A Turbo vNAS exclusively designed for audio and video professionals with super-high-speed Thunderbolt™ 2 connectivity

# TVS-871T
## Thunderbolt™ 2 vNAS

Integrated with DAS, NAS, and iSCSI SAN

**QNAP**

**4K2K UHD**
**Q vPC**
Technology

Use your Turbo vNAS as a PC

**Dual Intel-based 10GbE Ports**

Use your Turbo vNAS as a PC

**Lightning Performance** ™

**4K ULTRA HD**

**2** **Dual Network Technologies**

Thunderbolt™ 2 / Ethernet network

**3** **Mode Consolidated Storage System**

DAS / NAS / iSCSI SAN

**4** **Use Cases**

Highly expandable (vNAS+JBOD+JBOD)
Highly applicable (Mac+vNAS+JBOD)
High-speed sharing (Mac*2+vNAS)
Flexible traffic distribution (Mac+vNAS+vNAS+Mac)

**THUNDERBOLT**™

10GbE Build-in | intel inside CORE i7 | intel inside CORE i5 | Windows Server 2012 Certified | CITRIX ready™ | vmware READY | dlna
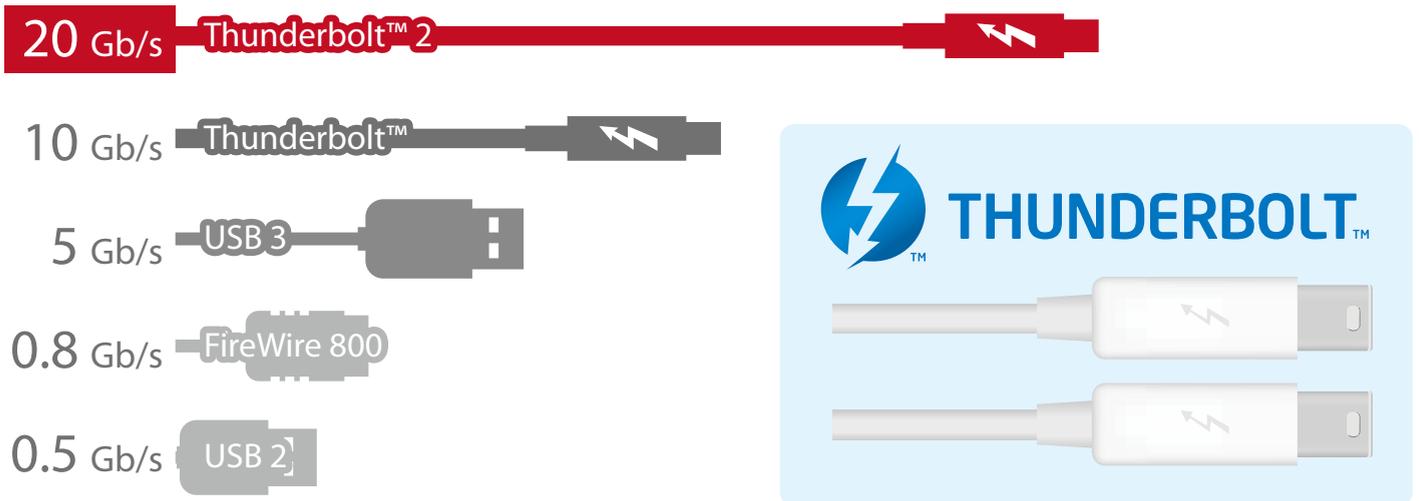
- The world's first Turbo vNAS with 20 Gb/s Thunderbolt™ 2 connectivity and Intel-based two-port 10GbE NIC for ultra-high speed data transfer
- The industry's first comprehensive consolidated storage solution with DAS, NAS, and iSCSI SAN
- Based on tiered storage architecture with SSD cache acceleration
- 4 available combinations of the TVS-871T and your Mac / Windows PC cover all use case scenarios
- Supports transcoding and playing back 4K videos offering the best storage for entertainment post-production workflows
- Scale-up storage with QNAP Thunderbolt™ 2 TX-500P / TX-800P expansion units, daisy chaining up to 6 units for a total of 448 TB raw capacity

TVS-871T-i7-16G    TVS-871T-i5-16G    TX-800P    TX-500P

## ■ Thunderbolt™ 2 Revolution

Thunderbolt™ 2 is the latest high-bandwidth connection technology from Intel. With an amazing 20Gbps transmission rate, Thunderbolt™ 2 delivers more than twice the data transfer bandwidth of the first generation Thunderbolt™ and is four times faster than USB 3.

### High-performance I/O throughput

**20** Gb/s — Thunderbolt™ 2

**10** Gb/s — Thunderbolt™

**5** Gb/s — USB 3

**0.8** Gb/s — FireWire 800

**0.5** Gb/s — USB 2

THUNDERBOLT™

## ■ Thunderbolt™ 2 Expansion Enclosure

The QNAP TX-500P/TX-800P expansion enclosures are cost effective expansion alternatives designed to augment your existing general storage with minimal setup required. By connecting an expansion enclosure, the TX-500P/TX-800P offer hassle-free storage expansion suitable for home/small office use. The TVS-871T can connect up to six TX-800P and TX-500P providing up to 448 TB raw capacity. The Thunderbolt 2 expansion enclosure is ideal for data backup, digital media collection, and video surveillance archives.
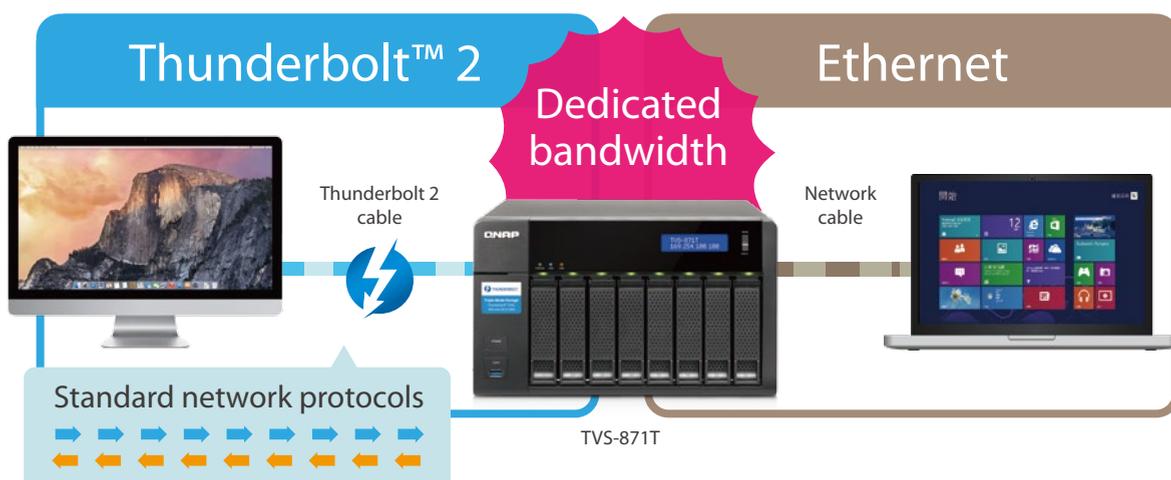
## ■ QNAP Thunderbolt™ 2 Solutions
## The World's first Thunderbolt™ 2 vNAS

The QNAP TVS-871T is the world's first Thunderbolt™ 2 vNAS and offers a comprehensive DAS/NAS/iSCSI SAN multi-mode storage solution in a diminutive form factor. The TVS-871T not only features Thunderbolt™ 2 technology but also has dual 10GbE ports built-in giving you incredible flexibility to deliver incredible performance. The TVS-871T is a perfect match for Thunderbolt-equipped Mac users and Windows PC users with very demanding 4K workflows, file storage, and backup needs.

## ■ Why QNAP Thunderbolt™ 2 Solutions?

## 2 Network Technologies

The Thunderbolt™ 2 protocol uses Industry Standard networking technologies meaning the high-speed transmission over your Thunderbolt™ 2 cable is able to run all network services (such as file sharing, FTP and other services). The TVS-871T can also simultaneously run general Ethernet services in addition to the Thunderbolt™ 2 network, completely independently and with no bandwidth interference.

Thunderbolt™ 2     Ethernet

Dedicated bandwidth

Thunderbolt 2 cable

Network cable

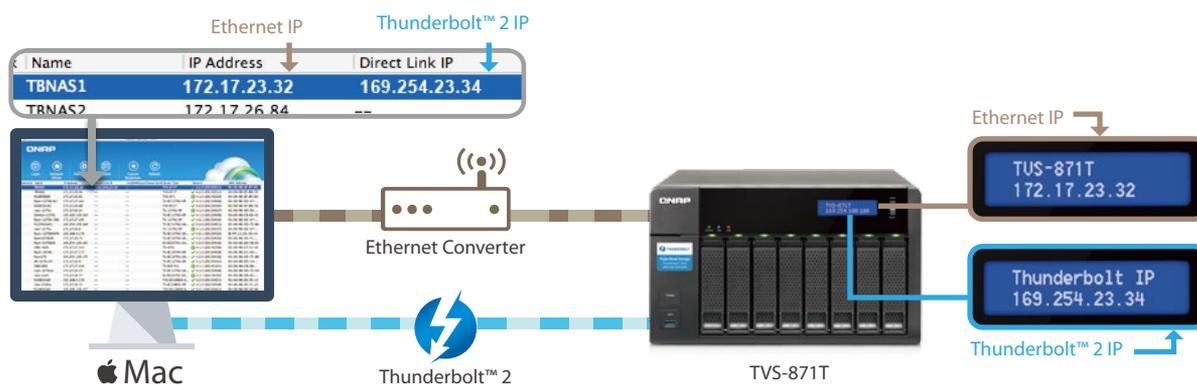Standard network protocols

TVS-871T

# 3 Storage technologies

## ❶ Direct-attached storage (DAS)

Plug & Play without IP settings
Direct-attached NAS to PC or Mac
Super-high speed access to your
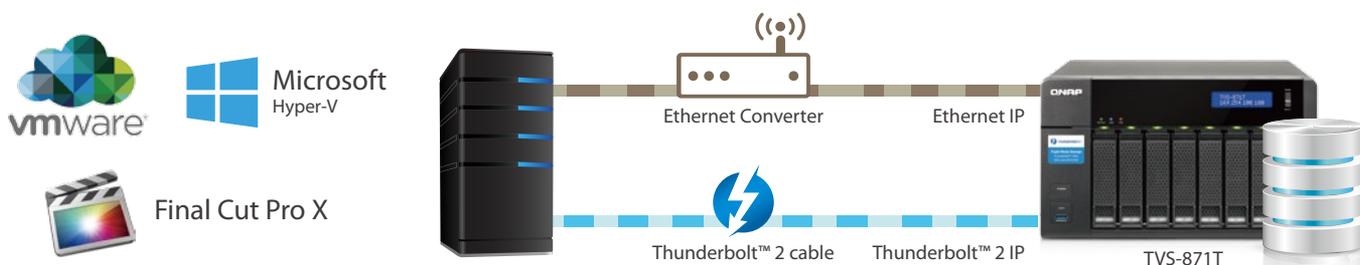shared folders with Thunderbolt 2
connectivity

**Shared!**

Shared
TBNAS1(AFP)
TBNAS2(SMB)(Thunderbolt)
All...

Tags
Red

Mac Finder          Thunderbolt™ 2 cable          TVS-871T

## ❷ Network-attached storage (vNAS)

Enjoy cross-platform access for high-speed backup and Ultra HD entertainment storage.

Ethernet IP          Thunderbolt™ 2 IP

| Name | IP Address | Direct Link IP |
|------|-----------|----------------|
| TBNAS1 | 172.17.23.32 | 169.254.23.34 |
| TBNAS2 | 172.17.26.84 | -- |

Ethernet IP

TVS-871T
172.17.23.32

Mac          Thunderbolt™ 2          Ethernet Converter          TVS-871T

Thunderbolt IP
169.254.23.34

Thunderbolt™ 2 IP

## ❸ iSCSI SAN

Native support for iSCSI-SAN connections for building high-speed storage networks

vmware          Microsoft Hyper-V

Final Cut Pro X

Ethernet Converter          Ethernet IP

Thunderbolt™ 2 cable          Thunderbolt™ 2 IP          TVS-871T

## Why QNAP Thunderbolt™ 2 vNAS?

Use the Thunderbolt™ 2 cable to connect your MacBook Pro, MacBook Air, iMac Retina 5K, or your Thunderbolt Display directly to your vNAS

| | | **TVS-871T** WIN | Other Thunderbolt™ JBOD |
|---|---|---|---|
| DAS | Access data with a directly attached Thunderbolt™ cable | File-based DAS | Block-based DAS |
| | 2 Macs or PCs can connect to a NAS and share data | **Yes** | No |
| | Mac/Windows/Linux Cross platform sharing | **Yes** | No |
| NAS | Real time collaboration | **Yes** | No |
| | Mac/Windows/Linux Cross platform sharing | **Yes** | No |
| | Web, database, LDAP, VPN | **Yes** | No |
| | Multimedia services | **Yes** | No |
| iSCSI SAN | High speed block-based remote storage | **Yes** | No |

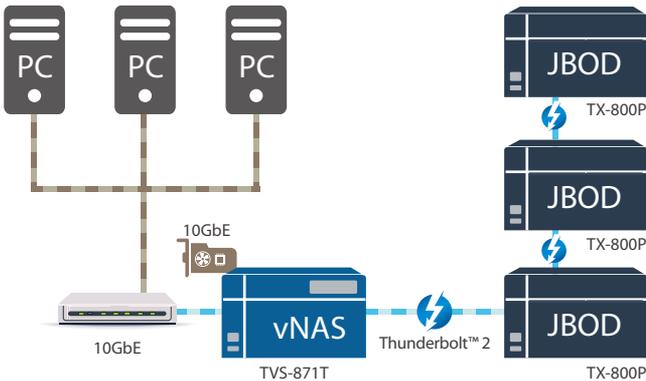# 4 Key application scenarios

## ❶ Highly expandable (vNAS+JBOD+JBOD)

**Application scenario:**

Sharing massive volumes of data via Ethernet in an enterprise network environment

**Advantages:**

· High bandwidth 10GbE networking
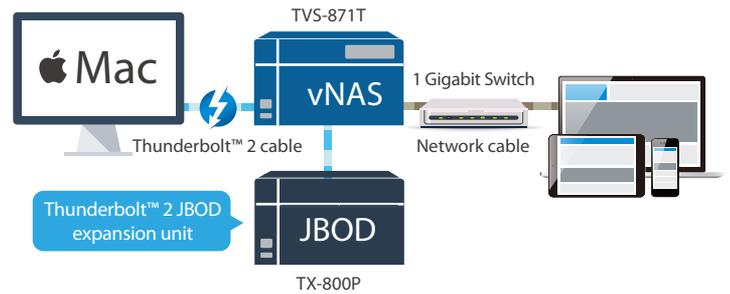· Huge capacity Thunderbolt 2 JBOD expansion



## ❷ Highly applicable (Mac+vNAS+JBOD)

**Application scenario:**

Sharing files among Mac, PC and mobile devices

**Advantages:**

· The best price-performance ratio of all high-speed storage solutions for Mac users
· Super-fast transmission, cross-platform file sharing
· Enormous expansion capability with Thunderbolt 2 JBOD



## ❸ High-speed sharing (Mac*2+vNAS)

**Application scenario:**

Two Macs or PC video editing collaboration

**Advantages:**

· High-speed transmission between Two Macs or PCs and a Turbo vNAS

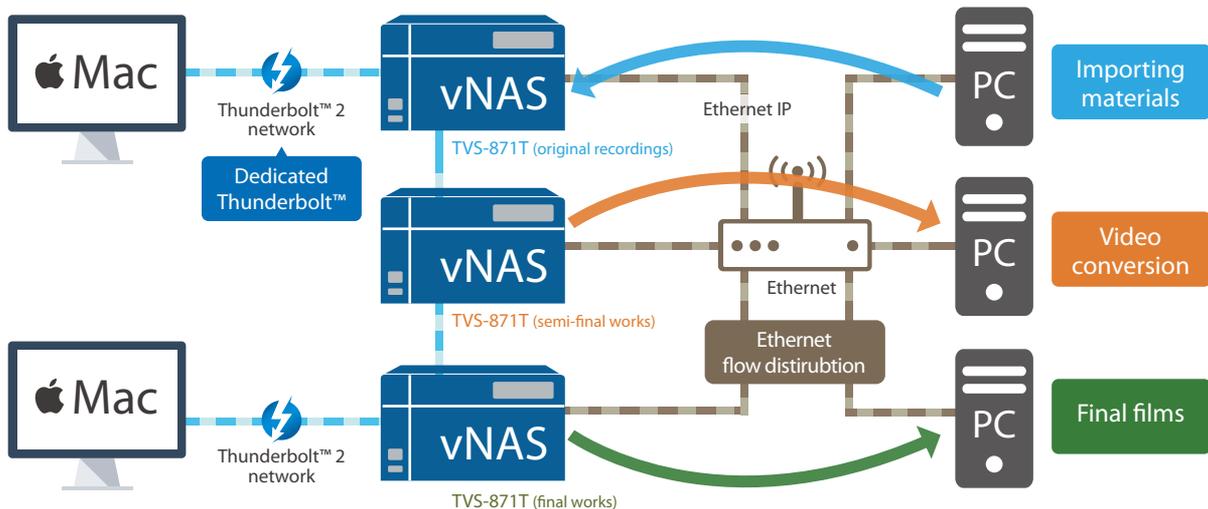\* Supports all major video editing software including Final Cut Pro X, Adobe Premiere Pro, PowerDirector, etc.



## ❹ Flexible traffic distribution (Mac+vNAS+vNAS+Mac)

**Application scenario:**

Large-scale collaboration in post-production video editing

**Advantages:**

· High-speed and dedicated network bandwidth between two Macs and a vNAS
· TVS-871T flexible expansion capability (up to six TVS-871T)

# Software Specifications

## Operating System
- QTS 4.1.4 (embedded Linux)

## 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
- Google Chrome
- Microsoft Internet Explorer 10+
- Mozilla Firefox 8+
- Apple Safari

## 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: EXT4
- External Hard Drive: EXT3, EXT4, NTFS, FAT32, HFS+

## Networking
- TCP/IP (IPv4 & IPv6: Dual Stack)
- Quad Gigabit NICs with jumbo frame (failover, multi-IP settings, port trunking/NIC teaming)
- Service binding based on network interfaces
- Proxy server (Squid available in App Center)
- Proxy client
- DHCP client, DHCP server
- Protocols: CIFS/SMB, AFP (v3.3), NFS(v3), FTP, FTPS, SFTP, TFTP, HTTP(S), Telnet, SSH, iSCSI, SNMP, SMTP, and SMSC
- UPnP & Bonjour Discovery
- USB Wi-Fi Adapter Support

## Security
- Network access protection with auto-blocking: SSH, Telnet, HTTP(S), FTP, CIFS/SMB, AFP
- CIFS host access control for shared folders
- FIPS 140-2 validated AES 256-bit volume-based data encryption*
- AES 256-bit external drive encryption*
- Importable SSL certificates
- Instant alert via eE-mail, SMS, beep, and LCD panel
- * SomeThe data encryption functions may not available in accordance with the legislative restrictions of some countries.

## Storage Management
- QNAP flexible Volume/LUN with thin provisioning and space reclaim
- RAID 0,1, 5, 6, 10, + hot spare
- Supports storage pool
- Online volume expansion
- Online storage pool expansion
- Online RAID capacity expansion and online RAID level migration
- SMART data migration
- Storage expansion via QNAP TX-800P and TX-500P expansion unit
- 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
- System sleep mode (S3)

## Access Right Management
- Batch users creation
- Import/export users
- User quota management
- Local user access control for CIFS, AFP, FTP, and WebDAV
- Application access control for Photo Station, Music Station, Video Station, and Multimedia Station
- Subfolder permissions support for CIFS/SMB, AFP, FTP, and File Station

## myQNAPcloud Service
- Private cloud storage and sharing with myQNAPcloud id (QID)
- Free host name registration (DDNS)
- Auto router (via UPnP) configuration
- Web-based file manager with HTTPS 2048-bit encryption
- Cloudlink for remote access without complicated router setup
- myQNAPcloud connect for easy VPN connection (Windows VPN utility)

## Qsync
- Syncs files among multiple devices with SSL support
- Selective synchronization for syncing specific folders only
- Share team folder as a file center for team collaboration (Maximum sync tasks: 32)
- Shares files by links via emaile-mail
- Policy settings for conflicted files and file type filter support
- Version control: up to 64 versions.
- Incremental synchronization for HDD space saving
- Supports Windows & Mac OS

## Web Administration
- Multi-window, multi-tasking based system management
- Movable Icons and personalized desktop
- Smart toolbar and dashboard for neat system status display on system status
- Smart fan Control
- Dynamic DNS (DDNS)
- SNMP (v2 & v3)
- Resource monitor
- Network recycle bin for file deletion via CIFS/SMB, AFP, and File Station
  - Automatic Cleanup
  - File Type Filter
- Comprehensive logs (events & connection)
- Syslog client/server
- System settings backup and restore
- Restore to factory default
- Mobile app: Qmanager for remote system monitoring & management

## File Server
- File Sharing across Windows, Mac, and Linux/UNIX
- Windows ACL
- Advanced folder permission for CIFS/SMB, AFP, FTP
- Shared folder aggregation (CIFS/SMB)

## FTP Server
- FTP over SSL/TLS (Explicit)
- FXP support
- Passive ftp port range control

## File Station
- Supports ISO Mounting (Up to 256 ISO Files)
- Supports thumbnail display of multimedia files
- Supportsed sharinge download links and upload links
- Drag-n-drop Files via Google Chrome and Mozilla Firefox Browsers
- Photo, music, and video preview and playback with hardware- accelerated transcoding
- File Compression (ZIP or 7z)
- Creation of and sending download links for sharing public files with expiration time and password protection
- Support for displaying subtitles display (*.SRT, UTF-8 format)
  - Video seeking support for video playback during on-the-fly transcoding
  - Support slideshow playback in media viewer
- Mobile App: Qfile for file browsing and management)

## 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 with QNAP NetBak Replicator for Windows
- Apple Time Machine backup support
- Data backup to multiple external storage devices
- Third party backup software support: Veeam backup & replication, Acronis True Image, Arcserve backup, EMC retrospect, Symantec Backup Exec, etc.

## Cloud Storage Backup
- Amazon S3
- Amazon Glacier
- WebDAV-based cloud storage
- Microsoft Azure
- Open Stack
- Google Drive
- Dropbox
- ElephantDrive
- Symform

## Print Server
- Max. number of printers: 3
- Support for Internet Printing Protocol
- Print job display and management
- IP-based and domain name-based privilege control

## Virtualization Station
- Support Virtual Machine (VM) creation to run an operating system such as Windows, Linux, Unix and Android
- Support importing VM from the other virtual platform, e.g. VirtualBox, VMware Workstation
- Support exporting VM with *.ovf, *.qvm formats
- VM clone
- VM snapshot
- HTML5-based shared remote console
- User-based permission setting
- Support USB device pass-through
- Support VM console display via HDMI

## HD (HybridDesk) Station 3.0
- Playbacks videos, music, photos on yout TV tv with XBMC xbmc via HDMI hdmi output
- Watch various online contents such as YouTtube, Flickr, Picasa, Shoutcast, and more, etc.
- Web browser (Chrome, Firefox)
- Supports USB U.S. keyboard and mouse
- Supports QNAP Qremote app and the official XBMC remote app
  - 4 new desktop themes
  - Supports user login permissions

## Signage Station
- Supports dynamic content includinges videos, images, music, and text messages
- Supports multi- users collaboration
- Supports searching via keywords,
- Supports sharing via email and social networks sharing
- Supports design software - iArtist Lite
- Supports account authority management
- Supports various web browsers for playback (Chrome, Firefox, IE, Safari)
- Supports most- viewed, latest- released and different categories content list

## iSCSI (IP SAN)
- iSCSI target with multi-LUNs per target (Up to 256 targets/LUNs combined)
- Support for LUN mapping & masking
- Online LUN capacity expansion
- Support for SPC-3 persistent reservation
- Support for MPIO & MC/S
- iSCSI LUN backup, one-time snapshot, and restoration
- iSCSI connection and management by QNAP Windows Qfinder
- Virtual disk drive (via iSCSI initiator)
- Stack chaining master
- Max No. of virtual disk drives: 8

## Server Virtualization & Clustering
- Server Virtualization & Clustering
- VMware vSphere (ESXi 5.x)
- VMware VAAI for iSCSI and VAAI for NAS
- vSphere Plug-in
- Citrix XenServer (6.2)
- Windows Server 2012 R2 Hyper-V
- Supports Microsoft ODX
- QNAP SMI-S provider for Microsoft SCVMM

## Surveillance Station
- Supports over 2,100 IP ip cameras
- Includes 4 free camera licenses, up to 72 camera channels via additional license purchase
- Instant playback to check the recent events
- Online editing to change edit cameras when in live view
- Visual aid by using e-maps
- Playback and speed control by shuttle bar
- Video preview using on playback timeline
- Intelligent Vvideo Aanalytics (IVAiva) for advanced video search
- Surveillance client for Mac
- Mobile surveillance app: Vvmobile (iOS and Android)

- Mobile recording app: Vvcam (iOS and Android)

## Notes Station
- Graphical web-based editor for taking notes
- Integrate with NAS file system: insert attachment or image from NAS file system
- Event calendar and to-do list
- Image editor: a easy way to highlight the focus in your image
- Support note publishing with a single link
- Support key word search
- Provide Chrome Extension: Notes Station Clipper
- Clip web page content to your note
- Mobile app: Qnotes

## VPN Server
- Secure remote access: PPTP & OpenVPN VPN services
- Max number of clients: 30

## VPN Client
- Supported VPN protocols: PPTP & OpenVPN services
- PPTP Authentication: PAP, CHAP, MS-CHAP, MS-CHAPv2
- PPTP Encryption: None, AES 40/128 bit, AES 256 bit
- OpenVPN Encryption: None, AES 40/128 bit, AES 256 bit
- Transmission package monitor
- OpenVPN port control
- OpenVPN link compression

## Domain Authentication Integration
- Microsoft Active Directory (AD)
- Domain controller
- LDAP server, LDAP client
- Domain users login via CIFS/SMB, AFP, FTP, and File Station

## AirPlay & Chromecast
- Streams videos, photos and music from the NAS to Apple TV via Qfile or QAirPlay&Chromecast's web-based controller
- Streams videos, photos and music from the NAS to TV with a Chromecast dongle via Qfile , Qvideo or QAirPlay&Chromecast's web-based controller

## App Center
- More than 100 official and community software add-ons (ex: Dropbox, Google Drive Sync, McAfee, WordPress, HappyGet II, etc.)
- Photo Station
- Music Station
- Video Station
- iTunes Server
- DLNA Server
- AirPlay: Streams videos, photos and music from NAS to Apple TV via Qfile or QAirPlay's web-based controller
- Digital TV Station
- Download Station
- HD Station + XBMC media player + Google Chrome

## Mobile Apps
- Qfile: iOS, Android, Windows Phone 8+
- Qfile HD: iPad version
- Qmanager: iOS, Android
- Qmusic:  iOS, Android
- Qremote:  iOS, Android
- Qget: Android
- Vmobile: iOS, iPad, Android

## PC Utilities
- Qfinder: Windows, Mac, Linux
- myQNAPcloud Connect: Windows
- Qsync: Windows, Mac
- NetBak Replicator: Windows
- QGet: Windows, Mac, Linux
- vSphere Client plug-in: Windows
- Qsnap: Windows

Design and specifications are subject to change without notice.

LED Indicators:
Status, USB, LAN

Hard Drive LEDs

Power Button
One Touch Copy Button
USB 3.0 Port

Power Connector
Thunderbolt Port x2
10 Gigabit LAN Port x 2
Password & Network
Settings Reset Button
Gigabit LAN Port x 4
USB 3.0 Port x 2
USB 2.0 Port x 2
HDMI
Kensington Security Slot

| | |
|---|---|
| CPU | TVS-871T-i5-16G: Quad-core Intel® Core™ i5-4590S 3.0GHz<br>TVS-871T-i7-16G: Quad-core Intel® Core™ i7-4790S 3.2GHz |
| floating point unit (FPU) | Yes |
| Advanced Encryption Standard New Instructions (AES-NI) | Yes |
| Memory | Memory 16 GB DDR3 RAM (8GB x2)<br>Total memory slots 2 SODIMM |
| Flash Memory | 512MB |
| Thunderbolt™ 2 Ports | Two Thunderbolt™ 2 high-speed ports |
| Internal Hard Drives | 8 x 3.5"or 2.5" SATA 6Gb/s, SATA 3Gb/s hard drive or SSD<br>1. The standard system is shipped without hard drives.<br>2. Please refer to www.qnap.com/compatibility for the HDD compatibility list. |
| LAN Ports | 2 x 10 Gigabit Ethernet port (10GBased-T)<br>4 x 1 Gigabit Ethernet port |
| LED Indicators | Status, USB, LAN, HDDs |
| USB Ports | USB 3.0: 3 (1 x front, 2 x back panel)<br>USB 2.0: 2 (2 x back panel) |
| Buttons | Power, USB One-touch-copy backup, Reset |
| Alarm Buzzer | System warning |
| Form Factor | Tower |
| Dimensions (HxWxD) | 185.2 (H) x 298.2 (W) x 235.4 (D) mm<br>7.29 (H) x 11.74 (W) x 9.27 (D) inch |
| Weight (Net/Gross) | 7.83 kg/ 8.9 kg |
| Power Consumption (W) | TVS-871T-i5-16G: In Operation: 82.06 /HDD Standby: 45.43<br>TVS-871T-i7-16G:  In Operation: 82.51 /HDD Standby: 45.37 |
| Temperature | 0 - 40˚C, 5~95% RH non-condensing, wet bulb: 27˚C |
| Power Supply | ATX<br>Input: 100-240V AC, 50/60Hz<br>Output: 350W |
| Fan | 2 x quiet cooling fans (12 cm, 12V DC) |

| Model | TX-500P | TX-800P |
|---|---|---|
| Form Factor | Tower | Tower |
| Thunderbolt™ 2 Ports | Two Thunderbolt™ 2 high-speed ports (daisy-chain up to 6) | |
| Hard Drives | 5 x 3.5"or 2.5" SATA 6Gb/s, SATA 3Gb/s hard drive or SSD<br>1. The standard system is shipped without hard drives.<br>2. Please refer to www.qnap.com/compatibility for the HDD compatibility list. | 8 x 3.5"or 2.5" SATA 6Gb/s, SATA 3Gb/s hard drive or SSD<br>1. The standard system is shipped without hard drives.<br>2. Please refer to www.qnap.com/compatibility for the HDD compatibility list. |
| LED Indicators | Status, Fan, Temperature, Thunderbolt ports | |
| Dimensions | 185.2 (H) x 210.6 (W) x 235.4 (D) mm<br>7.29 (H) x 8.29 (W) x 9.27 (D) inch | 185.2 (H) x 298.2 (W) x 235.4 (D) mm<br>7.29 (H) x 11.74 (W) x 9.27 (D) inch |
| Weight | Net: 5.1 kg (11.24 lbs)<br>Gross: 6.5 kg (14.33 lbs) | Net: 7.3 kg (16.08 lbs)<br>Gross: 8.6 kg (18.94 lbs) |
| Temperature | 5°C ~ 35°C (40°F ~ 95°F) | 5°C ~ 35°C (40°F ~ 95°F) |
| Power Supply | Input: 100-240V AC, 50/60Hz<br>Output: 250W | Input: 100-240V AC, 50/60Hz<br>Output: 250W |
| Fan | quiet cooling fan x 1 (12 cm, 12V DC) | quiet cooling fan x 2 (12 cm, 12V DC) |

## ■ Accessories

| Accessories | | Order P/N | Product Description |
|---|---|---|---|
| Cable | | CAB-TBT10M | 1.0m Thunderbolt™ 2 cable |
| | | CAB-TBT20M | 2.0m Thunderbolt™ 2 cable |

*TVS-871T, TX-500P, and TX-800P do not include Thunderbolt™ 2 cable in the product package.

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