**dahua** TECHNOLOGY

# 32-channel 4K Network Video Recorder

1.5U Smart H.265+ Dual NIC Network Video Recorder

- Dual NIC Supports Multi-Address, Fault Tolerance, and Load Balance
- Smart H.265+ and Smart H.264+ Video Compression
- Maximum 320 Mbps Incoming Bandwidth
- Up to 12 MP Resolution for Preview and Playback
- Two (2) Gigabit Ethernet Connections
- Support for IPC and UPnP Protocols
- Customized Live View Layout with Support for Panoramic Displays
- Intelligent Video System with Business Analytics
- Compatible with Dahua Smart Motion Detection Cameras[1]

| Pro Series | H.265 | COUNTING People Counting | Heat Map |
|---|---|---|---|
| Face Detection | Tripwire | Intrusion | Missing Abandon Detection |

**SMD** Smart Motion Detection

## 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.
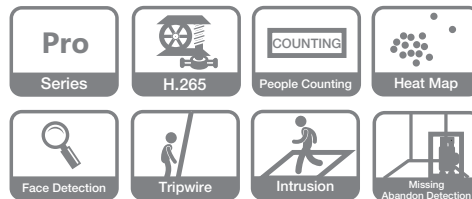
## Functions

### 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.

### Smart Motion Detection
Smart Motion Detection, a component of Dahua's Analytics+ technology, improves alarm accuracy and decreases the number of false alarms. The advanced SMD algorithm analyzes a scene for human or vehicle motion, while filtering out other motion due to trees, leaves, animals, weather, and triggers an alarm when detected[1].

### 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.

### Dual NIC
The NVR offers Dual NICs that support Multi-Address, Fault Tolerance, and Load Balance. Multi-Address allows connection to two different network schemes to separate the camera network from the NVR network. Fault Tolerance allows NVR connections to two different switches on a network; if one switch goes down, the NVR swaps to the secondary switch. Load Balancing requires a connection to a managed switch that can switch the NVR between networks depending on network traffic.

### Face Recognition
The NVR stores face recognition video and data from a dedicated facial recognition camera connected to the NVR. The NVR triggers an event if the recognition database on the camera detects a face match.

### 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.

### 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.

**ONVIF**

# Pro Series | N54B5N

## Technical Specification

### System

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

### Audio and Video

| | |
|---|---|
| IP Camera Input | 32 Channels |
| Two-way Talk | Input: One (1) Channel, RCA<br>Output: Two (2) Channels, RCA |

### Display

| | | |
|---|---|---|
| Interface | | Two (2) HDMI Ports:<br>• HDMI-1: 4K<br>• HDMI-2: 1080p<br>Two (2) VGA Ports (1080p) |
| Native Output Resolution | HDMI-1 | 3840 x 2160, 1920 x 1080, 1280 x 1024, 1280 x 720, 1024 x 768 |
| | VGA-1 | 1920 x 1080, 1280 x 1024, 1280 x 720, 1024 x 768 |
| | HDMI-2 / VGA-2 | 1920 x 1080 |
| Maximum Decoding | | Two (2) Channels of 12MP at 20 fps<br>Four (4) Channels of 8MP at 30 fps<br>Five (5) Channels of 6MP at 30 fps<br>Six (6) Channels of 5MP at 30 fps<br>Eight (8) Channels of 4MP at 30 fps<br>Eleven (11) Channels of 3MP at 30 fps<br>Sixteen (16) Channels of 1080p at 60 fps<br>Sixteen (16) Channels of 1080p/720p at 30 fps |
| Fisheye Dewarping | | Dewarps a single channel at a time |
| Multi-screen Display | | First Screen: 1/4/8/9/16/25/36<br>Second Screen: 1/4/8/9/16 |
| On-screen Display | | Camera Title, Time, Camera Lock, Motion Detection, Recording |

### Recording

| | |
|---|---|
| Compression | Smart H.265+, H.265, Smart H.264+, H.264, MJPEG |
| Supported IP Camera Resolution | 12 MP, 8 MP, 6 MP, 5 MP, 4 MP, 3 MP, 1080p, 1.3 MP, 720p, D1, CIF |
| Maximum Incoming Bandwidth | 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, Snapshot, Buzzer, and Screen Tips |
| Video Detection | Motion Detection, MD Zones: 396 (22 x 18), Video Loss and Tampering |
| Alarm Input | 16 Channels |
| Relay Output | Six (6) Channels, |

### Playback and Backup

| | |
|---|---|
| Sync Playback | 1/4/9/16 |
| NVR Video Output | Four (4) Channels at 4K or<br>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,Backup Selection, Digital Zoom |
| Backup Mode | USB Device, Network, eSATA Device |

### Third-party Support

| | |
|---|---|
| Third-party Support | Arecont Vision, Airlive, AXIS, Canon, Dynacolor, JVC, LG, Panasonic, Pelco, PSIA, Samsung, Sanyo, Sony, Watchnet and others |

### Network

| | |
|---|---|
| Ethernet | Two (2) RJ-45 Ports (10/100/1000 Mbps), Independent or Joint |
| Forwarding Bandwidth | 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<br>(Support for Dahua IP cameras, DVRs, NVS) |
| Maximum User Access | 128 Users |
| Mobile Operating System | IOS, Android |
| Interoperability | ONVIF 2.4, SDK, CGI |

### Storage

| | |
|---|---|
| Internal HDD | Four (4) SATA III Ports,<br>Up to 10 TB capacity for each HDD |
| 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 | < 16.7 W, without HDD |
| Smart Fan | NVR Automatically adjusts fan running speed |

### Environmental

| | |
|---|---|
| Operating Conditions | −10° C to +55° C (+14° F to +131° F), 86 to 106 kpa |
| Storage Conditions | −20° C to +70° C (−4° F to +158° F), 0 to 90% RH |

### Construction

| | |
|---|---|
| Dimensions | 1.5U, 440.0 mm x 411.20 mm x 76.0 mm<br>(17.32 in. x 16.19 in. x 2.99 in.) |
| Net Weight | 4.30 kg (9.50 lb), without HDD |
| Gross Weight | 7.0 kg (15.40 lb), without HDD |
| Installation | Rack-mount |

### Certifications

| | |
|---|---|
| CE | EN55022, EN55024, EN50130-4, EN60950-1 |
| Safety | UL 60950-1 |
| Electromagnetic Compatibility (EMC) | FCC CFR 47 Part 15 Subpart B<br>ANSI C63.4-2014 |

## Camera Support

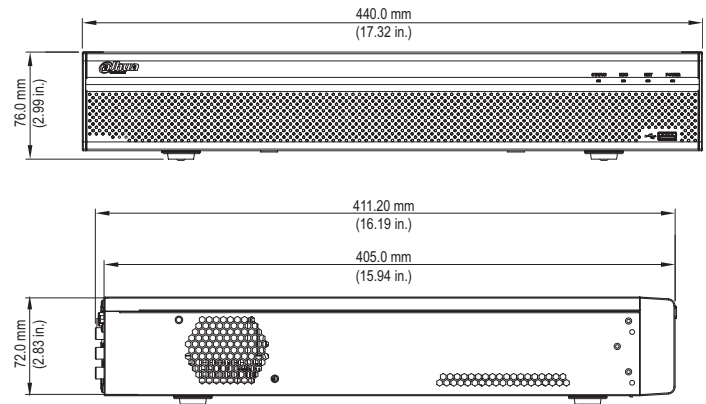| Thermal Cameras | 16 Channels |
|---|---|
| Analytics+ Cameras | |
| Face Recognition | Four (4) Channels |
| Perimeter Protection | 16 Channels |
| Metadata | 10 Channels |
| Smart Motion Detection[1] | Any channel connected to a Dahua Network camera with Smart Motion Detection |

## Intelligence

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

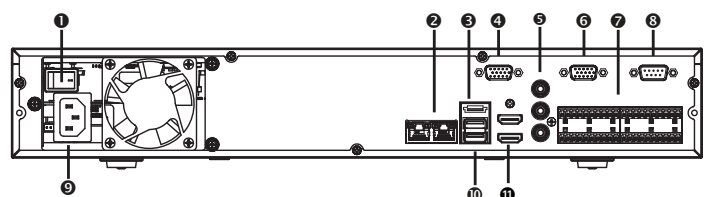| Standard Features | • Tampering with the camera.<br>• Camera loses or changes focus drastically.<br>• Error writing to an onboard Micro SD card.<br>• Error sending or receiving data over the network.<br>• Unauthorized access to the camera. |
|---|---|
| Premium Features | |
| Motion | An object moves 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. |
| Face Recognition | Triggers an event if the connected facial recognition camera matches a face to one stored on the camera's database. |
| People Counting | Measure the number of customers, visitors or passengers in a surveillance scene. |
| Heat Map | Generates a visual representation of data. |

## Dimensions (mm/in.)



## Rear Panel



| 1 | On/Off Button | 7 | Alarm Input/Output and RS485 Connection (use A/B ports) |
|---|---|---|---|
| 2 | 1000 Mbps Ethernet Port, RJ-45 (x2) | 8 | RS232 Port |
| 3 | eSATA Port | 9 | Power Input |
| 4 | VGA-1 Output | 10 | USB 3.0 Port (x2) |
| 5 | Audio Input, RCA<br>Audio Output, RCA (x2) | 11 | HDMI-1 Output<br>HDMI-2 Output |
| 6 | VGA-2 Output | | |

## Ordering Information

| Type | Part Number | Description |
|---|---|---|
| 32-channel NVR | N54B5N4 | 32-channel 1.5U 4K H.265 Network Video Recorder, 4 TB |
| | N54B5N6 | 32-channel 1.5U 4K H.265 Network Video Recorder, 6 TB |
| | N54B5N8 | 32-channel 1.5U 4K H.265 Network Video Recorder, 8 TB |
| | N54B5N10 | 32-channel 1.5U 4K H.265 Network Video Recorder, 10 TB |

1. The recorder SMD functions are available only when connected to a Dahua network camera with SMD functionality. Pair a Smart Motion Detection camera with a Dahua recording device that also offers SMD functionality to take advantage of SMD alarm filtering and object classification when searching and playing back recorded video.