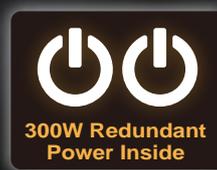


TS-809U-RP Turbo NAS

High Performance NAS with iSCSI & Dual Redundant Power for Business

- **8-Bay, 2U Rackmountable, Hot-swappable**
- **RAID 0/1/5/6/5+Spare/JBOD**
- **Built-in iSCSI Target Service**
- **AES 256-bit Volume-based Encryption**
- **Online RAID Capacity Expansion**
- **Online RAID Level Migration**
- **Dual Gigabit LAN: Failover, Load-Balancing & Multiple IP Setting**
- **Touch-N-Go PC-less Installation**
- **Dual Redundant Power Supply**



Abundant Business Server Features

- **RAID Server**
- **iSCSI Target**
- **Web Server**
- **MySQL Server**
- **Remote Replication (Rsync)**
- **File Server**
- **Backup Server**
- **FTP Server**
- **Printer Server (Max. 3 sets)**
- **and more...**



TS-809U-RP Turbo NAS

Overview

QNAP TS-809U-RP is the new generation 2U rackmount model of the worldwide award-winning Turbo NAS Series, providing superior performance for massive data sharing, powerful all-in-one business server features, advanced RAID data protection, built-in iSCSI target service, AES 256-bit volume-based encryption, and rock-solid hot-swappable hard drive design for business.

Superior Performance and Advanced RAID Redundancy

The TS-809U-RP is featured with Intel® 2.8GHz CPU and 2GB DDRII memory. It supports RAID 0/ 1/ 5/ 6/ 5+Spare, JBOD, Online RAID Capacity Expansion, and Online RAID Level Migration.

Flexible iSCSI Solution with Thin Provisioning Technology

The TS-809U-RP can serve as a NAS and an iSCSI target server. The built-in iSCSI target feature provides an affordable IP-SAN (Storage Area Network) alternative for business. You can set up the NAS to expand the storage capacity for existing application servers, such as database server

and mail server in an economic way. Moreover, the "Thin Provisioning" feature is provided which allows you to flexibly allocate the capacity of iSCSI LUN (Logical Unit Number) at the beginning regardless of the physical volume capacity.

Secure Data Protection by AES 256-bit Volume-based Encryption

The TS-809U-RP's dominant "volume-based encryption" feature secures the server data by AES 256-bit encryption. Even if the hard drives were stolen, there is no need to fear the confidential data would be leaked since the data can only be accessed by an authorized password.

Versatile Applications for Business

The TS-809U-RP supports file sharing across Linux, UNIX, Mac, and Windows platforms. Versatile business are supported, e.g. file server, FTP server with encryption, printer server, PHP/MySQL supported web server, encrypted remote replication, Windows AD (Active Directory) SSH login and web page SSL login.

Advanced RAID Management

The NAS offers advanced RAID 0, 1, 5, 6, 5 + Spare, Single, and JBOD disk configurations. It also supports hot-swap design that a failed drive can be replaced by hot swapping without turning off the server. Besides, the best-in-class RAID on the NAS brings users a higher level of data security by allowing one more hard drive failure than other NAS of the same level.

Online RAID Capacity Expansion

The storage capacity of a RAID configuration can be expanded by replacing the hard drives with larger ones. All the data will be kept and seamlessly moved to the newly installed hard drives. There is no need to turn off the server during the process.

Online RAID Level Migration

You can upgrade the disk configuration to higher RAID level with the data retained. There is no need to turn off the server during the process.

AES 256-bit Volume-based Data Encryption

The encrypted file system feature enables you to build encrypted disk volumes on the NAS for the first time installation. The disk volume is securely protected by AES 256-bit encryption. An encryption key is required to unlock the encrypted volume to access the server data. This prevents data leakage if the server or the hard drives were stolen.

Built-in iSCSI Target Service

For business, a high-performance and flexible storage expansion solution for the existing application servers is required. However, DAS (Direct Attached Storage) is not an efficient solution and a Fiber Channel SAN is too expensive and complicated to implement.

The TS-809U-RP can act as a NAS and iSCSI target server at the same time. It provides a cost-efficient iSCSI solution to set up an IP-SAN. You can make use of the built-in iSCSI target service to add up to 8 iSCSI devices. Different iSCSI Target LUNs (Logical Unit Number) can be defined as storage expansion or backup destination of the existing application servers, such as database servers and mail servers.

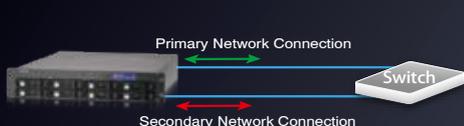
Virtual Space Allocation (Thin Provisioning)

The "Virtual Space Allocation" (Thin Provisioning) feature is provided which allows you to flexibly allocate the capacity of iSCSI LUN (Logical Unit Number) at the beginning regardless of the physical volume capacity. When the physical storage capacity of the volume is going to be full, you can easily expand the storage capacity of the NAS by "Online RAID Capacity Expansion".

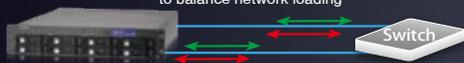
Application Diagram of NAS Plus iSCSI All-in-one System



Benefits of Dual LAN Deployment



1. Data flow from clients
2. Data traffic evenly distributed to balance network loading



Support access of multiple IP from different LAN areas

Network Failover
Failover allows the NAS to sustain the failure of one network port to provide continuous services.

Load-Balancing
Bandwidth aggregation is supported to boost the file transfer speed (works with managed Ethernet switch with 802.3ad configured).

Multi-IP Setting
The NAS can be deployed with two different IP settings for sharing among different workgroups in two different subnets.

Smart Power Management

Redundant Power Supply

The TS-809U-RP is equipped with two redundant power supply units, each of which is capable of supplying the power for the NAS independently. If one of the units fails, the other one will take over to supply the power. You can replace the failed power supply unit without turning off the server.

Hard Disk Standby

The hard disks can be configured to enter standby mode if there is no disk access within the specified period.

Schedule Power on/off

The flexible schedule power on/off feature is provided for you to manage the NAS server's up time according to the working hours.

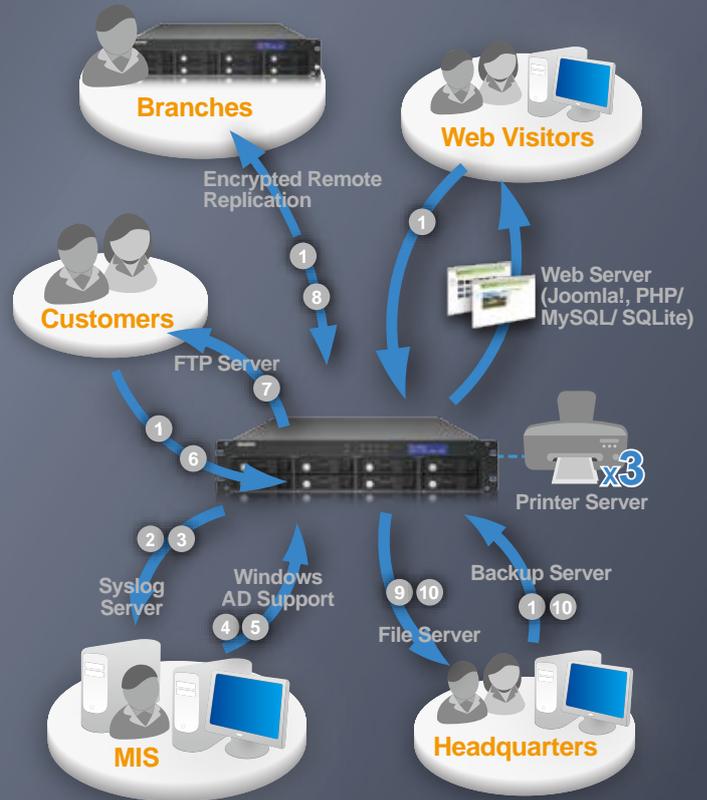
UPS Support

The NAS supports the majority of USB UPS devices which enables you to store the data in time and avoid critical data loss when power outage occurs during data transfer.

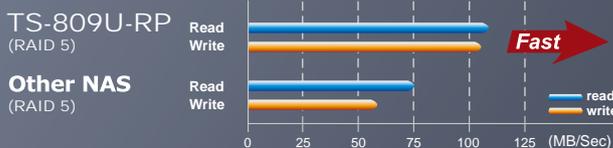
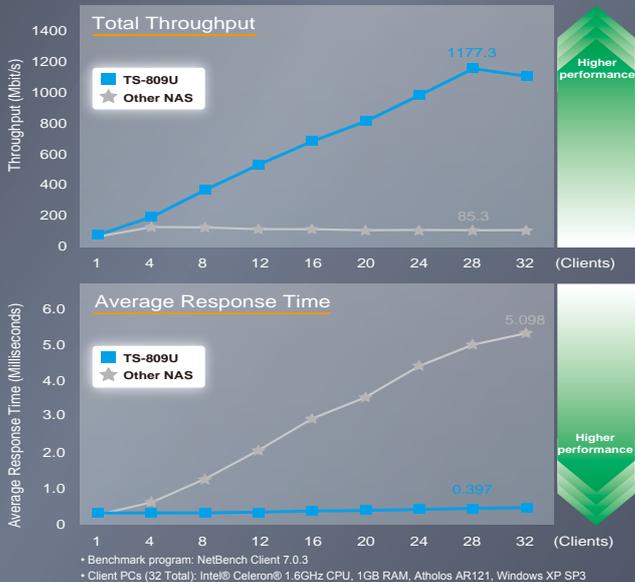
All-in-one Turbo NAS Applications for Business

Secure Measures for Data Storage and Access

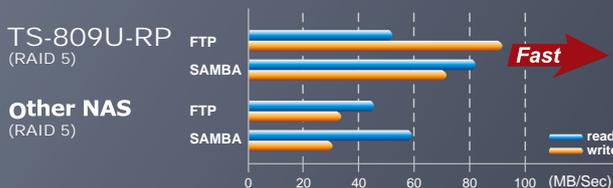
- 1. Policy-based Unauthorized IP Blocking:** You can allow, deny or auto block specified IP address or network domain which attempts to connect to Turbo NAS via SSH/ Telnet/ HTTP(S)/ FTP/ samba/ AFP.
- 2. Comprehensive Event Log System:** Detailed logs of file-level data access to the Turbo NAS via samba, FTP, AFP, HTTP, HTTPS, Telnet, and SSH, and networking services accessed by online users are all recorded.
- 3. Syslog Setting:** All the system event logs and connection logs can be saved to a remote syslog server.
- 4. Remote Login** by SSH (secure shell) or Telnet connection is supported.
- 5. SSL Security (HTTPS):** The Turbo NAS can be accessed and configured by the web browser securely. You can upload a secure certificate and RSA private key in X.509PEM format issued by a trusted provider for the users to access the Turbo NAS by secure SSL login.
- 6. Secure FTP:** The data can be transmitted with SSL/TLS (explicit) encryption. Passive FTP port range setup is also supported.
- 7. Write-only access right on FTP server:** The third party partners are allowed to upload data to the NAS but not able to read or edit the data via FTP.
- 8. Encrypted Remote Replication:** The data on the NAS can be backed up to or from another Turbo NAS over the network securely.
- 9. Share Folder Management:** For the security of Windows network environment, you can hide or show network share folders.
- 10. User Authority Management:** You can create user ID and password, and define the authority and quota for each user.



Class-leading Performance for Concurrent Data Access



FTP/SAMBA Testing Environment: Pentium D 3.00 GHz/ 2GB RAM, Windows XP SP2, NETGEAR G5608 8 port GbE Switch
FTP/SAMBA Testing Method: Connect the TS-809U-RP and PC to switch, upload/download 1GB File without Jumbo Frame, FTP Tool: File Zilla



FTP/SAMBA Testing Environment: Pentium D 3.00 GHz/ 2GB RAM, Windows XP SP2, NETGEAR G5608 8 port GbE Switch
FTP/SAMBA Testing Method: Connect the TS-809U-RP and PC to switch, upload/download 1GB File without Jumbo Frame, FTP Tool: File Zilla

Complete Backup Solution

NetBak Replicator (no license account limitation)
The backup software, NetBak Replicator, is provided for the NAS users to perform real-time synchronization or schedule backup from multiple PCs to the NAS.

Remote Replication by Rsync

The data on the Turbo NAS can be backed up to or from another Turbo NAS or Rsync server over the network.

3rd Party Backup Software Ready

Acronis True Image, CA BrightStor ARCserve Backup, EMC Retrospect, Symantec Backup Exec, and LaCie Silverkeeper.

Practical System Management Tools

Wake on LAN

Enable this option to power on the NAS remotely by Wake on LAN. Wake on LAN helps you manage your NAS conveniently.

S.M.A.R.T. & Advanced HDD Health Scanning (HHS)

The NAS supports Hard Disk Drive S.M.A.R.T. (Self-Monitoring Analysis and Reporting Technology) for monitoring the HDD status. Moreover, the NAS is embedded with HHS which supports disk checking and bad blocks scanning.

Smart Fan

The fan rotation speed is automatically adjusted according to the server's temperature. You can also define the system temperatures to trigger high speed or low speed rotation of the fan. By manually setting the fan rotation speed, the fan will rotate at the defined speed continuously.

Instant SMS/ Email Alert

You can configure the SMTP server and SMSC server settings on the NAS in order to receive instant system warning or error messages by email or SMS.

Software Expansion via QPKG Platform

The QPKG software package platform enables you to maximize the usage of the Turbo NAS by installing additional software packages developed from the users and community worldwide. This can be done by simple "download & install" clicking without going through any complicated process.

Web Server with Built-in phpMyAdmin and Joomla!

With the built-in phpMyAdmin, Joomla!, editable php.ini, MySQL and SQLite, you can easily set up your web server and other online applications such as online shops, forums, and blogs.

Hardware Specifications

Processor

- Intel 2.8GHz processor

Memory

- 2GB DDRII RAM, 128MB flash (DOM)

HDD Capacity

- 8 x 3.5" SATA I/II HDD (the standard package is shipped without HDD)

HDD Tray

- 8 x hot-swappable and lockable tray

LAN Port

- 2 x Gigabit RJ-45 Ethernet port

LED Indicators

- Status, LAN, HDD 1, HDD 2, HDD 3, HDD 4, HDD 5, HDD 6, HDD 7, HDD 8

USB

- 4 x USB 2.0
- Supports USB printer, disk, pen drive, USB hub, and USB UPS etc.

Buttons

- System: Power button, reset button

Alarm Buzzer

- System warning

LCD panel

- Mono-LCD display with backlight and buttons for configuration

Form Factor

- Rackmount

Dimensions

- 88.9(H) x 482.6(W) x 531.5(D) mm
- 3.5(H) x 19(W) x 20.93(D) inch

Weight

- Net weight: 12.15Kg/ 26.79 lbs
- Gross weight: 16.7Kg/ 36.82 lbs

Operation Environment

- Temperature 0~40°C/ 32~104°F
- Humidity 0~95% R.H.

Redundant Power Supply

- ATX 300W, Input: 100-240 Vac~, 47-63Hz, 5A-2.5A

VGA

- Reserved for maintenance

RS-232

- RS-232 x 1

Fan

- 3 x cooling fan (8 cm, 12V DC)

Powerful All-in-one Server

File Server

- File sharing across Windows/ Mac/ Linux/ Unix and centralized management

FTP Server

- Supports data access from remote location via FTP (max. 256 concurrent connections)
- FTP with SSL/ TLS (explicit) mode
- FTP bandwidth control and connection control
- Passive FTP port range control

Backup Server

- QNAP client-side backup software - NetBak Replicator supports instant, schedule, and auto-sync backup
- 3rd party backup software support: Acronis True Image, CA Brightstor ARCserve Backup, EMC Retrospect, Symantec Backup Exec, LaCie Silverkeeper

Printer Server

- Network printer sharing via USB (Windows & Mac)
- Supports all-in-one printer (max. 3 sets)

Remote Replication

- Block-level remote replication supports instant, schedule backup management; supports synchronization mode

Web Server

- Built-in phpMyAdmin, Joomla!, editable php.ini, SQLite and MySQL

MySQL Server

- Supports MySQL database server

UPnP MediaServer

(built-in TwonkyMedia)

- Supports UPnP/ DLNA multimedia technology; share stored photos and home videos on TV, listen to music on Hi-Fi system via DMP

- Internet radio (built-in TwonkyMedia)
- Media playing with PS3, Xbox360, PSP game consoles

iTunes Server

- iTunes server for music sharing
- Smart playlist for iTunes software

Multimedia Station

- Image slide show and rotation (+90°, -90°)
- Display photo details: date, exposure time, aperture, etc.
- Automatic thumbnail generation for easy browsing
- Photo album access authority management
- Multimedia files (video and audio) local playing
- Automatic file categorization

Download Station

- PC-less BitTorrent/ FTP/ HTTP download
- QNAP remote download control software: QGet (Windows & Mac), allows you to control the download tasks of multiple Turbo NAS on one PC via LAN/ WAN
- BitTorrent download supports TCP/ UDP, DHT
- BT schedule download
- BT tasks download (up to 500 tasks)
- Download configuration (current seed number, configurable port range, bandwidth control, download percentage, UPnP NAT port forwarding for BitTorrent download)
- Download status list management (download percentage)
- Supports access from Mac by Mozilla Firefox

Software Specifications

Operating System

- Linux-embedded system

Networking

- TCP/IP, DHCP Client, DHCP Server, CIFS/SMB, AFP, NFS, HTTP, HTTPS, FTP, DDNS, NTP
- Failover
- Load-balancing
- Multi-IP setting

File System

- EXT3 (Internal/ external HDD)
- FAT (External HDD)
- NTFS (External HDD)

Supported Operating Systems

- Microsoft® Windows® 98/ ME/ NT/ 2000/ XP/ 2003/ Vista
- Mac OS X

Disk Management

- Single disk, RAID 0 (Disk Striping), RAID 1 (Disk Mirroring), RAID 5, RAID 5+ Hot spare, RAID 6, and JBOD (Linear Disk Volume)
- Multiple RAID
- Online RAID Capacity Expansion
- Online RAID Level Migration
- Disk usage status management
- Check disk (Check Linux file system)
- HDD S.M.A.R.T.
- Bad blocks scan
- PC-less RAID setup via LCD panel for the first time installation (Touch-N-Go)
- AES 256-bit volume-based encryption
- Built-in iSCSI target service

User Management

- User quota management (per user)
- Windows AD
- User account management (max. 4,096 users)
- User group management (max. 512 groups)
- Batch creating users

File System Management

- Network share management (max. 512 shares)
- Network volume status management
- Share folder level ACL support
- Hide share folder on Windows network
- Unicode support
- Journaling file system

Web File Manager

System Tools

- E-mail alert (SMTP authentication)
- SMS alert
- HDD standby mode
- Disk usage alert
- Automatic power on after power loss
- QPKG add-on firmware supported
- System firmware upgrade
- Change homepage logo
- Back up, restore, reset system settings
- Smart fan setting
- Configurable management port
- Policy-based unauthorized IP blocking
- Secure remote login by SSH connection; remote login by Telnet connection
- USB, SNMP UPS support
- Wake on LAN
- Schedule on/ off (max. 15 settings)
- Network recycle bin
- Import SSL certificate

LCD

- Automatically set up the selected RAID configuration for the first time setup
- When the system is ready, users can check or configure the IP settings, physical disk info, volume info, system info, shut down or reboot the NAS, etc.

Event Logs

- Complete system logs (file level): system events management, connection logs, current connection of on-line users

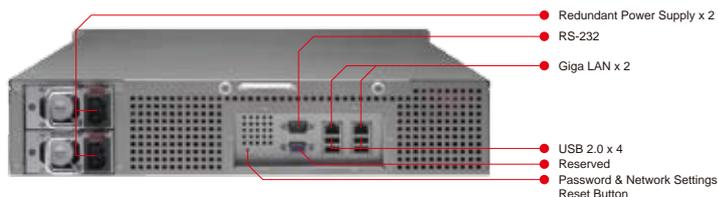
Multilingual Support

- English, Traditional Chinese, Simplified Chinese, Japanese, Korean, French, German, Italian, Spanish, Russian, Swedish, Norwegian, Finnish, Danish, and Polish

Backup Management

- PC-client backup software-NetBak Replicator: Instant/ Schedule/ Auto-sync backup
- Remote Replication supports Rsync
- Encrypted remote replication
- Back up to external storage device

Package Contents



QNAP Systems, Inc.

TEL: 886-2-8698 2000 FAX: 886-2-8698 2270

Address: 21F, No. 77, Sec. 1, Xintai 5th Rd, Xizhi City, Taipei County, 221, Taiwan

QNAP is a registered trademark of QNAP Systems, Inc. Microsoft and Windows are either registered trademarks of Microsoft Corporation in the United States and other countries. AppleTalk®, Mac® and Macintosh® are trademarks of Apple computer, Inc. registered in the U.S and other countries.

QNAP
www.qnap.com