

Smart Workflow **x** High Productivity
Network Storage and Computing System

TS-x53B Series

2 / 4 / 6-bay NAS

Equipped with One PCIe Expansion Slot Unlimited Possibilities

QM2 M.2 SSD / 10GbE Network Expansion Card

- Supports SSD caching and Qtier, a high-efficiency auto-tiering storage system



Performance Boost

Dual-port USB 3.1 Gen2 10Gbps Type-A Expansion Card

- Enables lightning-fast transmission. Compatible with USB 3.0 and 2.0 devices.



Dual-band 2.4 GHz/5 GHz PCI Express Network Expansion Card

- Turns your NAS into a wireless base station, allowing devices to quickly access NAS resources using Wi-Fi



Enhanced Performance



TS-653B

- ◆ USB Type-C QuickAccess port for accessing files without needing a network connection.
- ◆ Equipped with quad-core Intel® Celeron® J3455 processor, burst up to 2.3 GHz.
- ◆ Supports AES-NI encryption and accelerated video decoding and transcoding.
- ◆ A hybrid approach to virtualization: Virtualization Station, Linux Station, and Container Station, with remote access support.
- ◆ QTS 4.3 provides File Station for managing files and data, QmailAgent as a centralized email manager, and Qcontactz for storing contact information.
- ◆ Features an OLED screen, touch-sensitive buttons, speaker with verbal system warnings, and easy-to-access internals with tool-less hard drive installation.



TS-253B



TS-453B



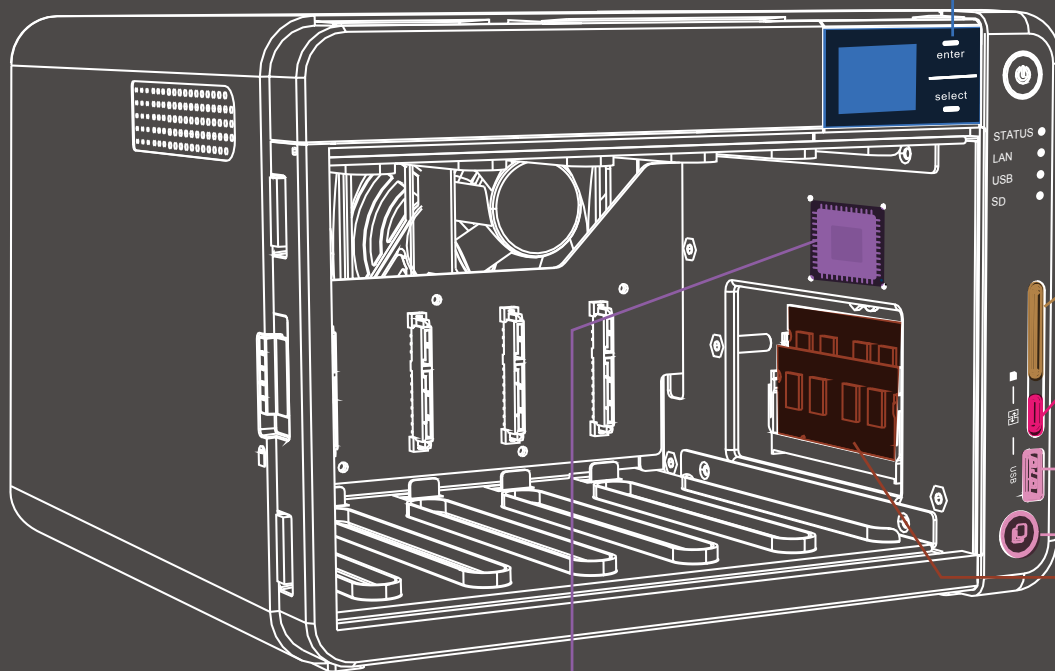
TS-653B



TS-x53B

Network Storage and
Computing Device

Small in size
Big in features



01

High definition screen and sensitive buttons

- System status at a glance

02

SD card slot

- Easily back up your photos

03

USB-C Quick Access

- Connect to Windows PC via the USB-C Quick Access
- NAS front panel without the need for complicated network setup
- Find your NAS in Qfinder Pro
- Install and access the data

04

USB 3.0 ports

- Press the "Copy" button to copy your data

05

Up to 8GB DDR3L memory

- 2 x SODIMM memory modules

06

Front cover with magnets and lock

- Quick disassembly and dust prevention

07

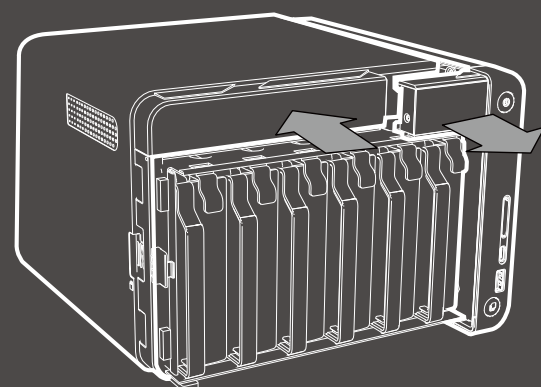
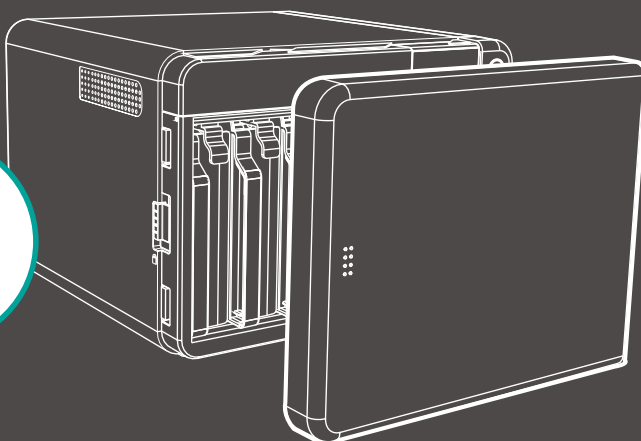
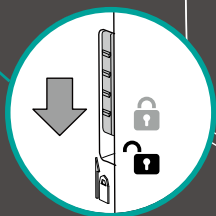
Quad-core Intel® Celeron® J3455 1.5 GHz processor, burst up to 2.3 GHz

- 9th-generation HD Graphics processor and 4K hardware-accelerated video transcoding engine
- AES-NI encryption engine

Expansion card installation

1

2



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buttons

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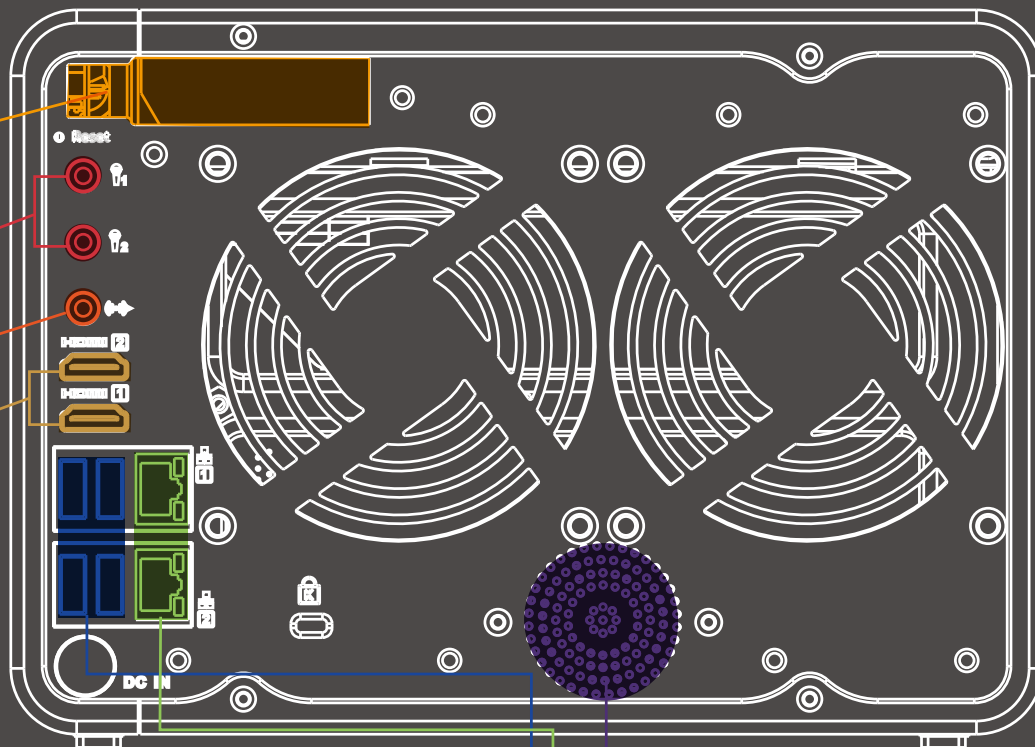
PCs and Macs directly
Access Port on the
ut having to go
network configurations.
der Pro, and easily
NAS shared folder.

rt and USB
Copy button

on to quickly back up

memory

slots



08 1 x PCIe expansion slot

- PCIe 2.0 x2. Can install QM2 M.2 SSD/10GbE expansion card, 10GbE network expansion card, USB 3.1 expansion card, and wireless expansion card

09 2 x 3.5 mm microphones jacks

- Supports dynamic microphones

10 3.5 mm line-out jack

- Can directly play music files on the NAS by connecting to external speakers

11 2 x 4K HDMI ports

- HDMI v1.4b support up to 3840 x 2160
- Supports mirroring or extended desktop output

12 Built-in speaker

- Music playback
- Verbal system warnings

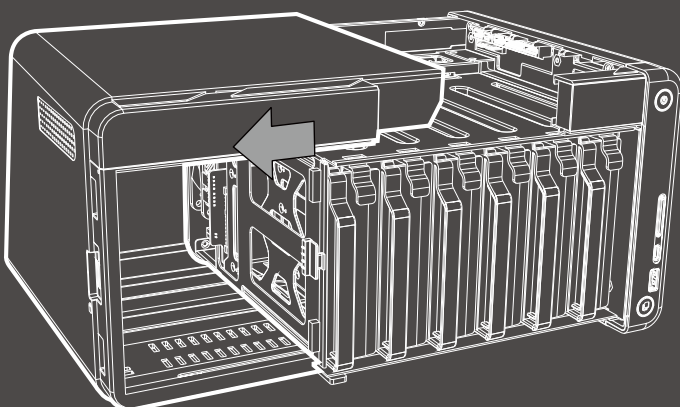
13 4 x USB 3.0 ports

- Supports external hard drives, printers, and UPS

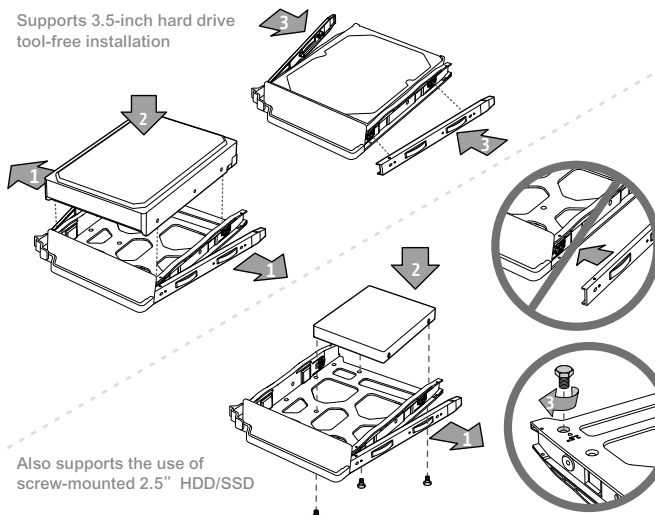
14 2 x Gigabit network ports

- Provide load balancing and other port-trunking network mode

3



Supports 3.5-inch hard drive
tool-free installation



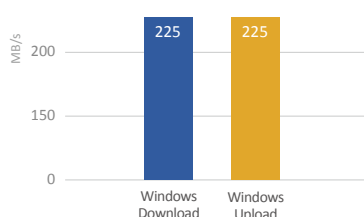
Also supports the use of
screw-mounted 2.5" HDD/SSD

QTS-Linux dual-system NAS

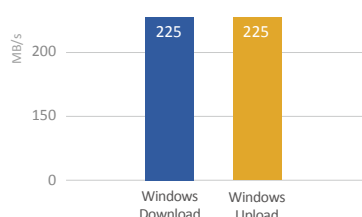
Intel® Celeron® J3455 quad-core 1.5 GHz processor with AES-NI encryption acceleration

The TS-x53B is equipped with the latest 14-nm Intel® Celeron® J3455 quad-core 1.5 GHz (burst up to 2.3 GHz) processor and 4GB/8GB DDR3L dual channel RAM (expandable to 8GB) with 2 built-in 1GbE network ports. It supports SATA 6Gb/s and provides up to 225 MB/s continuous read/write performance for running tasks quickly and smoothly. The TS-x53B has a built-in Intel® AES-NI next-generation encryption engine (using AES 256-bit encryption) for whole-NAS or folder encryption and can maintain up to 225 MB/s data read/write speeds, so it can protect sensitive information on the NAS while maintaining high performance.

File Transfer (2 x 1GbE)



Encrypted File Transfer (2 x 1GbE)



Tested in QNAP Labs. Figures may vary by environment.

Test Environment:

NAS:

OS: QTS 4.3.3

Volume type: RAID 5; 4 x Intel S3500 240GB SSDs (SSD-SC2BB240G4); QNAP LAN-10G2SF-MLX 2 port 10GbE SFP+

Client PC:

Intel® Core™ i7-4770 3.40GHz CPU; DDR3L 1600Hz 16GB;

WD 1TB WD10EZEX; Intel Gigabit CT (MTU 1500) ;

Windows® 10 64-bit

OLED screen with touch-sensitive buttons

The TS-x53B has a new slider design with both a smooth appearance and a tool-free 3.5-inch hard disk installation. The OLED screen design shows the TS-x53B's status at a glance, so you easily view system status (including CPU operation, system temperature, fan speed, hard disk capacity and temperature, Volume and LUN capacity and other information). The capacitive touch button design is not only dustproof, but also provides a variety of settings to allow you easily wake up the screen, change network IP settings, password, or to restart/shut down the system.



USB QuickAccess for Plug-and-Play use

USB QuickAccess allows you to directly connect a Windows PC or Mac to the TS-x53B via the front-panel USB Type-C* Quick Access Port for easy access to files. USB QuickAccess is especially useful for users with limited networking experience or for those just wanting direct access to files. After finding the TS-x53B in Qfinder Pro**, NAS shared folders can be easily accessed without complex network settings. Access permissions can also be set up to ensure data security.

* The USB Type-C cable is not included.

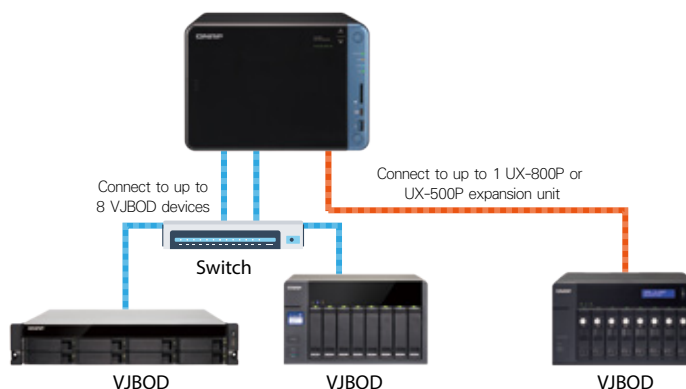
** Qfinder Pro and USB QuickAccess only support Windows 8.0 (or later) and Mac OS X 10.7 (or later). Some operating systems may require additional drivers.

Low-cost, flexible storage expansion

The TS-x53B can be connected to a QNAP expansion enclosure to scale up storage capacity without downtime. It is well-suited for companies and organizations looking to archive data such as surveillance footage or audiovisual materials. With QJBOD Express, you can transfer the contents of an entire TS-x53B to another QNAP NAS by using a large-capacity expansion enclosure (UX-500P or UX-800P) without needing network connectivity. In addition, you can also use VJBOD (Virtual JBOD) to expand the storage capacity of a QNAP NAS by using the unused storage space of another QNAP NAS.

* To expand storage space using an UX Expansion Enclosure, you must create a separate static volume or storage pool on the UX Expansion Unit.

** RAID groups for storage pools can not be spread across multiple expansion devices.



4K video conversion and HDMI output

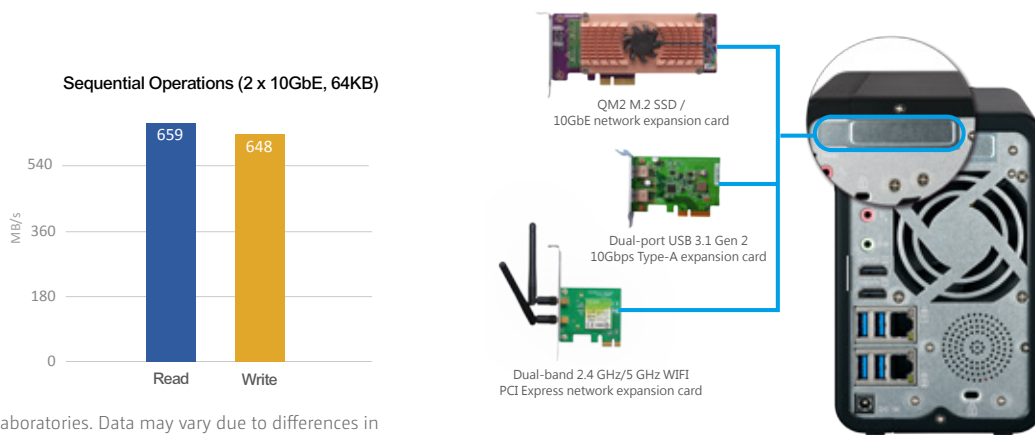
The TS-x53B features Intel® 9th generation HD Graphics for 4K video playback (HDMI) and transcoding, making it a complete multimedia center for direct audiovisual output*. Transcoding allows videos to be easily converted to universal formats and resolutions for playing on multiple devices and in bandwidth-constricted areas. The Linux Station app allows users to directly download from the Ubuntu Software Center, providing apps such as Plex Media Server, KMPlayer, LibreOffice and other playback software. The TS-x53B also features an integrated HD Station app and support for third-party players (such as Plex Home Theater) that can be used when the NAS is connected to an HDTV or A/V receiver to directly play the multimedia files stored on the TS-x53B. TS-x53B has dual HDMI output, and supports either "mirrored" or "extended" display.

* Multimedia playback capability may vary according to the application, device, and network environment.



PCIe expansion for multiple storage applications

The TS-x53B has a PCIe expansion slot, allowing you to flexibly configure multiple applications as needed. You can install a QNAP QM2 M.2 SSD / 10GbE PCIe dual-port card for adding an M.2 SSD cache or 10GbE connectivity, or a compatible wireless network card to add wireless base station functionality to the TS-x53B, or a USB 3.1 10Gbps card to expand connectivity options.

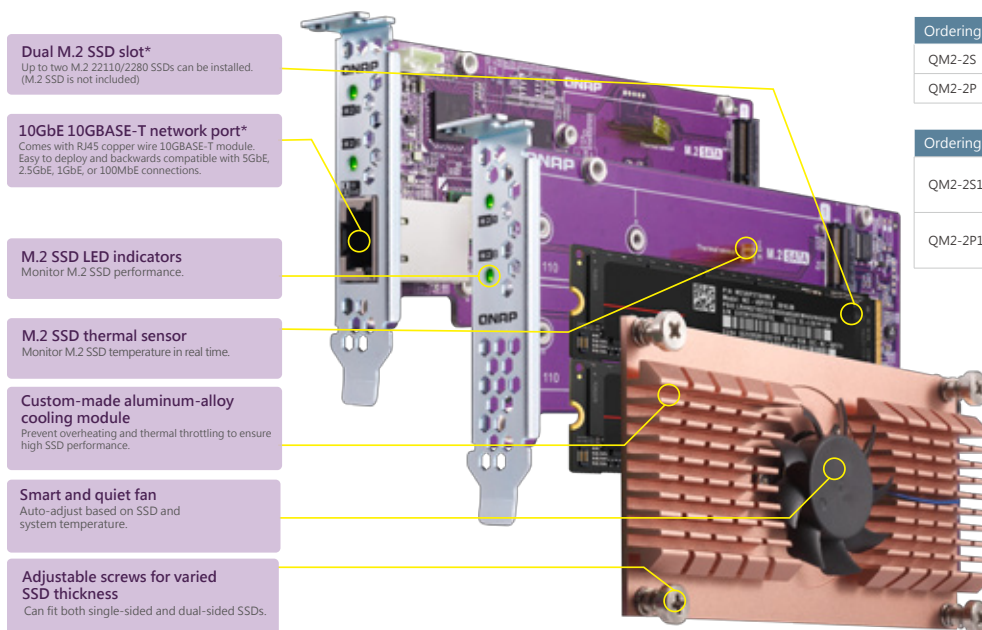


* Tested in QNAP laboratories. Data may vary due to differences in physical environments.

QM2 M.2 SSD / 10GbE PCIe expansion card: NAS performance and application upgrade

The QM2 PCIe expansion card series adds M.2 SSD and 10GbE connectivity* to the TS-x53B, enabling greater NAS performance and compatibility with 10GbE networks. Two M.2 22110 or M.2 2280 SSDs (in RAID 1 or RAID 0) can be added to the QM2 expansion card for caching or tiering. QM2 not only significantly enhances overall performance of NAS, but allows affordable connectivity to 10GbE networks.

* 10GbE connectivity is only provided by the QM2-2S10G1T and QM2-2P10G1T.



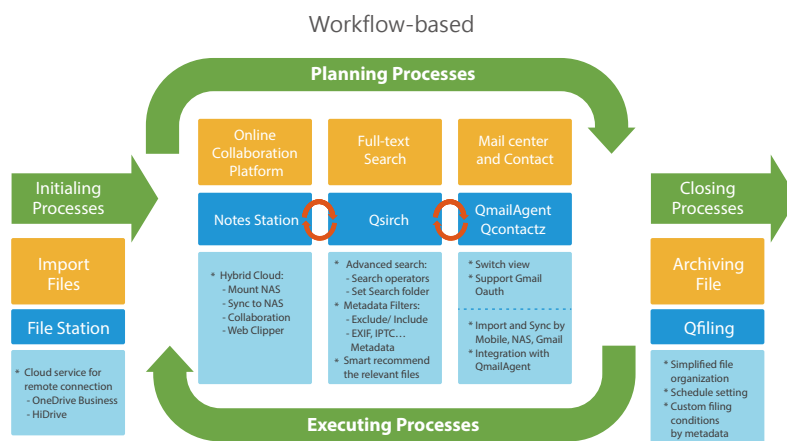
| Ordering SKUs | Specifications |
|---------------|---|
| QM2-2S | Supports two M.2 2280/22110 SATA SSDs |
| QM2-2P | Supports two M.2 2280 / 22110 PCIe SSDs |

| Ordering SKUs | Specifications |
|---------------|--|
| QM2-2S10G1T | Supports two M.2 2280 SATA SSDs and provides a single port 10GBASE-T 10 GbE network port |
| QM2-2P10G1T | Supports two M.2 2280 PCIe SSDs and provides a single port 10GBASE-T 10 GbE network port |

Computing and storage system core

QTS 4.3 - The ultimate user experience

The new QTS 4.3 operating system dramatically improves multitasking efficiency and enables users to work in multi-window, multi-desktop, and multi-display modes. You can start new tasks without completing the ones in hand. QTS 4.3 provides numerous applications to fit enterprise requirements, personal productivity and multimedia entertainment. With new smart agent services data and system management is more flexible and automatic for optimum management efficiency. QTS 4.3 provides apps for collaborative notetaking, centralized email management, contacts management, and other productivity boosters. Other features such as the Qsirch full-text search engine and Qfiling's automatic archiving feature greatly assist in daily NAS management tasks.



IFTTT Agent - Workflow automation to improve work efficiency

IFTTT (If This Then That) is currently the most popular network automation service, which allows you to freely connect various network-related devices or services to create a variety of simple and powerful workflows. Once you have bound your IFTTT account with your TS-x53B, you can create a variety of small services to automate tasks. For example, you can set the trigger condition as "when a photo is added" and set response action as "download photos to TS-x53B", so you can automatically back up photos to your NAS. With a wide range of triggers and actions, IFTTT Agent can greatly simplify daily tasks with greater automation.

File management

Hybrid Backup Sync - Quick solution for local, remote and cloud backups

Hybrid Backup Sync is a comprehensive backup solution to efficiently manage storage space for all devices on the LAN, across remote-site NAS units and cloud services. Hybrid Backup Sync supports multi-version backup, flexible work scheduling, file compression backup and more.

File Station - Easy-to-use file manager

In addition to viewing the files on the TS-x53B, File Station allows accessing external devices for the easy management of all your files from a single interface. File Station can also access another NAS and cloud storage accounts by using remote mounting.



Qfiling - Simplified file organization

Qfiling automates your file organization. All you need to do is categorize your files, set a schedule, and Qfiling will do the rest. After setting up Qfiling, the files in selected folders will be automatically archived into folders for these categories. Qfiling also offers different conditions for different file types, including document assistant, music guru and video wizard, so you can quickly complete archiving tasks through customized archiving conditions.

QButton - Get things done with a single push of button

QButton allows you to customize the actions of buttons of your QNAP remote control* (RM-IR004), providing greater convenience for everyday use.

*QButton is currently available for TS-53B series NAS with QTS 4.3 (or newer).



Security monitoring solution

Surveillance Station - Build a professional surveillance system

Surveillance Station is a professional network security monitoring solution that creates a dedicated video storage space and operating environment on the TS-x53B. Surveillance Station has a user-friendly interface, is compatible with over 3,000 IP camera models, and has scalable camera channel license for building and expanding a professional surveillance system. The mobile app Vmobile can be used to monitor your channels from anywhere using mobile devices. With QvPC's "Surveillance Station (Local Display)" function, you can directly view live video feeds or existing footage on an HDMI display. The TS-x53B offers 4 free IP camera channel licenses, and up to 40 channels can be purchased to expand your surveillance system.

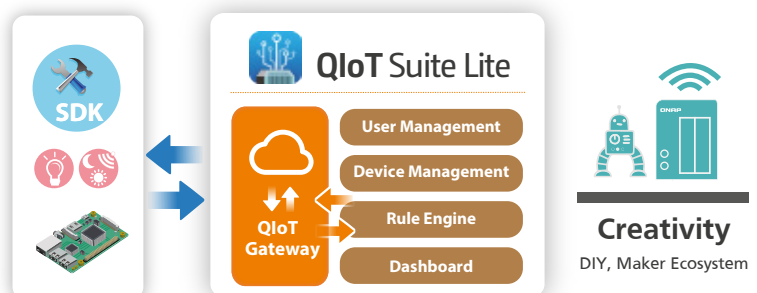
* TS-x53B also supports a new surveillance solution, QVR Pro (Beta). You can download it from the QTS App Center.



IoT applications

QIoT Suite Lite - rapid development of an IoT private cloud

QIoT Suite Lite can quickly deploy a variety of IoT applications, helping to save time and allowing developers put their creative ideas into practice. It supports MQTT, HTTP and CoAP and provides MQTTs and HTTPs, so developers need not worry about connection security when using the TS-x53B as a private cloud IoT Center for other network services such as smart devices and smart home applications.



Hardware Specifications



| Ordering SKUs | TS-653B-8G | TS-653B-4G | TS-453B-8G | TS-453B-4G | TS-253B-8G | TS-253B-4G |
|--------------------------------|--|---------------------|---|---------------------|---|---------------------|
| CPU | Intel® Celeron® J3455 quad-core 1.5 GHz, up to 2.3 GHz | | | | | |
| Encryption Acceleration Engine | ✓ · (AES-NI) | | | | | |
| Graphics | Intel® HD Graphics 500 | | | | | |
| Pre-installed Memory | 8GB DDR3L (2 x 4GB) | 4GB DDR3L (2 x 2GB) | 8GB DDR3L (2 x 4GB) | 4GB DDR3L (2 x 2GB) | 8GB DDR3L (2 x 4GB) | 4GB DDR3L (2 x 2GB) |
| Maximum Memory | 8GB | | | | | |
| Memory Slots | 2 x DDR3L SODIMM slot (For dual-DIMM configurations, you need to install a pair of DDR3 memories with the same speed, capacity, and chip) | | | | | |
| Drive Compatibility | 6 x 3.5"/2.5" SATA 6Gb/s HDD/SSD | | 4 x 3.5"/2.5" SATA 6Gb/s HDD/SSD | | 2 x 3.5"/2.5" SATA 6Gb/s HDD/SSD | |
| Gigabit LAN Ports | 2 x Gigabit RJ45 LAN ports | | | | | |
| 10GbE LAN Port | Optional: 10GbE PCIe network expansion card | | | | | |
| USB 3.0 Ports | 5 x Type-A ports | | | | | |
| USB QuickAccess | USB Type-C | | | | | |
| PCIe Slot | 1 x PCIe 2.0 x2 slot | | | | | |
| HDMI Outputs | 2, up to 3846 x 2160, 30 Hz | | | | | |
| Audio | 2 x 3.5 mm dynamic microphone jacks, speaker, 3.5 mm line-out jack | | | | | |
| OLED Panel | 0.96" monochrome OLED panel | | | | | |
| LED Indicators | status / power, network, USB, hard drive, SD memory card, USB QuickAccess | | | | | |
| Button | Power / status, USB one-button backup, system reset, capacitive touch key (confirmation key and selection key) | | | | | |
| Infrared (IR) Receiver | ✓, comes with RM-IR004 remote control | | | | | |
| Other slots | SD memory card reader, Kensington security slot | | | | | |
| Dimensions (H x W xD) | 168 x 235 x 226 mm 6.61 x 9.25 x 8.90 inch | | 168 x 170 x 226 mm 6.61 x 6.69 x 8.90 inch | | 168 x 105 x 226 mm 6.61 x 4.13 x 8.90 inch | |
| Net Weight | 3.01 kg (6.64 lbs) | | 2.33 kg (5.14 lbs) | | 1.66 kg (3.66 lbs) | |
| Operating Temperature | 0 to 40°C (32°F to 104°F) | | | | | |
| Power Consumption | HDD sleep: 20.62W Normal operation: 40.33W | | HDD sleep: 15.00W Normal operation: 30.04W | | HDD sleep: 13.07W Normal operation: 20.42W | |
| Power | 120W AC adapter, 100-240V | | 90W AC adapter, 100-240V | | 65W AC adapter, 100-240V | |
| Fan | 2 x 9cm | | 1 x 12cm | | 1 x 7cm | |

Package Contents

NAS, Quick Installation Guide, AC power adapter, power cord, Ethernet cables, remote control, screws for 2.5-inch drives

* Please visit www.qnap.com for more hardware and software specifications. Design and specifications are subject to change without notice.

Software Specifications

| | |
|--------------------------------|---|
| Supported disk group types | TS-253B: RAID 0/1, single, JBOD; TS-453B: RAID 0/1/5/6/10, RAID 1/5 + spare, single, JBOD; TS-653B: RAID 0/1/5/6/10, RAID 1/5/6/10 + spare, single, JBOD |
| Storage Manager | Flexible disk area and LUN configuration; storage pool online RAID capacity expansion and configuration migration |
| Supported client systems | Windows 7, Windows 8, Windows 10, Windows Server 2003/2008 R2/2012/2012R2, Apple Mac OS 10.6+, Linux & UNIX |
| Internal file system | EXT4 |
| External file system | EXT4, EXT3, NTFS, HFS+, FAT32, exFAT (Need to purchase additional exFAT software license) |
| Supported protocols | CIFS/SMB, AFP (v3.3), NFS(v3), FTP, FTPS, SFTP, TFTP, HTTP(S), Telnet, SSH, iSCSI, SNMP, SMTP, and SMSC™ |
| File sharing | Maximum number of users: 4096; Maximum number of user groups: 512; Maximum shared folder: 512; Maximum number of simultaneous connections: 800 |
| Video Surveillance | Surveillance Station contains 4 free camera channel licenses. You can purchase additional licenses to expand to a maximum of 40 channels (http://license.qnap.com) |
| Other Features | File Station, Photo Station, Music Station, Video Station, Download Station, Qsync, Notes Station, HD Station, FTP server, printer server, VPN server / client, Qtiier, anti-virus protection, Qsirch, Qcontactz, QmailAgent, Qfiling |
| Streaming Server | DLNA server, Airplay, Chromecast, iTunes server |
| Video Playback and Transcoding | Equipped with hardware acceleration chip, support up to 4K H.264 audio and video transcoding |
| Remote access | myQNAPcloud |

Accessories

| Type | Ordering SKUs | Description |
|-----------------|----------------------|--|
| Expansion Units | UX-800P | QNAP 8-bay expansion unit |
| | UX-500P | QNAP 5-bay expansion unit |
| Memory | RAM-2GDR3LA0-SO-1866 | 2GB DDR3L 1866MHz SODIMM RAM |
| | RAM-2GDR3L-SO-1600 | 2GB DDR3L 1600MHz SODIMM RAM |
| | RAM-4GDR3LA0-SO-1866 | 4GB DDR3L 1866MHz SODIMM RAM |
| | RAM-4GDR3L-SO-1600 | 4GB DDR3L 1600MHz SODIMM RAM |
| M.2 SSD | SSD-M2080-256GB-A01 | 256GB M.2 2280 SATA 6Gb/s SSD (Need to use QM2 expansion card) |
| Expansion Card | QM2-2S | Supports two M.2 2280/22110 SATA SSDs |
| | QM2-2P | Supports two M.2 2280 / 22110 PCIe SSDs |
| | QM2-2S10G1T | Supports two M.2 2280 SATA SSDs and provides a single port 10GBASE-T 10 GbE network port |
| | QM2-2P10G1T | Supports two M.2 2280 PCIe SSDs and provides a single port 10GBASE-T 10 GbE network port |
| | LAN-10G1SR | Single-port 10GbE SFP+ NIC |
| | LAN-10G2SF-MLX | Single-port 10GbE SFP+ NIC |
| | LAN-10G2T-X550 | Single-port 10GbE 10GBASE-T NIC |
| Remote Control | RM-IR004 | Infrared Remote Control (included) |

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

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

China
Email: cnsales@qnap.com
TEL: +86-400-028-0079

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

Japan
Email: jpsales@qnap.com
FAX: 03-5901-9736

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

India
Email: indiasales@qnap.com

Germany
Email: desales@qnap.com

France
Email: frsales@qnap.com



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