

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



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



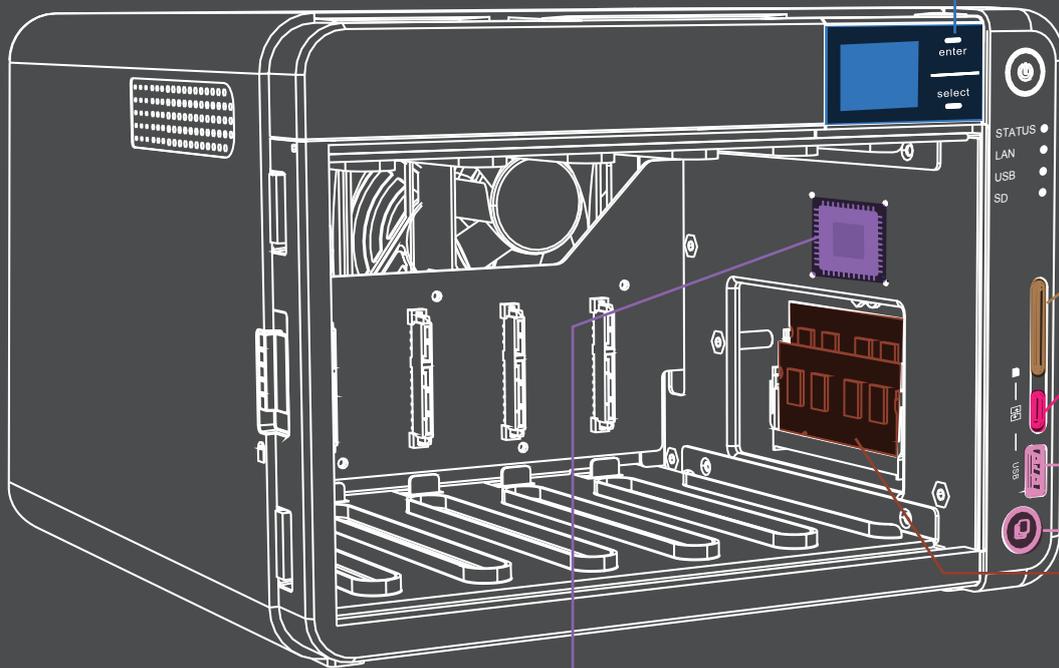
TS-653B



TS-x53B

Network Storage and Computing Device

Small in size Big in features



01 High definition screen and touch sensitive buttons

- System status at a glance

02 SD card slot

- Easily back up your photos

03 USB-C Quick Access plug and play

- Connect to Windows PCs via the USB-C Quick Access NAS front panel without through complicated network. Find your NAS in Qfinder install and access the NAS

04 USB 3.0 port One Touch Copy

- Press the "Copy" button your data

05 Up to 8GB DDR3L memory

- 2 x SODIMM memory slots

06 Front cover with magnets and lock

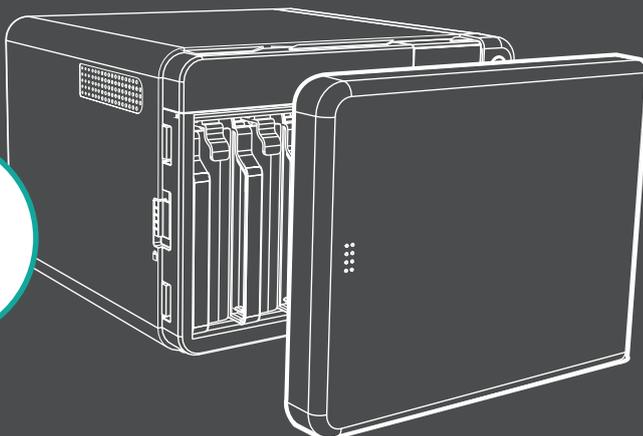
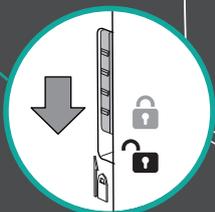
- Quick disassembly and dust prevention

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

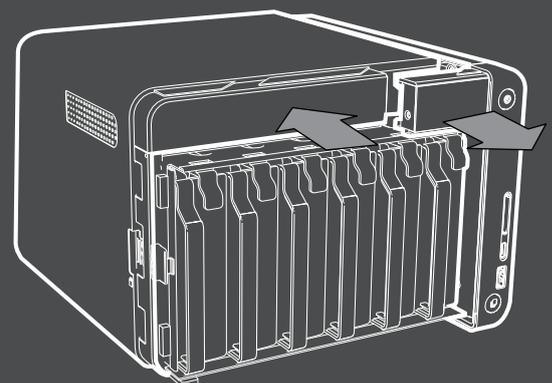
- 9th-generation HD Graphics processor and 4K hardware-accelerated video transcoding engine
- AES-NI encryption engine

Expansion card installation

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2



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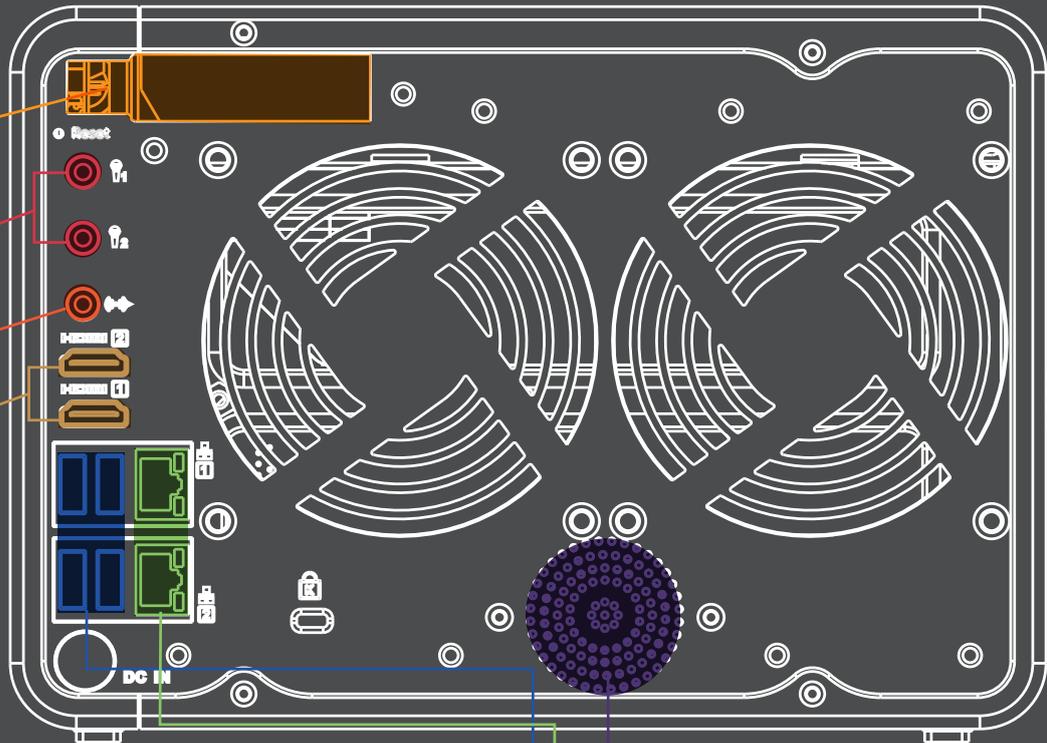
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08 1 x PCIe expansion slot

- 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

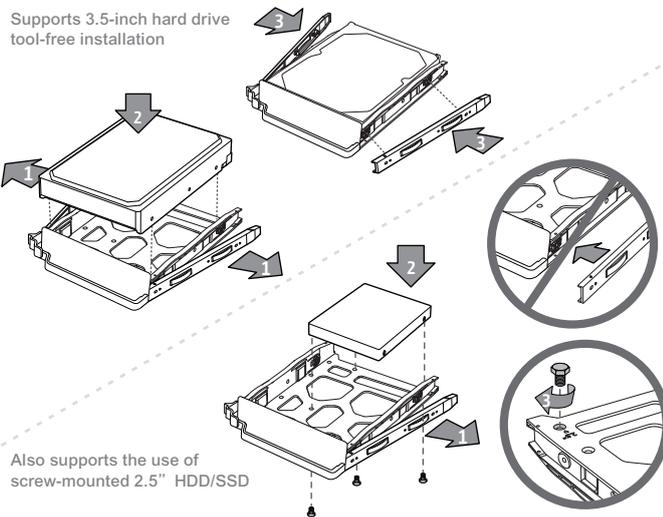
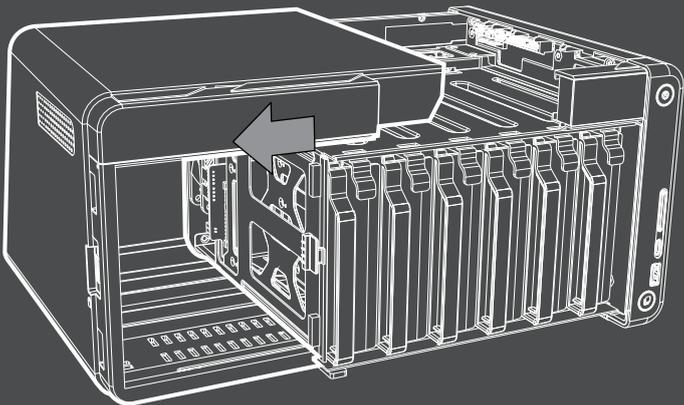
13 4 x USB 3.0 ports

- Supports external hard drives, printers, and UPS

14 2 x Gigabit network ports

- Provide load balancing and other port-trunking network mode

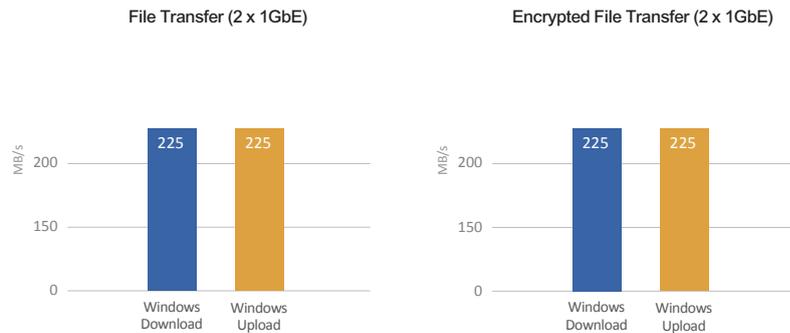
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QTS-Linux dual-system NAS

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.



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.

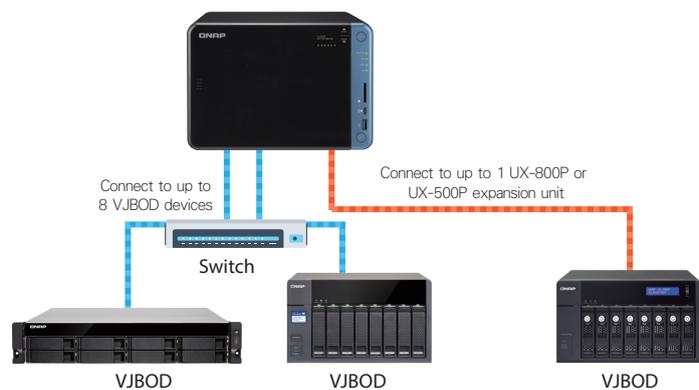
** Qfinder Pro and USB QuickAccess only support Windows 8.0 (or later) and Mac OS X 10.7 (or later). Some operating systems may require additional drivers.

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

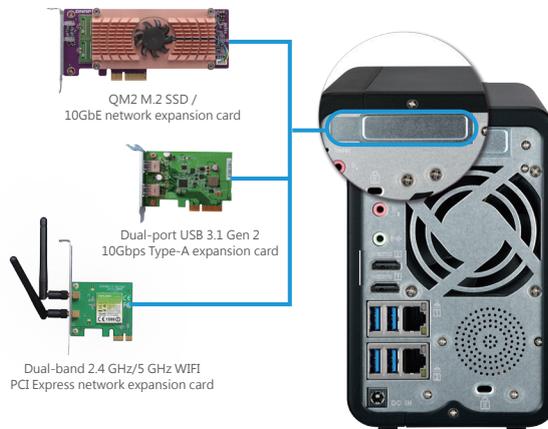
The TS-x53B features Intel® 9th generation HD Graphics for 4K video playback (HDMI) and transcoding, making it a complete multimedia center for direct audiovisual output*. Transcoding allows videos to be easily converted to universal formats and resolutions for playing on multiple devices and in bandwidth-constricted 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.

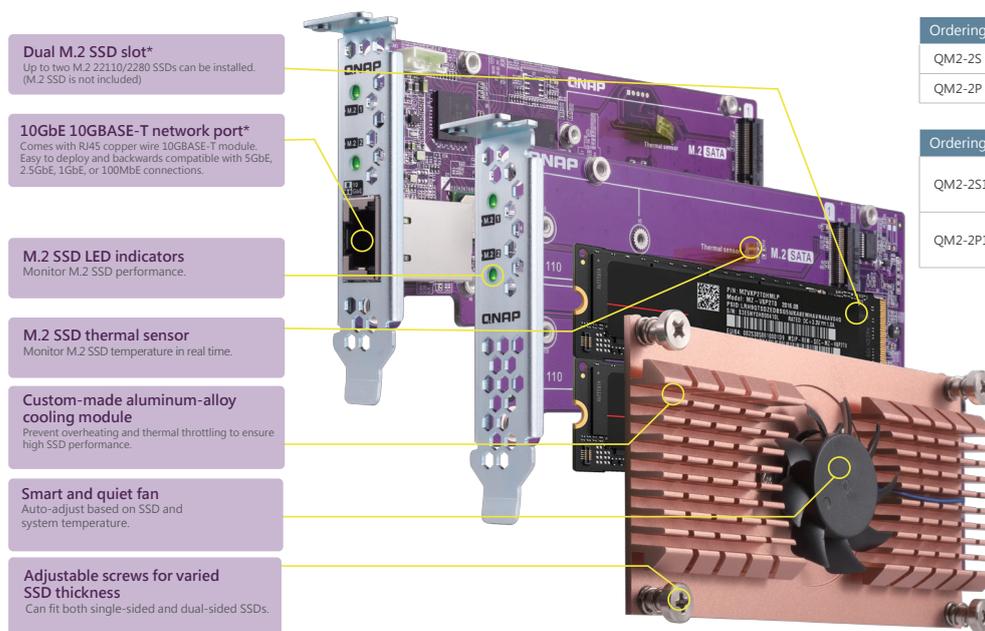


* Tested in QNAP laboratories. Data may vary due to differences in physical environments.

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.



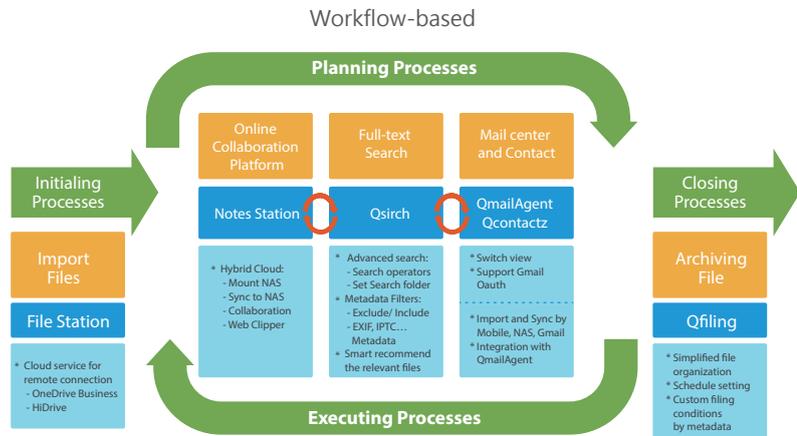
Ordering SKUs	Specifications
QM2-2S	Supports two M.2 2280/22110 SATA SSDs
QM2-2P	Supports two M.2 2280 / 22110 PCIe SSDs

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.

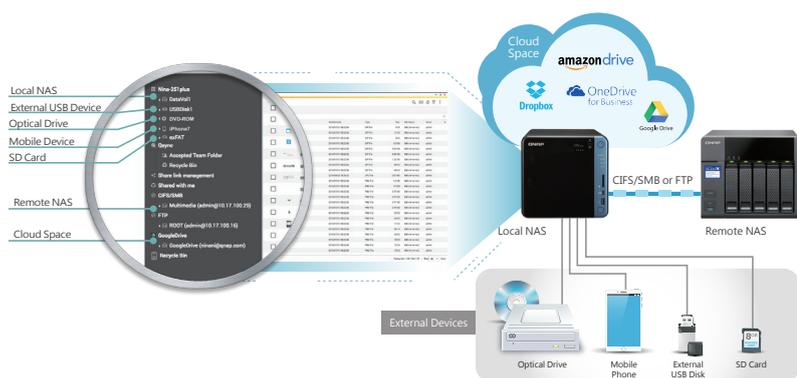
File management

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).

Play your favorite music or another pre-selected playlist with a single button.

View pre-selected channels on QVR Pro for quick surveillance monitoring.

Set a button to power on/off or restart your NAS for greater convenience.

Activate your own IoT services by using the upcoming QNAP QIoT suite.

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.

FREE
4 Free Channels
Camera license up to 40 Channels

- Monitor videos in real time
- Playback recordings
- Remote replication and storage expansion
- HDMI output
- Supports large capacity HDDs
- ONVIF compliant and quick installation
- Vmobile and Vcam
- Qdewarp

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.

QIoT Suite Lite

- User Management
- Device Management
- Rule Engine
- Dashboard

QIoT Gateway

SDK

Creativity
DIY, Maker Ecosystem

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 x D)	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, Qtier, 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
Remote Control	LAN-10G2T-X550	Single-port 10GbE 10GBASE-T NIC
	RM-IR004	Infrared Remote Control (included)

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