

# DHI-IVSS7116-8I

## 256CH 3U Intelligent Video Surveillance Server




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 IVSS goes beyond ordinary NVR products. It is an Intelligent Video Surveillance Server that combines video management features with traditional video storage functions in one device. Aside from the basic functions of a network video recorder, IVSS also has a variety of powerful AI features, such as face detection and face recognition, to meet the needs of different scenes. Thanks to its built-in AI chip, advanced deep learning algorithms and video image metadata technology, IVSS supports a variety of AI functions, such as high-precision face recognition and perimeter protection. Together, they shorten the response time to events and make videos more interactive, allowing you to focus on what matters most. It also has an all new UI design that offers device operation and maintenance management, improving the quality of surveillance and serving the era of security big data.

### Functions

#### Face Detection

Empowered by deep-learning algorithms, the device supports face detection, tracking, and capture, and outputs the best face snapshots. It supports analysis of up to 6 face attributes.

- 64-bit High-performance multi-core processor
- 256-channel IP video access
- Max 768 Mbps/768 Mbps incoming/recording bandwidth
- Up to 128-channel AI IVS
- Up to 128-channel face recognition with normal IPC
- Up to 160-channel 2 MP or 80-channel 4 MP face recognition with face detection IPC
- Up to 128-channel video metadata
- Up to 128-channel AcuPick with normal IPC
- Up to 100 face databases with 500,000 face pictures in total
- 16 bays, supports RAID 0/1/5/6/10/50/60
- 4 HDMI/1 VGA video output



#### 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.

#### 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.

#### IVS

Within specified restricted areas, intelligent detections are carried out, such as tripwire, intrusion, parking, people loitering and gathering. Driven by deep learning algorithms, IVS can provide precise person and vehicle classification detection, and accurately trigger alarms based on object types (pedestrians and vehicles), to greatly reduce the generation of false alarms. In addition, some basic functions including tripwire and intrusion are also referred to as perimeter protection.

#### 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 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; SMD |
| AI by Recorder | Face detection; face recognition; entries frequency; video metadata (human; vehicle; non-motor vehicle); metadata attributes alarm by recorder; IVS;   |
| AcuPick        | 1.AI by Recorder: Supports 128-channel 2 MP or 128-channel 4 MP resolution<br>2.AI by Camera: Supports 160-channel 2 MP or 80-channel 4 MP resolution  |

#### Face Detection

|                |  |
|----------------|--|
| Face Detection | 1. AI by Recorder: 128-channel 2 MP or 128-channel 4 MP with normal IP camera;<br>2. AI by Camera: 160-channel 2 MP or 80-channel 4 MP resolution with face detection IP camera;<br>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<br>2. 5 passerby databases with 500,000 face pictures in total<br>The human face database and the passerby database share the total capacity and number of face images.  |
| Face Recognition       | 1. AI by Recorder: 128-channel 2 MP or 128-channel 4 MP with normal IP camera; 160-channel 2 MP or 80-channel 4 MP with face detection IP camera (Totally 160 x 2 MP or 80 x 4 MP face pictures analyzed per second);<br>2. AI by Camera: 160-channel 2 MP or 80-channel 4 MP with face recognition IP camera;<br>3. Supports entries frequency alarm |

#### Vehicle License Plate Comparison

|                                  |  |
|----------------------------------|--|
| License Plate Database Capacity  | 1. 50 plate databases with 500,000 plate numbers in total<br>2. Supports allowlist and blocklist |
| Vehicle License Plate Comparison | Supports 160-channel 2 MP or 80-channel 4 MP resolution with ITC                                 |

#### Video Metadata

|                |  |
|----------------|--|
| Video Metadata | 1. AI by Recorder: Supports 128-channel 2 MP or 128-channel 4 MP resolution<br>2. AI by Camera: Supports 160-channel 2 MP or 80-channel 4 MP resolution<br>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: Plate No, 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

#### IVS Analytics

|     |   |
|-----|---|
| IVS | 1. AI by Recorder: Supports 128-channel 2 MP or 128-channel 4 MP with normal IP camera<br>2. AI by camera: Supports 160-channel 2 MP or 80-channel 4 MP<br>3. Rules: AI by Recorder: tripwire, intrusion, crowd gathering, loitering detection and parking detection<br>AI by Camera: tripwire, intrusion, abandoned object, missing object, fast moving, crowd gathering, loitering, parking, and fence-crossing |
|-----|---|

#### Intelligent Task Analytics

|                            |   |
|----------------------------|---|
| Intelligent Task Analytics | Local video records, import DAV videos from external devices for analysis |
|----------------------------|---|

#### Video Diagnosis

|                 |  |
|-----------------|--|
| Video Diagnosis | 1. Supports 1-channel tour detection<br>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            | 256-channel   |
| Network Bandwidth         | Incoming bandwidth: 768 Mbps<br>Recording bandwidth: 768 Mbps<br>Outgoing bandwidth: 768 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@30 fps; 2-channel 24 MP@30 fps; 3-channel 24 MP@24 fps; 4-channel 16 MP@25 fps; 7-channel 12 MP@20 fps; 7-channel 8 MP @30 fps; 14-channel 8 MP@15 fps; 9-channel 6 MP@30 fps; 11-channel 5 MP@30 fps; 13-channel 5 MP@25 fps; 14-channel 4 MP@30 fps; 22-channel 4 MP@20 fps; 18-channel 3 MP @30 fps; 22-channel 3 MP @25 fps; 14-channel 1080p@60 fps; 28-channel 1080p@30 fps; 63-channel 720p@30 fps |
| Video Output              | 1-channel VGA output, 4-channel HDMI output, VGA 1/HDMI 1 outputs the same video source.  |
| Multi-screen Display      | 1st Screen: Max.64-channel;<br>2nd Screen: Max.16-channel;<br>3rd Screen: Max.1-channel;<br>4th Screen: Max.1-channel   |
| 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;iSCSI    |
| 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 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;<br>2. Full-screen; Backup (clip and file); Snapshot; Digital zoom; Audio on and off |

## Storage

|                   |  |
|-------------------|--|
| Disk Group        | Yes  |
| Network Disk      | iSCSI  |
| RAID              | RAID0;RAID1;RAID5;RAID6;RAID10;RAID50;RAID60   |
| Record Management | Supports record control (continuous, event-based, scheduled, scheduled & event-based). |

## Alarm

|               |  |
|---------------|--|
| General Alarm | Motion detection; tampering; local alarm; IPC external alarm; fire 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    | 16 channels   |
| Alarm Output   | 8 channels  |
| Disk Interface | 16 slots, SATA3.0. Max.20 TB/HDD  |
| eSATA          | 1 port  |
| RS-232         | 1 port, for debug or COM data transmission                                      |
| RS-485         | 1 port, control peripheral PTZ and so on. Supports various protocols.           |
| USB            | 4 ports. 2 USB2.0 ports at the front panel and 2 USB3.0 ports a the rear panel. |

|                        |   |
|------------------------|---|
| HDMI                   | 4 ports. HDMI 1 supports 4K output.   |
| VGA                    | 1 port  |
| Network Port           | 4 RJ-45 ports 10/100/1000/2500Mbps self-adaptive Ethernet ports   |
| Power                  | Single supply   |
| Network Port Extension | 4 RJ-45 ports 10/100/1000/2500Mbps self-adaptive Ethernet ports;<br>2 × 10-GbE optical fiber ports (optional) |

## General

|                       |  |
|-----------------------|--|
| Disk Bay              | 16   |
| Form Factor           | 3U   |
| Power Supply          | 100–127/200–240VAC, 50/60Hz, 7/3.5A  |
| Power Consumption     | Working(all HDDs connected): ≤ 250W(853 BTU )<br>Working(without HDD): ≤ 150W(512 BTU)<br>Rated: ≤ 550W(1877 BTU)  |
| Fan                   | Intelligent speed regulation fan   |
| Net Weight            | 20.05 kg (44.20 lb)  |
| Gross Weight          | 33.01 kg (72.77 lb)  |
| Product Dimensions    | Chassis: 444.8 mm× 522.4 mm× 133.2 mm (17.51" × 20.57" × 5.24") (W × L × H)<br>Max. size: 485 mm (with hanger) × 522.4 mm × 133.2 mm (19.09" × 20.57" × 5.24") (W × L × H) |
| Packaging Dimensions  | With packaging: 689 mm × 779 mm × 464 mm (27.13" × 30.67" × 18.27")(W × L × H)   |
| Operating Temperature | 0°C to +45°C (+32 °F to +113 °F)   |
| Operating Humidity    | 10%–80% (RH), non-condensing   |
| Operating Altitude    | 5000 m (16404.20 ft)   |
| Installation          | Desktop; Rack  |
| Certifications        | CE-LVD : EN 62368-1<br>CE-EMC : EN IEC 61000-3-2 , EN 61000-3-3 , EN 55032 , EN 50130-4 , EN 55035   |

## Ordering Information

| Type                                  | Part Number     | Description                                    |
|---------------------------------------|-----------------|--|
| Intelligent Video Surveillance Server | DHI-IVSS7116-8I | 256CH 3U Intelligent Video Surveillance Server |

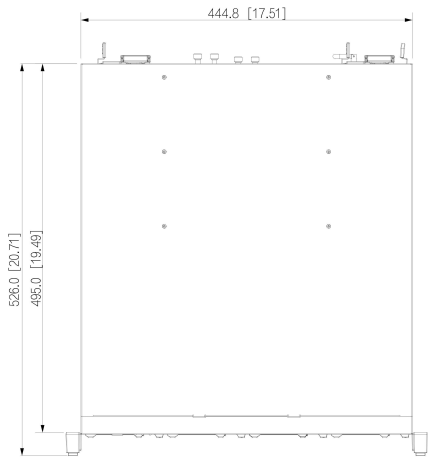
## Accessories

Optional:

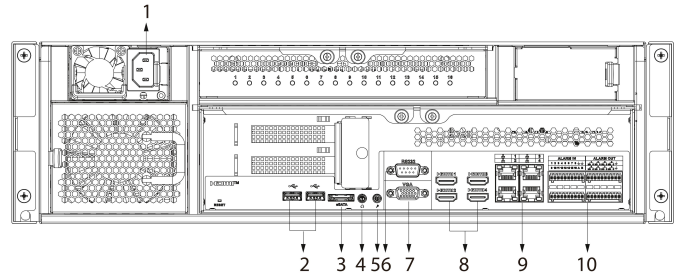


DHI-RB100/LS  
Server Cabinet Rail  
Bracket

**Dimensions (mm[inch])**



**Panels**



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