Sony Super HAD CCD
TV System	NTSC, PAL
Total Pixels	NTSC=1020(H) * 508(V) / PAL=1020(H) * 596(V)
Effective Pixels	NTSC=976(H) * 494(V) / PAL=976(H) * 582(V)
Scanning Frequency	NTSC=15.734KHz(H) & 59.94Hz(V) / PAL=15.625KHz(H) & 50.00Hz(V)
Scanning System	2:1 Interlace
Synchronization	Internal
Resolution	700TV Lines
Minimum Illumination	CDS OFF: 0.15 Lux, CDS ON: 0.00002 Lux
S/N Ratio	More than 52dB
Video Output	CVBS: 1.0Vp-p / 75Ω
Electronic Shutter Speed	NTSC=(1/60sec~1/120,000sec) / PAL=(1/50sec~1/120,000sec)
OSD	Available
WDR	On / Off (Level adjustable)
BLC	BLC / HLC / OFF
Day & Night	Color / BW / AUTO / EXT
Gain Control	Low / High / Off
White Balance	ATW / Outdoor / Indoor / Manual / AWC (1,700°K ~ 11,000°K)
Intensify	Auto / Off (Selectable x2 ~ x512)
Motion Detection	On / Off (8 Programmable Zones)
Privacy Masking	On / Off (12 Programmable Zones)
SPECO DNR	On / Off (Level adjustable)
Digital Zoom	On / Off (x1 ~ x16)
DIS (Digital Image Stabilization)	On / Off
Sharpness	On / Off (Level adjustable)
Flip / Mirror	On / Off
Power Supply	DC 12V / AC24V(Dual Voltage)
Power Consumption	DC 12V 400mA / AC24V 170mA
Lens	DC Auto Iris Varifocal Lens 2.8-12mm
Operational Temp.	-4°F~140°F RH 95% Max
Storage Temp.	-4°F~140°F RH 95% Max
Dimension	3.46"(W) * 4.01"(H) * 11.02"(D)
Weight	3 lbs

960H Line Intensifier3
(Weatherproof Dome Camera)

DC Auto Iris Varifocal Lens 2.8-12mm

■ **HTINTD8H**
■ **HTINTD8HW**
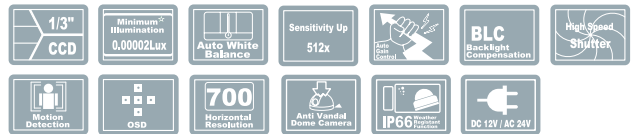
SPECIFICATIONS

MODEL	HTINTD8H / HTINTD8HW
Image Pick-Up Device	1/3″ 960H Sony Super HAD CCD
TV System	NTSC, PAL
Total Pixels	NTSC=1020(H) * 508(V) / PAL=1020(H) * 596(V)
Effective Pixels	NTSC=976(H) * 494(V) / PAL=976(H) * 582(V)
Scanning Frequency	NTSC=15.734KHz(H) & 59.94Hz(V) / PAL=15.625KHz(H) & 50.00Hz(V)
Scanning System	2:1 Interlace
Synchronization	Internal
Resolution	700TV Lines
Minimum Illumination	CDS OFF: 0.15 Lux, CDS ON: 0.00002 Lux
S/N Ratio	More than 52dB
Video Output	CVBS: 1.0Vp-p / 75Ω
Electronic Shutter Speed	NTSC=(1/60sec~1/120,000sec) / PAL=(1/50sec~1/120,000sec)
OSD	Available
WDR	On / Off (Level adjustable)
BLC	BLC / HLC / OFF
Day & Night	Color / BW / AUTO / EXT
Gain Control	Low / High / Off
White Balance	ATW / Outdoor / Indoor / Manual / AWC (1,700°K ~ 11,000°K)
Intensify	Auto / Off (Selectable x2 ~ x512)
Motion Detection	On / Off (8 Programmable Zones)
Privacy Masking	On / Off (12 Programmable Zones)
SPECO DNR	On / Off (Level adjustable)
Digital Zoom	On / Off (x1 ~ x16)
DIS (Digital Image Stabilization)	On / Off
Sharpness	On / Off (Level adjustable)
Flip / Mirror	On / Off
Power Supply	DC 12V / AC24V(Dual Voltage)
Power Consumption	DC 12V 400mA / AC24V 170mA
Lens	DC Auto Iris Varifocal Lens 2.8-12mm
Operational Temp.	-4°F~140°F RH 95% Max
Storage Temp.	-4°F~140°F RH 95% Max
Dimension	5.47"(Dia) * 4.36"(H)
Weight	3.08 lbs

CAMERA DIMENSION

1) HT7246H

5.10" dia

1.16"

3.46"

3.93" dia

5.10" dia

2) HTINTB8H, HTINTB8HW

3.46"

4.01"

11.02"

5.90"

3.11"

5.03"

10.51"

3.89" dia
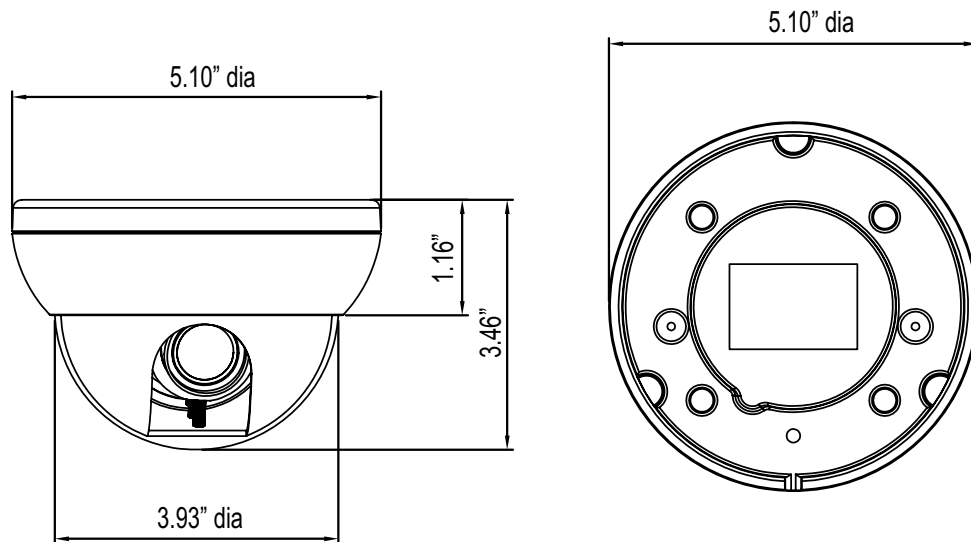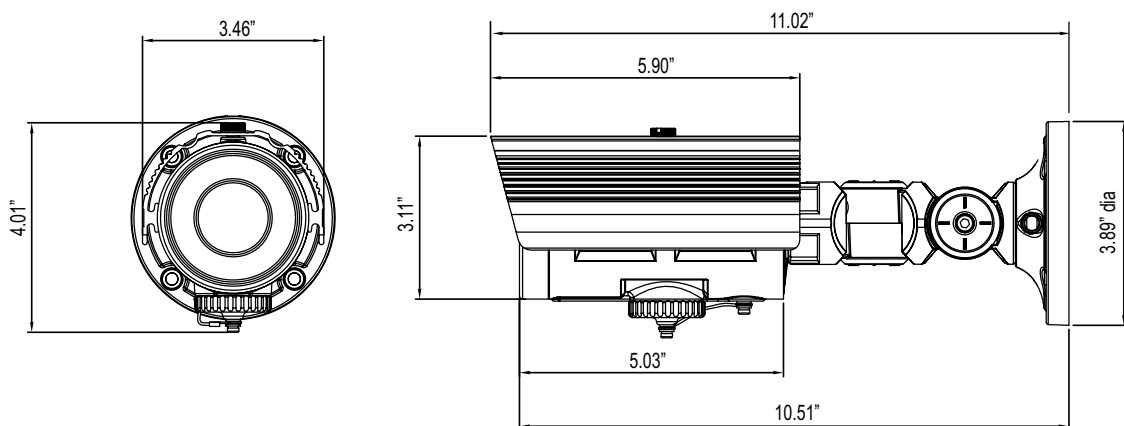
CAMERA DIMENSION

3) HTINTD8H, HTINTD8HW

5.47" dia

4.36"

3.34"

3.70"
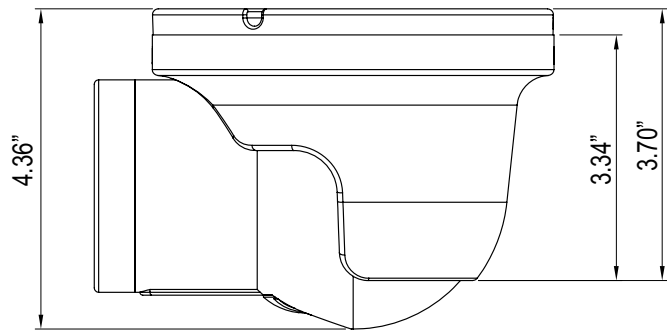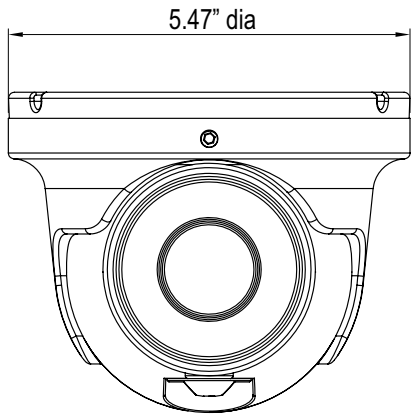
FEATURES

Now with "PRESETS"

PRESETS (Outdoor, Indoor, Elevator, Lobby, Hallway & Low Light)
Used for a quick and easy setup for the installation environment.

700TVL Resolution

Horizontal resolution of 700 TV lines is achieved by using a
SONY Super-HAD CCD with 520,000 pixels, and a custom DSP
yielding pictures with a high S/N ratio.

INTENSIFIER 3

More Powerful Performance in low light condition.
High quality Pictures to be captured in very low light condition.

WDR

More Powerful WDR in strong back lighting.
Your camera allows you to get a clear image.

SPECO DNR

The Intensifier camera has a DSP chip that can remove image
noise efficiently showing clean images in low light conditions.

HLC (High Light Compensation)

This function reverses bright spots in the picture (such as
headlights). This enables the entire system to do a better job of
resolving and displaying grayscale information such as a
license plate.

FEATURES

Motion Detection with Alarm Output

Built in motion detector with adjustable areas of coverage will
Send a signal to an external alarm device when motion is detected.

Privacy Mask

It also has the ability to mask up to 8 areas of the picture where
Viewing is not desired. Each zone can be independently
programmed via the OSD

Stabilizer

This function removes image jitter that is caused by vibrations in
the building and reduces the amount of hard drive space.

Digital Zoom

The picture could be enlarged by this function in digital.

Day/Night

The Intensifier camera can show color pictures in all lighting
conditions, or you can have it automatically swiches to a B/W
picture in low light conditions

OSD

All camera functions are menu driven for easy use.

• Preset Mode

```
              SPECO TECH

  ▶ 1.PRESET MODE    INDOOR ↵
    2.MAIN SETUP
    3.EXIT             RESET ↵
```
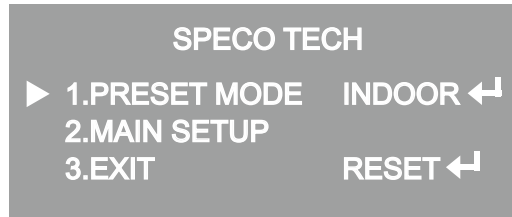
1. Preset : INDOOR / OUTDOOR / LOW LIGHT / HALLWAY / LOBBY / ELEVATOR.

- Used for a quick and easy setup for the installation environment.

• Menu Setup

1. Press the Function Setup switch.

- Main setup menu is displayed on the monitor screen.

```
              MAIN SETUP

  ▶ 1.LENS            DC  ↵
    2.EXPOSURE ↵
    3.WDR             OFF
    4.WHITE BAL       ATW
    5.BACKLIGHT       OFF
    6.SPECO DNR       ON  ↵
    7.DAY/NIGHT       AUTO ↵
    8.SPECIAL ↵
    9.RETURN          SAVE
```
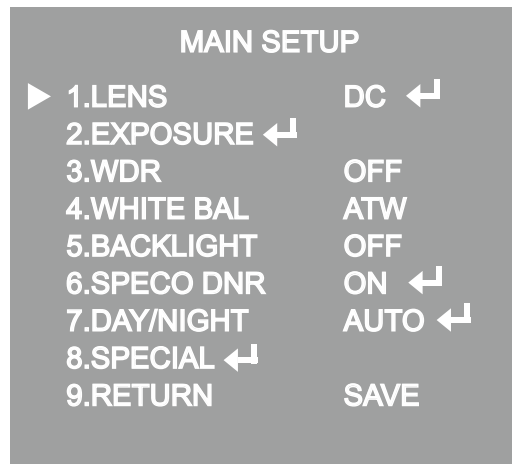
2. Select a desired function using the Function Setup switch.

- Place the cursor over a desired item.

3. Set up a selected item by using the Function Setup switch.

4. To finish the setting, select 'RETURN' and press the Function Setup switch.

☞ **NOTE**

■ **An item with the ↵ icon also has sub menus. To select a sub menu, select an item with the icon and press the Function Setup switch.**

■ **An item with the - - - icon is unavailable due to function settings.**

• Lens Setting

Using this function, you can control the screen brightness.

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

● DC : You can adjust the minimum shutter and maximum value of shutter when DC Lens mode is selected.

2. Press LENS to choose from the sub menu items as listed below.

- BRIGHTNESS : Adjusts the video brightness (selectable from 1-70)

- IRIS SPEED : Adjusts Iris control speed of the DC lens. If the control speed is too slow or fast, use this menu to adjust the speed.

- FOCUS ADJ : To adjust the DC lens focus correctly, you must change MODE to ON under the the FOCUS ADJUST menu. Adjust the lens focus and after the lens focus had been adjusted, change MODE to OFF.

```
            MAIN SETUP

1.LENS              DC  ↵
2.EXPOSURE  ↵
3.WDR               OFF
```

☞ **NOTE**
■ **If color rolling occurs when using a DC lens, set Shutter to ---.**

• Exposure Setting

```
            MAIN SETUP

  1.LENS              DC  ↵
▶ 2.EXPOSURE  ↵
  3.WDR               OFF
```
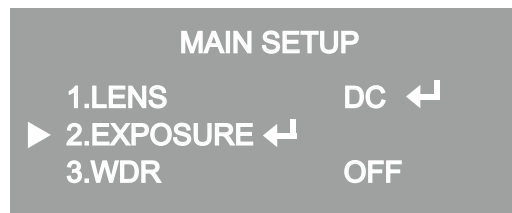
1. When the SETUP menu screen is displayed, select 'EXPOSURE' by using the Function Setup.

2. Select the desired mode using Up and Down buttons.

```
          EXPOSURE SETUP

▶ 1.BRIGHTNESS  |||||||||||||||  25
  2.SHUTTER                 - - -
  3.AGC                     HIGH
  4.INTENSIFY               OFF
  5.RETURN  ↵
```
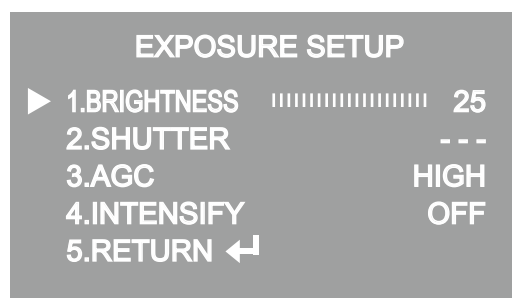
◆BRIGHTNESS : Adjusts the video brightness.

◆SHUTTER : You can select either auto or manual shutter.

* A.FLK : Select this when you see picture flicker, this can happen when the frequency of the local lighting clashes with the camera.

* ESC : Select this to control the shutter speed automatically. If ESC is selected, the shutter speed is automatically controlled depending on the ambient illumination of the subject.

* MANUAL : You can control shutter speed manually. (1/60 ~ 1/120,000)

* --- : Shutter speed is fixed at 1/60 sec. (1/50 sec.)

☞ **NOTE**

■ **When using a DC lens, set the shutter mode to A.FLK if color rolling occurs.**

■ **When the SHUTTER is set to ESC after selecting Internal Synchronization Type, the picture may become unstable if the camera faces a bright fluorescent light. Therefore, take care when choosing the installation position.**

■ **When the SHUTTER is set to MANUAL or A.FLK mode, INTENSIFY will be disabled.**

◆AGC(AUTO GAIN CONTROL) : The higher the gain level, the brighter the screen, but the higher the noise.

* OFF : Deactivates the AGC function.

* LOW : Allows automatic gain control from 5.3dB to 32dB.

* HIGH : Allows automatic gain control from 5.3dB to 37dB.

◆INTENSIFY : When it is night or dark, the camera automatically detects the light level and maintains a clear picture if this mode is activated.

* OFF : Deactivates the INTENSIFY function.

* AUTO : Activates the INTENSIFY function.

◆RETURN : Select this to save the changes in the EXPOSURE menu and return to the SETUP menu.

☞ **NOTE**

■ **If you press the SET button in 'AUTO' mode, you can adjust brightness by increasing or decreasing the shutter speed. (x2 ~ x512)**

■ **Note that the higher the INTENSIFY level, the brighter the screen, but the more likely there will be a ghosting effect.**

■ **It is normal for noise, spots and whitish symptoms to appear in INTENSIFY mode when the D-ZOOM level is increased.**

• WDR (Wide Dynamic Range) Setting

WDR illuminates darker areas of an image while retaining the same light level for brighter area to even out the overall brightness of images with high contrast between bright and dark areas.
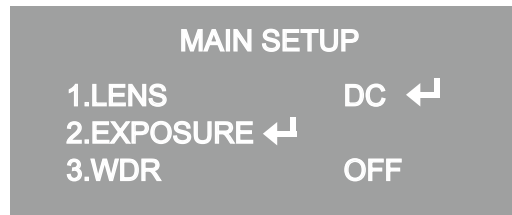
1. When the SETUP menu screen is displayed, select "WDR" by using the Up and Down buttons so that the arrow indicates 'WDR'.

2. Turn on by using the Left/Right buttons and press SETUP to change the WDR level in the sub menu according to the contrast between bright and dark areas.

```
            MAIN SETUP

    1.LENS              DC  ↵
    2.EXPOSURE ↵
  ▶ 3.WDR               OFF
```
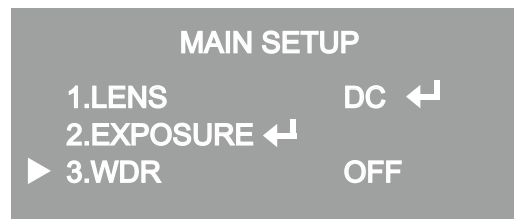
• White Balance (White Bal) Setting

Use the White Balance function to adjust the screen color.

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

2. Select the desired mode using Up and Down buttons.

```
            MAIN SETUP

    2.EXPOSURE ↵
    3.WDR              OFF
  ▶ 4.WHITE BAL        ATW
```
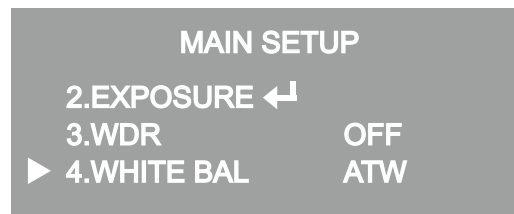
◆ATW : Select this when the color temperature is between 1,700°K and 11,000°K.

◆OUTDOOR : Select this when the color temperature is between 1,700°K and 11,000°K.
         (sodium light inclusion)

◆INDOOR : Select this when the color temperature is between 4,500°K and 8,500°K.

◆MANUAL : Select this to fine-tune White Balance manually. Set White Balance first by using the ATW or AWC mode. After that switch to MANUAL mode, fine-tune the White Balance and then press the SET button.

◆AWC→SET : To find the optimal luminance level for the current environment, point the camera towards a sheet of white paper and press the Function Setup switch. If the environment changes, readjust it.

• BLC(Back Light Compensation) Setting

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

```
                 MAIN SETUP

        1.LENS            DC ↵
        2.EXPOSURE ↵
        3.WDR             OFF
        4.WHITE BAL       ATW
    ▶   5.BACKLIGHT       OFF
        6.SPECO DNR       ON ↵
        7.DAY/NIGHT       AUTO ↵
        8.SPECIAL ↵
        9.RETURN          SAVE
```
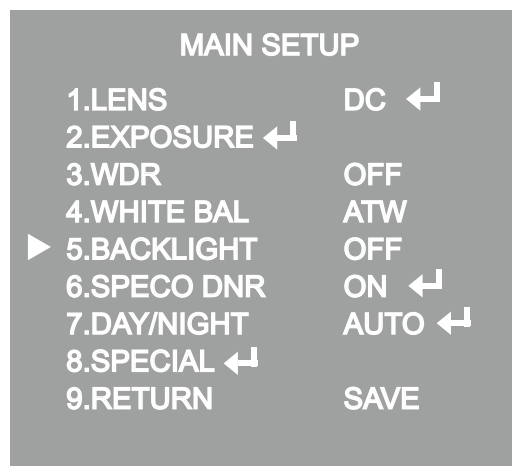
2. Select a desired mode using the Left and Right buttons depending on the camera purpose.

◆USER BLC : Enables a user to select a desired area on a picture and view that area more clearly.

- LEVEL : Adjust level of the BLC function.

- TOP/BOTTOM/LEFT/RIGHT : Adjust the area to be enhanced.

◆HLC (High Light Compensation) : If the scene contains extremely bright light areas such as from car headlight, the light can mask out much of the on-screen detail. Use HLC feature to remove these exceptionally bright light areas to allow detail such as car license plate number to become visible.

- LEVEL : Adjust level of the HLC function.

- LIMIT : Enable to change the operating condition.

- MASK COLOR/TONE : Change the color / brightness of the masking area. (Black, Red, Blue, Cyan, Magenta)

- TOP/BOTTOM/LEFT/RIGHT : Adjust the area to be enhanced.

◆OFF: Not being used

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

◆BLC : Select 'BLC' to adjust the area to be enhanced then adjust the level.

◆HLC : Enable the user to change the level limit, mask color/tone and area.

☞ **NOTE**
■ **Because there can be a difference in the effectiveness of HLC according to the amount of light area in the screen, optimize the installation angle for the best HLC performance.**
■ **When dark, the HLC is only activated when a bright light exceeding a specific size in NIGHT ONLY mode.**
■ **The HLC is not activated in day light or when bright light is not present at night in NIGHT ONLY mode.**
■ **BLC Function doesn't work in the B/W mode of the DAY/NIGHT menu.**

• SPECO DNR Setting

This function reduces the background noise in a low luminance environment.

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

```
              MAIN SETUP

        1.LENS            DC  ↵
        2.EXPOSURE ↵
        3.WDR             OFF
        4.WHITE BAL       ATW
        5.BACKLIGHT       OFF
     ▶  6.SPECO DNR       ON  ↵
        7.DAY/NIGHT       AUTO ↵
        8.SPECIAL ↵
        9.RETURN          SAVE
```
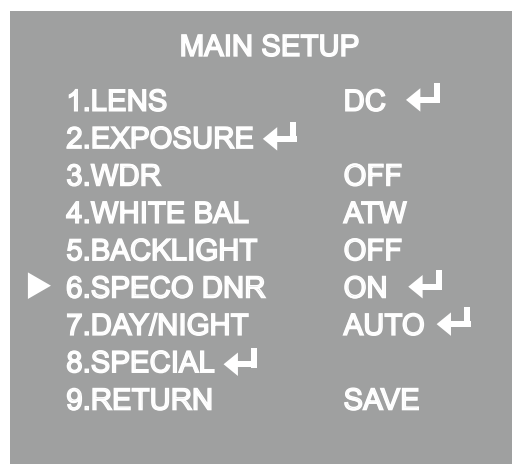
2. Select a desired mode using the Left and Right buttons.

◆ OFF : Deactivates SPECO DNR. Noise is not reduced.

◆ ON : Activates SPECO DNR so that noise is reduced.

3. Set the SPECO DNR mode to 'ON' and press the SET button, then you can adjust the noise reduction level.

☞ **NOTE**
■ **When the AGC mode of the EXPOSURE menu is 'OFF', you cannot set the SPECO DNR to 'ON' or 'OFF'.**
■ **Wen adjusting the noise reduction level in DNR3 mode, remember that the higher level is set, the greater reduction in noise level, as will the brightness of the image.**

• Day/Night Setting

You can display pictures in color or black and white.

1. When the SETUP menu screen is displayed, select "DAY/NIGHT" by using the Up and Down buttons so that the arrow indicates 'DAY/NIGHT'.

```
              MAIN SETUP

        1.LENS          DC ↵
        2.EXPOSURE ↵
        3.WDR           OFF
        4.WHITE BAL     ATW
        5.BACKLIGHT     OFF
        6.SPECO DNR     ON  ↵
     ▶  7.DAY/NIGHT     AUTO ↵
        8.SPECIAL ↵
        9.RETURN        SAVE
```
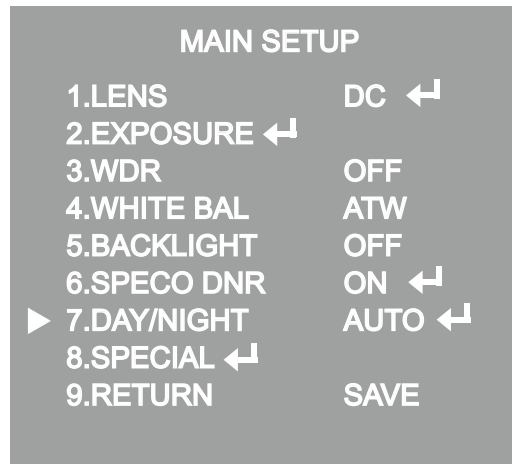
2. Select a desired mode using the Left and Right buttons according to the picture display you want.

◆ EXTERN : This mode allows you to supply a desired filter to external signals.

◆ COLOR : The picture is always displayed in color.

◆ B/W :The picture is always displayed in black and white.
   You can turn on or off the burst signal on B/W mode.

◆ AUTO : The mode is switched to 'Color' in a normal environment, but switches to 'B/W' mode when ambient illumination is low. To set up the switching time for AUTO mode, press the SET button. You can turn on or off the burst signal on B/W mode.

```
              AUTO SETUP

     ▶  1.BURST MODE        ON
        2.COLOR→B/W
          DURATION          FAST
          DWELL TIME        5SEC
        3.B/W→COLOR
          DURATION          FAST
          DWELL TIME        10SEC
        4.RETURN  ↵
```
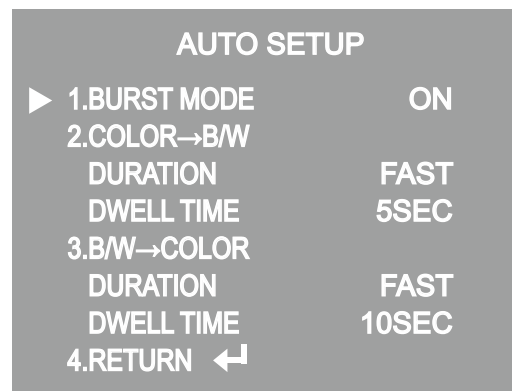
- BURST MODE : You can turn on or off the burst signal on B/W mode.
- DURATION : You can select the brightness level at which the camera switches from day to night mode.
- DWELL TIME : You can select the duration the camera changes from day to night mode and night to day.

(NTSC MODE)

	COLOR→B/W	B/W→COLOR
FAST	2 lux	5 lux
SLOW	1 lux	5.5 lux

☞ **NOTE**
■ **When using a Video Auto Iris Lens, if you set the lens level to low, automatic switching between Color and Black&White may not occur.**
■ **When AGC in the EXPOSURE menu is 'OFF', '---' mode operates as 'COLOR' mode and 'AUTO' mode cannot be selected.**

• Special Setting

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

```
            MAIN SETUP

     1.LENS            DC ↵
     2.EXPOSURE ↵
     3.WDR             OFF
     4.WHITE BAL       ATW
     5.BACKLIGHT       OFF
     6.SPECO DNR       ON ↵
     7.DAY/NIGHT       AUTO ↵
  ▶  8.SPECIAL ↵
     9.RETURN          SAVE
```

2. Select a desired mode using the Left and Right buttons.

```
             SPECIAL

  ▶ 1.IMAGE ADJ ↵
     2.CAM TITLE          OFF
     3.SYNC                INT
     4.MOTION             OFF
     5.PRIVACY            OFF
     6.DIS                OFF
     7.RETRUN ↵         BASIC
```

◆IMAGE ADJ. :

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

2) Select a desired mode using the Left and Right buttons.

```
           IMAGE SETUP
  ▶ 1.MONITOR         LCD ↵
     2.REVERSE          OFF
     3.PIP              OFF
     4.D-ZOOM           OFF
     5.FONT COLOR      BLUE
     6.SHARPNESS        ON ↵
     7.LANGUAGE     ENGLISH
     8.RETURN ↵
```
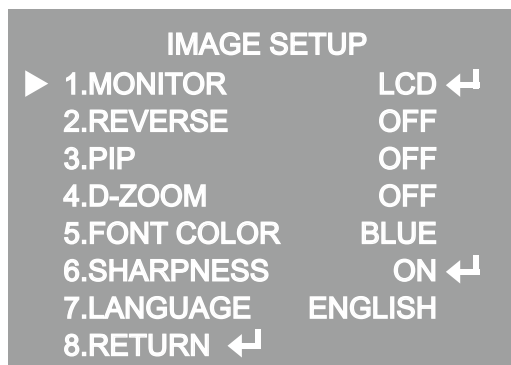
* MONITOR : Change the setting value of video that is appropriate to your monitor.

- LCD : Select this menu item when using a LCD monitor.

- CRT : Select this menu item when using a CRT monitor.

- USER : Select this menu item when using a monitor other than standard ones. You can change the gamma, PED level, and color gain in the sub menus.

* Reverse :You can reverse the picture.

- OFF : Picture will not be reversed.

- H-REV : Horizontal flip.

- V-REV : Vertical flip.

- HV-REV : Both Horizontal and Vertical flip.

* PIP (Picture in Picture) :Displays a full size image along with the thumbnail to provide more detailed information. The position of the thumbnail is adjustable.

* D-ZOOM : You can use a digital zoom of x1 ~ x16.

* FONT COLOR: You can change the OSD font color.
* SHARPNESS: As you increase this value, the picture outline becomes stronger and clearer. Adjust this value appropriately depending on the sharpness of the picture.
* LANGUAGE: You can select the menu language.
- NTSC : Korean, English, French, Spanish, Japanese, Portuguese.
- PAL : English, Chinese, German, Italian, French, Spanish, Russian, Serbian, Swedish, Danish, Turkish, Portuguese.
* RETURN: Select this to save the settings for the IMAGE ADJ menu and to return to the SPECIAL menu.

☞ **NOTE**
■ When the REVERSE mode is enabled, the text on the screen will not flip.
■ If you increase the SHARPNESS level too high, the picture may become distorted or noise may appear.

◆CAM TITLE : If you enter a title, the title will appear on the monitor.
1) If the SPECIAL menu screen is displayed, use the Up and Down buttons so that the arrow indicates 'CAM TITLE'.
2) Set it to 'ON' by using the Left and Right buttons.
3) Press the SET button.
4) Use the 4 direction buttons to move to a desired letter and select the letter by pressing the SET button. Repeat this to enter multiple letters. You can enter up to 15 letters.
5) Enter a title, move the cursor to 'POS' and press the SET button. The entered title appears on the screen. Select the position to display the title on the screen by using the 4 direction buttons and press the SET button to return to the SPECIAL menu.

```
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

CAMERA001 _ _ _ _ _ _
```

SHOP

◆ SYNC : In areas where the supply is at 60Hz, you can synchronize the output phase of multiple cameras using the power synchronization function (Line-Lock) without using a synchronization signal generator.

- INT : Internal Synchronization Type.

* Press the Function Setup switch.

* You can select a desired phase from 0 to 359 when select 'phase'.

◆MOTION : This camera allows you to observe movement of objects in 8 different areas on the screen, and the words 'MOTION DETECTED' appear on the screen when movement is detected.

```
                    MOTION

 1.MOTION                       OFF
 2.DETECT BOX                   OFF
 3.ALARM OUT                    L-TOP
 4.DETECT AREA ↵
 5.MASK AREA ↵
 6.SENSITIVITY      ı|||||||||||||| 3
 7.DET.SIZE         ı|||||||||||||| 3
 8.RETURN ↵
```
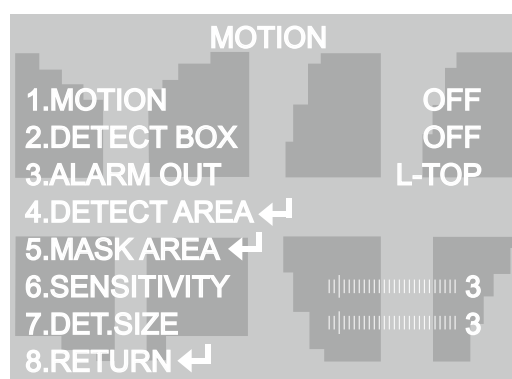
- MOTION : Enable or disable the motion detection feature.

* OFF : Disables motion detection

* DETECTION : Activates motion detection

- DETECT BOX : Outlines an object on the screen in a box when movement matches a custom motion type.

- ALARM OUT : Trigger the signal from the Alarm Output Terminal of the camera when an object's movement matched a custom motion type.
- DETECT AREA : Defines the motion detection area.
- MASK AREA : Specify a detection exception area to mask. Select a mask area number and specify the size and position.
* AREA : Select up to 4 areas
* MODE : Turn the selected area ON or OFF.
* TOP/BOTTOM/LEFT/RIGHT : Adjust the size and position of the selected area.
* RETURN : Select this to save the mask area menu settings and return to the MOTION menu.
- SENSITIVITY : Set the sensitivity of the motion detection. The higher the level, the motion detection sensitivity is increased to recognize smaller movements.
- DET. SIZE : Selects an object size to detect on the screen. The higher the level means the larger the detection size.
- RETURN : Select this to save the motion menu setting and return to the special menu

```
              DETECT AREA

  ▶ 1.TOP        ||||||||||||||||||||||    1
    2.BOTTOM     ||||||||||||||||||||||||    50
    3.LEFT       ||||||||||||||||||||||    1
    4.RIGHT      ||||||||||||||||||||||||    50
    5.RETURN ↵
```

```
              MASK AREA

  ▶ 1.AREA                    AREA1
    2.MODE                      OFF
    3.TOP        ||||||||||||||||||||||    30
    4.BOTTOM     |||||||||||||||||||||||110
    5.LEFT       |||||||||||||||||||||    25
    6.RIGHT      |||||||||||||||||||||||110
    7.RETURN ↵
```
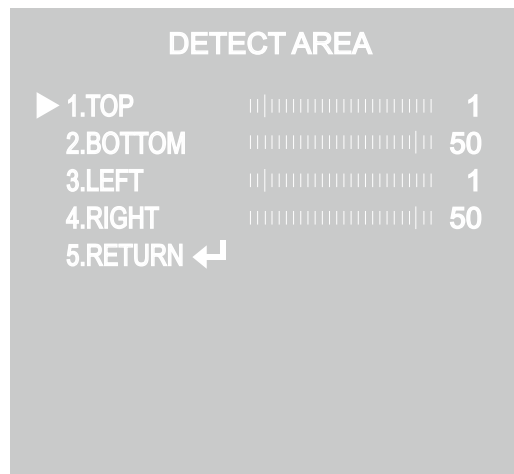
◆PRIVACY : Mask an area you want to hide on the screen.

1) When the SPECIAL menu screen is displayed, press the Up and Down buttons so that the arrow indicates 'PRIVACY'.

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

- AREA SEL : You can select up to 12 PRIVACY areas.

- MODE : Turn the selected area ON or OFF.

- MASK COLOR : Determine area color. Select GREEN, RED, BLUE, BLACK, WHITE and GRAY.

- TRANSPARENCY : Add or remove transparency from the masked area.

- SEL POS : Adjust the size and position of the selected area.

- X POS

- Y POS

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

```
                PRIVACY AREA SETUP

   ▶ 1.AREA                      AREA1
     2.MODE                        OFF
     3.MASK COLOR                GREEN
     4.TRANSPARENCY                OFF
     5,SEL POS                   L_TOP
     6.X POS        ıı|ııııııııııııııııı   10
     7.Y POS        ıı|ııııııııııııııııı   10
     8.RETURN ↵
```
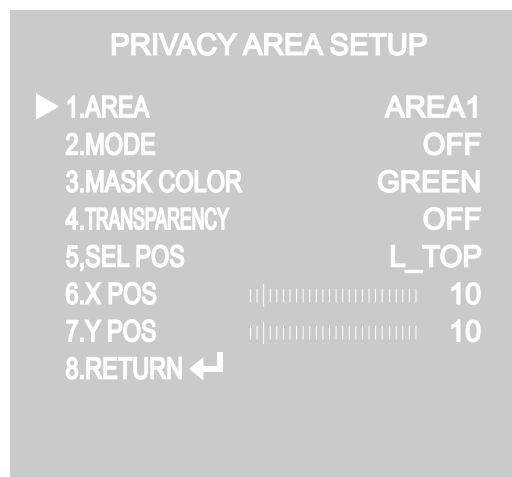
◆DIS (Digital Image Stabilizer) :

This function mitigates any picture movement due to external factors such as wind.

☞ **NOTE**
■ **As the DIS function uses the digital zoom, the camera's resolution will decrease.**
■ **DIS does not operate when background illumination is low or if the object pattern is monotonic (such as a white wall, sky, etc.).**

```
                    SPECIAL

     1.IMAGE ADJ ↵
     2.CAM TITLE               OFF
     3.SYNC                     INT
     4.MOTION                   OFF
     5.PRIVACY                  OFF
     6.DIS                      OFF
   ▶ 7.RETRUN ↵
```

• Exit Setting

Select a desired EXIT mode using the Left and Right buttons depending on the camera purpose.

- SAVE : Save the current settings and exit the MAIN SETUP menu.

- NOT SAVE : Do not save the current settings and exit the MAIN SETUP menu.

- RESET : Resets the camera settings to the factory defaults. Language and Monitor settings are not initialized.

• 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------.

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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.

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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**

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