





FEATURES:

- 1/2.8" Sony® Exmor Progressive Scan CMOS Sensor
- 2.1 MegaPixel with Full 1080p/720p TVI Output
- Sensitivity of 0.0009 Lux
- Smart Motion Zoom tracks motion, then intelligently zooms into that area of the frame
- 3D-DNR Digital Noise Reduction
- CVBS (Analog) Output by BNC
- True Day/Night by ICR Dual Filter Switch
- Fully programmable True WDR (Dual Scan)
- Advanced OSD Functions: NORMAL, WDR, D-WDR, 3DNR, Motion Detection, Privacy Mask, D-Zoom(~8x), Sens-up(x32), Flickerless, BLC/HLC, Defog, Pixel Defect Compensation, Title Set, LSC, Deblur, Flip
- External control via RS-485
- · Low active TTL input from External IR illuminators
- 12VDC / 24VAC Dual Voltage Operation



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

- 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. 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.

Contents

p.02~03 Safety Precaution p.04 Contents p.05 Features p.06 Composition p.06 Dimensions

p.07 Part Names

p.08 Installation Instructions

p.09~22 Operating Instructions

p.23 Specifications

Features

Key Features

- Full HD, 2Mega Pixel HD-TVI CAMERA, 1920x1080(30p)
- TVI Video Transmission Distance over Coax.; 500M (RG59, 75Ω)
 *depending on cable condition and characteristics
- · Automatically removable IR Cut filter by Dual filter switcher
- · CS mount supported (Option: C-mount adaptor)
- True WDR(Wide Dynamic Range)
- · Improved Noise reduction with the enhanced 3D-NR
- · Pointing Zoom which enables flexible zooming of any area.
- Smart Motion Zoom in combining with Pointing Zoom. (Automatic zoom in/out when motion is detected)
- Preset Zoom
- Motion Detection, Privacy Mask, Defog, Sens-up(x32), D-WDR, H/V/HV Flip, D-Zoom(1.1x~8x), LSC(Lens Shade Compensation), BLC/HLC, Pixel Defect Compensation, Title Set
- · Top performance at low light sensitivity (Sens-up On)
- · Video output HD-TVI or CVBS switchable
- · OSD MENU & Video Sub-out port for easy installation & maintenance
- · Reverse polarity protection circuit
- · Isolated power supply against ground loop problem
- · Back focus adjustment
- Remote control via RS-485 (Pelco-D/P)
- UTC Control through HD-TVI DVR.
- AC24/DC12V Dual power

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.

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

Composition



Dimensions



Part Names



[CAUTION]

- Care should be taken that the cable is NOT damaged, kinked or exposed in a hazardous area.
- · Do not point the camera lens directly at the sun or a spot light.

Installation Instructions

Installation Instructions

- Care should be taken that the cable is NOT damaged, kinked or exposed in a hazardous area.
- · Do not point the camera lens directly at the sun or a spot light.
- The camera has a 1/4" thread insert on top and bottom for mounting the camera to a wall or ceiling with a corresponding mount.

Power Supply Connection

Camera can work with either 24VAC or 12VDC, dual voltage power. Primary and secondary grounds are completely isolated to avoid the possible ground-loop problems.

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. The design of OSD could be different according to the Model.

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
- UP/DOWN Key (▲/▼) : Choose the desired sub-menu and to move the cursor up or down.
- 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) ' $\underline{\mathbb{G}}$ ' denotes a long press down for about 2 seconds

Description of the D-ZOOM* adjustment

(*) Works only when OSD Menu is inactive.

1) ▲ : Zoom In 2) ▼ : Zoom Out

♦ Description of Video format switch (TVI ↔ CVBS)

- 1) Selects the video output TVI or CVBS. Default position is TVI.
- Switching the video format : ▲, ▼, ▲, ▼, (^[]/₂ long push 1~2 sec.)

Do not power off the camera immediately after switching the video format . It can cause a crash of the flash memory.

OSD menu Startup

 $\mathsf{Press}~`\bullet`$ (OSD menu Joy stick key) down for about 2 seconds to access the setup menu mode.

- RET : Returns to the previous menu.
- EXIT : Exits the menu setting without save.
- SAVE&EXIT : Exits the menu setting with save.

MENU	V3.xx
1. EXPOSURE	4
2. LENS	DC 4
3. FOCUS ASSIST	ب ه
4. SCENE ENHANCE	NORMAL
5. 3D-NR	MID
6. DAY/NIGHT	AUTO 🖌
7. PICT ADJUST	ب ه
8. SPECIAL	لې
9. SYSTEM	ب ا
A. EXIT	SAVE&EXIT 4

Direct Control menu

MAIN	DEFAULT	DESCRIPTION
EXPOSURE	-	Sets SHUTTER MODE, BRIGHTNESS, SENS-UP and AGC.
LENS	DC	Sets Lens types.
FOCUS ASSIST	-	Sets Focus Adjustments.
SCENE ENHANCE	NORMAL	SCENE ENHANCE provides several ways to enhance the video in various environments with settings of NORMAL, WDR, D-WDR, BLC and HLC. NORMAL – Optimized for the normal indoor and outdoor in good lighting condition. WDR – Improves the visibility for bright areas and dark areas by the double capture of image with LONG and SHORT exposures. With WDR ON, the frame rate becomes half by the double capture. 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 over compensation. *CVBS video signal:Connecting 2nd video to CVBS port disables WDR function temporarily. It should be considered when installer adjusts the video with installation monitor via CVBS video signal.

SCENE ENHANCE	NORMAL	 D-WDR – Improves the visibility by compensating the video gain for the dark area. Noise can increase in the dark area accordingly. BLC – Improves the visibility for dark objects by 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. HLC – Cuts out the bright area with a black mask and excludes it from compensation. Lower HLC LEVEL cuts out video from lower light levels (more sensitive).
3D-NR	MID	OFF, LOW, MID and HIGH.
DAY/NIGHT	EXT for IR LED	DAY/NIGHT is used to control the setting during day-time and night-time operation. Select the mode according to the lighting conditions and the camera type. SMART (DYNAMIC) IR can be set to reduce the saturation by strong IR illumination at night in any menu. Setting SMART (DYNAMIC) IR in any menu. Setting SMART (DYNAMIC) IR and High setting decreases the saturation but the corners will be darker accordingly. EXT – DAY or NIGHT is determined by the built-in light photo sensor. Camera with IR LED must be set to EXT. 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 (DYNAMIC) 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 matfunction. 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. B/W(NIGHT) – Removes IR cut filter and switches to B/W regardless of light level. COLOR(DAY) – DAY/NIGHT is disabled and outputs color video.
PICT ADJUST		Sets WHITE BAL, SHARPNESS, COLOR GAIN, GAMMA, SHADING
SPECIAL		Sets MIRROR/FLIP, PRIVACY, MOTION, PIXEL DEFECT, TITLE SET, DISPLAY, DEFOG, POINTING ZOOM, PRESET ZOOM
SYSTEM		Sets TV SYSTEM, RESOLUTION, COMM.SETUP, LANGUAGE, VIDEO OUTPUT SELECT and FACTORY DEFAULT
EXIT		SAVE & EXIT – Exits the menu after saving the parameters. EXIT – Exits the menu without saving.

1. EXPOSURE

EXPOSURE		
SHUTTER	AUTO	
BRIGHTNESS	::::: ::::: 10	
SENS-UP	OFF	
AGC	::::: ::::: 12	
RETURN	RET 🚽	

1-1. SHUTTER (default: AUTO)

- : Set SHUTTER MODE to AUTO, MANUAL and Flickerless. MANUAL and Flickerless modes disable SENS-UP functions.
- AUTO: Optimizes the video level by controlling the iris and the shutter speed automatically.
- MANUAL: Iris and Shutter can be set to a fixed value.
- 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).

1-3. SENS-UP (default: AUTO)

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

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

1-4. AGC (default: 12)

: AGC(0~20) amplifies the video gain for brighter video but will cause noise and white pixel accordingly.

AGC level less than 10 disables AUTO in DAY/NIGHT.

2. LENS

Select 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: DEBLUR for None LED type)
 - : Select lens mode according to installation. INDOOR or DEBLUR for indoor installation according to environment.
 - OUTDOOR: Optimized for outdoor environment.
 - INDOOR: Optimized for indoor environment.
 - DEBLUR: ON enables MOTION DEBLUR to reduce motion blur in certain indoor environments. Noise or color rolling can increase.
- 2-2. MANUAL (default: NORMAL for None LED type)
 - : Horizontal wave or bar may be seen when MANUAL is selected and the camera is working under florescent or similar lights. Select NORMAL or DEBLUR.

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 the next day.

This problem can occur with any camera regardless of type or manufacturers.

FOCUS Adj. menu is a unique and patented feature that helps focus by simulating DAY &NIGHT conditions.

Set zoom first and adjust focus to get best picture while switching between DAY & NIGHT.

- DN DWELL (5s) : ICR switcher switches DAY & NIGHT at the interval of D/N DWELL.
- POP ON FOCUS (OFF) : ON zooms into the center of the 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

: Refer to 'DIRECT CONTROL MENU' table.



- NORMAL (default):
 - Optimized for normal indoor and outdoor lighting conditions.
- WDR : Select from LOW, MID and HIGH
- D-WDR : Select from LOW, MID and HIGH
- BLC : Set the BLC area by H-POS, V-POS, H-SIZE and V-SIZE.
- HLC : Set the level up to 20
- 5. 3D-NR (default: MID)

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 more noise but results in losing sharpness, and tail effects or motion blur may occur.

6. DAY / NIGHT

: Refer to 'DIRECT CONTROL MENU' table. Default setting are EXT for IR-LED types and AUTO for None IR LED types.



7. PICT ADJUST

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

- 7-1. WHITE BAL (default: ATW)
 - : ATW, ATWext, ONE PUSH and MANUAL are available for the white balance modes.
 - ATW: White balance is continuously working along with the color temperature changes in the range of 2,000K~8,500K.
 - 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 \bullet 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	لم	
MOTION	OFF	
PIXEL DEFECT	OFF	
TITLE SET	لم	
DISPLAY	Ļ	
DEFOG	OFF	
POINTING ZOOM	OFF	
PRESET ZOOM	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 installed upside down.

8-2. PRIVACY

- : 10 Privacy zones which can be enabled individually by ZON DISP are available to mask the video.
- PRIVACY ALL: ON enables all Privacy Zones you set.
- ZONE NUM: Set a number to select a privacy zone from 1~10.
- ZONE DISP : ON enables to display 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.

7-3. MOTION (default: OFF)

- : MOTION can detect the changes in the motion window and displays the results in blocks and/or a text message.
- SENSITIVITY : Adjusts the detection sensitivity for motion.
 Higher value increases the sensitivity to detect small motion easier. Too low of sensitivity will cause erratic detection.
- H-POS,V-POS, H-SIZE and 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.

Area to be zoomed in by SMART MOTION ZOOM can be set at SPECIAL> MOTION> SMART MOTION ZOOM. Adjusting \blacktriangleleft , \blacktriangleright (Joystick) for ZOOM TARGET varies the viewing angle to be zoomed when motion occurs.Set the video left and right and/or up and down by MIRROR/FLIP.

(See "SMART MOTION ZOOM" Section)

* SMART MOTION ZOOM doesn't work in low light condition and BW.

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

: SMART MOTION ZOOM does not work at low sensitivity and B/W mode.

CAUTION

: Set the direction of video by MIRROR/FLIP before setting SMART MOTION ZOOM. 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.

Be sure to set the value so that the pixels are uniformly blinking over the entire screen. Too low of a value will get bad results because too many pixels are detected as bad pixels and the maximum number of pixels for compensation will be filled by the upper area.

• EXECUTE 'Q' : 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 ' \mathbb{Q} ' 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 ●.

8-6. DISPLAY

- : Enables or disables the OSD display.
- ID : ON enables camera ID display 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)
 - AUTO : Enhance foggy video automatically according to status of scene.
 - MANUAL : Sets to enhance foggy video manually regardless of status of scene.
 - LEVEL : LOW, MID, HIGH
 Video quality can be less in normal environments.

8-8. POINTING ZOOM

ON enables to set off-centered location to be the center of zoom H-POINTER, V-POINTER- Able to set the location of zoom center D-Zoom is available DZx1.1~x8.0 (See page No.22 "POINTING ZOOM")

8-9. PRESET ZOOM

Able to zoom into a preset location using the PTZ functions.

- ZONE NUM : Select Preset zone number 1~4.
- · ZONE VIEW : ON displays selected zone preset view.
- H-POS and V-POS : Adjust the size and position the 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.

- Set the direction of video by MIRROR/FLIP before POINTING ZOOM setting. Otherwise location of zoom center could be different from your intention.
- · Preset Zoom is available with RS-485 model only.

9. SYSTEM

SYSTEM	
TV SYSTEM	US(NT)
RESOLUTION	1080P
COMM. SETUP	ل
UTC CONTROL	PELCO-C
LANGUAGE	ENG 🖫
OUTPUT SELECT	TVI
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 at the frame rate of 30P/25P.
 Cropped image has narrowed field of view.

9-3. COMM. SETUP

- : 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 Select the baud rate from 2400~115200.
- PROTOCOL Select the comm. Protocol from PELCO-D/P or VISCA.

9-4.UTC CONTROL (default: AUTO)

- : Camera can be adjusted through DVR using Up-the-Coax(UTC) communication with PELCO-C protocol. Select AUTO, PELCO-C or OFF
- AUTO : The camera will automatically detect the PELCO-C protocol.
- PELCO-C : Camera can detect PELCO-C protocol only.

[Note]

AUTO only supports the PELCO-C protocol of verified DVRs. If the communication does not work with AUTO well, switch to PELCO-C.

9-5. LANGUAGE (default: ENG)

: 8 languages are available for ENGLISH, JAPANESE, GERMAN, FRENCH, ITALIAN, SPANISH, POLISH and TURKISH. When changing LANGUAGE, select language and press P to load.

9-6. OUTPUT SELECT (default: TVI)

: Selects the video output TVI or CVBS.

[Note]

- Switching the video format : ▲, ♥, ▲, ♥, (^[]/_[long push 1~2 sec.)
 Do not power off the camera after switching a video format immediately.
 It can be cause of crashing a flash memory.
- If set to CVBS video output, UTC Control setting is swiched to OFF

9-7. FACTORY DEFAULT (default: NO)

: RECALL groads and saves the factory defaults.

A. EXIT

- A-1. SAVE&EXIT : Save all the setting and exit the main menu
- A-2. EXIT : Exit the main menu without save.



Detail Function Description

SMART MOTION ZOOM

SMART MOTION ZOOM enlarges the area defined by a yellow window to a full sized image when 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 in a corner of the ceiling can zoom the center of the floor in a room and result in losing the image of a 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	_
H-POINTER	10	
V-POINTER	10	
D-ZOOM RATIO	MZ2.0	
MOTION CHK CUNT	2	
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 digitally zoomed when motion occurs in the black window.
- MOTION CHK COUNT (2) SMART MOTION ZOOM is activated after the motion in MOTION CHK COUNT are detected in a certain period.
 For example, SMART MOTION ZOOM is activated after set # of triggers by motion.

POINTING ZOOM

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

POINTING ZOOM is the ability to zoom into an off center location using the PTZ Zoom in/out feature when connected via RS485

Use H-POINTER and V-POINTER to move the Yellow box to set the position of the center of the Zoom.

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

That is, a conventional camera installed in the corner of the 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.



- 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

* SMART MOTION and POINTING ZOOM VS. Conventional Zoom





Smart Motion and Pointing Zoom



Conventional Zoom

Detailed Specifications	
Imaging Sensor	1/2.8" Sony Exmor Progressive Scan CMOS Sensor
Video Output	HD-TVI by BNC - CVBS by BNC
Resolution	2.1 MegaPixel (1080p / 720p)
Effective Pixels	1920(H) x 1080(V) x 30p
S/N Ratio	More than 50dB (AGC Off)
Sensitivity	0.0009 Lux @ (AGC 12, DSS x2)
Lens Type	CS Mount Lens Support
Smart Motion Zoom	YES
External IR Input	Low active TTL input from External IR illuminator to avoid the
DAY / NIGHT	undesirable ICR switch
White Balance	TDN by dual filter switch
WDR	ATW / ATWext / One Push / Manual
DNR	True WDR (Dual Scan)
Advanced OSD Features	3D-DNR
	NORMAL, WDR, D-WDR, 3DNR, Motion Detection, Privacy Mask, D-Zoom($\sim\!8x),$
	Sens-up(x32), Flickerless, BLC/HLC, Defog, Pixel Defect Compensation, Title Set,
	LSC, Deblur, Flip
Remote Control	RS-485 (Pelco-D/P), UTC by HD-TVI DVR (Pelco-C)
Operating Conditions	14°∼122°F (-10°∼ +50°C) < 80% RH
Input Voltage	12VDC / 24VAC (Dual Voltage)
Power Consumption (12VDC)	216mA @ 12V (2.6W)
Power Consumption (24VAC)	110mA
Weight	10.58 Oz. (300g)
Dimensions (W x H x L)	2.99" x 2.83" x 3.23" (76 x 72 x 82mm)



CONSIDER THESE OTHER GREAT PRODUCTS FROM





VT-SHP916 SpireHD 16 Channel Real Time Tribrid TVI / AHD / 960H Digital Video Recorder

- Supports High Resolution TVI, AHD, and 960H Cameras
- 16 Video Inputs with 1 HDMI, 2 Spot Monitor Outputs, and 1 VGA output
- H.264 Compression
- Real Time Live Display & Recording
- Supports both Dynamic and Static IP Addresses
- 16 Audio Inputs / 1 Audio Outputs
- 18 Alarm Inputs (16 +1 Panic & 1 Reset) 8 Outputs with 8 Relays
- Supports 6TB Hard Drives
- Supports 5 internal Hard Drives for up to 30TB of internal Storage (5 x 6TB HDD)
- Supports RAID Levels 1 & 5
- Dual Ethernet Ports
- · Remote Viewing over the LAN/WAN via Web Browser
- · Applications for iPhone, iPad, iTouch and Android Devices
- Mac OSX Client & PC CMS Central Management Software Included
- Panorama (Thumbnail) & "Quick Search" Functions
- Convenient Network Settings Map
- · Automatic sending of Health & Event notifications via email
- Control locally via Front Panel Controls, USB Mouse or with the Included IR Remote control
- 2x RS-485 & 1x RS-232 for PTZ Control
- MJPEG Streaming for easy integration with control systems

LIMITED PRODUCT WARRANTY

VITEK products carry a three (3) year limited warranty. VITEK warrants to the purchaser that products manufactured by VITEK are free of any rightful claim of infringement or the like, and when used in the manner intended, will be free of defects in materials and workmanship for a period of three (3) years, or as otherwise stated above, from the date of purchase by the end user. This warranty is nontransferable and extends only to the original buyer or end user customer of a VITEK Authorized Reseller.

The product must have been used only for its intended purpose, and not been subjected to damage by misuse, willful or accidental damage, caused by excessive voltage or lightning.

The product must not have been tampered with in any way or the guarantee will be considered null and void.

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