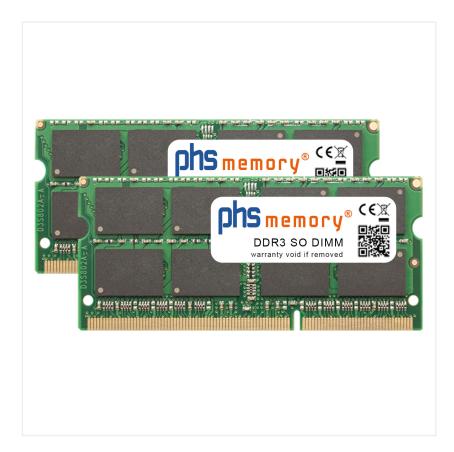


16GB (2x8GB) Kit Computer memory DDR3 for QNAP TS-451 SO DIMM





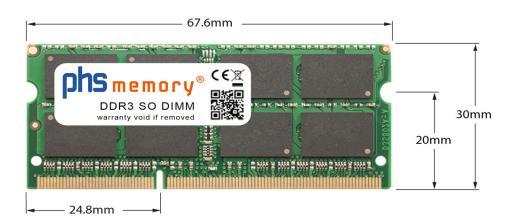
Your benefits ✓ verified quality memory ✓ 5 years warranty Warranty details see last page ✓ 100% compatible ✓ free support on our hotline ✓ fast delivery

PHS-memory® - computer memory with 100% quality

- many years of IT competence
- Free support for optimal configuration and product selection
- High availability through professional warehouse management
- Fast delivery in throughout Europe
- Short response times and professional order processing due to full digitalization throughout the entire process with complete traceability
- Incoming goods inspection include checks of the DRAMs, PCBs and the programmed SPDs in order to exclude possible errors (Controlled BOM).
- PHS-memory® brand memories guarantee 100% compatibility to the specified system.
- PHS-memory® memories can be used together with existing memories in the device depends on to the configuration rules of the system.
- The "fallback option" in the SPD of PHS-memory® allows DRAMs with higher clock rates to be operated together with older memory modules with lower clock rates within the system.
- Products with unique serial number for service and warranty
- Pre-sales and after-sales support by technically trained personnel



Memory Specification



Memory size	8GB		
Memory technology	DDR3		
ECC support	no		
JEDEC Norm	PC3L-12800S		
DRAM Organization	512Mx8		
Rank	2Rx8		
Туре	SO DIMM		
Number of pins	204 Pin DIMM		
Memory data transfer rate	1600MHz @ CL11		
Voltage	1,35 Volt		
Speciality	-		
Board dimensions	67,6 x 30 (LxB mm)		
Operating temperature	0° C - 85° C		
Storage temperature	-40° C - +95° C		
RoHS compliant	Yes		
SKU	SP210881		
EAN	4055069211368		

overRAMing - maximize your RAM



Most systems - including the QNAP TS-451 - can be upgraded with more memory than originally specified by the device manufacturer.

Therefore, our memory specialists continuously analyze new memory solutions in selected systems. Due to improved manufacturing technologies, new memories with higher performance and capacity will be tested for stability and functionality.

Then the new memory solutions are released for the respective systems. Use the benefits of larger computer memory capacity with the PHSmemory® overRAMing memory solutions.

https://www.phs-memory.com/-BOR

Note: The module specified in this datasheet is one of several possible configurations available under this part number.

Some details may differ from the specifications described here and the illustration, but have no negative influence on the functionality.



System Specifications

The memory is 100% compatible with this sytem:

System manufacturer	QNAP		
Device type	Storage/NAS		
Device family	NAS TS		
Device series	TS-x41 Serie		
Device name	TS-451		
Standard memory	4GB (2x2GB)		
Maximum memory*	16GB / 8GB according to manufacturer		
Number of memory sockets	2		
Annotation	Attention: Mixed storage assembly is not supported. If both slots are occupied, both must be equipped with the same memories.		

^{*} The specifications for the maximum memory upgrade may differ from those of the manufacturer QNAP. Often the information given in the manual for the maximum memory upgrade is not up to date. New memory technologies, bios updates or newer software versions often allow the use of memory modules with a higher capacity than specified by the manufacturer with the same performance and stability.

Memory modules with our overRAMing-symbol are approved by us for maximum memory expansion.

Information on memory installation

- Turn off the system
- Remove the plug of the power supply unit (if connected)
- Remove the battery, according to the user manual of the system
- Always ground yourself before touching electronic components
- Protect the memory module from static voltages:
 - Do not touch the gold pins of the memory module
 - Only touch the sides of the memory module
 - Use a grounding strap and/or ESD glove if possible

General installation instructions are supplied by E-Mail.

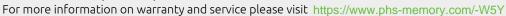


Further memory options for QNAP TS-451

Size	SKU	Technology	Туре	Number of pins	Brand	Reference no.
4GB	SP210880	DDR3	SO DIMM	204 Pin DIMM	PHS-memory®	RAM-4GDR3L- SO-1600
8GB	SP210881	DDR3	SO DIMM	204 Pin DIMM	PHS-memory®	

PHS-memory® warranty

Every PHS-memory® is equipped with a 5-years-warranty of perfect operation. If the RAM module is defective or fails within 5 years of purchase when used properly, you will receive an appropriate RAM module free of charge. If a suitable memory module is no longer available, we will refund the purchase price.





Contact Information

PHS-electronic gmbh - www.phs-memory.com -Karl-Götz-Str. 5 97424 Schweinfurt Germany Phone: +49 9721 784678 E-Mail: info@phs-memory.com Web: www.phs-memory.com

All information without guarantee. Technical changes and errors excepted. You can find current price information in our online shop at https://www.phs-memory.com