

# NVR-FX24POE-15U32MP1

24 Channel 1.5U PoE AI Network Video Recorder



- Smart H.265+/H.265/Smart H.264+/H.264/ MJPEG support
- Built-in 24 port PoE with **Bridge Mode** & ePOE support
- 384 Mbps Incoming Bandwidth
- Up to 32MP Resolution for Preview and Playback
- Supports up to 4K Display and dual HDMI output
- Object Search Support, **AI** by NVR
- 4 SATA III Ports, Up to 16TB capacity for each HDD

## System Overview

IC Realtime's newly updated NVR-FX24POE-15U32MP1 combines up to 4K output and H.265 encoding technology with high performance and flexibility. This 24 channel NVR from our Flex Lineup features a built-in 24 port PoE with **Bridge Mode** for maximum flexibility with A/V integration and third-party cameras. It is also Rack-Mountable, featuring an impressive 384 Mbps total bandwidth and paired with storage for up to 4 HDDs at 16TB each to handle the most demanding cameras up to 32MP.

This **AI** NVR sports onboard **AI** support and Object Search with Intelligent Motion Detect and Perimeter protection for Human/ Vehicle Recognition and Face Recognition/ Detection with on-board database as well ANPR, Heat Map and People Counting by camera.

## Functions

### Perimeter Protection by NVR

IC Realtime's Perimeter Protection features significantly improve detection accuracy. The benefits of Perimeter Protection include up to a 90% reduction in false alarms. The built-in **AI** allows this feature on cameras that lack the native support. Perimeter Protection options let you customize tripwires based on the object type and allow intelligent automation within a limited area of access such as pedestrian or vehicle-only zones. The combination of advanced **AI** analytics and real-time alerts maximizes efficiency & balance of the total systems capacity and resources resulting in greater surveillance system efficiency.

### Smart Fan Design

The smart fan can automatically turns on or turn off depending to the CPU temperature. This function can reduce the fan noise to provide a better user experience.

### 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 it's live or during playback.

### Intelligent Video System (IVS) by NVR

With built-in intelligent video analytics, the NVR has the ability to detect and analyze moving objects for improved video surveillance. The NVR supports optional standard intelligence allowing detection of multiple object behaviors such as abandoned or missing objects. IVS also supports Tripwire analytics, allowing the camera to detect when a predetermined line has been crossed, People Counting, ideal for business intelligence, and Facial Detection, for searching or identification of individuals.

## Technical Specification

### System

Main Processor	Multi-core embedded processor
Operating System	Embedded LINUX, ICR 4.0

### Video

Max IP Channels	24 Channel (up to 32MP)
Throughput	<b>All by Camera:</b> 384 Mbps incoming, 384 Mbps recording and 384 Mbps outgoing <b>Object Search/ All by NVR:</b> 200 Mbps incoming, 200 Mbps recording and 200 Mbps outgoing
Video Compression	Smart H.265+/H.265/Smart H.264+/H.264/MJPEG
Image Resolution	32 MP; 24 MP; 16 MP; 12 MP; 8 MP; 5 MP; 4 MP; 1080p; 720p; D1; CIF; QCIF
Bit Rate	16Kbps ~ 20Mbps Per Channel
Record Mode	Manual, Schedule (Regular, Motion Detection , Alarm, NVS), Stop
Record Interval	1 ~ 120 min (default: 60 min), Pre-record: 1 ~ 30 sec, Post-record: 10 ~ 300 sec

### Audio

Interface	1 Channel Input, 2 Channel Output, RCA
Two-way Talk	Supported
Audio Compression	G.711a; G.711u; PCM; G726

### Display

Interface	2-ports VGA, 2-ports HDMI video output Different video source output for HDMI1 and HDMI2, Simultaneous video source output for VGA1 and HDMI1, Simultaneous video source output for VGA2 and HDMI2
Resolution	HDMI: Up to 4K VGA: Up to 1080p
Display Decode	<b>All disabled:</b> 2-channel 32 MP@25 fps; 2-channel 24 MP@25 fps; 4-channel 16 MP@30 fps; 5-channel 12 MP@30 fps; 8-channel 8 MP@30 fps; 12-channel 5 MP@30 fps; 16-channel 4 MP@30 fps; 24-channel 1080p@30 fps <b>All enabled:</b> 1-channel 32 MP@25 fps; 1-channel 24MP@25 fps; 2-channel 16 MP@30 fps; 4-channel 12 MP@30 fps; 6-channel 8 MP@30 fps; 8-channel 5 MP@30 fps; 12-channel 4 MP@30 fps; 24-channel 1080p@30 fps
Display Split	Main Screen: 1/4/8/9/16/25 Sub Screen: 1/4/8/9/16
OSD	Camera title, Time, Video loss, Camera lock, Motion detection, Recording

### Playback & Backup

Multi-channel Playback	Up to 16 channels
Record Mode	General, motion detection; intelligent; alarm; POS
Playback Functions	Play, Pause, Stop, Rewind, Fast play, Slow Play, Next File, Previous File, Next Camera, Previous Camera, Full Screen, Backup Selection, Digital Zoom
Backup Mode	USB Device/Network

### Alarm

Alarm Input / Output	Input: 16 Channel Output: 6 channels (1-channel 12V, 1 A output)
General Alarm	Motion detection; privacy masking; local alarm
Anomaly Alarm	Camera offline; storage error; disk full; IP conflict; MAC conflict; login lock; abnormal behavior of fan; cybersecurity exception
Intelligent Alarm	Face detection; perimeter protection; face recognition; video metadata (human, motor vehicles, and non-motor vehicles); IMD; stereo analysis; crowd distribution; people counting; ANPR; vehicle density; heat map
Alarm Linkage	Record; snapshot (panoramic); local alarm output; IPC external alarm output; access controller; audio; buzzer; log, preset; email

### Network

Ethernet	1 RJ45 Port (10/100/1000Mbps)
PoE	24 ports, 10/100 Mbps, IEEE 802.3 af/at Total output power of PoE is 210W, Maximum output power of a single port is 25.5W
PoE Switch Bridge Mode	Supported
EPoE Support	1-8 ports support ePoE
Network Functions	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 ICR IP camera, DVR, NVS, etc.); iSCSI
Smart Phone	Android, iOS, iPhone
Interoperability	ONVIF 2.2/12(Profile T; Profile S; Profile G); CGI; SDK
Browser Compatibility	Chrome, IE 9 or later, Edge, Safari, Firefox

### Storage

Internal HDD	4 SATA III Ports, Up to 16 TB capacity for each HDD
eSATA	1 port
Disk Group	Supported
RAID	N/A

### Auxiliary Interface

USB	3 (1 front USB 2.0 ports, 2 rear USB 3.0 ports)
RS232	1 Port, for PC Communication and Keyboard
RS485	1 (half-duplex serial communication)

### General

Power Supply	AC100V ~ 240V, 50 ~ 60 Hz
Power Consumption	<13 W (without HDD)
Operating Humidity	10%~93% (RH)
Working Environment	+14°F ~ +131°F (-10°C ~ +55°C), 86 ~ 106kpa
Storage Conditions	-4°F ~ +140 °F (-20°C ~ +60°C)
Installation Type	Rack mountable
Dimensions (W×D×H)	1.5U, 17.32" × 16.36" × 2.99" (440.0 mm × 415.6 mm × 76.0 mm)
Weight	10.21 lb (4.63 kg) (without HDD)
Gross Weight	14.95 lb (6.78 kg) (without HDD)

### Certifications

Certifications	FCC: Part 15 Subpart B, UL Certified
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# AI Features

## AI Capabilities

AI by Recorder	IVS, Face detection, Face recognition, Perimeter Protection, and iMD
AI by Camera	Face detection; Face recognition; Video metadata (human, motor vehicles, and non-motor vehicles); Perimeter Protection; iMD2.0; ANPR; people counting; 3D analysis; Crowd Distribution; Heat map

## Perimeter Protection

Capabilities	Tripwire & intrusion; Recognition of human and vehicle
Performance (AI by Recorder)	4 channels, 10 IVS rules for each channel
Performance (AI by Camera)	All channels (32 targets/s)
AI Search	Search by target classification (Human, Vehicle)

## Intelligent Motion Detect (iMD)

Capabilities	Secondary filtering for human and motor vehicle , reducing false alarms caused by debris, weather, and lighting condition change
Performance (AI by Recorder)	8 channels
Performance (AI by Camera)	16 channels
AI Search	Search by target classification (Human, Vehicle)

## Face Detection

Capabilities	Gathers <b>Face attributes</b> : Gender; age group; glasses; expressions; face mask; beard
Performance (AI by Recorder)	2 channels (up to 12 face images/s each channel)
Performance (AI by Camera)	16 channels

## Face Recognition

Capabilities	Captures faces within camera images and compares them to an internal database. .
Performance (AI by Recorder)	1. 16-channel FD (by camera) + FR (by recorder), image stream: 16 face images/s 2. 2-channel FD (by recorder) + FR (by recorder), video stream: 12 face images/s
Performance (AI by Camera)	16 channels
Stranger Mode	Detect strangers' faces (not in device's face database). Similarity threshold can be set manually.
AI Search	Similarity threshold can be set for each target face image during search.
Database Management	Up to 20 face databases with 20,000 images, with a total capacity of 2.5 GB. Name, gender, birthday, address, credential type, credential No., countries & regions and state can be added to each face image.
Database Application	Each database can be applied to video channels independently

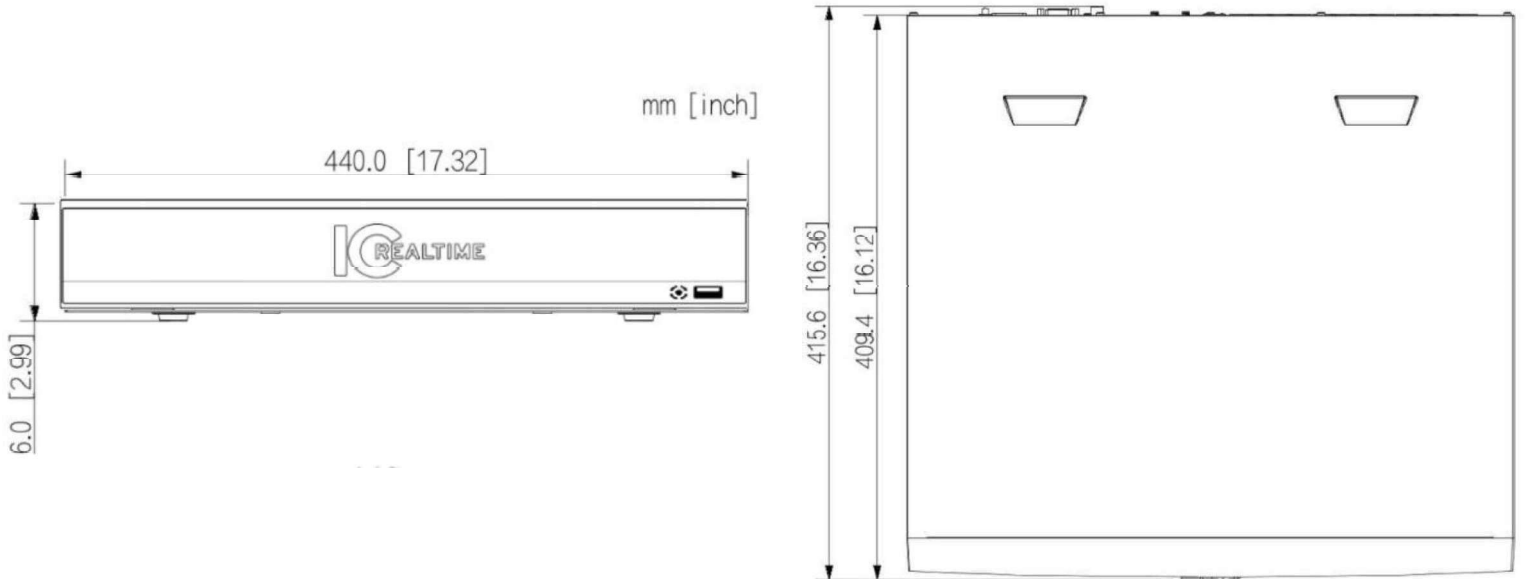
## Video Metadata

Capabilities	Gathers <b>Human attributes</b> : Top color, top type, bottom color, bottom type, hat, bag, age, gender and umbrella
	Gathers <b>Motor Vehicle attributes</b> : License plate, plate color, vehicle body, vehicle model, vehicle logo, calling, seatbelt, vehicle interior, vehicle registration location.
	Gathers <b>Non-Motor attributes</b> : Vehicle model, vehicle color, number of persons, helmet.
Performance (AI by Camera)	8 channels

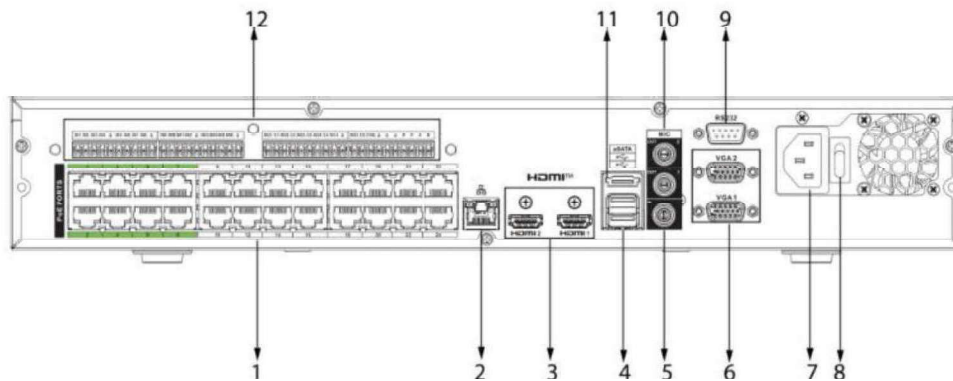
## Vehicle License Plate Comparison

Capabilities	Compares License Plates captured from motor Vehicles
Performance (AI by Camera)	All channels (32 targets/s)
Database Management	1. Store up to 20,000 plate numbers 2. Blocklist and allowlist configuration

**Dimensions (mm/in)**



**Panels**



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|-------------------------|---------------------------|
| 1 PoE Ports             | 2 Network Port            |
| 3 HDMI Ports            | 4 USB Ports               |
| 5 MIC IN, RCA Connector | 6 VGA Ports               |
| 7 Power Input           | 8 Power Switch            |
| 9 RS-232 Port           | 10 MIC OUT, RCA Connector |
| 11 eSATA Port           | 12 Alarm In/Out           |