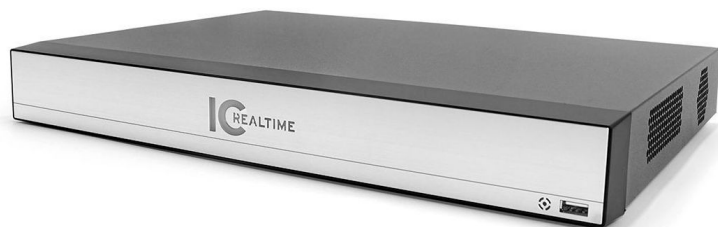


NVR-816NS

16 Channel 1U 16PoE 12MP AI Network Video Recorder



- Built-in 16 channel PoE
- Smart H.265+/H.265/Smart H.264+/ H.264/ MJPEG support
- Up to 12MP Resolution for Preview and Playback
- IVS, Intelligent Motion Detect, Face Recognition and Perimeter Protection by NVR
- PoE Ports 1-8 support ePoE & EoC
- Supports up to 2 10TB HDDs

System Overview

IC Realtime's NVR-816NS combines an advanced AI processor with a 16 port built-in PoE for ease of use. This NVR supports both Smart H.264 and H.265 encoding, a 4K HDMI output and is capable of up to 16 channels (up to 12MP resolution). It also features 200Mbps of bandwidth and up to two 10TB HDDs can be installed for maximum storage.

The built-in Intelligence features include Perimeter Protection, Intelligent Motion Detect and Face Recognition support for non AI cameras. It is also ONVIF compliant, making it compatible with most third party cameras.

Smart H.265+

Smart H.265+ is the optimized implementation of the H.265 codec that uses a scene-adaptive encoding strategy, dynamic GOP, dynamic ROI, flexible multi-frame reference structure and intelligent noise reduction to deliver high-quality video without straining the network. Smart H.265+ technology reduces bit rate and storage requirements by up to 70% when compared to standard H.265 video compression.

Fisheye Dewarp

The NVR features multiple fisheye dewarping modes to make viewing video easy whether its live or during playback.

4K Resolution

4K resolution is a revolutionary breakthrough in image processing technology. 4K delivers four times the resolution of standard HDTV 1080p cameras and offers superior picture quality and image details. 4K resolution improves the clarity of a magnified scene to view or record crisp forensic video from large areas.

IVS (Intelligent Video System) by NVR

Working with IVS-enabled IP cameras, the NVR recognizes and records video that contains IVS data on all IP channels. The NVR records standard intelligence at-the-edge features, as well as premium IVS features that detect abandoned or missing objects, Tripwire violations, and intrusion violations. The NVR is also capable of recording business analysis data – Audio Detect, People Counting and Heat Map – from IP cameras with built-in Intelligent Business Analytics.

iMD (Intelligent Motion Detect) by NVR

This is an upgraded version of motion detection currently known as Intelligent Motion Detection (iMD). The upgraded Plus version greatly improves alarm accuracy by pre-loading a deep learning algorithm that recognizes people and vehicles. Motion detection alerts containing a human and/or vehicle intrusion event are now possible with up to 95% accuracy. Eliminate false alarms, save time and keep stress levels low knowing you're protected.

Technical Specification

System

Main Processor	Multi-core embedded processor
Operating System	Embedded LINUX

Video

Max IP Channels	16 Channel
Network Bandwidth	200 Mbps 80 Mbps (When AI by NVR functions are enabled)
Third Party IPC Support	ONVIF, RTSP

Audio

Two-way Talk	1 Channel Input, 1 Channel Output, RCA
Audio Compression	G.711A/G.711U/PCM/G726

Display

Interface	1 HDMI, 1 VGA
Resolution	HDMI: 3840 × 2160, 1920 × 1080, 1280 × 1024, 1280 × 720 VGA 1: 1920 × 1080, 1280 × 1024, 1280 × 720
Display Split	1/4/8/9/16
Display Output Max Decode	2-ch@8MP (30fps), 8-ch@1080P (30fps)

Recording

Video Compression	Smart H.265+/H.265/Smart H.264+/H.264/MJPEG
Image Resolution	12MP, 8MP, 6MP, 5MP, 4MP, 3MP, 1080P, 1.3MP, 720P, D1 etc.
Record Mode	Manual, Schedule (Continuous, MD (Motion Detection), Alarm, IVS)
Record Interval	1–120 min (default: 60 min), Pre-record: 1–30 sec, Postrecord: 10–300 sec

Alarm

Trigger Events	Alarm Out, Video Push, Email, Recording, PTZ, Tour, Snapshot, Voice Prompt, Buzzer and Screen Tips
Alarm Input	4 Channel
Alarm Output	2 Channel

Playback & Backup

Sync Playback	1/4/9/16
Search Mode	Time/Date, Alarm, MD and Exact Search (accurate to the second)
Backup Mode	USB Device/Network

Network

Ethernet	1 RJ-45 Ports (10/100/1000Mbps)
PoE	16 ports (IEEE802.3af/at) Ports 1-8 support ePoE & EoC
Network Functions	HTTP, HTTPS, TCP/IP, IPv4/IPv6, UPnP, SNMP, RTSP, UDP,SMTP, NTP, DHCP, DNS, IP Filter, PPPoE,DDNS, FTP, Alarm Center, IP Search (Supports ICR IP cameras, DVR, NVS, etc.), P2P
Web Access	Chrome, IE9 or above, Firefox
Smart Phone	Android, iOS
Interoperability	ONVIF (Profile S), SDK, CGI

Storage

Internal HDD	2 SATA III Ports, Up to 10TB capacity for each HDD
External HDD	N/A

Auxiliary Interface

USB	2 USB Ports (1 Rear USB 2.0 , 1 Front USB 2.0)
RS232	1 channel, for debug and pass through serial data
RS485	N/A
eSATA	1 port

General

Power Supply	Single, AC100-240V, 3.5A
Power Consumption	NVR: <6.1W (Without HDD) PoE: Max 25.5W for single port, 130W total rated power
Working Environment	+14°F to +131°F (-10°C to +55°C)
Operating Humidity	30–85% RH
Dimensions (WxDxH)	1U: 14.76" × 12.89" × 2.09" (375.0 mm × 327.4 mm × 53.0 mm)
Net Weight	5.9 lb (2.68 kg) (without HDD)
Gross Weight	8.9 lb (4.02 kg) (without HDD)
Installation	Desktop Mountable

Certifications

Certifications	FCC: Part 15 Subpart B
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AI Features

Perimeter Protection

Capabilities	Virtual Line Detection alarm for human and vehicle. Filters misinformation such as leaves and light. Function configuration: Set up to 10 rules with area intrusion and tripwire intrusion.
Performance	4 channels (AI by NVR)
AI Search	Search by target classification (Human, Vehicle)

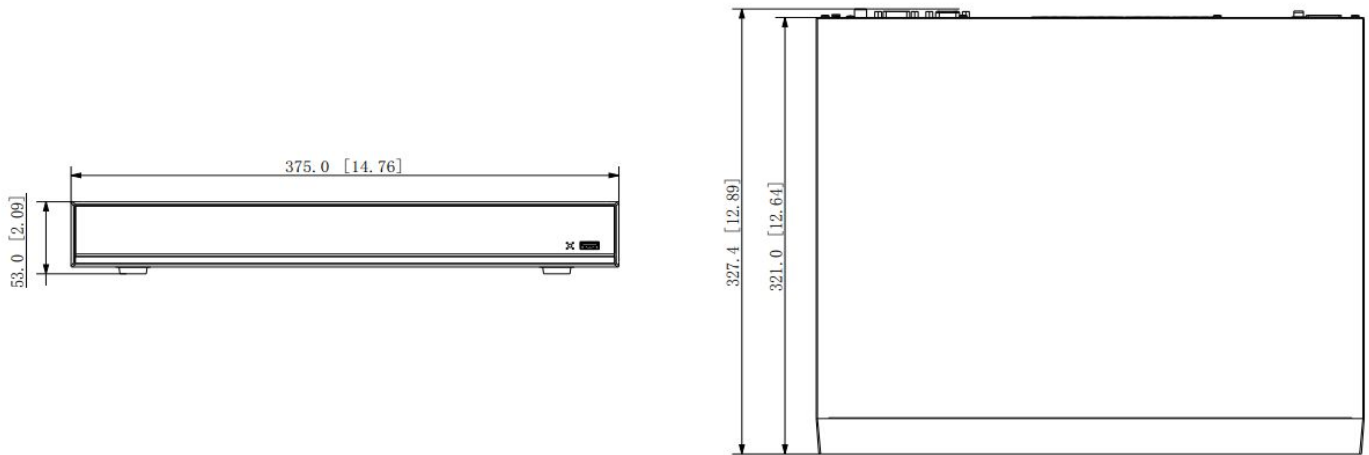
Intelligent Motion Detect (iMD)

Capabilities	Motion detection alarm with human and vehicle recognition. Filters misinformation such as leaves and light.
Performance	Up to 8 channels (AI by NVR)
AI Search	Search videos through channels, time and target types.

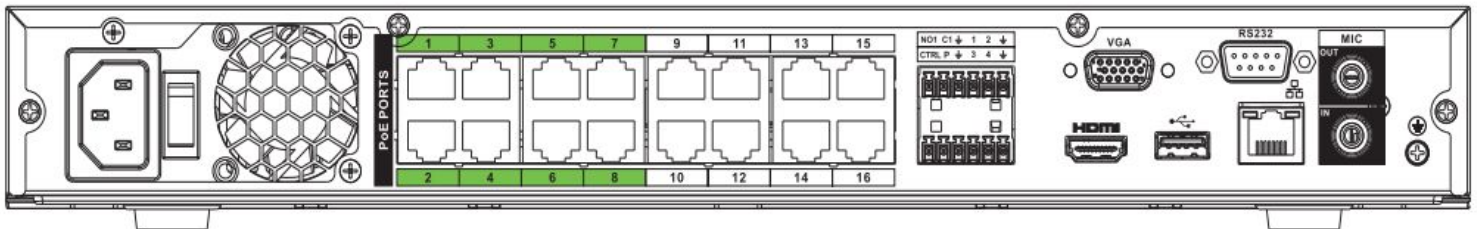
Face Recognition

Capabilities	Up to 12 face pictures/sec processing (modeling and comparing).
Performance	Up to 2 channels of human face recognition or 2 channels of face detection (AI by NVR)
Stranger Mode	Detects strangers' faces (not in device's face database). Similarity threshold can be set manually.
AI Search	Up to 8 target face images search at same time, similarity threshold can be set for each target face image.
Database Management	Up to 10 face databases with 20,000 face images in total. Name, gender, birthday, address, certificate type, certificate No., countries & regions and state can be added to each face image
Database Application	Each database can be applied to video channels independently

Dimensions (mm/in)



Panels



1. Power Input

2. Power Switch

3. PoE Ports *

4. Alarm In/ Out

5. VGA Port

5. HDMI Port

6. RS232 Port

7. USB Port

8. Network Port

9. Audio In/Out (2 Way Talk)

* Note: Built-in POE plug and play support is for IC Realtime cameras only. Third Party cameras are not recommended on the built-in POE