**QNAP**

## Rackmount Thunderbolt™ 3 NAS
# TVS-1582TU

*High-speed, reliable multimedia editing storage*

○ Dual SFP + 10GbE port
○ 4 x Thunderbolt 3 ports

# Four built-in Thunderbolt™ 3 ports
# Compatible with Mac / Windows

**THUNDERBOLT**™
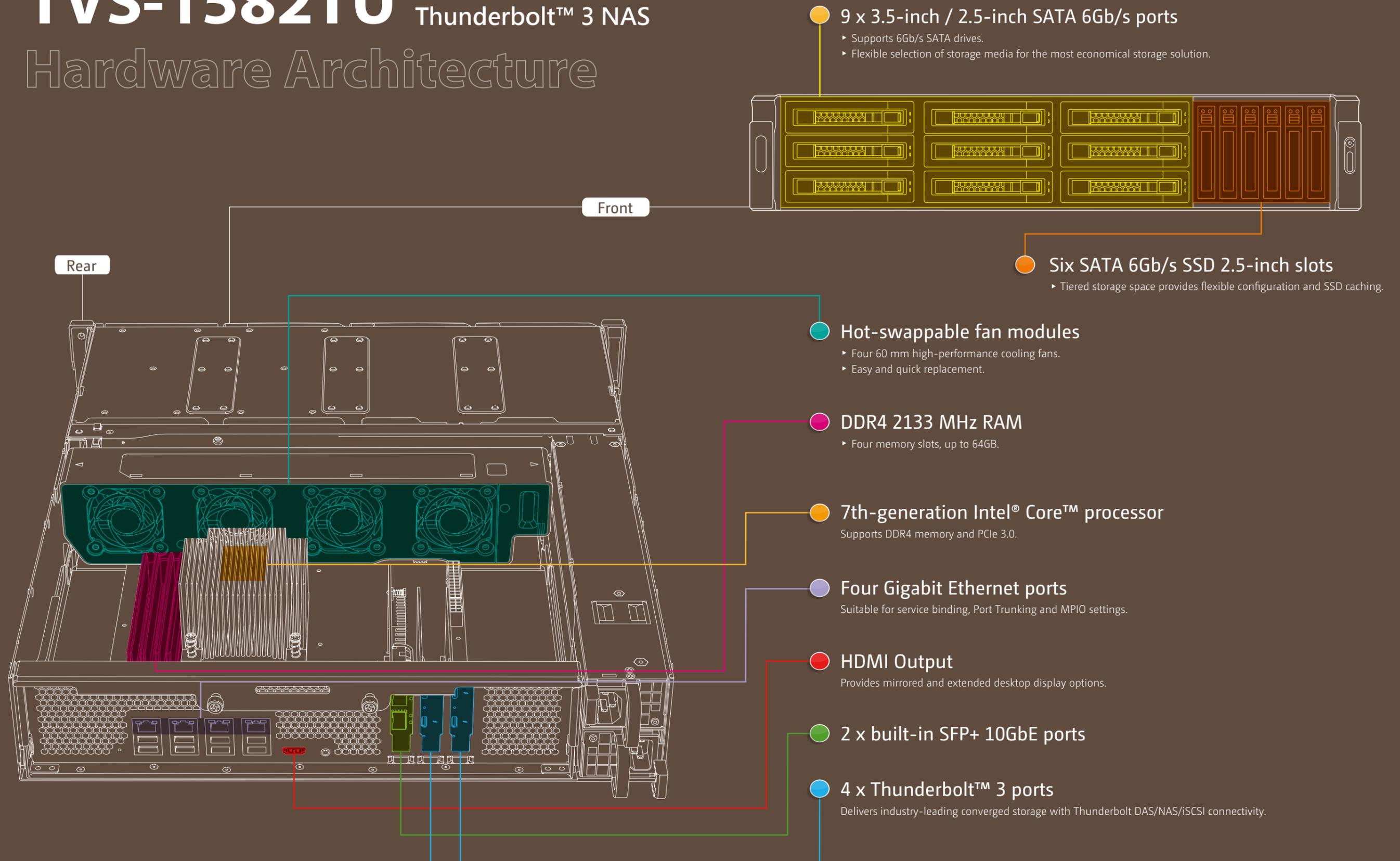
intel **CORE i7** 7th Gen
intel **CORE i5** 7th Gen

- Up to 64GB DDR4 2133MHz memory
- Built-in dual SFP + 10GbE network ports
- Innovative T2E converter to bridge Thunderbolt™ and Ethernet connections
- Provides a wide range of business applications and solutions
  - ‣ Qtier™ with SSD caching to optimize NAS performance
  - ‣ Snapshot and Snapshot synchronization replication to protect your data
  - ‣ Virtualization Station 3.0 and Container Station 1.6
    Virtualization application server
  - ‣ Q'center 1.4 centrally manages all NAS
  - ‣ Qsirch 2.3 simplifies and accelerates file searches
- Best NAS for cross-platform online multimedia editing

4K2K UHD **Q vPC** Technology

**DDR4 2133** Max 64GB RAM

HDMI OUT **UltraHD**

**40GbE** Ready

x 4 **Quad** GbE Ports

# TVS-1582TU
**Rackmount**
**Thunderbolt™ 3 NAS**

## Hardware Architecture

**9 x 3.5-inch / 2.5-inch SATA 6Gb/s ports**
‣ Supports 6Gb/s SATA drives.
‣ Flexible selection of storage media for the most economical storage solution.

Front

Rear

**Six SATA 6Gb/s SSD 2.5-inch slots**
‣ Tiered storage space provides flexible configuration and SSD caching.

**Hot-swappable fan modules**
‣ Four 60 mm high-performance cooling fans.
‣ Easy and quick replacement.

**DDR4 2133 MHz RAM**
‣ Four memory slots, up to 64GB.

**7th-generation Intel® Core™ processor**
Supports DDR4 memory and PCIe 3.0.

**Four Gigabit Ethernet ports**
Suitable for service binding, Port Trunking and MPIO settings.

**HDMI Output**
Provides mirrored and extended desktop display options.

**2 x built-in SFP+ 10GbE ports**

**4 x Thunderbolt™ 3 ports**
Delivers industry-leading converged storage with Thunderbolt DAS/NAS/iSCSI connectivity.

## Build a solid video editing environment

TV and film productions and outdoor broadcasting require on-location recording, and need their videos to be backed up immediately to prevent file loss. For live outdoor broadcasting of sporting events, concerts or seminars, the videos usually require on-site editing before sending to TV stations for broadcast. The rackmount TVS-1582TU fits in a standard 19-inch rack to function well on a moving vehicle or in an outdoor media editing environment. Coupled with its Thunderbolt™ 3, 10GbE network and USB 3.1 ports for high-speed data transfer and backup tasks, the TVS-1582TU provides an ideal storage center for these working environments.

## Revolutionary Thunderbolt™ technology to achieve peak performance

Thunderbolt™ is an advanced high-speed technology developed by Intel®. Thunderbolt 3 provides up to twice the bandwidth of previous Thunderbolt generations and four times that of USB 3.0.

### QNAP Thunderbolt™ storage solution, The world's first Thunderbolt™ vNAS with the fastest transfer rate

QNAP TVS-1582TU is a storage solution equipped with Thunderbolt™ technology. It has three modes (DAS / NAS / iSCSI SAN), and is presented in a compact design. TVS-1582TU provides four Thunderbolt 3 ports and can be connected to 4 Mac and Windows computers for collaboration at high speed. With its Thunderbolt ™ 3 technology and built-in dual 10 Gigabit Ethernet (10GbE), TVS-1582TU gives you the ultimate flexibility in storage applications. TVS-1582TU will undoubtedly be the best companion for Mac and Windows PC with Thunderbolt technology. It's more powerful than any current storage solution in either 4K audio and video post-production process or file storage and backup.

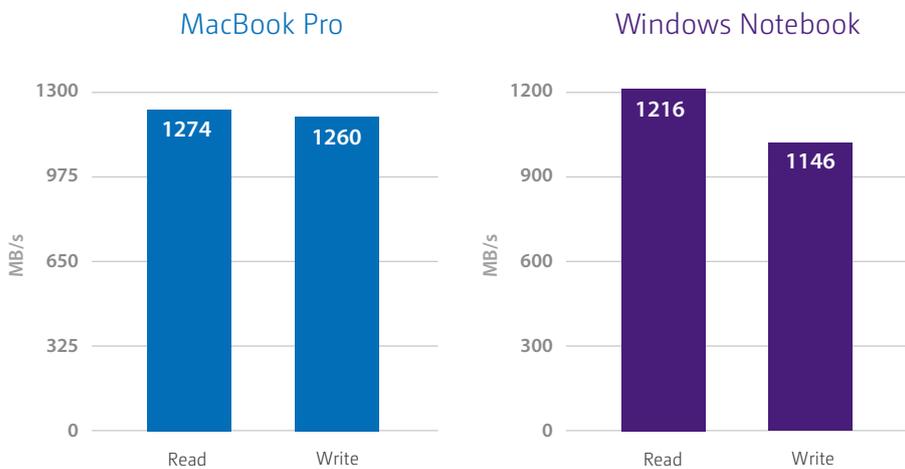| | |
|---|---|
| 40 Gb/s | Thunderbolt™ 3 |
| 20 Gb/s | Thunderbolt™ 2 |
| 10 Gb/s | USB 3.1 Gen 2 |
| 10 Gb/s | Thunderbolt™ |
| 5 Gb/s | USB 3.0 |
| 0.8 Gb/s | FireWire 800 |
| 0.5 Gb/s | USB 2 |

SFP+ 10GbE x2
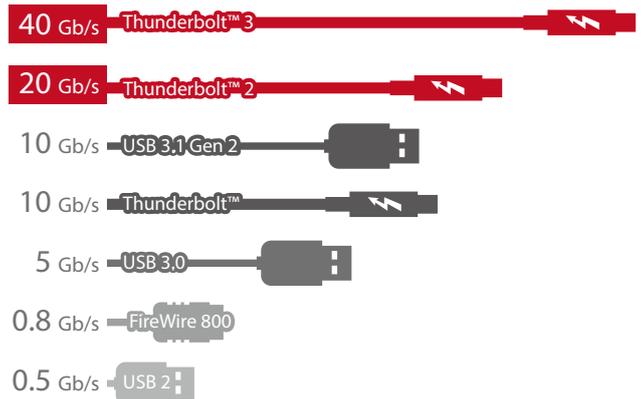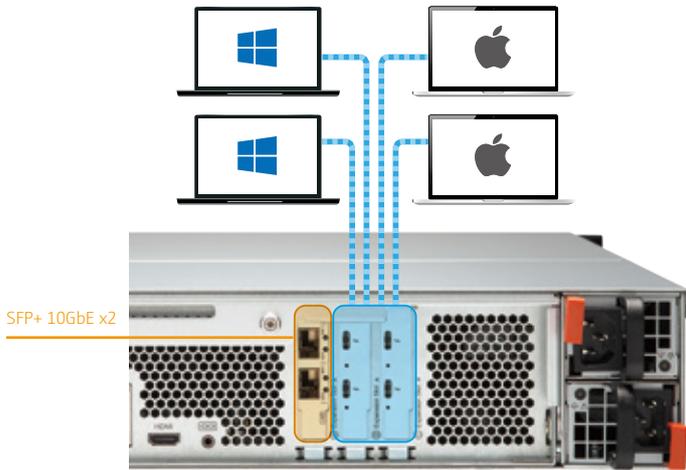
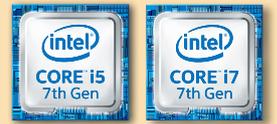## Four Thunderbolt™ 3 ports can connect to more devices

TVS-1582TU provides four Thunderbolt 3 ports and can be connected to multiple Mac and Windows computers. The two built-in SFP+ 10 Gigabit network ports boosts iSCSI/NFS/CIFS network transfer for virtualization applications, data backup/restoration and massive data transmission

## Intel 7th-generation processor and Thunderbolt™ 3 for superior performance

TVS-1582TU is equipped with a 7th-generation Intel® Core ™ i5 / Core ™ i7 processor and Thunderbolt ™ 3 connectivity. Thunderbolt can use your existing network sharing function to connect to Ethernet networks. Thunderbolt 3 also provides up to 1200MB/s of read speed.

### MacBook Pro

| | Read | Write |
|---|---|---|
| MB/s | 1274 | 1260 |

### Windows Notebook

| | Read | Write |
|---|---|---|
| MB/s | 1216 | 1146 |

**Supports up to 1200MB/s of data transfer speeds**

intel CORE i5 7th Gen
intel CORE i7 7th Gen

Tested in QNAP Labs. Performance may vary depending on usage environment.
✎ Test environment:
NAS: TVS-1582TU
Intel® Core™ i7-7700 3.60GHz CPU, 32GB RAM, Intel SSDSC2BB240G4 (SATA) x 15, RAID 5
Host: MacBook Pro
Intel® Core™ i7 2.9GHz CPU, macOS Sierra Version 10.12.3, 16GB 2133MHz LPDDR3
Host: MSI GS63VR 6RF Stealth Pro (Turbo mode)
Intel® Core™ i7-6700HQ 2.60GHz CPU, Windows 10 64-bit, 32GB RAM

# Special column

## New Thunderbolt™ 3

Thunderbolt 3 uses the universal USB Type-C cable for greater convenience. However, many USB Type-C cables support different protocols (USB 3.1, Thunderbolt) and performance levels (20 Gbps, 40 Gbps). Use a certified Thunderbolt™ 3 40Gbps cable (with the Thunderbolt icon and "3" on the connector) for the best performance.
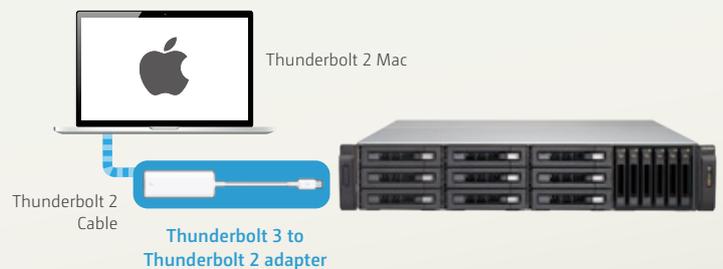
Thunderbolt logo

With the number "3"

✎ Where to buy:
Apple Store (Online): http://www.apple.com/shop/product/HKK22ZM/A/belkin-thunderbolt-3-cable-2-m?fnode=8b

## Thunderbolt 2 to Thunderbolt™ 3 adapter

Thunderbolt 2 devices can be connected to the TVS-1582TU by using an appropriate adapter.

Thunderbolt 2 Mac

Thunderbolt 2 Cable

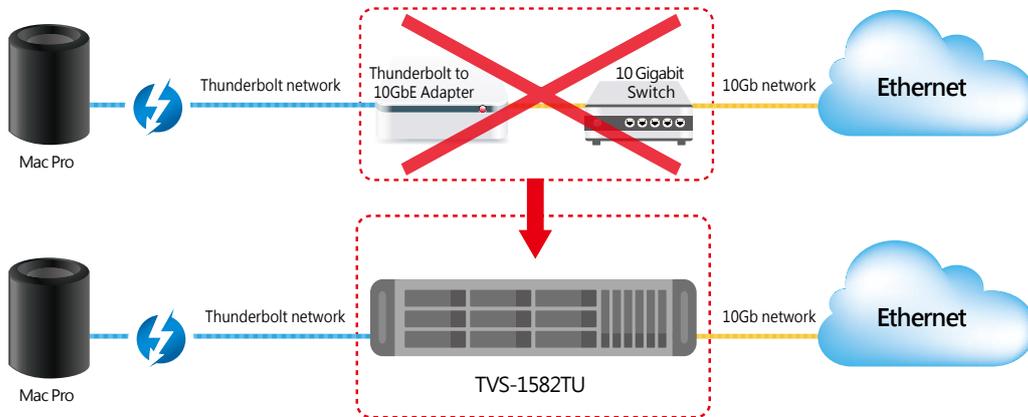**Thunderbolt 3 to Thunderbolt 2 adapter**

✎ Thunderbolt to Thunderbolt™ 3 adapter:
http://www.apple.com/shop/product/MMEL2AM/A/thunderbolt-3-usb-c-to-thunderbolt-2-adapter?fnode=8b

# Thunderbolt to Ethernet (T2E)

The innovative Thunderbolt-to-Ethernet (T2E) allows computers without Ethernet ports (such as MacBook Pro®) to access 10GbE network resources over a Thunderbolt™ connection to the TVS-1582TU. This saves users from having to buy adapters or converters and greatly streamlines the connectivity process.



Mac Pro — Thunderbolt network — Thunderbolt to 10GbE Adapter — 10 Gigabit Switch — 10Gb network — Ethernet

Mac Pro — Thunderbolt network — TVS-1582TU — 10Gb network — Ethernet

## 2 Dedicated Network shunting

Thunderbolt™ 3 uses industry-standard networking technology to perform network services (such as file sharing and FTP). The TVS-1582TU can also perform regular Ethernet service with Thunderbolt™ 3 networks, and be completely independent of both services without bandwidth interference.



Thunderbolt™ 3 | Ethernet

Dedicated Bandwidth

Thunderbolt 3 Cable — TVS-1582TU — Network cable

Standard Network Protocols
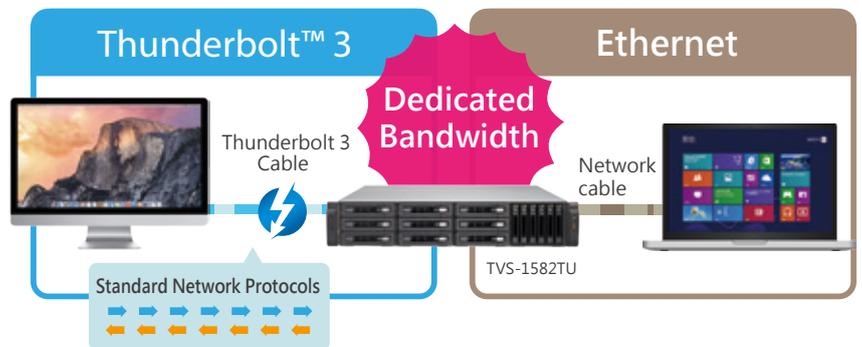
## 3 Multiple modes

### Direct connection (Thunderbolt NAS)

Plug and play, no need to set an IP address. Connect to Mac or Windows PC via Thunderbolt 3 for high-speed access to shared folders.
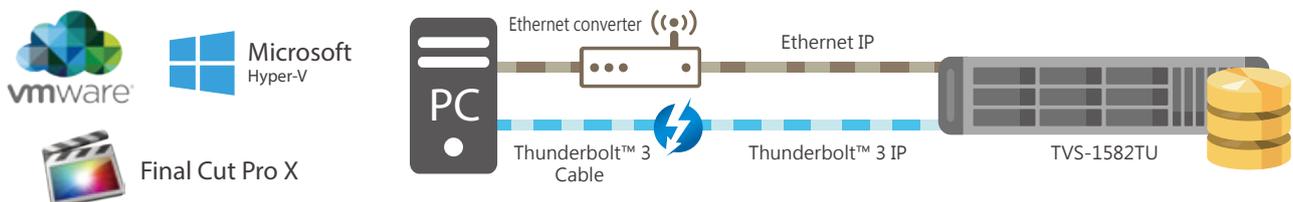


Shared
TBNAS1(AFP)
TBNAS2(SMB)(Thunderbolt)
All...
Tags
Red

Mac Finder — Thunderbolt™ 3 Cable — TVS-1582TU
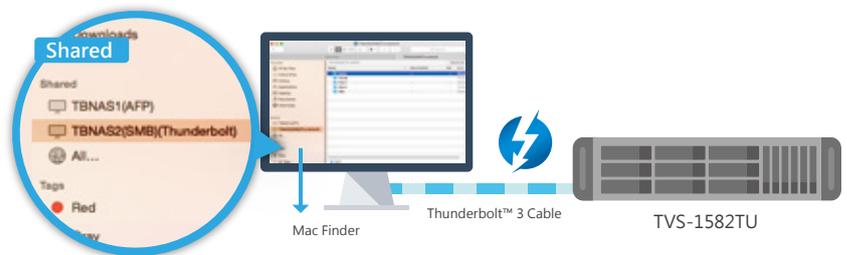
### Network-attached Storage (NAS)

Simultaneous cross-platform and high-speed access to stored data.



Thunderbolt™ 3 IP

Ethernet converter

Mac — Thunderbolt™ 3 — TVS-1582TU
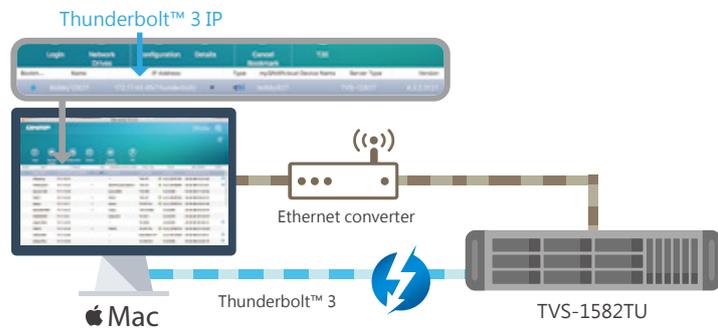
### iSCSI SAN

Native support for iSCSI-SAN connectivity to create high-speed storage networks.



vmware
Microsoft Hyper-V
Final Cut Pro X

PC — Ethernet converter — Ethernet IP
Thunderbolt™ 3 Cable — Thunderbolt™ 3 IP — TVS-1582TU

## High-speed video editing workstation

The TVS-1582TU is the world's premier Thunderbolt™ 3 NAS designed for media and entertainment professionals to meet the large data needs of digital workflows. Whether it is video capture or post-production, time and cost can be significantly reduced thanks to its high performance and broad compatibility. The TVS-1582TU is very powerful and steadily transfers real-time non-linear video clips, allowing editing multi-track videos with minimal latency. Up to four Thunderbolt™ devices can be connected to the TVS-1582TU for simultaneous editing. In addition, the TVS-1582TU can directly play media files over HDMI to a 4K display. The TVS-1582TU provides 40Gbps (bi-directional data and video transmission) bandwidth and can daisy-chain multiple devices. It has very-low latency, so it is the best choice for professional media creators.
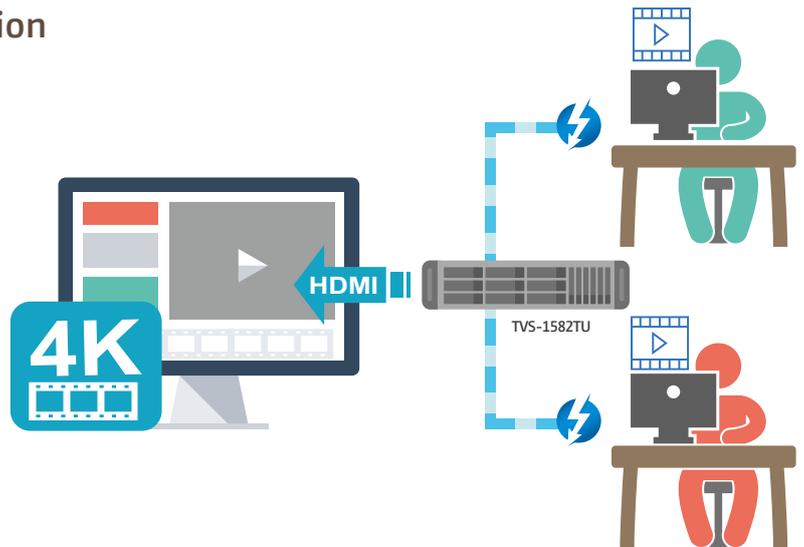


## Final Cut Pro X

The Mac version of Qfinder Pro allows you to easily import videos from a TVS-1582TU to Mac workstations for instant editing of 4K media. Qfinder Pro is easy to use and guides users through mounting shared folders using NFS.

Users can also set up iSCSI LUN targets in the TVS-1582TU and mount Mac storage targets. You must install an iSCSI initiator (ATTO Xtend SAN iSCSI initiator or SNS globalSAN® iSCSI initiator) to connect to an iSCSI target.



## Adobe Premiere Pro

Premiere Pro is industry-standard professional video editing software, with both Windows and Mac versions. Its powerful advanced video production tools provide transcoding, effects editing, audio and color correction and other functions. Videos can be edited via SMB or NFS, and real-time 4K videos stored on the TVS-1582TU can be edited in real time.

# Hardware Specifications

| NAS Model | TVS-1582TU | |
|---|---|---|
| Ordering SKU | TVS-1582TU-i5-16G | TVS-1582TU-i7-32G |
| CPU | Intel® Core™ i5-7500 3.4 GHz quad-core processor | Intel® Core™ i7-7700 3.6 GHz quad-core processor |
| Memory | Total memory slots: 4<br>Memory expandable up to: 64 GB (16 GB x4) | |
| | System Memory: 16 GB DDR4 RAM<br>Preloaded memory modules: 8 GB x2 | System Memory: 32 GB DDR4 RAM<br>Preloaded memory modules: 8 GB x4 |
| Flash memory | 512MB DOM | |
| Drive trays | 6 x 2.5-inch SSD-only slots<br>9 x 2.5-inch/3.5-inch HDD or SSD slots | |
| Drive types | SATA 6Gb/s or 3Gb/s HDDs. Supports hot swapping. | |
| Thunderbolt ports | 4 x Thunderbolt ™ 3 ports | |
| USB | 4 x USB 2.0 port (Rear)<br>4 x USB 3.0 port (Rear) | |
| LAN ports | 2 x SFP + 10GbE ports<br>4 x 1GbE ports | |
| HDMI output | 1 (HDMI 1.4b x1) | |
| LED Indicators | System status, 2.5-inch and 3.5-inch drives | |
| Button | System: power button, system reset button | |
| System warning | Buzzer | |
| Form Factor | 2U rackmount | |
| Dimensions (Height x Width x Depth) | 88 x 442.5 x 530.5 mm<br>3.46 x 17.42 x 20.89 inch | |
| Weight | Net weight (NAS only) : 14.18 kg / 31.26 lb<br>Gross weight (including package and accessories): 21.41 kg / 47.20 lb | |
| Sound Level (dB) | Sound pressure (LpAm) (bystander position): 53.9 dB<br>(Including 9 Seagate ST2000VN000-1HJ164 hard drive and 6 Seagate ST500LT012 SSD) | |
| Temperature | 0-40˚C | |
| Relative Humidity | 5 to 95% non-condensing, wet bulb temperature: 27˚C | |
| Power | Redundant power : input 90 to 264VAC: 450W x 2 | |
| PCIe expansion slot | 3 (1 * PCIe Gen3 x8; 2 * PCIe Gen3 x4)<br>Note: Three PCIe slots have been installed with two Thunderbolt™ 3 cards and one 10GbE network card | |
| Fan | 4 x 60 mm Silent fans | |

★ Model specifications are subject to change without notice. Please refer to www.qnap.com for the latest information.

# QNAP SYSTEMS, INC.