# DHI-NVR608H-64-XI

## 64CH 2U 8HDDs WizMind Network Video Recorder



*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, NVR600-XI series offers high-grade recording technology and has AI capabilities that are ideal for IP video surveillance applications. This enterprise-level NVR has a powerful processor, built-in deep learning modules, and video metadata technology. It also comes with high-precision human face recognition, perimeter protection and 4K resolution, which together shorten the response time to events and provide critical information that allows surveillance personnel to take immediate action. This NVR is compatible with numerous third-party devices, making it a perfect solution for surveillance systems with or without a video management system.

## 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. 1280/1280/1024 Mbps incoming/recording/outgoing bandwidth.
- Supports AcuPick with up to 64 channels.
- AI by Recorder supports 8-channel face detection and recognition, up to 40 face databases and 300,000 face images; 8-channel metadata; 32-channel perimeter protection; 32-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, Raid 0/1/5/6/10, ISCSI, Drawer-like chassis design allows for HDD hot swapping.
- Supports EPTZ, One-click Arming & Disarming.
- Security baseline 2.3.



### 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

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

### AI

| | |
|---|---|
| AI by Recorder | Face detection; face recognition; video metadata (human, motor vehicles, and non-motor vehicles); perimeter protection; SMD Plus |
| AI by Camera | Face detection; face recognition; video metadata (human, motor vehicles, and non-motor vehicles); SMD Plus; stereo analysis; crowd distribution; people counting; ANPR; vehicle density; object monitoring |
| AcuPick AI by Camera + Recorder | Max. 64-channel, 1 combined event per channel |

### Perimeter Protection

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|---|---|
| Perimeter Performance AI by Recorder (Number of Channels) | Simultaneous mode: 32 channels, 10 IVS rules for each channel<br>Heterogeneous mode: 24 channels, 10 IVS rules for each channel<br>Refer to the information on video output for details on the mode |
| Perimeter Performance of AI by Camera (Number of Channels) | All channels (64 targets/s) |

### Face Detection

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|---|---|
| Face Attributes | Gender; age group; glasses; expressions; face mask; beard |
| Face Detection Performance of AI by Recorder (Number of Channels) | Simultaneous mode: 8 channels (up to 12 face images/s each channel)<br>Heterogeneous mode: 5 channels (up to 12 face images/s each channel)<br>Refer to the information on video output for details on the mode |
| Face Detection Performance of AI by Camera (Number of Channels) | 64 channels |

### Face Recognition

| | |
|---|---|
| Face Database Capacity | Up to 40 face databases with 300,000 images, with a total capacity of 48 G. |
| Face Recognition Performance of AI by Recorder (Number of Channels) | Simultaneous mode: 32-channel FD (by camera) + FR (by recorder),image stream: 32 face images/s; 8-channel FD (by recorder) + FR (by recorder), video stream: 16 face images/s<br>Heterogeneous mode: 16-channel FD (by camera) + FR (by recorder),image stream: 16 face images/s; 5-channel FD (by recorder) + FR (by recorder), video stream: 10 face images/s<br>Refer to the information on video output for details on the mode |
| Face Recognition Performance of AI by Camera (Number of Channels) | 64 channels |

### SMD Plus

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|---|---|
| SMD Plus by Recorder | 32-channel: Secondary filtering for human and motor vehicle , reducing false alarms caused by leaves, rain and lighting condition change |
| SMD Plus by Camera | All channels (128 targets/s) |

### Video Metadata

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|---|---|
| Metadata Performance of AI by Recorder (Number of Channels) | 8 channels |
| Metadata Performance of AI by Camera (Number of Channels) | 64 channels |
| People Attributes | 9 human body attributes |
| Human Attributes | Top color, top type, hat, bag, age, gender and umbrella |
| Motor Vehicle Attributes | License plate, plate color, vehicle model, vehicle logo, plate color, ornament, calling, |
| Non-motor Vehicle Attributes | Vehicle model, vehicle color, number of persons, helmet. |

### Vehicle License Plate Comparison

| | |
|---|---|
| ANPR by Camera (Number of Channels) | All channels (64 targets/s) |
| License Plate Database Capacity | Blocklist and allowlist: 20,000 |

### Audio and Video

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|---|---|
| Access Channel | 64 channels |
| Network Bandwidth | AI disabled: 1280 Mbps incoming, 1280 Mbps recording and 1024 Mbps outgoing<br>AI enabled: 640 Mbps incoming, 640 Mbps recording and 512 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 |
| Decoding Capability | AI disabled: 2-channel 32 MP@30 fps; 2-channel 24 MP@30 fps; 4-channel 16 MP@30 fps; 5-channel 12 MP@30 fps; 8-channel 8 MP@30 fps; 11-channel 6 MP@30 fps; 12-channel 5 MP@30 fps; 16-channel 4 MP@30 fps; 32-channel 1080p@30 fps；128-channel D1@30 fps<br>AI enabled: 1-channel 32 MP@30 fps; 1-channel 24 MP@30 fps; 2-channel 16 MP@30 fps; 2-channel 12 MP@30 fps; 4-channel 8 MP@30 fps; 5-channel 6 MP@30 fps; 6-channel 5 MP@30 fps; 8-channel 4 MP@30 fps; 16-channel 1080p@30 fps；80-channel D1@30 fps |

| Video Output | 2 VGA, 4 HDMI; VGA: 1920 × 1080, 1280 × 1024, 1280 × 720; HDMI1&2: 3840 × 2160, 1920 × 1080, 1280 × 1024, 1280 × 720; HDMI3: 7680 × 4320, 3840 × 2160, 1920 × 1080, 1280 × 1024, 1280 × 720; HDMI4: 1920 × 1080, 1280 × 1024, 1280 × 720 Simultaneous mode (simultaneously outputs video sources for all the HDMI1-4 and VGA1-2 ports) Max. resolution of VGA1 and VGA2 is 1080p; max. resolution of HDMI1 and HDMI2 is 4K; max. resolution of HDMI3 is 8K; max. resolution of HDMI4 is 1080p Heterogeneous mode (simultaneously outputs video sources for the VGA1 and HDMI1, or VGA2 and HDMI2. It also outputs heterogeneous video sources for HDMI1–4) Max. resolution of VGA1 and VGA2 is 1080p; max. resolution of HDMI1, HDMI2 and HDMI3 is 4K; max. resolution of HDMI4 is 1080p |
|---|---|
| Multi-screen Display | Main screen: 1/4/8/9/16/25/36/64 Sub screen: 1/4/8/9/16/25/36 |
| Third-party Camera Access | ONVIF; Panasonic; Sony; Axis; Arecont; Pelco; Canon; Hanwha |

## Compression Standard

| Video Compression | Smart H.265+; H.265; Smart H.264+; H.264; MPEG4; MJPEG |
|---|---|
| Audio Compression | G.711a; G.711u; PCM; G726 |

## Network

| Network Protocol | HTTP; HTTPS; TCP/IP; IPv4; IPv6; UDP; SNMP; NTP; DHCP; DNS; SMTP; UPnP; IP Filter; PPPoE; FTP; DDNS; Alarm Server; IP Search (Supports IP camera, DVR, NVS, etc.); Multicast; P2P; Auto Registration; iSCSI |
|---|---|
| Mobile Phone Access | iOS; Android |
| Interoperability | ONVIF (Profile S/profile T/Profile G); CGI; SDK |
| Browser | Chrome IE 9 or later 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 | Manual; alarm; motion detection; scheduled |
| Backup Method | Portable hard drive, eSATA disk, burner, USB device and network |
| Playback Mode | 1. Play, pause, stop, fast forward, fast backward, rewind, play by frame 2. Full screen, backup (cut/file), partially enlarge, audio on/off |

## Storage

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

## Alarm

| General Alarm | Motion detection; video tampering; video loss; scene changing, PIR alarm, IPC external alarm |
|---|---|
| Anomaly Alarm | Camera offline; storage error; disk full; IP conflict; MAC conflict; login lock; abnormal behavior of fan |

| Intelligent Alarm | Face detection; face recognition; perimeter protection (intrusion and tripwire); SMD Plus alarms; ANPR; people counting; stereo analysis; crowd distribution; heat map |
|---|---|
| Alarm Linkage | Record; snapshot; IPC external alarm output; buzzer; log, preset; email |

## Port

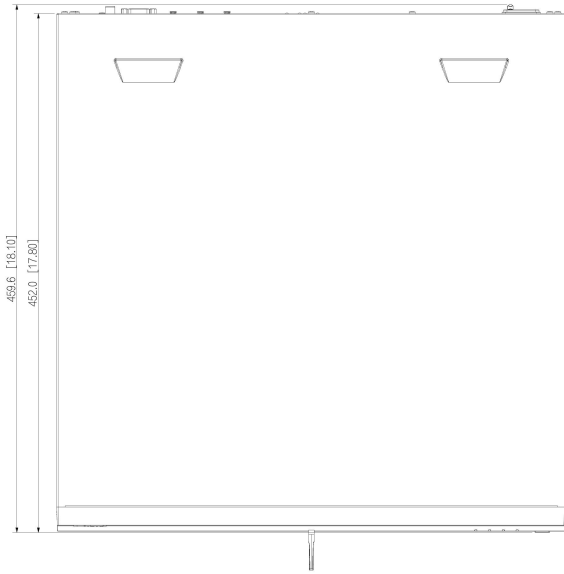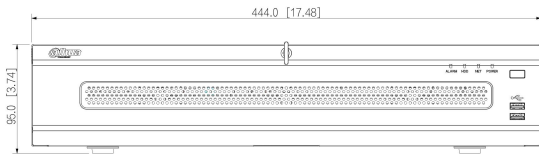| Audio Input | 1-channel RCA |
|---|---|
| Audio Output | 2-channel RCA |
| Alarm Input | 16 channels |
| Alarm Output | 8 channels |
| Disk Interface | 8 SATA ports. Each disk can contain up to 20 TB. This limit varies depending on the environment temperature. |
| eSATA | 1 |
| RS-232 | 1 |
| RS-485 | 1 × A/B |
| USB | 4 (2 front USB 2.0 ports, 2 rear USB 3.0 ports) |
| HDMI | 4 |
| VGA | 2 |
| Network Port | 2 (10/100/1000/2500 Mbps Ethernet port, RJ-45) |

## General

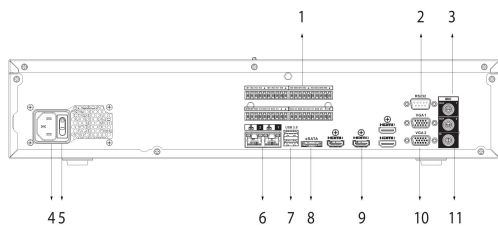| Power Supply | 100–240 VAC, 50/60 Hz |
|---|---|
| Power Consumption | <18 W (without HDD) |
| Net Weight | 6.40 kg (14.11 lb) (without HDD) |
| Gross Weight | 10.35 kg (22.82 lb) (without HDD) |
| Product Dimensions | 444.0 mm × 456.6 mm x 95.0 mm (17.48" × 17.98" × 3.74") (W × D × H) |
| Packaging Dimensions | 570.0 mm × 570.0 mm × 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 | 0 °C to +40 °C (+32 °F to +104 °F) |
| Operating Humidity | 10%–93% (RH), non-condensing |
| Installation | Rack or desktop |
| Certifications | FCC: 47 CFR FCC Part15, SubpartB, Class A CE-EMC: EN 55032:2020, Class A; EN IEC 61000-3-2:2019; EN 61000-3-3:2013+A1:2019; EN 55024:2010+A1:2015; EN 55035:2020; EN 50130-4:2011+A1:2014 CE-LVD: EN 62368-1:2014+A11:2017 |

## Ordering Information

| Type | Model | Description |
|---|---|---|
| AI Network Video Recorder | DHI-NVR608H-64-XI | 64CH 2U 8HDDs WizMind Network Video Recorder |

## Dimensions (mm[inch])

mm [inch]

444.0 [17.48]

95.0 [3.74]

459.6 [18.10]

452.0 [17.80]

## Panels

| | |
|---|---|
| 1 | Alarm In/Out |
| 3 | AUDIO OUT, RCA Connector |
| 5 | Power Switch |
| 7 | USB Ports |
| 9 | HDMI Ports |
| 11 | AUDIO IN, RCA Connector |

| | |
|---|---|
| 2 | RS-232 Port |
| 4 | Power Input |
| 6 | Network Ports |
| 8 | eSATA Port |
| 10 | VGA Ports |