alhua
TECHNOLOGY

DH-XVR8216A-4KL-I
16 Channel Penta-brid 4K 1U Digital Video Recorder

AI series products adopt the most advanced AI technologies, including deep learning algorithms that primarily target people and vehicles, which provides higher flexibility and accuracy for end-users. This enables the Dahua AI series to offer various advanced applications such as Face Recognition, ANPR, Metadata, People Counting, traffic data statistics, etc.

The complete lineup of Dahua AI series includes network (PTZ) cameras, network video recorders, digital video recorders, servers, and platform management products. Beyond seeing the world, the power of AI allows devices to perceive the environment and understand the world in a better way.

System Overview

Dahua new XVR8000-4KL/4K-I series XVR delivers excellent performance and high recording quality that is ideally applicable to a wide range of industries ranging from retail to banking and real estate. Holding Dahua Technology's patented HDCVI signature technology, these new AI XVR products are featured with long distance transmission, seamless upgrading, and IoT into analog monitoring—all while maintaining perfect 4K resolution over coax.

With build-in deep learning module, XVR8000-4KL/4K-I series products adopt video image structuring technology based on deep learning algorithms, achieving high-precision human face recognition , perimeter protection,and metadata.By applying deep learning artificial intelligence, XVR8000-4KL/4K-I allows users to focus on what matters most, improves event response time and helps make video actionable.

With its extensive portfolio of front-end and back-end products with HDCVI technology, Dahua solutions can be easily integrated into self-contained systems to satisfy the needs of both system integrators and users.

Functions

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

Real Time Face Recognition
Video stream real time face recognition. Facial attributes analysis features including gender, age, expression, glasses, moustache, mouth mask. Identify people and also capture, record faces with metadata. Facial feature filtering while real time display, only show faces with target features.

· H.265+/H.265 dual-stream video compression
· Supports HDCVI/AHD/TVI/CVBS/IP video inputs
· Supports 64 channels of IPC access, each channel up to 12MP input;
  Max 256Mbps incoming bandwidth
· HDMI1 4K@60 fps output
· Supports AI by camera function
· Up to 16 channel perimeter protection
· Up to 6 channel video stream (analog channel max. supports 4
  channel) human face recognition
· Up to 4 channel metadata
· Up to 24 face pictures/sec processing
· Up to 20 face databases with 100,000 face images in total

| Face Recognition | Face Capture | Metadata | Image Search | Blacklist Alarm | False Alarm Filter |

Face Database Management
Configurable multiple face databases. Powerful face database management. Face database can be applied to video channels independently. Name, gender, birthday, nationality, address, ID information can be added to each face picture.

Common/Stranger Mode
Supports regular and stranger mode. In stranger mode, when XVR detects a strange face(not in device's face database), it can trigger alarm, buzzer, snapshot, record, etc. Similarity threshold can be set manually. This function is developed for important infrastructure sites for which access control is critical.

Metadata
Supports human body properties analytics, motor vehicle properties analytics, non-motor vehicle properties analytics, suitable to quickly find the corresponding target. The human body properties support top, top color, bottom, bottom color, hat, bag, gender, age, and umbrella. The motor vehicle properties support plate No., vehicle color, type, logo, plate color, ornament, calling, and seatbelt. The non-motor vehicle properties support type, vehicle color, people number, and helmet.

Smart Search
Supports seach by metadata of human face, human body, motor vehicle, and non-motor vehicle. Support uploading face pictures to XVR and compare them with recorded faces in XVR by similarity. Enable operators to quickly and easily search through multi channels and long duration, efficiently find out when and where a person of interest appeard.

Onvif

Technical Specification

System

Main Processor	Embedded Processor
Operating System	Embedded LINUX

Perimeter Protection

Performance	16 channel, 10 IVS rules for each channel
Object classification	Human/Vehicle secondary recognition for tripwire and intrusion
AI Search	Search by target classification (Human, Vehicle)

Face Recognition

Performance	Max 24 face pictures/sec processing (modeling and comparing)
	Up to 6 channel video stream (analog channel max. supports 4 channel) human face recognition
	Up to 16 channel picture stream human face recognition
Stranger Mode	Detect 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 20 face databases with 100,000 face images in total. Name, gender, birthday, nationality, address, ID information can be added to each face picture
Database Application	Each database can be applied to video channels independently
Trigger Events	Buzzer, Voice Prompts, Email, Snapshot, Recording, Alarm Out, PTZ Activation, etc

Metadata

Face	Gender, age, glasses, beard, mask.
Human Body	top, top color, bottom, bottom color, hat, bag, gender, age, and umbrella
Motor Vehicle	Plate No., vehicle color, type, logo, plate color, ornament, calling, and seatbelt
Non-motor Vehicle	type, vehicle color, people number, and helmet
AI Search	Support search target video by metadata

Video and Audio

Analog Camera Input	16 Channel, BNC
HDCVI Camera	4K, 6MP, 5MP, 4MP, 1080P@25/30 fps, 720P@50/60 fps, 720P@25/30 fps
AHD Camera	5MP, 4MP, 3MP, 1080P@25/30 fps, 720P@25/30fps
TVI Camera	5MP, 4MP, 3MP, 1080P@25/30 fps, 720P@25/30fps
CVBS Camera	PAL/NTSC
IP Camera Input	64 Channel, each channel up to 12MP
Audio In/Out	4/1, RCA
Two-way Talk	Mic in & reuse Audio out for Mic out, RCA

Recording

Compression	H.265+, H.265, H.264+, H.264
Resolution	4K, 6MP, 5MP, 4MP, 3MP, 1080P, 720P, 960H, D1, CIF
Record Rate	Main stream: 4K (1 fps–7 fps); 6MP (1 fps–10 fps); 5MP (1 fps–12 fps); 4MP/3MP (1 fps–15 fps); 4M-N/1080P/720P/960H/D1/CIF/QCIF (1 fps–25/30 fps) Sub steram: 960H (1 fps–15 fps); D1/CIF/QCIF (1 fps–25/30 fps)

Bit Rate	32 Kbps–6144 Kbps Per Channel
Record Mode	Manual, Schedule (General, Continuous), MD (Video detection: Motion Detection, Video Loss, Tampering), Alarm, Stop
Record Interval	1 min–60 min (default: 60 min), Pre-record: 1 sec –30 sec, Post-record: 10 sec–300 sec

Display

Interface	2 HDMI, 1 VGA
Resolution	HDMI 1: 3840 × 2160, 2560 × 1440, 1920 × 1080, 1280 × 1024, 1280 × 720 HDMI2/VGA: 1920 × 1080, 1280 × 1024, 1280 × 720
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
OSD	Camera title, Time, Video loss, Camera lock, Motion detection, Recording

Network

Interface	2 RJ-45 Ports (1000 M)
Network Function	HTTP, HTTPS, TCP/IP, IPv4/IPv6, Wi-Fi, 3G/4G, SNMP, UPnP, RTSP, UDP, SMTP, NTP, DHCP, DNS, IP Filter, PPPoE, DDNS, FTP, Alarm Server, P2P, IP Search (Supports Dahua IP camera, DVR, NVS, etc.)
Max. User Access	128 users
Smart Phone	iPhone, iPad, Android
Interoperability	ONVIF 16.12, CGI Conformant

Video Detection and Alarm

Trigger Events	Recording, PTZ, Tour, Video Push, Email, FTP, Snapshot, Buzzer and Screen Tips
Video Detection	Motion Detection, MD Zones: 396 (22 × 18), Video Loss,Tampering and Diagnosis
Alarm input	16
Relay Output	3

Playback and Backup

Playback	1/4/9/16
Search Mode	Time /Date, Alarm, MD and Exact Search (accurate to second)
Playback Function	Play, Pause, Stop, Rewind, Fast play, Slow Play, Next File, Previous File, Next Camera, Previous Camera, Full Screen, Repeat, Shuffle, Backup Selection, Digital Zoom
Backup Mode	USB Device/Network

Storage

Internal HDD	2 SATA Ports, up to 10 TB capacity for each disk
eSATA	N/A

Auxiliary Interface

USB	3 USB Ports (1 USB 2.0 , 2 USB 3.0)
RS232	1 port, For PC communication & Keyboard
RS485	1 Port, for PTZ Control

Electrical

Power Supply	DC 12V/5A
Power Consumption	<20W (Without HDD)

Construction

Dimensions	1U, 375 mm × 328 mm × 50 mm (14.8" × 12.9" × 2.0")
Net Weight	2.35 kg (5.2 lb) (without HDD)
Gross Weight	3.2 kg (7.05 lb)
Installation	Desktop installation

Environmental

Operating Conditions	-10°C to +55°C (+14°F to +131°F), 0%RH–90%RH
Storage Conditions	-20°C to +70°C (-4°F to +158°F) , 0%RH–90%RH

Third-party Support

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Third-party Support	Dahua, Arecont Vision, AXIS, Bosch, Brickcom, Canon, CP Plus, Dynacolor, Honeywell, Panasonic, Pelco, Samsung, Sanyo, Sony, Videotec, Vivotek, and more

Certifications

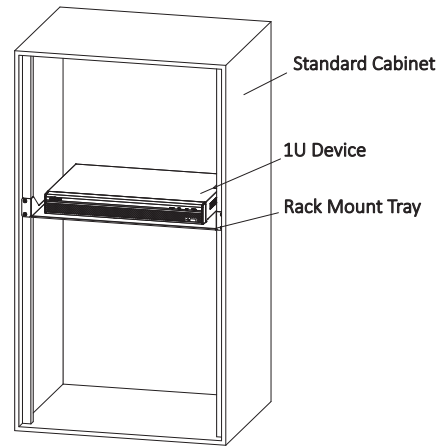|	
Certifications	FCC: Part 15 Subpart B
	CE: CE-LVD: EN 60950-1/IEC 60950-1 CE-EMC: EN 61000-3-2, EN 61000-3-3, EN 55032, EN 50130, EN 55024
	UL: UL 60950-1

Ordering Information

Type	Part Number	Description
16 Channel XVR	DH-XVR8216A-4KL-I	16 Channel Penta-brid 4K 1U Digital Video Recorder

Dimensions (mm)
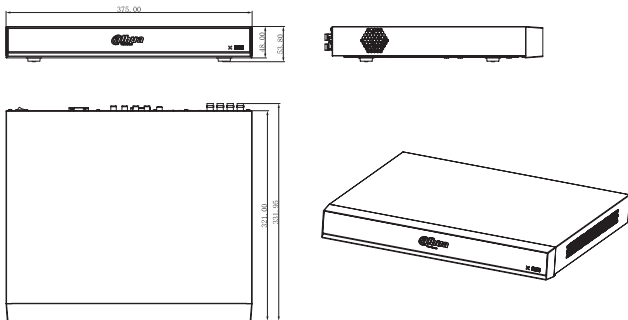
Installation on Rack Mount Tray

Standard Cabinet

1U Device

Rack Mount Tray

Rear Panel

DH-XVR8216A-4KL-I
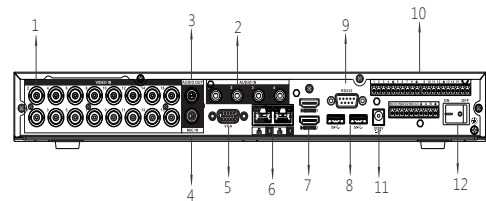
1	VIDEO IN	7	HDMI Interface
2	AUDIO IN, RCA Connector	8	USB Interface
3	AUDIO OUT, RCA Connector	9	RS232 Interface
4	MIC IN Interface	10	ALARM IN/OUT; RS485;
5	VGA Interface	11	Power Input
6	Network Interface	12	Power Switch