NETGEAR®

# ReadyNAS 300/500/700 Series Network Attached Storage (NAS)

Data Sheet

RN312/RN314/RN316/RN516/RN716



RN314/RN516/RN312

## ReadyNAS: Storage Made Easy

Application data, virtual images, client files, email... the types of data central to running a successful business can seem endless. With ReadyNAS you finally have an advanced and easy-to use solution for centralizing, securing and controlling access to your digital assets. Way more than just simple unified (NAS and SAN) storage for your company, ReadyNAS allows you to do more than you ever thought you could afford by pairing the latest in performance with innovative efficiency technologies such as unlimited snapshots, thin provisioning and cloud-managed replication.

Every networked attached storage (NAS) device from NETGEAR runs on the revolutionary ReadyNAS operating system. This custom-built OS protects stored data not only with XRAID2 automatic expansion, but is the first desktop NAS for the SMB to feature the continuous data protection of unlimited snapshots along with real-time anti-virus and native encryption. Designed specifically for the unique needs of small business users, ReadyNAS devices utilize proprietary ReadyCLOUD technology for cloud-based discovery, provisioning and even ongoing management. In addition, these new devices are virtualization-ready with iSCSI support, thin provisioning capability and certification with VMware and Microsoft.

These days, your data is your world. With ReadyNAS, protecting and accessing that world has never been easier. ReadyNAS — Storage Made EASY.

## 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
- **XRAID2 & 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 businesses 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

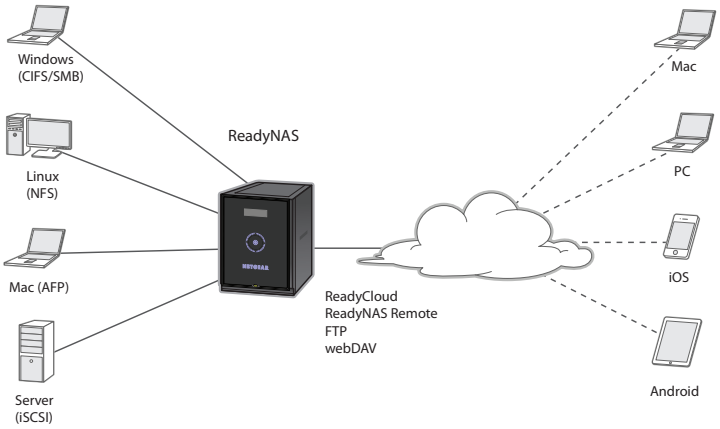
## Key Business Solutions

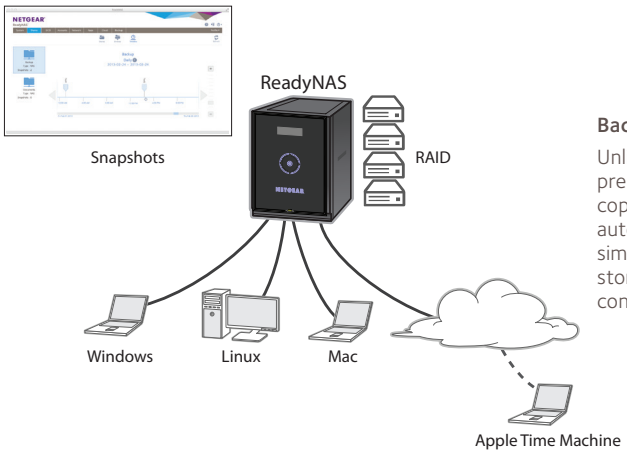
- **File Server:** Unified storage platform for sharing files between Windows, Mac and Linux-based computers
- **Backup:** RAID redundancy with automatic expansion and unlimited data snapshots for point-in-time restore
- **Disaster Recovery:** Cloud-managed replication for maintaining multiple sets of data and performing easy restores in case of disaster
- **Virtualization:** Thin provisioning, iSCSI support and certified with VMware and Microsoft

## 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.



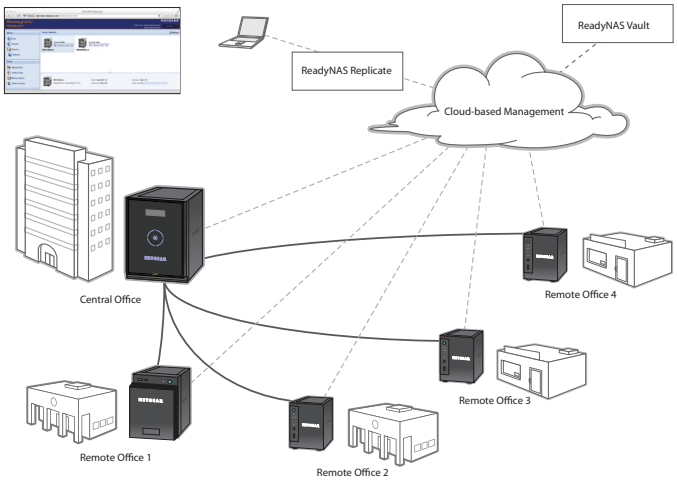



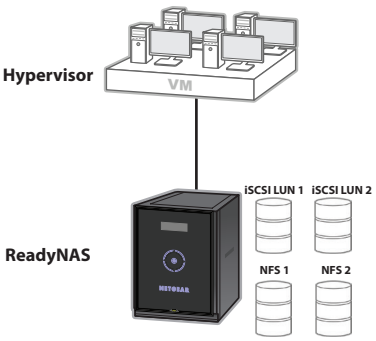

### Backup

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.

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## ReadyNAS Desktop Model Comparison – 300/500/700 Series







| | ReadyNAS 312 | ReadyNAS 314 | ReadyNAS 316 | ReadyNAS 516 | ReadyNAS 716X |
|---|---|---|---|---|---|
| CPU | Intel Atom 2.1GHz Dual Core | Intel Atom 2.1GHz Dual Core | Intel Atom 2.1GHz Dual Core | Intel Core Ivy Bridge i3-3220 3.3GHz Dual Core | Intel Xeon Ivy Bridge E3-1265Lv2 2.5GHz (3.5GHz Turbo) Quad Core |
| Memory | 2GB | 2GB | 2GB | 4GB ECC | 16GB ECC |
| Drive Bays | 2 | 4 | 6 | 6 | 6 |
| Drive Types Supported | SATA/SSD 2.5" or 3.5" | SATA/SSD 2.5" or 3.5" | SATA/SSD 2.5" or 3.5" | SATA/SSD 2.5" or 3.5" | SATA/SSD 2.5" or 3.5" |
| Hot Swappable Drives | Yes | Yes | Yes | Yes | Yes |
| Tool-less 3.5" disk installation | Yes | Yes | Yes | Yes | Yes |
| eSATA Expansion Ports | 1 | 2 (1 Shared USB/ eSATA port) | 2 | 3 | 3 |
| Total solution capacity internal/ with optional EDA500 unit(s) | 12TB/12TB | 24TB / 84TB | 36TB / 126TB | 36TB / 126TB | 36TB / 126TB |
| Gigabit LAN Ports | 2 | 2 | 2 | 2 | 2 |
| 10Gbps LAN Ports | 0 | 0 | 0 | 0 | 2 (10GBase-T) |
| USB Ports | One (1) USB 2.0, Two (2) USB 3.0 | One (1) USB 2.0, Two (2) USB 3.0 | One (1) USB 2.0, Two (2) USB 3.0 | One (1) USB 2.0, Two (2) USB 3.0 | One (1) USB 2.0, Two (2) USB 3.0 |
| HDMI Port | 1 | 1 | 1 | 1 | 1 |
| Power Supply | 12V, 5A External 60W: input 100-240VAC, 50/60Hz | 12V, 7A External 90W: input 100-240VAC, 50/60Hz | Internal 200W: input 100-240V AC, 50/60Hz | Internal 200W: input 100-240V AC, 50/60Hz | Internal 200W: input 100-240V AC, 50/60Hz |
| BTU at Full power supply utilization | 51W | 69W | 111W | 153W | 173W |
| Power consumption: Operation | 35W | 49W | 55W | 88W | 96W |
| Power consumption: (Wake on LAN) | 627mW | 843mW | 802mW | 798mW | 800mW |
| Power consumption: (Power Off) | 266mW | 472mW | 338mW | 417mW | 420mW |
| 2-Line LCD Display | No | Yes | Yes | Yes | Yes |
| Touch Screen Navigation | No | Yes | Yes | Yes | Yes |
| Fan (mm) | 92 | 92 | 120 | 120 | 120 |
| Dimensions DxWxH (mm) | 220 x 101 x 142 | 223 x 134 x 205 | 288 x 192 x 259 | 288 x 192 x 259 | 288 x 192 x 259 |
| Weight (kg) | 2.22 | 3.97 | 7.53 | 7.97 | 7.97 |
| MTBF @ 40C (hours) | 56119 | 55694 | 57049 | 54852 | 54852 |
| ProSUPPORT Service Packs Available | | | | | |
| On Call 24x7 | 1-year: PMB0312<br>3-year: PMB0332<br>5-year: PMB0352 | 1-year: PMB0312<br>3-year: PMB0332<br>5-year: PMB0352 | 1-year: PMB0312<br>3-year: PMB0332<br>5-year: PMB0352 | 1-year: PMB0313<br>3-year: PMB0333<br>5-year: PMB0353 | 1-year: PMB0313<br>3-year: PMB0333<br>5-year: PMB0353 |

## 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
- Instantly clone 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)
- Expand multiple RAID groups (vdev)
- Single Disk, JBOD
- RAID Levels: 0, 1, 5, 6, 10
- RAID Global Hot Spare
- eSATA Expansion
- Backup to external storage (USB/eSATA)
- Apple Time Machine support
- Remote Apple Time Machine backup and restore (over ReadyNAS Remote)
- ReadyNAS Vault Cloud backup (optional service)
- DropBox file synchronization (requires DropBox account)
- 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 vSphere 5
- Citrix XenServer 6
- Windows Server 2008 Hyper-V
- Windows Server 2008 Failover Clustering
- Windows Server 2012 R2

### ReadyCLOUD (cloud access to ReadyNAS)

- ReadyCLOUD portal based data access and management
- Upgrade firmware remotely
- 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 & ReadyNAS
- Backup files/folders from PC to ReadyNAS
- Sync files/folders between PC (Mac/Windows) & ReadyNAS
- Sync files/folders between multiple PCs and ReadyNAS
- Sync files/folders between multiple users & ReadyNAS
- Backup files/folders from PC to ReadyNAS

### File System & Transfer Protocols

- ReadyNAS OS 6.2 or later
- Linux 3.x
- Internal File System: BTRFS
- External File System: EXT3, EXT4, NTFS, FAT32, HFS+
- Copy-on-write file system
- Data Compression
- Microsoft Network (CIFS/SMB 3)
- Apple OS X (AFP 3.3)
- Linux/Unix (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

### Management

- ReadyCLOUD cloud-based discovery and management
- RAIDar local discovery agent (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 (Traditional & Simplified), Russian, Swedish, Portuguese, Italian, Spanish, Polish, Czech, Dutch, Korean
- Unicode support
- Volume Management
- Thin provision Shares and LUNs
- Instant Provisioning/Expansion with data protection
- Restore to factory default
- Supported Operating Systems (Microsoft Windows, 7 (32/64-bit), 8/8.1 (32/64-bit), Microsoft Windows Server 2008 R2/2012, Apple OS X, Linux/Unix, Solaris, Apple iOS, Google Android)
- Supported Web Browsers (Microsoft Internet Exploer 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

## Technical Specifications

- 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 (free trial, license required) supports over 85 brands and 2000 models of IP cameras
- ReadyNAS Surveillance supports up to 16 cameras for ReadyNAS 300 series, 32 cameras for ReadyNAS 516 & 64 cameras for ReadyNAS 716
- 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 (varies by model and region)
- Plex Media Server streams to DLNA and Plex clients (mobile, desktop, Google TV, Roku, Samsung & LG TVs)

### Hardware

- Floating Point CPU
- Flash: 128MB for OS
- Drive Bays: 6
- Tool-less hard drive tray
- Drive Types Supported: SATA/SSD 2.5" or 3.5"
- Hot Swappable Drives
- Three eSATA ports
- One USB 2.0 & Two USB 3.0 ports
- Total solution capacity: 84TB
- Dual Gigabit Ethernet ports with link aggregation and failover
- Dual 10Gb Ethernet (10GBase-T) ports with link aggregation and failover (RN716X only)
- LEDs: Power, System, LAN
- 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 @ 30C (ReadyNAS 516/716), <24.9dBA @ 30C (all other units)
- Operating Temperature: 0-40C
- Operating Humidity: 5-95% relative humidity, non-condensing
- Smart Fan
- Scheduled Power on/off
- UPS Support
- Network UPS with SNMP Management
- Wake on LAN
- Hard drive disk spin down
- Schedule power on/off
- 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
- Warranty: 5 years*

### Accessories

- RTRAY05: Replacement/additional 3.5" or 2.5" disk drive tray

### 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




**INDUSTRY-LEADING 5-YEAR HARDWARE WARRANTY**

5-year next-business-day replacement,
90 day 24x7 phone support, lifetime chat support




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