TerraMaster F4-425 Plus(N95)

3+4 Bay Hybrid Network Storage

Datasheet



The F4-425 Plus is tailored for geek enthusiasts and small office environments. Boasts powerful hardware with 8GB high-capacity memory and dual 5G network interfaces, delivering exceptional performance and speed. Equipped with an on-device AI photo management system, it enables intelligent photo organization without uploading to the cloud, offering comprehensive protection for personal data privacy and security. With up to 144TB of massive storage capacity, it effortlessly supports unified management of extensive resources. The device also facilitates seamless online collaboration among team members, significantly enhancing office productivity. Multiple security mechanisms provide reliable data protection.

Powerful Hardware Configuration

Powered by Intel's latest Alder Lake N95 processor with 4 cores and 4 threads, turbo frequencies up to 3.4 GHz, and integrated Intel® Graphics, delivering up to 25% faster 8K video transcoding. Supports AES-NI hardware encryption, paired with 8GB memory, dual 5GbE network interfaces, and three M.2 slots.

Innovative Triple M.2 Design

The F4-425 Plus offers exceptional storage expandability: it supports up to four HDDs with a maximum capacity of 30TB per drive, and comes equipped with three M.2 SSD slots, each supporting up to 8TB. In total, the system can reach an impressive 144TB of storage.

For data protection, the three M.2 SSD slots can be flexibly configured. The three M.2 slots can be configured as a RAID 5 array for enhanced data security and high-speed storage, improving read/write performance. In addition, the system allows independent creation of storage spaces for HDDs and M.2 SSDs, accommodating a wide range of storage requirements.

When connected to a TerraMaster USB DAS array, the F4-425 Plus also supports creating separate storage pools and volumes on external drives. This provides scalable and efficient expansion options, offering users a flexible solution for growing storage needs.

Dual 5GbE Ports, High-Speed Performance

The F4-425 Plus is equipped with dual 5GbE Ethernet Ports, supporting multiple bonding modes for versatile applications. In real-world environments, combined with SMB Multichannel, it delivers linear write speeds of up to 1010 MB/s and achieves 4K random read/write performance of 280 MB/s, ideal for multi-user offices or video editing scenarios.

Localized AI, No Cloud Upload Required

TNAS uses on-device AI algorithms, so your photos never need to be uploaded to the cloud. This ensures secure, private, and intelligent management of your photo collection. With advanced face recognition, TNAS can automatically organize images into dedicated albums for different people, let you tag relationships, and even set custom album covers.

It also classifies pets, objects, and scenes, making it easy to find and share your photos. TNAS is an ideal photo management solution for families and photography enthusiasts alike.

Unified Family Album Management

Centrally store and manage all family photos, keeping your shared memories organized and secure. AI compiles individual photo collections from thousands of images effortlessly.

With timeline-based browsing, you can quickly locate your baby's daily photos and videos, and cherish every moment of growth together with your loved ones.

Centralized Family Photo Management

Store and manage all family photos in one place, preserving shared memories. AI compiles individual photo collections from thousands of images effortlessly. The timeline feature helps quickly locate daily photos/videos of your child, allowing the family to cherish every growth milestone together.

TNAS Mobile – Everything Under Control

The all-new TNAS Mobile is simple and easy to use. It can automatically back up your phone's photos and videos, while AI-powered photo management keeps even large collections organized and easy to browse.

With TNAS Mobile, you can set up and manage your TNAS device directly from your phone. The app integrates user management, storage management, personal folders, team-shared

files, and a secure vault, providing convenient remote access, mobile office, and device management.

Sharing your precious memories has never been easier. TNAS Mobile offers detailed sharing controls, allowing you to set link expiration, access limits, validity period, encryption, and download permissions. Multiple security settings ensure your photo sharing is both convenient and safe.

Fast and Stable Remote Access

Even when your NAS is halfway across the world, your data is always within reach, allowing you to access the files you need anytime, anywhere.

Leveraging a globally distributed multi-node network, TNAS ensures stable data transmission. In any network environment, you can enjoy fast and reliable access to your NAS without any complicated setup.

Private and Secure Personal Cloud

The F4-425 Plus lets you easily set up a high-security personal cloud with just one click, without the need for subscription services.

Enjoy lightning-fast transfers powered by TPT direct connection technology, ensuring full-bandwidth performance.

Access your files effortlessly with zero technical barriers—no complicated setup required, and securely reach your data anytime, anywhere from smart devices.

Enterprise-grade privacy protection keeps your data fully secure, giving you peace of mind for all your personal information.

Unified Management of Massive Resources

Centralize all your data—scattered across Windows PCs, Macs, mobile devices, external

drives, and cloud storage—into TNAS for unified management. This helps prevent data loss caused by hardware failures, ransomware, or other unexpected issues.

Family Data Storage Hub

The F4-425 Plus is a dedicated data storage and backup solution designed for households. Supporting hard drives up to 30TB each, it delivers a maximum total capacity of 120TB—enough to store:

- 30 million high-resolution photos
- 120 million work documents
- 80,000 HD movies
- 4 million lossless music tracks

Direct Mount for Data Drives

Unlike traditional NAS systems that require hard drives to be partitioned and formatted before installation—forcing users to erase existing data—the TOS 6 system introduces Direct Mount for Data Drives, a convenient feature that simplifies storage expansion.

With this capability, users can directly hot-swap a pre-used hard drive (with existing data) into their TNAS device and access its contents directly—no reformatting, no data loss.

Build Your Home Multimedia Hub

The F4-425 Plus boasts powerful 4K video hardware decoding capabilities. Compatible with media server applications used by hundreds of millions of people, such as Plex, Emby, and Jellyfin. It can stream video content to various devices—including smartphones, tablets, Roku, Apple TV, Google Chromecast, Amazon Fire TV, and smart TVs—allowing you to manage and enjoy a rich and diverse collection of movies and TV shows.

Video Resource Downloading

TerraMaster provides professional media download tools including Aria2, qBittorrent, Transmission and Xunlei—the F4-425 Plus delivers blazing-fast download speeds and efficient file transfer management for all your media content.

Seamless Cloud Drive Integration

With TerraMaster CloudSync, effortlessly connect your cloud storage to NAS for seamless synchronization and sharing. CloudSync combines support for multiple mainstream cloud services—including Google Drive, OneDrive, Amazon S3, Dropbox, Baidu Cloud, and Alibaba Cloud. Supports multiple sync strategies, data encryption, scheduled tasks, idle-time syncing, speed and bandwidth limits, and sync history tracking.

Permission Management

TNAS offers 13 customizable permission levels, allowing you to create individual user accounts for each family member or employee. Key features include bulk user and group creation, password complexity enforcement, and a recycle bin accessible only to administrators.

Seamless TNAS Integration with Windows Domain or LDAP

Once connected to a Windows Domain or LDAP, users can log in directly with their existing domain credentials—no separate passwords needed—greatly reducing IT maintenance costs.

Team Collaboration, Redefined

An enterprise-grade NAS solution designed for small and medium-sized businesses. With on-premises data storage, your files are fully protected to ensure maximum privacy and security. Powered by LAN-based ultra-fast access, you'll experience seamless file sharing

without bandwidth limits — delivering stable and efficient collaboration across your team.

Effortless PC Storage Expansion

Instantly extend your computer's storage by mapping TNAS space as a native local drive. Enjoy the same smooth experience as using a local disk — with no compromises in speed, stability, or usability.

Flexible Access Control

Administrators can assign differentiated read and write permissions to folders based on user roles and specific needs, ensuring both data security and efficient management.

Team Shared Folders

Enable team members to quickly share and transfer files, improving collaboration efficiency and keeping workflows smooth.

Recycle Bin Permission Management

Files deleted by regular users are automatically moved to the recycle bin, but only administrators have full control—able to restore or permanently remove files as needed.

Guest Access Mode

Visitors can access authorized shared content without the need for an account or password. This simplifies temporary collaboration while maintaining data security.

Familiar Windows Experience

The system fully inherits the operational logic of the Windows file system, allowing users to work without adapting to a new platform and helping organizations reduce training costs.

Remote Access

When traveling or away from the office, employees can securely access the company's internal file repository via the internet, ensuring important documents are always within reach.

Enterprise Backup Solution

BBS (Business Backup Suite) is TerraMaster's self-developed, all-scenario enterprise backup solution. Its core components include TerraSync (TS), Centralized Backup (CB), Duple Backup (DB), CloudSync, and Snapshot.

TerraSync (TS): Enables data synchronization between multiple backup servers, as well as between backup servers and PCs.

Centralized Backup (CB): Consolidates data from employee PCs, file servers, and virtual machines within the enterprise, backing it up to a local TerraMaster backup server.

Duple Backup (DB): Provides remote disaster recovery by enabling backup replication between TerraMaster servers.

CloudSync: Supports cloud-based disaster recovery.

Snapshot: Offers file system and folder snapshots and recovery, helping safeguard against ransomware attacks.

Cross-Platform File Services

Supporting SMB, NFS, FTP/SFTP, AFP, iSCSI, and WebDAV protocols, it enables seamless file sharing across Windows, Mac, and Linux systems with granular user/group permissions and enterprise-grade security.

Applications for Small and Medium Businesses

With TNAS, you can easily deploy a wide range of services, including file servers, mail servers, web servers, FTP servers, MySQL databases, CRM systems, Node.js environments, and Java Virtual Machines. It is designed to meet the diverse needs of industries such as education, consulting, finance, research, legal services, and more.

Video Surveillance Management

TerraMaster's proprietary Surveillance Manager enables you to create a complete video surveillance system by connecting multiple ONVIF-compliant IP cameras to your TNAS. This integrated solution provides centralized camera management, live viewing, historical playback, and automatic storage of all recordings to designated TNAS locations - all through

an intuitive unified interface.

User-Friendly NAS Operating System

The F4-425 Plus comes with TerraMaster's 6th-generation NAS operating system (TOS 6), available completely free of charge. TOS is a web-based OS specifically designed for TerraMaster NAS devices, allowing all configurations to be done through an intuitive browser interface—no command-line knowledge required.

TOS 6 introduces over 40 brand-new features and brings improvements to more than 370 details, delivering a completely redesigned user experience from the inside out. With enhanced security mechanisms, your data is better protected than ever. Optimized system performance ensures faster task execution, providing TNAS users with an unmatched upgrade experience that is both powerful and easy to use.

Multiple Safeguards for File Security

In the face of increasingly sophisticated cyber threats, network device security now confronts unprecedented challenges. TOS delivers multi-layered defense mechanisms to safeguard critical data, significantly reducing risks from hackers and ransomware attacks.

1. System-Wide PAM Authentication

Enables flexible and configurable security policies across the system.

2. Firewall and Whitelist Rules

Restrict access by IP address, subnet, and port.

3. Encrypted Data Transmission

Secures data with 256-bit encryption and TLS protocols.

4. OTP Two-Factor Authentication

Adds mobile verification for login, enhancing account security.

5. IP Blocking

Automatically locks out addresses after multiple failed login attempts.

6. DoS Protection

Maintains TNAS stability during denial-of-service attacks.

7. Certificate Services

Ensures device authentication and encrypted access.

8. Security and Privacy Control (SPC)

Blocks unauthorized apps from accessing network and storage.

9. Secure Isolation Mode

Disables internet access to prevent attacks and unauthorized software, creating a safer environment.

10. TRAID Elastic Array

Provides flexible array configurations with online migration, expansion, and redundancy, improving disk space utilization.

11. TFSS File System Snapshots

One-click global snapshots and restoration of storage space, effectively helping to prevent ransomware attacks.

12. TFM Backup

Supports local and remote folder mirroring and incremental backups, optimizing storage usage.

13. HyperLock-WORM

Prevents tampering with data, with protection periods of up to 70 years.

14. Snapshots

Supports snapshots and restoration of files and iSCSI LUNs, with remote replication capability.

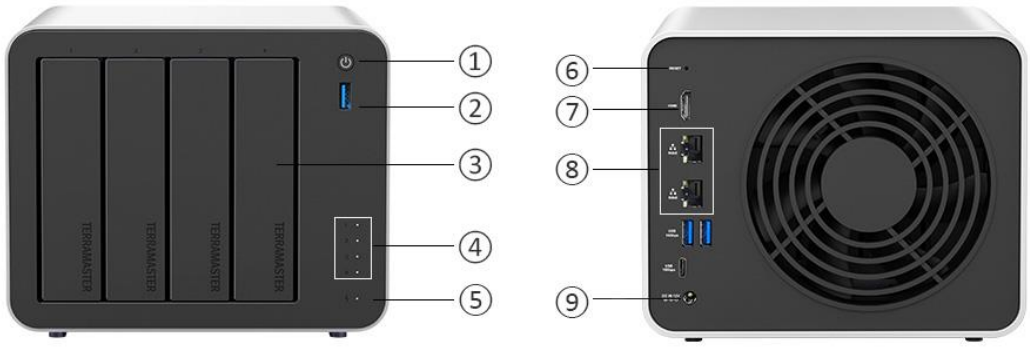
Docker Unleashes More Possibilities

Efficient Containerization: TOS works seamlessly with Docker Compose and Portainer, making it easy to deploy thousands of containerized applications and quickly meet personalized requirements.

Flexible Virtualization: Run multiple virtual machines in parallel with VirtualBox, and freely build testing, office, or lab environments.

With just one NAS, you can support diverse scenarios for work, study, and entertainment—unlocking new possibilities for your digital life and creative projects.

Panel Illustration:



SN	Item	Description
①	Power button	Used to turn the device on/off
②	USB host	Use to connect USB storage device or USB wireless adaptor
③	Hard drive tray	Used for installing and securing hard drives
④	Hard drive indicator	Green: Normal operation status Green (flickering): Reading/writing data Off: No hard drive detected
⑤	Power indicator	Steady on: Power on Off: Power off

Rear Cover Illustration:

SN	Item	Description
⑥	Reset Button	When the device is powered off, use a pin to continuously press and hold the RESET button on the back of the product. While keeping the RESET button pressed, briefly press the power button to start the device. Wait for approximately 30 seconds until you hear three consecutive "beep beep beep" sounds, then release the pin. Next, use the TNAS PC client software to perform a new search for the TNAS device and follow the client's instructions to restart the TOS system initialization process.
⑦	HDMI interface	For displaying the software codes or commands, not for video playing.
⑧	Network interface	5000M/2500M/1000M/100M bps network interface
⑨	Power interface	DC 12V power input NOTE: Do not use a third-party power adaptor.

Specifications:

Processor	
Processor Model	Intel® N95 Quad-Core
Processor Architecture	X.86 64-bit
Processor Frequency	Max burst up to 3.4 GHz
CPU Single-Core Score	/
Hardware Encryption Engine	√
Hardware Transcoding Engine	H.264, H.265, MPEG-4, VC-1; maximum resolution: 4K (4096 x 2160); maximum frame rate per second (FPS): 60
Memory	
System Memory	8 GB
Pre-installed Memory module	8 GB
Total Memory Slot Number	1 (SODIMM)
Maximum Supported Memory	32 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	4
Compatible Drive types	3.5" SATA HDD
	2.5" SATA HDD
	2.5" SATA SSD
Maximum Internal Raw Storage Capacity	120 TB (30TB x4) (Capacity may vary by RAID types)
M.2 2280 NVMe Slot	3 (PCIe 3.0 x1)
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	Btrfs, EXT4
External Drive	EXT3, EXT4, NTFS, FAT32, HFS+, BTRFS
External Ports	
RJ-45 5GbE Network Jack	2
USB3.2 Host Port Type A	3(10Gbps)
USB3.2 Host Port Type C	1(10Gbps)
HDMI	1
Appearance	
Size (H*W*D)	150*181*219 mm

Packaging Size (H*W*D)	186*277*277 mm
Weight	Net Weight: 2.9 Kg, Gross Weight: 4.1 Kg
Others	
System Fan	120 x 120 x 25mm 1PCS
Fan Mode	Smart, High speed, Middle speed, Low speed
Noise Level	20.9 dB(A) （Using 4 SATA HDDs/SSDs in standby mode; Test environment noise: 17.3dB(A); Test distance: 1m）
Power Supply	90 W
Redundancy Power Supply	/
AC Input Voltage	100V - 240V AC
Current Frequency	50/60 Hz, Single frequency
Power Consumption	45.0 W(Fully loaded Seagate 4TB ST4000VN008 hard drive(s) in read/write state)
	14.0 W (Fully loaded Seagate 4TB ST4000VN008 hard drive(s) in hibernation)
Limited warranty	2 years
Certificate	FCC, CE, CCC, KC
Environment	RoHS, WEEE
Temperature	
Working Temperature	0°C ~ 40°C (32°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)
	Power Adapter(x1)
	RJ-45 network cable (x1)
	Quick Installation Guide (x1)
	Limited Warranty Note(x1)
	Screws(a few)

TOS Features	
OS Supported	
Supported Client OS	Windows OS, Mac OS, Linux OS
Supported Web Browsers	Google Chrome 97.0.xxxx, Mozilla Firefox 9.3, Apple Safari 12.1; Microsoft Edge 99.0.xx or later version.
Supported mobile OS	iOS14.0, Android 10.0 or later version
Storage Management	
Supported RAID Types	TRAID, Single, JBOD, RAID 0, RAID 1, RAID5, RAID 6, RAID 10
Maximum Internal Volume Number	256
Maximum iSCSI Target	128
Maximum iSCSI LUN	256
Volume Expansion with Larger HDDs	TRIAD, 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)	/
Shared Folder Snapshot	√
LUN Snapshot	/
File Services	
File Protocol	SMB/AFP/NFS/FTP/SFTP/WebDAV
Maximum Concurrent SMB/AFP/FTP/SFTP Connections	512
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 Backup	√

Duple Backup	√
Centralized Backup	√
Snapshot	√
USB Backup	√
Cloud Sync	√
Time Machine Backup	√
File System Snapshot	√
TFM Backup	√
Networking	
TCP/IP	IPv4/IPv6
Protocols	CIFS/SMB, NFS, FTP, SFTP, HTTPS, SSH, iSCSI, SNMP
Link Aggregation	√
DLNA Compliance	√
VPN Client	√
VPN Server	√
Proxy Client	√
Proxy Server	/
UPnP/Bonjour Discovery	√
TNAS.online Remote Access	√
DDNS	√
Access Right Management	
Batch users creation	/
Import/Export users	√
User Quota Management	√
Local user access control for CIFS/SAMBA and FTP	√
Domain Authentication	
AD Domain	√
LDAP Client	√
LDAP Server	/
Security	
Firewall Protection	√
Account Auto-block Protection	√
AES Volume and Shared Folder Encryption	√
Importable SSL certificate	√
Instant Alert via email, Desktop Notification, Beep	√
RSA 2048 Encryption（TOS 5.0）	√
PAM (Pluggable Authentication Modules)	√
OTP Authentication（TOS 5.0）	√
HyperLock File System（TOS 5.0）	√

Power Management	
Power Resume	√
Scheduled Power On/Off	√
Wake up On LAN（WOL）	√
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, Turkish, Portuguese, Russian
Applications	
Application Center	√
iSCSI Target	√
Terra Photos	√
TerraSync	√
Duple Backup	√
CloudSync	√
Centralized Backup	√
USB Backup	√
VPN Server	√
Transmission	√
qBittorrent	√
Aria 2	√
Terra Search	√
Surveillance Manager	√
Web Server	√
Clam Antivirus	√
EMBY	√
Multi Media Server	√
Plex Media Server	√
Docker Manager	√
Snapshot	√

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