alhua TECHNOLOGY

DH-XVR7208/16A-4KL-I
8/16 Channel Penta-brid 4K 1U Digital Video Recorder

- H.265+/H.265 dual-stream video compression
- Supports HDCVI/AHD/TVI/CVBS/IP video inputs
- Supports 16/32 channels of IPC access, each channel up to 8MP input; Max 64/128Mbps Incoming Bandwidth
- IoT & POS functionalities
- Perimeter Protection and SMD Plus
- Up to 2 channels video stream(analog channel)human face recognition

System Overview

Dahua Technology, a world-leading video-centric smart IoT solution and service provider, debuted its new XVR series, XVR5000-I/XVR7000-4KL-I featuring full-channel SMD Plus to benefit customers from AI upgrade. The series are designated to reduce false-alarm rates and human surveillance costs, thus bringing great value to customers in search of products with accurate human/vehicle alarm to raise the security level of various indoor and outdoor facilities.

Renovated from the original SMD technology running on CPU, the new SMD Plus adopts independent AI smart chip loaded with new deep-learning algorithm, enabling the computing power improved by 10 times. As a result, SMD Plus can recognize moving objects and differentiate human and vehicles, so as to effectively avoid false alarms caused by tree branches, insects, shadows, wind or other environmental factors. Meanwhile, users are allowed to select people or vehicles for playback, thus greatly saved target search time.

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.

SMD Plus
SMD Plus, referred to as Smart Motion Detection Plus, which is an upgrading version of SMD that greatly improves the alarm accuracy by loading deep-learning algorithm. It analyzes person and vehicle shapes based on motion detection and send alarms only when person and vehicle intrudes.

Smart H.265+
Smart Codec, H.265+ can reduce up to 80% bit rate and storage requirements compared with H.264 without having to invest in new cameras.

HDCVI/AHD/TVI/CVBS Auto-detect
The XVR can auto recognize the signal of front-camera without any setting. It makes operation more friendly and convenient.

Coaxial Audio/Upgrade/Alarm
The integrated design can reduce wiring troubles which makes it much more cost-effective and convenient for installation.

Long Distance Transmission
The HDCVI system supports long distance transmission over coaxial cable and UTP, max. 700m for 4K/4MP, 800m for 1080P and 1200m for 720P.

IoT Functionality
HDCVI IoT can achieve multi-dimensional surveillance by integrating sensors with monitoring video, which not only can generate the report for analysis but also prevent risk in advance.

POS Functionality
This funcion includes POS ticket information overlay and search which can be widely used in retail programs.

Smart Fan Design
The smart fan can automatically turn on or turn off according to the CPU temperature. This function can effectively reduce the fan noise to provide a better user experience.

Spot Output
It is made for a secondary monitor. This allows the operator to view one special monitor that assigned to selected cameras or video inputs from higher security areas.

Smart Search
Extract and classify person and vehicles from massive video data, easy for end users to trace historical informaton and analyze. Person & Vehicle optional for playback to achieve quick target search, saving event retrieval tme.

Onvif

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.

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.

Technical Specification

System

Main Processor	Embedded Processor
Operating System	Embedded LINUX

Perimeter Protection

Perimeter protection	1.AI by DVR: Detection alarm for human and vehicle. Filter misinformation such as leaves and light. 2.Function configuration: Set at most 10 rules such as area intrusion and tripwire intrusion. 3.Performance: 2 channels
Live View	1. Rule box inspection: Configure the rule box and object inspection box. 2.Smart panel: Display object classification (human, vehicle), event types, triggering time, image matting and object types. Attribute is not supported. 3. Counting: Count people in Peopletotal. Count motor vehicles in Vehicle. Support exporting of associated event playback before and after 10 seconds.
Playback	1. Search conditions: According to channels, time, event types and target types. 2.Functions: Support search of associated event playback or snapshot before and after 10 seconds. 3. Snapshot capacity: 500,000

Face Recognition

Performance	1. UP to 12 face pictures/sec processing (modeling and comparing). 2. Up to 2 channels video stream (analog channel) human face recognition. 3. Up to 10 face databases with 10,000 face images in total. 4. Up to 300,000 face detection events in total. 5. Up to 300,000 face Recognition events in total.
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 10 face databases with 10,000 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.

SMD Plus
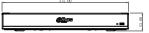
SMD Plus	1. AI by DVR: Motion detection alarm for human and vehicle. Filter misinformation such as leaves and light. 2. Performance: 8/16 channels , AI by DVR
Preview	Preview: Configure and inspect detection box
Playback	1.Playback: Search videos through channels, time and target types. 2.Functions: Support search of associated event playback before and after 10 seconds.

Video and Audio

Analog Camera Input	8/16 Channel, BNC
HDCVI Camera	4K, 6MP, 4MP, 1080P@25/30fps, 720P@50/60fps, 720P@25/30fps
AHD Camera	5MP, 4MP, 3MP, 1080P@25/30, 720P@25/30fps
TVI Camera	5MP, 4MP, 3MP, 1080P@25/30, 720P@25/30fps
CVBS Camera	PAL/NTSC
IP Camera Input	8+8/16+16 Channel, each channel up to 8MP
Audio In/Out	4/1, RCA
Two-way Talk	Reuse audio in/out, RCA

Recording

Compression	H.265+/H.265/H.264+/H.264
Resolution	4K, 6MP, 5MP, 4MP, 3MP, 4M-N, 1080P, 720P, 960H, D1, CIF, QCIF
Record Rate	Main stream: 4K(1fps–7fps); 6MP(1fps–10fps); 5MP(1fps–12fps); 4MP/3MP(1fps–15fps); 4M-N/1080P/720P/960H/D1/CIF/QCIF (1fps–25/30fps) Sub steram:960H(1fps–15fps); D1/CIF/QCIF(1fps–25/30fps)
Bit Rate	32Kbps–6144Kbps Per Channel
Record Mode	Manual, Schedule (General, Continuous), MD (Video detection: Motion Detection, Video Loss, Tampering), Alarm, Stop
Record Interval	1–60 min (default: 60 min), Pre-record: 1 sec–30 sec, Post-record: 10 sec–300 sec
Audio Compression	AAC(only for the 1st channel), G.711A, G.711U, PCM
Audio Sample Rate	8KHz, 16 bit Per Channel
Audio Bit Rate	64Kbps Per Channel

Display

Interface	1 HDMI, 1 VGA
Resolution	HDMI:3840×2160, 2560×1440, 1920×1080, 1280×1024, 1280×720 VGA: 1920×1080, 1280×1024, 1280×720
Multi-screen Display	When IP extension mode not enabled: 8CH: 1/4/8/9 16CH: 1/4/8/9/16 When IP extension mode enabled: 8CH: 1/4/8/9/16 16CH: 1/4/8/9/16/25
OSD	Camera title, Time, Video loss, Camera lock, Motion detection, Recording

Network

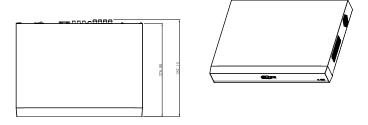|	
Interface	1 RJ-45 Port (1000M)
Network Function	HTTP, HTTPS, TCP/IP, IPv4/IPv6, UPnP, RTSP, UDP, SMTP, NTP, DHCP, DNS, IP Filter, PPPoE,DDNS, FTP, Alarm Server,P2P, IP Search (Support Dahua IP camera, DVR, NVS, etc.)

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	8/16
Relay Output	3

Playback and Backup

Playback	8CH: 1/4/9 16CH: 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 10TB capacity for each disk
eSATA	N/A

Auxiliary Interface

USB	2 USB Ports (1 USB 2.0 , 1 USB 3.0)
RS232	N/A
RS485	1 Port, for PTZ Control

Electrical

Power Supply	8CH: DC 12V/4A 16CH: DC 12V/5A
Power Consumption	8CH: <10W (Without HDD) 16CH: <15W (Without HDD)

Construction

Dimensions	1U, 375mm×287mm×53mm (14.8" x 11.3" x 2.1")
Net Weight	1.8kg (3.70 lb) (without HDD)
Gross Weight	3.2kg (7.05lb)
Installation	Desktop installation

Environmental

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

Third-party Support

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

Ordering Information

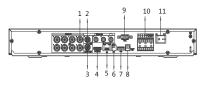| Type	Part Number	Description
8/16 Channel XVR	DH-XVR7208A-4KL-I	8 Channel Penta-brid 4K 1U Digital Video Recorder
	DH-XVR7216A-4KL-I	16 Channel Penta-brid 4K 1U Digital Video Recorder

Dimensions (mm)

Rear Panel

DH-XVR7208A-4KL-I

DH-XVR7216A-4KL-I

1	VIDEO IN	7	USB port
2	AUDIO IN, RCA Connector	8	DC 12V Power Input
3	AUDIO OUT, RCA Connector	9	VGA port
4	HDMI port	10	ALARM IN/OUT
5	Network port	11	Power Switch
6	RS485 port		

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