DHI-NVR5864RH-XI

64CH 2U 8HDDs WizMind Network Video Recorder

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. 512/512/512 Mbps incoming/recording/outgoing bandwidth.
- Supports IP cameras with a resolution up to 32 MP.
- Supports AcuPick with up to 36 channels.
- AI by Recorder supports 8-channel face detection and recognition, up to 20 face databases and 200,000 face images; 8-channel metadata; 24-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 redundant power, RAID 0/1/5/6/10, N+M cluster, and iSCSI, and has a drawer-like chassis design that allows HDD hot swapping.
- Supports EPTZ, and one-click arming and disarming.

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
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. 36-channel, 1 combined event per channel

Perimeter Protection

Perimeter Performance AI by Recorder (Number of Channels)	24 channels, 10 IVS rules for each channel
Perimeter Performance of AI by Camera (Number of Channels)	All channels (32 targets/s)

Face Detection

Face Attributes	6 attributes
Face Detection Performance of AI by Recorder (Number of Channels)	Sub screen 4K enabled：4 channels (up to 12 face images/s each channel) Sub screen 4K disabled：8 channels (up to 12 face images/s each channel)
Face Detection Performance of AI by Camera (Number of Channels)	32 channels

Face Recognition

Face Database Capacity	Up to 20 face databases with 200,000 images, with a total capacity of 44 G.
Face Recognition Performance of AI by Recorder (Number of Channels)	Sub screen 4K enabled: 16-channel FD (by camera) + FR (by recorder),image stream: 32 face images/s 4-channel FD (by recorder) + FR (by recorder), video stream: 16 face images/s Sub screen 4K disabled: 16-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
Face Recognition Performance of AI by Camera (Number of Channels)	32 channels

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 Plus by Camera	All channels (64 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)	32 channels
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 (32 targets/s)
License Plate Database Capacity	1. Create up to 20,000 plate numbers. 2. Blocklist and allowlist

Audio and Video

Access Channel	64 channels
Network Bandwidth	AI disabled: 512 Mbps incoming, 512 Mbps recording and 512 Mbps outgoing 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@30fps; 2-channel 24 MP@30 fps; 4-channel 16 MP@30 fps; 5-channel 12 MP@30 fps; 8-channel 8 MP@30 fps; 10-channel 6 MP@30 fps; 12-channel 5 MP@30 fps;16-channel 4 MP@30 fps; 32-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; 4-channel 12 MP@30 fps; 6-channel 8 MP@30 fps; 8-channel 6 MP@30 fps; 8-channel 5 MP@30 fps; 12-channel 4 MP@30 fps; 24-channel 1080p@30 fps; 48-channel 720p@30 fps; 64-channel D1@30 fps
Video Output	2 VGA, 2 HDMI VGA:1920 × 1080, 1280 × 1024, 1280 × 720 HDMI:3840 × 2160, 1920 × 1080, 1280 × 1024, 1280 × 720 Heterogeneous video source output for HDMI1 and HDMI2 Simultaneous video source output for VGA1 and HDMI1 Simultaneous video source output for VGA2 and HDMI2
Multi-screen Display	Main screen: 1/4/8/9/16/25/36/64 Sub screen: 1/4/8/9/16
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; 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 23.06(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 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

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)
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	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
Redundant Power	Yes
Power Consumption	<13 W (without HDD)
Net Weight	8.79 kg (19.38 lb)
Gross Weight	11.82 kg (26.06 lb)
Product Dimensions	444.0 mm × 476.0 mm ×95.0 mm(17.48" × 18.74" × 3.74") (W × D × H)
Packaging Dimensions	618.0 mm × 571.0 mm x 219.0 mm (24.33" × 22.48" × 8.62")(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
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-NVR5864RH-XI	64CH 2U 8HDDs WizMind Network Video Recorder