SPECIFICATION SHEEET

CPU	TVS-471-i3-4G: Dual-core Intel Core i3-4150 3.5 GHz Processor
DRAM	System memory: 4 GB DDR3 RAM Memory module pre-installed: 2 GB x2 Total memory slots: 2 Memory expandable up to: 16 GB (8GB x2) **NOTE:** 1. When upgrading RAM, the original RAM module in the upgradable slot must be removed. 2. For the information of RAM module installation and compatible NAS models, please refer to the [QNAP RAM Module Installation Guide]().
Flash Memory	512MB DOM
Hard Drive	4 x 3.5-inch SATA 6Gb/s, SATA 3Gb/s hard drive or 2.5-inch SATA, SSD hard drive **NOTE:** 1. The standard system is shipped without hard drives. 2. For the HDD compatibility list, please visit [Compatibility list]()
Hard Drive Tray	4 x hot-swappable and lockable tray
LAN Port	4 x Gigabit RJ-45 Ethernet port (Expandable up to 8 x 1 Gb LAN or 4 x 10 Gb + 4 x 1 Gb LAN by installing optional dual-port 10 Gb and 1 Gb network card) Note: 1. For the optional network card compatibility list, please visit [Compatibility list of Expansion Card]() 2. For the information of network card installation, please refer to chapter 6 in the [Turbo NAS Hardware Manual]().
LED Indicators	Status, USB, LAN
USB	3x USB 3.0 port (front: 1, rear: 2) 2x USB 2.0 port (rear) Support USB printer, pen drive, USB hub, and USB UPS etc.

HDMI	1
Buttons	System: Power button and reset button
Alarm Buzzer	System warning
Form Factor	Tower
Dimensions	177 (H) x 180 (W) x 235 (D) mm 6.97 (H) x7.09 (W) x 9.25 (D) inch
Weight	4.56 kg (10.05 lbs) (Net) 5.7 kg (12.57lbs) (Gross)
Power Consumption (W)	TVS-471-i3-4G: HDD Standby: 28.19 In Operation: 50.52 (with 4 x WD WD20EFRX hard drive installed)
Sound Level*	Sound pressure (LpAm): 17.3 dB(A)
Temperature	0~40˚C
Relative Humidity	5~95% non-condensing, wet bulb: 27˚C.
Power Supply	Input: 100-240V AC, 50/60Hz Output: 250W
PCIe Slot	2 (1* PCIe Gen3 x8, 1* PCIe Gen2 x4)
Fan	1 x quiet cooling fan (12 cm, 12V DC)

Operating System	**Storage Management**
QTS 4.1 (embedded Linux)	1. Online Volume Expansion 2. RAID types: Single Disk, JBOD, RAID 0, 1, 5, 6, 10, 5 + hot spare 3. Global hot spare 4. Online RAID Capacity Expansion***

	5. Online RAID Level Migration 6. Storage expansion via QNAP REXP-1000 Pro (Max: 4 units) or QNAP UX-500P / UX-800P (Max: 2 units) expansion unit 7. Bad block scan and hard drive S.M.A.R.T. 8. Bad block recovery 9. RAID recovery 10. Bitmap support
Supported Clients* 1. Apple Mac OS 10.7 or later 2. Linux and UNIX 3. Microsoft Windows 7, 8, and 10 4. Microsoft Windows Server 2003, 2008 R2, 2012, 2012 R2 and 2016	**Power Management** 1. Wake on LAN 2. Internal hard drive standby mode 3. Scheduled power on/off 4. Automatic power on after power recovery 5. USB and network UPS support with SNMP management 6. System sleep mode (S3)
Supported Browsers 1. Google Chrome 2. Microsoft Internet Explorer 10+ 3. Mozilla Firefox	**Access Right Management** 1. Access Right Management 2. Import/export users 3. User quota management

4. Apple Safari	4. Local user access control for CIFS, AFP, FTP, and WebDAV 5. Application access control for Photo Station, Music Station, Video Station, and Multimedia Station 6. Subfolder permissions support for CIFS/SMB, AFP, FTP, and File Station
Multilingual Support	**myQNAPcloud Service**
1. Chinese (Traditional & Simplified), Czech, Danish, Dutch, English, Finnish, French, German, Greek, Hungarian, Italian, Japanese, Korean, Norwegian, Polish, Portuguese (Brazil), Romanian, Russian, Spanish, Swedish, Thai, Turkish	1. Private cloud storage and sharing with myQNAPcloud id (QID) 2. Free host name registration (DDNS) 3. Auto router (via UPnP) configuration 4. Web-based file manager with HTTPS 2048-bit encryption 5. Cloudlink for remote access without complicated router setup 6. myQNAPcloud connect for easy VPN connection (Windows VPN utility)

File System	Qsync
1. Internal hard drive: EXT4 2. External hard drive: EXT4, EXT3, NTFS, FAT32, HFS+	1. Syncs files among multiple devices with SSL support 2. Selective synchronization for syncing specific folders only 3. Share team folder as a file center for team collaboration 4. Shares files by links via e-mail 5. Policy settings for conflicted files and file type filter support 6. Version control: up to 64 versions. 7. Incremental synchronization for HDD space saving 8. Supports Windows & Mac OS
Networking	**Web Administration**
1. TCP/IP: IPv4 & IPv6** 2. Gigabit NICs with jumbo frame (failover, multi-IP settings, port trunking/NIC teaming) 3. Service Binding based on Network Interfaces 4. Proxy client, proxy server 5. DHCP client, DHCP server 6. NTP server	1. Personalized desktop 2. Smart toolbar and dashboard for system status 3. Smart fan control 4. Dynamic DNS (DDNS) 5. SNMP (v2 & v3)

7. Protocols: CIFS/SMB, AFP (v3.3), NFS(v3), FTP, FTPS, SFTP, TFTP, HTTP(S), Telnet, SSH, iSCSI, SNMP, SMTP, and SMSC
8. UPnP & Bonjour Discovery
9. USB Wi-Fi Adapter Support
	6. Resource monitor
	7. Network recycle bin for file deletion via CIFS/SMB, AFP and File Station
	    ○ Automatic cleanup
	    ○ File type filter
	8. Comprehensive logs (events & connection)
	9. Syslog client/server
	10. Mobile app: Qmanager for remote system monitoring & management

Security

1. Network access protection with auto-blocking: SSH, Telnet, HTTP(S), FTP, CIFS/SMB, AFP
2. CIFS host access control for shared folders
3. FIPS 140-2 validated AES 256-bit volume-based data encryption*
4. AES 256-bit external drive encryption*
5. Importable SSL certificate
6. Instant alert via E-mail, SMS, and beep
7. Antivirus protection

Powerful All-in-one server

File Server	**Server Virtualization & Clustering**
1. File Sharing across Windows, Mac, and Linux/UNIX 2. Windows ACL 3. Advanced folder permission for CIFS/SMB, AFP, FTP	1. Server Virtualization & Clustering

4. Shared Folder Aggregation (CIFS/SMB)	2. VMware vSphere (ESXi 5.x) 3. VMware VAAI for iSCSI and VAAI for NAS 4. vSphere Plug-in 5. Citrix XenServer (6.2) 6. Windows Server 2012 R2 Hyper-V 7. Supports Microsoft ODX 8. QNAP SMI-S provider for Microsoft SCVMM
FTP Server 1. FTP over SSL/TLS (Explicit) 2. FXP supported 3. Passive ftp port range control	**Transcode Management** 1. Transcode video files to 240p, 360p, 480p, 720p and 1080p resolution 2. Automatic video transcoding for watched folders 3. Hardware accelerated transcoding support
File Station 1. Supports ISO Mounting (Up to 256 ISO Files) 2. Support thumbnail display of multimedia files 3. Support share download link and upload link 4. Drag-n-drop Files via Chrome and Firefox Browsers 5. Photo, music, and video preview and playback with hardware accelerated transcoding	**Surveillance Station** 1. Supports over 2,700 IP cameras 2. Includes 4 Free Camera License, Up to 72 Camera Channels via

6. File Compression and decompression (ZIP and 7z)	Additional License Purchase 3. Instant playback to check the recent event 4. Online editing to edit cameras when live view 5. Visual aid by e-map 6. Playback and speed control by shuttle bar 7. Video preview on playback timeline 8. Intelligent video analytics (iva) for advanced video search 9. Surveillance client for Mac 10. Mobile surveillance app: vmobile (iOS and Android) 11. Mobile recording app: vcam (iOS and Android)

Backup Station	**Notes Station**
1. Remote replication server (over rsync) 2. Real-time remote replication (RTRR) to another QNAP NAS or FTP server 3. Works as both RTRR server & client with bandwidth control 4. Real-time & scheduled backup 5. Encryption, compression, file filter, and transfer rate limitation 6. Encrypted replication between QNAP NAS servers 7. Desktop backup with QNAP NetBak Replicator for Windows 8. Apple Time Machine backup support 9. Data backup to multiple external storage devices	1. Graphical web-based editor for taking notes 2. Integrate with NAS file system: insert attachment or image from NAS file system 3. Event calendar and to-do list

10. Third party backup software support: Veeam backup & replication, Acronis True Image, Arcserve backup, EMC retrospect, Symantec Backup Exec, etc.	4. Image editor: a easy way to highlight the focus in your image 5. Support note publishing with a single link 6. Support key word search 7. Provide Chrome Extension: Notes Station Clipper o Clip web page content to your note 8. Mobile app: Qnotes
Cloud Storage Backup 1. Amazon S3 2. Amazon Glacier 3. WebDAV-based cloud storage 4. Microsoft Azure 5. Open Stack 6. Google Cloud Storage 7. Dropbox 8. ElephantDrive	**VPN Server** 1. Secure remote access: PPTP & OpenVPN VPN services 2. Max number of clients: 15 for PPTP & 15 for OpenVPN
Print Server 1. Max number of printers: 3 2. Print job display and management 3. IP-based and domain name-based privilege control 4. IP- and Domain Name-based Privilege Control	**Domain Authentication Integration** 1. Microsoft Active Directory (AD) 2. Domain controller

	3. LDAP server, LDAP client 4. Domain users login via CIFS/SMB, AFP, FTP, and File Station
Virtualization Station 1. Support Virtual Machine (VM) creation to run an operating system such as Windows, Linux, Unix and Android 2. Support importing VM from the other virtual platform, e.g. VirtualBox, VMware Workstation 3. Support exporting VM with *.ovf, *.qvm formats 4. VM clone 5. VM snapshot 6. HTML5-based shared remote console 7. User-based permission setting 8. Support USB device pass-through 9. Support VM console display via HDMI	**App Center** 1. More than 100 official and community software add-ons (ex: Dropbox, Google Cloud Storage Sync, McAfee, WordPress, HappyGet II, etc.) 2. Photo Station 3. Music Station 4. Video Station 5. iTunes Server 6. DLNA Server 7. AirPlay: Streams videos, photos and music from NAS to Apple TV via Qfile or Media Streaming add-on

		8. Download Station
	Signage Station 1. Support dynamic content includes video, image, music, and text message 2. Multi-user collaboration 3. Support email and social network sharing 4. Support design software - iArtist Lite for Windows® 5. Support various browser playback (Chrome, Firefox, IE, Safari) 6. Support most viewed, latest released and different categories content list	**Mobile Apps** 1. Qfile: iOS, Android Phone, window phone 2. Qfile HD: iPad version 3. Qmanager: iOS, Android Phone 4. Qmusic: iOS, Android Phone 5. Qremote: iOS, Android Phone 6. Qget: Android Phone 7. Vmobile: iOS, iPad, Android Phone
iSCSI (IP SAN) 1. iSCSI Target 2. Multi-LUNs per Target 3. Up to 256 Targets/LUNs Combined 4. Supports LUN Mapping & Masking 5. File-based LUN 6. Online LUN Capacity Expansion 7. Supports SPC-3 Persistent Reservation, MPIO, MC/S 8. iSCSI LUN Backup, One-time Snapshot, and Restore		

9. iSCSI Connection and Management by QNAP Finder (Windows) 10. Virtual Disk Drive (via iSCSI Initiator) 11. Max No. of Virtual Disk Drives: 8	
(1). Not all services are supported. *The data encryption functions may not available in accordance to the legislative restrictions of some countries. Design and specifications are subject to change without notice.	