

DS-A81 Series Hybrid SAN

Introduction

The DS-A81 series is an economical controller-structure 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. This flexible, cost-effective solution features ONVIF-support to third-party cameras such as BOSCH, AXIS, SONY, Samsung etc, support for 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.



Features

Economical and Stable Hardware Platform

- Modular and no-cable design and SBB 2.0 structure.
- 64-bit multi-core processor.
- 4 GB high-speed cache.
- Four 1000M network interfaces.
- 12G SAS high-speed transmission channel.
- Redundant design for key modules.

HDD Detection and Repair/RAID Optimization

- Detection before operation.
- Detection in operation.
- Fault reparation.
- RAID 0, 1, 3, 5, 6, 10, 50, and VRAID.
- 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
- HDD sleeping

User-Friendly UI

- Quick configuration.
- Various alarm management.
- SADP protocol supported.
- SNMP supported.

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.
- VRAID data protection.
- Supports both Direct Streaming Mode and IPSAN Mode.
- Search, play, and download videos by video type or video time.



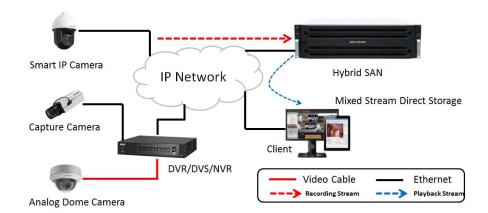


Specification

Direct Streaming Mode: video (2 Mbps) + picture 180-ch recording + playback 195AN 180-ch recording + playback 180-ch	Model		DS-A81016S
IPSAN 180-ch recording + playback 20 ne controller (64-bit multi-core processor) 2 cache 4 GB (extendable to 32 GB) 4 GB (extendable to 42 GB) 4 GB	Performance	Direct Streaming Mode:	320-ch recording + playback
Processor Cache 4 GB (extendable to 32 GB)		video (2 Mbps) + picture	
Cache A GB (extendable to 32 GB)		IPSAN	180-ch recording + playback
Cache A GB (extendable to 32 GB)	Controller	Processor	One controller (64-bit multi-core processor)
HDD Hot-swapping Supported HDD support Single, RAID(Enterprise Hard Disk) RAID	Controller	Cache	4 GB (extendable to 32 GB)
HDD HDD support Single, RAID(Enterprise Hard Disk) RAID RAIDO, 1, 3, 5, 6, 10, 50, VRAID, JBOD, Hot-spare Disk management Logical volume management Search by time and event Downloading mode Search by time and event Downloading mode Sound, light, email, message, web page Network Protocol SCSI, RTSP, ONVIF, PSIA Data network interface Management network interface Interfaces Power supply Redundant Soring, Said William in temperature Sound, with HDDs) Rated: \$ 550 W Storing: 5% to 90%RH (non-condensing/frozen) Storing: 5% to 90%RH (non-condensing/frozen) Storing: 5% to 90%RH (non-condensing/frozen) Storage Management humidity Side Not Not well as to sound in page in the medium of the mind in the mindit in		HDD slot	16
HDD support RAID RAID RAID RAID RAID RAID RAID RAID		Interface/capacity	SATA/1TB, 2TB, 3TB, 4TB, 6TB,8TB
RAID	HDD	Hot-swapping	Supported
Disk management Disk inspection, alarm and repair		HDD support	Single, RAID(Enterprise Hard Disk)
Logical volume management		RAID	RAIDO, 1, 3, 5, 6, 10, 50, VRAID, JBOD, Hot-spare
Management Logical volume management iSCSI volume, video volume management management management management management management 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 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 SCSI, RTSP, ONVIF, PSIA Data network interface 3, 1000M Ethernet interface 1, 1000M Ethernet interface 1, 1000M Ethernet interface 1 MiniSAS interface 1 MDMI 2 Redundant 2 Redundant Morking: \$308 W (967 BTU with 16 HDDs) Rated: \$550 W Environment temperature Working: \$5% to 90%RH (non-condensing/frozen) Storing: 5% to 90%RH (non-condensing/frozen) Working: 20% to 80%RH (non-condensing/frozen) Mainisch interface Morking: 20% to 80%RH (non-condensing/frozen) Morking:	Ctorago	Disk management	Disk inspection, alarm and repair
Recording Management Video protection Lock key video, N+1 service protection, ANR, video loss detection and alarm Management Device Maintenance Management mode Meb-based GUI, serial port CLI, centralized management of multiple devices Maintenance Management mode Alarm mode Sound, light, email, message, web page Log downloading Download no web page Network Protocol Protocol ISCSI, RTSP, ONVIF, PSIA Data network interface Management network interface 3, 1000M Ethernet interface MiniSAS interface COM IUSB 3.0 2 Alarm interface 1 HDMI 2 Alarm interface IDMINICATE SOURCE SOURC	_	_	iSCSI volume, video volume management
Management Searching mode Search by time and event Downloading mode Quick download, batch download, download by segment, download by merging Meanagement mode Web-based GUI, serial port CLI, centralized management of multiple devices Maintenance Alarm mode Sound, light, email, message, web page Network Protocol iSCSI, RTSP, ONVIF, PSIA Data network interface 3, 1000M Ethernet interface Management network interface 1, 1000M Ethernet interface MiniSAS interface Supported COM 1 USB 3.0 2 Alarm interface 1 HDMI 2 Power supply Redundant Consumption (with HDDs) Working: ≤308 W (967 BTU with 16 HDDs) Rated: ≤ 550 W Environment • Working: 5°C to +40°C (41°F to 104°F) temperature Storing: -20°C to +70°C (-4°F to +158°F) Environment humidity • Working: 20% to 80%RH (non-condensing/frozen) Chassis 3U (19-inch height)		Recording mode	Timing recording, manual recording, dual-stream recording, alarm recording
Downloading mode Device Maintenance Management mode Alarm mode Alarm mode Alarm mode Alarm mode Alarm mode Download no web page Network Management network Interfaces MiniSAS interface MiniSAS interface MiniSAS interface Mome Alarm interface Mome HDMI Consumption (with HDDs) Environment temperature Environment humidity Chassis Management mode Alarm interface Alarm interface Mome overlange of the first of the Morking: 25% to 90%RH (non-condensing/frozen) Sound, light, email, message, web page Download no web page Sound, light, email, message, web page Download no web page Sound, light, email, message, web page Download no web page Sound, light, email, message, web page Sound, light, email, message, web page Download no web page Sound, light, email, message, web page Sound, light, email, message, web page Bound in email, message, web page Sound, light, email, message, web page Bound in email, message, web page Sound, light, email, message, web page Bound in email, message, web page Sound, light, email, message, web page Bound in email, message, web page Sound, light, email, message, web page Bound in email, message, web page Suported 1, 1000M Ethernet interface 1, 1000M Ethernet interface 1, 1000M Ethernet interface 1, 1000M Ethernet interface 2, 1000M Ethernet interface 3, 1000M Ethernet interface 1, 1000M Ethernet interface 1, 1000M Ethernet interface 2, 1000M Ethernet interface 3, 1000M Ethernet interface 1, 1000M Ethernet interface 1, 1000M Ethernet interface 2, 1000M Ethernet interface 3, 1000M Ethernet interface 4, 1000M Ethernet interface 1, 1000M Ethernet i	Recording	Video protection	Lock key video, N+1 service protection, ANR, video loss detection and alarm
Device Maintenance	Management	Searching mode	Search by time and event
Device Maintenance Alarm mode Log downloading Download no web page Download no web page icsci, RTSP, ONVIF, PSIA Data network interface Management network interface MinisAS interface MinisAS interface COM USB 3.0 Alarm interface HDMI Power supply Consumption (with HDDs) Environment temperature Environment humidity Chassis Alarm mode Sound, light, email, message, web page Download no web page icsci, rtsp, ONVIF, PSIA 3, 1000M Ethernet interface 1, 1000M Ethernet interface 1, 1000M Ethernet interface 1 Alarm interface 1 Power supply Redundant Working: ≤308 W (967 BTU with 16 HDDs) Rated: ≤ 550 W Rated: ≤ 550 W Storing: -20 °C to +40 °C (41 °F to 104 °F) Storing: -20 °C to +70 °C (-4 °F to +158 °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)		Downloading mode	Quick download, batch download, download by segment, download by merging
Maintenance Alarm mode Sound, light, email, message, web page Network Protocol iscSI, RTSP, ONVIF, PSIA Data network interface Management network interface 3, 1000M Ethernet interface Management network interface 1, 1000M Ethernet interface MiniSAS interface Supported COM 1 USB 3.0 2 Alarm interface 1 HDMI 2 Redundant Consumption (with HDDs) Redundant Environment Working: ≤308 W (967 BTU with 16 HDDs) Rated: ≤ 550 W Storing: 250 W Environment temperature Working: 20°C to +40°C (41°F to 104°F) Storing: 20°C to +70°C (-4°F to +158°F) Environment humidity Working: 20% to 80%RH (non-condensing/frozen) Storing: 5% to 90%RH (non-condensing/frozen) Storing: 5% to 90%RH (non-condensing/frozen)		Management mode	Web-based GUI, serial port CLI, centralized management of multiple devices
Log downloading Download no web page		Alarm mode	Sound, light, email, message, web page
Data network interface Management network interface Interface MinisAS interface MinisAS interface Supported COM 1 USB 3.0 2 Alarm interface HDMI 2 Power supply Consumption (with HDDs) Environment temperature Environment humidity Chassis Data network interface 1, 1000M Ethernet interface 1, 1000M Ethernet interface 1, 1000M Ethernet interface 1 Visual Power supply Redundant Working: ≤308 W (967 BTU with 16 HDDs) Rated: ≤550 W Environment Working: +5 °C to +40 °C (41 °F to 104 °F) Storing: -20 °C to +70 °C (-4 °F to +158 °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) Storing: 100 MRH (non-condensing/frozen)	Maintenance	Log downloading	Download no web page
Interfaces Management network interface MiniSAS interface COM USB 3.0 Alarm interface HDMI Power supply Consumption (with HDDs) Environment temperature Environment humidity Chassis Management network interface 1, 1000M Ethernet interface Supported 1 0 Working: ≤308 W (967 BTU with 16 HDDs) Rated: ≤ 550 W Working: ≤308 W (967 BTU with 16 HDDs) Rated: ≤ 550 W Working: -20 °C to +40 °C (41 °F to 104 °F) Storing: -20 °C to +70 °C (-4 °F to +158 °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) 3U (19-inch height)	Network	Protocol	iSCSI, RTSP, ONVIF, PSIA
Interfaces MiniSAS interface Supported COM 1 USB 3.0 2 Alarm interface 1 HDMI 2 Power supply Redundant Consumption (with HDDs) Environment temperature Storing: -20 °C to +70 °C (-4 °F to 104 °F) Environment humidity • Working: 20% to 80%RH (non-condensing/frozen) Storing: 5% to 90%RH (non-condensing/frozen) Chassis 3U (19-inch height)		Data network interface	3, 1000M Ethernet interface
COM			1, 1000M Ethernet interface
COM USB 3.0 2 Alarm interface 1 HDMI 2 Power supply Redundant Consumption (with HDDs) Rated: ≤ 550 W Environment temperature Environment humidity Chassis Comparison From the proper supply Fro		MiniSAS interface	Supported
Alarm interface HDMI 2 Power supply Redundant Consumption (with HDDs) Environment temperature Environment humidity Environment humidity Chassis Alarm interface 1 Working: 20 Redundant Working: ≤308 W (967 BTU with 16 HDDs) Rated: ≤ 550 W Environment Working: +5 °C to +40 °C (41 °F to 104 °F) Storing: -20 °C to +70 °C (-4 °F to +158 °F) Working: 20% to 80%RH (non-condensing/frozen) Storing: 5% to 90%RH (non-condensing/frozen) 3U (19-inch height)	Interfaces	СОМ	1
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Power supply Consumption (with HDDs) Rated: ≤ 550 W Environment temperature Environment humidity Environment humidity Chassis Power supply Working: ≤308 W (967 BTU with 16 HDDs) Rated: ≤ 550 W Environment Working: +5 °C to +40 °C (41 °F to 104 °F) Storing: -20 °C to +70 °C (-4 °F to +158 °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)		Alarm interface	1
General		HDMI	2
Consumption (with HDDs) Rated: ≤ 550 W Environment temperature Storing: -20 °C to +70 °C (-4 °F to 104 °F) Environment humidity Output Working: 20% to 80%RH (non-condensing/frozen) Storing: 5% to 90%RH (non-condensing/frozen) Chassis 3U (19-inch height)	Ganaral	Power supply	Redundant
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General Environment humidity Working: 20% to 80%RH (non-condensing/frozen) Storing: 5% to 90%RH (non-condensing/frozen) Chassis 3U (19-inch height)		Environment	• Working: +5 °C to +40 °C (41 °F to 104 °F)
 Working: 20% to 80%RH (non-condensing/frozen) Storing: 5% to 90%RH (non-condensing/frozen) Chassis 3U (19-inch height) 		temperature	Storing: -20 °C to +70 °C (-4 °F to +158 °F)
Chassis 3U (19-inch height)	General	Environment humidity	
		Chassis	
(III C.E.T X 7.C X C./T) IIIIII CEF X 7.CT X 040 / II \ (A \ II \ A A) SIIOISIIIII		Dimensions (W × H × D)	440 x 132 x 495 mm (17.3 x 5.2 x 19.5 in)
Weight (without HDDs) ≤ 20 Kg (44.1 lb)			



Typical Application



Available Models

DS-A81016S

Available HDDs

Hikvision Tested and recommended HDDs

Seagate MAKARA Series (eg. ST8000NM0055) / Seagate MakaraBP Series (eg. ST6000NM0115) / WD RE series (eg. WD8002FRYZ-31) / HGST 7k6000 series (eg. HUH728080ALE600)

Note: Enterprise HDD strong recommended when used in RAID mode and ISCSI application due to more stability design features; if Surveillance HDD need to be Used, please consult with Hikvision Sales.

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