

# DH-XVR5116H-4KL-I3/T

16CH Penta-brid 4K Value/5MP Mini 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

The XVR5000-4KL-I3/T series raises the bar on video recorders with its advanced high-resolution design, offering versatility to meet the demands of various applications and projects of different scales and budgets. Its strong compatibility with 5MP cameras ensures the delivery of clear and vivid live video feeds, making it highly recommended for use with 5MP cameras. Loaded with multiple AI functions, such as AcuPick, EPTZ and privacy protection, this series not only streamlines operations but also significantly reduces time and labor costs, contributing to a lower Total Cost of Ownership (TCO).

## Functions

### Two-way talk

Allows for seamless communication between the camera, client and recorder over coaxial cable, and offers instant voice intercom and timely audio alerts.

### Face Recognition

Dahua Face Recognition technology extracts the features of captured faces and compares them with that in face database. \*Face Recognition conflicts with SMD Plus and Perimeter Protection.

\* *Dolynk cloud version: DMSS 2.3.0 and above, Dolynk Care 2.53.00 and above.*

- 16-channel two-way talk over coaxial cable allows for seamless communication between the camera, client and recorder.
- 8-channel AcuPick for analog channels which improves the efficiency of target retrieval.
- 8-channel perimeter protection for analog channels which supports tripwire and intrusion detection powered by AI.
- 4-channel face recognition for analog channels which supports face comparison.
- 16-channel SMD Plus for analog channels or 32-channel SMD by camera which allows the device to trigger accurate alarms for humans and vehicles.
- 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 32-channel IP camera input and each channel can be up to 8 MP. The incoming bandwidth reaches 128 Mbps.
- Supports accessing Wi-Fi cameras, making it suitable for a wide range of scenes.
- Smart H.265+ and H.265 dual-stream video compression.



### 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.

### AcuPick

This industry-leading search technology effectively utilizes back-end intelligence to help with searching through massive video data to quickly and conveniently locate targets with greater precision.

### 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.

### Enhanced Encoding

Encoding Enhancement mode optimizes videos through real-time encoding to make them smoother and improve scene rendering.

## Technical Specification

### System

|                     |                            |
|---------------------|----------------------------|
| Main Processor      | Industrial-grade processor |
| Operating System    | Embedded Linux             |
| Operating Interface | Web; Local GUI             |

### AcuPick

|                                                |            |
|------------------------------------------------|------------|
| AcuPick AI by Recorder<br>(Number of Channels) | 8 channels |
|------------------------------------------------|------------|

### Perimeter Protection

|                                                                 |                                           |
|-----------------------------------------------------------------|-------------------------------------------|
| Perimeter Performance AI<br>by Recorder (Number of<br>Channels) | 8 channels, 10 IVS rules for each channel |
|-----------------------------------------------------------------|-------------------------------------------|

### Face Detection

|                                                                            |                                                  |
|----------------------------------------------------------------------------|--------------------------------------------------|
| Face Attributes                                                            | 6 attributes                                     |
| Face Detection<br>Performance of AI by<br>Recorder (Number of<br>Channels) | 4 channels (up to 12 face images/s each channel) |

### Privacy Protection

|                                                                                |           |
|--------------------------------------------------------------------------------|-----------|
| Privacy Protection<br>Performance of AI by<br>Recorder (Number of<br>Channels) | 1 channel |
|--------------------------------------------------------------------------------|-----------|

### Face Recognition

|                                                                              |                                             |
|------------------------------------------------------------------------------|---------------------------------------------|
| Face Database Capacity                                                       | Up to 10 face databases with 20,000 images. |
| Face Recognition<br>Performance of AI by<br>Recorder (Number of<br>Channels) | 4 channels                                  |

### SMD

|                      |                                                                                                                                    |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------|
| SMD Plus by Recorder | 16 channels: Secondary filtering for human and vehicle, reducing false alarms caused by leaves, rain and lighting condition change |
| SMD by Camera        | 32 channels                                                                                                                        |

### AI Video Quality Analytics

|                                           |                                                                                                                         |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| AI Video Quality Analytics<br>by Recorder | 16 channels: Supports detecting brightness levels, color cast, defocus, overexposure, contrast levels, black and white. |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|

### Scene Changing

|                               |           |
|-------------------------------|-----------|
| Scene Changing by<br>Recorder | 1 channel |
|-------------------------------|-----------|

### Irregular Black Block Masking

|                                              |           |
|----------------------------------------------|-----------|
| Irregular Black Block<br>Masking by Recorder | 1 channel |
|----------------------------------------------|-----------|

### EPTZ

|                  |           |
|------------------|-----------|
| EPTZ by Recorder | 1 channel |
|------------------|-----------|

### Audio and Video

|                     |                                                       |
|---------------------|-------------------------------------------------------|
| Analog Camera Input | 16 BNC ports, supports HDCVI/AHD/TVI/CVBS auto-detect |
|---------------------|-------------------------------------------------------|

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Camera Input              | 1. CVI: 4K@25/30 fps; 4K@12.5/15 fps; 6 MP@20 fps; 5 MP@25 fps; 5 MP@20 fps; 4 MP@25/30 fps; 1080p@25/30 fps; 720p@25/30 fps; 720p@50/60 fps.<br>2. TVI: 4K@15 fps; 5 MP(2560 x 1944)@20 fps; 5 MP(2960 x 1665)@20 fps; 4 MP@25/30 fps; 3 MP@25/30 fps; 1080p@25/30 fps; 720p@25/30 fps.<br>3. AHD: 4K@15 fps; 5 MP@20 fps; 4 MP@25/30 fps; 3 MP@25/30 fps; 1080p@25/30 fps; 720p@25/30 fps.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| IP Camera Input           | Up to 32 channels of IPC access<br>16 IP channels by default + 16 channels (analog channels are converted to IP channels)<br>Incoming bandwidth: 128 Mbps, recording bandwidth: 128 Mbps and outgoing bandwidth: 128 Mbps<br>*After IP extension is enabled, EPTZ, Video Quality Analytics, Scene Changing, Face Recognition, Face Detection, Perimeter Protection, AcuPick and Privacy Protection cannot be used.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Encoding Capacity         | Encode Enhancement disabled:<br>Main stream:<br>the 1st, 9th channel 4K@(1 fps~15 fps), others 4K@(1 fps~7 fps);<br>the 1st, 9th channel 6 MP@(1 fps~20 fps), others 6 MP@(1 fps~10 fps);<br>the 1st, 9th channel 5 MP@(1 fps~25 fps), others 5 MP@(1 fps~12 fps);<br>the 1st, 9th channel 4 MP/3 MP@(1 fps~25/30 fps), 4 MP/3 MP@(1 fps~15 fps);<br>4K@(1 fps~8 fps); 4K-N/5 MP@(1 fps-15 fps);4M-N/1080p/720p/960H/D1/CIF@(1 fps~25/30 fps)<br>Sub stream:<br>960H@(1 fps~15 fps); D1/CIF@(1 fps~25/30 fps)<br>Encode Enhancement enabled:<br>Main stream:<br>the 1st, 5th, 9th, 13th channel 4K@(1 fps~15 fps), others 4K@(1 fps~7 fps);<br>the 1st, 5th, 9th, 13th channel 6 MP@(1 fps~20 fps), others 6 MP@(1 fps~10 fps);<br>the 1st, 5th, 9th, 13th channel 5 MP@(1 fps~25 fps), others 5 MP@(1 fps~12 fps);<br>the 1st, 5th, 9th, 13th channel 4 MP/3 MP@(1 fps~25/30 fps), 4 MP/3 MP@(1 fps~15 fps);<br>4K/6 MP@(1 fps~10 fps); 4K-N/5 MP@(1 fps-15 fps); 1080p/720p/960H/D1/CIF@(1 fps~25/30 fps)<br>Sub stream:<br>960H@(1 fps~15 fps); D1/CIF@(1 fps~25/30 fps)<br>*When Encode Enhancement is enabled, EPTZ, Video Quality Analytics, Scene Changing, Face Recognition, Face Detection, Perimeter Protection, AcuPick and Privacy Protection cannot be used. |
| 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<br>HDMI: 3840 × 2160, 1920 × 1080, 1280 × 1024, 1280 × 720<br>VGA: 1920 × 1080, 1280 × 1024, 1280 × 720<br>*Simultaneous/heterogeneous video sources output for VGA and HDMI is configurable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 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                                                                                                                                                                      |
| <b>Network</b>      |                                                                                                                                                                                          |
| 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 25.06 (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                                                                         |
| Backup Method      | USB device and network                                                           |
| Playback Mode      | Instant playback; general playback; event playback; tag playback; smart playback |

## 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

|                |                                                                                                                                 |
|----------------|---------------------------------------------------------------------------------------------------------------------------------|
| Audio Input    | 1-channel RCA<br>16-channel BNC (Coaxial Audio)                                                                                 |
| Audio Output   | 1-channel RCA                                                                                                                   |
| Two-way Talk   | Coaxial two-way talk: 16-channel BNC<br>Local and network user two-way talk: Shares the same audio input with the first channel |
| Disk Interface | 1 SATA port, 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         | 12 VDC, 3 A                                                          |
| Power Consumption    | < 15 W (without HDD)                                                 |
| Net Weight           | 1.39 kg (3.06 lb)                                                    |
| Gross Weight         | 2.06 kg (4.54 lb)                                                    |
| Product Dimensions   | 325.0 mm × 257.1 mm × 55.0 mm (12.80" × 10.12" × 2.17") (W × D × H)  |
| Packaging Dimensions | 374.0 mm × 119.0 mm × 311.0 mm (14.72" × 4.68" × 12.24") (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-LVD: IEC 62368-1:2014<br>CE-EMC: EN IEC 61000-3-2:2019, EN 61000-3-3:2013+A1:2019, EN 55032:2015+A11:2020, EN 55035:2017+A11:2020, EN 55024:2010+A1:2015, EN 50130-4:2011+A1:2014 |

## Ordering Information

| Type                   | Model                | Description                                                               |
|------------------------|----------------------|---------------------------------------------------------------------------|
| DIGITAL VIDEO RECORDER | DH-XVR5116H-4KL-I3/T | 16CH Penta-brid 4K Value/5MP Mini 1U 1HDD WizSense Digital Video Recorder |
| Accessories (Optional) | DH-NC300             | 802.11AX 300M WIRELESS ADAPTER                                            |
|                        | DH-NC650             | 802.11AC 650M WIRELESS ADAPTER                                            |
|                        | DHI-ARB1606          | Alarm Box                                                                 |

## Accessories

Optional:



DH-NC300  
802.11AX 300M  
WIRELESS ADAPTER

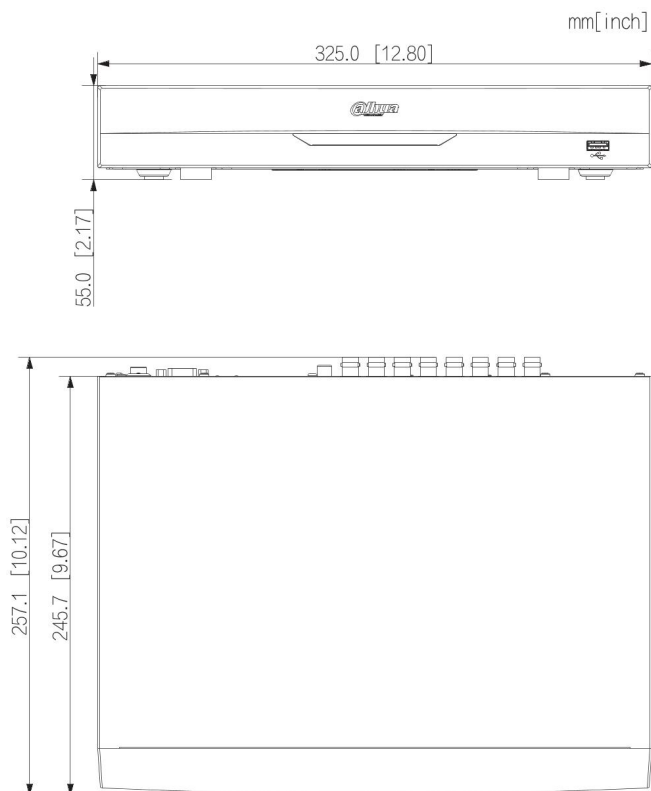


DH-NC650  
802.11AC 650M  
WIRELESS ADAPTER

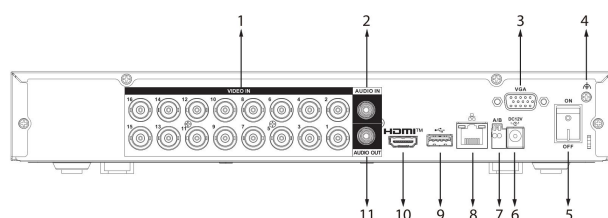


DHI-ARB1606  
Alarm Box

## Dimensions (mm[inch])



## Panels



- |                             |                           |
|-----------------------------|---------------------------|
| 1 VIDEO IN                  | 2 AUDIO IN, RCA Connector |
| 3 VGA Port                  | 4 Ground                  |
| 5 Power Switch              | 6 Power Input             |
| 7 RS-485 Port               | 8 Network Port            |
| 9 USB Port                  | 10 HDMI Port              |
| 11 AUDIO OUT, RCA Connector |                           |