

# DH-XVR5116HS-I3

16 Channel Penta-brid 5M-N/1080P Compact 1U 1HDD 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

### Real Time Face Recognition

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

\*Face Recognition takes effect when Face is selected in AI Mode.

### 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.

\*Perimeter Protection takes effect when IVS&SMD is selected in AI Mode.

### 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.

- H.265+/H.265 dual-stream video compression
- Supports Full-channel AI Coding
- Supports HDCVI/AHD/TVI/CVBS/IP video inputs
- Max 24 channels IP camera inputs, each channel up to 6MP; Max 128 Mbps incoming bandwidth
- Up to 2 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



## AI Coding

Compared with H.265/H.264, AI coding can reduce more than 50% bit rate and storage requirements while have no loss of decoding compatibility, providing clear human and vehicle details.

## Smart H.265+

Smart Codec, H.265+ can reduce up to 90% 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.

## High Definition Camera Input

The XVR supports up to 5MP HDCVI camera and 6MP IP camera input.

## 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. 700 m for 4K/4MP, 800 m for 1080p and 1200 m for 720p.

## AI Search

Support AI search by metadata of different targets or uploading face pictures to device and comparing them with recorded faces 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 appeared.

## Technical Specification

### System

|                  |                    |
|------------------|--------------------|
| Main Processor   | Embedded processor |
| Operating System | Embedded Linux     |

### Perimeter Protection

|                                                           |            |
|-----------------------------------------------------------|------------|
| Perimeter Performance AI by Recorder (Number of Channels) | 2 channels |
|-----------------------------------------------------------|------------|

### Face Detection

|                                                                   |                                                                                                                                                |
|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Face Attributes                                                   | 6 attributes: Gender, age groups (6), glasses, expressions (8), face mask, beard, with up to four detection panels displayed at the same time. |
| Face Detection Performance of AI by Recorder (Number of Channels) | 2 channels, and a single channel can detect up to 12 faces.                                                                                    |

### Face Recognition

|                                                                     |                                              |
|---------------------------------------------------------------------|----------------------------------------------|
| Face Database Capacity                                              | Up to 10 face databases and 10,000 pictures. |
| Face Recognition Performance of AI by Recorder (Number of Channels) | 2 channels                                   |

### SMD Plus

|                      |                                                                                                                                                                              |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SMD Plus by Recorder | Full-channel SMD Plus (AI by recorder), 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 channels, BNC: adaptive access by default; HDCVI, AHD, TVI and CVBS access can be configured.                                                                                                                         |
| Camera Input         | 1. CVI: 5MP, 4MP, 1080p@25/30 fps, 720p@50/60 fps, 720p@25/30 fps.<br>2. TVI: 5MP, 4MP, 3MP, 1080p@25/30, 720p@25/30 fps.<br>3. AHD: 5MP, 4MP, 3MP, 1080p@25/30, 720p@25/30 fps.                                         |
| IP Camera Input      | 16+8 channels, each channel up to 6MP                                                                                                                                                                                    |
| Encoding Capacity    | All channel 5M-N (1 fps~10 fps); 4M-N/1080p (1 fps~15fps); 1080N/720p/960H/D1/CIF (1fps~25/30 fps)                                                                                                                       |
| Dual-stream          | Supported (D1/CIF (1 fps~15 fps)).                                                                                                                                                                                       |
| Video Frame Rate     | PAL: 1 fps~25 fps.<br>NTSC: 1 fps~30 fps.                                                                                                                                                                                |
| Video Bit Rate       | 32 Kbps~6144 Kbps Per Channel                                                                                                                                                                                            |
| Audio Sampling       | 8 KHz, 16 bit Per Channel                                                                                                                                                                                                |
| Audio Bit Rate       | 64 Kbps Per Channel                                                                                                                                                                                                      |
| Bit Rate Type        | Video stream and composite stream.                                                                                                                                                                                       |
| Video Output         | 1 HDMI ,1 VGA<br>VGA: 1920 × 1080, 1280 × 1024, 1280 × 720<br>HDMI: 3840 × 2160, 1920 × 1080, 1280 × 1024, 1280 × 720<br>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<br>When IP extension mode enabled: 1/4/8/9/16/25                                                                                                                          |

|                           |                                                                     |
|---------------------------|---------------------------------------------------------------------|
| Third-party Camera Access | Onvif, RTSP, 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 | iPhone, iPad, Android                                                   |
| Interoperability    | ONVIF 16.12, CGI Conformant                                             |
| Browser             | Chrome, IE9 or above, Firefox                                           |
| Network Mode        | Single-address mode                                                     |

### Recording Playback

|                    |                                                                                                                    |
|--------------------|--------------------------------------------------------------------------------------------------------------------|
| Record Mode        | Manual, Schedule (General, Continuous), MD (Video detection: Motion Detection, Video Loss, Tampering), Alarm, Stop |
| Recording Playback | 1/4/9/16<br>It changes to 1/4/9 split when Face or IVS&SMD is selected in AI Mode.                                 |
| Backup Method      | USB Device/Network                                                                                                 |
| Playback Mode      | Instant playback, general playback, event playback, tag playback, smart playback (face and motion detection)       |

### Alarm

|                   |                                                                                                                      |
|-------------------|----------------------------------------------------------------------------------------------------------------------|
| General Alarm     | Motion detection, Video Loss, tampering, and local alarm                                                             |
| Anomaly Alarm     | No disk, disk error, low space, 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

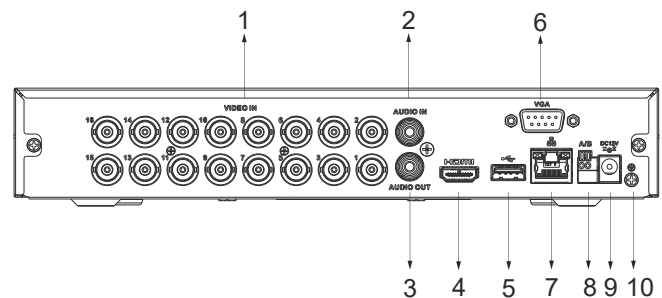
|               |                                                                                                        |
|---------------|--------------------------------------------------------------------------------------------------------|
| Audio Input   | 1, RCA (external)<br>16, BNC (coaxial)                                                                 |
| Audio Output  | 1, RCA                                                                                                 |
| Two-way Talk  | Yes (share the same audio input with the first channel)                                                |
| HDD Interface | 1 SATA Port, up to 16TB for a single HDD, the maximum HDD capacity varies with environment temperature |
| RS-485        | 1 Port, for PTZ Control                                                                                |
| USB           | 2 USB Ports (1 USB 2.0 , 1 USB 3.0)                                                                    |
| HDMI          | 1                                                                                                      |
| VGA           | 1                                                                                                      |
| Network Port  | 1 (10/100/1000 Mbps Ethernet port, RJ-45)                                                              |

### General

|                   |                 |
|-------------------|-----------------|
| Power Supply      | DC12V, 2A       |
| Power Consumption | Lower than 12 W |

|                       |                                                                                                                                  |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Net Weight            | 1.17 kg (2.58 lb)                                                                                                                |
| Gross Weight          | 1.57 kg (3.46 lb)                                                                                                                |
| Product Dimensions    | Compact 1U, 260.0 mm × 237.4 mm × 47.6 mm (W × D × H)<br>10.24" × 9.35" × 1.87" (W × D × H)                                      |
| Packaging Dimensions  | 333.0 mm × 89.0 mm × 315.0 mm (L × W × H)<br>13.11" × 3.50" × 12.40" (L × W × H)                                                 |
| Operating Temperature | -10 °C to +55 °C (+14 °F to +131 °F)                                                                                             |
| Operating Humidity    | 10%–90%                                                                                                                          |
| Installation          | Desktop                                                                                                                          |
| Certifications        | CE: CE-LVD: EN 60950-1/IEC 60950-1<br>CE-EMC: EN 61000-3-2, EN 61000-3-3, EN 55032, EN 50130, EN 55024<br>FCC: Part 15 Subpart B |

## Panels



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

## Ordering Information

| Type                        | Model           | Description                       |
|-----------------------------|-----------------|-----------------------------------|
| 16 Channels<br>WizSense XVR | DH-XVR5116HS-I3 | Compact 1U DIGITAL VIDEO RECORDER |

## Dimensions (mm[inch])

