

??????? :: ??? ?? ??? ?? ??? ?????? :: TS-264

???? ??????? :: ?? 12 ??? 18 ???

?????: 0.00kg

??????0.00cm x 0.00cm x 0.00cm

?????: 0.00EGP

??? ?????

TS-264 is a compact 2-bay NAS with superior performance. Supporting up to 24 TB storage and 4 TB M.2 SSD caching* at an affordable price, the TS-264 fulfills your multitasking challenges for file management, backup, collaboration, and video conversion.

??? ??????

The TS-264 uses the QTS operating system by default. You will be able to switch to using the QuTS hero operating system. QuTS hero provides benefits such as ZFS data integrity and WORM technology to prevent data tampering. (Switching to QuTS hero is supported starting from QTS 5.2.1.)

Using two 3.5-inch 24 TB hard drives in RAID 1 and two 2 TB M.2 SSDs. Hard drives and SSD sold separately.

• 2.5GbE is a must!

TS-264 is as fast as a single-port 10GbE NAS with up to 589 MB/s transfer speeds by setting port trunking with the two built-in 2.5GbE (2.5G/1G/100M)

ports.

• Quad-core for multitasking

Perform additional tasks, stream more media, and have more services running with an Intel® quad-core processor optimized for multitasking.

• Smooth video conversion

Built-in GPU for enhanced video conversion, allowing videos to be smoothly streamed from the NAS to mobile devices.

• Upgrade to dual-port 10GbE

Futureproof your network connection by installing a PCIe dual-port 10GbE network card that delivers up to 1,644 MB/s transfer speed.

• Faster USB transfer

Two USB 3.2 Gen 2 (10Gbps) ports allow faster backup to/from USB devices.

• More M.2 NVMe SSDs

If two M.2 slots aren't enough, install a QM2 PCIe expansion card for more M.2 SSD slots.

Wirecutter

QNAP TS-264

Best Choice for Home NAS of 2023 by Wirecutter, The New York
Times

2.5GbE NAS is a must in 2024

With increasing availability on switches, motherboards, and laptops, 2023 is the year of 2.5GbE. By setting port trunking with the two built-in 2.5GbE (2.5G/1G/100M) ports to unleash network potential and increase fault tolerance, the TS-264 delivers up to 589 MB/s transfer speeds for fast data access workflow.

Learn More: **ONAP 2.5GbE solution**

• TS-264 (1 x 2.5GbE) Read 295 MB/s Write 295 MB/s • TS-264 (2 x 2.5GbE) Read 589 MB/s Write

589 MB/s

Test environment:

NAS: TS-264, Intel Celeron N5095 processor, 2900 MHz (4C4T), 8GB, 2 x Samsung 960 PRO 1 TB, RAID 1, QTS 5.0.0

Client PC: Intel i7-6700 3.4GHz, DDR4 64GB, Windows Server 2016 Standard IOmeter: RAM*4, 30-sec ramp up time, 3-min seq. run time, 1 workers, 32-outstanding

New-generation quad-core processor for optimized performance

• Processor

Intel® Celeron® N5095 quad-core processor, burst up to 2.9 GHz

• Memory

Built-in 8 GB DDR4 memory

• GPU

Built-in Intel® UHD Graphics to speed up video processing and graphical computing

• Encryption Engine

Features Intel® AES-NI 256 hardware-accelerated encryption to boost system performance while securing sensitive data.



card <u>QXG-10G2TB</u> in the TS-264. Combining 10GbE networking, quad-core processor, and M.2 SSD caching, the TS-264 unleashes its full performance potential.

• TS-264 (2 x 10GbE)

Read

1644 MB/s

Write

1272 MB/s

Check detail performance data



Expand storage capacity up to 14 hard drives

TS-264 supports a storage capacity of up to 24 TB by installing two 3.5-inch 24 TB hard drives in RAID 1. By connecting a <u>TL-D1600S</u> QNAP storage expansion unit, you can add an additional fourteen hard drives to the TS-264 to achieve up to 280 TB storage space to meet growing storage requirements.

• Storage capacity up to

24 TB



Accelerate AI-powered image recognition and caching with TPU and PCIe expansion

TS-264 has two M.2 PCIe Gen 3 slots for installing NVMe SSD (including Apacer®, Micron®, Seagate®, WD®, and more) or Edge TPU.

How to Install

M.2 SSDs are sold separately. As M.2 SSD operations can easily generate excessive heat,

it is recommended to install a heatsink on M.2 SSDs.

2 x M.2 2280 PCIe Gen 3 x1 slots

• Install M.2 NVMe SSDs for cache acceleration or efficient tiered storage

If you have a huge number of small files requiring read/write operations, you can easily boost IOPS of TS-264 by configuring its two M.2 SSDs as a cache disk.

When transmitting bigger files, you can create a storage pool with two M.2 SSDs. With Qtier automatically moving hot data to SSD and cold data to hard drives, TS-264 allows you to enjoy exceptional application performance.

Learn More: SSD cache, Qtier

• Accelerate AI-powered image recognition with TPU

By leveraging a Edge TPU to QNAP AI Core (the AI-powered engine for image recognition), the TS-264 can perform high-speed face and object recognition. Edge TPU enables QuMagie to quickly process thousands of photos with high-speed AI Image recognition and classification, and QVR Face to analyze real-time video for instant facial recognition.

Note: Purchase from the Coral website

Learn More: **QuMagie**, **QVR Face**

Abundant I/O capabilities with PCIe expansion

QNAP offers a wide range of expansion cards to add versatile functions to your NAS. The TS-264 has one PCIe Gen 3 x2 slot that supports various expansion cards for expanding application potential.

• QM2 card

QM2-2P10G1TB

Add a 10GbE port and two M.2 SSD slots at the same time.

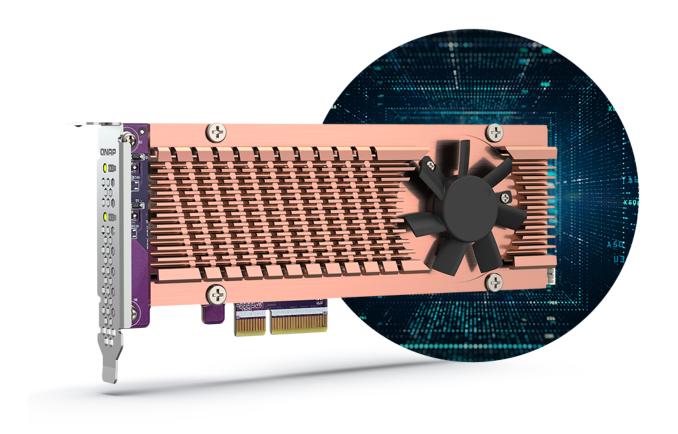
Learn More: **QM2** expansion card



• QM2 card

QM2-2P-344A

Add two M.2 SSDs to create a storage pool with larger capacity caching with the built in M.2 SSDs.



• Wi-Fi 6 adapter

Install a Wi-Fi 6 adapter to turn the TS-264 into a Wi-Fi NAS, allowing accessing NAS data via wireless network.

Learn More: **QNAP Wi-Fi 6 wireless network expansion card**



One Touch Copy backup with USB 3.2 Gen 2

TS-264 provides two 10Gbps USB 3.2 Gen 2 ports for faster file transfer to/from USB 3.2 Gen 2 devices. The One Touch Copy button also allows you to back up the contents of USB devices to the TS-264 with a single button press.



Smoother mobile experience with GPU

Taking a lot of photos with your smartphone? <u>Ofile</u> mobile app will help you free up space by automatically backing up photos to the TS-264. With Intel® UHD Graphics, the TS-264 greatly speeds up converting videos to 1080p / 720p, allowing for smooth streaming to mobile devices over varying mobile network speeds.



Use your NAS like a PC

QNAP's exclusive <u>Virtualization Station</u> enables running multiple Windows®/Linux® virtual machines. By connecting a keyboard, mouse, and HDMITM monitor, you can easily use the TS-264 as a PC.



QTS 5, Fast, smooth, and easy-to-use!

The TS-264 comes with the QTS 5 operating system as standard, providing a next-generation usage experience with an updated system kernel, optimized user interface, and advanced security features.

Learn More: **QTS** 5

• Brighter. Smoother. You'll like it.

When navigating QTS 5, you will notice a finer attention to detail for a superior browsing experience. Enjoy a smoother NAS experience, comfortable visual design, and find your favorite apps quicker.

• Get started with the notice board

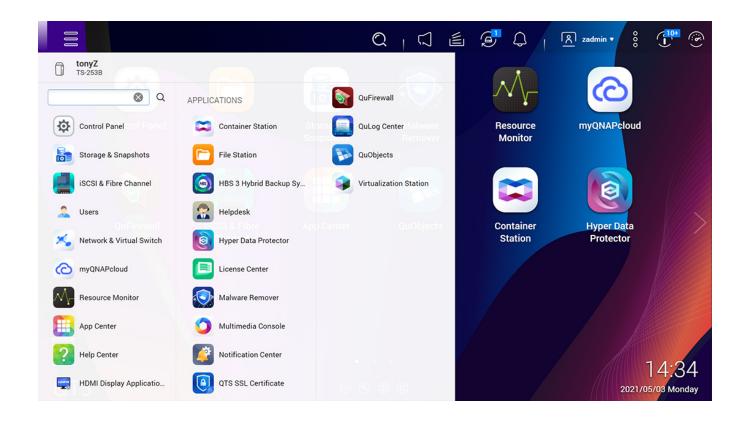
When performing first-time installation, the notice board guides you through the setup process. Simply follow the step-by-step instructions for a quick and easy setup.

• Smooth and reactive user interface

Whether clicking buttons, switching between apps, expanding/collapsing windows – every action is much smoother. The search bar in the main menu also assists in quickly finding desired apps.







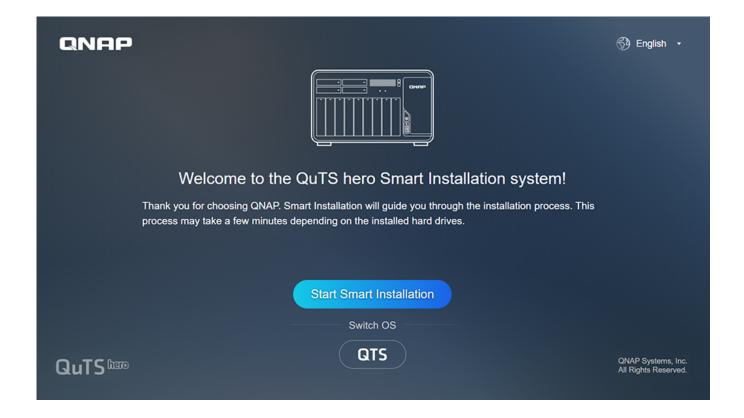
Switch to QuTS hero operating system

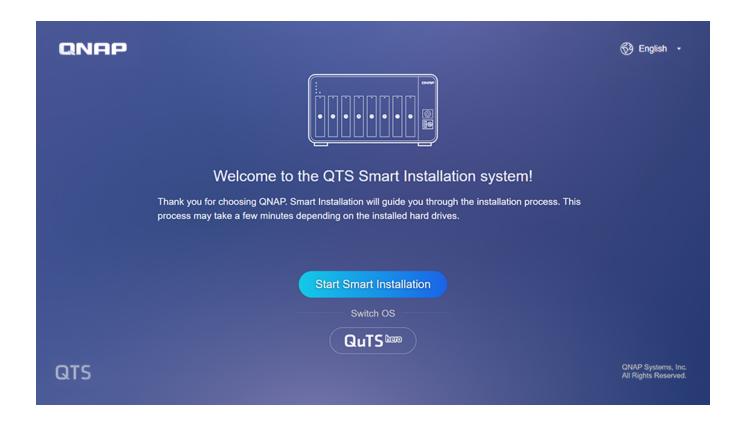
for optimal data integrity and reliability

The TS-264 also supports <u>QuTS hero - QNAP's ZFS-based NAS operating system</u>, providing end-to-end data integrity, WORM protection, data reduction (inline data deduplication, compression, and compaction), and much more.

FAQ

Understand hardware requirement before switching to QuTS hero





What's the difference between QTS and QuTS hero?

How to migrate data from an old NAS?

Backup? Storage? Surveillance

QNAP is your best choice.

Simple Backup

Superior hardware performance with an <u>all-in-one Backup Solution</u> to speed up backup/recovery tasks.

- Back up all your devices
- Remote Replication for NAS data

PC and Mac backup

Sync your computer files to NAS	with Qsync.	TS-264 also	supports	Time	Machine	for
	Mac compu	iters.				

License-free VM backup

Back up multiple VMware® and Hyper-VTM VMs using Hyper Data Protector.

File server backup

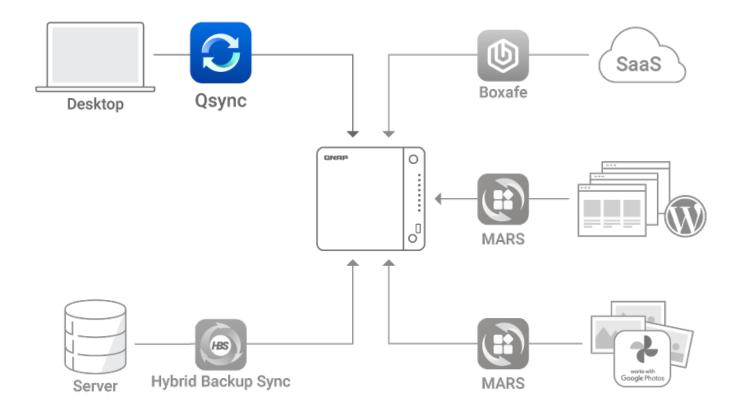
Supports multiple protocols such as Rsync, FTP and CIFS for backing up different file servers.

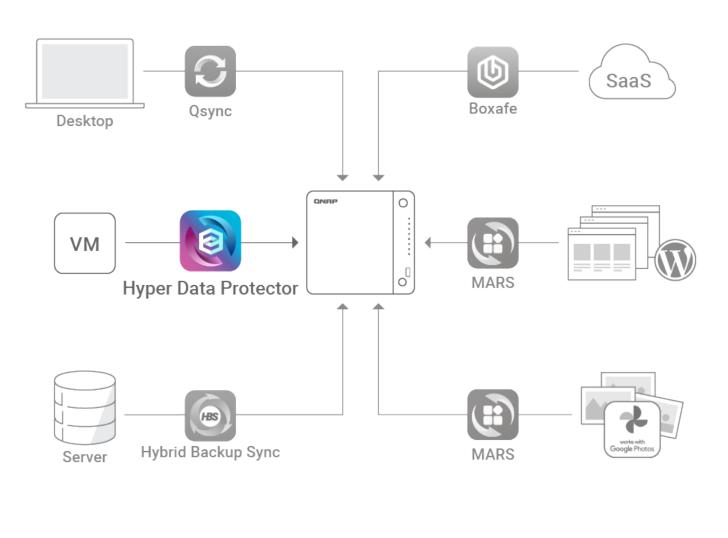
SaaS Business Backup Solution

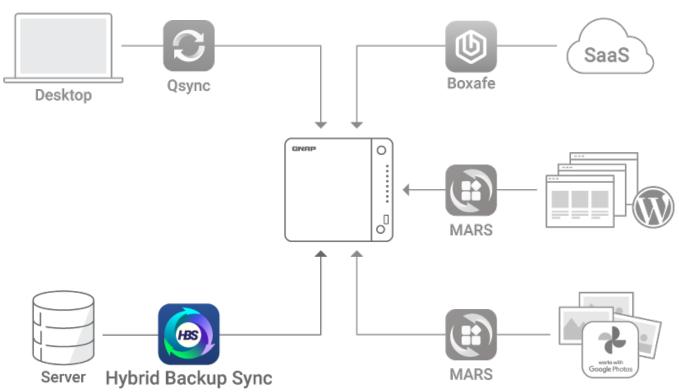
Use Boxafe to easily back up GoogleTM Workspace and Microsoft 365® business account data.

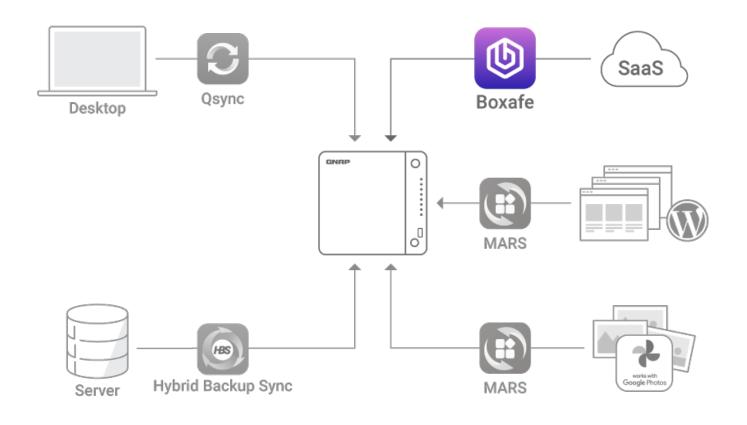
Google Photos and WordPress backup

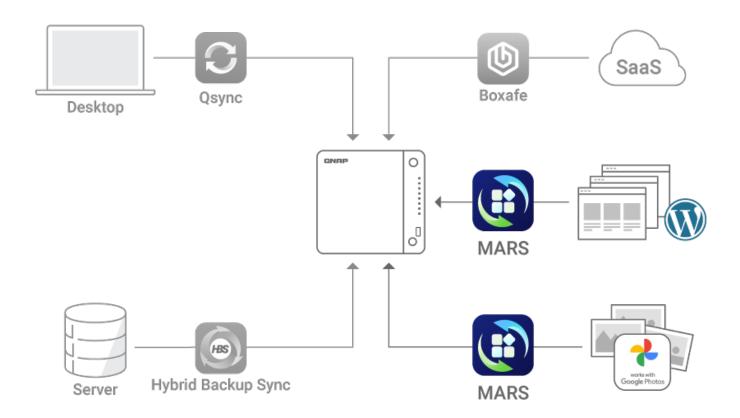
The exclusive MARS service enables backing up Google Photos and WordPress databases and files to NAS.











Back up data from one NAS to another NAS

Back up data on a local NAS to another remote NAS using Hybrid Backup Sync .	You
can also deduplicate your backup using QuDedup to save time and storage space	e.

Back up NAS data to the Cloud

Hybrid Backup Sync supports mainstream public cloud services for backing up or syncing data from NAS to Cloud.

Cloud Storage Gateway

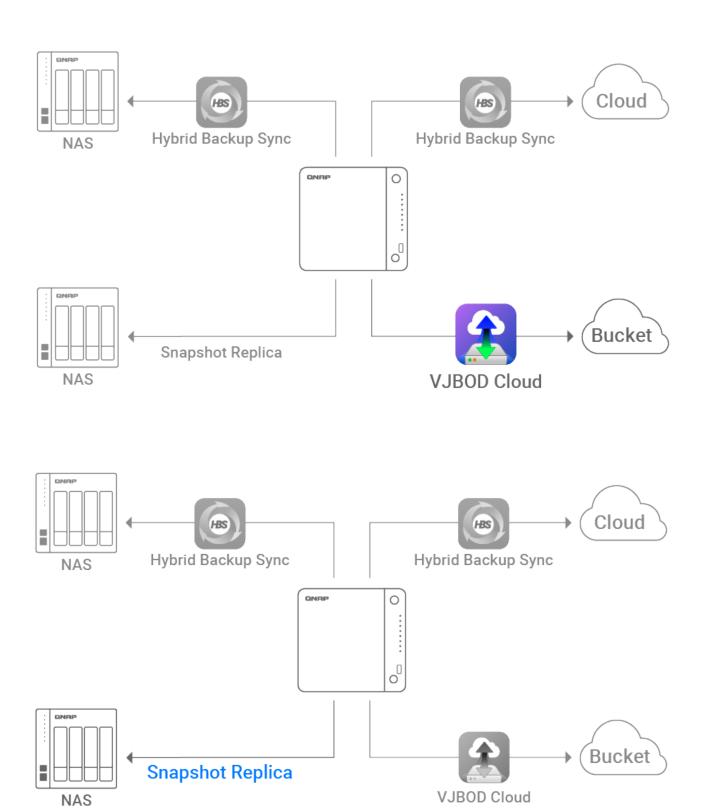
<u>VJBOD Cloud</u> connects cloud object storage (Bucket) and back up data from NAS to the cloud.

Back up NAS snapshots

Use Snapshot Replica to back up <u>NAS snapshots</u> to another NAS and recover when needed.







Smart storage

QNAP's exclusive apps provide easy-to-use file stora	age and collaboration tools.
Snapshots also help protect important data f	rom Ransomware.

- Snapshots protection
- Boost production efficiency

Volume and LUN snapshots

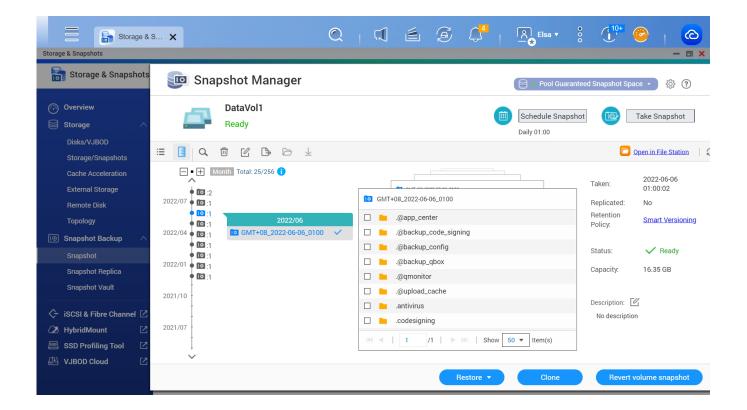
"Snapshots" record the complete status of your NAS system and data. Certain data and files can be reverted when needed.

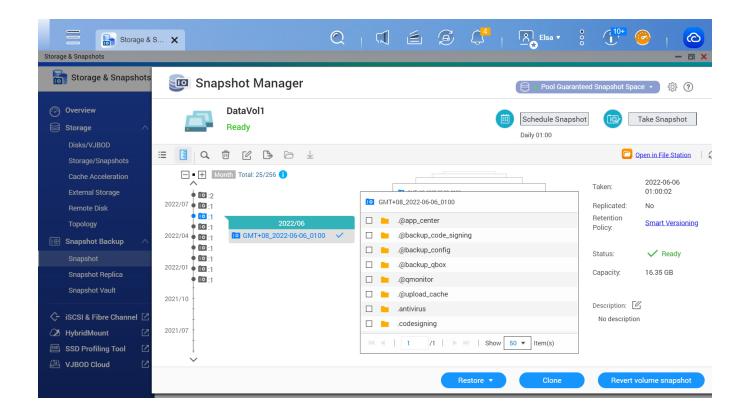
Versioning

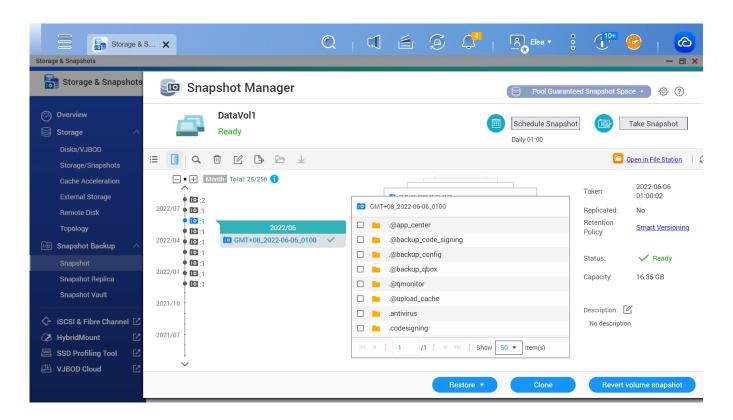
Regularly create snapshots. The more snapshots you have, the lower the risk of data loss.

Smart snapshot space management

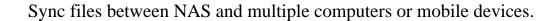
QNAP supports smart snapshot space management to ensure there is enough storage space for new snapshots.











Osirch

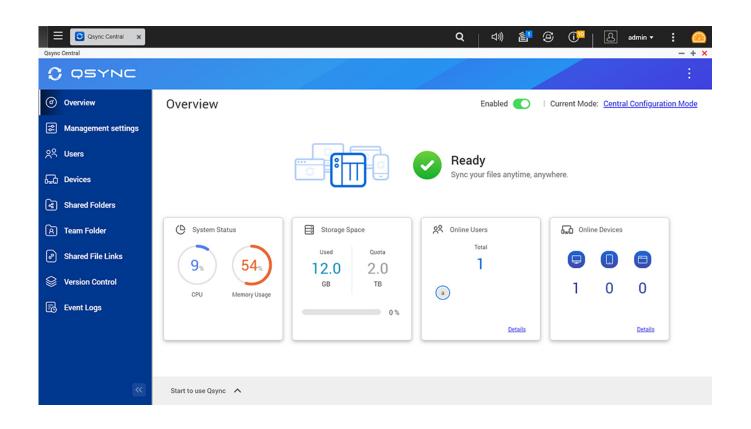
Quickly find documents, media files, and emails using key words, colors, or faces.

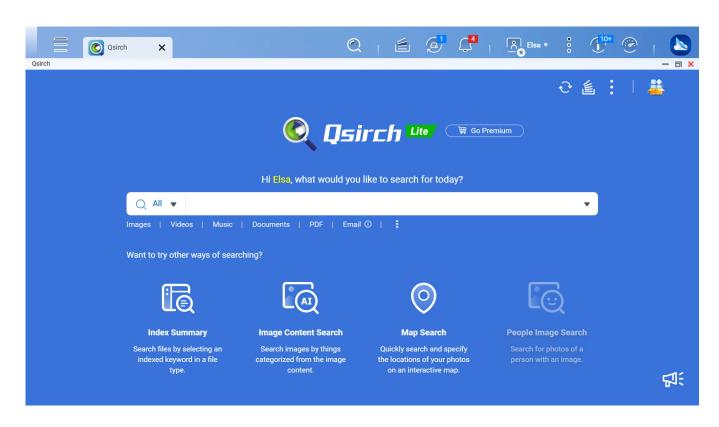
Qfiling

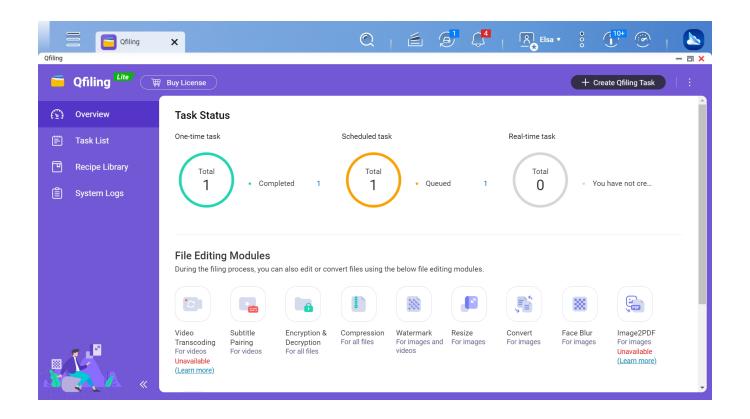
Create filing rules and set schedules to automatically archive files into dedicated folders based on their category.

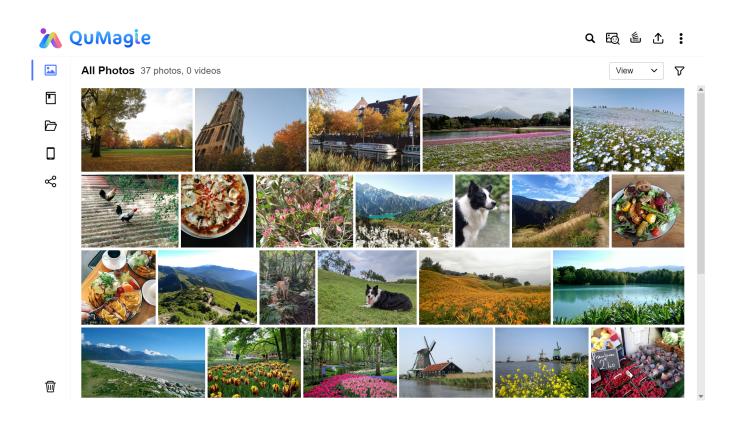
QuMagie

TS-264 leverages powerful AI photo management and creates smart photo albums based on people, objects, locations, and events, making photos easy to find and share.









Smart surveillance

TS-264 provides a professional surveillance NAS solution, compatible with 6,000+ IP cameras of 190+ brands and thousands of ONVIF network cameras.

- Build surveillance with affordable deployment costs
- Live surveillance monitoring, remote management, and smart AI

All-in-one surveillance

Say goodbye to expensive and complicated PC NVR. QNAP's integrated surveillance NAS solution offers a <u>subscription licensing</u> solution or <u>perpetual licensing solution</u> for flexible deployment based on your needs.

Connect to HDMITM monitor

TS-264 supports has HDMITM output for direct surveillance video playback, removing the need for a dedicated workstation.

Surveillance failover

Install the high-availability **QVR Guard** app to automatically takeover recording tasks if a QVR Pro server fails.







Live surveillance video monitoring

Monitor live feeds and receive alert event notifications from client applications on PCs or mobiles.

Large-scale central management

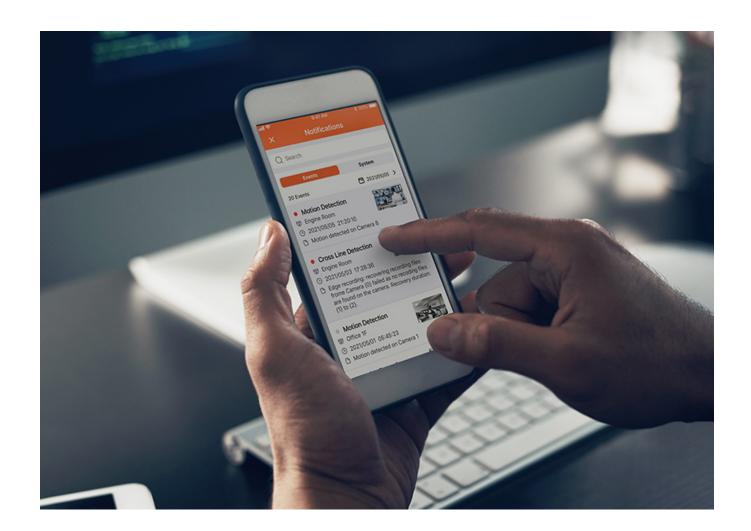
Centrally control up to 256 Surveillance NAS (licenses sold separately) in different locations via QVR Center.

AI surveillance event search

Instead of manually searching through a whole day of event videos, <u>QVR Smart Search</u> helps you efficiently search through hundreds of hours of video recordings from hundreds of cameras to find specific events.

MP4 surveillance videos

With GPU-accelerated video conversion, surveillance videos can be converted to various file formats or resolutions for smooth playback on multiple devices.









All-in-one solution for hosting virtual machines and containers

By running multiple virtual machines and containers on the TS-264, you can deploy multitenant environments and applications to increase management efficiency and save hardware costs. Coupled with the Network & Virtual Switch app that boosts interoperability between virtual machines, containers, QNAP NAS, and other physical devices on the network, you can flexibly allocate physical and virtual network resources to simplify network deployment.

Virtualization Station

Run multiple Windows®, Linux®, UNIX®, Android™, and QuTScloud virtual machines and access them via a web browser or Virtual Network Computing (VNC).

Learn More: Virtualization Station

Container Station

Experience Docker®, LXD, and Kata Containers lightweight virtualization technologies, download apps from the built-in Docker Hub Registry®, import/export containers, and create abundant microservices.

Learn More: Container Station

Linux Station

Run Linux® applications directly on the NAS and remotely access the Linux® desktop from a web browser. The open-source Linux® platform is also ideal for Internet of Things development.

Learn More: Linux Station

Enhanced cybersecurity and data protection

TS-264 is loaded with comprehensive privilege settings and security measures. Besides, there are abundant apps that help ensure optimal NAS protection against threats like malware and hackers.

• Account security

Supports Azure Active Directory Domain Services (Azure AD DS), LDAP, and Windows ACL to help IT staff efficiently manage user accounts and access rights for multiple NAS systems. Use 2-Step Authentication for all user accounts to protect against brute force attacks.

Secure remote access

myQNAPcloud Link allows convenient remote connection to NAS through the Internet. Or you can use QVPN to set up a VPN connection to the NAS with enhanced security.

NAS Firewall

<u>QuFirewall</u> restricts and blocks suspicious packets sent by proxy servers and the onion routing (Tor) based on user rules. QuFirewall also dynamically updates its block list based on detected malicious packets.

• Malware Protection

Regularly scan your TS-264 using the latest malware definitions. If infected files are detected, they are immediately removed to ensure NAS data security.

A health check for your hard drives

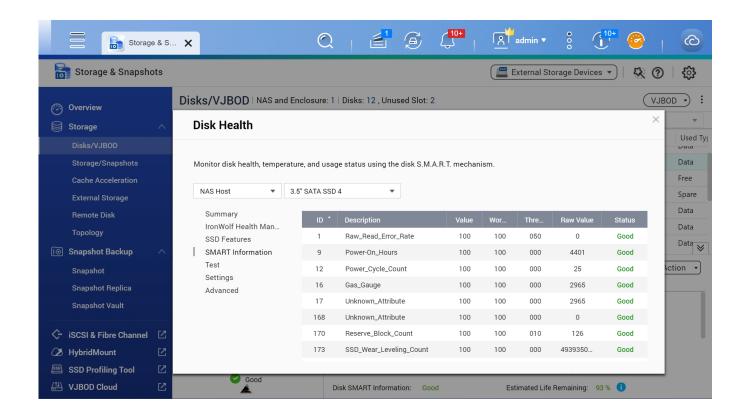
Hard drives are at the heart of your NAS, and ensuring their long-term health and reliability is absolutely crucial. QNAP provides various methods and tools to help you monitor hard drive health, ensuring that you can take proactive decisions to safeguard your data and files.

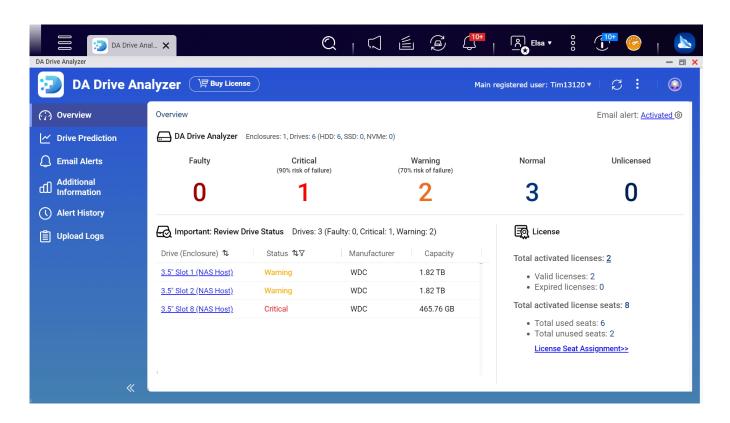
• S.M.A.R.T. and back block scanning

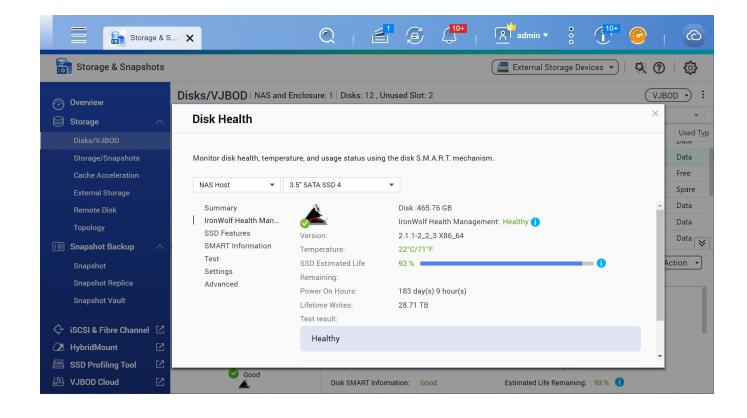
If any of the S.M.A.R.T. values are reported as abnormal, or bad blocks are detected, you can take early action and replace drives before potential data loss occurs.

• DA Drive Analyzer

• Seagate® IronWolf™ Health Management







Extend hardware warranty up to 5 years

The TS-264 is backed by a 3-year warranty at no additional cost. You can also purchase a warranty extension that extends your warranty coverage up to 5 years.

Learn More

Virtualization Certifications Supported by TS-264

mware[®]

Software Specs

Operating System

Supported Client Operating

Systems

QuTS hero h5.2.5

1. Apple Mac OS 10.10 or later

2. Ubuntu 14.04, CentOS 7, RHEL 6.6,

SUSE 12 or later Linux

3. IBM AIX 7, Solaris 10 or later

UNIX

4. Microsoft Windows 7, 8, 10, and 11

Show more...

Supported Browsers 1. Apple Safari (latest version)

2. Google Chrome (latest version)

3. Microsoft Edge (latest version)

4. Mozilla Firefox (latest version)

Supported Languages Chinese (Traditional & Simplified), Czech,

128

Danish, Dutch, English, Finnish, French,

German, Greek, Hungarian, Italian, Japanese, Korean, Norwegian, Polish, Portuguese (Brazil), Romanian, Russian,

Spanish, Swedish, Thai, and Turkish

Storage Pool

SED Storage Pool

Maximum Pool size 5 PB

Maximum number of storage

pool

Shared Folder Type Thick, Thin

Maximum shared folder size 5 PB

Maximum number of shared 256

folder

JBOD Expansion

VJBOD / VJBOD Cloud

iSCSI Service

Fibre Channel Service

LUN Type Thick, Thin

Block-based iSCSI LUN

Maximum LUN size 1024 TB

Maximum number of targets 256

LUN

RAID Type

- 1. 8-bay (and more): Single, RAID 0 (Stripe), 1, 5, 6, 10, 50, 60, Triple Mirror, Triple Parity
- 2. 6-bay: Single, RAID 0 (Stripe), 1, 5, 6, 10, 50, Triple Mirror, Triple Parity
- 3. 4-bay: Single, RAID 0 (Stripe), 1, 5,6, 10, Triple Mirror, Triple Parity
- 4. 3-bay: Single, RAID 0 (Stripe), 1, 5, Triple Mirror, Triple Parity

Show more...

RAID Group

To ensure data security, system stability, and storage performance, the maximum number of drives for a single RAID group is now 16 (applicable to RAID 5, RAID 6, RAID TP, and subgroups of RAID 50 and RAID 60). Nevertheless, users can combine multiple RAID groups into a large storage pool that contains more than 16 drives, using RAID 50, RAID 60, or RAID 10 as the RAID configuration. This enhancement will only be applied to new RAID groups. All existing RAID groups and storage systems will not be affected.

RAID Expansion (by replacing

bigger Disks)

Storage Pool Expansion (by

adding RAID Group)

RAID Hot Spare Global, Local

RAID Sync/Rebuild/Scrubbing

End-to-End data integrity

Silent error detection and self-

healing

Internal drive ZFS

External drive EXT3, EXT4, NTFS, FAT32, HFS+, and

exFAT

Disk, Enclosure Locate

Disk S.M.A.R.T. Scan

Disk S.M.A.R.T. Data

Migration

Ironwolf Health Management

Secure Erase

SSD Trim

SSD Life Estimation

Disk Roaming

Disk Standby

Shared Folder Snapshot

LUN Snapshot

Maximum Snapshot (Per Check maximum number of snapshots of

System) <u>your NAS</u>

Maximum Snapshot (Per Check maximum number of snapshots of

Volume / LUN) <u>your NAS</u> Minimum Snapshot Interval 1 minute

Snapshot Retention Policy

Self-serve Snapshot Recovery

Application Consisted

Snapshot

Snapshot Full Clone

Snapshot Instant Clone

Snapshot Replica / Vault

SSD read-only Cache

SSD read & write log cache

SSD dedicated ZIL cache

SSD Cache Maximum Size Check your QNAP NAS cache capacity and

RAM requirements

SSD Cache RAID 0, 1, 10 (journal)

External Device Management

Mount Smart Phone (MTP)

External RAID Device (QNAP

so on) Management (External

Device Mode)

External RAID Device (QNAP

so on) Management (NAS

Mode) File Server

1. File sharing across Windows, Mac, and Linux/UNIX

2. Microsoft networking (CIFS/SMB)

3. Apple networking (AFP)

4. NFS version 3/4 services

1. FTP, SFTP and TFTP protocols

2. FTP over SSL/TLS (explicit FTPS)

3. FXP support

Maximum FTP connection

Shared Folder Data

Compression

FTP Server

Shared Folder Data

Deduplication

Shared Folder WORM

File Station (Web)

Object Storage

Local user account 16,000 512 Local group account 200,000

Domain user/group account

Domain Security Domain Controller

Shared folder permission

Windows ACL

User quota

Group quota

Folder quota

Home folder

Resource Monitor

SNMP Network recycle bin V2, V3

1. Recover files deleted using AFP, CIFS/SMB, and File Station

2. Automatic cleanup and file type

Log recording: 3,000 event per second

System Log & Notification

Center

Smart Fan

Schedule on/off

IPv4, IPv6 Internet protocol

Virtual Switch

Port trunking , (7 modes)

VLAN

1024

DHCP Server

DDNS (Dynamic Domain

Name Service)

Network access protection SSH, Telnet, HTTP(S), FTP, CIFS/SMB,

with auto-blocking and AFP

Security Counselor Malware Remover

AES 256-bit Folder Encryption

validated by FIPS 140-2

CAVP

2-step verification

Allow/Deny List

Access Protection

Service binding

Firewall

VMware vSphere Ready

vSphere Web Client Plug-in

VMware vSphere VAAI for

iSCSI

VMware vSphere VAAI for

NAS

Windows ODX

Windows/VMware Snapshot

Agent

HTTP/HTTPS Connections

TLS 1.0/1.1/1.2/1.3

Supports WebDAV

Connection

Supports Virtual Hosts

32

Qsync

Note: At least 1 GB RAM is required.

[Qsync] Management Mode

User customization. Central

[Qsync] Qsync client

Windows, macOS, Ubuntu, Android, and

supported platforms

10S

[Qsync] Maximum number of 64

100

version control

HybridMount

Note: At least 1 GB RAM is required.

[HybridMount] File Cloud

Concurrent Connections = 80 Upload & 80

Gateway

Download

[HybridMount] Network Drive

Mount

[HybridMount] Free cloud

2

400

gateway sessions

HBS (Hybrid Backup Sync)

Note: At least 1 GB RAM is required.

[HBS (Hybrid Backup Sync)]

NAS to NAS backup

[HBS (Hybrid Backup Sync)]

Cloud Backup

[HBS (Hybrid Backup Sync)]

Cloud Sync

[HBS (Hybrid Backup Sync)]

2-way and Active Sync

[HBS (Hybrid Backup Sync)]

Backup Deduplication

[HBS (Hybrid Backup Sync)]

Apple Time Machine Backup

[HBS (Hybrid Backup Sync)]

External drive backup

[HBS (Hybrid Backup Sync)]

Maximum number of backup

job

Hyper Data Protector

Boxafe

Note: At least 4 GB RAM is required.

[Boxafe] Office 365 Backup [Boxafe] Google Workspace

Backup

[Boxafe] Full-text search

Osirch

[Qsirch] Previews

Note: This feature is supported by all QNAP NAS devices with at least 2 GB of memory Photos, music, videos, PDFs, Gmail, and others

[Qsirch] Integrate Mac Finder

[Qsirch] Advanced picture

search

[Qsirch] Search filters

QuMagie

Note: At least 1 GB RAM is required.

[QuMagie] Browse photos

[QuMagie] Virtual and smart

albums

management

Antivirus (free)

McAfee (License)

QVPN Service

[QuMagie] AI-assisted photo People, things, places, and others

[QVPN Service] Remote

Access

[QVPN Service] Supportedd

utility and mobile app

[QVPN Service] Supported

maximum clients

HD Station

LDAP Server

RADIUS

SQL server

License Center

Multimedia Console

Photo Station

Music Station

Video Station

Download Station

Notes Station

Qfiling

Media Streaming add-on

QmailAgent

QuWAN

DA Driver Analyzer

Q'center

Note: At least 1 GB RAM is required. PPTP, L2TP/IPSec, OpenVPN, QBelt

(QNAP proprietary)

Windows, macOS, iOS, and Android

100

Note: The application is available in the App Center and in virtual appliance marketplaces (VMware vSphere ESXi and Microsoft Hyper-V).

Q'center Server Q'center Agent Connect to Q'center

Virtualization Station

Note: At least 4 GB RAM is required. Windows, Linux, Unix, and Android

[Virtualization Station]

Supports Virtual machine

instances

[Virtualization Station] VM

importing, exporting, cloning, snapshot capturing, backup,

and restoration

[Virtualization Station] Virtual Can create a virtual switch

switches

[Virtualization Station] GPU

GPU function is fine

4

pass-through

[Virtualization Station]

Suggested number of virtual

machine instances

All function is Fine.

The actual number of virtual machine

instances may vary by the memory installed on NAS (e.g. 1 VM= 1 thread for 1 vCPU and 1GB memory). Please expend memory

if needed.

Container Station

Note: At least 1 GB RAM is required.

[Container Station] Supported LXC/LXD and Docker

type

Note: LXD has been supported after

Container Station 2.4

[Container Station] Docker

Hub Registry

[Container Station] Container

importing and exporting

[Container Station] Console

mode

Linux Station

Notification: At least 4 GB RAM is

required.

[Linux Station] Supports

Ubuntu versions

Linux Station Center

QVR Elite

16.04, 18.04, and 20.04

Note: At least 1 GB RAM is required. The maximum number of channels supported

varies by NAS model, network

configuration, and camera settings. For more

information.

visit https://www.gnap.com/go/qvr-nas-

selector.

[QVR Elite] Recording

Technique

Standard MP4 file based

[QVR Elite] License Type

[QVR Elite] User-defined

trigger events

Subscription-based

[QVR Elite] QVR Pro Client

Windows, macOS, and QNAP HybridDesk Station

(Desktop)

[QVR Elite] QVR Pro Client

Android and iOS

(Mobile)

[QVR Elite] Recording camera H.264

streams

[QVR Elite] Free built-in

camera channels

2

[QVR Elite] Expandable

camera channels

QVR Center

Developing

Note: At least 4 GB RAM is required.

[QVR Center] Log management [QVR Center] Central monitoring across multiple servers