TS-809 Pro Turbo NAS

High Performance NAS with iSCSI for Business

- **8-Bay, 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**

QNAP

TS-809Pro
169.254.100.100

POWER

COPY

Intel® Core™2 Duo Processor **2.4GHz**

2GB DDRII Memory

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...**

iSCSI Target 30%
Volume-based Encryption
RAID 0/1/5/6/ 5+Spare/JBOD
Online RAID expansion
Online RAID migration
UPS Support
Printer Server

Dual Gigabit Ethernet
Hot Swappable
HDD S.M.A.R.T.
Failover
Load Balancing
Wake on LAN
Schedule on/off

SMS Support
LCD Configuration
SATA I / II
OS Support
PHP SQLite & MySQL
RSS Support
QPKG Support

TS-809 Pro Turbo NAS

Overview

Modern business requires a reliable and secure storage solution to back up, protect, and manage data effectively. The TS-809 Pro is the powerful 8-bay high-volume member of QNAP's award-winning Turbo NAS family designed for business users. It is a NAS of class-leading performance, supports advanced RAID configurations for data protection, built-in iSCSI target service, AES 256-bit volume-based encryption, lots of enterprise-grade server features, and delivers high reliability for multiple concurrent applications.

Superior performance and advanced RAID redundancy
The TS-809 Pro is featured with Intel® Core™2 Duo 2.4GHz CPU and 2GB DDRII memory. It supports RAID 0/ 1/ 5/ 6/ 5+Spare, JBOD, online RAID capacity expansion, and online RAID level migration.

iSCSI Solution with Flexible Virtual Space Allocation
The TS-809 Pro 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. The server manager 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 "Virtual Space Allocation" (Thin Provisioning) feature is provided which allows the server manager to flexibly allocate the capacity of iSCSI LUN (Logical Unit Number) at the beginning regardless of the physical volume capacity.
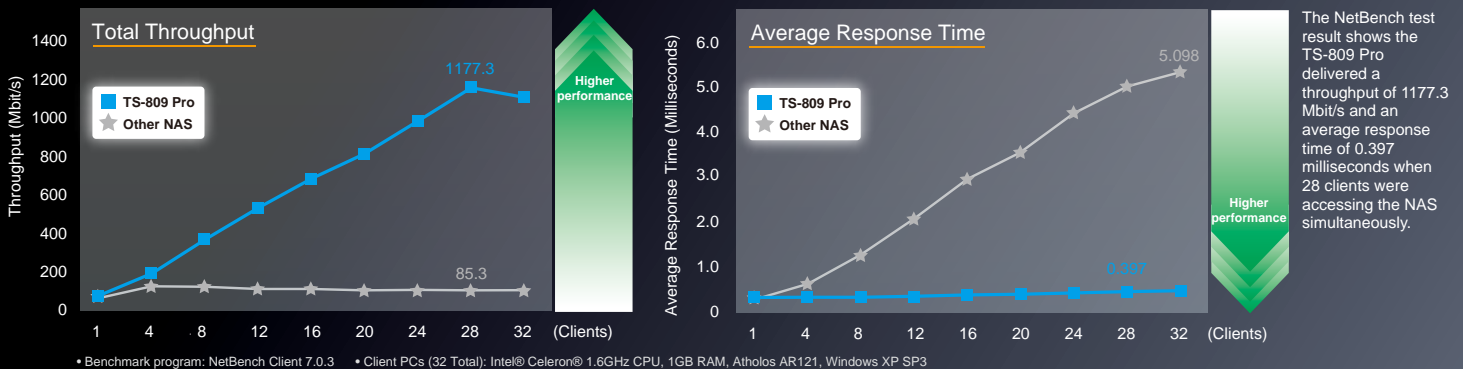
Versatile Applications for Business
The TS-809 Pro supports file sharing across Linux, UNIX, Mac, and Windows platforms. Versatile business applications are supported, e.g. file server, FTP server with encryption, printer server, web server, and encrypted remote replication by Rsync. Also, Windows AD (Active Directory) is supported to help create an easy-to-access environment and lower the maintenance cost. SSH login and web page SSL login enable users to transfer, store, and share data securely.

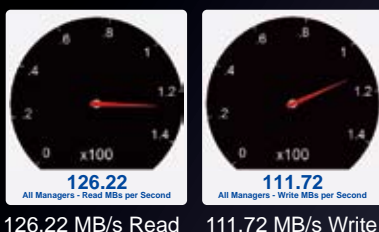### Secure Data Protection by AES 256-bit Volume-based Encryption
The TS-809 Pro's dominant 'volume-based encryption' feature secures the server data by AES 256-bit encryption. Even if the hard drives were stolen, there is no need to fear the confidential would be leaked since the data can only be accessed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

Class-leading Performance for Concurrent Data Access

NetBench

Total Throughput
- TS-809 Pro
- Other NAS

1177.3

85.3

Average Response Time
- TS-809 Pro
- Other NAS

5.098

0.397

The NetBench test result shows the TS-809 Pro delivered a throughput of 1177.3 Mbit/s and an average response time of 0.397 milliseconds when 28 clients were accessing the NAS simultaneously.

• Benchmark program: NetBench Client 7.0.3   • Client PCs (32 Total): Intel® Celeron® 1.6GHz CPU, 1GB RAM, Atholos AR121, Windows XP SP3
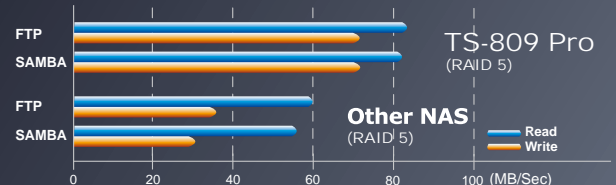
Iometer

126.22 MB/s Read   111.72 MB/s Write

Iometer is a benchmark tool to test disk performance. It is a useful indicator for the measurement of the I/O transfer rate and the average I/O response time.

• Benchmark program: Iometer 2006.07.27
• Client PC: Intel® Core™2 Quad 2.34GHz CPU, 2GB RAM, NVIDIA nForce Networking Controller, Windows Vista 32-Bit SP1

FTP / SAMBA

- FTP
- SAMBA
TS-809 Pro (RAID 5)
- FTP
- SAMBA
Other NAS (RAID 5)
- Read
- Write

• Client PC: Intel® Core™2 Quad 2.34GHz CPU, 2GB RAM, NVIDIA nForce Networking Controller, Windows Vista 32-Bit SP1
• Testing Method: Connect the TS-809 Pro and PC to switch, upload/download 5GB file, FTP program: FileZilla 3.1.5

Benefit of Dual LAN Deployment

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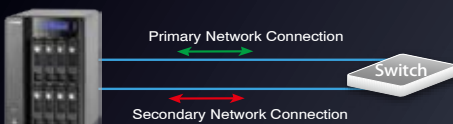
Network Failover
Failover allows the NAS to sustain the failure of one network port to provide continuous services.

1. Data flow from clients
2. Data traffic evenly distributed to balance network loading
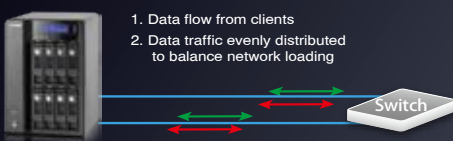
Load-Balancing
Bandwidth aggregation is supported to boost the file transfer speed (works with managed Ethernet switch with 802.3ad configured).

LAN 2   LAN 1
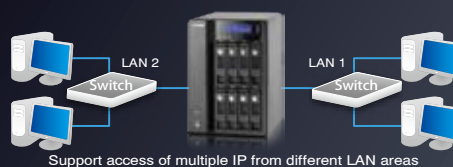
Multi-IP Setting
The NAS can be deployed with two different IP settings for sharing among different workgroups in two different subnets.

Support access of multiple IP from different LAN areas

Intelligent Power Management

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 now provided on the NAS for IT administrators 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 the users to store the data in time and avoid critical data loss when power outage occurs during data transfer.

Practical System Management Tools

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 (HDD Health Scan) which supports disk checking and bad blocks scanning.

Instant SMS/ Email Alert
The server manager 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.

Advanced RAID Management with How-swap Design

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.

3.5TB (RAID5)   7TB (RAID5)
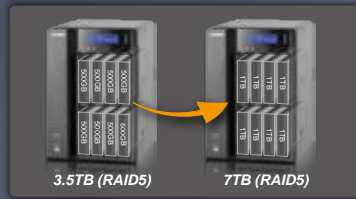
Online RAID Level Migration
Users can upgrade the disk configuration to higher RAID level with the data retained. There is no need to turn off the server during the process.

RAID 1 Mirroring   RAID 5 (5 HDD)   a. RAID 5 (6 HDD)   b. RAID 6 (6 HDD)
c. RAID 5 + spare (5 HDD)
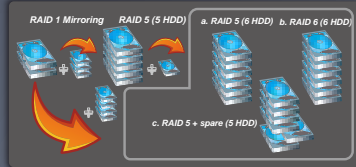
AES 256-bit Volume-based Data Encryption

The encrypted file system feature enables the server manager 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.
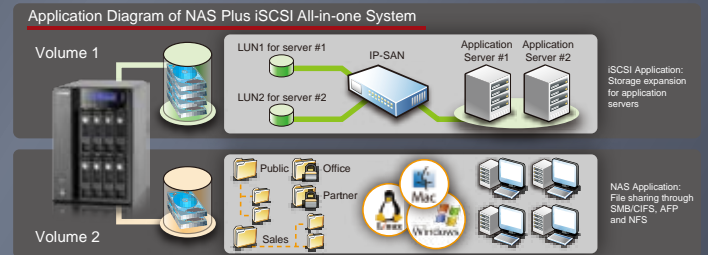
Built-in iSCSI Target Service

For small 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-809 Pro 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. The server manager 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 the server manager 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, the server manager can easily expand the storage capacity of the NAS by "Online RAID Capacity Expansion".

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

Volume 1   LUN1 for server #1   IP-SAN   Application Server #1   Application Server #2
LUN2 for server #2
iSCSI Application: Storage expansion for application servers

Public   Office   Partner   Sales
Volume 2
NAS Application: File sharing through SMB/CIFS, AFP and NFS

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.

Encrypted Remote Replication by Rsync
Data on the Turbo NAS can be backed up to or from another Turbo NAS or Rysnc server over the network securely.

3rd Party Backup Software Ready
Arconis True Image, CA BrightStor ARCserve Backup, EMC Retrospect, Symantec Backup Exec, and LaCie Silverkeeper.

One Touch USB Auto Copy
The one touch button can be configured to trigger instant data backup from the external USB device to the NAS or the other way round (applies to the USB device connected to the front USB port of the NAS only).

Software Expansion via QPKG Platform

The QPKG software package platform enables the users to maximize the usage of Turbo NAS by installing additional software packages developed by the users and community worldwide.

Web Server with Built-in phpMyAdmin, 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.

All-in-one Turbo NAS Applications for Business

Branches

Web Visitors

Encrypted Remote Replication (Rsync)

Customers

Web Server (Joomla!, PHP/ MySQL/ SQLite)

FTP Server

Printer Server x3

Syslog Server   Windows AD Support   Backup Server

File Server

MIS   **Headquarters**

The TS-809 Pro supports file sharing across Linux, UNIX, Mac, and Windows platforms. Versatile business functions are supported, e.g. file server, FTP server, backup server, printer server, web server, encrypted remote replication by Rsync and Windows AD (Active Directory). SSH login and web page SSL login enable users to transfer, store, and share data securely. The NAS supports UPS devices to prevent avoid critical data loss when power outage occurs during data transfer.

Secure Measures for Data Storage and Access

1. **Policy-based Unauthorized IP Blocking:** Server manager 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. The administrator can also 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 on FTP server.

8. **Encrypted Remote Replication by Rsync:** Data on the NAS can be backed up to or from another Turbo NAS or Rsync server over the network securely.

9. **Share Folder Management:** For the security of Windows network environment, server managers can hide or show network share folders.

10. **User Authority Management:** The NAS allows the server manager to create user ID and password, and define the authority and quota for each user.

Hardware Specifications

Processor
- Intel® Core™2 Duo 2.4GHz 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, USB
- HDD 1, HDD 2, HDD 3, HDD 4, HDD 5, HDD 6, HDD 7, HDD 8

USB
- 5 x USB 2.0 (front: 1; back: 4)
- Supports printer, external hard drive, flash drive, and UPS, etc.

Buttons
- System: Power button, USB one-touch-backup button, reset button

LCD panel
- Mono-LCD display with backlight and buttons for configuration

Alarm Buzzer
- System warning

Form Factor
- Tower

Dimensions
- 270 (D) x 200 (W) x 298 (H) mm

Weight
- Net weight: 8.1Kg
- Gross weight: 9.8Kg

Operation Environment
- Temperature 0~40°C
- Humidity 0~95% R.H.

Power Supply
- 350W, Input: 100-240 Vac~, 47-63Hz, 6A-2.8A

Fan
- 2 x 12cm smart cooling fan

VGA
- Reserved for maintenance

RS-232
- RS-232 x 1

K-lock
- Kensington lock slot for theft prevention

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 (Maximum capacity for single volume is up to 8TB)
- 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
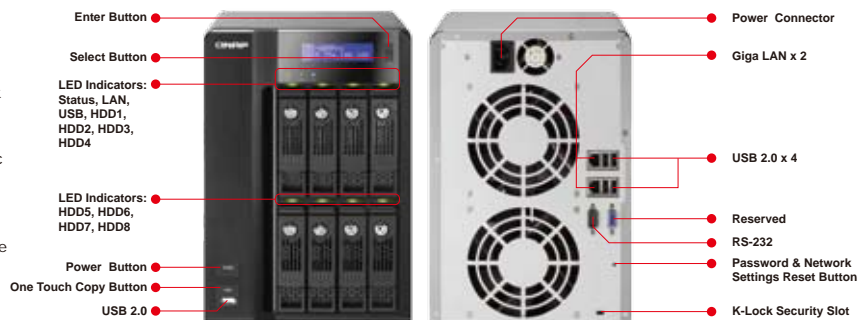
Multilingual Support
- English, Traditional Chinese, Simplified Chinese, Japanese, Korean, French, German, Italian, Spanish, Russian, Swedish, Norwegian, Finnish, Danish, and Polish

Backup Management
- PC-client backup software-NetBak Replicator: Instant/ Schedule/ Auto-sync backup
- Remote Replication support Rsync
- Encrypted remote replication
- One touch USB copy for different destination folders
- Back up to external storage device

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
- FXP supported
- 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

Package Contents

TS-809 Pro Turbo NAS　　CD-ROM　　Ethernet cable x 2　　Quick Installation Guide

Power cord　　Flat head screw x 32　　Hard disk lock　　Quick Installation Guide (RAID configuration)

Enter Button
Select Button
LED Indicators: Status, LAN, USB, HDD1, HDD2, HDD3, HDD4
LED Indicators: HDD5, HDD6, HDD7, HDD8
Power Button
One Touch Copy Button
USB 2.0

Power Connector
Giga LAN x 2
USB 2.0 x 4
Reserved
RS-232
Password & Network Settings Reset Button
K-Lock Security Slot

*Designs and specifications are subject to change without notice. Please contact QNAP for updated information.

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