Tenveo VL12U, KB200

Tenveo VL12U 4K PTZ Camera and KB200 Controller Bundle Instruction Manual

1. INTRODUCTION

This instruction manual provides comprehensive guidance for the installation, operation, and maintenance of the **Tenveo VL12U 4K PTZ Camera** and the **Tenveo KB200 PTZ Joystick Controller**. This bundle is designed for professional video production, live streaming, and conferencing applications, offering high-quality video capture and precise camera control.

2. WHAT'S IN THE BOX

Please verify that all items are present in your package:

- Tenveo VL12U 4K PTZ Camera (2 units)
- Tenveo KB200 PTZ Joystick Controller (1 unit)
- Wall Mount Brackets (for VL12U cameras)
- Mounting Screws
- USB Cable
- Power Adapters (for camera and controller)
- User Manual (this document)

3. PRODUCT OVERVIEW

Image 3.1: Front view of the Tenveo VL12U 4K PTZ Camera.

Image 3.2: Top view of the Tenveo KB200 PTZ Joystick Controller.

4. Specifications

4.1 Tenveo VL12U 4K PTZ Camera

Model Name	Tenveo VL12U
Video Capture Resolution	4K Ultra HD
Optical Zoom	12x
Photo Sensor Technology	CMOS
Connectivity Technology	HDMI, USB3.0, RJ45 (PoE)
Pan Range	-175° to +175°
Tilt Range	-90° to +90°

Image 4.1: Key features of the VL12U camera.

4.2 Tenveo KB200 PTZ Joystick Controller

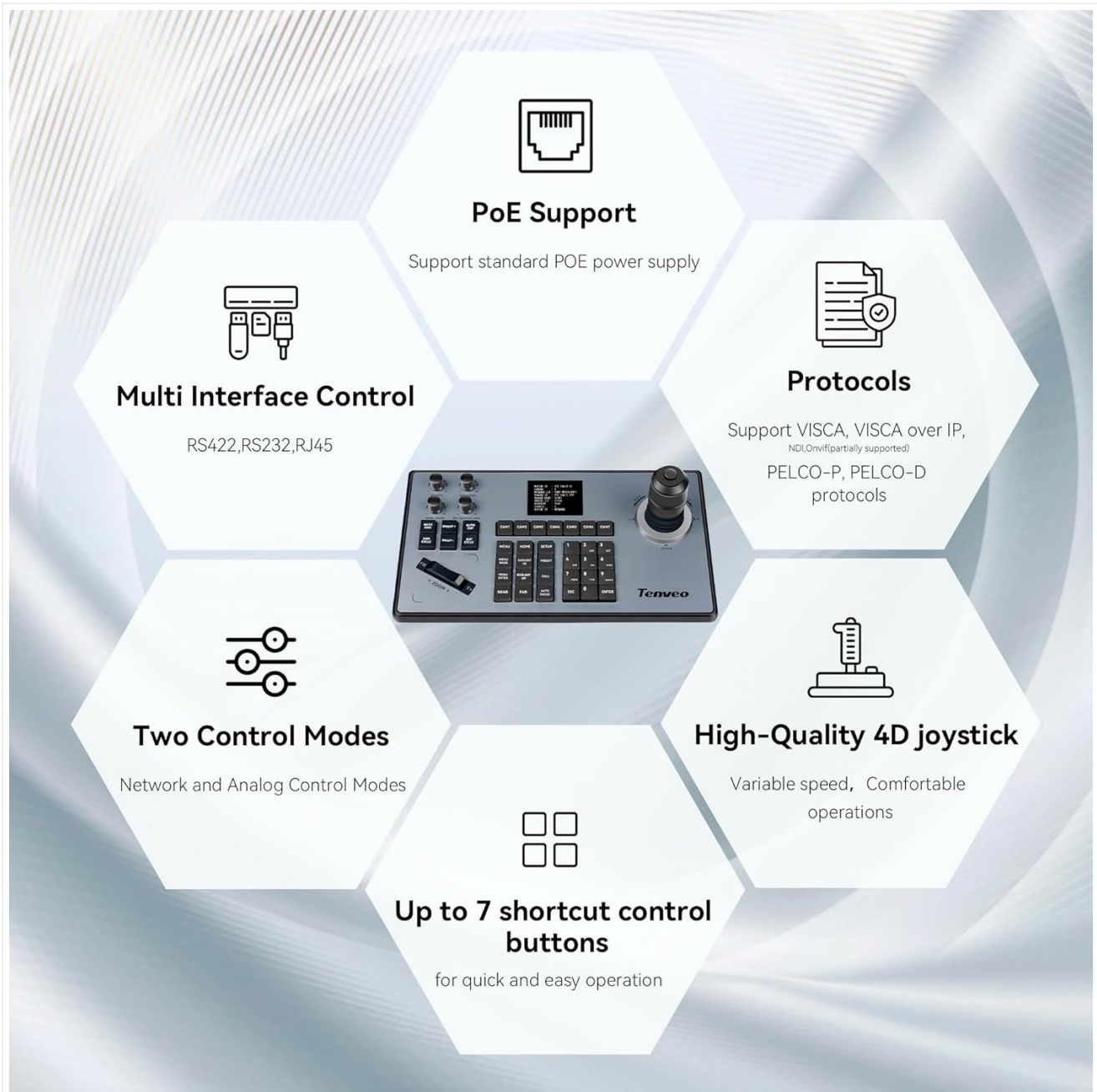| Model Name	KB200
Control Modes	Network, Analog
Supported Protocols	VISCA, VISCA over IP, PELCO-P, PELCO-D
Interface	RS232, RS422, RJ45 (Ethernet)
Joystick	4D Joystick for Pan/Tilt/Zoom/Focus

Image 4.2: Key features of the KB200 controller.

5. Setup

5.1 Camera Placement and Mounting

The VL12U camera can be mounted on a desktop, monitor, wall, or ceiling. Wall mount brackets and screws are included. Ensure the mounting surface is stable and can support the camera's weight.

5.2 Camera Connections (VL12U)

Connect the VL12U camera using one of the following methods:

1. **HDMI Output:** Connect an HDMI cable from the camera's HDMI port to a display, video switcher, or capture card.
2. **USB3.0 Output:** Connect a USB3.0 cable from the camera's USB-C port to a computer for direct video capture.
3. **LAN (PoE) Output:** Connect an Ethernet cable from the camera's RJ45 port to a PoE-enabled network switch or injector. This provides both power and IP video/control. If not using PoE, connect the included power

adapter.

Image 5.1: VL12U Camera rear panel connections.

5.3 Controller Connections (KB200)

Connect the KB200 controller to your camera(s) and power source:

1. **Power:** Connect the included DC 12V power adapter to the controller.
2. **Network Control:** Connect an Ethernet cable from the controller's RJ45 port to your network switch. Ensure the camera(s) are also connected to the same network. The controller will have an independent IP address in network mode.
3. **Analog Control (RS232/RS422):** For direct serial control, connect the appropriate RS232 or RS422 cable from the controller to the camera(s).
4. **USB:** The USB port is primarily for firmware upgrading.

Image 5.2: KB200 Controller rear panel connections.

5.4 System Integration

The bundle supports various setups for multi-camera production and live streaming:

Image 5.3: Example connection diagram for multiple cameras and controller.

6. OPERATING INSTRUCTIONS

6.1 Basic Camera Control (VL12U)

The VL12U camera offers extensive pan, tilt, and zoom capabilities:

- **Pan:** Rotate the camera horizontally up to 175° in either direction.
- **Tilt:** Adjust the camera vertically from -90° to +90°.
- **Zoom:** Utilize the 12x optical zoom for close-up shots without loss of quality.

Image 6.1: VL12U Pan and Tilt ranges.

6.2 Using the KB200 Joystick Controller

The KB200 controller provides precise control over connected PTZ cameras:

- **Joystick:** Use the 4D joystick to control pan, tilt, and zoom speed. Pressing the joystick typically controls focus.
- **Camera Selection:** Use the CAM1-CAM7 buttons to select the camera you wish to control.
- **Presets:** Store and recall camera positions using the PRESET and CALL buttons.
- **Exposure Control:** Adjust brightness, exposure, and gain settings using dedicated buttons (e.g., BRIGHT+, BRIGHT-, EXP+, EXP-).
- **Focus Control:** Manually adjust focus using NEAR and FAR buttons, or enable AUTO FOCUS.
- **Menu:** Access the camera's OSD (On-Screen Display) menu for advanced settings.

6.3 Software Compatibility

The VL12U camera and KB200 controller are compatible with various video conferencing and live streaming platforms and software, including:

- Skype
- Zoom
- Microsoft Teams
- Google Meet
- OBS Studio
- vMix
- Blackmagic Design ATEM switchers
- YouTube Live, Facebook Live

The plug-and-play design facilitates quick setup with these platforms.

7. Maintenance

7.1 Cleaning

To maintain optimal performance, regularly clean the camera lens and controller surfaces. Use a soft, dry cloth for general cleaning. For the lens, use a specialized lens cleaning solution and cloth to avoid scratches.

7.2 Firmware Updates

Periodically check the Tenveo official website for available firmware updates. Firmware updates can improve performance, add new features, or resolve known issues. Follow the instructions provided with the firmware update package carefully.

8. Troubleshooting

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

- **No Power:**
  Ensure all power adapters are securely connected to both the devices and a working power outlet. For PoE, verify the Ethernet cable is connected to a PoE-enabled port and the switch is powered.

- **No Video Output:**
  Check all video cables (HDMI, USB, Ethernet) for secure connections. Verify the correct input source is selected on your display or capture device. Ensure the camera is powered on.

- **Controller Not Responding:**
  Confirm the controller is powered on. Check network or serial connections between the controller and camera(s). Ensure the correct camera is selected on the controller (CAM1-CAM7). Verify that the camera's control protocol (VISCA, PELCO-P/D) matches the controller's settings.

- **Image Quality Issues:**
  Check the camera lens for smudges or dust. Ensure lighting conditions are adequate. Adjust exposure and white balance settings via the controller or camera OSD.

- **Network Connection Problems:**
  Verify IP addresses for both camera and controller are correctly configured and on the same subnet if using IP control. Check network cable integrity.

9. Warranty and Support

Tenveo offers excellent after-sales service and lifetime technical support for this product. This includes firmware upgrade services and assistance with any operational questions.

If you have any questions or require technical assistance, please contact Tenveo customer support. We aim to reply within 24 hours and provide a satisfactory solution.