

QuTS hero
edition
TVS-h1688X



QNAP TVS- h1688X NAS Tower Intel® Xeon® W-1250 32 GB DDR4 0 TB QuTS hero Black

Model: TVS-H1688X-W1250-32G

Manufacturer: QNAP

EAN: 4713213518403

Product Code: 23527

R136,831

The high-capacity TVS-h1688X features a powerful Intel® Xeon® W processor and allows for installing two QNAP QXP-T32P Thunderbolt™ 3 PCIe expansion cards (sold separately) to attain four Thunderbolt™ 3 ports, making it a perfect match for Thunderbolt™-equipped Mac® and Windows® users for high-speed media collaboration. The built-in 10GbE and 2.5GbE connectivity supports Port Trunking and failover to further satisfy bandwidth and reliability demanding business applications. Running the ZFS-based QuTS hero operating system, the TVS-h1688X supports block-level inline data deduplication and compression, near-limitless snapshots, real-time SnapSync, and read/write cache technologies, helping your business achieve reliable service-level agreement performance,

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from creative workflows to file server, virtualization server, and efficient file backup and recovery applications.

Six cores up to 4.7 GHz with up to 128 GB DDR4 ECC memory

Intel® Xeon® W processors are designed for a wide range of creative professionals. Powered by an Intel® Xeon® W-1250 6 cores/12 threads 3.3 GHz processor (Burst up to 4.7 GHz), the TVS-h1688X has enormous processing power to drive virtual machine performance. The integrated Intel® AES-NI encryption engine boosts encryption performance while also maintaining the security of NAS data. With dual-channel modules and 4 Long-DIMM slots, the TVS-h1688X's DDR4 ECC memory can be upgraded up to 128 GB for memory-intensive and complex multitasking workloads.

Streamline video editing and 4K workflows with Thunderbolt™ 3 connectivity

You can install two QXP-T32P Thunderbolt™ 3 expansion cards (sold separately) to the PCIe Gen 3 x4 slots of the TVS-h1688X and transform it into a Thunderbolt™ 3 NAS with quad-port Thunderbolt™ 3 connectivity. Up to four Thunderbolt™-equipped workstations can be connected to the TVS-h1688X to achieve greater teamwork efficiency in 4K workflows, file storage, backup, and sharing. An SLC/MLC SSD RAID 5 configuration is recommended for the highest possible performance and the best storage allocation for your NAS.

Dual 10GbE connectivity optimizes high-speed data transfer

The TVS-h1688X comes with a pre-installed dual-port 10GBASE-T network card (supports 10GbE/1GbE), supporting failover and up to 20Gb/s bandwidth under Port Trunking, to improve bandwidth-demanding data center, virtualization applications, and high-speed backup and recovery. The TVS-h1688X is also ideally matched with QNAP's managed and unmanaged 10GbE switches to form high-speed, secure and scalable network environments without going over budget.

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Direct 4K HDMI output

The TVS-h1688X features Intel® UHD Graphics P630 that supports hardware decoding and real-time transcoding. The HDMI output supports up to 4K (4096 x 2160p) @30Hz, providing great benefits for applications like video production/editing, industrial design and professional photography that demand on-image resolution and color realism as well as intensive media storage, transfer and display. By connecting the TVS-h1688X to an HDMI display, you can directly watch multimedia content saved on the NAS with QNAP RM-IR004 remote control (sold separately).

Set SSD caching to boost IOPS with M.2 NVMe SSD

The TVS-h1688X comes with four 2.5-inch SATA 6Gb/s drive bays for SSDs and two M.2 NVMe Gen 3 x4 SSD slots that allow you to flexibly configure SSD caching to increase IOPS performance, reduce storage volume latency, and optimize 2.5GbE/10GbE performance. This is especially perfect for databases and virtual machine applications. With dedicated SSD bays/slots, the TVS-h1688X allows you to dedicate all of the 3.5-inch drive bays for high-capacity hard drives, ensuring both maximized storage capacity and performance.

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Data integrity is key

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

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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 TVS-h1688X.

Inline data deduplication, compression, and compaction drives big data storage efficiency

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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 TVS-h1688X optimizes storage utilization to provide a reliable storage cornerstone in the Big Data era.

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 TVS-h1688X 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

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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.

License-free VMware® and Hyper-V backup appliance

With Hyper Data Protector, the TVS-h1688X 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 TVS-h1688X 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.

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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.

Subscribe to QVR Elite surveillance solution for 24/7 security

QVR Elite is QNAP's subscription-based smart surveillance solution, allowing you to easily build a surveillance system with lower TCO and higher scalability. You can arrange a dedicated, independent storage space for surveillance data on the TVS-h1688X and enjoy simplified camera management, storage space allocation, camera live viewing and playback. Recordings are saved as MP4 files, allowing playback on nearly every device. QVR Elite also integrates QNAP AI-based solutions to build smart facial recognition for retail and door access systems with QNAP NAS. With QVR Pro Client software installed on your Windows®/Mac® or mobile devices, taking full control over monitored areas becomes more convenient and easier.

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 TVS-h1688X, 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 TVS-h1688X.

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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.