



# QNAP TVS-h1688X-W1250-32G 48TB (Seagate Ironwolf) 16-Bay TurboNAS (12 x 3.5 HDD + 4 x 2.5 SSD); SATA 6G; Intel Xeon W-1250 6 cores 12 threads 3.3 GHz (boost up to 4.7 GHz); 32GB DDR4 ECC RAM (max. 128GB); 4 x 2.5GbE; 2 x 10GBASE-T 10GbE; 2 x M.2 22110/2 NAS Tower Ethernet LAN Black



**Brand :** QNAP

**Product code:** TVS-H1688X-W1250-32G/48TB-IW

**Product name :** TVS-h1688X-W1250-32G 48TB (Seagate Ironwolf) 16-Bay TurboNAS (12 x 3.5 HDD + 4 x 2.5 SSD); SATA 6G; Intel Xeon W-1250 6 cores 12 threads 3.3 GHz (boost up to 4.7 GHz); 32GB DDR4 ECC RAM (max. 128GB); 4 x 2.5GbE; 2 x 10GBASE-T 10GbE; 2 x M.2 22110/2

- Attain quad-port Thunderbolt™ 3 connectivity by installing two QXP-T32P expansion cards in the PCIe Gen 3 x4 slots
  - Two 10GBASE-T and four 2.5GbE LAN ports accelerate virtualization, intensive file access, large backup/restoration tasks, and media transfer
  - PCIe slots allow for installing 5/10/25/40GbE adapters, QM2 cards, or graphics cards to increase application performance
  - 4K media playback and real-time transcoding; directly output videos to an HDMI display (up to 4K @30Hz)
  - Supports virtual machines and containerized apps, centralized storage, backup, sharing, disaster recovery, and storage expansion
  - 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
- Intel Xeon W-1250 6-core (3.3 GHz), Intel UHD Graphics P630, 4 x Long-DIMM DDR4, LCD, 6x USB 3.2 Gen 2, HDMI, 550 W

Storage		Design	
Storage drive interface *	Serial ATA II, Serial ATA III	Cable lock slot	✓
Supported storage drive interfaces	Serial ATA II, Serial ATA III	Cable lock slot type	Kensington
Storage drive sizes supported	2.5,3.5,M.2	<b>Performance</b>	
Number of M.2 (M & B) slots	2	Type *	NAS
RAID support *	✓	Backup function *	✓
RAID levels	0, 1, 5, 6, 10, 50, 60, JBOD	Backup features	Cloud, USB drive, iSCSI LUN
Online RAID migration	✓	Buzzer	✓
Online RAID expansion	✓	Multilingual support	✓
RAID rebuild	✓	Noise level	25.8 dB
Hot-swap drive bays	✓	Third-party support	✓
Supported file systems	FAT32, HFS+, NTFS, ZFS, exFAT, ext3, ext4	Snapshot	✓
Storage drives installed *	✓	Management protocols	SNMP
Total installed storage capacity *	48 TB	Web-based management	✓
Number of storage drives supported *	16	Share folder access right management	✓
Supported storage drive types *	HDD & SSD	Security algorithms	256-bit AES, FIPS 140-2, HTTPS, SSH, SSL/TLS
Auto-rebuild	✓	Access Control List (ACL)	✓
Bad block scan	✓	Reset button	✓
<b>Processor</b>		On/off switch	✓
Processor manufacturer *	Intel	Built-in BitTorrent client	✓
Processor family *	Intel® Xeon®	Built-in FTP server	✓
Processor model *	W-1250	Browser supported	Safari, Google Chrome, Internet Explorer, Mozilla Firefox
Processor frequency *	3.3 GHz	System log	✓
Processor boost frequency	4.7 GHz	Hot spare	✓
Processor cores	6	S.M.A.R.T. support	✓
Processor threads	12	Universal Plug and Play (UPnP)	✓
Processor cache	12 MB	USB copy function	✓
CPU configuration (max)	1	<b>Software</b>	
On-board graphics card model	Intel UHD Graphics P630	Operating system installed *	QuTS hero

Memory		Software	
Internal memory type	DDR4	Operating system version	4.5.0
Maximum RAM supported	128 GB	Windows operating systems supported	Windows 10, Windows 7, Windows 8
Memory slots	4	Linux operating systems supported	✓
Internal memory *	32 GB	Mac operating systems supported	✓
Memory form factor	UDIMM	Server operating systems supported	Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, Windows Server 2016, Windows Server 2019
ECC	✓	Other operating systems supported	✓
Flash memory	5000 MB		
Network		Power	
Ethernet LAN *	✓	Power supply location	Built-in
Ethernet LAN data rates	100,1000,2500,10000 Mbit/s	Power supply unit (PSU) capacity	550 W
Ethernet LAN data rate supported (max)	10000 Mbit/s	Power consumption (typical)	97.492 W
DHCP client	✓	Power consumption (sleep)	91.26 W
DHCP server	✓	AC input voltage	100 - 240 V
Jumbo frames support	✓	Fan voltage	12 V
iSCSI support	✓	Weight & dimensions	
Wake-on-LAN ready	✓	Width *	369.9 mm
Link aggregation	✓	Depth *	319.8 mm
Load balancing system	✓	Height *	303.8 mm
Dynamic DNS (DDNS)	✓	Packaging content	
WLAN adapter supported	✓	Cables included	AC, LAN (RJ-45)
Ports & interfaces		Power cables quantity	1
USB port *	✓	Number of screws	72
USB 3.2 Gen 2 (3.1 Gen 2) Type-A ports quantity	4	Processor special features	
USB 3.2 Gen 2 (3.1 Gen 2) Type-C ports quantity	2	Embedded options available	✗
HDMI ports quantity	1	Enhanced Intel SpeedStep Technology	✓
HDMI version	1.4b	Execute Disable Bit	✓
Ethernet LAN (RJ-45) ports *	6	Idle States	✓
PCI Express x4 (Gen 3.x) slots	2	Intel 64	✓
PCI Express x8 (Gen 3.x) slots	1	Intel Clear Video Technology	✓
Design		Intel Trusted Execution Technology	✓
Chassis type *	Tower	Intel Virtualization Technology (VT-x)	✓
Cooling type *	Active	Intel Virtualization Technology for Directed I/O (VT-d)	✓
Product colour	Black	Intel VT-x with Extended Page Tables (EPT)	✓
Number of fans	5 fan(s)	Operational conditions	
Fan diameter	8 cm	Operating temperature (T-T)	0 - 40 °C
Fan diameter 2	9.7 cm	Operating relative humidity (H-H)	5 - 95%
LED indicators	HDD, LAN, Status, System, USB	Storage temperature (T-T)	-20 - 70 °C
Built-in display	✓		
Display type	LCD		

Disclaimer. The information published here (the "Information") is based on sources that can be considered reliable, typically the manufacturer, but this Information is provided "AS IS" and without guarantee of correctness or completeness. The Information is only indicative and can be changed at any time without notification. No rights can be based on the Information. Suppliers or aggregators of this Information do not accept any liability with regard to the content of (web)pages and other documents, including its Information. The publisher of the Information can not be held liable for the content of 3rd party websites that are linking this Information or are linked to from this Information. You as the User of the Information are solely responsible for the choice and usage of this Information. You are not entitled to transfer, copy or otherwise multiply or distribute the Information. You are obliged to follow the directions of the copyright owner(s) with regard to the use of the Information. Exclusively Dutch law is applicable. With regard to price and stock data on the site, the publisher followed a number of starting points, which are not necessarily relevant for your private or business circumstances. Therefore, the price and stock data are only indicative and are subject to changes. You are personally responsible for the way you use and apply this information. As a user of the Information or sites or documents in which this Information is included, you will adhere to standard fair use including avoidance of spamming, ripping, intellectual-property violations, privacy violations, and any other illegal activity.

Publication date: 25-MAR-2024. Prints or copies of Information are only valid on the printed Publication date