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HCSTVCON HC-HD690A

HCSTVCON PTZ Camera 4K AI Auto Tracking (Model HC-HD690A) User Manual

Comprehensive instructions for setup, operation, and maintenance.

1. INTRODUCTION

This manual provides essential information for the safe and effective use of your HCSTVCON PTZ Camera 4K AI Auto Tracking. Please read this manual thoroughly before operating the device and retain it for future reference. This camera is designed for high-quality video capture in various environments, including online education, video conferencing, live streaming, and worship services.

2. PACKAGE CONTENTS

Verify that all items listed below are included in your product package. If any items are missing or damaged, please contact customer support.

- PTZ Camera (Model HC-HD690A)
- Remote Control
- Power Adapter
- USB Cable
- Mounting Bracket
- Mounting Screws
- User Manual (this document)
- Visca Cable (RS232)

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Video: Unboxing and package contents of the HCSTVCON PTZ Camera. This video demonstrates the items included in the box and initial setup steps.

3. PRODUCT OVERVIEW

The HCSTVCON PTZ Camera is equipped with a 1/2.5-inch 8-megapixel CMOS image sensor, delivering 4K (3840×2160) resolution. It features 20X optical zoom and 16X digital zoom, along with advanced 2D/3D noise reduction for clear images. The camera supports AI human tracking and offers multiple video output interfaces.

3.1 Camera Features

- **4K UHD Resolution:** Up to 3840x2160 for high-definition video.
- **Powerful Zoom:** 20X optical zoom + 16X digital zoom.
- **AI Auto Tracking:** Automatically detects and locks onto the speaker, supporting real-time and zone tracking.
- **Multiple Output Interfaces:** HDMI, 3G-SDI, USB3.0, and LAN (with PoE support).
- **Silent Pan/Tilt:** Horizontal rotation: -170°~ +170°, Tilt rotation: -30°~ +90°.
- **Advanced Noise Reduction:** 2D/3D noise reduction technology.
- **Control Options:** IR remote control, network, RS485, RS232.

3.2 Camera Interfaces

The rear panel of the camera provides various ports for connectivity:

- **3G-SDI:** For professional video output, supporting transmission up to 100 meters in 1080p@60fps.
- **HDMI:** High-definition video output.
- **USB3.0:** Supports dual stream video output.
- **LAN (RJ45):** Network connection, supports Power over Ethernet (PoE).
- **DC12V:** Power input.
- **RS232 IN/OUT:** Serial control ports.
- **RS485:** Serial control port.
- **LINE IN:** Audio input.
- **ON/OFF:** Power switch.

Multi-Interface

Ideal Solution For Video Conference



Image: Rear view of the HGSTVCON PTZ Camera, highlighting the various connectivity ports including HDMI, USB3.0, LAN, 3G-SDI, RS232, RS485, and power input.

4. SETUP

4.1 Mounting the Camera

The camera can be mounted on a wall, ceiling, or placed on a desktop. Use the provided mounting bracket and screws for secure installation. Ensure the camera is stable and positioned correctly for optimal viewing angles.

- **Desktop Placement:** Place the camera on a flat, stable surface.
- **Wall Mount:** Use the included bracket to securely attach the camera to a wall. Refer to the bracket's specific instructions for drilling and mounting.
- **Ceiling Mount:** Similar to wall mounting, ensure the ceiling can support the camera's weight and use appropriate fasteners.

4.2 Connecting the Camera

1. **Power Connection:** Connect the power adapter to the DC12V port on the camera and plug it into a power outlet. Alternatively, if using PoE, connect an Ethernet cable from a PoE-enabled switch to the

LAN port.

2. Video Output:

- **HDMI:** Connect an HDMI cable from the camera's HDMI port to a display or capture device.
- **3G-SDI:** Connect an SDI cable from the camera's 3G-SDI port to a compatible SDI receiver or switcher.
- **USB3.0:** Connect the USB3.0 cable from the camera to a computer for direct video capture.
- **LAN:** Connect an Ethernet cable to the LAN port for IP streaming and control.

3. Control Connection (Optional):

- **RS232/RS485:** Connect a serial cable to the RS232 or RS485 ports for external PTZ control systems.
- **Network Control:** Use the LAN connection for IP-based control via a web interface or dedicated software.

4. Audio Input (Optional):

 Connect an external microphone to the LINE IN port for audio capture.

Image: The HCSTVCON PTZ Camera, its remote control, and the included mounting bracket, illustrating the complete package for setup.

5. OPERATION

5.1 Basic Camera Control (Remote Control)

The included IR remote control allows for easy adjustment of camera functions:

- **Pan/Tilt:** Use the directional arrows to move the camera horizontally (pan) and vertically (tilt).
- **Zoom:** Use the '+' and '-' buttons to zoom in and out. The camera features 20X optical and 16X digital zoom.
- **Focus:** Use the 'AUTO' button for automatic focus or 'MANUAL' for fine-tuning focus.
- **Presets:** Store and recall up to 10 preset positions using the numbered buttons (1-9, 0) and the 'SET' button. To set a preset, adjust the camera to the desired position, press 'SET', then press a number button. To recall, simply press the number button.
- **Home:** Press the 'HOME' button to return the camera to its default home position.

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Video: Demonstration of camera focus and preset functions using the remote control. This video illustrates how to adjust focus and utilize preset camera positions.

5.2 AI Auto Tracking

The camera's AI auto-tracking feature can automatically detect and follow a speaker or subject. This is ideal for presentations, lectures, and worship services.

- **Activation:** Refer to the camera's on-screen display or web interface for specific instructions on activating AI tracking modes (Real-time Tracking, Zone Tracking).
- **Performance:** The AI algorithm ensures smooth and accurate tracking, keeping the subject centered in the frame.



Image: A visual representation of the AI Auto Tracking feature, showing the camera identifying and tracking individuals in a meeting setting.

5.3 Applications

The HCSTVCON PTZ Camera is versatile and suitable for various applications:

- **Video Conferencing:** Enhance virtual meetings with high-quality video and dynamic camera movement.
- **Live Streaming:** Perfect for broadcasting events on platforms like OBS, Facebook, and YouTube.
- **Education:** Ideal for lecture capture and remote learning environments.

- **Worship Services:** Capture sermons and events with professional-grade video.
- **Telemedicine:** Facilitate remote medical consultations with clear visuals.



Image: A collage showcasing the diverse applications of the PTZ camera, including video conferencing, educational settings, and large event broadcasting.

6. MAINTENANCE

To ensure the longevity and optimal performance of your camera, follow these maintenance guidelines:

- **Cleaning:** Use a soft, dry cloth to clean the camera body. For the lens, use a specialized lens cleaning cloth and solution. Avoid abrasive cleaners or solvents.
- **Storage:** When not in use for extended periods, store the camera in a dry, dust-free environment.
- **Environmental Conditions:** Avoid exposing the camera to extreme temperatures, high humidity, or direct sunlight.
- **Firmware Updates:** Periodically check the manufacturer's website for firmware updates to ensure the camera has the latest features and performance improvements.

7. TROUBLESHOOTING

If you encounter issues with your HCSTVCON PTZ Camera, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
No power	Power cable disconnected, power adapter faulty, power switch off.	Check power connections, ensure power switch is ON. Test with another power outlet or adapter if available.
No video output	Incorrect cable connection, display input not selected, camera not powered on, resolution incompatibility.	Verify HDMI/SDI/USB/LAN cable connections. Select correct input on display. Ensure camera is powered. Check display's supported resolutions.
Remote control not working	Batteries low/dead, IR sensor blocked, remote out of range.	Replace batteries. Ensure no obstructions between remote and camera. Operate within specified range.

Problem	Possible Cause	Solution
Image blurry or out of focus	Auto-focus issue, manual focus adjustment needed, dirty lens.	Try auto-focus. If manual, adjust focus using remote. Clean the lens with a soft cloth.
AI tracking not functioning	Feature not activated, subject too far/close, poor lighting, multiple subjects confusing AI.	Ensure AI tracking is enabled. Optimize lighting. Position subject within optimal range. If multiple subjects, try zone tracking or manual control.

8. SPECIFICATIONS

Detailed technical specifications for the HCSTVCON PTZ Camera (Model HC-HD690A):

Feature	Detail
Model Name	HC-HD690A
Image Sensor	1/2.5-inch 8-megapixel CMOS
Max Resolution	4K (3840×2160)
Optical Zoom	20X
Digital Zoom	16X
Pan Rotation	-170° to +170°
Tilt Rotation	-30° to +90°
Video Output Interfaces	HDMI, 3G-SDI, USB3.0, LAN (PoE)
Video Coding Formats	YUY2, MJPEG, H.264, NV12, H.265
Control Interfaces	IR Remote, Network, RS485, RS232
AI Tracking	Real-time Tracking, Zone Tracking
Power Source	DC12V or PoE
Item Weight	3.08 Kilograms (6.78 pounds)
Dimensions	10.63 x 9.76 x 9.25 inches (Package)
Indoor/Outdoor Usage	Indoor
Frame Rate	60 frames_per_second (for 1080p)

9. WARRANTY AND SUPPORT

HCSTVCON provides a **2-year warranty** for this product and lifetime technical support. If you have any questions, require assistance, or experience issues not covered in this manual, please contact HCSTVCON customer service. Please refer to your purchase documentation for specific warranty terms and contact information.

For further assistance, visit the [HCSTVCON Store on Amazon](#).

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