M143-HD38M-002

# HDcctv
# Digital Video Camera

OPERATION MANUAL

Thank you for choosing our high quality camera. Before attempting to connect or operate, please read and follow these instructions.

## CAUTIONS

**Correct Disposal of This Product (Waste Electrical & Electronic Equipment)**

**(Applicable in the European Union and other European countries with separate collection systems)**

This marking shown on the product or its literature, indicate that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

This product should not be mixed with other commercial wastes purchased this product, or their local government office, for details of where and how they can take item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract.
Household users should contact either the retailer where they for disposal.

**CAUTION**

RISK OF ELECTRIC SHOCK DO NOT OPEN

CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER(OR BACK). NO USER SERVICING TO QUALIFED SERVICE PERSONNEL.

This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient mangnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance(servicing) instruction in the literature accompanying the appliance.

**This device complies with Part 15 of the FCCRules. Operation is subject to the following two conditions;**

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

**Note -**
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."

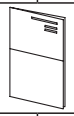
**WARNING -**
This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

**Caution -**
Any changes or modifications in construction of this devices which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**⚠ CAUTION ⚠**

1. A regulated DC12V 300mA power supply is recommended for use with this camera for the best picture and the most stable operation. **An unregulated power supply can cause damage to the camera. When unregulated power supply is applied, product warranty will be out of subject.**
2. It is recommended that the camera is used with a monitor that has a CCTV quality 75 video impedance level. If your monitor is switched to high impedance then please adjust accordingly.
3. Do not attempt to disassemble the camera to gain access to the internal componets. Refer servicing to your dealer.
4. Never face the camera towards the sun or any bright or reflective light, which may cause smear on the picture and possible damage to the CCD.
5. **Do not remove the serial sticker for the warranty service.**
6. Do not expose the camera to rain or other types of liquid.
7. The apparatus must be connected to a mains socket-outlet with a protective earthing connection.

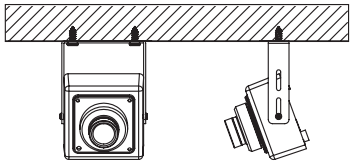
## EQUIPMENT AND ACCESSORIES

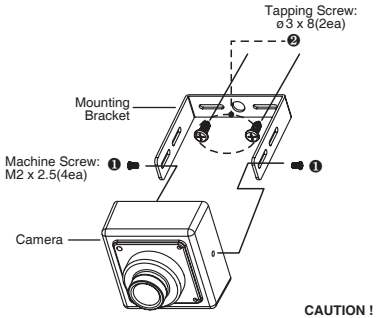
| | | |
|---|---|---|
| Camera | | |
| Mounting Bracket | | |
| Screw | Machine Screw M2x2.5(4ea) | Tapping Screw ø3 x 8(2ea) |
| Operation Manual |  | |
| Cable | Service Video Output Test Cable | DIY Cable |

**CAUTION**

- **When you connect Service Video Output Cable WDR function does not work.**
- **Service Video Output looks the angle of view narrower than HD-SDI Output.**

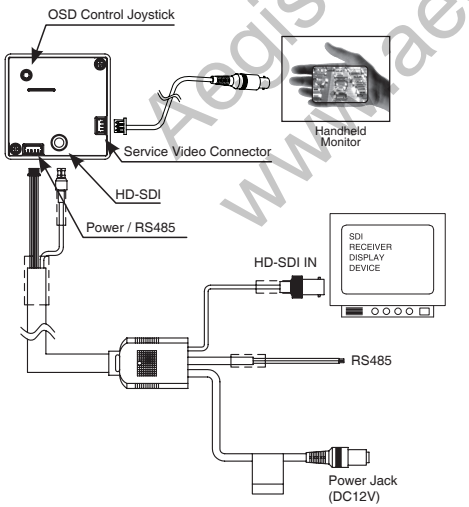
## MOUNTING POSITION





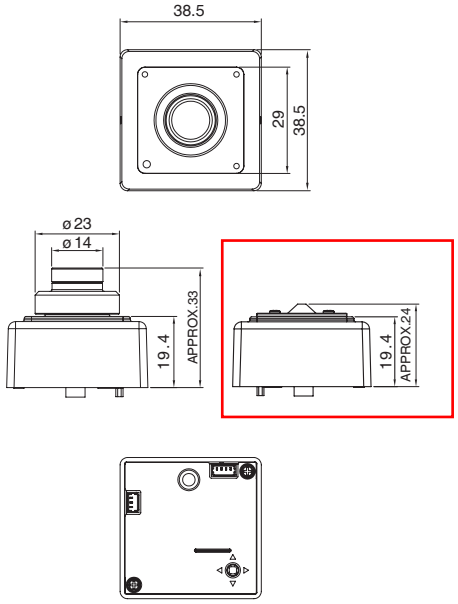

**CAUTION !**
Please start installing in the order shown.

## CONNECTION




## DIMENSIONS

Unit: mm




## SPECIFICATION

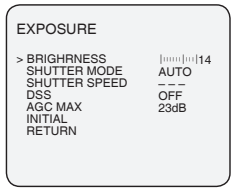
| | |
|---|---|
| Image Device | 1/3" 2.1 Mega Pixel SONY CMOS |
| Pixel Size | 2.8um(H) x 2.8um(V) |
| Effective Pixels | 1984(H) x 1105(V) |
| Manual Shutter | 1/30(25), 1/60(50), 1/120(100), 1/250, 1/700, 1/1K, 1/1.6K, 1/2.5K, 1/5K, 1/7K, 1/10K, 1/30K |
| Sense-up | x 2, x 3, x4 |
| AGC | 0dB ~ 23dB |
| White Balance | AUTO / Manual / PUSH LOCK |
| Sensitivity | 0.1 Lux |
| S/N Ratio | More than 50dB |
| Video Output | HD-SDI / CVBS |
| Day & Night | Digital D&N (AUTO / COLOR / BW) |
| LENS | Board Lens, Pinnole Lens |
| Dimension | 38.5mm(H) x 38.5mm(V) |
| Weight | Approx. 80g |
| ETC. | Motion Detection, 3DNR, Mirror(H,V,H/V), Digital Zoom, BLC, WDR, OSD(JOYSTICK) |
| Power Consumption | DC12V[±10%], MAX 160mA |
| Operating Temperature | 14˚F~122˚F (-10˚C~+50˚C) |
| Storage Temperature | -4˚F~140˚F (-20˚C~+60˚C) |
| External Control | RS-485 |

Specifications and designs are subject to change for improving the functionality of this product without notice.

Aegis Electronic Group
www.aegiselec.com

# OSD FUNCTION DESCRIPTION

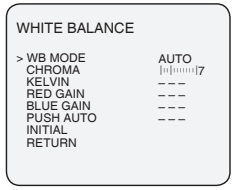
## 1. EXPOSURE




- **BRIGHTNESS**:
  Enable user to control the image brightness (0~20steps).
- **SHUTTER MODE**:
  Enable user to set up the Shutter Mode.
  -> AUTO, MANUAL
- **SHUTTER SPEED**:
  Enable user to set up the Shutter Speed.
  -> 1/30(25), 1/60(50), 1/120(100), 1/250, 1/700, 1/1K, 1/1.6K, 1/2.5K, 1/5K, 1/7K, 1/10K, 1/30K.
  *() is for power-frequency 50Hz.
- **DSS(Digital Slow Shutter):**
  Enable user to set up the DSS Level. -> OFF, X2, X3, X4.
- **AGC MAX:**
  Enable user to make imager bright to amplify the Gain (0~23dB).
- **INITIAL:** Enable user to initialize the Exposure menu set up.

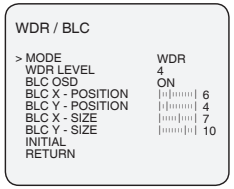
## 2. WHITE BALANCE

Enable user to represent the accurate white color by controlling the R,G,B level.




- **WB MODE**
1. AUTO : Enable user to trace the White Balance automatically in the range of 2,300K~10,000K.
2. PUSH LOCK : Enable user to fix the White Balance according to the color temperature in the certain environment.
3. MANUAL : Enable user to sets the White Balance according to the circumstance.
- **CHROMA:** Enable user to set the Color Gain(0~20steps).
- **KELVIN:** In the MANUAL setting of WB MODE, enable user to set the color temperature range.
- **RED GAIN:** In the MANUAL setting of WB MODE, enable user to set the RED GAIN.
- **BLUE GAIN:** In the MANUAL setting of WB MODE, enable user to set the BLUE GAIN.
- **PUSH AUTO:** In the PUSH LOCK setting of WB MODE, enable user to fix the White Balance in camera setting.
- **INITIAL:** Enable user to reset the WHITE BALANCE menu setting.

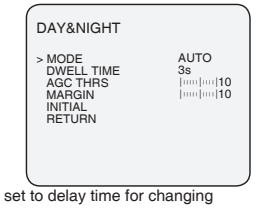
## 3. WDR/BLC




- **MODE**:
  Enable user to set WDR/BLC mode. -> OFF, WDR, BLC
1. WDR(Wide Dynamic Range):
   Use the condition which Image doesn't figure out with BLC such as place surrounded windows and lobby.
   (*The screen display may be unnatural)
2. BLC(Backlight compensation mode):
   This function works for subjects in the kind of backlight conditions.
- **WDR LEVEL**: Enable user to set up WDR Level(0~4 level).
- **BLC OSD**: Enable user to set up screen output of chosen BLC zone.
- **BLC X-POSITION**: Enable user to set up Horizontal start position(0~20steps).
- **BLC Y-POSITION**: Enable user to set up Vertical start position(0~20steps).
- **BLC X-SIZE**: Enable user to set up Horizontal size(0~20steps).
- **BLC Y-SIZE**: Enable user to set up Vertical size(0~20steps).
- **INITIAL**: Enable user to initialize the WDR/BLC setting.

## 4. DAY&NIGHT

: Conversion of output image COLOR / BW depending on exterior environment.

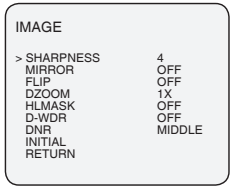



- **D&N MODE**
1. COLOR : Enable user to fit the output image in color.
2. B/W : Enable user to fit the output image in B/W.
3 AUTO : Enable user to convert to COLOR/BW automatically by luminance element on Screen
- **DWELL TIME**:
  In D&N MODE AUTO, enable user to set to delay time for changing COLOR/BW(0~10sec).
- **AGC THRS**: The value of switching from Day to Night. In D&N MODE AUTO, enable user to set to AGC THRS level (0~20steps).
- **MARGIN:** To switch from Day to Night margins.
  In D&N MODE AUTO, enable user to set to MARGIN level (0~20steps).
- **INITIAL:** Enable user to initialize the setting in DAY&NIGHT menu.

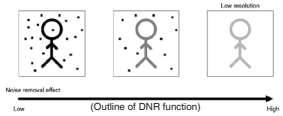
## 5. IMAGE

- **SHARPNESS**: Enable user to control the image sharpness(0~10steps).
- **MIRROR**: Sets the horizontal flip for the display output.

- **FLIP**: Sets the Vertical flip for the displayoutput.



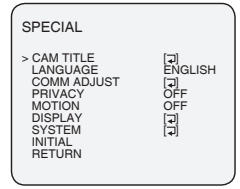

- **DZOOM(Digital Zoom)**: Max. 20x Digital Zoom.
- **HLMASK**: This function that improves the visual recognition of license plates and other such objects by suppressing or masking strong light sources.
  1. HLMASK LEVEL: Enable user to set HLMASK Level(0~20steps).
  2. HLMASK COLOR: Set the HLMASK color (Black, White, Yellow, Cyan, Green, Magenta, Red, Blue).
- **D-WDR**: In this mode, the brightness of a single image is compensated using the gamma curve.
- **DNR**: This function reduces noise.



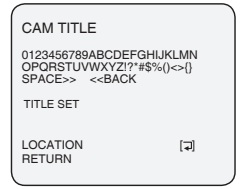

- **INITIAL**: Enable user to initialize the setting on IMAGE menu.

## 6. SPECIAL

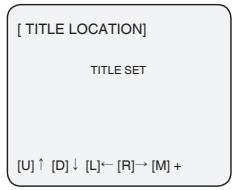
: Setting up the CAM TITLE, LANGUAGE, PRIVACY,COMM MOTION, DISPLAY, SYSTEM.




- **CAM TITLE :** Enable user to choose any word in screen.
  (Maximum 10 letter is available)
1. A letter Choice from the screen using Menu key.
2. Enable user to move to next menu using LEFT, RIGHT KEY in LOCATION.
3. By using UP, DOWN, LEFT, RIGHT KEY, enable user to choose any letters in LOCATION and then get back to previous step.

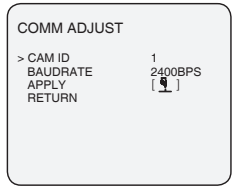



4. Enable user to finish words choice and position by using LEFT, RIGHT KEY in RETURN

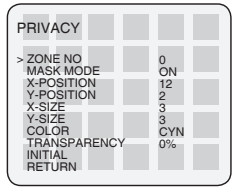



- **LANGUAGE**: Enable user to set up an OSD language
-> ENGLISH, RUSSIAN, SPANISH, GERMAN, FRENCH, PORTUGUESE.

- **COMM ADJUST**: Enable user to set up CAMERA ID, BAUDRATE.
1. CAM ID: Enable user to set up Camera ID (1~255).
2. BAUDRATE: A communication speed to communicate with external device. (2400, 4800, 9600, 19200, 38400, 57600, 115200)
3. APPLY: Enable user to setting of Communication

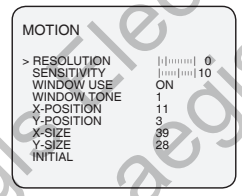



- **PRIVACY**: Privacy is the function that covers the some part on screen to prevent private life.
  (Maximum 30 point covered)



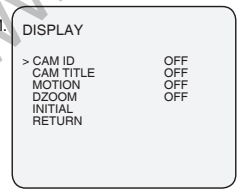

1. ZONE NO : Enable user to set up a position from 0 to 29 area.
2. MASK MODE: Enable user to set up screen output of chosen position.
3. X-POSITION : Mask Horizontal start position.
4. Y-POSITION : Mask Vertical start position.
5. X-SIZE : Mask Horizontal width.
6. Y-SIZE : Mask Vertical height.
7. COLOR : Set the mask color.
8. TRANSPARENCY : Set the transparency of the mask.
9. INITIAL : Enable user to initialize setting of PRIVACY MENU.

- **MOTION:** Motion detection function.



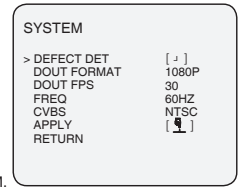

1. RESOLUTION:
   Enable user to set up resolution
2. SENSITIVITY:
   Enable user to set up sensitivity.
3. WINDOW USE: Enable user to select to motion area.
4. WINDOW TONE :
   Enable user to area window tone.
5. X-POSITION : Window Horizontal start position.
6. Y-POSITION : Window Vertical start position.
7. X-SIZE : Window Horizontal width.
8. Y-SIZE : Window Vertical height.
9. INITIAL : Enable user to initialize setting of MOTION DETECT.

- **DISPLAY :**
Enable user to set up a screen marking of CAM ID, CAM TITLE, MOTION, DZOOM.




1. CAM ID: Enable user to set up ID for RS485.
2. CAM TITLE: Enable user to set up output in fixed CAM TITLE.
3. MOTION: Enable user to set up out put of MOTION on the screen as MOTION ON setting.
4. DZOOM: Enable user to set up output DZOOM ratio.
5. INITIAL: Enable user to initialize of DISPLAY menu.

- **SYSTEM**




1. DEFECT DET: White pixel detection and compensation function.
2. DOUT FORMAT: Enable user to set up digital output format (720p, 1080p).
3. DOUT FPS: Enable user to set up digital output frame rate.
4. FREQ: Enable user to set up power-frequency(50Hz, 60Hz).
5. CVBS: Enable user to set up CVBS type NTSC or PAL.
6. APPLY: Enable user to setting of SYSTEM.

## 7. FACTORY DEFAULT

: Enable user to reset all of the status as the factory default.

## 8. EXIT

: After saving the current settings in the OSD menu and exit.

## HOT KEY

To quickly switch CVBS type(NTSC or PAL), Push LEFT KEY or RIGHT KEY more than 2secends and push SET KEY.

## Pelco "D" Protocol Commands

**Most widely used Commands**

| | BYTE1 | BYTE2 | BYTE3 | BYTE4 | BYTE5 | BYTE6 | BYTE7 |
|---|---|---|---|---|---|---|---|
| TELE | 0xFF | CamID | 0x00 | 0x20 | 0x00 | 0x00 | ChkSum |
| WIDE | 0xFF | CamID | 0x00 | 0x40 | 0x00 | 0x00 | ChkSum |
| NEAR | 0xFF | CamID | 0x01 | 0x00 | 0x00 | 0x00 | ChkSum |
| FAR | 0xFF | CamID | 0x00 | 0x00 | 0x00 | 0x00 | ChkSum |
| MENU 1 | 0xFF | CamID | 0x00 | 0x23 | 0x00 | 0x5F | ChkSum |
| MENU 2 | 0xFF | CamID | 0x00 | 0x03 | 0x00 | 0x62 | ChkSum |
| MENU 3 | 0xFF | CamID | 0x00 | 0x07 | 0x00 | 0x5F | ChkSum |
| MENU 4 | 0xFF | CamID | 0x00 | 0x07 | 0x00 | 0x60 | ChkSum |

MENU 1 : Pelco Keyboard Menu On / Off [95(=0x5F) + Pattern]
MENU 2 : V/D Keyboard Menu On / Off [Set Preset + 98(=0x62)]
MENU 3,4 : Another Menu On / Off [Go To Preset + 95(=0x5F) or 96(=0x60)]

CamID: 0x00 ~0xFF
ChkSum: The Check Sum is the 8 bit (modulo256) sum of the payload bytes (BYTE2 - BYTE6) in the command.

- TELE = UP KEY
- WIDE = DOWN KEY
- NEAR = LEFT KEY
- FAR = RIGHT KEY
- MENU = SELECT KEY

Aegis Electronic Group
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