

DSS4004-S2

All-in-One Security Management Platform for SMB



Introduction

DSS4004-S2 is a Plug & Play security management platform based on Linux OS and pre-installed DSS software. It provides higher performance in the low-end and mid-end market, offering a reasonably low price for a highly efficient and carefully designed system.

Running Environments

Operating System

- PC Client:
 - Windows 7 (32-bit)
 - Windows 7 (64-bit)
 - Windows 10 20H2 (64-bit)
 - Windows 10 20H2 (32-bit)
- OS for DSS Mobile Client:
 - iOS: iOS 10.0 or later
 - Android: Android 5.0 or later

Languages

- Arabic, Bulgarian, Czech, Danish, English (United States), Finnish, French, German, Hungarian, Italian, Japanese, Korean, Macedonian, Polish, Portuguese, Russian, Simplified Chinese, Spanish, Thai, Traditional Chinese, Turkish, Ukrainian, Vietnamese

Hardware

- Hardware for Client

Recommended

CPU	I7-6500@3.20GHz
Memory	8 GB
Graphics Card	GeForce GTX 1060 3GB (Discrete Graphics Card)

Hard Drive Capacity	100 GB Free
Ethernet Port	1,000 Mbps

Minimum

CPU	I3-2120@3.20GHz
Memory	4 GB
Graphics Card	Intel (R) HD Graphics 530 (Integrated Graphics)
Hard Drive Capacity	50 GB Free
Ethernet Port	1,000 Mbps

- Hardware for DSS Mobile Client

iPhone	iPhone 5S or later
Android	Resolution: 1280 × 720 or higher RAM: 5 GB and above

Features

Easy to Use

- All-in-One, Plug & Play.
- Performs unified management of video, access control, video intercoms, alarm controller, ANPR camera and face recognition camera through one DSS4004-S2.

Cost-effective

- One-time payment for hardware and whole software capacity.
- Lower price per channel.

High Capacity

- Up to 256 cameras, 64 doors, 1,000 video intercoms and 100TB storage capacity per server.

Stable and Reliable

- Linux OS based design with high efficiency and reliability.
- Less maintenance investment.

Main Functions

1. PC Client

1.1 System Configuration

• System Parameters

- Configure the data storage duration of logs, alarms, face recognition and vehicle records, etc.
- Time synchronization: Timed synchronization and device connection synchronization.

- Email server configuration.
- Supports importing HTTPS certificate.
- Set device login mode.
- Record remote logs.

- **Backup and Restore**

- Automatically back up system database by day, week, or month.
- Manually back up system database.
- Restore system database from server or local files.

1.2 Basic Configuration

- **Device Management**

- Device initialization: Initialize Dahua devices.
- Add devices by auto search, IP, Domain, IP segment, auto registration (for 3G, 4G and DHCP devices), or P2P.
- Manage Dahua devices such as network camera, network PTZ camera, NVR, DVR, access controller, video intercom, alarm controller, and decoder.
- Add third-party devices via ONVIF protocol.
- Import devices in batches by template.
- Bind associated cameras: Link cameras for alarm video display.
- Configure encoder parameters including image, video, snapshot, OSD and audio.
- Configure intelligence settings for intelligent channels such as IVS, face detection, people counting, and heat map.
- Configure door parameters, such as reader direction, door status, unlock length, and method.

- **Role and User**

- Three types of roles: Super administrator, administrator, common role.
- Manage the user's permissions by role (device permissions, control permissions, and menu permissions).
- User can be assigned with roles to obtain corresponding permissions.
- Log in to different clients with the same account at the same time.
- Set PTZ permissions, password expiry date, password validity and e-mail linkage for user.
- Forced password change at first login.
- User can be restricted by the MAC and expiry information.
- User can be locked.

1.3 Application Configuration and Functions

- **Storage Management and Record Plan**

- Supports edge storage and central storage.
- Central storage: Extend storage via iSCSI.

- Configure recording plans for channels.
- Configure storage destination: Center, device (device recording supports only main stream).
- Configure recording stream type.
- Create recording plan by time template: all-day template, weekday template, weekend template and custom template.
- Configure center recording storage duration.

- **Person and Vehicle Information**

Person List

- Add, edit and delete the personnel and the personnel list.
- Import personnel information (ID, card, fingerprint, face) from devices.
- Import personnel information by template.
- Issue the card, fingerprint via USB reader or devices.
- Card, password, fingerprint and face authentications.
- Add vehicle information.
- Grant door access by door group; arm persons by face comparison group; grant entrance and exit access by entrance and exit vehicle group.

Vehicle List

- Manage owners and vehicles.
- Add, edit, and delete vehicle information.
- Arm vehicles by vehicle arming group; grant entrance and exit access by entrance and exit vehicle group.
- Export vehicle information.

- **Watch List**

Face Watch List

- Face watch list management.
- Send face watch list to face recognition devices, and configure similarity.

Vehicle Watch List

- Vehicle watch list management.
- Set start time and end time for vehicles.

- **Monitoring Center**

Live View

- View real-time video.
- Common layout (1, 4, 6, 8, 9, 13, 16, 20, 25, 36, 64) and customized layout.
- PTZ control.
- Electric focus.
- Operate barrier remotely.
- Operate door channel: Open, close and recover.
- Call video intercom devices.
- Manual recording (store on PC or central storage).

- Digital zoom.
- Fisheye dewarping.
- Fisheye-PTZ smart track.
- Smart track for panoramic camera.
- Fisheye VR mode.
- Bullet-PTZ smart track.
- Audio talk.
- Supports selecting audio input: audio1, audio 2 and audio mix.
- Set alarm window.
- Turn on/off the IVS display in live view.
- Restore face image from face privacy masking.
- Region of interest: Divides one window into 4 or 6 parts, one for whole image, others for the details.
- Displays map in live view.
- Save the current monitoring image as a view.
- Up to 4 live view tabs.
- Video tour by device, organization, favorites, and view.
- Supports NKB1000 to control camera in live view.
- Adjust the video image.
- Live video quick positioning on map.
- Resource tree: Video channel, face recognition channel, metadata channel, ANPR channel, entrance device channel, access control channel, and map.
- Displays event snapshots over live video.
- Real-time monitoring of face recognition events, metadata events, ANPR events, entrance snapshot events, and access control events.
- Pause refresh, and clear event list.

Playback

- Play back video recordings from devices or central storage.
- Video filter: Normal, motion, alarm.
- Synchronous play.
- Reverse playback of central and device video.
- Digital zoom.
- Slow and fast forward (up to 64X and 1/64X).
- Play back video recordings frame by frame.
- Lock or mark important recordings for central storage.
- Download the video in avi, dav, mp4 and asf formats.
- Turn on/off the IVS display in playback.
- Decode the video to video wall.
- Fisheye dewarping.
- Fisheye VR mode
- Adjust the video image.

- Common layout (1/4/6/8/9/13/16/20/25/36/64) and custom layout.
- Supports smart search.
- Supports thumbnail search.

Video Wall

- Create different video wall tasks.
- View the real-time video.
- Decode the real-time video to wall.
- Manually/automatically decode to wall.
- Manage the video wall split.
- Change the stream type of video channel.
- Turn on/off audio.
- Turn on/off screen and get the video stream to PC client.
- Tour the video channels in one screen.
- Schedule plan: Set the running task on timeline.
- Tour plan: Different tasks loop display, and each task has a duration time.
- Supports NKB1000 to control video wall.

Map

- Raster map.
- Up to 8-level sub map.
- Configure hot spots (camera, alarm input, access control channel) and sub maps on the map.
- View the live or recorded video on the map.
- Alarm source turns red and flickers on the map when alarm occurs.
- Remote door opening and closing.

• **Event Management**

- Event type: Device, video channel, audio detection, alarm input channel, thermal, access control, and more.
- Event scheme: all-day template, weekday template, weekend template and custom template.
- Event Priority: low medium, high.
- Linkage: Record, snapshot, live video, alarm output, PTZ, audio detection, video wall, audio and light, HTTP URL command, E-mail, door and user.
- Alarm protocol
- Real-time and history event information.
- Acknowledge the event.
- Arming control for event sources.
- Forward the event to relevant user.

• **DeepXplore**

- Quickly retrieve historical records and locate targets.
- Search for face and human body by feature or image.

- Search for person and vehicle archives.
- **Access Management**
 - Access Control**
 - Add, edit, and delete door groups, Grant door access by associating access permission groups with door groups.
 - Supports setting public passwords for access control devices.
 - Door status and door events monitoring.
 - View related videos.
 - Lock or unlock the doors with one key.
 - Global operation of opening or closing doors.
 - Log information and extract records from devices.

Video Intercom

- Call management: Configuration of device group, management group and group relation.
- Residence configuration: Set whether to enable Building No. and Unit No.
- Issue VTH contact list to VTO.
- Set VTH private password for unlocking VTO.
- View, delete and freeze users of DSS Agile VDP.
- Video intercom between VDP based on SIP protocol.
- Video intercom between VDP with command center.
- Release text information to VTH.
- Search for and export video intercom records.

Visitor

- Visit registration.
- Supports issuing access permissions by card or face recognition.
- Enable auto leave.
- Supports card-swiping records.
- Supports visitor records.
- Configuration of default visitor permission.
- Email template of auto visit and auto leave.
- Visitor pass remark.

• **Entrance**

- Edit parking-lot, includes total and available spaces, parking name, and more.
- Supports configuration of barrier control rules.
- Bind parking space available display screen and information display screen.
- Overview of entrance and exit information: Number of parking spaces, parking spaces available, and more.
- View real-time license plate recognition.
- Open the barriers via VTO with cards or remotely.
- Force existing vehicles to leave.

- Supports searching for vehicle records, on-site vehicles, and ANPR details.
- Search for and export the vehicle records.
- **Intelligent Analysis**
- View real-time count.
- View historical count: provide daily, weekly, monthly and yearly reports.
- Heat maps
- Supports exporting in area people counting analysis report.

2. DSS Agile

• **History Records**

- Show recently viewed channels. You can open live video or playback via history records.
- Displays up to 20 latest history records.

• **Live View**

- Open more than one channel at the same time. Up to 16 channels are supported.
- Three stream types: HD (high definition), SD (standard definition) and FL (fluency).
- Supports PTZ control.
- Supports horizontal screen play.
- One-key switch to playback.
- Snapshot, local records, and audio talk.
- Supports fisheye dewarp.

• **Playback**

- Play back device records and center records (up to 8X and 1/8X).
- The calendar shows whether there is a video on that day.
- Supports snapshot.
- Manually start recording for local storage.
- Supports 1X, 2X, 3X, 4X, 1/2X, 1/4X, 1/8X playback.

• **Map**

- Supports raster map.
- Displays the video channels on the map.
- View live and recorded videos.

• **Access Control**

- Displays access control information: Device name, organization, and online/offline status.
- Open or close doors remotely.
- Always open and always closed.
- Recover to always open/closed.

• **Face Recognition**

- Supports searching the face database or snapshot records for target faces by uploading a face image.
- Supports face database management.

- **Video Metadata**

- Search for targets classified by people, vehicle and non-motor vehicle.

- **Video Intercom**

- Displays video intercom information: Device name, type, and number.
- Call VTS, VTH, and 2nd VTO.
- Offline call.
- Displays call history: Incoming call, outgoing call, answered, not answered, time and number.

- **Alarm Center**

- Alarm subscription.
- Offline notification push.
- Search for alarm messages by category.
- Claim and handle alarm messages.
- Search for history alarm message.

- **Favorite**

- Search for history alarm message.
- Quickly view video of channels added to favorites.

- **Files Management**

- View picture and video via local file.
- Export videos and pictures saved locally to mobile phone albums.
- Delete pictures and videos.

3. DSS Agile VDP

- **Call Records**

- View the incoming and outgoing call records.

- **Visitor**

- Supports visitor registration and generating visitor pass.
- Supports searching for visitor records.

- **Monitor**

- View live video of VTO.
- Supports remotely unlocking the door.
- Call management center.
- Receives and answers calls from intercoms (such as VTO) and the management center.

- **Messages**

- View the unlocking records and alarm messages.

- **Setting**

- View account information.
- Enable event subscription.
- Enable stream encryption.
- Set gesture password.

Hardware Specification

System

Main Processor	X86 Processor CORE-I3-6100
Operation System	Embedded Linux
Memory	8 GB
System Disk	Seagate 7200 RPM Enterprise Class HDD 1 TB
Motherboard	Embedded board (7 x 24)
Hard Disk Compatibility	SAS/SATA disk

Other

Power	100 V–240 V, 47–63 Hz
Consumption	70 W–120 W (with HDD)
Working Environment Temperature	0 °C–45 °C (32 °F to +113 °F)
Working Environment Humidity	5%–90% (RH), non-condensing
Storage Environment Temperature	–20 °C to +70 °C (–4 °F to +158 °F)
Storage Environment Humidity	5%–90% (RH), non-condensing
Working Altitude	–60 m to 3,000 m (–196.85 ft to 9,842.52 ft)
Weight (Without Package)	6.0 kg (13.23 lb)
Dimension	1U, 440 mm × 398.6 mm × 43.65 mm (17.32" × 15.69" × 1.72")
Installation Method	Standard 19-inch pallet mount

Performance Specification

Organization, User and Role

Organizations	10 levels; up to 999 organizations in total
Roles (User Permissions)	20
Users	10 online users and 50 total users
Users for VDP Mobile APP	200 online users and 2,000 total users

Recording Plan and Event Plan

Central Recording	Up to 256 video channels
Event Rules	Up to 256 event sources

Map

Hierarchies	8 hierarchies
Number of Raster Maps	Up to 32
Number of Submaps per Map	Up to 32
Maximum Size of Raster Map	15 MB
Raster Map Resolution	8100 × 8100
Number of Resources per Raster Map	Up to 300

Personnel and Vehicle Management

Persons	5,000
Cards	10,000
Faces	5,000
Fingerprints	10,000
Vehicles	5,000

Face and Vehicle Watch Lists

Face Watch Lists	50
Total Faces	5,000
Faces per Face Watch List	5,000
Vehicle Watch Lists	8

Access Control

Total Persons	5,000
Access Permission Groups	50

Entrance and Exit

Vehicles	5,000
Vehicle Groups	8
Parking Lots	1
Entrance and Exit Points	6
Number of Entrances	3
Number of Exits	3

Intelligent Analysis

People Counting Groups	4
People Counting Rules	20

Alarm Records	2,000,000
Face Recognition Records	2,000,000
Number Plate Recognition Records	2,000,000
Access Control Records	2,000,000
Video Intercom Records	2,000,000
Visitor Records	2,000,000
Entrance Records	2,000,000
Exit Records	2,000,000
Forced Exit Records	2,000,000
Historical Counting Records	2,000,000
In Area Statistical Records	2,000,000
Heat Map Records	2,000,000
Operator Logs	2,000,000

Service Logs	2,000,000
--------------	-----------

Single Server**Devices and Channels****Total Devices**

Devices ^①	1,000
Auto-Registered Devices	1,000

Video Devices and Channels

Video Devices and Channels ^②	256 devices; 256 channels
P2P Devices	32
ANPR Channels	32 channels (6 channels for entrance)
Face Recognition Channels	32 channels
Video Metadata Channels	32 channels
People Counting Channels	16 channels
Heat Map Channels	16 channels

ACS Devices

Access Control	64 devices; 64 doors
VDP	1,000

Alarm Devices

Alarm Controller	16 devices
------------------	------------

Media Transmission Server**Incoming Bandwidth**

Total Incoming Bandwidth per Server	350 Mbps
Incoming Video per Server	350 Mbps
Incoming Picture per Server	50 Mbps

Outgoing Bandwidth

Total Outgoing Bandwidth per Server	350 Mbps
Outgoing Video per Server	350 Mbps
Outgoing Picture per Server	50 Mbps

Storage Bandwidth

Total Storage Bandwidth per Server	150 Mbps
Video Storage per Server	150 Mbps
Picture Storage per Server	50 Mbps

Playback, Storage and Download

Maximum Capacity per Storage Server	100 T
-------------------------------------	-------

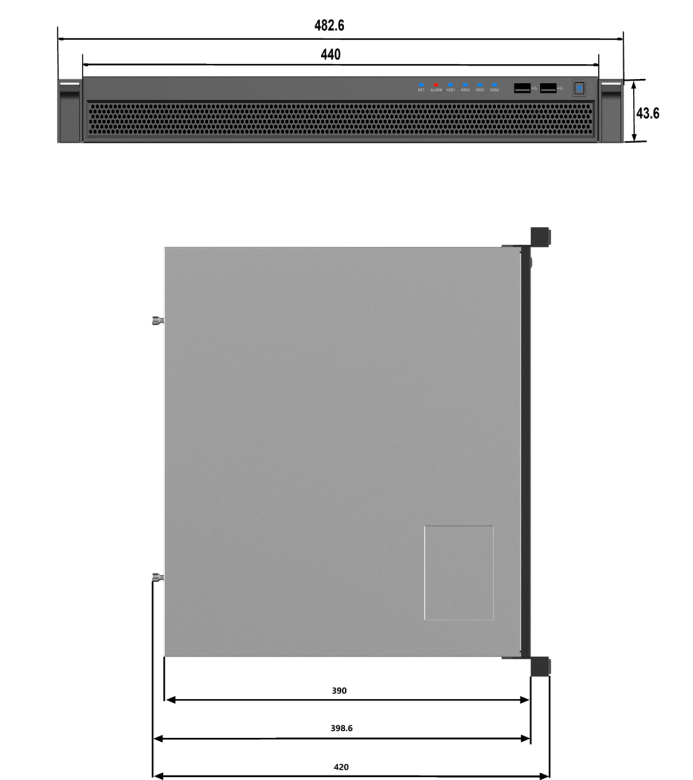
Events^③

Total Events ^④	60 per second
---------------------------	---------------

Events without Pictures	
Events without Pictures	60 per second
Access Control Events	60 per second
Events with Pictures ^⑤	
Total Events with Pictures	60 per second (50 Mbps)
ANPR Events	12 per second (500 KB per picture)
Events with Pictures	12 per second (500 KB per picture)
Face Capture Events	12 per second (500 KB per picture)
Video Metadata Events	6 per second (1024 KB per picture)

- ① The total number of devices must be larger than the total number of video devices, access control devices, video intercom devices and other devices.
- ② The total number of video devices and channels must be larger than the total number of IPCs, NVRs, ITCs and other video devices and channels.
- ③ Event concurrency is peak concurrency: 20 minutes of peak concurrency test, 3 times a day, and 25% peak concurrency for the remaining time of the day.
- ④ Event concurrency: Event concurrency is in accordance with database concurrent writes. Concurrency of event with pictures must take picture write capacity of the disk into account.
- ⑤ For concurrency of events with pictures, picture write concurrency should also be taken into consideration. The picture write concurrency of an individual server is up to 50 Mbps, so the concurrency of events with pictures is limited by picture write capacity.

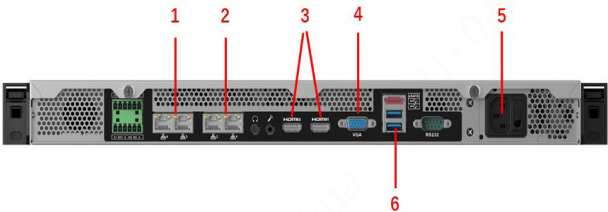
Dimensions (mm)



Panels



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



- 1- Gigabit LAN Port 3-4
- 2- Gigabit LAN Port 1-2
- 3- HDMI Port1/Port2
- 4- VGA
- 5- Power Interface
- 6- USB3.0 Port