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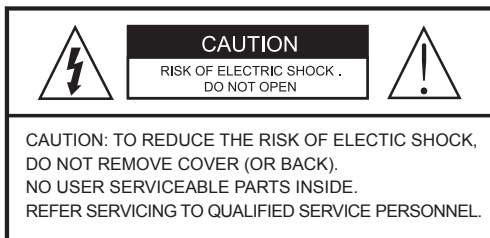
User Manual

**1/3" HDcctv Camera, WDR,
Day&Night, 1920x1080, C/CS,
12/24V**

HDC-2080CS D

Safety Precaution

- To prevent fire or shock hazard, do not expose the unit to rain or moisture.
- To prevent electric shocks and risk of fire hazards, do NOT use other than specific power source.



The symbol 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 symbol is intended to alert the user to the presence of important operating and maintenance(servicing) instructions in the literature accompanying the unit.

• Warning :

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 :

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

Mains power quality should be that of a typical commercial environment. If the user of the model requires continued operation during power mains interruptions, it is recommended that the model be powered from an uninterruptible power supply (UPS) or a battery.

Safety Precaution

NOTICE

- The image used in this instruction manual are processed to help comprehension and may differ from actual video of the camera.
- Avoid installing areas where has shock or vibration which results in the problems.
- Pay attention to safety when laying the connection cable and observe that the cable is not subjected to heavy loads, kinks or damage and no moisture can get in.
- Never open the device such as boards or lens.
The warranty becomes void if repairs are undertaken by unauthorized persons.
- Maintenance and repair have to be carried out only by authorized service centers.
- Use only a mild detergent to clean the housing.
- The camera should never be operated beyond the technical specifications.
This can lead to destruction.
- The camera should never be operated in water.

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Specifications

Features

Key Features

- Full HD, 2Mega Pixel EX-SDI CAMERA, 1920x1080(30p/25p)
- Extended long reach HD Solution
- Real time True WDR(Wide Dynamic Range) / 30fps
- Improved noise figure with the enhanced 3DNR
- CS mount supported (Option: C-mount adaptor)
- Dual Filter Switcher
- Day & Night Simulation for easy focus adjustment
- Various Zooming Technologies
 - Pointing Zoom (which enables the programmable zooming at any area)
 - Preset Zoom
 - Flex Zoom
 - Smart Motion Zoom (Automatic zoom in/out when motion is detected)
- Motion Detection, Privacy Mask, Defog, Sens-up(~x32), D-WDR, H/V/HV Flip, D-Zoom(~8x), Lens Shade Compensation, BLC/HLC, Pixel Defect Compensation, Title Set
- EX-SDI or HD-SDI switchable
- Top performance at low light sensitivity (Sens-up On)
- OSD menu & CVBS Video output BNC for easy installation & maintenance.
- Circuit protection against faulty connection in power polarity
- Isolated power supply against ground loop problem
- Remote control via RS-485 (Pelco-D/P)
- Fine Back focus adjustment

Features

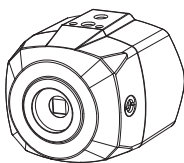
General Description

This camera realizes the natural and crisp image as you see the scene in front of you by Full HD(1920x1080p) camera module.

Highly detailed pictures can be achieved and color reproducibility deserves attention.

- With ICR mechanism,
 - Enhances its sensitivity about 10x at night time
 - Can accept the infrared light
- With Intelligent Focus Indicator and FOCUS ASSIST menu,
 - Offers easy adjustment of Focus
 - Eliminates the mistake of the erratic focus adjustment
- With 24VAC/12VDC dual power design,
 - Offers the flexibility of installation
 - Ensures the reliability

Composition



Box Camera



Dust Protection
Cap (1pc)



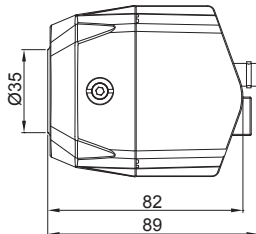
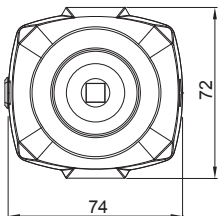
Torque Wrench:
3mm (1pc)



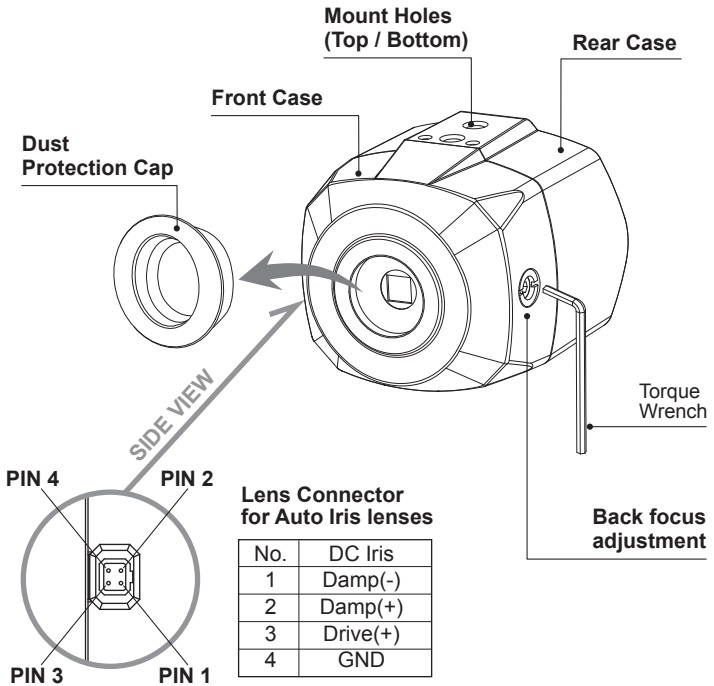
Operating
Instruction

Dimensions

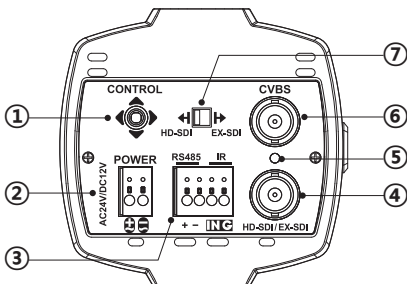
(unit : mm)



Part Names



REAR VIEW



- ① OSD Control Joy stick
- ② Power input terminal (AC24V/DC12V or DC12V)
- ③ RS-485 / IR connector
- ④ HD-SDI/EX-SDI output connector
- ⑤ Power LED
- ⑥ CVBS output connector
- ⑦ Video format Switch

Installation Instructions

Installation and commissioning Instructions

- Make sure the power is removed before the installation.
 - Follow the order for applying power.
First connect the low voltage (DC12V or AC24V), then plug the AC adapter to AC outlets to avoid an improper reset from power jitter and a damage from the surge voltage when no load.
1. Remove the dust protection cap from the lens mount.
 2. Screw the lens onto the camera firmly.
 3. Plug the lens plug into the lens connector on the rear of camera case.
 4. Mount the camera to the wall or ceiling with a corresponding mounting bracket through the camera mount holes (1/4" thread insert) on its top or bottom.



- Care should be taken the cable is NOT to be damaged, kinked or exposed in the hazardous area.
- Do not expose the camera directly to a strong light source such as the sun or spot light.

Setting the back focus adjustment

The proper back focus adjustment is essential for the motorized zoom lens to get the all time sharp focus when zooming in and out by the remote control. For easier and better adjustment, this camera provides FOCUS ASSIST menu which prevents from the mistake of the focus adjustment. With enabling FOCUS ASSIST menu, follow the procedure to get the best back focus adjustment.

1. Set the lens for the zoom position to WIDE and the focus position to INFINITE(∞).
2. Shoot the object departing from about 10Meters.
3. Adjust 'Back focus adjustment with Torque wrench' until the optimum focus is achieved.
4. Set the lens for zoom position to TELE and adjust the lens focus for best focus.
5. Set the lens for zoom position to WIDE again, check if the focus adjustment was the best. If not, re-adjust 'Back focus adjustment' slightly.

Start up

When the camera is powered properly, it starts up with initializing the internal parameters.

Installation Instructions

Power Supply Connections

Make sure the power is removed before the installation.

Camera can work with either 24AC or 12VDC, dual voltage power .

Primary and secondary grounds are completely isolated to avoid the possible ground-loop problems

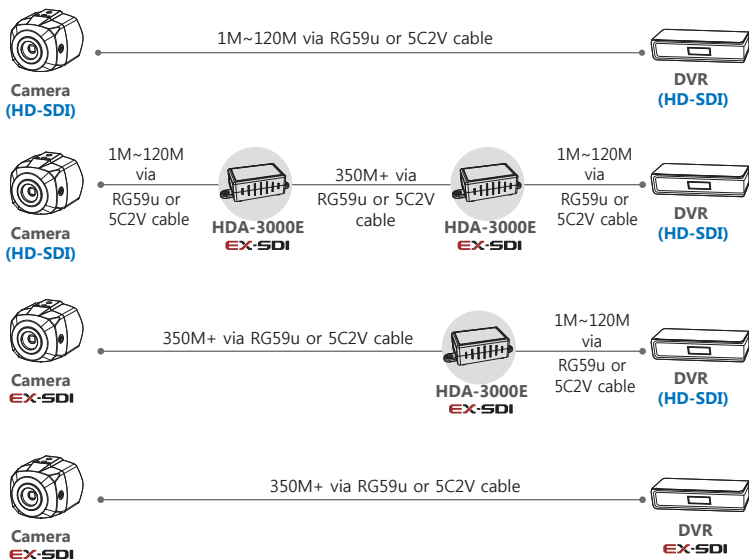
In case that HD-SDI/EX-SDI Inputs are not supported in Monitor, please use HD-SDI/EX-SDI Converter to connect HD-SDI/EX-SDI cable with Monitor

Some computer monitors or TVs may not support 30p/25p.

In this case, HD-SDI/EX-SDI DVR which can convert the frame rate to 60p/50p is highly recommended.

Please check Specification of Monitor before installation.

Set the video format according to system,
EX-SDI or HD-SDI



Operating Instructions

Using OSD Controller

Setup menu can be accessed and controlled by OSD control joy stick on the rear of the camera unit.

Five commands are available with the joy stick.



Description of the joystick operation

- 1) SET Key (●) : Access to the menu or enter the setting.
To enter the main menu, press the Set Key down for about 1.5sec
- 2) UP/DOWN Key (▲/▼) : Choose the desired sub-menu and to move the cursor up or down.
- 3) LEFT/RIGHT Key (◀/▶) : Set up the value of the selected menu.
Used to adjust the desired menu selection and to move the cursor left or right.
- 4) '⏺' denotes the long press down straightly for about 2 seconds



Description of D-ZOOM* adjustment

(*) Works only when OSD Menu is inactive.

- 1) ▲ : Zoom In
- 2) ▼ : Zoom Out

Operating Instructions

OSD menu Startup

Press '●' (OSD menu Joy stick key) down for about 2 seconds to access the setup menu mode.

MENU V5.xx	
1. EXPOSURE	↵
2. LENS	DC ↵
3. FOCUS ASSIST	↵
4. SCENE ENHANCE	NORMAL
5. 3D-NR	MID
6. DAY/NIGHT	EXT ↵
7. PICT ADJUST	↵
8. SPECIAL	↵
9. SYSTEM	↵
A. EXIT	SAVE&EXIT ↵

Direct Control menu

MAIN	DEFAULT	DESCRIPTION
EXPOSURE	-	Sets EXPOSURE MODE, BRIGHTNESS, SENS-UP, AGC and MOTION DEBLUR.
LENS	DC	Sets Lens types.
FOCUS ASSIST	-	Sets FOCUS
SCENE ENHANCE	NORMAL	SCENE ENHANCE provides the several ways to enhance the video in the various environments with the settings in NORMAL, WDR, D-WDR, BLC and HLC.
3D-NR	MID	Sets 3DNR level. LOW, MID, HIGH
DAY/NIGHT	EXT or AUTO	Sets DAY / NIGHT to EXT, AUTO, COLOR, B/W and COLOR D/N. Setting EXT mode for cameras with IR-LED, AUTO mode for none IR-LED camera types.
PICT ADJUST		Sets WHITE BAL, SHARPNESS, COLOR GAIN, GAMMA
SPECIAL		Sets MIRROR/FLIP, PRIVACY, MOTION, PIXEL DEFECT, TITLE SET, DISPLAY, DEFOG, POINTING ZOOM
SYSTEM		Sets TV SYSTEM, RESOLUTION, COMM.SETUP, LANGUAGE and FACTORY DEFAULT

Operating Instructions

EXIT

SAVE & EXIT – Exits the menu after saving the parameters.
EXIT – Exits the menu without saving the menu.

1. EXPOSURE

EXPOSURE	
▶ SHUTTER	AUTO
BRIGHTNESS	:.....:..... 10
SENS-UP	OFF
AGC	:.....:..... 12
RETURN	RET ↵

1-1. SHUTTER (default: AUTO)

: Can set EXPOSURE MODE to AUTO, MANUAL and Flickerless. MANUAL and Flickerless modes disable SENS-UP and MOTION BLUR functions.

- AUTO: Optimizes the video level by controlling the iris and the shutter speed automatically.
- MANUAL: Iris and Shutter can be set to fix.
- Flickerless : Reduces the flicker in video when US(60Hz)/EU(50Hz) mode is used in 50Hz/60Hz fluorescent lighting respectively.

1-2. BRIGHTNESS (default: 10)

: Adjusts the brightness of video(0~20).

2-3. SENS-UP (default: AUTO)

: The brighter video can be obtained by increasing the exposure time in the night with SENS-UP. SENS-UP is the maximum integrations of frame by DSS (Digital Slow Shutter) in the low light.

- AUTO: SENS-UP is enabled or disabled automatically by the scene brightness. Higher SENS-UP can get the brighter video but the slower frame rates with motion blur and more white pixels. If set to AUTO, maximum integration limit for SENS-UP can be set to x2, x4, X8, x16, X32 in SENS-UP menu.
- OFF: Disables SENS-UP.

2-4. AGC (default: 12)

: AGC(0~20) amplifies the video gain for brighter video but noise and white pixel accordingly. AGC level less than 10 disables AUTO in DAY/NIGHT.

Operating Instructions

2. LENS

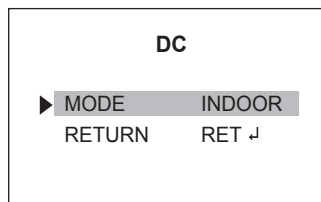
Lens can be selected either DC or MANUAL lens.

Lens MUST be set to DC for the best image when DC iris lens is installed

2-1. DC (default: INDOOR)

: Selects lens mode according to installation place. INDOOR or DEBLUR for indoor installation according to environment.

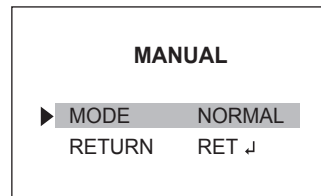
- INDOOR: Optimized of indoor environment.
- OUTDOOR: Optimized of outdoor environment.
- DEBLUR: It enables to reduce the blur in a certain indoor environment. Noise or color rolling can increase.



2-2. MANUAL (default: NORMAL)

: Horizontal wave or bar may be seen when MANUAL is selected and the camera is working under florescent or similar lights.

- NORMAL: Optimized of indoor environment.
- DEBLUR: It enables to reduce the blur in a certain indoor environment. Noise or color rolling can increase.

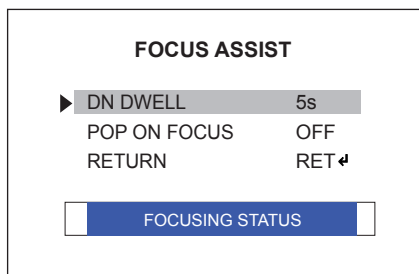


3. FOCUS ASSIST

Usually cameras are installed in the day time and they often become OUT OF FOCUS at night time and IN FOCUS again at next day time.

This problem can occur at any cameras regardless of types or manufacturers.

FOCUS ASSIST menu is the unique and patented feature that prevents from the wrong focus and helps the EXACT NEEDLE focus by simulating DAY & NIGHT conditions. Set zoom first and adjust focus to get NEEDLE FOCUS while switching at DAY & NIGHT.



- DN DWELL (5s) : ICR switcher switches DAY & NIGHT at the interval of D/N DWELL to help the EXACT NIDDLE focus at DAY and NIGHT mode. Further simulations are performed internally during switching.

Operating Instructions

- **POP ON FOCUS (OFF) :**
ON zooms in the center of picture at 2X for better focusing.
- **FOCUSING STATUS (ON) :** Shows how exactly focus is set. When blue bar doesn't show up, try the lens focus to NEAR and FAR. The maximum blue bar indicates the best focusing position.

4. SCENE ENHANCE

4-1. NORMAL (default)

: Optimized for the normal indoor and outdoor in the good lighting condition.

4-2. WDR

: Improves the visibility for the high bright area and the dark area by the double captures of image with LONG and SHORT exposures. With WDR ON, the frame rate becomes half by the double captures. WDR level can be selected from LOW, MID and HIGH. Care should be taken to select this mode because video may lose its quality in some environments by the over compensation.

※ CVBS video signal: Connecting 2nd video to CVBS port disables WDR function temporary. It should be considered when installer adjusts the video with installation monitor via CVBS video signal.

4-3. D-WDR

: Improves the visibility by compensating the video gain for the dark area.
Noise can increase in the dark area accordingly.

4-4. BLC

: Improves the visibility for the dark object by the bright back light.

Outside area of BLC window can over saturate.

BLC has a target window for compensation and its size and position can be set by H-POS, V-POS, H-SIZE and V-SIZE.

4-5. HLC

: Cuts out the highlight area with black mask and excludes it from compensation.
Lower HLC LEVEL cut out video from the lower level.

5. 3D-NR

3D-NR is a very sophisticated and powerful time-based noise reduction technology by monitoring the noise for the several video frames and defining and eliminating them consecutively at low light. Higher setting reduces noise much more but results in losing the sharpness and the tail effect or the motion blur for the fast moving target at low light.

Operating Instructions

6. DAY / NIGHT

DAY/NIGHT is used to control the setting during day-time and night-time operation. Select the mode according to the light condition and the camera types.

SMART IR can be set to reduce the saturation by the strong IR illumination in the night in any menu. Setting SMART IR in any menu is identically applied to other menu. Zero(0) turns off SMART IR and High setting avoids the saturation strongly but the corners will be darker accordingly. IR LED Control(AUTO/OFF) is available with IR LED model only. If IR LED is set to OFF, IR LED will be turned OFF but DAY or NIGHT is still determined by the built-in light photo sensor.

6-1. EXT

: DAY or NIGHT is determined by the built-in light photo sensor.
Camera with IR LED must be set to EXT.

6-2. AUTO

: Used when DAY or NIGHT is determined by light level through the lens and DAY from/to NIGHT is switched automatically by the scene brightness.

D↔N THRESHOLD, D↔N DELY and SMART IR can be set in the menu.

When EXPOSURE>AGC is less than 10, DAY/NIGHT AUTO is disabled and forcibly switches to ___(DAY) to avoid the malfunction. EXT, B/W (NIGHT) and COLOR(DAY) is independent on AGC level. When EXTERNAL IR LED is used with NON IR LED model, please set to IR LED MODE ON.

- D↔N THRESHOLD (0~20):

Sets the threshold level switching from/to DAY(color) or NIGHT(B/W).

Setting low level makes camera entered NIGHT at lower light level. High level makes camera exited NIGHT at brighter light level.

DAY/NIGHT AUTO	
D <-> N THRESHOLD	[:][:][:][:][:] 10
D <-> N GAP	[:][:][:][:][:] 10
D <-> N DELAY	5s
SMART IR	[:][:][:][:][:] 10
RETURN	RET ↵

- D↔N GAP (0~20):

Sets the gap level switching from /to DAY(color) or NIGHT(B/W).

- D↔N DELAY (5~60s):

Sets the delay time when the camera switches from/to DAY(color) or NIGHT(B/W).

- SMART IR :

SMART IR can be set to reduce the saturation by the strong IR illumination in the night in any menu of EXT, AUTO and B/W(NIGHT). Setting SMART IR in

Operating Instructions

any menu is identically applied to other menu. Zero(0) turns off SMART IR and high level avoids the saturation strongly but the comers will be darker accordingly.

6-3. B/W(NIGHT)

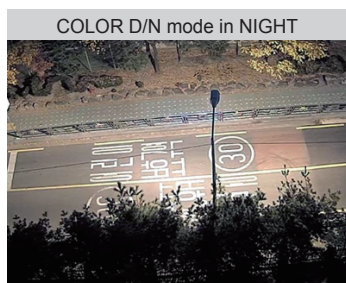
: Forcibly removes IR cut filter and switches to B/W regardless of light level.

6-4. COLOR(DAY)

: Forcibly DAY/NIGHT is disabled and outputs color video.

6-5. COLOR D/N

: Forcibly Color mode, optimized for night condition. It is available to recognize colors of car, people and moving objects even at night. Parameters can be controllable & programmable according to circumstance. Application for bright circumstance at night such as downtown, civic area, street, mall and etc.



7. PICT ADJUST

7-1. WHITE BAL (default: ATW)

: ATW, ATWext, ONE PUSH and MANUAL are available for the white balance modes.

PICTURE	
▶ WHITE BAL	ATW
SHARPNESS	: : : : : : 10
COLOR GAIN	: : : : : : 10
GAMMA	0.50
SHADING	OFF
RETURN	RET ↵

- ATW: White balance is continuously working along with the color temperature changes in the range of 2,000K~8,500K.

Operating Instructions

- **ATWext:** White balance is continuously working along with the color temperature changes in the range of 1,800K~11,000K.
- **ONE PUSH:** White balance works only during ● is pressed.
- **MANUAL:** White balance is fixed to the settings by R_GAIN and B-GAIN. This mode can be used only when the color temperature does not vary.

7-2. SHARPNESS (default: 10) : Adjusts the sharpness of video(0~20).

7-3. COLOR GAIN (default: 10) : Adjusts the color level of video(0~20).

7-4. GAMMA (default: 0.5) : Adjusts the gamma of video.

7-5. SHADING (default: OFF) :

ON enables to compensate the shade caused by wide lens setting.

8. SPECIAL

SPECIAL	
▶ MIRROR/FLIP	OFF
PRIVACY	OFF
MOTION	OFF
PIXEL DEFECT	OFF
TITLE SET	↓
DISPLAY	↓
DEFOG	OFF
ZOOM MODE	OFF
RETURN	RET ↓

8-1. MIRROR/FLIP (default: OFF)

: Reverses the video left and right and/or up and down by MIRROR/FLIP.

- OFF : Normal display without mirroring or flipping
- Hor. : Video is reversed left and right
- Ver. : Video is reversed upside down
- HV : Video is reversed left and right and upside down.

When the video is reversed by Ver. or HV, then the joystick directions are reversed accordingly. This feature is very useful when a camera is installed in upside down.

8-2. PRIVACY (default: OFF)

: Set the Privacy zones which can be enabled individually by BOX or POLYGON are available to mask the video.

8-2-1. BOX : Set area to select privacy zones by square.

Operating Instructions

- ZONE NUM : Set a number to select a privacy zone from 1~10.
- ZONE DISP : ON enables a relevant privacy zone.
- H-POS, V-POS, H-SIZE and V-SIZE : Adjust the size and position of zone.
- COLOR : Select the color used for masking the zone form eight colors.
- TRANSPARENCY : Defines the transparency for the mask zone.

8-2-2. POLYGON : Set area to select privacy zones by polygon shape

- ZONE NUM : Set a number to select a privacy zone from 1~4.
- ZONE DISP : ON enables a relevant privacy zone.
- COLOR : Select the color used for masking the zone form eight colors.
- TRANSPARENCY : Defines the transparency for the mask zone.

8-3. MOTION (default: OFF)

: MOTION can detect the changes in the motion window and displays the results in blocks and/or a text message.

MOTION	
▶ SENSITIVITY	: : : : : : 10
H-POS	10
V-POS	5
H-SIZE	40
V-SIZE	25
BLOCK DISP	OFF
MOTION OSD	OFF
SMART MOTION ZOOM	OFF
STAY ZOOMING	5sec
RETURN	RET ↵

- SENSITIVITY : Adjusts the detection sensitivity for motion.
High value increases the sensitivity to detect the small motion easily. Too low sensitivity will cause the erratic detection by the tree leaves or the light level changes.
- H-POS, V-POS, H-SIZE, V-SIZE: Adjust the size and position of the detection window.
- BLOCK DISP : ON enables to display the blocks for the detected area.
- MOTION OSD : ON enables to display a text message, MOVING !!!,
- SMART MOTION ZOOM : ON enables to Automatic Zoom IN/OUT when motion is detected and also enables MOTION OSD to ON.

Operating Instructions

Area to be zoomed in by SMART MOTION ZOOM can be set at SPECIAL> MOTION> SMART MOTION ZOOM>ZOOM TARGET. Adjusting ◀, ▶ (Joystick) for ZOOM TARGET varies the viewing angle to be zoomed when the motion occurs. (See page No.24 "SMART MOTION ZOOM")
Set the video left and right and/or up and down by MIRROR/FLIP.

- STAY ZOOMING : Sets the duration time for zooming by Motion.



NOTICE

: Zoom functions such as POINTING ZOOM, PRESET ZOOM, FLEX ZOOM and SMART MOTION ZOOM are disabled intentionally to avoid the mis-focusing at low light at night.



CAUTION

- Set the direction of video by MIRROR/FLIP before SMART MOTION ZOOM setting. Otherwise ZOOM TARGET could be different from your intention.

8-4. PIXEL DEFECT (default: OFF)

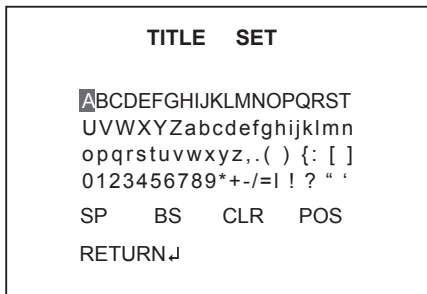
- : Detects and compensates the white pixels which become defective. Once CALIBRATE is selected, the pixel calibration is initiated with lens closed and can't cancel.
- THRESHOLD : Defines the level of detection and low value detects more pixels. Be sure to set the value so that the pixels are uniformly blinking over the entire screen. Too low value will get the bad results because too many pixels are detected as the bad pixels and the maximum number of pixels for compensation will be filled by the upper area.
- EXECUTE '⏏' : Long pressing will execute the pixel calibration for the detected pixels. Menu will exit automatically after compensation.

8-5. TITLE SET

: Camera title(name) can be set and edited up to 15 alpha numeric and symbolic characters from ASCII codes(ENGLISH only). ▲, ▼, ◀, ▶ moves the cursor to next input. Choose a character and '⏏' selects it. The selected characters are added and displayed on the top left Corner and the cursor moves right automatically for next input.

- SP - Space is inserted when pressed '●'
- BS – Cursor moves back when pressed '●'
- CLR – Clears all the characters on input line when pressed '●'.
- POS – To be able to set the title position by ▲, ▼, ◀, ▶ and ●.

Operating Instructions



8-6. DISPLAY

- : Enables or disables to display the OSD.
- ID : ON enables to display the camera ID defined by SYSTEM>COMM. SETUP>CAM ID.
- TITLE : ON enables to display the camera title(name) set by SPECIAL>TITLE SET.
- D-ZOOM RATIO : ON enables to display the zoom ratio on the bottom right corner. DZx.x will display by multiplying the actual digital zoom ratio.

8-7. DEFOG (default: OFF)

- MODE
 - AUTO : Enhance the foggy video automatically according to status of scene.
 - MANUAL : Sets to enhance the foggy video manually regardless of status of scene.
- LEVEL : MID, HIGH, LOW
Video quality can be less in normal environments.

8-8. ZOOM MODE (default: OFF)

ON enables to select POINTING ZOOM, PRESET ZOOM or FLEX zoom modes.

8-8-1. POINTING ZOOM:

- H-POINTER, V-POINTER
 - Able to set the location of zoom center D-Zoom is available DZ X1.1~ X8.0.
(See page No.25 "POINTING ZOOM")

PRESET ZOOM	
▶ ZONE NUM	1
ZONE VIEW	ON ↵
H-POS	5
V-POS	5
D-ZOOM RATIO	DX2.0
STAYING ZOOMING	3sec
RETURN	RET ↵
By Remote Controller only.	

Operating Instructions

8-8-2. PRESET ZOOM: Able to zoom in for the preset area by PTZ controller.

- ZONE NUM : Set a number to select a preset zoom from 1~ 4.
- ZONE VIEW : ON enables a relevant preset zone.
- H-POS and V-POS : Adjust the size and position of preset zone.
- D-ZOOM RATIO: Set the D-Zoom Ratio from DX 1.1~DX5.0
- STAYING ZOOMING : Sets the duration time for preset zoom area.

8-8-3. FLEX: Any place can be freely zoomed in by PTZ controller.

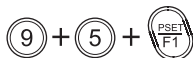
! CAUTION

- Set the direction of video by MIRROR/FLIP before ZOOM MODE setting. Otherwise location of zoom center could be different from your intention.

TIP Setting for Zoom Function with PTZ Controller

- Enter the MENU :

Press buttons 9+5+PSET (PRESET)



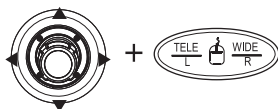
- Set the Preset Zoom :

Press buttons 1(or ~4)+PSET (PRESET)



- Working the Flex Zoom :

Moves the cursor UP/DOWN/LEFT/RIGHT with Joy stick on the screen where the position to zoom in/out.



- D-Zoom IN: Press button TELE or Spin the joystick to clockwise.
- D-Zoom OUT: Press button WIDE or Spin the joystick to counter-clockwise.

- Select or Choose value in the MENU :

Press button OPEN (IRIS OPEN)



- Exit the Preset/Flex Zoom mode :

Press buttons 3+4+PSET (PRESET)



Operating Instructions

9. SYSTEM

SYSTEM	
▶ TV SYSTEM	EU(PAL)
RESOLUTION	1080P
COMM. SETUP	↓
LANGUAGE	ENG
FACTORY DEFAULT	NO
RETUTN	RET ↓

9-1. TV SYSTEM (default: US or EU)

: Selects HDTV standards for US(60HZ) or EU(50HZ). By this selection, 2nd analog video output switches to NTSC or PAL accordingly.

9-2. RESOLUTION (default: 1080P)

: Three resolutions, 1080P/720P(SCALED)/720P(CROPPED) are available. 1080P outputs 1920x1080 video at the frame rate of 30P/25P. 720P(SCALED) Image is scaled down from 1080P and outputs 1280x720 video without loss of field of view at the frame rate of 30P/25P. 720P(CROPPED) image is cropped at the center area from the image sensor and outputs 1280x720 video at the frame rate at 60P/50P but the image refresh rate is 30P/25P. Cropped image has narrowed field of view

9-3. COMM. SET UP

: COMM. SETUP defines the CAM ID, BAUD RATE and PROTOCOL. Data length, stop bit and parity are fixed to 8bit, 1stop bit and no parity bit.

- CAM ID – Assigns the camera ID from 1~255 for the comm. address.
- BAUD RATE – Selects the baud rate from 2400~115200.
- PROTOCOL – Selects the comm. Protocol from PELCO-D/P or VISCA.

(Refer to 'TIP' page NO. 22)

9-4. LANGUAGE (default: ENG)

: 8 languages are available for ENGLISH, JAPANESE, GERMAN, FRENCH, ITALIAN, SPANISH, POLISH and TURKISH.

9-5. FACTORY DEFAULT (default: NO)

: RECALL  roads and saves the factory defaults.

Operating Instructions

Detail Function Description

SMART MOTION ZOOM

SMART MOTION ZOOM enlarges the certain area defined by a yellow window to the full sized image when the motion is detected in the black window.

SMART MOTION ZOOM window can be re-sized by adjusting D-ZOOM RATIO and moved by H-POINTER and V-POINTER.

UNLIKE the conventional zoom which can zoom in/out the center area of image only, by the flexible zoom location and area, SMART MOTION ZOOM differentiates its usefulness from others.

That is, a conventional camera installed on the corner of ceiling can zoom the center of the floor in a room and result in losing the image of door on the side wall. However, SMART MOTION ZOOM can be set to see the door side and zoom in that area without missing the IMPORTANT security point.

SMART MOTION ZOOM	
▶ ZONE VIEW	OFF
H-POS	10
V-POS	10
D-ZOOM RATIO	DX2.0
MOTION CHK CUNT	3
RETURN	RET ↓

- H-POINTER (10): Moves MOTION ZOOM area(Yellow window) horizontally.
- V-POINTER (10): Moves MOTION ZOOM area(Yellow window) vertically.
- D-ZOOM RATIO (MZ2.0): Sets the area size to be Digital zoomed when the motion occurs in the black window.
- MOTION CHK COUNT (3) - SMART MOTION ZOOM is activated after the motions in MOTION CHK COUNT are detected in a certain period.
For example, '1' immediately initiates SMART MOTION ZOOM by the motion detected once. High count number enables SMART MOTION ZOOM with sureness but with delay and less sensitivity.

Operating Instructions

POINTING ZOOM

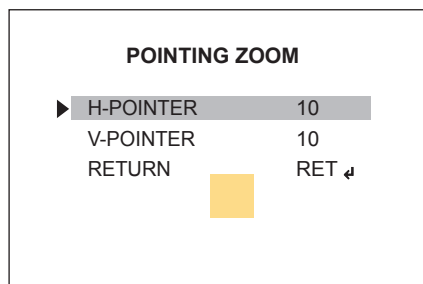
This camera has a very useful and powerful feature, POINTING ZOOM, which can zoom in/out any area.

UNLIKE the conventional zoom which can zoom in/out the center area of image only, by the flexible zoom location and area, POINTING ZOOM differentiates its usefulness from others. That is, a conventional camera installed on the corner of ceiling can zoom the center of the floor in a room and result in losing the image of door on the side wall.

However, POINTING ZOOM can be set to see the door side and zoom in that area without missing the IMPORTANT security point.

POINTING ZOOM can be activated by the joystick operations of ▲ for zoom in and ▼ for zoom out or via web viewer, while SMART MOTION ZOOM is activated by the result of motion detection in the defined area.

If Zoom ratio becomes out of optical zoom ratio, it automatically turns to Digital Zoom.



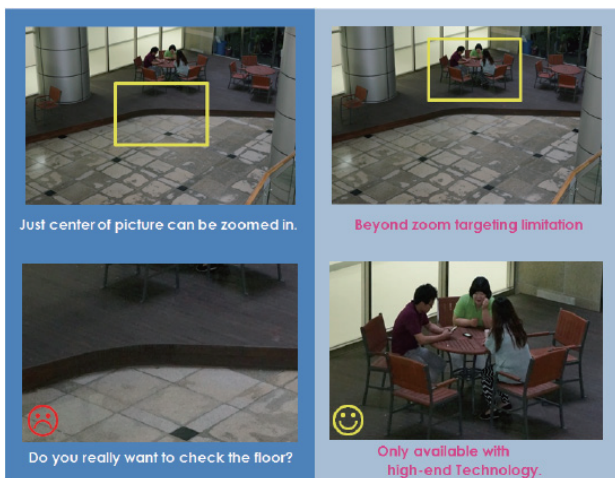
- H-POINTER (10): Sets the horizontal location of area to be zoomed by POINTING ZOOM.
- V-POINTER (10) : Sets the vertical location of area to be zoomed by POINTING ZOOM

Operating Instructions

* EXAMPLE OF SMART MOTION & POINTING ZOOM



[At the ATM nearby ENTERANCE]



[At the LOBBY]

Specifications

ITEM	HDC-2080CS D
Imaging Sensor	Panasonic 1/3" Progressive Scan CMOS Sensor
Effective Pixels	1,944(H) x 1,092(V)
Min.Illumination	0.0005 Lux @ (AGC MAX, DSS x2)
Video Resolution	1920x1080 (30p/25p)
TV System	EU(PAL)
Sync. System	Internal
Format	16:9 Video format for most popular commercial HDTV monitors
Selectable Video Output	EX-SDI: 270Mbps Visually lossless compression thru 75Ω BNC conn. HD-SDI: 1.485 Gbps, (SMPTE 292M) thru 75Ω BNC conn.
Video Sub-out	NTSC/PAL standard, 1Vp-p @75Ω composite
HD Trans. Distance	EX-SDI: 350m+ (RG59, 5C2V) HD-SDI: 80~140m(RG59, 5C2V), 230m(Belden 1694A)
S/N Ratio	More than 50dB (AGC OFF)
Lens Type	CS mount lens support (Option: C-mount adaptor)
IR Input	Low active TTL input from External IR illuminator to avoid the undesirable ICR switch
Day & Night	TDN by dual filter switcher, AUTO, COLOR, B/W, EXT, COLOR D/N
Exposure	Auto / Manual / Flickerless
Flip	OFF/ H/ V/ HV FLIP
White Balance	ATW / ATWext / One Push / Manual
WDR	True WDR by dual scan images in two frames at 30fps
Special Features	FOCUS ASSIST, SMART MOTION ZOOM, POINTING ZOOM, PRESET ZOOM, FLEX ZOOM
Functions	NORMAL, WDR, D-WDR, 3DNR, Motion Detection, Privacy Mask, Defog, D-Zoom(~8x), Sens-up(~x32), BLC/HLC, Title Set, Pixel Defect Compensation, Lens Shade Compensation
Remote Control	RS-485(Pelco-D/P)
Languages	English, German, French, Italian, Spanish, Polish, Japanese, Turkish

Specifications

Operating Temp.	-10°C ~ +50°C (Humidity : 30%RH ~ 80%RH)
External Dimension	74mm(W) x 72mm(H) x 89mm(L) / About 300g
Housing	Aluminum Cast
Power Source	AC24V~7.5VA/DC12V=300mA, 4W Circuit protection against faulty connection in power polarity. Isolated power supply against ground loop problem.

(*) Design and specifications are subject to change for product improvements without prior notice.



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