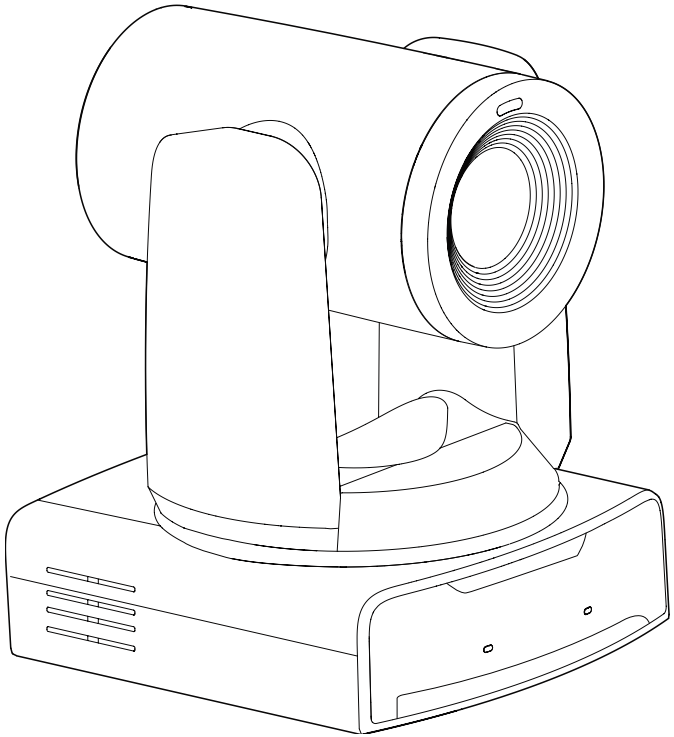
HOLLYLAND



Astra P1 Pan-Tilt-Zoom Camera

Quick Guide

V1.0

Thank you for choosing the Astra P1 Pan-Tilt-Zoom Camera. The Astra P1 combines a high-performance UHD 4K60 imaging system and 30x optical zoom with intelligent face-detection AE and AI auto-tracking. With support for NDI®|HX3 and diverse I/O interfaces, it is a comprehensive professional solution for churches, halls, various live events, and beyond.

EN Please read this Quick Guide carefully. We wish you a pleasant experience. To obtain Quick Guide information in other languages, please scan the QR code below.

DE Bitte lesen Sie diese Kurzanleitung gründlich. Wir wünschen Ihnen ein angenehmes Erlebnis. Für die Kurzanleitung in einer anderen Sprache scannen Sie bitte den folgenden QR-Code.

ES Lea atentamente esta Guía rápida. Le deseamos una agradable experiencia. Para obtener información de la Guía rápida en otros idiomas, escanee el código QR que aparece a continuación.

FR Veuillez lire attentivement ce guide rapide. Nous espérons que votre expérience sera des plus agréables. Pour obtenir des informations sur le guide rapide dans d'autres langues, veuillez scanner le code QR ci-dessous.

IT Leggi questa Guida introduttiva rapida. Ti auguriamo un'esperienza piacevole. Per ottenere informazioni sulla Guida introduttiva rapida in altre lingue, scansiona il codice QR qui sotto.

PT Leia este Guia Rápido com cuidado. Desejamos que você tenha uma experiência agradável. Para obter informações do Guia Rápido em outros idiomas, digitalize o código QR abaixo.

TC 請仔細閱讀本快速指南。我們祝您體驗愉快。若要取得其他語言的快速指南資訊，請掃描下面的 QR 碼。

KR 이 빠른 가이드를 주의 깊게 읽으십시오. 즐거운 경험 되시길 바랍니다. 빠른 가이드 정보를 다른 언어로 알아보려면 아래 QR 코드를 스캔하십시오.

JP クイックガイドを熟読してください。ご体験をお楽しみください。他の言語でクイックガイド情報を取得するには、以下のQRコードをスキャンしてください。

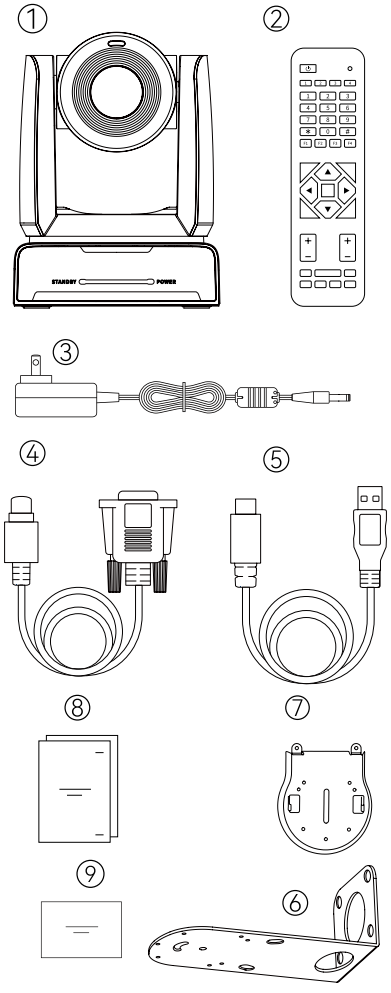
Preface

Safety Precautions

- All installation and operation must strictly comply with local electrical safety regulations.
- Only use the power adapter provided with this product. Do not connect multiple devices to a single adapter, as overloading may lead to overheating or fire hazards.
- Do not manually rotate the camera head. Forcing the gimbal may result in mechanical failure.
- Ensure the device is securely mounted when installing on a wall or ceiling. Verify that the rotation path is clear of obstacles. Do not apply power until the installation is fully completed.
- Ventilation: Ensure adequate airflow around the device to prevent internal heat buildup.
- If smoke, unusual odors, or abnormal noises occur, immediately power off the device, unplug the power cord, and contact your local authorized dealer.
- This device is not waterproof. Please keep it dry and away from moisture.
- Do not attempt to service this product yourself. Opening or removing covers may expose you to dangerous voltage or other hazards. Damage caused by unauthorized disassembly is not covered under warranty.

Notice:
Specific frequencies of electromagnetic field may affect the image of the camera!

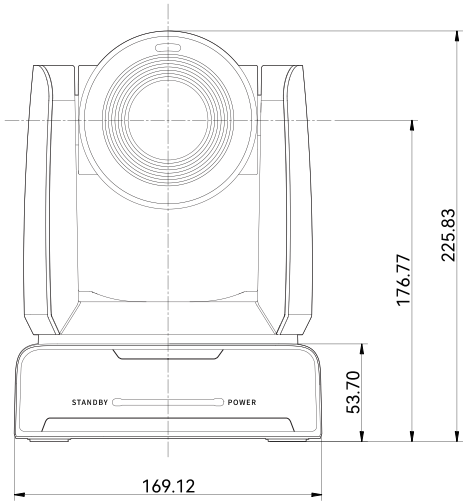
Packing List

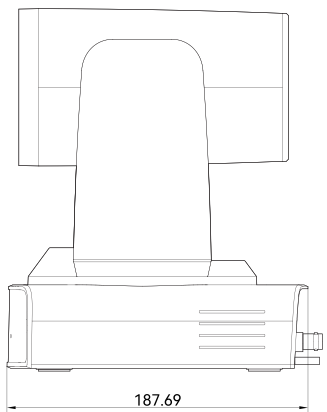


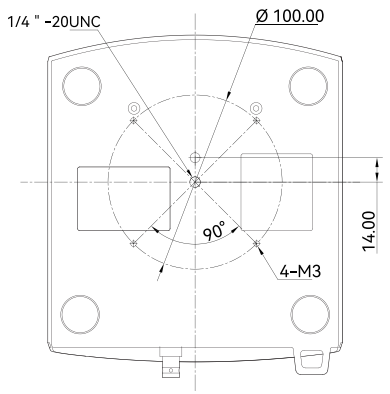
Name	Quantity
① PTZ Camera	1
② Remote Controller	1
③ Power Adapter	1
④ RS232 Cable	1
⑤ USB-B to USB-A Cable	1
⑥ Wall Mount Bracket	1
⑦ Ceiling Mount Bracket	1
⑧ Quick Guide/Warranty Card	1
⑨ Compliance Information	1

Quick Start

Dimensions and Mounting



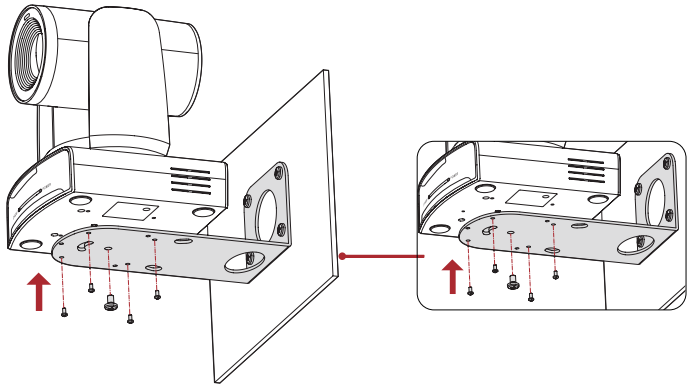




First-Time Setup

Wall Mount

①



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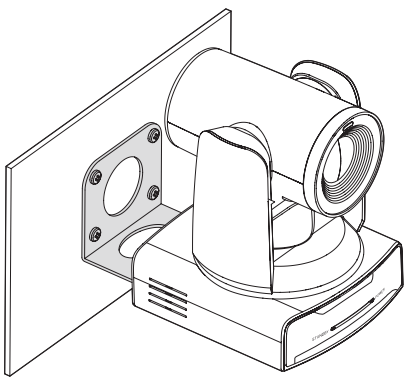


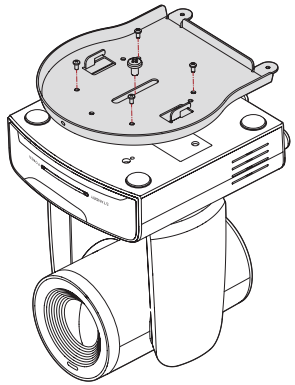
Note

The installation diagrams above are for reference only. Please refer to the actual accessories included for specific installation.

Quick Start

Ceiling Mount

①



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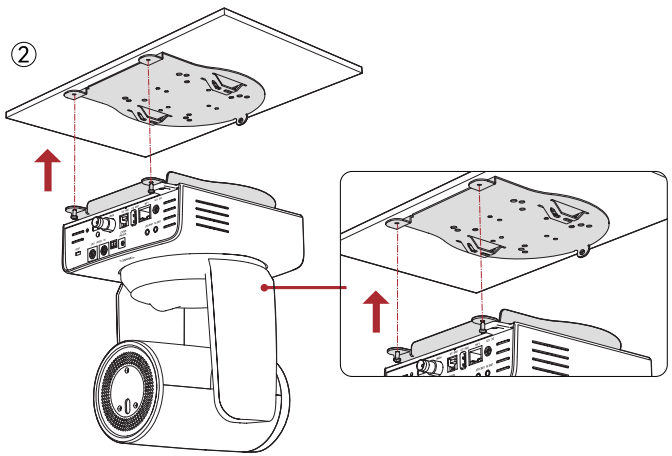
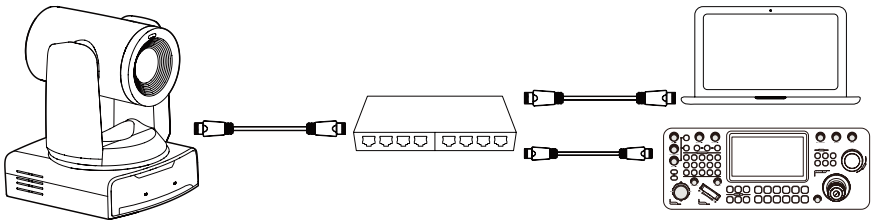


Quick Start



Step 1: Connect Power and Network

Connect the camera to your LAN using a standard network cable.
Power the camera using a PoE switch or the supplied power adapter.

Step 2: Power-on Self-Test

After power-on, the camera automatically performs a self-test.
The initialization is complete when the PTZ movement stops and the camera remains at the Home (center) position.

Step 3: Basic Control and Setup

Basic Control: Use the remote controller for basic camera operations.
Advanced Configuration: Access the OSD menu or log in to the Web interface for detailed settings.

Product Overview

Key Features

- **UHD 4K60**

  Live venues aren't always well lit — halls, auditoriums, and churches often present challenging and complex lighting environments. The Astra P1's 1/1.8" sensor increases per-pixel light intake to deliver crisp, noise-free 4K footage.

- **Face Detection AE**

  The light shifts, but the target stays bright. The Astra P1 intelligently tracks the performer and optimizes exposure in real-time. In low-light settings, auto exposure simplifies your team's workflow. At least it's one less thing for you to worry about with the Astra P1.

- **30x Optical Zoom**

  Go from a wide shot to a close-up with clarity in every pixel. Powered by a 30x optical lens with an aperture up to f/1.6, the Astra P1 gathers impressive light even when zoomed to the max. Combined with 16x digital zoom and 0.1° preset accuracy, it switches between long-shot and extreme close-up presets with fluid motion.

- **AI Auto Tracking**

  Presenter Tracking

  The Astra P1 uses human-based logic to follow the presenter, analyzing posture and motion to distinguish them from the background. In crowded environments or complex setups, it maintains a precise lock on every move.

  Zone Tracking

  Define up to 4 key areas (podium, whiteboard, demo table, etc.). The Astra P1 then tracks between them as the target moves to provide a smooth transition in large spaces. Ideal for large auditoriums where a single operator needs reliable, automatic coverage.

- **NDI®|HX3 Support**

  An NDI®|HX3 license is included with every Astra P1 — no extra cost. Just connect one Ethernet cable to stream near-lossless 4K video with ultra-low latency. The Astra P1 integrates into your NDI workflow, ready for vMix, OBS, or any professional broadcast studio.

*NDI® is a registered trademark of NewTek, Inc. Network services and third-party software are subject to their respective terms and conditions and may change without notice.

- Power Up Your Workflow

  Pair with the optional Joystick Controller to monitor live feeds on the 7-inch touchscreen. The ergonomic joystick gives you natural, precise control.

  Ready for Any Workflow: Fully supports NDI®|HX3, VISCA, Pelco, and more. Compatible with your existing or future production systems.

  Complex Scenes, Instant Recall: Manage up to 254 cameras and 255 presets per unit. Swiftly recall complex scenes and camera angles with a single press.

  Broadcast Tally Support: Equipped with a standard Tally/GPIO interface for reliable multi-camera switching and clear on-air status.

- Web Control

  Every Setting in One View

  Open a browser tab on your computer for full access to your control panel. Pan, tilt, zoom, and manage every professional setting remotely.

  Power of One

  A single PoE+ cable delivers 4K video, audio, power, and control.

- Broadcast-Grade I/O & Protocol Support

  The Astra P1 supports simultaneous output via HDMI 2.0, 3G-SDI, USB, and LAN. It delivers up to three independent HD streams and supports a full range of protocols, from standard VISCA/Pelco for control systems to USB UVC, IP-based streaming, and FreeD for AR/VR virtual production.

  Any Workflow, Every Stage

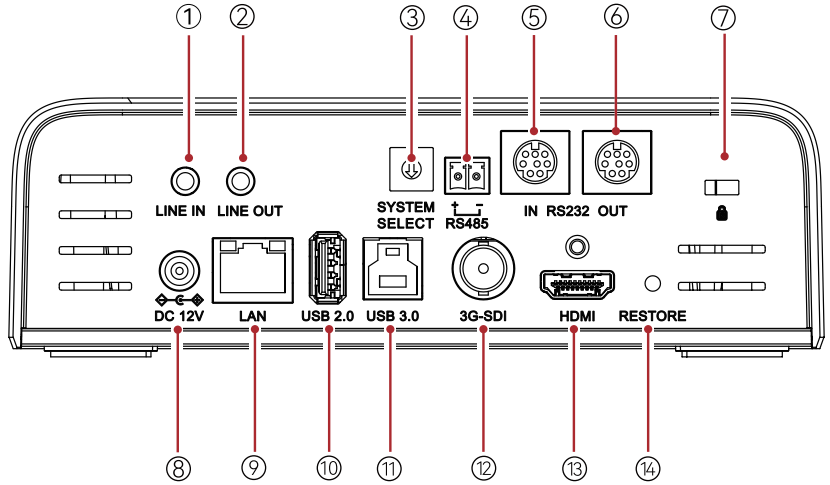
  Output independent main and sub streams to handle high-quality recording and low-latency monitoring at once. Whether in churches, halls, or live events, the Astra P1 is built to perform in any professional setup.

- 5-Year Warranty

  Every Astra P1 comes with a 5-year warranty. Our field application engineers are on standby to provide instant technical support. At Hollyland, your vision is our mission. We are committed to your long-term success.

Product Overview

Interface Description



① LINE IN Interface
② LINE OUT Interface
③ SYSTEM SELECT Switch
④ RS485 Interface
⑤ RS232 IN Interface
⑥ RS232 OUT Interface
⑦ Security Slot
⑧ DC 12V Interface
⑨ LAN Interface
⑩ USB2.0 Interface
⑪ USB3.0 Interface
⑫ 3G-SDI Interface
⑬ HDMI Interface
⑭ RESTORE Hole

Technical Specifications

Camera	
Image Sensor	1/1.8" High-quality CMOS Sensor
Effective Pixels	8.42 Megapixels (16:9 aspect ratio)
Optical Zoom	30x Zoom (f = 7.1mm ~ 210mm)
Digital Zoom	16x
Video Format	HDMI: 2160p60, 2160p50, 2160p30, 2160p25, 2160p59.94, 2160p29.97, 1080p60, 1080p50, 1080p59.94, 1080p30, 1080p29.97, 1080i60, 1080i50, 1080i59.94, 720p60, 720p59.94 3G-SDI: 1080p60, 1080p50, 1080p30, 1080p29.97, 1080p59.94, 1080p25, 1080i60, 1080i50, 1080i59.94, 720p60, 720p59.94
Aperture Range	F1.61 ~ F5.19
Field of View (H/V)	Horizontal: 59.2° ~ 2.5° Vertical: 34.6° ~ 1.4°
Minimum Illumination	0.5 Lux (F1.8, AGC ON)
Shutter Speed	1/30s ~ 1/10000s
Signal-to-Noise Ratio (SNR)	≥55dB
PTZ Performance	
Rotation Range	Pan: ±170° Tilt: -30° ~ +90°
Rotation Speed	Pan: 1.7°/s ~ 100°/s Tilt: 1.7°/s ~ 69.9°/s
Preset Positions	255 Positions (Accuracy: 0.1°)

Product Overview

Technical Specifications

I/O Interface	
Audio	• 1 × 3.5mm LINE IN • 1 × 3.5mm LINE OUT
Communication	• 1 × RS485 (2-pin Phoenix Terminal) • 1 × RS232 IN (8-pin Mini-DIN)
Network	1 × RJ45 10M/100M/1000M Adaptive Ethernet
USB	• 1 × USB 2.0 Type-A • 1 × USB 3.0 Type-B
Video	• 1 × 3G-SDI • 1 × HDMI 2.0
Power	DC 12V (JEITA Type)
USB Features	
Operating System	Windows 7/8/10, Mac OS , Linux, Android
Color System/ Compression	YUY2/H.264/H.265/MJPEG
USB3.0 Video Format	• YUY2: 1080p30 (max.) • H.264 AVC: 4K@30fps (max.) • H.265 HEVC: 4K@30fps (max.) • MJPEG: 4K@30fps (max.)
USB2.0 Video Format	• YUY2: 1080p5 (max.) • H.264 AVC: 4K@30fps (max.) • H.265 HEVC: 4K@30fps (max.) • MJPEG: 4K@30fps (max.)
USB Audio	Yes
USB Video	Yes
Protocol	UVC 1.1 ~ UVC 1.5
UVC PTZ	Yes

Product Overview

Technical Specifications

Network Features	
Video Compression	H.264 / H.265 / MJPEG
Video Streams	Main Stream (First Stream), Sub Stream (Second Stream)
Main Stream Resolution	3840x2160, 1920x1080, 1280x720, 1024x576, 720x480, 720x408, 640x480, 640x360
Sub Stream Resolution	720x480, 720x408, 640x480, 640x360, 480x320, 320x240
Video Bit Rate	Main Stream: 32 ~ 51200 kbps Sub Stream: 32 ~ 20480 kbps
Bit Rate Control	CBR, VBR
Frame Rate	50Hz: 1 ~ 50 fps 60Hz: 1 ~ 60 fps
Audio Compression	AAC
Audio Bit Rate	96 kbps, 128 kbps
Supported Protocols	NDI®|HX3, TCP/IP, HTTP, RTSP, RTMP(S), DHCP, SRT, Multicast, etc.
General Specifications	
Input Voltage	DC 12V/PoE+
Input Current	2A (max.)
Power Consumption	18W (max.)
Operating Temperature	32°F ~ 104°F (0°C ~ 40°C)
Storage Temperature	-40°F ~ 140°F (-40°C ~ 60°C)
Dimensions	(L×W×H): 169×188×226mm
Net Weight	Approx. 2.3kg

Notice:

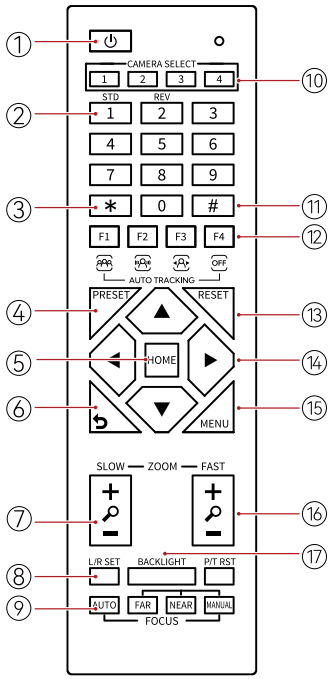
Product features and specifications are subject to change without notice.

Basic Operation

Remote Control

The camera can be configured via the Web Interface or OSD Menu.

- Web Interface: Offers full access to all features and is recommended for initial setup and advanced configurations.
- OSD Menu: Provides a simplified interface for quick, on-site adjustments using the remote control.



Shortcut Set

[#] + [*] + [F4]: Enable/Disable Image Freeze

[*] + [#] + [F1] ~ [F4]: Set camera address to 1 ~ 4

[*] + [#] + [1]: Set OSD language to English

[*] + [#] + [3]: Set OSD language to Chinese

[*] + [#] + [4]: Display current IP address

[*] + [#] + [6]: Quickly recover the default

[*] + [#] + [8]: View firmware version

[*] + [#] + [9]: Toggle Auto Flip (Image Inversion)

[*] + [#] + [MANUAL]: Reset IP address to default

① Standby Key
Press to enter standby mode.
② Number Keys
Set or recall presets.
③ * Key
Used in combination with other keys.
④ PRESET Key
Set preset: press [PRESET] + Number key (0–9).
⑤ HOME Key
Confirm selection or press to reset camera to default position.
⑥ Return Key
Press to return to the previous menu.
⑦ ZOOM Keys
• SLOW: Zoom In [+] or Zoom Out [-] slowly. • FAST: Zoom In [+] or Zoom Out [-] fast.
⑧ L/R SET Key
• Standard: Simultaneously press [L/R SET] + 1. • Reverse: Simultaneously press [L/R SET] + 2.
⑨ FOCUS Keys
Auto/Manual/Far/Near Focus.
⑩ CAMERA SELECT Keys
• Press 1/2/3/4 to select camera.
⑪ # Key
Used in combination with other keys.

Basic Operation

⑫ Auto Tracking Keys
• [F1] and [F2]: Disable. • [F3]: Turn on AI Tracking. • [F4]: Turn off AI Tracking.
⑬ RESET Key
Clear preset position: press [RESET] + Number key (0–9).
⑭ Arrow Keys
Navigate OSD in the direction of the arrows.
⑮ MENU Key
Press to enter or exit OSD Menu.
⑯ BACKLIGHT Key*
Turn on/off backlight compensation.
⑰ P/T RST (PTZ Reset) Key
Press to perform a Pan/Tilt self-test.

Note:
Backlight compensation only effective in Auto Exposure mode. Useful when a strong light source behind the subject causes it to appear dark.

OSD Operation

You can navigate and adjust camera settings directly from the connected monitor using the provided remote controller.
The menu provides quick access to essential controls for exposure, color, image, P/T/Z, noise reduction, and basic system setup.

Access & Navigation
Open Menu: Press [MENU] on the remote controller
Navigate: Use the Arrow Keys
Confirm: Press [HOME]
Exit/Back: Press [MENU]

MENU	
▶	Exposure
	Color
	Image
	P/T/Z
	Noise Reduction
	Setup
	Tracking Config
	Communication Setup
	Restore Default
	[HOME] Enter
	[MENU] Exit

Basic Operation

1. Exposure

Configure the camera's light intake logic. Supports Auto, Manual, SAE, AAE, and Bright modes. Adjust critical parameters like Iris, Shutter speed, and Gain Limit to match your lighting environment.

2. Color

Adjust White Balance (WB) settings, including Auto, One Push, and VAR (Color Temperature) modes. Fine-tune Red and Blue gain to ensure accurate color reproduction.

3. Image

Control the fundamental visual output. Includes brightness, contrast, and sharpness. This section also handles Image Flip (H/V) for inverted mounting and Distortion Correction.

4. P/T/Z Control

Define the camera's movement behavior. Options include SpeedByZoom (variable panning speed), AF-Sensitivity, and Image Freeze (hiding movement during preset transitions).

5. Noise Reduction

Enhance clarity in low-light scenes by adjusting 3D Noise Reduction (NR3D) levels.

6. Setup & Video Format

Configures system and video output settings, including language, HDMI/DVI mode, video format (up to 4K/60), and Auto Patrol options.

7. Tracking Config

Quickly toggle AI Tracking On/Off and switch between Presenter or Zone modes. You can also define the Framing (Close-up to Full Body) directly from the screen.

8. Communication Setup

Assign the camera's control identity. Supports VISCA, Pelco-D, and Pelco-P protocols. Configure baud rates and addresses for physical joystick controllers.

9. Restore Default

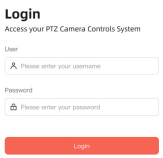
Resets all OSD-configured settings to factory defaults.

Web Interface Panel

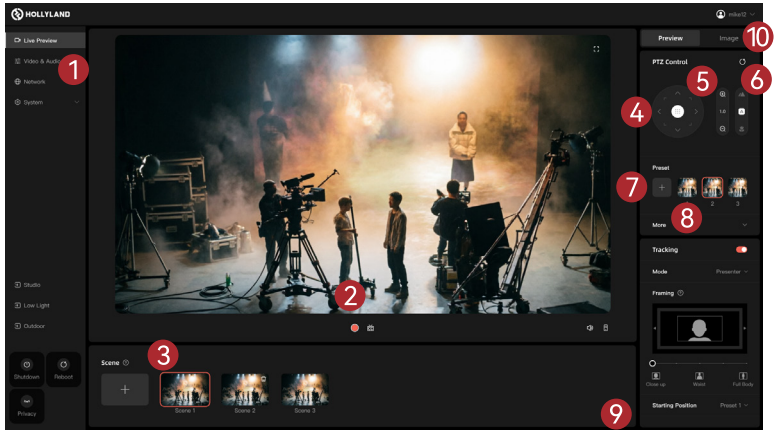
The camera provides a built-in Web interface that can be accessed through a computer browser. The Web interface allows users to view live video and configure camera settings remotely.

Login

1. Connect the camera and your PC to the same network.
2. Enter the camera's default IP address in your browser.
3. When the login prompt appears, enter default login details to access the interface:
   - Default IP: 192.168.1.100
   - Default Username: admin
   - Default Password: admin



Basic Operation



1. Settings Menu

Provides access to audio, video, network, and system configuration options.

2. Live Video Preview

Displays the camera's live video feed in real time. Quick-control buttons such as Fullscreen and Mute/Unmute are located below the preview window.

3. Scene Management

Allows users to save, recall, rename, and delete scene presets.

4. PTZ Direction Control

Controls camera pan, tilt, and return to the home position.

5. Zoom Control

Adjusts the camera zoom level.

6. Focus Control

Buttons switch between auto and manual focus modes, and select near or distant focus.

7. Preset Control

Allows users to save, recall, and delete PTZ preset positions.

8. PTZ Parameters

Adjust pan, tilt, zoom speed, focus area, and other related settings.

9. Tracking Control

Enables and configures tracking functions.

10. Image Settings

Provides full control over exposure, color, and image clarity. Key features include manual gain, white balance tuning, noise reduction, and image flip for ceiling or wall mounting.

This camera features an advanced AI tracking system that can automatically locate and follow a person, ideal for lectures, presentations, and staged events.

Note:
AI Tracking is mainly set up via the Web UI, but tracking mode and subject size can also be adjusted via the OSD menu on the remote controller.

Web Controls

Tracking Modes: Presenter vs. Zone

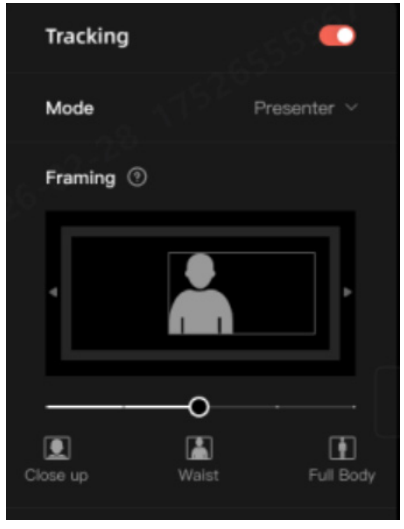
Tip: It is recommended to configure the following settings with tracking disabled first.

Presenter Mode

Step 1: Enable Presenter Mode.
Step 2: Select target:

- Single Person: Camera locks onto one person.
- Multiple People: Use directional keys to select.

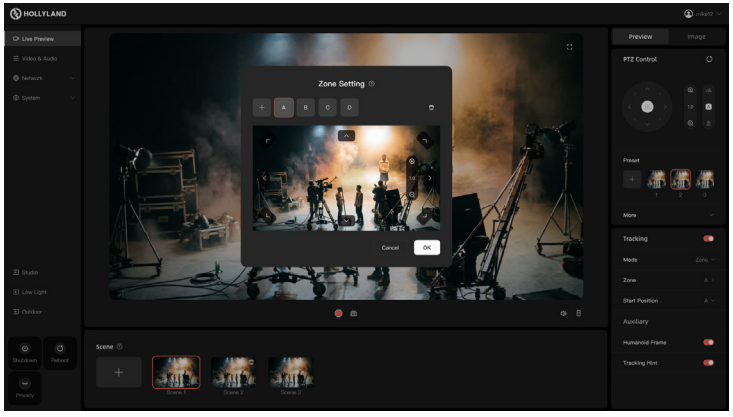
Step 3: Adjust framing settings (Size & Position).



Note:
If no target is manually selected, the camera will automatically track the person closest to the center of the frame.

Zone Mode

This mode is ideal for tracking a subject across a wide or structured area (e.g., a stage). You first define up to four zones (A, B, C, D) and save a preset camera position for each. When the tracked person enters a zone, the camera automatically moves to the corresponding preset.



Note:

1. Zones must be arranged sequentially from left to right.
2. Adjacent zones must have overlapping coverage for continuous tracking.
3. Up to four zones are supported. Unused zones may be skipped or deleted.

AI Tracking

Framing Configuration

Configure how the tracked target appears in the video frame.

1. Target Size

Select the desired framing for the person.

- Close-up: Frames the person's upper body and face.
- Waist: Frames the person from the waist up.
- Full Body: Keeps the person's entire body in frame.

2. Horizontal Position

Set where the person is positioned horizontally within the frame (Left, Center, or Right).

Tracking Behavior Settings

Define how the camera behaves during tracking.

1. Start Position

- Current Position: Tracking starts/stops from wherever the camera is pointing.
- Preset Position: The camera moves to a saved preset (e.g., Preset 1) to begin searching for a target. If the target is lost, it returns to this preset.

2. Auto Zoom

(Default: On) When enabled, the camera automatically zooms in/out to maintain the Target Size you selected in Framing Configuration. If disabled, the camera follows the target but keeps a fixed zoom level.

3. Auto Tilt

(Default: On) When enabled, the camera automatically adjusts its vertical (tilt) angle to keep the target centered. If disabled, the camera only moves horizontally (pan), and the target may walk out of the top or bottom of the frame.

4. Timeout

(Default: 6 seconds) Defines how long the camera waits after losing sight of the target before it stops tracking and returns to the Starting Position.

Overlay & Display Settings

Configure on-screen indicators for setup, monitoring, or a clean output.

1. Humanoid Frame

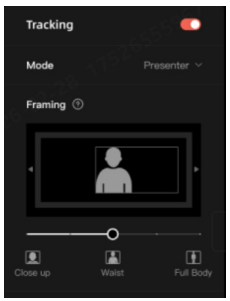
(Default: On) Displays a bounding box around the actively tracked person. Recommendation: Turn Off for a clean output in live streaming or recording.

2. Tracking Hint

Displays a text status on the screen.

Note:

For live streaming or professional recording, it is highly recommended to set Humanoid Frame and Tracking Hint to OFF to ensure a clean, distraction-free video output.



OSD Controls

OSD Menu Settings

Configure the camera's intelligent tracking capabilities to automatically follow subjects with precision.

TRACKING CONFIG		
▶	Tracking	On
	Tracking Mode	Region
	Figure Size	Close
	▲▼ Select Item ◀▶ Change Value [MENU] Back	

Tracking (On/Off)

Enables or disables the AI-based subject tracking function.

Tracking Mode (Region, Presenter)

- Region: The camera triggers tracking only when a subject enters a specific, pre-defined area.
- Presenter: The camera locks onto and follows a moving subject (e.g., a teacher or speaker) throughout the frame.

Figure Size (Full, Upper, Close, Custom)

Sets the framing preference for the tracked subject.

- Full: Captures the subject's entire body.
- Upper: Focuses on the upper body (waist-up shot).
- Close: Provides a tight head-and-shoulders shot.
- Custom: Allows for a manually defined frame size for specialized shot types.

Note:

For detailed configuration of tracking zones, please refer to the Web Configuration section of this manual.

OSD Menu Settings

Use the IR remote to navigate On-Screen Display (OSD) menu on your monitor. This interface allows for fine-tuning of key settings such as Exposure, Color, P/T/Z control, and Communication settings to achieve the best results for your specific environment.

MENU	
▶	Exposure
	Color
	Image
	P/T/Z
	Noise Reduction
	Setup
	Tracking Config
	Communication Setup
	Restore Default
	[HOME] Enter
	[MENU] Exit

Exposure Settings

Controls light intake to ensure optimal brightness, contrast, and detail across varying environments.
Exposure Modes: Auto, Manual, SAE (Shutter Priority Auto Exposure), AAE (Aperture Priority Auto Exposure), and Bright.

EXPOSURE		
▶	Mode	Auto
	Compensation	Off
	Backlight	Off
	Gain Limit	10
	Anti-Flicker	50Hz
	Meter	Average
	DRC	1
	ExpStrat	Face
	Select Item	
	▲▼ Change Value	
	◀▶ [MENU] Back	

OSD Menu Settings

Auto Mode

Automatically balances lighting conditions. Ideal when light changes frequently.

- Compensation (On/Off; -7 to +7): Enables overall brightness adjustment when set to On. [Auto mode only]
- Backlight (On/Off): Optimizes exposure for backlit subjects. [Auto only]
- Gain Limit (0–15): Sets max gain to reduce noise in low light. [Auto, SAE, AAE, Bright]
- Anti-Flicker (Off, 50/60Hz): Eliminates flickering under artificial lights. [Auto, AAE, Bright]
- Meter (Average/Center/Smart/Top): Defines the light measurement area. [Auto, SAE, AAE, Bright]
- DRC (0–8): Improves detail in high-contrast scenes (0=Off). [All modes]
- ExpStrat (Face/Off): Exposure strategy. Prioritizes optimal exposure for the target face.

Manual Mode

Provides full control over exposure—suitable for static or professional setups.

- Iris (F1.8–F11, Close): Adjusts aperture and depth of field. [Manual, AAE]
- Shutter (1/30–1/10,000): Controls motion blur. [Manual, SAE]
- Gain (0–7): Manually amplifies signal; higher values add noise. [Manual only]

SAE (Shutter Priority Auto Exposure)

Fixes the shutter speed while the camera automatically adjusts other parameters (Gain, Iris) to maintain optimal exposure. Ideal for scenarios requiring motion blur control.

- Operation Logic: Manually set the shutter speed first; the camera auto-matches Gain and Iris. Other parameters (Gain Limit, Anti-Flicker, etc.) follow the same rules as Auto Mode.

AAE (Aperture Priority Auto Exposure)

Fixes the iris setting, allowing the camera to adjust other parameters automatically. Ideal for controlling depth of field while keeping exposure stable.

- Operation Logic: Manually set the Iris value first; the camera auto-matches Shutter and Gain. Other parameters (Gain Limit, Anti-Flicker, etc.) follow the same rules as Auto Mode.

Bright Mode

Maximizes image brightness in extremely low-light conditions.

- Bright (0–17): Sets brightness intensity.
- Other Parameters: Gain Limit, Anti-Flicker, Meter, and DRC follow the same rules as Auto Mode.

Color Settings

Color settings ensure accurate color reproduction and tone adjustment under various lighting conditions.

COLOR		
▶	WB Mode	Auto
	RG Tuning	0
	BG Tuning	0
	Saturation	100%
	Hue	7
	▲▼ Select Item ◀▶ Change Value	
	[MENU] Back	

WB Mode (White Balance Mode)

- Auto: Automatically adjusts color balance. Ideal for environments with changing light.
- Indoor: Preset for indoor environments with warmer light sources.
- Outdoor: Calibrated for daylight or cooler, blue-tinted outdoor lighting.
- One Push: A one-touch calibration based on a white reference. Use when lighting is stable but non-standard.
- Manual: Provides precise manual control over red and blue gains.
- VAR (Variable): Allows adjustment of white balance by setting a specific color temperature.

RG / BG (0–255)

Manually adjusts Red and Blue Gain for precise color accuracy. [Manual mode only]

RG / BG Tuning (-10 to +10)

Fine-tunes Red/Blue Gain to correct subtle color shifts. [Auto, One Push, VAR modes]

Saturation (60%–200%)

Controls the intensity and vividness of colors. [All modes]

Hue (0–14)

Modifies the overall color tone (tint). [All modes]

Color Temp (2500K–8000K)

Adjusts the color temperature. Lower values for warm light; higher for cool/blue light. [VAR mode only]

OSD Menu Settings

Image Settings

Fine-tune visual characteristics such as brightness, contrast, and clarity to achieve the desired image style.

IMAGER		
▶	Luminance	7
	Contrast	7
	Sharpness	6
	Flip-H	Off
	Flip-V	Off
	B&W Mode	Off
	Gamma	Default
	Style	Default
	Distortion Correction Default	Default
	▲▼ Select Item ◀▶ Change Value	
	[MENU] Back	

Luminance (0–14)

Adjusts overall image brightness independently of exposure settings. Higher values result in a brighter frame.

Contrast (0–14)

Adjusts the difference between the darkest and brightest areas. Higher values create a more dynamic look, while lower values produce a flatter image.

Sharpness (0–11)

Enhances the clarity of edges in the frame. High values increase detail but may introduce digital noise in certain conditions.

Flip-H / Flip-V (On/Off)

Flips the image horizontally or vertically. Essential for maintaining the correct orientation when the camera is mounted upside down (ceiling mount).

B&W-Mode (On/Off)

Toggles between color and black-and-white (monochrome) output.

Gamma (Default, 0.45, 0.48, 0.5, 0.56, PC)

Adjusts the mid-tone brightness (gamma curve). Lower values (e.g., 0.45) increase contrast, while higher values provide a more linear, flatter profile.

Style (Default, Norm, Bright, PC)

Applies predefined image profiles for quick visual adjustments:

- Default: Standard balanced settings.
- Norm: Optimized for natural color tones.
- Bright: Boosts brightness and contrast for a more vivid look.
- PC: Optimized for computer monitors and streaming displays.

P/T/Z Control

Configure the camera's movement, focus behavior, and preset performance for smooth and precise operation.

P/T/Z		
▶	SpeedByZoomOn	On
	AF-Zone	Front
	AF-Sense	High
	L/R Set	STD
	Display	Info
	Image Freeze	Off
	Digital Zoom	Off
	Call Preset Speed	24
	Pre Zoom Speed	5
▲▼ Select Item ◀▶ Change Value		
[MENU] Back		

OSD Menu Settings

SpeedByZoom (On/Off)

Automatically adjusts Pan/Tilt speed relative to the zoom level. It slows down movement when zoomed in to ensure stable and smooth tracking.

AF-Zone (Front, Top, Center, Bottom)

Selects the priority area for the autofocus sensor, allowing for sharper focus on subjects located in specific parts of the frame.

AF-Sense (High, Low, Normal)

Adjusts how quickly the autofocus reacts. High is recommended for fast-moving subjects; Low provides more stable focus in low-light or low-contrast scenes.

L/R Set (STD/REV)

Sets the horizontal movement direction (Standard or Reverse). Use REV to match the remote control's direction if the camera is ceiling-mounted.

Display Info (On/Off)

Toggles the on-screen display (OSD) of camera status, such as current zoom level and preset ID.

Image Freeze (On/Off)

Captures and holds the last frame when a preset is called. This hides the camera's physical movement from the audience during live production.

Digital Zoom (Off, 2x, 4x, 8x, 16x)

Enables digital magnification beyond the optical range.
Note: Higher levels may impact image clarity.

Call Preset Speed (1–24)

Determines how fast the camera moves when switching between saved preset positions.

Pre Zoom Speed (0–7)

Sets the specific zoom speed used during a preset recall.

Noise Reduction

Advanced noise reduction helps maintain a clean and professional image even in challenging low-light environments.

NOISE REDUCTION		
▶	NR3D Level	6
	▲▼ Select Item ◀▶ Change Value	
	[MENU] Back	

NR3D-Level (Off to 9)

Adjusts 3D noise reduction. Higher levels offer more noise reduction but may soften the image. Use lower levels to maintain more detail.

Note:
Extremely high settings may result in a slight softening of image details.

System Setup

Configure the camera's system environment, display language, and professional video output standards.

SETUP		
▶	Language	EN
	DVI Mode	HDMI
	Format Switch	Menu
	Video Format	4K/30
	Auto Patrol	Off
	Video Mode	
	Other	
	▲▼ Select Item ◀▶ Change Value [MENU] Back	

OSD Menu Settings

Language

Sets the OSD menu interface language.

DVI Mode (HDMI, DVI)

Selects the output format for the DVI-I port. Use HDMI for consumer displays and DVI for professional monitors.

Format Mode (OSD, DIP)

Defines the source of the video format configuration.

- OSD: The video format is determined by the Video Format setting in this menu.
- DIP: The video format is determined by the physical DIP switches (System Select Resolution Dial) on the camera's rear panel.

Video Format

Sets the output resolution and frame rate.

Auto Patrol (On/Off)

Activates a continuous automated scan of preset positions.

- Residence Time (1–60s): Sets the duration the camera pauses at each preset. (Auto Patrol ON only)
- Call Preset Speed (1–24): Sets the travel speed between presets during patrol. (Auto Patrol ON only)

Video Mode

- SDI-3G Mode (LEVEL-A, LEVEL-B): Configures the 3G-SDI signal mapping. LEVEL-A is the standard for most modern broadcast equipment.
- Video Output (HDMI, SDI): Selects the primary signal source for video transmission.

Setup/Other

- Auto Inversion (On/Off): Automatically flips the image and control logic when the camera is mounted upside down.
- Tally Mode (On/Off): Enables the Tally lights to indicate the camera's live/on-air status.
- Preset Parameters (On/Off): Determines whether the camera restores specific image parameters (like WB/Exposure) when calling a preset.

Communication Setup

Configure remote control protocols and serial communication parameters to ensure compatibility with controllers and control software.

COMMUNICATION SETUP		
▶	Protocol	VISCA
	V_Address	1
	V_AddrFix	Off
	Net Mode	Serial
	Baudrate	9600
	▲▼ Select Item	
	◀▶ Change Value	
	[MENU] Back	

Protocol (Auto, VISCA, PELCO-D, PELCO-P)

Selects the communication protocol for camera control. When set to Auto, the camera automatically detects the incoming control signal.

[VISCA / Auto]
V_Address (1–7)

Sets the camera's device address when using the VISCA protocol.

V_AddrFix (On/Off)

On: The 88 30 01 FF command has no effect; the VISCA address cannot be changed via this command.
Off: The VISCA address can be modified.

Net Mode (Serial, Paral)

Defines the networking mode for VISCA communication.
Serial: Standard daisy-chain connection.
Paral: Parallel connection mode.

[PELCO / Auto]
P_D_Address (0–254)

Sets the camera address when using the PELCO-D protocol.

P_P_Address (0–31)

Sets the camera address when using the PELCO-P protocol.

Baudrate (2400, 4800, 9600, 38400)

Sets the data transmission speed. Both the camera and the controller must be set to the same baud rate for successful communication.

OSD Menu Settings

Factory Default

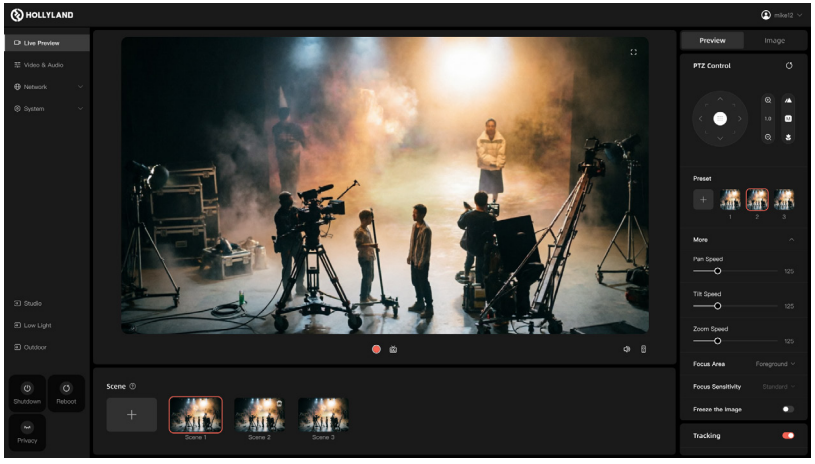
RESTORE DEFAULT		
▶	Restore?	No
	◀▶ Change Value	
	[HOME] OK	
	[MENU] Back	

Restore (Yes/No)

Resets all camera settings to their original factory defaults. This is recommended for troubleshooting or clearing custom configurations.

Note:
OSD menu and device information are subject to change without notice.

Live Preview & Control



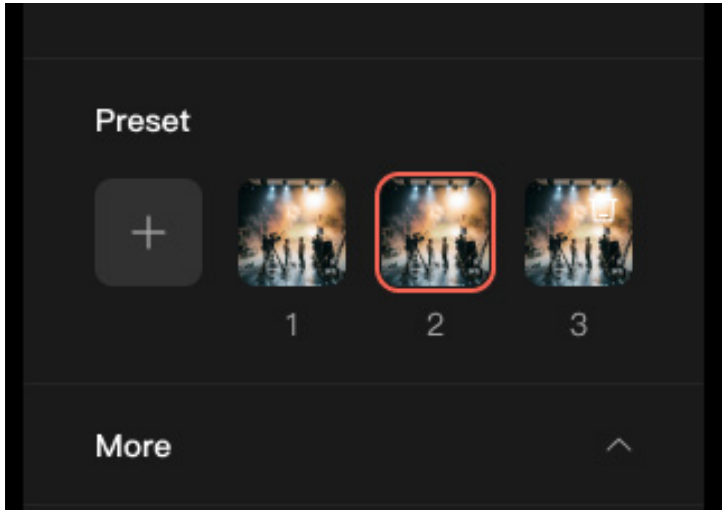
Video Feed & Real-Time Monitoring		
Icon	Function	Description
	Live View	Displays the real-time feed. The window auto-scales based on the current output resolution.
	Full Screen	Click to enter or exit immersive viewing mode.
	Local Recording	Start or stop recording the live feed directly to your local PC storage.
	Overlays	Toggle Time and Title displays. Drag text or enter coordinates for precise positioning.
	Audio Control	Click to Mute/Unmute or use the slider to adjust real-time audio volume.
	OSD Menu Navigation	Configure internal camera settings remotely using the Web-based OSD controller.

Web Configuration

PTZ & Lens Control		
Icon	Function	Description
	Directional Control	Controls camera movement in all directions, including up, down, left, right, diagonals.
	Return to Home	Moves the camera back to its default center position.
1.0	Zoom In	Increases the zoom level. The current zoom ratio is displayed in real time.
1.0	Zoom Out	Decreases the zoom level. The current zoom ratio is displayed in real time.
M A	Focus Mode	Switch between Auto Focus and Manual Focus modes.
A	Auto Focus	Automatically sharpens the image. Supports Focus Sensitivity adjustment (High, Mid, or Low).
	Manual Focus – Near	Adjust focal distance to Near. Supports customizable Focus Areas (Top, Center, Bottom, or Face).
	Manual Focus – Far	Adjust focal distance to Far. Supports customizable Focus Areas (Top, Center, Bottom, or Face).

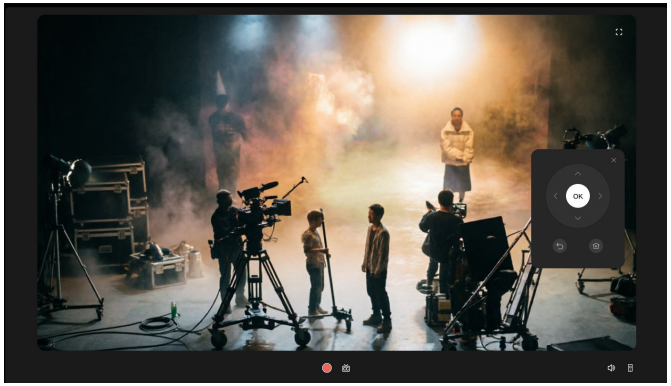
PTZ Speed Settings		
Item	Range	Description
Pan Speed	1–24	Controls horizontal rotation speed. Higher values result in faster pan movement.
Tilt Speed	1–20	Controls vertical rotation speed. Higher values result in faster tilt movement.
Zoom Speed	1–7	Sets the speed of focal length adjustment.
Focus Speed	1–7	Applies to Manual Focus mode only.

Pro Tip:
Select the desired speed value before using the directional or zoom pads to achieve precise or rapid movement.



Preset Management		
Action	Operation	Description
Save Preset	Click [+]	Navigate to the desired position and click the [+] icon to save.
Call Preset	Single-Click	Click a preset number to quickly move the camera to the saved position.
Delete Preset	Double-Click	Double-click a preset number to clear its data.

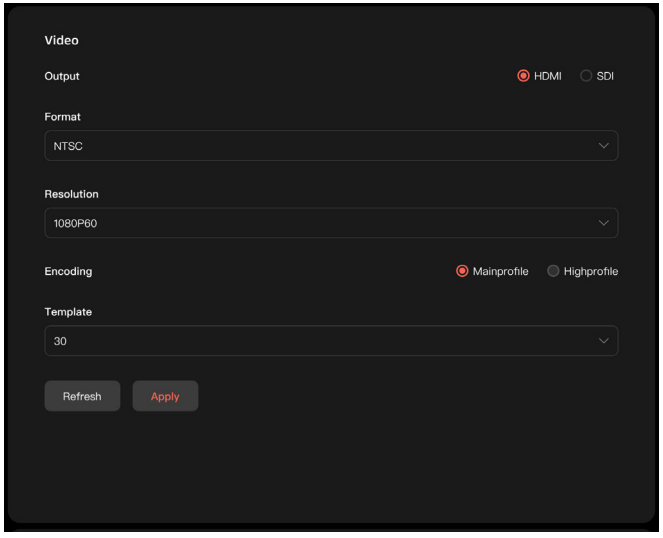
Web Configuration



Virtual OSD Navigation		
Icon	Function	Description
∧ ∨	Select Item	Navigate through the OSD menu options.
OK	Confirm / Enter	Confirm a selection or enter a sub-menu.
< >	Modify Value	Adjust settings or toggle sub-menu values.
↩	Return	Back to the main menu.
⌂	Save & Exit	Save all current configurations and exit the OSD menu.

Pro Tip:
Click the icon in the lower-right corner to open the Virtual OSD Navigation Panel.

Video & Audio Configuration



Physical Output Settings

Define the signal standards for hardware interfaces (HDMI/SDI).

Format

Toggle between PAL (50Hz) and NTSC (60Hz) to match your regional broadcast standard.

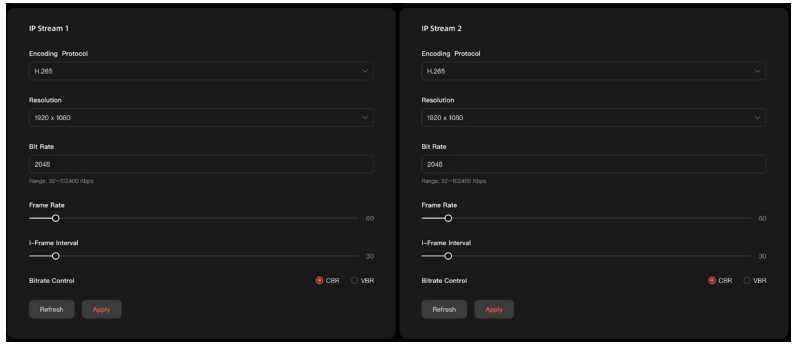
Resolution

Select the output resolution for physical ports.

Encoding

Choose between High Profile (better compression/quality) or Baseline Profile (wider compatibility with older decoders).

Web Configuration



Dual-Stream Network Encoding

The camera simultaneously encodes two independent streams (Main & Sub) for flexible network distribution.

Encoding Protocol

Supports H.264, H.265, and MJPEG. H.265 offers superior quality at lower bandwidth.

Resolution

Higher resolutions improve clarity but increase bandwidth load. Stream 1 supports up to 4K/60; Stream 2 is optimized for mobile/low-bandwidth monitoring.

Bit Rate

Higher bitrates enhance detail. Warning: If the bitrate exceeds your network capacity, it will cause lagging or frame drops.

Frame Rate (FPS)

Controls motion smoothness. Higher FPS results in more fluid video; lower FPS may appear stuttered.

I-Frame Interval

Sets the gap between full video frames. A longer interval saves bandwidth but may result in a delay when first opening the stream.

Bitrate Control

- **CBR (Constant):** Maintains a fixed bitrate for stable networks.
- **VBR (Variable):** Optimizes quality based on scene complexity to save data.

Video & Audio Configuration

Fine-tune audio input/output and USB integration.

Audio Encoding

Enable/Disable audio and select the Sampling Rate (44.1K/48K) and Bit Rate (96K/128K) to match your production standard.

Volume

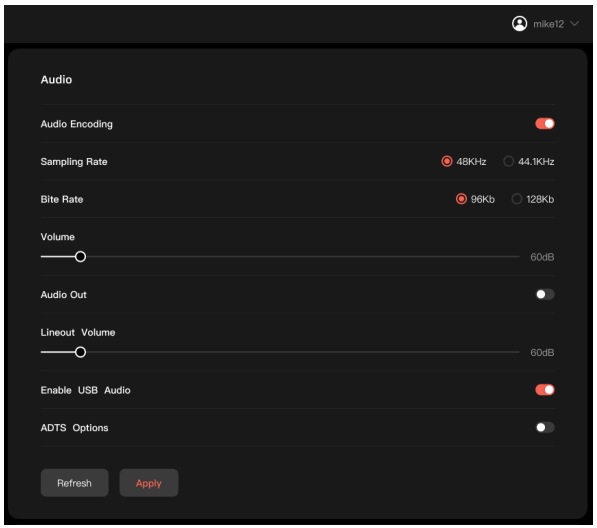
Independently adjust Input Volume (Microphone) and Output Volume (Line out) levels.

Enable USB Audio

Enable this to use the camera as a plug-and-play USB audio source (UAC) for PCs.

ADTS Options

Enable for specific AAC streaming headers required by certain decoders or servers.



Web Configuration

Network & Integration Protocols

LAN & Port

LAN Settings (IP Identity)

Ensure the camera's network identity is compatible with your local infrastructure.

IP Mode

- DHCP (Automatic): The camera automatically obtains an IP address from the network. Use the DHCP Timeout and Static Fallback settings to define the camera's behavior if a DHCP server is unavailable.
- Static (Manual): Manually assign a unique IP Address, Subnet Mask, Gateway, and DNS.

MAC Address: Displays the unique hardware identifier of the camera (Read-only).

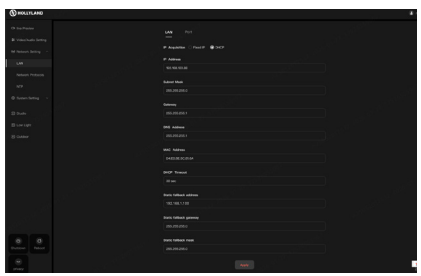
Service Ports (Communication)

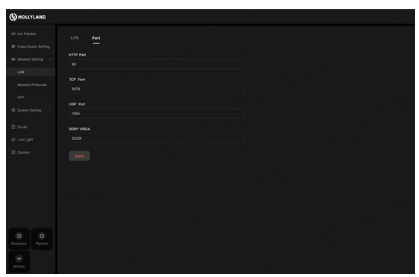
Configure the logical ports used for Web access and control protocols. For most installations, the default values are recommended.

- HTTP Port (Default: 80) Used for Web Interface access. If you modify this port, you must append the new port number to the browser URL (e.g., http://192.168.1.100:81).
- Sony VISCA (Default: 52381) The primary control port for IP-based PTZ operations using hardware joysticks or control software.
- TCP Port (Default: 5678) Dedicated for reliable, connection-oriented data transmission and system communication.
- UDP Port (Default: 1259) Utilized for low-latency, connectionless data exchange.

Pro Tip:

If you are setting up Port Forwarding for remote access, ensure your router's external mapping matches these internal port assignments.





Broadcast & Streaming Protocols

The camera supports professional protocols for broadcasting and virtual production.

NDI® - High-End Production

Enables high-quality, low-latency video over IP. Configure the Device Name and Group Name for network identification.

RTMP(S) - Social Media Streaming

Used for direct streaming to platforms like YouTube and Facebook. Enter your MRL (Stream URL) and Stream Key.

SRT - Secure Reliable Transport

Optimized for streaming over public networks. Configure Server Address, Latency, and Encryption.

RTSP & Multicast

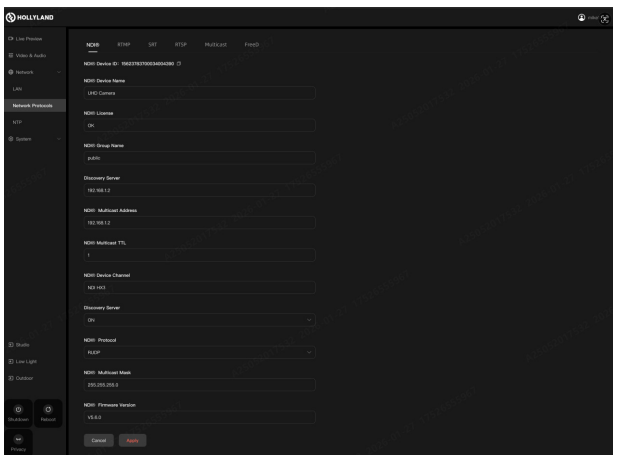
RTSP: Primary protocol for local players (e.g., VLC) or NVRs.
Multicast: Efficiently distributes video to multiple receivers without increasing camera load.

FreeD

Outputs camera tracking data for AR/VR virtual production.

Time Sync

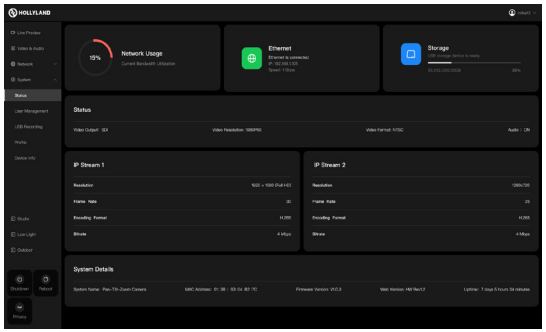
NTP: Synchronizes system time via a server (Default: time.windows.com).



Web Configuration

System Management & Maintenance

This section covers essential tools for monitoring device health, managing configurations, and performing routine system maintenance to ensure peak operational performance.

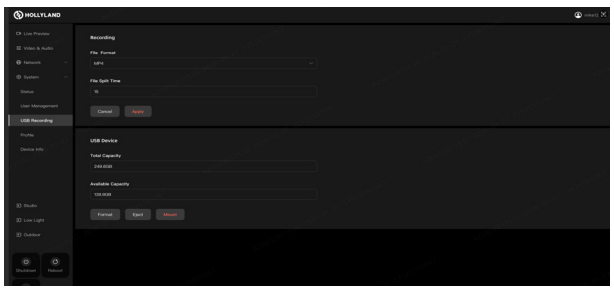


System Status & Monitoring

Provides real-time status updates on network performance, device information, and active audio/video configurations.

User Management

Secure the device by updating administrator or guest login credentials.



USB Recording

Recording Settings

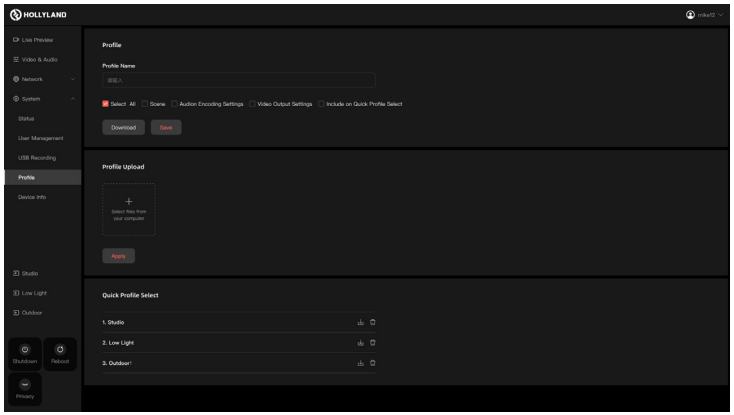
Select your preferred file format and define the split time (duration per file) for continuous recording.

Storage Status

View total capacity and available space on the connected USB drive.

Configuration Profiles

Streamline multi-camera setups by managing system presets.



Export (Save) Profile:

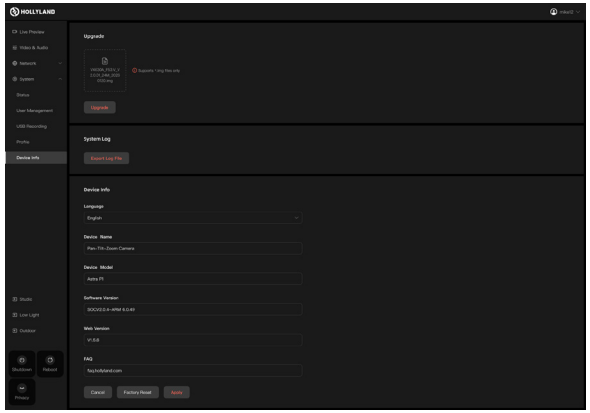
Download a backup of your camera settings (including Scene, Audio, and Video configurations) to your PC.

Upload Profile:

Apply saved configurations from your computer to the camera for rapid deployment.

Web Configuration

Device Info



Upgrade:

Perform online updates to access new features. Select the official update package and click Upgrade to begin.

System Log:

Download system logs for technical support and advanced troubleshooting.

Customization:

Select the interface Language (English, Chinese, etc.) and assign a custom Device Name for easy network identification.

Factory Reset:

Restores all settings to original factory defaults.

Power Operations & Reset

Shutdown:

The camera will stop active streaming and move to its designated park position to save power.

Reboot:

Restarts the system to refresh services and network connectivity.

Privacy Mode:

Tilt down and physically block the lens, disabling the video feed.

Troubleshooting

Common FAQs

Video Issues

- **No Image on the Display**

1) Make sure the camera power is properly connected, the voltage is normal, and the power indicator is on.
2) Turn on the power switch and check that the camera completes its self-test.
3) Check that the video cables to the monitor, TV, or video platform are connected correctly.

- **Unstable or Shaky Video**

1) Make sure the camera is firmly mounted.
2) Make sure there are no vibration sources or moving equipment near the camera.

- **No Video in the Browser**

1) Use a modern web browser such as Chrome, Firefox, or Edge.

* Internet Explorer is not supported.

- **Unable to Access the Camera via Browser**

1) Check that the PC network is working properly. Rule out cable issues and network problems caused by viruses. Make sure the PC and the camera are on the same network and can communicate with each other.
2) Disconnect other network devices and connect the camera directly to the PC. Make sure the PC and the camera are in the same IP subnet.
3) Check that the camera IP address, subnet mask, and gateway are set correctly.
4) Check for MAC address conflicts.
5) Make sure the Web port has not been changed (default: 80).

Control Issues

- **Remote Control Not Working**

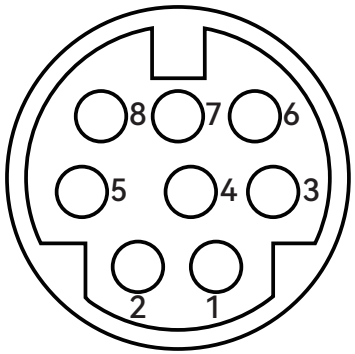
1) Check the remote control batteries and replace them if needed.
2) Make sure the camera is in normal operating mode.
3) Make sure the remote control address matches the camera address.
4) Make sure auto-tracking is turned off.
5) If the camera menu is open, the directional keys are used for menu navigation and PTZ control is disabled. Exit the menu before controlling the camera.

- **Serial Control Not Working**

1) Make sure the protocol, address, and baud rate of the camera and controller match.
2) Make sure the serial control cable is securely connected.

Appendix

Serial Communication Guide (RS232)



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

RS-232 to DB-9 Pin Mapping

RS232	DB-9
1.DTR	1.CD
2.DSR	2.RXD
3.TXD	3.TXD
4.GND	4.DTR
5.RXD	5.GND
6.GND	6.DSR
7.IR OUT	7.RTS
8.NC	8.CTS
-	9.RI

RS232 to Mini-DIN Pin Mapping

RS232	MIni DIN
1.DTR	1.DTR
2.DSR	2.DSR
3.TXD	3.TXD
4.GND	4.GND
5.RXD	5.RXD
6.GND	6.GND
7.IR OUT	7.NC
8.NC	8.NC

Appendix

System Select Resolution Dial

HDMI		SDI	
0	1080p60	0	1080p60
1	1080p50	1	1080p50
2	1080i60	2	1080i60
3	1080i50	3	1080i50
4	1080p30	4	1080p30
5	720p60	5	720p60
6	1080p29.97	6	1080p29.97
7	1080i59.94	7	1080i59.94
8	1080p59.94	8	1080p59.94
9	720p59.94	9	720p59.94
A	2160p29.97	A	1080p29.97
B	2160p59.94	B	1080p59.94
C	2160p25	C	1080p25
D	2160p30	D	1080p30
E	2160p50	E	1080p50
F	2160p60	F	1080p60

Notice:

Changes to the video format via the DIP switch will only take effect after a camera restart.

Support

If you encounter any problems in using the product or need any help, please contact Hollyland Support Team Support Team via the following ways:

 Hollyland User Group

 HollylandTech

 HollylandTech

 HollylandTech

 support@hollyland.com

 www.hollyland.com

Note:

Due to product version upgrades or other reasons, this User Manual will be updated from time to time. Unless otherwise agreed, this document is provided as a guide for use only. All representations, information, and recommendations in this document do not constitute warranties of any kind, express or implied.

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