

8-channel AcuPick 8K 8PoE Network Video Recorder

1U 2HDD WizSense



WizSense ePoE

ACU PICK
JUST ONE PICK

- Maximum Bandwidth of 384 Mbps Incoming/Recording/Outgoing
- Analytics+ by Recorder: AcuPick¹, 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



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 channels² and Web Fisheye Dewarp³ 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

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

Analytics+ Recording

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|---------------------------------|---|
| Recorder Functions ⁴ | Face Detection, Face Detection+, Perimeter Protection, Smart Motion Detection+ |
| Camera Functions | 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

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|-------------------|---------------------------------------|
| Recorder Channels | 4 channels (10 IVS Rules per Channel) |
| Camera Channels | 8 Channels |

Face Detection

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|-------------------|---|
| Face Attributes | Gender, Age Group, Glasses, Expressions, Face Mask, Beard |
| Recorder Channels | 2 Channels (Up to 12 Face Images Per Channel) |
| Camera Channels | 8 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. 8 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 involvement for Face Detection or Face Detection+ functionality) | |
| Camera Channels | 8 Channels when only the camera is used for Face Detection and Face Detection+ functionality (No NVR involvement for Face Detection or Face Detection+ functionality) | |

Smart Motion Detection+ (SMD+) Recording

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|-------------------|---|
| Recorder Channels | 8 Channels with Secondary Filtering for False Alarm Reduction |
| Camera Channels | 8 Channels |

Video Analytics

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|------------------------------|---|
| 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) |

Network

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|---------------------|---|
| 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 |

Audio and Video

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|---------------------------|--|--|
| Access Channel | 8 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 |
| | 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 |
| Video Output | <ul style="list-style-type: none"> 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 |
| | Sub Screen | 1/4/8/9 |
| Third-party Camera Access | ONVIF, Panasonic, Sony, Axis, Arecont, Pelco, Canon, Samsung | |

Compression Standard

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|-------------------|---|
| 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 |

Recording Playback

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|------------------------|--|
| Multi-channel Playback | Up to 8 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

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

Alarm

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|-------------------|--|
| 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 Vehicles, 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

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|--------|---|---------------|
| Audio | Input | 1-channel RCA |
| | Output | 1-channel RCA |
| Alarm | Input | 4 channels |
| | 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 | |

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|--------------|--|
| VGA | 1 |
| Network Port | 1 (10/100/1000/2500 Mbps Ethernet port, RJ-45) |
| PoE Port | 8 Ports, 10/100 Mbps, IEEE 802.3 af/at, 1-8 Ports Support ePoE |

Electrical

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|-------------------|---|
| 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

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|-----------------------|-------------------------------------|
| 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

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|-------------------------------|--|
| 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

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|----------------------------------|--|
| Net Weight | 2.57 kg (5.67 lb) |
| Gross Weight | 3.8 kg (8.38 lb) |
| Product Dimensions (W x D x H) | 375.0 mm x 329.4 mm x 53.0 mm (14.76 in. x 12.97 in. x 2.09 in.) |
| Packaging Dimensions (W x D x H) | 451.0 mm x 147.0 mm x 425.0 mm (17.76 in. x 5.79 in. x 16.73 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 |

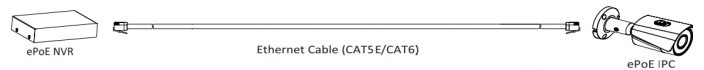
Via RG-59 Coaxial Cable

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

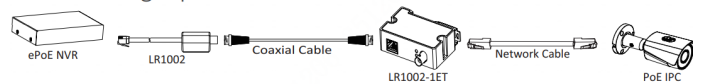
Pure Ethernet



Passive EoC



EoC with Single-port EoC Receiver



Ordering Information

| Type | Part Number | Description |
|-----------------------------|-------------|--|
| Network Video Recorder | N82B2P | 8 Channels 1U 8PoE 2HDD WizSense AcuPick NVR |
| | N82B2P4 | 8 Channels 1U 8PoE 2HDD WizSense AcuPick NVR (4 TB) |
| | N82B2P6 | 8 Channels 1U 8PoE 2HDD WizSense AcuPick NVR (6 TB) |
| | N82B2P8 | 8 Channels 1U 8PoE 2HDD WizSense AcuPick NVR (8 TB) |
| | N82B2P10 | 8 Channels 1U 8PoE 2HDD WizSense AcuPick NVR (10 TB) |
| ePoE Accessories (Optional) | LR1002 | EoC Passive Converter |
| | LR1002-1EC | Single-port EoC Receiver |

Accessories

Optional:



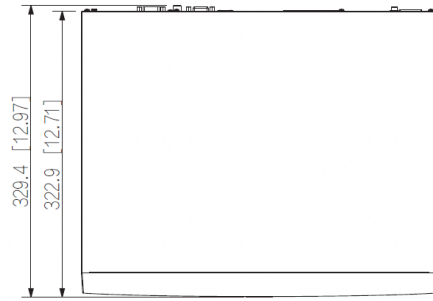
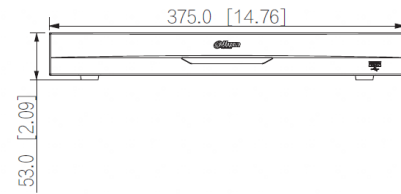
LR1002
EoC Passive Converter



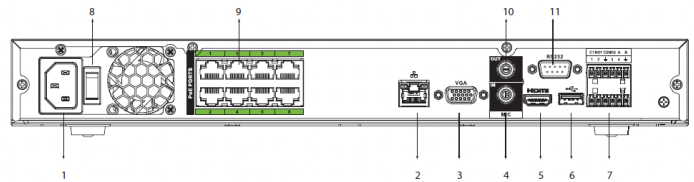
LR1002-1EC
Single-port EoC Receiver

Dimensions

mm [in.]



Panel



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

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.