



TS-432X / TS-632X

AnnapurnaLabs AL524 4-core 2.0GHz CPU with built-in 4GB memory, 10GbE SFP+ and 2.5GbE RJ45 ports



TS-432X



TS-632X



Rising Demand for 10GbE Network Speeds

The demand for 10 Gigabit Ethernet (10GbE) network speeds is experiencing significant growth. According to research institute, 10G Network Card Market Size was valued at US\$ 95 Billion in 2023, and is projected to reach US\$ 180.01 Billion by 2031, growing at a CAGR of 9.56% from 2024 to 2031. *

■ Data Growth Explosion

Modern applications require substantial data storage and faster access speeds, driving the need for higher bandwidth.

■ Evolving Business Needs

Businesses require faster and more reliable network connections to support mission-critical applications and improve overall operational efficiency.

■ Price Reduction

The cost of 10GbE equipment has decreased significantly, making it a more affordable option for businesses compared to earlier high-speed technologies.



*<https://www.linkedin.com/pulse/10g-network-card-market-share-2031-statistics-zvcif/>

Quad-core TS-432X / TS-632X tower NAS with 10GbE SFP+ support

- Needs for a larger storage space and efficient file backup and sharing
- Ready-to-use applications for worry-free file backup and sharing
- All models with 2.5GbE support, additional 10GbE SFP+



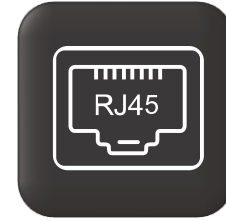
Powered by AnnapurnaLabs AL-524 quad-core 2.0GHz 4/6-bay NAS

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Core

AnnapurnaLabs 4-core CPU

AnnapurnaLabs AL-524 quad-core 2.0GHz processor Provide powerful NAS performance



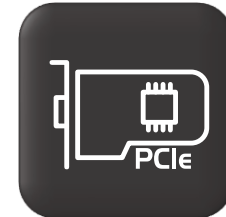
2 x 2.5GbE LAN Ports

Sufficient 2.5 GbE network bandwidth provides smooth data transmission experience

10GbE
SFP+

Built-in 10GbE SFP+

TS-432X built with a 10GbE SFP+ / TS-632X built with dual 10GbE SFP+ to provide high speed network environment



1 x PCIe Gen3 x4 slot

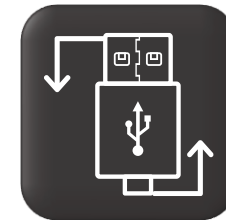
Provide a variety of expansions including network card, M.2 and other expansion cards

16 GB



Maximum 16 GB Memory

Pre-installed 4 GB Non-ECC memory, 1 x DDR4 SODIMM slot can be upgraded, ECC supported



USB One-Touch-Copy button

Provides USB One-Touch-Copy button, allowing you to easily copy files in the USB folder to the NAS

64-bit quad-core 2.0 GHz processor crafted for storage solution

■ Integrated I/O

Annapurna Labs SoC integrates 10GbE, SATA 6Gbps, PCIe lanes in a small 27 x 27 mm BGA form

■ AARCH64 architecture

ARM Cortex-A57 Quad-core 2.0GHz AL-524 CPU with 64-bit instructions for high performance and energy saving

■ 10GbE & 2.5GbE

Single 10GbE(TS-432X)/ Dual 10GbE(TS-632X) SFP+ and 2 x 2.5GbE RJ45 to provide high-speed network environment

■ Cryptography

Operates with SIMD registers for multiple encryption/decryption instructions per cycle



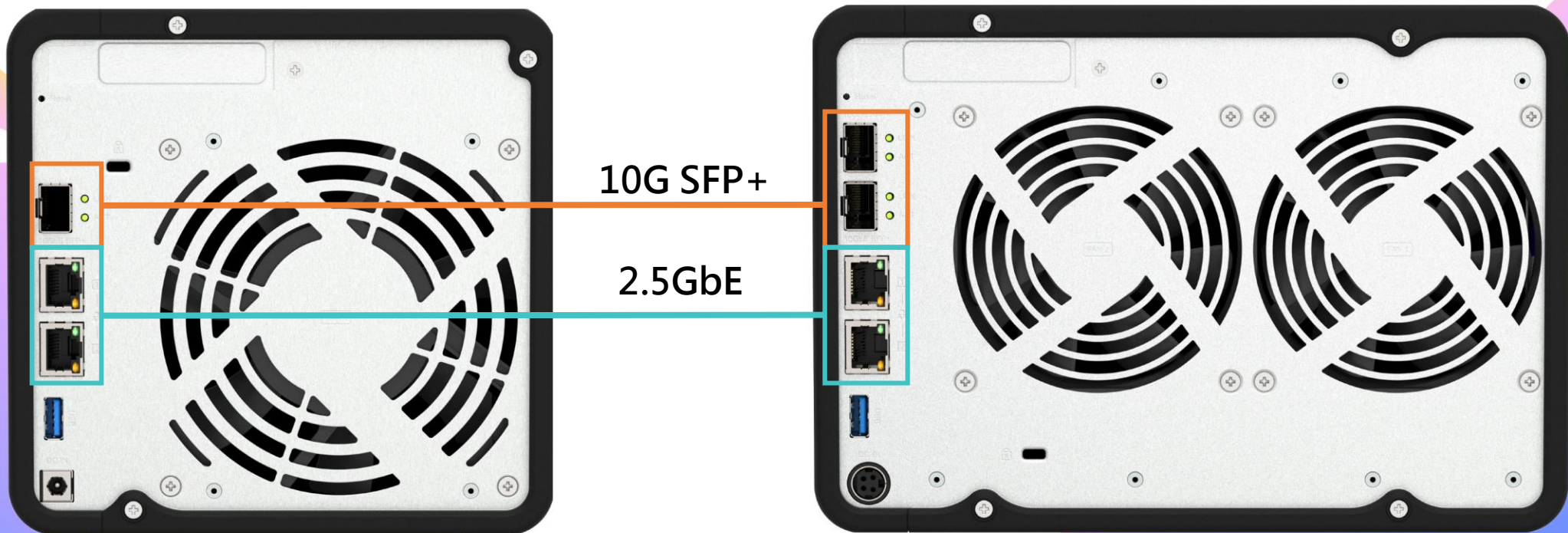
powered by
annapurnalabs
an amazon company



Features 10GbE SFP+ and 2.5GbE connectivity

- 1/2 x 10GbE SFP+ & 2 x 2.5GbE ports

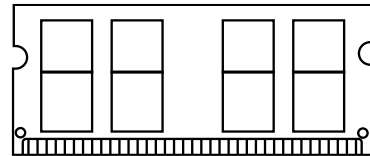
Sufficient 10GbE SFP+ and dual 2.5 GbE network ports provide a smooth data transmission experience.



Reliable memory and avoiding data corruption



ECC



TS-432X / TS-632X support ECC memory, automatically detecting and timely correcting single-bit errors

System supports up to **16GB** memory

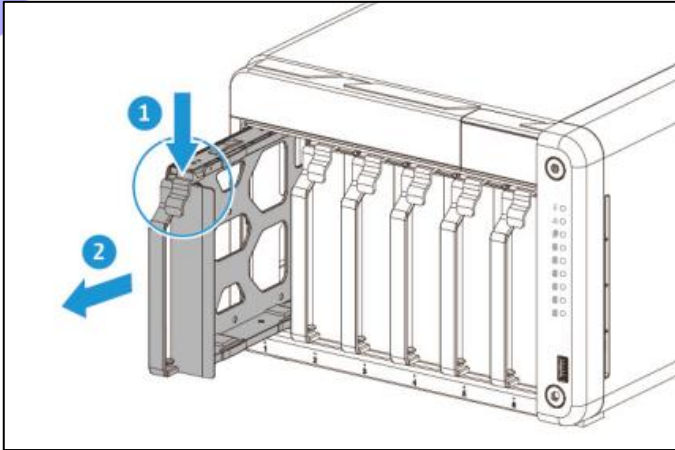
* The NAS is pre-installed with a 4GB non-ECC memory by default. (1 x DDR4 SODIMM slot)

Support

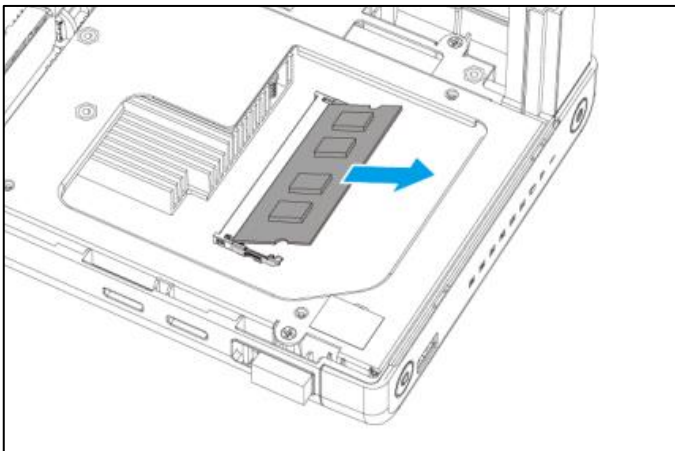
ECC Memory

(Error Correcting Code)

Upgradeable to 16GB memory for multi-tasking, ECC supported



Remove a drive tray by simultaneously pressing the latch and pulling the tray.



Remove an existing module.
Then install a new module.

TS-432X-4G / TS-632X-4G

4GB RAM (1 x 4GB)



1 x DDR4 SODIMM, support up to 16GB
SODIMM memory, optional ECC

PCIe Gen3 slot for flexible network deployment and adding SSD cache

The TS-432X and TS-632X provide a low-profile PCIe Gen3 expansion slot, supporting a variety of expansions including network cards, M.2 drives, and other expansion cards.

For more, please check QNAP compatibility list later:
<https://www.qnap.com/go/compatibility/>

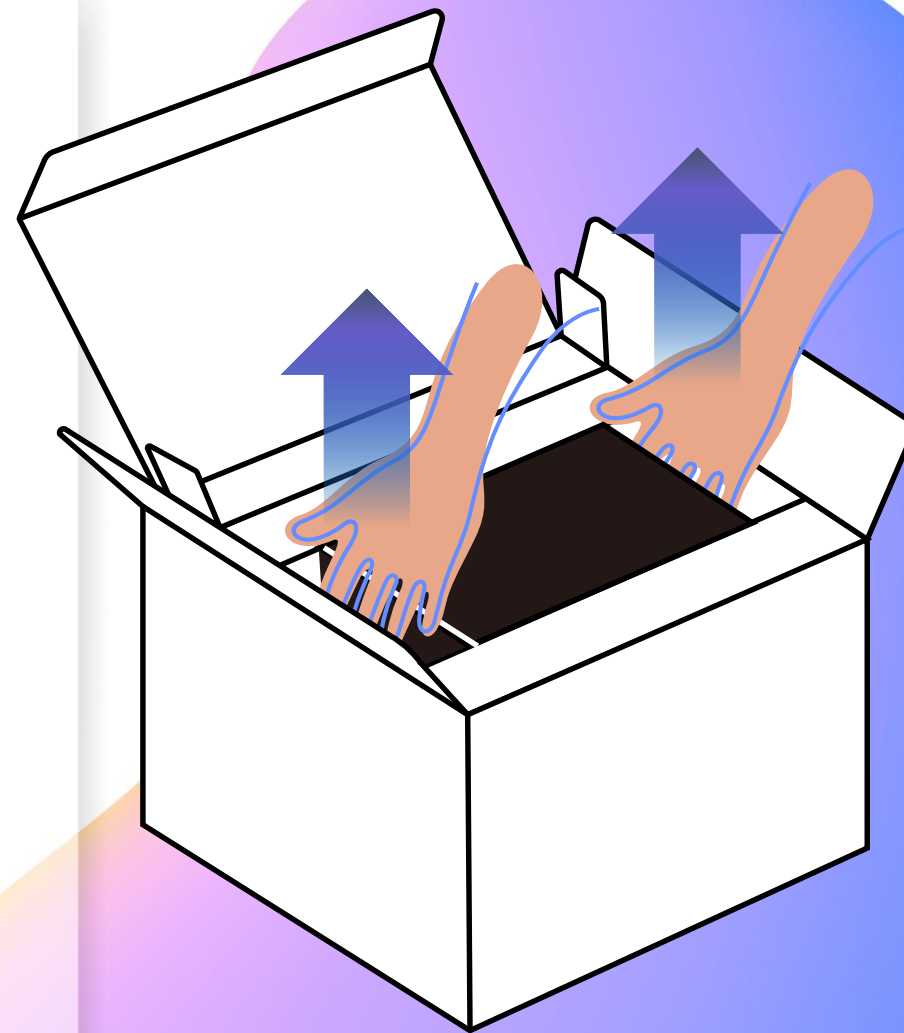
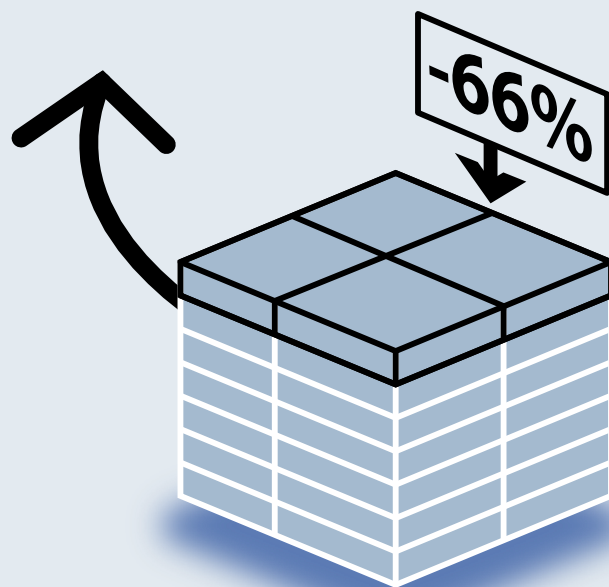
1 x PCIe Gen3 x4



Less packaging. More sustainability.

The TS-432X / TS-632X come in a lighter protective package, ensuring their safety while reducing waste.*

Reduced the package size of TS-432X NAS to be 66% smaller than the current 4-bay TS-464 NAS.



Remove the NAS from the space reserved on both sides to prevent it from slipping off.

If you want to ship with HDDs, please remove them and pack them separately.

TS-432X / TS-632X front view

TS-632X



TS-432X



3.5"/ 2.5" SATA
6Gb/s HDD/SSD tray



Power button



LED :
Status, LAN,
USB Copy,
HDD1-6



USB 3.2 Gen 1 &
OTC button



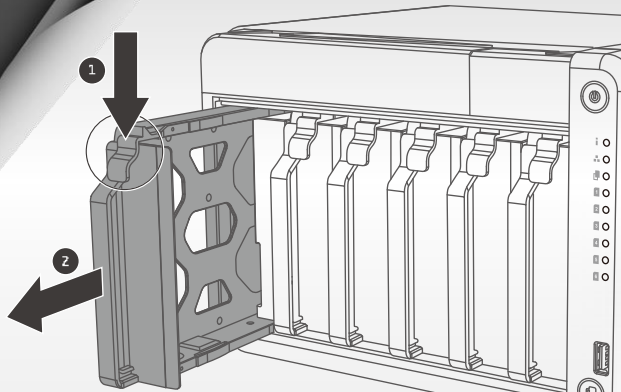
TS-432X / TS-632X rear view



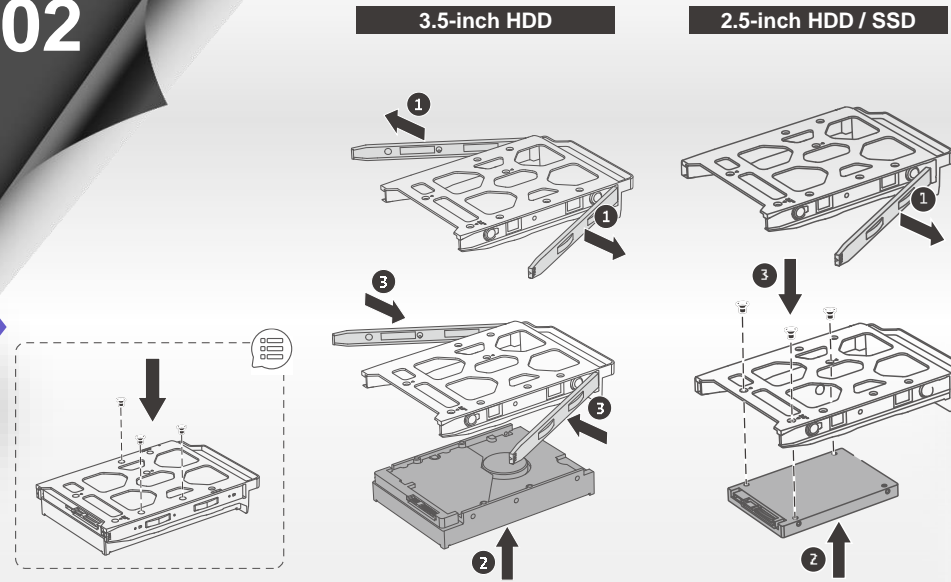
Easy to install HDDs and SSDs

Install 3.5-inch drives without tools

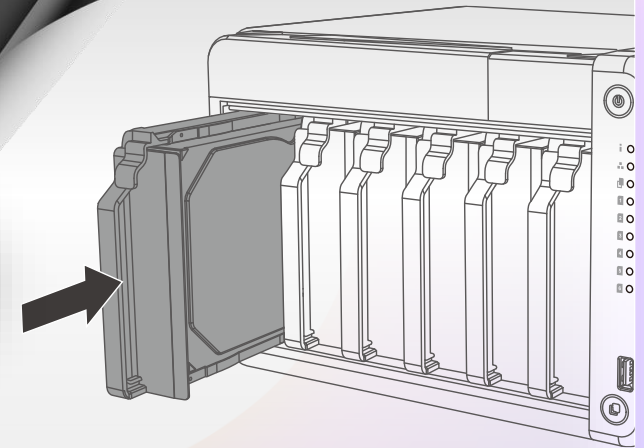
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02

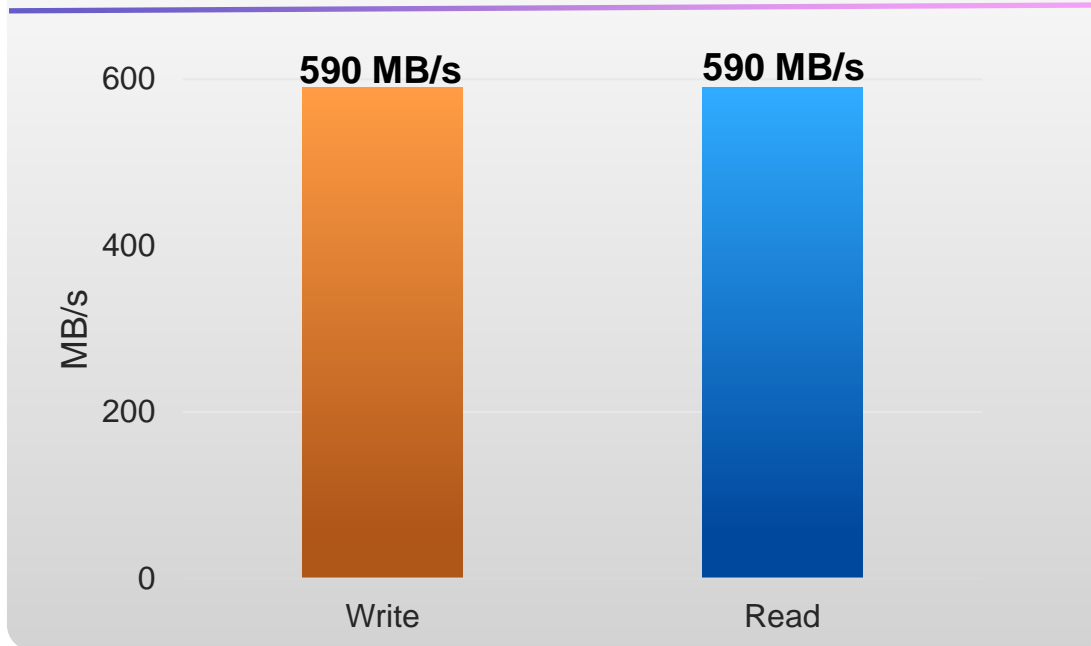


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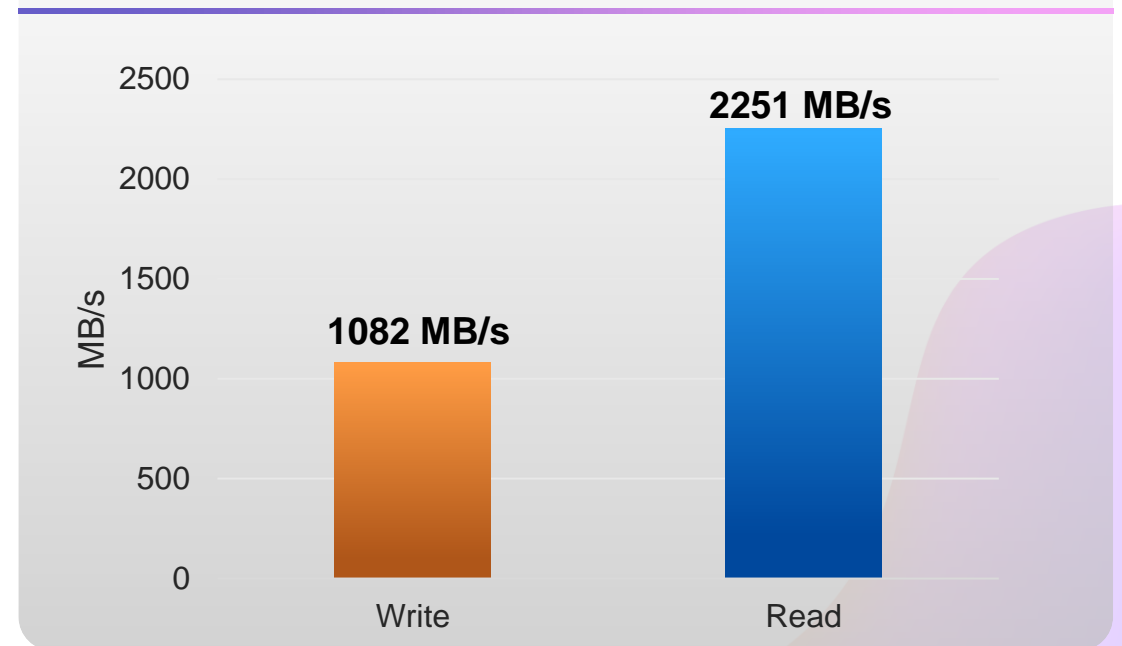


Built-in 10G SFP+ and 2.5GbE LAN ports, you can enjoy a high-speed network environment right out of the box

**2 x 2.5GbE
SMB Sequential Throughput 1MB**



**2 x 10GbE SMB
SMB Sequential Throughput 1MB**



Test Environment:

NAS : TS-632X

OS : QTS 5.1.7.2743

Volume type : 6 x Samsung 860 PRO 512GB, RAID 5, thick volume

Client PC : Windows Server 2019, Intel Core i7-6700 3.4GHz, 64GB RAM, w/ QXG-10G2SFCX4 & QXG-2G4T-I225

IOmeter : 16MB, 30-sec ramp up time, 3-min seq. run time, 16 workers, 4-outstanding

Short distance SFP+ DAC cables and Transceivers

1.5M SFP+ 10GbE
DAC cable



Part number:
CAB-DAC15M-SFPP

3.0M SFP+ 10GbE
DAC cable



Part number:
CAB-DAC30M-SFPP

5.0M SFP+ 10GbE
DAC cable



Part number:
CAB-DAC50M-SFPP

10GbE SFP+ SR
Transceiver



Part number:
TRX-10GITSFPP-SR

QNAP 10GbE networking and storage solutions are here to solve slow network issues

QSW 10GbE SFP+ Switch

QSW-2104-2S



4 x 2.5GbE RJ45 ports,
2 x 10GbE SFP+ fiber ports

QSW-M2116P-2T2S



16 x 2.5GbE 802.3at PoE+ (30w) ports,
2 x 10GbE 802.3bt PoE++ (90w)
ports and 2 x 10GbE SFP+ fiber ports

QSW-2106-4S



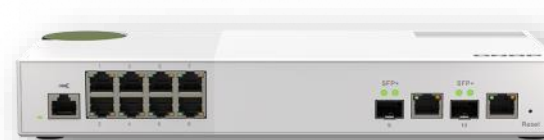
6 x 2.5GbE RJ45 ports,
4 x 10GbE SFP+ fiber ports

QSW-M3216R-8S8T



8 x 10GbE RJ45 ports,
8 x 10GbE SFP+ fiber ports

QSW-M2108R-2C



8 x 2.5GbE RJ45 ports,
2 x 10GbE SFP+
fiber/RJ45 combo ports

QSW-M3212R-8S4T



4 x 10GbE RJ45 ports,
8 x 10GbE SFP+ fiber ports

QSW 10GbE SFP+ NIC

QXG-10G2SF-X710



2 x 10GbE SFP+ NIC

Hardware Spec.

SKU	TS-432X-4G	TS-632X-4G	TS-431X3-4G
Processor	Alpine Processor AL524 (2.0 GHz Quad-Core)	Alpine Processor AL524 (2.0 GHz Quad-Core)	Alpine Processor AL314 (1.7 GHz Quad-Core)
System memory	4GB DDR4 SODIMM (Max. 16GB, optional ECC supported)	4GB DDR4 SODIMM (Max. 16GB, optional ECC supported)	4GB DDR3 SODIMM (Max. 8GB)
RAM slot	1	1	1
Drive Bay	4 x 3.5-inch SATA 6Gb/s, 3Gb/s	6 x 3.5-inch SATA 6Gb/s, 3Gb/s	4 x 3.5-inch SATA 6Gb/s, 3Gb/s
GbE	-	-	1
2.5 GbE	2	2	1
10 GbE	1 x 10GbE SFP+	2 x 10GbE SFP+	1 x 10GbE SFP+
PCIe	1 x PCIe Gen 3 x4		-
USB	Front: USB3.2 Gen1 Type-A x1 Rear: USB3.2 Gen1 Type-A x1		Front: USB3.2 Gen1 Type-A x1 Rear: USB3.2 Gen1 Type-A x2
Power Supply	90W adapter, 100-240V	120W adapter, 100-240V	90W adapter, 100-240V
Fan	1 x 120mm	2 x 90mm	1 x 120mm

Optional Support USB / SATA JBOD & RAID Storage Expansion Unit, up to additional 200TB storage space

USB



TR-002



TR-004



TL-D800C



TR-004U



TL-R1200C-RP

Maximum of JBOD / RAID expansion enclosures

*TR-002	2
*TR-004	2
*TR-004U	2
TL-D800C	1
TL-R1200C-RP	1
TL-D400S	1
TL-D800S	1
TL-D1600S	1
TL-R400S	1
TL-1200S-RP	1

SATA



TL-D400S



TL-D800S



TL-D1600S



TL-R400S



TL-R1200S-RP

Equipped with the latest QTS 5.1 NAS operating system

Boosted performance. Flexible management. Higher security

- Enable SMB multichannel for full throughput and multi-path protection
- Secure your NAS account with two-factor authentication (2FA)
- Delegated administration to boost management productivity and ensure data security
- Automatic RAID disk replacement with spares before potential failure
- Improved drive health analysis and failure prediction

Snapshots help you fight with Ransomware Threats

TS-432X/TS-632X supports Snapshot , like taking a photo - within seconds the complete status of your NAS system and data is recorded

Mitigate the growing threat of ransomware

Step 1

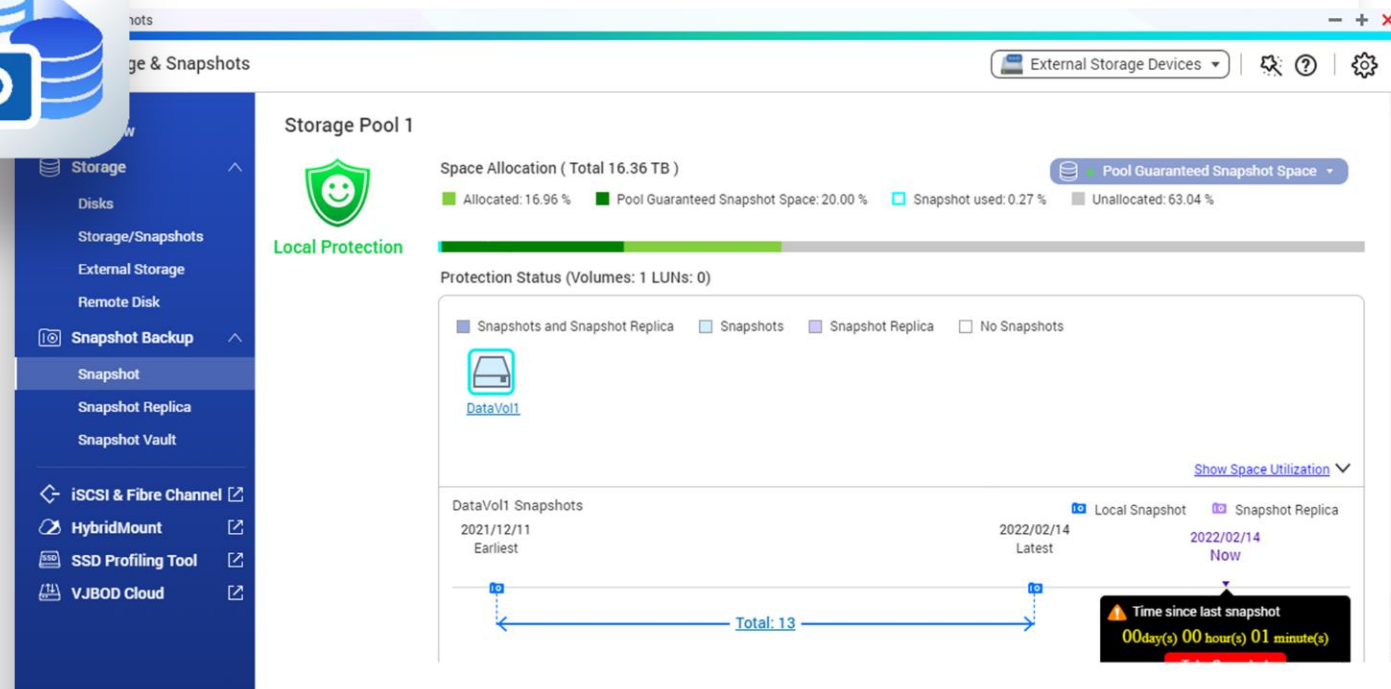
Regularly update, and use Malware Remover

Step 2

Routinely back up to your NAS, and create multi-version snapshots

Step 3

Back up snapshots to another QNAP NAS

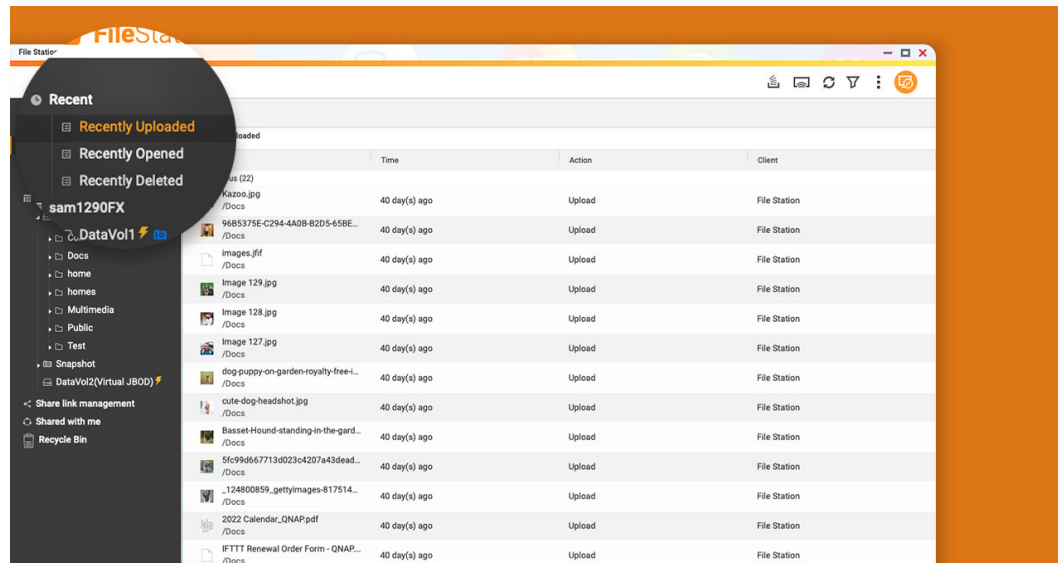


Manage and search files easily with the new File Station

File Station is the master of managing all your files from NAS and connected devices (including USB devices, SD cards, remote NAS, cloud services, and more). Operated with an easy-to-use interface, File Station simplifies everyday file browsing, access, and searching

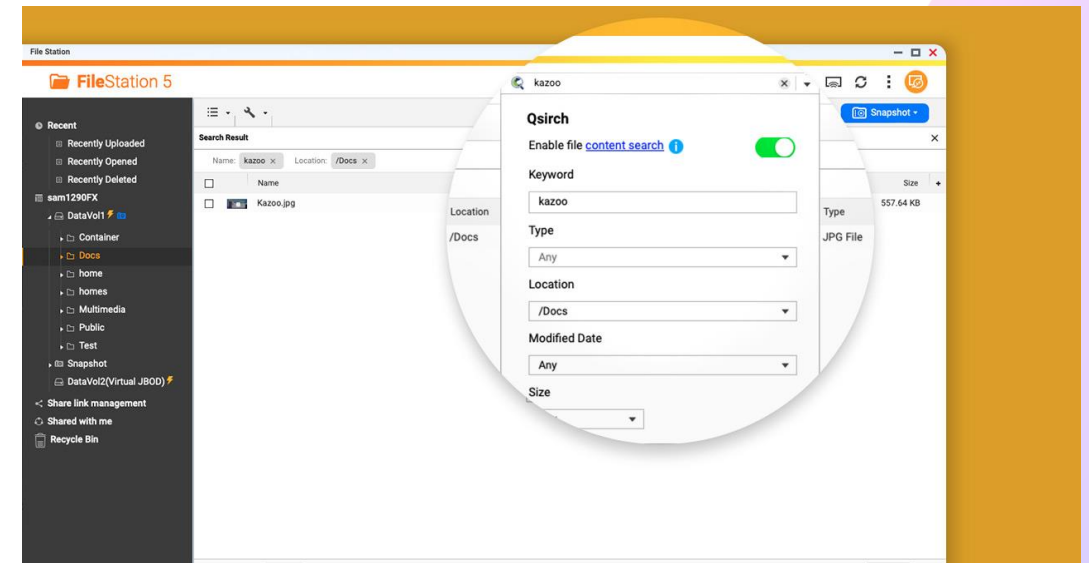
"Recently" sections

File Station displays files that have been recently uploaded, accessed, and deleted in the left panel, allowing you to quickly find desired files.



Search bar

The full-text search engine Qsirsch is now supported! You can find files by filename and text in documents, or use filter to search for files much faster.



Smart and automatic file management



Qsirch 5

A powerful, Google™-like search tool

- Search image, music, video, document, and email by keyword and filters.
- 5 advanced image search: search by face, text in image, things, color and map.
- Supports Qfiling to perform archival tasks based on your search criteria.



Qfiling 3

Automatically filing and archiving



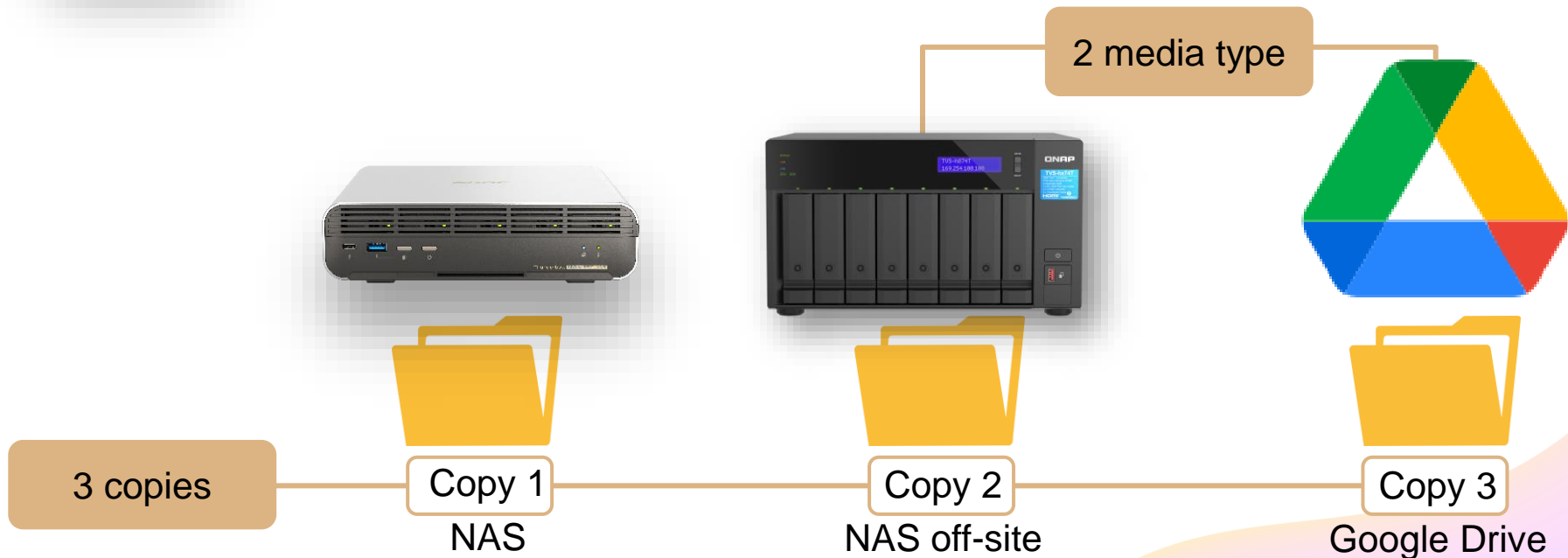
- 2 type of task: filing task, recycling task
- 3 type of scheduling rule: one-time, scheduling, real-time
- 9 editing module: AI face blur, encryption and decryption, video transcoding and so on

Easy to use HBS 3.0 app fulfilling backup 3-2-1 practice with deduplication



HBS 3 (Hybrid Backup Sync 3)

Complete 3-2-1 backup strategy and recovery plan: 3 copies · 2 media type · 1 remote backup

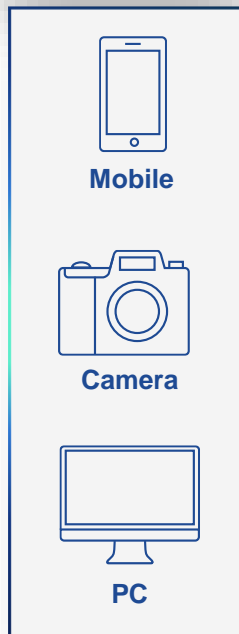


QuMagie : Store and auto-organize your photos on QNAP NAS



QuMagie

QuMagie integrates AI image recognition and intelligent classification for your photo.



Upload, Back-up
Photos

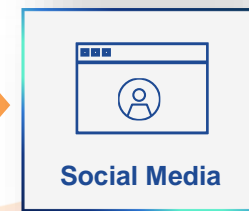
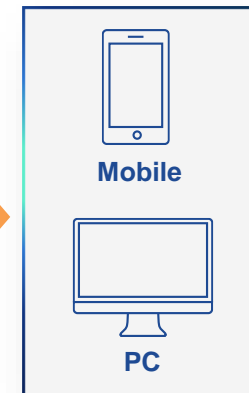
QNAP NAS



QNAP AI Core

Browse, manage photos

Share photos

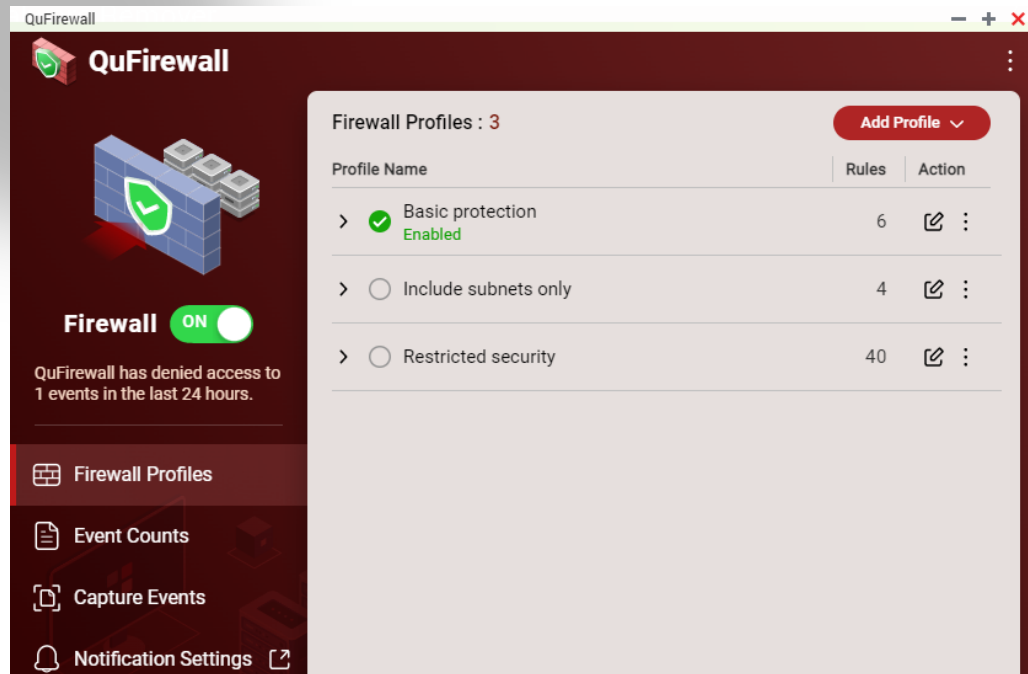


Data security



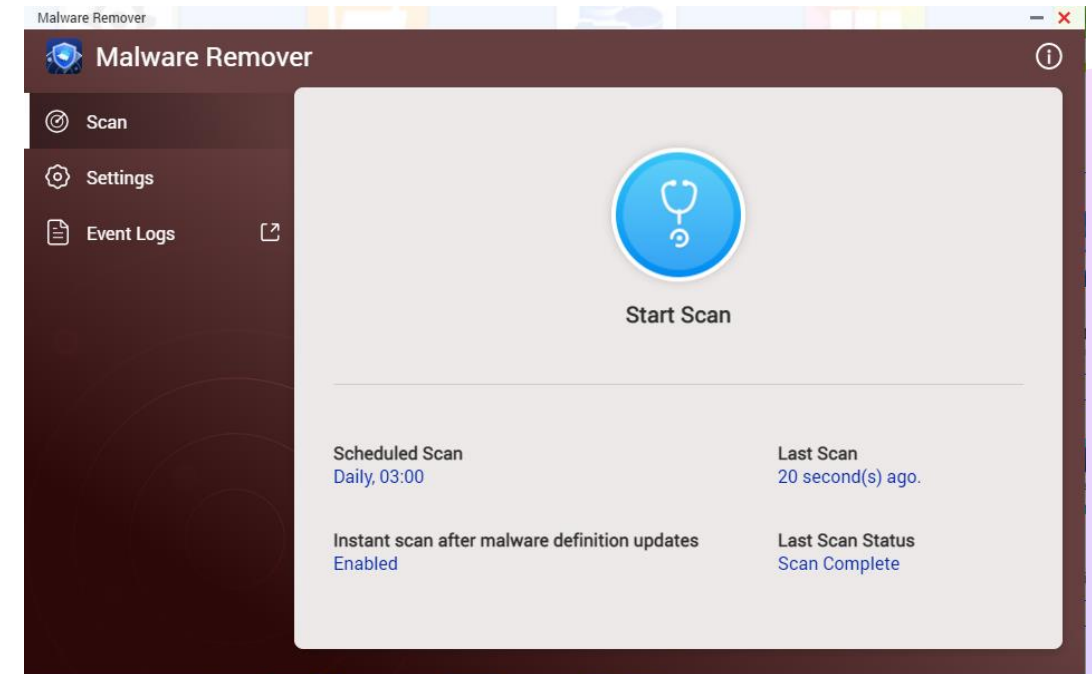
QuFirewall

You can allow/deny IP addresses and regions to prevent unauthorized access and brute force attacks for safeguarding data and service security.



Malware Remover

Regularly scan your NAS using the latest malware definitions. When under attack, infected files will be immediately removed to ensure NAS data security.





2-year standard warranty covering hardware repair and support services

TS-432X/TS-632X is backed by a 2-year warranty at no additional cost.

You can also purchase a warranty extension that extends your warranty coverage up to 5 years total

Warranty extension P/N : LIC-NAS-EXTW-GREEN-3Y-EI



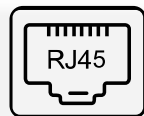
TS-432X



TS-632X



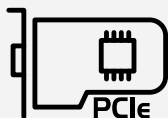
AL-524 quad-core, 2.0GHz



2 x 2.5GbE

JBOD expansion

Optional Support USB / SATA JBOD & RAID storage expansion Unit



PCIe Gen3 x4 slot, Provide a variety of expansions including network card, M.2 and other expansion cards

4GB SODIMM RAM

Maximum 16GB RAM, ECC optional



QTS

Experience the latest innovations and improvements in QTS 5



Up to 5-year warranty



USB 3.2 Gen1 & One-Touch-Copy



App Center

Install-on-demand apps extend NAS features

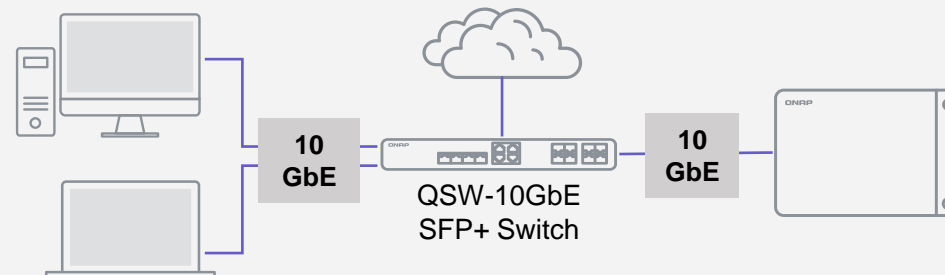
Up to **110TB** Storage capacity

(TS-632X with 22TB HDD, RAID 5)



Built-in 10GbE SFP+

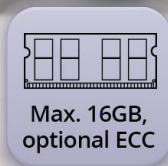
TS-432X : 1 x 10GbE SFP+ port
TS-632X : 2 x 10GbE SFP+ ports



TS-632X / TS-432X AnnapurnaLabs AL524 quad-core NAS

TS-432X / TS-632X

AnnapurnaLabs AL524 4-core 2.0GHz CPU with built-in 4GB memory, 10GbE SFP+ and 2.5GbE RJ45 ports



TS-432X



TS-632X



PM : Andy Chuang