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BirdDog MAKI Ultra 4K (BDMKU12XB)

BirdDog MAKI Ultra 4K Box Camera (BDMKU12XB) Instruction Manual

1. INTRODUCTION AND OVERVIEW

This manual provides essential information for the setup, operation, and maintenance of your BirdDog MAKI Ultra 4K Box Camera. The MAKI Ultra is a versatile 4K60 camera featuring a 12x optical zoom, NDI|HX2 and NDI|HX3 support, and multiple connectivity options for professional video production and conferencing.

Please read this manual thoroughly before using the product to ensure proper functionality and to prevent damage.

2. WHAT'S IN THE BOX

Verify that all items listed below are included in your package:

- 1x BirdDog MAKI Ultra 4K Box Camera with 12x Zoom (Black)
- 1x Remote Control
- 1x 12 VDC Power Supply
- 1x High-Speed HDMI Cable with Ethernet
- 1x USB 2.0 Type-A Male to Type-B Male Cable



Image: BirdDog MAKI Ultra 4K Box Camera, front angled view with green halo light.

3. PRODUCT FEATURES

The BirdDog MAKI Ultra 4K Box Camera offers a range of advanced features:

- **UHD 4K60 Resolution:** Capture high-quality video at up to 4K resolution at 60 frames per second.
- **12x Optical Zoom:** Integrated 12x optical zoom lens for flexible framing and detailed shots.
- **NDI|HX2 & NDI|HX3 Support:** Efficient IP video transmission with low latency.
- **HDMI & USB/UVC Outputs:** Direct connectivity for displays, capture devices, and conferencing platforms like Microsoft Teams and Zoom.
- **Built-In Halo Tally:** Visual indication of camera status (Program/Preview).
- **PoE (Power over Ethernet) Support:** Power and data transmission over a single Ethernet cable.
- **Advanced Image Control:** Color Matrix, API, and Kelvin control for precise image adjustments.
- **Exceptional Low-Light Performance:** Designed to perform well in challenging lighting conditions.

4. SETUP

4.1 Physical Connections

Identify the various ports on the rear of the MAKI Ultra camera:



Image: Rear view of the BirdDog MAKI Ultra 4K Box Camera showing DC 12V, RS485, Line In/Out, PoE/LAN, USB-C (UVC), USB-A (HOST), SDI, and HDMI ports.

1. **Power Connection:** Connect the included 12 VDC power supply to the 'DC 12V' port, or connect an Ethernet cable from a PoE-enabled switch/injector to the 'PoE / LAN' port. Do not use both simultaneously.
2. **Video Output:**

- For HDMI output, connect an HDMI cable to the 'HDMI' port and to your display or capture device.
 - For SDI output (up to 1080p60), connect an SDI cable to the 'SDI' port.
 - For USB video conferencing, connect a USB-C cable to the 'USB-C (UVC)' port and to your computer.
3. **Audio Connection:** Connect external audio sources to 'LINE IN' and audio output devices to 'LINE OUT' using 3.5mm audio cables.
 4. **Network Connection:** If not using PoE, connect an Ethernet cable from your network to the 'PoE / LAN' port for NDI|HX functionality and camera control.
 5. **USB Host:** The 'USB-A (HOST)' port can be used for future accessories or firmware updates.

4.2 Initial Power On

Once power is connected, the camera will automatically power on. The halo tally light on the front of the camera will illuminate, indicating its status.

5. OPERATING INSTRUCTIONS

5.1 Basic Camera Control

The camera can be controlled via the included remote control or through network-based control interfaces (e.g., BirdDog Central, web UI).

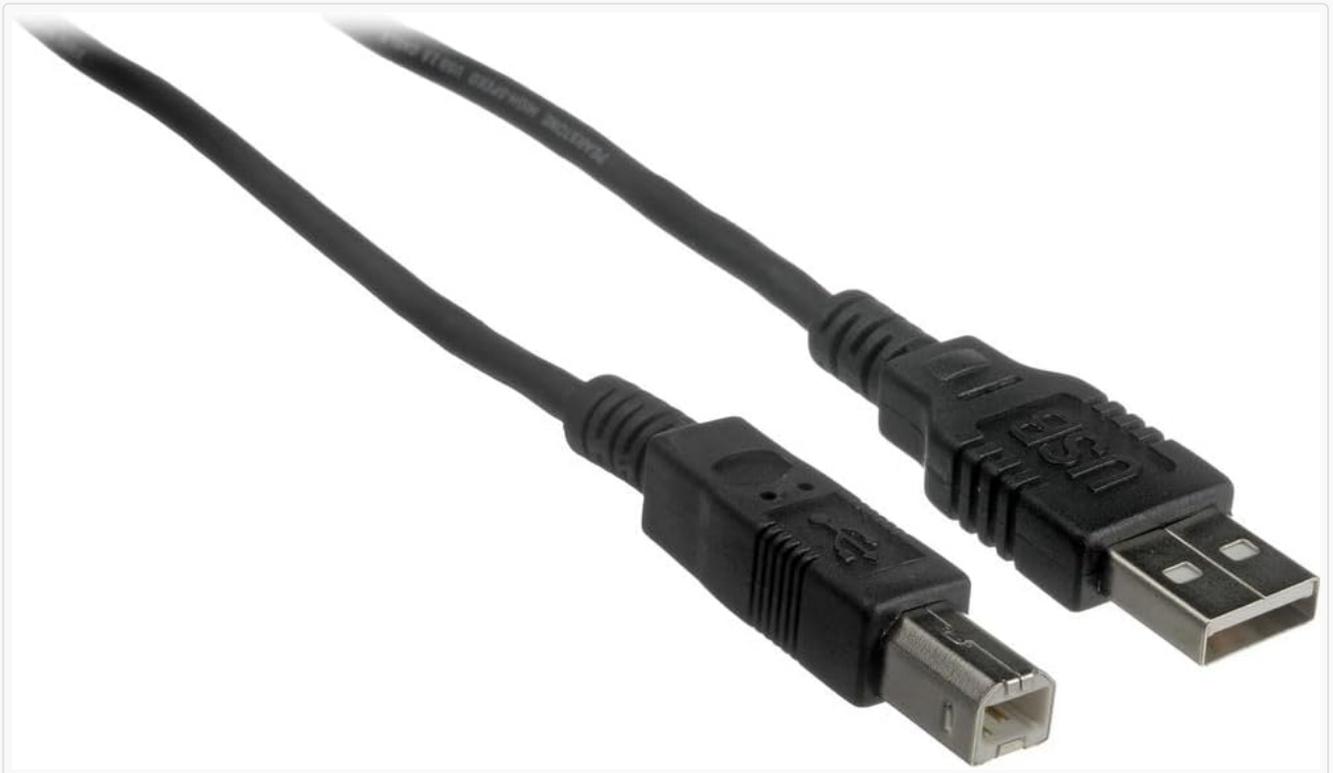


Image: Side view of the BirdDog MAKI Ultra 4K Box Camera showing buttons for Zoom, AF/AE, Freeze, Scene, and Menu.

- **Zoom:** Use the 'Zoom +/-' buttons on the camera or remote to adjust the 12x optical zoom.
- **Focus/Exposure:** The 'AF/AE' button toggles between auto-focus/auto-exposure and manual control. Further adjustments can be made via the camera's menu or network interface.
- **Menu:** Press the 'Menu' button to access on-screen display (OSD) settings for detailed configuration.
- **Scene:** The 'Scene' button may cycle through pre-set image profiles.
- **Freeze:** The 'Freeze' button can temporarily pause the video output.

5.2 NDI|HX Operation

Once connected to a network via the 'PoE / LAN' port, the MAKI Ultra camera will appear as an NDI|HX source on your network. Use NDI-compatible software (e.g., OBS Studio, vMix, NewTek TriCaster) to discover and utilize the camera's video stream.

5.3 USB/UVC for Conferencing

When connected to a computer via the 'USB-C (UVC)' port, the camera functions as a standard UVC (USB Video Class) webcam. Select the BirdDog MAKI Ultra as your video source in applications like Zoom, Microsoft Teams, or other conferencing software.

5.4 Halo Tally

The front halo light indicates the camera's tally status:

- **Green:** Camera is in Preview mode (next to be live).
- **Red:** Camera is in Program mode (currently live).
- **Off:** Camera is not active or tally is disabled.

6. MAINTENANCE

6.1 Cleaning

To clean the camera body, use a soft, dry cloth. For the lens, use a specialized lens cleaning cloth and solution. Avoid harsh chemicals or abrasive materials.

6.2 Storage

When not in use, store the camera in a cool, dry place, away from direct sunlight and extreme temperatures. Use the original packaging or a protective case to prevent dust and physical damage.

6.3 Firmware Updates

Periodically check the BirdDog website for firmware updates. Firmware updates can provide new features, performance improvements, and bug fixes. Follow the instructions provided with the firmware update package carefully.

7. TROUBLESHOOTING

- **No Power:** Ensure the 12 VDC power supply is securely connected and plugged into a working outlet, or that the Ethernet cable is connected to a PoE-enabled port.
- **No Video Output (HDMI/SDI/USB):**
 - Check all cable connections.
 - Verify the display or capture device is correctly configured to receive input from the camera.
 - Ensure the camera is powered on and the halo tally light is active.
- **No NDI|HX Stream:**
 - Confirm the camera is connected to the network via the 'PoE / LAN' port.
 - Ensure your network supports NDI traffic and there are no firewall restrictions.
 - Use BirdDog Central or a similar NDI discovery tool to locate the camera on the network.

- **Image Quality Issues:**

- Check lens for smudges or dust.
- Adjust focus and exposure settings via the camera's menu or remote control.
- Ensure adequate lighting in the shooting environment.

If issues persist, consult the BirdDog support website or contact their technical support.

8. SPECIFICATIONS

Feature	Specification
Model Name	MAKI Ultra 4K
Model Number	BDMKU12XB
Video Capture Resolution	4K UHD
Optical Zoom	12x
Photo Sensor Technology	CMOS
Maximum Aperture	f/2.8
Connectivity Technology	Ethernet
Outputs	HDMI, SDI, USB-C (UVC)
Network Protocols	NDI HX2, NDI HX3
Power Supply	12 VDC or PoE (Power over Ethernet)
Color	Black
Form Factor	Compact Box Camera
Supported Audio Format	AAC
Supported Image Format	JPEG

9. WARRANTY AND SUPPORT

For warranty information, please refer to the warranty card included with your product or visit the official BirdDog website. For technical support, troubleshooting assistance, or service inquiries, please contact BirdDog customer support through their official channels.

BirdDog Official Website: www.bird-dog.tv

