

128-channel Intelligent Video Surveillance Server

2U 8 HDD AI Network Video Recorder



- Intel Dual-core Processor
- Maximum 400 Mbps Incoming Bandwidth
- 128 IP Channel Video Access
- Facial Database Management, Stores up to 100,000 Faces
- Facial Recognition Processing on Up to Four (4) Channels
- Stranger Mode to Detect Faces not Stored in Database
- Search by Image
- Supports RAID 0/1/5/10
- Three (3) HDMI and One (1) VGA Video Outputs
- Five-year Warranty*



System Overview

The Dahua Intelligent Video Surveillance Server Series (IVSS) combines Deep Learning algorithms, a powerful Graphics Processing Unit (GPU), and an advanced Network Video Recorder (NVR) into an all-in-one Artificial Intelligence server. Dahua built the IVSS series from the ground-up as a dedicated AI surveillance server that eliminates the complications of browser updates, incompatible camera plug-ins, incompatible flash memory, and outdated Web technology.

The integrated GPU module and advanced deep learning algorithms perform powerful video structure analysis with metadata, achieve precision human facial analysis, and support four (4) channels of real-time face recognition based on a database that stores up to 100,000 faces. IVSS technology captures, records and categorizes various facial features, including age, gender, expression, and whether the target face wears glasses or sports facial hair; compares the data to faces in the database, and displays real-time facial recognition data.

IVSS offers advanced features to customize the powerful Artificial Intelligence for different applications. For example, facial feature filtering displays only those faces that meet target criteria and Stranger Mode detects a face not stored in the database and triggers an alarm, takes a snapshot, or records the face for further scrutiny. The IVSS is ideal for applications that require entrance/exit management, where knowing who is coming and going is a valuable asset.

Functions

Real-time Face Recognition

The IVSS7008 performs real-time facial recognition on up to four (4) channels simultaneously. The server captures and analyzes facial features to determine gender, age, expression, glasses, moustache, and mask, and then can record the faces and store the associated structured data. The server also filters incoming video to display faces that match target features.

Stranger Mode

IVSS supports two facial detection modes: Regular and Stranger. In Stranger mode, when IVSS detects a face not stored in the device's database, it can trigger an alarm, a buzzer, take a snapshot, or initiate recording. IVSS also incorporates a Similarity Threshold, where the server triggers an alarm for a face that does not match a minimum recognition level. The Stranger Mode and the Similarity Threshold are designed for critical infrastructure sites where access control is of vital importance.

Efficient Search

IVSS searches images by facial features to improve search efficiency. The server support uploading and storing 100,000 facial images for comparison with recorded faces. This search capability allows operators to quickly and easily search multiple channel recordings to determine when and where a person of interest appeared in a recording.

Face Database Management

In addition to the 100,000 facial images, the IVSS database also stores names, genders, birthdays, nationality, address, and ID information associated with each facial image. IVSS offers powerful and configurable database management features that can be applied to each face recognition channel independently.

High Efficiency Video Coding (H.265)

The H.265 (ITU-T VCEG) video compression standard offers double the data compression ratio at the same level of video quality, or substantially improved video quality at the same bit rate, as compared to older video compression technologies. H.265 offers such impressive compression by expanding the pattern comparison and difference-coding, improving motion vector prediction and motion region merging, and incorporating an additional filtering step called sample-adaptive offset filtering.

Technical Specification

System

Main Processor	Intel Dual-core Processor
Memory	8 GB, up to 32 GB
Operating System	Embedded LINUX

Artificial Intelligence

Face Recognition	Up to Four (4) Channels
Metadata	Structured data for gender, age, expression, glasses, moustache, and mask
Stranger Mode	<ul style="list-style-type: none"> • Detects a face not stored in the IVSS database. • Similarity Threshold set manually.
Trigger Events	Buzzer, snapshot, recording
Search by Image	<ul style="list-style-type: none"> • Up to ten (10) target face image searches simultaneously. • Supports Similarity Threshold for each target face image.
Database Management	<ul style="list-style-type: none"> • 20 Face Databases • 100,000 total face images. • Stores name, gender, birthday, nationality, address, ID information for each face picture.
Database Application	Each database can be applied to video channels independently.

Audio and Video

IP Camera Input	128 Channels
Audio	Input: One (1) Channel, RCA Output: (2) Channels, RCA

Display

Interface	Three (3) HDMI Outputs One (1) VGA Output	
Native Output Resolution	HDMI (all outputs)	3840 × 2160, 1920 × 1080, 1280 × 1024, 1280 × 720
	VGA	1920 × 1080, 1280 × 1024, 1280 × 720
Maximum Decoding	20 Channels of 1080p at 30 fps	
Multi-screen Display	Up to 36 Splits for each screen	
On-screen Display	Camera Title, Time, Camera Lock, Motion Detection, Recording	

Recording

Compression	H.265, H.264, MJPEG, MPEG4
Supported IP Camera Resolution	12 MP, 8 MP, 6 MP, 5 MP, 4 MP, 3 MP, 1080p
Maximum Incoming Bandwidth	400 Mbps
Maximum Recording Bandwidth	320 Mbps
Record Mode	Schedule (Continuous Event)

Video Detection and Alarm

Trigger Events	Recording, Snapshot, Buzzer
Video Detection	Motion Detection, MD Zones: 396 (22 × 18); Tampering
Alarm Inputs	16 Channels
Relay Outputs	Eight (8) Channels

Playback and Backup

Sync Playback	Up to 16 Channels Synchronous Playback, 64 Mbps Playback Bandwidth
Search Mode	Time and Date, Video Detection, Face and Exact Search (accurate to one second)
Backup Mode	USB Device, Network

Third-party Support

Third-party Support	AXIS, Panasonic, and Sony cameras that support CGI
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Network

Interface	Four (4) RJ-45 Ports (10/100/1000 Mbps)
Network Port Mode	Independent Ethernet Ports, Load Balance, Fault-Tolerance, Link Aggregation
Network Function	HTTP, HTTPS, TCP/IP, UDP, RTSP, IPv4, NTP, DHCP, DNS, IP Filter, IP Search (Support Dahua IP camera, DVR, NVR), P2P
Interoperability	ONVIF 2.4, SDK

Storage

Internal HDD	Eight (8) SATA HDD Ports, Up to 10 TB capacity for each disk
HDD Mode	Single, RAID 0/1/5/10 (Enterprise-level HDDs are recommended), Supports Global HDD Hot-spare
eSATA	One (1) eSATA Port ¹

Auxiliary Interface

USB	Two (2) USB 2.0 Ports Two (2) USB 3.0 Ports
RS232	One (1) Port for PC Communication
RS485	One (1) Port for PTZ Control

Electrical

Power Supply	100 VAC to 240 VAC, 50/60 Hz
Power Consumption	< 120 W, without HDD

Environmental

Operating Conditions	0° C to +45° C (32° F to 113° F), 86 kpa to 106 kpa
Storage Conditions	-20° C to +70° C (-4° F to 158° F), 0% to 90% RH

Construction

Dimensions	2U, 439.70 mm x 446.20 mm x 98.80 mm (17.32 in. x 17.57 in. x 3.57 in.)
Net Weight	8.55 kg (18.85 lb), without HDD
Installation	Standard 19-in. Rack-mount

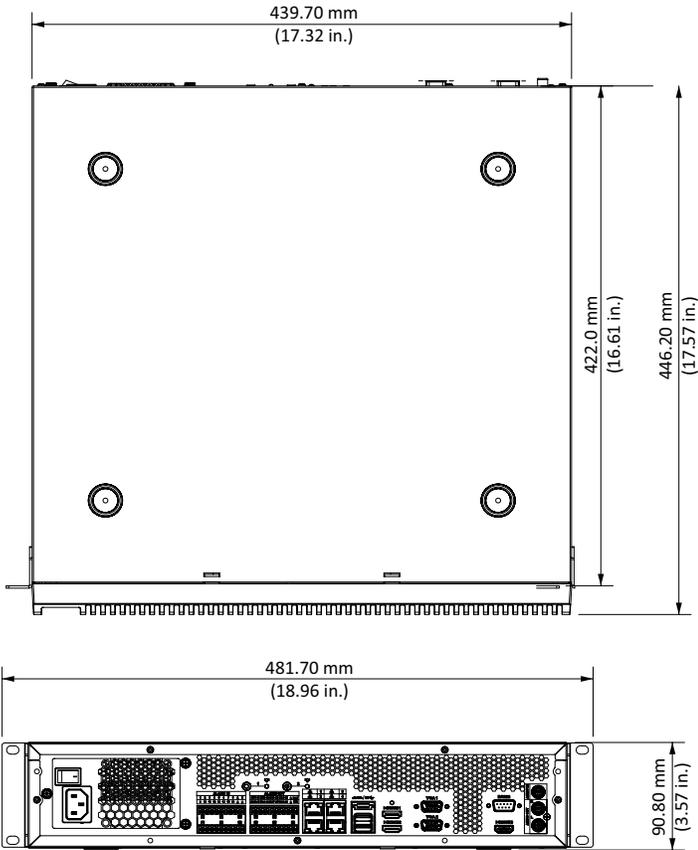
Certifications

Safety	UL 60950-1, EN60950-1
Electromagnetic Compatibility (EMC)	FCC Part 15 Subpart B, ANSI C63.4-2014, EN55032, EN55024, EN50130-4

Ordering Information

Type	Part Number	Description
IVSS	DHI-IVSS7008-1T	2U Eight (8) HDD Intelligent Video Surveillance Server with Four (4) Channel Back-end Face Recognition

Dimensions(mm/in.)



Rear Panel



1. Contact Dahua Technical Support to confirm compatible devices.