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zowietek 4K NDI|HX3 PTZ Camera and ZowieBox

zowietek 4K NDI|HX3 PTZ Camera and ZowieBox Instruction Manual

Model: 4K NDI|HX3 PTZ Camera and ZowieBox

1. Introduction

This manual provides detailed instructions for the setup, operation, maintenance, and troubleshooting of your zowietek 4K NDI|HX3 PTZ Camera and ZowieBox 3G SDI Video Encoder/Decoder. Please read this manual thoroughly before using the product to ensure proper functionality and to prevent damage.

2. Product Overview

2.1 zowietek 4K NDI|HX3 PTZ Camera

The zowietek 4K NDI|HX3 PTZ Camera is designed for high-quality video capture with pan, tilt, and zoom capabilities. It features 4K UHD resolution, 18X optical zoom, and simultaneous HDMI & SDI outputs, supporting various streaming protocols.

Figure 2.1: Front view of the zowietek 4K NDI|HX3 PTZ Camera, highlighting its 4K video lens and 18x optical zoom.

2.2 ZowieBox 3G SDI Video Encoder/Decoder

The ZowieBox is a versatile 3G SDI NDI Video Streaming Encoder/Decoder. It supports NDI encoding and decoding, SRT, UVC to SDI conversion, and standalone H.265/H.264 live streaming. It can be powered via PoE and is compatible with multi-camera setups.

Figure 2.2: Front view of the zowietek ZowieBox 3G SDI NDI Video Streaming Encoder/Decoder, displaying its ports and status screen.

3. Setup

3.1 Unpacking and Inspection

Carefully unpack all components and inspect for any signs of damage. Retain the packaging for future transport or storage.

3.2 Connecting the PTZ Camera

1. **Power Connection:** Connect the camera to a power source using the provided power adapter or via Power over Ethernet (PoE) if your network switch supports it.
2. **Video Output:** Connect an HDMI cable to the HDMI output port for local monitoring or an SDI cable to the 3G SDI output port for professional video workflows.
3. **Network Connection:** Connect an Ethernet cable from the camera's LAN port to your network switch or router for IP control and NDI|HX3 streaming.
4. **Control Connection (Optional):** For serial control, connect an RS232/RS485/RS422 cable to the respective

port.

3.3 Connecting the ZowieBox

1. **Power Connection:** Connect the ZowieBox to a power source using the provided adapter, a Type-C cable, or via Power over Ethernet (PoE).
2. **Video Input (Encoder Mode):** Connect an SDI source to the SDI IN port. For UVC conversion, connect UVC cameras via a UVC hub to the USB port.
3. **Video Output (Decoder Mode):** Connect an SDI display or recorder to the SDI OUT port.
4. **Network Connection:** Connect an Ethernet cable from the ZowieBox's LAN port to your network switch or router for NDI streaming and IP control.
5. **USB Storage (Optional):** Insert a TF card or connect a USB flash drive to the USB port for local recording.

4. Operating Instructions

4.1 PTZ Camera Operation

The camera offers 4K UHD video capture with a SONY CMOS 1/2.3" sensor, providing clear images even in low light conditions. The 18X optical zoom allows for detailed close-ups.

- **Multi-Control:** Control the camera via NDI Tools, a web interface, iPad, or smartphone applications. This allows for flexible and convenient streaming management.
- **Precision Control:** Adjust pan, tilt, zoom, aperture, exposure, and white balance settings. Save and recall presets with a single key. The camera supports RS232/485/422, PELCO/VISCA, IP VISCA, and ONVIF protocols for integration with various control systems.
- **Streaming:** The camera supports NDI|HX3, RTSP, RTMP(s), and SRT protocols for direct live streaming to platforms like YouTube, Twitch, and other services.

Figure 4.1: Multi-control options for the PTZ Camera.

Figure 4.2: Precision control of the PTZ Camera.

4.2 ZowieBox Operation

The ZowieBox functions as both an NDI encoder and decoder, providing flexible video signal management.

- **NDI Encoding/Decoding:** Convert SDI signals to NDI for network distribution or decode NDI streams back to SDI for display.
- **UVC to SDI Conversion:** The ZowieBox can convert UVC signals from webcams or other UVC devices to SDI signals. When multiple UVC cameras are connected via a UVC hub, the ZowieBox can act as a switcher, allowing seamless transitions between camera feeds.
- **Standalone Streaming:** Perform H.265/H.264 live streaming directly from the device to various platforms without requiring a computer or additional software like OBS/vMix.
- **Recording:** Store videos directly onto a TF card, USB flash drive, or Network Attached Storage (NAS). Recording can be conveniently controlled via mobile phones.
- **SRT Support:** Utilize SRT (Secure Reliable Transport) for secure and reliable video transmission over unpredictable networks.

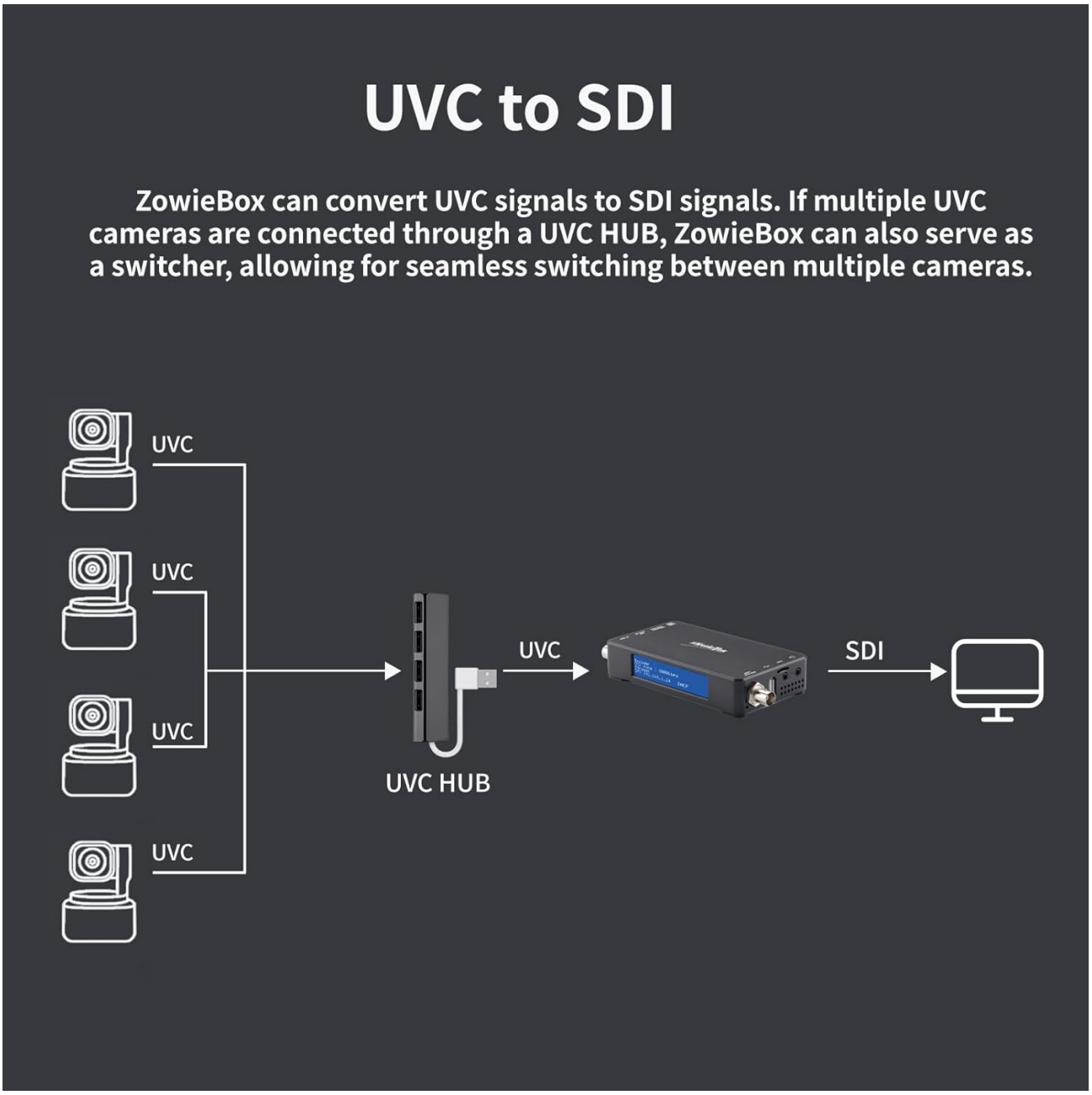

Figure 4.3: UVC to SDI conversion with ZowieBox.

Figure 4.4: ZowieBox recording and mobile control.

5. Maintenance

- **Cleaning:** Use a soft, dry cloth to clean the exterior of the camera and ZowieBox. For the camera lens, use a specialized lens cleaning cloth and solution. Do not use harsh chemicals or abrasive materials.
- **Firmware Updates:** Periodically check the zowietek official website for firmware updates. Keeping your devices updated ensures optimal performance and access to new features. Follow the instructions provided with the firmware update carefully.
- **Storage:** When not in use for extended periods, store the devices in a cool, dry place, away from direct sunlight and extreme temperatures.

6. Troubleshooting

- **No Power:** Ensure all power cables are securely connected and the power source is active. If using PoE, verify your network switch provides sufficient power.
- **No Video Output:** Check HDMI/SDI cable connections. Verify the input source on your display. Ensure the

camera/ZowieBox is powered on and configured correctly.

- **Network Connectivity Issues:** Verify Ethernet cable connections. Check network settings (IP address, subnet mask, gateway) on both the device and your network. Ensure no IP conflicts exist.
- **PTZ Control Not Responding:** Check control cable connections (Ethernet for IP, RS232/485/422 for serial). Verify the control protocol settings (e.g., PELCO/VISCA, IP VISCA) match your controller.
- **Streaming Issues:** Confirm network bandwidth is sufficient. Check streaming protocol settings (NDI|HX3, RTSP, RTMP(s), SRT) and destination server configurations.
- **ZowieBox UVC to SDI Not Working:** Ensure UVC cameras are properly connected to a UVC hub, and the hub is connected to the ZowieBox USB port. Verify UVC camera compatibility.

7. Specifications

Feature	Detail
Brand	zowietek
Optical Zoom	18 x
Video Capture Resolution	4K
Connectivity Technology	HDMI, SDI, Ethernet, USB
Special Feature	Low Light Performance, NDI|HX3 Certified, PoE, UVC to SDI Conversion, Standalone Streaming
Form Factor	Compact PTZ Camera, Compact Encoder/Decoder Box
First Available	August 21, 2024

8. Warranty Information

zowietek products are covered by a limited warranty against defects in materials and workmanship. The specific terms and duration of the warranty may vary by region and product. Please refer to the warranty card included with your product or visit the official zowietek website for detailed warranty information and registration procedures. Keep your proof of purchase for warranty claims.

9. Customer Support

For technical assistance, troubleshooting, or product inquiries, please contact zowietek customer support through the following channels:

- **Website:** Visit the official zowietek website for support resources, FAQs, and contact forms.
- **Email:** Send an email to the support address listed on the zowietek website.
- **Phone:** Contact the customer service hotline during business hours, if available in your region.

When contacting support, please have your product model and serial number ready to expedite assistance.

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