InFocus

INA-PTZ-4
User Guide

CONTENTS

DECLARATION OF CONFORMITY

FCC 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 the 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. Changes or modifications not expressly approved by InFocus Corporation may void authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

EU

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. Warnung: Dieses ist eine Einrichtung der Klasse A. Diese Einrichtung kann im Wohnbereich Funk-Störungen verursachen; in diesem Fall kann vom Betreiber verlangt werden, angemessene Maßnahmen zu ergreifen und dafür aufzukommen.

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SAFETY

Please read and follow all safety instructions provided below before connecting the camera to a power source. Failure to comply with safety instructions may result in fire, electrical shock, or personal injury and may damage or impair protection provided by the equipment. Please save all safety instructions.

- Disconnect all accessories and cables before moving the camera.
- When moving the camera, do not grasp the camera head.
- Always use the remote to turn the camera head. Do not turn the camera head by hand. Doing so may result in mechanical damage.
- When rotating the camera, ensure that there are no obstacles within the camera's rotation range.
- The supplied power supply is +12V. The maximum electrical current is 2A. Polarity of the power supply plug is as follows:
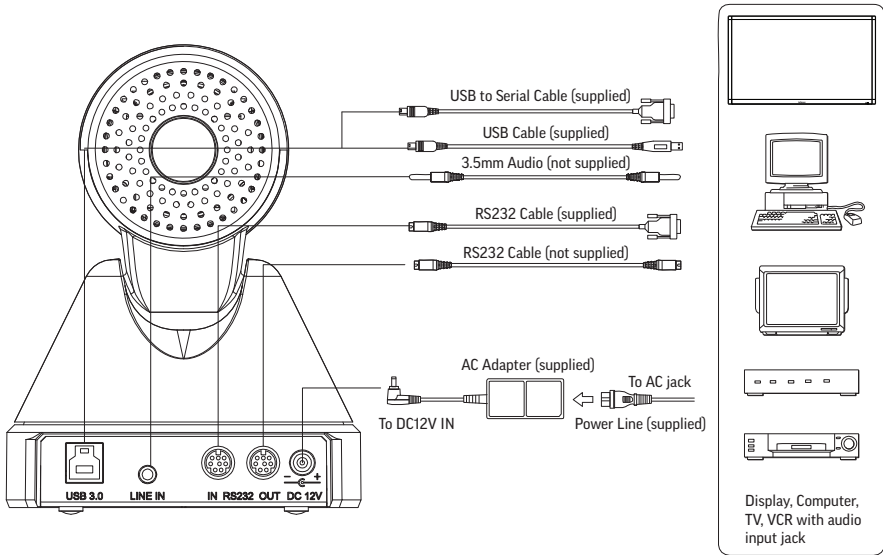

- Refer to this guide for proper startup and shutdown procedures.
- Do not place the camera in direct sunlight, humid, greasy or dusty places or in places where the camera may come into contact with rain, smoke or steam.
- To reduce the risk of fire or electric shock, do not expose this equipment or any component of this equipment to rain or moisture.
- Do not drop the camera.
- Do not spill liquid on the camera. Spilled liquid may damage the camera.
- No naked flame source, such as lighted candles, should be placed on the camera.
- Do not use the camera for long periods of time in extremely bright conditions.
- Do not operate the camera near powerful electromagnetic radiation, such as televisions and radio transmitters. The specific frequency of electromagnetic fields may affect the image of the camera.

- Use the power cord provided. Connect the power cord to a receptacle with a protective safety (earth) ground terminal. A surge-protected power strip is recommended. Do not overload wall outlets.

- Do not install the camera in places subject to mechanical vibration.

- Do not place the camera on an unstable surface, which could result in personal injuries and camera damage. When mounting the camera to a stand, be sure to following the manufacturer's instructions. Use only the mounting hardware recommended by the manufacturer.

- When disconnecting the power cord, hold the plug, not the cord.

- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles and the point where they exit from the camera.

- Unplug the camera if you are not going to use it for an extensive period of time.

- Do not operate the camera outside of the specified temperature, humidity and power ranges.

- Unplug the camera if you need to clean it. Only use a soft dry cloth to clean the camera and camera lens. Never use alcohol, solvents or ammonia-based liquids on this camera.

- Wash hands after handling the cables supplied with this camera.

- The camera remote control uses batteries. Make sure the batteries' polarity (+/-) is aligned correctly. Dispose of used batteries in accordance with local disposal laws.

- Refer all service to qualified service personnel. Do not remove the cover. Servicing your own camera can be dangerous to you and will void the warranty.

- Only use replacement parts specified by InFocus. Unauthorized substitutions may result in fire, electrical shock or injury and may void the warranty.

- Follow these instructions to help ensure image quality over the life of the camera. Failure to follow these instructions may affect the warranty.

WHAT'S INCLUDED

- Camera
- Remote control
- RS232 cable
- Serial to USB cable
- USB 3.0 cable
- AC power adaptor
- Power cords
- User manual

SETUP

USB to Serial Cable (supplied)
USB Cable (supplied)
3.5mm Audio (not supplied)
RS232 Cable (supplied)
RS232 Cable (not supplied)

AC Adapter (supplied)
To AC jack
To DC12V IN
Power Line (supplied)

USB 3.0   LINE IN   IN RS232 OUT DC 12V

Display, Computer, TV, VCR with audio input jack

1) Connect cables as outlined in the above illustration.

2) Connect the power cord to a working electrical outlet. The Power LED turns on.

3) The camera automatically rotates and pans to its maximum position before returning to its default position.

4) Once the camera stops moving, initialization is complete.

5) For serial control setup information, refer to "Serial configuration" on page 21 in the Appendix.

6) Open a video application software which supports UVC protocol, such as WebEx, e-CAMView, Amcap, etc.

7) Use the remote to control the pan, tilt, and zoom of the image, and also to adjust settings, such as brightness, saturation, hue, etc.

USING THE REMOTE

The remote uses two AAA batteries (not included). To install the batteries, remove the back cover and insert the batteries making sure that the batteries polarity (+/-) is aligned correctly.

The range of the remote is 9' - 15' (2.7m - 4.6m) depending on the angle between the remote and the IR receiver on the front of the camera. For best performance, point the remote directly at the IR receiver at a zero degree angle and ensure that nothing is in the IR path.

	Power	Press once to enter standby mode. Press again to enter normal mode.
	Camera Select 1-4	Press to select the camera you wish to control.
	1-9	Use these buttons to recall or set a saved preset position.
	*	Use in combination with the F1-F4 and Preset buttons to set the camera's IR address and/or preset position. Also used for shortcut combinations.
	#	Use in combination with the F1-F4 and Preset buttons to set the camera's IR address and/or preset position. Also used for shortcut combinations.
	F1 - F4	Use to assign a camera to one of the **Camera Select** buttons (1-4). • To assign the camera to the Camera Select 1 button, stand in front of the desired camera and press *** # F1** in sequence. • To assign up to three additional cameras, use the same process using F2, F3, and F4.

	F4	The pause/play feature is not available on this camera.
	Preset	Saves a preset position. • Adjust the camera position, focus, and zoom as you like, and then press **Preset** and a corresponding number to save the settings to that number. • To retrieve a saved preset setting, press the corresponding number.
	Reset	Clear a saved preset position. • To clear a saved preset position, press **Reset** and the numeric button of the saved preset setting you want to clear. • To clear all saved preset settings, press * # and **Reset** in sequence.
	Arrows	Press the arrow buttons to pan and tilt the camera. When the OSD menu is displayed, the up and down arrow buttons are used to select submenus and submenu features, and the right and left arrow buttons are used to adjust the features.
	Home	Press to return the camera to its default position, zoom level, and auto focus. When the OSD main menu is displayed, Home enters the selected submenu.
	Back	When the OSD menu is displayed, press to return to the main menu.
	Menu	Press to enter and exit the menu.

	Zoom Slow	Press the **+** to zoom in or **-** to zoom out slowly.
	Zoom Fast	Press **+** to zoom in or **-** to zoom out quickly.
	L/R Set	Use to set the Pan-Tilt direction. • Press **L/R Set** and **1** simultaneously to set the Pan-Tilt direction to Standard. • Press **L/R Set** and **2** simultaneously to set the Pan-Tilt direction to Reverse.
	Backlight	Press to enable or disable the backlight dimming sensor. Only effective when in auto exposure mode.
	P/T RST	Press to reset the pan and tilt of the camera. (Does not affect focus or zoom.)
	Auto Focus	Press to enable auto focusing.
	Far Focus	Press the **Manual** and then the **Far** button to focus on a far object.
	Near Focus	Press the **Manual** and then the **Near** button to focus on a near object.
	Manual Focus	Press to switch from automatic to manual focus. Press the **Manual** and then the **Far** button to focus on a far object. Press the **Manual** and then the **Near** button to focus on a near object.

Remote shortcut combinations

To activate one of the shortcut actions, press the combination keys in sequence starting from the left.

Shortcut combinations	Actions
* # 1	Changes the defaulted OSD menu language to English.
* # 3	Changes the defaulted OSD menu language to Simplified Chinese.
* # 4	Displays the default IP address.
* # 5	Saves OSD changes.
* # 6	Resets the camera to factory default settings.
* # 8	Displays the camera's firmware version.
* # 9	Inverts the image.

ON-SCREEN DISPLAY (OSD) MENU

1) To access the menu system, press the **Menu** button on the remote.

2) From the main menu, use the up and down arrow buttons to highlight the submenu you wish to view and then press the **Home** button to enter the submenu.

3) To make changes within the submenu, use the up and down arrow buttons to highlight a submenu item and then press the left and right arrow buttons to adjust the settings associated with that item. Changes take immediate effect.

4) To return to the main menu, press the **Back** button.

5) To exit the menu, press the **Menu** button again.

Exposure

Use this submenu to adjust the camera's exposure. Changing the mode affects the other menu items.

Submenu items	Definitions
Mode	Changes the exposure mode. Options: Auto, Manual, SAE, AAE, Bright.
ExpCompMode	Changes the exposure compensation mode when the Mode is set to Auto. Options: On, Off.
ExpComp	Changes the exposure compensation value when ExpCompMode is set to On. Range : -7 to +7.
Backlight	Enables or disables backlight compensation when Mode is set to Auto. Options: On, Off.
Gain Limit	Adjusts the maximum gain limit. Only available when Mode is set to Auto, AAE, or Bright. Range: 0 - 15.
Bright	Adjusts intensity when Mode is set to Bright. Range: 0 - 17.
Iris	Changes the aperture value when Mode is set to Manual or AAE. Options: F1.8, F2.0, F2.4, F2.8, F3.4, F4.0, F4.8, F5.6, F6.8, F8.0, F9.6, F11.0.

Shutter	Changes the shutter value when Mode is set to Manual or SAE. Options: 1/30, 1/60, 1/90, 1/100, 1/125, 1/180, 1/250, 1/350, 1/500, 1/725, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/6000, 1/10000.
Anti-Flicker	Adjusts the anti-flicker feature when Mode is set to Auto or Bright. Options: Off, 50Hz, 60Hz
Meter	Adjusts the meter. Options: Average, Center, Bottom, Top.
DRC	Adjusts Dynamic Range Compensation. This is the sensor sensitivity range from the brightest level to the darkest level on one image that can be identified by intensity. The higher level provides more details. Range: 0 - 8.

Color

Use this submenu to adjust the camera's color levels. Changing the mode affects the other menu items.

Submenu items	Definitions
WB Mode	Adjusts the white balance mode. Options: Auto, Indoor, Outdoor, Onepush, Manual.
RG Tuning	Adjusts red gain fine-tuning when AWBsens is set to Low. Range: -10 to +10.
BG Tuning	Adjusts blue gain fine-tuning when AWBsens is set to Low. Range: -10 to +10.
RG	Adjusts red gain when WB Mode is set to Manual. Range: 0-255.
BG	Adjusts blue gain when WB Mode is set to Manual. Range: 0-255.
Saturation	Adjusts the image saturation. Range: 60% - 200%.
Hue	Adjusts the chroma adjustment. Range: 0 - 14.
AWB Sens	Adjusts the white balance sensitivity. Options: Normal, High, Low.

Image

Use this submenu to adjust the camera's image.

Submenu items	Definitions
Luminance	Adjusts the image brightness. Range: 0 - 14.
Contrast	Adjusts the image contrast. Range: 0 - 14.
Sharpness	Adjusts the image sharpness. Range: 0 - 15, plus Auto.
Flip-H	Flips the image horizontally. Options: On, Off.
Flip-V	Flips the image vertically. Options: On, Off.
B&W-Mode	Changes the camera color mode from color to black and white. Options: On, Off.
Gamma	Adjusts the image gamma. Options: Default, 0.45, 0.5, 0.56, 0.63.
Style	Adjusts the preset image setting styles. Options: Norm, Clarity, Bright, Soft, 5S, Q Style.

Pan/Tilt/Zoom (P/T/Z)

Use this submenu to adjust the camera's pan, tilt, and zoom settings.

Submenu items	Definitions
SpeedByZoom	When ON, the zoom speed rate changes relative to the position you are at when zooming in or out. The zoom speed rate slows down as you near the point of maximum zoom, and it speeds up as you zoom out. When OFF, the zoom speed rate is consistent whether zooming in or out. Options: On, Off
AF-Zone	Sets the auto focus focal point. Options: Top, Center, Bottom.
AF-Sense	Adjusts the automatic focusing sensitivity. Options: Low, Normal, High
L/R Set	Adjusts the lens panning direction. Options: STD, REV.
Display Info	Enables display on-screen messages. Options: On, Off.
Image Freeze	This feature does not work on this camera.

Noise reduction

Use this submenu to adjust the image noise reduction.

Submenu items	Definitions
NR2D-Level	2D noise reduction. Options: Off, Auto, 1 - 5.
NR3D-Level	3D noise reduction. Options: Off, 1 - 8.
D-HotPixel	Enables and sets the sensitivity level of the dynamic dead pixel detection feature. Options: Off, 1 - 5.

Setup

Use this submenu to Selects the OSD default language, digital interface mode, and video format.

Submenu items	Definitions
Language	Selects the OSD menu language. Options: English, Simplified Chinese, Russian.
DVIMode	Selects the digital interface mode. Options: DVI, HDMI
Video Format	Selects the video format. Options: 1080P60, 1080P50, 720P60, 720P50, 1080P30, 1080P25, 720P30, 720P25

Communication setup

Use this submenu to set up serial communication.

Submenu items	Definitions
Protocol	Selects the protocol type to be used for serial communication. Options: AUTO, VISCA, PELCO-D, PELCO-P.
V_Address	Defines the appropriate protocol address when Protocol is set to AUTO or VISCA. Options: 1 - 7.
V_AddrFix	Locks the address assigned in the V_Address setting. Options: On, Off.
Net Mode	Selects the serial port control networking mode. Options: Serial, Paral.
P_D_Address	Defines the appropriate protocol address when Protocol is set to PELCO-D. Range: 0 - 254.
PCP_Address	Defines the appropriate protocol address when Protocol is set to PELCO-P. Range: 0 - 31.
Baudrate	Selects the baud rate to be used. Options: 2400, 4800, 9600.

Restore default

Use this submenu to restore the camera back to factory default settings.

Submenu items	Definitions
Restore?	Restores the camera to factory default settings, including the IR remote address and VISCA address. Note: Press the **Home** button to confirm. Options: Yes, No.

MAINTENANCE

Unplug the camera if you need to clean it. Only use a soft dry cloth to clean the camera and camera lens. Never use alcohol, solvents or ammonia-based liquids on this camera.

TROUBLESHOOTING

Symptom	Possible Solutions
No power	• Verify the power cord is properly connected to the power adapter and to the power outlet. • Verify that the power adapter is connected properly to the power cord and to the camera. • Plug another electrical device to the power outlet to verify that the outlet is supplying the proper voltage.
No image	• Verify that the video cable is connected correctly between the camera and the display. • Make sure that the video application supports UVC protocol. • Verify that the video application is using the HDMI camera.
Abnormal image	• Disconnect and reconnect the cable between the camera and the display. • Restart the display application on the display. • Perform a factory reset (See "Restore default" on page 15).
Image is vibrating	• Adjust the zoom. • Verify that the camera is on a stable surface. • Turn off or remove any nearby objects that are vibrating. • Verify that the lighting conditions are stable.

Symptom	Possible Solutions
Remote control not working	• Verify that the camera is turned on (The Power LED should be lit). • Make sure the batteries are installed in the proper orientation and are not dead. • Replace the batteries. • Verify you are pointing the remote at the camera and are within 15' (4.6m) of the sensor. For best performance, point the remote directly at the IR receiver at a zero degree angle and ensure that nothing is in the IR path.
RS232 serial command not working	• Verify that the camera is turned on (The Power LED should be lit). • Verify that the RS232 cable is connected correctly.
The menu is displaying backwards	• The menu orientation is controlled by the video application software you are using. Skype, among others, is known to display the menu backwards. Use a different video application software.
The menu is in a different language.	• Use one of the remote shortcuts to change the menu language to English or Simplified Chinese. See "Remote shortcut combinations" on page 10 for more information.

SPECIFICATIONS

Camera	
Video system	1080p/60, 1080p/50, 1080p/30, 1080p/25, 720p/60, 720p/50, 720p/30, 720p/25
Sensor	1/2.7", CMOS, Effective Pixel: 2.07M
Scanning mode	Progressive
Lens	12x, f3.5mm ~ 42.3mm, F1.8 ~ F2.8
Digital zoom	32x (optional)
Minimal illumination	0.5 Lux @ (F1.8, AGC ON)
Shutter	1/30s ~ 1/10000s
White balance	Auto, Indoor, Outdoor, One Push, Manual
Backlight compensation	Supported feature
Digital noise reduction	2D&3D Digital Noise Reduction
Video signal to noise ratio	≥55dB
Angle of view	72.5° ~ 6.9° horz; 44.8° ~ 3.9° vert
Rotation range	±170° horz; -30° ~ +30° vert
Pan speed	1.7° ~ 100°/s
Tilt speed	1.7° ~ 69.9°/s
Horz/Vert flip	Supported feature
Available number of presets	255
Preset accuracy	0.1°
USB Features	
Supported operating system	Windows XP, Windows Vista, Windows 7, Windows 8, Mac OS X, Linux
Color system/ compression	YUV 4:2:2 / H.264 / MJPEG

Supported video formats	USB3.0: 1080p/60, 1080p/50, 1080p/30, 1080p/25, 720p/60, 720p/50, 720p/30, 720p/25USB2.0: 1080p/30, 1080p/25, 1080p/15, 1080p/10, 720p/30, 720p/25, 960x540p/30, 960x540p/25, 640x360p/60, 640x360p/50
Audio on USB	Supported feature
USB video communication protocol	UVC 1.0 ~ UVC 1.5
UVC PTZ	Supported feature
Inputs/Outputs	
USB interface	1 x USB3.0: Type B female jack
Audio interface	1-ch: 3.5mm Audio Interface, Line In
Communication Interface	1xRS232 In: 8pin Min DIN, Max Distance: 30m, Protocol: VISCA/Pelco-D/Pelco-P
	1xRS232 Out: 8pin Min DIN, Max Distance: 30m, Protocol: VISCA network use only
	1xRS485: Share with RS232 Out, Max Distance: 1200m, Protocol: VISCA/Pelco-D/Pelco-P
Power jack	JEITA type (DC IN 12V)
Generic specifications	
Input voltage	DC 12V
Current consumption	1.0A (Max)
Operating temperature	-10°C ~ 40°C (14°F ~ 104°F)
Storage temperature	-40°C ~ 60°C (-40°F ~ 140°F)
Power Consumption	12W (Max)
MTBF	>30000h
Size	5.1 x 4.65 x 6.15" (128.5 x 118 x 156.2mm)
Net weight	2 lbs. (0.91 Kg)

InFocus reserves the right to alter product offerings and specifications at any time without notice.

APPENDIX

Camera dimensional drawings

Serial configuration

The camera uses the serial standard VISCA/Pelco-D/Pelco-P and is able to be controlled via RS232 or RS485 using a VISCA controller that has a RS232C serial interface.
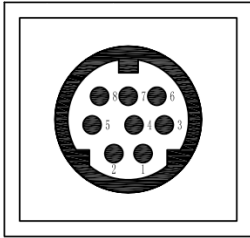
RS232C parameters are as follows:

- Baud rate: 2400/4800/9600 bit/s.
- Start bit: 1 bit.
- Data bit: 8 bits.
- Stop bit: 1bit.
- Parity bit: none.

RS485 parameters (half-duplex mode) are as follows:

- Baud rate: 2400/4800/9600 bit/s.
- Start bit: 1 bit.
- Data bit: 8 bits.
- Stop bit: 1bit.
- Parity bit: none.

Note: When the camera is powered on, it goes through an initialization sequence. Once the initialization sequence is finished, users can control the camera using serial command codes. To obtain a detailed command list for the VISCA/Pelco-D/Pelco-P device, please contact the manufacturer directly.

RS232 cable map

Function	PIN location		
	Camera	Windows DB9	Mini DIN
DTR	1	6	2
DSR	2	4	1
TXD	3	2	5
GND	4	5	4
RXD	5	3	3
GND	6		
IR OUT	7		
NC	8		