Tenveo TEVO-VHD630A-NDI

Tenveo AI Auto Tracking NDI PTZ Camera User Manual

Model: TEVO-VHD630A-NDI
Brand: Tenveo

1. Introduction

This manual provides detailed instructions for the setup, operation, and maintenance of your Tenveo AI Auto Tracking NDI PTZ Camera. This professional-grade camera is designed for high-quality live streaming and video production, featuring advanced AI auto-tracking, multiple connectivity options, and superior optical zoom capabilities. Please read this manual thoroughly before using the product to ensure proper and safe operation.

2. Product Overview

The Tenveo AI Auto Tracking NDI PTZ Camera is equipped with a range of features to enhance your video production experience. Below are key components and capabilities:

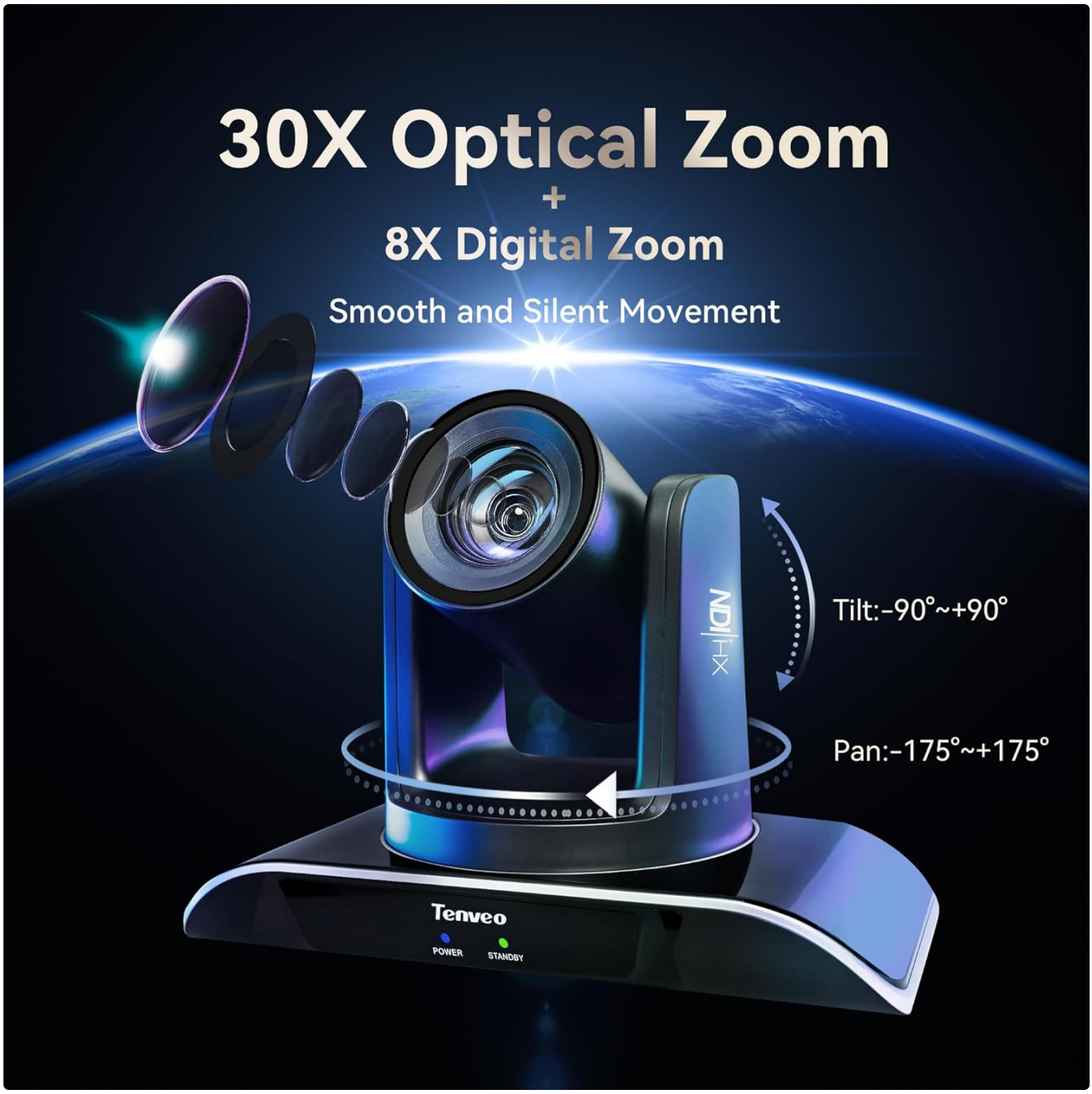
2.1 Camera Interfaces

This image displays the rear panel of the Tenveo PTZ camera, highlighting its comprehensive array of input and output ports including DC-12V power input, RS485, RS232 In/Out, USB3.0, HDMI, SDI, Line In, Line Out, and RJ45 (LAN/PoE) for versatile connectivity.

2.2 Key Features Overview

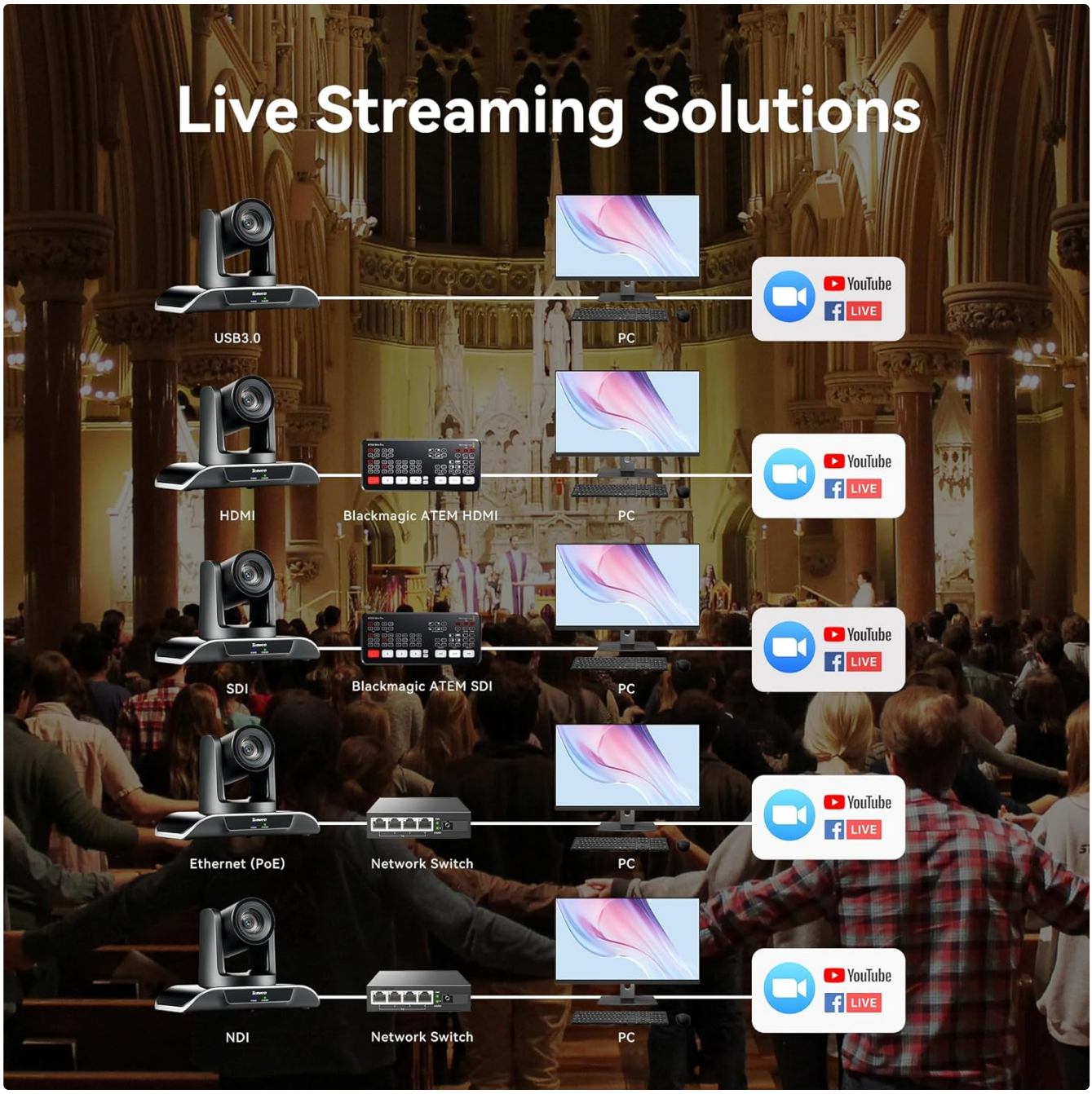
An infographic illustrating the camera's core capabilities: Full HD 1080P at 60 frames per second, NDI|HX for live streaming, four video output interfaces (3G-SDI, LAN, HDMI, USB3.0), 30X optical zoom plus 8X digital zoom, Power over Ethernet (PoE) support, a SONY CMOS sensor for high image quality, and advanced AI tracking functionality.

2.3 Pan, Tilt, and Zoom Capabilities



This image highlights the camera's extensive pan and tilt ranges (Pan: -175° to +175°, Tilt: -90° to +90°) for smooth and silent movement, along with its powerful 30X optical zoom and 8X digital zoom capabilities, allowing for detailed close-ups from a distance.

2.4 Live Streaming Solutions



A visual representation of different live streaming configurations, demonstrating how the camera can be integrated into various setups using USB3.0, HDMI (with Blackmagic ATEM HDMI), SDI (with Blackmagic ATEM SDI), Ethernet (PoE), and NDI connections to stream to platforms like YouTube Live and Facebook Live.

2.5 Universal Compatibility

This image highlights the camera's broad compatibility with popular video conferencing and streaming software, including Zoom, YouTube, WebEx, BlueJeans, Facebook, Teams, Facetime, Google Hangout, OBS, and Google Meet, ensuring seamless integration into existing workflows.

2.6 Application Scenarios

A collage demonstrating the versatile applications of the Tenveo PTZ camera, including church services, college lectures, live concerts, product launches, and sports events, showcasing its adaptability for diverse professional environments.

3. Technical Specifications

Feature	Description
Model Number	TEVO-VHD630A-NDI
Dimensions	5.98 x 9.45 x 6.69 inches
Item Weight	3.01 pounds
Color	Black
Video Capture Resolution	1080p (FHD 60FPS)
Optical Zoom	30X

Feature	Description
Digital Zoom	8X
Photo Sensor Technology	CMOS (1/2.8" SONY CMOS Sensor)
Maximum Focal Length	138 Millimeters
Maximum Aperture	1.8 f
Connectivity Technology	NDI, 3G-SDI, HDMI, Ethernet, USB3.0, Infrared
Video Capture Format	H.264/H.265/MJPG
Supported Audio Format	AAC, MP3
Pan Range	±175°
Tilt Range	±90°
Noise Reduction	2D&3D Digital Noise Reduction
PoE Support	Yes (802.3af)
AI Features	AI Auto Tracking, Auto Framing

4. Setup Guide

4.1 What's in the Box

Before you begin, please verify that all components are included in the package:

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

4.2 Physical Connections

Connect the camera to your desired devices using the appropriate cables:

1. **Power Connection:** Connect the DC12V Power Adapter to the 'DC-12V' port on the camera and plug it into a power outlet. Alternatively, if using PoE, connect an Ethernet cable from a PoE-enabled switch or injector to the RJ45 port.
2. **Video Output:**
    - **HDMI:** Connect an HDMI cable from the camera's HDMI port to an HDMI input on your display or video mixer.
    - **3G-SDI:** Connect an SDI cable from the camera's SDI port to an SDI input on your professional video equipment.
    - **USB3.0:** Connect the USB3.0 cable from the camera's USB3.0 port to a USB3.0 port on your computer for direct video capture.
    - **LAN (NDI/IP Streaming):** Connect an Ethernet cable from the camera's RJ45 port to your network switch or router for

NDI and IP streaming capabilities.

3. **Audio Connection:** Use the 'LINE IN' and 'LINE OUT' 3.5mm audio jacks to connect external audio devices for simultaneous audio and video streaming. (Audio device not included).
4. **Control Connections (Optional):** For professional control, connect RS232 or RS485 cables to compatible PTZ controllers.

4.3 Mounting Options

The camera supports various mounting configurations:

- **Desktop Placement:** Place the camera on a flat, stable surface.
- **Monitor Mounting:** Securely attach to a monitor using compatible mounting accessories (not included unless specified).
- **Wall Mounting:** Use the provided wall mount and screws to fix the camera to a wall. Ensure the wall can support the camera's weight.
- **Ceiling Mounting:** Utilize appropriate ceiling mounting hardware (not included) to install the camera upside down. The camera features a built-in gravity sensor that automatically flips the image vertically when ceiling mounted.

4.4 Network Configuration (for IP/NDI)

For NDI and IP streaming, the camera requires network configuration:

1. Connect the camera to your LAN via the RJ45 port.
2. Access the camera's web interface by entering its IP address into a web browser. The default IP address can typically be found in the quick start guide or by using a network scanning tool.
3. Configure network settings (IP address, subnet mask, gateway) as required by your network environment.

5. Operating Instructions

5.1 Basic Pan, Tilt, and Zoom Control

The camera can be controlled remotely for precise pan, tilt, and zoom adjustments:

- **IR Remote Control:** Use the included IR remote to control pan, tilt, and zoom functions. Refer to the remote's specific buttons for movement and zoom in/out.
- **RS232/RS485 Control:** For professional setups, connect a compatible PTZ joystick controller via RS232 or RS485 ports. These controllers offer more granular and simultaneous control over camera movements.
- **IP Control:** Control the camera via its web interface or compatible software over the network.

5.2 AI Auto-Tracking and Auto-Framing

The camera's AI capabilities allow for intelligent subject tracking:

- **Activation:** Enable AI auto-tracking through the camera's web interface or a compatible control software.
- **Human Shape Tracking:** The camera uses advanced AI algorithms to detect and track human shapes, ensuring the subject remains in frame.
- **Auto-Framing:** Once a subject is detected, the camera automatically adjusts its pan, tilt, and zoom to optimally frame the person, ideal for presentations, lectures, and worship services.

The camera's AI auto-tracking and auto-framing feature in action, demonstrating its ability to automatically keep a speaker perfectly framed during a live production or broadcast, enhancing viewer experience.

5.3 Preset Management

Save and recall specific camera positions for quick transitions:

- **Setting Presets:** Up to 10 presets can be set using the IR Remote Control. For advanced users, up to 255 presets can be configured via RS232 and RS485 interfaces.
- **Recalling Presets:** Use the remote or controller to quickly move the camera to a saved preset position, including its pan, tilt, and zoom settings.

5.4 Software Compatibility and Live Streaming

The camera is designed for seamless integration with various software and platforms:

- **Video Conferencing:** Compatible with Zoom, WebEx, BlueJeans, Teams, Facetime, Google Hangout, Google Meet.
- **Live Streaming Software:** Works with OBS, vMix, and other production software that supports NDI|HX.
- **Operating Systems:** Supports Windows 7/8.1/10/11, Mac OS 10.10 or higher, Linux, and Android.

6. Maintenance

To ensure the longevity and optimal performance 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 abrasive cleaners or solvents.
- **Environment:** Operate and store the camera in a clean, dry environment, away from direct sunlight, excessive heat, humidity, and dust.
- **Handling:** Handle the camera with care. Avoid dropping or subjecting it to strong vibrations.
- **Firmware Updates:** Periodically check the Tenveo official website for firmware updates. Keeping the firmware updated can improve performance and add new features.

7. Troubleshooting

This section addresses common issues you might encounter with your Tenveo PTZ camera.

Problem	Possible Cause	Solution
No video output	Incorrect cable connection; Power issue; Input selection on display.	Ensure all video cables (HDMI, SDI, USB) are securely connected. Verify the power adapter is properly connected and the camera is powered on. Check the input source selection on your display or mixer.
Camera not responding to control	IR remote battery low; Incorrect control settings (RS232/RS485/IP); Network connectivity issues.	Replace IR remote batteries. Verify control protocol settings (VISCA, Pelco-D, Pelco-P) match your controller. Ensure the camera is properly connected to the network and its IP address is correct if using IP control.
Image freezing or intermittent video	Network bandwidth issues; Outdated firmware; Cable quality.	Ensure sufficient network bandwidth for streaming. Check for and install the latest firmware updates from Tenveo. Use high-quality, shielded cables.
AI tracking not working accurately	Poor lighting conditions; Obstructions; Subject too far/close.	Ensure adequate and even lighting in the tracking area. Remove any obstructions between the camera and the subject. Ensure the subject is within the optimal tracking distance.
No audio or poor audio quality	Audio cables not connected; External audio device issue; Software settings.	Verify 'LINE IN' and 'LINE OUT' connections. Ensure external audio devices are functioning correctly. Check audio input/output settings in your streaming/recording software.

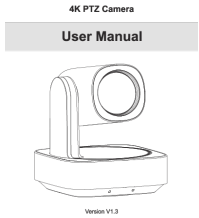
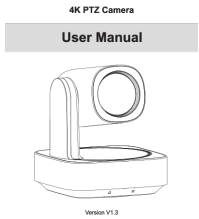
8. Warranty and Support

Tenveo is committed to providing excellent customer service and support for its products.

- **Standard Warranty:** The Tenveo AI Auto Tracking NDI PTZ Camera comes with a 3-year standard warranty.
- **Technical Support:** Enjoy lifetime technical support service, including firmware upgrades. Remote assistance for setup is available upon request.
- **Money-Back Guarantee:** A 30-day no-questions-asked money-back guarantee is provided for a risk-free purchase.
- **Contact Information:** For any questions or support needs, please contact Tenveo customer service via email at

tenveo_amazon@tenveo.com. Responses are typically provided within 12 hours.

Related Documents

	Tenveo AI Auto Tracking Conference Camera User Manual User manual for the Tenveo AI Auto Tracking Conference Camera, detailing its features, specifications, setup, and operation. Includes information on video and audio settings, PTZ controls, AI tracking, and network configuration.
	Tenveo TEVO-VL12U 4K PTZ Camera User Manual Comprehensive user manual for the Tenveo TEVO-VL12U 4K PTZ camera, covering product description, specifications, remote control operation, menu setup, network configuration, troubleshooting, and maintenance.
	Tenveo 4K PTZ Camera User Manual User manual for the Tenveo 4K PTZ Camera (Model TEVO-VL12U), covering product description, packing list, performance characteristics, remote control operation, camera menu setup, common operations, network functions, troubleshooting, and maintenance services.
	HD AI Auto Tracking Camera User Manual User manual for the HD AI Auto Tracking Camera, covering product description, performance characteristics, remote control functions, menu setup, installation, network features, and troubleshooting.