

VT-TPTZ-B10X2A 2.1 MegaPixel 10x 4-IN-1 HD-TVI / AHD CVI / CVBS PTZ Bullet Camera with IR LEDs for up to 325' IR Range



FEATURES

- 1/3" 2.1 MegaPixel CMOS Sensor
- 30fps live view @ 1920 x 1080p
- HD-TVI / HD-CVI / AHD / 960H CVBS Video Output (Selectable)
- True Day/Night by IR Cut Filter
- Built-in 5.1mm to 51mm Lens offering 10x Optical Zoom
- 4 Integrated High Power + 2 Laser Covert IR LEDs with up to 325' IR Range
- Rotation Range: Pan: 0~200° / Tilt: 45°/40° (Up/Down)
- Rotation Speed: Pan: 0~30°/second / Tilt: 0~25°/second
- 2DNR Noise Reduction
- 220 Presets programmed with view direction, zoom, BLC, etc
- 16:9 Video format
- RS485 Communication / COC (Control Over Coax)
- Double layer metal body construction with IP66 Weather Resistance
- Over 1500' HD Video Transmission (Depending on cable characteristics and integrity)
- 12VDC Operation
- Power Supply Included
- 3 Year Warranty

OPTIONAL ACCESSORIES:



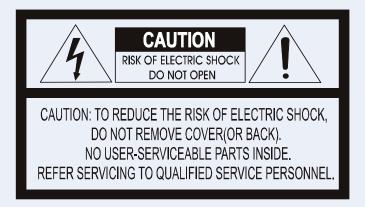


WARNINGS AND CAUTIONS

WARNING

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

CAUTION



EXPLANATION OF GRAPHICAL SYMBOLS



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended t alert the user to the presence of uninsulated "dangerous voltage" within the product' enclosure that may be of sufficient magnitude to constitute a risk of electric shock t persons.



The exclamation point within an equilateral triangle is intended to alert the user to th presence of important operating and maintenance (servicing) instruction in the literatur accompanying the product.

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1 Product Introduction

1.1 Specification

Horizontal Rotation Speed	0-30°/s	
Horizontal Rotation Range	0° -200°	
Tilt Rotation Range	-45° ~40°	
Tilt Rotation Speed	0-25°/s	
Auto control IR LED	PWM	
IR Distance	Up to 100M	
A-B Scan Range	any point in range:-45°~40° and 0°-200°	
A-B Scan Speed	01-64speed setting available	
Preset Points	220	
Go to Preset Speed	200°/s	
Guard Tours	3 groups	
Guard Points	Max.16 points, dwell time user selectable	
Communication	RS485 Bus	
Operating Temperature	-15°C∼+60°C	
Heater & Blower	Auto temperature control	
Power	DC12V 2A	
Power Consumption	≤ 15W	
Coaxial control	Support	

1.2 Function Description

Coaxial control

Through BNC cable to control PTZ and no need use the ID address and RS485 to distinguish cameras.

English OSD menu

The language display on screen menu, the available language is English. User can set PTZ function and specification by menu. Also including the corresponding PTZ information and state.

IR Output Power Consumption

IR output power consumption can be set through the OSD after IR is turned on.

IR Detection Time

Time duration switching from Color to B/W or B/W to Color.

Focus

The auto focus enables the camera to focus automatically to maintain clear image. User can use manual focus to in special condition.

Under the following conditions camera will not auto focus on the camera target:

- (1) Target is not the center of the screen;
- (2) Attempting to view images that are far and near at the same time;
- (3) Target is strongly lighted object, such as neon lamp, etc.;.
- (4) Targets are behind the glass covered with water droplets or dust;
- (5) Targets are moving quickly;
- (6) Monotonous large area targets, such as wall;
- (7) Targets are too dark or faint.

BLC

If a bright backlight is present, the target in the picture may appear dark or as a silhouette, BLC enhance the target in the center of the picture, the dome uses the center of the pictures to adjust the iris. if there is a bright light source outside this area, it will wash out to white, the camera will adjust the iris so that the target in the sensitive area will properly exposed.

Iris Control

Factory default is automatic camera aperture, in mode of which camera senses changes in ambient light through moving and adjust automatically lens aperture to make the brightness of output image stable.

Users can through pressing OPEN or CLOSE iris adjusting keys, manually adjust the aperture size to get the required picture brightness.

By controlling the keyboard up, down, left, right or zoom to resume auto iris (auto iris is recommended).

Day/Night Switch

With auto day/night switch function, when the illumination is low the picture will auto switch from day to night mode and when the illumination is high enough the picture will auto switch from

night to day mode

Ratio Speed

Intelligent pan and tilt speed is variable depend on the zoom factor. When zooming in, the speed will become slower and when zooming out, the speed will become quicker.

A-B Scan

Dome circularly scan close-up real-time scene according to A-B points at setting speed in both horizontal and vertical directions.

Pan Scan

Dome 360° clockwise continuous scan the display scene at setting speed in horizontal direction under the condition that pitch angle remains the same.

Preset

After the dome camera keeps arbitrary PTZ location, it will automatically move to the defined position when preset is called.

Guard Tour

Dome patrol scans according to certain edited preset order.

Power Off Memory

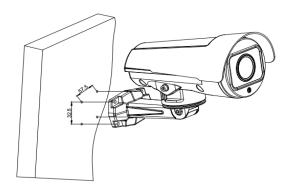
This feature allows the dome to resume its previous preset or status after power is restored. By default setting, the dome support power up memory, which improves the reliability and avoids repeated settings of the parameter.

Park Action

If users don't operate the dome in set time, it will automatically run preset specific mode (pan scan, A-B scan, park action, cruise, preserve action etc.).

2 Installation

2.1. Wall Mounted Bracket



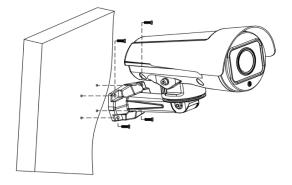


Fig. 2.1.1.1

3. Operation Instruction

3.1 Basic Function

Zoom

Press ZOOM- button to make the lens farther and minify the scene.

Press ZOOM+ button to make the lens closer and magnify the scene.

Focus

After FOCUS- button is pressed, the object in vicinity will become clearer while the object far away will become ambiguous.

After FOCUS+ button is pressed, the object far away will become clearer while the object in vicinity will be ambiguous.

Iris

Press IRIS- to gradually shrink the iris and decrease the image brightness.

Press IRIS+ to enlarge the iris and increase the image brightness.

Preset Point

Setting preset press button "preset"+"number"+"enter".

Calling preset press button "call"+"number"+"enter".

Deleting preset press button "clear"+"number"+"enter".

Remark: Some preset points are used tentatively for special functions.

Overview for 4 in 1 products (Support AHD/ CVI/ TVI/ CVBS output)

Basic on single HD Analog coaxial series, (AHD/TVI/CVI/CVBS series), the 4 in 1 series have combined the 4 single output signal together, it can be switched the video signal freely between the AHD/TVI/CVI/CVBS by shortcut commends. This gives great convenience for all application, reduce cost, and easy for maintenance.

Switch video signal: Two ways to switch the video signal

Call twice preset 102 to enter the Sub OSD menu.

Press "Zoom+" or "Zoom-" to move the option to the item 1.

Press the "Focus+" or "Focus-" to switch to the signal output needed,

Then press "zoom+ or Zoom- to the item 6" RETURN"

Call twice 102 again to exit from the Sub OSD menu.

Direct shortcut commend to switch the video output signal needed. Please Reference to the below table for details.

Remark: Please do not change the parameter of the Sub OSD menu randomly to avoid any unexpected happen.

Please reboot the PTZ after switch the video signal output.

3.2 Special Function

Shortcut commends are complaince with Pelco D and its Extended protocol. User can use the shortcut commend to enable the function directly.

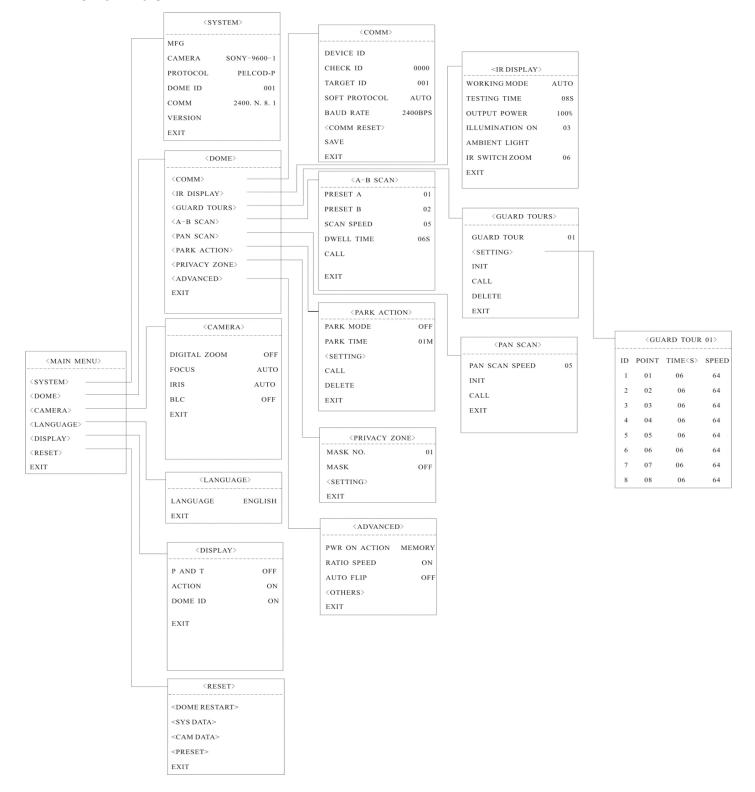
Preset No.	Function	Preset No.	Function
81 (41)	Auto day/ night	97	Call tour 2
82 (42)	Switch to night	98 (38)	Call tour 1
83	Switch to day	99 (39)	Pan scan
84	Force on far light	Twice 137	Switch to AHD
85	Force on near light	Twice 138	Switch to TVI
92	A-B Scan	Twice 139	Switch to CVI
94	OSD off	Twice 140	Switch to CVBS
95	OSD on	Twice 115	Switch to NTSC
96	Call tour 3	Twice 116	Switch to PAL

Remark:Because the limit of COC protocol, it is possible that some of the shortcut commend are not valid when connected to some of the controlled equipment.

If no video or video is stuck in black and white, please make sure the video output of the signal, the TV system (NTSC/Pal) between the PTZ and the controlled equipment to be consistent, if not, please adjust accordingly.

4 OSD Menu

4.1 Menu Index



4.2 System Information

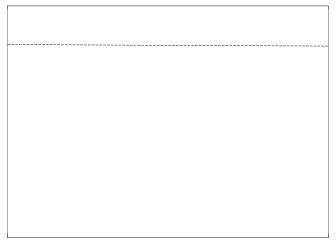


Fig. 4.2.1

MFG: Max 15 characters display on the screen.

CAMERA: Camera module protocol.

PROTOCOL: Display the protocol of the dome.

DOME ID: Display the dome address.

COMM: Form: Baud rate. Check bit. Data bit. Start bit.

VERSION: Version will update along with the product upgrading.

Remark: Protocol, ID and COMM all can be set in menu <COMM>.

4.3 Dome

4.3.1 Communication

Fig.4.3.1.1

DEVICE ID

It is only and used to distinct from the ID of other domes.

CHECK ID

Distinguishing several domes with same ID and altering target ID, soft protocol and baud rate need to enter check ID in line with the device ID, otherwise altering can't be completed.

TARGET ID

Target ID is available from 001 to 250.

SOFT PROTOCOL

Soft protocol is auto, Pelco-D and Pelco-P available

BAUD RATE

1200BPS、2400BPS、4800BPS、9600BPS available

SAVE

Please save the change of communication. After saving, the dome will reboot.

COMM RESET

Dome save data and reboot.

4.3.2 IR Display

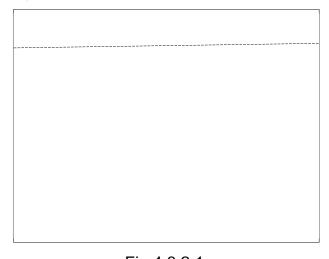


Fig.4.3.2.1

WORKING MODE

Working mode has auto, black/white, color selectable. Default is auto.

TESTING TIME

On IR auto working mode and the programmed time, the IR will execute the programmed action, eg. Switch from day to night or from night to day. The detection time is from 2s to 15s selectable.

OUTPUT POWER

IR output consumption has 40% 60% 80% 100% selectable.

ILLUMINATION ON

Illumination on is 1 to 15 grade selectable and default is 3. On the auto IR working mode, if the illumination on level is less than the ambient light, the picture will change to color, the IR illumination will turn off automatically. If the illumination on level is more than the ambient light, the picture will change to black, the IR illumination will turn on automatically.

AMBIENT LIGHT

Ambient light is a system data. User can not change it manually. It changes according to the environment all the time. The data will refresh every time when user enter the OSD. It is from 0 to 50 grade.

IR SWITCH ZOOM

IR switch zoom is 1 grade selectable.

4.3.3 Guard Tours

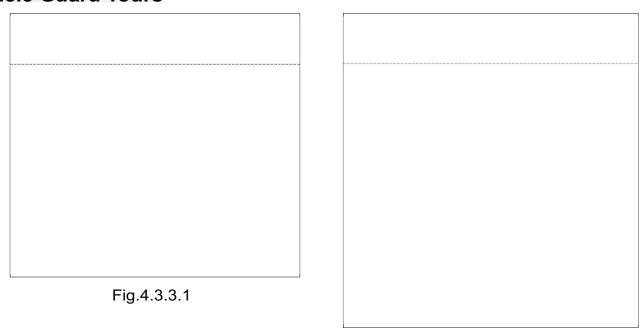


Fig.4.3.3.2

GUARD TOUR

Total 3 guard tours selectable: 01, 02, 03.

SETTING

Each guard tour includes max 16 presets. The number of the preset is from 0-64. 0 is not valid, dwell time is 1 to 60s selectable. Speed is 1 to 64 grade selectable.

INIT

After init., preset point, dwell time, speed will resume to default setting.

CALL

Call the new setting.

DELETE

Delete the guard tour set. After deleting, the present preset points all display as 0. While the exact preset point information doesn't be deleted. So it is convenient for user to select the preset point needing to be guarded tour.

4.3.4 A-B Scan

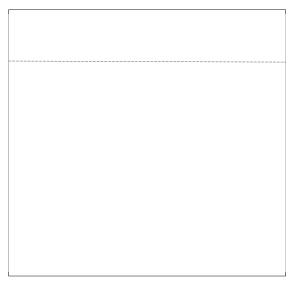


Fig.4.3.4.1

PRESET A

On A-B scan, A point can be preset from 0 to 64.

PRESET B

On A-B scan, B point can be preset from 0 to 64.

SCAN SPEED

A-B scan speed is 1 to 64 grade selectable.

DWELL TIME

Dwell time between A to B is 2s to 60s selectable.

CALL

Call the new setting.

4.3.5 Pan Scan

Fig.4.3.5.1

PAN SCAN SPEED

Pan scan speed is 1 to 64 grade selectable.

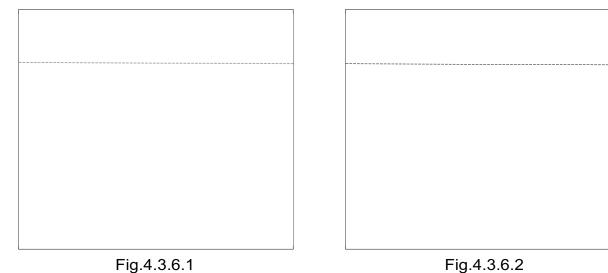
INIT

Reset the scan speed and tilt degree as default setting.

CALL

Call the new setting.

4.3.6 Park Action



PARK MODE

Park mode includes OFF, Park action, A-B scan, Pan scan, guard tour01, guard tour02, guard tour03 and Preserve action.

When park mode is OFF status, the dome doesn't run park mode.

When park mode is PRESERVE ACTION status, it record previous action order(A-B scan, Pan scan, Guard tour 01, Guard tour 02, Guard tour 03).

Example: Running A-B scan at first, when the action stops unexpectedly, it enters the park mode to continue to run A-B scan.

PARK TIME

Park time is 01~60 mins selectable.

SETTING

After entering the OSD menu, as 7.4.8.2, move to the desired position and save the settings.

CALL

Call the new setting.

4.3.7 Privacy Zone

Not available.

4.3.8 Advanced

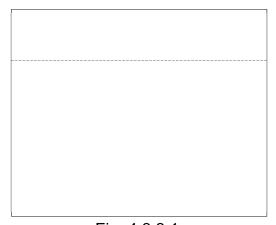


Fig. 4.3.8.1

PWR ON ACTION

Power on action can be set as Memory, A-B scan, Pan scan, Park action, Guard tour 01, Guard tour 02, Guard tour 03 and No action.

RATIO SPEED

Ratio speed can be set as ON or OFF status.

AUTO FLIP

Does not support this function.

OTHERS

Set other options.

4.4 Camera

Fig.4.4.1

DIGITAL ZOOM

Not available

FOCUS

Focus is auto and manual selectable

IRIS

Iris is auto and manual selectable

BLC

BLC is ON and OFF selectable

Remark: Those functions are available on the present module if it supports those functions .

4.5 Language

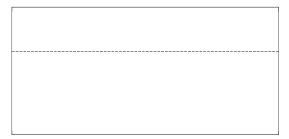


Fig.4.5.1

LANGUAGE

Language can be set English. Default settings are English.

4.6 Display

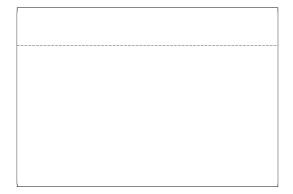


Fig.4.6.1

Р

Support, default is not display.

ACTION

On the screen, it displays the current action, such as A-B scan, Call preset, Save preset, Call park action, Pan scan etc. User can enable or disable it

DOME ID

At the top left corner of screen, it displays the dome ID. User can enable or disable it.

4.7 Reset

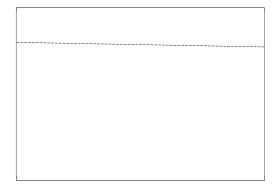


Fig.4.7.1

DOME RESTART: It starts self-test by OSD menu.

SYS DAYA: Making all PTZ data recover the factory default .

CMA DATA: Recovering camera data as default (remark: it needs camera support).

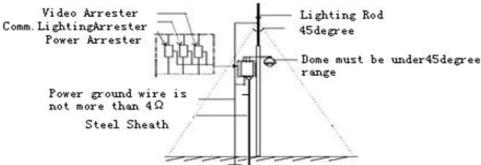
PRESET: It supports preset reset by sub-menu.

Appendix I Anti-lightning, Anti-surge

This product is extremely air discharge and lightning protection with TVS tube technology, which can effectively prevent the transient lightning below voltage 3000V, surge and damages caused by other types of pulse signals.

However, necessary protective measures should be made in the premise of ensuring electrical safety for outdoor installation according to the actual situation :

- ·Signal transmission line must be at least 50 meters far away from the high-voltage equipment or high voltage cable.
 - · Try to choose outdoor wiring laid down along the roof line.
- · Way of sealed steel pipe buried wiring is used in the area which opened, and steel pipe units grounded in one point. Overhead wiring is absolutely prohibited.
- · In the strong thunderstorms area or areas with high induced voltage (such as high voltage substations), measure of installation of additional high power lightning protection equipment and lightning rod must be taken.
- · Lightning protection and grounding of outdoor devices and lines must take the lightning-protection requirements of buildings into consideration, and comply with the related national standards and industry standards.
- · System must be equipotential grounding. Grounding device must meet dual requirements of anti-interference and electrical safety, and should not be shorted or mixed with the adjacent lines in the strong power grid. When system is independently grounded, grounding impedance should be less than 4Ω , and cross-sectional area of grounding conductor must be not less than $25m^2$.



Appendix II Clean Transparent Cover

In order to assure a clear image of dome, the under cover of dome should be cleaned regularly.

- Be careful when cleaning and hold the outer ring of under cover by hands to avoid directly touching with it. Because the acid sweat of finger membrane may corrode the surface coating of under cover. Hard tool scratching the under cover may lead to blurring the images of dome so that affecting image quality.
- Please uses a soft enough dry cloth or other alternatives to wipe internal and external surface.
- If dirt is serious, user can use a mild detergent. Any senior furniture cleaning products can be used to clean the under cover.

Appendix III Common Knowledge on RS-485 Bus

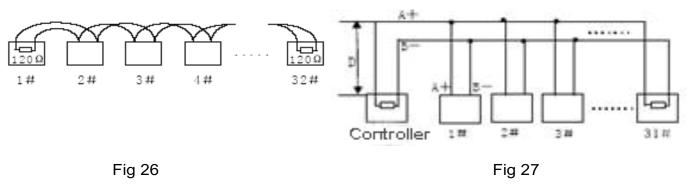
1. Basic Feature of RS-485bus

According to industry bus standard of RS-485, RS-485 bus is half-duplex communication bus with the characteristic impedance of 120Ω , whose maximum load capacity is 32 payloads (including the master device and the controlled device).

2. Mode of Connection and Terminal Resistance

2.1 Industry standard of RS485 bus requires that connection mode of daisy chain should be used between the devices with 120Ω terminal resistances connected at the both ends.

As shown in fig. 26 and fig. 27 is simplified connection, but the distance of part "D" shall not beyond 7 meters.



2.2 120Ω terminal resistance is connected as shown in fig 27.

 120Ω terminal resistance is available in the circuit board and the connection is shown as following:

When needing to connect 120Ω resistance, toggle the 8^{th} bit of DIP switch SW2 to "ON" . This way the 120Ω resistance is connected to the circuit.

Appendix ${ m I\!V}$ Exception Handling

Issue	Possible Reason	Solution	
After power is applied,	Cable harness is improperly connected	Verify that the orientation of the connector input	
there is no motion (self-test) and no video image.	Input power voltage is too low	Verify the voltage of the input power	
	Power supply is not work	Change a new power supply	
Self-test is normal, but cannot control	Wrong communication settings	Set the correct protocol, baud rate and address of dome device	
	Improper connection of control cable (polarity)	Verify the polarity of the RS485 connection as per the instruction manual	
Noise after self-testing	Mechanical obstruction	Verify and correct it	
	Camera module is not	Correct	
	Low power	Change the correct power supply	
Image is not stable	Low power	Check the power supply or make sure the power input is DC 12V	
	Video cable is improperly contact	Verify the contact of the video cable	
Image is blurring	Camera is on manual focus	Change to auto focus	
	The lens is dusted	Clean the lens	
	Power is too low	Change the DC 12V Power supply	
Control to the camera is not smooth	Communication distance is too long	Make sure the distance is in the allowed range	
	RS485 cable is not properl contact	Make the RS485 is properly contact	
	Too many do camera connected	Make sure the connected camera is in the allowed quantity	

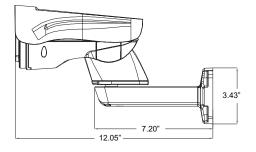
Copyright Statement

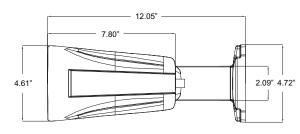
This copyright merely belongs to the manufacturer. Without permission, please don't plagiarize or copy the contents of this book in any form or by any means.

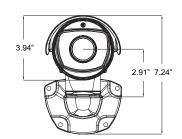
The company follows the policy of continuous development. Therefore, the company reserves the right to modify or improve the products described in this manual without notice.

The content of manual is offered according to the "current state". Unless applicable law otherwise specified, the company does not make any kind of clear or tacit reassurance about the accuracy, reliability and contents of this manual. The company reserves the right to revise or recoup this manual at any time without notice.

Sensor	1/3" 2.1 MegaPixel CMOS Sensor		
Resolution	1080P (1920x1080)		
lideo Output Interface	4-IN-1: HD-TVI / AHD / CVI / CVBS		
EDs	4 Integrated High Power + 2 Laser Covert IR LEDs		
R distance	Up to 325' IR Range		
umbient Light Detection	1-15 grades selectable (with IR illumination on)		
ens	5.1mm to 51mm Lens offering 10x Optical Zoom		
Ain. illumination	Color: 0.1Lux \ B/W: 0.01Lux (IR Off) / 0 Lux (IR On)		
Day/Night Operation	True Day/Night by IR Cut Filter		
Digital Noise Reduction	2D-DNR		
Rotation Range	Pan: 0~200° / Tilt: 45°/40° (Up/Down)		
Rotation Speed	Pan: $0 \sim 30^{\circ}$ /second / Tilt: $0 \sim 25^{\circ}$ /second		
Preset Points	220		
I-B Scan Range	Any point in range: 45° ~ 40° and 0° ~ 200°		
A-B Scan Speed	1-9 grades		
Owell Preset	Adjustable 1-60s interval		
Pattern Scan	4 groups		
Guard Tours	8 groups		
Guard Points	3 groups (each group 16 presets - dwell time and speed selectable)		
ime Scheduling Function	6 tasks		
Power On Action	Memory/Pattern 1/ Tour 1 /A-B scan / Park 1 / None		
Park Mode	Memory/Pattern 1/ Tour 1 /A-B scan / Park 1 / None		
Communication Protocol	Pelco-D, Pelco-P		
Baud Rate	2400bps as default		
Communication	RS485 (+/-) / COC (Control Over Coax)		
Veather Resistance	IP66		
Operation Temperature	$-40^{\circ}\text{F} \sim 140^{\circ}\text{F} (-40^{\circ}\text{C} \sim 60^{\circ}\text{C})$ with included outdoor housing		
nput Voltage	12VDC		
Power Consumption	<15W		
ightning Protection	Transient voltage 6000V		
Dimensions	4.61" x 7.24" x 12.05" (117x184x306mm)		









CONSIDER THESE OTHER GREAT TRANSCENDENT PRODUCTS!



VT-TTAR Series



Transcendent Series 4, 8, and 16 Channel HD-TVI/AHD/960H/IP Digital Video Recorders

FEATURES

- 4, 8, or 16 Channel HD-TVI/AHD/960H BNC Inputs + IP Camera Support
- 1-Channel IP Camera Support (VT-TTAR410 / VT-TTAR810) / 4-Channel IP Camera Support (VT-TTAR1620)
- Simple plug and play, point-to-point connection from camera to DVR
- H.264 Compression
- HDMI, VGA, and BNC (Spot) Video Outputs
- 2-Way Audio
- PTZ Control over RS-485
- 4 Alarm inputs / 1 Alarm Output
- Pentaplex: Live Display / Record / Playback / Backup / Remote Access
- 1 Internal SATA2/SATA3 HDD Slot supporting up to 6TB (VT-TTAR410 / VT-TTAR810) / 2 Internal SATA2/SATA3 HDD Slots supporting up to 12TB (VT-TTAR1620)
- Applications for iOS & Android
- Remote Viewing over the Internet via Web Browser or LAN
- Mac OS® Client & CMS Central Management Software Included
- Supports both Dynamic and Static IP Addresses
- Control locally via USB Mouse or IR Remote control



Local Management, Viewing Interface & Remote Viewing with Web Browsers



Remote Viewing Using Mac OSX



Apps Available for iPhone, iPad, & Android Devices

VITEK LIMITED PRODUCT WARRANTY

VITEK products carry a three (3) year limited warranty. Digital recording and storage products are also warranted for 3 years. * Per a special agreement with Western Digital, as of August 2016, VITEK also warrants factory installed Hard Drives for the full 3 year span of the recorder warranty provided that the recorder was purchased through an authorized VITEK distributor.

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 non-transferable and extends only to the original buyer or end user customer of a Vitek Authorized Reseller.

This warranty shall not apply to repairs or replacements necessitated by any cause beyond the control of VITEK, including but not limited to, acts of nature, improper installation, excess moisture, misuse, lack of proper maintenance, accident, voltage fluctuations, or any unauthorized tampering, repairs or modifications. This warranty becomes VOID in the event of alteration, defacement, or removal of serial numbers.

Within the first 6 months of purchase, VITEK will replace or credit any defective product returned at the request of the customer (subject to availability) with a new product that equals or exceeds the performance of the original product purchased.

Within the first 6 months of purchase, at its sole discretion, VITEK may issue an advance replacement for a defective product; however, all related costs including, but not limited to shipping and/or delivery charges will be the responsibility of the customer. If upon return inspection a product is determined to be in good working order or shows evidence of misuse, the customer will be responsible for full payment of the original product purchased as well as the replacement product.

Beyond the first 6 month period for the remainder of the warranty, VITEK'S responsibility shall be limited to repairing the defective product, including all necessary parts and related labor costs. At its sole discretion, VITEK may choose to either exchange a defective product or issue a merchandise credit towards future product purchases. Any replacement parts furnished in connection with this warranty shall be warranted for a period not to exceed the remaining balance of the original equipment warranty.

A Return Authorization number or "RA" number must be obtained prior to the return of any item for repair, replacement, or credit. VITEK requires that this "RA" number be clearly printed on the outside of the shipping carton to avoid refusal of said shipment. The Return Authorization number expires after 30 days. Products returned after the 30 day period will be subject to refusal. Shipping charges, if any, must be prepaid. A copy of the bill of sale (or invoice of purchase), together with a complete written explanation of the problem must accompany all returns.

Vitek makes no warranty or guarantee whatsoever with respect to products sold or purchased through unauthorized sales channels. Warranty support is available only if product is purchased through a Vitek Authorized Reseller.

*Limited Warranty means that VITEK reserves the right to repair or replace any product found defective within the warranty time period, prorated to the date of original purchase. If VITEK cannot repair the product, VITEK reserves the right to replace it with an equal or better product and grade at VITEK's discretion.

