

QNAP TS-h2490FU NAS Rack (2U) EPYC 7302P 128 GB DDR4 0 TB QuTS hero Black, Grey

Gamintojas: **QNAP** · Modelis: **TS-H2490FU-7302P-128G** · EAN: **4713213518380** · Prekės kodas: **938028**



24 006,90 €

Kaina su PVM

Be PVM: **19 840,41 €**

Sandėlyje



Prekė internetu

Nuskenaukite kodą arba apsilankykite www.shopro.lt

Pagrindinės savybės

- ✓ Inline data deduplication and compression, Pool Over-provisioning, and TRIM maximize SSD performance and lifespan
- ✓ Multi-connectivity of 25GbE SFP28 and 2.5GbE RJ45 accelerate virtualization, intensive file access, and large backup/restoration tasks
- ✓ PCIe Gen 4 slots allow for installing 10GbE/25GbE/40GbE/100GbE adapters, QM2 cards, or Fibre Channel cards to increase application performance
- ✓ Supports virtualization storage and hosting virtual machines and containerized apps
- ✓ Cloud storage gateways realize hybrid cloud applications by working with the cache space reserved on NAS to ensure low-latency data access to the cloud
- ✓ Scalable design to grow with your business by connecting SAS 12Gb/s expansion enclosures for up to petabyte-scale storage capacity



Aprašymas

ZFS-based, 24-bay U.2 NVMe all-flash storage built for high-performance and low-latency virtualized workloads, data centers, and 8K streams

The NVMe all-flash TS-h2490FU is designed for providing extreme performance with high cost-efficiency. Featuring 24 U.2 NVMe Gen 3 x4 SSD bays, the TS-h2490FU delivers up to 661K / 245K random read/write IOPS with ultra-low latency.

Build high-performance storage infrastructure for IOPS-demanding applications

Virtualization

Eliminates storage bottlenecks for unstructured data and I/O intensive workloads; ideal for server virtualization and virtual desktop infrastructure (VDI).

Data Centers

Delivers ultra-low latency and high IOPS performance, providing response times within microseconds for data centers that host significant business-critical systems and data.

Media and Entertainment (M&E) production

Satisfies smooth 4K/8K media streaming and post-production, empowering multimedia workflows with faster data transfer, access, and backup for boosted efficiency.

2nd Gen AMD EPYC™ processors and DDR4 ECC memory

The TS-h2490FU is armed with 2nd Gen AMD EPYC™ 7002 series processors (Rome). Based on the “Zen 2” architecture with cutting-edge 7nm process technology, up to 128 PCIe lanes of I/O are provided for 32Gb/s dedicated bandwidth per SSD. With DDR4 ECC memory that detects and corrects single-bit memory errors for higher reliability, the TS-h2490FU provides 8-channel modules and 16 Long-DIMM slots to fulfill memory-intensive workloads. Demonstrating immense computing power and multi-tasking capabilities, the TS-h2490FU is the ideal choice for uncompromising performance demands in HPC, virtualization, and hybrid/multi-cloud applications.

U.2 NVMe Gen 3 x4 All-Flash Storage Array

The 2U rackmount TS-h2490FU has 24 drive bays for U.2 NVMe Gen 3 x4 SSDs, with each individual SSD having 32Gb/s dedicated bandwidth for the utmost application response times. Coupled with powerful ZFS data deduction and SSD optimization technologies, the TS-h2490FU provides solid foundations for overcoming complexity and performance demands in today's evolving data center workloads.

Empower high-speed data transfer with four 25GbE ports

The TS-h2490FU provides breakthrough network connectivity with two pre-installed dual-port 25GbE SFP28 SmartNICs* (that use the Broadcom NetXtreme®-E Series BCM57414, Mellanox® ConnectX®-4 Lx, or the same level SmartNIC). With failover and Port Trunking for up to 100Gb/s bandwidth, the TS-h2490FU empowers your organization with the bandwidth to tackle the most demanding applications, including data centers, virtualization, massive file transfer, high-speed backup/restoration, and multimedia transmission.

Leverage the M.2 PCIe NVMe SSD to U.2 Adapter

Install one or more QDA adapter in the TS-h2490FU to maximize PCIe bandwidth utilization in a cost-effective way by using M.2 PCIe NVMe SSD instead of the U.2 SSD for optimizing data-intensive applications. It can also boost IOPS performance when configuring SSD caching. Users can monitor drive health and manage SSD usage from the QTS Storage & Snapshots Manager. The M.2 SSD installed in the QDA adapter is hot swappable.

Multiple PCIe Gen 4 slots for flexible expansion

The TS-h2490FU is equipped with five PCIe Gen 4 slots. With twice the I/O performance of PCIe Gen 3, the TS-h2490FU can take advantage of many PCIe cards to expand application potential.

Robust hardware paralleled to boost all-flash NVMe performance

The TS-h2490FU features high-level hardware with an expandable architecture to provide businesses with high performance and low latency access. With a removable motherboard drawer design, IT staff can easily maintain the TS-h2490FU without needing to remove it from the rack.

ZFS-based QuTS hero operating system enhances NAS performance and data integrity

QuTS hero combines the app-based QTS with the 128-bit ZFS file system to provide flexible storage management, comprehensive data protection, and optimized performance to tackle the complexity and performance demands of modern IT. From storage management, virtualization, to collaborative media workflows, QuTS hero streamlines your business-critical tasks.

Data integrity is key

QuTS hero's self-healing ensures data integrity and reliability. Write Once, Read Many (WORM) is also supported.

Data reduction improves storage efficiency and performance

Inline data deduplication, compression, and compaction reduce file size to conserve storage capacity and optimize performance.

Multi-level cache technology

Main memory read cache (L1 ARC), SSD second-level read cache (L2 ARC), and ZFS Intent Log (ZIL) for synchronous transactions with power fail protection are simultaneously supported to boost performance and security.

RAID Z enables robust data protection

Multiple RAID levels allow flexible capacity utilization. RAID Triple Parity and Triple Mirror deliver higher levels of data protection.

QSAL (QNAP SSD Antiwear Leveling) enhances data protection

RAID-level SSD lifespan is automatically and regularly detected to prevent simultaneous SSD failure, improving your data protection and system reliability.

App Center ecosystem extends NAS functionality

Apps for backup/sync, virtual machines/containers, content management, productivity, and more features can be used to expand the application potential of the TS-h2490FU.

Inline data deduplication, compression, and compaction improve SSD endurance

QuTS hero supports advanced block-based data reduction technologies (including inline data deduplication, compression, and compaction) to reduce file sizes, conserve storage capacity, and optimize performance. For example, if 20 virtual machines on a NAS are replicated using the same template, then storage space requirements for all 20 virtual machines can be reduced by up to 95%. Whether acting as primary or backup storage, the TS-h2490FU optimizes storage utilization to provide a reliable storage cornerstone in the Big Data era. All-flash solutions thus achieve higher cost efficiency while improving both random write performance and SSD lifespan.

More SSD performance and lifespan optimization technologies

Write Coalescing

Transforms all random writes to sequential writes along with reduced I/O, effectively increasing write performance in all-flash environments.

Pool Over-provisioning

Dedicated space can be flexibly reserved in an SSD storage pool to allow new data to be written into a complete block even if the pool is almost full, thus improving the performance of fragmented pools.

TRIM

Allows QuTS hero to inform SSDs to delete unneeded data blocks and process the deletion tasks during system idle times, meaning it does not have to wait for when new data is written to the block.

Real-time SnapSync ensures minimal RPO with real-time disaster recovery

Real-time SnapSync ensures that both the primary and secondary NAS maintain identical data. When data is written to the source, it is immediately written to the destination. If the primary NAS goes offline, IT staff can simply adjust the privilege settings of the secondary NAS to ensure continuous operations. SnapSync provides the strongest support for nonstop business operations and helps users to reduce the risk of data loss.

Snapshots multiply backup protection

Attain peace of mind with near-limitless, instant snapshots. Copy-on-write technology makes snapshot creation almost instantaneous without affecting ongoing data writing. Snapshot Replica replicates snapshot files to the backup NAS, simplifying data protection with version control.

HBS simplifies 3-2-1 backup plans

HBS centralizes backup, restoration, and synchronization for easily transferring data in the TS-h2490FU to another QNAP NAS, remote server, or cloud storage space. HBS supports QuDedup technology that eliminates redundant data at the source and makes multi-version backup faster.

All-in-one virtual machine and container hosting solution

You can count on Virtualization Station and Container Station for comprehensive virtualization support. 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®, and Android™ virtual machines and access them via a web browser or Virtual Network Computing (VNC). Businesses can run virtualized server applications on a single NAS without the need for additional physical servers.

Container Station

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

Single Root I/O Virtualization (SR-IOV)

By installing an SR-IOV compatible PCIe SmartNIC in the TS-h2490FU, you can allocate bandwidth resources from a physical network card directly to VMs. With traffic bypassing the Hypervisor vSwitch, it helps enhance I/O throughout and network efficiency, ensuring reliable VM applications and reduced CPU overheads.

License-free VMware® and Hyper-V backup appliance

With Hyper Data Protector, the TS-h2490FU becomes an agentless backup tool for unlimited VMware® vSphere and Microsoft® Hyper-V VM backup. Hyper Data Protector features incremental backup, global deduplication, backup scheduling and recovery compression. Hyper Data Protector also

simultaneously backs up multiple VMs, providing you with a cost-effective and reliable disaster recovery plan, ensuring 24/7 operation of your services.

Move business data to the cloud and enjoy low latency access to cloud-based data

The TS-h2490FU perfectly integrates NAS with mainstream cloud services. By deploying cloud storage gateways and enabling local caching, organizations can seamlessly use the cloud for storage, backup, and data recovery with low-latency access. This greatly helps in realizing cost-effective, flexible and secure hybrid cloud applications.

HybridMount file-based cloud gateway

Flexibly expand storage capacity by connecting to cloud storage. You can leverage QuTS hero apps to manage and edit your cloud files or multimedia files. HybridMount is ideal for file server online collaboration and file-level data analysis.

VJBOD Cloud block-based cloud gateway

VJBOD Cloud supports streamlined NAS backup to object cloud storage. The block-based data transmission uploads random data and large files to the cloud in blocks, and only transmits block-based volume or LUN changes (such as addition, modification, or deletion). This is ideal for enterprise-level applications with large file transfer requirements, such as databases, VM volumes, and videos.

High-performance, reliable storage solution for virtualization

- Supports block-based iSCSI LUN as a high-performance, reliable, and affordable storage solution for VMware®, Microsoft® Hyper-V®, and Windows Server® 2019 virtualization environments.

- Supports VMware VAAI and Microsoft ODX to increase performance by offloading server loading for ESXi server and Hyper-V respectively, and supports QNAP vSphere Client plug-in with enhanced operational efficiency and management in virtualization applications.

Build an affordable Fibre Channel SAN environment

Common Fibre Channel Storage Area Networks (SAN) devices are often costly. By installing QNAP dual-port 16Gb/32Gb Fibre Channel expansion cards in the TS-h2490FU, you have more budget-friendly options to add a NAS to a SAN environment. You can set a Fibre Channel Target using the iSCSI & Fibre Channel app. Moreover, the LUN Masking and Port Binding features provide an additional layer of data security.

More productivity applications

Boxafe

Safeguard enterprise cloud data by backing up/syncing files, emails, calendars and contacts from Google™ Workspace and Microsoft® Office 365® to the TS-h2490FU.

Security Counselor

A security portal for checking weaknesses and receiving recommendations for enhancing NAS security. It also integrates anti-virus and anti-malware scanning software.

Qsirch

QNAP's powerful, Google-like search tool helps you quickly find images, music, videos, documents, and emails by keywords, color, and more search conditions. It also supports Qfiling to perform one-time or automatic archival tasks based on your search criteria.

Build a high-density petabyte-scale data center with Seagate® Exos™ E series JBOD

QNAP and Seagate® join hands to assist you in overcoming the challenges of extreme data growth! The TS-h2490FU supports connecting a Seagate Exos E series JBOD, offering a competitive storage solution with unprecedented capacity, industry-leading storage density, and high reliability while also minimizing TCO by saving rack space. You can flexibly install one or more QDA-UMP adapters with IronWolf 525 M.2 NVMe SSDs in the TS-

h2490FU to maximize PCIe bandwidth utilization in a cost-effective way by using M.2 SSD instead of U.2 SSD for optimizing data-intensive applications.

Techninė specifikacija

Storage	
Storage drives installed	No
Total installed storage capacity	0 TB
Number of storage drives installed	0
Number of storage drives supported	24
Installed storage drive type	No
Supported storage drive types	SSD
Storage drive capacity	0 GB
RAID support	Yes
Supported storage drive interfaces	U.2
Storage drive sizes supported	2.5"
RAID levels	0, 1, 5, 6, 10, 50, 60
Online RAID migration	Yes
Online RAID expansion	Yes
RAID rebuild	Yes
Hot-swap drive bays	Yes
Supported file systems	FAT32, HFS+, NTFS, ZFS, ext3, ext4
Bad block scan	Yes
Processor	
Processor family	EPYC
Processor manufacturer	AMD
Processor model	7302P
Processor frequency	3 GHz
Processor boost frequency	3.3 GHz
Processor cores	16
Processor threads	32
L3 cache	128 MB
Memory	
Internal memory	128 GB
Internal memory type	DDR4
Maximum RAM supported	4 TB

Memory slots	16
Memory form factor	RDIMM
Flash memory	5000 MB
Network	
Ethernet LAN	Yes
Ethernet LAN data rates	10,100,1000,2500,25000 Mbit/s
DHCP client	Yes
DHCP server	Yes
Jumbo frames support	Yes
iSCSI support	Yes
Wake-on-LAN ready	Yes
Supported network protocols	TCP/IP, IPv4, IPv6
Link aggregation	Yes
Load balancing system	Yes
Dynamic DNS (DDNS)	Yes
WLAN adapter supported	Yes
Ports & interfaces	
Ethernet LAN (RJ-45) ports	2
USB port	Yes
USB 3.2 Gen 1 (3.1 Gen 1) Type-A ports quantity	2
Fiber ports quantity	2
Fiber optic connector	SFP28
Concurrent connections	10000
Design	
Chassis type	Rack (2U)
Cooling type	Active
Product colour	Black, Grey
Number of fans	4 fan(s)
Fan diameter	6 cm
LED indicators	HDD, LAN, Status
Performance	
Type	NAS
Device class	Large Enterprise Business
Backup function	Yes

Backup features	Cloud, iSCSI LUN
Buzzer	Yes
Multilingual support	Yes
Noise level	53.5 dB
Snapshot	Yes
Web-based management	Yes
Security algorithms	256-bit AES, HTTPS, SSH, SSL/TLS
Access Control List (ACL)	Yes
Reset button	Yes
On/off switch	Yes
Built-in FTP server	Yes
Browser supported	Mozilla Firefox, Microsoft Internet Explorer, Apple Safari, Google Chrome
System log	Yes
Hot spare	Yes
S.M.A.R.T. support	Yes
Universal Plug and Play (UPnP)	Yes
Software	
Operating system installed	QuTS hero
Operating system version	h5.0.0
Windows operating systems supported	Windows 10, Windows 10 Education, Windows 10 Education x64, Windows 10 Enterprise, Windows 10 Enterprise x64, Windows 10 Home, Windows 10 Home x64, Windows 10 IOT Core, Windows 10 Pro, Windows 10 Pro x64, Windows 10 x64, Windows 11, Windows 11 x64, Windows 7, Windows 7 Enterprise, Windows 7 Enterprise x64, Windows 7 Home Basic, Windows 7 Home Basic x64, Windows 7 Home Premium, Windows 7 Home Premium x64, Windows 7 Professional, Windows 7 Professional x64, Windows 7 Starter, Windows 7 Starter x64, Windows 7 Ultimate, Windows 7 Ultimate x64, Windows 7 x64, Windows 8, Windows 8 Enterprise, Windows 8 Enterprise x64, Windows 8 Pro, Windows 8 Pro x64, Windows 8 x64
Linux operating systems supported	CentOS 7.0, SuSE Linux 12.0, SuSE Linux 12.3, SuSE Linux 15, Ubuntu 14.04, Ubuntu 14.10, Ubuntu 15.04, Ubuntu 15.10, Ubuntu 16.04, Ubuntu 16.10, Ubuntu 17.10, Ubuntu 18.04 LTS, Ubuntu 20.04 LTS
Mac operating systems supported	Mac OS X 10.10 Yosemite, Mac OS X 10.11 El Capitan, Mac OS X 10.12 Sierra, Mac OS X 10.13 High Sierra, Mac OS X 10.14 Mojave, Mac OS X 10.15 Catalina, Mac OS X 10.15.3 Catalina, Mac OS X 10.7 Lion, Mac OS X 10.8 Mountain Lion, Mac OS X 10.9 Mavericks, Mac OS X 11.0 Big Sur
Server operating systems supported	Windows Server 2003, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, Windows Server 2016, Windows Server 2019
Other operating systems supported	IBM AIX 7.1, IBM AIX 7.2, Solaris 10, Solaris 11
Power	
Power supply location	Built-in

Power supply unit (PSU) capacity	1100 W
Number of power supply units	2
Power consumption (typical)	277.64 W
AC input voltage	100 - 240 V
Fan voltage	12 V
Weight & dimensions	
Width	481 mm
Depth	510.2 mm
Height	88.3 mm
Weight	15.2 kg
Package width	585 mm
Package depth	739 mm
Package height	305 mm
Package weight	21.9 kg
Packaging content	
Cables included	AC, LAN (RJ-45)
Power cables quantity	2
Quick installation guide	Yes
Number of screws	96
Package type	Box
Operational conditions	
Operating temperature (T-T)	0 - 40 °C
Operating relative humidity (H-H)	5 - 95%
Storage temperature (T-T)	-20 - 70 °C
Storage relative humidity (H-H)	5 - 95%
Logistics data	
Harmonized System (HS) code	84714100
Other features	
Fibre Channel	Yes
Warranty period	5 year(s)

Dokumentai ir vaizdo įrašai

- › [Naudojimo instrukcija](#)
- › [Gaminio lankstinukas](#)
- › [Vaizdo įrašas](#) youtube.com/watch?v=NQC-eGlrE-g

Gamintojo ir saugos informacija

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