Diamond NVR302A-16-4KS2/L

User Manual

DIAMOND NVR4216-4KS2/L NETWORK VIDEO RECORDER

Model: NVR302A-16-4KS2/L | Brand: Diamond

1. Product Overview

The NVR302A-16-4KS2/L is a Lite series Network Video Recorder designed for high-performance surveillance applications. It supports 4K resolution processing and H.265 encoding technology, offering excellent video quality and efficient storage. This NVR can function as edge, central, or backup storage, providing intuitive remote management and control. Its cost-effective and easy-to-install design makes it suitable for various environments, including public safety, transportation, and educational institutions. The NVR is compatible with numerous third-party devices and supports ONVIF 2.4 protocol for broad interoperability with IP cameras.

Key Features:

- New UI interface for an easier operation experience.
- Supports Smart H.265 / Smart H.264 video compression.
- P2P remote surveillance and video playback on mobile devices.
- 16-channel @ 720P (30FPS) self-adaptive decoding capability.
- Compatible with mainstream cameras supporting ONVIF and RTSP protocols.
- VGA/HDMI simultaneous video output, with a maximum HDMI resolution of 4K.
- Enables remote configuration and management of IPCs, including parameter settings, information acquisition, and batch upgrades for IPCs of the same model.
- Supports DHCP, HTTP, NTP, and DDNS protocols.

2. Package Contents

Please check the package contents carefully upon unpacking. If any items are missing or damaged, contact your vendor immediately.

- Network Video Recorder (NVR) Unit
- Power Adapter
- USB Mouse

- SATA Cables (for optional HDD installation)
- Quick Start Guide
- *Note: This model does not include a pre-installed Hard Disk Drive (HDD). An HDD must be purchased separately for video storage.*

3. Product Components and Interfaces

3.1 Front Panel

Figure 3.1: Front view of the NVR, showing indicator lights and control buttons.

The front panel of the NVR features various indicator lights for power, HDD activity, and network status, along with control buttons for navigation and quick operations. These indicators provide real-time status updates of the device.

3.2 Rear Panel

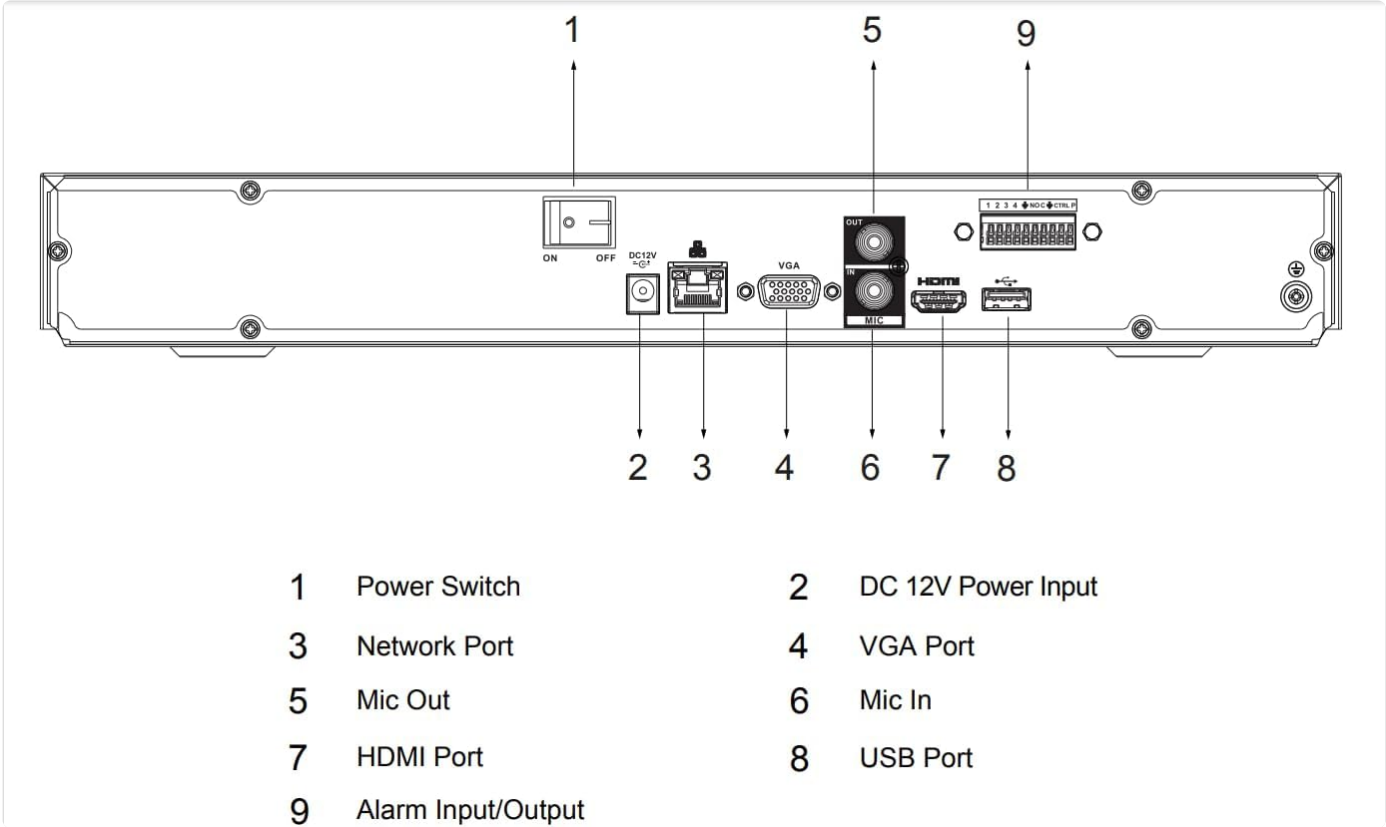| 1	Power Switch	2	DC 12V Power Input
3	Network Port	4	VGA Port
5	Mic Out	6	Mic In
7	HDMI Port	8	USB Port
9	Alarm Input/Output		

Figure 3.2: Rear view of the NVR, illustrating all input and output ports.

The rear panel provides all necessary connection ports for power, video output, audio, network, and alarm inputs/outputs. Refer to the diagram above for the location of each port.

1. **1. Power Switch:** Toggles the NVR power On/Off.

2. **2. DC 12V Power Input:** Connects to the provided power adapter.

3. **3. Network Port:** RJ45 port for connecting to your local area network (LAN).

4. **4. VGA Port:** Video Graphics Array output for connecting to a monitor.

5. **5. Mic Out:** Audio output for connecting to speakers or an audio system.

6. **6. Mic In:** Audio input for connecting a microphone.

7. **7. HDMI Port:** High-Definition Multimedia Interface output for connecting to a monitor or TV, supporting up to 4K resolution.

8. **8. USB Port:** For connecting a USB mouse, external storage, or for firmware upgrades.

9. **9. Alarm Input/Output:** Terminal block for connecting external alarm devices (sensors, sirens).

4. Initial Setup

4.1 Unpacking and Inspection

1. Carefully remove the NVR from its packaging.

2. Inspect the unit for any signs of physical damage.

3. Verify all accessories listed in Section 2 are present.

4.2 Hardware Installation

1. **HDD Installation (Optional):** If you plan to install an internal HDD, power off the NVR. Open the NVR casing, mount the HDD using the provided screws, and connect the SATA power and data cables. Close the casing securely.

2. **Connect Display:** Connect a monitor to the NVR's HDMI or VGA port.

3. **Connect Mouse:** Plug the USB mouse into one of the NVR's USB ports.

4. **Connect Network:** Connect an Ethernet cable from the NVR's Network Port to your router or network switch.

5. **Connect Power:** Connect the DC 12V power adapter to the NVR's power input and then plug it into a power outlet.

6. **Power On:** Flip the Power Switch to the "ON" position.

4.3 First-Time Boot and Configuration

Upon the first boot, the NVR will guide you through an initial setup wizard. Follow the on-screen prompts to:

- Set up a strong password for the admin account.
- Configure date and time settings.
- Set up network parameters (DHCP is recommended for most home networks).
- Initialize the HDD (if installed).
- Search for and add IP cameras to the NVR.

5. Operating Instructions

5.1 User Interface Navigation

Navigate the NVR's graphical user interface (GUI) using the connected USB mouse. Right-click anywhere on the live view screen to access the main menu. The main menu provides access to Live View, Playback, System Settings, Alarm, Network, Storage, and other configurations.

5.2 Live View and Playback

- **Live View:** Select "Live View" from the main menu to see real-time feeds from connected cameras. You can switch between single-channel and multi-channel views.
- **Playback:** Select "Playback" from the main menu. Choose the camera, date, and time to review recorded footage. Use the timeline and control buttons (play, pause, fast forward, rewind) to navigate recordings.

5.3 Recording Settings

Access "Recording" settings from the main menu to configure recording schedules, motion detection, and other event-triggered recordings. You can set continuous recording, scheduled recording, or event-based recording for each camera.

5.4 Network Configuration

Under "Network" settings, you can configure IP addresses, port forwarding (if required for remote access without P2P), DDNS, and other network-related parameters. Ensure the NVR has a stable network connection for optimal performance and remote access.

5.5 Remote Access (P2P)

The NVR supports P2P (Peer-to-Peer) for easy remote access via a mobile application. Download the official mobile app (refer to the Quick Start Guide for app name) on your smartphone or tablet. Scan the NVR's QR code (usually found in the network settings or on a sticker on the device) to add the device and view live feeds or playback recordings remotely.

6. Maintenance

6.1 General Care

- Keep the NVR in a cool, dry, and well-ventilated area.
- Avoid exposing the unit to direct sunlight, high temperatures, or excessive humidity.
- Clean the exterior with a soft, dry cloth. Do not use liquid cleaners or aerosols.
- Ensure proper airflow around the unit to prevent overheating.

6.2 Firmware Updates

Periodically check the manufacturer's official website for firmware updates. Firmware updates can improve performance, add new features, and enhance security. Follow the instructions provided with the firmware update package carefully to avoid damaging the device.

6.3 Data Backup

Regularly back up important video footage to external storage devices (e.g., USB flash drive, network storage) to prevent data loss. The NVR's interface provides options for exporting recorded video.

7. Troubleshooting

This section addresses common issues you might encounter. For more complex problems, please refer to the manufacturer's online support or contact technical assistance.

- **No Video Output on Monitor:**
  - Check if the NVR is powered on and the power indicator light is active.
  - Ensure the HDMI/VGA cable is securely connected to both the NVR and the monitor.
  - Verify the monitor is set to the correct input source (HDMI/VGA).
  - Try a different monitor or cable to rule out faulty display equipment.
- **Cannot Connect to Network:**

- Ensure the Ethernet cable is properly connected to the NVR and the router/switch.
- Check the network indicator lights on the NVR and the router.
- Verify network settings in the NVR (IP address, subnet mask, gateway, DNS). Ensure DHCP is enabled on your router or manually assign a static IP within your network range.
- Restart the NVR and your router.

- **Cameras Not Displaying:**

  - Ensure IP cameras are powered on and properly connected to the network.
  - Verify that the cameras are compatible with the NVR (ONVIF 2.4 protocol support).
  - Check the IP addresses of the cameras and ensure they are on the same network segment as the NVR.
  - Use the NVR's camera management interface to search for and add cameras.
  - Ensure camera credentials (username/password) are correct.

- **No Recording/Playback Issues:**

  - Verify that an HDD is installed and properly initialized by the NVR.
  - Check the HDD status in the NVR's storage settings; ensure it's not full or faulty.
  - Confirm that recording schedules are properly configured for the desired cameras.
  - Ensure motion detection or other event triggers are correctly set up if using event-based recording.

8. Technical Specifications

Feature	Specification
Model Number	NVR302A-16-4KS2/L
Product Dimensions	14.76 x 11.12 x 2.09 inches (37.49 x 28.24 x 5.31 cm)
Item Weight	3.33 pounds (1.51 kg)
Number of Channels	16 Channels
Max Decoding Capability	16-ch@720P(30FPS)
Video Compression	Smart H.265 / Smart H.264
Video Output	VGA, HDMI (up to 4K resolution)
Audio Input/Output	Mic In, Mic Out
HDD Support	2 SATA HDD Slots (up to 20 TB total, HDDs not included)
USB Interface	Multiple USB ports
Network Interface	RJ45 Ethernet Port
Connectivity Technology	VGA, HDMI
Compatible Protocols	ONVIF 2.4, RTSP, DHCP, HTTP, NTP, DDNS
Manufacturer	Diamond

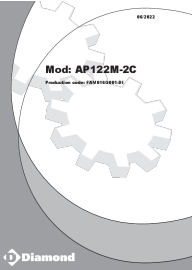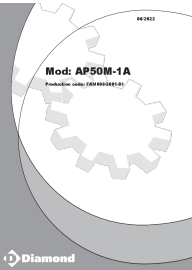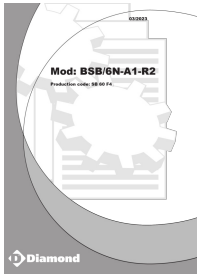| Feature	Specification
Country of Origin	China

9. Warranty and Support

This Diamond NVR product comes with a standard manufacturer's warranty. For detailed warranty terms and conditions, please refer to the warranty card included in your package or visit the official Diamond product support website. For technical assistance, troubleshooting beyond this manual, or to inquire about repairs, please contact the vendor or manufacturer's customer support directly. Keep your purchase receipt as proof of purchase for warranty claims.

Related Documents - NVR302A-16-4KS2/L

	[Diamond Dermabrasion Unit Instruction Manual](#) Comprehensive instruction manual for the 7 Functions Diamond Dermabrasion Unit, detailing its features, operation, safety precautions, and treatment guidelines for skin rejuvenation and care.
	[Diamond CBT51/R2 Blast Chiller Technical Specifications and Parts List](#) Comprehensive technical specifications, dimensions, packaging details, and a complete parts list for the Diamond CBT51/R2 Blast Chiller 5T Touch R290. Includes manufacturing information from Diamond Europe SA/NV.
	[Diamond Blocksystem AP122M-2C Use and Maintenance Handbook](#) This document provides comprehensive usage and maintenance instructions for the Diamond Blocksystem AP122M-2C. It covers control panel descriptions, starting procedures, temperature adjustments, parameter configuration, alarm signals, and emergency system operations. Model numbers and technical specifications are detailed for various applications.
	[Diamond AP50M-1A Use and Maintenance Handbook](#) This handbook provides detailed instructions for the Diamond AP50M-1A Blocksystem, covering starting procedures, control panel description, temperature adjustment, parameter configuration, alarm signals, and emergency system operations.

[Diamond Refrigerated Salad Bar SB 40 F B / SB 60 F B: Installation and User Manual](#)
Comprehensive guide for installing, operating, and maintaining Diamond refrigerated salad bars, models SB 40 F B and SB 60 F B. Includes safety instructions, technical specifications, and warranty information.

[Diamond BOOST/EQ Guitar Effects Pedal - Instruction Manual](#)
Instruction manual for the Diamond BOOST/EQ guitar effects pedal, covering features, dual modes, signal chain placement, specifications, and warranty.