

QNAP TS-H686-D1602-8G NAS Tower Ethernet LAN Black D-1602





Brand : QNAP **Product code:** TS-H686-D1602-8G/56TB-EXOS

Product name: TS-H686-D1602-8G

- $\hbox{-} Four 2.5 \hbox{GbE ports accelerate file sharing across teams and devices, virtual machine applications or multimedia transmission}$
- DDR4 ECC memory detects and corrects single-bit memory errors, demonstrating high reliability for crucial applications
- Two M.2 NVMe Gen 3 x4 SSD slots (each slot providing up to 3.2 GB/s bandwidth) enable SSD caching to boost random read/write performance
- Two PCIe slots allow for 5GbE/10GbE/25GbE/40GbE adapters, QM2 cards, or entry-level graphics cards to increase application performance
- Scalable storage supporting virtual machines, containerized apps, centralized storage, backup, sharing, and disaster recovery
- QuTS hero combines ZFS advantages with the QTS App Center ecosystem to empower your business Xeon D-1602 2.5 GHz, 8 GB DDR4, 5GB, 4x 3.5" + 2x 2.5", 2x M.2, 4x 2.5G LAN, 3x USB 3.2, 231.9x224.9x319.8 mm

Storaged five interfaces (Supported Storage drive interfaces (Supported storage drive interfaces) (Supported sizes supported (Supported sizes supported (Supported sizes supported (Supported Supported Supported Supported Supported (Supported Supported Su				
Storage drive sizes supported 2,5,3,5° Buzzer	Storage		Performance	
Number of M.2 (M & B) slots 2 Buzzer 4 Multilingual support 4 4 ARIA pusport 4 <td>Supported storage drive interfaces</td> <td>Serial ATA II, Serial ATA III</td> <td>Backup function *</td> <td>✓</td>	Supported storage drive interfaces	Serial ATA II, Serial ATA III	Backup function *	✓
RAID support* J Multilingual support J 18.6 de RAID levels 0.1, 5, 6, 10, 50, 60 Noise level 18.6 dB Online RAID migration J Snapshot J Online RAID expansion J Security algorithms 256-bit AES, AES, FIPS 140-2, HTTPS, SSH, SSL/TLS Hot-swap drive bays FAT32, HFS+, NTFS, ZFS, ext3, ext4 Access Control List (ACL) 456-bit AES, AES, FIPS 140-2, HTTPS, SSH, SSL/TLS Storage drives installed Access Control List (ACL) 4-11-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-	Storage drive sizes supported	2.5,3.5"	Backup features	Cloud, iSCSI LUN
RAID levels 0,1,5,6,10,50,60 Noise level 18.6 dB Online RAID migration 7 Snapshot 7 Online RAID expansion 7 Web-based management 7 RAID rebuild 7 Security algorithms 256-bits AES, AES, FIPS 140-2, HTPS, APPS 400-2, HTMS, APPS 400-2, HT	Number of M.2 (M & B) slots	2	Buzzer	✓
Online RAID migration / Keybased management / Online RAID expansion / Web-based management 256-bit AES, AES, FIPS 140-2, HTTPS, 2FS but AES, AES, FIPS 140-2, HTTPS, SSH, SSL/TLS RAID rebuild / Access Control List (ACL) 256-bit AES, AES, FIPS 140-2, HTTPS, SSH, SSL/TLS Supported file systems FAT32, HFS+, NTFS, ZFS, ext3, ext4 Access Control List (ACL) / Storage drives installed* 56 TB Built-in FTP server Apple Safari 7+, Google Chrome, Microsoft Internet Explorer 10+, Mozilla Firefox Installed storage drive type* HDD Browser supported Apple Safari 7+, Google Chrome, Microsoft Internet Explorer 10+, Mozilla Firefox Supported storage drive types* HDD System log Apple Safari 7+, Google Chrome, Microsoft Internet Explorer 10+, Mozilla Firefox Supported storage drive types* HDD System log Apple Safari 7+, Google Chrome, Microsoft Internet Explorer 10+, Mozilla Firefox Supported storage drive types* HDD System log Apple Safari 7+, Google Chrome, Microsoft Internet Explorer 10+, Mozilla Firefox Processor Intel Safa Safa Safa Safa Safa Safa Safa Saf	RAID support *	✓	Multilingual support	✓
Online RAID expansion Web-based management RAID rebuild / Security algorithms 256-bit AES, AES, FIPS 140-2, HTTPS, SSH, SSL/TLS Numbers of five systems FAT32, HFS+, NTFS, ZFS, ext3, ext4 Access Control List (ACL) 4 Storage drives installed 7 Reset button 4 Number of storage drives sysported 6 Built-in FTP server Apple Safari 7+, Google Chrome, Mozilla Firefox Number of storage drive types HDD Swoser supported Apple Safari 7+, Google Chrome, Mozilla Firefox Supported Storage drive types HDD & SSD System log Apple Safari 7+, Google Chrome, Mozilla Firefox Bad block scan 10D & SSD System log 4 Apple Safari 7+, Google Chrome, Mozilla Firefox Processor frequency 10Le System log 4 Apple Safari 7+, Google Chrome, Mozilla Firefox Processor frequency 10Le System log 4 Apple Safari 7+, Google Chrome, Mozilla Firefox Processor frequency 10Le Sonar Folder UFS, SMB Apple Safari 7+, Google Chrome, Mozilla Firefox Processor frequency 10Le So GHz	RAID levels	0, 1, 5, 6, 10, 50, 60	Noise level	18.6 dB
RAID rebuild Years y drive bays 256-bit AES, AES, FIPS 140-2, HTTPS, 55H, SSLTLS Bots wap drive bays 7432, HFS+, NTFS, ZFS, ext3, ext3 Access Control List (ACL) Year ALL (ACL) Storage drives installed 7612, HFS+, NTFS, ZFS, ext3, ext3 Access button Year ALL (ACL) Number of storage drives usported 66 TB Built-in FTP server Year ALL (ACL) Number of storage drive types HDD Brower supported Apple Safari 7+, Google Chrome, Mozilla Firefox Installed storage drive types HDD SSD Mozilla Firefox Bad block scan HDD & SSD System log Year Company Bad block scan Year Company Year Company Year Company Processor Intell Year Company Year Company Year Company Processor manuly type Intell Xeon® D Year Company Year Company Year Company Year Company Processor frequency ** 10-1602 Software Year Company	Online RAID migration	✓	Snapshot	✓
Hot-swap drive bays FAT32, HFS+, NTFS, ZFS, ext3, ext3, ext3, excess Control List (ACL) 4 TTPS, SSH, SSL/TLS Supported file systems FAT32, HFS+, NTFS, ZFS, ext3, ext3	Online RAID expansion	✓	Web-based management	✓
Supported file systems FAT32, HFS+, NTFS, ZFS, ext3, ext4 Access Control List (ACL) *** Storage drives installed * 7 Reset button 4 Total installed storage capacity* 56 TB On/off switch 4 Number of storage drives supported storage drive type* HDD Browser supported Apple Safari 7+, Google Chrome, Microsoft Internet Explorer 10+, Mozilla Firefox Supported storage drive type* HDD & SSD System log 4 Bad block scan / Hot spare 4 Disk roaming / Mozilla Firefox Processor Intel Universal Plug and Play (UPnP) 4 Processor manufacturer * Intel Universal Plug and Play (UPnP) 4 Processor frequency * D-1602 Software * Processor frequency * 2.5 GHz Operating system version 4.5.0 Processor frequency * 2.6 GHz Mindows operating systems supported 4 Processor threads 4 Linux operating systems supported 4 CPU configuration (max) 1 Mac OSX 10.114 Mjos Sierra, Mac OSX 10.12 <		1	Security algorithms	
Storage drives installed* Y Reset button Y Total installed storage capacity* 56 TB On/off switch Y Number of storage drives supported 6 Built-in FTP server Apple Safari 7+, Google Chrome, Microsoft Internet Explorer 10+, Mozilla Firefox Supported storage drive type** HDD & SSD System log Microsoft Internet Explorer 10+, Mozilla Firefox Bad block scan Y Hot spare Y Disk roaming Y SM.A.R.T. support Y Processor Intel® Xeon® D Usb copy function Y Processor manufacturer** Intel® Xeon® D Usb copy function Y Processor frequency 10-1602 Software Y Processor frequency 2.5 GHz Operating system version 4.5.0 Processor threades 2 Windows operating systems Windows 10, Windows 7, Windows 8 upported Processor cache 3 MB Amac OSX 10.10 Yosemite, Mac OSX 10.12 Yosemite, Mac OSX 10.12 Yosemite, Mac OSX 10.12 Yosemite, Mac OSX 10.12 Yosemite, Mac OSX 10.13 High Sierra, Amac OSX 10.13 High Sierra, A	, ,	FAT32. HFS+. NTFS. 7FS. ext3. ext4	Access Control List (ACL)	✓
Total installed storage capacity 56 TB On/off switch / Number of storage drives supported 6 Installed Storage drive type* HDD Browser supported Apple Safari 7+, Google Chrome, Microsoft Internet Explorer 10+, Mozilla Firefox Supported storage drive types** HDD & SSD System log / Apple Safari 7+, Google Chrome, Microsoft Internet Explorer 10+, Mozilla Firefox Bad block scan Josh SSD System log / Apple Safari 7+, Google Chrome, Microsoft Internet Explorer 10+, Mozilla Firefox Piblic xoaming Josh SSD System log / Apple Safari 7+, Google Chrome, Microsoft Internet Explorer 10+, Mozilla Firefox Processor monder Josh System			Reset button	✓
Number of storage drives supported Installed storage drive type* HDD Supported storage drive types* HDD SSD Bad block scan Disk roaming Frocessor Processor Intel® Xeon® D Internal memory type Internal type Inter	•	· ·	On/off switch	✓
Installed storage drive type* HDD SSD Supported storage drive types* HDD & SSD Bad block scan Disk roaming Processor Processor Processor Processor family* Intel® Xeon® D Processor frequency* D-1602 Processor			Built-in FTP server	✓
Bad block scan Disk roaming A Bod block scan Disk roaming Disk Roaming Disk Roaming Bod block scan Disk Roaming Disk Roa	* Installed storage drive type *	HDD	Browser supported	Microsoft Internet Explorer 10+,
Disk roaming Processor Processor Processor manufacturer* Intel Intel Voiversal Plug and Play (UPnP) Vorcessor family* Intel® Xeon® D USB copy function Voiressor frequency* Processor frequency* Processor frequency Processor frequency Processor cores 2 Voiressor threads Processor threads Voiressor threads Processor cores 3 MB CPU configuration (max) 1 Internal memory type Maximum RAM supported Maximum RAM supp			System log	✓
Frocessor Processor manufacturer* Intel Processor family* Intel In			Hot spare	✓
Processor manufacturer* Intel Universal Plug and Play (UPnP) Processor family* Intel® Xeon® D USB copy function Processor model* D-1602 Processor frequency* 2.5 GHz Processor boost frequency 3.2 GHz Processor cores 2	DISK roaming	4	S.M.A.R.T. support	✓
Processor family * Intel® Xeon® D USB copy function ✓ Processor model * D-1602 Software Processor frequency * 2.5 GHz Operating system version 4.5.0 Processor boost frequency Processor cores 2 Windows operating systems supported Windows 10, Windows 7, Windows 8 supported Processor cores 2 Windows operating systems supported ✓ Processor cache 3 MB Mac OS X 10.10 Yosemite, Mac OS X 10.12 Sierra, Mac OS X 10.11 FIL Capitan, Mac OS X 10.11 Mojave, Mac OS X 10.14 Mojave, Mac OS X 10.14 Mojave, Mac OS X 10.15 Catallina Memory DDR4 Windows Server 2008 R2, Windows Server 2018 R2, Windows Server 2012 R2, Windows Server 2019 R2, Windo	Processor		Share folder	CIFS/SMB
Processor model*D-1602SoftwareProcessor frequency*2.5 GHzOperating system version4.5.0Processor boost frequency3.2 GHzWindows operating systems supportedWindows 10, Windows 7, Windows 8 supportedProcessor cores2Windows operating systems supportedVindows 10, Windows 7, Windows 8 supportedProcessor cache3 MBMac OS X 10.10 Yosemite, Mac OS X 10.11 El Capitan, Mac OS X 10.13 High Sierra, Mac OS X 10.13 High Sierra, Mac OS X 10.14 Figure, Mac OS X 10.15 CatalinaMemoryDDR4Windows Server 2008 R2, Windows Server 2012 R2, Windows Server 2019Memory slots4Server operating systems supportedWindows Server 2012 R2, Windows Server 2012 R2, Windows Server 2012 R2, Windows Server 2012 R2, Windows Server 2015 R2, Windows Server 2016, Windows Server 2016, Windows Server 2019Memory form factorUDIMMPowerNetworkYower supply locationBuilt-inNetworkYower supply unit (PSU) capacity250 WEthernet LAN *Yower consumption (typical)61.115 W	Processor manufacturer *	Intel	Universal Plug and Play (UPnP)	✓
Processor frequency * 2.5 GHz Processor boost frequency 3.2 GHz Processor cores 2 Processor cores 2 Processor threads 4 Processor cache Processor cache 3 MB CPU configuration (max) 1 Internal memory type DDR4 Maximum RAM supported 128 GB Memory slots 4 Memory slots 128 GB Memory form factor UDIMM Memory 6 Memory 10 MB Memory 6 MB Mac OS X 10.10 Yosemite, Mac OS X 10.11 Yosemite, Mac OS X 10.12	Processor family *	Intel® Xeon® D	USB copy function	✓
Processor boost frequency Processor cores Processor cores Processor cores Processor threads Processor cache Pr	Processor model *	D-1602	Software	
Processor boost frequency Processor cores Processor cores Processor cores Processor cores Processor threads Processor threads Processor cache Processor supported Processor suppor	Processor frequency *	2.5 GHz	Operating system version	450
Processor cores Processor threads Processor threads Processor threads Processor cache Mac OS X 10.10 Yosemite, Mac OS X 10.11 El Capitan, Mac OS X 10.11 El Capitan, Mac OS X 10.12 Sierra, Mac OS X 10.13 High Sierra, Mac OS X 10.15 Catallina Processor cache Processor cac	Processor boost frequency	3.2 GHz		
Processor cache Mac OS X 10.10 Yosemite, Mac OS X 10.11 El Capitan, Mac OS X 10.11 El Capitan, Mac OS X 10.11 El Capitan, Mac OS X 10.12 Migh Sierra, Mac OS X 10.14 Mojave, Mac OS X 10.15 Catalina Processor cache Processor	Processor cores	2		Windows 10, Windows 7, Windows 8
CPU configuration (max) Memory Internal memory type Maximum RAM supported Memory slots Internal memory * Memory form factor Flash memory Network DDMA Maximum RAM supported Mindows Server 2008 R2, Windows Server 2012, Windows Server 2019 Memory form factor Flash memory Network Power Power Power supply location Power supply unit (PSU) capacity Max OS X 10.12 10.11 El Capitan, Mac OS X 10.12 Sierra, Mac OS X 10.12 Sierra, Mac OS X 10.12 Network Sierra, Mac OS X 10.12 Nindows Server 2018 R2, Windows Server 2016, Windows Server 2019 Power Power Power Number of power supply unit (PSU) capacity 10.15 Catalina Windows Server 2012 R2, Windows Server 2016 R2, Windows Server 2019 Network Power supply location Power supply unit (PSU) capacity Max OS X 10.14 Mojave, Mac OS X 10.12 Network Sierra, Mac	Processor threads	4	Linux operating systems supported	✓
MemoryMac operating systems supportedSierra, Mac OS X 10.13 High Sierra, Mac OS X 10.14 Mojave, Mac OS X 10.15 CatalinaMaximum RAM supported128 GBWindows Server 2008 R2, Windows Server 2012, Windows Server 2012, R2, Windows Server 2012, R2, Windows Server 2012, R2, Windows Server 2019Memory form factorUDIMMPowerFlash memory5000 MBPower supply locationBuilt-inNetwork✓Number of power supply unit (PSU) capacity250 WEthernet LAN *✓Number of power supply units1Ethernet LAN data rates100,1000,2500 Mbit/sPower consumption (typical)61.115 W	Processor cache	3 MB		Mac OS X 10.10 Yosemite, Mac OS X
MemoryMac OS X 10.14 Mojave, Mac OS X 10.15 CatalinaInternal memory typeDDR410.15 CatalinaMaximum RAM supported128 GBWindows Server 2008 R2, Windows Server 2012, R2, Windows Server 2012, R2, Windows Server 2012, R2, Windows Server 2019Memory form factorUDIMMPowerFlash memory5000 MBPower supply locationBuilt-inNetwork✓Number of power supply unit (PSU) capacity250 WEthernet LAN *✓Number of power supply units1Ethernet LAN data rates100,1000,2500 Mbit/sPower consumption (typical)61.115 W	CPU configuration (max)	1		
Maximum RAM supported Memory slots128 GBServer operating systems supported R2, Windows Server 2012, Windows Server 2012 R2, Windows Server 2012 R2, Windows Server 2019Memory form factorUDIMMPowerFlash memory5000 MBPower supply location Power supply unit (PSU) capacityBuilt-inNetwork✓Number of power supply units1Ethernet LAN *✓Number of power supply units1Ethernet LAN data rates100,1000,2500 Mbit/sPower consumption (typical)61.115 W	Memory		Mac operating systems supported	
Memory slots 4 Server operating systems supported Server 2012, Windows Server 2012 R2, Windows Server 2016, Windows Server 2019 Memory form factor UDIMM Power Flash memory 5000 MB Power supply location Built-in Network Power supply unit (PSU) capacity 250 W Ethernet LAN * ✓ Number of power supply units 1 Ethernet LAN data rates 100,1000,2500 Mbit/s Power consumption (typical) 61.115 W	Internal memory type	DDR4		10.15 Catalina
Memory slots Internal memory * 8 GB Memory form factor Flash memory Network Ethernet LAN * Internal memory slots 4 R2, Windows Server 2016, Windows Server 2019 Power Power Power Number of power supply units 1 Power consumption (typical)	Maximum RAM supported	128 GB		
Internal memory *8 GBServer 2019Memory form factorUDIMMPowerFlash memory5000 MBPower supply locationBuilt-inNetworkPower supply unit (PSU) capacity250 WEthernet LAN *✓Number of power supply units1Ethernet LAN data rates100,1000,2500 Mbit/sPower consumption (typical)61.115 W	Memory slots	4	Server operating systems supported	
Flash memory 5000 MB Power supply location Built-in Network Power supply unit (PSU) capacity 250 W Ethernet LAN * ✓ Number of power supply units 1 Ethernet LAN data rates 100,1000,2500 Mbit/s Power consumption (typical) 61.115 W	Internal memory *	8 GB		
Flash memory 5000 MB Power supply location Built-in Network Power supply unit (PSU) capacity 250 W Ethernet LAN * ✓ Number of power supply units 1 Ethernet LAN data rates 100,1000,2500 Mbit/s Power consumption (typical) 61.115 W	Memory form factor	UDIMM	Power	
NetworkPower supply unit (PSU) capacity250 WEthernet LAN *✓Number of power supply units1Ethernet LAN data rates100,1000,2500 Mbit/sPower consumption (typical)61.115 W	Flash memory	5000 MB		Duille in
Ethernet LAN *	Network		, , ,	
Ethernet LAN data rates 100,1000,2500 Mbit/s Power consumption (typical) 61.115 W		,		
1 121				
DHCP client AC input voltage 100 - 240 V		, , ,		
	DHCP CIIENT	4	AC Input Voltage	100 - 240 V

Network		Power	
DHCP server	✓	AC input frequency	50 - 60 Hz
Jumbo frames support	1	Weight & dimensions	
Supported network protocols	TCP/IP, HTTP/HTTPS	Width *	224.9 mm
WLAN adapter supported	✓	Depth *	319.8 mm
Ports & interfaces		Height *	231.9 mm
USB port *	✓	Weight	7.27 kg
USB 3.2 Gen 1 (3.1 Gen 1) Type-A ports quantity	4	Packaging content	
Ethernet LAN (RJ-45) ports *	4	Cables included	AC, LAN (RJ-45)
PCI Express x8 (Gen 3.x) slots	2	Number of screws	30
Design		Processor special features	
Chassis type * Cooling type * Product colour Number of fans Fan diameter Fan diameter 2 LED indicators Cable lock slot Cable lock slot type	Tower Active Black 2 fan(s) 8 cm 9.7 cm HDD, SSD, Status ✓ Kensington	Embedded options available Enhanced Intel SpeedStep Technology Execute Disable Bit Idle States Intel 64 Intel QuickAssist Technology Intel Trusted Execution Technology Intel TSX-NI Intel Virtualization Technology (VT-	X ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓
Performance		x)	✓
Type * Device class *	NAS Large Enterprise Business	Intel Virtualization Technology for Directed I/O (VT-d)	✓
		Intel VT-x with Extended Page Tables (EPT)	✓
		Operational conditions	
		Operating temperature (T-T) Operating relative humidity (H-H)	0 - 35 °C 5 - 95%

