

DHI-IVD5148-2I

48CH 1U INTELLIGENT VIDEO DEVICE



WizMind

Launched by Dahua Technology, Dahua WizMind is a full portfolio of solutions composed of project-oriented products including IPC, IVSS, NVR, PTZ, XVR, Thermal and software platform which adopts industry-leading deep learning algorithms. Focusing on customer's requirements, WizMind provides precise, reliable and comprehensive AI solutions for verticals.

Series Overview

Dahua IVD is an AI edge computing device that combines traditional video management with intelligent video analytics. It provides real-time AI monitoring and high-speed data processing on site, to produce an automatic monitoring system that detects hazards and extracts useful information. With its built-in deep learning module, this series offers high-precision AI functions including human face recognition, perimeter protection and video metadata. Other industrial algorithms allow IVD to be widely applicable to various industries, such as banking and retail, and for use in different scenes, such as factories. IVD is compatible with numerous third-party devices, making it the perfect solution for upgrading traditional CCTV systems in the most cost-effective way.

Functions

Face Recognition

Supports recording faces with incredible accuracy through metadata and real-time cross-check to recognize faces with target features. With Regular and Stranger face modes, the device triggers a wide variety of alarm actions to suit different situations.

AI IVS

With deep learning algorithms, AI IVS technology can recognize humans and vehicles accurately. In restricted areas (such as pedestrian and vehicle areas), there is a great reduction in the generation of false alarms of intelligent detection based on target type (such as tripwire, intrusion, parking detection, loitering detection, crowd gathering estimation and more).

- 64-bit High-performance multi-core processor
- Max 48-ch IP camera inputs
- Max 256 Mbps incoming/recording/outgoing bandwidth
- Up to 32-channel AI IVS
- Up to 32-channel face recognition with normal IPC
- Up to 32-channel face recognition with face detection IPC
- Up to 32-channel video metadata
- Up to 100 face databases with 500,000 face pictures in total
- Up to 32-channel AcuPick with normal IPC
- 1 SATA bay, Max.20 TB
- 2 HDMI/1 VGA video output



Video Metadata

Metadata is the information on the features and attributes that is extracted from target objects which can be used for data retrieval. Currently, there are 4 main kinds of metadata in the security industry: Human face, human body, and motor vehicle and non-motor vehicle metadata.

AI Search

Supports search by metadata of humans and vehicles. Face images can be uploaded to the device and compared with recorded faces in the device by their similarities. The device enables operators to quickly and easily search for data stored for a long time through multiple channels, to quickly identify when and where a person of interest appeared.

ANPR

Automatic Number Plate Recognition is available for convenient entrance and exit management. This feature provides license plate recognition (working with Dahua ITC cameras), license plate comparison with blocklist and allowlist, vehicle database management, and vehicle records search.

AcuPick

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

Technical Specification

System

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|---------------------|--|
| Main Processor | 64-bit high-performance multi-core processor |
| Operating System | Embedded Linux OS |
| Operating Interface | Web (PCAPP); local GUI |

AI Applications

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| AI by Camera | Face detection; face recognition; video metadata (human; vehicle; non-motor vehicle); IVS; license plate comparison; tripwire people counting; regional people counting; abnormal number of people in queue; smoking detection; call detection; face & body detection |
| AI by Recorder | Face detection; face recognition; video metadata (human; vehicle; non-motor vehicle); IVS |
| AcuPick | 1. AI by Recorder: Supports 32-channel 2 MP or 32-channel 4 MP resolution. 2. AI by Camera: Supports 32-channel 2 MP or 32-channel 4 MP resolution |

Face Detection

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| Face Detection | 1. AI by Recorder: Supports 16-channel 2 MP or 16-channel 4 MP resolution 2. AI by Camera: Supports 32-channel 2 MP or 32-channel 4 MP resolution 3. Supports 6 properties: Gender, age, glasses, expression, face mask, and beard |
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Search by Image

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| Search by Image | Search by image in the face database, search by face or human body images, and 1:1 face recognition. |
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Face Recognition

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| Face Database Capacity | 1. 100 human face databases with 500,000 face pictures in total 2. 5 passerby databases with 500,000 face pictures in total The human face database and the passerby database share the total capacity and number of face images. |
| Face Recognition | 1. AI by Recorder: Supports 32-channel 2 MP or 32-channel 4 MP resolution with normal IP camera; 32-channel with face detection IP camera (Totally 32 face pictures analyzed per second) 2. AI by Camera: supports 32-channel 2 MP or 32-channel 4 MP resolution 3. Supports entries frequency alarm |

Vehicle License Plate Comparison

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| License Plate Database Capacity | 1. 50 plate databases with 300,000 plate numbers in total 2. Supports allowlist and blocklist |
| Vehicle License Plate Comparison | Supports 32-channel 2 MP or 32-channel 4 MP resolution with ITC |

Video Metadata

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| Video Metadata | 1. AI by Recorder: Supports 32-channel 2 MP or 32-channel 4 MP resolution 2. AI by Camera: Supports 32-channel 2 MP or 32-channel 4 MP resolution 3. Object type: Human body: Gender, age, sleeves length, top color, bottom type, bottom color, bag, rain coat, umbrella, hat, hairstyle, direction, hold a baby, face mask Vehicle: Vehicle type, vehicle color, plate |
|----------------|---|

color, logo, calling, seatbelt, ornament
Non-motorized Vehicle: Non-motor vehicle type, non-motor vehicle color, number of passengers, umbrella, rain coat, bag, sleeve, length, top color, hat, hair style, face mask
4. Supports match or mismatch attributes alarm for video metadata

IVS Analytics

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| IVS | 1. AI by Recorder: Supports 32-channel 2 MP or 32-channel 4 MP resolution 2. AI by Camera: Supports 32-channel 2 MP or 32-channel 4 MP resolution 3. Rules: AI by Recorder: tripwire, intrusion, crowd gathering, loitering detection and parking detection AI by Camera: tripwire, intrusion, abandoned object, missing object, fast moving, crowd gathering, loitering, parking, and fence-crossing |
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Video Diagnosis

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| Video Diagnosis | 1. Supports 1-channel tour detection 2. Supports 12 detection items: Video tampering, scene changing, video jitter, noise detection, stripe interference, video loss, image freeze, overexposure, defocus detection, video color cast, abrupt image change and low contrast |
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Audio and Video

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| Access Channel | 48-channel |
| Network Bandwidth | Incoming bandwidth: 256 Mbps Recording bandwidth: 256 Mbps Outgoing bandwidth: 256 Mbps |
| Resolution | 32 MP;24 MP;16 MP;12 MP;8 MP;6 MP;5 MP;4 MP;3 MP;1080p;720p |
| Decoding Capability | 1-channel 32 MP; 1-channel 24 MP; 2-channel 16 MP; 4-channel 8 MP@30 fps; 5-channel 6 MP@30 fps; 6-channel 5 MP@30 fps; 8-channel 4 MP@30 fps; 16-channel 1080p@30 fps; 36-channel 720p@30 fps |
| Video Output | 1-channel VGA output, 2-channel HDMI output, VGA 1/HDMI 1 outputs the same video source. |
| Multi-screen Display | Max. 16-channel local live view Max. 16-channel PCAPP live view |
| Third-party Camera Access | ONVIF, RTSP, Sony, Panasonic, Axis, Arecont, Pelco, Canon, Samsung |

Compression Standard

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| Video Compression | Smart H.265+;H.265;Smart H.264+;H.264 |
| Audio Compression | G.711a;G.711u;PCM;G.726 |

Network

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| Network Protocol | HTTP;HTTPS;TCP/IP;IPv4;RTSP;UDP;SMTP;NTP;DHCP;DNS;DDNS;P2P;IPv6;UPnP;SNMP |
| Mobile Phone Access | DMSS |
| Interoperability | ONVIF (Profile S, T and G); CGI; SDK |
| Browser | Chrome; PCAPP; IE9 or higher; Firefox |
| Network Mode | Multiple-address mode;Load balance;Fault-tolerance;Link aggregation |

Recording Playback

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| Multi-channel Playback | Max. 16-channel playback |
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| Record Mode | Search auto; manual; video detection; IO alarm; thermal imaging; intelligent event; all record file |
| Storage Method | Internal HDD |
| Backup Method | HDD, peripheral USB storage device |
| Playback Function | 1. Play; Pause; Stop; Fast forward; Fast backward; Reverse play; Frame by frame; 2. Full-screen; Backup (clip and file); Snapshot; Digital zoom; Audio on and off |
| Storage | |
| Record Management | Supports record control (continuous, event-based, scheduled, scheduled & event-based) |

Alarm

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| General Alarm | Motion detection; tampering; IPC external alarm; heat alarm; temperature alarm; temperature difference alarm; hot spot alarm; cold spot alarm |
| Anomaly Alarm | IPC offline alarm; storage error; HDD full; IP conflict; MAC conflict; login lock; AI module temperature alarm; AI module offline; fan malfunction; no HDD; network security exception; power exception |
| Alarm Linkage | Record; snapshot (full image); alarm uploading; remote device alarm output; camera audio; buzzer; log; preset; email, and smart tracking. Disarming alarm linkage action by period or one-click sync disarm config with channels |

Port

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| Audio Input | 1 channel |
| Audio Output | 1 channel |
| Alarm Input | 4 channels |
| Alarm Output | 2 channels |
| Disk Interface | 1 slot, SATA3.0. Max.20 TB/HDD |
| RS-232 | 1 port |
| RS-485 | 1 port |
| USB | 4 ports. 2 USB2.0 ports at the front panel and 2 USB3.0 ports at the rear panel. |
| HDMI | 2 ports. Port 1 supports 4K output. |
| VGA | 1 port |
| Network Port | 2 RJ-45 10/100/1000Mbps self-adaptive Ethernet ports |
| Power | Single supply |

General

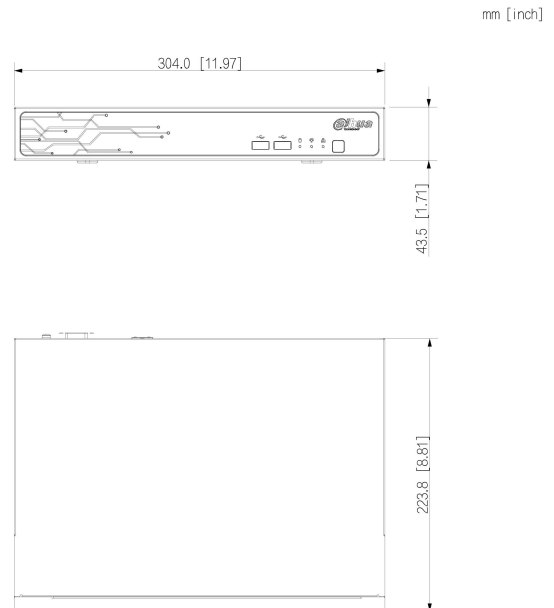
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|-------------------|--|
| Disk Bay | 1 |
| Form Factor | 1U |
| Power Supply | 12 VDC,5 A |
| Power Consumption | 23 W (without HDD, idling) 30 W(all HDDs connected) |
| Fan | Intelligent speed regulation fan |
| Net Weight | 1.75 kg (3.86 lb) |
| Gross Weight | 2.78 kg (6.13 lb) |

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| Product Dimensions | Chassis: 304 mm× 43.5 mm× 223.8 mm (11.97" × 1.71" × 8.81") (W × H × D) |
| Packaging Dimensions | With packaging: 399 mm × 133 mm × 304 mm (15.71" × 23.58" × 11.97")(W × L × H) |
| Operating Temperature | -10 °C to +55 °C (+14 °F to +131 °F) |
| Operating Humidity | 10%–80% (RH), non-condensing |
| Operating Altitude | ≤5,000 m (16,404.20 ft) |
| Installation | Desktop; Rack |
| Certifications | CE-LVD : EN 62368-1 CE-EMC : EN IEC 61000-3-2 , EN 61000-3-3 , EN 55032 , EN 50130-4 , EN 55035 |

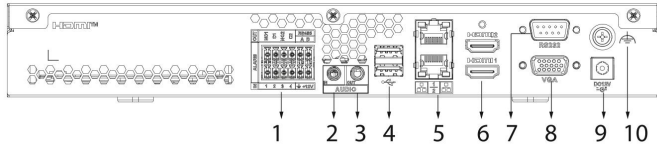
Ordering Information

| Type | Model | Description |
|--------------------------|----------------|----------------------------------|
| INTELLIGENT VIDEO DEVICE | DHI-IVD5148-2I | 48CH 1U INTELLIGENT VIDEO DEVICE |

Dimensions (mm[inch])



Panels



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|----------------|-------------|
| 1 Alarm In/Out | 2 AUDIO IN |
| 3 AUDIO OUT | 4 USB Port |
| 5 Network Port | 6 HDMI Port |
| 7 RS-232 Port | 8 VGA Port |
| 9 Power Input | 10 Ground |