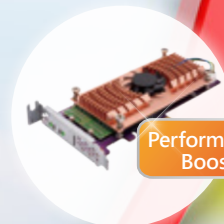


TS-x53BU Series

High-performance quad-core processor and one built-in PCIe expansion slot to meet your business needs

4 / 8 / 12-bay NAS
for businesses



Performance Boost

◀ QM2 M.2 SSD / 10GbE Network Expansion Card
Supports SSD caching and Qtier, a high-efficiency auto-tiering storage system



▶ Dual-port 10GbE Expansion Card
Instantly take advantage of high-bandwidth 10GbE networks



▶ Dual-port USB 3.1 Gen2 10Gbps Type-A Expansion Card
Enables lightning-fast transmission. Compatible with USB 3.0 and 2.0 devices.



- ◆ Equipped with quad-core Intel® Celeron® J3455 processor, burst up to 2.3 GHz and supports AES-NI encryption.
- ◆ Supports dual-channel 4K H.265/H.265 hardware decoding and on-the-fly or offline transcoding.
- ◆ Qtier technology and SSD cache enable 24/7 optimized storage efficiency.
- ◆ Manage and share information effectively with Qfiling, an automatic file organizer, and Qsirch, a full-text search engine.
- ◆ Supports QRM+ for unified remote server management, QvPC technology, virtual machine and container applications, and storage for virtualization.



TS-453BU
TS-453BU-RP

TS-853BU
TS-853BU-RP

TS-1253BU
TS-1253BU-RP



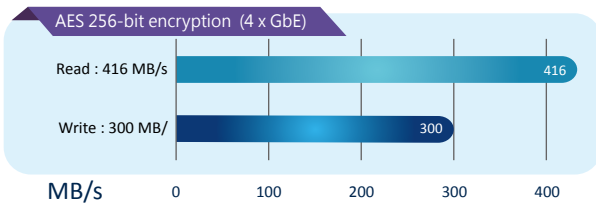
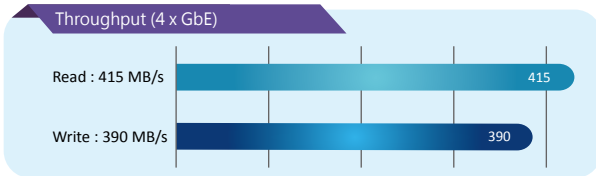
Hardware overview

TS-x53BU is equipped with the latest 14nm Intel® Celeron® J3455 quad-core 1.5 GHz (up to 2.3 GHz) processor, 4GB/8GB DDR3L dual channel RAM (expandable to 8GB). With four built-in Gigabit Ethernet ports and SATA 6Gb/s support, providing outstanding performance of up to 410MB/s read throughput. TS-x53BU's enhanced encryption and decryption engine provides transfer speeds of over 410 MB/s with AES 256-bit full NAS volume encryption, so it is capable of protecting important data while maintaining the system's high performance.

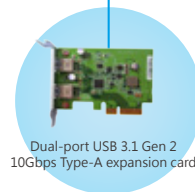


PCIe expansion slot for multiple storage applications

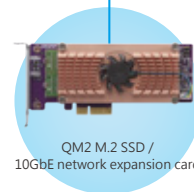
The TS-x53BU is equipped with a PCIe expansion slot, which allows you to configure multiple applications as needed. A 10GbE PCIe NIC can be installed to connect your TS-x53BU NAS to 10GbE networks, a wireless network card can be installed to provide wireless base station functionality, or a USB 3.1 10Gbps card can be installed to connect to USB devices. You can also use M.2 SSDs to enable QNAP Qtier* auto-tiered storage and SSD caching on the TS-x53BU. Qtier maximizes storage performance by automatically moving frequently-accessed "hot" data to high-performance volumes (SSD) and less-accessed "cold" data to high-capacity volumes.



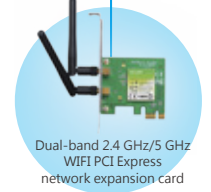
Tested in QNAP laboratories. Results may vary due to different usage environments.
 Test environment :
 NAS : Model : TS-1253BU with QTS 4.3.3
 Volume type : RAID5 (12 x 1TB HDDs) ; Direct connected
 Client PCs : Microsoft Windows 10 64bit ; Intel (R) Core (TM) i7-4790 CPU ;
 DDR3 1600Hz 16GB ; 10GB file Windows Upload/Download.



Dual-port USB 3.1 Gen 2 10Gbps Type-A expansion card



QM2 M.2 SSD / 10GbE network expansion card



Dual-band 2.4 GHz/5 GHz WIFI PCI Express network expansion card

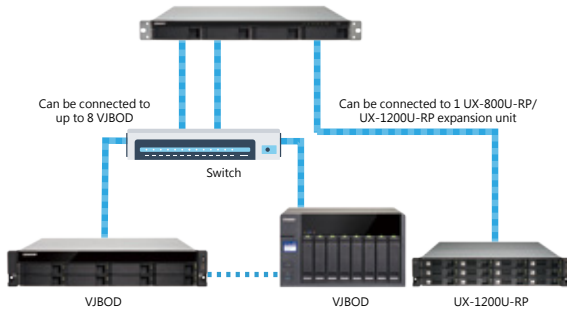
Maximize your NAS performance and utilization with QM2, a M.2 SSD/10GbE LAN PCIe expansion card

The QM2 is a PCIe card that adds support for ultra-fast M.2 SSDs and 10GbE connectivity (optional) to a QNAP NAS*, effectively enhancing NAS storage performance and file transmission stability. Up to two M.2 22110/2280 SSDs can be installed to create a RAID 1 or RAID 0 caching pool to boost performance, or a storage volume to optimize storage efficiency with Qtier. Combining SSD and 10GbE connectivity into one solution, the QM2 can help you construct a 10GbE networking environment and carry out bandwidth-demanding operations.

- 10GbE BASE-T network port**
Comes with RJ45 copper wire 10GBASE-T module. Easy to deploy and backwards compatible with 5GbE, 2.5GbE, 1GbE, or 100MbE connections.
- M.2 SSD status indicators**
Monitor M.2 SSD status
- Custom-made aluminum-alloy cooling module**
Prevent overheating and thermal throttling to ensure high SSD performance
- Adjustable screws for varied SSD thickness**
Can fit both single-sided and dual-sided SSDs
- M.2 SSD thermal sensor**
Real-time M.2 SSD temperature monitoring
- Dual M.2 SSD slots**
Up to two M.2 22110/2280 SSDs
- Smart and quiet fan**
Auto-adjust based on SSD and system temperature

Low-cost, flexible storage expansion

The TS-x53BU can be connected to a QNAP expansion enclosure to scale up the storage capacity (Raw Capacity) online without downtime and easily managed with QTS Storage Manager. With QJBOD Express, you can connect a TS-x53BU to a suitable QNAP expansion enclosure (UX-1200U-RP) to quickly transfer data to another storage expansion device without going through a network. VJBOD (Virtual JBOD) allows users to maximize their storage utilization by expanding the capacity of a QNAP NAS using the unused storage space of another QNAP NAS.



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.



Optimize 4K workflows with 4K HDMI output

The rack-mountable TS-x53BU supports 4K @30Hz through HDMI output, providing great benefits for applications like video production/editing, industrial design and professional photography that demand on-image resolution and color realism as well as intensive media storage, transfer and display. TS-x53BU supports dual-channel 4K H.264/H.265 hardware decoding and real-time transcoding, allowing you to convert videos to universal file formats that can be smoothly played on multiple devices*



* The TS-x53BU's hardware provides H.264 /H.265 hardware decoding, encoding and transcoding capabilities. However, playback quality may vary due to factors including playback software, file formats, system usage, and available bandwidth.

QRM+: Centralized management solution for networked computing devices

QRM+ is QNAP's Centralized Management Solution, designed for IT teams, for networked computing devices. It provides a single-point solution to discover, map, monitor and manage all of the critical computing devices (including servers, PCs, and thin clients) in your network, and facilitates device discovery with the graphical topology diagram. QRM+ supports IPMI 2.0, provides remote KVM (Keyboard, Video, Mouse) for certain IPMI devices, and supports tracking every action using KVM recording and playback.



Surveillance Station - Build a professional surveillance system

Surveillance Station 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-x53BU offers 4 free IP camera channel licenses, and up to 40 channels can be purchased to expand your surveillance system.

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

Hardware Specifications



Ordering SKUs	TS-453BU-4G TS-453BU-RP-4G	TS-453BU-8G TS-453BU-RP-8G	TS-853BU-4G TS-853BU-RP-4G	TS-853BU-8G TS-853BU-RP-8G	TS-1253BU-4G TS-1253BU-RP-4G	TS-1253BU-8G TS-1253BU-RP-8G
CPU	Intel® Celeron® J3455 4-core 1.5GHz (burst up to 2.3GHz)					
System memory	4GB : 2 x 2GB DDR3L 8GB : 2 x 4GB DDR3L					
Memory Slots	SODIMM x 2 (MAX. 8GB)					
Flash Memory	4GB eMMC					
PCIe Slot	1 x PCIe Gen 2 x2 slot					
Drive Trays	4		8		12	
Drive Types	SATA 6Gb/s, 3Gb/s HDD or SSD; Hot-swappable					
USB	4 x USB 3.0 (Rear)					
LAN Ports	4 x GbE					
HDMI Output	1 x HDMI 1.4b					
LED Indicators	System Status, HDD, Expansion, LAN					
Buttons	Power, Reset					
Form Factor	1U, rack mountable		2U, rack mountable		2U, rack mountable	
Dimensions	44 (H) x 439 (W) x 499 (D) mm 1.73 (H) x 17.28 (W) x 19.65 (D) inch		89(H) x 482(W) x 534(D) mm 3.5(H) x 18.98(W) x 21.02(D) inch		89 (H) x 482 (W) x 534 (D) mm 3.5 (H) x 18.98 (W) x 21.02 (D) inch	
Net Weight	7.63 kg (16.82 lbs.)		11.02 kg (24.29 lbs.)		16.14 kg (35.58 lbs.)	
Temperature	0-40°C					
Relative Humidity	0~95% R.H.					
Power Supply	ATX 250W (redundant x 2)		ATX 250W (redundant x 2)		ATX 350W (single) ATX 250W (Redundant)	
Fan	2 x 40mm, 12V DC		2 x 70mm, 12V DC		2 x 70mm, 12V DC	

Software Specifications

Supported Disk Group Types	RAID 0/1/5/6/10, + hot spare, single, JBOD
Storage Manager	Flexible disk area and LUN configuration; online storage pool RAID capacity expansion and configuration migration
Supported Client Systems	Windows 7, Windows 8, Windows 10, Windows Server 2003/2008 R2/2012/2012R2, Mac OS X 10.6+, Linux and UNIX
Internal File System	EXT4
External File System	EXT4, EXT3, NTFS, HFS+, FAT32, exFAT* *Additional ExFAT license required
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 folders: 512; Maximum simultaneous connections: 800
Other Features	File Station, Photo Station, Music Station, Video Station, Download Station, Qsync, Notes Station, HD Station, FTP Server, Print Server, VPN Server, VPN Client, Qtier, Antivirus, Qsirch, Qcontactz, QmailAgent, Qfiling
Streaming Server	DLNA Server, Airplay, Chromecast, iTunes Server
Remote Access	myQNAPcloud

Accessories

Type	Ordering SKU	Description
Expansion Unit	UX-1200U-RP	Rackmount 12-bay USB 3.0 RAID expansion enclosure
	UX-800U-RP	Rackmount 8-bay USB 3.0 RAID expansion enclosure
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
M.2 SSD	RAM-4GDR3L-SO-1600	4GB DDR3L 1600MHz SODIMM RAM
	SSD-M2080-256GB-A01	256GB M.2 2280 SATA 6Gb/s SSD* * Need to be used with QM2 expansion card
Expansion Card	QM2-2S	Supports two M.2 2280/ 22110 SATA SSD
	QM2-2P	Supports two M.2 2280/ 22110 PCIe SSD
	QM2-2S10G1T	Supports two M.2 2280/ 22110 SATA SSD and provides a single-port 10GbE slot
	QM2-2P10G1T	Supports two M.2 2280/ 22110 PCIe SSD and provides a single-port 10GbE slot
	LAN-10G1SR	1-port 10GbE SFP+ adapter
LAN-10G2SF-MLX	2-port 10GbE SFP+ adapter	
LAN-10G2T-X550	2-port 10GbE 10GBASE-T adapter	

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