

Four-channel 4K Network Video Recorder

1U 4-port PoE 4K and Smart H.265+



- Smart H.265+ and Smart H.264+ Dual Codec
- Maximum 160 Mbps Recording Bandwidth
- Up to 8 MP Resolution for Preview and Playback
- Simultaneous HDMI and VGA Video Output
- Supports Remote Configuration and Management of Network Cameras
- Supports P2P Remote Surveillance and DMSS Mobile App
- Records Analytics+ Data from Edge Cameras
- Four (4) PoE/PoE+ Ports
- Five-year Warranty*



System Overview

Dahua's Lite Series network video recorders offer excellent performance and high recording quality for network video surveillance applications. For applications where details are critical for identification, this professional NVR provides a powerful processor with up to 4K resolution. Additionally, the NVR features a mouse shortcut operation menu, remote management and control, center storage, edge storage, and back up storage.

Designed as a cost-effective and easy to install recorder, this NVR is an ideal addition to any security system that monitors public spaces, water conservancy, transportation, city centers, schools, and financial institutions.

The NVR is compatible with numerous third-party devices making it the perfect solution for surveillance systems with or without a video management system (VMS). Its open architecture supports multi-user access and it is compatible with ONVIF S, T, and G protocols, enabling interoperability when combined with 4K cameras.

Functions

4K Resolution

4K resolution is a revolutionary breakthrough in image processing technology. 4K delivers four times the resolution of Full HD 1080p devices and offers superior picture quality and image details. 4K resolution improves the clarity of a magnified scene to view or record crisp forensic video from large areas.

High Efficiency Video Coding (H.265)

The H.265 (ITU-T VCEG) video compression standard offers double the data compression ratio at the same level of video quality, or substantially improved video quality at the same bit rate, as compared to older video compression technologies. H.265 offers such impressive compression by expanding the pattern comparison and difference-coding, improving motion vector prediction and motion region merging, and incorporating an additional filtering step called sample-adaptive offset filtering.

Smart H.265+

Smart H.265+ is the optimized implementation of the H.265 codec that uses a scene-adaptive encoding strategy, dynamic GOP, dynamic ROI, flexible multi-frame reference structure and intelligent noise reduction to deliver high-quality video without straining the network. Smart H.265+ technology reduces bit rate and storage requirements by up to 90% when compared to the H.264 video compression standard.

Analytics+ Recording

Working with Dahua WizSense network cameras, the NVR recognizes and records video that contains analytic data on all IP channels. The NVR records intelligence at-the-edge features, including Perimeter Protection, Smart Motion Detection+, and People Counting.

Compatible with DMSS

The DMSS app is available on the iOS App Store and the Google Play Store. DMSS makes surveillance easy and simple, allowing remote access to back-end devices, view live video, receive event push notifications, and search for recorded videos from an iPhone, iPad, or Android phone at anytime from virtually anywhere.

Technical Specification

System

| | |
|------------------|-------------------------------------|
| Main Processor | Industrial-grade Embedded Processor |
| Operating System | Embedded Linux |

Audio and Video

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|-----------------|---|
| IP Camera Input | Four (4) Channels |
| Audio | Input: One (1) Channel, RCA Output: One (1) Channel, RCA |

Analytics+ Recording¹

| | | |
|----------------------|----------|---|
| Perimeter Protection | Channels | Four (4) |
| | Search | By channel, time, event type |
| SMD+ | Channels | Four (4) |
| | Search | By target classification (human or vehicle) |

Display

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|--------------------------|--|
| Interface | One (1) HDMI One (1) VGA |
| Native Output Resolution | 3840 x 2160, 1920 x 1080, 1280 x 1024, 1280 x 720 |
| Maximum Decoding | Two (2) Channel of 8 MP at 30 fps Four (4) Channels of 4 MP at 30 fps |
| Multi-screen Display | 1/4 |
| On-screen Display | Camera Title, Time, Video Loss, Camera Lock, Motion Detection, Recording |

Recording

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|--------------------------------|---|
| Video Compression | Smart H.265+, H.265, Smart H.264+, H.264, MJPEG |
| Audio Compression | PCM, G.711A, G.711Mu, G.726 |
| Supported IP Camera Resolution | 8 MP, 6 MP, 5 MP, 4 MP, 3 MP, 1080p, 720p, D1 |
| Maximum Recording Bandwidth | 160 Mbps |
| Record Mode | Manual Recording; Alarm Recording; SMD Recording; Smart Recording |

Video Detection and Alarm

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| Alarm Input | Four (4) Channels |
| Relay Output | Two (2) Channels |
| General Alarms | Motion detection, privacy masking, video loss, scene changing, PIR alarm, IPC external alarm |
| Anomaly Alarms | Camera disconnection, storage error, disk full, IP conflict, MAC conflict, login locked, and cybersecurity exception |
| Analytics+ Alarms | Face detection, perimeter protection (intrusion and tripwire), IVS, people counting, heat map, and SMD alarms |
| Alarm Actions | Recording, snapshot, audio, buzzer, log, preset, and email |

Playback and Backup

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|-------------------|--|
| Sync Playback | 1/4 |
| Search Mode | Time/Date, Alarm, MD and Exact Search (accurate to one second), Smart Search |
| Playback Function | Play, Pause, Stop, Rewind, Fast Play, Slow Play, Reverse, By Frame, Full Screen, Backup Selection (video clip or file), Partial Zoom, Audio On/Off |
| Backup Mode | USB Device, Network |

Third-party Support

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|---------------------|---|
| Third-party Support | Dahua, Arecont Vision, AXIS, Bosch, Brickcom, Canon, CP Plus, Dynacolor, Honeywell, Panasonic, Pelco, Samsung, Sanyo, Sony, Videotec, Vivotek, and others |
|---------------------|---|

Network

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| Ethernet | One (1) RJ-45 Port (10/100/1000 Mbps), Self-adaptive |
| PoE | Four (4) Ports (IEEE802.3af/at) |
| Network Function | HTTP; HTTPS; TCP/IP; IPv4/IPv6; UPnP; SNMP; RTSP; UDP; SMTP; NTP; DHCP; DNS; IP Filter; DDNS; FTP; Alarm Server; IP Search (Support Dahua IP camera; DVR; NVS); P2P; Auto register |
| Maximum User Access | 128 |
| Mobile Operating System | IOS, Android |
| Browser | Chrome, IE 9 or later |
| Interoperability | ONVIF Profiles S,T,G; CGI, SDK |

Storage

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| Internal HDD | Two (2) SATA III Ports, Up to 10 TB capacity per HDD |
| HDD Mode | Single |

Auxiliary Interface

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| USB | Two (2) USB 2.0 Ports |
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Electrical

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| Power Supply | 53 VDC, 1.36 A |
| NVR Power Consumption | < 10 W, without HDD |
| Total PoE Budget | 25.5 W single port, 36 W total |

Environmental

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| Operating Conditions | -10° C to +55° C (+14° F to +131° F), 10% to 93% RH |
| Storage Conditions | 0° C to +40° C (32° F to 104° F), 30% to 85% RH |

Construction

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|------------------------|---|
| Dimensions (W x L x H) | 375.0 mm x 282.90 mm x 53.0 mm (14.76 in. x 11.14 in. x 2.09 in.) |
| Net Weight | 1.58 kg (3.48 lb), without HDD |
| Gross Weight | 2.93 kg (6.46 lb), without HDD |

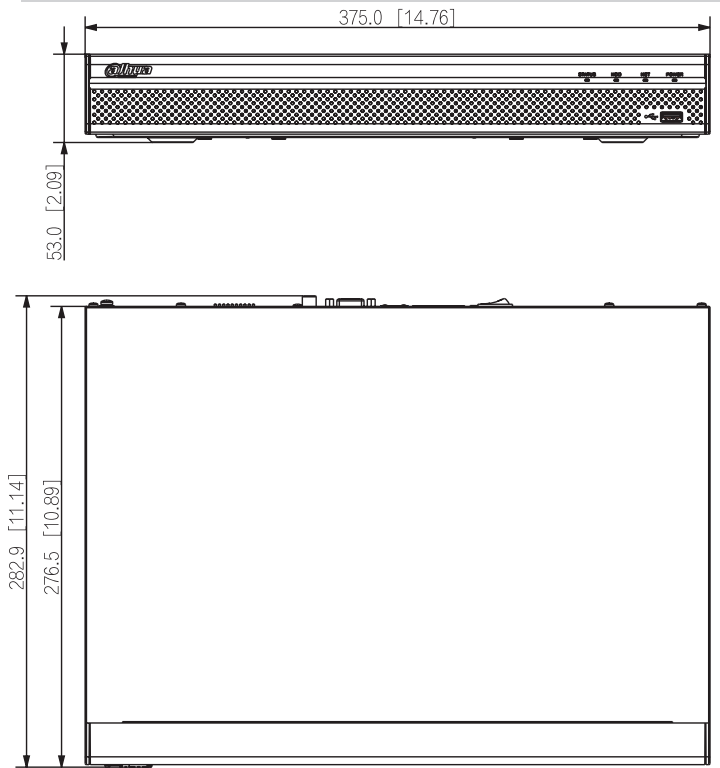
Certifications

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|-------------------------------------|--|
| Safety | EN62368-1 UL 62368-1 CAN/CSA C22.2 No.62368-1-14 |
| Electromagnetic Compatibility (EMC) | CFR 47 FCC Part 15 Subpart B EN55032, EN55024, EN55035, EN61000-3-2, EN61000-3-3, EN50130-4 |

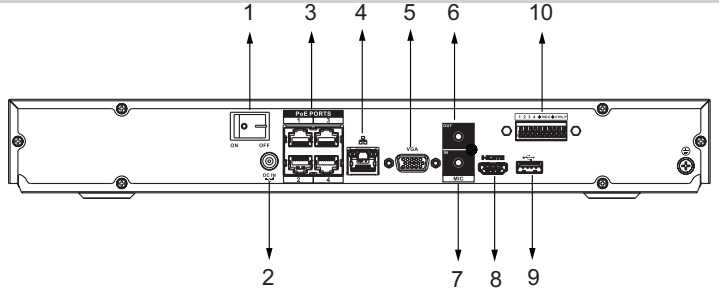
1. The recorder Analytics+ functions are available only when connected to a Dahua network camera with Analytics+ functionality.

| Ordering Information | | |
|----------------------|-------------|---|
| Type | Part Number | Description |
| Four-channel NVR | N42C1P | 4-channel 1U 4 PoE 4K, No HDD Network Video Recorder |
| | N42C1P2 | 4-channel 1U 4 PoE 4K, 2 TB HDD Network Video Recorder |
| | N42C1P4 | 4-channel 1U 4 PoE 4K, 4 TB HDD Network Video Recorder |
| | N42C1P6 | 4-channel 1U 4 PoE 4K, 6 TB HDD Network Video Recorder |
| | N42C1P8 | 4-channel 1U 4 PoE 4K, 8 TB HDD Network Video Recorder |
| Accessory, Optional | PFH101 | Rack Mount Tray, compatible with 1U, Mini 1U, and Compact 1U Storage Devices 482.60 mm x 281.20 mm x 43.70 mm (19.0 in. x 11.07 in. x 1.72 in.) |

Dimensions (mm/in.)



Rear Panel



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|---|-----------------------|----|------------------------|
| 1 | Power Switch | 6 | Audio Output, RCA (x1) |
| 2 | Power Input | 7 | MIC Input, RCA (x1) |
| 3 | PoE Ports, RJ-45 (x4) | 8 | HDMI Output |
| 4 | Network Port, RJ-45 | 9 | USB 2.0 Ports (x1) |
| 5 | VGA Output | 10 | Alarm I/O |