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FoMaKo K820N

FoMaKo 60FPS 4K NDI PTZ Camera K820N User Manual

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of your FoMaKo K820N 60FPS 4K NDI PTZ Camera. Designed for professional video production and live streaming, this camera features 4K resolution at 60 frames per second, NDI support, advanced AI auto-tracking, and a powerful 20X optical zoom. Please read this manual thoroughly before using the product to ensure proper functionality and to maximize its capabilities.



Image 1.1: FoMaKo K820N 4K NDI PTZ Camera. This image shows the front view of the camera with its base displaying an IP address and NDI logo.

2. Setup

2.1. What's in the Box

- FoMaKo 4K 60FPS NDI PTZ Camera K820N
- IR Remote Controller
- Wall Mount Bracket, Ceiling Bracket
- USB Cable, RS232 Cable
- Power Adapter 12V 2A
- User Manual (this document)

2.2. Physical Installation

The FoMaKo K820N camera supports multiple installation methods to suit various environments:

- **Wall Mount:** Securely attach the camera to a wall using the provided bracket.
- **Tripod Mount:** Mount the camera on a standard tripod for portable or temporary setups.
- **Ceiling Mount:** Install the camera inverted on a ceiling using the provided bracket. The built-in gravity sensor will automatically flip the image for correct orientation.



Image 2.1: Installation Methods. This image illustrates the camera mounted on a wall, demonstrating one of the three supported installation types.

2.3. Connectivity

The camera offers multiple interfaces for video output, control, and power:

- **NDI/LAN (PoE+):** Connect an Ethernet cable for NDI video transmission, IP control, and Power over Ethernet (PoE+). PoE+ simplifies installation by providing power and data through a single cable.
- **USB 3.0 Type-C:** Connect to a computer for high-speed video output.
- **HDMI 2.0:** Connect to a display or video switcher for uncompressed 4K video output.
- **3G-SDI:** Connect for professional broadcast-grade video output.
- **RS232 In/Out:** For serial control of the camera.
- **Line In:** Audio input.
- **DC 12V:** Power input if not using PoE+.



Image 2.2: Rear Panel Connections. This image displays the various input and output ports available on the back of the camera, including HDMI, 3G-SDI, USB, LAN (PoE+), and RS232.



Image 2.3: Connection Diagram. This diagram illustrates how multiple PTZ cameras can be connected via IP/LAN for control using a PTZ joystick or software, and for streaming to platforms like YouTube and Facebook.

3. Operating Instructions

3.1. AI Auto-Tracking

The FoMaKo K820N features third-generation AI Auto-Tracking for intelligent subject following. This function allows the camera to automatically track a presenter or subject within its field of view.

- To activate AI Auto-Tracking, press the **F3** button on the IR remote control.
- To switch tracking targets, press the **left** and **right** buttons on the remote control.
- Customizable tracking features include tracking modes, sensitivity, figure size, AI-Track speed, horizontal tracking only, character position, and lost target action. These settings can be adjusted via the camera's web interface.



Image 3.1: AI Human Auto-Tracking. This image demonstrates the camera's AI tracking feature, highlighting a person within a green tracking box.

3.2. Pan, Tilt, and Zoom (PTZ) Control

The camera offers precise control over its pan, tilt, and zoom functions.

- **Optical Zoom:** The camera features a 20X optical zoom lens, allowing for clear magnification without loss of image quality.
- **Digital Zoom:** An additional 16X digital zoom is available.
- **Adjustable Speed:** Pan, Tilt, and Zoom speeds are adjustable to achieve smooth camera movements.
- **Presets:** Store and recall specific camera positions and zoom levels using presets for quick scene changes.



Image 3.2: 20X Optical Zoom. This image shows the camera's optical zoom capability, capturing a wide shot of a church and a close-up of a speaker.

3.3. Auto-Focus Technology

The camera incorporates leading auto-focus (AF) technology for fast, accurate, and stable focusing.

- **Focus Modes:** Supports Auto, Manual, and One Push Focus modes.
- **One Push Focus:** Allows for quick manual focus adjustment with a single button press.

3.4. NDI and Video Output

The K820N supports NDI|HX3 and NDI|HX2 for low-latency, high-quality video transmission over a network. It also provides simultaneous output across multiple interfaces.

- **NDI License:** An NDI license is included and officially approved by Newtek Inc.
- **Simultaneous Outputs:** NDI/LAN, USB3.0 Type-C, HDMI 2.0, and 3G-SDI can all output video concurrently.
- **Supported Resolutions:** The camera supports various resolutions including 4KP60, 4KP59.94, 4KP50, 4KP30, 1080P60, 1080I60, 1080I50, and 720P across its different output interfaces.



Image 3.3: NDI|HX3 Support. This image highlights the camera's support for NDI|HX3, emphasizing low-latency and high-quality video transmission.

3.5. Remote Control

The included IR remote controller allows for convenient operation of the camera from a distance.

- **Range:** Supports ultra-long distance remote control, up to 50 meters.
- **Functions:** Control PTZ movements, zoom, focus, AI tracking activation, and other camera settings.



Image 3.4: Ultra Long Range Remote Controller. This image shows the IR remote control in use, capable of operating the camera from up to 50 meters away.

4. Maintenance

4.1. Cleaning

- Use a soft, dry cloth to clean the camera body.

- For the lens, use a specialized lens cleaning cloth and solution to avoid scratches.
- Do not use strong detergents or abrasive materials.

4.2. Firmware Updates

Periodically check the FoMaKo official website for firmware updates. Keeping your camera's firmware up-to-date ensures optimal performance, new features, and bug fixes. Follow the instructions provided with the firmware update package carefully.

5. Troubleshooting

If you encounter issues with your FoMaKo K820N camera, please refer to the following common troubleshooting steps:

- **No Power:** Ensure the power adapter is securely connected or that the PoE+ switch is providing power via the LAN cable. Check the power indicator light on the camera.
- **No Video Output:** Verify all video cables (HDMI, SDI, USB, LAN) are correctly connected. Check the input source selection on your display or switcher. Ensure the camera is powered on.
- **Remote Control Not Responding:** Check the batteries in the remote control. Ensure there are no obstructions between the remote and the camera's IR receiver.
- **AI Auto-Tracking Issues:** Ensure the F3 button has been pressed to activate tracking. Check for sufficient lighting and clear line of sight to the subject. Adjust tracking sensitivity via the web interface if necessary.
- **Network Connectivity Problems:** Verify the LAN cable connection. Check the camera's IP address and network settings. Ensure your network infrastructure supports NDI.

For more complex issues or if the problem persists, please contact FoMaKo customer support.

6. Specifications

Feature	Detail
Brand	FoMaKo
Model Number	K820N
Item Weight	7.26 pounds
Product Dimensions	6.3 x 8.66 x 6.3 inches
Photo Sensor Technology	CMOS
Video Capture Resolution	4K
Maximum Focal Length	125 Millimeters
Maximum Aperture	3.95 f
Screen Size	2 Inches (for display on base)
Connectivity Technology	3G-SDI, NDI, LAN, HDMI, USB3.0
Special Features	4K 60FPS AI Auto-Tracking, NDI PTZ Camera, Low Light Performance

7. Warranty & Support

FoMaKo is committed to providing excellent customer service and product reliability.

- **3-Year Limited Warranty:** Your FoMaKo K820N camera is covered by a 3-year limited warranty.
- **30-Day Money-Back Guarantee:** Enjoy a 30-day no-questions-asked money-back guarantee for a risk-free purchase.
- **Free Online Training:** Resources are available to help you get started easily.
- **24/7 Expert Assistance:** Expect responses within 24 hours for any inquiries. Please include your Order ID when contacting support.
- **Lifetime Customer Technical Support:** Benefit from lifetime technical support for your product. Remote assistance can be provided if necessary.

For further assistance, please visit the official FoMaKo website or refer to the comprehensive User Manual (PDF).

Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. Privacy details.

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question