Tenveo TEVO-VHD20HAN

Tenveo TEVO-VHD20HAN NDI PTZ Camera User Manual

Model: TEVO-VHD20HAN

1. INTRODUCTION

This manual provides comprehensive instructions for the Tenveo TEVO-VHD20HAN NDI PTZ Camera. This camera is designed for professional video conferencing and live streaming, offering Full HD 1080P resolution at 60 frames per second, a 20X optical zoom, and advanced AI auto-tracking capabilities. It supports multiple video output interfaces including HDMI, LAN, and USB3.0, with Power over Ethernet (PoE) functionality. The NDI|HX protocol enables low-latency, IP-based production workflows, ensuring high-quality, frame-accurate video streaming and PTZ control.

Video 1: An overview of Tenveo's commitment to communication technology, showcasing various products and applications.

2. SAFETY INFORMATION

Please read and follow all safety instructions carefully to prevent damage to the product or injury to yourself. Keep this manual for future reference.

- Do not expose the camera to rain or moisture.
- Do not disassemble the camera. Refer all servicing to qualified personnel.
- Ensure the power supply is correctly rated for the device.
- Avoid placing the camera in unstable locations or near heat sources.
- Clean the camera with a soft, dry cloth. Do not use harsh chemicals.

3. PACKAGE CONTENTS

Verify that all items are present in the package:

- Tenveo NDI AI Auto Tracking PTZ Live Streaming Camera

- IR Remote Control
- DC12V Power Adapter
- USB3.0 Cable
- User Manual
- Wall mount
- Mounting screws

4. PRODUCT OVERVIEW

The Tenveo TEVO-VHD20HAN is a high-performance PTZ camera designed for versatile video production. It features a Sony 1/2.8" CMOS Sensor, delivering FHD 1080P at 60FPS. The 20X optical zoom allows for detailed capture from a distance, while advanced AI humanoid and face auto-tracking ensures subjects remain centered. Connectivity options include USB3.0, HDMI, and LAN, with Power over Ethernet (PoE) support for simplified installation.

Image 1: Front view of the Tenveo NDI PTZ Camera, showing the lens and base with power/standby indicators.

Image 2: Key features of the camera, including 20X Zoom, AI Humanoid & Face Auto-Tracking, NDI|HX Live Streaming, PoE Support, USB3.0/HDMI/LAN connectivity, 1080P 60FPS, CMOS Sensor, and 61° Wide FOV.

Image 3: Rear view of the camera highlighting various connection ports: Power Supply, NDI/LAN/PoE/IP Streaming/IP Control, and USB3.0 Output.

Video 2: A detailed demonstration of the Tenveo VHD20HAN 20X AI Auto Tracking NDI PTZ Camera, showcasing its features and capabilities.

5. SETUP

5.1. Mounting Options

The Tenveo TEVO-VHD20HAN camera supports various installation methods to suit your environment:

- **Desktop:** Place the camera on a flat surface.
- **Monitor:** Securely attach to the top of a monitor.
- **Wall Mount:** Use the included wall mount and screws to fix the camera to a wall.
- **Ceiling Mount:** Install the camera inverted on the ceiling using appropriate mounting hardware.

Image 4: Illustration of the camera's pan (350°) and tilt (180°) capabilities, along with its 20X optical zoom, shown in a church setting.

5.2. Connectivity

Connect the camera using the appropriate cables for your setup:

- **Power:** Connect the DC12V Power Adapter to the camera. Alternatively, use a PoE (802.3af) switch to provide power and network connectivity via a single LAN cable.
- **USB3.0:** Connect the USB3.0 cable to your computer for video output.
- **HDMI:** Connect an HDMI cable for high-definition video output to a display or capture device.
- **LAN (NDI/IP Streaming):** Connect an Ethernet cable to a network switch or router for NDI|HX, IP streaming (RTMP, RTSP, SRT), and IP control.

Image 5: A diagram illustrating the various connection options for the Tenveo NDI AI-Tracking PTZ Camera, including HDMI to Blackmagic ATEM, Router/Switch for IP Control, Tenveo Joystick Controller, USB3.0 Video Output, RTSP IP Streaming, RTMP IP Streaming, and NDI Streaming to platforms like Voovmeeting, Webex, Microsoft Lync, Google Meet, Cisco, Zoom, and YouTube.

6. OPERATING INSTRUCTIONS

6.1. AI Auto-Tracking

The camera features advanced AI Humanoid & Face Auto-Tracking, powered by deep learning algorithms, to keep subjects perfectly centered.

- **Presenter Mode:** Ideal for single speakers, the camera locks onto and follows the individual, maintaining seamless tracking even if the person moves or is momentarily obscured.
- **Autoframing Mode:** Automatically adjusts the frame to include all detected participants, suitable for group discussions or panels.

Image 6: Demonstrates the AI Auto-Tracking feature with precise humanoid and face recognition, showing both remote/web UI control and dynamic autoframing.

6.2. PTZ Control

The camera's Pan-Tilt-Zoom functions can be controlled via the included IR remote or a web-based user interface.

- **IR Remote Control:** Use the remote to adjust pan, tilt, zoom, and access AI tracking modes.
- **Web UI Control:** Access the camera's settings and control functions through a web browser by entering the camera's IP address. This interface allows for detailed configuration of tracking modes (Presenter, Autoframing), PTZ adjustments, and other image settings.

Image 7: Close-up of the IR remote control, highlighting buttons for autoframing, enabling/disabling AI tracking, and zoom controls.

Video 3: Instructions on how to connect and use a joystick controller to manage multiple PTZ cameras, including network setup and adding cameras via web interface.

6.3. Live Streaming

The camera supports simultaneous IP/LAN/NDI HDMI and USB3.0 live streaming. It is compatible with RTMP, RTSP, and SRT protocols for direct streaming to platforms like YouTube, Facebook, or OBS without additional hardware.

7. MAINTENANCE

Regular maintenance ensures optimal performance and longevity of your camera.

- **Cleaning:** Use a soft, lint-free cloth to clean the camera body and lens. For stubborn smudges on the lens, use a specialized lens cleaning solution.
- **Firmware Updates:** Periodically check the Tenveo official website for firmware updates to ensure your camera has the latest features and performance enhancements.

- **Storage:** When not in use for extended periods, store the camera in a dry, dust-free environment.

8. TROUBLESHOOTING

If you encounter issues, refer to the following common troubleshooting steps:

- **No Power:** Ensure the power adapter is securely connected or that the PoE switch is active and providing power.
- **No Video Output:** Check all cable connections (USB, HDMI, LAN). Verify that the correct input source is selected on your display or capture device.
- **Network Connectivity Issues:** Confirm the LAN cable is properly connected. If using static IP, ensure settings are correct. If using DHCP, verify the network is assigning an IP address.
- **AI Tracking Not Working:** Ensure AI tracking is enabled via the remote or web UI. Check for sufficient lighting and clear line of sight to the subject.
- **Remote Control Not Responding:** Check the remote's batteries. Ensure there are no obstructions between the remote and the camera's IR receiver.

9. SPECIFICATIONS

Feature	Detail
Product Dimensions	6.5 x 9.72 x 6.73 inches
Item Weight	3.01 pounds
Item Model Number	TEVO-VHD20HAN
Photo Sensor Technology	CMOS
Video Capture Resolution	1080p
Maximum Focal Length	110 Millimeters
Maximum Aperture	1.6 f
Video Capture Format	MJPEG/YUY2/H.264/H.265
Supported Audio Format	AAC, MP3
Connectivity Technology	HDMI, LAN, USB3.0

10. WARRANTY AND SUPPORT

Tenveo offers a 3-year standard warranty for this product. For any questions or technical assistance, please contact

Tenveo customer service. Lifetime technical support is provided.

Related Documents - TEVO-VHD20HAN

	[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.
	[UHD Video Conference Camera User Manual](#) This user manual provides comprehensive information on the UHD Video Conference Camera, including product description, performance characteristics, quick start guide, remote control functions, common operations, troubleshooting, and maintenance services. It details the camera's technical specifications, connection and installation procedures, and interface definitions.
	[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.
	[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.
	[Tenveo Common After-Sales Issues: Troubleshooting Guide and Answers](#) Comprehensive guide to common after-sales issues for Tenveo cameras, covering troubleshooting, firmware, connectivity, and usage with OBS, NDI, and other software. Find solutions for PTZ control, video quality, and network problems.