Hardware Specifications and Accessories

Model No.	TS-253A-4G	TS-253A-8G	TS-453A-4G	TS-453A-8G	TS-653A-4G	TS-653A-8G	TS-853A-4G	TS-853A-8G
CPU	14nm quad-core Intel® Celeron® N3150 1.6 Hz (burst up to 2.08GHz)							
Floating Point Unit	√							
Hardware Encryption Engine	√ (AES-NI)							
Graphics	8th Generation Intel® HD Graphics							
Pre-installed Memory	4GB (2 x 2GB)	8GB (2 x 4GB)	4GB (2 x 2GB)	8GB (2 x 4GB)	4GB (2 x 2GB)	8GB (2 x 4GB)	4GB (2 x 2GB)	8GB (2 x 4GB)
Memory Expandable up to	8 GB							
Total Memory Slots	2, SODIMM DDR3L-1600 (*To install on both DIMM slots, the same type of memory same size, speed, and manufacturer) should be used for each slot.							
Flash	512MB							
Max. number of HDDs/SSDs	2		4		6		8	
Compatible Drive Type	Hot-swappable 3.5" SATA 6Gbps / SATA 3Gbps HDD or SSD or 2.5" SATA 6Gbps / SATA 3Gbps HDD or SSD							
LAN Ports	2 x Gigabit RJ-45 Ethernet ports		4 x Gigabit RJ-45 Ethernet ports					
USB Ports	4 x USB 3.0 ports (front: 1, back: 3) to support printers, external drives, and UPS, etc							
Video Output	2 x HDMI to support up to 4K 2160P Ultra HD output							
Audio Input	2 x 6.3mm microphone jack (only supports dynamic microphone)							
Audio Output	Line-out jack (to an amplifier)							
LED Indicators	Status, USB, HDD 1-2		Status, USB, HDD 1-4		√ Status, USB, HDD 1-6		Status, USB, HDD 1-8	
Front LCD Status Panel	×		Monochrome, backlit LCD status panel					
Buttons	Power/status, USB One-touch-copy, Reset							
IR Sensor	√ , to support QNAP RM-IR002 and RM-IR003 remote control							
Other Connectors	system maintenance port							
Buzzer	System alarm							
Form Factor	Desktop							
Dimensions	150 x 102 x 216 mm 5.91 x 4.02 x 8.5 inch		177 x 180 x 235 mm 6.97 x 7.09 x 9.25 inch		175 x 257 x 235 mm 6.89 x 10.12 x 9.25 inch		185.2 x 298.2 x 235 mm 7.29 x 11.74 x 9.25 inch	
Weight (Net/Gross)	Net: 1.74 kg (3.84 lbs) Gross: 2.92 kg (6.44 lbs)		Net: 3.65 kg (8.04 lbs) Gross: 4.65 kg (10.24 lbs)		Net: 5.2 kg (11.46 lbs) Gross: 6.5 kg (14.33 lbs)		Net: 7.3 kg (16.08 lbs) Gross: 8.6 kg (18.94 lbs)	
Power Consumption (W)	Sleep mode: 1.18W HDD standby: 8.38W In operation: 14.43W		Sleep mode: 1.61W HDD standby: 18.86W In operation: 32.35W		Sleep mode: 1.7W HDD standby: 32.02W In operation: 51.16W		Sleep mode: 1.91W HDD standby: 32.71W In operation: 58.8W	
Operating Temperature	0-40°C							
Relative Humidity	5~95% non-condensing, wet bulb: 27°C.							
Power Supply	65W AC power adapter , 110-240V		96W AC power adapter , 110-240V		ATX 240W power adapter , 110-240V AC, 50-60Hz, 5A			
System Fans	7cm quiet fan (12V DC)		12cm quiet fan (12V DC)		2 x9cm quiet fan (12V DC)		2x 12cm quiet fan (12V DC)	

Accessories

Category		Model No.	Product description
Expansion enclosure		UX-800P	QNAP 8-bay expansion enclosures Size and weight : 185.2 x 298.2 x 235.4 (mm) (height x width x depth), 7.3 kg
		UX-500P	QNAP 5-bay expansion enclosures Size and weight : 185.2 x 210.6 x 235.4 (mm) (height x width x depth), 5.1 kg
Memory		RAM-2GDR3L-SO-1600	2GB DDR3L RAM, 1600 MHz, SO-DIMM
		RAM-4GDR3L-SO-1600	4GB DDR3L RAM, 1600 MHz, SO-DIMM
		RAM-8GDR3L-SO-1600	8GB DDR3L RAM, 1600 MHz, SO-DIMM
Remote Control		RM-IR002	QNAP IR Remote Control (shipped with the product)

Software Specifications

Operating System
· QTS 4.2 (embedded Linux)

Supported Client OS
· Windows 7 (32/64-bit), Windows 8 (32/64-bit), Windows Server 2003/2008 R2/2012/2012R2
· Apple Mac OS X
· Linux & UNIX

Supported Browsers
· Microsoft Internet Explorer 10+
· Mozilla Firefox 8+
· Apple Safari 4+
· Google Chrome

Multilingual Support
· Chinese (Traditional & Simplified), Czech, Danish, Dutch, English, Finnish, French, German, Greek, Hungarian, Italian, Japanese, Korean, Norwegian, Polish, Portuguese (Brazil), Romanian, Russian, Spanish, Swedish, Thai, Turkish

File System
· Internal Hard Drive: EXT4
· External Hard Drive: EXT3, EXT4, NTFS, FAT32, HFS+

Networking
· TCP/IP (IPv4 & IPv6: Dual Stack)[1]
· Gigabit NICs with jumbo frame (failover, multi-IP settings, port trunking/NIC teaming)
· Service binding based on network interfaces
· Squid Proxy server
· Proxy client
· DHCP client, DHCP server
· Protocols: CIFS/SMB 3.0, AFP (v3.3), NFS(v3), FTP, FTPS, SFTP, TFTP, HTTP(S), Telnet, SSH, iSCSI, SNMP, SMTP, and SMSC
· UPnP & Bonjour Discovery
· USB Wi-Fi Adapter Support

Security
· Network access protection with auto-blocking: SSH, Telnet, HTTP(S), FTP, CIFS/SMB 3.0, AFP
· CIFS host access control for shared folders
· FIPS 140-2 validated AES 256-bit volume-based and shared folder data encryption[2]
· AES 256-bit external drive encryption[2]
· Importable SSL certificates
· Instant alerts via email, SMS, beep, push service, and LCD panel[3]
· 2-step verification

Storage Management
· Storage Space Utilization monitoring
· QNAP flexible Volume/LUN with thin provisioning and space reclamation[3]
· Disk volume types
  - 2-Bay: RAID 0, 1, JBOD, single
  - 4-Bay: RAID 0, 1, 5, 6, 10, 5 + hot spare, JBOD, single
  - 6- & 8-Bay: RAID 0,1, 5, 6, 10, + hot spare, JBOD single
· Supports storage pools
· Supports volume/LUN snapshots
  - Snapshot clone, vault, replica
  - Snapshot agent for Microsoft Windows and VMware vSphere
· Online volume expansion
· Online storage pool expansion
· Online RAID capacity expansion and online RAID level migration
· SMART data migration
· Storage expansion via a QNAP UX-500P/UX-800P expansion unit
· JBOD enclosure roaming
· SSD read-only/read-write cache
· Bad block scan and hard drive S.M.A.R.T.
· Bad block recovery & RAID recovery
· Bitmap support

Power Management
· Wake on LAN
· Internal hard drive standby mode
· Scheduled power on/off
· Automatic power on after power recovery
· USB and network UPS support with SNMP management
· System sleep mode (S3)

Access Right Management
· Batch users creation
· Import/Export users
· User quota management
· Local user access control for CIFS, AFP, FTP, and WebDAV
· Application access control for Photo Station, Music Station, Video Station, and File Station

· Subfolder permissions support for CIFS/SMB 3.0, AFP, FTP, and File Station

Domain Authentication Integration
· Microsoft Active Directory (AD) & Domain Controller support
· LDAP server, LDAP client
· Domain users login via CIFS/SMB 3.0, AFP, FTP, and File Station

myQNAPcloud Service
· Private cloud storage and sharing
· Free host name registration (DDNS)
· Optional myQNAPcloud SSL certificates (DDNS)
· Auto router configuration (via UPnP)
· Web-based file manager with HTTPS 2048-bit encryption
· CloudLink for remote access without any complicated router setup
· myQNAPcloud connect for easy VPN connection (Windows VPN utility)

Qsync
· Sync files across multiple devices with SSL secure connection
· Selective synchronization for only syncing specific folders
· Use team folders as a file center for greater team collaboration (maximum sync tasks: 32)
· Shares files by links via e-mail
· Policy settings for conflicting files and file type filter support
· Version control: up to 64 versions.
· Unified configuration management
· Supports remote erase/restore
· Supports Windows & Mac OS

Web Administration
· Multi-window, multi-tasking based system management
· Smart toolbar and dashboard for neat system status display
· Resource monitor
· Network recycle bin for file deletion via CIFS/SMB 3.0, AFP, and File Station
  - Automatic Cleanup
  - File Type Filter
· Comprehensive logs (events & connection)
· Syslog client/server
· System settings backup and restore
· Mobile app: Qmanager for remote system monitoring & management

File Server
· File sharing across Windows, Mac, and Linux/UNIX
· Windows ACL
· Advanced folder permissions for CIFS/SMB 3.0, AFP, FTP
· Shared folder aggregation (CIFS/SMB 3.0)

FTP Server
· FTP over SSL/TLS (Explicit)
· FXP support

File Station
· Supports mounting cloud drives (such as Google Drive, Dropbox, Microsoft OneDrive, Amazon Cloud Drive, Yandex Disk and Box).
· Supports mounting remote shared folders through FTP, WebDAV or Microsoft networking (CIFS/SMB 3.0)
· Supports opening documents via Office Online, Google Docs or Chrome Extension (Edit Office files in Google Docs, Sheets, and Slides)
· Supports ISO Mounting (Up to 256 ISO Files)
· Supports sharing download links and upload links
· Drag-n-drop Files via Chrome and Firefox Browsers
· Photo, music, and video preview and playback with hardware-accelerated transcoding
· File Compression (ZIP or 7z)
· Creation of and sending download links for sharing public files with expiration date and password protection
· Supports displaying subtitles (*.SRT, UTF-8 format)
· Mobile App: Qfile for file browsing and management

Transcode Management
· Transcode video files to 240p, 360p, 480p, 720p and 1080p resolution
· Automatic video transcoding for watched folders
· Hardware accelerated transcoding support
· Embed subtitles into videos for background transcoding

Backup Station
· Remote replication server (over rsync)
· Real-time remote replication (RTRR) to another QNAP NAS or FTP server
· Works as both RTRR server & client with bandwidth control
· Real-time & scheduled backup
· Backup versioning for RTRR
· Snapshot support for RTRR/Rsync
· Encryption, compression, file filter, and transfer rate limitation
· Desktop backup with QNAP NetBak Replicator for Windows
· Apple Time Machine backup support
· Data backup to multiple external storage devices
· Synchronizes with cloud storage: Amazon S3, ElephantDrive, Symform, Dropbox, and Google Drive
· Third party backup software support: Veeam backup & replication, Acronis True Image, Arcserve backup, emc retrospect, Symantec Backup Exec, etc.

Print Server
· Max number of printers: 3
· Supports Internet Printing Protocol
· Print job display and management
· IP-based and domain name-based privilege control

Cloud Backup Station
· Amazon S3
· Amazon Glacier
· WebDAV-based cloud storage
· Microsoft Azure
· OpenStack

AirPlay & Chromecast
· Streams videos, photos and music from NAS to Apple TV or Chromecast via File Station, Music Station, Photo Station, Video Station or mobile app (Qfile, Qmusic, Qphoto or Qvideo).
  Note: The Media Streaming add-on app must be installed from the QTS App Center.

HD (HybridDesk) Station 3.1
· Playback videos, music, photos on TV with Kodi via HDMI
· Watch various online contents
· Web browsers (Chrome, Firefox)
· Supports international keyboards, input and mouse
· Supports QNAP Qremote app and the official Kodi remote app
· Supports user login permissions
· A variety of applications are available including Skype, Plex Home Theater, and more
· Up to 7.1 channel audio passthrough is supported
  Note:
  - The playback and quality of some video files may be affected by the system's CPU and GPU decoding abilities.

Linux Station
- Use your NAS as a Linux Desktop using the NAS HDMI output
- Supports remote desktop to monitor and access remotely
- An open source software platform for developers

Virtualization Station
· Supports Virtual Machine (VM) creation to run operating systems such as Windows, Linux, Unix and Android
· Supports VM import and export
· Supports VM cloning & snapshots
· Supports VM backup and restore
· VM console can be displayed via HDMI output - QVM
· HTML5-based shared remote console
· Supports three different networking modes: Isolated, External-only and Bridged

Container Station
· Supports LXC and Docker
· Download applications from the built-in Docker Hub Registry
· Supports one-click installation, container export/import & console mode
· Supports auto port forwarding
· Supports auto-start containers
· Supports downloading Docker certificates

Qsirch
· Supports full-text search & near real-time search
· Bar chart to show data distribution
· Supports previews for photos, music, videos, Gmail, PDF .etc
· Show search results using thumbnails or a list
· Supports search Chrome extension

Storage Plug & Connect
· Creating and mapping shared folders by QNAP Windows Qfinder
· Creation of and connection to iSCSI target/LUN

iSCSI (IP SAN)
· iSCSI target with multi-LUNs per target (Up to 256 targets/LUNs combined)
· Supports LUN mapping & masking
· Online LUN capacity expansion
· Supports MPIO & MC/S
· iSCSI LUN backup, one-time snapshot, and restoration
· iSCSI connection and management by QNAP Windows Qfinder
· Virtual disk drive (via iSCSI initiator)
· Stack chaining master
· Max No. of virtual disk drives: 8

Surveillance Station
· Supports over 3,000 IP cameras
· Includes 4 free camera licenses, up to 40 camera channels by purchasing additional licenses[3]
· Instant playback to check recent events
· Visual aid by e-map
· Playback and speed control using the shuttle bar
· Video preview on playback timeline
· Intelligent video analytics (IVA) for advanced video searching
· Surveillance client for Mac
· Mobile surveillance app: Vmobile (iOS and Android)
· Mobile recording app: Vcam (iOS and Android)

VPN Server
· Secure remote access: PPTP, L2TP/IPsec& OpenVPN VPN services
· Max number of clients: 30

VPN Client
· Supported VPN protocols: PPTP & OpenVPN services
· PPTP Authentication: PAP, CHAP, MS-CHAP, MS-CHAPv2
· PPTP Encryption: None, AES 40/128 bit, AES 256 bit
· OpenVPN Encryption: None, AES 40/128 bit, AES 256 bit
· Transmission package monitor
· OpenVPN port control
· OpenVPN link compression

DLNA Server
· Supports DLNA/UPnP TVs and players such as PlayStation 4 and Xbox One
· Supported audio formats[4]: AIFF, APE, DSD (DSF, DFF), FLAC, M4A, M4A Apple Lossless (ALAC), MP3, Ogg Vorbis, WAV (PCM, LPCM), WMA, WMA PRO, WMA VBR
· Support CUE indexing file for APE, FLAC audio format.
· Video and Audio On-the-fly Transcoding

Q'center (NAS CMS)
· Multiple NAS monitoring
· Utilization history reports
· Unified configuration management
· Visual display reports
· Monitor NAS behind NAT routers with Q'center Assistant
· Virtual appliances supported by Microsoft Hyper-V and VMware ESXi

OceanKTV
· Use the NAS as a karaoke machine.
· Display songs by artists, languages, and favorites.
· Enhance the experience with effects such as tuning echo, key, or applause
· Control the playlist with a mobile app.
· Supports keyboard, mouse and remote control (RM-RF001/ RM-IR002).
  Note: Microphone not included.

iTunes Server
· Audio and video sharing for Windows & Mac iTunes

App Center
· Over 100 official and community software add-ons such as Photo Station, Music Station, Video Station, Download Station, Notes Station, Signage Station,

[1] Not all IPv6 services are supported.
[2] Data encryption functions may be unavailable in accordance with the legislative restrictions of some countries.
[3] This feature may vary by model.
[4] DRM-protected content is not supported.

Designs and specifications are subject to change without notice.