

QNAP business series specifications



	SS-EC2479U-SAS-RP	SS-EC1879U-SAS-RP	SS-EC1279U-SAS-RP	TS-EC1679U-SAS-RP	TS-EC1279U-SAS-RP
CPU	Quad Core Intel® Xeon® E3-1245 v2 (3.4 GHz)			Quad Core Intel® Xeon® E3-1245 v2 (3.4 GHz)	
RAM	8GB DDR3 ECC (expandable RAM, up to 32GB **)				
USB 2.0/3.0	4/2				
eSATA	No				
Number of Internal Hard Drives*	24 x 2.5" SAS/SATA 6Gb/s hard drive or SSD	18 x 2.5" SAS/SATA 6Gb/s hard drive or SSD	12 x 2.5" SAS/SATA 6Gb/s hard drive or SSD	16 x 2.5"/3.5" SAS/SATA 6Gb/s hard drive or SSD	12 x 2.5"/3.5" SAS/SATA 6Gb/s hard drive or SSD
Maximum Raw Capacity	24 TB	18 TB	12 TB	80 TB	60 TB
Hard Drive Interface	SAS/SATA 6Gb/s (backward compatible with SAS/SATA 3Gb/s)				
10/100/1000 Mbps LAN Port	4 (Max. 8)				
10Gbps LAN Port	Yes (optional)				
No. of PCIe Expansion Slots	2 (for network and storage expansion)				
Internal Cache Port	No				
Form Factor	2U, Rackmount			3U, Rackmount	2U, Rackmount
Dimensions	88 (H) x 439 (W) x 520 (D) mm 3.46 (H) x 17.28 (W) x 20.47 (D) inch			130 (H) x 442.4 (W) x 528.3 (D) mm 5.12 (H) x 17.42 (W) x 20.80 (D) inch	88 (H) x 439 (W) x 520 (D) mm 3.46 (H) x 17.28 (W) x 20.47 (D) inch
Weight	16.28 kg/35.89 lb (Net) 25.26 kg/55.69 lb (Gross)	15.92 kg/35.10 lb (Net) 24.9 kg/54.89 lb (Gross)	15.56 kg/34.3 lb (Net) 24.54 kg/54.10 lb (Gross)	18.3 kg/40.34 lb (Net) 27.38 kg/60.36 lb (Gross)	16.04 kg/35.36 lb (Net) 24.78 kg/54.63 lb (Gross)
Power	600W redundant power supply				
Fan	Smart fan: 3 (6cm, 12V DC)				
LCD Screen	No				
Noise Level	66.1 dB(A)	64.9 dB(A)	64.5 dB(A)	62.2 dB(A)	69.4 dB(A)
Power Consumption	HDD Standby: 252W In operation: 270W (with 24 x Seagate SEAGATE ST9300653SS hard drive installed)	HDD Standby: 168W In operation: 206W	HDD Standby: 139.1W In operation: 157W	In operation: 368W (with 16 x Seagate ST3600057SS hard drive installed)	In operation: 296W

All specifications are subject to change without notice.

*The standard system is shipped without hard drives.

** When upgrading RAM to more than 24GB, the original 4GB RAM modules must be removed.



	TS-EC2480U-RP	TS-EC1680U-RP	TS-EC1280U-RP	TS-EC880U-RP	TS-EC1080 Pro	TS-EC880 Pro
CPU	Quad-core Intel® Xeon 3.4 GHz Processor				Quad-core Intel® Xeon 3.4 GHz Processor	
RAM	4GB DDR3 ECC RAM (expandable RAM, up to 32GB**)				2GB DDR3 ECC RAM (expandable RAM, up to 32GB**)	
USB 3.0/2.0	4/4				3/6	3/6
eSATA	0				2	
Number of Internal Hard Drives	24 x 2.5"/3.5" SATA 6Gb/s hard drive or SSD	16 x 2.5"/3.5" SATA 6Gb/s hard drive or SSD	12 x 2.5"/3.5" SATA 6Gb/s hard drive or SSD	8 x 2.5"/3.5" SATA 6Gb/s hard drive or SSD	10 x 2.5"/3.5" SATA 6Gb/s hard drive or SSD	8 x 2.5"/3.5" SATA 6Gb/s hard drive or SSD
Maximum Raw Capacity	120 TB	80 TB	60 TB	40 TB	50 TB	40 TB
Hard Drive Interface	SATA 6Gb/s (backward compatible with SATA 3Gb/s)				SATA 6Gb/s (backward compatible with SATA 3Gb/s)	
10/100/1000 Mbps LAN Port	4 (Max. 8)				4 (Max. 6)	
10Gbps LAN Port	Yes (optional, max. 4)				Yes (optional, max. 2)	
No. of PCIe Expansion Slots	2 (1 x PCIe Gen3 x 8, 1* PCIe Gen3 x 4)				1 (1 x PCIe Gen3 x 8)	
Internal Cache Port	Two mSATA port on board for read caching ***				Two mSATA port on board for read caching ***	
Form Factor	4U, Rackmount	3U, Rackmount	2U, Rackmount		Tower	
Dimensions	176.15(H) x 442.5(W) x 530.5(D) mm 6.94(H) x 17.42(W) x 20.89(D) inch	130(H) x 442.5(W) x 530.5(D) mm 5.12(H) x 17.42(W) x 20.89(D) inch	88(H) x 442.5(W) x 530.5(D) mm 3.46(H) x 17.42(W) x 20.89(D) inch	88(H) x 442.5(W) x 530.5(D) mm 3.46(H) x 17.42(W) x 20.89(D) inch	217.5 (H) x 327 (W) x 321.2 (D) mm 8.56 (H) x 12.8 (W) x 12.65 (D) inch	
Weight	23.08 kg/ 50.88 lb (Net) 30.6 kg/ 67.46 lb (Gross)	17.88 kg/ 39.42 lb (Net) 24.2 kg/ 53.35 lb (Gross)	14.18 kg/ 31.26 lb (Net) 20.74 kg/ 45.7 lb (Gross)	14.39 kg/ 31.72 (Net) 20.57 kg/45.35 (Gross)	12.52 kg/27.61 lb (Net) 19.75 kg/43.54 lb (Gross)	12.52 kg/27.61 lb(Net) 19.75 kg/43.54 lb (Gross)
Power	650W redundant power supply		400W redundant power supply		350W power supply	
Fan	Smart fan: 4 (8cm, 12V DC)		Smart fan: 4 (6cm, 12V DC)		Smart fan: 2 (12cm, 12V DC)	
LCD Screen	No				Yes	
Noise Level	48.3 dB(A)	48.0 dB(A)	45.0 dB(A)	41.9 dB(A)	54.57 dB(A)	54.57 dB(A)
Power Consumption	HDD Standby: 129.43W In Operation: 263.81W	HDD Standby: 119.80W In Operation: 209.47W	HDD Standby: 69.42W In Operation: 121.18W	HDD Standby: 64.04W In Operation: 104.26W	HDD Standby: 44.21W In Operation: 130W	HDD Standby: 42.21W In Operation: 122W

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* The standard system is shipped without hard drives.

** When upgrading RAM to more than 28GB, the original 4GB RAM modules must be removed.

*** The standard system is shipped without mSATA flash.

Accessories

Category		Order P/N	Product Description	Applied Models
RAID Expansion Enclosure		REXP-1600U-RP	A01 series 3U 16-bay RAID expansion enclosure	TS-EC1279U-SAS-RP, TS-EC1679U-SAS-RP, SS-EC2479U-SAS-RP, SS-EC1879U-SAS-RP, SS-EC1279U-SAS-RP, TS-EC880U-RP, TS-EC1280U-RP, TS-EC1680U-RP, TS-EC2480U-RP,
		REXP-1200U-RP	A01 series 2U 12-bay RAID expansion enclosure	TS-EC1279U-SAS-RP, TS-EC1679U-SAS-RP, SS-EC2479U-SAS-RP, SS-EC1879U-SAS-RP, SS-EC1279U-SAS-RP, TS-EC880U-RP, TS-EC1280U-RP, TS-EC1680U-RP, TS-EC2480U-RP,
		REXP-1000 Pro	Tower 10-bay RAID expansion enclosure	TS-EC880 Pro, TS-EC1080 Pro
SAS Card		SAS-6G2E-D	Dual-wide-port storage expansion card, SAS 6Gbps, for tower model, desktop bracket	TS-EC880 Pro, TS-EC1080 Pro
		SAS-6G2E-U	Dual-wide-port storage expansion card, SAS 6Gbps, for A01 series rack mount model, low-profile bracket	TS-EC1279U-SAS-RP, TS-EC1679U-SAS-RP, SS-EC2479U-SAS-RP, SS-EC1879U-SAS-RP, SS-EC1279U-SAS-RP, TS-EC880U-RP, TS-EC1280U-RP, TS-EC1680U-RP, TS-EC2480U-RP
Rail Kit		RAIL-A01-35	A01 series (chassis) rail kit, max. load 35kg	TS-EC1279U-SAS-RP, TS-EC1679U-SAS-RP, SS-EC2479U-SAS-RP, SS-EC1879U-SAS-RP, TS-EC1279U-SAS-RP, TS-EC880U-RP, TS-EC1280U-RP, TS-EC1680U-RP
		RAIL-A02-90	A02 series (chassis) rail kit, max. load 90kg	TS-EC2480U-RP
LAN Card		LAN-1G2T-D	Dual-port 1 GbE network expansion card for tower model, desktop bracket	TS-EC880 Pro, TS-EC1080 Pro
		LAN-1G2T-U	Dual-port 1 GbE network expansion card for A01 series rack mount model, low-profile bracket	TS-EC1279U-SAS-RP, TS-EC1679U-SAS-RP, SS-EC1879U-SAS-RP, SS-EC1279U-SAS-RP, TS-EC880U-RP, TS-EC1280U-RP, TS-EC1680U-RP, TS-EC2480U-RP
mSATA Flash		FLASH-256GB-MSATA	128 GB mSATA flash module x 2	TS-EC880U-RP, TS-EC1280U-RP, TS-EC1680U-RP, TS-EC2480U-RP, TS-EC880 Pro, TS-EC1080 Pro
Cable		RAM-4GDR3EC-LD-1600	4GB DDR3 ECC RAM, 1600MHz, long-DIMM	TS-EC1279U-SAS-RP, TS-EC1679U-SAS-RP, SS-EC1279U-SAS-RP, SS-EC1879U-SAS-RP, SS-EC2479U-SAS-RP, TS-EC880U-RP, TS-EC1280U-RP, TS-EC1680U-RP, TS-EC2480U-RP, TS-EC880 Pro, TS-EC1080 Pro
		RAM-8GDR3EC-LD-1600	8GB DDR3 ECC RAM, 1600 MHz, long-DIMM	TS-EC1279U-SAS-RP, TS-EC1679U-SAS-RP, SS-EC2479U-SAS-RP, SS-EC1879U-SAS-RP, SS-EC1279U-SAS-RP, TS-EC880U-RP, TS-EC1280U-RP, TS-EC1680U-RP, TS-EC2480U-RP, TS-EC880 Pro, TS-EC1080 Pro
Cable		CAB-SAS10M-8088	MiniSAS external cable (SFF-8088 to SFF-8088), 1.0m	REXP-1000 Pro, REXP-1200U-RP, REXP-1600U-RP, SAS-6G2E-D, SAS-6G2E-U
		CAB-SAS05M-8088	MiniSAS external cable (SFF-8088 to SFF-8088), 0.5m	REXP-1000 Pro, REXP-1200U-RP, REXP-1600U-RP, SAS-6G2E-D, SAS-6G2E-U

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10GbE network adapter compatibility list

10GBASE-T interface

Brand		Model	Specification	Applied Models
QNAP		LAN-10G2T-D	Dual-port 10 GbE network expansion card for tower models, desktop bracket, cat6A cable	TS-EC880 Pro, TS-EC1080 Pro
		LAN-10G2T-U	Dual-port 10 GbE network expansion card for rack mount models, low-profile bracket, cat6A cable	TS-EC1279U-SAS-RP, TS-EC1679U-SAS-RP, SS-EC2479U-SAS-RP, SS-EC1879U-SAS-RP, SS-EC1279U-SAS-RP, TS-EC880U-RP, TS-EC1280U-RP, TS-EC1680U-RP, TS-EC2480U-RP
Emulex		Oce11102-NT	Dual port 10 Gigabit network adapter, 10GBASE-T, cat6 cable	TS-EC1279U-SAS-RP, TS-EC1679U-SAS-RP, SS-EC2479U-SAS-RP, SS-EC1879U-SAS-RP, SS-EC1279U-SAS-RP, TS-EC880U-RP, TS-EC1280U-RP, TS-EC1680U-RP, TS-EC2480U-RP, TS-EC880 Pro, TS-EC1080 Pro
Intel		X520-T2 (E10G42BT)*	Dual-port 10 Gigabit network adapter, cat6A cable	

SFP+ OPTIC interface

Brand		Model	Specification	Applied Models
Emulex		OCe11102-NM	Dual port 10 Gigabit network adapter , short range optical cable	TS-EC1279U-SAS-RP, TS-EC1679U-SAS-RP, SS-EC2479U-SAS-RP, SS-EC1879U-SAS-RP, SS-EC1279U-SAS-RP, TS-EC880U-RP, TS-EC1280U-RP, TS-EC1680U-RP, TS-EC2480U-RP, TS-EC880 Pro, TS-EC1080 Pro
		OCe11102-IM	Dual port 10 Gigabit network adapter, short range optical cable	
Intel		X520-SR2 (E10G42BFSR)*	Dual-port 10 Gigabit network adapter, short range optical cable	

SFP+ DAC (Direct Attach Copper) interface

Brand		Model	Specification	Applied Models
Emulex		OCe11102-NX	Dual port 10 Gigabit network adapter, SFP+ direct attach copper cable	TS-EC1279U-SAS-RP, TS-EC1679U-SAS-RP, SS-EC2479U-SAS-RP, SS-EC1879U-SAS-RP, SS-EC1279U-SAS-RP, TS-EC880U-RP, TS-EC1280U-RP, TS-EC1680U-RP, TS-EC2480U-RP, TS-EC880 Pro, TS-EC1080 Pro
		OCe11102-IX	Dual port 10 Gigabit network adapter, SFP+ direct attach copper cable	
Intel		X520-DA2 (E10G42BTD)*	Dual-port 10 Gigabit network adapter, SFP+ direct attach copper cable	

* A specific bracket is required on the TS-EC880 Pro, TS-EC1080 Pro models. For the information of network card installation, please refer the Turbo NAS Hardware Manual.

Software Specifications

Operating System

QTS

Supported Clients

- Windows XP, Vista, Windows 7 (32/64-bit), Windows 8 (32/64-bit), Windows Server 2003/2008 R2/2012
- 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: EXT3, EXT4
- External Hard Drive: EXT3, EXT4, NTFS, FAT32, HFS+

Networking

- TCP/IP (IPv4 & IPv6: Dual Stack)
- Dual Gigabit NICs with Jumbo Frame*
 - Failover
 - Multi-IP Settings
 - Port Trunking/NIC Teaming (Modes: Balance-RR, Active Backup, Balance XOR, Broadcast, IEEE 802.3ad/Link Aggregation, Balance-TLB and Balance-ALB)
- Optional Dual-port 10GbE and 1 GbE Network Expansion Cards*
- Service Binding Based on Network Interfaces*
- Proxy Client, Proxy Server
- DHCP Client, DHCP Server
- Protocols: CIFS/SMB, AFP (v3.3), NFS (v3), FTP, FTPS, SFTP, TFTP, HTTP(S), Telnet, SSH, iSCSI, SNMP, SMTP, and SMC
- UPnP & Bonjour Discovery
- USB Wi-Fi Adapter Support

Security

- IP Filter & Policy-based Automatic IP Blocking
- Network Access Protection with Auto-blocking: SSH, Telnet, HTTP(S), FTP, CIFS/SMB, AFP
- Encrypted Access: HTTPS, FTP with SSL/ TLS (Explicit), SSH/SFTP (admin only), Encrypted Remote Replication (Rsync over SSH)
- CIFS Host Access Control for Shared Folders
- Antivirus Protection
- FIPS 140-2 Validated AES 256-bit Volume-based Data Encryption**
- AES 256-bit External Drive Encryption*
- Importable SSL Certificate
- Instant Alert via E-mail, SMS, Beep, and LCD Panel*

Disk Management

- QNAP Flexible Volume with thin provisioning and space reclaim supported
- Supports Storage Pool
- Online Volume Expansion
- Online Storage Pool Expansion
- Online RAID Capacity Expansion and Online RAID Level Migration
- SMART Data Migration
- 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

Access Right Management

- Batch Users Creation
- Import/Export Users
- User Quota Management
- Local User Access Control for CIFS, AFP, FTP, and WebDAV
- Subfolder Permissions Support for CIFS/SMB, AFP, FTP and Web File Manager

Domain Authentication Integration

- Microsoft Active Directory (AD)
- LDAP Server
- LDAP Client
- Domain Users Login via CIFS/SMB, AFP, FTP, and File Station

Web Administration

- Multi-window, Multi-tasking based System Management
- Movable Icons and Personalized Desktop
- Smart Toolbar and Dashboard for Neat Display on System Status
- Smart Fan Control
- Dynamic DNS (DDNS)
- SNMP (v2 & v3)
- Resource Monitor
- Network Recycle Bin for File Deletion via CIFS/SMB and AFP
- Automatic Cleanup
- File Type Filter
- Comprehensive Logs (Events & Connection)
- Syslog Client
- Firmware Live Update
- System Settings Backup and Restore
- Restore to Factory Default
- Mobile App Qmanager for Remote Monitoring

File Server

- File Sharing across Windows, Mac, and Linux/UNIX
- Protocols: CIFS/SMB, AFP, NFS, FTP/FTPS, HTTP/HTTPS (Web File Manager), WebDAV
- Windows ACL
- Advanced Folder Permission for CIFS/SMB, AFP, FTP
- Shared Folder Aggregation (CIFS/SMB)

File Station

- Supports ISO Mounting (Up to 256 ISO Files)
- Creates and Sends Download Links for Sharing Public Files with Expiration Time and Password Protection
- Drag-n-drop Files via Chrome and Firefox Browsers
- Photo, Music, and Video Preview and Playback Empowered by Built-in Transcoding Technology
- File Compression (ZIP or 7z)
- Advanced Search
- Mobile App: Qfile for File Browsing and Management

FTP Server

- FTP over SSL/TLS (Explicit)
- Concurrent Connections: Max 256
- Passive FTP Port Range Control
- FTP Bandwidth & Connection Control
- Supports FXP & Unicode

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
- Encryption, Compression, File Filter, and Transfer Rate Limitation
- Encrypted Replication between QNAP NAS Servers

- Desktop Backup by QNAP NetBak Replicator for Windows
- Apple Time Machine Support with Backup Management
- 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, LaCie SilverKeeper, etc.

iSCSI (IP SAN)

- iSCSI Target
- Multi-LUNs per Target
- Up to 256 Targets/LUNs
- Supports LUN Mapping & Masking
- Block-based LUN
- Thin-provisioned LUN with Space Reclaim Supported
- Online LUN Capacity Expansion
- Supports SPC-3 Persistent Reservation
- Supports MPIO & MC/S
- iSCSI LUN Backup, One-time Snapshot, and Restore
- iSCSI Connection and Management by QNAP Finder (Windows)
- Virtual Disk Drive (via iSCSI Initiator)
- Stack Chaining Master
- Max No. of Virtual Disk Drives: 8

Server Virtualization & Clustering

- VMware vSphere (ESX/ESXi 4.x, 5.x)
- VMware VAAI for iSCSI and VAAI for NAS
- vSphere Plug-in
- Citrix XenServer (6.0)
- Windows Server 2012 Hyper-V
- Supports Microsoft ODX
- QNAP SMI-S Provider for Microsoft SCVMM
- Windows Server 2012 Failover Clustering

Storage Plug & Connect via Windows Qfinder by QNAP

- Create and Map Shared Folders
- Create and Connect to iSCSI Target/LUN

Web Server

- HTTP/HTTPS Connections
- Built-in MySQL Server
- Web-based Management via phpMyAdmin (QPKG)
- Virtual Hosts: Max 32

Database Server

- Built-in MySQL Server
- Web-based Management via phpMyAdmin

Print Server

- Max No. of Printers: 3
- Supports Internet Printing Protocol
- Print Job Display and Management
- IP-based and Domain Name-based Privilege Control
- Supports Apple Bonjour Printing

Syslog Server

- Centralized Log Monitoring and Archiving
- Immediate Email Alerts
- Supports Log Filtering

RADIUS Server

- Centralized Account Management and Authentication for Network Access
- Supports 802.1x Security Authentication
- TFTP Server with PXE Booting (Read-only)

VPN Server

- Secure Remote Access: PPTP & OpenVPN VPN services
- Remote Access to Other Resources on Local Network
- Max No. of Clients: 30

Antivirus

- Protection against Viruses, Trojans, and Other Threats
- Free Virus Databases Update on Manual or Scheduled Basis
- Multiple Scan Tasks (Max: 64, Concurrent: 5) with Custom Folder Selection and Scheduled Scanning
- Email Notification upon Task Completion or Virus Detection
- Quarantines or Deletes Infected Files

Surveillance Station Pro

- Supports over 2,900 IP Cameras
- Includes 4 Free Camera License
- Up to 72 Camera Channels via Additional License Purchase*
- Intelligent Video Analytics (IVA) for Advanced Video Search
- Visual Aid by E-map
- Surveillance Client for Mac
- Mobile App: VMobile (iOS and Android)

myQNAPcloud Service

- Private Cloud Storage and Sharing
- Free Host Name Registration (DDNS)
- Auto Router Configuration (via UPnP)
- CloudLink for Remote Access without Complicated Router Setup
- myQNAPcloud Connect for Easy VPN Connection (Windows VPN Utility)

Qsync

- Syncs Files among Multiple Devices through the NAS
- Option for Not Removing Files on the NAS during Synchronization
- Selective Synchronization
- Shares Securely with SSL
- Team Folder
- Shares Files by Links via E-mail
- Uploads Photos or Videos to Qsync Folder Automatically via Qfile
- Restores Files from Network Recycle Bin
- File Name Conflict Policy
- Option for Filter Settings
- Privilege Control for Qsync Users
- Supports Windows & Mac OS

APP Center

- Add New Features by Online Installation of over 90 Official and Community Software Add-ons
- (The actual available software add-ons may vary depending on the NAS platform)

* This feature may vary according to different models.

** The data encryption functions "may not be available in accordance with the legislative restrictions of some countries.

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