

INSTRUCTION MANUAL

SPECO 960H WDR Series

WDRB10H

(Outdoor IR Bullet Camera)

WDRD10H

(Outdoor IR Dome Camera)

WDRD20H

(Indoor IR Dome Camera)

WDRB11H

(Outdoor Bullet Camera with mount plate)

WDRD11H

(Outdoor Dome Camera)

WDRD21H

(Indoor Wall & Ceiling Mount Dome Camera)

WDRD21HW

(Indoor Wall & Ceiling Mount Dome Camera)

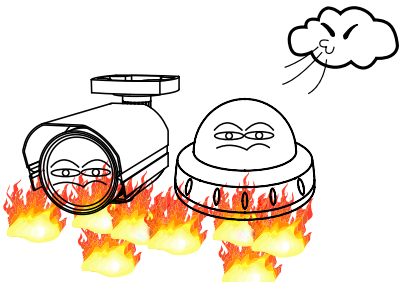


Precautions

● Contents.....	1
● Precautions	2, 3
● Safety Instructions	4
● Package Contents.....	5
● Camera Installation	6-15
● Specifications.....	16-21
● Camera Dimension	22-24
● Features.....	25
● OSD Menu Details	26-56
● Trouble Shooting.....	57

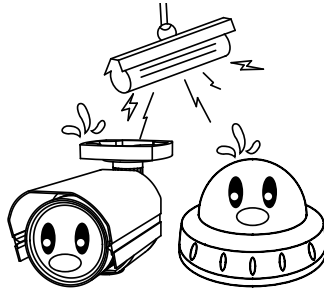
Precautions

Do not install the camera in extreme temperature conditions.



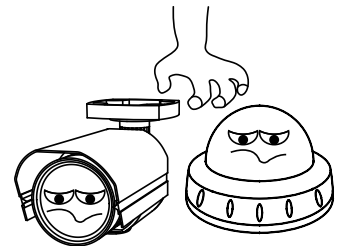
Only use the camera under conditions where temperatures are between -10°C and $+50^{\circ}\text{C}$. Be especially careful to provide ventilation when operating under high temperatures.

Do not install the camera under unstable lighting conditions.



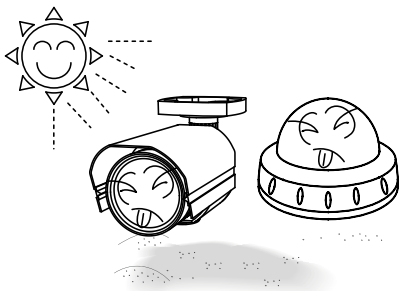
Severe lighting change or flicker can cause the camera to work improperly.

Do not touch the front lens of the camera.



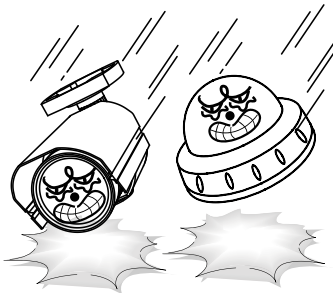
This is one of the most important parts of the camera. Be careful not to leave fingerprints on the lens cover.

Never keep the camera pointed directly at strong light.



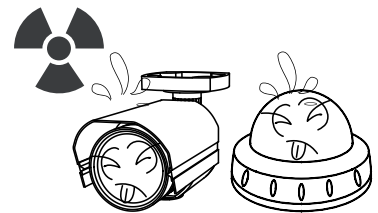
It can cause malfunctions to occur.

Do not drop the camera or subject it to physical shocks.



Housing damage can compromise weatherproof ratings.

Do not expose the camera to radioactivity.

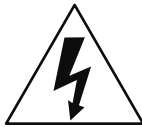


If exposed to radioactivity the CCD will fail.

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.

Safety Instructions

Precautions for use

- ❶ This camera should be installed by qualified personnel only
- ❶ There are no user serviceable parts inside
- ❶ Do not disassemble this camera other than to make initial adjustments
- ❶ Use a UL approved regulated 24 volt AC or 12 volt DC power supply
- ❶ Use appropriate low voltage power cable to prevent fire or electrical shock
- ❶ Please insure that your installation area can support the weight of the camera

Please handle this camera carefully :

- ❶ Do not use a strong or abrasive detergent when cleaning the camera
- ❶ Do not install near cooling or heating device

Package Contents

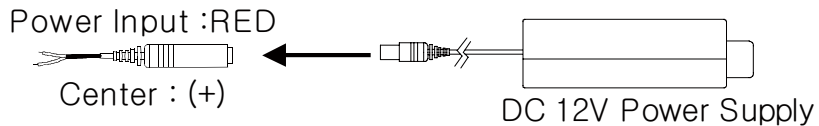
Please make sure that the following items are included in the Package:

- 1) WDRB10H
 - 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) WDRD10H
 - 1 Video Test Connector, Power Jack
 - 1 Chameleon Cover
 - 1 Wrench
 - Set Screw
 - 3 Tapping Screws 4x40
 - 1 Hexagon Socket Screw M4x8
- 3) WDRD20H
 - 1 Video Test Connector, Power Jack
 - 1 Chameleon Cover
 - Set Screw
 - 3 Tapping Screws 4x25
- 4) WDRB11H
 - 1 Video Test Connector, Power Jack
 - 1 Bracket Base
 - 2 Wrenches
 - Set Screw
 - 4 Tapping Screws 4x25
 - 4 Hexagon Socket Screws 5x10
- 5) WDRD11H
 - 1 Video Test Connector, Power Jack
 - 1 Chameleon Cover
 - 1 Wrench
 - Set Screw
 - 3 Tapping Screws 4x40
 - 1 Hexagon Socket Screw M4x8
- 6) WDRD21H
 - 1 Video Test Connector, Power Jack
 - 2 Screws
 - 2 Tapping Screws 4x20
- 7) WDRD21HW
 - 1 Video Test Connector, Power Jack
 - 2 Screws
 - 2 Tapping Screws 4x20

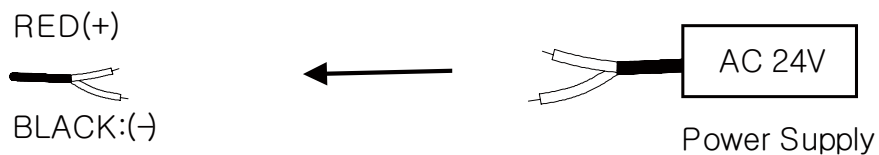
CAMERA INSTALLATION

CONNECT POWER CABLE

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

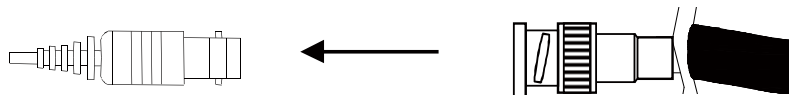


2. WHEN USING 24 VOLTS AC (40 Volt Amps)



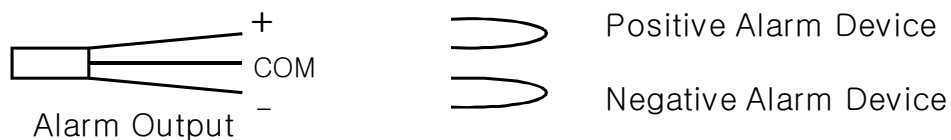
3. CONNECT VIDEO CABLE

– CONNECT BNC CABLE TO THE BNC JACK.



4. CONNECT Alarm output (Relay output)

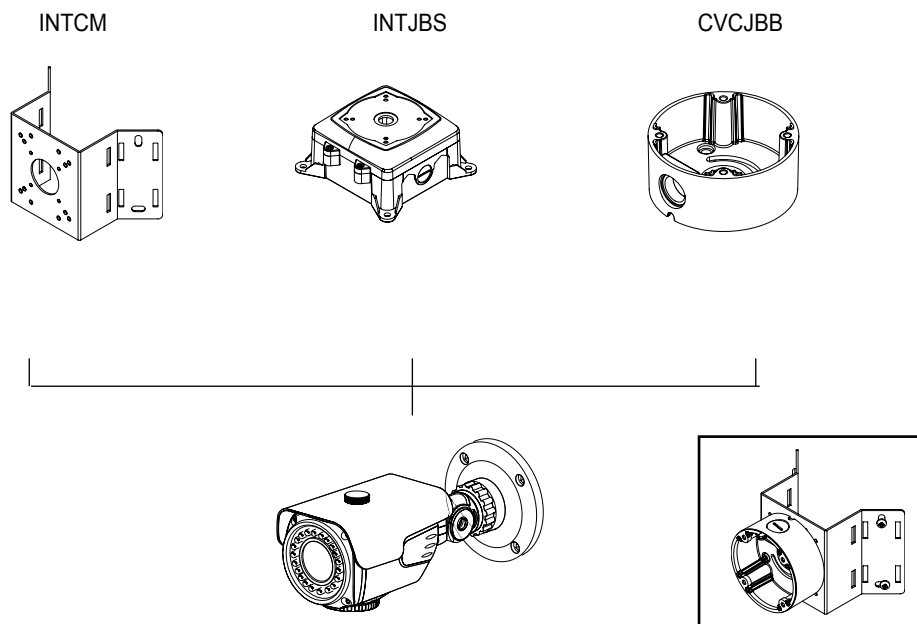
– Connect (+ , COM) for Positive activation and (- , COM) for Negative activation of External Alarm Device when Motion Detection is 'ON' in the camera.



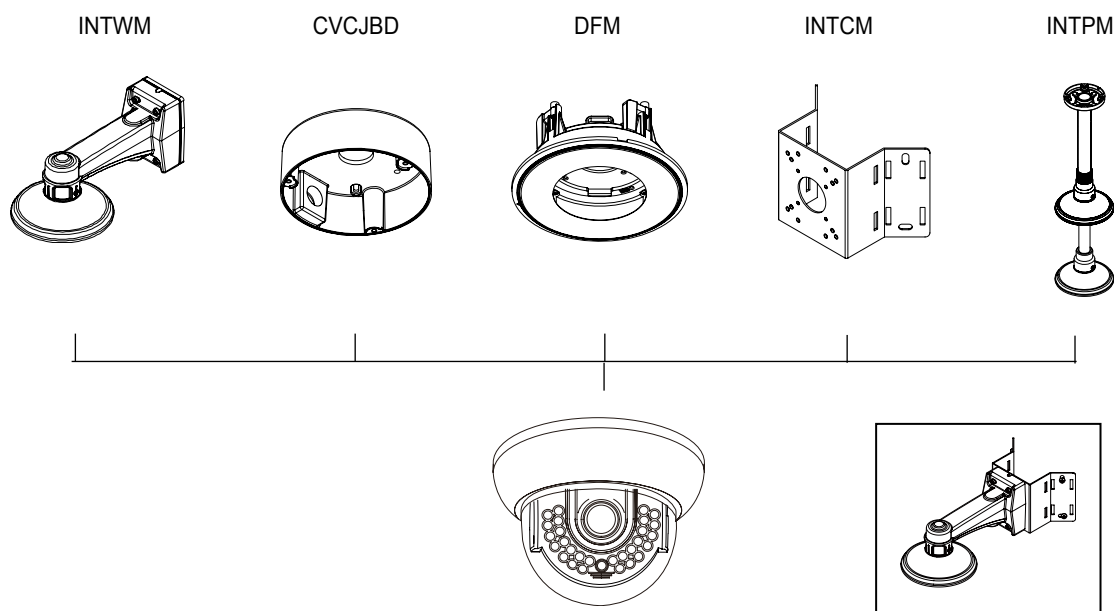
CAMERA INSTALLATION

Compatibility

1) WDRB10H



2) WDRD10H / WDRD20H

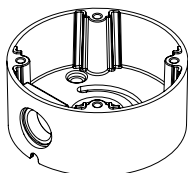


CAMERA INSTALLATION

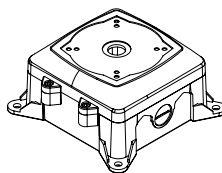
Compatibility

3) WDRB11H

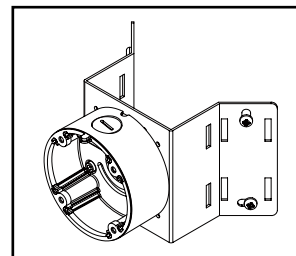
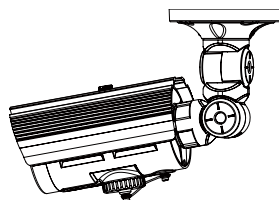
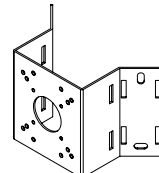
CVCJBB



INTJBS

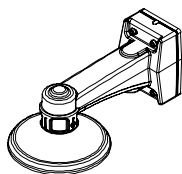


INTCM

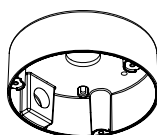


4) WDRD11H

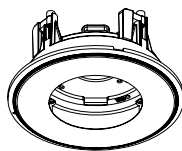
INTWM



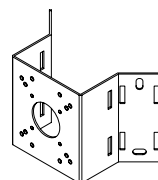
CVCJBD



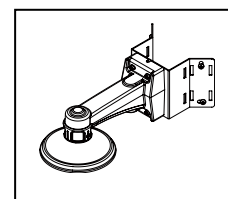
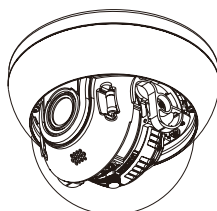
DFM



INTCM



INTPM

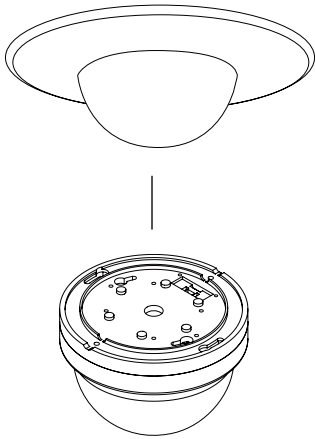


CAMERA INSTALLATION

Compatibility

5) WDRD21H / WDRD21HW

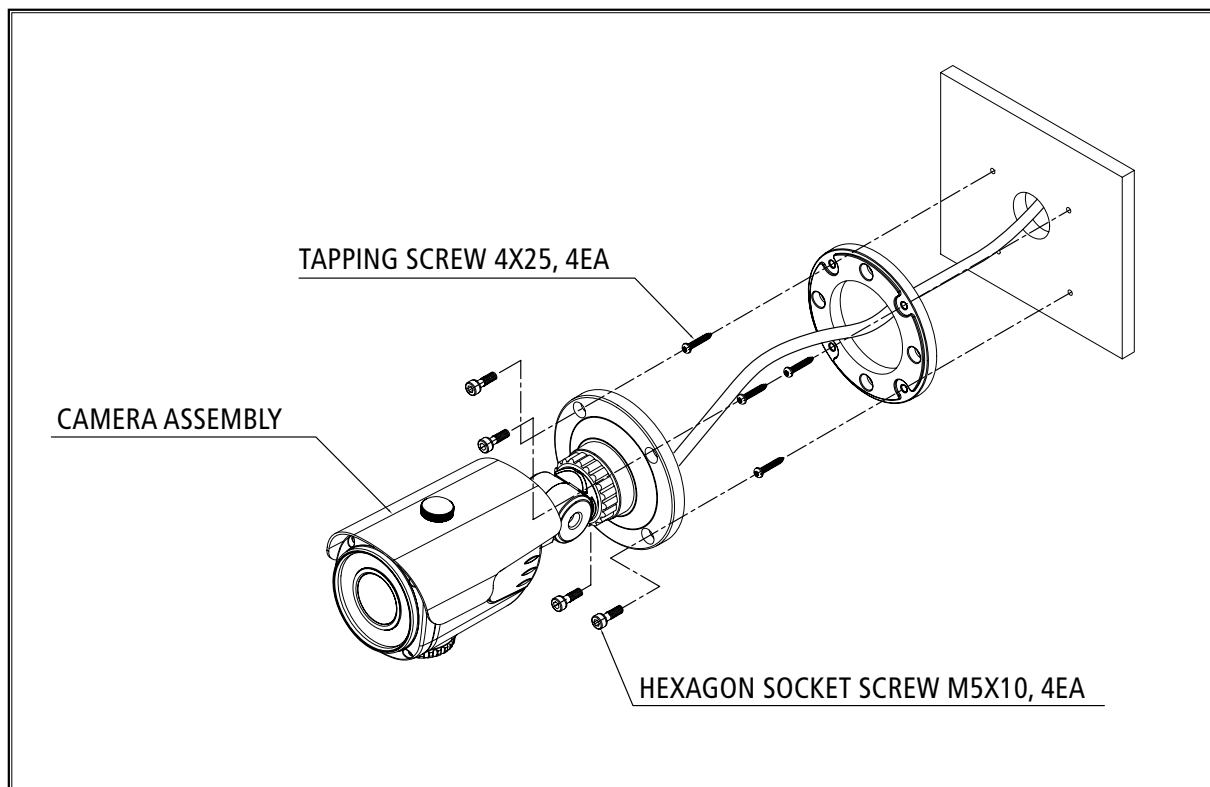
DFM



CAUTION : The installation instructions in this manual 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.

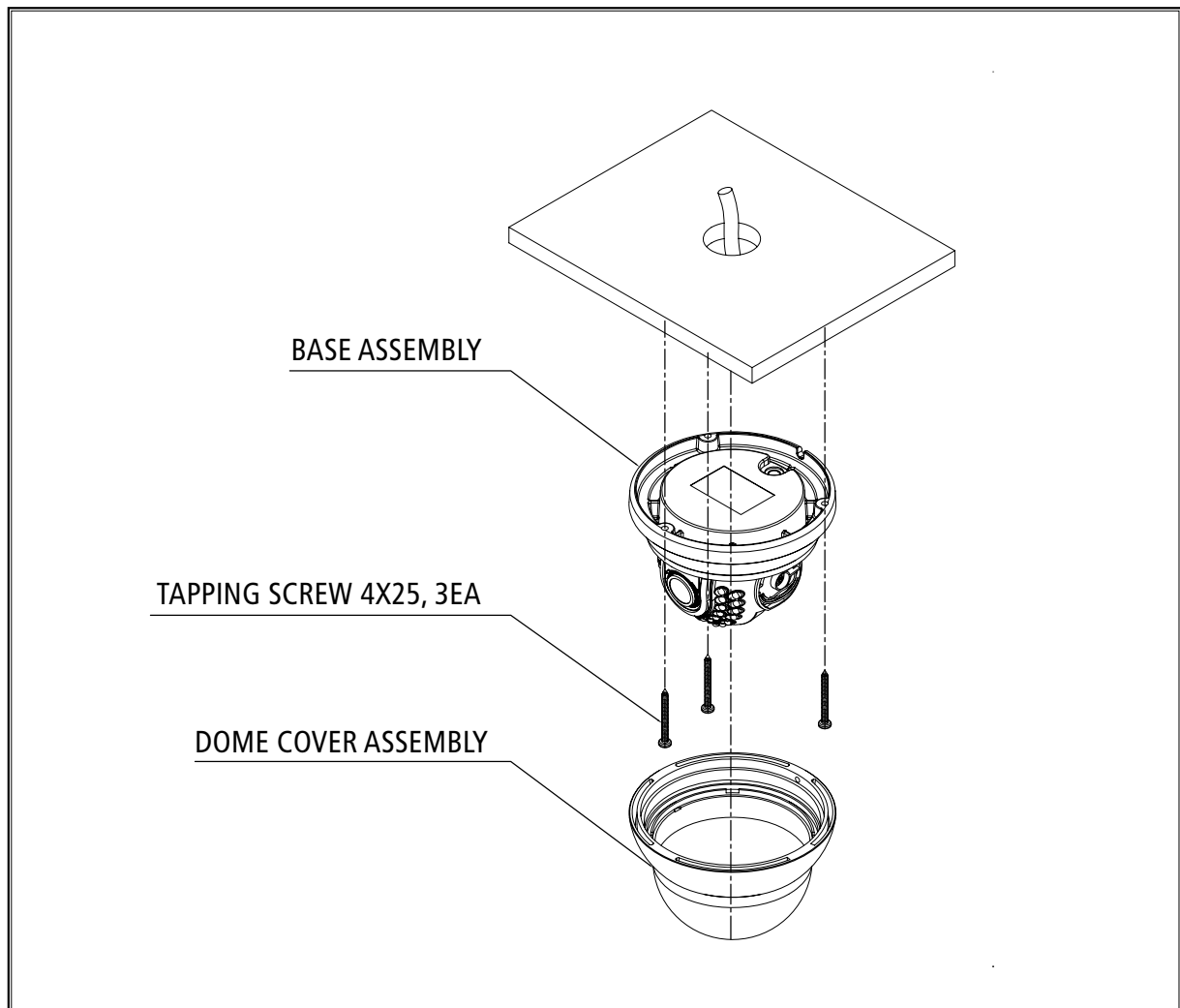
CAMERA INSTALLATION

1. WDRB10H



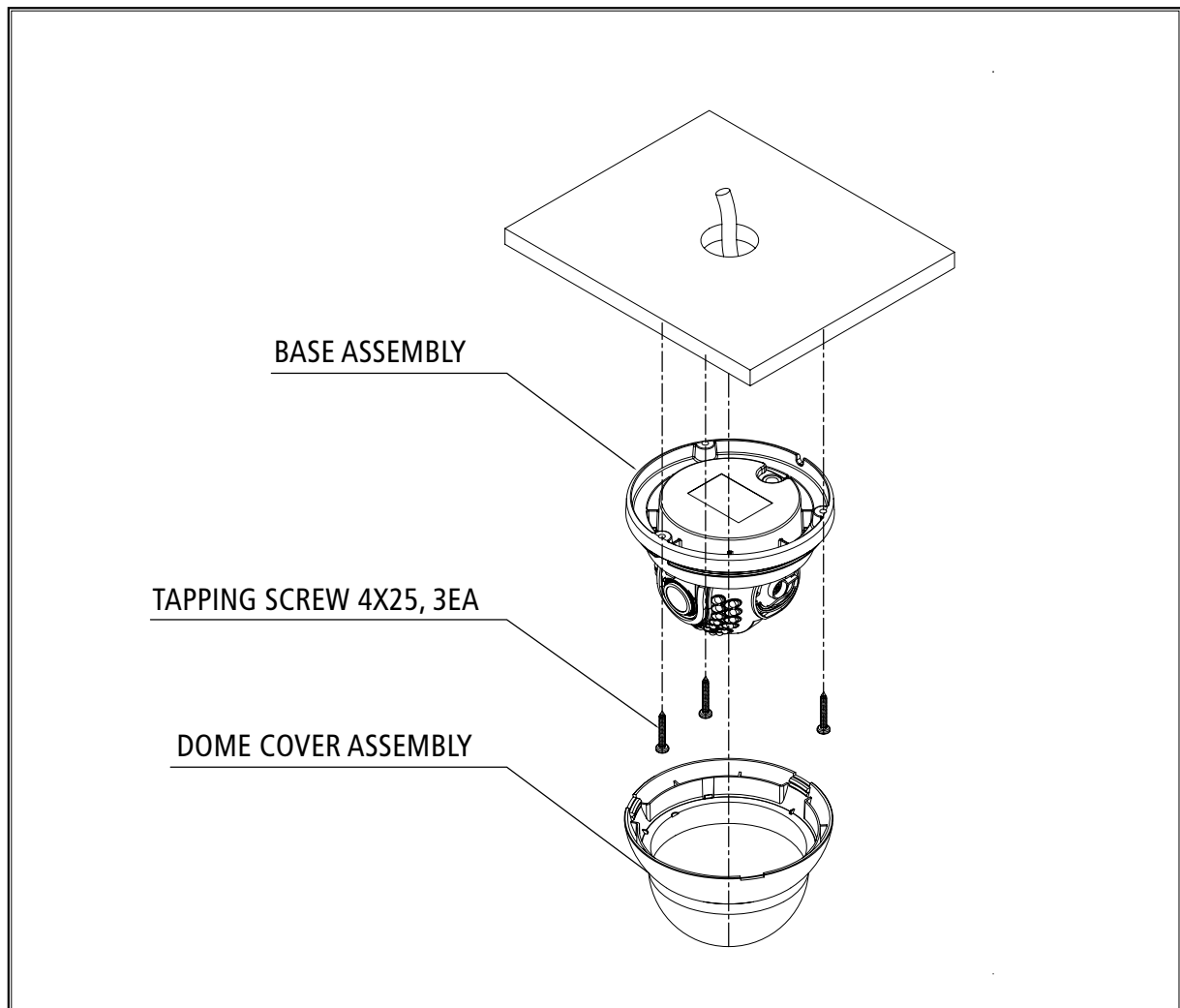
CAMERA INSTALLATION

2. WDRD10H



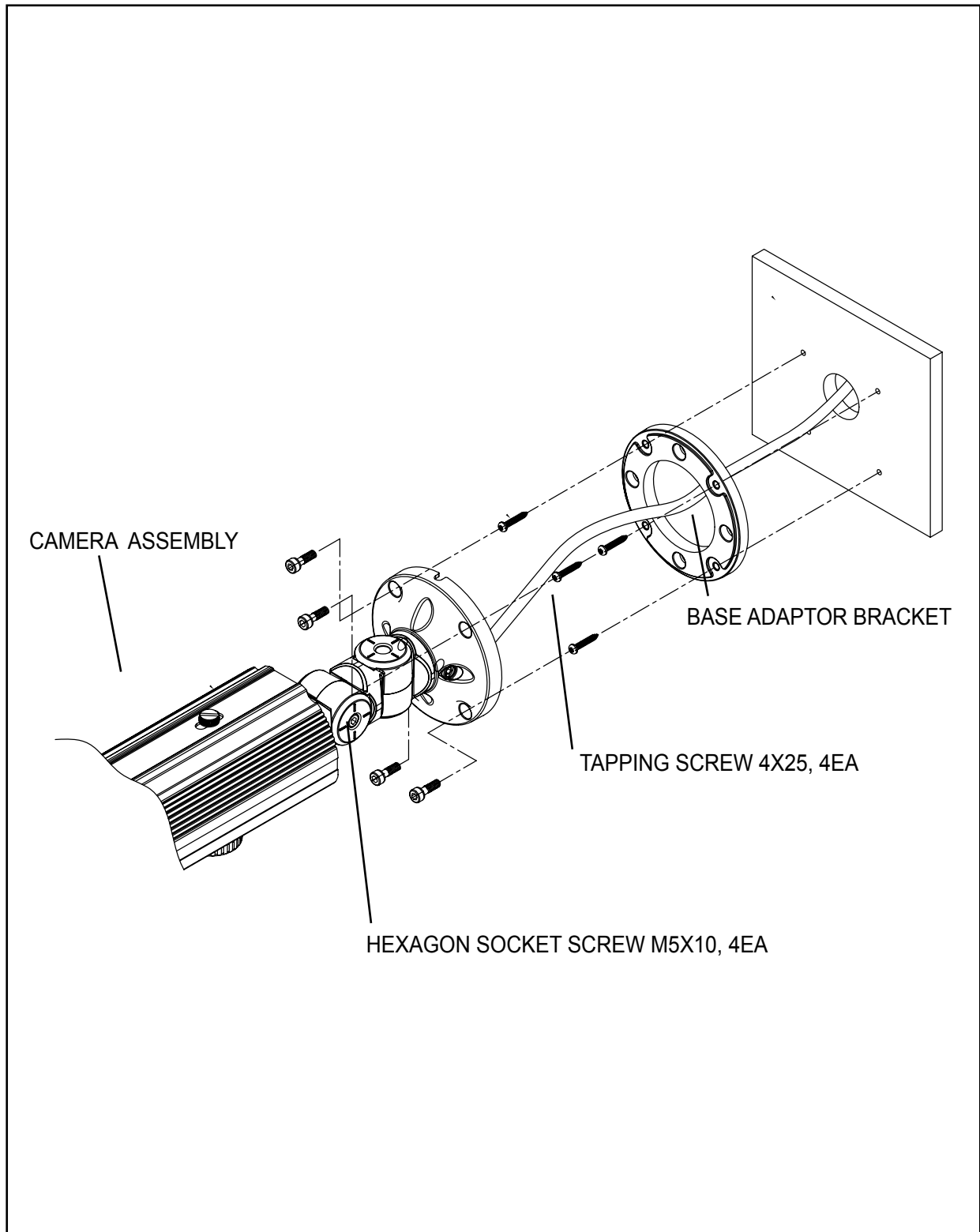
CAMERA INSTALLATION

3. WDRD20H



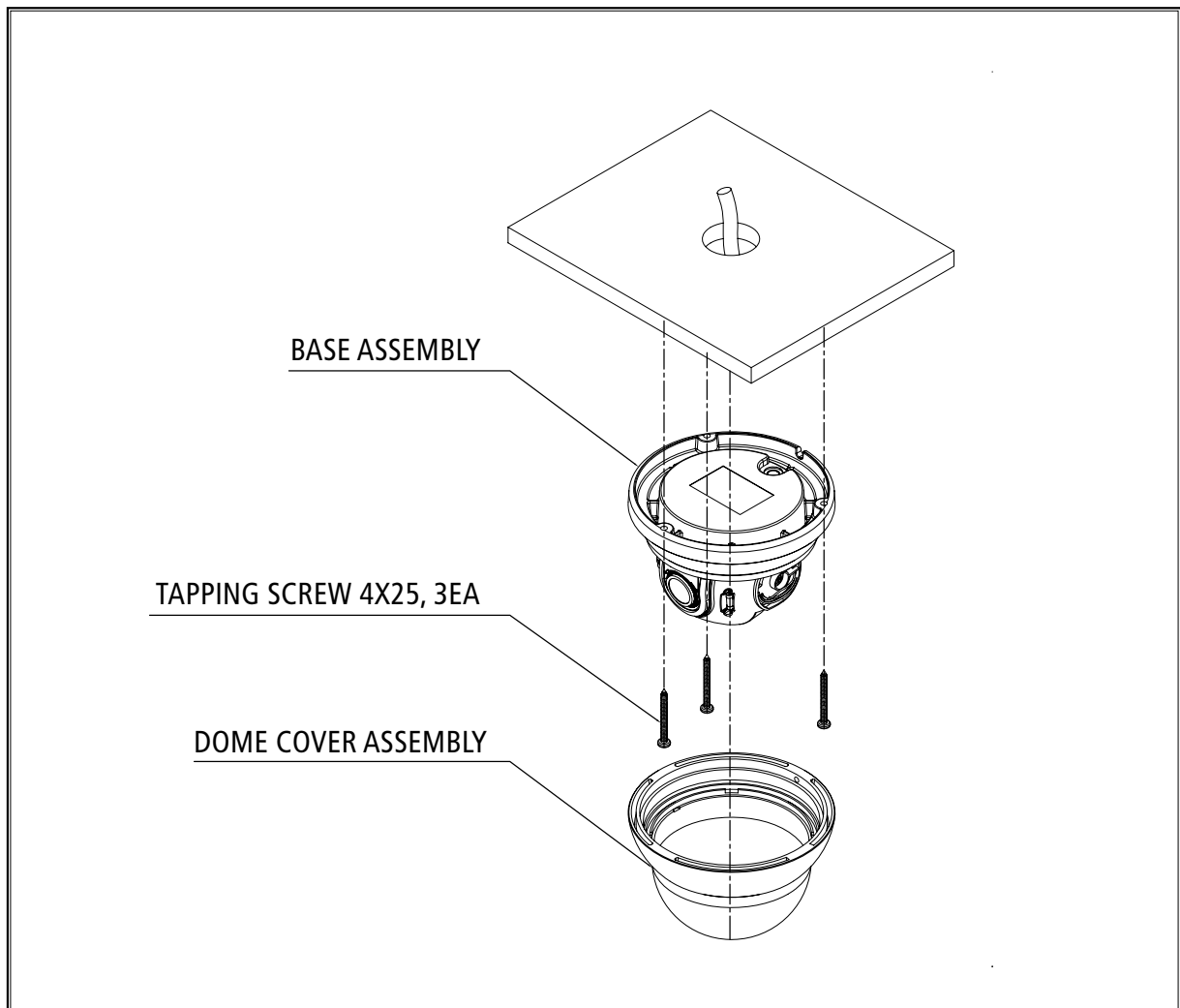
CAMERA INSTALLATION

4. WDRB11H



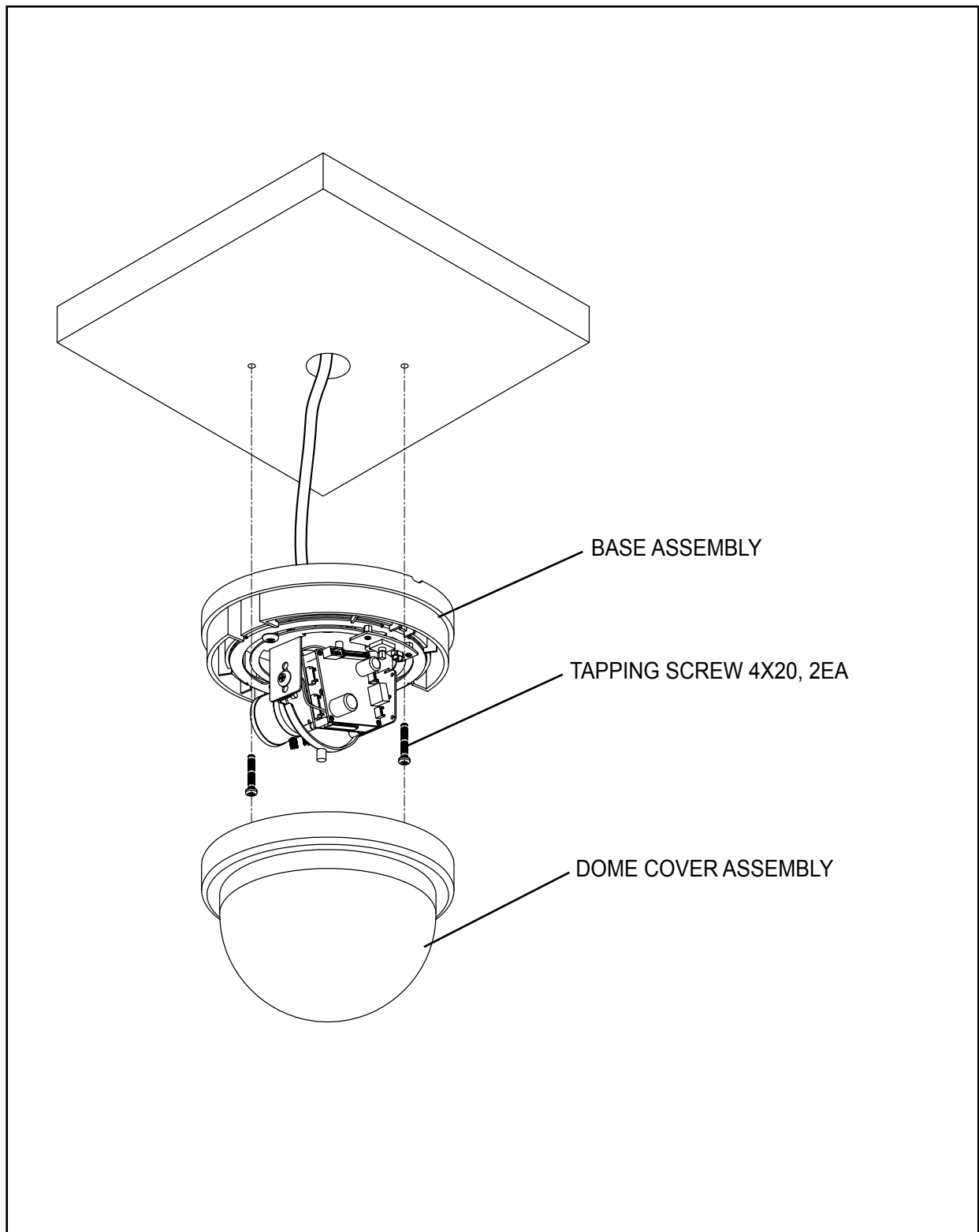
CAMERA INSTALLATION

5. WDRD11H



CAMERA INSTALLATION

6. WDRD21H / WDRD21HW



Speco Technologies

(Outdoor IR Bullet Camera)

DC Auto Iris Varifocal Lens 2.8-12mm



■ WDRB10H



SPECIFICATIONS

MODEL	WDRB10H
Image Sensor	1/3" SONY HAD CCD 960H (DUAL SCAN)
TV System	NTSC
Total Pixels	1,028(H) x 508(V)
Effective Pixels	976(H) x 494(V)
Scanning System	2:1 Interlace
Synchronization	Internal
O.S.D	Available
BLC / HLC	ON/OFF
Horizontal Resolution	700 TV Lines
S/N (Y Signal)	52dB (AGC off, Weight on)
Minimum Illumination	0.000006LUX(IR LED ON)
White Balance	ATW(1,800K ~ 10,500K) / PUSH / USER1 / USER2 / ANTI CR / MANUAL / PUSH LOCK
Electronic Shutter Speed	AUTO / (1/60SEC~ 1/100,000SEC)
Slow Shutter (Sense-Up)	AUTO(x2~ x512)
Gain Control	Level Adjustable (MAX 42dB)
2D.3DNR	OFF, LOW, MIDLOW, MID, MIDHIGH, HIGH (2D+3D)
WDR	OFF / ON (CONTRAST: LOW, MIDLOW, MID, MIDHIGH, HIGH)
Motion Detection	ON/OFF (4 Zone)
Privacy	ON/OFF (15 Zone)
Mirror	OFF , V-FLIP, H-FLIP, HV-FLIP
Sharpness	0 ~15 Level Adjustable
Day/Night switch	COLOR, AUTO_(EXT ON/OFF)
IR OPT (SMART- IR, ATR WD-EX)	SMART- IR(AUTO, CENTER Adjustable) , ATR WD-EX ON/OFF
Digital E-ZOOM	0 ~ 255 Level Adjustable (x1 ~ x16) PAN / TILT
DIS	ON/OFF
DEFECT ADJ	Auto: 64 Points
Communication	Coaxial
Language	ENGLISH,JAPANESE,DEUTSCH,FRENCH, RUSSIAN, PORTUGUESE, SPANISH
Power	Dual Voltage
Power Consumption	IR LED ON:700mA Max
Lens	DC Auto Iris Varifocal Lens (2.8-12mm)
Storage Temperature	-4°F ~ 140°F RH 95% Max
Operating Temperature	-4°F ~ 140°F RH 95% Max
Dimension	3.94" (W) * 3.94" (H) * 8.27" (D)
Weight	3.09 lbs

Speco Technologies

(Outdoor IR Dome Camera)

DC Auto Iris Varifocal Lens 2.8-12mm



■ WDRD10H



SPECIFICATIONS

MODEL	WDRD10H
Image Sensor	1/3" SONY HAD CCD 960H (DUAL SCAN)
TV System	NTSC
Total Pixels	1,028(H) x 508(V)
Effective Pixels	976(H) x 494(V)
Scanning System	2:1 Interlace
Synchronization	Internal
O.S.D	Available
BLC / HLC	ON/OFF
Horizontal Resolution	700 TV Lines
S/N (Y Signal)	52dB (AGC off, Weight on)
Minimum Illumination	0.000006LUX(IR LED ON)
White Balance	ATW(1,800K ~ 10,500K) / PUSH / USER1 / USER2 / ANTI CR / MANUAL / PUSH LOCK
Electronic Shutter Speed	AUTO / (1/60SEC~ 1/100,000SEC)
Slow Shutter (Sense-Up)	AUTO(x2~ x512)
Gain Control	Level Adjustable (MAX 42dB)
2D.3DNR	OFF, LOW, MIDLOW, MID, MIDHIGH, HIGH (2D+3D)
WDR	OFF / ON (CONTRAST: LOW, MIDLOW, MID, MIDHIGH, HIGH)
Motion Detection	ON/OFF (4 Zone)
Privacy	ON/OFF (15 Zone)
Mirror	OFF , V-FLIP, H-FLIP, HV-FLIP
Sharpness	0 ~15 Level Adjustable
Day/Night switch	COLOR, AUTO_(EXT ON/OFF)
IR OPT (SMART- IR, ATR WD-EX)	SMART- IR(AUTO, CENTER Adjustable) , ATR WD-EX ON/OFF
Digital E-ZOOM	0 ~ 255 Level Adjustable (x1 ~ x16) PAN / TILT
DIS	ON/OFF
DEFECT ADJ	Auto: 64 Points
Communication	Coaxial
Language	ENGLISH,JAPANESE,DEUTSCH,FRENCH, RUSSIAN, PORTUGUESE, SPANISH
Power	Dual Voltage
Power Consumption	IR LED ON:500mA Max
Lens	DC Auto Iris Varifocal Lens (2.8-12mm)
Storage Temperature	-4°F ~ 140°F RH 95% Max
Operating Temperature	-4°F ~ 140°F RH 95% Max
Dimension	5.12" (Dia) * 3.94" (H)
Weight	1.98 lbs

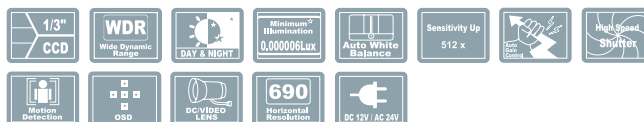
Speco Technologies

(Indoor IR Dome Camera)

DC Auto Iris Varifocal Lens 2.8-12mm



■ WDRD20H



SPECIFICATIONS

MODEL	WDRD20H
Image Sensor	1/3" SONY HAD CCD 960H (DUAL SCAN)
TV System	NTSC
Total Pixels	1,028(H) x 508(V)
Effective Pixels	976(H) x 494(V)
Scanning System	2:1 Interlace
Synchronization	Internal
O.S.D	Available
BLC / HLC	ON/OFF
Horizontal Resolution	700 TV Lines
S/N (Y Signal)	52dB (AGC off, Weight on)
Minimum Illumination	0.000006LUX(IR LED ON)
White Balance	ATW(1,800K ~ 10,500K) / PUSH / USER1 / USER2 / ANTI CR / MANUAL / PUSH LOCK
Electronic Shutter Speed	AUTO / (1/60SEC~ 1/100,000SEC)
Slow Shutter (Sense-Up)	AUTO(x2~ x512)
Gain Control	Level Adjustable (MAX 42dB)
2D.3DNR	OFF, LOW, MIDLOW, MID, MIDHIGH, HIGH (2D+3D)
WDR	OFF / ON (CONTRAST: LOW, MIDLOW, MID, MIDHIGH, HIGH)
Motion Detection	ON/OFF (4 Zone)
Privacy	ON/OFF (15 Zone)
Mirror	OFF , V-FLIP, H-FLIP, HV-FLIP
Sharpness	0 ~15 Level Adjustable
Day/Night switch	COLOR, AUTO_(EXT ON/OFF)
IR OPT (SMART- IR, ATR WD-EX)	SMART- IR(AUTO, CENTER Adjustable) , ATR WD-EX ON/OFF
Digital E-ZOOM	0 ~ 255 Level Adjustable (x1 ~ x16) PAN / TILT
DIS	ON/OFF
DEFECT ADJ	Auto: 64 Points
Communication	Coaxial
Language	ENGLISH,JAPANESE,DEUTSCH,FRENCH, RUSSIAN, PORTUGUESE, SPANISH
Power	Dual Voltage
Power Consumption	IR LED ON:500mA Max
Lens	DC Auto Iris Varifocal Lens (2.8-12mm)
Storage Temperature	-4°F ~ 140°F RH 95% Max
Operating Temperature	-4°F ~ 140°F RH 95% Max
Dimension	5.12" (Dia) * 3.94" (H)
Weight	1.32 lbs

Speco Technologies

(Weatherproof Bullet Camera with mount plate)

DC Auto Iris Varifocal Lens 2.8-12mm



■ WDRB11H



SPECIFICATIONS

MODEL	WDRB11H
Image Sensor	1/3" SONY HAD CCD 960H (DUAL SCAN)
TV System	NTSC
Total Pixels	1,028(H) x 508(V)
Effective Pixels	976(H) x 494(V)
Scanning System	2:1 Interlace
Synchronization	Internal
O.S.D	Available
BLC / HLC	ON/OFF
Horizontal Resolution	700 TV Lines
S/N (Y Signal)	52dB (AGC off, Weight on)
Minimum Illumination	0.000006LUX
White Balance	ATW(1,800K ~ 10,500K) / PUSH / USER1 / USER2 / ANTI CR / MANUAL / PUSH LOCK
Electronic Shutter Speed	AUTO / (1/60SEC~ 1/100,000SEC)
Slow Shutter (Sense-Up)	AUTO(x2~ x512)
Gain Control	Level Adjustable (MAX 42dB)
2D.3DNR	OFF, LOW, MIDLOW, MID, MIDHIGH, HIGH (2D+3D)
WDR	OFF / ON (CONTRAST: LOW, MIDLOW, MID, MIDHIGH, HIGH)
Motion Detection	ON/OFF (4 Zone)
Privacy	ON/OFF (15 Zone)
Mirror	OFF , V-FLIP, H-FLIP, HV-FLIP
Sharpness	0 ~15 Level Adjustable
Day/Night switch	COLOR, AUTO_(EXT ON/OFF)
IR OPT (SMART- IR, ATR WD-EX)	SMART- IR(AUTO, CENTER Adjustable) , ATR WD-EX ON/OFF
Digital E-ZOOM	0 ~ 255 Level Adjustable (x1 ~ x16) PAN / TILT
DIS	ON/OFF
DEFECT ADJ	Auto: 64 Points
Communication	Coaxial
Language	ENGLISH,JAPANESE,DEUTSCH,FRENCH, RUSSIAN, PORTUGUESE, SPANISH
Power	Dual Voltage
Power Consumption	DC 12V 400mA / AC24V 170mA
Lens	DC Auto Iris Varifocal Lens (2.8-12mm)
Storage Temperature	-4°F ~ 140°F RH 95% Max
Operating Temperature	-4°F ~ 140°F RH 95% Max
Dimension	3.46" (W) * 4.01" (H) * 11.02" (D)
Weight	3 lbs

Speco Technologies

(Weatherproof Dome Camera with Chameleon™ Cover)

DC Auto Iris Varifocal Lens 2.8-12mm



■ WDRD11H



SPECIFICATIONS

MODEL	WDRD11H
Image Sensor	1/3" SONY HAD CCD 960H (DUAL SCAN)
TV System	NTSC
Total Pixels	1,028(H) x 508(V)
Effective Pixels	976(H) x 494(V)
Scanning System	2:1 Interlace
Synchronization	Internal
O.S.D	Available
BLC / HLC	ON/OFF
Horizontal Resolution	700 TV Lines
S/N (Y Signal)	52dB (AGC off, Weight on)
Minimum Illumination	0.000006LUX
White Balance	ATW(1,800K ~ 10,500K) / PUSH / USER1 / USER2 / ANTI CR / MANUAL / PUSH LOCK
Electronic Shutter Speed	AUTO / (1/60SEC~ 1/100,000SEC)
Slow Shutter (Sense-Up)	AUTO(x2~ x512)
Gain Control	Level Adjustable (MAX 42dB)
2D.3DNR	OFF, LOW, MIDLOW, MID, MIDHIGH, HIGH (2D+3D)
WDR	OFF / ON (CONTRAST: LOW, MIDLOW, MID, MIDHIGH, HIGH)
Motion Detection	ON/OFF (4 Zone)
Privacy	ON/OFF (15 Zone)
Mirror	OFF , V-FLIP, H-FLIP, HV-FLIP
Sharpness	0 ~15 Level Adjustable
Day/Night switch	COLOR, AUTO_(EXT ON/OFF)
IR OPT (SMART- IR, ATR WD-EX)	SMART- IR(AUTO, CENTER Adjustable) , ATR WD-EX ON/OFF
Digital E-ZOOM	0 ~ 255 Level Adjustable (x1 ~ x16) PAN / TILT
DIS	ON/OFF
DEFECT ADJ	Auto: 64 Points
Communication	Coaxial
Language	ENGLISH,JAPANESE,DEUTSCH,FRENCH, RUSSIAN, PORTUGUESE, SPANISH
Power	Dual Voltage
Power Consumption	DC 12V 400mA / AC24V 170mA
Lens	DC Auto Iris Varifocal Lens (2.8-12mm)
Storage Temperature	-4°F ~ 140°F RH 95% Max
Operating Temperature	-4°F ~ 140°F RH 95% Max
Dimension	5.12" (Dia) * 3.94" (H)
Weight	1.98 lbs

Speco Technologies

(Indoor Wall & Ceiling Mount Dome Camera)

DC Auto Iris Varifocal Lens 2.8-12mm



■ WDRD21H



SPECIFICATIONS

MODEL	WDRD21H
Image Sensor	1/3" SONY HAD CCD 960H (DUAL SCAN)
TV System	NTSC
Total Pixels	1,028(H) x 508(V)
Effective Pixels	976(H) x 494(V)
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Synchronization	Internal
O.S.D	Available
BLC / HLC	ON/OFF
Horizontal Resolution	700 TV Lines
S/N (Y Signal)	52dB (AGC off, Weight on)
Minimum Illumination	0.000006LUX
White Balance	ATW(1,800K ~ 10,500K) / PUSH / USER1 / USER2 / ANTI CR / MANUAL / PUSH LOCK
Electronic Shutter Speed	AUTO / (1/60SEC~ 1/100,000SEC)
Slow Shutter (Sense-Up)	AUTO(x2~ x512)
Gain Control	Level Adjustable (MAX 42dB)
2D.3DNR	OFF, LOW, MIDLOW, MID, MIDHIGH, HIGH (2D+3D)
WDR	OFF / ON (CONTRAST: LOW, MIDLOW, MID, MIDHIGH, HIGH)
Motion Detection	ON/OFF (4 Zone)
Privacy	ON/OFF (15 Zone)
Mirror	OFF , V-FLIP, H-FLIP, HV-FLIP
Sharpness	0 ~15 Level Adjustable
Day/Night switch	COLOR, AUTO_(EXT ON/OFF)
IR OPT (SMART- IR, ATR WD-EX)	SMART- IR(AUTO, CENTER Adjustable) , ATR WD-EX ON/OFF
Digital E-ZOOM	0 ~ 255 Level Adjustable (x1 ~ x16) PAN / TILT
DIS	ON/OFF
DEFECT ADJ	Auto: 64 Points
Communication	Coaxial
Language	ENGLISH,JAPANESE,DEUTSCH,FRENCH, RUSSIAN, PORTUGUESE, SPANISH
Power	Dual Voltage
Power Consumption	DC 12V 250mA
Lens	DC Auto Iris Varifocal Lens (2.8-12mm)
Storage Temperature	-4°F ~ 140°F RH 95% Max
Operating Temperature	-4°F ~ 140°F RH 95% Max
Dimension	5.51" (Dia) * 4.09" (H)
Weight	1.54 lbs

Speco Technologies

(Indoor Wall & Ceiling Mount Dome Camera)

DC Auto Iris Varifocal Lens 2.8-12mm



■ WDRD21HW

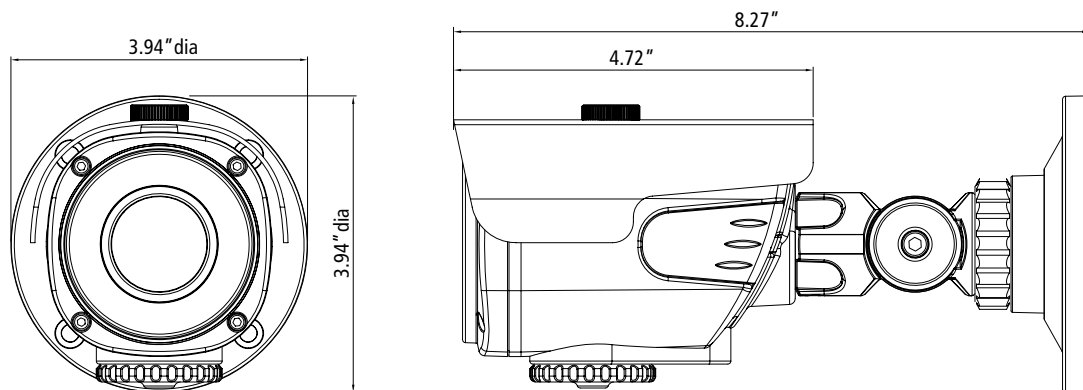


SPECIFICATIONS

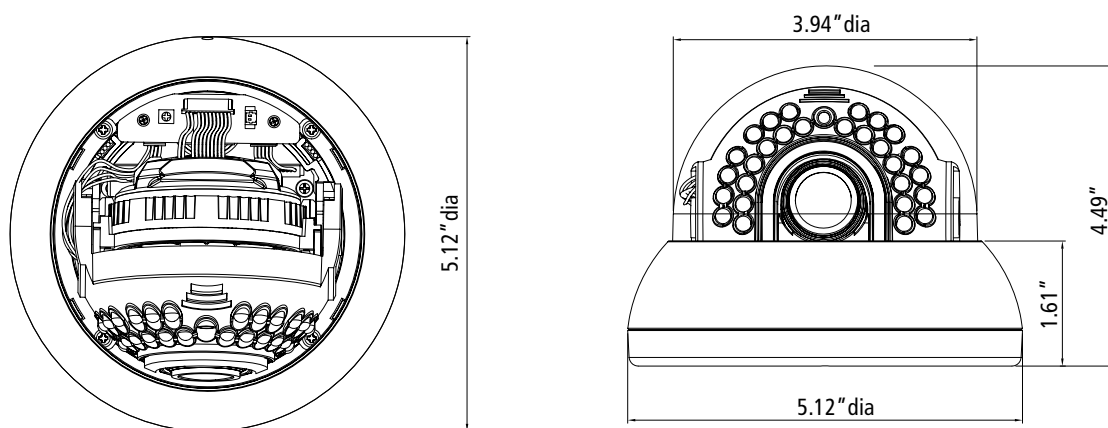
MODEL	WDRD21HW
Image Sensor	1/3" SONY HAD CCD 960H (DUAL SCAN)
TV System	NTSC
Total Pixels	1,028(H) x 508(V)
Effective Pixels	976(H) x 494(V)
Scanning System	2:1 Interlace
Synchronization	Internal
O.S.D	Available
BLC / HLC	ON/OFF
Horizontal Resolution	700 TV Lines
S/N (Y Signal)	52dB (AGC off, Weight on)
Minimum Illumination	0.000006LUX
White Balance	ATW(1,800K ~ 10,500K) / PUSH / USER1 / USER2 / ANTI CR / MANUAL / PUSH LOCK
Electronic Shutter Speed	AUTO / (1/60SEC~ 1/100,000SEC)
Slow Shutter (Sense-Up)	AUTO(x2~ x512)
Gain Control	Level Adjustable (MAX 42dB)
2D.3DNR	OFF, LOW, MIDLOW, MID, MIDHIGH, HIGH (2D+3D)
WDR	OFF / ON (CONTRAST: LOW, MIDLOW, MID, MIDHIGH, HIGH)
Motion Detection	ON/OFF (4 Zone)
Privacy	ON/OFF (15 Zone)
Mirror	OFF , V-FLIP, H-FLIP, HV-FLIP
Sharpness	0 ~15 Level Adjustable
Day/Night switch	COLOR, AUTO_(EXT ON/OFF)
IR OPT (SMART- IR, ATR WD-EX)	SMART- IR(AUTO, CENTER Adjustable) , ATR WD-EX ON/OFF
Digital E-ZOOM	0 ~ 255 Level Adjustable (x1 ~ x16) PAN / TILT
DIS	ON/OFF
DEFECT ADJ	Auto: 64 Points
Communication	Coaxial
Language	ENGLISH,JAPANESE,DEUTSCH,FRENCH, RUSSIAN, PORTUGUESE, SPANISH
Power	Dual Voltage
Power Consumption	DC 12V 250mA
Lens	DC Auto Iris Varifocal Lens (2.8-12mm)
Storage Temperature	-4°F ~ 140°F RH 95% Max
Operating Temperature	-4°F ~ 140°F RH 95% Max
Dimension	5.51" (Dia) * 4.09" (H)
Weight	1.54 lbs

CAMERA DIMENSION

1) WDRB10H

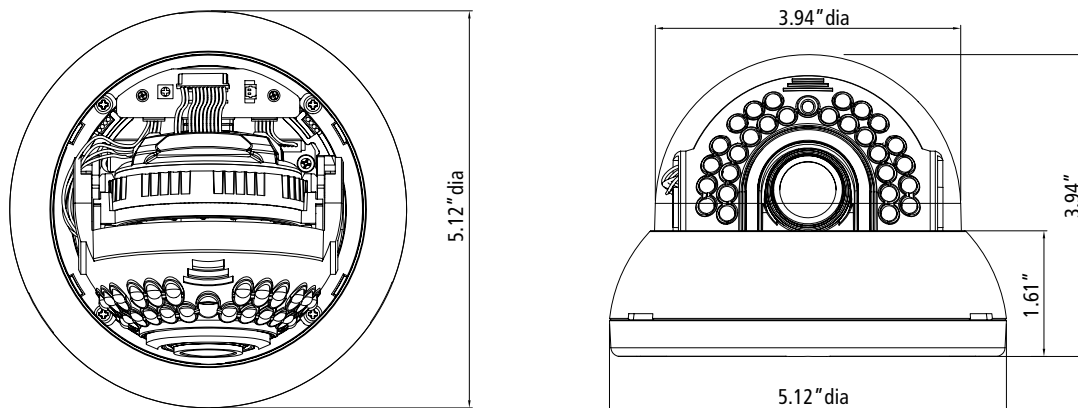


2) WDRD10H

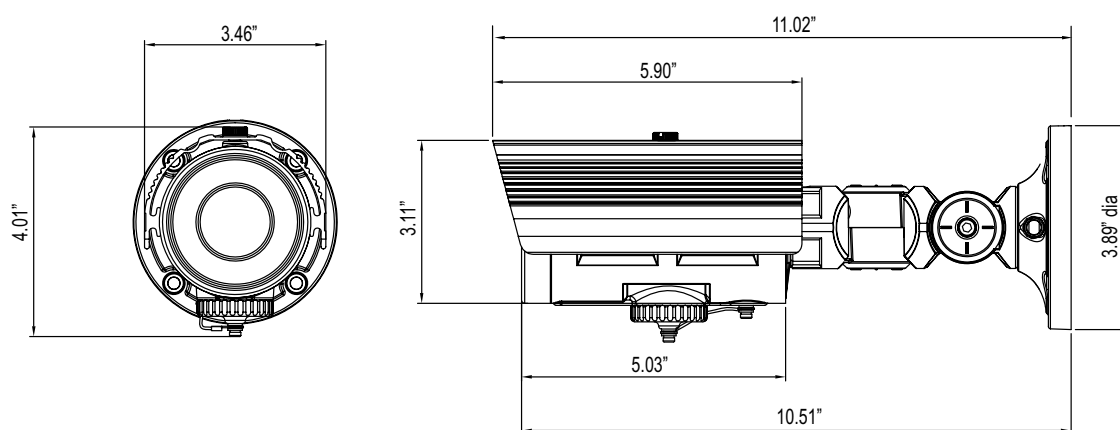


CAMERA DIMENSION

3) WDRD20H

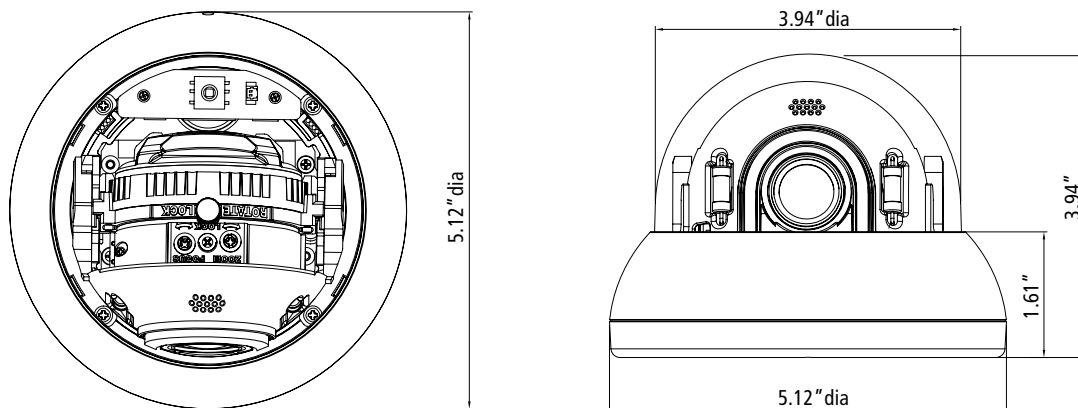


4) WDRB11H

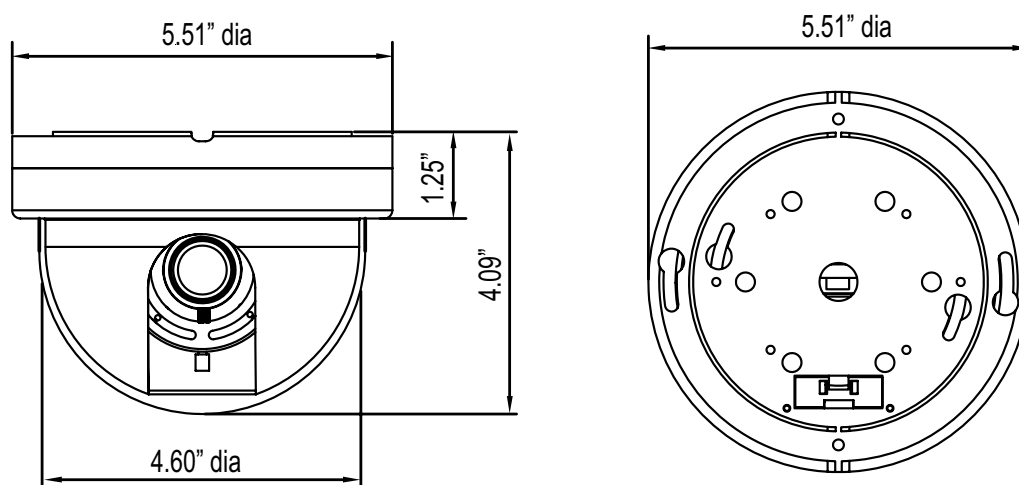


CAMERA DIMENSION

5) WDRD11H



6) WDRD21H / WDRD21HW



FEATURES

2D.3DNR Filtering Method of Newly Advanced DNR Function

Newly developed 2D filtering enhances Digital Noise reduction at low light levels. 2D Filtering of the Video Signal Optimises the Signal to Noise ratio.

High Resolution

The combination of a Sony Super HAD CCD image sensor and DNR DSP provides an excellent resolution of 700 TV lines.

Wide Dynamic Range

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

High Spotlight BLC Function

Users Can Adjust and Select the Special Required Area to Observe the Target Object Under the Strong Spots of Light Exist.

Illumination

With an Incredibly minimum illumination of 0.01Lux, the sensor can capture good images even in extremely low light conditions. Noise is significantly reduced by the ultra advanced DNR (Digital Noise Reduction) technology.

Additional Functions

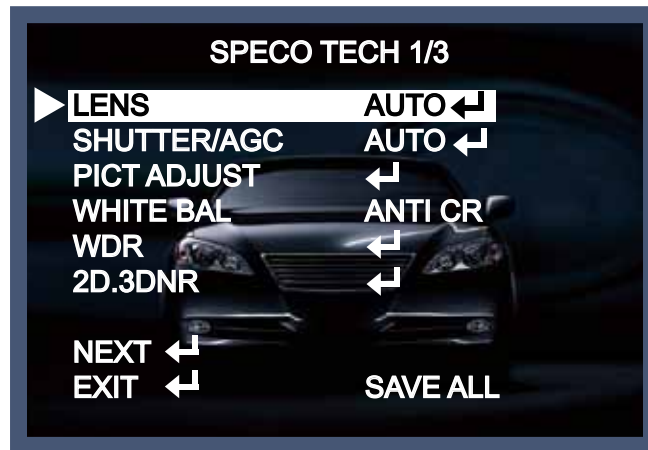
OSD - On Screen Display menu with multi-Language support.
Privacy Masking -15 zones, Motion - 4 zones.

Menu Set Up (SPECO TECH 1/3)

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

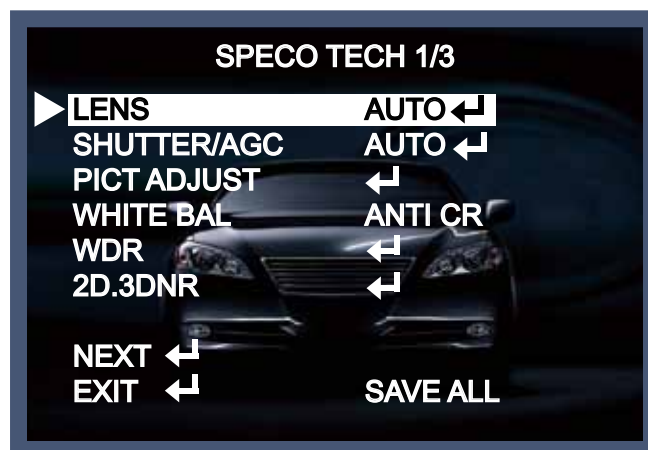
1. Press the Set Up button.

* 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 arrow 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

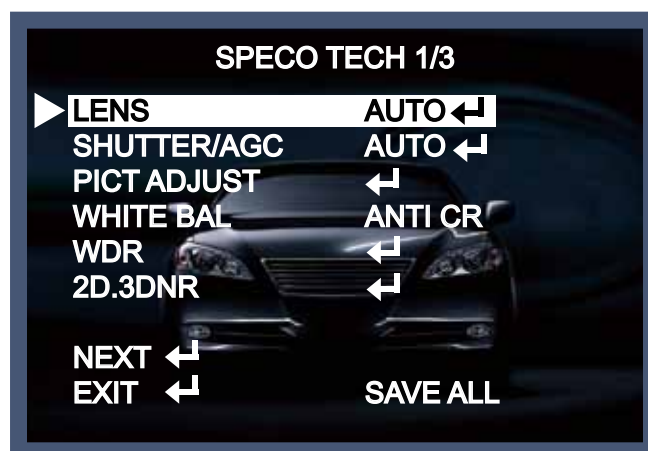
* Move to the available submenu by moving  arrow to desired feature.

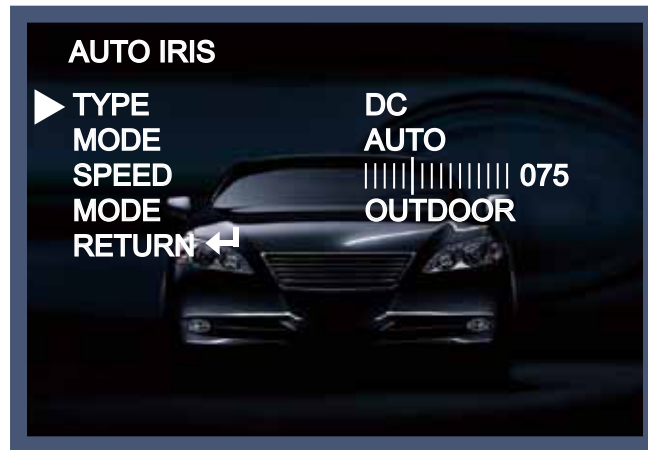
Lens

This function is used to set the mechanical iris of the lens.

1. Move the arrow indicator to Lens using the Up and Down buttons on the Set Up menu screen.

2. Select the mechanical iris type by pressing the left or right button between Manual and Auto.





3. Set DC or Video by selecting type on the Auto Iris screen.

4. Press the RETURN to return to the SETUP menu.

Shutter/AGC

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

1. On the Set Up menu screen select SHUTTER/AGC by using the Up or Down button.

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





HIGH LUMINANCE

- * MODE : Shutter is fixed at 1/60, 1/50 and average brightness maintains
- * BRIGHTNESS : Adjust the brightness level 0~255 by pressing the left or the right button.

LOW LUMINANCE

* MODE

- OFF : AGC and SLOW(SENSE-UP) OFF
- AGC : AGC ON and SLOW(SENSE-UP) OFF.

Enter the LOW LUMINANCE SETUP and adjust GAIN level by pressing the left or the right button.

- SLOW(SENS-UP) : SLOW(SENSE-UP) ON and AGC OFF.

Enter the LOW LUMINANCE SETUP and adjust SLOW(SENSE-UP) level by pressing the left or the right button.

- AGC->SLOW1(SENS-UP) : AGC and SLOW(SENSE-UP) ON.

When over the selected AGC MAX level, SLOW(SENSE-UP) turns on.

- AGC->SLOW2(SENS-UP) : AGC and SLOW(SENSE-UP) ON.

When over the selected AGCMIN level, SLOW(SENSE-UP) turns on.

- SLOW(SENS-UP)->AGC : AGC and SLOW(SENSE-UP) ON.

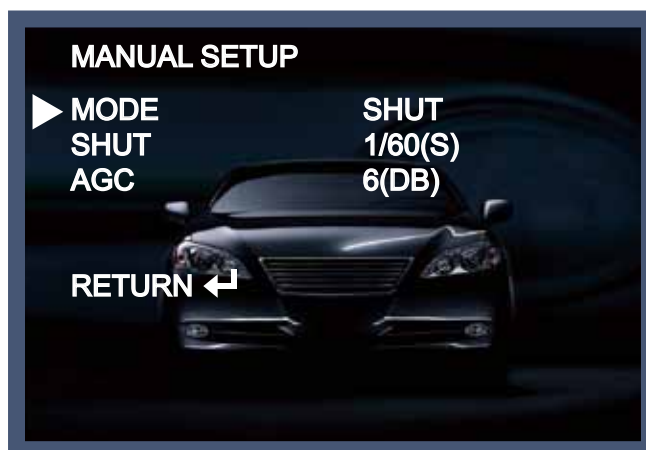
When over the selected SLOW(SENSE-UP) level, AGC turns on.

- * BRIGHTNESS : Adjust the bright level x0.25 , x0.5 , x0.75 , x1.0 by pressing the left or the right button.
- * RETURN : Move previous page.

NOTE

* AGC (Auto Gain Control)

A higher gain increases brightness but also increases noise.



* SHUTTER : Adjust the shutter level 1/60, FLK, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 (S)
adjust the red color GAIN by pressing the left or the right button.

* Adjust the AGC level 6, 12, 18, 24, 30, 36, 42, 44.8, (DB) by pressing the left or the right button.

* RETURN : Move previous page.

PICT Adjust

Move the cursor to PICT ADJUST press the SET button.



- * MIRROR : Select Off, Flip Vertical, Flip Horizon, Flip Horizon and Vertical by pressing the left or the right button.
- * CONTRAST : Adjust the contrast level 0~063 by pressing the left or the right button.
- * SHARPNESS : Adjust the sharpness level 0~015 by pressing the left or the right button.
- * HUE : Adjust the color level 0~100 - RED, GREEN, BLUE, YELLOW, CYAN, MAGENTA
- * R-GAIN : Adjust the red color GAIN 0~255 by pressing the left or the right button.

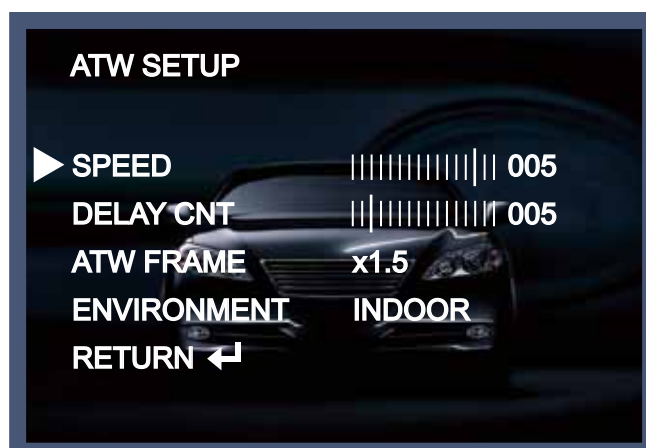
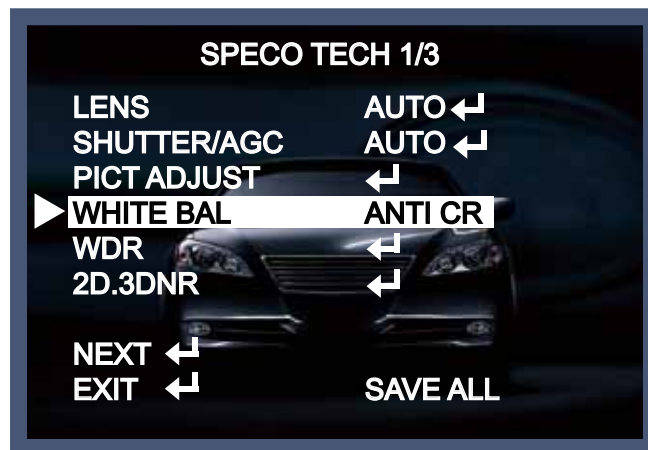
* B-GAIN : Adjust the blue color GAIN 0~255 by pressing the left or the right button.

* RETURN : Move previous page.

White Balance

This function is used to set the white balance operation mode.

1. Move the arrow indicator to WHITE BAL on the SETUP menu screen using the Up and Down button.
2. Select the desired mode by using the Left or Right button.



- * ATW : Auto tracking white, normal environment setting under fluorescent lamp or outdoors.
- SPEED : Select the start point of auto tracking speed and time by pressing the left or the right button.
- DELAY CNT : Select the start point of Auto tracking speed and time by pressing the left or the right button.
- ATW FRAME : Set up the frame magnification by pressing the left or the right button.
- ENVIRONMENT : It improves color temperature chase accuracy in accordance with environmental set-up.
Select the environment by pressing the left or the right button.
- RETURN : Select return to save the changes in the ATW menu and return to the SETUP menu.
- * PUSH : Regardless of subject condition, adjust white balance. Always control locking mode with full-in frame, white color as set point.
- * USER1 WB: The gain values for the outdoor fixed mode are used as the adjustment items of USER1 on the internal OSD menu.
- * USER2 WB: The gain values for the fluorescent light fixed mode are used as the adjustment items of USER2 on the internal OSD menu.
- * ANTI CR : COLOR rolling control
- * MANUAL WB: The B and R gain values for manual WB are set on this screen.
- LEVEL UP : Induce change to high color temperature side.
- LEVEL DOWN : Induce change to low color temperature side.
- * PRESET : Reset the adjusted color temperature side.
- * PUSH LOCK : To get the most suitable status at current lighting environment, push the SET button while camera focuses on a white plain paper.

WDR(Wide Dynamic Range)

* WDR : The wide dynamic range (WDR) function of a camera 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.



- * MODE : Adjust WDR function ON or OFF.
- * CONTRAST : Increase bright illuminance and dark illuminance level over average value and then control the contrast. Select the LOW, MIDLOW, MID, MIDHIGH, HIGH by pressing the left or the right button.
- * RETURN : Move previous page.



WDR OFF



WDR ON

2D.3DNR

2DNR function does Y,C filtering and decrease noise.

The level of 3DNR noise removal mode is getting higher, noise removal effect will be good, but ghost effect may be shown up. Select OFF, LOW , MIDLOW , MID , MIDHIGH , HIGH by pressing the left or the right button.



NEXT

Move to next page.(SETUP MENU 2/3)

EXIT

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

SAVE ALL

This function is used to save the various settings of the internal OSD menu in the EEPROM together.

SAVE ALL is always displayed on the bottom line of the top menu. Its display position cannot be changed.

Menu Set Up (SPECO TECH 2/3)

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

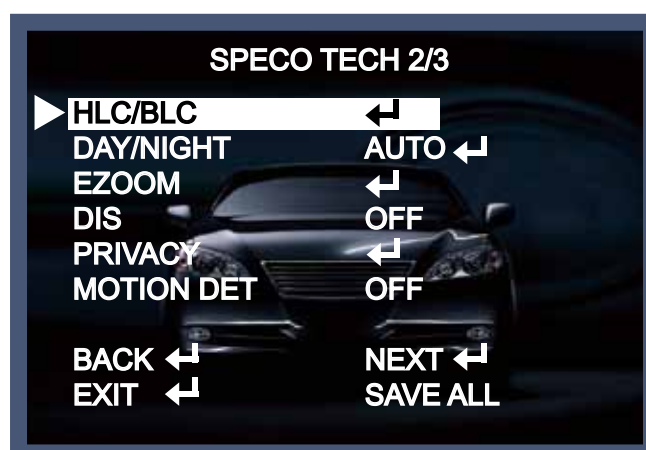
1. Press the Set Up button.

* 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 arrow 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

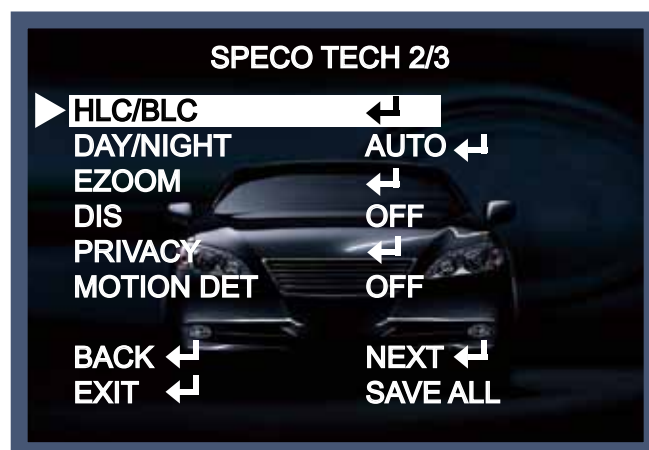
* Move to the available submenu by moving  arrow to desired feature.

HLC/BLC

This function is used to set the mechanical iris of the lens.

1. Move the arrow indicator to Lens using the Up and Down buttons on the Set Up menu screen.

2. Select the mechanical iris type by pressing the left or right button between Manual and Auto.





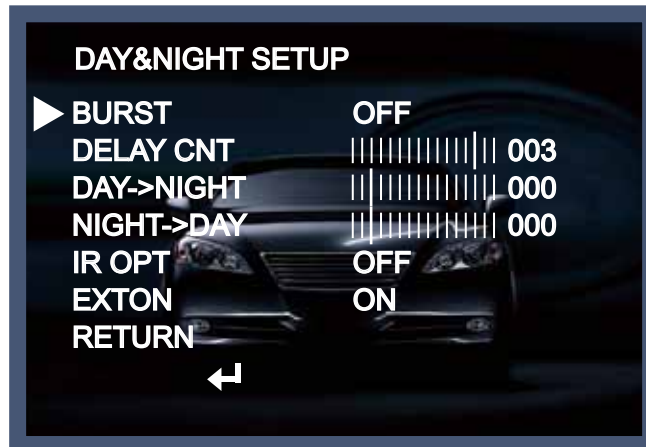
- * HLC : HLC, control and mask process for a strong light source. Select OFF, ON , AUTO by pressing the left or the right button.
- * CLIP LEVEL : Adjust the Brightness mask level by pressing the left or the right button.
- * SCALE : Adjust the Brightness signal control level by pressing the left or the right button.
- * BLC : Turn off or on the Back light compensation
- * RETURN : Move previous page.

DAY/NIGHT

Picture can be displayed in either color of black and white.

1. Select DAY/NIGHT using the Up or Down button on the SETUP menu screen.
2. Select the desired mode using the Left and Right buttons.





- * BURST : Adjust color signal ON/OFF in night(B/W) mode.
- * DELAY CNT : Adjust the DELAY time level 0~255 for day&night switch by pressing the left or the right button.
- * DAY→NIGHT : Adjust the DAY→NIGHT switch level 0~255 by pressing the left or the right button.
- * NIGHT→DAY : Adjust the NIGHT→DAY switch level 0~255 by pressing the left or the right button.
- * IR OPT : If you select AUTO, SMART IR function will be applied to the whole field.



→ AUTO: The mode will automatically switches to COLOR in normal condition and switches to BW mode when ambient illumination is low.

Press the SET button to set the switching time or D→N(AGC), N→D(AGC) in AUTO mode.

- SMART IR : adjust the division field level by pressing the left or the right button.

TOP : 000~114 Level adjustable

BOTTOM : 000~122 Level adjustable

LEFT : 000~223 Level adjustable

RIGHT : 000~239 Level adjustable



SMART IR OFF



SMART IR ON

- LEVEL : Strength control level by pressing the left or the right button.

- ATR WD-EX : ATR WD-EX works only in B/W mode. (IR LED linkage)

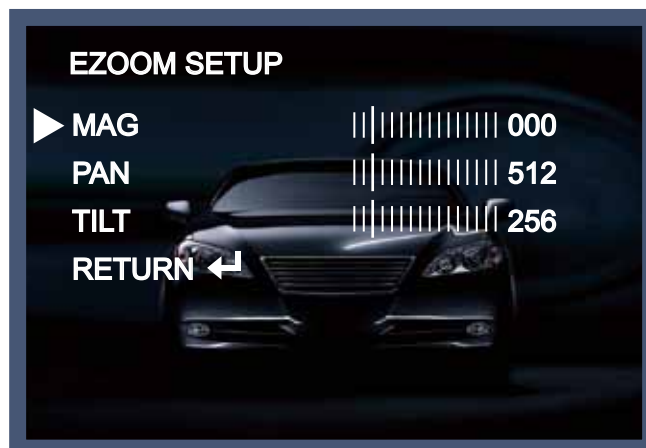
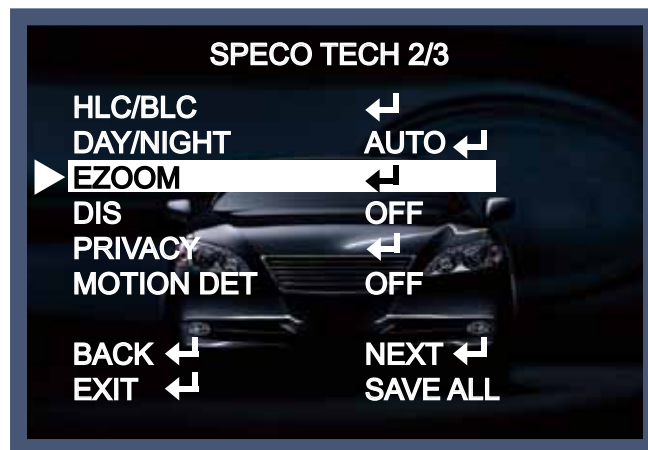
- RETURN : Move previous page.

* EXTON : When outside signal input is worked, DAY&NIGHT is interlocked.



- DELAY CNT : Adjust the DELAY time level 0~255 for day&night switch by pressing the left or the right button.
- POLARITY : HIGH , LOW select the active high or low of outside input signal reversal
- RETURN : Move previous page.

EZOOM



- MAG : (x1 ~ x16) Digital Zoom
- PAN : Left and right control level 0~1023
- TILT : Up and down control level 0~511
- RETURN : Move previous page.

DIS(Digital Image Stabilizer)

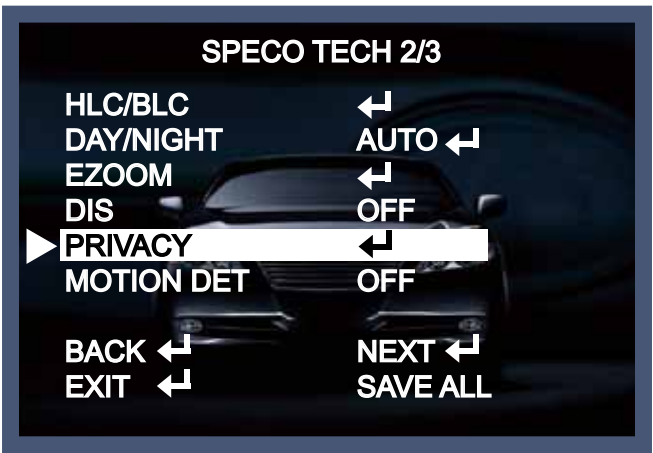
Image stabilization



PRIVACY

Hide an area you want to hide on the screen.

When the PRIVACY menu screen is displayed, press the Up and Down buttons to set to PRIVACY.





* AREA SEL : Selects the mask frame to be adjusted.

* MODE : Adjust AREA SEL function ON or OFF.

* POSITION : PRIVACY MASK field set-up

* COLOR : Sets the colors of the mask frames.

It selects the palette values below (where m: 0-7, color setting - 1) for settings 1 to 8.

* TRANSP : Sets the transparency ratio of the mask frames.

The same transparency ratio value is set for all the mask frames.

* MOSAIC : Sets the mask frame mosaic function to ON or OFF.

OFF: Mosaic function OFF

ON: Mosaic function ON

* RETURN : Move previous page.

MOTION DETECTION





- * DETECT SENSE : Motion detection strength level 0~127 control
- * BLOCK DISP : Controls the ON/OFF status of the motion detection block display.
- * DETECT AREA : BLOCK field set-up
- * MONITOR AREA : Sets whether to use the monitoring frames.
 - AREA SEL 1/4 : Selects the monitoring frame be set.
 - MODE
 - OFF: The monitoring frames are not used.
 - ON: The monitoring frames are used.
 - TOP : Sets the top side of the monitoring frame selected by the AREA SEL parameter.
 - BOTTOM : Sets the bottom side of the monitoring frame selected by the AREA SEL parameter.
 - LEFT : Sets the left side of the monitoring frame selected by the AREA SEL parameter.
 - RIGHT : Sets the right side of the monitoring frame selected by the AREA SEL parameter.
- * RETURN : Move previous page.

BACK

Move to previous page. (SETUP MENU 1/3)

EXIT

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

NEXT

Move to next page.(SETUP MENU 3/3)

SAVE ALL

This function is used to save the various settings of the internal OSD menu in the EEPROM together.

SAVE ALL is always displayed on the bottom line of the top menu. Its display position cannot be changed.

Menu Set Up (SPECO TECH 3/3)

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

1. Press the Set Up 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 arrow indicator Up or Down to select the desired feature by pressing the Up or Down button.



SYNC

INT (Internal Synchronisation)



CAMERA ID

To select the position where the camera ID should be displayed on the screen.

Move the cursor to POS and press the SET button.





* A -)Each user font: A selected character is registered at the position selected by the CAMERA ID cursor when the Enter operation input is performed from the status in which the characters have been selected using the character selection cursor. The camera ID cursor then moves one character to the right.

* ← → ↑ ↓:The camera ID cursor moves in the direction of the arrow when the Enter operation input is performed from the status in which ←, →, ↑ or ↓ has been selected using the character selection cursor.

* CLR:The character selected by the camera ID cursor is cleared when the Enter operation input is performed from the status in which CLR has been selected using the character selection cursor.

* POS:The display switches to the camera ID display position setting screen when the Enter operation input is performed from the status in which POS has been selected using the character selection cursor. On the camera ID display position setting screen, the camera ID display position is changed in real time in response to the left, right, up or down operation input. When the Enter operation input is performed, the display position is entered, and the display returns to the camera ID setting screen.

LANGUAGE

Selects the language in which to display the internal OSD menu.

The menus can be changed in real time in the selected language.



DEFECT ADJ

Detection ADJUSTABLE (White pixel detection and compensation mode) 64 Points compensation.





- * DETTH : In light block situation, if the brightness value of white pixel is low, more white pixel is detected and is high, lower white pixel is detected.
- * DETPGAIN : In light block situation, while white spot is being detected, gain level set-up, level is getting higher, more white pixel is detected.
- * START : When White pixel compensation is done, SUCCESS will show up on the monitor. EX) When more 64 POINTS are detected, ERROR will show up.
- * RETURN : Move previous page.

CAMERA RESET

This function initializes all the internal OSD menu settings together.



EXIT

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

BACK

Move to previous page.(SETUP MENU 2/3)

SAVE ALL

This function is used to save the various settings of the internal OSD menu in the EEPROM together.

SAVE ALL is always displayed on the bottom line of the top menu. Its display position cannot be changed.

• Trouble Shooting

PROBLEM	POSSIBLE CAUSE
Nothing 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 SENS-UP does not work.	☞ Check that the AGC setting in the EXPOSURE menu isn't set to OFF. ☞ Check the EXPOSURE menu and make sure SHUTTER is set to-----.



LIMITED WARRANTY - VIDEO PRODUCTS

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, NEGLIGENCE, 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.

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