



QNAP TVS-h1688X-W1250-32G 48TB (WD RED PRO) 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 22110/2280 NV NAS Tower Ethernet LAN Black



Brand : QNAP

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

Product name : TVS-h1688X-W1250-32G 48TB (WD RED PRO) 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 22110/2280 NV

- 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 | Performance | |
| 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 | ✓ |
| Processor | | 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 | | |

| | | | |
|---|-------------------------------|---|---|
| Processor | | Performance | |
| CPU configuration (max) | 1 | USB copy function | ✓ |
| On-board graphics card model | Intel UHD Graphics P630 | Software | |
| Memory | | Operating system installed * | QuTS hero |
| 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 | Power | |
| Network | | Power supply location | Built-in |
| Ethernet LAN * | ✓ | Power supply unit (PSU) capacity | 550 W |
| Ethernet LAN data rates | 100,1000,2500,10000 Mbit/s | Power consumption (typical) | 97.492 W |
| Ethernet LAN data rate supported (max) | 10000 Mbit/s | Power consumption (sleep) | 91.26 W |
| DHCP client | ✓ | AC input voltage | 100 - 240 V |
| DHCP server | ✓ | Fan voltage | 12 V |
| Jumbo frames support | ✓ | Weight & dimensions | |
| iSCSI support | ✓ | Width * | 369.9 mm |
| Wake-on-LAN ready | ✓ | Depth * | 319.8 mm |
| Link aggregation | ✓ | Height * | 303.8 mm |
| Load balancing system | ✓ | Packaging content | |
| Dynamic DNS (DDNS) | ✓ | Cables included | AC, LAN (RJ-45) |
| WLAN adapter supported | ✓ | Power cables quantity | 1 |
| Ports & interfaces | | Number of screws | 72 |
| USB port * | ✓ | Processor special features | |
| USB 3.2 Gen 2 (3.1 Gen 2) Type-A ports quantity | 4 | Embedded options available | ✗ |
| USB 3.2 Gen 2 (3.1 Gen 2) Type-C ports quantity | 2 | Enhanced Intel SpeedStep Technology | ✓ |
| HDMI ports quantity | 1 | Execute Disable Bit | ✓ |
| HDMI version | 1.4b | Idle States | ✓ |
| Ethernet LAN (RJ-45) ports * | 6 | Intel 64 | ✓ |
| PCI Express x4 (Gen 3.x) slots | 2 | Intel Clear Video Technology | ✓ |
| PCI Express x8 (Gen 3.x) slots | 1 | Intel Trusted Execution Technology | ✓ |
| Design | | Intel Virtualization Technology (VT-x) | ✓ |
| Chassis type * | Tower | Intel Virtualization Technology for Directed I/O (VT-d) | ✓ |
| Cooling type * | Active | Intel VT-x with Extended Page Tables (EPT) | ✓ |
| Product colour | Black | Operational conditions | |
| Number of fans | 5 fan(s) | Operating temperature (T-T) | 0 - 40 °C |
| Fan diameter | 8 cm | Operating relative humidity (H-H) | 5 - 95% |
| Fan diameter 2 | 9.7 cm | Storage temperature (T-T) | -20 - 70 °C |
| LED indicators | HDD, LAN, Status, System, USB | | |
| Built-in display | ✓ | | |
| Display type | LCD | | |

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