

# 16 Channels Penta-brid 4K-N/5MP 2U 8HDDs Digital Video Recorder



- H.265+/H.265 dual-stream video compression.
- Supports 16-channel AI-Coding.
- Supports HDCVI/AHD/TVI/CVBS/IP video inputs.
- Max 32 channels IP camera inputs, each channel up to 12MP; Max 128 Mbps incoming bandwidth.
- Up to 8 channels video stream (analog channel) perimeter protection.
- Up to 16 channels video stream (analog channel) SMD plus.
- Up to 2 channels video stream (analog channel) human face recognition.
- IoT & POS functionalities.

## Technical Specification

### System

Main Processor	Industrial-grade processor
Operating System	Embedded Linux
Operating Interface	Web; Local GUI

### Perimeter Protection

Perimeter Performance AI by Recorder (Number of Channels)	Advanced Model: 2 channels, 10 IVS for each channel General Model: 8 channels, 10 IVS for each channel
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### Face Detection

Face Attributes	Gender; age group; glasses; expressions; face mask; beard
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### Face Detection Performance of AI by Recorder (Number of Channels)

2 channels (up to 12 face images/s)

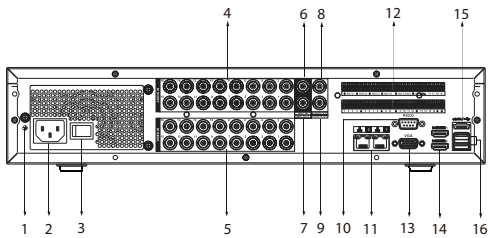
### Face Recognition

Face Database Capacity	Up to 10 face databases with 20,000 face images in total. Name, gender, birthday, address, certificate No., countries & regions and state can be added to each face image
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### Face Recognition Performance of AI by Recorder (Number of Channels)

2 channels

## Panels



- |                          |                            |
|--------------------------|----------------------------|
| 1 Ground                 | 2 Power Input              |
| 3 Power Switch           | 4 AUDIO IN, BNC Connector  |
| 5 VIDEO IN               | 6 MIC IN, BNC Connector    |
| 7 MIC OUT, BNC Connector | 8 AUDIO OUT, BNC Connector |
| 9 VIDEO OUT              | 10 RS-232 Port             |
| 11 Network Ports         | 12 Alarm In/Out            |
| 13 VGA Port              | 14 HDMI Ports              |
| 15 eSATA Port            | 16 USB Ports               |

## SMD Plus

### SMD Plus by Recorder

16 channels: Secondary filtering for human and motor vehicle SMD Plus, reducing false alarms caused by leaves, rain and lighting condition change

### Audio and Video

#### Analog Camera Input

16 BNC ports, supports HDCVI/AHD/TVI/CVBS auto-detect

#### Camera Input

1. CVI: 4K, 6 MP, 5 MP, 4 MP, 1080p@25/30 fps; 720p@50/60 fps; 720p@25/30 fps.
2. TVI: 4K, 5 MP, 4 MP, 3 MP, 1080p@25/30 fps; 720p@25/30 fps.
3. AHD: 4K, 5 MP, 4 MP, 3 MP, 1080p@25/30 fps; 720p@25/30 fps.

#### IP Camera Input

Up to 32 channels of IPC access  
16 IP channels by default + 16 channels (analog channels are converted to IP channels)  
incoming bandwidth: 128 Mbps, recording bandwidth: 128 Mbps and outgoing bandwidth: 128 Mbps  
\*After IP channels are added beyond the existing channels, the AI Function (IVS, SMD, FACE) will be disabled.

#### Encoding Capacity

Main stream:  
4K@(1fps-7fps); 6 MP@(1fps-10fps);  
5 MP@(1fps-12fps); 4K-N, 4 MP, 3 MP@(1fps-15fps);  
4M-N, 1080p, 720p, 960H, D1, CIF@(1fps-25/30fps);  
Sub stream: 960H@(1fps-15fps); D1/CIF@(1fps-25/30fps)

#### Dual-stream

Yes

#### Video Bit Rate

32 kbps-6144 kbps

#### Audio Sampling

8 kHz, 16 bit

#### Audio Bit Rate

64 kbps

#### Video Output

2 HDMI, 1 VGA, 1 TV  
Resolution  
VGA/HDMI2: 1920 × 1080, 1280 × 1024, 1280 × 720  
HDMI1: 3840 × 2160, 1920 × 1080, 1280 × 1024, 1280 × 720  
\*Heterogeneous video sources output for HDMI2 is configurable.

#### Multi-screen Display

When IP extension mode not enabled: 1/4/8/9/16  
When IP extension mode enabled: 1/4/8/9/16/25/36

#### Third-party Camera Access

ONVIF; Panasonic; Sony; Axis; Arecont; Pelco; Canon; Samsung

## Compression Standard

Video Compression	AI Coding; H.265+; H.265; H.264+; H.264
Audio Compression	G.711a; G.711u; PCM

## Network

Network Protocol	HTTP; HTTPS; TCP/IP; IPv4; RTSP; UDP; SMTP; NTP; DHCP; DNS; DDNS; P2P
Mobile Phone Access	iOS; Android
Interoperability	ONVIF 21.12; CGI
Browser	Chrome, IE9 or later, Firefox
Network Mode	Multi-address mode, Fault Tolerance, Load Balance

## Recording Playback

Record Mode	General, motion detection; intelligent; alarm; POS
Recording Playback	1/4/9/16
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
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## Alarm

General Alarm	Motion detection; video loss; tampering; local alarm
Anomaly Alarm	No disk; storage error; disk full; camera offline; IP conflict; MAC conflict
Intelligent Alarm	Face detection; face recognition; perimeter protection
Alarm Linkage	Record; snapshot (panoramic); IPC external alarm output; access controller; voice prompt; buzzer; log; preset; email

## Ports

TV Output	Yes
Audio Input	16-channel BNC (external) 16-channel BNC (coaxial audio)
Audio Output	1-channel BNC
Two-way Talk	1-channel BNC
Alarm Input	16 channels
Alarm Output	6 channels
HDD Interface	8 SATA ports, up to 16TB for a single HDD, the maximum HDD capacity varies with environment temperature
eSATA	1

RS-232	1 port, for PC Communication & Keyboard
RS-485	1 port, for PTZ control
USB	4 (2 front USB 2.0 ports, 2 rear USB 3.0 ports)
HDMI	2
VGA	1
Network Port	2 (10/100/1000 Mbps Ethernet port, RJ-45)

## General

Power Supply	100-240 VAC, 50/60 Hz
Power Consumption	<20 W
Net Weight	6.8 kg (14.99 lb)
Gross Weight	9.3 kg (20.50 lb)
Product Dimensions	2U, 439.9 mm × 463.0 mm × 94.9 mm (17.32" × 18.23" × 3.73") (W × D × H)
Packaging Dimensions	570.0 mm × 570.0 mm × 226.0 mm (22.44" × 22.44" × 8.90") (W × D × H)
Operating Temperature	-10 °C to +55 °C (14 °F to +131 °F)
Operating Humidity	10%–90% (RH)
Installation	Rack or desktop
Certifications	CE: CE-LVD: EN 60950-1/IEC 60950-1 CE-EMC: EN 61000-3-2, EN 61000-3-3, EN 55032, EN 50130, EN 55024 FCC: Part 15 Subpart B

## Dimensions (mm[inch])

