

Digital Surveillance System

DSS Express Video Management System Server



- Embedded Linux Operating System with Pre-installed DSS Express Software
- Supports 512 IP Cameras
- Live Video Playback
- Supports Access Control and Video Intercom Integration
- Full Support and Integration with Time and Attendance Devices
- Configure Video Wall Layout and Scheme
- Configure NVR Recording
- Offers Fisheye Camera Dewarping on Live View and Playback Images
- Intelligent Video System with Face Recognition, People Counting and Heat Map
- Five-year Warranty*

System Overview

The DSS4004-S2 Express Video Management System is a powerful, all-in-one video surveillance management system preloaded with Linux-optimized DSS Express software for system scalability and reliability. The server supports up to 512 network cameras, 100 online clients, and the ability to integrate multiple access or video intercom devices.

The server provides user rights management, device management, alarm management, center storage, TV wall output and, two-way audio. In addition to these VMS features, the server offers advanced features, including support for real-time face recognition and robust event management controls, features not found on many other VMS servers.

Functions

Flexibility and Scalability

The DSS4004-S2 VMS Server supports 512 IP video channels per server, with support for 32 connected face recognition cameras. The server supports 3 hard disk drives for video and snapshot storage and supports edge storage and extended storage via iSCSI.

Compatibility

The VMS server is compatible with all Dahua IP-enabled devices: network cameras, NVRs, DVRs, and access control devices plus many more. The server is also compatible with the ONVIF protocol, so it can connect to ONVIF-enabled third-party devices. The server offers an SDK for further support of third-party platforms and mobile operating systems.

Fisheye Camera Support

DSS features full support for Dahua Fisheye cameras. The software supports options for the Fisheye camera installation and eight (8) dewarp modes. Dewarping solves the problem of distortion in the circular panoramic view in both live or playback modes.

Real-time Face Recognition

The DSS4004-S2 performs real-time facial recognition on up to 32 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.

Access Control and Video Intercom

The DSS4004-S2 server offers full support and integration for access control and video intercom products to support a complete security and surveillance system. The server monitors door status and events, manages access rights, and support advanced rules management. In addition to access controls, the server supports two-way communication between intercom and control center.

Video Wall

DSS offers settings to configure all aspects of a video wall application. The application supports video wall layout, live preview, scheme configuration, and tour setup. In addition, the application supports video wall splicing and roaming.

Management Operations

The server manages the devices and the user accounts for an entire organization. Operators can assign different camera ranges, active use periods, and business roles for each user. The server also supports different schemes for various events, including IVS, to record and view all event history information.

System Features

General Functions

Organization and Group Management

Device Management

- Initialize Dahua devices
- Add devices via auto search, IP
- Manage Dahua devices

Users and Authority

- Add, edit and delete users
- Assign appropriate permissions to specific users
- Restrict user access by MAC and expiration dates
- Set user PTZ permissions

Storage

- Set central storage: local disk storage and extend storage via iSCSI
- Add, edit, delete, enable and disable recording plan
- Support edge storage and central storage recording plan

Bind Access Control Channels

Playback

- Playback recording from edge devices or central storage
- Apply video filters: normal, motion, alarm, video loss, video tampering
- Sync play
- Reverse playback
- Playback frame-by-frame
- Supports 1x, 2x, 4x, 8x, 16x, 32x, 64x, 1/2x, 1/4x, 1/8x, 1/16x, 1/32x, 1/64x playback speeds
- Lock or mark important recording segments for central storage

Emap

- Use raster map, main map, and sub-maps
- Supports 8-level sub-map
- Add, edit, and delete hot spots (camera, alarm input) on the map
- View live video and playback on the map
- Zoom in and zoom out the map
- Supports visible range and initial angle
- Icon flashes on map when alarm occurs

Video Wall

- Add and manage the video wall
- Supports On/Off screen ID
- Combine multiple screens into one screen
- Bind the decode channel with the corresponding screen
- Decode the real-time video to the video wall
- Decode the playback video to the video wall
- Manually or automatically decode to wall
- Control the video wall split
- Change the stream type of video channel
- Add box, on/off screen, and back display
- Tour the video channel in a single window
- Schedule plan: Set the running task on timeline
- Tour plan: Loop different tasks, set loop times
- Supports NKB1000 to control video wall

Live View

- Offers Common layout and customized layout
- Control PTZ cameras
- Set manual recording
- Take Snapshots
- Apply Fisheye dewarping
- Audio talk
- Set alarm window
- Turn on/off the audio in live view
- Set Region of Interest: divide one window into 4 or 6 parts, one shows whole image and others show details.
- Save current split as a view
- Add channels as favorites
- Video tour according to device, organization, favorite or view.
- View map via live view window

Event Management

- Detect device exception, video events, alarm input, access control Events, etc.
- Set alarm scheme: all day, weekday, weekend, or custom template
- Set alarm priority: Low, Medium, High
- Link recordings, snapshots, live video, alarm output, PTZ actions, or e-mail
- Add, edit, delete, enable, and disable alarm schemes
- Display event info including alarm time, alarm name, alarm status, etc.
- View live video or pictures from a related camera
- Acknowledge events
- Arm control for events
- Forward alarm to relevant users
- Send e-mail when processing events
- Process events
- Search events

Download Center

- Download recordings from central storage or device
- Download recordings by timeline, files, or tags
- Supports multi-task download
- Supports .dav, .MP4, .flv, .asf, and .avi video formats

Intelligent Building Functions

Personnel Management

- Add, edit, and delete people and departments
- Issue card credentials or fingerprint via USB reader or device
- Authorize by door or door group
- Issue private passwords and face authentications
- Manage guest, VIP, and normal personnel management

Access Control

- Monitor door status and events
- Group door access levels
- Manage access rights
- Lock/Unlock doores with one key
- Link fire detection devices
- Set advanced door rules: anti-passback, first card unlock, inter-door lock, multiple card unlock, remote verification

Video Intercom

- Supports VDP devices based on SIP protocol or with command center
- Release text information to VTH series devices
- Release address book to VTO series devices

Attendance

- Set access control devices as attendance stations
- Manage attendance time period, shifts, and arrangements
- Generate reports: attendance record report, abnormality report, card-swipe report.

Artificial Intelligence

Face Recognition

- Perform face recognition
- Search for faces in live video using similar face or feature search
- Record face recognitions
- Prepare structured reports of gender and age
- Manage face library
- Set alarms and event linkage for face recognition

Flow Analysis

- Search and export people counting report
- Search and export heat map report

System Maintenance

Logs

- View operator log and door log in control client
- Search and export logs

Backup and Restore

- Backup system data automatically (daily, weekly, monthly)
- Backup system data manually
- Restore system data from server or local file

Other Functions

- FTP for alarm pictures
- Calibrate device time and server time

Technical Specification

System

Main Processor	Intel® Core™ i3-6100, 64-bit, 4-core Processor
Operating System	Embedded Linux
Management Software	DSS Express, pre-installed
Memory	8 GB
Power Supply	Hot-swappable Power Supply

Display

Mode	Live View, PTZ Control, Snapshot, Instant Playback, Customized Layout
Video Wall	Push Real-time, Alarm and Playback Video to Wall
Dewarping	Supported for Fisheye Video on Live View and Playback

Playback

Playback	36-channel Synchronized Playback
Playback Mode	Normal, Motion Detection, Alarm, IVS, POS
Search Mode	Smart Search, POS Transaction Data and Video

Storage

HDD Installation	Built-in 1 TB HDD (2.5-in.) for Operating System Supports 3 HDD (2.5-in.) for video and picture storage
Storage	8 TB per HDD

Interface

USB	Front Panel: Two (2) USB 3.0 Ports Rear Panel: Two (2) USB 3.0 Ports On-board Panel: One (1) USB 2.0 Port
Display	Two HDMI Ports: • One (1) as Network Configuration • One (1) as a Spare Port One (1) VGA Port, as Network Configuration

Video Management

Client	PC Client	100
	DSS Mobile 2	100
	DSS Mobile for Video Intercom	5000
	Organization	100 Hierarchies, 999 organizations per hierarchy
Organization and Users	User Groups	Three (3) Levels
	Users	100 simultaneous online users, Unlimited user creation
Devices (single point performance)	Video ¹	512 Channels
	Access Control ¹	100 IP Devices, 512 Doors
	Video Intercom ¹	1100 Devices (no more than 100 VTO devices)
	Face Recognition Cameras	32 Channels
	License Plate Capture Cameras	32 Channels
	Time and Attendance	512
Media Transmission Server	Video Input, per server	350 Mbps
	Video Output, per sever	350 Mbps
Recording	Playback, with recording	150 Mbps
	Video Storage, per server	150 Mbps
	Maximum Storage Capacity	200 TB
	Download Task	Up to five (5) per client
Event	Number of events without pictures	80 per second
	Number of events with pictures	Five (5) per second
Emap	Raster Map Hierarchies	Eight (8)
	Photos per Raster Map	Up to 64
	Raster Map Size	Up to 15 MB
	Channels	Up to 200
Personnel Management	Persons	30,000
	Cards	30,000
	Fingerprints	90,000

1. The maximum number of video, access control, or video intercom devices listed assumes that no other type of device is connected to the DSS.

Network

Network Ports	Four (4) RJ-45 Ports (10/100/1000 Mbps)
Interoperability	ONVIF, DSS SDK for Integration
GIS Map	Supported; Google and RasterMap
Email	Supported; Yahoo, Gmail, HotMail

Electrical

Power Supply	100 VAC to 240 VAC, 50/60 Hz
Power Consumption	70 W to 120 W, with HDD

Environmental

Operating Conditions	-0° C to +45° C (+32° F to +113° F), 5% to 90% RH, non-condensing
Storage Conditions	-20° C to +70° C (-4 °F to +158° F), 5% to 90% RH, non-condensing
Operating Altitude	-60.0 m to 3000.0 m (-196.85 ft to 9842.52 ft)

Construction

Dimensions	1U, 440.0 mm x 398.60 mm x 43.65 mm (17.32 in. x 15.69 in. x 1.72 in.)
Net Weight	6.0 kg (13.23 lbs)
Material	1.0 mm SGCC Steel Plate
Installation	Standard 19-in. Rack Installation

Certifications

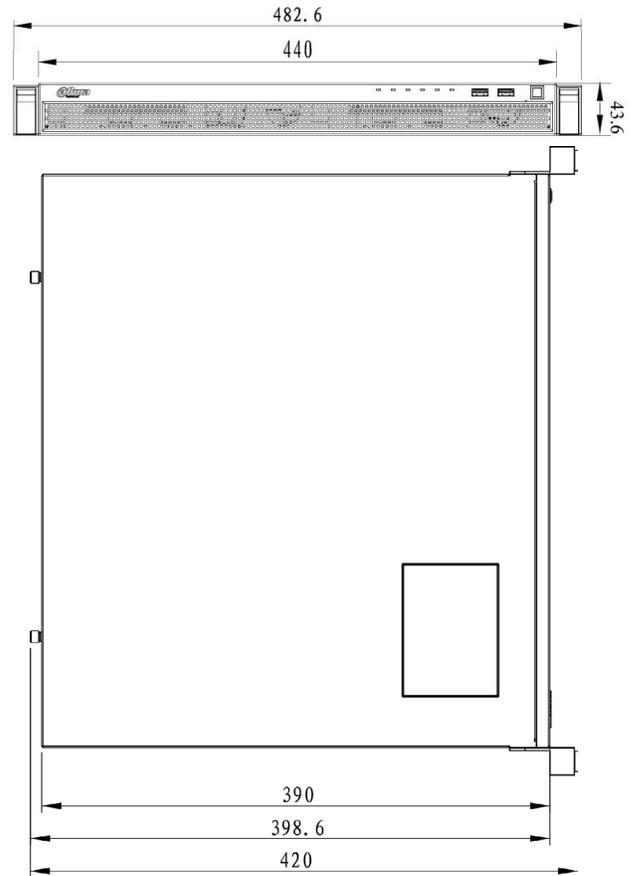
Safety	EN 60950-1:2006+A11:2009+A1:2010+A12: 2011+A2:2013
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Electromagnetic Compatibility (EMC)	FCC 47 CFR Part 15 Subpart B EN 55032:2015 EN 55024:2010+A1:2015 EN 50130-4:2011+A1:2014 EN 61000-3-2:2014 EN 61000-3-3:2013
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Ordering Information

Type	Part Number	Description
Digital Surveillance System	DHI-DSS4004-S2	DSS Express, 3 HDD, 512 IP Camera

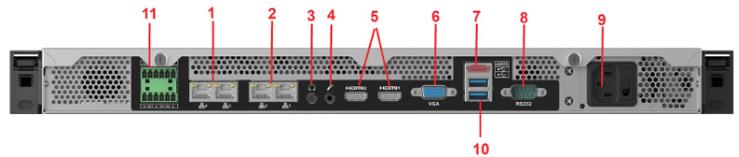
Dimensions (mm)



Physical Interfaces



1	Power Button	4	HDD Status
2	USB 3.0 Port	5	Alarm Status
3	USB 3.0 Port	6	Network Status



1	Gigabit Network Ports 3 and 4	7	eSATA
2	Gigabit Network Ports 1 and 2	8	N/A
3	Audio OUT	9	Power Connection
4	Audio IN	10	USB 3.0 Ports x 2
5	HDMI 1 and HDMI 2 OUT	11	Alarm I/O
6	VGA OUT		