Datasheet

—

RackStation

RS1221+

Safeguarding Critical Business Assets Through Robust Data Protection

The Synology RackStation RS1221+ is a powerful 2U 8-bay rackmount network-attached storage solution, perfect for centralizing data management in short rack-depth environments. RS1221+ is ideal for handling heavy file workloads and protecting digital assets in small business environments through the comprehensive data protection options included in the DiskStation Manager (DSM) operating system.

- **High Performance**
  Tackle multi-user environments effortlessly with up to 2,315 MB/s read and 1,147 MB/s write performance[1]

- **Compact Deployment**
  RS1221+ features a short depth of just 298 mm and 399 mm respectively

- **Ready for 10/25GbE**
  Supports 10GbE SFP+/RJ-45 and 25GbE SFP28 NICs to instantly increase network bandwidth based on your infrastructure[2]

- **Synology High Availability**
  Configure two units together to create a high-availability cluster for maximum service uptime and minute-level failover

Versatile by Design

Synology RS1221+ is a multi-purpose powerhouse, suited to a wide range of scenarios. The short form factor enables easy installation on a two-post rack or in space-limited environments.

- Over 108,173 4K random read IOPS and 2,315 MB/s sequential write throughput1 for demanding workloads
- Features 8 bays, for 2.5" and 3.5" SATA HDD/SSD drives, and can be expanded to 12 bays with a Synology RX418 expansion unit[3]

Optimized for Data Protection and Integrity

Powered by Synology DSM, our unified data management operating system with support for the Btrfs file system, data stored on the RS1221+ is safely guarded by modern data protection technologies.

- **Advanced snapshot technology** provides schedulable and near-instantaneous data protection for shared folders and LUNs
- **File and folder-level data restoration** enables restoration of specific files or folders
- **Flexible storage quota system** helps admins effortlessly manage available space by specifying storage limits for shared folders
- **File self-healing** detects and recovers corrupted files using mirrored metadata and RAID configurations
- **Inline compression** compresses data before writing it to the drive, reducing write commands and optimizing storage space

Data Backup Solutions for IT Infrastructure

Synology Active Backup Suite is a collection of license-free backup solutions built to protect Windows PCs and servers, VMs, other file servers, and even Google Workspace and Microsoft 365 cloud applications.

Active Backup for Business (ABB) consolidates backup tasks for physical and virtual environments, and enables rapid restoration of files, entire physical machines, and VMs.

Active Backup for Google Workspace enables backup of Google Workspace data including Gmail, Contacts, Calendar, and Drive.

Active Backup for Microsoft 365 enables backup of Microsoft 365 data including OneDrive for Business, SharePoint Online, emails, contacts, and calendar.

On-Premises Collaboration

Synology's collaboration suite is a private SaaS for file sharing, concurrent document editing, emails, instant messaging, and more. By leveraging a private cloud infrastructure, it ensures data ownership, while multi-layered security enables secure multi-platform access.

Synology Drive allows data access, synchronization, on-demand file restoration, and backup.

Synology MailPlus[4] provides a secure, reliable, and private email server.

Synology Chat brings teams together through instant multi-platform communication.

Synology Calendar helps teams keep track of what is important with convenient calendar sharing and scheduling.

Private Video Surveillance

With Synology Surveillance Station, RS1221+ becomes a powerful Network Video Recorder solution with support for up to 40 IP cameras.[5]

- 7,900+ supported camera models
- ONVIF support prevents vendor lock-in
- Private, subscription-free storage of recordings
- Access through web browsers, desktop clients, or mobile apps
- Event-based rules to trigger specific actions
- Email, SMS, or push notification systems
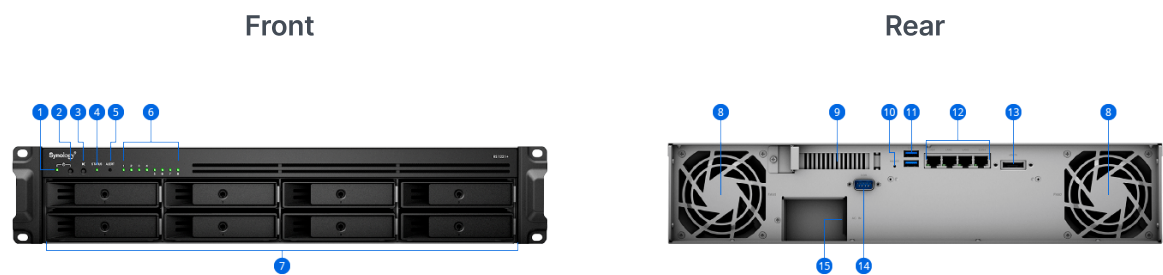
Virtualization and Certified Storage

DSM streamlines provisioning and management of storage for virtual machines (VM). Certified for VMware® vSphere™, Microsoft® Hyper-V®, Citrix® XenServer™, and OpenStack, it integrates with your virtualization platform of choice through iSCSI or NFS protocols. Install Synology Storage Console on VMware or Windows platforms for additional management convenience and functionality right in the hypervisor.

Synology Virtual Machine Manager (VMM) is a hosted hypervisor for virtual machines running Windows®, Linux®, or virtualized versions of DSM with recovery mechanisms that ensure data protection on each VM.[6]

Notes:

1. Performance figures obtained through internal testing by Synology. Actual performance may vary depending on the testing environment, usage, and configuration.

2. For the most up-to-date list of compatible NICs, please check our compatibility list (http://sy.to/rs1221pdscn) .

3. RS1221+ supports up to 12 drives with one Synology RX418 expansion unit, sold separately.

4. Five MailPlus licenses are included, licenses required for additional user accounts. Learn more (http://sy.to/rs1221ppmpl) about licenses.

5. Surveillance Station includes two free licenses. Connecting more cameras and devices requires additional licenses (http://sy.to/rs1221ppsdl) .

6. Certain advanced features require Virtual Machine Manager Pro (http://sy.to/rs1221ppvmmpl) . One Virtual DSM license (http://sy.to/rs1221pdsvdl) is included, licenses are required for running additional instances.

Hardware Overview

Front

Rear

No.	Name	No.	Name
1.	Power Indicator	9.	PCIe Expansion Slot
2.	Power Button	10.	Reset Button
3.	Alert Off Button	11.	USB 3.2 Gen 1 Ports
4.	Status Indicator	12.	1GbE RJ-45 Ports
5.	Alert Indicator	13.	Expansion Port
6.	Drive Status Indicators	14.	Console Port
7.	Drive Trays	15.	Power Port(s)
8.	Fans		

Technical Specifications

Hardware

CPU

CPU Model	AMD Ryzen V1500B
CPU Quantity	1
CPU Core	4
CPU Architecture	64-bit
CPU Frequency	2.2 GHz
Hardware Encryption Engine	Yes

Memory

System Memory	4 GB DDR4 ECC SODIMM
Memory Module Pre-installed	4 GB (4 GB x 1)
Total Memory Slots	2
Maximum Memory Capacity	32 GB (16 GB x 2)
Notes	Please select Synology memory modules for optimum compatibility and reliability. Synology will not provide complete product warranty or technical support if non-Synology memory modules are used for memory expansion.

Storage

Drive Bays	8
Maximum Drive Bays with Expansion Unit	12 (RX418 × 1)
Drive Type	3.5" SATA HDD 2.5" SATA HDD 2.5" SATA SSD
Hot Swappable Drive	Yes

External Ports

RJ-45 1GbE LAN Port	4

USB 3.2 Gen 1 Port	2
Expansion Port	1

PCIe

PCIe Expansion	1 x Gen3 ×8 slot (x4 link)

Appearance

Form Factor (RU)	2U
Size (Height x Width x Depth)	88 mm x 482 mm x 306.6 mm
Weight	6.9 kg
Rack Installation Support	• 4-post 19" rack (Synology Rail Kit - RKM114/RKS-02) • 2-post 19" rack (direct mounting)
Notes	The rail kit is sold separately

Others

System Fan	80 mm x 80 mm x 25 mm x 2 pcs
AC Input Power Voltage	100 V to 240 V AC
Power Frequency	50/60 Hz, Single Phase

Temperature

Operating Temperature	0°C to 35°C (32°F to 95°F)
Storage Temperature	-20°C to 60°C (-5°F to 140°F)
Relative Humidity	5% to 95% RH
Maximum Operating Altitude	5,000 m

General DSM Specifications

Storage Management

Maximum Single Volume Size	108 TB
Maximum Internal Volume Number	64
SSD Read/Write Cache (Determining cache size)	Yes

Supported RAID Type	Synology Hybrid RAID,Basic,JBOD,RAID 0,RAID 1,RAID 5,RAID 6,RAID 10
Notes	• Each internal volume (may consist of multiple drives) is expandable up to 108TB.
	• Actual maximum storage pool and volume sizes depend on drive sizes used, the number of drive bays available, and the RAID configuration.
	• Usable capacity for each volume will be lower than the maximum volume size and is dependent on the filesystem and the amount of system metadata stored.

File System

Internal Drives	Btrfs,ext4
External Drives	Btrfs,ext4,ext3,FAT32,NTFS,HFS+,exFAT

File Services

File Protocol	SMB,AFP,NFS,FTP,WebDAV,Rsync
Maximum Number of SMB Connections (FSCT-Based) with RAM Expansion	180
Windows Access Control List (ACL) Integration	Yes
NFS Kerberos Authentication	Yes

Account & Shared Folder

Maximum Local User Accounts	1,024
Maximum Local Groups	256
Maximum Shared Folder	256
Maximum Shared Folder Sync Tasks	8

Virtualization

VMware ESXi 6.5 and VAAI	Yes
Windows Server 2022	Yes
Citrix Ready	Yes
OpenStack	Yes

Security

Firewall, encryption shared folder, SMB encryption, FTP over SSL/TLS, SFTP, rsync over SSH, login auto block, Let's Encrypt support, HTTPS (customizable cipher suite)

General Specifications

Supported Protocols	SMB1 (CIFS), SMB2, SMB3, NFSv3, NFSv4, NFSv4.1, NFS Kerberized sessions, iSCSI, HTTP, HTTPs, FTP, SNMP, LDAP, CalDAV
Supported Browsers	Chrome,Firefox,Edge,Safari
Supported Language	English, Deutsch, Français, Italiano, Español, Dansk, Norsk, Svenska, Nederlands, Русский, Polski, Magyar, Português do Brasil, Português Europeu, Türkçe, Český, ภาษาไทย, 日本語, 한국어, 繁體中文, 简体中文
Notes	For an updated list of supported browser versions, check the DSM Technical Specifications.

Packages and Applications

Synology Drive

Synchronizes files across Windows®, macOS®, Linux®, Android™ and iOS. The built-in cross-platform portal allows access to data anytime and anywhere

Maximum Number of Users	320
Maximum Number of Hosted Files	5,000,000 (applies to files indexed or hosted by Synology Drive. For file access through other standard protocols, refer to the File Services section above)

File Station

Provides virtual drives, remote folders, Windows® ACL editor, compression/extraction of archived files, bandwidth control for specific users/groups, creation of sharing links, and transfer logs

Hybrid Share

Efficiently synchronizes files across sites by keeping shared data on Synology C2 Storage and streaming files to Synology NAS worldwide on request. Frequently requested files are cached at each site for low-latency access C2 Storage for Hyper Backup and Hybrid Share requires purchase of an annual or monthly subscription. A free trial is available for each newly registered device.

SAN Manager

Maximum iSCSI Target Number	64
Maximum LUN	128
LUN Clone/Snapshot, Windows ODX	Yes

Virtual Machine Manager

Recommended Virtual Machine Instances	8 (Learn more)
Recommended Virtual DSM Number (Licenses required)	8 (including 1 Free License)

Hyper Backup

Supports local backup, network backup, and data backup to other servers and public clouds, including C2 Storage

Snapshot Replication

Maximum Snapshots per Shared Folder	256
Maximum of System Snapshots	4,096

Synology High Availability

Reduces service downtime by combining two identical NAS into a high-availability cluster

Synology Chat

Maximum Number of Users	150

Synology Office

Maximum Number of Users	320

Synology MailPlus / MailPlus Server

A secure, reliable, and private mail solution featuring high-availability, load balancing, security, and filtering options

Free Email Accounts	5 (Additional accounts require purchase of licenses)
Maximum Number of Users	380

Surveillance Station

Default Licenses	2 (Additional cameras require purchase of licenses)
Suggested Maximum IP Cameras and Total FPS (H.264)	1080p: 40 channels, 1050 FPS 3M: 40 channels, 600 FPS 5M: 40 channels, 440 FPS 4K: 32 channels, 320 FPS
Suggested Maximum IP Cameras and Total FPS (H.265)	1080p: 40 channels, 1200 FPS 3M: 40 channels, 1120 FPS 5M: 40 channels, 600 FPS 4K: 40 channels, 480 FPS

Central Management System

Provides a single interface to manage and monitor multiple Synology NAS

VPN Server

Maximum Connections	8

Other packages

Additional 3rd-party packages are available in the Package Center

Environment & Packaging

Environment safety

RoHS Compliant

Packaging Content

- Main Unit X 1
- Accessory Pack X 1
- AC Power Cord X 1
- C13 to C14 power cord x 1
- Quick Installation Guide X 1

Optional Accessories

- DDR4 ECC SODIMM: D4ES01-4G/D4ES01-8G/D4ECSO-2666-16G

- Expansion Units: RX418

- Enterprise Series 3.5" SATA HDD: HAT5300 Series

- Plus Series 3.5" SATA HDD: HAT3300 Series

- Enterprise Series 2.5" SATA SSD: SAT5200 Series

- M.2 SSD & 10GbE Combo Adapter Card: E10M20-T1

- M.2 SSD Adapter Card: M2D20/M2D18

- 25GbE Network Interface Card: E25G30-F2

- 10GbE Network Interface Card: E10G30-F2/E10G30-T2/E10G18-T1

- Rail Kit Sliding: RKS-02

- Rail Kit Mounted: RKM114*

Notes

- Certain items may not be available in your location. Please contact your local distributors for more information.

- All memory modules will operate at the maximum frequency specified by the CPU manufacturer.

- Upgrade to DSM 7.2-64551 or later before installing the M2D18.

Warranty

3-year hardware warranty, extendable to 5 years with EW202 or Extended Warranty Plus

Notes

- The warranty period starts from the purchase date as stated on your purchase receipt. (Learn more)

- Extended Warranty Plus is only available in Europe and North America. EW201/EW202 is only available in Asia, Africa, and Oceania. For exact availability information please visit their respective websites.