dahua TECHNOLOGY

DH-XVR5216AN-I3-16P
16CH Penta-brid 5MP Value/1080P 1U 2HDDs WizSense Digital Video Recorder

WizSense

Launched by Dahua Technology, WizSense is a series of AI products and solutions that adopt independent AI chip and deep learning algorithm. It focuses on human and vehicle with high accuracy, enabling users to fast act on defined targets. Based on Dahua's advanced technologies, WizSense provides intelligent, simple and inclusive products and solutions.

Series Overview

Dahua Technology, a world-leading video-centric smart IoT solution and service provider, debuted its new XVR series, XVR5000-I3 Series featuring max.full-channel SMD Plus to benefit customers from AI upgrade (The number of channels differs depending on the model. Please refer to the specifications below for information on the number of channels.). This series has been developed to reduce false-alarm rates and the cost of human surveillance, 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.

Functions

Face Recognition
Dahua Face Recognition technology extracts the features of captured faces and compares them with that in face database.
*Face Recognition takes effect when Face is selected in AI Mode.

Perimeter Protection
Automatically filters out false alarms caused by animals, rustling leaves, bright lights, etc. Enables system to act secondary recognition for the targets. Improves alarm accuracy.
*Perimeter Protection takes effect when IVS&SMD is selected in AI Mode.

- 16-channel SMD Plus for analog channels or 24-channel SMD by camera which allows the device to trigger accurate alarms for humans and vehicles.
- 4-channel perimeter protection for analog channels which supports tripwire and intrusion detection powered by AI.
- 2-channel face recognition for analog channels which supports face comparison.
- 16-channel AI Coding saves on storage and bandwidth while maintaining the details of targets in videos.
- Supports HDCVI, AHD, TVI, CVBS and IP video input.
- Supports up to 24-channel IP camera input and each channel can be up to 6 MP. The incoming bandwidth reaches 128 Mbps.
- Smart H.265+ and H.265 dual-stream video compression.
- IoT and POS capabilities.
- All the channels support PoC AT and PoC AF cameras, and the XVR auto recognizes PoC cameras that have different power consumption levels.

| Face Recognition | Perimeter Protection | SMD Plus | AI Coding-ABR | Irregular Black Block Masking | PoC Series |

SMD Plus
With intelligent algorithm, Dahua 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.
*SMD Plus takes effect when SMD or IVS&SMD is selected in AI Mode.

AI Coding-ABR
Compared with H.265, AI coding-ABR can save 50% on storage costs, and save bit rate for complex scenes, which can prioritize image quality in dynamic scenes.

Irregular Black Block Masking
Dahua's black block masking function supports the use of irregular shapes for masking, ensuring privacy in public and private locations.

PoC
By transmitting power over the same coaxial cable with video, HDCVI PoC technology further simplifies the deployment of HDCVI system, and therefore reduces installation time and labor costs. Balun could be connected for compatibility with UTP transmission when PoC function is disabled.

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 rules for each channel General Model: 4 channels, 10 IVS rules for each channel

Face Detection

Face Attributes	6 attributes
Face Detection Performance of AI by Recorder (Number of Channels)	2 channels (up to 12 face images/s each channel)

Face Recognition

Face Database Capacity	Up to 10 face databases with 10,000 images.
Face Recognition Performance of AI by Recorder (Number of Channels)	2 channels

SMD Plus

SMD Plus by Recorder	16 channels: Secondary filtering for human and motor vehicle, reducing false alarms caused by leaves, rain and lighting condition change
SMD Plus by Camera	24 channels

AI Video Quality Analytics

AI Video Quality Analytics by Recorder	16 channels: Supports detecting brightness levels, color cast, defocus, overexposure, contrast levels, black and white

Scene Changing

Scene Changing by Recorder	1 channel

Irregular Black Block Masking

Irregular Black Block Masking by Recorder	1 channel

Audio and Video

Analog Camera Input	16 BNC ports, supports HDCVI/AHD/TVI/CVBS auto-detect
Camera Input	1. CVI: 5 MP@25 fps; 5 MP@20 fps; 5 MP@10/12.5 fps; 4 MP@25/30 fps; 1080p@25/30 fps; 720p@50/60 fps; 720p@25/30fps. 2. TVI: 5 MP@20 fps; 4 MP@25/30 fps; 1080p@25/30 fps; 720p@25/30 fps. 3. AHD: 5 MP@20 fps; 4 MP@25/30 fps; 1080p@25/30 fps; 720p@25/30 fps.
IP Camera Input	Up to 24 channels of IPC access 8 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 extension is enabled, Video Quality Analytics, Scene Changing, Face Recognition, Face Detection, SMD, Perimeter Protection cannot be used.

Encoding Capacity	Main stream: 5 MP Mode: 4-ch 5 MP@(1 fps-6 fps); others 5M-N@(1 fps-12 fps) 5M-N Mode: 5M-N@(1 fps –12 fps); 4M-N/1080p@(1 fps–15 fps); 1080N/720p/960H/D1/CIF@(1 fps–25/30 fps) Sub stream: D1/CIF@(1 fps–15 fps)
Dual-stream	Yes
Video Bit Rate	32 kbps–6144 kbps
Audio Sampling	8 kHz, 16 bit
Audio Bit Rate	64 kbps
Video Output	1 HDMI, 1 VGA,1 TV HDMI: 3840 × 2160, 1920 × 1080, 1280 × 1024, 1280 × 720 VGA: 1920 × 1080, 1280 × 1024, 1280 × 720 It changes to 1920 × 1080, 1280 × 1024, 1280 × 720 when Face or IVS&SMD is selected in AI Mode.
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
Third-party Camera Access	Panasonic; Sony; Hanwha; Axis; Arecont; ONVIF

Compression Standard

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

Network

Network Protocol	HTTP; HTTPS; TCP/IP; IPv4; IPv6; RTSP; UDP; NTP; DHCP; DNS; SMTP; UPnP; IP Filter; FTP; DDNS; SNMP; Alarm Server; P2P; Auto Registration; IP Search (Supports IP camera, DVR, NVS, etc.)
Mobile Phone Access	iOS; Android
Interoperability	ONVIF 23.12 (Profile T; Profile S; Profile G); CGI; SDK
Browser	Chrome; IE; Safari; Edge; Firefox

Recording Playback

Record Mode	General; alarm; motion detection; intelligent; POS
Recording Playback	1/4/9/16 It changes to 1/4/9 split when Face or IVS&SMD is selected in AI Mode.
Backup Method	USB device and network
Playback Mode	Instant playback; general playback; event playback; tag playback; smart playback

Storage

Disk Group	Yes

Alarm

General Alarm	Motion detection; alarm box; HDCVI alarm; camera external alarm; network alarm; PIR alarm
Anomaly Alarm	Error (no disk, disk error, low space, low quota space; network disconnection; IP conflict; MAC conflict); video loss; video tampering; camera offline

Intelligent Alarm	Face detection; face recognition; perimeter protection; SMD Plus
Alarm Linkage	Record; snapshot (panoramic); IPC external alarm output; audio; buzzer; log; preset; email

Ports

TV Output	1 channel
Audio Input	1-channel RCA (external) 16-channel BNC (coaxial audio)
Audio Output	1-channel RCA
Two-way Talk	Yes (share the same audio input with the first channel)
Disk Interface	2 SATA ports. Each disk can contain up to 16 TB. This limit varies depending on the environment temperature.
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)

General

Power Supply	100–240 VAC, 50±2% Hz
Power Consumption	<15 W(without HDD)
Net Weight	1.80 kg (3.97 lb)
Gross Weight	4.13 kg (9.11 lb)
Product Dimensions	375.0 mm × 334.4 mm × 53.0 mm (14.76" × 13.17" × 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%–90% (RH), non-condensing
Installation	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

Ordering Information

Type	Model	Description
DIGITAL VIDEO RECORDER	DH-XVR5216AN-I3-16P	16CH Penta-brid 5MP Value/1080P 1U 2HDDs WizSense Digital Video Recorder

Accessories

Optional:

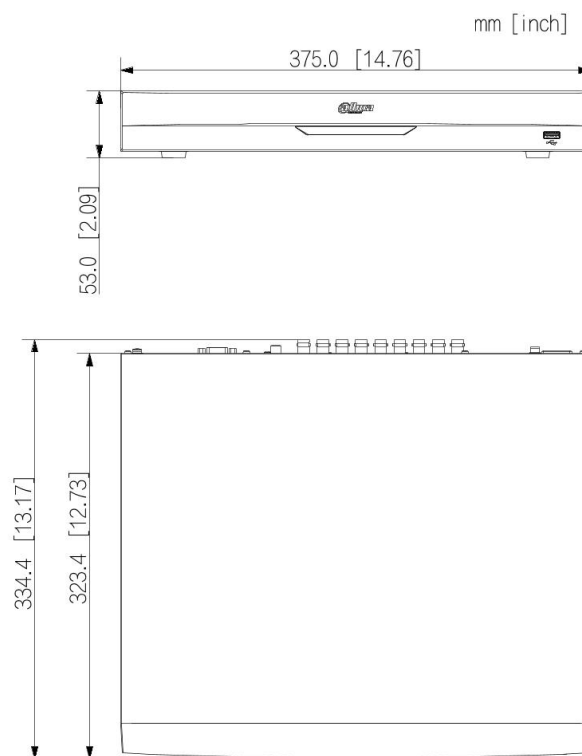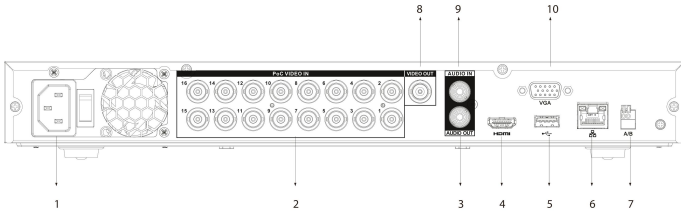DHI-SSD-V800S256G SSD

DHI-SSD-V800S512G SSD

DHI-SSD-V800S1TB SSD

DHI-ARB1606 Alarm Box

Dimensions (mm[inch])

mm [inch]

375.0 [14.76]

53.0 [2.09]

334.4 [13.17]

323.4 [12.73]

Panels

1	Power Input	2	VIDEO IN
3	AUDIO OUT, RCA Connector	4	HDMI Port
5	USB Port	6	Network Port
7	RS-485 Port	8	VIDEO OUT
9	AUDIO IN, RCA Connector	10	VGA Port