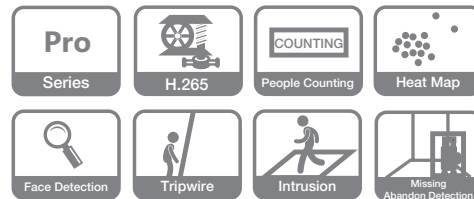


# 24-channel 4K Network Video Recorder

1.5U 24-port PoE 4K H.265 Network Video Recorder



- Smart H.265+ and Smart H.264+ Video Compression
- Maximum 320 Mbps Incoming Bandwidth
- Up to 12 MP Resolution for Preview and Playback
- Support for IPC and UPnP Protocols
- 24 PoE Ports
- Customized Live View Layout with Support for Panoramic Displays
- Intelligent Video System with Business Analytics
- 3D Intelligent Positioning with Dahua PTZ Cameras



## System Overview

Dahua's Pro Series network video recorders offer excellent performance and high recording quality for IP 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 2.4, enabling interoperability when combined with 4K cameras.

## Functions

### Dewarping Mode

The NVR has the ability to correct the distortion in a circular panoramic view produced by a fisheye lens. The NVR offers various dewarping modes for different installations and configurations.

### 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.

## Intelligent Video System (IVS) Recording

With built-in intelligent video analytics, the NVR has the ability to detect and analyze moving objects for improved video surveillance. The NVR provides standard intelligence at the edge allowing detection of multiple object behaviors such as abandoned or missing objects. IVS also supports Tripwire analytics, allowing the camera to detect when a pre-determined line has been crossed, People Counting, ideal for business intelligence, and Facial Detection, for searching or identification of individuals.

### Heat Map

The Heat Map option highlights the areas with the highest concentration of people. This information can then be exported into a customized report to assist in business or forensic analysis.

### Point of Sale (POS) (Optional)

Ideal for grocery and retail stores, the optional POS solution allows the NVR to receive a POS transaction via corresponding video. This feature allows merchants to analyze specific transactions via the Fuzzy Search Algorithm.

### Automatic Network Replenishment Technology (ANR)

Network Video Recorders with the ANR function automatically store video data on an IP camera SD card when the network is disconnected. After recovery of the network, the NVR automatically retrieves the video data stored on the camera.

## Technical Specification

### System

|                  |                              |
|------------------|------------------------------|
| Main Processor   | Embedded Quad-core Processor |
| Operating System | Embedded Linux               |

### Audio and Video

|                 |                                                            |
|-----------------|------------------------------------------------------------|
| IP Camera Input | 24 Channels                                                |
| Two-way Talk    | Input: One (1) Channel, RCA<br>Output: One (1) Channe, RCA |

### Display

|                      |                                                                                    |
|----------------------|------------------------------------------------------------------------------------|
| Interface            | Two (2) HDMI Ports:<br>• HDMI-1: 4K<br>• HDMI-2: 1080p<br>One (1) VGA Port (1080p) |
| Resolution           | 3840 x 2160, 1920 x 1080, 1280 x 1024, 1280 x 720, 1024 x 768                      |
| Multi-screen Display | First Screen: 1/4/8/9/16/25<br>Second Screen: 1/4/8/9/16                           |
| On-screen Display    | Camera Title, Time, Video Loss, Camera Lock, Motion Detection, Recording           |

### Recording

|                    |                                                                                             |
|--------------------|---------------------------------------------------------------------------------------------|
| Compression        | Smart H.265+, H.265, Smart H.264+, H.264, MJPEG                                             |
| Resolution         | 12 MP, 8 MP, 6 MP, 5 MP, 4 MP, 3 MP, 1080p, 1.3 MP, 720p, D1, CIF,                          |
| Recording Bit Rate | 320 Mbps                                                                                    |
| Bit Rate           | 16 Kbps to 20 Mbps per channel                                                              |
| Record Mode        | Manual, Schedule (Regular, Motion Detection), Alarm, IVS, Stop                              |
| Record Interval    | 1 to 120 minutes (default: 60 minutes)<br>Pre-record: 1 to 30 s<br>Post-record: 10 to 300 s |

### Video Detection and Alarm

|                 |                                                                                           |
|-----------------|-------------------------------------------------------------------------------------------|
| Trigger Events  | Recording, PTZ, Tour, Alarm Out, Video Push, Email, FTP, Snapshot, Buzzer and Screen Tips |
| Video Detection | Motion Detection, MD Zones: 396 (22 x 18), Video Loss and Tampering                       |
| Alarm Input     | 16 Channels,<br>Low Level Effective, Green Terminal Interface                             |
| Relay Output    | Six (6) Channels,<br>NO/NC Programmable, Green Terminal Interface                         |

### Playback and Backup

|                   |                                                                                                                                                                       |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sync Playback     | 1/4/9/16                                                                                                                                                              |
| NVR Video Output  | Four (4) Channels at 4K or 16 Channels at 1080p                                                                                                                       |
| Search Mode       | Time/Date, Alarm, MD and Exact Search (accurate to one second)                                                                                                        |
| Playback Function | Play, Pause, Stop, Rewind, Fast Play, Slow Play, Next File, Previous File, Next Camera, Previous Camera, Full Screen, Repeat, Shuffle, Backup Selection, Digital Zoom |
| Backup Mode       | USB Device, Network, eSATA Device                                                                                                                                     |

### Third-party Support

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

### Network

|                         |                                                                                                                                                                       |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ethernet                | One (1) RJ-45 Port (10/100/1000 Mbps)                                                                                                                                 |
| PoE                     | 24 Ports (IEEE802.3af/at), 10/100 Mbps                                                                                                                                |
| Forwarding Rate         | 320 Mbps                                                                                                                                                              |
| Network Function        | HTTP, HTTPS, TCP/IP, IPv4/IPv6, UPnP, RTSP, UDP, SMTP, NTP, DHCP, DNS, IP Filter, PPPoE, DDNS, FTP, Alarm Server, IP Search (Support for Dahua IP cameras, DVRs, NVS) |
| Maximum User Access     | 128 Users                                                                                                                                                             |
| Mobile Operating System | IOS, Android                                                                                                                                                          |
| Interoperability        | ONVIF 2.4, CGI Conformant                                                                                                                                             |

### Storage

|                          |                                                            |
|--------------------------|------------------------------------------------------------|
| Internal HDD             | Four (4) SATA III Ports, Up to 8 TB capacity for each HDD, |
| Maximum Storage Capacity | 32 TB                                                      |
| HDD Mode                 | Single                                                     |
| eSATA                    | One (1) Port                                               |

### Auxiliary Interface

|       |                                                                        |
|-------|------------------------------------------------------------------------|
| USB   | Two (2) USB 3.0 Ports, rear panel<br>One (1) USB 2.0 Port, front panel |
| RS232 | One (1) Port for PC Communication and Keyboard                         |
| RS485 | One (1) Connection for PTZ Control                                     |

### Electrical

|                   |                                      |
|-------------------|--------------------------------------|
| Power Supply      | Single, 100 VAC to 240 VAC, 50/60 Hz |
| Power Consumption | < 18 W, without HDD                  |
| Total PoE Power   | 25.5 W single port, 220 W total      |

### Environmental

|                      |                                                  |
|----------------------|--------------------------------------------------|
| Operating Conditions | -10° C to +55° C (+14° F to +131° F)             |
| Storage Conditions   | -20° C to +70° C (-4° F to +158° F), 0 to 90% RH |

### Construction

|              |                                                                         |
|--------------|-------------------------------------------------------------------------|
| Dimensions   | 1.5U, 440.0 mm x 413.30 mm x 76.0 mm (17.30 in. x 16.30 in. x 2.99 in.) |
| Net Weight   | 4.70 kg (10.40 lb), without HDD                                         |
| Gross Weight | 6.84 kg (15.10 lb)                                                      |
| Installation | Rack-mounted                                                            |

### Certifications

|                                     |                                          |
|-------------------------------------|------------------------------------------|
| Safety                              | UL 60950-1<br>CAN/CSA C22.2 No.60960-1   |
| Electromagnetic Compatibility (EMC) | FCC Part 15 Subpart B<br>ANSI C63.4-2014 |

## Intelligence

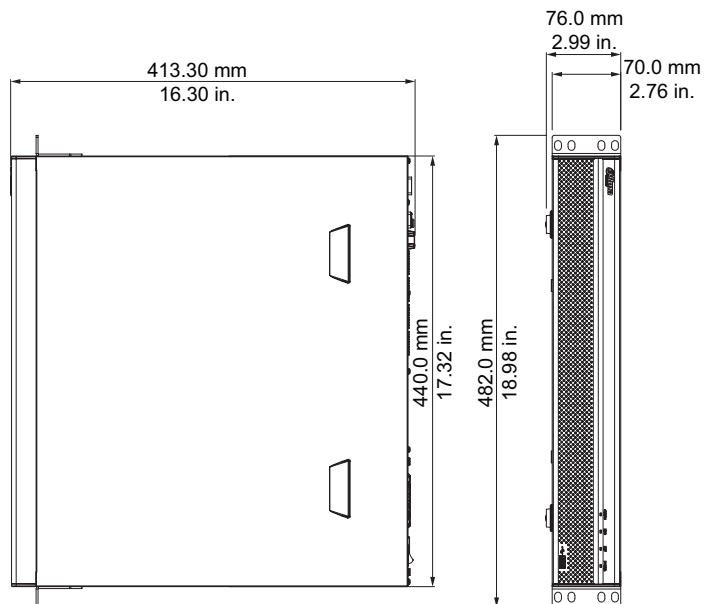
IVS triggers an alarm and takes a defined action for the following events:

|                          |                                                                                                                                                                                                                                                                                             |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standard Features        | <ul style="list-style-type: none"> <li>Tampering with the camera.</li> <li>Camera loses or changes focus drastically.</li> <li>Error writing to an onboard Micro SD card.</li> <li>Error sending or receiving data over the network.</li> <li>Unauthorized access to the camera.</li> </ul> |
| Premium Features         |                                                                                                                                                                                                                                                                                             |
| Motion                   | An object moves through any part of the scene.                                                                                                                                                                                                                                              |
| Tripwire                 | A target crosses a user-defined line.                                                                                                                                                                                                                                                       |
| Intrusion                | A target enters or exits a defined perimeter.                                                                                                                                                                                                                                               |
| Scene Change             | A person or object moves the camera to change the scene or covers the camera to obscure the scene.                                                                                                                                                                                          |
| Abandoned/Missing Object | A target leaves an object in designated area, or a target removes an object from the same designated area.                                                                                                                                                                                  |
| Advanced Features        |                                                                                                                                                                                                                                                                                             |
| Facial Detection         | Detects and captures a snapshot of a human face in a defined area within a scene.                                                                                                                                                                                                           |
| People Counting          | Measure the number of customers, visitors or passengers in a surveillance scene.                                                                                                                                                                                                            |
| Heat Map                 | Generates a visual representation of data.                                                                                                                                                                                                                                                  |

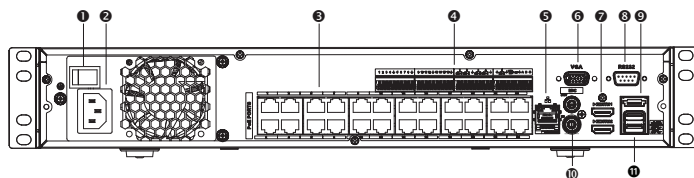
## Ordering Information

| Type           | Part Number | Description                                                  |
|----------------|-------------|--------------------------------------------------------------|
| 24-channel NVR | N54A4P      | 24-channel 1.5U 24 PoE 4K H.265 Network Video Recorder       |
|                | N54A4P1     | 24-channel 1.5U 24 PoE 4K H.265 Network Video Recorder, 1 TB |
|                | N54A4P2     | 24-channel 1.5U 24 PoE 4K H.265 Network Video Recorder, 2 TB |
|                | N54A4P3     | 24-channel 1.5U 24 PoE 4K H.265 Network Video Recorder, 3 TB |
|                | N54A4P4     | 24-channel 1.5U 24 PoE 4K H.265 Network Video Recorder, 4 TB |
|                | N54A4P6     | 24-channel 1.5U 24 PoE 4K H.265 Network Video Recorder, 6 TB |
| Accessories    | ESS1504C    | 4 HDD eSATA Storage Device                                   |
|                | ESS1508C    | 8 HDD eSATA Storage Device                                   |

## Dimensions (mm/in.)



## Rear Panel



|   |                                                         |    |                    |
|---|---------------------------------------------------------|----|--------------------|
| 1 | On/Off Button                                           | 7  | HDMI Output (x2)   |
| 2 | Power Input                                             | 8  | RS232 Port         |
| 3 | PoE Ports (x24)                                         | 9  | eSATA Port         |
| 4 | Alarm Input/Output and RS485 Connection (use A/B ports) | 10 | Audio Input/Output |
| 5 | Ethernet Port (1000 Mbps)                               | 11 | USB 3.0 Port (x2)  |
| 6 | VGA Output                                              |    |                    |