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> Tenveo 4K NDI AI Auto-Tracking PTZ Camera (Model TEVO-VHD20H4KN) User Manual

Tenveo TEVO-VHD20H4KN

Tenveo 4K NDI AI Auto-Tracking PTZ Camera User Manual

MODEL: TEVO-VHD20H4KN

1. Introduction

The Tenveo 4K NDI AI Auto-Tracking PTZ Camera (Model TEVO-VHD20H4KN) is designed for professional video conferencing and live streaming applications. It features 4K resolution at 30FPS, a 1/2.8" Sony CMOS sensor, and 20x optical zoom. Advanced AI humanoid and face auto-tracking ensures subjects remain centered. Connectivity options include USB 3.0, HDMI, LAN/NDI, and Power over Ethernet (PoE) for simplified installation and operation. This camera supports various streaming protocols like RTMP, RTSP, and SRT, making it compatible with platforms such as YouTube, Facebook, OBS, and vMix.



This image highlights the key features of the Tenveo PTZ camera, including 4K 30FPS resolution, 20x optical zoom, AI humanoid and face auto-tracking, NDI|HX live streaming, PoE support, USB3.0/HDMI/LAN connectivity, CMOS sensor, and a 63° wide field of view.

2. What's in the Box

The package includes the following items:

- Tenveo NDI AI Auto Tracking 4K PTZ Live Streaming Camera
- IR Remote Control
- DC12V Power Adapter
- USB3.0 Cable
- User Manual
- Wall mount
- Mounting screws

3. Setup Instructions

Follow these steps to set up your Tenveo PTZ camera:

1. **Unpacking and Inspection:** Carefully remove all components from the packaging. Inspect for any signs of damage.
2. **Power Connection:** Connect the DC12V Power Adapter to the camera's power input. Alternatively, if using Power over Ethernet (PoE), connect an Ethernet cable from a PoE-enabled switch to the camera's LAN port.
3. **Video Output Connection:**
 - For USB 3.0 output, connect the provided USB3.0 cable to your computer.
 - For HDMI output, connect an HDMI cable (not included) to a display or video switcher.
 - For LAN/NDI streaming, connect an Ethernet cable (not included) to your network.
4. **Mounting:** The camera supports desktop, monitor, wall, or ceiling mounting. Use the provided wall mount and screws for wall installation, or place the camera on a stable surface for desktop use.

Facile da usare

Connessione multipla

Connettiti, collabora e crea con Tenveo.

NDI/LAN/PoE/ Streaming
IP/Controllo IP

Blackmagic ATEM Mini/Smart TV e
altri dispositivi di visualizzazione

Alimentatore

Uscita USB3.0 fino a 3840*2160

Controller joystick Tenveo

Voovmeeting
webex by cisco
Microsoft Lync
Google Meet
cisco
zoom
YouTube

This image shows the rear panel of the Tenveo PTZ camera, detailing the power input, USB3.0, HDMI, and LAN/NDI ports for various connections.

4. Operating Instructions

The camera offers various control methods for flexible operation.

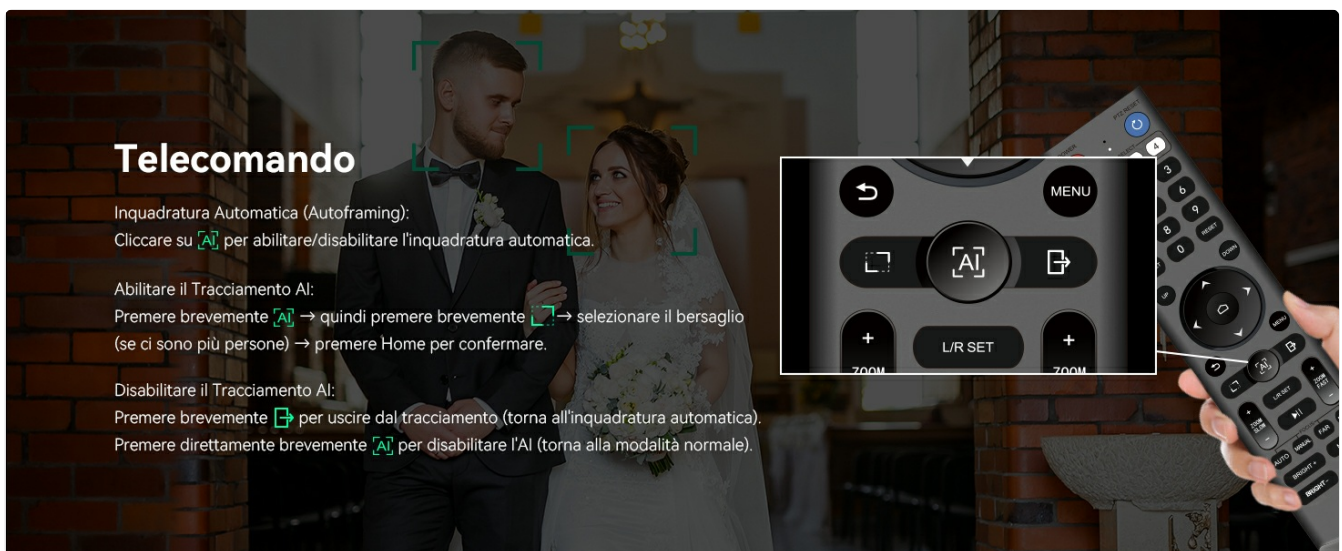
AI Auto-Tracking

The camera features advanced AI humanoid and face auto-tracking. This function automatically adjusts the camera's pan, tilt, and zoom to keep the subject in frame.

- **Presenter Mode:** Tracks a single presenter, ensuring they remain centered even if they move.
- **Autoframing Mode:** Automatically frames multiple participants in a meeting room.

To activate or deactivate AI tracking via remote control:

- For Auto-framing: Press the 'A' button on the remote control.
- To initiate AI tracking: Briefly press 'AI', then select the target (if multiple people are present), and press 'Home' to confirm.
- To disable AI tracking: Briefly press 'AI' to exit tracking (returns to auto-framing), or press 'A' directly to disable AI (returns to normal mode).

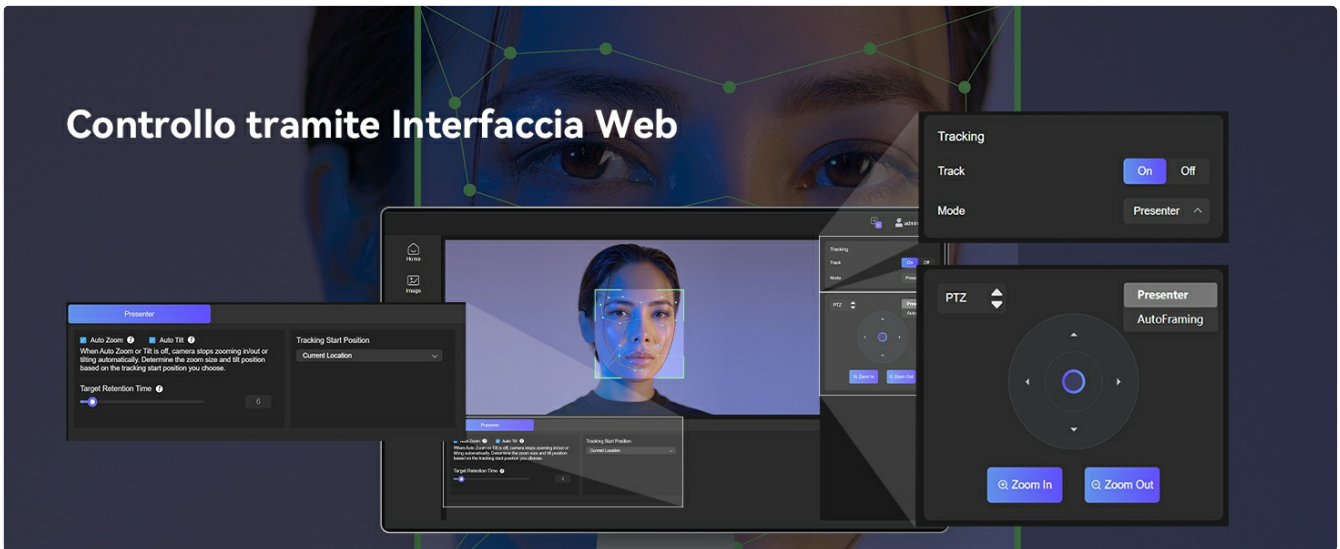


This image shows the Tenveo PTZ camera remote control, highlighting the buttons used for AI auto-tracking and auto-framing functions. The 'A' button is for auto-framing, and the 'AI' button is for initiating or disabling AI tracking.

Web Interface Control

The camera can be controlled via a web interface for advanced settings and real-time preview.

- Connect the camera to your network via the LAN port.
- Find the camera's IP address (refer to the network settings or camera's display if available).
- Open a web browser and enter the camera's IP address.
- Log in using the default credentials (refer to the user manual for default username/password).
- From the web interface, you can control pan, tilt, zoom, focus, and access AI tracking settings.



This image displays the Tenveo PTZ camera's web interface, showing video preview, PTZ controls, and settings for tracking modes like Presenter and AutoFraming.

5. Connectivity and Streaming

The Tenveo PTZ camera offers multiple interfaces for versatile live streaming and video production:

- **USB 3.0:** Provides simultaneous video output up to 4K@30fps for direct connection to a computer.
- **HDMI:** Outputs video up to 4K@30fps, suitable for monitors or video switchers.
- **LAN/NDI:** Supports Power over Ethernet (PoE) for power, control, and video transmission over a single Ethernet cable. NDI enables low-latency IP-based production workflows.
- **Streaming Protocols:** Compatible with RTMP, RTSP, and SRT for direct streaming to platforms like YouTube, Facebook, and OBS without additional hardware.

Universal Compatibility



OBS



Zoom



facebook

This image illustrates the various connectivity ports on the Tenveo PTZ camera, including USB 3.0, HDMI, and LAN/NDI, demonstrating its versatile integration into different streaming setups.

6. Installation Methods

The camera can be installed in various ways to suit different environments:

- **Desktop Mounting:** Place the camera on a flat, stable surface.
- **Wall Mounting:** Use the provided wall mount and screws to secure the camera to a wall.
- **Ceiling Mounting:** The camera can also be mounted to the ceiling using appropriate hardware (not included, but compatible with the camera's design).
- **Tripod Mounting:** For temporary setups or portability, the camera can be mounted on a standard tripod.

Installate il vostro sistema video in base al budget e alle esigenze!

Sbloccate la precisione del pan-tilt-zoom senza soluzione di continuità e il controllo del monitoraggio senza sforzo. Trasmettete come un professionista!



This image displays the Tenveo PTZ camera installed in various configurations: wall-mounted, ceiling-mounted, desktop placement, and on a tripod, illustrating its adaptability for different usage scenarios.

7. Specifications

Feature	Detail
Brand	Tenveo
Model Name	TEVO-VHD20H4KN
Model Number	DE-CA-VHD20H-AI-4K
Sensor Technology	CMOS
Optical Sensor Size	1/2.8 inches
Video Capture Resolution	4K (3840x2160)
Frame Rate	30FPS (at 4K)
Effective Video Resolution	8.29 MP
Optical Zoom	20x
Maximum Focal Length	99 Millimeters
Minimum Focal Length	4.95 Millimeters
Maximum Aperture	f/1.7
Minimum Aperture	f/3.7
Focus Type	Auto Focus, Manual Focus
Image Stabilization	Digital

Feature	Detail
Connectivity Technology	Ethernet, HDMI, USB 3.0
PoE Support	Yes
Supported Operating Systems	Windows, Mac, Linux, Android
Product Features	AI Auto-Tracking (Humanoid & Face), Multiple Connections (HDMI/LAN/NDI/USB3.0), PoE Support
Color	Nero Classico (Classic Black)
Compatible Display Size	20 Inches
Recommended Uses	Live Concert, Church Events, Sports Events, University Lecture, Online Meeting, Studio Live Streaming, Video Conferencing

8. Maintenance

To ensure optimal performance and longevity of your Tenveo PTZ 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 harsh chemicals or abrasive materials.
- **Storage:** When not in use for extended periods, store the camera in a dry, dust-free environment.
- **Firmware Updates:** Periodically check the Tenveo official website for any available firmware updates to ensure the camera operates with the latest features and improvements.

9. Troubleshooting

If you encounter issues with your Tenveo PTZ camera, refer to the following common troubleshooting steps:

- **No Power:** Ensure the DC12V power adapter is securely connected to both the camera and a working power outlet. If using PoE, verify the Ethernet cable is connected to a PoE-enabled switch and the switch is powered on.
- **No Video Output:**
 - Check all video cables (USB, HDMI, Ethernet) for secure connections.
 - Verify the input source on your display or video switcher is correctly selected.
 - Ensure the camera is powered on and its indicator lights are active.
- **AI Tracking Not Working:**
 - Ensure there is sufficient lighting in the environment.
 - Check for obstructions between the camera and the subject.
 - Verify AI tracking is enabled via the remote control or web interface.
 - Ensure the subject is within the camera's effective tracking range.
- **Remote Control Not Responding:**
 - Check the batteries in the remote control and replace if necessary.

- Ensure there are no obstructions between the remote control and the camera's IR receiver.
- **Network Connectivity Issues:**
 - Verify the Ethernet cable is properly connected.
 - Check network settings on your computer and the camera's web interface.
 - Ensure the camera's IP address is correct and not conflicting with other devices on the network.

For further assistance, please contact Tenveo customer support.

10. Warranty and Support

The Tenveo 4K NDI AI Auto-Tracking PTZ Camera comes with a **3-year product warranty**.

For any technical support or inquiries, please contact Tenveo customer service via email at sales@tenveo.com. Tenveo offers 24/7 after-sales email support.

Additionally, a **30-day money-back guarantee** is provided.