# DHI-NVR5216-16P-XI
## 16CH 1U 16POE 2HDDs WizMind Network Video Recorder

ePoE  WizMind

Launched by Dahua Technology, Dahua WizMind is a full portfolio of solutions composed of project-oriented products including IPC, IVSS,NVR, PTZ, XVR, Thermal and software platform which adopts industry-leading deep learning algorithms. Focusing on customer's requirements, WizMind provides precise, reliable and comprehensive AI solutions for verticals.

## Series Overview

As a new generation of network video recorders, the NVR5000-XI series offers advanced recording technology and has AI capabilities that make it ideal for IP video surveillance. It has a powerful processor, strong decoding capabilities and offers high incoming and outgoing bandwidth, allowing it to produce unimpeded streams and access videos as high as 32 MP. Through its deep learning modules and video metadata technology, it offers high-precision human face recognition, video metadata, perimeter protection and SMD plus technology. Together, these functions shorten the response time to events and provide critical information for surveillance personnel. AcuPick is an industry-leading, highly accurate search technology. When the NVR is put together with IP cameras that are compatible with AcuPick, it uses the features of the target to search for videos where the target appears. The NVR is compatible with many third-party devices, making it a great surveillance solution.

## Functions

### AcuPick
This industry-leading search technology effectively utilizes both front-end and back-end intelligence to help with searching through massive video data to quickly and conveniently locate targets with greater precision.

### Perimeter Protection
Automatically filters out false alarms caused by animals, rustling leaves, bright lights, etc. Enables system to act secondary recognition for the targets. Improves alarm accuracy.

· Supports Smart H.265+, H.265, Smart H.264+, H.264 and MJPEG decoding formats.

· Max. decoding capability: 32 × 1080p@30 fps

· Max. 384/384/384 Mbps incoming/recording/outgoing bandwidth.

· Supports IP cameras with a resolution up to 32 MP.

· Supports AcuPick with up to 16 channels.

· AI by Recorder supports 8-channel face detection and recognition, up to 20 face databases and 200,000 face images; 8-channel metadata; 16-channel perimeter protection; 16-channel SMD Plus.

· AI by Camera supports face detection and recognition, perimeter protection, SMD Plus, metadata, ANPR, stereo analysis, heat map, and people counting.

· Supports N+M cluster, ISCSI.

· Supports QuickPick, EPTZ, and one-click arming and disarming.

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|---|---|---|---|---|---|
| AcuPick | Perimeter Protection | Face Detection | Face Recognition | Search by Image | Heat Map |
| ANPR | Blocklist Alarm | People Counting | SMD Plus | | |

### Face Recognition
Dahua Face Recognition technology extracts the features of captured faces and compares them with that in face database.

### Video Metadata
With deep learning algorithm, Dahua Video Metadata technology can detect, track, capture vehicle, non-motor vehicle and people, and select the best images, and extract attributes.

### 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.

## Technical Specification

### System

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

### AI

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| AI by Recorder | Face detection; face recognition; video metadata (human, motor vehicles, and non-motor vehicles); perimeter protection; SMD |
| AI by Camera | Face detection; face recognition; video metadata (human, motor vehicles, and non-motor vehicles); perimeter protection; SMD; stereo analysis, crowd distribution; people counting; ANPR; heat map; PPE detection |
| AcuPick AI by Camera + Recorder | Max. 16-channel, 1 combined event per channels |

### Perimeter Protection

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

### Face Detection

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| Face Attributes | 6 attributes |
| Face Detection Performance of AI by Recorder (Number of Channels) | 8 channels (up to 12 face images/s each channel) |
| Face Detection Performance of AI by Camera (Number of Channels) | 16 channels |

### Face Recognition

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| Face Database Capacity | Up to 20 face databases with 2,000,00 images, with a total capacity of 44 G. |
| Face Recognition Performance of AI by Recorder (Number of Channels) | 16-channel FD (by camera) + FR (by recorder),image stream: 32 face images/s<br>8-channel FD (by recorder) + FR (by recorder), video stream: 16 face images/s |
| Face Recognition Performance of AI by Camera (Number of Channels) | 16 channels |

### SMD Plus

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| SMD Plus by Recorder | 16 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

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| Metadata Performance of AI by Recorder (Number of Channels) | 8 channels, 23 attributes extraction. |
| Metadata Performance of AI by Camera (Number of Channels) | 16 channels |
| People Attributes | 9 human body attributes |
| Motor Vehicle Attributes | 9 attributes |
| Non-motor Vehicle Attributes | 4 attributes |

### Vehicle License Plate Comparison

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| ANPR by Camera (Number of Channels) | 16 channels |
| License Plate Database Capacity | 1. Create up to 20,000 plate numbers.<br>2. Blocklist and allowlist |

### Audio and Video

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| Access Channel | 16 channels |
| 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; 6 MP; 5 MP; 4 MP; 3 MP; 1080p; 960p; 720p; D1; CIF; QCIF |
| Decoding Capability | AI disabled: 2-channel 32 MP@25fps; 2-channel 24 MP@25 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<br>AI enabled: 1-channel 32 MP@25 fps; 1-channel 24 MP@25 fps; 2-channel 16 MP@30 fps; 4-channel 12 MP@30 fps;6-channel 8 MP@30 fps; 8-channel 5 MP@30 fps; 12-channel 4 MP@30 fps; 16-channel 1080p@30 fps |
| Video Output | 1 VGA, 1 HDMI<br>VGA:1920 × 1080, 1280 × 1024, 1280 × 720<br>HDMI:3840 × 2160, 1920 × 1080, 1280 × 1024, 1280 × 720<br>Heterogeneous video source output for HDMI and VGA |
| Multi-screen Display | Main screen: 1/4/8/9/16<br>Sub screen: 1/4/8/9/16 |
| Third-party Camera Access | ONVIF; Panasonic; Sony; Axis; Arecont; Pelco; Canon; Hanwha |

### Compression Standard

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

### Network

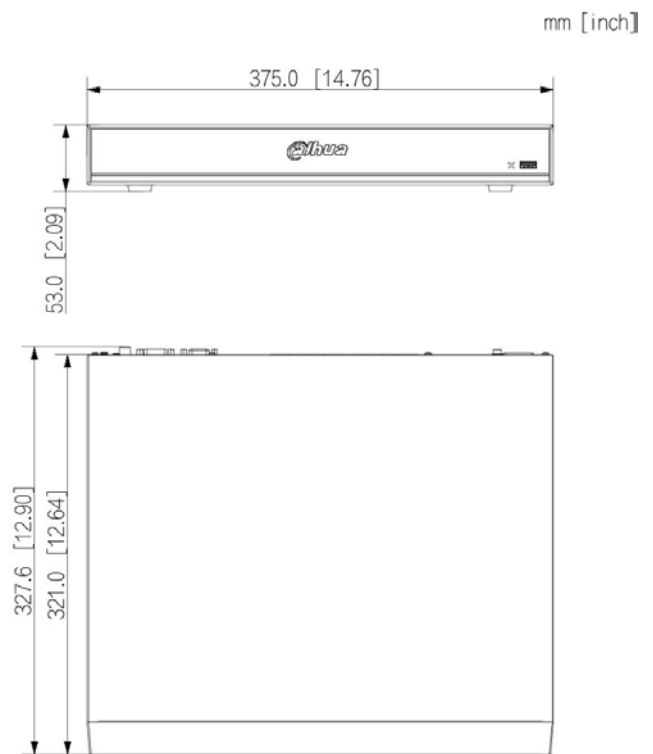| | |
|---|---|
| Network Protocol | HTTP; HTTPS; TCP/IP; IPv4; IPv6; UDP; NTP; DHCP; DNS; SMTP; UPnP; IP Filter; FTP; DDNS; SNMP; Alarm Server; P2P; Auto Registration; IP Search (Supports IP camera, DVR, NVS, etc.); ISCSI |
| Mobile Phone Access | iOS; Android |
| Interoperability | ONVIF 22.12(Profile T; Profile S; Profile G); CGI; SDK |
| Browser | Chrome; Firefox; IE |

### Recording Playback

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| Multi-channel Playback | Up to 16 channels |
| Record Mode | General; motion detection; intelligent; alarm; POS |
| Backup Method | USB device and network |

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| Playback Mode | Instant playback; general playback; event playback; tag playback; smart playback |

### Storage

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| Disk Group | Yes |

### Alarm

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| General Alarm | Motion detection; local alarm; alarm box; camera external alarm; network alarm; scene changing; PIR alarm; thermal alarm |
| Anomaly Alarm | Error (no disk, disk error, low space, RAID exception, low quota space; abnormal disk health; network disconnection; IP conflict; MAC conflict; abnormal fan speed); video loss; video tampering; camera offline; audio detection |
| Intelligent Alarm | Face detection; face recognition; video metadata (human, motor vehicle, and non-motor vehicle); perimeter protection; license plate comparison |
| Alarm Linkage | Record; snapshot (panoramic); local alarm output; IPC external alarm output; access controller; audio; buzzer; log, preset; email |

### Port

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| Audio Input | 1-channel RCA |
| Audio Output | 1-channel RCA |
| Alarm Input | 4 channels |
| Alarm Output | 2 channels |
| Disk Interface | 2 SATA ports. Each disk can contain up to 20 TB. This limit varies depending on the environment temperature. |
| RS-232 | 1 |
| RS-485 | 1 |
| USB | 2 (1 front USB 2.0 port, 1 rear USB 3.0 port) |
| HDMI | 1 |
| VGA | 1 |
| Network Port | 1(10/100/1000 Mbps Ethernet port, RJ-45) |
| PoE Port | 16 ports, 10/100 Mbps, IEEE 802.3 af/at, 1-8 ports support ePoE |

### General

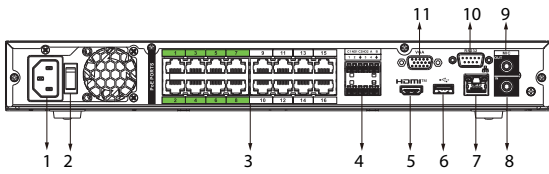| | |
|---|---|
| Power Supply | 100–240 VAC, 50/60Hz |
| Power Consumption | <10 W (without HDD) Total output power of PoE is 200 W, the maximum output power of a single port is 25.5 W |
| Net Weight | 2.66 kg (5.86 lb) |
| Gross Weight | 3.82 kg (8.42 lb) |
| Product Dimensions | 375.0 mm ✕ 327.6 mm x 53.0 mm (14.76" ✕ 12.90" ✕ 2.09") (W ✕D ✕ H) |
| Packaging Dimensions | 449.0 mm ✕ 421.0 mm ✕ 170.0 mm (17.68" ✕ 16.57" ✕ 6.69")(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), non-condensing |
| Installation | Rack or desktop |

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| Certifications | Class A 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 CE-LVD: EN 62368-1:2014 |

## Ordering Information

| Type | Model | Description |
|---|---|---|
| NETWORK VIDEO RECORDER | DHI-NVR5216-16P-XI | 16CH 1U 16POE 2HDDs WizMind Network Video Recorder |

## Dimensions (mm[inch])

## Panels



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