# DH-XVR5116H-4KL-I2

16 Channel Penta-brid 4K-N/5MP Mini 1U 1HDD WizSense Digital Video Recorder

· H.265+/H.265 dual-stream video compression
· Supports HDCVI/AHD/TVI/CVBS/IP video inputs
· Max 32 channels IP camera inputs, each channel up to 8MP; Max 128 Mbps incoming bandwidth
· Perimeter Protection and SMD Plus
· Up to 2 channels video stream (analog channel ) human face recognition
· IoT & POS functionalities

| Face Recognition | Perimeter Protection | SMD Plus | AI Coding |
| --- | --- | --- | --- |
| H.265 | 4K HDMI | Coax Audio | 1200m Long Distance |

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, XVR5000-4KL-I2 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.

## Functions

### 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.
*The Face Recognition is conflicted with SMD Plus and Perimeter Protection.

### 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.

### AI Coding

Compared with H.265, AI codec can reduce up to 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 4K HDCVI camera and 8MP 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. 700m for 4K/4MP, 800m for 1080P and 1200m for 720P.

### AI Search

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

## Technical Specification

### System

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|---|---|
| Main Processor | Embedded Processor |
| Operating System | Embedded LINUX |

### Perimeter Protection

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| Performance | 2 channels, 10 IVS for each channel |
| Object classification | Human/Vehicle secondary recognition for tripwire and intrusion |
| AI Search | Search by target classification (Human, Vehicle) |

### Face Recognition

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|---|---|
| Performance | Max 12 face pictures/sec processing |
| | 2 channels video stream face recognition, only support analog camera |
| 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 20,000 face images in total. Name, gender, birthday, address, certificate type, cerificate No., countries&regions and state 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

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|---|---|
| Performance | 16 channels |
| AI Search | Search by target classification (Human, Vehicle) |

### Video and Audio

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

### Recording

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|---|---|
| Compression | AI Coding/H.265+/H.265/H.264+/H.264 |
| Resolution | 4K, 6MP, 5MP, 4K-N, 4MP, 3MP, 4M-N, 1080P, 720P, 960H, D1, CIF |
| Record Rate | Main stream: All channel 4K(1fps–7fps); 6MP(1fps–10fps); 5MP(1fps–12fps); 4K-N, 4MP/3MP(1fps–15fps); 4M-N/1080P/720P/960H/D1/CIF (1fps–25/30fps); Sub steram:960H(1fps–15fps); D1/CIF(1fps–25/30fps) |
| 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 – 60 min (default: 60 min), Pre-record: 1 s–30 s, Post-record: 10 s–300 s |
| Audio Compression | G.711A, G.711U, PCM |
| Audio Sample Rate | 8 KHz, 16 bit Per Channel |
| Audio Bit Rate | 64 Kbps Per Channel |

### Display

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|---|---|
| Interface | 1 HDMI ,1 VGA |
| Resolution | HDMI: 3840 × 2160, 1920 × 1080, 1280 × 1024, 1280 × 720<br>VGA: 1920 × 1080, 1280 × 1024, 1280 × 720 |
| Multi-screen Display | When IP extension mode not enabled: 1/4/8/9/16<br>When IP extension mode enabled: 1/4/8/9/16/25/36 |
| OSD | Camera title, Time, Video loss, Camera lock, Motion detection, Recording |

### Network

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|---|---|
| Interface | 1 RJ-45 Port (1000 MB) |
| 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

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|---|---|
| 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 | N/A |
| Relay Output | N/A |

### Playback and Backup

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|---|---|
| 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

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| Internal HDD | 1 SATA Port, up to 10TB capacity |
| eSATA | N/A |

### Auxiliary Interface

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

### Electrical

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| Power Supply | DC 12V/3A |
| Power Consumption (Without HDD) | <15W |

## Construction

### Dimensions

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|---|---|
| Dimensions | Mini 1U, 325 mm × 257 mm × 55 mm (12.80'' × 10.11'' × 2.17'') |
| Net Weight (without HDD) | 1.3 kg (2.9 lb) |
| Gross Weight | 2.1 kg (4.6 lb) |
| Installation | Desktop installation |

## Environmental

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| 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

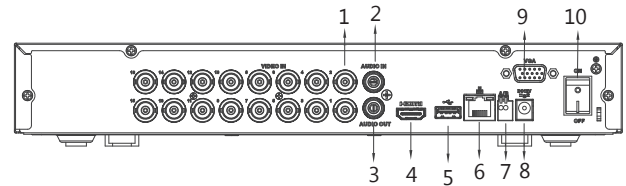| | |
|---|---|
| Third-party Support | Dahua, Arecont Vision, AXIS, Bosch, Brickcom, Canon, CP Plus, Dynacolor, Honeywell, Panasonic, Pelco, Samsung, Sanyo, Sony, Videotec, Vivotek, and more |

## Certifications

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|---|---|
| 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 |

## Panels



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

## Ordering Information

| Type | Model | Description |
|---|---|---|
| 16 Channel WizSense XVR | DH-XVR5116H-4KL-I2 | Mini 1U WizSense Digital Video Recorder |

## Dimensions (mm[inch])