

## **DS-A71024R Series Storage System**

### Introduction

The DS-A71 series is an economical and reliable Hybrid SAN (Storage Area Network) product. Hikvision Hybrid SAN product creates a network with access to data storage servers, and it integrates Hikvision's unique video direct streaming technology as well as supports IPSAN. Hybrid SAN system supports third-party cameras such as BOSCH, AXIS, SONY, Samsung, etc., and supports RTSP and SIP protocols, and extended data retention. With no recording server needed, Hikvision's Hybrid SAN systems truly make applications simple, flexible, and budget-friendly.



## **Key Feature**

#### **Economical and Stable Hardware Platform**

- 64-bit multi-core processor.
- 4 to 64 GB high-speed cache.
- PCI-E3.0 high-speed transmission channel, support 4 × GbE or 2 × 10GbE is extendable
- Three 10M/100M/1000M network interfaces.
- Redundant design for key modules.
- 4U chassis model supports 24 HDDs.

### **HDD Detection and Repair/RAID Optimization**

- Detection before operation.
- Detection in operation.
- Fault repair.
- RAID 0, 1, 3, 5, 6, 10, 50.
- Global and local hot spare.
- Quick RAID building.
- Capability of cascading up to two storage enclosures behind a single SAS port.

#### **Advanced Data Protection**

- Synchronous backup of key information in system disk and HDD.
- RAID-based tamper-proof data technology.
- Auto data synchronization between devices.

### **Energy Efficient**

- CPU load balance.
- Auto fan tuning.

#### **User-Friendly UI**

- One touch configuration.
- Various alarm management.
- Supports SADP protocol.
- Supports SNMP.

# Surveillance-Specialized Stream Media Direct Storage (Direct Streaming Mode)

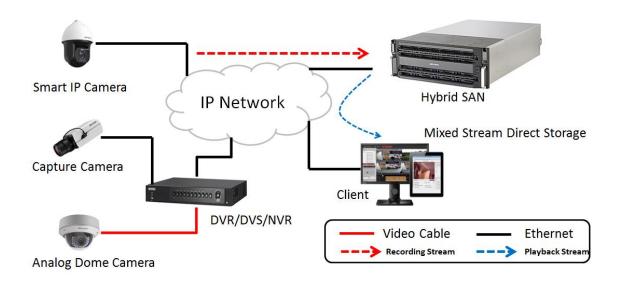
- Space pre-allocation strategy.
- Direct storage for video and picture streams.
- Supports direct IP camera/DVR/NVR streaming and recording.
- Support H264, H264+, H265, H265+.
- Support N+1.
- Supports camera access through RTSP, ONVIF, and PSIA protocol.
- Supports alarm/scheduled/manual recording.
- Automatic network replenishment (ANR), timely uploading, and video loss alarm.
- Lock key videos.
- Supports both Direct Streaming Mode and IPSAN Mode.
- Search, play, and download videos by video type or video time.



# **Specification**

Direct Streaming Mode: video (2 Mbps) + picture		Model	DS-A71024R
Performance   video (2 Mbps) + picture	Performance	Direct Streaming Mode:	220 ch recording Lalauback
Controller         Processor         64-bit multi-core processor           Ache         4 to 64 GB           HDD         24           Interface/capacity         SATA/1 B, 2 TB, 3 TB, 4 TB, 6 TB, 8 TB, 10 TB, 12 TB, 14 TB, 16 TB           Network         Protocol         ISCSI, RTSP, ONVIF, PSIA           Storage Management         Disk management         Disk inspection, alarm and repair           Logical volume management         IsCSI volume, video volume management           Recording mode         Timing recording, manual recording, dual-stream recording, alarm recording           Recording mode         Search by time and event           Downloading mode         Quick download, batch download, download by segment, download by merging           Maintenance         Alarm mode         Sound, light, email, message, web page           Log downloading         Download no web page           Log downloading         Download no web page           External interface         Management network interface         2, 1000Mbps Ethernet interface(4 × GbE or 2 × 10GbE is extendable)           External interface         Management network interface         1, 1000Mbps Ethernet interface(4 × GbE or 2 × 10GbE is extendable)           External interface         Moragement network interface         2, 1000Mbps Ethernet interface(4 × GbE or 2 × 10GbE is extendable)           External interface <td>video (2 Mbps) + picture</td> <td>320-ch recording + playback</td>		video (2 Mbps) + picture	320-ch recording + playback
Cache 4 to 64 GB  HDD slot 24  Interface/capacity SATA/1 TB, 2 TB, 3 TB, 4 TB, 6 TB, 8 TB, 10 TB, 12 TB, 14 TB, 16 TB  HDD HOS Supported RAID RAID O, 1, 3, 5, 6, 10, 50, JBOD, Hot-Spare  RAID Disk management Disk inspection, alarm and repair  Logical volume management recording, manual recording, dual-stream recording, alarm recording  Recording Management Downloading mode Pownloading mode Search by time and event  Downloading mode Search by time and event  Downloading mode Web-based GUI, serial port CLI, centralized management of multiple devices  Maintenance Log downloading Download no web page  External interface MiniSAS interface MiniSAS interface Supported(optional)  Interface COM 1  USB 4  VGA 1  Power supply Redundant  Consumption (with HDDs) Raid Size Size Size Size Size Size Size Size		IPSAN	180-ch recording + playback
HDD slot 24  HDD slot 24  Interface/capacity SATA/1 TB, 2 TB, 3 TB, 4 TB, 6 TB, 8 TB, 10 TB, 12 TB, 14 TB, 16 TB  Hot-swapping Supported  RAID RAID 0, 1, 3, 5, 6, 10, 50, JBOD, Hot-Spare  RAID Disk management Disk inspection, alarm and repair  Logical volume management  Recording Management Cording, manual recording, dual-stream recording, alarm recording  Management Searching mode Cording, manual recording, dual-stream recording, alarm recording  Management Search by time and event  Downloading mode Cording Methodology between the devices  Maintenance Alarm mode Alarm mode Cording, dual-stream recording, alarm recording  Management mode Cording mode Search by time and event  Device Maintenance Log downloading Download by segment, download by merging  Meb-based GUI, serial port CLI, centralized management of multiple devices  Sound, light, email, message, web page  Log downloading Download no web page  Log downloading Download no web page  External interface MiniSAS interface Supported(optional)  I 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Controller	Processor	64-bit multi-core processor
HDD HDD Hot-swapping Supported RAID RAID O, 1, 3, 5, 6, 10, 50, JBOD, Hot-Spare  Network Protocol ISCSI, RTSP, ONVIF, PSIA Disk management Disk inspection, alarm and repair Logical volume management  Recording Management  Recording Management  Recording Management  Management  Recording Management  Device Management Downloading mode Device Management Management Pownload in the first protocol of the first protocol o		Cache	4 to 64 GB
HDD Hot-swapping Supported RAID RAID 0, 1, 3, 5, 6, 10, 50, JBOD, Hot-Spare  Network Protocol iSCSI, RTSP, ONVIF, PSIA Disk management Disk inspection, alarm and repair Logical volume management iSCSI volume, video volume management mecording, alarm recording, manual recording, dual-stream recording, alarm recording mode Search by time and event Downloading mode Search by time and event Downloading mode Web-based GUI, serial port CLI, centralized management, download by merging Web-based GUI, serial port CLI, centralized management of multiple devices Device Maintenance Alarm mode Sound, light, email, message, web page Log downloading Download no web page Log downloading Download no web page 2, 1000Mbps Ethernet interface(4 × GbE or 2 × 10GbE is extendable) Management network interface NinisSA interface Supported(optional) interface MinisSA interface Supported(optional)  USB 4  VGA 1  Power supply Redundant Consumption (with HDDs) Redundant Consumption (with HDDs) Redundant Consumption (with HDDs) Redundant Consumption (with HDDs) Redundant Fenvironment tumidity Storing: 5479(1633 BTU with 24 HDDs) Redundant Fenvironment Working: 5 * Ct o +40 * C (41 * F to 104 * F) Storing: 540 * Ct o +55 * C (-104 * F to 131 * F) Working: 20% to 80%RH (non-condensing/frozen); Storing: 540 * Ct o +55 * C (-104 * F to 131 * F) Working: 20% to 80%RH (non-condensing/frozen) Chassis 4U (19 inches high)	HDD	HDD slot	24
Hots-wapping   Supported		Interface/capacity	SATA/1 TB, 2 TB, 3 TB, 4 TB, 6 TB, 8 TB, 10 TB, 12 TB, 14 TB, 16 TB
Network         Protocol         ISCSI, RTSP, ONVIF, PSIA           Storage Management         Disk management         Disk inspection, alarm and repair           Recording Management         Interpretation of the protocol of the prot		Hot-swapping	Supported
Disk management   Disk inspection, alarm and repair		RAID	RAID 0, 1, 3, 5, 6, 10, 50, JBOD, Hot-Spare
Storage Management   Logical volume management   Management mode   Mebage   Management mode   Mebage   Management mode   Mebage   Management mode   Mebage   Me	Network	Protocol	iSCSI, RTSP, ONVIF, PSIA
Management   Cogical volume management   ISCSI volume, video volume management mecording, dual-stream recording, alarm recording   Lock key video, N+1 service protection, ANR, video loss detection and alarm   Cock key video, N+1 service protection, ANR, video loss detection and alarm   Cock key video, N+1 service protection, ANR, video loss detection and alarm   Cock key video, N+1 service protection, ANR, video loss detection and alarm   Cock key video, N+1 service protection, ANR, video loss detection and alarm   Cock key video, N+1 service protection, ANR, video loss detection and alarm   Cock key video, N+1 service protection, ANR, video loss detection and alarm   Cock key video, N+1 service protection, ANR, video loss detection and alarm   Cock key video, N+1 service protection, ANR, video loss detection and alarm   Cock key video, N+1 service protection, ANR, video loss detection and alarm   Cock key video, N+1 service protection, ANR, video loss detection and alarm   Cock key video, N+1 service protection, ANR, video loss detection and alarm   Cock key video, N+1 service protection, ANR, video loss detection and alarm   Cock key video, N+1 service protection, ANR, video loss detection and alarm   Cock key video, N+1 service protection, ANR, video loss detection and alarm   Cock key video, N+1 service protection, ANR, video loss detection and alarm   Cock key video, N+1 service protection, ANR, video loss detection and alarm   Cock key video, N+1 service protection, ANR, video loss detection and alarm   Cock key video, N+1 service protection, ANR, video loss detection and alarm   Cock key video, N+1 service protection, N+1 service protection, ANR, video loss detection and alarm   Cock key video, N+1 service protection, N+1 servi	_	Disk management	Disk inspection, alarm and repair
Recording Management  Management  Searching mode  Device  Management mode  Lock key video, N+1 service protection, ANR, video loss detection and alarm  Searching mode  Search by time and event  Quick download, batch download, download by segment, download by merging  Web-based GUI, serial port CLI, centralized management of multiple devices  Maintenance  Alarm mode  Log downloading  Download no web page  Log downloading  Download no web page  2, 1000Mbps Ethernet interface(4 × GbE or 2 × 10GbE is extendable)  Management network interface  MiniSAS interface  Supported(optional)  COM  1  USB  VGA  1  Power supply  Redundant  Consumption (with  HDDs)  Finvironment  temperature  Working: \$479(1633 BTU with 24 HDDs)  Rated: \$875 W  Environment  temperature  Storing: 40°C to +45°C (-104°F to 104°F)  Working: 20% to 80%RH (non-condensing/frozen);  Storing: 5% to 90%RH (non-condensing/frozen);  Storing: 5% to 90%RH (non-condensing/frozen);			iSCSI volume, video volume management
Recording     Video protection     alarm       Management     Searching mode     Search by time and event       Downloading mode     Quick download, batch download, download by segment, download by merging       Management mode     Web-based GUI, serial port CLI, centralized management of multiple devices       Maintenance     Alarm mode     Sound, light, email, message, web page       Log downloading     Download no web page       Data network interface     2, 1000Mbps Ethernet interface(4 × GbE or 2 × 10GbE is extendable)       Management network interface     1, 1000Mbps Ethernet interface       MiniSAS interface     Supported(optional)       COM     1       USB     4       VGA     1       Power supply     Redundant       Consumption (with     Working: ≤ 479(1633 BTU with 24 HDDs)       HDDs)     Rated: ≤ 875 W       Environment     Working: +5 °C to +40 °C (41 °F to 104 °F)       temperature     Storing: -40 °C to +55 °C (-104 °F to +131 °F)       Environment humidity     Working: 20% to 80%RH (non-condensing/frozen);       Chassis     4U (19 inches high)       Dimensions (W × H × D)     484 x 174 x 684 mm (19.1 x 6.9 x 26.9 in)	_	Recording mode	
Searching mode Downloading mode Downloading mode  Downloading mode  Downloading mode  Management mode  Alarm mode Log downloading Download no web page Log downloading Download no web page Data network interface  Management network interface  Management network interface  MiniSAS interface  MiniSAS interface  Supported(optional)  COM  USB  VGA  Power supply  Redundant  Consumption (with HDDs)  Environment temperature  Environment humidity  Chassis  Dimensions (W × H × D)  Quick download, batch download, download by segment, download by merging  Quick download, batch download, download by segment, download by merging  Quick download, batch download, download by segment, download by merging  Quick download, batch download, download by segment, download by merging  Quick download, batch download, download by segment, download by merging  Web-based GUI, serial port CLI, centralized management of multiple devices  Sound, light, email, message, web page  2, 1000Mbps Ethernet interface(4 × GbE or 2 × 10GbE is extendable)  1, 1000Mbps Ethernet interface  Supported(optional)  1 Wookling: 4 * 4 * 4 * 4 * 4 * 4 * 4 * 4 * 4 * 4		Video protection	
Device  Management mode  Maintenance  Maintenance  Alarm mode  Log downloading  Download no web page  Dota network interface  Management network interface  MinisAs interface  MinisAs interface  COM  USB  VGA  Power supply  Redundant  Consumption (with  HDDs)  Environment  temperature  Environment humidity  Chassis  Dimensions (W × H × D)  Management mode  Web-based GUI, serial port CLI, centralized management of multiple devices  Web-based GUI, serial port CLI, centralized management of multiple devices  Web-based GUI, serial port CLI, centralized management of multiple devices  Web-based GUI, serial port CLI, centralized management of multiple devices  Sound, light, email, message, web page  2, 1000Mbps Ethernet interface(4 × GbE or 2 × 10GbE is extendable)  1, 1000Mbps Ethernet interface  Supported(optional)  1		Searching mode	Search by time and event
Device         Maintenance       Alarm mode       Sound, light, email, message, web page         Log downloading       Download no web page         Data network interface       2, 1000Mbps Ethernet interface(4 × GbE or 2 × 10GbE is extendable)         Management network interface       1, 1000Mbps Ethernet interface         MiniSAS interface       Supported(optional)         COM       1         USB       4         VGA       1         Power supply       Redundant         Consumption (with HDDs)       Working: ≤ 479(1633 BTU with 24 HDDs)         HDDs)       Rated: ≤ 875 W         Environment       Working: +5 °C to +40 °C (41 °F to 104 °F)         temperature       Storing: -40 °C to +55 °C (-104 °F to +131 °F)         Working: 20% to 80%RH (non-condensing/frozen);       Storing: 5% to 90%RH (non-condensing/frozen)         Chassis       4U (19 inches high)         Dimensions (W × H × D)       484 x 174 x 684 mm (19.1 x 6.9 x 26.9 in)		Downloading mode	
Log downloading Download no web page  2, 1000Mbps Ethernet interface(4 × GbE or 2 × 10GbE is extendable)  Management network interface  MiniSAS interface MiniSAS interface  Supported(optional)  COM 1 USB 4 VGA 1 Power supply Consumption (with HDDs) Rated: ≤ 875 W  Environment temperature  Environment humidity  Chassis Dimensions (W × H × D)  Pownload no web page 2, 1000Mbps Ethernet interface(4 × GbE or 2 × 10GbE is extendable)  Analogoment 1, 1000Mbps Ethernet interface  Supported(optional)  1 Working: ≤ 479(1633 BTU with 24 HDDs)  Rated: ≤ 875 W  Environment  Working: -40 °C (41 °F to 104 °F)  Storing: -40 °C to +55 °C (-104 °F to +131 °F)  Working: 20% to 80%RH (non-condensing/frozen);  Storing: 5% to 90%RH (non-condensing/frozen)  4U (19 inches high)  Dimensions (W × H × D)  All Analogoment interface  Nanagement network  1, 1000Mbps Ethernet interface(4 × GbE or 2 × 10GbE is extendable)  Analogoment interface  Nanagement network  1, 1000Mbps Ethernet interface(4 × GbE or 2 × 10GbE is extendable)  Nanagement network  1, 1000Mbps Ethernet interface  Supported(optional)  1		Management mode	
Data network interface  Management network interface  MinisAs interface  MinisAs interface  COM  USB  VGA  Power supply  Consumption (with HDDs)  Environment temperature  Environment humidity  Chassis  Chassis  Data network interface  2, 1000Mbps Ethernet interface  1, 1000Mbps Ethernet interface  Supported(optional)  1  Value  Working: ≤ 479(1633 BTU with 24 HDDs)  Rated: ≤ 875 W  Environment  Working: +5 °C to +40 °C (41 °F to 104 °F)  Storing: -40 °C to +55 °C (-104 °F to +131 °F)  Working: 20% to 80%RH (non-condensing/frozen);  Storing: 5% to 90%RH (non-condensing/frozen)  Chassis  4U (19 inches high)  Dimensions (W × H × D)  484 x 174 x 684 mm (19.1 x 6.9 x 26.9 in)		Alarm mode	Sound, light, email, message, web page
Management network interfaceinterface1, 1000Mbps Ethernet interfaceMiniSAS interfaceSupported(optional)COM1USB4VGA1Power supplyRedundantConsumption (with HDDs)Working: ≤ 479(1633 BTU with 24 HDDs)Environment temperatureWorking: +5 °C to +40 °C (41 °F to 104 °F)Environment humidityWorking: -40 °C to +55 °C (-104 °F to +131 °F)Environment humidityWorking: 20% to 80%RH (non-condensing/frozen); Storing: 5% to 90%RH (non-condensing/frozen)Chassis Dimensions (W × H × D)484 x 174 x 684 mm (19.1 x 6.9 x 26.9 in)		Log downloading	Download no web page
interface  MiniSAS interface  MiniSAS interface  Supported(optional)  COM  USB  VGA  Power supply  Redundant  Consumption (with  HDDs)  Environment  temperature  Environment humidity  Chassis  Dimensions (W × H × D)  Power supply  Redundant  Working: ≤ 479(1633 BTU with 24 HDDs)  Rated: ≤ 875 W  Environment  • Working: +5 °C to +40 °C (41 °F to 104 °F)  • Working: -40 °C to +55 °C (-104 °F to +131 °F)  Working: 20% to 80%RH (non-condensing/frozen);  Storing: 5% to 90%RH (non-condensing/frozen)  4U (19 inches high)  Dimensions (W × H × D)  A84 x 174 x 684 mm (19.1 x 6.9 x 26.9 in)		Data network interface	2, 1000Mbps Ethernet interface(4 × GbE or 2 × 10GbE is extendable)
$ \begin{tabular}{ll} \begin{tabular}{ll} MiniSAS interface & Supported(optional) \\ \hline COM & 1 \\ \hline USB & 4 \\ \hline VGA & 1 \\ \hline Power supply & Redundant \\ \hline Consumption (with & Working: \leq 479(1633 \ BTU \ with \ 24 \ HDDs) \\ \hline HDDs) & Rated: \leq 875 \ W \\ \hline Environment & Working: +5 °C \ to +40 °C \ (41 °F \ to \ 104 °F) \\ \hline temperature & Storing: -40 °C \ to +55 °C \ (-104 °F \ to +131 °F) \\ \hline Environment \ humidity & Working: 20% \ to \ 80\% RH \ (non-condensing/frozen); \\ \hline Storing: 5% \ to \ 90\% RH \ (non-condensing/frozen) \\ \hline Chassis & 4U \ (19 \ inches \ high) \\ \hline Dimensions \ (W \times H \times D) & 484 \times 174 \times 684 \ mm \ (19.1 \times 6.9 \times 26.9 \ in) \\ \hline \end{tabular} $		_	1, 1000Mbps Ethernet interface
General		MiniSAS interface	Supported(optional)
$ \begin{tabular}{c ccccccccccccccccccccccccccccccccccc$		COM	1
$\begin{tabular}{lllllllllllllllllllllllllllllllllll$		USB	4
Consumption (with HDDs)  Barbor Problem Prob		VGA	1
HDDs)  ■ Rated: $\leq 875 \text{ W}$ Environment  temperature  ■ Storing: $-40 ^{\circ}\text{C}$ to $+40 ^{\circ}\text{C}$ (41 $^{\circ}\text{F}$ to $104 ^{\circ}\text{F}$ )  temperature  ■ Storing: $-40 ^{\circ}\text{C}$ to $+55 ^{\circ}\text{C}$ ( $-104 ^{\circ}\text{F}$ to $+131 ^{\circ}\text{F}$ )  ■ Working: $20\%$ to $80\%$ RH (non-condensing/frozen);  Storing: $5\%$ to $90\%$ RH (non-condensing/frozen)  Chassis  4U (19 inches high)  Dimensions (W × H × D)  484 x 174 x 684 mm (19.1 x 6.9 x 26.9 in)	General	Power supply	Redundant
General  Environment temperature  Storing: -40 °C to +40 °C (41 °F to 104 °F)  Environment humidity  Environment humidity  Chassis  U (19 inches high)  Dimensions (W × H × D)  O Working: 20% to 80%RH (non-condensing/frozen)  Storing: 5% to 90%RH (non-condensing/frozen)  484 x 174 x 684 mm (19.1 x 6.9 x 26.9 in)		Consumption (with	● Working: ≤ 479(1633 BTU with 24 HDDs)
temperature  Storing: -40 °C to +55 °C (-104 °F to +131 °F)  Working: 20% to 80%RH (non-condensing/frozen); Storing: 5% to 90%RH (non-condensing/frozen)  Chassis  4U (19 inches high)  Dimensions (W × H × D)  484 x 174 x 684 mm (19.1 x 6.9 x 26.9 in)		HDDs)	• Rated: ≤ 875 W
<ul> <li>General</li> <li>■ Working: 20% to 80%RH (non-condensing/frozen);</li> <li>■ Storing: 5% to 90%RH (non-condensing/frozen)</li> <li>Chassis</li> <li>4U (19 inches high)</li> <li>Dimensions (W × H × D)</li> <li>484 x 174 x 684 mm (19.1 x 6.9 x 26.9 in)</li> </ul>		Environment	• Working: +5 °C to +40 °C (41 °F to 104 °F)
<ul> <li>Working: 20% to 80%RH (non-condensing/frozen);</li> <li>Storing: 5% to 90%RH (non-condensing/frozen)</li> <li>Chassis</li> <li>U (19 inches high)</li> <li>Dimensions (W × H × D)</li> <li>484 x 174 x 684 mm (19.1 x 6.9 x 26.9 in)</li> </ul>		temperature	• Storing: -40 °C to +55 °C (-104 °F to +131 °F)
Dimensions (W × H × D) 484 x 174 x 684 mm (19.1 x 6.9 x 26.9 in)		Environment humidity	, , , , , , , , , , , , , , , , , , , ,
		Chassis	4U (19 inches high)
Weight (without HDDs) ≤ 40kg		Dimensions (W × H × D)	484 x 174 x 684 mm (19.1 x 6.9 x 26.9 in)
		Weight (without HDDs)	≤ 40kg

## **Typical Application**



## **Available Model**

DS-A71024R