# 32-channel AcuPick 8K 16PoE Network Video Recorder

1U 2HDD WizSense

- Maximum Bandwidth of 384 Mbps Incoming/Recording/Outgoing
- Analytics+ by Recorder: AcuPick[1], 2-channel Face Detection and Face Detection+, 4-channel Perimeter Protection, and 8-channel Smart Motion Detection+
- Analytics+ by Camera: AcuPick, Face Detection, Face Detection+, Perimeter Protection, Smart Motion Detection+, ANPR, Heat Map, and People Counting

| Perimeter Protection | Face Detection | Search by Image | Heat Map | ANPR | Blocklist Alarm |
| People Counting | SMD Plus | | | | |
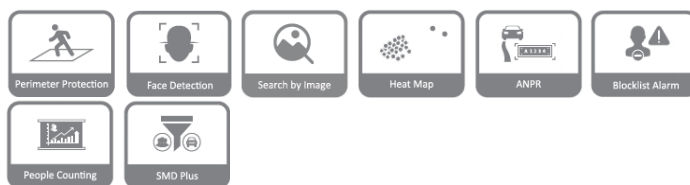
System Overview

The N8 Series AcuPick NVRs offer outstanding performance and high-grade recording technology that make it ideal for IP video security applications. Its powerful processor supports high access and forwarding bandwidth and strong decoding capabilities to produce unimpeded streams. Thanks to its built-in analytics chip and Dahua's advanced deep learning algorithms, the NVR supports a variety of analytics functions, such as AcuPick, high-precision Face Detection+, and Perimeter Protection to 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 security systems that work with Video Management Software (VMS).

Functions

AcuPick
Dahua effectively utilizes both front-end and back-end intelligence to realize AcuPick. AcuPick technology is a true video search engine that can quickly locate the information you need. Use it to find a lost individual, locate a specific vehicle, or pinpoint evidence of a suspect who's damaged another's property.

Perimeter Protection
Dahua Analytics+ includes Tripwire and Intrusion functions that offer custom tripwires based on object type for automation in limited access areas. Perimeter Protection requires fewer pixels to detect an object to deliver improved accuracy and decreased false alarms due to lights, weather, trees, or animals.

Fisheye Dewarping
The NVR uses Local Fisheye Dewarp for up to 4 channels[2] and Web Fisheye Dewarp[3] to reduce distortion from circular panoramic perspectives. These features provide customized modes for various configurations, amplifying both live and playback footage and providing scene modification options. Each dewarping method offers different options for fine-tuning each scene.

Face Detection
Face Detection technology captures a human face in a digital image and then selects the best image and outputs a snapshot of the face.

Face Detection+
Face Detection+ technology identifies, tracks, and captures a human face in a digital image and then selects the best image and outputs a snapshot of the face. This technology identifies key facial features and obtains the contours of detected faces.

Heat Map
The built-in IVS features people counting and heat map functionality, advanced features that add business intelligence to your security system. Intelligent Analysis tracks and stores daily, weekly, monthly, and yearly people flow through a defined scene and produces a configurable report. The system uses this data to produce a Heat Map, a two-dimensional representation of data that provides an immediate visual summary of activity. People Counting and Heat Maps can identify the most active areas of a retail space providing valuable data analysis for commercial applications.

Automatic License Plate Recognition
The NVR automatically captures and stores vehicle license plate images from a dedicated license plate capture camera connected to the NVR. During playback, an operator can perform a license plate search by Time and Date to view thumbnail images of all plates captured during the specified time period. License plate capture technology offers effective entrance/exit management, traffic monitoring, and parking lot monitoring.

Smart Motion Detection+
Smart Motion Detection, a component of Dahua's Analytics+ technology, improves alarm accuracy and decreases the number of false alarms. The advanced SMD algorithm analyzes a scene for human or vehicle motion, while filtering out other motion due to trees, leaves, animals, weather, and triggers an alarm when detected.

Technical Specification

System

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

Analytics+ Recording

Recorder Functions[4]	Face Detection, Face Detection+, Perimeter Protection, Smart Motion Detection+
Camera Fuctions	Face Detection, Face Detection+, Perimeter Protection, Video Analytics (Human, Motor Vehicles, and Non-motor Vehicles), Smart Motion Detection+, Crowd Distribution, People Counting, Automatic License Plate Recognition (ANPR), Vehicle Density, Heat Map

Perimeter Protection Recording

Recorder Channels	4 channels (10 IVS Rules per Channel)
Camera Channels	16 Channels

Face Detection

Face Attributes	Gender, Age Group, Glasses, Expressions, Face Mask, Beard
Recorder Channels	2 Channels (Up to 12 Face Images Per Channel)
Camera Channels	16 Channels

Face Detection+[5]

Face Database	Capacity	Up to 20 Databases with 200,000 Images (Max. 2.5 GB)
	Analytics	Name, Gender, Birthday, Address, Credential Type, Credential Number, Country, Region, State
Recorder Channels		1. 16 Channels with Image Stream of 16 Images when the NVR is used for Face Detection+ functionality and the camera is used for Face Detection functionality 2. 2 channels with Image Stream of 12 Images when only the NVR is used for Face Detection and Face Detection+ functionality (No camera involvment for Face Detection or Face Detection+ functionality)
Camera Channels		16 Channels when only the camera is used for Face Detection and Face Detecion+ functionality (No NVR involvement for Face Detection or Face Detection+ functionality)

Smart Motion Detection+ (SMD+) Recording

Recorder Channels	8 Channels with Secondary Filtering for False Alarm Reduction
Camera Channels	16 Channels

Video Analytics

Camera Channels	8 Channels
Human Attributes	Top Color, Top Type, Hat, Bag, Age, Gender, 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 Channels by Camera	8 channels
License Plate Database Capacity	20,000 (Blocklist and Allow List)

Audio and Video

Access Channel		16 Channels
Network Bandwidth	Incoming	Analytics+ Disabled: 384 Mbps Analytics+ Enabled: 200 Mbps
	Recording	Analytics+ Disabled: 384 Mbps Analytics+ Enabled: 200 Mbps
	Outgoing	Analytics+ Disabled: 384 Mbps Analytics+ Enabled: 200 Mbps

Recording Resolution		32MP, 24MP, 16MP, 12MP, 8MP, 5MP, 4MP, 1080p, 720p, D1, CIF, QCIF
Decoding Capability	Analytics Disabled	2-channel: 32MP at 20 fps or 24MP at 20 fps 4-channel:16MP at 30 fps 5-channel: 12MP at 30 fps 8-channel: 8MP at 30 fps 12-channel: 5MP at 30 fps 16-channel: 4MP at 30 fps 32-channel: 1080p at 30 fps
	Analytics Enabled	1-channel: 32MP at 20 fps or 24MP at 20 fps 2-channel: 16MP at 30 fps 4-channel: 12MP at 30 fps or 8MP at 30 fps 8-channel: 5MP at 30 fps 12-channel: 4MP at 30 fps 24-channel: 1080P at 30 fps
Video Output		• 1-channel VGA, 1-channel HDMI Video Output • Spot Output for HDMI1 • Simultaneous video source output for VGA1 and HDMI1 **Maximum Resolution** VGA: 1080p HDMI: 4K
Multi-screen Display	Main Screen	1/4/8/9/16/25/36
	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 (Sub Stream Only)
Audio Compression	G.711a, G.711Mu, PCM, G.723, G.726, AAC

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 S/Profile T/Profile G), CGI, SDK
Browser	Chrome, Edge, Firefox

Recording Playback

Multi-channel Playback	Up to 16 Channels
Record Mode	General, Motion Detection, Intelligent, Alarm, POS
Backup Method	USB Device, Network
Playback Mode	Instant Playback, General Playback, Event Playback, Tag Playback, Smart playback (Face and Motion Detection)

Storage

Disk Group	Yes
HDD Interface	2 SATA ports, up to 16 TB each. The maximum HDD capacity varies with environment temperature.

Alarm

General Alarm	Motion Detection, Privacy Masking, Local Alarm
Anomaly Alarm	Camera Offline, Storage Error, Disk Full, IP Conflict, MAC Conflict, Login Lock, Abnormal Fan Behavior, Cybersecurity Exception
Intelligent Alarm	Face Detection, Perimeter Protection, Face Detection+, Video Analytics (Human, Motor Vehices, Non-motor Vehicles), Smart Motion Detection+, Automatic License Plate Recognition (ANPR), Vehicle Density, Heat Map
Alarm Linkage	Record, Snapshot (Panoramic), Local Alarm Output, IPC External Alarm Output, Access Controller, Audio, Buzzer, Log, Preset, Email

Interface

Audio	Input	1-channel RCA
	Output	1-channel RCA

Alarm	Input	4-channel RCA
	Output	2 channels

RS-232	1
RS-485	1
USB	2 (1 front USB 2.0 ports, 1 rear USB 3.0 ports)
HDMI	1
VGA	1
Network Port	1 (10/100/1000/2500 Mbps Ethernet port, RJ-45)
PoE Port	16 Ports, 10/100 Mbps, IEEE 802.3 af/at, 1-8 Ports Support ePoE

Electrical

Power Supply	100 to 240 VAC, 47 to 63 Hz
Power Consumption	≤ 10 W (without HDD), 130 W (PoE), 25.5 W (Single Port)

Environmental

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)

Certifications

Safety	UL 62368-1 CAN/CSA C22.2 No.62368-1-14
Electromagnetic Compatibility	FCC: 47 CFR FCC Part15, SubpartB, Class A 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

Electrical

Net Weight	2.66 kg (5.86 lb)
Gross Weight	3.82 kg (8.42 lb)
Product Dimensions (W x D x H)	375.0 mm × 329.4 mm x 53.0 mm (14.76 in. × 12.97 in. × 2.09 in.)
Packaging Dimensions (W x D x H)	449.0 mm × 170.0 mm × 421.0 mm (17.68 in. × 6.69 in. × 16.57 in.)
Installation	Rack or Desktop

ePoE and EOC Transmission Distances

Via CAT5E/CAT6 Ethernet Cable
ePoE supply voltage 48 V
Maximum DC resistance < 10 Ω/100 m

Cable Length	Bandwidth	PoE Load Capacity	Hi-PoE Load Capacity	Working Mode
100 m (328 ft)	100 Mbps	25.5 W	53 W	IEEE/E100
200 m (656 ft)	100 Mbps	25.5 W	33 W	E100
300 m (984 ft)	100 Mbps	19 W	19 W	E100
400 m (1312 ft)	10 Mbps	17 W	17 W	E10
500 m (1640 ft)	10 Mbps	13 W	13 W	E10
800 m (2625 ft)	10 Mbps	7 W	7 W	E10

Via CAT5E/CAT6 Ethernet Cable
ePoE supply voltage 53 V
Maximum DC resistance < 10 Ω/100 m

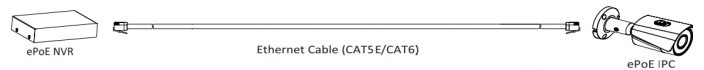| Cable Length	Bandwidth	PoE Load Capacity	Hi-PoE Load Capacity	Working Mode
100 m (328 ft)	100 Mbps	25.5 W	53 W	IEEE/E100
200 m (656 ft)	100 Mbps	25.5 W	47 W	E100
300 m (984 ft)	100 Mbps	25.5 W	32 W	E100
400 m (1312 ft)	10 Mbps	23 W	26 W	E10
500 m (1640 ft)	10 Mbps	20 W	20 W	E10
800 m (2625 ft)	10 Mbps	13 W	13 W	E10

Via RG-59 Coaxial Cable
ePoE supply voltage 48 V
Maximum DC resistance < 5 Ω/100 m

Cable Length	Bandwidth	PoE Load Capacity	Hi-PoE Load Capacity	Working Mode
100 m (328 ft)	100 Mbps	25.5 W	50 W	IEEE/E100
200 m (656 ft)	100 Mbps	25.5 W	30 W	E100
300 m (984 ft)	100 Mbps	18 W	18 W	E100
400 m (1312 ft)	100 Mbps	15 W	15 W	E100
500 m (1640 ft)	10 Mbps	12 W	12 W	E10
800 m (2625 ft)	10 Mbps	6 W	6 W	E10
1000 m (3281 ft)	10 Mbps	5 W	5 W	E10

Via RG-59 Coaxial Cable
ePoE supply voltage 53 V
Maximum DC resistance < 5 Ω/100 m

Cable Length	Bandwidth	PoE Load Capacity	Hi-PoE Load Capacity	Working Mode
100 m (328 ft)	100 Mbps	25.5 W	52 W	IEEE/E100
200 m (656 ft)	100 Mbps	25.5 W	48 W	E100
300 m (984 ft)	100 Mbps	25.5 W	30 W	E100
400 m (1312 ft)	100 Mbps	20 W	23 W	E100
500 m (1640 ft)	10 Mbps	16 W	16 W	E10
800 m (2625 ft)	10 Mbps	10 W	10 W	E10
1000 m (3281 ft)	10 Mbps	8 W	8 W	E10

ePoE and EoC Applications

Pure Ethernet

ePoE NVR — Ethernet Cable (CAT5E/CAT6) — ePoE IPC

Passive EoC

ePoE NVR — LR1002 — Coaxial Cable — LR1002 — ePoE IPC

EoC with Single-port EoC Receiver

ePoE NVR — LR1002 — Coaxial Cable — LR1002-1ET — Network Cable — PoE IPC
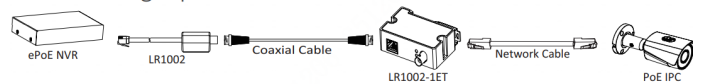
Ordering Information

| Type	Part Number	Description
Network Video Recorder	N82B5P	32 Channels 1U 16PoE 2HDD WizSense AcuPick NVR
	N82B5P4	32 Channels 1U 16PoE 2HDD WizSense AcuPick NVR (4 TB)
	N82B5P6	32 Channels 1U 16PoE 2HDD WizSense AcuPick NVR (6 TB)
	N82B5P8	32 Channels 1U 16PoE 2HDD WizSense AcuPick NVR (8 TB)
	N82B5P10	32 Channels 1U 16PoE 2HDD WizSense AcuPick NVR (10 TB)
ePoE Accessories (Optional)	LR1002	EoC Passive Converter
	LR1002-1EC	Single-port EoC Receiver

Accessories
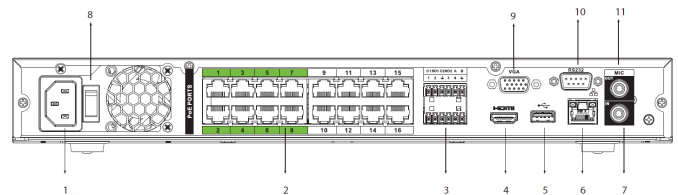
Optional:

LR1002
EoC Passive Converter

LR1002-1EC
Single-port EoC Receiver

Dimensions

mm [in.]

375.0 [14.76]

53.0 [2.09]

329.3 [12.96]
322.9 [12.71]
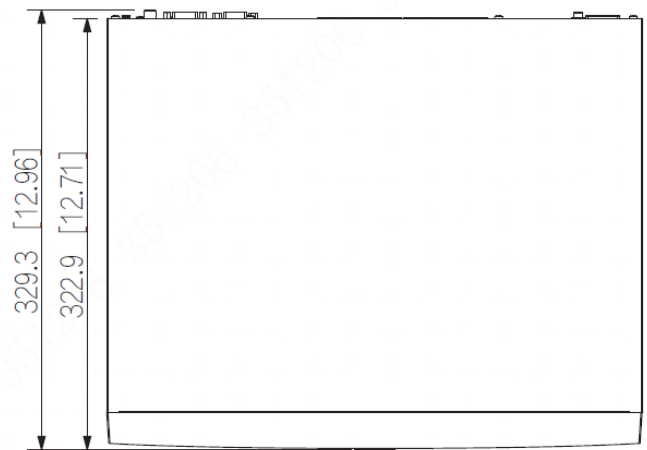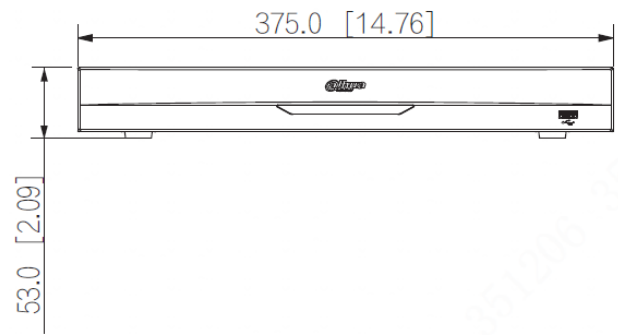
Panel

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

1. AcuPick is only available when the NVR is used with an AcuPick-enabled camera. AcuPick is not supported by the NVR when used with non-AcuPick or third-party cameras.
2. The Local Fisheye Dewarp function is disabled when AcuPick is enabled.
3. Web Fisheye Dewarp channel count is dependent on computer CPU and RAM.
4. Analytics+ by Recorder functions are disabled when AcuPick search technology is enabled.
5. The face database on the NVR is inaccessible when AcuPick is enabled. However, IPCs retain access to their own face database.