TerraMaster F2-422

10GbE 2-Bay Professional NAS

Datasheet

With an Intel quad-core 1.5 GHz (turbo boost up to 2.3 GHz) processor, 4GB DDR3 memory, a 10Gb Ethernet port, two 1Gb Ethernet ports, and AES NI hardware encryption, TerraMaster's F2-422 is ideal for small and medium-sized commercial storage servers.

10Gb Ethernet Port

The F2-422's built-in 10Gb Ethernet port provides up to 10Gb of high-speed bandwidth. With 2 Seagate 4TB SSD drives in RAID 0 mode, the device's read and write speeds can reach 670MB/s and 650MB/s, respectively. Even without replacing the existing Cat6/6A cable's network architecture, users can benefit from these rapid and best-in-class speeds. The device was designed with professional users in mind, including 4K video editors and users with large data and strict speed requirements.

Multiple Layers of Data Security

The F2-422 device relies on the following six data security layers:
1. Automatic scheduled backup
2. Btrfs file system and snapshot
3. Multi RAID   array security
4. AES hardware folder encryption and network transport encryption
5. Cloud drive data backup
6. File system Cluster

Enhance the Safety of your Data with a Next-Generation File System

Superior storage technology and optimised snapshot technology are the cornerstones of the Btrfs file system, which is what TerraMaster's F2-422 2-bay NAS unit relies on for advanced data protection, prevention of data corruption, and minimal maintenance expenses. Use of this file system promotes high data integrity, all the while promoting flexibility and efficiency in the areas of data protection and data recovery.

Optimised snapshot technology generates 1024 snapshots for every shared folder, and up to 30,720 overall system snapshots. In this way, users can benefit from flexible, storage-saving data protection.
Since data recovery takes place at the file or folder level, businesses can also benefit from enhanced flexibility and efficient data recovery.

Faster and Safer

The device is equipped with four Gigabit network interfaces to support network aggregation and failover. If one network interface fails, the Internet connection can be maintained, helping to reduce the possibility of service interruption and the inconvenience of downtime operation. In addition, network aggregation can give full play to the advantages of the four network interfaces, which several times faster the connection speed and breaks the speed limit of a single network interface.

Large-Scale User Access

Support concurrent access for up to 1,000 users. You can also share storage space across multiple users, apply RBAC rights management and Windows ACL, and set access rights according to users, user groups, and folders.

SSD Cache

Using SSD acceleration technology, transmission efficiency can be enhanced with a read-write optimised combination of hard disk and SSD cache. Effective SSD acceleration technology dramatically reduces I/O latency and improves storage efficiency by more than 20%.

Multiple RAID Modes

Support a variety of disk array modes, including RAID 0, RAID 1, JBOD, and SINGLE, to meet the needs of various users and levels of data security.

A Private Space in the Cloud

TNAS offers users the opportunity to establish a personal cloud drive that satisfies their remote access needs. Rights of access can be tailored for your colleagues, relatives, or friends, and with support for two-way sync cloud drive, enjoying the benefits of convenient cloud life has never been easier.

TNAS.online for Simple Remote Access

TNAS.online spares you from setting up DDNS, complicated network settings, and further port forwarding rules when trying to access files on TNAS through the Internet. At no additional expense, the service provides a secure, modifiable URL that you can use to engage with audio and video content, along with other work files, on your Internet-enabled device.

Striving to Satisfy Small Businesses

Small businesses benefit from the opportunity to conveniently build file storage servers, mail servers, web servers, FTP servers, MySQL databases, CRM systems, Node.js, and Java virtual machines, as well as a host of other commercial applications.

State-of-the-Art TOS 4.1.X Operating System

With the most recent version of the TOS operating system, TOS 4.1.X, you can back up your data, manage your file server, and optimise your sharing services in an intuitive, simple, and user-friendly way. The operating system includes a complex of application software, with rich application content, potent multimedia services, and numerous ways to back up your data.

Smart Mobile App

With the TNAS mobile app, quickly access your TNAS device and its multimedia data without restrictions, all simply through your iOS or Android system.

Panel Illustration:

SN	Item	Item
1	Hard drive tray	3.5" SATA HDD; 2.5" SATA HDD; 2.5" SATA SSD
2	Hard drive indicator	Red: Hard drive failure Green: Normal operation status Green (flickering): Reading/writing data Off: No hard drive detected
3	Network indicator	Green: Network connection is normal Off: Network disconnected
4	Power switch/Power indicator	On: Power on Off: Power off

Rear Cover Illustration:

SN	Item	Description
5	USB 3.0 host (×2)	Use to connect USB storage device or USB wireless adaptor
6	Network interface	1000M/100M bps network interface
7	Network interface	10 Gbps network interface
8	Power interface	DC 12V power input NOTE: Do not use a third-party power adaptor

Specifications:

Hardware	
Processor	
Processor Model	Intel® Celeron® J3455
Processor Architecture	X.86 64-bit
Processor Frequency	Quad Core 1.5GHz (Max burst up to 2.3GHz)
Hardware Encryption Engine	√
Hardware Transcoding Engine	H.265 (HEVC), MPEG-4 Part 2, MPEG-2, VC-1; maximum resolution: 4K (4096 x 2160); maximum frame rate per second (FPS): 30
Memory	
System Memory	4GB
Pre-installed Memory module	/
Total Memory Slot Number	1
Maximum Supported Memory	8 GB (4 GB + 4 GB)
Note	TerraMaster reserves the right to replace memory modules with the same or higher frequency based on supplier's product life cycle status. Rest assured that the compatibility and stability have been strictly verified with the same benchmark to ensure identical performance.
Storage	
Disk Slot Number	2
Compatible Drive types	3.5" SATA HDD
	2.5" SATA HDD
	2.5" SATA SSD
Maximum Internal Raw Storage Capacity	32 TB (16 TB x 2) (Capacity may vary by RAID types)
Max Single Volume	108TB
Drive Hot Swap	√
Note	. Hard drive vendors will release their latest models of hard drives, and Maximum internal raw storage capacity may be adjusted accordingly. . The maximum single volume size is not directly related to the maximum raw capacity.
File System	
Internal Drive	EXT4,BTRFS
External Drive	EXT3, EXT4, NTFS, FAT32, HFS+
External Ports	
RJ-45 1GbE Network Jack	2

RJ-45 10GbE Network Jack	1
USB 3.0 Port	/
USB 2.0 Port	/
HDMI	/
VGA	/
COM	/
PCIe Slots	/
Appearance	
Size (H*W*D)	227 x 119 x 133 mm
Packaging Size (H*W*D)	258 x 220 x 170 mm
Weight	Net Weight: 1.42Kg Gross Weight: 2.53Kg
Others	
System Fan	80 mm x 80 mm x25mm 1 pcs
Fan Mode	Smart, High speed, Middle speed, Low speed
Noise Level	18.6dB(A)
Power Supply	40W
AC Input Voltage	100V - 240V AC
Current Frequency	50/60 Hz, single frequency
Power Consumption	25.6W
	8.4 W (hard drive dormancy)
Limited warranty	2 years
Certificate	FCC, CE, CCC, KC
Environment	RoHS, WEEE
Temperature	
Working Temperature	5°C ~ 40°C (40°F ~ 104°F)
Storage Temperature	-20°C ~ 60°C (-5°F ~ 140°F)
Relative Humidity	5% ~ 95% RH
Package Contents	
	Host unit (x1)
	Power cord (x1)
	RJ-45 network cable (x1)
	Quick Installation Guide (x1)
	Limited Warranty Note(x1)
	Screws(a few)
	Power adapter (x1)

TOS Features	
OS Supported	
Supported Client OS	Windows OS, Mac OS, Linux OS
Supported Web Browsers	Google Chrome 48, Microsoft Internet Explorer 9, Mozilla Firefox 30,Apple Safari 4.5 or later version; Microsoft Edge is not recommened.
Supported mobile OS	Ios 8.2, Android 6.0 or later version
Storage Management	
Supported RAID Types	Single, JBOD, RAID 0, RAID 1
Maximum Internal Volume Number	256
Maximum iSCSI Target	128
Maximum iSCSI LUN	128
Volume Expansion with Larger HDDs	RAID 1
Volume Expansion by Adding a HDD	/
RAID Migration	√
SSD Cache	√
Hot Spare	√
SSD TRIM	√
Hard Drive S.M.A.R.T.	√
Seagate IHM	√
NVRAM write cache(BBU-protected)	/
WORM(Write Once Read Many)	/
Shared Folder Snapshot	√
LUN Snapshot	/
Storage QoS For Shared Folder	/
File Services	
File Protocol	SAMBA/AFP/NFS/FTP/WebDAV
Maximum Concurrent SAMBA/AFP/FTP Connections	500
Windows Access Control List (ACL) Integration	√
NFS Kerberos Authentication	√
Account & Shared Folder	
Maximum local user's account number	2048
Maximum local group number	512
Maximum shared folders number	512
Maximum shared folders syncing tasks	8
Backup	

Rsync Server	√
Rsync Backup	√
Schedule Backup	√
USB Device Backup	√
Cloud Sync	√
Time Machine Server	√
File System Gluster	/
Networking	
TCP/IP	IPv4
Protocols	CIFS/SAMBA, NFS, FTP, TFTP, HTTPS, SSH, iSCSI, SNMP, SMTP
Link Aggregation	/
DLNA Compliance	√
VPN Client	√
VPN Server	√
Proxy lient	/
Proxy Server	/
UPnP/Bonjour Discovery	√
TNAS.online Remote Access	√
DDNS	√
Access Right Management	
Batch users creation	/
Import/Export users	/
User Quota Managerment	√
Local user access control for CIFS/SAMBA and FTP	√
Domain Authentication	
Microsoft Active Directory	√
LDAP Client	/
LDAP Server	/
SSO	/
Security	
Firewall Protection	√
Account Auto-block Protection	√
AES Volume and Shared Folder Encryption	√
Importable SSL certificate	√
Instant Alert via email, SMS, Beep	√

Power Managerment	
Automatic Power On After Power Recovery	√
Scheduled Power On/Off	√
Wakeup On LAN	/
UPS Supported	√
Administration	
Multi-window, Multi-task System Management	√
Custom Desktop	√
Control Panel	√
Resource Monitor	√
Syslog	√
OS UI Language	English, German, French, Spanish, Italian, Magyar, Chinese, Japanese, Korean
Applications	
Application Center	√
Mail Server	√
Web Server	√
Clam Antivirus	√
Download	√
Multi Media Server	√
Docker	√
Plex Media Server	√
Snapshot	√

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