



RN3220/RN4220

### 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 with XRAID2 automatic expansion and offers continuous data protection with unlimited snapshots. Real-time anti-virus and native encryption come standard while 10GbE ports are an option for certain 2U models.

Designed specifically for the unique needs of business users, ReadyNAS devices utilize proprietary ReadyCLOUD™ technology for cloud-based discovery, provisioning and ongoing management. In addition, these 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



• **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 ReadyCLOUD Management:** Sleek, modern interface that puts the tools you need, where and when you need them

### 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 Desktop Model Comparison - Rackmount



Hardware	ReadyNAS 2120	ReadyNAS 3220	ReadyNAS 4220S	ReadyNAS 4220X
<b>CPU</b>	Marvell® Armada XP Dual Core 1.2GHz	Intel® Ivy Bridge i3-3220v2 Dual Core 3.3GHz	Intel® Ivy Bridge Xeon E3-1225v2 Quad Core 3.2GHz	Intel® Ivy Bridge Xeon E3-1225v2 Quad Core 3.2GHz
<b>Memory</b>	2GB	4GB ECC	8GB ECC	8GB ECC
<b>Drive Bays</b>	4	12	12	12
<b>Drive Types Supported</b>	SATA/SDD 2.5" or 3.5"	SATA/SDD 2.5" or 3.5"	SATA/SDD 2.5" or 3.5"	SATA/SDD 2.5" or 3.5"
<b>Hot Swappable Drives</b>	Yes	Yes	Yes	Yes
<b>eSATA Ports</b>	2	2	2	2
<b>Gigabit LAN Ports</b>	2	4	4	4
<b>10Gbps LAN Optical SFP+</b>	0	0	2	0
<b>10Gbps LAN Copper 10GBase-T</b>	0	0	0	2
<b>USB Ports</b>	1 x USB 2.0, 2 x USB 3.0	1 x USB 2.0, 2 x USB 3.0	1 x USB 2.0, 2 x USB 3.0	1 x USB 2.0, 2 x USB 3.0
<b>Power Supply</b>	Internal 200 W; input 100-240V AC, 50/60Hz	Dual Redundant Internal 550 W; input 100-240V AC, 50-60Hz	Dual Redundant Internal 550 W; input 100-240V AC, 50-60Hz	Dual Redundant Internal 550 W; input 100-240V AC, 50-60Hz
<b>Chassis Warranty</b>	5 years Standard Warranty	5 years Including Next Business Day Onsite Replacement (Where available)	5 years Including Next Business Day Onsite Replacement (Where available)	5 years Including Next Business Day Onsite Replacement (Where available)
<b>Fan (mm)</b>	3 x 40	3 x 80	3 x 80	3 x 80
<b>Dimensions DxWxH (mm)</b>	308 x 430 x 44	707 x 445 x 88	707 x 445 x 88	707 x 445 x 88
<b>Weight (kg)</b>	7.48	11.96	11.96	11.96
Software and Functionality	ReadyNAS 2120	ReadyNAS 3220	ReadyNAS 4220S	ReadyNAS 4220X
<b>Cloud-discovery, Setup and Management</b>	Yes	Yes	Yes	Yes
<b>Data Protection with Unlimited Snapshots</b>	Yes	Yes	Yes	Yes
<b>Web-managed Replication for Disaster Recovery</b>	Yes	Yes	Yes	Yes
<b>Real-time Antivirus</b>	Yes	Yes	Yes	Yes
<b>iSCSI and Thin Provisioning</b>	Yes	Yes	Yes	Yes
<b>Single DLNA Server for Local and Remote Streaming</b>	Yes	Yes	Yes	Yes

### 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
- Data compression
- 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 Global Hot Spare
- 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)
- ReadyDROP file synchronization (sync folder on Mac/Windows to a folder on ReadyNAS)
- 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.

#### 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

#### 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

#### Remote Access Clients

- ReadyNAS Remote clients for Apple Mac OS X, Microsoft Windows, Android, Apple iOS (Remote file access and management client).
- VPN quality remote data transfer and management
- Simple remote access through ReadyNAS Remote (no firewall or router configuration needed)
- ReadyDROP file synchronization (sync folder on Mac/Windows to a folder on ReadyNAS)

#### File System & Transfer Protocols

- ReadyNAS OS 6
- Linux 3.x
- Internal File System: BTRFS
- External File System: EXT3, EXT4, NTFS, FAT32, HFS+
- Copy-on-write file system
- Microsoft Network (CIFS/SMB 3)
- Apple OS X (AFP 3.3)
- Linux/Unix (NFS v3)
- 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)
- SSH File Transfer Protocol (SFTP)
- 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
- Send events to SYSLOG server
- 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
- 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
- Supported Operating Systems (Microsoft Windows Vista (32/64-bit), 7 (32/64-bit), 8 (32/64-bit), 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.

### Technical Specifications

- File System Check
- Disk Scrubbing
- Disk Defragment
- Alerts (SMTP email, LCD, SNMP, syslog, 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
- Virtual LAN (VLAN)
- Secure Shell (SSH)
- SNMP v2, v3
- Network Time Protocol (NTP)

#### Media

- ReadyDLNA (UPnP DLNA Media Server)
- ReadyDLNA Streams to any compliant device including PS3/Xbox 360
- 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 70 brands and 1600 models of IP cameras
- 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

- Floating Point CPU
- Flash: 256MB for OS
- Drive Bays: 12
- Drive Types Supported: SATA/SSD 2.5" or 3.5"
- Hot Swappable Drives
- Two eSATA ports
- One USB 2.0 & Two USB 3.0 ports
- Total solution capacity: 48TB
- Quad Gigabit Ethernet ports with link aggregation and failover
- LEDs: Power, System, LANx4
- Three 80mm fans
- Dimensions (DxWxH): 707mm x 445mm x 88mm
- Weight: 11.96 kg
- Dual 550 watt redundant power supplies
- Power cord localized to country of sale
- Rackmount sliding rail included

#### 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: <30dBA @ 30C
- Operating Temperature: 0-40C
- Operating Humidity: 20-80% relative humidity, non-condensing
- Smart Fan
- Scheduled Power on/off
- 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
- Power Consumption (Operation) RN3220: 92 watts
- Power Consumption (Wake on LAN) RN3220: 1.0 watts
- Power Consumption (Operation) RN4220S: 163 watts
- Power Consumption (Wake on LAN) RN4220S: 2.9 watts
- Power Consumption (Operation) RN4220X: 168 watts
- Power Consumption (Wake on LAN) RN4220X: 0.9 watts
- Certification: FCC Class A, CE Class A, RoHS, VCCI Class A
- MTBF: 159,519 hours

#### Warranty & ProSUPPORT

- Warranty: 5 years including next business day onsite replacement (where available)
- ProSUPPORT: OnCall 24x7 (1-year: PMB0314, 3-year: PMB0334, 5-year: PMB035)

\*The 5-Year Hardware Warranty only covers hardware, fans, and internal power supplies, and does not include external power supplies or software. Hardware modifications or customization void the warranty. The warranty is only valid for the original purchaser and cannot be transferred.

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