# Storage System DS-AT1000S/192

## Introduction

DS-AT1000S is a super large capacity storage product introduced by Hikvision. With high-density controller architecture, the product adopts SSD-based hierarchy storage technology to provide large space management and improve video search performance by ten times. It also supports concurrent write of 256-ch 2 M video stream, and 192 TB with 4U chassis, which reduces cost per terabyte by over 1/3.

## Features and Functions

- **High-performance and high-reliability hardware platform:** modularized and cableless design, SBB2.0 standard architecture, Xeon 64-bit multi-core CPU, 4 to 32 GB cache, 1000M network interfaces x 4, key component redundancy
- **Super large capacity and high-density design**: 48 TB/U, up to 192 TB storage space for single device, installation in 800 mm-deep cabinet
- **Disk inspection and RAID optimization technologies**
  **Disk inspection and repair**: disk inspection and auto repair technology to improve disk usage
  **RAID optimization**: various RAID modes (0, 1, 3, 5, 6, 10, 50), global or partial hot spare to protect data security;
  **VRAID (Video RAID) data protection:** recording service will not be interrupted where there are multiple RAID bad disks.
  **Volume cloning**: when RIAD fails, data can be restored through volume cloning technology only if disk is readable physically
- **Security-dedicated direct write technology (Hybrid SAN)**:
  **High-performance stream data management structure**: stream media-based bottom layer management structure, which protects file from being unreadable or lost in case of file system damage; no file fragment will be generated by overwrite
  **Direct storage of mixed stream**: direct storage of mixed video stream and smart stream;
  **Transmission protocols**: compatibility with RTSP, ONVIF, PSIA, protocols

- **Enclosed Helium disk technology:** introduce helium disk technology to security industry for the first time; fully isolate disks from dust, moisture, and impurity in air to increase reliability and stability
- **Rich video applications:**
  Various recording modes, including alarm recording, timing recording, and manual recording;
  Lock key video data to protect from being overwritten;
  Auto Network Replenishment (ANR) and video loss detection/ alarm to ensure data integrity during network exception; Hybrid SAN self-monitoring and recovery to avoid data loss or service interruption caused by configuration information exception
- **Environmentally-friendly and energy-saving design:**
  **Smart CPU frequency adjustment**: adjust CPU frequency based on CPU usage to reduce system power consumption;
  **Smart fan speed adjustment**: adjust fan speed finely to improve heat dissipation efficiency and reduce noise;
  **Smart disk dormancy**: disks that have no r/w tasks will be in dormant state to reduce energy waste and prolong disk lifespan;
  **Physical space and power consumption conservation**: ultrahigh-density design saves server room space and further reduces power consumption
- **User-friendly maintenance interface:**
  Quick system configuration function;
  User-friendly GUI for user to get device status information (key component, storage resource, environment control information, etc.) timely;
  Rich alarm modes (LED indicator, message, and email) to improve device maintenance efficiency;
  SADP protocol to auto search online storage in LAN;
  Connection with mainstream network management systems via SNMP;
  Centralized management of multiple devices

# Specifications

| Model | | DS-AT1000S |
|---|---|---|
| Performance | Direct Streaming Mode: video (2 Mbps) + picture | 256-ch (recording + playback) |
| Controller | Processor | One controller (64-bit multi-core processor) |
| | Cache | 4 to 32 GB |
| Storage | Disk capacity | 192 TB/device, 48 TB/U |
| | Hot-swappable disk | Supported |
| | RAID level | VRAID 0, 1, 3, 5, 6, 10, 50. Hot-Spare |
| Storage Management | Disk management | Disk inspection, alarm and repair |
| | Logical volume management | video volume management |
| Recording Management | Recording mode | Timing recording, manual recording, dual-stream recording, alarm recording |
| | Video protection | Lock key video, N+1 service protection, ANR, video loss detection and alarm |
| | Searching mode | Search by time and event |
| | Downloading mode | Quick download, batch download, download by segment, download by merging |
| Device Maintenance | Management mode | Web-based GUI, serial port CLI, centralized management of multiple devices |
| | Alarm mode | Sound, light, email, message, web page |
| | Log downloading | Download no web page |
| Network Management | Network protocol | RTSP, ONVIF, PSIA |
| External Interface (Single Controller) | Data interface | 3, 1000M Ethernet interface |
| | Management interface | 1, 1000M Ethernet interface |
| | COM interface | 1 |
| | USB interface | 2 |
| | Alarm interface | 1 |
| | HDMI interface | 2 |
| Others | Power supply (rated) | Redundant |
| | Power consumption (including disk) | Working: ≤ 275 W; Rated: ≤ 800 W |
| | Temperature | Working: 5 ºC to 40 ºC (41 ºF to 104 ºF)<br>Storage: -40 ºC to +50 ºC (-40 ºF to +122 ºF) |
| | Humidity | Working: 20% to 80% RH (no ice, no condensation)<br>Storage: 5% to 90% RH (no ice, no condensation) |
| | Dimensions (W × H × D) | 447 × 172 × 550mm (17.6 x 6.8 x 21.7in) |
| | Weight (excluding disk) | ≤ 33.5 kg |

## Applications