Dahua TECHNOLOGY

DHI-IVSS7008-1I
2U 8HDD AI Network Video Recorder

- Industry embedded micro-controller
- Max 400Mbps incoming bandwidth
- 128-channel IP video access
- Up to 16-channel perimeter protection
- Up to 6-channel face recognition by device
- Up to 20-channel face recognition by camera
- Up to 4-channel Video Metadata
- Up to 50 face databases with 300,000 face pictures in total
- Supports RAID 0/1/5/6/10
- SAS3.0 for storage extension
- 3HDMI/2VGA video output

AI series products adopt the most advanced AI technologies, including deep learning algorithms that primarily target people and vehicles, which provides higher flexibility and accuracy for end-users. This enables the Dahua AI series to offer various advanced applications such as Face Recognition, ANPR, Metadata, People Counting, traffic data statistics, etc.

The complete lineup of Dahua AI includes network (PTZ) cameras, network video recorders, servers, and platform management products. Beyond seeing the world, the power of AI allows devices to perceive the environment and understand the world in a better way.

System Overview

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

With build-in deep learning module, IVSS series products adopt video image structuring technology based on deep learning algorithms, achieving high-precision human face recognition and perimeter protection. By applying deep learning artificial intelligence, IVSS allow users to focus on what matters most, 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 servicing the era of security big data.

Functions

Face Recognition
Support record faces by structured data and real-time crosscheck with incredible accuracy to figure out the face with target features. With regular/Stranger mode to trigger kinds of alarm actions for different applications.

Perimeter Protection
Automatically filtering out false alarms caused by animals, rustling leaves,bright lights, etc. Enables system to act secondary recognition for the targets. Improving alarm accuracy.

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
Support search by metadata of human and vehicles. Support uploading face pictures to NVR and compare them with recorded faces in NVR by similarity. Enable operators to quickly and easily search through multi channels and long duration, efficiently find out when and where a person of interest appeared.

Onvif

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	Supports AI by camera function: Human face detection, human face recognition, video metadata (human/vehicle/non-motorized vehicle), perimeter protection
AI by Device	Supports AI by IVSS function: Human face detection, human face recognition, video metadata (human/vehicle/non-motorized vehicle), perimeter protection, plate recognition

Perimeter Protection

Perimeter Function (AI by device)	16-channel
Perimeter Function (AI by camera)	64-channel

Human Face Detection

Human Face Properties	Supports 6 properties: Gender, age range (6 levels), glasses, expression (11 types), mouth mask, and beard
Face Detection Performance (AI by device) (1080P) (Channel Amount)	6-channel, one channel max. supports 12 human faces
Face Detection Performance (AI by camera) (Channel Amount)	20-channel

Human Face Recognition

Face Database Capacity	Max. 50 human face databases, 300000 pictures, each database contains 300000 pictures
Human Face Recognition Performance (AI by device) (1080P)(Channel Amount)	6-channel, 20 face pictures per second processing
Human Face Recognition Performance (AI by camera) (Channel Amount)	20-channel

Plate Recognition

Plate Database Capacity	Max. 50 plate databases, each database contains 300000 plate numbers Support black list/white list
Plate Detection Performance by ITC Camera (Channel Amount)	32-channel

Video Metadata

Human Body Properties	Top color, top type, bottom color, bottom type, cap, bag, age, gender, and umbrella
Vehicle Properties	Supports 9 properties: Plate, plate color, vehicle body, vehicle brand, driver calling, seatbelt status, decoration object in the vehicle, and vehicle registration place
Non-motorized Vehicle Properties	Supports 4 properties: Vehicle type, vehicle color, people amount, and helmet
Metadata Performance (AI by device) (1080P) (Channel Amount)	4-channel
Metadata Performance (AI by camera) (Channel Amount)	32-channel

Video Parameters

Remote Connection	128-channel
Network Bandwidth	Incoming bandwidth: 400Mbps recording bandwidth: 320Mbps outgoing bandwidth: 96Mbps
Resolution	12 MP/8 MP/6 MP/5 MP/4 MP/3 MP/1080P/960P/720P/D1/CIF/QCIF
Decoding Capability	20-channel 1080P@ 30fps
Video Output	2-channel VGA output, 3-channel HDMI output, VGA 1/HDMI 1 outputs the same video source. VGA2/HDMI2 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), 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 Mode	Search video detection/manual record/IO alarm/intelligent event/all record file
Storage Mode	Internal HDD, SAS disk array enclosure
Backup Mode	HDD, peripheral USB storage device
Playback	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	8
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-motorized vehicle),perimeter protection (intrusion, tripwire),plate recognition
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, RCA port (reserved)
Audio Output	2-channel, RCA port (reserved), speaker output, audio linkage output
Alarm Input	16-channel
Alarm Output	8-channel
Internal HDD	8 slots, SATA3.0. Max.10T/HDD
eSATA	1 port (reserved)
SAS	N/A
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. 4K output
VGA	2 ports
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	40W (Without HDD, idling)
Net Weight	8.55 kg (18.85 lb)
Gross Weight	10.9 kg (24.03 lb)
Dimensions (W × L × H)	Chassis: 439.7 mm × 446.2 mm × 89 mm (17.31 " × 17.57 " × 3.50 ") Max. size: 481.7 mm (with hanger) × 446.2 mm × 90.8 mm (with feet mat) (18.96 " × 17.57 " × 3.57 ")
Packaging Dimensions (W × L × H)	With Packaging: 562 mm × 599 mm × 235 mm (22.13 " × 23.58 " × 9.25 ") Protection box: 491 mm × 584 mm × 631 mm (19.33 " × 22.99 " × 24.84 ")
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)