



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



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



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



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



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



- **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



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



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



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



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



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



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



- **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

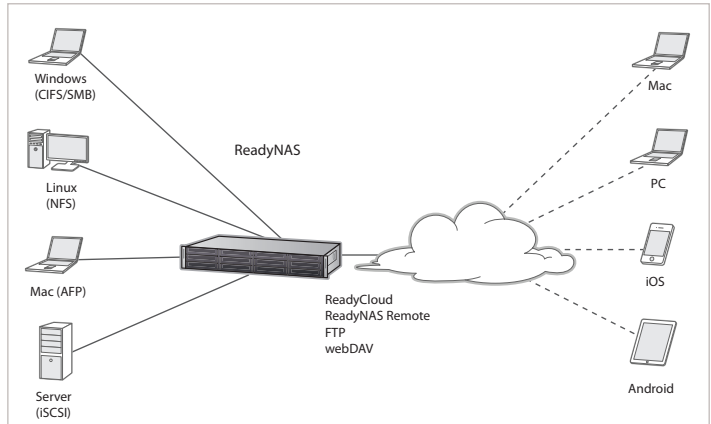
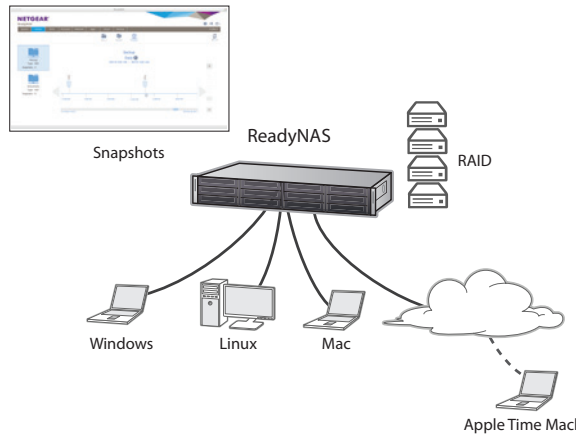


Hardware	ReadyNAS 2304	ReadyNAS 2312	ReadyNAS 3138
<b>CPU</b>	Intel Celeron Dual Core 2.0GHz	Intel Atom Quad Core C3538 2.1GHz with QuickAssist	Intel Atom Quad Core 2.4GHz with QuickAssist
<b>Memory</b>	2GB	2GB DDR4	4GB ECC UDIMM
<b>Drive Bays</b>	4	12	4
<b>Drive Types Supported</b>	SATA/SDD 2.5" or 3.5"	SATA 3.5"	SATA/SSD 2.5" or 3.5"
<b>Hot Swappable Drives</b>	Yes	Yes	Yes
<b>Max Raw Internal Capacity (Based on 10TB drives):</b>	40TB	120TB	40TB
<b>eSATA Ports</b>	0	0	2
<b>Gigabit LAN Ports</b>	2	4	4
<b>USB Ports</b>	3 x USB 3.0	2x USB3.0	1 x USB 2.0, 2 x USB 3.0
<b>Display Port (4k)</b>	1	0	0
<b>Power Supply</b>	Internal 180W: input 100-240V AC, 50/60Hz	Internal 350W: input 100-240V AC, 50/60Hz	Internal 180W: input 100-240V AC, 50/60Hz
<b>Fan (mm)</b>	3 x 40	5 x 40	3 x 40
<b>Dimensions DxWxH (mm)</b>			
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
<b>Weight (kg)</b>	4.19	Machine weight: 13kg Rackmount brackets weight: 1.9kg	5.21
<b>Chassis Warranty</b>	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
<b>Certification and Compatibility</b>		VMware vSphere ESXi 6.0	VMware vSphere ESXi 6.0
<b>Cloud-discovery, Setup and Management</b>	Yes	Yes	Yes
<b>Data Protection with Unlimited Snapshots</b>	Yes	Yes	Yes
<b>Web-managed Replication for Disaster Recovery</b>	Yes	Yes	Yes
<b>Real-time Antivirus</b>	Yes	Yes	Yes
<b>iSCSI and Thin Provisioning</b>	Yes	Yes	Yes
<b>ReadyDR</b>	Yes	Yes	Yes
<b>Insight App Management</b>	Yes	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.

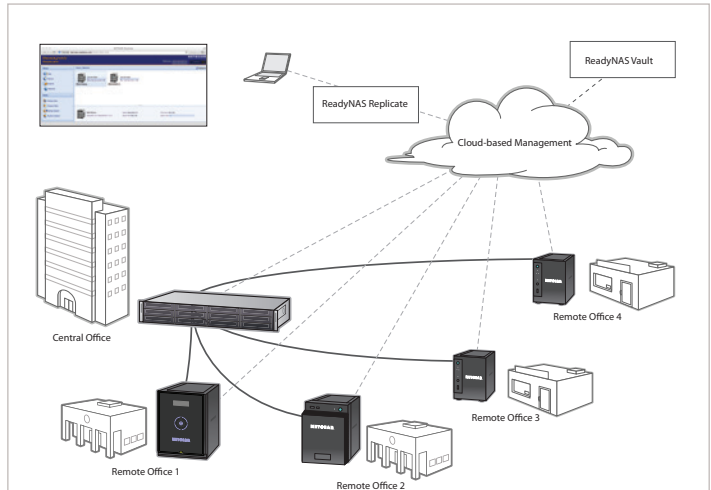
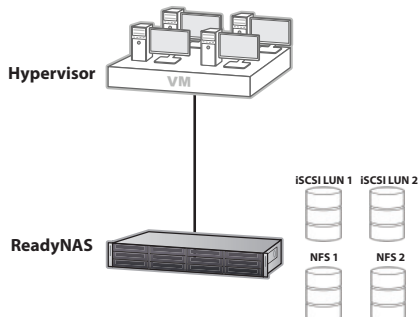


#### Backup

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
- 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

### Technical Specifications

#### 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
- 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 & 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)
- 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

### Technical Specifications

#### 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)

#### ProSUPPORT Service Packs Available

- OnCall 24x7 (1-year: PMB0312-10000S,  
3-year: PMB0332-10000S, 5-year:  
PMB0352-10000S)

#### 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,  
mSQL, 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

