

# NVR4216-EI

## 16 Channel AI Network Video Recorder



### Overview

New NVR4000-EI series NVR is easy to install, cost effective and compatible with a wide variety of third-party devices, providing a great solution for small and medium surveillance systems. It is ideal for home safety, supermarkets, warehouses, educational institutions, and financial institutions.

The NVR is compatible with numerous third-party devices, which make it the perfect solution for surveillance systems that work independently of video management system (VMS).

### Functions

#### Face Recognition

Face Recognition technology extracts the features of captured faces and compares them with that in face database.

#### 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.

#### SMD Plus

With intelligent algorithm, 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.

#### AI Search

With AI search, operators can search for Videos by the attributes of targets and event types, which helps them to quickly and efficiently investigate where and when targets appeared and events took place.

#### Heat Map by Camera

The 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.

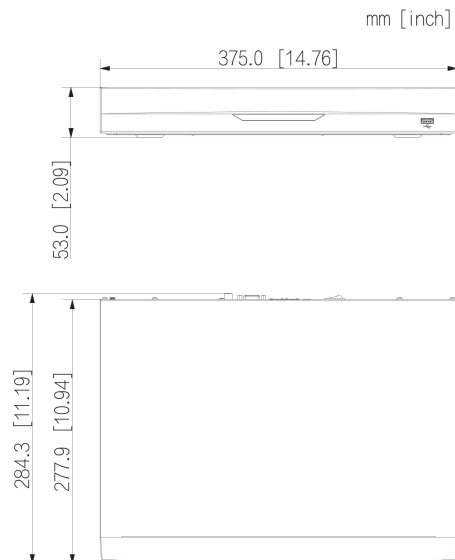
#### ANPR by Camera

With deep learning algorithm, The ANPR technology can recognize the number plate information of vehicles in the image with ANPR cameras. Support blacklist/allowlist mode, searching target vehicles from recorded video.

#### Quick Pick

Quick Pick technology can enable users to quickly pick up the human/vehicle targets that they are interested in, which facilitates retrieval from SMD events.

### Dimensions



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### 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, perimeter protection, and SMD Plus;
AI by Camera	Face detection; face recognition; perimeter protection; SMD Plus; ANPR; people counting; stereo analysis; heat map

#### Perimeter Protection

Perimeter Performance AI by Recorder (Number of Channels)	2 channels, 10 IVS rules for each channel
Perimeter Performance of AI by Camera (Number of Channels)	All channels (8 targets/s)

#### Face Detection

Face Attributes	Gender; age group; glasses; expressions; face mask; beard
Face Detection Performance of AI by Recorder (Number of Channels)	1 channel (up to 12 face images/s each channel)
Face Detection Performance of AI by Camera (Number of Channels)	All channels (8 targets/s)

#### Face Recognition

Face Database Capacity	Up to 10 face databases with 20,000 images, with a total capacity of 2.5 G. Name, gender, birthday, address, credential type, credential No., countries & regions and state can be added to each face image.
Face Recognition Performance of AI by Recorder (Number of Channels)	8-channel FD (by camera) + FR (by recorder), image stream: 12 face images/s 1-channel FD (by recorder) + FR (by recorder), video stream: 12 face images/s
Face Recognition Performance of AI by Camera (Number of Channels)	All channels (8 targets/s)

#### SMD Plus

SMD Plus by Recorder	4 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 (16 targets/s)

#### Audio and Video

Access Channel	16 channels
Network Bandwidth	AI disabled: 256 Mbps incoming, 256 Mbps recording and 256 Mbps outgoing AI enabled: 180 Mbps incoming, 180 Mbps recording and 180 Mbps outgoing
Resolution	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 16 MP@30 fps; 2-channel 12 MP@30 fps; 4-channel 8 MP@30 fps; 4-channel 6 MP@30 fps; 6-channel 5 MP@30 fps; 8-channel 4 MP@30 fps; 16-channel 1080p@30 fps AI enabled: 1-channel 16 MP@30 fps; 2-channel 12 MP@30 fps; 3-channel 8 MP@30 fps; 3-channel 6 MP@30 fps; 4-channel 5 MP@30 fps; 6-channel 4 MP@30 fps; 12-channel 1080p@30 fps; 16-channel 720p@30 fps
Video Output	1 HDMI, 1 VGA HDMI: 3840 × 2160, 1920 × 1080, 1280 × 1024, 1280 × 720 VGA: 1920 × 1080, 1280 × 1024, 1280 × 720 *Simultaneous/heterogeneous video sources output for VGA and HDMI is configurable.
Multi-screen Display	1st Screen: 1/4/8/9/16 2nd Screen: 1/4/8/9/16
Third-party Camera Access	Panasonic, Sony, Samsung, Axis, Pelco, Arecont, ONVIF, Canon

#### 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; UPnP; SNMP; UDP; SMTP; NTP; DHCP; DNS; IP Filter; PPPoE; DDNS; FTP; Alarm Server; IP Search (Support Dahua IP camera; DVR; NVS; etc.); P2P; auto register
Mobile Phone Access	iOS; Android
Interoperability	ONVIF 22.06(Profile T; Profile S; Profile G); CGI; SDK
Browser	Chrome; IE9 and later; Firefox

#### Recording Playback

Multi-channel Playback	Up to 16 channels
Record Mode	General, motion detection; intelligent; alarm
Backup Method	USB device and network
Playback Mode	Instant playback, general playback, event playback, tag playback, smart playback

#### Storage

Disk Group	Yes
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### Alarm

General Alarm	Motion detection; privacy masking; video loss; scene changing; PIR alarm; IPC external alarm
Anomaly Alarm	Camera disconnection; storage error; disk full; IP conflict; MAC conflict; login locked; and cybersecurity exception
Intelligent Alarm	Face detection; face recognition; perimeter protection; SMD Plus; people counting; stereo analysis; heat map
Alarm Linkage	Record; snapshot; IPC external alarm output; audio; buzzer; log; preset; email

### Port

Audio Input	1-channel RCA
Audio Output	1-channel RCA
Alarm Input	4 channels
Alarm Output	2 channels
Disk Interface	2 SATA ports, up to 16 TB. The maximum HDD capacity varies with environment temperature.
USB	2 (1 front USB 2.0 port, 1 rear USB 2.0 port)
HDMI	1
VGA	1
Network Port	1 (10/100/1000 Mbps Ethernet port, RJ-45)

### General

Power Supply	12 VDC, 4 A
Power Consumption	<10 W (without HDD)
Net Weight	1.51 kg (3.33 lb)
Gross Weight	2.76 kg (6.08 lb)
Product Dimensions	375 mm × 284.3 mm × 53 mm (14.76" × 11.19" × 2.09") (W × L × H)
Packaging Dimensions	433 mm × 141 mm × 366 mm (17.05" × 5.55" × 14.41") (W × L × 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	FCC: 47 CFR FCC Part15, SubpartB, 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