

TS-251A & TS-451A

2-bay & 4-bay Turbo NAS

QNAP

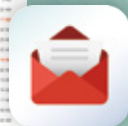
4K2K UHD

QvPC
Technology



Use your Turbo NAS as a PC

QmailAgent email client helps you manage, access and backup multiple email accounts ▶▶



USB QuickAccess Port

Directly set up your NAS and access your NAS data by connecting your Windows® or Mac computer to the USB QuickAccess port



- Hardware-accelerated HDMI 4K Ultra HD playback and transcoding
- AES-NI hardware-accelerated encryption to deliver up to 196 MB/s throughput
- QTS-Ubuntu dual systems enables users to enjoy rich apps from QTS App Center & Linux
- Block-level snapshot helps you easily backup and restore data
- QNAP VJBOD (Virtual JBOD) allows you to expand the storage of the NAS by using unused storage from other QNAP NAS units
- Build a personal karaoke system with OceanKTV by 3.5 mm microphone jack



TS-451A



TS-251A



3 x USB 3.0



2GB / 4GB
Max 8GB RAM



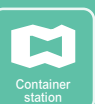
SATA 6Gb/s
2.5"/>" data-bbox="221 955 275 963"/>



QNAP
expansion units



Virtualization
Station

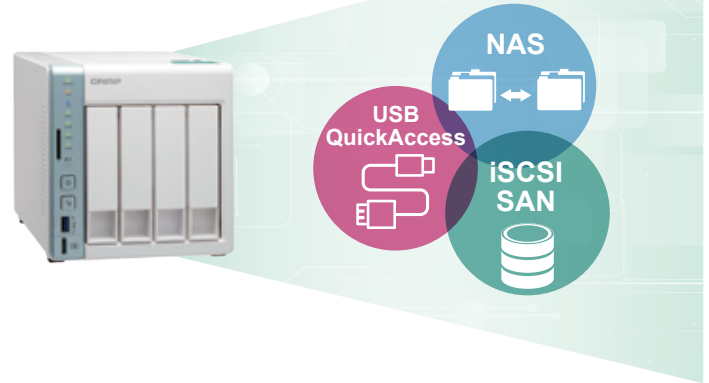


Container
station

14nm Intel® Celeron®
N3060 dual-core 1.6GHz
(burst up to 2.48GHz)

USB QuickAccess/NAS/ iSCSI-SAN triple solution

The TS-251A & TS-451A innovatively re-defines what NAS can do by providing a USB QuickAccess/NAS/iSCSI SAN triple solution. It discards the restriction of conventional USB QuickAccess that only allows connecting to one device, and breaks the cost barrier for a dual Gigabit Ethernet solution.



1 Direct access to files with the USB QuickAccess port

The TS-251A & TS-451A features an innovative USB 3.0 QuickAccess port that allows you to complete the first-time installation and setup of your TS-251A & TS-451A without requiring network connectivity. The files and data stored on the TS-251A & TS-451A can also be directly accessed by using Qfinder Pro* and a USB 3.0 A-Male to Micro B-Male cable or a USB 2.0 Micro B cable**. Furthermore, you can assign access rights to users for different folders to prevent unauthorized access to important files.

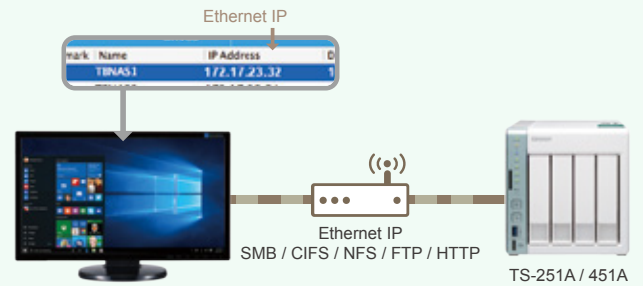
* Qfinder Pro only supports Windows and Mac OS X

** A USB cable is not included. USB QuickAccess supports Windows 8.1/10 and Mac OS X 10.8 (and newer). Other versions may require driver installation.



2 Ethernet NAS mode

The TS-251A & TS-451A features Ethernet networking for flexible and simultaneous file sharing across multiple devices, using SMB/CIFS, NFS and AFP protocols for sharing across Windows, Mac and Linux/UNIX networks.



Enjoy the best audiovisual experience with HDMI output and a free remote control

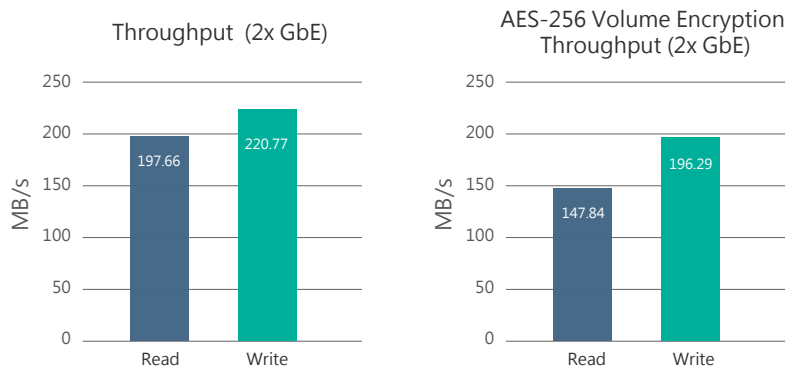


HybridDesk Station integrates 3rd-party media players and a web browser. With HDMI connectivity, you can connect the TS-251A & TS-451A to a HDTV or an A/V receiver to enjoy your rich multimedia content and 4K H.264 videos. The NAS includes a free QNAP remote control for you to conveniently control HybridDesk Station through its built-in IR receiver. With the help of the new smart remote control learning function, you can also pair up to three TV or stereo IR remote controls.

Playback capability and quality may vary due to factors including the original file formats/quality, hardware and software limitations, system load and the output devices.

Intel® Celeron® N3060 quad-core CPU and hardware-accelerated encryption engine

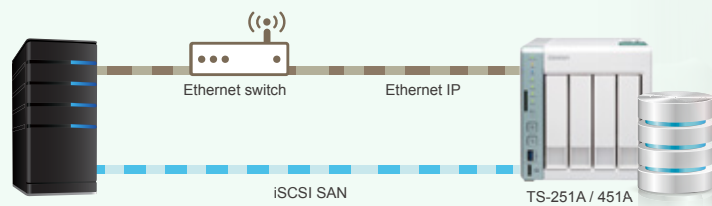
The TS-251A & TS-451A is powered by an advanced 14nm Intel® Celeron® quad-core 1.6GHz processor that features low TDP (only 6 watts) and can automatically burst up to 2.48GHz. Coupled with dual-channel 2GB / 4GB DDR3L-1600 dual-channel RAM (upgradable to 8GB), dual Gigabit LAN ports, and SATA 6Gb/s, the TS-251A & TS-451A can deliver up to 220MB/s throughput for optimizing mission-critical tasks while still being energy efficient. The TS-251A & TS-451A also features Intel® AES-NI hardware-accelerated encryption to deliver up to 196MB/s throughput with AES 256-bit encryption for both full NAS volume and shared folders, boosting system performance & security while ensuring the safety of sensitive business data stored in the NAS.



Tested in QNAP Labs. Figures may vary by environment.
 Test Environment:
 NAS: TS-451A, QTS 4.2.2
 Volume type: RAID 5; 4 x Seagate 1TB ST1000NM0033 HDDs; NAS and PCs are connected.
 Client PCs: Intel® Core™ i7-4770 3.40GHz CPU; DDR3L 1600Hz 16GB; 10GbE NIC; QNAP LAN-10G25F-MLX; Windows® 10

3 iSCSI SAN block-based mode

The TS-251A & TS-451A supports iSCSI SAN. After creating an iSCSI target on the TS-251A & TS-451A, you can access the iSCSI with your computer* using the NAS IP.



Enjoy media freely with multi-zone multimedia controls



Use your NAS as a multi-zone multimedia system to fill every corner of your house with your choice of media. You can centrally manage and stream photos, music and videos from the NAS to different rooms from a single device using Bluetooth® & USB devices connected to the NAS (for music streaming only), HDMI, DLNA®, Apple TV® and Chromecast™*. Alternatively, to enjoy multimedia yourself, you can choose DLNA-compatible devices, use the Qfile app on an iOS® device to browse videos/photos and play on the TV via Apple TV®, or transform the NAS into a powerful streaming machine with DLNA®, Roku®, Amazon® Fire TV, Google TV™ and Plex Media Server support.

*To stream multimedia via Chromecast, you must first install the multimedia extension pack from the QTS App Center.

Superior 4K video transcoding

Featuring advanced 8th-generation Intel® HD Graphics, the TS-251A & TS-451A supports 4K H.264 hardware decoding and delivers superior real-time 4K and 1080p video transcoding to convert videos to universal formats that can be smoothly played on PCs, mobile devices and Smart TVs. With offline transcoding, even when you can only connect using a low-speed Internet connection, you can still enjoy smooth video playback.



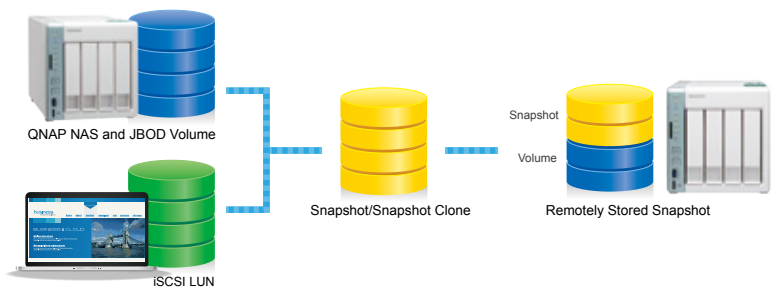
Centralize backup, restoration and synchronization with Hybrid Backup Sync

Hybrid Backup Sync consolidates backup, restoration and synchronization functions into a single QTS application for you to easily transfer your data to local or remote QNAP NAS and to cloud storage spaces. You can synchronize files between the TS-251A & TS-451A and cloud storage in real time - including Amazon® Cloud Drive, Google Drive™, Dropbox®, Microsoft OneDrive®, Yandex® Disk, and Box®, and back up files to Amazon® S3, Amazon® Glacier, Microsoft® Azure™, Google Cloud Storage™, OpenStack Swift and WebDAV cloud services. Hybrid Backup Sync can detect sparse files to avoid backing up unnecessary data, and supports file compression to save storage space.



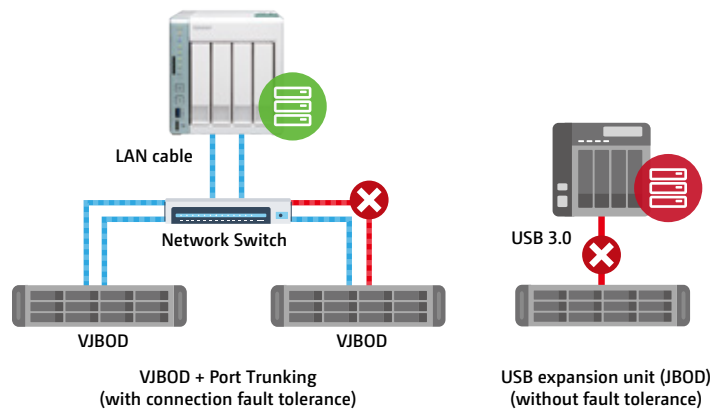
Restore files with snapshot for volume & LUN

QTS Storage Manager features an easy-to-use web-based snapshot tool to easily backup and restore data on the TS-251A & TS-451A back to any point of time in the event of data loss. You can take snapshots for volumes and LUN (up to 64 snapshots per volume/LUN and maximum 256 snapshots per NAS), efficiently replicate volume/LUN snapshots via Snapshot Replica to remote servers by copying only the changes made, and quickly clone a volume /LUN snapshot as a local volume without interrupting current system operations. You can even set up the system to automatically take a snapshot of the volume before backup via RTRR/rsync, even if files are opened.



Use NAS to expand NAS capacity with Virtual JBOD

QNAP VJBOD (Virtual JBOD) is network-based JBOD that allows you to expand the storage of the TS-251 & TS-451 by using unused storage from other QNAP NAS units. You can mount this storage space to the NAS as virtual disks and create virtual storage pools and volumes for NAS functions. VJBOD supports port trunking (link aggregation with dual LAN ports) that increase the performance and reliability of your VJBOD storage.



QTS-Ubuntu dual systems for IoT applications

The QTS-Linux dual systems are based on QNAP's advanced virtualization technologies. The TS-251A & TS-451A enables users to not only to download rich apps from QTS App Center but also supports Ubuntu and allows users to develop and install various IoT packages. Simply plug in a keyboard, mouse and HDMI monitor to the TS-251A & TS-451A, and use the Linux Station as if you were using a PC. You can also operate Ubuntu in Linux Station as a remote desktop via web browser for instant management*.



Linux Station requires a QNAP NAS with at least 4GB RAM & Container Station v1.5.1343+.

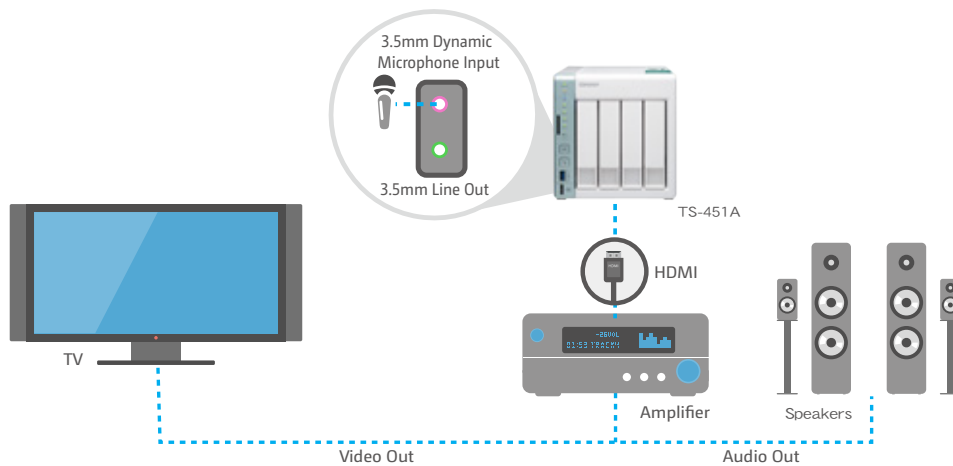
Storage for hosting virtual machines and containerized applications

Virtualization Station allows you to host virtual machines (VM) on the TS-251A & TS-451A and access them via a web browser or VNC. Virtualization Station supports multiple operating systems, fast VM creation, VM backup & restoration, VM import/export, snapshot, and Device Management for centrally managing VM. The TS-251A & TS-451A also features the game changing container technology for server virtualization with Container Station. It exclusively integrates LXC and Docker® lightweight virtualization technologies. Container Station now also provides the QIoT Containers platform to help you quickly structure your IoT environment and deployment in your private cloud.



Enjoy an exclusive karaoke experience

OceanKTV is the first NAS-based karaoke application and allows you to create a quality karaoke experience at home or in the office. The NAS comes with a 3.5 mm microphone jack and can transmit audio to your amplifier using HDMI or the 3.5 mm line out port. Simply attach an HDMI display to the NAS and start singing with OceanKTV.



Extensive apps and utilities

The NAS provides several useful applications to extend beyond basic storage functionality. Use Download Station to download files without switching on your PC. Enjoy easy access to your files from your mobile devices using mobile Apps like File, Qphoto, and Qmusic. Use Qfinder Pro to help you find, access and manage your QNAP NAS on your network easily.

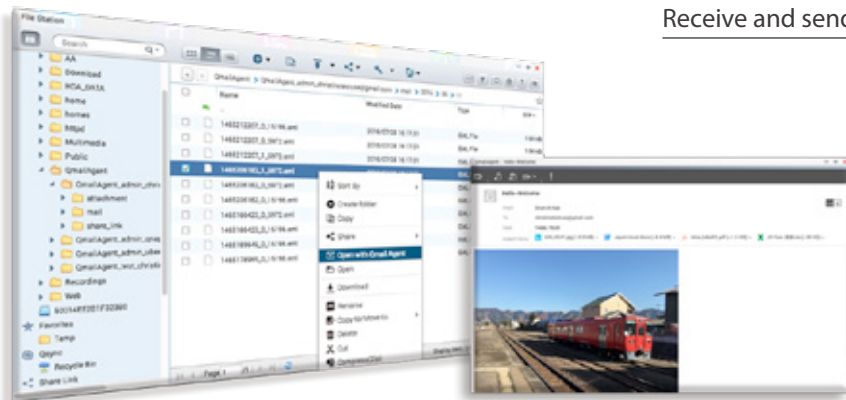
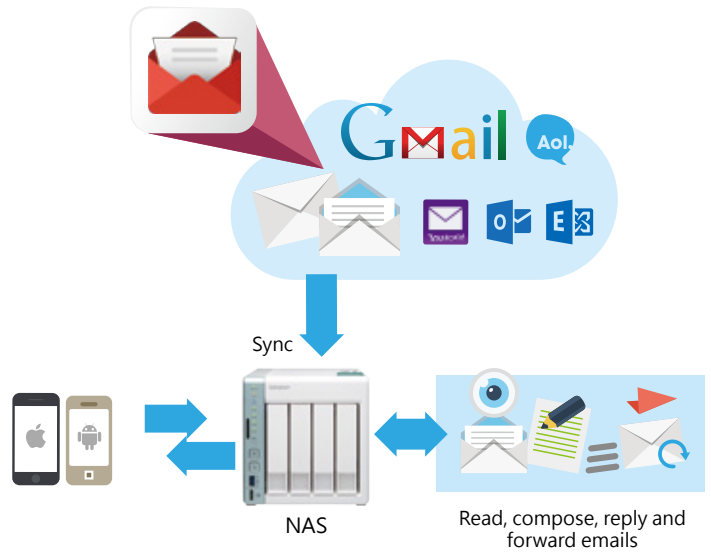


QmailAgent: a mailroom center for your private cloud

QmailAgent is an online email client that helps you manage multiple email accounts, allowing you to access all of your emails and to easily switch between different accounts. It provides complete functionality for composing, reading and organizing emails. You can even attach files, photos and documents from the NAS when composing emails. Qmail also allows iOS® and Android™ users to quickly check multiple email accounts with mobile devices, and to browse & send emails using the QmailAgent on their NAS.

Back up all emails to high-capacity NAS

QmailAgent supports automatically backing up your emails to the NAS. After you import email account details and upon logging in, QmailAgent will start backing up your emails from the servers (or cloud) to your NAS, allowing you to be protected against accidental email deletion.



Receive and send emails with your mobile devices through NAS

You can also download Qmail Client (a companion app for iOS and Android devices) to allow you to access your emails via your NAS. With Qmail Client on your mobile device, the system will display and cache new emails on your mobile device to keep you updated, and you can read them even when an Internet connection is unavailable.

Comprehensive surveillance solution providing 24/7 security

Surveillance Station is a professional network surveillance Video Management System (VMS) that offers a user-friendly management interface, over 3,000 compatible IP camera models, and expandable IP camera channel licenses. It supports real-time monitoring, video & audio recording and playback with a wide range of customizable settings. You can also install the Vmobile app on your iOS® or Android™ devices to manage monitored channels anytime and anywhere to safeguard your office environment, or install the Vcam mobile app to turn your device into a network camera to instantly record to your NAS. The NAS includes 2 free IP camera channels and you can expand up to 32 channels by purchasing additional licenses.



Hardware Specifications



Ordering P/N	TS-251A-4G	TS-251A-2G	TS-451A-4G	TS-451A-2G
Processor	14nm Intel® Celeron® N3060 dual-core 1.6GHz (up to 2.48GHz)			
Hardware Encryption Acceleration	✓, AES-NI			
System Memory	4GB DDR3L (2 x 2GB)	2GB DDR3L (2 x 1GB)	4GB DDR3L (2 x 2GB)	2GB DDR3L (2 x 1GB)
Maximum Memory	8GB			
Memory Slot	2 x SODIMM DDR3L (For dual-DIMM configurations, you must use a pair of identical DDR3L modules.)			
Flash Memory	4GB, pre-loaded with QTS system			
Drive Type	2 x 3.5"/2.5" SATA 6Gb/s HDDs/SSDs			
GbE LAN	2 x Gigabit RJ45 LAN port			
USB Port	3 x USB 3.0 ports (Front: 1, Rear:2)			
SD Card Reader	✓			
USB QuickAccess Port	✓ (USB 3.0 Micro-B); USB cable is not included			
HDMI	1, max. resolution 3840 x 2160 @ 30Hz			
Audio Input	3.5mm Microphone Input jack (for dynamic microphone)			
Audio Output	3.5mm Line Out jack (for amplifiers or speakers)			
LED Indicator	Status/Power, USB, HDD 1, HDD 2			Status/Power, USB, HDD 1, HDD 2, HDD 3, HDD 4
Button	Power/Status, USB one-touch-backup, reset			
IR Receiver	✓, supports QNAP RM-IR002 and MCE-compliant remote controls			
Others	Kensington security slot · system maintenance port			
Dimension	168.5 x 102 x 225 mm 6.63 x 4.02 x 8.86 inch (HxWxD)		168.5 x 160 x 225 mm 6.63 x 6.30 x 8.86 inch (HxWxD)	
Weight	Net : 1.28 kg (2.82 lbs) Gross : 2.64 kg (5.82 lbs)		Net : 3 kg (6.61 lbs) Gross : 3.6 kg (7.94 lbs)	
Operating Temperature	0~40°C			
Relative Humidity	5~95% RH non-condensing, wet bulb: 27°C			
Noise Level	18.3 dB (A)*		18.1 dB (A)*	
Power Consumption	System sleep : 0.72W HDD standby : 7.9W In operation : 16.2W (with 2 x 2TB HDDs)		System sleep : 0.65W HDD standby : 12.1W In operation : 27W (with 4 x 2TB HDDs)	
Power	65W AC power adapter, 100-240V AC		96W AC power adapter, 100-240V AC	
Fan	1 x 7cm system fan (12V DC)		1 x 12cm system fan (12V DC)	

*Refer to ISO 7779 Maximum HDD loaded ; Bystander Position ; Average data from 1 meter in front of operating NAS.
Model specifications are subject to change without notice. Please refer to www.qnap.com for the latest information.

Accessories

	Category	Order P/N	Description
Expansion units		UX-800P	QNAP 8-bay Expansion unit 185.2 x 298.2 x 235.4 mm , 7.3 Kg 7.29 x 11.74 x 9.27 inch (H x W x D), 16.08 lbs
		UX-500P	QNAP 5-bay Expansion unit 185.2 x 210.6 x 235.4 mm , 5.1Kg 7.29 x 8.29 x 9.27 inch (H x W x D), 11.24 lbs
Memory		RAM-1GDR3L-SO-1600	1GB DDR3L RAM, 1600MHz, SO-DIMM
		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	Infrared (IR) remote control (Included)

Package content

- NAS Server
- Ethernet Cable x 2
- AC Adapter and Power Cord
- Quick Installation Guide (QIG)
- Remote Control
- Hot-Swappable HDD trays
- Screws for 3.5" & 2.5" HDD

QNAP Systems, Inc.

TEL : +886-2-2641-2000 FAX : +886-2-2641-0555 Email: qnapsales@qnap.com
Address : 3F, No.22, Zhongxing Rd., Xizhi Dist., New Taipei City, 221, Taiwan

Copyright © 2016 QNAP Systems, Inc. All rights reserved.

QNAP® and other names of QNAP Products are proprietary marks or registered trademarks of QNAP Systems, Inc. Other products and company names mentioned herein are trademarks of their respective holders.
Celeron is a trademark of Intel Corporation in the U.S. and/or other countries.
Docker and the Docker logo are trademarks or registered trademarks of Docker, Inc. in the United States and/or other countries.
Docker, Inc. and other parties may also have trademark rights in other terms used herein.

Netherlands (Warehouse Services)
Email: nlsales@qnap.com
TEL: +31(0)107600830

Germany
Email: desales@qnap.com
TEL: +49-89-381562991

China
Email: cnsales@qnap.com
TEL: +86-400-628-0079

India
Email: indiasales@qnap.com

US
Email: usasales@qnap.com
TEL: +1-909-595-2782

Thailand
Email: thsales@qnap.com
TEL: +66-2-5415988



51000-024148-RS
201607 A