Synology®

Synology DiskStation DS412+

High-Performance & Easy to Manage 4-bay All-in-1 NAS Server for SMB Users

Synology® DiskStation DS412+ is specifically designed for small and medium-sized businesses who need a high-performance, easy to manage, and full-featured network attached storage solution to centralize data backups, protect critical assets and share files across different platforms. Synology protects your investment in the DS412+ with a 2-year limited warranty.

Highlights

- 205.68 MB/sec Reading, 182.66 MB/sec Writing[1]
- 2 LAN with Failover and Link Aggregation Support
- Features SuperSpeed USB 3.0
- CPU Passive Cooling Technology & System Fan Redundancy
- Hot-swappable Hard Drive Design
- Windows® ADS and ACL Support
- VMware® / Citrix® / Microsoft® Hyper-V® Compliance
- Running on Synology DiskStation Manager (DSM)

Experience High Performance Data Throughput

With the Link Aggregation enabled, Synology DS412+ delivers an average 182.66 MB/sec writing speed under RAID 5 configuration in a Windows environment, and 205.68 MB/sec reading. Coming with USB 3.0 support which offers transmission speeds of up to 5 Gbps, namely 10 times faster than USB 2.0, DS412+ takes less time for data transfer for external hard drives and consumes less power. Synology DS412+ brings you the high performance that your data-intensive applications demand for a storage system.

Dependable and Reliable

Businesses need a strong foundation to face mission-critical tasks. Synology DS412+ deliver high data availability to ensure access when it's needed. The 2 LAN with failover support and hot-swappable drives will ensure continual service uptime should the drives need replacement or the unexpected LAN failure.

CPU is the heart of any system, and DS412+ incorporates a passive cooling structure to avoid the dependency of a dedicated processor cooling fan, and mitigate any critical point of failure. When system detects fan fails, the built-in redundancy mechanism will spin up the functional fan to properly ventilate the system, and support continuous operations until the replacement fan arrives. Therefore, potential system damages are minimized and system availability is maximized.

Flexible Storage Management

The Synology Hybrid RAID (SHR) automatically builds an optimal RAID volume with data protection based on the hard drives installed, eliminating the need to have hard drives of identical size, while still offering a manual setup option for advanced users.

Multiple Volumes on RAID allows you to create more than one volume on a RAID structure, providing a flexible and efficient way to manage your storage across all available hard drives. When the need arises to expand the volumes, simply allocate more storage space on the UI, and DSM does the rest for you without any service disruption.

Rich Business Applications

Synology DS412+ runs on the award-winning operating system, Synology DiskStation Manager (DSM), which offers comprehensive applications and features designed specifically for office and business workgroups.

Web Station with PHP/MySQL® support allows a single Synology DS412+ to host up to 30 websites and numerous 3rd party web applications, such as Content Management, Customer Relationship Management & e-Commerce system. The built-in mail server turns Synology DS412+ into a dedicated mail service provider, while the add-on package, Mail Station 2, provides a webmail interface for users to access emails stored on Synology DS412+.

Synology Surveillance Station offers a centralized interface to manage IP cameras deployed in your office or home, allowing users traveling miles away to safeguard the environment by watching live views, recording events, and taking snapshots with a computer or mobile device.

A wealth of add-on packages allows the Synology DS412+ to replace several pieces of network hardware. VPN Server offers an easy VPN solution that turns your Synology DS412+ into a VPN server, providing a secure way of connecting to a private LAN at a remote location. Directory Server allows Synology DS412+ to host LDAP service with centralized access control, authentication, and account management, further enhancing your office management efficiency.

Fit to Business Environment

Windows ADS integration allows the Synology DS412+ to quickly and easily fit in an existing business network environment with no need to recreate users' accounts on the Synology DS412+. The User Home feature minimizes the administrator's effort in creating a private shared folder for a large amount of users.

Windows ACL support on DS412+ provides much finer-grained access control and efficient privilege settings, allowing IT staffs to set up privileges to files and folders on DS412+ through their familiar Windows user interface. The privileges set on Windows ACL will be applied to all access entries, including AFP, FTP, File Station, NFS and WebDAV. The secure privilege offers IT staff peace of mind, no worries about any loopholes.
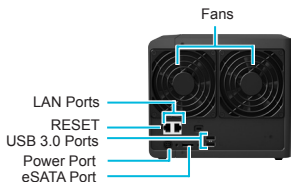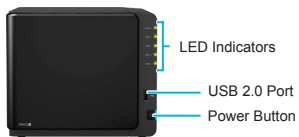
iSCSI and Virtualization Ready

With the iSCSI support in DiskStation Manager (DSM), the Synology DS412+ provides a seamless storage solution for virtualization servers, such as VMware, Hyper-V, and Citrix. It is the ideal alternative to SAN solution for businesses. Affordable and cost-effective, iSCSI allows SMB users to consolidate storage into data center storage arrays while providing hosts with the illusion of locally-attached disks.

Energy Efficient Design

With 44 watts power consumption in operation, Synology DS412+ is designed with energy efficiency in mind. Not only does it provides two 92x92 mm fans and the smart airflow to keep the system running cool 24/7, its noise dampening design makes it really quiet compared to PC counterparts. The support of Wake on LAN/WAN, multiple scheduled power on/off and hard drive hibernation can further reduce power consumption and operation cost.

All Synology products are produced with RoHS compliant parts and packed with recyclable packing materials. Synology acknowledges the responsibility as a global citizen to continually work to reduce the environmental impact of every product produced.

CONNECTIONS & BUTTONS

LED Indicators
USB 2.0 Port
Power Button

Fans

LAN Ports
RESET
USB 3.0 Ports
Power Port
eSATA Port

Technical Specifications

Hardware

- CPU: Intel Atom Dual Core 2.13 GHz, with floating point
- RAM Size: DDR3 1 GB
- Internal HDD/SSD: 4X 3.5" or 2.5" SATA(II) (Hard drives not included.)
- Max Internal Capacity: 16TB (4X 4TB hard drives) (The actual capacity will differ according to volume types.)
- External HDD Interface: 2X USB 3.0 ports, 1X USB 2.0 port, 1X eSATA port
- Size: 165mm X 203mm X 233.2mm

- Weight: 2.03kg
- LAN: 2X Gigabit
- Wireless Support (wireless dongles not included)
- Wake on LAN
- Fan: 2X (92mm X 92mm)
- Noise Level[2] : 19.4dB(A)
- Hot Swappable HDD
- Power Recovery
- AC Input Power Voltage: 100V to 240V

- Power Frequency: 50Hz to 60Hz, Single Phase
- Operating Temperature: 5°C to 35°C (40°F to 95°F)
- Storage Temperature: -10°C to 70°C (15°F to 155°F)
- Relative Humidity: 5% to 95% RH
- Max Operating Altitude: 6,500 feet
- Power Consumption[3]: 44W (Access); 15W (HDD Hibernation)
- Certification: FCC Class, CE Class B, BSMI Class B

Applications

File Browser
- Virtual Drive
- Remote Folder

File Station

FTP Server
- Bandwidth Control
- Custom FTP Passive Port Range
- Anonymous FTP
- Transfer Log

Mail Server
- Supported Mail Server Protocol : POP3, SMTP, IMAP

Web Station
- Virtual Host (up to 30 websites)
- PHP/MySQL
- Alternative HTTP Error Page
- 3rd-Party Applications Support

Surveillance Station
- Default IP cam #: 1
- MAX IP cam # (licenses required): 20 (1 free license to install 1 IP camera. Additional licenses can be purchased to expand the license quota.)

Photo Station
- Supported Image Format: BMP, JPG (jpe, jpeg), GIF, RAW (arw, srf, sr2, dcr, k25, kdc, cr2, crw, nef, mrw, ptx, pef, raf, 3fr, erf, mef, mos, orf, rw2, dng, x3f)
- Supported Video Format: 3G2, 3GP, ASF, AVI, DAT, DivX, FLV, M4V, MOV, MP4, MPEG, MPG, QT, WMV, XviD, RM, RMVB, VOB, RV30, RV40, AC3, AMR, WMA3 (User can click and

download the following video formats: RM, RMVB, VOB, RV30, RV40, AC3, AMR, WMA3, but not able to play it in Photo Station as compressed Flash® video.)

Download Station
- Supported Download Protocols: BT/HTTP/FTP/NZB/eMule
- Custom BT Port
- BT / eMule Bandwidth Control

Audio Station
- Supported Audio Format: (USB Mode) AAC, FLAC, M4A, MP3, Ogg Vorbis, WMA, WMA VBR; (Streaming Mode) MP3, M4A, M4B
- Supported Playlist Format: M3U, WPL
- Internet Radio: SHOUTcast®, Radioio®

DLNA®/UPnP® Media Server
- PS3/Xbox 360® Support
- Supported Audio Format: AAC, FLAC, M4A, MP3, Ogg Vorbis, PCM, WAV, WMA, WMA VBR, WMA PRO, WMA Lossless
- Supported Video Format: 3GP, 3G2, ASF, AVI, DAT, DivX, DVR-MS, ISO, M2T, M2TS, M4V, MKV, MP4, MPEG1, MPEG2, MPEG4, MTS, MOV, QT, SWF, TP, TRP, TS, VOB, WMV, XviD, RMVB
- Supported Image Format: BMP, JPG (jpe, jpeg), GIF, ICO, PNG, PSD, TIF (tiff), UFO
- Supported Subtitles Format: srt, psb, smi, ass, ssa, sub, idx, ifo

iTunes® Server
- Supported Audio Format: MP3, M4A, M4P, WAV, AIF (The music in WAV and AIF format can be streamed, but the

metadata (ex: title, album) may not be indexed on the iTunes.)
- Supported Video Format: M4V, MOV, MP4
- Supported Playlist Format: M3U, WPL

Print Server
- Max Printer #: 2
- Printing Protocols: LPR, CIFS, AppleTalk®, Apple® AirPrint™, Google Cloud Print™ (For Mac® users, DS412+ supports PostScript USB printers only.)
- Multi Functional Print Server

Synology Packages
- Mail Station 2
- Logitech® Media Server
- Webalizer
- phpMyAdmin
- Time Backup
- VPN Server
- WordPress®
- Syslog Server
- Directory Server
- HiDrive® Backup
- OpenERP®
- HASP

iOS® and Android™ Applications
- DS photo+
- DS audio
- DS cam
- DS file
- DS finder

General Specifications

Networking Protocols
- CIFS, AFP, FTP, iSCSI, Telnet, SSH, NFS, SNMP, WebDAV, CalDAV

File System
- EXT4
- EXT3 (External Disk Only)
- FAT (External Disk Only)
- NTFS (External Disk Read Only)

Volume Management
- Synology Hybrid RAID
- Max Volume #: 512
- Max iSCSI Target #: 32
- Max iSCSI LUN #: 256
- Volume Type: Synology Hybrid RAID, Basic, JBOD, RAID 0, RAID 1, RAID 5, RAID 5+Spare, RAID 6, RAID 10
- RAID Migration: from Basic to RAID 1, Basic to RAID 5, Basic to RAID 5+Spare, RAID 1 to RAID 5, RAID 1 to RAID 5+Spare, RAID 5 to RAID 5+Spare, RAID 5 to RAID 6
- Expand Synology Hybrid RAID, RAID 1, RAID 5, RAID 5+Spare or RAID 6 with Larger Hard Drives
- Expand Synology Hybrid RAID, RAID 5, RAID 5+Spare or RAID 6 by adding a Hard Drive On The Fly

File Sharing Capability
- Max User Account: 2048
- Max Group: 256
- Max Shared Folder: 256
- Max Concurrent Connections (CIFS, FTP, AFP): 512

Windows Access Control List (ACL) Support

Windows ADS Domain Integration
- Domain Users login via Samba/AFP/FTP/File Station

Backup Solutions
- Network Backup
- Shared Folder Sync
- Local Backup
- Time Backup
- Desktop Backup (using Synology Data Replicator 3 or Apple Time Machine® backup application)
- 3rd-Party Backup Support

Security
- FTP over SSL/TLS
- IP Auto-Block
- Firewall
- Encrypted Network Backup over rsync
- HTTPS Connection

Management
- DSM Upgrade
- Email Notification
- SMS Notification
- Customized User Quota
- DDNS Support
- PPPoE
- Resource Monitor
- UPS Management
- Scheduled Power On/Off
- Custom Management UI HTTP/HTTPS Ports

HDD Management
- HDD Hibernation
- S.M.A.R.T.
- Dynamic Bad Sector Mapping

Utilities
- Synology Assistant
- Synology Data Replicator

Supported Browsers
- Chrome™
- Internet Explorer® 7, 8, and 9
- Firefox®
- Safari® 4 and 5 (Mac)

Supported Clients
- Windows XP onward
- Mac OS X 10.5 onward
- Ubuntu 9.04 onward

Language
- English, Deutsch, Français, Italiano, Español, Dansk, Norsk, Svensk, Nederlands, Русский, Polski, Magyar, Português do Brasil, Português Europeu, Türkçe, Český, 日本語, 한국어, 繁體中文, 简体中文

Environment and Packaging

Environment
- RoHS Compliant

Package Content
- DS412+ Main Unit

- Installation DVD
- Welcome Note
- Assembling Kit
- AC Power Adaptor
- AC Power Cord

- 2X 2M RJ-45 LAN Cable

Optional Accessories
- Remote
- Camera License Pack

1. With Link Aggregation enabled. The performance figures could vary on different environments.
2. Fully loaded with Seagate® 1TB ST31000520AS hard drive(s) in operation; Two G.R.A.S. Type 40AE microphones, each

set up at 1 meter away from the DiskStation front and rear; Background noise: 17.0 dB(A); Temperature: 22.0°C; Humidity: 64.4%; More details about dB(A) value, check: http://www.memtechacoustical.com/facts.asp

3. Measured with 4 Western Digital® 3TB WD30EZRS hard drive. The figures could vary on different environments.

Networking

External Disk
DS412+
USB Printer

DS412+
Wireless Router
Windows ADS Server

PC / Mac / Linux
PC / Mac / Linux
IP Camera

SYNOLOGY INC.

Founded in 2000, Synology is a young and energetic company dedicated to developing high-performance, reliable, versatile, and environmentally-friendly Network Attached Storage (NAS) products. Our goal is to deliver user-friendly solutions and solid customer service to satisfy the needs of businesses, home offices, individual users and families.

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