INSTRUCTION MANUAL

HD SDI
Full HD Mega Pixel
IR Dome Camera

3-Axis Vandal
resistant Dome Camera

148+/-5)mm

Please read this manual thoroughly before use, and keep it handy for future reference.
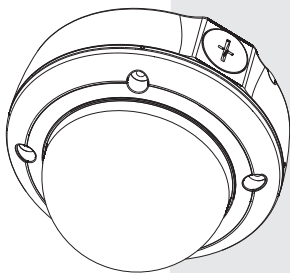*Design and specifications are subject to change without notice.*

105(+/-5)mm

NOTES
1.MODEL: HSGI-H71xV3S9/ NO BRAND
2.MATERIAL: 모조지100g/m² WHITE
3.COLOR: BLACK
4.SIZE:105(+/-5)mm x 148(+/-5)mm
5.LABEL: -------------

협의

전자

강영구

11-13-M13

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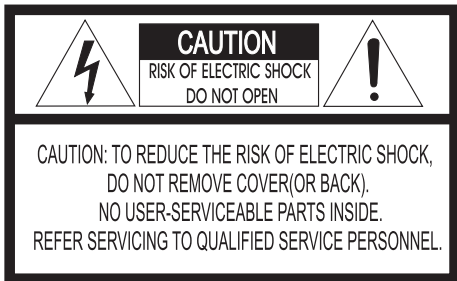*Design and specifications are subject to change without notice.*

LIMITATION OF LIABILITY

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ALL RESPECTS, HOWEVER, WE CANNOT ASSUME RESPONSIBILITY FOR ANY
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SUCH CHANGES.

WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE. DO NOT INSERT ANY METALLIC OBJECTS THROUGH THE VENTILATION GRILLS OR OTHER OPENINGS ON THE EQUIPMENT.

CAUTION


```
┌─────────────────────────────────────────────┐
│  ⚡        CAUTION           !                 │
│        RISK OF ELECTRIC SHOCK                 │
│             DO NOT OPEN                        │
│                                               │
│  CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,│
│        DO NOT REMOVE COVER(OR BACK).          │
│       NO USER-SERVICEABLE PARTS INSIDE.       │
│   REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.│
└─────────────────────────────────────────────┘
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EXPLANATION OF GRAPHICAL SYMBOLS

The lightning flash with 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 product.

PRECAUTIONS

Safety ---

Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by the qualified personnel before operating it any further.

Unplug the unit from the wall oulet if it is not going to be used for several days or more. To disconnect the cord, pull it out by the plug. Never pull the cord itself.

Allow adequate air circulation to prevent internal heat build-up. Do not place the unit on surfaces (rugs, blankets, etc.) or near materials(curtains, draperies) that may block the ventilation holes.

Installation -----------------------------------

Do not install the unit in an extremely hot or humid place or in a place subject to excessive dust, mechanical vibration.

Cleaning ---------------------------------------

Clean the unit with a slightly damp soft cloth. Use a mild household detergent. Never use strong solvents such as thinner or benzine as they might damage the finish of the unit.

Retain the original carton and packing materials for safe transport of this unit in the future.

FCC COMPLIANCE STATEMENT

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC INFORMATION : This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference 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 his own expense.

CAUTION : Changes or modifications not expressly approved by the party responsible for compliance could void the user`s authority to operate the equipment.

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numéique de la classe A est conforme à la norme NMB-003 du Canada.

CE COMPLIANCE STATEMENT

WARNING
This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. *CAUTION – THESE SERVICING IN STRUCTIONS 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.*
16. *Use satisfy clause 2.5 of IEC60950-1/UL60950-1 or Certified/Listed Class 2 power source only.*

CONTENTS

INTRODUCTION

The 1/2.9" 2M full HD CMOS camera, especially for closed circuit television CCTV and security surveillance application

THE CAMERA FEATURES

- High performance SONY 1/2.9" Exmor CMOS™
- 2.1M 1080p Full HD, Excellent picture quality
- 1920x1080p / 30fps, 1280x720p / 60fps
- 1.0 lux(COLOR), 0 lux(BW, IR LED ON)
- Auto electronic shutter [1/60(1/50) ~ 1/60,000] and manual electronic shutter modes
- WDR (Wide Dynamic Range)/ BLC (Back-light compensation)
- Auto and manual white balance modes (ATW / ATWext / Preset / Manual)
- Day & Night (ICR) : Auto / Color / BW
- OSD (on screen display)
- DNR (Digital Slow Shutter)
- Smart IR
- 36EA, 850nm IR LED
- IR Range distance up to 30M
- Privacy mask Function (24 zone)
- Motion Detection
- Defog
- HLMASK
- Composite Video Output (700TV Lines)
- Operates in DC12V ± 10%
- Use Certified / Listed Class 2 power source only

⚠ **IMPORTANT :** The user of this camera is responsible for checking and complying with local, state, and federal laws and statutes concerning the recording and monitoring of audio signals.

CAMERA CONNECTION
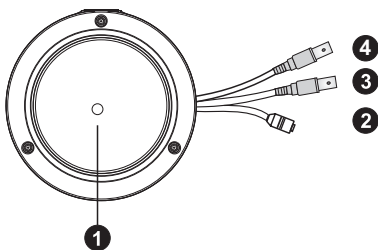
1. **Lens** ：3.5 - 16 mm D&N A/I Varifocal Lens for wide

2. **Power :** 12V DC input
   power source from a DC 12V +/-10%
   Use Certified/Listed Class 2 power source only.

   *If using DC 12V power adaptor, use a power supply capable of
   supplying 6 Watts.

3. **HD-SDI Video :** BNC connector used to connect the camera to a monitor, HD-SDI DVR, etc.

4. **CVBS Video :** BNC connector used to connect the camera to a monitor, switcher, etc.

CONTENTS of PACKAGE

The package contains the following.

Camera in Housing_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ 1
Instruction Manual (This Document)_ _ _ _ _ _ _ _ _ _ _ 1
Accessory Kit for Installing_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ 1
Drilling guide label_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ 1

REMINDER:
Never aim the camera directly into the sun.

INSTALLATION

1. Loosen the for forx screws located midway up the front of the housing leaving the screw intact in the front portion. **(Fig. 1)**

2. Drill the mounting location, using the Drillin guide. **(Fig. 2)**

3. Attach the housing to the celling using suitable fasteners, M6x35 tapping screws are supplied. Only use if they are suitable. **(Fig. 2)**

4. Close the housing using the loosen torx screws. **(Fig. 3)**

Torex Screw
M5x10 <4X>

Figure 1

Seal around the housing
base tightly using the silicon

Figure 3

Mounting Screw
M6x35<4X>

Rubber Washer
<4X>

Plastic Anchor
<4X>

Drilling
Guide Label

Figure 2

4
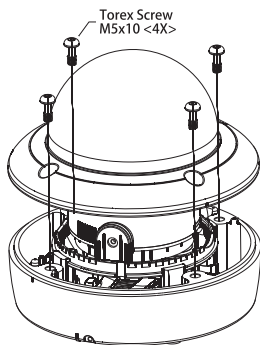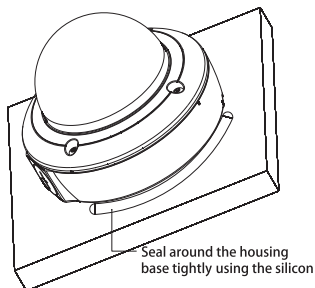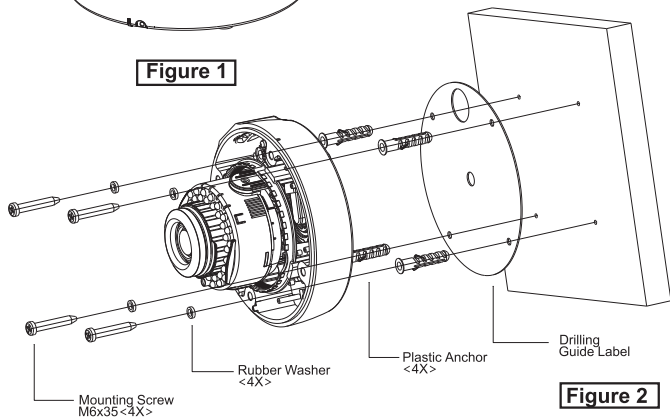
CAMERA CONNECTION DIAGRAM

HD-SDI Convertor

HDMI Cable

RF-BNC Female Video Out(HD-SDI)

HD-SDI through Coaxial Cable

HD-SDI DVR or HD-SDI Monitor

BNC Female Video Out(CVBS)

DC 12V or AC 24V REGULATED POWER SUPPLY
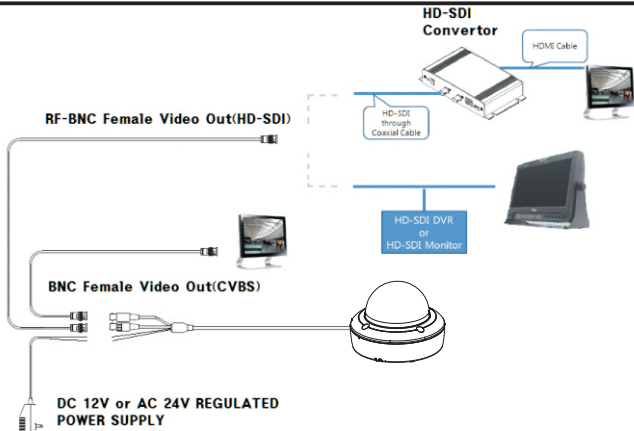
* Diagram of typical wiring connections

VIDEO OUT CHECK (CVBS)

Test Monitor

5 INCH COLOR TFT LCD

VIDEO OUT

SPOT VIDEO
CN2
DOWN
RIGHT
LEFT
UP

Joystick Switch Board

VIDEO IN

DC IN 12V 1.0A
(-)⊙(+)

VIDEO IN
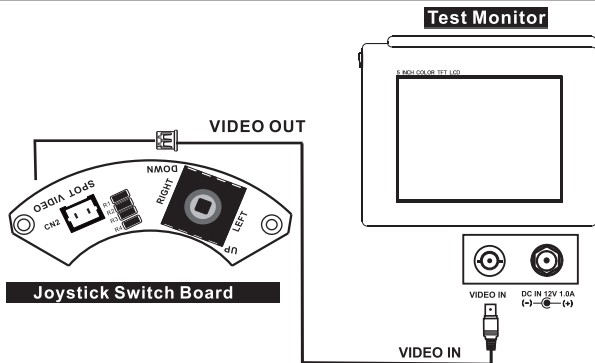
STRUCTURE OF THE SETUP MENU

\<SETUP\>

LENS
EXPOSURE
AWB
WDR/BLC
DAY&NIGHT
IMAGE
FUNCTION
SYSTEM
EXIT

\<LENS\>

DC
MANUAL

\<EXPOSURE\>

SHUTTER
BRIGHTNESS
AGC
DSS
ACE
DEFOG
RETURN

\<AWB\>

AUTO
AUTOext
PRESET
MANUAL

\<WDR/BLC\>

OFF
WDR
BLC

\<DAY NIGHT\>

AUTO
COLOR
B&W

\<IMAGE\>

CHROMA
SHARPNESS
EFFECT
STILL
SHADING
HLMASK
DZOOM
GAMMA
RETURN

\<FUNCTION\>

DNR
MOTION
PRIVACY
SHADING DET
DEFECT DET
RETURN

\<SYSTEM\>

CAM TITLE
DISPLAY
OUT MODE
LANGUAGE
VERSION
RESET
RETURN
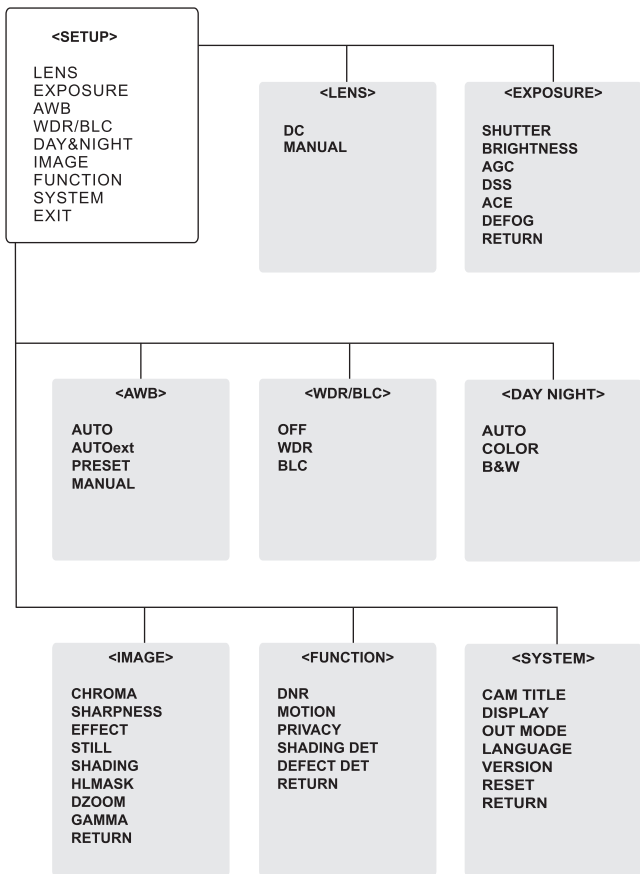
LENS

The LENS menu is used to set the DC or Manual mode.

1. DC   Select the DC mode
                    ▶ INDOOR, OUTDOOR, DEBLUR
2. MANUAL   Select the MANUAL mode

```
          <SETUP>                          <SETUP>

    ▶LENS          DC  ⏎         ▶LENS          MANUAL⏎
     EXPOSURE       ⏎             EXPOSURE       ⏎
     AWB           AUTO           AWB           AUTO
     WDR/BLC       OFF            WDR/BLC       OFF
     DAY&NIGHT     AUTO⏎          DAY&NIGHT     AUTO⏎
     IMAGE          ⏎             IMAGE          ⏎
     FUNCTION       ⏎             FUNCTION       ⏎
     SYSTEM         ⏎             SYSTEM         ⏎
     EXIT           ⏎             EXIT           ⏎
```

Note *Choose when installed in an external dc mode of outdoor.*

EXPOSURE

The EXPOSURE menu is used to set the automatic light control method for the camera. It provides the ability to adjust the SHUTTER speed, BRIGHTNESS, AGC, DSS and ACE functions of the camera.

1) SHUTTER   Select the SHUTTER speed level.
                        ▶Auto,1/30(25), 1/60(50), FLK~ 1/240 - 1/60.000sec)

2) BRIGHTNESS   Adjust the BRIGHTNESS level. ▶ 0 ~ 20

3) AGC   Adjust the Auto Gain Control level. ▶ 0 ~ 7

4) DSS   Selct the Digital Slow Shutter level. ▶ OFF, x2 ~ x8

5) ACE   Select the Adaptive Contrast Enhancer. (D-WDR) ▶ ON, OFF

6) DEFOG   Select the DEFOG mode. ▶ OFF, LOW, MIDDLE, HIGH
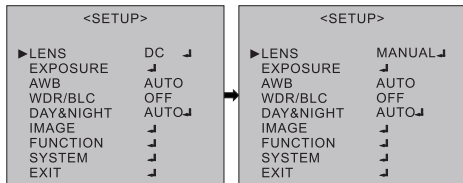   * When DEFOG is ON. ACE and WDR function can not turn on.

```
          <SETUP>
     LENS          MANUAL            <EXPOSURE>
    ▶EXPOSURE       ⏎
     AWB           AUTO          SHUTTER       AUTO
     WDR/BLC       OFF           BRIGHTNESS    ▭▭▭ 7
     DAY&NIGHT     AUTO⏎         AGC           ▭▭▭ 5
     IMAGE          ⏎            DSS           OFF
     FUNCTION       ⏎            ACE           OFF
     SYSTEM         ⏎            DEFOG         OFF
     EXIT           ⏎            RETURN         ⏎
```
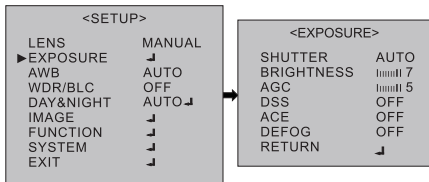
AWB

The screen color can be adjusted by using the Auto White Balance function.
It compensates for deviations in the white color caused by changes in the color
temmperature of the light source so that the colors are reproduced correctly.

    1) AUTO   Automatically adjust color temperature.
    2) AUTOext   Automatically extended range of color temperature adjustment.
    3) PRESET   Automatically readjust only by pressing PRESET.
    4) MANUAL   Manual mode.
                User can change Red and Blue gain value manually.
                COLOR TEMPERATURE LOW, MIDLE, HIGH
                R-GAIN   0 ~ 20
                B-GAIN   0 ~ 20

<AWB> MODE
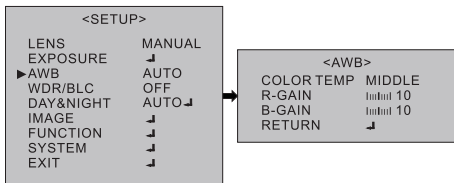
WDR/BLC

The WDR/BLC menu is used to the ability to expand the dynamic range and to prevent
back lighting from the image.

1) WDR   Select the Dynamic Range level.
                * When WDR is ON, ACE and DEFOG function can not turn on.

2) BLC   Prevents such a back light effect to secure a clear image under All
                illumination environments.
                Adjust the size of Back Light Compensation area.
                X-POS Adjust the window X-Axis position
                Y-POS Adjust the window Y-Axis position
                X-SIZ   Adjust the window X-Axis size
                Y-SIZ   Adjust the window Y-Axis size

<WDR/BLC>
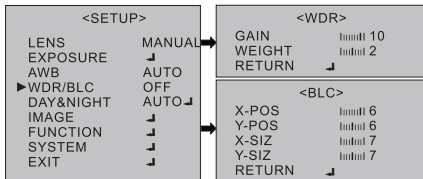
DAY&NIGHT

The DAY&NIGHT menu is used to configure the day and night related setting for the camera.

1) D&N AUTO

    - Input Method   SENSOR

       DAY&NIGHT mode are changed according to the sensor inputs

         MODE   Select input mode. ▶ SENSOR, AGC

         D&N LEVEL Adjust levels of transition ▶ 0 - 255

         N&D LEVEL Adjust levels of transition ▶ 0 - 255

         DELAY   1 - 60 SEC

    - Input Method   AGC

       DAY&NIGHT mode are changed according to the brightness of the image. Use only when the camera is installed in a dark place but the camera is viewing a bright place. When used in a normal installation, hunting may occur.

         MODE   Select input mode. ▶ AGC, SENSOR

         D&N LEVEL Adjust levels of transition ▶ 0 - 255

         N&D LEVEL Adjust levels of transition ▶ 0 - 255

         DELAY   1 - 60 SEC

2) D&N B&W

         SMART IR   ON, OFF

         LEVEL   1 - 20

<DAY&NIGHT> MODE

```
         <SETUP>                      <D&N AUTO>
  LENS           MANUAL        MODE           AGC
  EXPOSURE        ↵       ➤    D ▶ N LEVEL    |||| 20
  AWB            AUTO          N ▶ D LEVEL    |||| 70
  WDR/BLC        OFF           DELAY          3 SEC
 ►DAY&NIGHT      AUTO↵         RETURN         ↵
  IMAGE           ↵
  FUNCTION        ↵                       <D&N B&W>
  SYSTEM          ↵       ➤    SMART IR       ON
  EXIT            ↵            LEVEL          |||| 12
                              RETURN         ↵
```
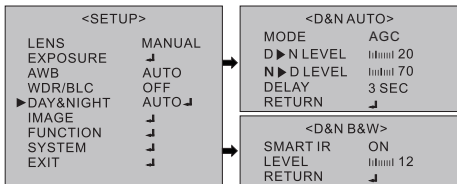
IMAGE

The IMAGE menu provides the ability to adjust the CHROMA, SHARPNESS, EFFECT, STILL, SHADING, HLMASK, DZOOM and GAMMA functions of the camera.

1) CHROMA	Adjust the CHROMA level. ▶ 0 ~ 20	
2) SHARPNE	Adjust the SHARPNESS level. ▶ 0 ~ 10	
3) EFFECT	OFF, MIRROR, FLIP, ROTATE	
4) STILL	Select real or still mode. ▶ ON, OFF	
5) SHADING	Select the lens SHADING compensation. ▶ ON, OFF	
6) HLMASK	Mask the high light zone with specific color & level.	
- MASK		
LEVEL	Adjust High Light Mask level. ▶ 0 - 20	
COLOR	Select Color mask. ▶ BLACK, WHITE, YELLOW, CYAN, GREEN, MAGENTA, RED, BLUE	
-SMART		
LEVEL	Adjust High Light Mask level. ▶ 0 - 15	
DELAY	Adjust DELAY time. ▶ 1 - 15 SEC	
7)DZOOM	Adjust the Digital ZOOM level. ▶ 0 ~ 120	
8)GAMMA	Adjust the GAMMA level. ▶ 0 ~ 4	

<IMAGE>

```
        <SETUP>                      <IMAGE>

  LENS        MANUAL         CHROMA      |ıııılıl 15
  EXPOSURE       ↵           SHARPNESS   |ıııılıl 5
  AWB         AUTO           EFFECT         OFF
  WDR/BLC     OFF            STILL          OFF
  DAY&NIGHT   AUTO↵          SHADING        OFF
 ►IMAGE         ↵            HLMASK         OFF
  FUNCTION       ↵           DZOOM       |ıııılıl 0
  SYSTEM         ↵           GAMMA       |ıııılıl 1
  EXIT           ↵           RETURN         ↵
```

<HLMASK>

```
        <SETUP>                      <MASK>

  LENS        MANUAL         LEVEL       |ıılıııl 17
  EXPOSURE       ↵           COLOR         BLACK
  AWB         AUTO           RETURN         ↵
  WDR/BLC     OFF
  DAY&NIGHT   AUTO↵                     <SMART>
 ►IMAGE         ↵
  FUNCTION       ↵           LEVEL       |ılıııl 8
  SYSTEM         ↵           DELAY        3 SEC
  EXIT           ↵           RETURN         ↵
```
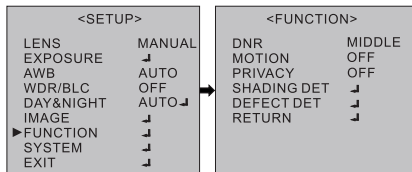
FUNCTION

The IMAGE menu provides the ability to adjust the DNR, MOTION DET, PRIVACY, SHADING DET, DEFECT DET and PRESET functions of the camera.
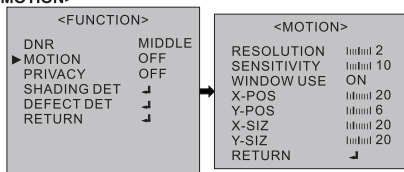
1) DNR   Select Digital Noise Reduction.
                  ▶ OFF, LOW, MIDDLE, HIGH

2) MOTION   Detects the Motioned Object in the image. ▶ ON, OFF
         RESOLUTION
         SENSITIVITY
         WINDOW USE
         X-POS   Adjust the AREA X-Axis position. ▶ 0 - 58
         Y-POS   Adjust the AREA Y-Axis position. ▶ 0 - 32
         X-SIZ   Adjust the AREA X-Axis size. ▶ 2 - 60
         Y-SIZ   Adjust the AREA Y-Axis size. ▶ 2 - 34

3) PRIVACY   Hide an area you want to hide on the screen.
         ZONE SELECT   Select the privacy zone ▶ 0 – 23
         ZONE USE   ▶ ON, OFF
         X-POS   Adjust the AREA X-Axis position. ▶ 0 - 60
         Y-POS   Adjust the AREA Y-Axis position. ▶ 0 - 34
         X-SIZ   Adjust the AREA X-Axis size. ▶ 0 - 60
         Y-SIZ   Adjust the AREA Y-Axis size. ▶ 0 - 34
         COLOR   Select the privacy zone color
                          ▶ WHITE, YELLOW, CYAN, GREEN, MAGENTA, RED, BLUE, BLACK
         TRANS   **Select the privacy zone transparency** ▶ 0 – 4

4) SHADING DET Compensates for lens Shading.
5) DEFECT DET Compensates for bad pixels

<FUNCTION>

<SETUP>		<FUNCTION>	
LENS	MANUAL	DNR	MIDDLE
EXPOSURE	↵	MOTION	OFF
AWB	AUTO	PRIVACY	OFF
WDR/BLC	OFF	SHADING DET	↵
DAY&NIGHT	AUTO ↵	DEFECT DET	↵
IMAGE	↵	RETURN	↵
▶FUNCTION	↵		
SYSTEM	↵		
EXIT	↵		

11

FUNCTION

<MOTION>

```
       <FUNCTION>
DNR            MIDDLE
▶ MOTION       OFF
  PRIVACY      OFF
  SHADING DET    ⏎
  DEFECT DET     ⏎
  RETURN         ⏎
```

```
       <MOTION>
RESOLUTION    ▐▌▌▌ 2
SENSITIVITY   ▐▌▌▌ 10
WINDOW USE    ON
X-POS         ▐▌▌▌ 20
Y-POS         ▐▌▌▌ 6
X-SIZ         ▐▌▌▌ 20
Y-SIZ         ▐▌▌▌ 20
RETURN          ⏎
```

<PRIVACY>

```
       <FUNCTION>
DNR            MIDDLE
  MOTION       OFF
▶ PRIVACY      OFF
  SHADING DET    ⏎
  DEFECT DET     ⏎
  RETURN         ⏎
```

```
       <PRIVACY>
ZONE SELECT   0
ZONE USE      OFF
X-POS         ▐▌▌▌ 9
Y-POS         ▐▌▌▌ 4
X-SIZ         ▐▌▌▌ 3
Y-SIZ         ▐▌▌▌ 3
COLOR         WHITE
TRANS         ▐▌▌▌ 4
RETURN          ⏎
```

<SHADING DET>

```
      <SHADING DET>
 TURN LENS TO LOOK WHITE
   ENTER KEY FOR START
  OTHER KEYS FOR RETURN
```

```
      <SHADING DET>

      PROCESSING
```

<DEFECT DET>

```
      <DEFECT DET>
    COVER THE LENS
   ENTER KEY FOR START
  OTHER KEYS FOR RETURN
```

```
      <DEFECT DET>
 DIR KEYS FOR THRESHOLD ADJ
   ENTER KEY FOR FINISH
  THRESHOLD   0000000009
```
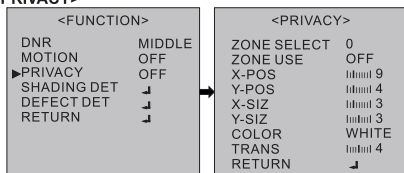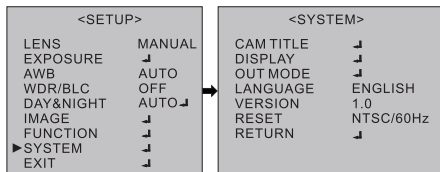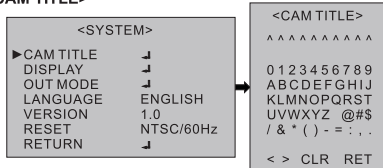
SYSTEM

The IMAGE menu provides the ability to adjust the CAM TITLE, DISPLAY, OUT MODE, LANGUAGE, VERSION and RESET functions of the camera.

1) CAM TITLE   Maximum of 10 characters are allowed.
2) DISPLAY   Set the position of the camera ID. & title.
3) OUT MODE   Image output method
      RESOLUTION   Select Digital output 1080P or 720P. ▶ 1080P, 720P
      VIDEO MODE   Select NTSC/60Hz or PAL/50Hz.
      CVBS SCALE   Select image scale. ▶ CROP(4:3), FULL(4:3)
      COLOR RANGE Select image color range. ▶ CLIP, FULL
4) LANGUAGE   OSD menu LANGUAGE. ▶ ENGLISH, CHINESE
5) VERSION   Firmware VERSION
6) RESET   Factory initialization of camera settings
       ▶ NTSC/60Hz, PAL/50Hz

\<SYSTEM\>

\<SETUP\>	
LENS	MANUAL
EXPOSURE	⏎
AWB	AUTO
WDR/BLC	OFF
DAY&NIGHT	AUTO⏎
IMAGE	⏎
FUNCTION	⏎
▶SYSTEM	⏎
EXIT	⏎

\<SYSTEM\>	
CAM TITLE	⏎
DISPLAY	⏎
OUT MODE	⏎
LANGUAGE	ENGLISH
VERSION	1.0
RESET	NTSC/60Hz
RETURN	

\<CAM TITLE\>

\<SYSTEM\>	
▶CAM TITLE	⏎
DISPLAY	⏎
OUT MODE	⏎
LANGUAGE	ENGLISH
VERSION	1.0
RESET	NTSC/60Hz
RETURN	⏎

```
        <CAM TITLE>
    ^ ^ ^ ^ ^ ^ ^ ^ ^ ^

    0 1 2 3 4 5 6 7 8 9
    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  @ # $
    / & * ( ) - = : , .

    <  >  CLR  RET
```

\<DISPLAY\>

\<SYSTEM\>	
CAM TITLE	⏎
▶DISPLAY	⏎
OUT MODE	⏎
LANGUAGE	ENGLISH
VERSION	1.0
RESET	NTSC/60Hz
RETURN	⏎

\<DISPLAY\>	
CAM ID	OFF
ID POS	TOP-LEFT
CAM TITLE	OFF
TITLE POS	TOP-LEFT
RETURN	⏎

\<OUT MODE\>

\<SYSTEM\>	
CAM TITLE	⏎
DISPLAY	⏎
▶OUT MODE	⏎
LANGUAGE	ENGLISH
VERSION	1.0
RESET	NTSC/60Hz
RETURN	⏎

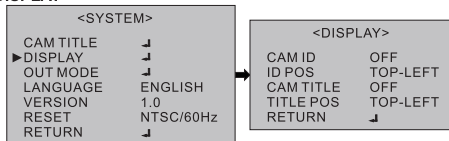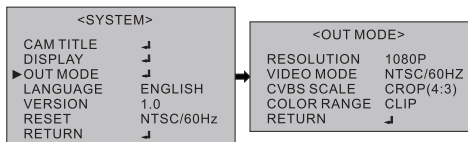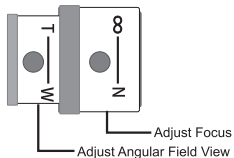| \<OUT MODE\>	
RESOLUTION	1080P
VIDEO MODE	NTSC/60HZ
CVBS SCALE	CROP(4:3)
COLOR RANGE	CLIP
RETURN	⏎

LENS ADJUSTMENT

Field of view: Adjust setting from Tele (T) to Wide (W) field of View.
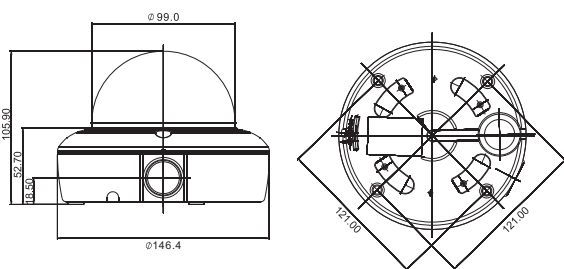
Focus: Adjust lens focus from near (N) to infinity (∞).

Adjust Focus

Adjust Angular Field View

DC AUTO IRIS LENS

Image Size	1/2.9" CMOS
Focal Length	3.5 - 16.0mm
Aperture Ratio	1 : 1.2
Angular Field of View	DIAGONAL 3.5mm : 108° 16mm : 27.6°

SPECIFICATIONS

MODEL			2M HD-SDI Camera
Power	Power Source		DC12V ± 10%
	Power Consumption		Max 5 Watts (420mA)
General	Image sensor		1/2.9" 2.1M Sony CMOS
	Total pixels		2000(H) x 1241(V)
	Active Pixels		1920(H) x 1080(V)
	Scanning system		Progressive
	Sync. System		Internal
	Resolution		Digital : 1920x1080p (1080p/30fps), 1280x720p / Analog : 700TVL
	Min. illumination		1.0 lux(COLOR), 0 lux(BW, IR LED ON)
	Video Output		HD-SDI (with WDR), CVBS Analog : NTSC , PAL (without WDR)
	IR	IR LED	36EA IR LED (850nm)
		DISTANCE	30M
	S/N Ratio		More than 50dB (AGC off)
Function	Camera Control		OSD (Joystic Switch)
	Lens		DC / MANUAL
	WDR/BLC		OFF / WDR / BLC
	Shutter		AUTO, 1/30(1/25), 1/60 ~ 1/60,000sec
	Brightness		0 ~ 20
	AGC		0 ~ 7
	DSS(Digital Slow Shutter)		OFF / x2 / x3 / x4 / x8
	White Balance		AUTO / AUTOext / PRESET / MANUAL
	ACE		OFF / ON
	DEFOG		OFF / LOW / MIDDLE / HIGH
	Day & Night		AUTO / COLOR / B&W
	D&N AUTO	D → N Level	0 ~ 255
		N → D Level	0 ~ 255
		Delay	1 ~ 60 sec
		Smart IR Level	1~20
	SPECIAL	Shading	OFF / ON
		Motion Detection	OFF / ON
		Privacy Masking	OFF / ON (24 zone)
		HLMASK	OFF / MASK / SMART
		DNR	OFF / LOW / MIDDLE / HIGH
		Effect	OFF / MIRROR / FLIP / ROTATE
		D-ZOOM	0 ~ 120
		Still	OFF / ON
		Sharpness	0 ~ 10
		Croma	0 ~ 20
		Gamma	0 ~ 4
		Shading Detection	OFF / ON
		Defect Detection	OFF / ON
		Dout Format	1080P / 720P
		Video mode	NTSC (60Hz) / PAL (50Hz)
		Cmara Title	OFF / ON
		Language	ENGLISH / CHINESE
		ID	1 ~ 255
	Reset		RESET
	Exit		Save Yes / Save No
Connector & etc.	Power input		DC Jack
	HD - SDI output		BNC Connector
	CVBS output		BNC Connector
	Lens mount		Fixed mount
	Lens		f=3.5 ~ 16mm F1.2~360 Varifocal, ICR (D&N)
	Operating temperature		14°F ~ 122°F (-10°C ~ +50°C)
	Operating humidity		0 ~ 96% (non-condensing)
	External dimension		⌀146 x 106 mm
	Weight		740g

EXTERNAL DIMENSION

Dimensions	
	Unit: mm
Window Size	0.1 in. (2.5mm thick), 3.9in (99mm) diameter
Weight - Unit **Shipping**	1.65 lb 740g 2.10 lb 940g