



RR2312

## High Performance Rackmount Storage for Small Businesses

Data is one of the most valuable assets in any business. The sharing, storing, archiving and disaster recovery of data are critical elements in an IT infrastructure. In addition to these universal IT requirements, for a small and medium size business, scalability, ease-of-use and cost effectiveness are essential measurements in selecting the right storage solution.

The 2000 and 3000 series Rackmount ReadyNAS offer the ideal solution to a small and medium size business (SMB) that requires file serving and data

backup to support workgroups of up to 40 employees. The ReadyNAS 2000 and 3000 class products run the same ReadyNAS OS and apps, while the 3000 class products offer higher performance and faster data throughput.

All ReadyNAS support the entire suite of features in ReadyNAS OS, including 5 levels of data protection, ReadyDR disaster recovery, and virtualized storage for VMware and other virtualized networks.

These Rackmount NAS models also come with the latest ReadyNAS OS 6.7 software

for ultimate security and reliability. New features include Cloud backup to Amazon S3 (AWS) on top of Google Drive, Dropbox and Egnyte content management, 3D configuration tool, future-proof and safer Linux 4.4, unique RAID and Volume management for more reliable storage, and many more business features that enables the ultimate business features in ReadyNAS. Yield the benefits of the latest industrial and software design from NETGEAR with ReadyNAS storage.

## All Inclusive Solution for Data Sharing, Storing & Securing



- File Sharing: Unified storage platform for sharing files between Windows, Mac and Linux-based computers



- Hard Drive Redundancy: RAID redundancy with automatic expansion and unlimited data snapshots for point-in-time restore.



- Cloud Collaboration: Share selected folders and files with ReadyCLOUD with partners, clients or internal teams



- Backup & Recovery: ReadyDR disaster recovery solution based on block level replication technology



- App Managed: Easily manage your ReadyNAS from the palm of your hand with NETGEAR Insight app



- Virtualization: Thin provisioning, iSCSI support and certified with VMware

## Key Business Features



- Automatic Backup & Sync: Using the ReadyCLOUD app for PC, scheduled protection is easier than ever before



- Bit Rot Protection: A proprietary technology protecting your files from unplanned degradation



- Unlimited Snapshots: Unlimited data snapshot capability for on-box protection and flexible data recovery



- X-RAID & Instant Provisioning: Easily expand capacity and feel confident knowing that data is always protected



- Cloud-managed Replication: Maintain data sets in multiple locations or ensure protection of data from remote or branch office locations



- iSCSI and Thin Provisioning: Powerful tools for a business taking advantage of virtual infrastructures



- Anti-virus & Encryption: Keep data protected from outside threats and safe from prying eyes



- Modern GUI and Cloud/Remote Access from Anywhere: Sleek modern interface and patented technology for secure remote access without configuration effort

## ReadyNAS Desktop Model Comparison - Rackmount

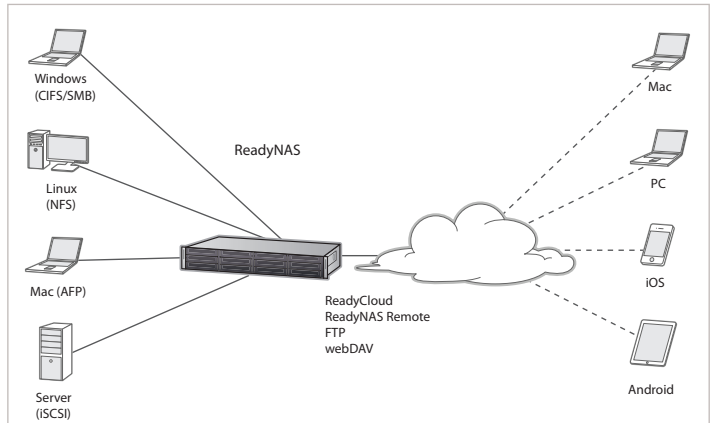
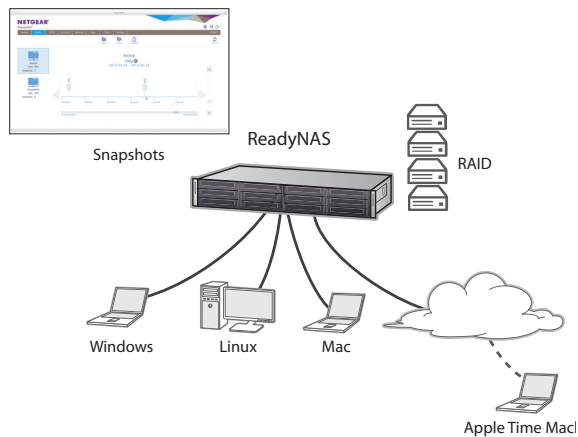


Hardware	ReadyNAS 2304	ReadyNAS 2312	ReadyNAS 3138
CPU	Intel Celeron Dual Core 2.0GHz	Intel Atom Quad Core C3538 2.1GHz with QuickAssist	Intel Atom Quad Core 2.4GHz with QuickAssist
Memory	2GB	2GB DDR4	4GB ECC UDIMM
Drive Bays	4	12	4
Drive Types Supported	SATA/SDD 2.5" or 3.5"	SATA 3.5"	SATA/SSD 2.5" or 3.5"
Hot Swappable Drives	Yes	Yes	Yes
Max Raw Internal Capacity (Based on 10TB drives):	40TB	120TB	40TB
eSATA Ports	0	0	2
Gigabit LAN Ports	2	4	4
USB Ports	3 x USB 3.0	2x USB3.0	1 x USB 2.0, 2 x USB 3.0
Display Port (4k)	1	0	0
Power Supply	Internal 180W: input 100-240V AC, 50/60Hz	Internal 350W: input 100-240V AC, 50/60Hz	Internal 180W: input 100-240V AC, 50/60Hz
Fan (mm)	3 x 40	5 x 40	3 x 40
Dimensions DxWxH (mm)			
Without rackmount brackets	308 x 430 x 44	924 x 486 x 44	406 x 430 x 44
With rackmount brackets	308 x 485 x 44	934 x 486 x 44	406 x 486 x 44
Weight (kg)	4.19	Machine weight: 13kg Rackmount brackets weight: 1.9kg	5.21
Chassis Warranty	5 years with NBD HW Replacement	5 years with NBD HW Replacement	5 years with NBD HW Replacement
Software and Functionality	ReadyNAS 2304	ReadyNAS 2312	ReadyNAS 3138
Certification and Compatibility		VMware vSphere ESXi 6.0	VMware vSphere ESXi 6.0
Cloud-discovery, Setup and Management	Yes	Yes	Yes
Data Protection with Unlimited Snapshots	Yes	Yes	Yes
Web-managed Replication for Disaster Recovery	Yes	Yes	Yes
Real-time Antivirus	Yes	Yes	Yes
iSCSI and Thin Provisioning	Yes	Yes	Yes
ReadyDR	No	Yes	Yes
Insight App Management	No	Yes	Yes

### ReadyNAS Solutions

#### File Sharing

These days, running a successful business often depends on successful file sharing—application data, virtual images, client files, email, all the digital files that make your business go. With ReadyNAS, you finally have an advanced and easy-to-use solution for centralizing, securing, and sharing those critical assets. Faster processors mean more simultaneous users can access unified storage—across PC, Mac and Linux environments. ReadyCLOUD and full Dropbox integration make it easier than ever to sync your important files, photos or videos across all of your web-connected devices.

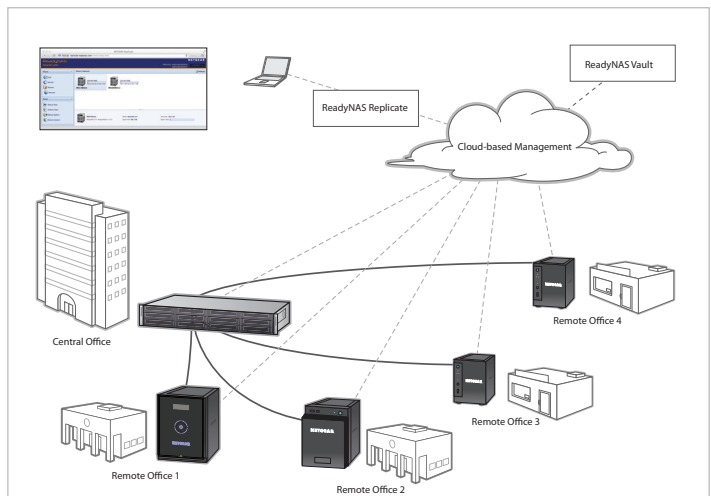
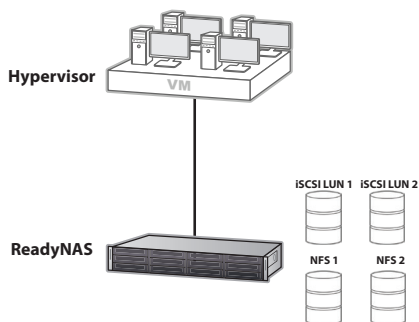


#### Backup

Unlimited snapshots give you complete control over the past, present, and future of your data. This enterprise-class feature copies any point of time in the file system, can be manually or automatically scheduled, and can restore any version with a simple click. Other data protection innovations for disk-based storage like Real Time Anti-Virus and Encryption bring new confidence to the integrity of your data and back-ups.

#### Disaster Recovery

The custom-built ReadyNAS OS protects stored data with automatic RAID configuration, the continuous security of Unlimited Snapshots, and easy-to-manage Cloud Replication. By maintaining multiple copies of vital data through cloud replication, it makes it easy for you to move data offsite to protect against natural disasters and theft.



#### Virtualization

With Unlimited Snapshots, thin provisioning, and improved iSCSI support, ReadyNAS delivers a virtualization platform with next-generation features at an affordable price.

## Technical Specifications

### Data Protection (Backup & Replication)

Unlimited block-based snapshots for continuous data protection

Restore Snapshots to any point in time

Restore Snapshot data from local admin GUI, ReadyCLOUD, or native Windows File Explorer

Scheduled and manual snapshots

File Synchronization (rsync)

Encrypted Remote Replication

Cloud managed Remote Replication (ReadyNAS to ReadyNAS). No licenses required for ReadyNAS OS 6 devices.

AES 256-bit volume based encryption

X-RAID2 (automatic single volume online expansion)

Single Disk, JBOD

RAID Levels: 0, 1, 5, 6, 10 (RAID level support depends on number of drives/bays)

RR2312 RAID Levels: 0, 1, 5, 6, 10, 50, 60

RAID Global Hot Spare

Backup to USB/eSATA external storage (eSATA availability depends on model)

Apple Time Machine support

Remote Apple Time Machine backup and restore (over ReadyNAS Remote)

ReadyNAS Vault™ Cloud backup (optional service)

Dropbox, Google Drive, Amazon Cloud Drive, and Microsoft One Drive file synchronization (requires prospective accounts)

Real-time Anti-Virus scanning using signature and heuristic algorithms. (No end-user licenses required) Protection for viruses, malware, worms, and Trojans.

Bitrot automatic detection & correction for degraded media

### Storage Area Networks (SAN), Virtualization

Unlimited iSCSI LUN Snapshot

Thin or thick provision LUNs

Multi-LUN per target

LUN mapping

LUN masking

SPC-3 Persistent Reservation (iSCSI)

MPIO (iSCSI)

MC/S (iSCSI)

Max # iSCSI Target: 256

Max # iSCSI LUN: 256

VMware ESXi 6.0 certified

Citrix XenServer 6

Windows Server 2008 Hyper-V

Windows Server 2008 Failover Clustering

Windows Server 2012 R2

Windows Server 2016

**ReadyCLOUD (cloud access to ReadyNAS)**

ReadyCLOUD portal based data access and management  
VPN quality remote data transfer and management  
Share data with friends & co-workers directly from portal  
Share file via email link

**ReadyCLOUD Client Applications**

ReadyCLOUD client applications for Apple OS X, Microsoft Windows, Android, and Apple iOS  
VPN quality remote data transfer and management  
Simple remote access through ReadyCLOUD client (no firewall or router configuration needed)  
Sync files/folders between PC (Mac/Windows) & ReadyNAS  
Sync files/folders between multiple PCs and ReadyNAS  
Sync files/folders between multiple users and ReadyNAS  
Backup files/folders from PC to ReadyNAS

**File System & Transfer Protocols**

ReadyNAS OS 6.7 or later  
Linux 4.x  
Internal File System: BTRFS  
External File System: EXT3, EXT4, NTFS, FAT32, HFS+  
Copy-on-write file system  
Microsoft Network (CIFS/SMB)  
Apple OS X (AFP 3.3)  
Linux/Unix (NFS v3, NFS v4)  
Internet (HTTP)  
Secure Internet (HTTPS)  
File Transfer Protocol (FTP)  
FTP over SSL / TLS (explicit)  
FTP Passive mode with port range setup  
FTP Bandwidth control  
FTP Anonymous  
FTP Transfer Log  
Secure Shell (SSH)  
Web Authoring (WebDAV)  
Storage Array Network (iSCSI)  
File Synchronization (rsync)  
Local web file manager

**Users/Groups**

Max # Users: 8192  
Max # User Groups: 8192  
Max # Share Folder: 1024

**Users/Groups**

Max # Concurrent Connections: 1024

Share Folder Level ACL Support

Advanced Folder Permissions with Subfolder ACL support for CIFS/SMB, AFP, FTP

Microsoft Active Directory (AD) Domain Controller Authentication

Local access list

ReadyCLOUD based ACL

Domain user login via CIFS/SMB, AFP, FTP

**Management**

ReadyCLOUD cloud based discovery and management

RAIDar local discovery agent share quota(Windows/Mac)

Save and restore system configuration (clone devices)

Local event log

Connection reporting (SMB)

Local Graphical User Interface (GUI) Languages: English, German, French, Japanese, Chinese, Russian, Swedish, Portuguese, Italian, Spanish, Polish, Czech, Dutch, Korean

Genie+ marketplace integration to add productivity, media, backup, surveillance and other applications

Unicode support

Volume Management

Thin provision Shares and LUNs

Instant Provisioning/Expansion with data protection

Restore to factory default

Operating Systems supported: Microsoft Windows 7, 8/8.1, 10, Microsoft Windows Server 2008 R2/2012, Apple OS X, Linux/Unix, Solaris, Apple iOS, Google Android

Supported Web Browsers (Microsoft Internet Explorer 9+, Mozilla Firefox 14+, Google Chrome 20+, Apple Safari 5+)

**System Monitoring**

Device capacity, performance, resource and health monitoring

Bad block scan

Hard Drive S.M.A.R.T.

File System Check

Disk Scrubbing

Disk Defragment

Volume balance

Alerts (SMTP email, LCD, SNMP, local log)

Auto-shutdown (hard drive, fan, UPS)

Auto-restart on power recovery

**Networking Protocols**

TCP/IP

IPv4

Next-generation Internet Protocol (IPv6)

Static IP Address

Dynamic IP Address

**Networking Protocols**

Multiple IP Settings

DHCP Client

UPnP Discovery

Bonjour Discovery

Link Aggregation IEEE 802.3ad

Port Trunking (balanced round robin, active backup, balance xor, broadcast, 802.3ad link aggregation LACP, transmit load balancing, adaptive load balancing)

Hash Types IEEE 802.3ad LACP or XOR (Layer 2, Layer3, Layer 4)

Jumbo Frames

Static routes

Secure Shell (SSH)

Simple Network Management Protocol v2, v3

Network Time Protocol (NTP)

**Media**

ReadyDLNA (UPnP DLNA Media Server)

ReadyDLNA streams to any compliant device including Playstation and Xbox

ReadyDLNA mobile clients for remote media streaming (iOS, Android)

ReadyDLNA supported music formats (wav, wma, pcm, ogg, mp3, m4a, flac, aac)

ReadyDLNA supported photo formats (jpg, jpeg)

ReadyDLNA supported video formats (3gp, mp4, wmv, xvid, vob, ts, tivo, mts, mpeg, mpg, mp4, mov, mkv, m4v, m4p, m2t, m2ts, flv, flc, fla, divx, avi, asf)

ReadyDLNA supported playlist formats (pls, m3u)

ReadyNAS Surveillance supports up to 8 cameras (RN2120), 16 HD cameras (RR2304 and RN3138)

iTunes Server

iTunes supported audio formats (mp3, m4a, m4p, wav, aif)

iTunes supported video formats (m4v, mov, mp4)

iTunes supported playlist formats (m3u, wpl)

TiVo Archiving

Plex Media Server streams to DLNA and Plex clients (mobile, desktop, Google TV, Roku, Samsung &amp; LG TVs)

**Hardware**

Intel Celeron Dual Core 2.0GHz (RR2304)

Intel Atom Quad Core C3538 2.1 GHz with QuickAssist (RR2312)

Intel Atom Quad Core 2.4GHz with QuickAssist (RN3138)

Memory: 2GB DDR3L (RR2304), 2GB DDR4 (RR2312), 4GB ECC UDIMM (RN3138)

Flash: 128MB for OS

Drive Bays: 4 (RR2304/RN3138); 12 (RR2312)

Drive Types Supported: SATA/SSD 2.5" or 3.5" (RR2304/RN3138); SATA 3.5" (RR2312)

Hot Swappable Drives

Two eSATA ports (RN3138)

**Hardware**

Three USB 3.0 ports (RR2304); Two USB 3.0 ports (RR2312); One USB 2.0 & Two USB 3.0 ports (RN3138)

Total solution capacity: 40TB (RR2304/RN3138); 120TB (RR2312)

2xGigabit Ethernet ports with link aggregation and failover (RR2304)

4xGigabit Ethernet ports with link aggregation and failover (RR2312/RN3138)

LEDs: Power, Activity, Disk, LAN

Integrated rackmount ears

Three 40mm fans (RR2304/RN3138); Five 40mm fans (RR2312)

Dimensions (DxWxH):

308mm x 430mm x 44mm (RR2304)

924mm x 486mm x 44mm (RR2312)

406mm x 486mm x 44mm (RN3138)

Weight:

4.19kg (RR2304)

13kg (RR2312)

5.21kg (RN3138)

Power cord localized to country of sale

**Compliance**

ENGR 10049 EST Environmental Stress Test Guideline

ENGR 10045 EVT Engineering Validation Test Guideline

ENGR 10048 CVT Compliance Validation Test Guideline

ENGR 10046 System Validation Test Guideline

ENGR 10023 HALT Accelerated Life Test Guideline

ENGR 10036 CDG Component Derating Guideline

**Environment**

Noise levels: <28dBA

Operating Temperature: 0-45C

Operating Humidity: 20-80% relative humidity, non-condensing

Power Consumption (Operation):

47.5W (RR2304)

121W (RR2312)

55W (RN3138)

Power Consumption - Wake on LAN: 0.62W (RR2304); 1.98W (RR2312); 1.4W (RN3138)

Power Consumption - Power Off: 0.11W (RR2304); 0.15W (RR2312); 0.3W (RN3138)

Smart Fan

Scheduled Power on/off

Hard drive disk spin down

UPS Support

Network UPS with SNMP Management

Wake on LAN

Auto-power on (after shutdown)

AC Input Power Voltage 100V to 240V

Power Frequency: 50Hz to 60Hz, Single Phase

Certification: FCC Class B, CE Class B, RoHS, VCCI Class B (RR2304); Class A (RR2312/RN3138)



**Accessories**

- RTRAY04: Replacement/additional 3.5" or 2.5" hard drive tray (Available for RR2304, RN3138.)
- RRAIL04: Sliding rack mount rail (Available for RR2312)

**Add-on Applications**

- One click installation of add-on applications directly through local GUI
- Application available for productivity, media, backup, surveillance, and many others
- NETGEAR applications include Surveillance, Photo Sharing, Advanced configuration tools
- Partner applications include BitTorrent Sync, Plex, Memeo, DVBlink
- Community applications include Transmission, ownCloud, Qbittorrent, mqSQL, VPN server, Syslog, Wordpress, Joomla, Media Wiki, and others
- Application availability subject to change
- Applications may impact overall performance
- Software Development Kit (SDK) available for 3rd party developers

**Warranty and Support**

Hardware Limited Warranty	5 years*
Next-Business-Day (NBD) Replacement	Yes
Technical Support	90 days free from date of purchase*

\* This product comes with a limited warranty that is valid only if purchased from a NETGEAR authorized reseller, and covers unmodified hardware, fans and internal power supplies - not software or external power supplies, and requires product registration at <https://insight.netgear.com> or using the Insight App within 90 days of purchase; see <https://www.netgear.com/about/warranty> for details. Intended for indoor use only.

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