USER'S MANUAL

2 Megapixel IR Dome Camera (MP-11-04)

Before installing and using the camera, please read this instructions thoroughly and keep for reference.

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PRECAUTIONS

■ **Avoid prolonged use in high temperature and high humidity environment**
Use the product within the operating range specified in the specifications.
Avoid locations where heat is generated, and Install in a well-ventilated place.

■ **Do not install the camera in an unstable place**
Confirm that the camera is firmly fixed after installation.
Dropping the product due to poor installation may cause injury.

■ **Install the camera away from dusty places**
This may cause product malfunction, poor image quality, fire or electric shock.

■ **Do not install the camera under unstable lighting conditions**
It is possible to output an inappropriate image due to severe illumination change
or lighting flickering.

■ **Do not install the camera near gas or oil leaks**
Use in a place with flammable materials may cause fire.
Also, keep distance from power line cables or use separate metal piping.

■ **Do not disassemble the camera or insert foreign objects**
There is no warranty liability for products that user disassembled.

■ **Do not drop the camera or shock it**
It may cause malfunction.

■ **Never keep the camera directly face to strong light.**
Exposure to strong light such as sunlight may cause light spreading or light
blurring. In addition, direct sunlight can damage the image sensor.

■ **Prepare for malfunction due to natural disasters**
The grounding work or the installation of the surge protector can minimize damage
to the product due to lightning, etc.

■ **Be sure to check the specifications of the power supply**
Before connecting the power to the product, make sure that the power supply
meets the recommended specifications.

INTRODUCTION & FEATURES

Product Introduction

MP-11-04 is a high-resolution dome camera that outputs 2 megapixel SDI (Serialized Digital Interface) video and transmits high-definition video over coaxial cable. This camera contains 2 megapixel CMOS image sensor, Image signal processor(ISP), and SDI transmitter block inside. because this product has built-in high power IR-LED that it can provide clear video even at night.

Features

- 1/2.9", 2 megapixel Sony CMOS sensor
- 2.8~12mm megapixel varifocal Lens
- Full-HD resolution video output
- Day & Night (ICR)
- On Screen Display
- 2D + 3D DNR (Digital Noise Reduction)
- D WDR (Digital Wide Dynamic Range)
- Privacy Masking function
- Intelligent motion detection
- 3-Axis gimbal structure for easy installation
- Built-in 4pcs high power IR-LED
- Camera Control through RS-485
- EX-SDI video output
- DC12V Power

ACCESSORIES & DIMENSIONS

ACCESSORIES
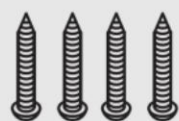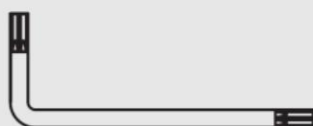
Mount Screw   L-wrench   SERVICE VIDEO OUT   User's Manual
                                              BNC CABLE
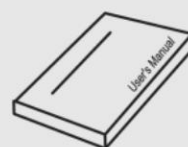
OPTIONS

Plastic Dome Bracket

WM-120

DIMENSIONS

53

38,7

44,5

46

83,5
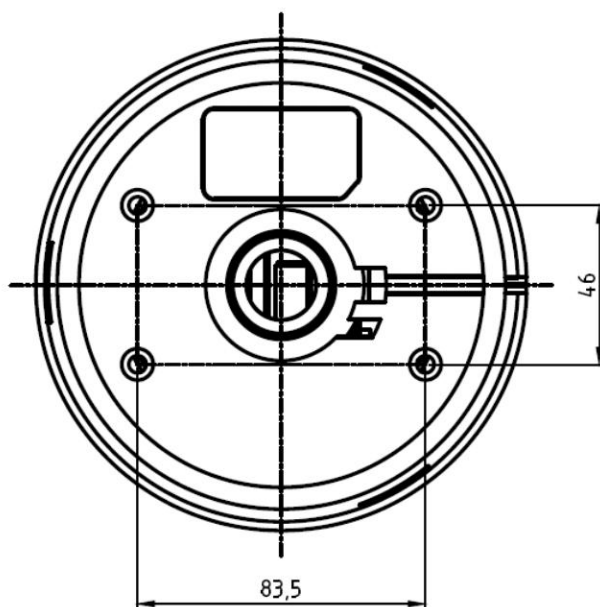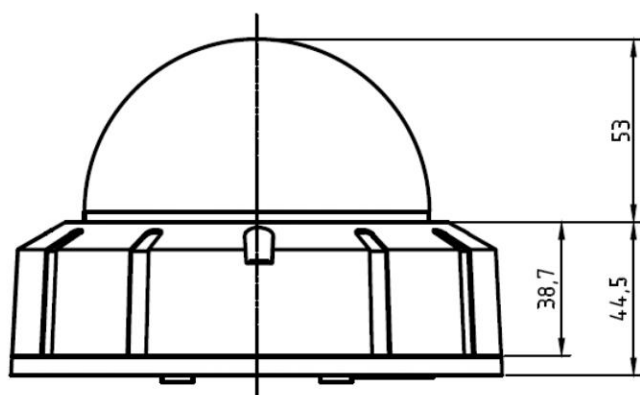
CONNECTIONS

CONNECTOR

- Connect BNC output to a monitor, DVR or one Tramsmission device

- Connect DC12V power to the camera

  * Use more than 1A power adapter

DC12V

BNC(BLUE)

RS-485(+) BROWN
RS-485(-) ORANGE
MD/OUT   PURPLE
GND   GRAY
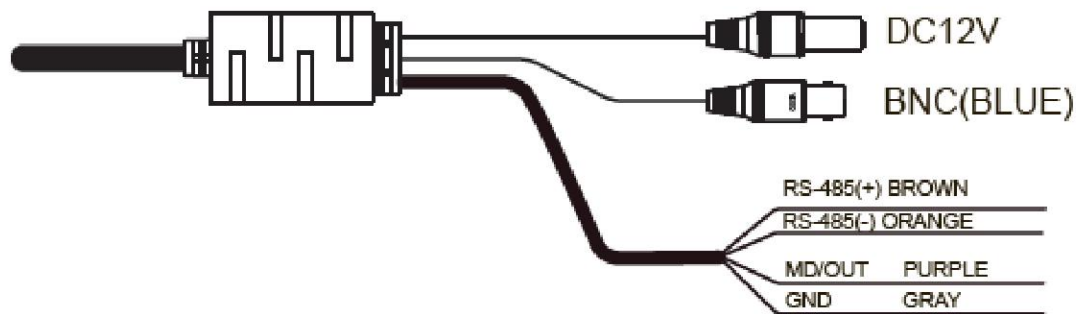
MAIN PARTS & 3-AXIS MOVEMENT

MAIN PARTS
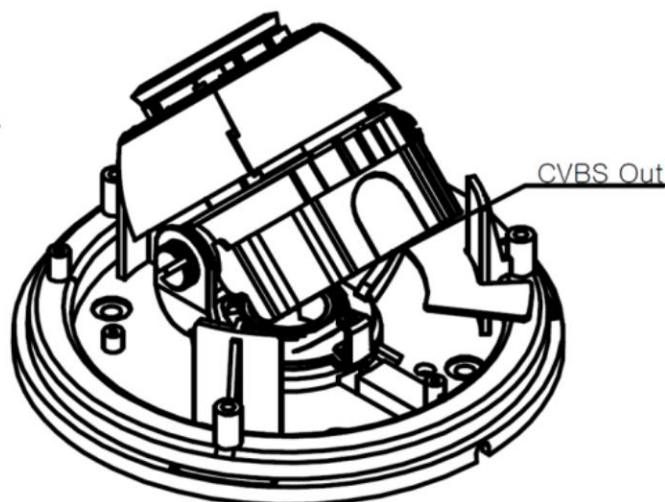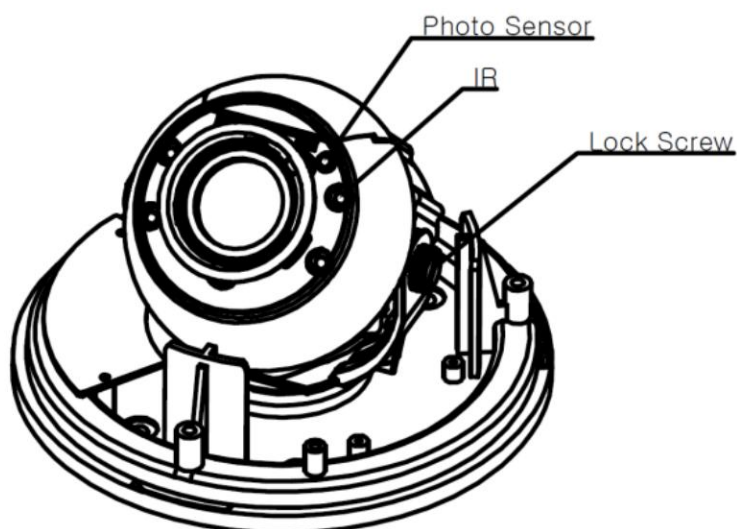
3-AXIS MOVEMENT

Celing Type
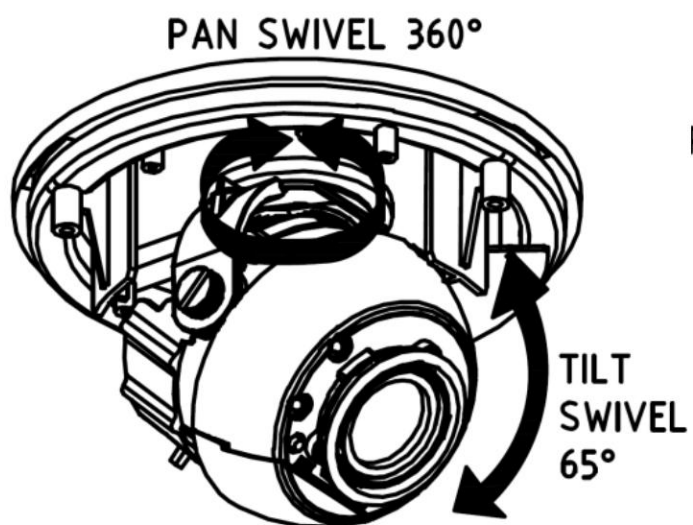
Wall Type
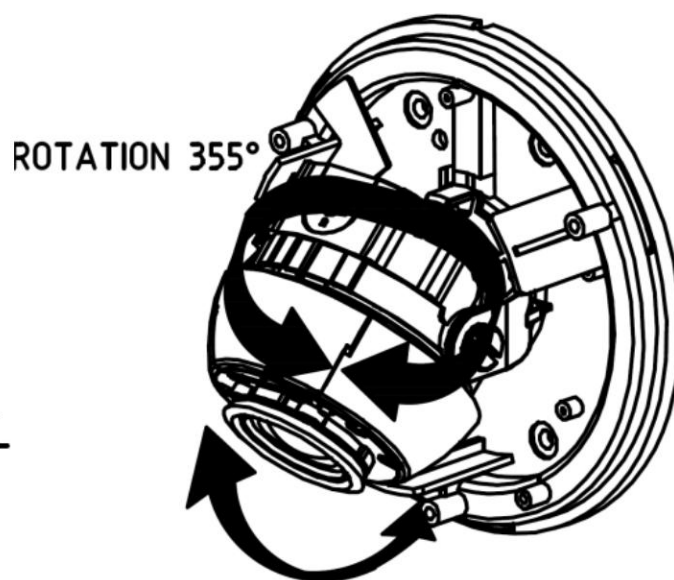
INSTALLATION
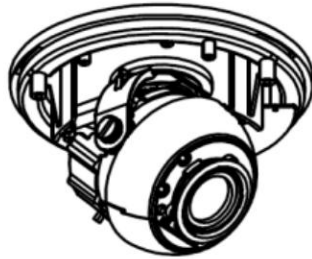
Dome Base

Screws
With Rubber
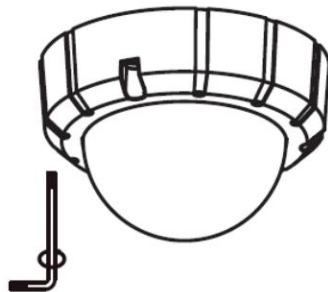
Decoration Ring
Dome cover

L-Wrench

1. Dome Base Mounting
   - Fix the base housing with the supplied 4pcs of screws on the ceiling or wall.

2. Power Supply
   - Connect a DC12V/1A regulated power supply
   - To avoid fire or shock hazard, must use a UL listed power supply.

3. Camera Module Adjustment (Pan&Tilt Adjustment)
   - Adjust the camera direction by turning the gimbal.
   - To adust angle of view, move the zoom & focus knobs.

4. Decoration Ring Mounting
   - By using the supplied L-wrench, firmly fix the dome cover to dome base with the screws.

MAIN MENU

Camera menu is subject to change without prior notice for the functional upgrade or quality improvement. Also, we may use additional slip sheet for the change. Please check the camera version and the slip sheet if the camera menu and this manual's menu is not matched.

MAIN MENU

```
                MENU

MODEL              IR-CDS
EXPOSURE             ↵
WHITE BAL            ↵
IMAGE                ↵
INTELLIGENCE         ↵
SPECIAL FUNC         ↵
DISPLAY              ↵



 [EXIT]     [SAVE]     [DFLT]
```
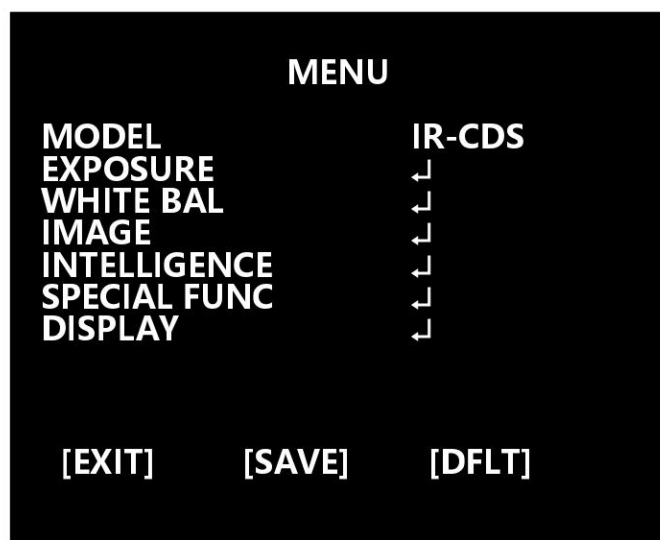
The menu consists of the "Main Menu" and "Sub Menu".

Except MODEL, the rest main menus have associated sub menu.
So, if you select each main menu, associated sub menu is displayed.

If you want save the current settings, select [SAVE]

If you do not want save the current settings, select [EXIT]
But, before power off → on, camera will keep the changed current settings.

If you want to restore the default settings, select [DFLT]

◈ MODEL : Please keep "IR-CDS" setting without change
  ► D&N, IR-CDS
    ▷ D&N : Apply to non-IR model only
    ▷ IR-CDS : Apply to IR model

EXPOSURE

EXPOSURE

```
            MENU                           EXPOSURE

  MODEL          IR-CDS          LENS              DC ↵
  EXPOSURE          ↵            BRIGHTNESS        ▮▮▯▯    8
  WHITE BAL         ↵            SHUT SPEED        AUTO
  IMAGE             ↵            DSS               2x
  INTELLIGENCE      ↵            AGC               ON
  SPECIAL FUNC      ↵            FLICKERLESS       OFF
  DISPLAY           ↵            WDR/BLC           OFF
                                 IR-LED            ENABLE
                                 DAY&NIGHT         AUTO↵


  [EXIT]    [SAVE]    [DFLT]     [BACK]    [SAVE]    [DFLT]
```
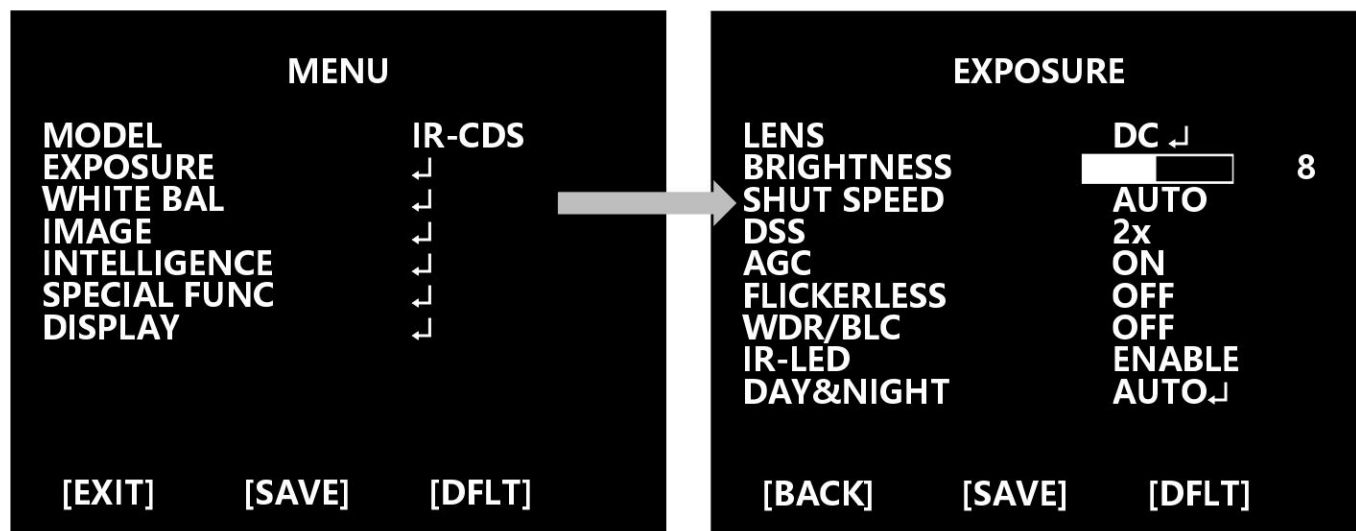
◆ LENS MODE : Select LENS mode↵
    ▷ INDOOR / OUTDOOR / DEBLUR

◆ BRIGHTNESS : Set brightness level ► 0(dark) ~ 20(bright) steps

◆ SHUT SPEED : Set the shutter operation mode ► AUTO / MANUAL↵
    ▷ Manual Shutter Speed
       1/30(25), 1/60(50), 1/120(100), 1/240(200), 1/480(400), 1/1000(800),
       1/2000(1600), 1/4000(3200), 1/8000(6400),
       1/15000(12800), 1/30000(25600) sec

◆ DSS : Set maximum DSS (Digital Slow Shutter) operating range.
    ► OFF / x2, x4 , x8, x16, x32

◆ AGC : Set Auto Gain Control ► OFF / ON

◆ FLICKERLESS : Set Flickerless mode ► OFF / ON

EXPOSURE

◈ WDR/BLC : Select WDR(Wide Dynamic Range) or BLC(Back Light compensation)
    ► WDR↵
       ▷ LEVEL : Adjust WDR level.
          ► LOW, MID-LOW, MIDDLE, MID-HIGH, HIGH

       ※ WDR doesn't work in Shutter Manual Mode.
       ※ When WDR on, CVBS output is disabled.

    ► BLC↵
       ▷ POSITION : Adjust the window position
       ▷ SIZE : Adjust the window size

       ※ Can't use WDR and BLC at the same time.
       (When WDR On, BLC is Off. And when BLC is On, WDR is Off)

◈ IR-LED MODE ► ENABLE/ OFF

◈ DAY&NIGHT : Select how to judge Day & Night condition.
    ► MODE : Please keep MODEL as "IR-CDS" without change

       ▷ AUTO
          ※ Day&Night condition is decided by built-in illumination sensor.
          ► DELAY : 0 ~ 255 sec
          ► THRS : 0 ~ 7
          ► GAP : LOW, MIDDLE, HIGH
          ► ANTI-SAT : Improves light saturation by LED (0~20)
          ► BURST : OFF/ON
          ► POLARITY : Set external Input polarity
            (ACTIVE LOW / ACTIVE HIGH)

       ▷ DAY
          ※ Regardless of the ambient illumination, camera keeps Day mode.

       ▷ NIGHT
          ※ Regardless of the ambient illumination, camera keeps Night mode.
          ► ANTI-SAT : Improves light saturation by LED (0~20)
          ► BURST : OFF/ON

WHITE BALANCE

WHITE BALANCE

```
              MENU                              WHITE BAL

MODEL          IR-CDS               MODE             AUTO
EXPOSURE       ↵                    RED GAIN         ---
WHITE BAL      ↵                    BLUE GAIN        ---
IMAGE          ↵                    CHROMA       [■■□□□] 10
INTELLIGENCE   ↵
SPECIAL FUNC   ↵
DISLPAY        ↵



[EXIT]    [SAVE]    [DFLT]          [BACK]    [SAVE]    [DFLT]
```
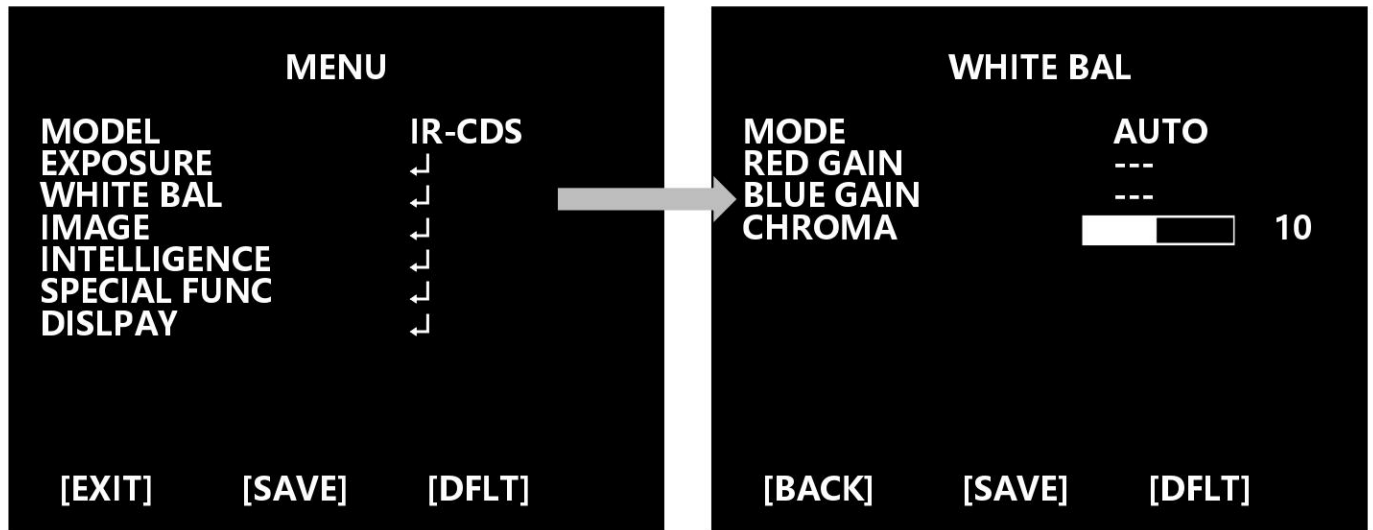
◆ AWB : Set WHITE BALANCE mode
  ► AUTO / ONE PUSH↵ / MANUAL / INDOOR / OUTDOOR / AUTO-EXT

    ▷ AUTO : Automatically adjusts color according to the lighting condition.
    ▷ ONE PUSH : While ONE PUSH pressed, camera runs the white balance
         working. if ONE PUSH released, camera stops white
         balance working.
    ▷ MANUAL↵ : Camera does not perform white balance working. User can
         increase or decrease "RED GAIN" or "BLUE GAIN" manually.
    ▷ INDOOR : Set color temperature to Indoor light (3700°K)
    ▷ OUTDOOR : Set color temperature to Outdoor light (5100°K)
    ▷ AUTO-EXT : It operates in a wider color temperature range than Auto mode.

◆ RED GAIN : Adjust R gain value ► 0 ~ 20 steps

◆ BLUE GAIN : Adjust B gain value ► 0 ~ 20 steps

◆ CHROMA : Adjust CHROMA gain value ► 0 ~ 20 steps

IMAGE

IMAGE

```
        MENU                          IMAGE

MODEL           IR-CDS       HLC              ↵
EXPOSURE        ↵            DNR              MIDDLE
WHITE BAL       ↵            MIRROR           OFF
IMAGE           ↵            SHARPNESS    [====    ]  7
INTELLIGENCE    ↵            ACE              OFF
SPECIAL FUNC    ↵            DEFOG            OFF
DISPLAY         ↵            FREEZE           OFF
                            GAMMA            0.55


 [EXIT]   [SAVE]   [DFLT]    [BACK]   [SAVE]   [DFLT]
```

◆ HLC : Set High Light Compensation.
   When camera is shooting extremely bright light source, camera masks the area
   to prevent saturation on the monitor.
   ▷ MODE : OFF / ON / NIGHT
   ▷ LEVEL : 0 ~ 20 steps
   ▷ COLOR : 0 ~ 13 steps

◆ DNR : Set the use of Digital Noise Reduction
   ► OFF / LOW / MIDDLE / HIGH

◆ MIRROR : Set mirror or flip image mode
   ► OFF / H / V / H&V
        ▷ H : You can mirror the picture horizontally on the monitor
        ▷ V : You can flip the picture vertically on the monitor
        ▷ H&V : You can execute mirror and flip at the same time.

◆ SHARPNESS : Adjust sharpness level
   ► 0 ~ 10 steps

IMAGE

◆ ACE : Set Adaptive Contrast Enhancement function
  ► OFF / LOW / MIDDLE / HIGH

◆ DEFOG : Set Defog function
  ► OFF / ON↵
    ▷ MODE : AUTO / MANUAL
    ▷ LEVEL : LOW / MIDDLE / HIGH

※ You can not use DEFOG and ACE at the same time
   (When ACE On, DEFOG will be Off. Also when DEFOG is On, ACE will be Off)

◆ Freeze : This function stops video
  ► OFF / ON

◆ GAMMA : Select Gamma
  ► 0.45 / 0.55 / 0.65 / 0.75

INTELLIGENT

INTELLIGENCE

```
          MENU                           INTELLIGENCE

MODEL           IR-CDS           PRIVACY   OFF
EXPOSURE        ↵                MOTION    OFF
WHITE BAL       ↵
IMAGE           ↵
INTELLIGENCE    ↵
SPECIAL FUNC    ↵
DISPLAY         ↵


  [EXIT]     [SAVE]     [DFLT]      [BACK]     [SAVE]     [DFLT]
```
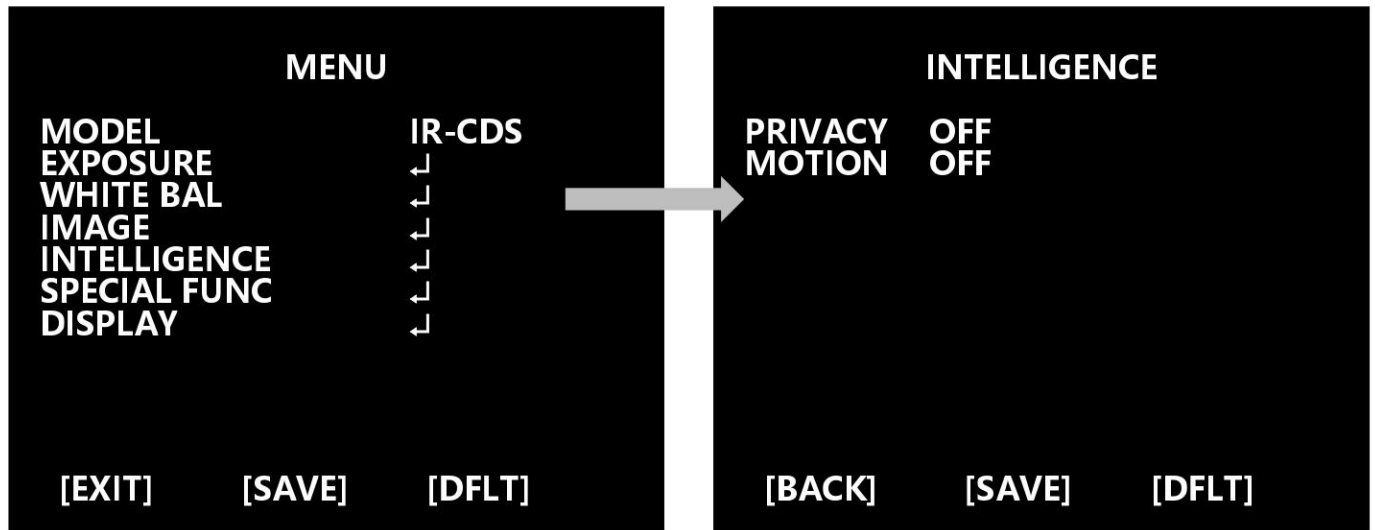
◈ PRIVACY : You can hide some areas on the screen

  ► OFF / ON↵
     ▷ MASK# : Select a number of mask area (1 ~ 24)
     ▷ MODE : Enable or disable mask (OFF / ON)
     ▷ POSITION : Adjust the position of the mask
     ▷ SIZE : Adjust the size of the mask
     ▷ COLOR : Select mask color (0 ~ 13)
     ▷ TRANS : Select mask transparency level (0 ~ 3)

◈ MOTION : When there is movement on the screen, camera detects the motion.

  ► OFF / ON↵
     ▷ AREA# : You can configure up to 3 areas(1~3) of motion detection
     ▷ MODE : OFF / ON (Enable or disable motion detection)
     ▷ SENSITIVITY : Set the sensitivity of motion detection (0 ~ 20 steps)
        The lower number, the higher sensitivity.
     ▷ POSITION : Adjust the position of motion detection area
     ▷ SIZE : Adjust the size of motion detection area
     ▷ INTERVAL TIME : Set the detection time interval (0 ~ 255sec)
     ▷ DWELL TIME : Set the motion alarm duration time (0 ~ 255sec)

SPECIAL FUNCTION
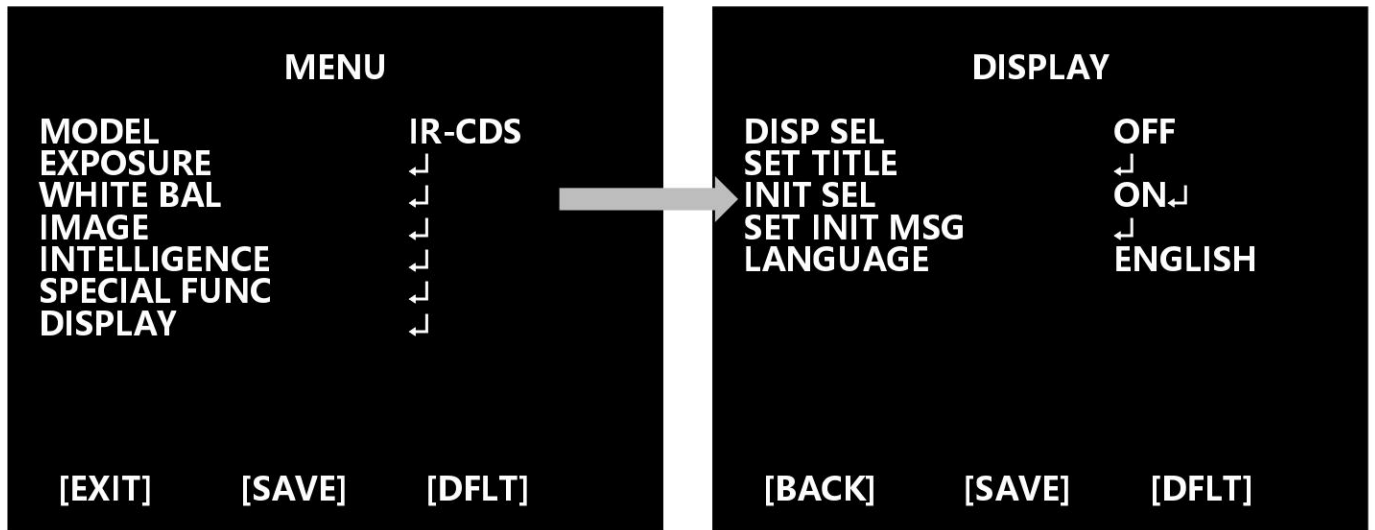
SPECIAL FUNC

```
                MENU                              SPECIAL FUNC

MODEL              IR-CDS          IMAGE RANGE         FULL
EXPOSURE           ↵               SYSTEM              NTSC
WHITE BAL          ↵               HD FORMAT           1080p/30fps
IMAGE              ↵               SDI MODE            EX270M(1.0)
INTELLIGENCE       ↵               COMM                ↵
SPECIAL FUNC       ↵
DISPLAY            ↵



[EXIT]    [SAVE]    [DFLT]         [BACK]    [SAVE]
```
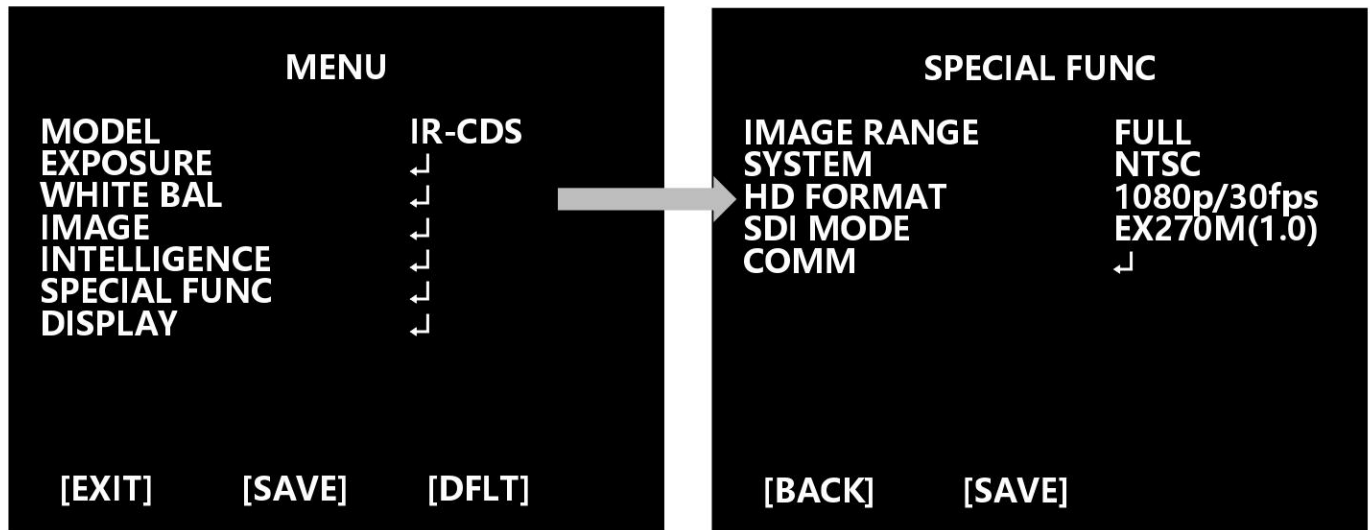
◆ IMAGE RANGE : Set the bit range of video image
  ► FULL, COMP, USER↵
    ▷ LEVEL : Set the level of user mode (0 ~ 32)

◆ SYSTEM : Select NTSC(30fps) or PAL(25fps).

◆ HD FORMAT : Set digital video output mode
  (1080p/30(25)fps, 720p/30(25)fps, 720p/60(50)fps)

◆ SDI MODE : Select SDI output mode
  ► OFF / HD-SDI / EX-SDI 270M (v1.0) / EX-SDI 135M (v2.0)

◆ COMM : Set camera ID, baud rate and protocol
  ▷ ID : Set camera ID
    ► 1 ~ 255
  ▷ BAUD RATE : Set the speed of serial communication
    ► 2400 / 4800 / 9600 / 19200 / 38400 / 57600 / 115200bps
  ▷ PROTOCOL : Select a protocol
    ► VISCA / PELCO-D / PELCO-P / UPDATE

DISPLAY

DISPLAY

```
          MENU                        DISPLAY

MODEL          IR-CDS        DISP SEL        OFF
EXPOSURE       ↵             SET TITLE       ↵
WHITE BAL      ↵             INIT SEL        ON↵
IMAGE          ↵             SET INIT MSG    ↵
INTELLIGENCE   ↵             LANGUAGE        ENGLISH
SPECIAL FUNC   ↵
DISPLAY        ↵



   [EXIT]    [SAVE]    [DFLT]      [BACK]    [SAVE]    [DFLT]
```

◆ DISP SEL : Select items to display on the screen
  ► OFF / ON↵
    ▷ ID : OFF / ON ▷ TITLE : OFF / ON
    ▷ SYSTEM INIT MSG : OFF / ON
      (MD Alarm and Wait message)

◆ SET TITLE : Configure camera title
  (Text edit - max 40 characters are allowed)

◆ INIT SEL : Select messages to display on the initial screen page
  ► OFF / ON↵
    ▷ ID : OFF / ON ▷ BAUDRATE : OFF / ON
    ▷ PROTOCOL : OFF / ON ▷ VERSION : OFF / ON
    ▷ INIT MSG : OFF / ON

◆ SET INIT MSG : modify initial message.
  (Text edit - max 40 characters are allowed)

◆ LANGUAGE : Select a language to display
  ► English / Simplified Chinese / Traditional Chinese / Japanese
    ※ Character Table of Text edit Mode

```
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 * + - / = ~ ! ? " '
```

SPECIFICATIONS

Image Sensor	1/2.9" Sony Exmor CMOS Sensor
Total Pixels	2000(H) x 1121(V) = 2.24M pixels
Active pixels	1936(H) x 1097(V) = 2.12M pixels
Lens	Varifocal Lens f = 2.8mm ~ 12mm, F 1.4
FOV	Horizontal : 103°~30.8°, Vertical : 74.4°~23.3°
IR-LED	High Power IR-LED 4pcs (Up to 50m)
Resolution	Digital : 1080p 30(25)fps, 720p 60(50)/30(25)fps Analog : 700TVL
Min. illumination	Color(1/30s) : 0.5 lux, BW(1/30s) : 0.1lux Color DSS(1/8s) : 0.125 lux, BW DSS(1/8s) : 0.025 lux
Video Output	HD : HD-SDI [Note1], EX-SDI Analog SD : CVBS (※Test purpose only)
S/N Ratio	more than 50dB (AGC off)
Comm. Baudrate	2400 / 4800 / 9600 / 19200 / 38400 / 57600 / 115200
Focusing Mode	Auto / Manual
Shutter Speed	1/30(25) ~ 1/30,000 sec
WDR/BLC	OFF / WDR / BLC
White Balance	Auto / One Push / Manual / Indoor / Outdoor / Auto-Ext
Power Source	DC12V±10%
Power Consumption	DC 12V : MAX 700mA
Storage Temperature	-20℃ ~ +60℃ (Humidity : 0%RH ~ 90%RH)
Operating Temperature	-10℃ ~ +50℃ (Humidity : 0%RH ~ 90%RH)
Weight	540g

* Note 1 : HD-SDI signals may not exactly match the standard.
* Note 2 : Design and specifications are subject to change without notice.

P/N :
PRINTED IN KOREA

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