PTZOptics Move 4K

Product Manual

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Move 4K Quick Start Guide

Setting up your PTZOptics camera is fast and easy with the setup cards below. Each card provides clear, step-by-step instructions to help you connect, configure, and power your camera in minutes. Simply follow the cards in order to get your camera up and running.

POWER

STREAMING

NETWORKING

PRESETS

Part Numbers

PTxxx-4K-xx-G3

Color	Optical Lens Zoom Level	Part Number
Gray	12X	PT12X-4K-GY-G3
Gray	20X	PT20X-4K-GY-G3
Gray	30X	PT30X-4K-GY-G3
White	12X	PT12X-4K-WH-G3
White	20X	PT20X-4K-WH-G3
White	30X	PT30X-4K-WH-G3
Red	20X	PT20X-4K-RD-G3

Packing List

- Move 4K Camera
- AC Power Supply
- USB A-A Cable
- RS-232C Cable
- Quick Start Guide
- IR Remote
- 2 AAA Batteries
- Lens Cap

Features

Hive Linked: The Move 4K is Hive Linked. After a quick initial connection to the PTZOptics Hive, users can connect the Move 4K camera through a web browser from anywhere in the world.

Auto-Tracking with Extended Options: The camera automatically follows a person in motion. The extended options include selecting where the camera will pick up the target and the ability to choose from multiple targets on the fly.

- Presenter Lock Mode: Determine how you want the camera to select it's tracking subject.
  - Select Target: The camera will track the subject you select. You can change the subject at any time.
  - Multi-Target Select: The camera highlights all the subjects it detects in its field of view. You can select any of those subjects for the camera to track. You can change the subject at any time.
  - Debug: Debug will display a bounding box over all targets in view while tracking is enabled. This is often used to troubleshoot the scene to remove false-positives.
- Horizontal & Vertical Tracking Composition Adjustments
- Numerous Tracking Zoom level Adjustments
- Time Delay: Set a predetermined amount of time to pass before the camera will begin tracking
- Tilt Lock: Lock the camera's tilt movement to prevent the camera from tilting up or down while tracking.

Auto-framing: Lets the camera automatically adjust the frame size according to subjects within its field of view.

Video Templates: Select the best performance IP video streams for your project with easily selectable video templates for NDI and IP streaming.

White Balance Modes: Adjusts the color balance in your images, specifically focusing on the color white. Different lighting conditions can change the color of white, which may alter other colors in the image. White balance modes can help correct for various types of lighting, such as sunlight, shade, tungsten, and fluorescent, so that the white in your image remains true and other colors are displayed accurately.

Exposure Modes: The camera offers several exposure modes to help you determine the correct combination of aperture, shutter speed, and gain to achieve the perfect exposure. Different modes include manual (where you control everything), auto (the camera decides), SAE (where you control the shutter speed and the camera handles the rest), AAE (where you control the aperture and the camera handles the rest), Bright where you set a target brightness level and the camera adjusts all settings to achieve that brightness, and One Push lets the camera automatically adjusts exposure settings based on a single button press. The user can adjust Gain. To

perform a one push exposure adjustment, click the icon next to the exposure mode dropdown with OnePush selected.

On-Camera Firmware Updates: You can update the camera's firmware directly from the camera itself. Firmware is the low-level software that controls the camera's hardware. Being able to update it directly on the camera simplifies the process and ensures you can easily have the latest features and bug fixes.

Profiles: Adapt to different shooting situations quickly using your own custom profiles. For example, you might have one profile for indoor shooting, another for outdoor shooting, and another for low-light conditions. A profile can save settings such as white balance, exposure, and frame rate, among others.

Simple Network Discovery: Trouble-free discovery of any connected PTZOptics camera on your network. PTZOptics cameras can be found by entering http://ptzoptics.local into any web browser. You can then change your camera's IP address or set a custom camera ID. For example, you could set your camera's ID to "mycamera.local". Enter that into a web browser and you're there.

NTP for NDI sync: Network Time Protocol (NTP) is a networking protocol for clock synchronization between computer systems over packet-switched, variable-latency data networks. This can be used to ensure that the timestamps on the Network Device Interface (NDI) streams from your cameras are accurate and synchronized, ensuring that your video streams are in sync with each other and with any other networked devices.

Multicast/Unicast: Data transmission over a network. In multicast, data is sent simultaneously to multiple recipients. In unicast, data is sent from a single sender to a single receiver. Depending on your network setup and the requirements of your video stream. Choose what works for you.

12X, 20X, 30X Optical Zoom Models: 8 million pixel ultra-high resolution 4K telephoto lens in 12X, 20X, or 30X optical zoom.

4K Ultra HD: Next-generation SONY UHD CMOS sensor for shooting crystal clear 4K video at 60 FPS, with the flexibility to switch to numerous other resolutions and frame rates.

HDMI 2.0: HDMI 2.0 can directly output 4K uncompressed digital video.

Low Light: An ultra-high SNR (Signal-to-Noise Ratio) can reduce image noise in low-light conditions. Meaning you see what matters, and your image isn't polluted with digital noise.

3D Noise Reduction: Produces a clean, clear image even in low light with a signal-to-noise ratio as high as 55db.

Built-in Gravity Sensor: Built-in automatic image flip function, convenient for installation.

Multiple Interfaces: Supports Simultaneous USB 2.0, HDMI 2.0 / 3G-SDI / IP streaming (SRT, RTSP, RTMP) (HDMI & SDI are not simultaneous) **Multiple Control Options:** Controllable via IR remote, network connection, RS-232, RS-485, and the USB port.

Tally Light: Features a built-in tally light that shines GREEN to indicate when the camera is in preview mode. The light shines RED when the camera is on-air. The tally light illuminates when it’s being used with NDI-compatible video mixing software.

Super Zoom:

Doubles the total zoom range of the camera by applying a 2× digital magnification to the 4K sensor before entering the optical zoom providing a smoother zoom transition. With the magnification effectively doubled while using Super Zoom, the camera's image resolution is set to 1080p.

Effective Super Zoom ranges:

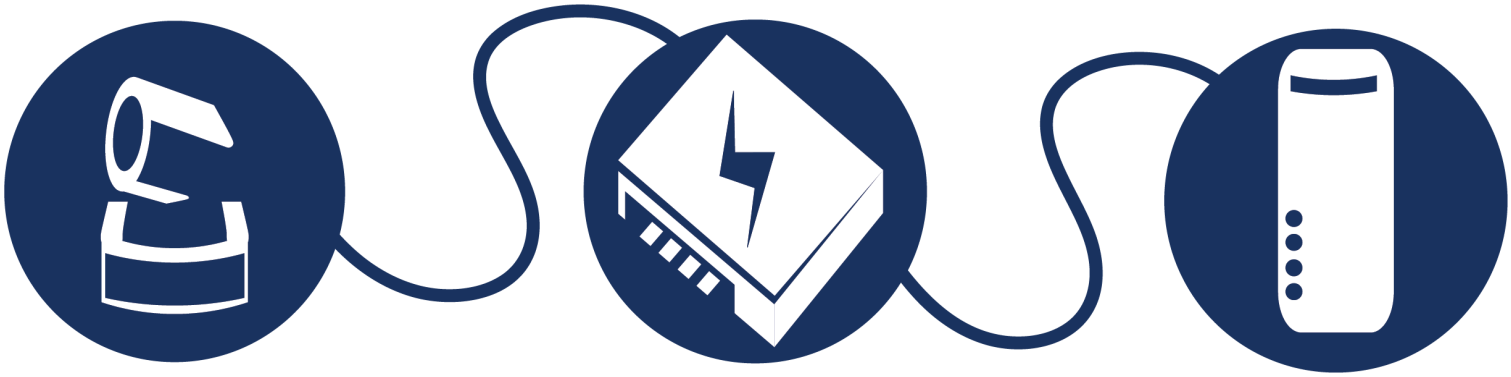
- 12X Optical → 24X Total Zoom
- 20X Optical → 40X Total Zoom
- 30X Optical → 60X Total Zoom

Power

The **Move 4K** can be powered using the included **power supply** or **Power over Ethernet**. Please make sure all connections are secure when using either method.

When the camera is turned on, it will perform a short startup sequence going through its full range of motion.

> **NOTE**
>
> Power over Ethernet, or PoE, provides power and network connection. To power your camera over Ethernet, you will need a PoE source that supports PoE+ (802.3at). We recommend connecting your camera to the switch for peak performance using Cat 6 cabling or better. See the example of a power over Ethernet connection below.



Camera **Power Over Ethernet Switch** **Computer**

Camera Startup

PTZOptics cameras perform a short startup sequence going through their full range of motion when powered on. **(Stationary cameras or box cameras will also perform a startup sequence, going through their full zoom range.)**

When the sequence is complete, the camera will stop and return to preset 0, as long as you've previously set preset 0, or the Home position.

Device Powering Options

Product	Power Supply	Power Consumption	Power Over Ethernet Type
Move 4K	JEITA type (DC IN 12V)	Max 2.0A	PoE+ (802.3at)
Move SE	JEITA type (DC IN 12V)	Max 2.0A	PoE (802.3af)
Link 4K	JEITA type (DC IN 12V)	Max 2.0A	PoE+ (802.3at)
Studio Pro	JEITA type (DC IN 12V)	Max 2.0A	PoE (802.3af)
Studio 4K	JEITA type (DC IN 12V)	Max 2.0A	PoE (802.3at)
Studio SE	JEITA type (DC IN 12V)	Max 2.0A	PoE (802.3at)
SimplTrack3	JEITA type (DC IN 12V)	Max 1.0A	PoE (802.3af)
PT-SUPERJOY-G1	JEITA type (DC IN 12V)	Max 0.5A	PoE (802.3af)
PT-JOY-G4	JEITA type (DC IN 12V)	Max 0.5A	PoE (802.3af)

Connections

Move 4K Connection List

1. 3.5mm Audio Input
2. 3.5mm Audio Output
3. Resolution Dial
4. RS-485 Interface
5. RS-232 Input
6. RS-232 Output
7. DC 12V Power
8. NDI HX LAN
9. USB 2.0
10. 3G-SDI
11. HDMI 2.0 Output
12. Restore Button

Serial Connection Guide

Serial refers to the RS-232 and RS-485 connections from the camera to a joystick controller using the same connection.

RS-232 Overview

This uses an 8 Pin Mini-Din connector.

No.	Function
1.	DTR
2.	DSR
3.	TXD
4.	GND
5.	RXD
6.	GND
7.	IR Out
8.	NC

Initial Connection

Camera	Windows DB-9	Connection Direction
1. DTR	CD	Camera DTR to Windows DTR & CD to none
2. DSR	RXD	Windows TDX to Camera DSR
3. TXD	TXD	Camera TDX to Windows RXD
4. GND	DTR	Camera GND to Windows GND

Camera	Windows DB-9	Connection Direction
5. RXD	GND	Two way from Camera RXD to Windows TDX
6. Unused	DSR	None
7. Unused	Unused	None
8. Unused	Unused	None
9. Unused	Unused	None

Daisy Chain Control Connection

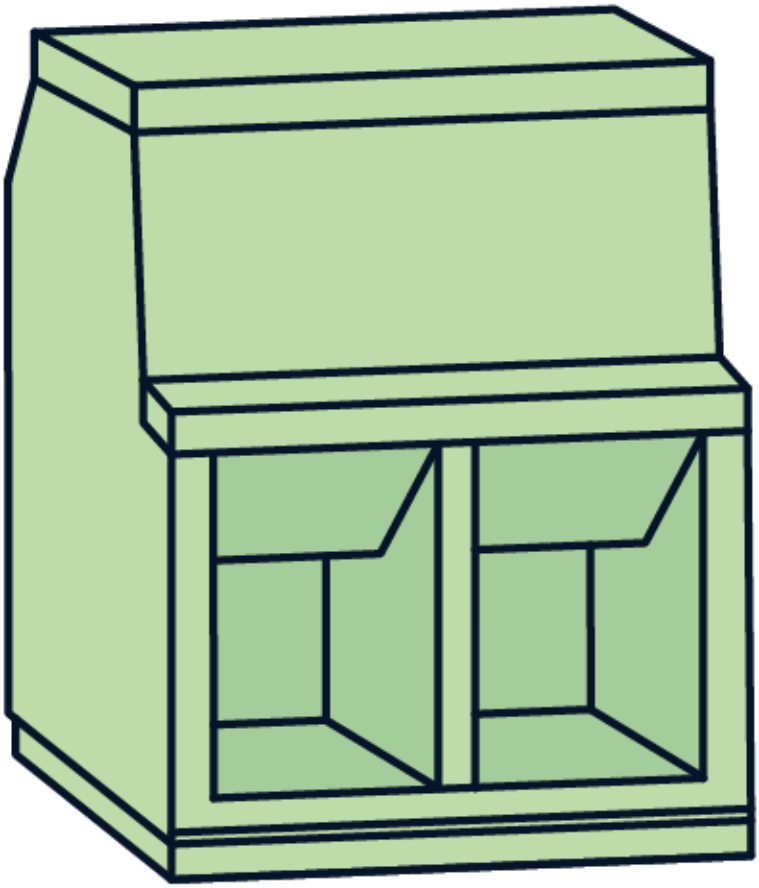
Camera	Mini DIN	Connection Direction
1. DTR	DTR	Camera DTR to Windows DSR & CD to none
2. DSR	DSR	Windows DTR to Camera DSR
3. TXD	TXD	Camera TDX to Windows RXD
4. GND	GND	Two way from Camera GND to Windows GND
5. RXD	RXD	Windows TDX to Camera RXD
6. Unused	Unused	None
7. Unused	Unused	None
8. Unused	Unused	None

RS-232 Parameters

- **Baud Rate:** 2400, 4800, 9600 or 38400 bps
- **Start Bit:** 1 bit
- **Data Bit:** 8 bits
- **Stop Bit:** 1 bit

- **Parity Bit:** None

RS-485 Overview



The left phoenix connector port is Positive (+)The right phoenix connector port is Negative (-).

The camera can be controlled via RS-485, Half-duplex mode, with support for VISCA, Pelco-D, or Pelco-P protocol.

RS-485 Parameters

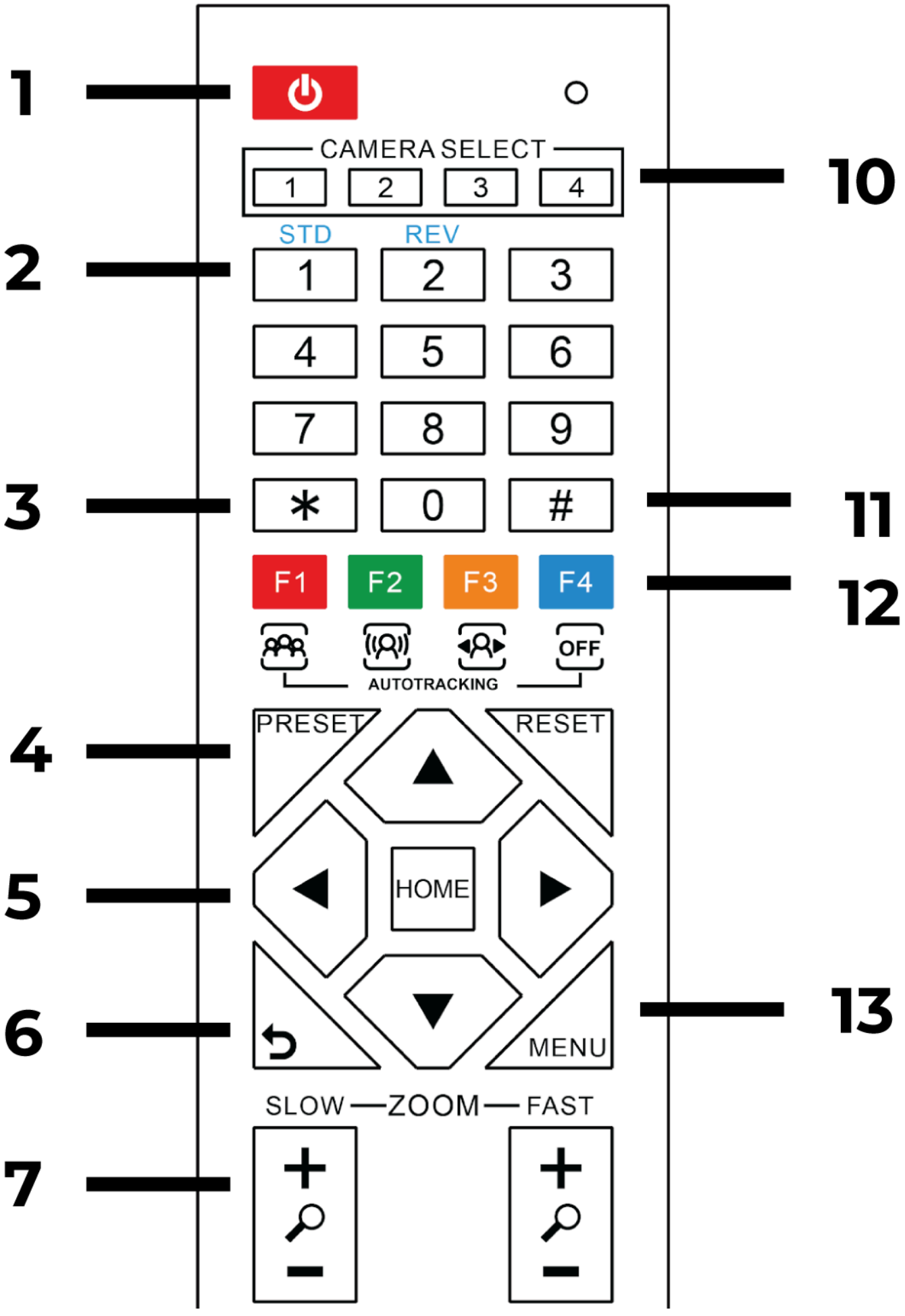
- **Baud rate:** 2400/4800/9600/38400;
- **Starting position:** 1 bit
- **Data bit:** 8 bits
- **Stop bit:** 1 bit

- **Check digit:** None

> **NOTE**
>
> To utilize an RS-485 connection, you will need an unterminated two-conductor cable

1. Connect the positive (red) wire to the camera’s positive phoenix connector port (left).
2. Connect the negative (black) wire to the camera’s negative phoenix connector port (right).
3. Connect the positive and negative wires to the positive and negative ports on your joystick controller.
    - To connect multiple cameras, you have the option to connect via daisy-chain or home run.
4. In either method, multiple wires will be connected to a single phoenix connector port

IR Remote


1
2
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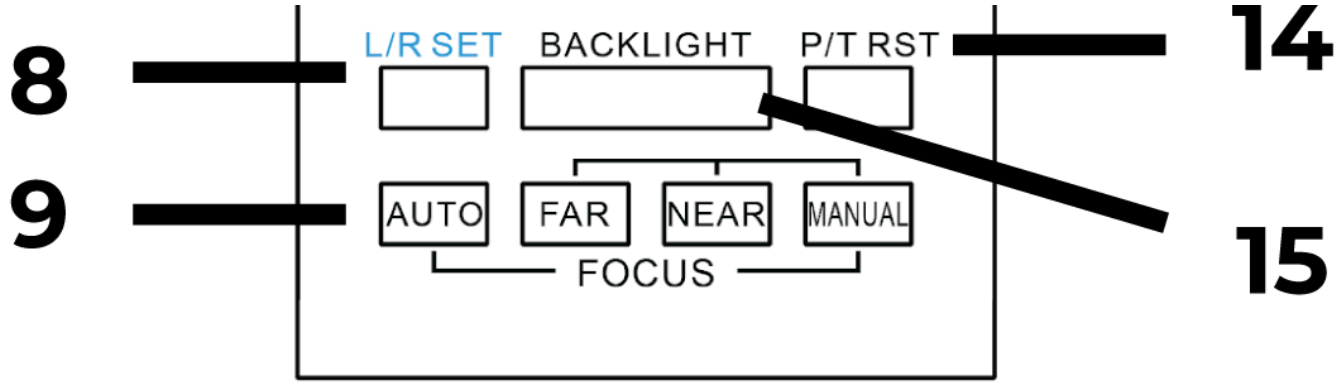
10
11
12
13
CAMERA SELECT
1
2
3
4
STD
REV
1
2
3
4
5
6
7
8
9
*
0
#
F1
F2
F3
F4
OFF
AUTOTRACKING
PRESET
RESET
HOME
MENU
SLOW
ZOOM
FAST



PTZOptics IR Remote Button Descriptions

1. **Standby Button** Press this button to enter standby mode. Press it again to enter normal mode.

> **INFO**
>
> Power consumption in standby mode is approximately half of the normal mode.

2. **Number Keys** Press to set or call preset camera position or input a number.

3. **Star Sign Button** Used predominantly when calling shortcuts.

4. **Set / Clear Presets** To Set a Preset (save a camera position and image settings), press **[PRESET]** + any number zero through nine. To Clear a Preset (erase a camera position), press **[RESET]** + any number zero through nine. To erase all presets, press **[*]** + **[#]** + **[RESET]**

5. **Pan / Tilt Control Buttons** Press the **[LEFT or RIGHT]** arrow to pan. Press the **[UP or DOWN]** arrow to tilt. Press the **[HOME]** button to return the camera to the factory default front facing home position.

6. **Return Button** Press the **[RETURN]** button to go back to a previous menu within the on screen display (OSD).

7. **Zoom Buttons** Press **[+]** to zoom in (Slow and fast speed). Press **[-]** to zoom out (Slow and fast speed).

8. **L / R Set Buttons** Set the Left & Right directional buttons for the remote. Press the following buttons simultaneously. Press **[L/R SET]** + **[1]**: Buttons function normally. Press **[L/R SET]** + **[2]**: Buttons function inverted.

9. **Focus Buttons** Pressing **[AUTO]** tells the camera to focus the image on the center object. Pressing **[Manual]** switches the camera to manual focus mode. Press **[FAR]** to focus on a far object. Press **[NEAR]** to focus on a near object.

10. **Camera Select Buttons** Press **1**, **2**, **3**, or **4** to select the corresponding camera. Cameras must be set to the corresponding IR address to be controlled by the remote. to do this, press **[*]** + **[#]** + **[F1]** for Camera 1, **[F2]** for Camera 2, **[F3]** for Camera 3, and **[F4]** for Camera 4.

11. # **Button** For multiple functions. Typically used when calling shortcuts.

12. **Multi-Function Buttons**

    Function 1: Auto-Tracking Control

    - **[F1]**: Enable video-based auto-framing (Non-functional)
    - **[F2]**: Enable audio-based auto-tracking (Non-functional)
    - **[F3]**: Enable video-based auto-tracking
    - **[F4]**: Disable auto-tracking

    Function 2: For setting camera IR address. Press these 3 keys one after another to set the camera IR address as follows:

    - **[*]** > **[#]** > **[F1]**: Address 1
    - **[*]** > **[#]** > **[F2]**: Address 2
    - **[*]** > **[#]** > **[F3]**: Address 3
    - **[*]** > **[#]** > **[F4]**: Address 4

    Function 4: Image Freeze

    - **[#]** > **[*]** > **[F4]**: Freeze the video feed. Repeat to unfreeze.

13. **Menu Button** Press **[MENU]** to open the camera's On Screen Menu (OSD). Press **[MENU]** again to close the OSD.

14. **P / T RST Button** Perform camera self-calibrate pan and tilt movement.

15. **Backlight Button** Use to enable or disable backlight compensation. Note: Only effective in auto exposure mode. Note: If there is light behind the subject, they may appear darker. In this case, use Backlight Compensation to enhance image.

> **NOTE**
>
> Although this remote can be used to control both PTZOptics Pan Tilt Zoom cameras and PTZOptics Studio Cams, the **P / T RST Button** will not self-calibrate Studio Cams.

OSD

Main Menu

Press the **[Menu]** button to display the OSD (On Screen Display) Menu. Use the arrow keys to navigate the OSD menu, the **[Home]** button to make selections, and the **[Return]** button to go back.

Opening the On-Screen Display, provides the list of sub-menus seen below.

1. Exposure
2. Color
3. Image
4. P / T / Z
5. Noise Reduction
6. Setup
7. Communication Setup
8. Restore Defaults
9. Privacy Mode

Exposure Menu

The following settings can be adjusted from the Exposure menu:

Exposure Mode	
Options	Auto, Manual, SAE, AAE, Bright, OnePush
Default	Auto

Exposure Modes Explained

- **Auto:** The camera automatically adjusts Iris, Shutter, and Gain to achieve optimal exposure.
- **Manual:** The user manually sets Iris, Shutter, Gain, and Dynamic Range Control (DRC) for precise exposure control.

- **SAE (Shutter Automatic Exposure):** The user manually sets Shutter, Gain Limit, Meter Region, and DRC while the camera automatically adjusts Iris for optimal exposure.
- **AAE (Aperture Automatic Exposure):** The user manually sets Iris, Gain Limit, Anti-Flicker, Meter Region, and Dynamic Range Control (DRC) while the camera automatically adjusts Shutter for optimal exposure.
- **Bright :** The user manually sets Bright (Brightness) Gain Limit, Anti-Flicker, Meter Region, and Dynamic Range Control (DRC) while the camera automatically adjusts Iris and Shutter for optimal exposure in low-light conditions.
- **OnePush :** The camera automatically adjusts exposure settings based on a single button press. The user can adjust Gain. To perform a one push exposure adjustment, click the icon next to the exposure mode dropdown with OnePush selected.

Additional Exposure Settings

Exp-Comp	
Options	-7 ~ +7
Default	-3
Note	*Available only while ExpCompMode is On.*

Backlight	
Options	On, Off
Default	Off
Note	*Available only in Full Auto mode.*

Bright	
Options	0 ~ 17
Note	*Available only in AAE, Bright mode.*

Gain Limit	
Options	0 ~ 15
Default	5
Note	*Available only in Full Auto, AAE, Bright mode.*

Anti-Flicker	
Options	Off, 50Hz, 60Hz
Default	60Hz
Note	*Available only in Full Auto, AAE, Bright mode.*

Iris	
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, Close
Note	*Available only in Manual, AAE mode.*

Meter	
Options	Average, Center, Smart, Top
Default	Average
Note	*Available only in Full Auto, SAE, AAE, & Bright.*

Shutter	
Options	1/30, 1/60, 1/90, 1/100, 1/125, 1/180, 1/250, 1/350, 1/500, 1/750, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/6000, 1/10000
Note	*Available only in Manual, SAE mode.*

Gain	
Options	0 ~ 7
Note	*Available only in Manual mode.*

DRC	
Options	0 ~ 8
Default	3

Color Menu

The following settings can be adjusted from the Color menu:

WB (White Balance) Mode	
Options	Auto, Indoor, Outdoor, One Push, Manual, VAR
Default	Auto

White Balance Modes Explained

- **Auto:** The camera automatically adjusts white balance based on the lighting conditions.
- **Indoor:** Optimized for indoor lighting conditions, typically around 3200K.
- **Outdoor:** Optimized for outdoor lighting conditions, typically around 5600K.
- **Manual:** The user manually sets Red Gain and Blue Gain for precise white balance control.
- **One Push:** The camera automatically adjusts white balance based on a single button press. Users can manually adjust red and blue gain. To perform a one push white balance adjustment, click the icon next to the WB Mode dropdown with One Push selected.
- **VAR:** The user manually sets Color Temperature, Red Gain, and Blue Gain for precise white balance control.

Additional Color Settings

R Gain	
Options	0 ~ 255
Default	-2
Note	*Available only in Manual modes.*

B Gain	
Options	0 ~ 255
Default	3
Note	*Available only in Manual modes.*

Color Temp	
Options	2500K ~ 8000K
Note	*Available only in VAR mode.*

RG Tuning	
Options	-10 ~ +10
Note	*Available only in Auto, One Push, and VAR mode.*

BG Tuning	
Options	-10 ~ +10
Note	*Available only in Auto, One Push, and VAR mode.*

Saturation	
Options	20% ~ 200%
Default	90%

Hue	
Options	0 ~ 14
Default	8

Image Menu

The following settings can be adjusted from the Image menu:

Luminance	
Options	0 ~ 14
Default	8

Contrast	
Options	0 ~ 14
Default	9

Sharpness	
Options	Auto, 0 ~ 11
Default	9

Flip-H	
Options	On, Off
Default	Off

Flip-V	
Options	On, Off
Default	Off

B&W Mode	
Options	On, Off
Default	Off

Style	
Options	Default, Norm, Bright, PC
Default	Default

P / T / Z (Pan Tilt Zoom) Menu

The following settings can be adjusted from the P / T / Z menu:

SpeedByZoom	
Options	On, Off
Default	On

AF (Auto-Focus) Zone	
Options	Front, Top, Center, Bottom
Default	Center

AF (Auto-Focus) Sense	
Options	High, Normal, Low
Default	Normal

L/R Set	
Options	STD, REV
Default	STD

Preset Freeze	
Options	On, Off
Default	Off

Zoom Mode	
Options	Digital, Optical, SuperZoom
Default	Optical
Note	***SuperZoom*** *effectively doubles the camera's optical zoom while halving the resolution. For example, a 20X 4K camera using SuperZoom becomes a 40X 1080p camera. Panning, Tilting, or Zooming the camera in while using SuperZoom does not cause resolution degradation beyond the initial halving cost.* ***Digital Zoom*** *differs in that it*

Zoom Mode	
	degrades resolution progressively as you digitally zoom in.

Magnification	
Options	Off, 2x, 4x, 8x, 16x
Default	Off

Call Preset Speed	
Options	1 ~ 24
Default	12

Pre Zoom Speed	
Options	0 ~ 7
Default	5

Noise Reduction Menu

Adjusts the levels of digital noise reduction.

NR3D (3D Noise Reduction)	
Options	0 ~ 15
Default	7

Setup Menu

The following settings can be adjusted from the Setup menu:

Language	
Options	English, Chinese
Default	English

Auto Focus L	
Options	Off, On
Default	Off

OSD TimeOut	
Options	Off, 2.5min
Default	Off

Motion Sync	
Options	Off, On
Default	Off
Note	*While toggled on users can access the Max Speed setting for motion sync through this menu. This is the speed used for Sync while calling presets. Range: 185 ~ 230 (increments of 5)*

Focus Limit	
Options	Off, On
On Settings	**Furthest Pos:** Define the farthest focus position Options include: INF, 1m ~ 20m. **Nearest Pos:** Define the nearest focus position Options include: INF, 1m ~ 20m

Video Mode	
Options	SDI-3G Mode, Video Output, DVI Mode
SDI-3G Mode	Level-A, Level-B
Video Output	HDMI, SDI
DVI Mode	Define HDMI Data Transfer type: HDMI, DVI

Other	
Options	Auto Inversion, Tally Mode, USB Audio, USB 2.0 Function, Display Info
Auto Inversion	Toggle auto inversion. Options include: Off, On
Tally Mode	Toggle ability to acknowledge Tally Light command. Options include: Off, On
USB Audio	Toggle USB audio embedding. Options include: Off, On
USB 2.0 Function	Define how the USB port is used. Options include: UVC, Host
Display Info	The ability to display OSD message overlays on the video output.

Communication Setup

This menu is used to adjust the camera's control methods and settings.

Protocol	
Options	VISCA, PELCO-D, PELCO-P, Auto
Default	VISCA

V_Address	
Options	1 ~ 7
Default	1

V_AddrFix	
Options	Off, On
Default	Off

Net Mode	
Options	Serial, Parallel
Default	Serial

Baudrate	
Options	2400, 4800, 9600, 38400
Default	9600

P_D_Address	
Options	0 ~ 254
Default	1

P_P_Address	
Options	0 ~ 31
Default	1

Restore Default

This menu is used to restore the camera's factory default settings.

P/T Limit	
Options	Reset, Cancel
Default	Reset
To Reset	*Press the **[Enter]** button to Confirm. Restoring the default settings will return all camera parameters to factory defaults. Press the **[Back]** button to Cancel.*

Privacy Mode

This menu lets you enable or disable Privacy Mode.

Privacy Mode	
Description	*Enable Privacy Mode by pressing the **[Home]** or **[Enter]** button, turning the camera head down and disabling the video feed. Press either button again to disable Privacy Mode.*

Networking

Discovering Your Network

Windows

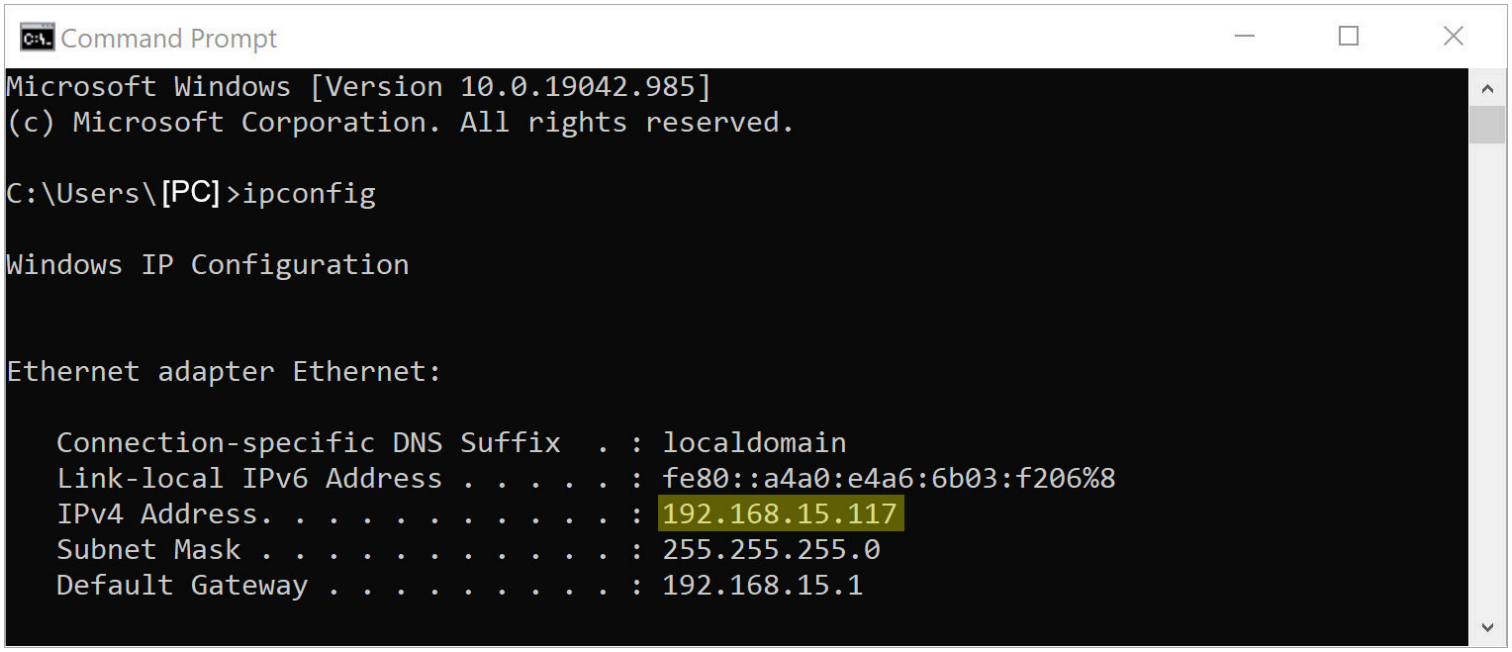
1. Open the Start menu and type “CMD” into the search bar.

2. Once the Command Prompt is open, type in “ipconfig” and press the Enter key.

3. Scroll down to the section titled “Ethernet adapter Ethernet” or “Ethernet adapter Wireless Network Connection”.

4. Locate the “IPv4 Address” in that section. This is your computers local IP address.

5. In the example below, the PC’s local address is “192.168.15.117”, making the network range “192.168.15.xxx”.

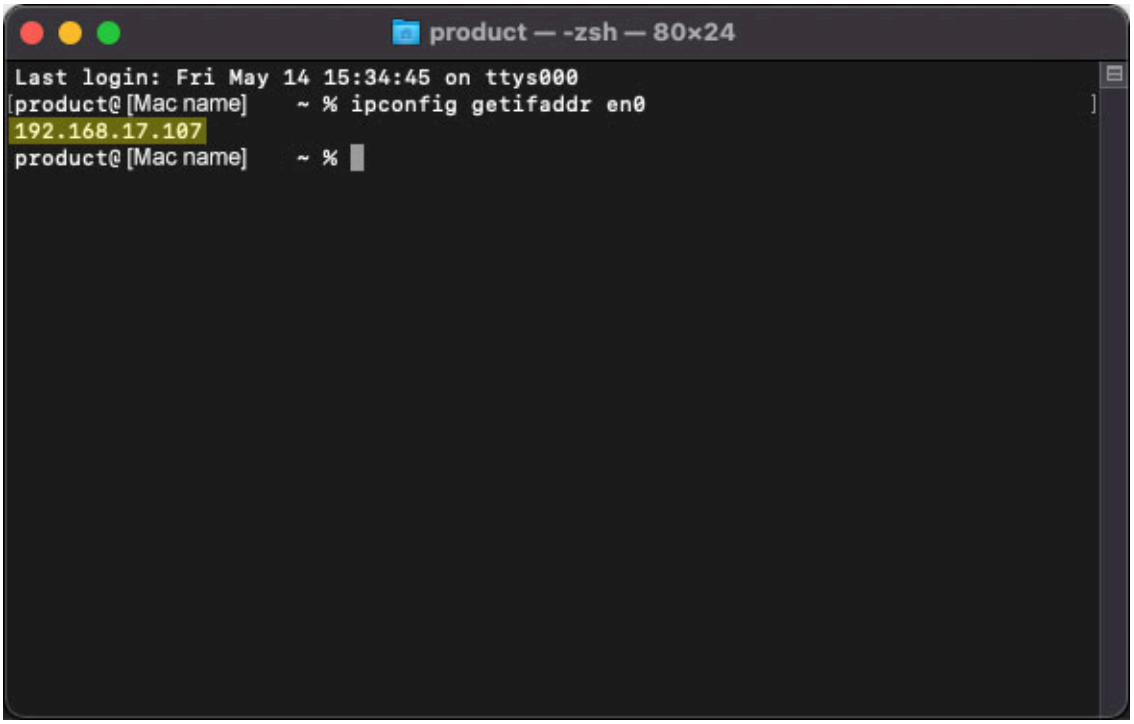


Mac

1. Open a new Finder window and go to the Applications folder.

2. Open the Utilities folder and select the Terminal program.

3. Once the Terminal program is open, type in “ipconfig getifaddr en0” and press the Enter key.



Finding the Camera’s IP Address

Method 1: Use a Internet browser and type in “http:// ptzoptics.local/” to reach the camera’s web interface. You will be prompted to set up a username and password. Once logged in, click on the Network Settings tab to make adjustments to the camera’s network settings.

Method 2: Run an HDMI cable from the camera to a display. Use the IR remote shortcut **[*]** > **[#]** > **[4]** to display the camera’s IP address.

> **NOTE**
>
> If you are setting up multiple cameras, it’s recommended to do so one at a time.

> **TIP**
>
> Assign a unique Device ID to each camera from the Web UI’s Device Info tab. This will allow you to reach each camera’s web interface without needing to memorize an IP address. For example, “http://cameraOne.local” and “http://cameraTwo.local”.

Network Joystick Connection

PTZOptics carries two joysticks, the **PT-SUPERJOY-G1**, and the **PT-JOY-G4**, that can be used to control a camera via a network connection.

Steps

1. Ensure the camera and the PTZOptics IP joystick are connected to the same network.

2. Press the **[SETUP]** button on your joystick, and select option one (1) “Network Device” for IP.

3. Fill in the Network Device field to connect the camera. The fields are as follows:

    - **Channel**: (For SuperJoy users enter 1 ~ 9 in the **Group** field) Joystick Camera Address [CAM ID] Options include 1 - 255.
    - **Protocol Select**
        - **PT-JOY-G4 Protocol Options**:
          VISCA (UDP), VISCA (TCP), Sony VISCA (UDP), ONVIF.
        - **PT-SUPERJOY-G1 Protocol Options**:
          VISCA (UDP), VISCA (TCP), Sony VISCA (UDP), ONVIF. NDI, & Panasonic Control
    - **IP**: Enter the Camera IP Address Here
    - **Ctrl Port**: Enter the camera control port.

4. Once the above fields are filled, press the **[ENTER]** button to save the camera to the controller.

Control Port Numbers

- **UDP** 1259
- **TCP** 5678
- **Sony VISCA Protocol** 52381

> **TIP**
>
> One way to find the camera's control port number is to go to its web user interface.
>
> Type the camera's IP address into a web browser and log in using your credentials.
>
> Click the Control tab, then click the Ports tab below. Here, you can see the available control protocols.

Resetting the Camera's IP Address Using the IR Remote

Press the following buttons in the order shown below:

[*] > **[#]** > **[MANUAL]**

This will resets IP information to default.

> **NOTE**
>
> The default mode is DHCP.

Use one of the following codes with the IR remote to assign a specific IP address to your camera.

Input Sequence	IP Address
[#] > [*] > [#] > [1]	192.168.100.81
[#] > [*] > [#] > [2]	192.168.100.82
[#] > [*] > [#] > [3]	192.168.100.83
[#] > [*] > [#] > [4]	192.168.100.84
[#] > [*] > [#] > [5]	192.168.100.85
[#] > [*] > [#] > [6]	192.168.100.86
[#] > [*] > [#] > [7]	192.168.100.87
[#] > [*] > [#] > [8]	192.168.100.88
[#] > [*] > [#] > [9]	192.168.100.89
[#] > [*] > [#] > [0]	192.168.100.80

Video

Choosing a Resolution & Frame Rate

We recommend setting the resolution and frame rate before getting started. To do this, turn the yellow System Select dial on the back of the camera to the desired setting.

Dial Position	HDMI	Dial Position	SDI
0	1080p 60	0	1080p 60
1	1080p 50	1	1080p 50
2	1080i 60	2	1080i 60
3	1080i 50	3	1080i 50
4	1080p 30	4	1080p 30
5	720p 60	5	720p 60
6	1080p 29.97	6	1080p 29.97
7	1080i 59.94	7	1080i 59.94
8	1080p 59.94	8	1080p 59.94
9	720p 59.94	9	720p 59.94
A	2160p 29.97	A	1080p 29.97
B	2160p 59.94	B	1080p 59.94
C	2160p 25	C	1080p 25

Dial Position	HDMI	Dial Position	SDI
D	2160p 30	D	1080p 30
E	2160p 50	E	1080p 50
F	2160p 60	F	1080p 60

Streaming

NDI® HX3 Connection

The NDI HX3 connection allows you to connect and control the camera through any NDI compatible hardware or software on a Local Area Network. Once the camera is setup on a LAN, you can utilize the NDI HX3 connection.

NDI Setup

1. Download and install the latest NDI Tools from NDI Tools
2. This camera's NDI settings can be configured from the camera's web interface in the NDI settings tab.
3. Select the camera within the NDI compatible device. The NDI feed will utilize the camera's device-friendly name.

> **INFO**
>
> Vizrt NDI®, NDI 4, 5, 6. NDI HX, NDI HX2, and NDI HX3 are all registered trademarks by Vizrt. Please note that your NDI License key is non-transferable.

RTMP Streaming

The Move 4K camera can send two RTMP(S) streams. To use your camera with an RTMP stream, you will need a Stream URL & Stream Key, from a CDN or from the social network to which you want to stream.

Steps

1. Once you have the Stream URL & Stream Key, log into Web UI.
2. Navigate to the Streaming Settings page. In the RTMP(S) Settings section, enter the Stream URL & Stream Key you received from the CDN or social network.
3. Ensure you turn your RTMP stream **"On"** by enabling the appropriate stream, and click the **Apply** button.

RTSP Streaming

The Move 4K camera is able to send an RTSP stream for viewing video through a LAN.

Using VLC or another RTSP enabled video program, type the following string into your network streaming section:

- **Stream 1 (HD)**:
  - rtsp://[IP ADDRESS]:554/1
- **Stream 2 (SD)**:
  - rtsp://[IP ADDRESS]:554/2

If you do not know the IP address of your camera, refer to the Finding the Camera's IP Address section.

Presets

Setting & Calling Presets

The PTZOptics Move 4K, the Move SE, and the Link 4K cameras all utilize the same newly upgraded camera presets system. This section explains how to get the most out of presets and how to properly use them.

Steps

Step 1. Lighting: Before adjusting the camera’s settings and saving presets, it is extremely important that you are satisfied with the lighting in the area you plan to operate the camera.

> **TIP**
>
> The easiest lighting to work with, is often referred to as “flat lighting”, meaning the lighting is as evenly dispersed as possible throughout the scene.

Step 2. Default: We recommend setting all of the camera’s image settings, exposure settings, color settings, and focus settings to default before setting up presets. The default settings can be found in the On-Screen Display section of this menu. To set the camera's image settings to their defaults, use the Restore Default menu in the on-screen display, or set them to default in the camera's Web UI.

> **NOTE**
>
> Saving a preset saves the camera position as well as all the image settings it had at that exact time.
>
> When panning, tilting, and zooming the camera, all image settings will stay set to their last applied saved values unless the camera is in automatic modes such as auto-exposure.

Step 3. Preset Zero: With all the image settings defaulted, the first preset to establish is Preset Zero. This preset, will essentially serve as the baseline reference point.

Follow the steps below to establish preset zero.

1. Zoom the camera all the way out and point it at the center-most location in the scene.

2. Adjust any of the camera’s image settings until satisfied with the look/style of the image.

3. Press [PRESET] then [0] using the IR Remote.

4. Preset zero is now saved.

> **NOTE**
>
> When using a preset as a start location for auto-tracking , the camera will call that preset and utilize the image settings saved to it.
>
> For example, if a preset is saved with an exposure compensation setting of -3, auto-tracking will automatically move to that preset location and set the exposure compensation to -3.
>
> The camera will switch to the settings saved to the preset regardless of the image settings used before auto-tracking is enabled.

Step 4. Standard Presets: These presets can be assigned to any number between 1 and 254.

1. Begin by calling preset zero.

> **TIP**
>
> Its recommended to take a screenshot of preset zero to help color match new presets or camera shots from different cameras.
>
> Its also helpful to pull the camera's video feed into live streaming software such as Vmix or OBS for viewing and comparison. To properly compare image quality, ensure you are using the same monitor or screen.

2. Move the camera into the position intended to save as a preset.

3. Compare the new preset position with preset zero to ensure they match. Most of the time they will not be an exact match, because different areas have different lighting that requires different settings.

4. Make adjustments to the image settings to color match with preset zero.

Step 5. Save the Preset:

Keep the Move 4K family on the current firmware and use the changelog to verify what changed before you update.

UPDATE PATH

Firmware Instructions

Follow the step-by-step upgrade flow for the Move 4K web interface.

Open instructions

RELEASE HISTORY

Firmware Changelog

Open the shared markdown release notes file that the team can extend by prepending new sections.

View changelog

Latest Firmware Files

Move 4K 12X Firmware

Download firmware image

Move 4K 20X Firmware

Download firmware image

Move 4K 30X Firmware

Download firmware image

Instructions

Upgrading Your G3 Camera's Firmware

Steps

- **1.** Login to your camera's web interface by typing in its IP address or .local address. For example http://ptzoptics.local

> **IMPORTANT**
>
> If this is your first time logging in, you will be prompted to create a username and password.

- **2.** Once logged in, go to the **System Settings** page.
- **3.** Click on the **Check Firmware** button. If your firmware is not up to date, you will receive a pop-up notification that says, "Your firmware is out of date!". If it is up to date, the pop-up will read, **"Your firmware is up to date!"
- **4.** If you received the, **"Your firmware is out of date!"** notification, click the **Apply** button.
- **5.** You may be prompted to download multiple files. Click **"Allow"** to download the firmware and changelog files.
- **6.** You may be prompted to approve the download. Click the **Keep** button on the changelog to approve the download.
- **7.** Click the arrow to reveal the Advanced section of System Settings.
- **8.** Click the **Select File** button.
- **9.** Navigate to the Download folder and select the *.img firmware file.
- **10.** Click the **Apply** button to upload the firmware to the camera.
- **11.** A notification will popup informing you the firmware has been uploaded and will take a few minutes to complete. It may take some time for the notification to pop up, so do not attempt to reboot the camera or

exit the page.

- **10.** After 3 ~ 6 minutes, the firmware upgrade process will be complete. Reload the web interface to reveal the new features.
- **11.** Once logged in, press Shift + Ctrl + R to refresh the Web UI without cookies / cache.
- **12.** Navigate to the Device Information Page under Camera Config. The Firmware Version field will show the latest SOC version.

Move 4K Release Notes

Updates on new features, fixes, and known issues for the Move 4K family.

Current Firmware Files

Move 4K 12X Firmware

Download firmware image

Move 4K 20X Firmware

Download firmware image

Move 4K 30X Firmware

Download firmware image

01/12/2026

Move 4K 12X - v0.0.83 | **Move 4K 20X - v0.1.03** | **Move 4K 30X - v2.1.02**

New Features

HIVE Linked Integration

HIVE Linked Enabled: The camera now includes HIVE Linked, allowing users to connect directly to the PTZOptics HIVE platform. This integration unlocks powerful remote management, monitoring, and collaboration capabilities, providing users with centralized access to camera control, status monitoring, and multi-location coordination through the cloud. For more information, visit Hive Studio.

PTZOptics Updater Application

PTZOptics Updater Integration: Added the PTZOptics Updater application, giving users access to the onboard Voice Tracking and early access to beta features such as Horizon. This tool simplifies firmware and feature updates, ensuring users can easily enable the latest innovations directly from their camera interface.

For setup details and instructions on enabling beta features, please reference How to activate Horizon & Voice Tracking.

Video and Audio Enhancements

- NDI 6 Upgrade: Upgraded NDI support from NDI 5 to NDI 6 for improved compatibility, performance, and access to the latest NDI protocol features.
- G711 Audio Encoding: Added support for G711 audio as an available encoding protocol. This improves interoperability with third-party software systems and addresses key compatibility requirements from software developers.
- Super Zoom Feature Replacement: The previously named Hybrid Zoom feature in Video Settings has been replaced with the updated Super Zoom functionality. This improves zoom flexibility and preserves 1080p resolution across the extended zoom range.
- Exposure Mode - Bright Mode: Added a Bright Mode option under Dashboard > Image > Exposure > Exposure Mode.
- One Push Exposure: Added One Push Exposure functionality, allowing the camera to automatically set optimal exposure based on current lighting conditions. Once calibrated, the settings are held, similar to One Push White Balance.
- USB Video Configuration: Added the ability to define the USB video output resolution listed under USB Video Stream.
- Updated Volume Setting Behavior: Input and Output Volume settings now apply immediately without requiring a reboot or clicking Apply.
- Increased Kelvin Scale Precision: Enhanced White Balance control in VAR mode by changing the adjustment increments from 100 to 20 for finer adjustments.
- ONVIF Profile S Certification: The camera fully complies with all ONVIF Profile S requirements and is officially certified.

Automation and Control

- Presenter Lock Mode: The Automation section has been updated to rename Bounding Boxes to Presenter Lock Mode. Information symbols have also been enhanced for clarity.
- Auto-Tracking Delay Behavior: Auto-Tracking now starts instantly after the user-defined Delay Time, eliminating the previous default 4-second delay that was added on top of the configured value.
- Tilt-Lock Option for Auto-Tracking: Added a new Tilt-Lock feature within Auto-Tracking. When enabled, the camera restricts vertical movement and only follows horizontal motion. A dedicated Tilt-Lock option is now present in the Automation section for easier access.
- Tracking Preset Recall: Introduced dedicated preset numbers for toggling tracking. This enables users with serial controllers to manage tracking more easily.

```
Preset 150 = Tracking On
Preset 151 = Tracking Off
```

- Redefined Tracking Compositions: The camera’s tracking composition options have been expanded to provide greater user customization.

```
Horizontal Compositions: Left, Center, Right
Vertical Compositions: Top, Center, Bottom
```

- Auto-Framing Behavior: Adjusted the Auto-Framing feature to zoom in or out based on the number of subjects in the frame instead of defaulting to a maximum zoom-out position.
- Multi-Target Select Visual Enhancements: Improved the visibility and persistence of bounding boxes during Auto-Tracking with Multi-Target Select enabled. Bounding boxes now remain visible during tracking, and identification numbers are larger for better visibility.
- Multi-Target Select - Improved Identification and Reassignment Prevention: Improved bounding-box assignments for each identified subject, providing unique numbering with fewer false identification issues.

UI and System Changes

- USB Port Function: Added a selectable option in Dashboard > Control > USB Mode, allowing users to choose between UVC or Host mode.
- RTSP Stream Info Display: RTSP stream settings are now visible in the web interface and can be copied directly for easier integration with external software.
- NTP Timestamp Overlay: Users can now enable an NTP Timestamp overlay in the Network Settings section. Placement options include Top or Bottom, and Left, Center, or Right. This matches the feature in the Move SE.
- Updated Encoding Protocol Info Symbol: Added a new info icon next to the Encoding Protocol selection in the web UI providing descriptions of each protocol.
- Device Info Button Change: The community.ptzoptics.com button has been replaced with a Need Help? button linking to the same community site.
- ONVIF Authentication Default Enabled: ONVIF authentication is now enabled by default to align with updated security protocols and ensure the ONVIF route is protected out of the box.
- MTU Frames: Added MTU configuration to allow users to adjust the maximum packet size up to 8,000 bytes, with the default set at 1,500.

> **NOTE**
>
> Changing MTU settings can improve performance in properly configured environments but may cause connectivity issues if not supported by all network devices. Only adjust these settings if you understand your network’s capabilities and requirements.

Control and Integrations

- NDI Absolute Positioning: Added compatibility with third-party software (for example, Resolume) using NDI Absolute Position commands.

API Additions

HTTP Movement Status Query

Added a route to allow users to query whether the camera is actively moving. The endpoint returns a boolean response indicating pan, tilt, zoom, or focus motion.

> **NOTE**
>
> This status does not report focus movement when Auto Focus is enabled.

```
GET /api/v1/info/is-moving
```

Example:

```
GET http://192.168.100.88/api/v1/info/is-moving
```

Returns:

```
{
  "isMoving": false
}
```

Bounding Box Data Query

Added the ability to query subject-recognition bounding box data via the API. When subject recognition is enabled, the endpoint returns an array of detected objects with bounding box coordinates and dimensions. When subject recognition is disabled or no subjects are detected, the response returns an empty object list.

```
GET /cgi-bin/param.cgi?get_tally_status
```

Example:

```
GET http://192.168.100.88/cgi-bin/param.cgi?get_tally_status
```

Returns:


```
{
  "status": 200,
  "data": {
    "tally": "Off",
    "standby": "0",
    "privacy": "0",
    "objs": [
      {
        "ID": "1",
        "X": 13,
        "Y": 242,
        "Width": 77,
        "Height": 117
      },
      {
        "ID": "2",
        "X": 79,
        "Y": 221,
        "Width": 64,
        "Height": 138
      }
    ],
    "shoulddraw": "0",
    "target": "2"
  }
}
```


Snapshot Stream 1 and 2

Added support for retrieving snapshots from either stream, providing the option to capture higher-resolution still images.

```
GET http://[ipaddress]/snapshot0.jpg -> Stream 1
GET http://[ipaddress]/snapshot1.jpg -> Stream 2
```

PT Limits Inquiry

Added support for querying the camera's current Pan-Tilt limit settings via HTTP commands. Users can now retrieve the defined coordinates for `panMin`, `panMax`, `tiltMin`, and `tiltMax`, enabling easier configuration

verification and integration with external control systems.

```
GET /api/v1/info/pt-limit
```

Example:

```
GET http://192.168.100.88/api/v1/info/pt-limit
```

Returns:

```
{
  "panMax": 170.0,
  "panMin": -170.0,
  "tiltMax": 90.0,
  "tiltMin": -30.0
}
```

Preset Inquiry

Added a new Preset Inquiry, allowing users to retrieve or confirm the absolute pan, tilt, and zoom coordinates stored for a specific preset without recalling it. This enables precise monitoring and integration with external automation systems.

```
GET /api/v1/info/preset/1
```

Example:

```
GET http://192.168.100.88/api/v1/info/preset/1
```

Returns:

```
{
  "exist": true,
  "focusPos": 1026,
  "panPos": 42.432,
  "tiltPos": -29.239,
  "zoomPos": 3294
}
```

Preset Recall Completion Confirmation

Added the ability to receive a completion response when recalling a preset. When a preset recall command is issued, the camera will execute the movement and hold the request until the preset position is fully reached. Once the camera arrives at the target position, the API will return a confirmation response indicating success.

```
POST /api/v1/action/preset
Body:
{
  "action": "recall",
  "position": <preset number>
}
```

Example:

```
POST http://192.168.100.88/api/v1/action/preset
Body:
{
  "action": "recall",
  "position": 1
}
```

Returns:

```
{
  "msg": "operate success"
}
```

FreeD Interface Overhaul

Dedicated FreeD (BETA) Tab

The FreeD UI has been moved from the Mode section into its own tab under the Control menu, making it easier to access and manage.

Expanded FreeD Command Support

The dropdown menu now includes command types: `D-Stream`, `D-Poll`, `A-Stream`, and `A-Poll`, increasing compatibility with external systems.

Camera ID Configuration

Added a new Camera ID text entry field to define the ID used as the second byte in FreeD hex commands (for example, `D0 01 01 D2`). This ID is essential for proper device targeting and stream control.

Configurable Ports with Updated Defaults

- Data Port: `40000`
- UDP Control Port: `1259` (updated from `19147`)

Expanded FreeD Streaming Parameters

FreeD output now includes `X`, `Y`, `Z` coordinates and Roll, providing a more complete data set for motion tracking and virtual production.

Protocol-Compliant FreeD Hex Message Format

FreeD messages now follow the correct protocol structure to improve standardization and third-party compatibility. Each FreeD command is composed of the following hexadecimal fields, sent in order:

```
D0 - Message Type
CA - Camera ID (user-defined)
CD - Command (00 = Stop Stream, 01 = Start Stream)
CK - Checksum (calculated using 8-bit modulo 256)
```

The following hex command enables the FreeD stream for Camera ID `01` and should be sent via UDP on port `1259`:

```
Example: D0 01 01 D2
Response: Data Streaming on port 40000
D1 01 0C 41 C7 00 3E 38 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 0F D0 00 00 3B
```

Unreal Engine Compatibility

The FreeD checksum and output format have been corrected, enabling operation with Unreal Engine using the LiveLink plugin. For setup, configure the connection to the camera's IP (for example, `0.0.0.0`) to begin receiving positional data.

Bug Fixes

- Pan/Tilt Stop Command Bug: Fixed an issue where the camera intermittently ignored Pan/Tilt Stop commands (`81 01 06 01 vv ww 03 03 FF`) from serial controllers. Control is now consistent and

reliable.

- Time Server & SSL Certificate Issue: The camera now properly manages time-zone data, ensuring SSL certificate auto-renewal works as intended.
- VISCA Standby Inquiry Command Fix: Corrected an issue where the VISCA Standby Inquiry command (`81 09 04 00 FF`) was returning an error response (`90 62 41 FF`) and not functioning as expected. The command now operates correctly, returning (`90 50 03 FF`) when the camera is in Standby mode.

Known Issues

- MTU / Jumbo Frames: Some network switches and routers may not support MTU values above `1,500`, which can result in packet loss or unstable connections.
- Move 4K/Link 4K 30X Focus Limit Functionality: When testing the Focus Limit feature, setting the Furthest Position (for example, `1 m`) does not currently restrict autofocus beyond that point.
- Multi-Target Select - Identification Persistence: When using Auto-Tracking with Multi-Target Select, identification numbers may not consistently stay assigned to the same individual when multiple people are present or cross paths. The Home button does not currently refresh or reassign bounding boxes as described, and a reboot may be required to restore numbering.
- FreeD Stream Activation: While FreeD data output and checksum formatting have been corrected and verified with Unreal Engine's LiveLink plugin, the FreeD stream does not automatically start from the web interface. Users must select the desired stream option in the web interface and manually enable the stream using the hex command (for example, via Packet Sender): `D0 01 01 D2`.
- NDI Send Groups - Web UI Limitation: While comma-separated NDI Group entries are supported via HTTP commands, this functionality is not yet available in the Web UI. Users must configure multiple groups through API or HTTP commands until Web UI support is added in a future update.
- USB Audio Setting Requires Multiple Reboots: When enabling or disabling USB Audio via the Web UI, the selected setting may not apply after the first reboot. Users may need to select the desired USB Audio state and reboot the camera a second time for the change to take effect.
- Pan/Tilt Drift After Preset Recall with Motion Sync Enabled: When Motion Sync is enabled, issuing manual Pan or Tilt commands immediately after recalling a preset may cause the camera to briefly overshoot the target position and drift before settling at the correct location.

02/27/2025

Move 4K 12X - v0.0.58 | Move 4K 20X - v0.0.85 | Move 4K 30X - v2.0.64

New Features and Bug Fixes

- Enhanced Tracking Algorithm: Improved the overall tracking algorithm for better accuracy and performance.
- Reorganized Audio Section: Organized the audio section for improved usability.
- Improved network security. Guest Login is disabled by default and can be enabled on the System Settings page.
- Implemented HTTP Authentication: Added Digest Authentication to protect API routes, enabled by default.
- Removed the ability to change the Focus parameters when logged in as a Guest user.
- Removed OSD access in the web interface when logged in as a Guest user.
- Resolved an issue where the Iris would not fully close in Manual Exposure mode when set to Close.
- Resolved an issue on Move 4K models where the stop command was not properly triggered when using serial control (RS-232 or RS-485). This caused the camera to continue moving to its limit after releasing the joystick.

Known Issues

- NDI video may freeze when simultaneously connected via USB for video. This issue occurs when the camera streams NDI while the USB is connected to another device.
- Guest Access Focus Controls: Focus controls are currently missing from the Guest Access login.
- When RTMP streaming to YouTube using camera video templates, bitrate errors may occur. Resolution: Adjust the camera's video settings to align with YouTube's video requirements.
- The NTP service address cannot be set within the `100` subnet (for example, `192.168.100.10`) through the web interface. This can be modified by using the HTTP API route:

```
/cgi-bin/param.cgi?post_network_other_conf&net_addr=[VALUE]
```

07/11/2024

Move 4K 12X - v0.0.46 **Move 4K 20X - v0.0.73** **Move 4K 30X - v2.0.48**

New Features and Bug Fixes

- Added new information symbols for all new features available in the web interface. Please see these information symbols for more detailed information.
- You can now select which video feed is displayed in the web interface. The option is available on the Dashboard page > Image > Advanced > Preview Window Settings.

- Added the ability to change tracking targets using the left and right arrow buttons in the web interface.
- Improved the overall tracking algorithm.
- Added more control options for starting and stopping tracking. These options are available on the new tab on Dashboard page > Control > Automation.
- Added the ability to select between Auto Tracking and Auto Framing through the Automation dropdown.
- Added Multi-Target Select to the Bounding Box dropdown. This mode allows you to use the Number Keys to select the desired subject.
- Added Tracking Composition with Left, Right, and Center as selectable options.
- Added Tracking Sensitivity with Low, Medium, and High as selectable options.
- Added Tracking Zoom Level with Medium Close Up, Medium Shot, Long Shot, and Dynamic Zoom.
- Added Time Delay dropdown.
- Added Tracking Start Location dropdown.
- Added Tracking Stop Location dropdown.
- Added Target Timeout dropdown.
- Added Target Loss Preset dropdown.
- Renamed Patrol Mode to Preset Tour. Added Time Interval, Preset Range, and Preset Tour Speed.
- Added FreeD (BETA) to the web interface.
- Added FreeD (BETA) Data & Control Ports. The option is available on the Dashboard page > Control > Ports.
- Reorganized the Navigation Panel.
- Added a Privacy Mode button to the navigation panel of the web interface. When enabled, the camera will turn away and disable the video feeds. Simply call a preset or disable Privacy Mode to enable video.
- Added a Power On / Off button to the navigation panel of the web interface.
- Added a Cancel and Apply button to the RTMP(S) Settings section of the Streaming Settings page.
- Enabled the ability to edit the Static Fallback Address, Gateway, and Subnet Mask in the Network Settings page.
- Added Focus Calibration buttons to the System Settings > Advanced section.
- Added more commands to the VISCA & HTTP-CGI APIs.
- Corrected the position values associated with zoom when Digital Zoom is enabled.
- Fixed some vulnerabilities.

08/04/2023

Move 4K 12X - v0.0.32 **Move 4K 20X - v0.0.50** **Move 4K 30X - v2.0.39**

New Features and Bug Fixes

- Set Stream 2 to H.264 by default.
- Updated the Information Symbols in the web interface.
- Moved some settings from the Image tab to the Advanced tab.
- Added Auto Inversion to the web interface.
- Added SRT Stream ID to the web interface.
- Added the ability to select between Stream 1 and Stream 2 in the web interface.
- Increased the max file size for firmware uploads.

02/20/2023

Move 4K 12X - v0.0.22 | Move 4K 20X - v0.0.37 | Move 4K 30X - v2.0.15

New Features and Bug Fixes

- Change the location of the login interface logo and the image of the login background.
- Change NDI Configuration Settings to NDI® Settings.
- The preset position of the call in the user-defined saved profile is changed to the last call.
- Add a prompt box for reboot operation.
- Add the Image Orientation secondary drop-down box, including Off, Flip, Mirror, and Flip and Mirror options. The default is Off.
- The prompt message of Motion Sync is changed to Synchronize Pan, Tilt, & Zoom when calling presets.
- Image > Color > OnePush pop-up syntax corrected to: Calculating, Please wait.
- Modify the Tracking Box under Control > Mode > Tracking Box to Bounding Boxes.
- Modify the information symbol of Auto Tracking to explain tracking start position, target timeout behavior, and Preset 0 default behavior.
- Add BETA in Video Encoding Settings > Advanced > Hybrid Zoom.
- Audio encoding protocol redisplay: Audio Encoding Protocol: AAC is only for display and cannot be modified.
- Modify the profile name of the shortcut area and remove profile from the name.
- Change Indoor to Low Light.
- Remove the save device name from the profile save menu.
- After selecting quick profile, add a reboot prompt.

- Modify the information symbol of Device ID.
- Modify the ID info page and click Apply to pop up the reboot prompt box.
- Modify the text content of the pop-up box after ID application.
- On the guest page, remove Image under Image settings, and keep Port content under Exposure and Color; control visible but not modifiable.
- Add Sony VISCA over IP (`52381`) search function.
- Open stream ID settings on the web.
- Delete the multicast server IP address of NDI.

Technical Specs

Camera & Lens

Feature	Specification
Resolution & Frame Rate HDMI	• **3840x2160p** - 60/59.94/50/30/29.97/25 • **1920x1080p** - 60/59.94/50/30/29.97/25 • **1920x1080i** - 60/59.94/50 • **1280x720p** - 60/59.94 • **1024x576** • **720x480** • **720x408** • **640x480** • **640x360** - 60/59.94/50/30/29.97/25
Resolution & Frame Rate 3G-SDI	• **1920x1080p** - 60/59.94/50/30/29.97/25 • **1920x1080i** - 60/59.94/50 • **1280x720p** - 60/59.94 • **1024x576** • **720x480** • **720x408** • **640x480** • **640x360** - 60/59.94/50/30/29.97/25

Feature	Specification
Resolution & Frame Rate USB	• **3840x2160p** - 30/25/24/20/15/10/7.5/5 • **1920x1080p** - 30/25/24/20/15/10/7.5/5 • **1280x720p** - 30/25/24/20/15/10/7.5/5 • **1024x576** - 30/25/24/20/15/10/7.5/5 • **720x480** - 30/25/24/20/15/10/7.5/5 • **720x408** - 30/25/24/20/15/10/7.5/5 • **640x480** - 30/25/24/20/15/10/7.5/5 • **640x360** - 30/25/24/20/15/10/7.5/5
Resolution & Frame Rate NDI Stream 1:	3840x2160, 1920x1080, 1280x720, 1024x576, 720x480, 720x408, 640x480, & 640x360. **ALL capable of 1 ~ 60 FPS**
Resolution & Frame Rate NDI Stream 2:	720x480, 720x408, 640x480, 640x360, 480x320, 320x240. **ALL capable of 1 ~ 60 FPS**
Lens	**(12X)** Sony 1/2.5 inch, CMOS
	(20X) Sony 1/1.8 inch, CMOS
	(30X) Sony 1/1.8 inch, CMOS
Image Sensor	**(12X)** 8.51MP, Effective Pixels: 8.29M
	(20X) 8.42MP, Effective Pixels: 8.29M
	(30X) 8.42MP, Effective Pixels: 8.29M
Optical Lens Focal Length (Zoom)	**(12X)** f = 4.4mm ~ 52.8mm, F1.8 ~ F2.6
	(20X) f = 6.25mm ~ 125mm, F1.58 ~ F3.95
	(30X) f = 7.1mm ~ 210mm, F1.61 ~ F5.19
Maximum Tracking Distance	**(12X)** 202' (61.57m)
	(20X) 264' (80.47m)

Feature	Specification
	(30X) 334' (101.80m)
Optical Lens Field of View Horizontal & Vertical	**(12X)** H 6.9° ~ 72.5° V 3.9° ~ 44.8°
	(20X) H 3.5° ~ 60.7° V 1.9° ~ 34.1°
	(30X) H 2.5° ~ 59.2° V 1.4° ~ 34.6°
Display Field of View	**(12X)** 82.8°
	(20X) 66.6°
	(30X) 66.7°
Min Lux	0.5 Lux @ (F1.8, AGC ON)
Shutter	1/30s ~ 1/10000s
Pan Movement Range	±170°
Tilt Movement Range	-30° ~ +90°
Pan Speed	0.7°/s ~ 100°/s
Tilt Speed	0.7°/s ~ 69.9°/s
Presets	255 Presets
Preset Accuracy	0.1º
Image Flip, Mirror, and Freeze	Supported

Physical Specifications

Feature	Specification
Dimensions (L x W x H)	**(12X)** 6.65” L x 5.57” W x 7.91” H / 169mm L x 141.5mm W x 201mm H

Feature	Specification
	(20X) 6.65” L x 5.57” W x 7.91” H / 169mm L x 141.5mm W x 201mm H
	(30X) 7.12” L x 6.69” W x 8.98” H / 181mm L x 170mm W x 228mm H
Weight	**(12X)** 3.25 lbs (1.47 kg)
	(20X) 3.25 lbs (1.47 kg)
	(30X) 4.41lbs (2.0 kg)
Working Environment	Indoor
Humidity Range	10% - 80%
Operating Temperature	14°F ~ 104°F (-10°C ~ 40°C)
Storage Temperature	-40°F ~ 140°F (-40°C ~ 60°C)

Connections

Feature	Specification
RJ45	10/100/1000M Adaptive Ethernet Port, NDI HX enabled
HDMI	Version 2.0
3G-SDI	BNC Type, 800mVP-p, 75Ω, Along to SMPTE 424M,standard
USB 2.0	Type A
Compression Standards	YUY2 / MJPEG / H.264 / H.265
Audio Interface	3.5mm Line level Input & Output
RS232 Input	8-pin Mini DIN RS232 Input, Max distance: 98.5ft / 30m, **Protocol**: VISCA / Pelco-D / Pelco-P
RS232 Output	8-pin Mini DIN RS232 Output, Max distance: 98.5ft / 30m, **Protocol**: VISCA / Pelco-D / Pelco-P
RS485 Input / Output	2-pin Phoenix port RS485 Input / Output, Max distance: 3,937ft / 1200m, **Protocol**: VISCA / Pelco-D / Pelco-P
IR	4x IR Addresses, Max distance 30ft / 9m
Power Supply	JEITA type (DC IN 12V) / PoE+ (802.3at)
Current Consumption	Max 1.0A

Certifications

- BIS
- CE-EMC
- CE-LVD
- FCC
- REACH
- RoHS

- UKCA

Software Certifications

- ONVIF-S
- NDI HX3

Compliance

The Move 4K is an NDAA Compliant camera.

Covered by one or more claims of the HEVC patents listed at patentlist.accessadvance.com