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MPC CLUB  
REVIEW

## QNAP TS-409 Pro TURBO NAS



High Performance, high reliability...  
| Author: Hi-Jack



## MPC Reviews

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Reviewed by Hi-Jack, webmaster of [www.mpcclub.com](http://www.mpcclub.com), this review is intended to be your first and best introduction for the TS-409 Pro as most consumers will experience it, executed from a consumer’s perspective instead of being based only on technical details, which are easy to manipulate and always look good without in-depth review. Through our reviews we strive to provide valuable feedback to the brands making electronics equipment, in order to improve and tune the user’s experience with the latest state of the art players.

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**Device:** QNAP NAS TS-409 Pro Turbo

**FW Version:** 2.0.0 Build 0104T

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## Intro QNAP TS-409 Pro

Only 2 years ago we started receiving affordable NAS servers and choices have been limited. Since then, we have known hard drives drop in price so much, that a full NAS server with 4TB disk space only costs a fraction of what one had to pay 2 years ago, if even possible adding 4TB to the device. Today, we have come thus far 2TB is even below the €999 marker so it makes having a NAS server at home affordable and convenient.

No more data scattered all over different PC’s, no more playing with USB external drives between PC’s, no PC running when watching digital entertainment on TV and so on...

One would forget, there are “big” differences in models provided and manufacturers like to cross swords all the time with names usually given to cars and other devices, “Turbo” and “Pro”. In NAS world, this stands for a slight increase in processing power and memory yet often not results in higher performance.

The QNAP TS-409 Pro Turbo might be different and we’ll check that out during this review. QNAP is an experienced brand in storage devices and we have reviewed the QNAP TS-201 (not Pro Turbo version) before, and we liked it beside some remarks we made. I’m curious to find out, about one year later, how the TS-409 Pro Turbo kept those comments into consideration and if it will earn “our” pro rating as well...

I’m ready if you are so let’s take the latest QNAP TS-409 for a little spin around our test lab.

Enjoy  
Hi-Jack



## TS-409 Pro Turbo Package



The package yields no surprises as far as content is concerned. The QNAP TS-409 Pro is inside (which is a good start huh?

☺) accompanied by the power cable, a quick installation manual, a set of screws, a CD-ROM containing the installation wizard and backup software, and finally a network cable.



## The TS-409: Front to Back

The front of the unit looks calm and "normal". Black all round it does not attract to much attention and looks rather "bulky" without fancy tones added here and there. This is however a business model and it needs to look robust which it does.



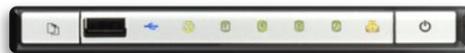
The front panel opens and reveals the 4 hard drive cages which lead us to making a remark we made many times before. It's not a design that supports the "real spirit" of Hot Swap.

Each drive cage is kept into place with 2 thumbscrews while hard drives are kept in place by 4 screws in the drive cage. Although the TS-409 Pro does support hot swap, it will take some time replacing disks while the true experience is sliding out a drive, and slide one in. Nothing else ☺



Everything is pretty sober and falls into the "mid range" quality. It all works and fits but not 100%. So is sliding a drive in a little difficult as you need to apply pressure for the SATA connectors in the back to connect.

The front bottom region is where the info led panel is located and few buttons to power on the unit and start a USB copy function.



There is USB activity led, the info led which warns upon errors and status of the device, the 4 hard drive led's and finally the Network Activity led and the power led integrated in the power button itself.

Left next to the USB led is the USB2 HOST for connecting USB Thumb drives or hard drives and more left the USB Copy button which activates copying the content of the hard drive / thumb drive connected to the internal hard disk.

While the front is sober and clean, the rear of the QNAP TS-409 Pro is even more sober.



The fan takes the most space while the bottom harbors the power socket (why not use the normal sockets as these cables, if broken, are hard to find), Gigabit network RJ-45, dual USB Hosts and finally a Kensington lock.

## About the build Quality

Not all parts fit 100% together like pressuring the HDD cages to connect with the SATA connections on board. The fact we need screws to keep the cages in place and the hard drives (6 for each HDD total) kills the hot swap functionality partially. A little more sophisticated sliding system for a "Pro" version would have been better.

The front panel is "thin" but strong but lacks some integration of dust filter which would also benefit from filter noise of hard drive operation coming out (more on that later).

Overall, the unit is sober, easy to prepare despite few small remarks about "a better" sliding system. Size of the device is not compact with 16.5cm width, about 20cm height and 23cm deep but not "big" either.



## Initializing the TS-409 Pro

As with many current models, setup of any device is rather easy with wizards guiding you through the process. The CD-ROM contains the QNAP finder which will find your NAS (hopefully) after it is connected to the network and offer you the option to initialize the system.



The Wizard will allow you changing date and time, admin password, network settings and eventually offer you choices on how to use the hard drives (JBOD, RAID 0, 1 or 5).

This is rather easy so we not go thru all the options here of the Wizard although it is small and done in few minutes time.

## Administrative panel

Once the unit is ready and configured you can access it using the online administrative panel and start the real work of configuring the device with shares, users, groups, services and a whole lot more.

The interface is the same as on previous units using "design" icons..



There are a total of 8 main categories which immediately shows, there's a lot we play with in here.

## Quick Configuration



This section offers simple and guided steps for configuring the device quickly like entering the server name, admin credentials, time zone and the other things we already done with the wizard using the QNAP finder applications.

## System Settings



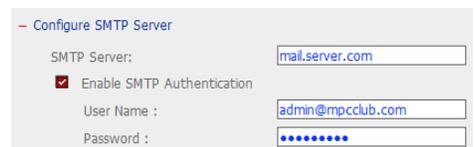
- Server Name
- Date & Time
- Filename Encoding Setting
- Configure SMTP Server
- View System Settings

Also in the system section we find similar entries we already past twice now like

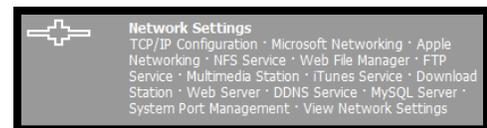
the System Name, Date and Time. Extra's here are the SMTP settings (for alerts) and reviewing system settings.



Missing from the SMTP configuration is a test function to test success, making sure all is set correct. This is not a useless luxury to have and should be added. It all adds some value to the "pro" status of the TS-409 Pro.



## Network Settings



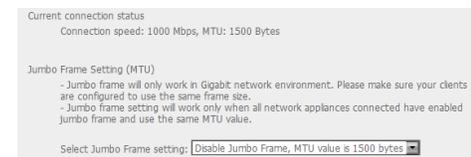
Network settings are likely something a novice user might get lost as the QNAP TS-409 certainly offers a massive range of options to configure. Luckily most explain themselves

## Network Settings

- TCP/IP Configuration
- Microsoft Networking
- Apple Networking
- NFS Service
- Web File Manager
- FTP Service
- Multimedia Station
- iTunes Service
- Download Station
- Web Server
- DDNS Service
- MySQL Server
- System Port Management
- View Network Settings

The usual IP settings from DHCP and Manual are provided, the QNAP can serve your network as DHCP server and you can enable / disable Jumbo frames.

The QNAP can be joined to a domain or work as stand alone server, has WINS capabilities and can even acts as Domain Master.

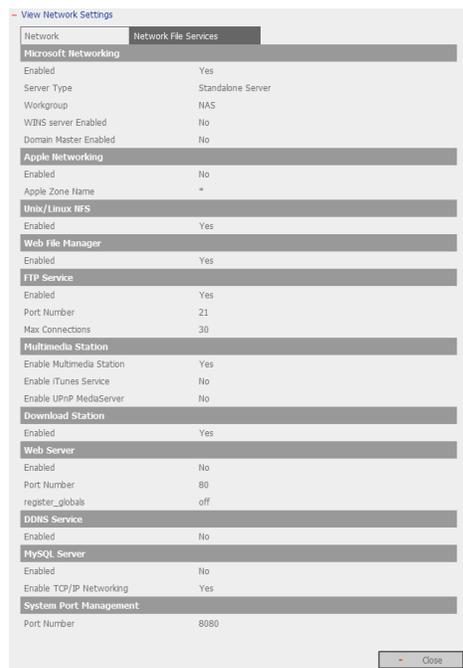




Services and protocols supported are quite extensive. Apple networking is supported and important for streaming HD files, NFS is available.

Not sure to be listed as network settings but more as services, would be FTP, Web File manager, Multimedia Station (Media Server and UPnP version), the iTunes Service, Download Station (torrent, FTP, web downloads) and the Web Server with its MySQL support.

The Web Server can be forwarded to a custom port away from the default 8080. Once gone through all the options, as a final item, you can get an overview by viewing the network settings and here the settings and services are separated.



## Device configuration



Device configuration is your master panel for everything to do with the USB connected devices, print server

functions and off course the internal RAID system. You can change, scan and expand RAID volumes here manually and review the current used space / available space.

Current Disk Volume Configuration						
Physical Disks						
Disk	Model	Capacity	Status	Bad Blocks Scan	SMART Information	
Drive 1	WDC WD2500YS-01SHB0 20.0	233.76 GB	Ready	Scan now	Good	
Drive 2	Seagate ST3250620AS 3.AA	232.89 GB	Ready	Scan now	Good	
Drive 3	--	--	No Disk	Scan now	--	
Drive 4	--	--	No Disk	Scan now	--	
Logical Volumes						
Volume	Total Size	Free Size	Status	Format	Check Disk	Delete Disk Volume
Linear Disk Volume: Drive 1 2	457.18 GB	457.01 GB	Ready	Format now	Check now	Remove now

Current Disk Volume Configuration			
Volume	Total Size	Status	Description
Linear Disk Volume: Drive 1 2	457.18 GB	Ready	No operation can be executed for the drive configuration.

The operation(s) you can execute:

Expand capacity Add hard drive Migrate Configure spare drive Description

USB disks connected can be formatted by the QNAP in FAT32 or EXT3. No NTFS is supported by the device itself but it can work with NTFS formatted drives. A licensing issue I presume with Microsoft charging ridiculous prices?



## User Management



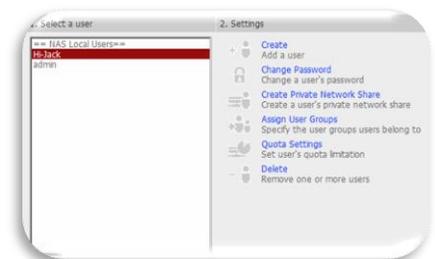
User management is divided into three sections. There's a general Quota rule that limits all user's available storage on the QNAP, a section to create new users and assign roles (user, admin etc...) and there's a group section.



Setting quota's per user can only be done when the Quota itself is set. This will activate custom quota management on a per user basis where you can assign "unlimited" space or change from the default volume assigned to "all" new accounts.



The interface for administration is clear and very well arranged. A list of users is shown and a list of options is available right next to the user list for direct access. We have a general impression that options are well arranged and explained all together making the QNAP easy to administer.



## Network Share Management



Now, here's is something that returns from the past where I'm positive I made a remark in previous reviews to let consumers assign their own folders to the many functions inside the QNAP.

By default, each function has its own predefined folder which leads to 6 folders being made before you start creating your own.

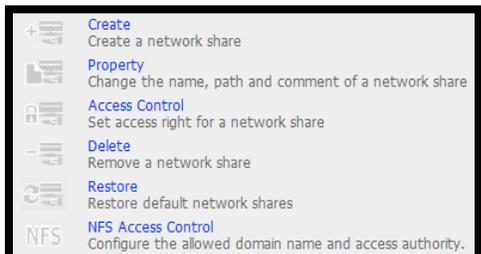




My idea was leaving these folders configurable from the admin panel so people can assign folders to the services and administer things their own way they feel comfortable with. It would also benefit leaving the root clean and small like creating a main services folder containing all these folders.

An effect this has is when approaching the NAS root folder, a lot of clicking is needed to go up and down the list to select the one where your media is located. Another disadvantage here is when using and UPnP and SMB/NFS approaching media forcing you to use the QMultimedia folder for all your content or risk the inconvenience of having your files spread in different folders.

Each folder here can be managed for access rights over CIFS and NFS. You can delete the folders (providing the services are inactive) and recreate the default folders or add new folders all you like.



**System Tools**

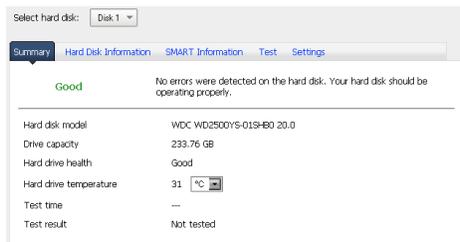


In this section one can assign mail addresses (2) for receiving alerts in case something is wrong. Further options like restart and/or shutdown the server is available but no scheduler

to back this up for atomization of these options.

Disk spin down is configurable and more options are provided for warnings when disk space becomes less than X, an alarm buzzer and fan rotation can be set to "temperature" control or manual speed.

There are smart functions integrated in the TS-409 allowing you to check HDD heat and several other options. Further options range from replication of the device to another QNAP TS-409, UPS, backup restore, IP Filtering and several more "system" functions.



There is a recycle bin integrated in the SNAP TS-409 Pro firmware so you have a change recover files upon accidental deletion. Funny is that you can change the logo of the interface.

**System Logs**



Finally for the administrators, there are a list of log files to review for all kinds of purposes ranging from online users to connection attempts and errors.

That concludes the options that can be set from the administrative console. We remember for the active users that like developing web sites there is integration with MySQL and for media users, quite some options are provided to enjoy content over integrated functions.

**Main User Menu**

When connecting the TS-409 Pro as a user you get to the main login screen where up to 4 links are provided at the right. (3 in our case, you can activate /de-activate these to show).



For most of the user interface options the FW is still very similar to the one we covered in the TS-201 review. Web browser is functional but still allows only uploading 1 file at a time while many options to administer the files is available from a bar with fancy icons.

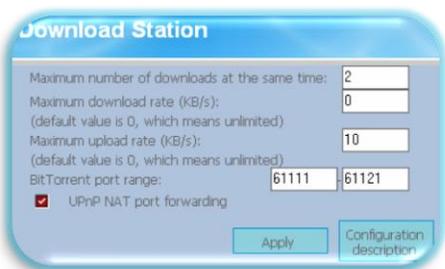


The download station is my favorite as not only does it allow the right settings, the interface is one of the most "taken care off" I've seen.





Features as setting up and download is available and you can limit simultaneous downloads as well which includes HTTP downloads and FTP. This is awesome and usually forgotten by most brands as FTP usually limits the amount of simultaneous connections by single IP causing your account blocked when too many connections are made.



Few errors though with the download station are detected. The interface acts a little weird using Firefox, I could not "pause" downloads and the constant refresh which cannot be stopped or altered is annoying. In addition, I would like to see a scheduler for downloads to start and stop the downloads (general scheduler).

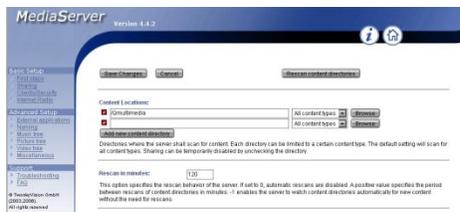
With these minor enhancements and fixes, I would be perfectly happy with the download station. In fact, even in this state, it's the best solution I ever seen integrated into a NAS server.

### Media Integration

For media, beside the usual SMB and NFS which you can use to direct access content from the NAS, the QNAP features integrated media browser and TwonkyVision UPnP server.

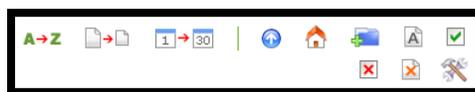
This is great but the usual limitations apply where you are limited to supported file types by software unlike SMB and NFS.

Golden rule remains, these servers and applications are better for music while SMB and NFS exceed by far, the abilities of any software integrated.



While the Media Server is mainly for serving data to media players, the Multimedia Station is something different. You can create multiple folders containing pictures and QNAP will create thumbnails of these.

That leads to kind of a photo browser over multimedia. A list of icons offers several functions to work with and sort the data.



A-Z name sorting, file size and date. Create new folders, upload pictures / files, delete these and such are all available.

When selecting a picture, you can add comments to each pictures or review the information of the camera the picture has been made with.



Next, you can start a slideshow if you like setting the interval and pressing

play. Off course, image screen size depends on your pictures but it will never fill full screen.



Qnap certainly has serious functions to offer inside the NAS which all offer a little more value to the unit but also, nowhere comes close to delivering the whole package for all features except for downloads. I feel that is pretty much complete. Add full screen mode in the Multimedia Station, add music functionality, and we'll talk again. ☺

There's a lot to play with.

### Performance

Performance wise the only thing important to the QNAP is providing the extra speed we expect from a "Pro" version of any NAS server. Our target is set to break 18 MB/s in both read and writes speed before we mark anything with the label "Good speed performance".

And the winner is... almost Qnap.

The read performance measured up to 27 MB/s which is very good but our write tests performed at an average 16 MB/s.

Off course, average performance depends on network configuration, disk configuration, disk used and more aspects but the results shall overall be around the ones measured in our tests.



It is not the fastest NAS (few have been tested faster) but if we keep price / features in mind and how the interface is designed, the Qnap will certainly end in the top 3 and that's quite an achievement.

## Silent Operation

Overall announced as a silent NAS server we off course kept the most interesting as the last item to write about although we could hear from the start... silence is not its strongest feature.

It is below the audible levels of most NAS we seen so its "more silent" than the competition in most cases. However, the iron design, drive cages and front panel could have been coated with some rubber and filters for keeping dust out and noise inside.

The rattling of hard drives is clearly audible thus also there, it is important you look for the most silent drives to buy. A combination of both will certainly minimize the noise enough to use it as a media server.

## Conclusion

Qnap TS-409 Pro Turbo belongs to the few that are not only attractive in features but also in design. Despite the drive cages not were being screw-less killing part of the hot swap and these not fitting 100% accurate causing one to push it in, hardware wise everything is fine.

Few glitches in software and functions have been found and limitations apply here and there to implemented features like calling something "multimedia station" and then serving only pictures. It's not a problem since TwonkyVision is delivered as well on the side.

Performance wise everything is fine too despite we rate a server as pro as soon as it exceeds both read and write mode at 18MB/s which is generously overruled by the read performance but the write performance was left behind.

There is more to the unit than spoken off inside this review like backup software (reviewed in previous Qnap model), the iTunes server, web server (with MySQL) and so on and in the end, making the price / feature balance we found the price to be "ok". We rule the QNAP is slightly too expensive at €599 which is the cost of a full PC these days but it is no different from other NAS servers. We would have loved seeing it priced in the range of 449 – 549.

If it would match our "perfect" price balance with 2TB at €999 it would be wonderful. Now it's just above that price level and the missing "pro" features like schedulers for boot and shutdown and wake on LAN make that less easy to ignore.

Certainly it is a highly recommended beast! Still beats some NAS servers out there which are even more expensive and feature only a fraction of what this baby can do.

### Pros

- Feature set impressive
- Nicely arranged interface
- Fun Factor
- Stable performer
- Hot Swap supported
- Reasonably silent
- Nice design (+ average)
- Download Queue

### Cons

- Minor issues drive cages
- No screw-less design
- Hot Swap less functional

- Few software errors
- Missing scheduler (boot)
- Missing scheduler (downloads)
- No Wake On LAN (pro)

## Gold Award



Now even though the price is quite heavy on your wallet, it's absolutely worth its weight in gold covering just about everything you'll ever need as a

entertainment user, a developer and even anything in between those two. The QNAP series definitely belong on your list of options when looking for a safe and versatile storage system that does not leave your neighbors thinking you found a new hobby and just purchased a helicopter.

**Distribution:** [www.xs2.nl](http://www.xs2.nl)

Special thanks to Alexander and Rene at XS2 for their kind follow up and service.

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We recommend using the online forums for latest discussions on these devices where updates are regularly provided.

Enjoy  
Hi-Jack

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