HANWHA XNO-6120R/LPR

User Manual

HANWHA TECHWIN XNO-6120R/LPR 2MP LOW SPEED LPR OUTDOOR IR NETWORK BULLET CAMERA

Model: XNO-6120R/LPR | Brand: HANWHA

1. Introduction

This manual provides comprehensive instructions for the installation, operation, and maintenance of the Hanwha Techwin XNO-6120R/LPR 2MP Low Speed LPR Outdoor IR Network Bullet Camera. This camera is designed for specialized applications such as parking lots, drive-thrus, and entry gates, capable of accurately capturing license plates at speeds up to 35 MPH.

Key features include:

- **2 Megapixel (1920 x 1080) Resolution:** Provides clear, high-definition video.
- **12X Optical Zoom (5.2 ~ 62.4mm):** Allows for detailed magnification of distant objects.
- **H.265/H.264/MJPEG Codec Support:** Efficient video compression for optimized storage and bandwidth.
- **Embedded LPR Solution:** Integrated license plate recognition for low-speed applications.
- **Advanced Video Analytics:** Includes loitering, directional detection, fog detection, audio detection, digital auto tracking, sound classification, and tampering detection.
- **High Powered IR LEDs:** Provides readable length for LPR up to 65 ft in low-light conditions.
- **Robust Environmental Protection:** IP67/IP66, NEMA 4X, and IK10 ratings ensure durability in harsh outdoor environments.
- **Wide Dynamic Range (WDR):** 150dB WDR for clear images in challenging lighting.

2. Safety Information

Please read all safety instructions carefully before installing and operating the camera. Failure to comply with these instructions may result in injury or damage to the device.

- **Power Source:** Use only the specified power supply (12VDC/24VAC/PoE). Incorrect voltage may damage the camera.
- **Installation Environment:** Ensure the installation location is stable and can support the camera's weight. Avoid installing in areas with excessive vibration or direct exposure to corrosive substances.
- **Water and Moisture:** Although the camera is IP67/IP66 rated for outdoor use, ensure all connections are

properly sealed to prevent water ingress. Do not submerge the camera.

- **Servicing:** Do not attempt to disassemble or repair the camera yourself. Refer all servicing to qualified personnel.
- **Temperature:** The camera is designed to operate within -40°C ~ +55°C (-40°F ~ +131°F). Ensure the operating environment stays within this range.

3. Package Contents

Verify that all components are present in the package:

- Hanwha Techwin XNO-6120R/LPR Camera Unit
- Backbox (included)
- Installation Guide / Quick Start Guide (not provided in this manual, but typically included)
- Mounting Hardware (screws, anchors - specific types may vary)
- Waterproof RJ45 Connector Kit (if applicable)

Note: The package contents may vary slightly depending on the region or specific bundle.

4. Product Overview

The XNO-6120R/LPR is a bullet-style network camera. Familiarize yourself with its main components:

Figure 4.1: Front angle view of the Hanwha Techwin XNO-6120R/LPR bullet camera. This image shows the main lens, the IR illuminators around the lens, and the integrated sun shield. The camera body is dark gray with "WISENET" branding on the side.

Figure 4.2: Side view of the Hanwha Techwin XNO-6120R/LPR bullet camera, illustrating the adjustable mounting bracket and the base plate with screw holes for installation. The camera's cylindrical body extends from the base.

- **Lens:** 12X optical zoom lens (5.2mm ~ 62.4mm) with auto-focus.
- **IR LEDs:** High-powered infrared illuminators for night vision and LPR.
- **Housing:** Weatherproof (IP67/IP66) and vandal-resistant (IK10) bullet housing.
- **Mounting Bracket:** Adjustable bracket for precise positioning.
- **Cable Gland/RJ45 Connection:** Located at the rear for network and power connections.
- **USB Port:** For easy installation and maintenance.
- **SD Card Slots:** Dual SD card slots for local storage.

5. Setup

5.1. Physical Installation and Mounting

1. **Choose a Location:** Select a suitable outdoor location that provides the desired field of view for LPR, ensuring it is within range of power and network connections. Consider the camera's operating temperature range.

2. **Mounting Surface Preparation:** Use the included backbox as a template to mark drilling points on the mounting surface. Ensure the surface is strong enough to support the camera.

3. **Secure the Backbox:** Attach the backbox securely to the mounting surface using appropriate screws and anchors.

4. **Attach Camera to Backbox:** Connect the camera unit to the backbox, ensuring proper alignment and secure fastening.

5. **Adjust Angle:** Loosen the adjustment screws on the mounting bracket to set the desired camera angle and field of view. Tighten screws once adjusted.

5.2. Wiring and Connections

The XNO-6120R/LPR supports Power over Ethernet (PoE), 12VDC, or 24VAC power inputs.

1. **Network Connection:** Connect an RJ45 Ethernet cable from your network switch (preferably PoE-enabled) to the camera's RJ45 port. Ensure the connection is secure and waterproof using the provided kit if necessary.

Figure 5.2.1: Example of an RJ45 Ethernet cable, used for network and PoE connection to the camera.

2. **Power Connection (if not using PoE):** If not using PoE, connect a 12VDC or 24VAC power adapter to the camera's power input terminal. Refer to the camera's wiring diagram for correct polarity.

3. **SD Card Installation:** If local storage is desired, insert compatible SD cards into the dual SD card slots.

5.3. Initial Configuration

After physical installation and connection, access the camera's web interface for initial setup.

1. **Discover Camera:** Use the Hanwha Techwin Device Manager software (available on the Hanwha Techwin website) to discover the camera on your network. The camera will typically obtain an IP address via DHCP.

2. **Access Web Interface:** Open a web browser and enter the camera's IP address.

3. **Login:** Enter the default username and password (refer to the quick start guide or Hanwha Techwin documentation for defaults, and change immediately for security).

4. **Network Settings:** Configure static IP address, subnet mask, gateway, and DNS settings if required for your network.

5. **Date and Time:** Set the correct date, time, and time zone. Configure NTP synchronization for accuracy.

6. **Firmware Update:** Check for and install the latest firmware version from the Hanwha Techwin website to ensure optimal performance and security.

6. Operating

6.1. Live View and Basic Controls

Once configured, you can access the camera's live view through its web interface or a compatible VMS (Video Management System).

- **Live Stream:** View real-time video feed.
- **Zoom Control:** Use the digital zoom controls in the interface to adjust the 12X optical zoom.
- **Focus Adjustment:** The camera features auto-focus. Manual adjustments can be made via the web interface if needed.
- **Image Settings:** Adjust brightness, contrast, saturation, sharpness, WDR, and day/night mode settings to optimize image quality for specific lighting conditions.

6.2. LPR (License Plate Recognition) Configuration

The XNO-6120R/LPR features an embedded LPR solution. Proper configuration is crucial for accurate plate recognition.

1. **Access LPR Settings:** Navigate to the LPR/Analytics section in the camera's web interface.

2. **Define Detection Zone:** Draw a detection zone that covers the area where license plates are expected to appear. Ensure the zone is optimized for the camera's field of view and the expected vehicle speed (up to 35 MPH).

3. **Set Recognition Parameters:** Configure parameters such as minimum/maximum plate size, angle tolerance,

and character set.

4. **Event Actions:** Define actions to be taken upon plate recognition, such as sending metadata to a VMS, triggering an alarm, or logging data.

5. **Testing:** Conduct thorough testing with various vehicles and lighting conditions to verify LPR accuracy.

6.3. Advanced Video Analytics

The camera supports various intelligent video analytics:

- **Loitering Detection:** Detects objects remaining in a defined area for too long.
- **Directional Detection:** Triggers an event when an object moves in a specified direction.
- **Fog Detection:** Improves image clarity in foggy conditions and can trigger alerts.
- **Audio Detection:** Triggers events based on sound levels or specific sound classifications.
- **Tampering Detection:** Alerts if the camera is obstructed, moved, or spray-painted.

Configure these analytics in the camera's web interface under the "Event" or "Analytics" sections, defining detection zones, sensitivity, and associated actions.

6.4. Recording and Playback

Record video to local SD cards, a Network Video Recorder (NVR), or a compatible VMS.

- **Recording Schedule:** Set up continuous recording, event-triggered recording (e.g., by LPR or motion detection), or scheduled recording.
- **Storage Configuration:** Format SD cards via the web interface. Configure network storage (NAS/NVR) settings.
- **Playback:** Access recorded footage through the camera's web interface (for SD card recordings) or your NVR/VMS for network recordings. Use date/time filters and event logs to locate specific incidents.

7. Maintenance

7.1. Cleaning

Regular cleaning helps maintain optimal image quality and extends the camera's lifespan.

- **Lens and Housing:** Gently wipe the lens and camera housing with a soft, clean, lint-free cloth. For stubborn dirt, use a mild, non-abrasive cleaning solution specifically designed for optical lenses.
- **Avoid:** Do not use strong detergents, solvents, or abrasive materials, as these can damage the lens coating or housing finish.
- **Frequency:** Clean as needed, especially in dusty or high-traffic environments.

7.2. Firmware Updates

Periodically check the Hanwha Techwin website for new firmware versions. Firmware updates often include bug fixes, performance improvements, and new features.

1. **Download Firmware:** Download the latest firmware file for your specific model (XNO-6120R/LPR) from the official Hanwha Techwin support page.

2. **Access Camera:** Log in to the camera's web interface.

3. **Update Process:** Navigate to the "System" or "Maintenance" section and locate the firmware update option. Follow the on-screen instructions to upload and install the firmware.

4. **Do Not Interrupt:** Do not power off the camera or disconnect the network during the firmware update process, as this can brick the device.

7.3. Environmental Considerations

Ensure the camera's operating environment remains within specified limits to prevent damage and ensure longevity.

- **Temperature:** Verify that the ambient temperature stays between -40°C ~ +55°C (-40°F ~ +131°F). The built-in heater assists in cold conditions.
- **Humidity:** Maintain humidity levels within the camera's specified operating range.
- **Vibration:** Minimize exposure to excessive vibration, which can affect image stability and component lifespan.

8. Troubleshooting

This section addresses common issues you might encounter with the XNO-6120R/LPR camera.

Problem	Possible Cause	Solution
No video output / Camera offline	- No power - Network cable disconnected or faulty - Incorrect IP address - Camera malfunction	- Check power supply (PoE or external adapter). - Verify RJ45 cable connection and integrity. - Use Device Manager to find the correct IP address. - Perform a factory reset (refer to manual for procedure) or contact support.
Poor image quality / Blurry video	- Dirty lens - Incorrect focus - Insufficient lighting - Network bandwidth issues	- Clean the camera lens. - Adjust focus via web interface (auto-focus should handle most cases). - Ensure IR LEDs are functioning; add external lighting if necessary. - Check network load and camera's bitrate settings.
LPR not recognizing plates	- Incorrect LPR zone setup - Vehicle speed too high - Poor lighting or glare - Plate angle/size outside parameters	- Re-adjust the LPR detection zone for optimal coverage. - Ensure vehicles are within the specified speed limit (up to 35 MPH). - Optimize camera angle and image settings (WDR, IR). - Adjust LPR recognition parameters in the web interface.
Cannot access web interface	- Incorrect IP address - Network connectivity issue - Firewall blocking access - Browser compatibility	- Verify IP address. - Check network cables and switch. - Temporarily disable firewall or add exception. - Try a different web browser (e.g., Chrome, Firefox).

9. Specifications

Feature	Detail
Model Number	XNO-6120R/LPR
Brand	HANWHA
Resolution	2 Megapixel (1920 x 1080)
Optical Zoom	12X (5.2 ~ 62.4mm)
LPR Speed Capability	Up to 35 MPH
Video Compression	H.265, H.264, MJPEG
Wide Dynamic Range (WDR)	150dB
IR Length (LPR readable)	65 ft
Ingress Protection (IP) Rating	IP67, IP66
Impact Protection (IK) Rating	IK10
NEMA Rating	NEMA 4X
Operating Temperature	-40°C ~ +55°C (-40°F ~ +131°F)
Power Source	12VDC/24VAC/PoE
Connectivity Protocol	Wi-Fi (Note: RJ45 is primary wired connection)
Storage	Dual SD card slots
Included Components	Backbox
UPC	764227954620

10. Warranty and Support

For warranty information, please refer to the official Hanwha Techwin warranty policy available on their website or contact your authorized dealer. Keep your proof of purchase for warranty claims.

For technical support, product documentation, and software downloads, visit the official Hanwha Techwin support website. You may also contact their customer service or your local distributor for assistance.

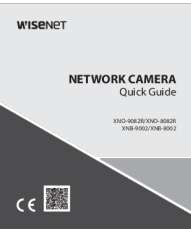*Note: Specific warranty terms and support availability may vary by region.*

Related Documents - XNO-6120R/LPR
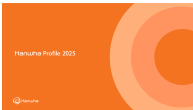
[Hanwha Profile 2025: Global Leader in Aerospace, Defense, Energy, and Technology](#)
Explore the comprehensive Hanwha Profile 2025, detailing the company's global leadership in aerospace, defense, energy, finance, and advanced technology sectors. Discover Hanwha's commitment to innovation and sustainability.

	[WISENET Network Camera Quick Guide: XNO-9082R/XNO-8082R, XNB-9002/XNB-8002](#) Quick guide for WISENET network cameras, models XNO-9082R/XNO-8082R and XNB-9002/XNB-8002. Covers installation, components, safety information, and initial setup including password setting and WiFi connection.
	[WISENET XNV-6123R XNO-6123R](#) WISENET XNV-6123R XNO-6123R Web
	[Hanwha Vision Network Camera User Manual](#) Comprehensive user manual for Hanwha Vision Network Cameras, detailing installation, setup, network configuration, and troubleshooting for Vandal Dome, Indoor Dome, Bullet, and Box camera models.
	[WISENET HCZ-6320 High Resolution 32X Zoom Color Camera User Manual](#) User manual for the WISENET HCZ-6320 High Resolution 32X Zoom Color Camera. Learn about its advanced features like 32x optical zoom, high resolution, SSNR, DIS, SSDR, and Day/Night capabilities for effective surveillance.
	[Wisenet Network Video Recorder User Manual](#) Comprehensive user manual for the Wisenet Network Video Recorder (NVR), detailing setup, operation, live monitoring, advanced search capabilities, system configuration, and remote access features.