# DHI-NVR5864-AI/ANZ

## 64 Channels 2U 8HDD WizSense Network Video Recorder



- Smart H.265+/H.265/Smart H.264+/H.264/MJPEG decoding format.
- 32-channel 1080p self-adaptive decoding capability.
- Support Raid0/1/5/6/10.
- Max. 384 Mbps incoming/recording/outgoing bandwidth.
- AI by recorder: 2-channel face detection and recognition, 4-channel perimeter protection, and 8-channel SMD Plus.
- AI by camera: Face detection and recognition, perimeter protection, SMD Plus, metadata, ANPR, stereo analysis, heat map, and people counting.
- Security baseline 2.3.




Launched by Dahua Technology, WizSense is a series of AI products and solutions that adopt independent AI chip and deep learning algorithm. It focuses on human and vehicle with high accuracy, enabling users to fast act on defined targets. Based on Dahua's advanced technologies, WizSense provides intelligent, simple and inclusive products and solutions.

### Series Overview

The NVR5000-AI/ANZ series offers outstanding performance and high-grade recording technology that make it ideal for IP video surveillance applications. It has a powerful processor, that offers high access and forwarding bandwidth and strong decoding capabilities that together produce unimpeded streams. Thanks to its built-in AI chip and Dahua's advanced deep learning algorithms, the NVR supports a variety of AI functions, such as high-precision face recognition and perimeter protection. They shorten the response time to events and make videos more interactive. This NVR is compatible with numerous third-party devices, making it a great solution for surveillance systems that work with Video Management Software (VMS).

### Functions

**Perimeter Protection**

Automatically filtering out false alarms caused by animals, rustling leaves, bright lights, etc. Enables system to perform secondary recognition for the targets. Improving alarm accuracy.

**Face Detection**

Face detection is to detect if there is any human face appearing in the video. This technology adopts a deep learning algorithm to support face detection, tracking, optimization and capturing, and then output the best face snapshot.

**Face Recognition**

Dahua Face Recognition technology extracts the features of captured faces and compares them with those in face database to recognize the person identity.

**Heat Map by Camera**

Dahua heat map technology is used to display the crowd density and people appearance probability. Export and display the crowd status by different colors. Generally, the crowd status is the statistics of people quantity in space and time dimensions.

**ANPR by Camera**

With deep learning algorithm, Dahua ANPR technology can recognize the number plate information of vehicles in the image with ANPR cameras. Support blocklist/allowlist mode, searching target vehicles from recorded video.

**SMD Plus**

With intelligent algorithm, Dahua Smart Motion Detection technology can categorize the targets that trigger motion detection and filter the motion detection alarm triggered by non-concerned targets to realize effective and accurate alarm.



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## Technical Specification

### System

| | |
|---|---|
| Main Processor | Industrial-grade processor |
| Operating System | Embedded Linux |
| Operating Interface | Web, Local GUI |

### AI

| | |
|---|---|
| AI by Recorder | Face detection; face recognition; perimeter protection; SMD Plus |
| AI by Camera | Face detection; face recognition; video metadata (human, motor vehicles, and non-motor vehicles); perimeter protection; SMD Plus; stereo analysis; crowd distribution; people counting; ANPR; vehicle density; heat map |

### Perimeter Protection

| | |
|---|---|
| Perimeter Performance AI by Recorder (Number of Channels) | 4 channels, 10 IVS rules for each channel |
| Perimeter Performance of AI by Camera (Number of Channels) | 16 channels |

### Face Detection

| | |
|---|---|
| Face Attributes | Gender; age group; glasses; expressions; face mask; beard |
| Face Detection Performance of AI by Recorder (Number of Channels) | 2 channels (up to 12 face images/s each channel) |
| Face Detection Performance of AI by Camera (Number of Channels) | 16 channels |

### Face Recognition

| | |
|---|---|
| Face Database Capacity | Up to 20 face databases with 20,000 images, with a total capacity of 2.5 G. Name, gender, birthday, address, credential type, credential No., countries & regions and state can be added to each face image. |
| Face Recognition Performance of AI by Recorder (Number of Channels) | 1. 16-channel FD (by camera) + FR (by recorder), image stream: 16 face images/s<br>2. 2-channe FD (by recorder) + FR (by recorder), video stream: 12 face images/s |
| Face Recognition Performance of AI by Camera (Number of Channels) | 16 channels |

### SMD Plus

| | |
|---|---|
| SMD Plus by Recorder | 8 channels: Secondary filtering for human and motor vehicle , reducing false alarms caused by leaves, rain and lighting condition change |
| SMD Plus by Camera | 16 channels |

### Video Metadata

| | |
|---|---|
| Metadata Performance of AI by Camera (Number of Channels) | 8 channels |
| Human Attributes | Top color, top type, bottom color, bottom type, hat, bag, age, gender and umbrella |
| Motor Vehicle Attributes | License plate, plate color, vehicle body, vehicle model, vehicle logo, calling, seatbelt, vehicle interior, vehicle registration location. |
| Non-motor Vehicle Attributes | Vehicle model, vehicle color, number of persons, helmet. |

### Vehicle License Plate Comparison

| | |
|---|---|
| ANPR by Camera (Number of Channels) | 8 channels |
| License Plate Database Capacity | 1. Create up to 20,000 plate numbers.<br>2. Blocklist and allowlist |

### Audio and Video

| | |
|---|---|
| Access Channel | 64 |
| Network Bandwidth | AI disabled: 384 Mbps incoming, 384 Mbps recording and 384 Mbps outgoing<br>AI enabled: 200 Mbps incoming, 200 Mbps recording and 200 Mbps outgoing |
| Resolution | 32 MP; 24 MP; 16 MP; 12 MP; 8 MP; 5 MP; 4 MP; 1080p; 720p; D1; CIF; QCIF |
| Decoding Capability | AI disabled:<br>2-channel 32 MP@20 fps; 2-channel 24 MP@20 fps; 4-channel 16 MP@30 fps; 5-channel 12 MP@30 fps; 8-channel 8 MP@30 fps; 12-channel 5 MP@30 fps; 16-channel 4 MP@30 fps; 32-channel 1080p@30 fps<br>AI enabled:<br>1-channel 32 MP@20 fps; 1-channel 24 MP@20 fps; 2-channel 16 MP@30 fps; 4-channel 12 MP@30 fps; 4-channel 8 MP@30 fps; 8-channel 5 MP@30 fps; 12-channel 4 MP@30 fps; 24-channel 1080p@30 fps |
| Video Output | 2-channel VGA, 2-channel HDMI video output.<br>Heterogeneous video source output for HDMI1 and HDMI2<br>Simultaneous video source output for VGA1 and HDMI1<br>Simultaneous video source output for VGA2 and HDMI2<br>Supports 4K display |
| Multi-screen Display | Main screen: 1/4/8/9/16/25/36/64<br>Sub screen: 1/4/8/9/16 |
| Third-party Camera Access | ONVIF; Panasonic; Sony; Axis; Arecont; Pelco; Canon; Samsung |

### Compression Standard

| | |
|---|---|
| Video Compression | Smart H.265+; H.265; Smart H.264+; H.264; MJPEG |
| Audio Compression | G.711a; G.711u; PCM; G726 |

### Network

| | |
|---|---|
| Network Protocol | HTTP; HTTPS; TCP/IP; IPv4/IPv6; RTSP; UDP; SNMP; NTP; DHCP; DNS; SMTP; UPnP; IP Filter; PPPoE; FTP; DDNS; Alarm Server; IP Search (Supports Dahua IP camera, DVR, NVS, etc.); Multicast; P2P; Auto Registration |
| Mobile Phone Access | iOS; Android |
| Interoperability | ONVIF 21.12(Profile T; Profile S; Profile G); CGI; SDK |
| Browser | Chrome<br>IE 9 or later<br>Firefox |
| Network Mode | Multi-address mode, load balance, fault tolerance and other network port binding modes |

### Recording Playback

| | |
|---|---|
| Multi-channel Playback | Up to 16 channels |
| Record Mode | General, motion detection; intelligent; alarm; POS |
| Backup Method | USB device and network |
| Playback Mode | Instant playback, general playback, event playback, tag playback, smart playback (face and motion detection) |

### Storage

| | |
|---|---|
| Disk Group | Yes |
| RAID | RAID 0/1/5/6/10 |



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## Alarm

| | |
|---|---|
| General Alarm | Motion detection; privacy masking; local alarm |
| Anomaly Alarm | Camera offline; storage error; disk full; IP conflict; MAC conflict; login lock; abnormal behavior of fan; cybersecurity exception |
| Intelligent Alarm | Face detection; perimeter protection; face recognition; video metadata (human, motor vehicles, and non-motor vehicles); SMD Plus; stereo analysis; crowd distribution; people counting; ANPR; vehicle density; heat map |
| Alarm Linkage | Record; snapshot (panoramic); local alarm output; IPC external alarm output; access controller; audio; buzzer; log, preset; email |

## Port

| | |
|---|---|
| Audio Input | 1-channel RCA |
| Audio Output | 2-channel RCA |
| Alarm Input | 16 channels |
| Alarm Output | 8 channels (1-channel 12 V 1 A output) |
| HDD Interface | 8 SATA ports, up to 16 TB.The maximum HDD capacity varies with environment temperature. |
| eSATA | 1 |
| RS-232 | 1 |
| RS-485 | 2 (1 port for half-duplex serial communication, 1 port for full-duplex serial communication) |
| USB | 4 (2 front USB 2.0 ports, 2 rear USB 3.0 ports) |
| HDMI | 2 |
| VGA | 2 |
| Network Port | 2(10/100/1000 Mbps Ethernet port, RJ-45) |

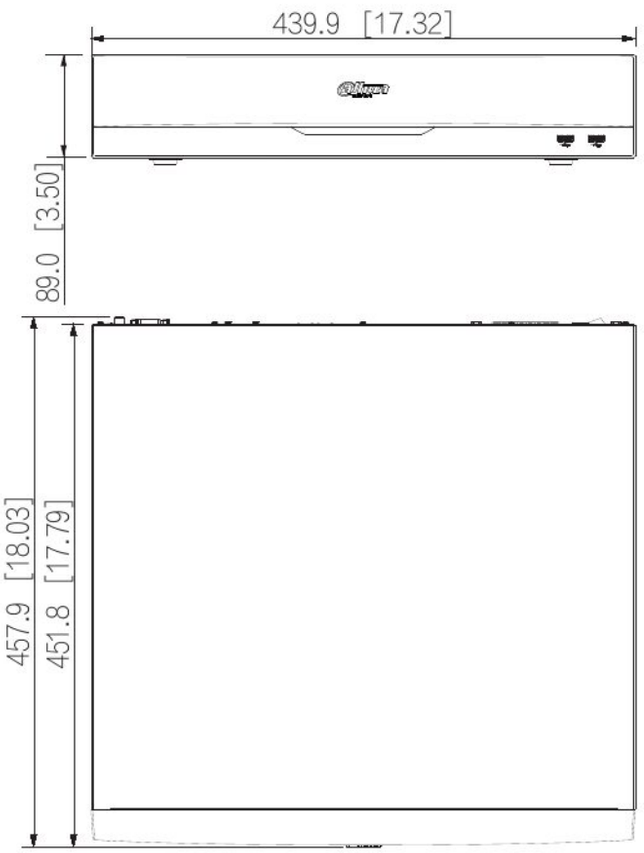
## General

| | |
|---|---|
| Power Supply | 100–240 VAC, 50-60 Hz |
| Power Consumption | Total output of NVR is ≤ 13 W (without HDD) |
| Net Weight | 6.4 kg (14.11 lb) |
| Gross Weight | 9.01 kg (19.86 lb) |
| Product Dimensions | 439.9 mm × 457.9 mm x 89.0 mm (17.32" × 18.03" × 3.50") (W ×D × H) |
| Packaging Dimensions | 570.0 mm × 570.0 mm x 226.0 mm (22.44" × 22.44" × 8.90") (W ×D × H) |
| Operating Temperature | –10 °C to +55 °C (14 °F to +131 °F) |
| Storage Temperature | –20 °C to +60 °C (–4 °F to +140 °F) |
| Operating Humidity | 10%–93% (RH) |
| Installation | Rack or desktop |
| Certifications | FCC: 47 CFR FCC Part15, SubpartB, Class A<br>CE-EMC: EN 55032: 2015+A1: 2020; EN IEC 61000-3-2: 2019+A1: 2021; EN 61000-3-3: 2013+A1: 2019+A2: 2021; EN 55035: 2017+A11: 2020; EN 50130-4: 2011+A1: 2014<br>CE-LVD: EN 62368-1: 2014 |

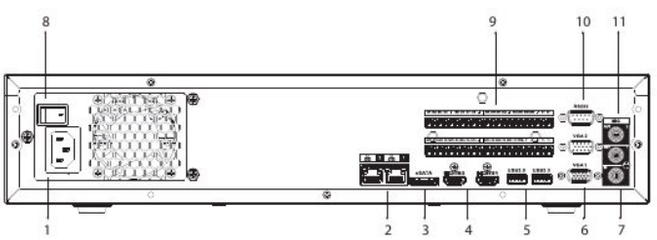
## Ordering Information

| Type | Model | Description |
|---|---|---|
| 64 Channels WizSense NVR | DHI-NVR5864-AI/ANZ | 64 Channels 2U 8HDD WizSense Network Video Recorder |

## Dimensions (mm[inch])




## Panels




| | | | |
|---|---|---|---|
| 1 | Power Input | 2 | Network Ports |
| 3 | eSATA Port | 4 | HDMI Port |
| 5 | USB Ports | 6 | VGA Ports |
| 7 | MIC IN, RCA Connector | 8 | Power Switch |
| 9 | Alarm In/Out | 10 | RS-232 Port |
| 11 | MIC OUT, RCA Connector | | |

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