

DHI-NVR616RH-64-XI

64CH 3U 16HDDs 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: 40 × 1080p@30 fps.
- Max. 1280/1280/1024 Mbps incoming/recording/outgoing bandwidth.
- AI by Recorder supports 8-channel face detection and recognition, up to 40 face databases and 300,000 face images; 8-channel metadata; 8-channel AcuPick; 4-channel PPE Detection; 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, people counting, AcuPick and PPE Detection.
- Supports redundant power, 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.



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.

PPE Detection

Detects and identifies the features of work uniforms and hats, and triggers the alarm for matches and mismatches. It also recognizes whether the work wear of personnel complies with security protection regulations.

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; AcuPick; PPE Detection
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
AcuPick Performance of AI by Recorder (Number of Channels)	8 channels
AcuPick Performance of AI by Camera (Number of Channels)	All channels (64 targets/s)

Perimeter Protection

Perimeter Performance AI by Recorder (Number of Channels)	Simultaneous mode: 32 channels, 10 IVS rules for each channel Heterogeneous mode: 24 channels, 10 IVS rules for each channel 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

Face Attributes	6 attributes
Face Detection Performance of AI by Recorder (Number of Channels)	Simultaneous mode: 8 channels (up to 12 face images/s each channel) Heterogeneous mode: 5 channels (up to 12 face images/s each channel) Refer to the information on video output for details on the mode
Face Detection Performance of AI by Camera (Number of Channels)	All channels (64 targets/s)

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 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 Refer to the information on video output for details on the mode

Face Recognition Performance of AI by Camera (Number of Channels)	All channels (64 targets/s)
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SMD Plus

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

Video Metadata

Metadata Performance of AI by Recorder (Number of Channels)	8 channels, 23 attributes extraction.
Metadata Performance of AI by Camera (Number of Channels)	All channels (64 targets/s)
People Attributes	9 human body attributes
Motor Vehicle Attributes	9 attributes
Non-motor Vehicle Attributes	4 attributes

Vehicle License Plate Comparison

ANPR by Camera (Number of Channels)	All channels (64 targets/s)
License Plate Database Capacity	1. Up to 20,000 plate numbers. 2. Blocklist and allowlist

Audio and Video

Access Channel	64 channels
Network Bandwidth	AI disabled: 1280 Mbps incoming, 1280 Mbps recording and 1024 Mbps outgoing 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; 720p; 960p; D1; CIF
Decoding Capability	AI disabled: 2-channel 32 MP@30 fps; 3-channel 24 MP@30 fps; 5-channel 16 MP@30 fps; 6-channel 12 MP@30 fps; 10-channel 8 MP@30 fps; 13-channel 6 MP@30 fps; 16-channel 5 MP@30 fps; 20-channel 4 MP@30 fps; 40-channel 1080p@30 fps; 64-channel 720p@30 fps 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; 36-channel 720p@30 fps; 64-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
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 22.06(Profile T; Profile S; Profile G); CGI; SDK
Browser	Chrome; IE; Safari; Edge; Firefox
Network Mode	Multi-address; load balance; fault tolerance

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

Storage

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

Alarm

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 and body detection; face recognition; perimeter protection; SMD; video

Intelligent Alarm	metadata; stereo analysis, crowd distribution; ; ANPR; heat map
Alarm Linkage	Record; snapshot (panoramic); local alarm output; IPC external alarm output; audio; buzzer; log, preset; email

Port

Audio Input	1-channel RCA
Audio Output	2-channel RCA
Alarm Input	32 channels
Alarm Output	16 channels
Disk Interface	16 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	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	4
VGA	2
Network Port	4 (10/100/2500 Mbps Ethernet port, RJ-45)

General

Power Supply	100–240 VAC, 50±2% Hz
Redundant Power	Yes
Power Consumption	<25 W (without HDD)
Net Weight	13.03 kg (28.73 lb)
Gross Weight	15.42 kg (34.01 lb)
Product Dimensions	485.0 mm × 529.0 mm × 133.2 mm (19.09" × 20.83" × 5.24") (W × D × H)
Packaging Dimensions	634.0 mm × 709.0 mm × 429.0 mm(24.96" × 27.91" × 16.89") (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
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
AI Network Video Recorder	DHI-NVR616RH-64-XI	64CH 3U 16HDDs WizMind Network Video Recorder

Type	Model	Description
Accessories (Optional)	ESS1504C	4 Bay eSATA Extension Cabinet
	DHI-ARB1606	Alarm Box
	DHI-RailBracket60/L-Shaped	Dahua Server Cabinet Rail Bracket

Accessories

Optional:



ESS1504C
4 Bay eSATA Extension
Cabinet

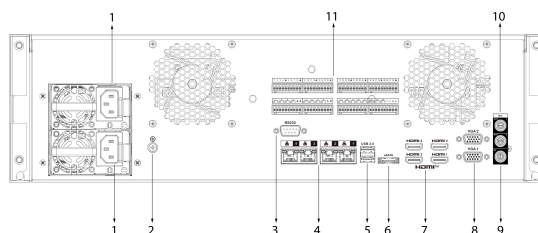


DHI-ARB1606
Alarm Box



DHI-RailBracket60/L-
Shaped
Dahua Server Cabinet Rail
Bracket

Panels



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

Dimensions (mm[inch])

