DHI-IVSS7016-8I

3U 16HDD WizMind Intelligent Video Surveillance Server

WizMind

Launched by Dahua Technology, Dahua WizMind is a full portfolio of solutions composed of project-oriented products including IPC, 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.

System Overview

Dahua IVSS goes beyond the ordinary NVR products. It is an Intelligent Video Surveillance Server that combines video management features with traditional video storage functions in one device. Besides the basic functions as a network video recorder, IVSS is integrated with features such as face detection and face recognition for different business and industrial applications.

With the build-in deep learning module, IVSS series products adopt video image metadata technology based on deep learning algorithms, offering high-precision human face recognition and perimeter protection. By applying deep learning artificial intelligence, IVSS allows users to focus on what matters most, to improve event response time and help make video actionable.

An all new UI design supports device operation and maintenance management, improving the value and experience of surveillance view, and serving the era of security big data.

Functions

Face Recognition
Supports recording faces by metadata and real-time crosscheck with incredible accuracy to figure out the face with target features. With the Regular and Stranger face mode, IVSS triggers various kinds of alarm actions for different applications.

Perimeter Protection
Automatically filters out false alarms caused by animals, rustling leaves and bright lights, so as to improve alarm accuracy. Enables system to act secondary recognition for the targets.

- Industry embedded micro-controller
- Max 512Mbps incoming bandwidth
- 256-channel IP video access
- Up to 128-channel perimeter protection
- Up to 64-channel face recognition with normal IPC
- Up to 160-channel face recognition with face detection IPC
- Up to 32-channel video metadata
- Up to 50 face databases with 300,000 face pictures in total
- Supports RAID 0/1/5/6/10
- 3 HDMI/1 VGA video output

Face Recognition | Human Capture | ANPR | Video Metadata | Image Search | Black list Alarm | People counting | False Alarm Filter

Video Metadata
Metadata is feature attribute information extracted from a target object which can be used for data retrieval. Currently, there are four 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 human and vehicles. Supports uploading face pictures to IVSS and compare them with recorded faces in IVSS by similarity. IVSS enables operators to quickly and easily search through multiple channels and long duration, to efficiently find out when and where a person of interest appeared.

ANPR
Automatic Number Plate Recognition available for convenient entrance/exit management. This feature provides number plate recognition (working with Dahua ITC camera), number plate comparison with black/white list, vehicle database management, and vehicle record search.

N+M Hot Standby
The highly reliable redundancy N+M Hot Standby design provides a secure failover technique to ensure immediate backup. In the event of a system failure, the slave device instantly takes over the master device to ensure no data loss.

Fisheye Dewarp
Supports multiple fisheye dewarp modes to make viewing video easy whether its live or during playback.

Smart Tracking
The automatic tracking PTZ feature automatically tracks a moving target throughout the camera's field of view. This function is ideal for following an object as it moves through airports, parking lots, city centers, or other scenes.

Technical Specification

System

Main Processor	Industry embedded micro-controller
Operating System	Embedded Linux OS
Operation Interface	WEB (PCAPP), local GUI

AI Applications

AI by Camera	Face detection, face recognition, video metadata, IVS (tripwire, intrusion, missing object, and more), people counting, smoking detection, call detection
AI by Device	Face detection, face recognition, video metadata, IVS (tripwire, intrusion, crowd gathering estimation, and more), plate comparison

Perimeter Protection

IVS Performance (AI by Device) (Channel Number)	General model: 128-channel Advanced model: 32-channel
IVS Performance (AI by Camera) (Channel Number)	256-channel

Human Face Detection

Human Face Properties	Supports 6 properties: Gender, age range (6 levels), glasses, expression (8 types), mouth mask, and beard
Face Detection Performance (AI by Device) (1080P) (Channel Number)	64-channel
Face Detection Performance (AI by camera) (Channel Number)	160-channel

Human Face Recognition

Face Database Capacity	50 face databases with 300,000 face pictures in total
Human Face Recognition Performance (AI by Device) (1080P)(Channel Number)	64-channel with normal IP camera 160-channel with face detection IP camera (Totally 160 face pictures analyzed per second)
Human Face Recognition Performance (AI by camera) (Channel Number)	160-channel

ANPR

Plate Database Capacity	50 plate databases with 300,000 plate numbers in total Supports black list/white list
Plate Detection Performance by ITC Camera (Channel Number)	64-channel

Video Metadata

Human Body Properties	Gender, age, sleeves length, top color, bottom type, bottom color, bag, rain coat, umbrella, hat, hairstyle, direction, hold a baby, mouth mask
Vehicle Properties	Vehicle type, vehicle color, plate color, logo, calling, seatbelt, ornament, region
Non-motorized Vehicle Properties	Non-motor Vehicle type, non-motor vehicle color, number of passengers, umbrella, rain coat,bag , sleeve length, top color, hat, hair style, mouth mask
Metadata Performance (AI by Device) (1080P) (Channel Number)	32-channel

Metadata Performance (AI by camera) (Channel Number)	64-channel

Video Parameters

Remote Connection	256-channel
Network Bandwidth	Incoming bandwidth: 512Mbps recording bandwidth: 384Mbps outgoing bandwidth: 128Mbps
Resolution	16MP/12MP/8MP/6MP/5MP/4MP/3MP/1080P/960P/720P/D1/CIF/QCIF
Decoding Capability	3-channel 16MP/6-channel12MP (20fps)/7-channel12MP (15fps)/6-channel8MP (30fps)/12-channel8MP (15fps)/7-channel6MP(30fps)/9-channel5MP(30fps)/11-channel5MP (25fps)/12-channel4MP (30fps)/18-channel4MP (20fps)/19-channel3MP (25fps)/12-channel1080P (60fps)/24-channel1080P (30fps)/36-channel720P (30fps)
Video Output	1-channel VGA output, 3-channel HDMI output, VGA 1/HDMI 1 outputs the same video source Supports 4K output
Multi-screen Display	Customized display Max. 36-channel local live view Max.16-channel PCAPP live view
Third-party Support	Onvif, RTSP, Sony, Panasonic, Axis, Arecont, Pelco,Canon, Samsung
Operating System	Embedded Linux OS
Operation Interface	WEB(PCAPP), local GUI

Compression

Video Compression	Smart H.265+/Smart H.264+/H.265/H.264
Audio Compression	G.711A/G.711U/PCM/G726

Network

Protocol	HTTP, HTTPS, TCP/IP, IPv4, RTSP, UDP, SMTP, NTP, DHCP, DNS, DDNS, P2P
Mobile Phone	iOS, Android
Interoperability	ONVIF (Profile S, T and G), CGI, SDK
Browser	Chrome, PCAPP, IE9 or higher, Firefox
Network Mode	NIC binding mode such as multiple-address mode, load balance, fault-tolerance, etc

Record Playback

Multiple-channel Playback	Max. 16-channel playback
Record Search	Search video detection/manual record/IO alarm/intelligent event/all record file
Storage Medium	Internal HDD, SAS disk array enclosure
Backup Method	HDD, peripheral USB storage device
Playback Function	Play, pause, stop, fast forward, fast backward, reverse play, frame by frame play Full-screen, backup (clip/file), snapshot, digital zoom, audio on/off

Storage

HDD Group	16
RAID	RAID 0/1/5/6/10
Storage Pool	N/A

Alarm

General Alarm	Motion detect, tampering, local 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
Intelligent Alarm	Human face detection, human face recognition, video metadata (person/vehicle/non-motor vehicle), IVS, plate recognition, people counting, smoking, call
Alarm Linkage	Record, snapshot (full image), local external alarm output, IPC external alarm output, access & control, audio prompt, buzzer, log, preset, email

Peripheral Interface

Audio Input	1-channel (reserved)
Audio Output	1-channel, speaker output, audio linkage output
Alarm Input	16-channel
Alarm Output	8-channel
Internal HDD	16 slots, SATA3.0/SAS. Max.16T/HDD
eSATA	1 port
SAS	2 SAS3.0 ports
RS-232	1 port, for debug or transparent COM data
RS-485	1 port, control peripheral PTZ and so on Supports various protocols
USB	4 ports 2 USB2.0 port at the front panel and 2 USB3.0 port at the rear panel
HDMI	3 ports; support 4K output
VGA	1 port
Network	4 RJ-45 10/100/1000Mbps self-adaptive Ethernet ports
Power	1 port
PoE	N/A

General Parameters

Power Supply	100V AC–240V AC 50±2%Hz
Power Consumption	100W (without HDD, idling) 292W (all HDDs connected)
Net Weight	16 kg (35.27 lb)
Gross Weight	17 kg (37.48 lb)
Dimensions (W × L × H)	Chassis: 444.8 mm × 522.4 mm × 133.2 mm (17.51 " × 20.57 " × 5.24 ") Max. size: 485 mm (with hanger) × 522.4 mm × 133.2 mm (with feet mat) (19.09 " × 20.57 " × 5.24 ")
Packaging Dimensions (W × L × H)	689 mm× 779 mm × 464 mm (27.13 " × 30.67 " × 18.27 ")
Operating Conditions	0 °C to +45 °C (+32 °F to +113 °F)/10%RH–90% RH
Strorage Conditions	0 °C to +40 °C (+32 °F to +104 °F)/30%RH–85% RH
Operating Altitude	5000 m (16404.20 ft)
Installation Mode	Desktop/rack
Certifications	CE: CE-LVD: EN 60950-1/IEC 60950-1 CE-EMC: EN55024,EN55035, EN50130-4,EN60950-1 FCC: Part 15 Subpart A UL: 60950-1 and CAN/CSA C22.2 No. 60950-1-07

Dimensions(mm[inch])