DHI-IVD5148-3I

48CH 1U INTELLIGENT VIDEO DEVICE

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

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).

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

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

AI Applications

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 48-channel 2 MP or 48-channel 4 MP resolution. 2. AI by Camera: Supports 32-channel 2 MP or 32-channel 4 MP resolution

Face Detection

Face Detection	1. AI by Recorder: Supports 48-channel 2 MP or 48-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

Search by Image

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

Face Recognition

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 48-channel 2 MP or 48-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

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

Video Metadata	1. AI by Recorder: Supports 48-channel 2 MP or 48-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

IVS	1. AI by Recorder: Supports 48-channel 2 MP or 48-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

Video Diagnosis

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

Audio and Video

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

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

Network

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

Multi-channel Playback	Max. 16-channel playback

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

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

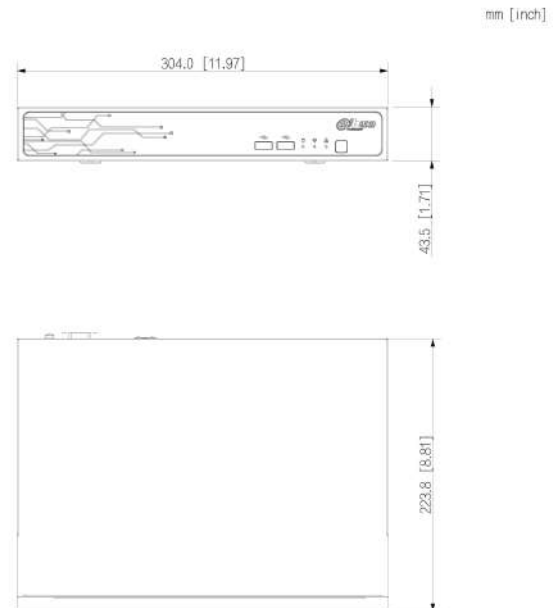|	
Audio Input	1 channel
Audio Output	1 channel
Alarm Input	4 channels
Alarm Output	2 channels
Disk Interface	1 slot, SATA3.0. Max.20 TB/HDD
RS-232	1 port
RS-485	1 port
USB	4 ports. 2 USB2.0 ports at the front panel and 2 USB3.0 ports at the rear panel.
HDMI	2 ports. Port 1 supports 4K output.
VGA	1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

General

Disk Bay	1
Form Factor	1U
Power Supply	12 VDC,5 A
Power Consumption	28 W (without HDD, idling) 35 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)

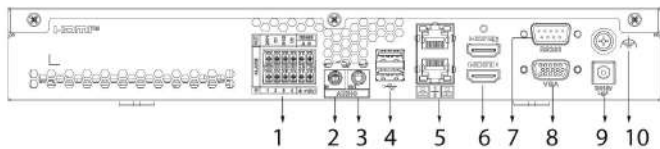|	
Product Dimensions	Chassis: 304 mm× 43.5 mm× 223.8 mm (11.97" × 1.71" × 8.11") (W × H × D)
Packaging Dimensions	With packaging: 399 mm × 133 mm × 304 mm (15.71" × 23.58" × 11.97")(W × L × H)
Operating Temperature	−10 °C to +55 °C (+14 °F to +131 °F)
Operating Humidity	10%–80% (RH), non-condensing
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-IVD5148-3I	48CH 1U INTELLIGENT VIDEO DEVICE

Dimensions (mm[inch])

mm [inch]

Panels

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