Synology®

RackStation
RS1221+
RS1221RP+

Safeguarding critical business assets through robust data protection

Synology RackStation RS1221+/RS1221RP+ is a powerful 2U 8-bay rackmount network-attached storage solution, perfect for centralizing data management in short rack-depth environments. The RS1221+ series is ideal at 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.

Highlights

- **High Performance**
  Tackle multi-user environments effortlessly with up to 2,300 MB/s read and 1,100 MB/s write performance[1]
- **Compact Deployment**
  The RS1221+ and RS1221RP+ feature a short depth of just 298mm and 399mm respectively
- **10GbE Ready**
  Quadruple network performance instantly with a PCIe SFP+ or RJ-45 NIC
- **High Availability**
  Configure two units together to create a Synology High Availability cluster for maximum service uptime and minute-level failover

Versatile by Design

Synology RS1221+/RS1221RP+ is a multi-purpose powerhouse, suited to a wide range of scenarios. The short form-factor enables easy installation on a two-post rack (RS1221+ only) or in space-limited environments.

• Over **108,000** 4K random read IOPS and **2300 MB/s** sequential write[1] for demanding workloads
• Features 8 bays, supporting both SATA HDD/SSD 2.5" and 3.5" drives, expandable up to 12 bays using a Synology RX418 expansion unit[2]
• Powered by Synology DSM, our unified data management operating system

Data Protection and Optimization with Btrfs

RS1221+ series supports the Btrfs file system, optimized by Synology to offer both high reliability and high performance. Btrfs supports advanced storage technologies that meet the needs of modern businesses:

• **Advanced snapshot technology** provides schedulable and near-instantaneous data protection of shared folders and LUNs
• **File and folder level data restoration** offers flexibility to users who wish to restore only a specific file or folder
• **Flexible storage quota system** enables admins to specify storage limits for shared folders, effortlessly managing available storage space
• **File self-healing** allows Btrfs file systems to auto-detect corrupted files using mirrored metadata and to recover broken data using RAID configurations
• **Inline compression** compresses data before writing it to the drive, reducing write commands and optimizing storage space
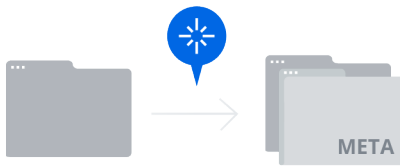
Next-Generation File System

Btrfs is a modern file system designed to safeguard data integrity through metadata mirroring, file self-healing, and fast snapshot replication.

Synology Backup Solutions

DSM backup solutions are designed to be low-maintenance, with different RPO/RTO targets, storage efficiency, and backup destinations available depending on your requirements.

Synology Collaboration Suite

A powerful and secure private cloud solution that lets teams collaborate, sync files, and communicate with others anytime, anywhere.
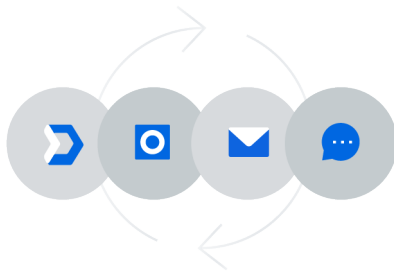
Data Backup Solutions for Local and Virtual Environments

Synology Active Backup Suite is a collection of powerful and license-free backup solutions built to protect Windows PCs and servers, VMs, other file servers and cloud-based storage. All data can be centralized to Synology NAS to safeguard against data loss.

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 G Suite allows businesses to back up their corporate Google Workspace data including Gmail, Contacts, Calendar, and Drive.

Active Backup for Microsoft 365 allows businesses to back up their Microsoft 365 data including OneDrive for Business, SharePoint Online, emails, contacts, and calendar.

On-Premises Collaboration

Synology collaboration suite allows businesses to host their own private SaaS for file sharing, concurrent document editing, emails, instant messaging, and more. Create a multi-user collaborative environment while leveraging private cloud infrastructure to take control of your data. Multi-layered security enables secure access to files and services — even for a distributed workforce — across Windows®, macOS®, Linux®, Android™, and iOS platforms.

Synology Drive enables data access, synchronization, on-demand file restoration, and backup via web portal and desktop applications across Windows®, macOS®, and Linux® platforms. Intelliversioning efficiently manages historical file versions while minimizing storage space used.

Synology MailPlus[3] enables users to setup a secure, reliable, and private email server, with an intuitive web-based client to boost productivity.

Synology Chat optimizes team communication by enabling team members to communicate instantly. Its powerful features include message encryption, pinning, forwarding, reminders, and scheduling, making it the perfect communication tool for busy teams.

Synology Calendar helps teams keep track of what is important with easy-to-use sharing and scheduling functionality, ensuring everyone is on the same page.

Always On Guard

Protect your home or office with Synology's reliable and intuitive VMS solution. Surveillance Station combines intelligent monitoring and robust management features for flexible deployment scenarios.

Virtualization Flexibility

Whether providing VM storage through iSCSI, NFS, or running them directly on the RS1221(RP)+ using Virtual Machine Manager, Synology DSM provides comprehensive tools to protect your virtual machines.

Private Video Surveillance

With **Synology Surveillance Station**, the RS1221+/RS1221RP+ becomes a powerful Network Video Recorder solution. With support for up to 40 IP cameras, massive installations can be performed easily[4].

- 7,600+ **supported camera models** to match any video requirements and budget, with per-camera licensing
- ONVIF support to prevent vendor lock-in
- Private, subscription-free on-premises storage of the recordings
- Multiple access options such as web browser, dedicated desktop clients, or the DS cam mobile app, to access the system at any time and from anywhere
- Event-based rules to trigger specific actions, such as automatically starting the recording when motion is detected
- Email, SMS, or push notification systems to let you respond immediately when an event occurs

Running & Protecting Virtual Machines

Synology Virtual Machine Manager (VMM) is a hosted hypervisor that lets users easily set up virtual machines running Windows®, Linux®, or a virtualized version of DSM. High performance snapshots and recovery mechanisms enable data protection on each VM[5].

DSM simplifies the provisioning and management of storage for VMs. Certified for VMware® vSphere™, Microsoft® Hyper-V®, Citrix® XenServer™, and OpenStack, Synology systems can integrate with your virtualization platform of choice through iSCSI or NFS protocols. Install Synology Storage Console for VMware/Windows for additional management convenience and functionality right in the hypervisor.

Hardware Overview

Front (RS1221+)

Rear (RS1221+)

Front (RS1221RP+)
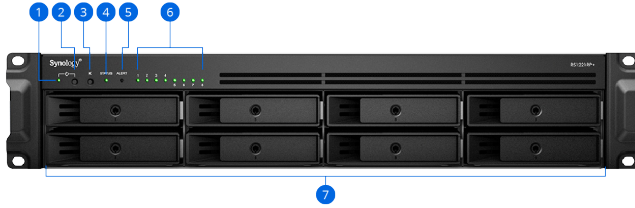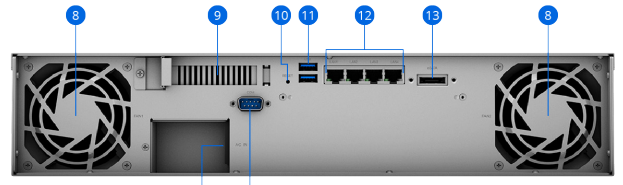
Rear (RS1221RP+)
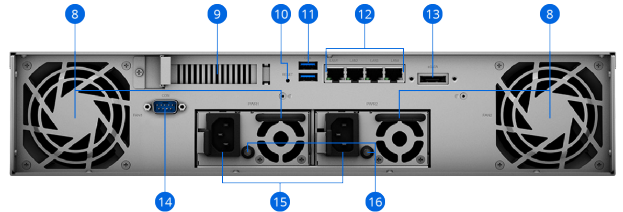
1	Power Indicator	2	Power Button	3	Alert Off Button	4	Status Indicator
5	Alert Indicator	6	Drive Status Indicator	7	Drive Tray	8	Fan
9	PCIe Expansion Slot	10	Reset Button	11	USB 3.0 Port	12	1GbE RJ-45 Port
13	eSATA Port	14	Console Port	15	Power Port	16	PSU Indicator & Alert Off Button

Technical Specifications

Hardware

CPU	AMD Ryzen™ V1500B quad-core 2.2 GHz
Hardware encryption engine	Yes (AES-NI)
Memory	4 GB DDR4 ECC SODIMM (expandable up to 32 GB)
Compatible drive type[6]	• 8 x 3.5" or 2.5" SATA HDD/SSD (drives not included)
Hot swappable drive	Yes
External port	• 2 x USB 3.2 Gen 1 port • 1 x eSATA
Form Factor	Rackmount 2U
Size (HxWxD)	• RS1221+: 88 x 482 x 306.6 mm (with server handles) • RS1221RP+: 88 x 482 x 407.5 mm (with server handles)
Weight	• RS1221+: 6.9 kg • RS1221RP+: 11.7 kg
Rack Installation Support	• RS1221+: 2-post 19" rack (direct mounting), 4-post 19" rack • RS1221RP+: 4-post 19" rack
LAN port	4 x 1GbE RJ-45
Wake on LAN/WAN	Yes
PCIe 3.0 slot	• 1 x 4-lane x8 slot • Supports 10GbE network interface cards and M.2 NVMe SSD adapter cards for SSD cache[7]
Scheduled power on/off	Yes
System fan	2 (80 x 80 x 25 mm)
AC input power voltage	100 V to 240 V AC
Power frequency	50/60 Hz, single phase
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 (16,400 ft)

General DSM Specification

Networking protocol	SMB, AFP, NFS, FTP, WebDAV, CalDAV, iSCSI, Telnet, SSH, SNMP, VPN (PPTP, OpenVPN™, L2TP)
File system	• Internal: Btrfs, ext4 • External: Btrfs, ext4, ext3, FAT32, NTFS, HFS+, exFAT[8]
Supported RAID type	Synology Hybrid RAID (SHR), Basic, JBOD, RAID 0, RAID 1, RAID 5, RAID 6, RAID 10
Storage management	• Maximum single volume size: 108TB • Maximum system snapshots: 65,536[9] • Maximum internal volume: 64
SSD cache	• Read/write cache support • 2.5" SATA SSD support • M.2 NVMe SSD support[7]
File sharing capability	• Maximum local user account: 2,048 • Maximum local group: 256 • Maximum shared folder: 512 • Maximum concurrent SMB/NFS/AFP/FTP connection: 1,000[10]
Privilege	Windows® Access Control List (ACL), application privileges
Directory service	Windows® AD integration: Domain users login via SMB/NFS/AFP/FTP/File Station, LDAP integration
Virtualization	VMware vSphere® 6.5, Microsoft Hyper-V®, Citrix®, OpenStack®
Security	Firewall, shared folder encryption, SMB encryption, FTP over SSL/TLS, SFTP, rsync over SSH, login auto block, Let's Encrypt support, HTTPS (customizable cipher suite)
Supported client	Windows® 7 onwards, macOS® 10.12 onwards
Supported browser	Chrome®, Firefox®, Edge®, Internet Explorer® 10 onwards, Safari® 10 onwards, Safari (iOS 10 onwards), Chrome (Android™ 6.0 onwards) on tablets
Interface language	English, Deutsch, Français, Italiano, Español, Dansk, Norsk, Svensk, Nederlands, Русский, Polski, Magyar, Português do Brasil, Português Europeu, Türkçe, Český, ภาษาไทย, 日本語, 한국어, 繁體中文, 简体中文

Packages and Applications

File Server & Synchronization

Drive	Provide a universal portal to synchronize your files across various platforms, including Windows®, macOS®, Linux®, Android™ and iOS. The built-in universal portal allows you to access data anytime and anywhere. • Maximum number of hosted files: 1,000,000 • Maximum number of concurrent connections for PC clients: 550
File Station	Virtual drives, remote folders, Windows® ACL editor, compressing/extracting archived files, bandwidth control for specific users/groups, creating sharing links, transfer logs
FTP Server	Bandwidth control for TCP connections, custom FTP passive port range, anonymous FTP, FTP SSL/TLS and SFTP protocol, boot over the network with TFTP and PXE support, transfer logs
Presto File Server[11]	High-speed data transfer over WAN with exclusive SITA technology between Synology NAS and desktop
Cloud Sync	One or two-way synchronization with public cloud storage providers including Alibaba Cloud OSS, Amazon S3-compatible storage, Backblaze B2, Baidu Cloud, Box, Dropbox, Google Cloud Storage, Google Drive, hubiC, MegaDisk, Microsoft OneDrive, OpenStack Swift-compatible storage, Tencent COS, WebDAV servers, Yandex Disk
Universal Search	Offer global search into applications and files

iSCSI Storage & Virtualization

iSCSI Manager	• Maximum iSCSI target: 128 • Maximum iSCSI LUN: 256 • iSCSI LUN clone/snapshot support
Virtual Machine Manager	Deploy and run various virtual machines on Synology NAS, including Windows®, Linux®, or Virtual DSM

Data Protection & Backup Solution

Hyper Backup	Support local backup, network backup, and data backup to public clouds
Backup tools	DSM configuration backup, macOS® Time Machine® support, Synology Drive Client desktop application Shared folder sync - maximum task number: 16

Snapshot Replication	• Maximum of shared folder snapshots: 1,024 • Maximum of replication: 32
Synology High Availability	Reduce service downtime by setting up two identical NAS into one high-availability cluster
Active Backup for G Suite	Support G Suite My Drive and Team Drive backup and restoration
Active Backup for Microsoft 365	Supports Microsoft 365 OneDrive for Business, mail, contacts, and calendar backup and restoration
Active Backup for Business	All-in-one backup solution designed for heterogeneous business IT environment, enabling IT admins to remotely manage and monitor protection over PC, servers and VM on one centralized console

Productivity & Collaboration

Collaboration tools	Collaborate with instant message service Synology Chat, online editor Synology Office, and scheduling assistant Synology Calendar • Chat maximum user: 1,500 • Office maximum user: 1,800 • Calendar: support CalDAV and access via mobile devices
Note Station	Rich-text note organization and versioning, encryption, sharing, media embedding and attachments
Synology MailPlus Server	Secure, reliable, and private mail solution with high-availability, load balancing, security and filtering design (includes 5 free email account licenses; additional accounts require the purchasing of additional licenses)
Synology MailPlus	Intuitive webmail interface for Synology MailPlus Server, customizable mail labels, filters, and user interface

Multimedia

Moments	Support smart AI album with facial and subject recognition, photo editing and sharing features, similar photo detection, auto-editing functions such as color correction and angle adjustments, and AI selection of the best photos. Mobile applications are available on iOS and Android™ devices
Other packages	Video Station, Photo Station, Audio Station, iTunes® Server

Surveillance

Surveillance Station	Maximum IP camera: 40 (total of 1,200 FPS at 720p, H.264) (Including two free camera licenses. Additional cameras require the purchasing of additional licenses)

All-in-One Server

Synology Directory Server	Provide a flexible and cost-effective domain controller solution
Central Management System	Provide a single interface to manage and monitor multiple Synology NAS
VPN Server	Maximum connection: 30. Supported VPN protocol: PPTP, OpenVPN™, L2TP/IPSec
Mail Server	Supported Mail Server protocol: POP3, SMTP, IMAP. LDAP/AD account support
Mail Station	Webmail interface for Mail Server to receive emails from multiple POP3 mailboxes, customizable SMTP server
Web Station	Virtual host (up to 30 websites), PHP/MariaDB®, 3rd-party applications support
Other packages	DNS Server, RADIUS Server, Log Center

Others

Storage Analyzer	Volume and quota usage, total size of files, volume usage and trends based on past usage, size of shared folders, large files, most recently modified files, least recently accessed files
Antivirus Essential	Full system scan, scheduled scan, white list customization, virus definition auto update
iOS/Android™ applications	Synology Drive, Synology MailPlus, Synology Chat, Synology LiveCam, Moments, DS audio, DS photo, DS video, DS cam, DS file, DS finder, DS note
Other packages	Additional 3rd-party packages available on Package Center

Environment and Packaging

Environment safety	RoHS compliant

Package content	• 1 x RS1221+ / RS1221RP+ main unit • 1 x Quick Installation Guide • 1 x Accessory pack • 2 x AC power cord (RS1221RP+) / 1 x normal cable and 1 x C13 to C14 cable (RS1221+)
Optional accessories¹²	• DDR4 ECC SO-DIMM: D4ES01-4G/D4ES01-8G/D4ECSO-2666-16G • 10GbE Network Interface Card: E10G18-T2/E10G18-T1/E10G17-F2 • M.2 SSD & 10GbE Combo Adapter Card: E10G20-T1 • M.2 SSD & Adapter Card: M2D20 • 2.5" SATA SSD: SAT5200 • M.2 2280 NVMe SSD: SNV3400 • Expansion Unit: RX418 • VisualStation: VS960HD/VS360HD • Surveillance Device License Pack • MailPlus License Pack • Virtual DSM License Pack
Warranty	3 years¹³

*Model specifications are subject to change without notice. Please refer to www.synology.com for the latest information.

1. Performance figures obtained through internal testing by Synology. Actual performance may vary depending on the testing environment, usage, and configuration.
2. RS1221+/ RS1221RP+ supports one Synology RX418 expansion unit, sold separately.
3. 5 MailPlus licenses are included, licenses required for additional user accounts. **Learn more** about licenses.
4. Surveillance Station includes 2 free licenses. Connecting more cameras and devices requires **additional licenses.**
5. Certain advanced features require **Virtual Machine Manager Pro.** 1 **Virtual DSM license** is included, licenses are required for running additional instances.
6. Check our **compatibility list** for validated drives to ensure system stability.
7. M.2 NVMe SSD cache is supported using M.2 MVMe SSD adapter cards M2D20 and E10M20-T1 with M.2 SSD SNV3400.
8. exFAT Access can be purchased separately through the DSM Package Center.
9. System snapshots include snapshots taken by iSCSI Manager, Snapshot Replication, and Virtual Machine Manager. Availability of these packages varies by model.
10. Maximum concurrent connections can be increased to 2000 with maximum installed memory of 32GB RAM.
11. Presto File Server license can be purchased separately through the application.
12. Please refer to **compatibility list** for the latest optional accessories list.
13. The warranty period starts from the purchase date as stated on your receipt of purchase. Visit **https://www.synology.com/company/legal/warranty** for more information.