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AVKANS LV20N

AVKANS AI Auto Tracking NDI 6 Camera (LV20N) User Manual

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1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your AVKANS AI Auto Tracking NDI 6 Camera (Model LV20N). Please read this manual thoroughly before using the product to ensure proper functionality and to maximize its performance.



Figure 1: AVKANS LV20N AI Auto Tracking NDI Camera

2. KEY FEATURES

- **AI Auto Tracking:** Features a Gen-3 AI Auto Tracking Chipset with 5th AI Auto Tracking Algorithm for precise subject tracking. Includes Presenter Tracking, Zone Tracking, and Hybrid Tracking modes.
- **NDI HX3 & NDI HX2 Support:** Offers high-quality 1080P 60fps video with low latency. NDI license is included.
- **Multiple Video Outputs:** Provides HDMI, 3G-SDI, USB 3.0, and NDI (via LAN) video outputs for versatile connectivity.
- **Long Distance SDI:** SDI output supports cable distances up to 300 feet without additional signal boosters, ideal for professional installations.
- **Power over Ethernet (PoE):** Supports PoE 802.3af/at (48V, 13W) for simplified installation and cable management via a single Ethernet cable.
- **Tally Light:** Built-in Tally Light indicates camera status (green for Preview, red for Program when used with OBS/vMix via NDI).

- **Image Quality:** Equipped with a Sony CMOS 1/2.8 inch image sensor, delivering sharp, clear 1080p video.
- **Optical Zoom:** Features a 20X optical zoom lens.
- **User-Friendly Control:** Offers free CMS software (Windows PC) and a web interface (Windows and Mac PC) for network setup, control, and preview.
- **Future-Ready:** Upcoming features include NDI 6, SRT Caller and Listener, Color Temperature, PT Limits, and advanced Auto Focus modes.

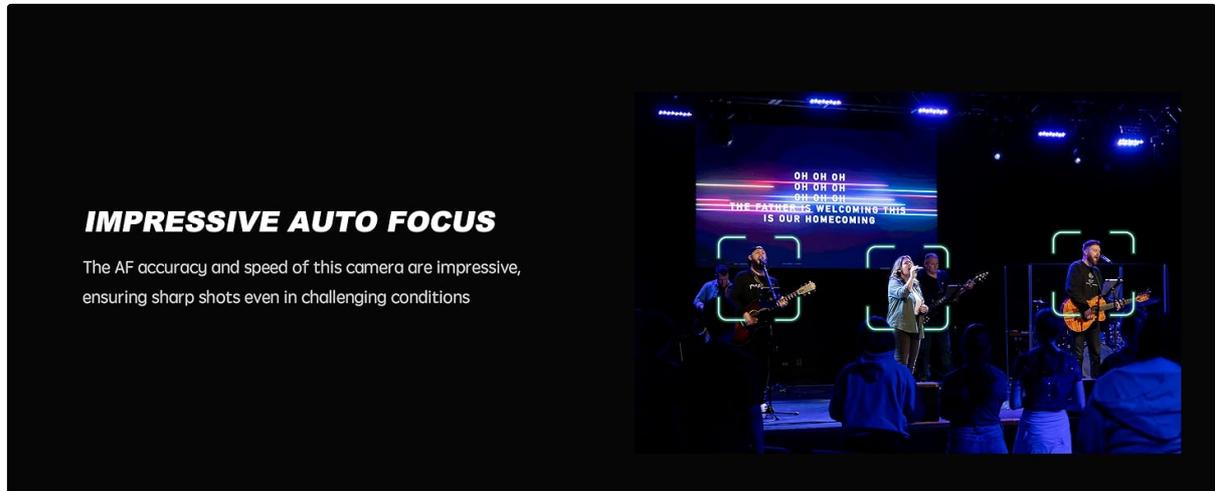


Figure 2: NDI HX2 and NDI HX3 Certification

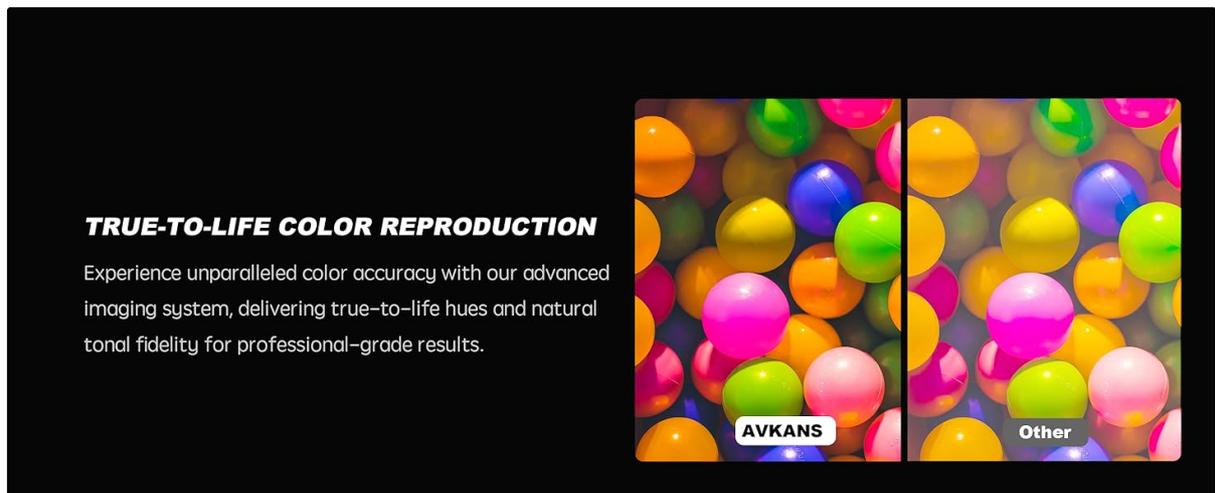


Figure 3: Low-Light Imaging Capability

3. PACKAGE CONTENTS

The AVKANS LV20N camera package typically includes:

- Camera Body
- Power Adapter
- IR Remote Control
- Mounting Bracket (for wall or ceiling installation)
- User Manual (this document)

4. SETUP

4.1 Physical Installation

1. **Mounting:** Use the provided mounting bracket to securely install the camera on a wall or ceiling. Ensure the camera is stable and positioned to capture the desired area.
2. **Power Connection:** Connect the camera to power using either the included DC 12V power adapter or via a Power over Ethernet (PoE) switch using an Ethernet cable.
3. **Network Connection:** Connect an Ethernet cable from your network switch or router to the LAN port on the camera for NDI streaming and IP control.
4. **Video Output:** Connect the appropriate video cables (HDMI, SDI, or USB 3.0) from the camera to your display, video switcher, or computer.

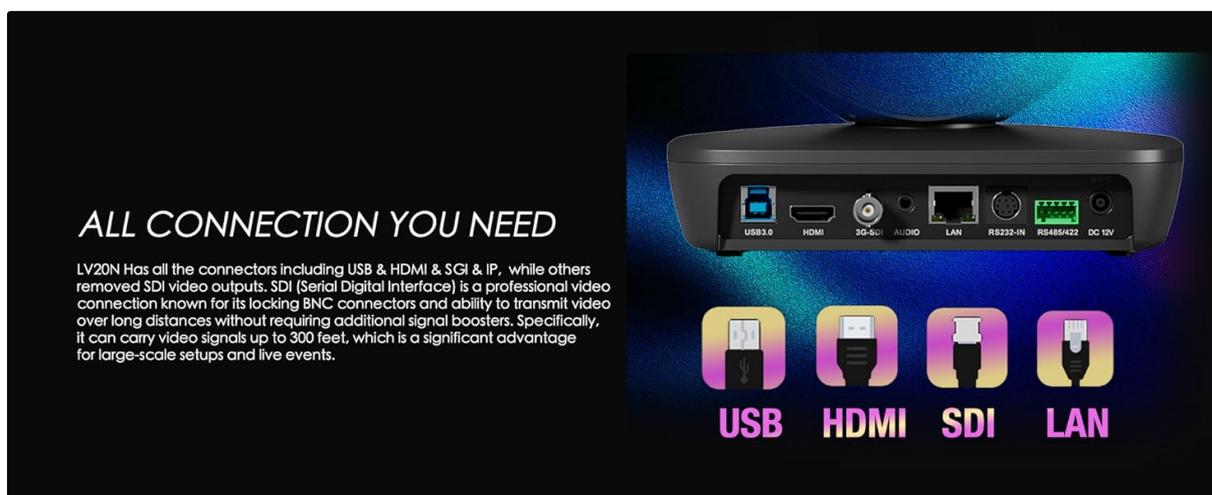


Figure 4: Typical Connection Diagram

4.2 Initial Configuration

After physical setup, access the camera's web interface for initial configuration:

1. **Find Camera IP:** Use the AVKANS CMS software (Windows) or a network scanner to find the camera's IP address on your local network.
2. **Access Web Interface:** Open a web browser and enter the camera's IP address. Log in using the default credentials (refer to the camera's label or quick start guide for default username/password).
3. **Network Settings:** Configure network settings (e.g., static IP, DHCP) as needed for your environment.
4. **Firmware Update:** Check for and install the latest firmware from the AVKANS website to ensure access to the newest features and improvements.

5. CONNECTIONS

The AVKANS LV20N offers a variety of input and output ports:

- **USB 3.0:** For direct connection to a computer, allowing the camera to function as a high-quality

webcam for conferencing or recording.

- **HDMI:** High-Definition Multimedia Interface for connecting to displays, projectors, or video switchers.
- **3G-SDI:** Serial Digital Interface for professional video connections, supporting long cable runs and high reliability.
- **LINE-IN (Audio):** 3.5mm audio input for external audio sources.
- **LAN (RJ45):** Ethernet port for NDI video streaming, IP control, and Power over Ethernet (PoE).
- **RS232-IN / RS485/422:** Serial ports for external PTZ control via compatible controllers.
- **DC 12V:** Power input for the included power adapter.

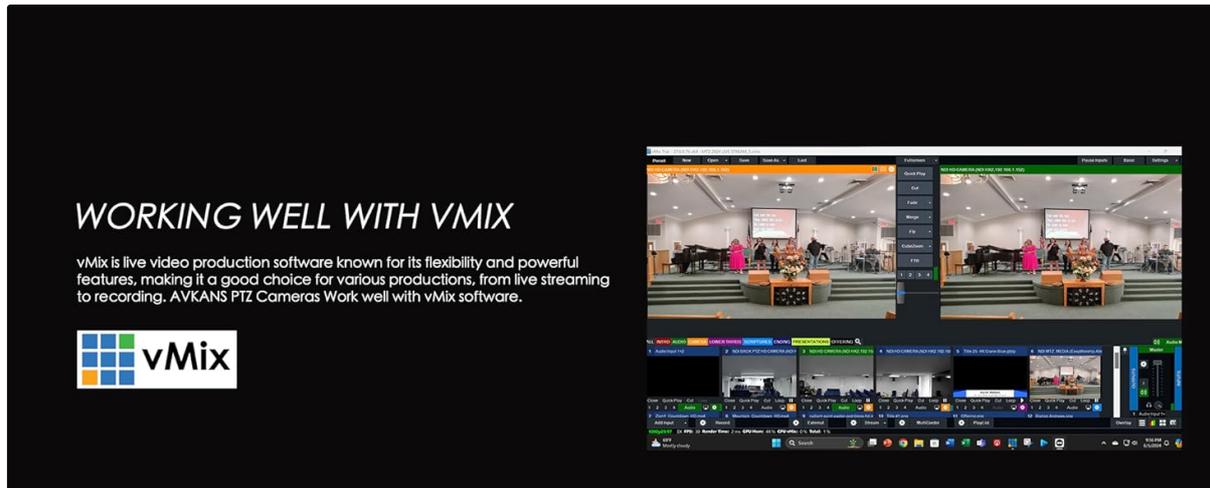


Figure 5: Rear Panel Connections

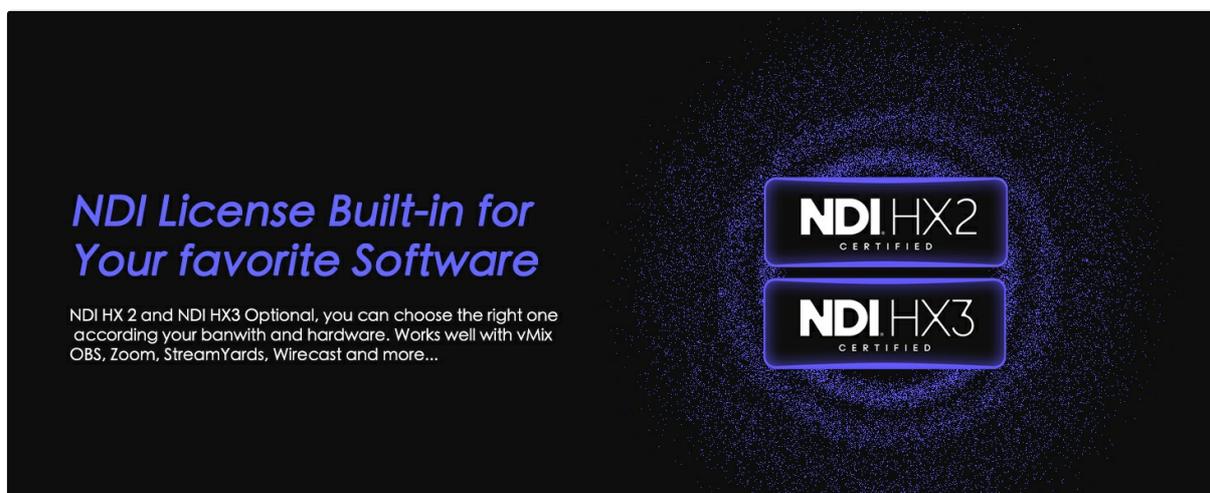


Figure 6: Power Over Ethernet (PoE) Connection

6. OPERATION

6.1 Basic PTZ Control

The camera can be controlled using the included IR remote, the web interface, or a compatible joystick controller. Use the directional buttons to pan (left/right) and tilt (up/down) the camera. Use the zoom buttons to adjust the optical zoom.

6.2 AI Auto Tracking

The AVKANS LV20N features advanced AI auto-tracking capabilities. This function allows the camera to automatically follow a designated subject within its field of view. The camera can track one person at a time.

- **Tracking Modes:** Choose from Presenter Tracking, Zone Tracking, or Hybrid Tracking modes via the web interface or remote control.
- **Settings:** Adjust tracking performance parameters such as tracking area, sensitivity, and speed to suit your environment and subject movement.



Figure 7: AI Auto Tracking in action

6.3 Tally Light Function

The built-in Tally Light provides visual feedback on the camera's status when integrated with NDI-compatible software like OBS or vMix. The light will turn green when the camera is in Preview mode and red when it is in Program mode.

Power AI Auto Tracking

Smooth and Precise Tracking Performance



Figure 8: Tally Light Indicators

6.4 Software Integration

The AVKANS LV20N camera is designed for seamless integration with popular live streaming and video production software:

- **NDI:** Utilize NDI HX2 or NDI HX3 for high-quality, low-latency video transmission over your network. Compatible with OBS, vMix, Streamlabs, ProPresenter, Wirecast, and other NDI software.
- **USB Webcam:** Connect via USB 3.0 to use the camera as a high-definition webcam for applications like Zoom.
- **RTMP/SRT:** Supports Real-Time Messaging Protocol (RTMP) and Secure Reliable Transport (SRT) for direct streaming to platforms like YouTube, Facebook, Twitch, and more.

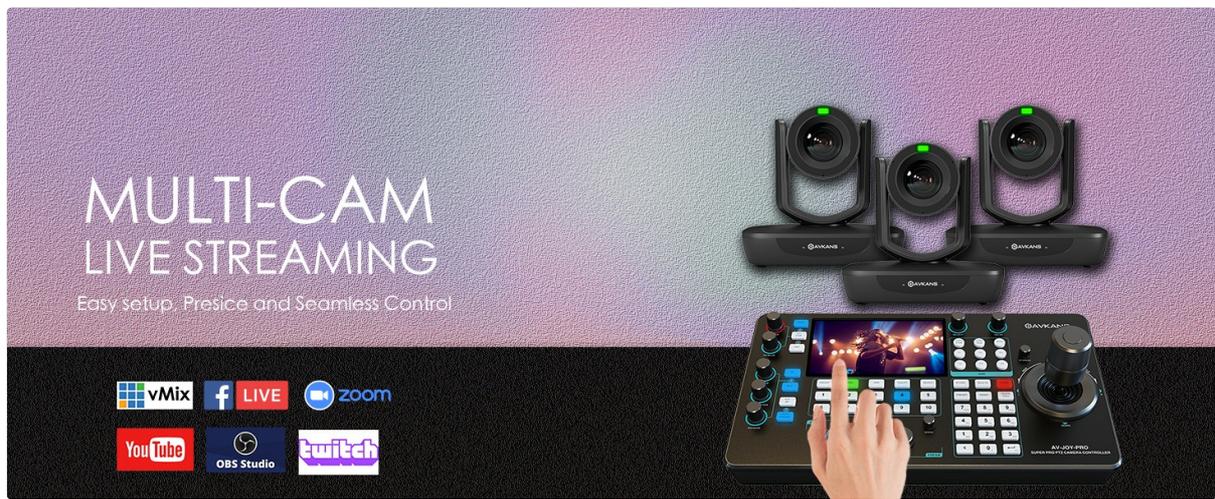


Figure 9: OBS Studio Integration

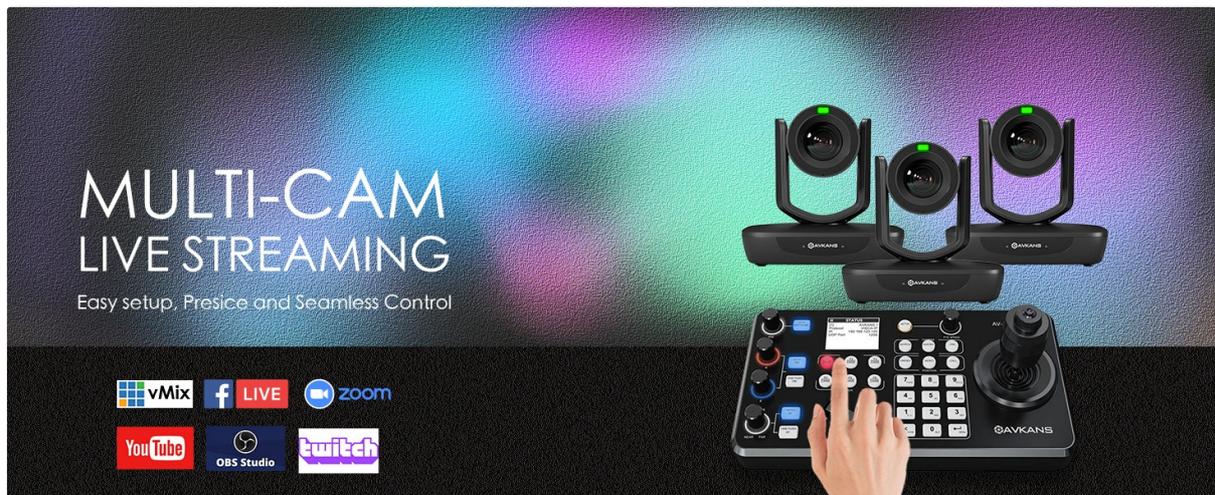


Figure 10: vMix Integration

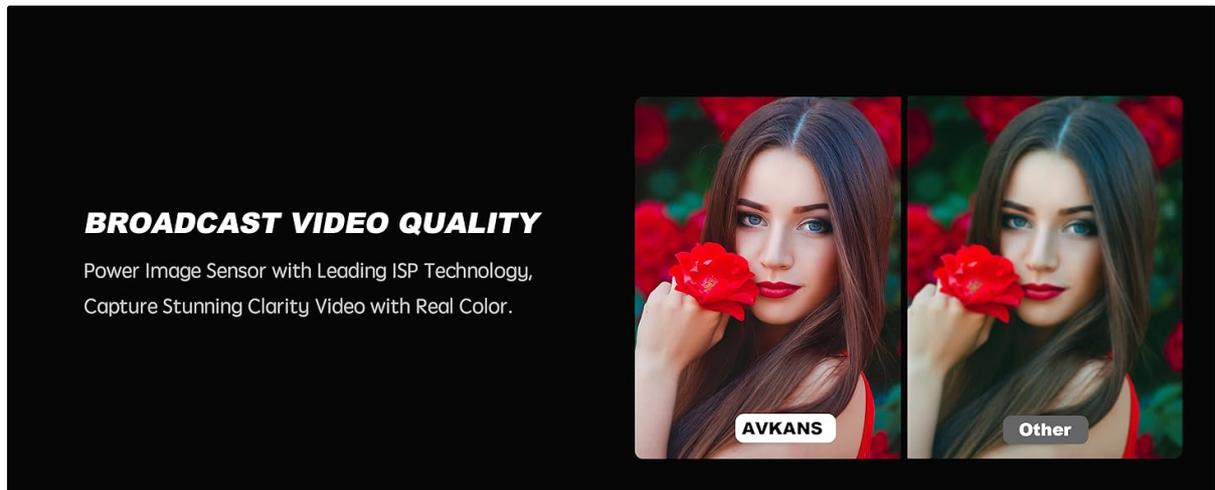


Figure 11: AVKANS Live Multicam App (iOS)

7. MAINTENANCE

- **Cleaning:** Use a soft, dry cloth to clean the camera body. For the lens, use a specialized lens cleaning cloth and solution. Avoid harsh chemicals.
- **Firmware Updates:** Regularly check the AVKANS official website for new firmware versions.

Updating the firmware can improve performance, add new features, and resolve potential issues. Follow the instructions provided with the firmware update carefully.

- **Storage:** When not in use for extended periods, store the camera in a cool, dry place, away from direct sunlight and excessive dust.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
No video output	Loose cable connection, incorrect input selection on display/switcher, power issue.	Check all cable connections (HDMI, SDI, USB, LAN). Ensure the camera is powered on. Verify the correct input source is selected on your display or video switcher.
AI Auto Tracking not working	Incorrect tracking mode selected, subject out of range, insufficient lighting, multiple subjects.	Ensure a single subject is clearly visible. Adjust tracking area, sensitivity, and speed settings. Verify adequate lighting. The camera tracks one person only.
Network/NDI connectivity issues	Incorrect IP settings, firewall blocking, faulty Ethernet cable.	Check camera's IP address and network settings. Ensure your network allows NDI traffic. Try a different Ethernet cable. Restart camera and network devices.
Remote control unresponsive	Low batteries, IR sensor blocked, incorrect camera ID.	Replace remote batteries. Ensure a clear line of sight to the camera's IR sensor. Verify the remote is set to the correct camera ID.

9. SPECIFICATIONS

Feature	Detail
Brand	AVKANS
Model Number	LV20N
Item Weight	5.79 pounds
Product Dimensions	12 x 9 x 2.7 inches
Color	Black
Photo Sensor Technology	CMOS
Video Capture Resolution	1080p
Optical Zoom	20X

Feature	Detail
Connectivity Technology	HDMI, SDI, USB 3.0, LAN (NDI)
Special Features	AI Auto Tracking, NDI, NDI HX2, NDI HX3, Tally Light

10. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please refer to the official AVKANS website or contact AVKANS customer service directly. AVKANS provides free training, video instructions, and remote assistance to help users with setup and operation.

11. PRODUCT VIDEOS

AVKANS PTZ Camera with Joystick Controller for Church Live Streaming

Your browser does not support the video tag.

This video demonstrates the AVKANS PTZ camera's use with a joystick controller in a church live streaming setup, showcasing its pan, tilt, and zoom capabilities.

Video Shot with AVKANS LV20N Cameras

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This video showcases footage captured using the AVKANS LV20N cameras in a live music performance setting, highlighting video quality and camera movement.

AVKANS LV20N Features: NDI|HX3, H.265, Autofocus, Autoexposure Brightness Mode

Your browser does not support the video tag.

A demonstration of the AVKANS LV20N's technical capabilities, including NDI|HX3, H.265 compression, autofocus, and autoexposure brightness mode.

AVKANS LV20N PTZ Camera Review

Your browser does not support the video tag.

An in-depth review of the AVKANS LV20N PTZ Camera, covering its features, performance, and suitability for various applications.

