# TS-419P Turbo NAS

# All-in-one NAS Server with iSCSI
## for SMB and SOHO Users

## 4-Bay • Hot-swappable
## RAID 0/ 1/ 5 / 6/ 5 + Hot Spare/ JBOD

- 2.5" & 3.5" HDD Dual Support for Higher Flexibility
- Dual Gigabit LAN: Failover, Load-Balancing & Multiple IP Setting
- Online RAID Capacity Expansion & Online RAID Level Migration
- Built-in iSCSI Target Service & Virtual Disk for Storage Expansion
- Smart IP Filter & Comprehensive Log Systems
- Most Advanced Backup Solution (Auto-Sync, Instant, Schedule Backup)
- Low Power Consumption & Quiet Operation

**Brand NEW**
**1.2GHz CPU**
**512MB** DDRII Memory

**eSATA x2**

**2.5" & 3.5" HDD dual support**

**Unleash the NAS Power with GUI V3**
Simply the best user experience with Ajax technology

- Multi-browser Support
- Step-by-step Wizard
- 3 theme colors
- Fast user/ group/ share search
- Instant Language Switch
- QNAP RSS Feed
- And more...

TS-419P
169.254.100.100

## Abundant SMB & SOHO Server Features

- RAID Server
- iSCSI Target
- Web Server
- File Server
- FTP Server
- MySQL Server
- Media Server

- Backup Server
- Printer Server (Max. 3 sets)
- Remote Replication (Rsync)
- Surveillance Station
- and more...

iSCSI Target | Virtual Disk Drive | RAID 0/1/5/6/ 5+Spare/JBOD | Online RAID expansion | Online RAID migration | SNMP | UPS Support

Printer Server | Dual Gigabit Ethernet | Hot Swappable | HDD S.M.A.R.T. | Failover | Load Balancing | Schedule on/off

SMS Support | OS Support | PHP SQLite & MySQL | 2.5" & 3.5" HDD support | QPKG Support | UPnP DLNA

# Overview

The QNAP TS-419P Turbo NAS is a high performance  4-bay, 2.5-inch and 3.5-inch SATA HDD network-attached storage server with iSCSI applications dedicated to SMB, SOHO and prosumer users. As a high capacity storage centre for data backup, management and sharing, the TS-419P Turbo NAS features  excellent hardware design, outstanding performance, high  reliability, and numerous powerful software applications.

Eye-catching industrial design and superior hardware specifications
The TS-419P Turbo NAS incorporates a  Marvell 1.2 GHz CPU and 512MB of DDRII RAM and is able to maintain superior performance in an intensive data access environment while offering low power consumption. The TS-419P supports four hot-swappable SATA hard drives, two Gigabit LAN ports for multi-IP settings, failover, and load-balancing, four USB ports and two eSATA ports for external storage backup, and is also equipped with an LCD display for convenient system status checking.

Class-leading performance and compelling  server applications
The TS-419P Turbo NAS supports cross-platform network services across Windows, Mac, Linux, and UNIX. Enhanced industry-leading features are also provided, e.g. EXT3 and EXT4 file systems, built-in iSCSI target service (max 8 iSCSI targets), virtual disk drive (VDD) by built-in iSCSI initiator for storage expansion, RAID 0/ 1/ 5/ 6/ 5+spare, single and JBOD disk configurations, online RAID capacity expansion, online RAID level migration, RAID recovery, policy-based IP blocking, instant SMS alert notification, schedule power on/ off, and 4 IP cameras (optional purchase) for network surveillance video recording.

Maximize the enjoyment of your home multimedia center
The built-in UPnP/ DLNA compliant media server (with TwonkyMedia enabled) of the Turbo NAS supports a wide range of DLNA media players such as Sony PS3 and Microsoft Xbox 360 gaming consoles and works well with NFS-supported High-Definition (HD) digital media players for HD video streaming. By installing the DLNA/ UPnP application on your iPhone or iPod touch, you can access the Turbo NAS on the local network and play the multimedia contents, e.g. videos, music, and photos on the server. In addition, the high-speed PC-less Download Station with the unique QGet utility enables you to manage the BT/ FTP/ HTTP download tasks remotely over the local network or the Internet.

# ALL-in-One Server Features

**UPnP Media Server (with built-in TwonkyMedia Server)**
The Turbo NAS is a perfect media storage center and it works well with DLNA (Digital Living Network Alliance) compliant media players. You can play the photos and videos on TV, or listen to your favorite music and Internet radio on your Hi-Fi system.

**Multimedia Station for Photo Sharing**
You can share you photos, video, or music online by the Multimedia Station of the Turbo NAS.

**Music Sharing by iTunes Server**
All your MP3 music can be collectively stored and streamed to Mac or Windows PC. Just turn on the iTunes program and enjoy all the music around your home network.

**PC-less Download Station**
The Turbo NAS supports BitTorrent, FTP, and HTTP download without PC. TCP/ UDP, encrypted BT download function, and DHT (Distributed Hash Tables) are also supported. It supports to download BitTorrent, emule/ eDonkey and NZB files.

**File Server**
The Turbo NAS allows you to create user ID and password, and define the authority and quota for each user.

**QGget-Download Utility for Windows and Mac**
You can use the QGet download utility provided by QNAP to manage the download tasks on multiple Turbo NAS servers.
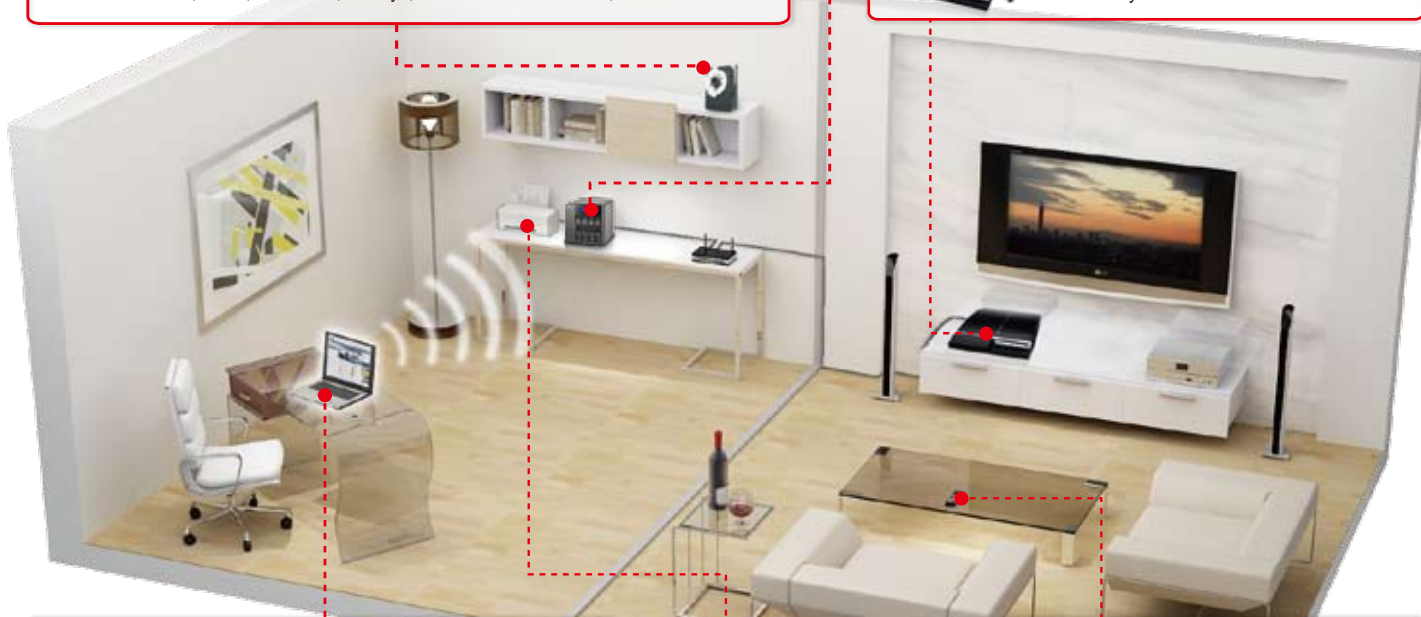
**Surveillance Station**
The Surveillance Station enables you to configure and connect IP cameras simultaneously and remotely manage the functions. The Surveillance Station of QNAP NAS supports all the leading network camera brands such as AXIS, D-Link, IPUX, LevelOne, Linksys, Panasonic and Vivotek, etc.

**Supports PS3 and XBox360**
All the photos, music, and videos stored on the Turbo NAS can be played via PS3 or XBox360 on your LCD TV or stereo Hi-Fi system.

**Exclusive Windows-based Backup Utility**
The automatic backup software, NetBak Replicator, is provided for you to perform real-time synchronization or schedule backup from multiple PCs to the Turbo NAS.

**FTP Server**
You can establish your own FTP server by using the Turbo NAS and share the files conveniently with your friends or customers.
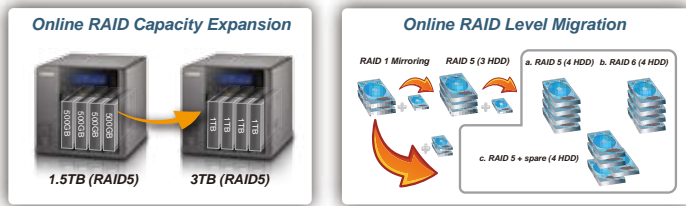
**Printer Server**
x3 The NAS supports network printer sharing function (max 3 USB printers).

**Using QNAP NAS with iPhone or iPod touch**
By installing DLNA/ UPnP application on the iPhone or iPod touch, you can access QNAP NAS on the local network and play the multimedia contents, e.g. videos, music, and photos on the server.
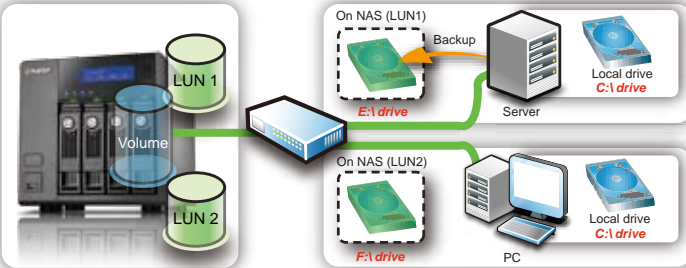
# Advanced RAID Management with Hot-swap Design

**Online RAID Capacity Expansion**

1.5TB (RAID5) → 3TB (RAID5)

**Online RAID Level Migration**

RAID 1 Mirroring   RAID 5 (3 HDD)   a. RAID 5 (4 HDD)  b. RAID 6 (4 HDD)
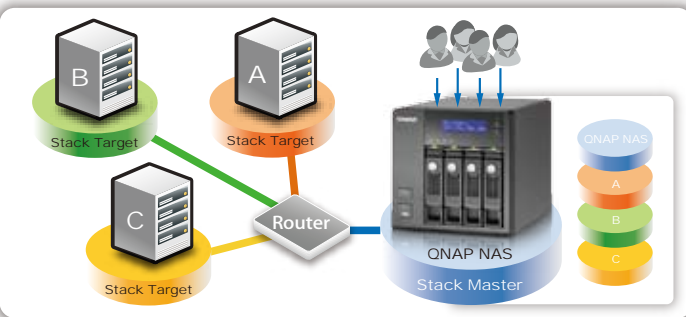c. RAID 5 + spare (4 HDD)

The TS-419P supports online RAID capacity expansion for expanding the storage capacity of the RAID configuration and online RAID level migration for upgrading the disk configuration to higher RAID level.

# Flexible Built-in iSCSI Target Service

With the built-in iSCSI target feature, the NAS can be an ideal solution for backup or storage expansion. The users can easily create dedicated virtual drives on the NAS for their PCs or existing servers. The iSCSI drives on the NAS can be formatted as file system and used as local drives.

On NAS (LUN1)
Backup
E:\ drive
Server
Local drive C:\ drive

LUN 1
Volume
LUN 2

On NAS (LUN2)
F:\ drive
PC
Local drive C:\ drive

# Virtual Disk Expansion

B   A
Stack Target   Stack Target

C
Stack Target   Router   QNAP NAS
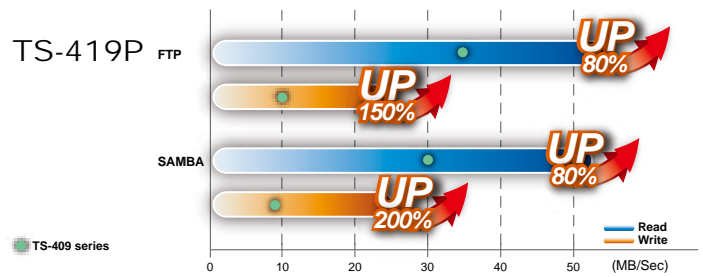Stack Master

QNAP NAS
A
B
C

**Virtual Disk Drive (VDD) adds flexibility to storage expansion along with ease of management**

The unique "Virtual Disk Drive" adds flexibility to expand the capacity of NAS. By using the built-in iSCSI initiator, the NAS can connect to other iSCSI targets on the network and turn them into virtual disks, which become multiple single volumes on the NAS. Up to 8 virtual disks can be stacked. The NAS serves as the storage stack chaining master. The user only needs to connect to this single entry (QNAP NAS) and is able to reach and use all the iSCSI target storages on the network.

# Ultra-high Speed Performance

**TS-419P** FTP
UP 80%
UP 150%
SAMBA
UP 80%
UP 200%

TS-409 series

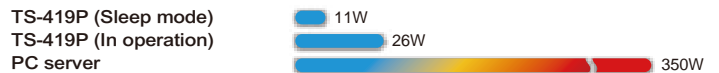Read
Write

0   10   20   30   40   50   (MB/Sec)

• 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-419P and PC to switch, upload/download 5GB file, FTP program: FileZilla 3.1.5
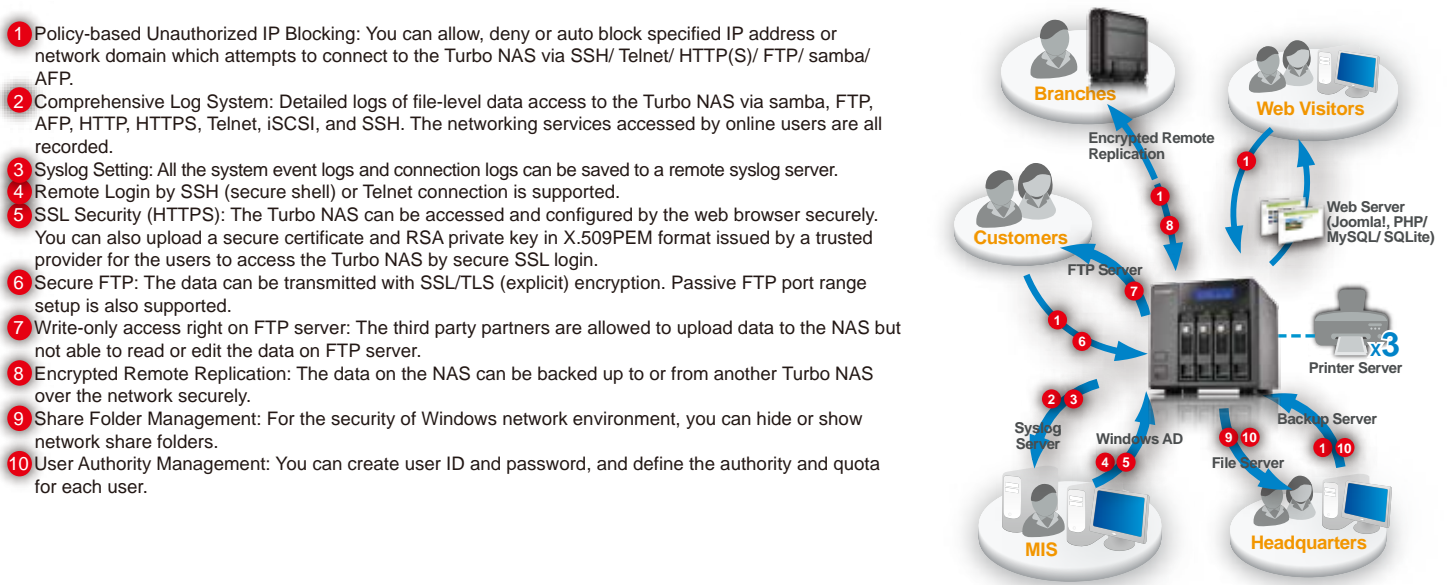
# Efficient Power Management

1. Hard Disk Standby: You can configure the hard disks to enter standby mode if there is no disk access within the specified period.

2. Schedule Power on/ off: The flexible schedule power on/ off feature enables you to manage the NAS server's up time according to the working hours. You can set the time for automatic system power on, power off, or restart on any days of the week.

3. Power Resumption Settings: The Turbo NAS can be configured to be turned on or off when the AC power resumes after a power loss.

4. UPS Support & Advanced Standby Setting: The Turbo NAS supports the majority of USB UPS devices (usbhid-ups supported). You can also set the time for the server to enter stand-by mode when an abnormal AC power supply is detected. When the power resumes, the server resumes to the operation status before the power outage.

## Low Power Consumption

TS-419P (Sleep mode)          11W
TS-419P (In operation)        26W
PC server                     350W

# Surveillance Station

**Live Audio & Video Monitoring, Recording, and Playback over the Internet**

☑ High quality video recording in MPEG4 and Motion JPEG format
☑ Live 2-way audio supported for monitoring and voice broadcasting
☑ Real-time monitoring and recording for up to 30 frames/sec per channel
☑ Easy installation and management from remote locations

Living room
Garage
Router
Internet
Home
Remote monitoring over the Internet
• TS-419P

# 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 the Turbo NAS via SSH/ Telnet/ HTTP(S)/ FTP/ samba/ AFP.

2. Comprehensive Log System: Detailed logs of file-level data access to the Turbo NAS via samba, FTP, AFP, HTTP, HTTPS, Telnet, iSCSI, and SSH. The 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 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: 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.

Branches
Web Visitors
Encrypted Remote Replication
Customers
Web Server (Joomla!, PHP/ MySQL/ SQLite)
FTP Server
x3
Printer Server
Syslog Server
Windows AD
Backup Server
File Server
MIS
Headquarters

# Hardware Specifications

**Processor**
• Marvell 6281 1.2GHz

**Memory**
• 512MB DDRII RAM, 16MB Flash

**HDD Capacity**
• 4 x 2.5" or 4 x 3.5" SATA I/II HDD (the standard package is shipped without HDD)

**HDD Tray**
• 4 x hot-swappable and lockable tray

**LAN Port**
• 2 x Gigabit RJ-45 Ethernet port

**LED Indicators**
• Status, LAN, USB, eSATA, HDD 1-4

**USB**
• 4 x USB 2.0 (Front: 1; Back: 3)
• Supports USB printer, USB disk, pen drive, USB hub, and USB UPS, etc.

**eSATA**
• 2 x eSATA port (Back)

**Buttons**
• Power button, one touch copy button, reset button

**LCD Panel**
• Mono-LCD display with backlight and buttons for system status check

**Alarm Buzzer**
• System warning

**Form Factor**
• Tower

**Dimensions**
• 177(H) x 180(W) x 235(D) mm
  6.97(H) x 7.09(W) x 9.25(D) inch

**Weight**
• Net weight: 3kg (6.61 lb)
• Gross weight: 4.6kg (10.14 lb)

**Operation Environment**
• Temperature: 0~40˚C/ 32~104°F
  Humidity: 0~95% R.H.

**Power Supply**
• External power adaptor, Input: 100-240V AC, 50/60Hz, Output: 12V DC, 10A, 120W

**Secure Design**
• K-Lock security slot for theft prevention

**Fan**
• Smart fan (9 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
• 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 Media Server (built-in TwonkyMedia)**
• Supports UPnP or DLNA technology; the video, music, and photos on the NAS can be played by digital media players over the local network
• 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 software: QGet (Windows & Mac), allows you to manage the download tasks of multiple Turbo NAS on one PC via LAN/ WAN
• BitTorrent download supports TCP/ UDP, DHT
• BT schedule download
• BT 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

**Surveillance Station**
• Supports 4 IP cameras (optional purchase) for network surveillance

# Software Specifications

**Operating System**
• Linux-embedded system

**Networking**
• TCP/IP, DHCP client, DHCP server, CIFS/SMB, AFP, NFS, HTTP, HTTPS, FTP, DDNS, NTP
• Multi-IP setting
• Port trunking (support 7 bonding modes)
• Network service discovery (UPnP & Bonjour)
• Gigabit Jumbo frame

**File System**
• EXT3, EXT4 (Internal/ external HDD)
• FAT (External HDD)
• NTFS (External HDD)

**Supported Operating Systems**
• Microsoft® Windows® 98/ ME/ NT/ 2000/ XP/ 2003/ Vista
• Mac OS X
• Linux & UNIX

**Disk Management**
• Single disk, RAID 0/1/5/6/ 5+hot spare/JBOD
• Online RAID Capacity Expansion
• Online RAID Level Migration
• RAID Recovery
• Bitmap support for faster RAID rebuild (RAID 1/5/6)
• Disk usage status management
• Check disk (Check Linux file system)
• HDD S.M.A.R.T.
• Bad blocks scan
• Built-in iSCSI target service
• Virtual Disk Drive (VDD) for storage expansion (max. 8 Volumes)

**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
• SNMP
• HDD standby mode
• Disk usage alert
• Automatic power on after power loss
• QPKG add-on firmware supported
• System firmware upgrade
• Change home page 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
• Schedule on/ off service (max. 15 settings)
• Network recycle bin
• Import SSL certificate
• Real-time System Resource Monitor

**LCD**
• 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, 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
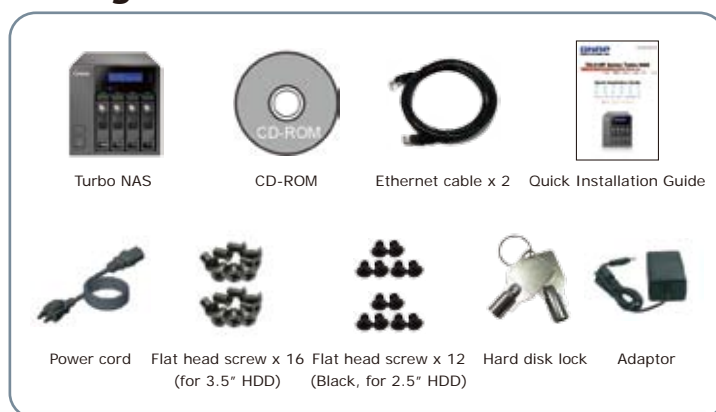
**Backup Management**
• PC-client backup software-NetBak Replicator: Instant/ Schedule/ Auto-sync backup
• Remote replication supports Rsync
• Encrypted remote replication
• One touch USB copy for different destination folders
• Data backup to external storage device

**Multi-browser Support**
• Internet Explorer 7 & 8
• Safari 3 & 4
• Firefox 3
• Google Chrome

# Package Contents

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

Power cord    Flat head screw x 16 (for 3.5" HDD)    Flat head screw x 12 (Black, for 2.5" HDD)    Hard disk lock    Adaptor

Enter Button
Select Button
LED Indicators: Status, LAN, USB, eSATA
LED Indicators: HDD1-4
Power Button
One Touch Copy Button
USB 2.0

Password & Network Settings Reset Button
eSATA x 2
Giga LAN x 2
USB 2.0 x 3
Power Connector
K-Lock Security Slot

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BitTorrent™

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