OSIRIS

OS-NVR16F16P-5H2LE-4KI | 16 Channels 1U 16PoE 2HDD Network Video Recorder

- Smart H.265+/H.265/Smart H.264+/H.264/MJPEG decoding format.
- 32-channel 1080p self-adaptive decoding capability.
- Max. 384 Mbps incoming/recording/outgoing bandwidth.
- AI by recorder: 2-channel face detection and recognition, 4-channel perimeter protection, and 8-channel SMD Plus.
- AI by camera: Face detection and recognition, perimeter protection, SMD Plus, metadata, ANPR, and people counting.
- Security baseline 2.3.

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

System Overview

The NVR5000-EI series offers outstanding performance and high-grade recording technology that make it ideal for IP video surveillance applications. It has a powerful processor, that offers high access and forwarding bandwidth and strong decoding capabilities that together produce unimpeded streams. Thanks to its built-in AI chip and Osiris's advanced deep learning algorithms, the NVR supports a variety of AI functions, such as high-precision face recognition and perimeter protection. They 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 surveillance systems that work with Video Management Software (VMS).

Functions

Perimeter Protection
Automatically filtering out false alarms caused by animals, rustling leaves, bright lights, etc. Enables system to perform secondary recognition for the targets. Improving alarm accuracy.

Face Detection
Face detection is to detect if there is any human face appearing in the video. This technology adopts a deep learning algorithm to support face detection, tracking, optimization and capturing, and then output the best face snapshot.

Smart H.265+ & Smart H.264+
With advanced scene-adaptive rate control algorithm, Osiris smart encoding technology realizes the higher encoding efficiency than H.265 and H.264, provides high-quality video, and reduces the cost of storage and transmission.

Face Recognition
Osiris Face Recognition technology extracts the features of captured faces and compares them with those in face database to recognize the person identity.

Heat Map by Camera
Osiris 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, Osiris ANPR technology can recognize the number plate information of vehicles in the image with ANPR cameras. Support blocklist/allowlist mode, searching target vehicles from recorded video.

SMD Plus
With intelligent algorithm, Osiris 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.

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Technical Specifications

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; SMD Plus
AI by Camera	Face detection; face recognition; video metadata (human, motor vehicles, and non-motor vehicles); perimeter protection; SMD Plus; stereo analysis; crowd distribution; people counting; ANPR; vehicle density; heat map
Perimeter Protection	
Perimeter Performance AI by Recorder (Number of Channels)	4 channels, 10 IVS rules for each channel
Perimeter Performance of AI by Camera (Number of Channels)	16 channels
Face Detection	
Face Attributes	Gender; age group; glasses; expressions; face mask; beard
Face Detection Performance of AI by Recorder (Number of Channels)	2 channels (up to 12 face images/s each channel)
Face Detection Performance of AI by Camera (Number of Channels)	16 channels
Face Recognition	
Face Database Capacity	Up to 20 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)	1. 16-channel FD (by camera) + FR (by recorder), image stream: 16 face images/s 2. 2-channe FD (by recorder) + FR (by recorder), video stream: 12 face images/s
Face Recognition Performance of AI by Camera (Number of Channels)	16 channels
SMD Plus	
SMD Plus by Recorder	8 channels: Secondary filtering for human and motor vehicle , reducing false alarms caused by leaves, rain and lighting condition change
SMD Plus by Camera	16 channels

Video Metadata	
Metadata Performance of AI by Camera (Number of Channels)	8 channels
Human Attributes	Top color, top type, bottom color, bottom type, hat, bag, age, gender and umbrella
Motor Vehicle Attributes	License plate, plate color, vehicle body, vehicle model, vehicle logo, calling, seatbelt, vehicle interior, vehicle registration location
Non-motor Vehicle Attributes	Vehicle model, vehicle color, number of persons, helmet.
Vehicle License Plate Comparison	
ANPR by Camera (Number of Channels)	8 channels
License Plate Database Capacity	1. Create up to 20,000 plate numbers. 2. Blocklist and allowlist
Audio and Video	
Access Channel	16
Network Bandwidth	AI disabled: 384 Mbps incoming, 384 Mbps recording and 384 Mbps outgoing AI enabled: 200 Mbps incoming, 200 Mbps recording and 200 Mbps outgoing
Resolution	32 MP; 24 MP; 16 MP; 12 MP; 8 MP; 5 MP; 4 MP; 1080p; 720p; D1; CIF; QCIF
Decoding Capability	AI disabled: 2-channel 32 MP@20 fps; 2-channel 24 MP@20 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 AI enabled: 1-channel 32 MP@20 fps; 1-channel 24 MP@20 fps; 2-channel 16 MP@30 fps; 4-channel 12 MP@30 fps;4-channel 8 MP@30 fps; 8-channel 5 MP@30 fps; 12-channel 4 MP@30 fps
Video Output	1-channel VGA, 1-channel HDMI video output. Heterogeneous video source output for HDMI and VGA, Supports 4K display
Multi-screen Display	Main screen: 1/4/8/9/16 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
Audio Compression	G.711a; G.711u; PCM; G726

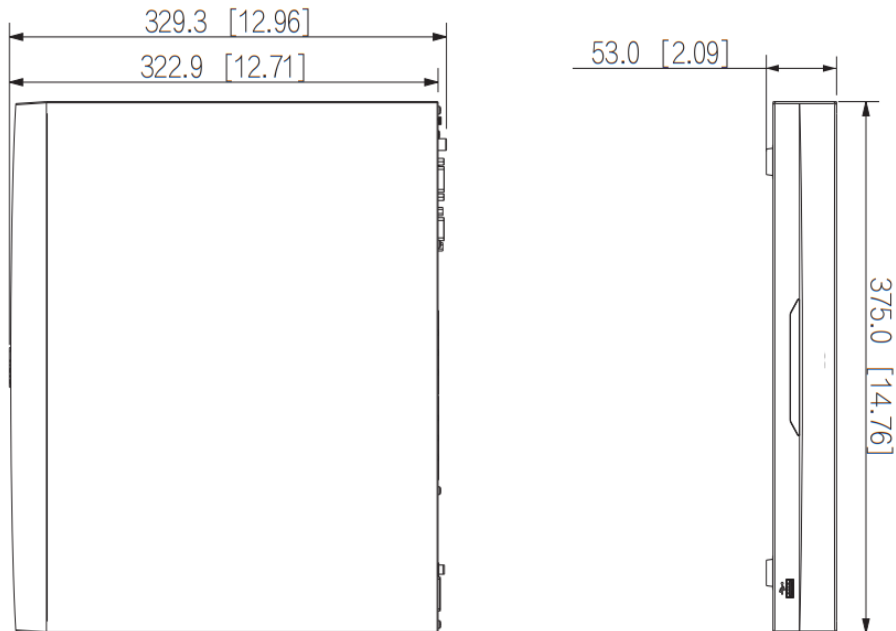## OS-NVR16F16P-5H2LE-4KI | 16 Channels 1U 16PoE 2HDD Network Video Recorder

Technical Specifications

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 Osiris IP camera, DVR, NVS, etc.); Multicast; P2P; Auto Registration
Mobile Phone Access	iOS; Android
Interoperability	ONVIF 21.12(Profile T; Profile S; Profile G); CGI; SDK
Browser	Chrome IE 9 or later Firefox

Recording Playback

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

Storage

Disk Group	Yes

Alarm

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); SMD Plus; 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

Port

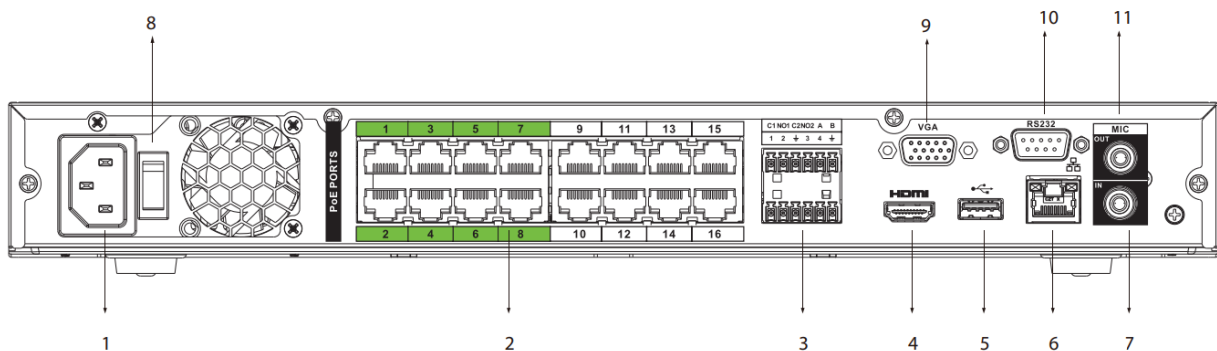|	
Audio Input	1-channel RCA
Audio Output	1-channel RCA
Alarm Input	4 channels
Alarm Output	2 channels
HDD Interface	2 SATA ports, up to 16 TB. The maximum HDD capacity varies with environment temperature.
RS-232	1
RS-485	1
USB	2 (1 front USB 2.0 port, 1 rear USB 3.0 port
HDMI	1
VGA	1
Network Port	1(10/100/1000 Mbps Ethernet port, RJ-45)
PoE Port	16 ports, 10/100 Mbps, IEEE 802.3 af/at, 1-8 ports ePoE

General

Power Supply	100–240 VAC, 47-63 Hz
Power Consumption	Total output of NVR is ≤ 10W (without HDD) Total output power of PoE is 130W, the maximum output power of a single port is 25.5W
Net Weight	2.66 kg (5.86 lb)
Gross Weight	3.82 kg (8.42 lb)
Product Dimensions	375.0 mm × 329.3 mm x 53.0mm (14.76″ × 12.96″ × 2.09″) (W × D × H)
Packaging Dimensions	449.0 mm × 170.0 mm × 421.0 mm (17.68″ × 6.69″ × 16.57″) (W × D × 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)
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

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Dimensions (mm/inch)

Panels

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		