



SYNOLOGY DS918 +: a complete disassembly in rules

Complete disassembly of the Synology DS918 + NAS.

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INTRODUCTION

Here's a step-by-step tutorial to dismount each piece of the NAS until you reach the motherboard.

'Note: the interest of this tutorial is however limited.'

Indeed, most of the components that a user can be brought to add or change are now accessible directly, without disassembly (storage disks, memory expansion, SSD cache).

This is a step forward since, for example, a DS415 + / DS916 + must be completely removed to change a single RAM array.

Only the memory stack on the motherboard and fans remain inaccessible directly and require the disassembly of the NAS described in this tutorial to be changed (whether they are HS or replace them not the best).

The dismantling time is estimated at one hour (a single experiment on the timer). That said, it is certainly achievable in 20/30 minutes.

The photographs were taken with a CANON EOS 7D and an iPhone SE, using a portable LED studio.



TOOLS:

- [Phillips #1 Screwdriver](#) (1)
-

Step 1 — Presentation: the different faces of the case



- Here are the different interesting faces of the case: front (bay disks), rear (connectors and fans), below (2 hatches SSD).
- ✦ This NAS DS918 + is equipped with 4 GB of RAM (8 GB max.), An INTEL Celeron J3455 64-bit Quad processor, four bays for SATA drives.
 - 2 RJ45 Gb ports.
 - Kensington security incision (K-lock)
 - 2 M.2 NVMe 2280 ports (disk cache)
 - 1 port for power supply
 - 2 USB 3 ports (1 in front and 1 behind)
 - 1 eSATA port

Step 2 — Unlock the disk media



- Before teardown, unlock the disk media with the key.

Step 3 — Removes disks from the bay



- Since the media are unlocked, remove each disk media.

Step 4 — Backplane and memory slot access



- This is a significant innovation, the memory is now directly accessible and without disassembly of the housing, for the original bar as for the extension port.

Step 5 — Case: removing the cover 1/2



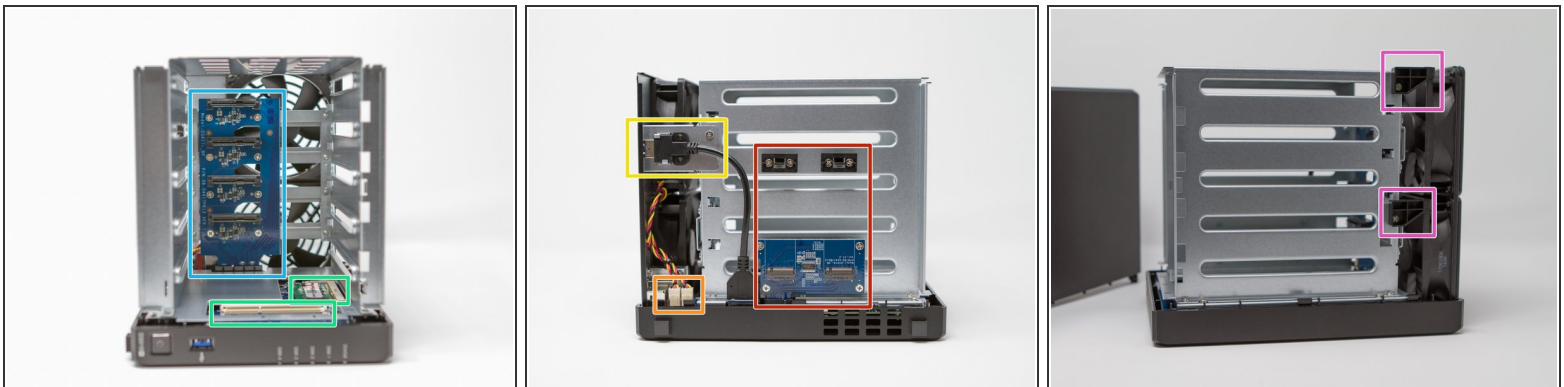
- Remove the 2 screws on the back of the case at the top and bottom (not the one above the USB port)

Step 6 — Housing: hood removal 2/2



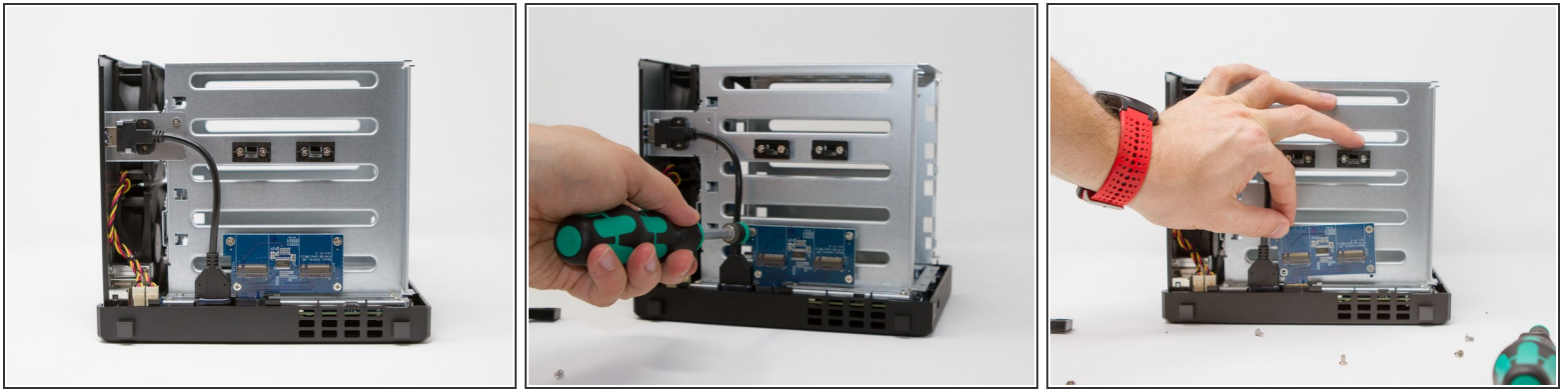
- Slide the cover forward, then slide it out (here, to the left).

Step 7 — Internal parts: presentation



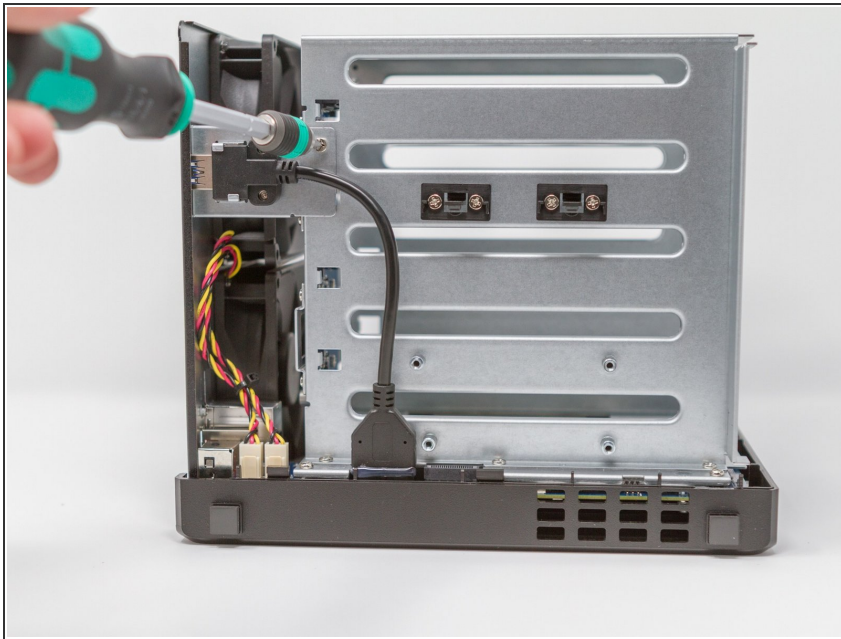
- in red: SSD M.2 expansion card 2280
- in yellow: USB port 3
- in orange: internal connectors of the 2 fans
- in green: 2 slots of RAM
- in blue: SATA III backplane (4 hard drive bays)
- in pink: fixing the fans on the chassis


Step 8 — Removing M.2 SSD expansion card



- Remove the 4 screws located on the blue electronic board.
- You can remove the M.2 expansion board now.

Step 9 — USB3 port: removal of connectivity



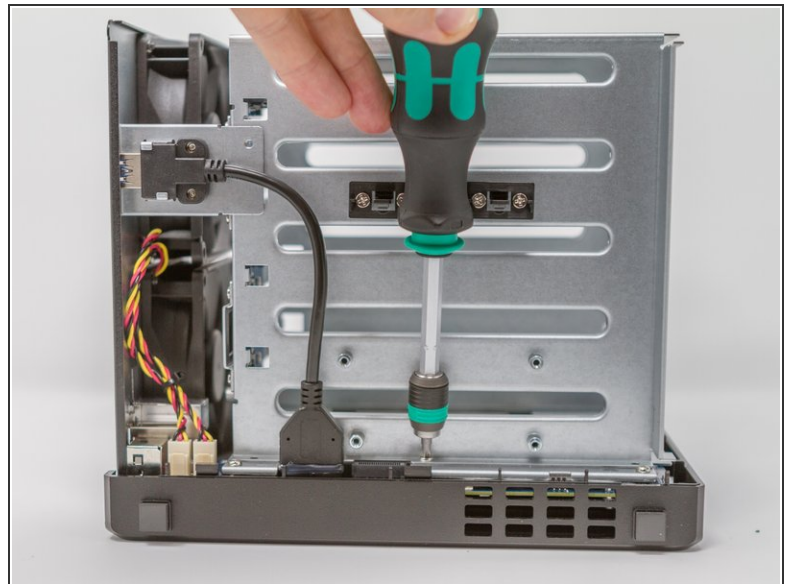
- Remove the screw from the holding plate of the USB connector 3.
 - Also remove the USB 3 connector screw on the rear side (this can be done later).
-  Do not remove the USB connector 3 on the motherboard, it is glued. It does not interfere with disassembly!

Step 10 — Removing fan clips



- Remove the screws from the two shims to secure the disc cage and the two fans.

Step 11 — Cage disks: removal of cradle 1/3



 5 Phillips screws must be removed.

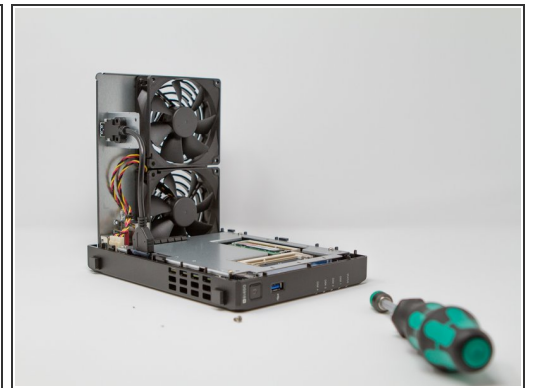
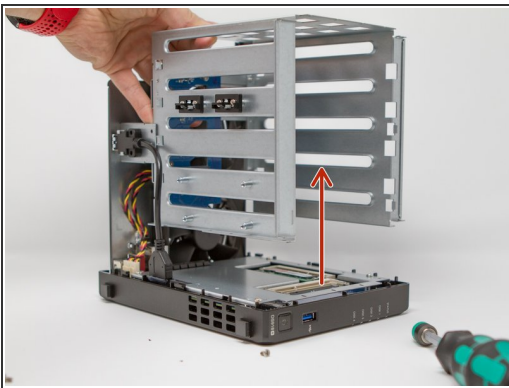
- First 3 screws on SSD expansion board, on the bottom (bottom).

Step 12 — Cage disks: removal of cradle 2/3




- Then 2 screws on the upper face of the device (top).

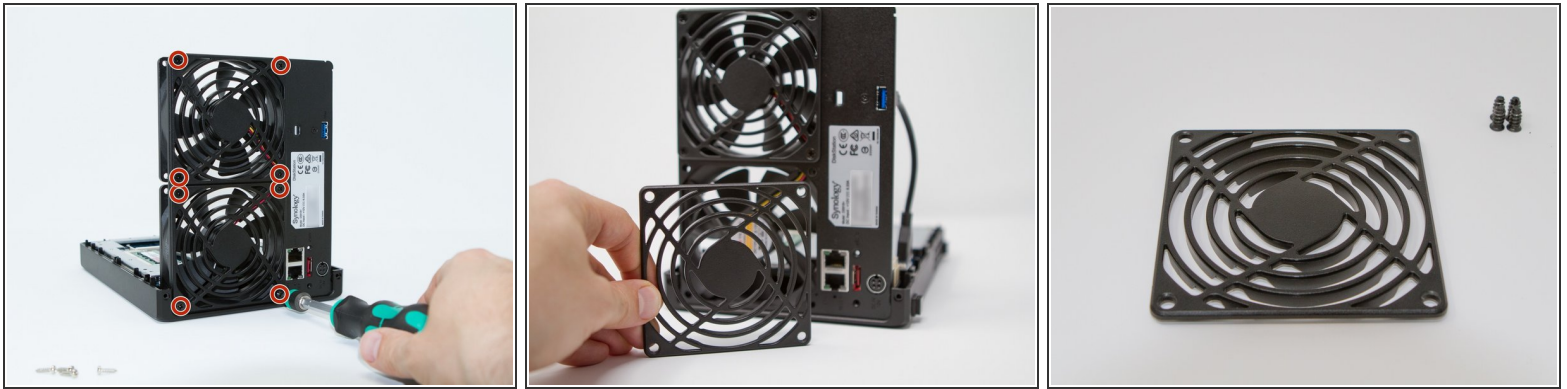
Step 13 — Cage disks: removal of cradle 3/3



- Now that the screws have been removed, you can (after verification) remove the cage drives.

 Attention to the backplane and its connector (the electronic card). Check and check again, without forcing! The cradle discs must come alone.

Step 14 — Fans: removal of hardware 1/2



- Remove the 8 screws from the fan grilles. They make it possible to maintain both the grilles and the fans.

⚠ Removing the fans does not seem necessary (not taken the time to check) to remove the motherboard.

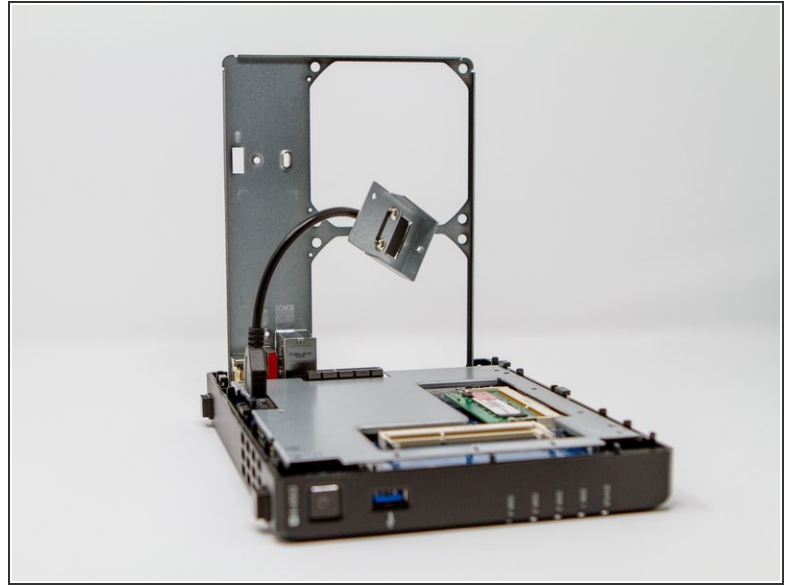
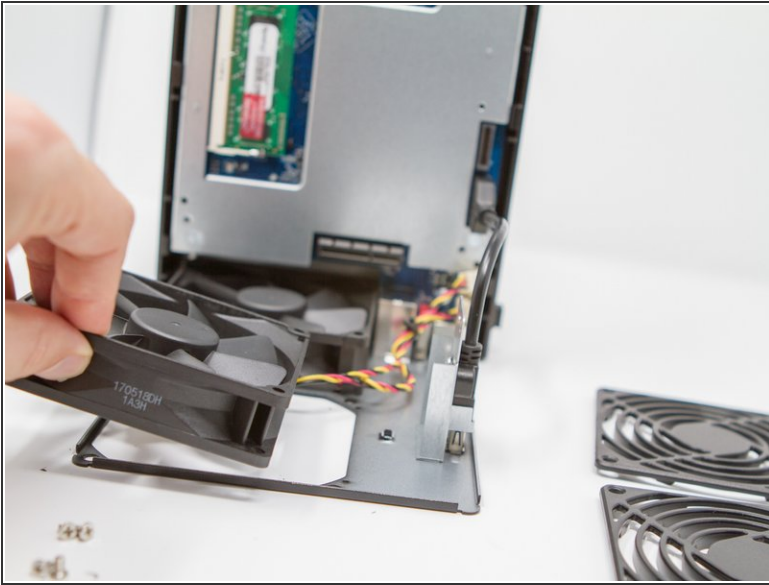
⚠ Attention, when it comes to reassemble the grids, it will be necessary to make sure to align the 2 very small lugs in relief on the back of the plastic grates with the 2 small holes between the screws of the bottom of the fans!

Step 15 — Fans References



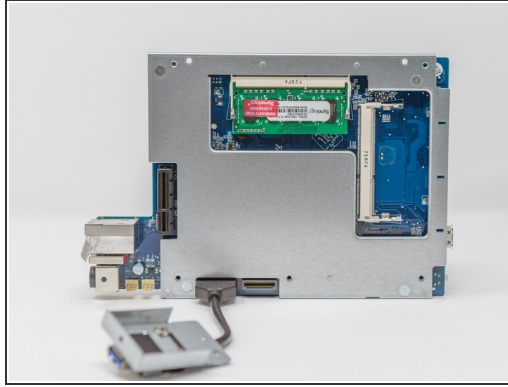
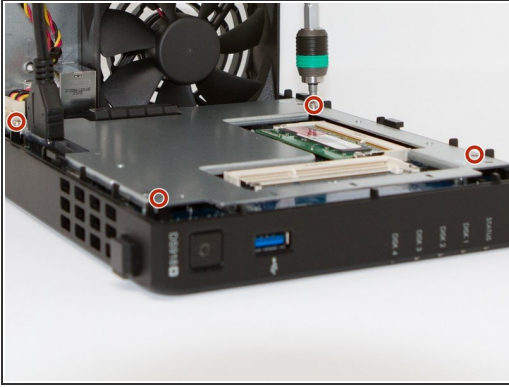
- According to the technical documentation of Y.S. TECH:
- Voltage: 12 Vdc (7 to 13.2 range) for 100 mA (consumption)
- Life time @ 40 ° C L10: 50000 h
- Noise level: 23 dB
- Max airflow: 36.3 cubic feet / minute
- Rotation speed: 1900 rpm
- Weight: 100 g

Step 16 — Fans: removal of fans 2/2



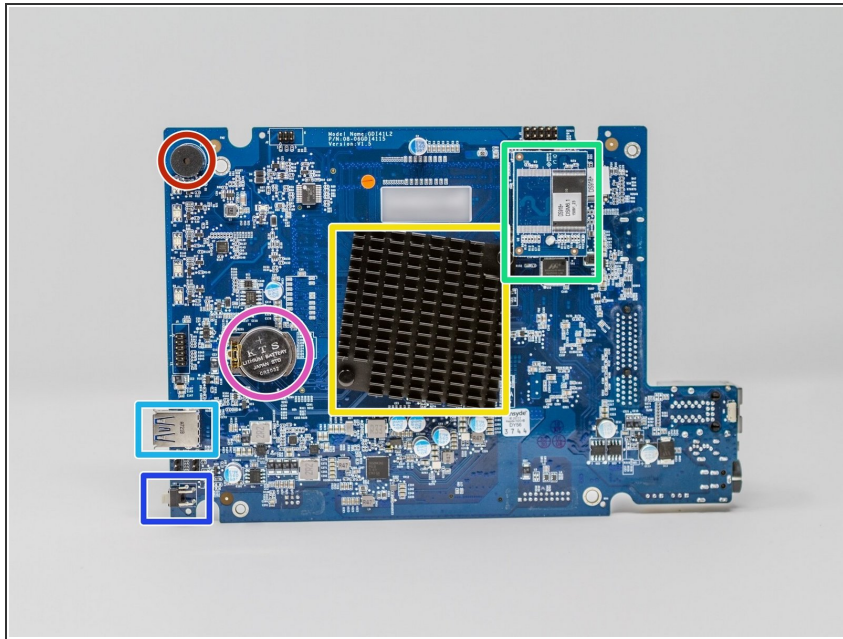
- Remove the power cables from the fans, being careful to locate them (you never know) located on the motherboard.
- Then remove the fans.
- You will also be careful to unscrew the USB 3 connector fixing screw on the rear panel (if this has not been done previously).

Step 17 — Motherboard: remove the board from the case



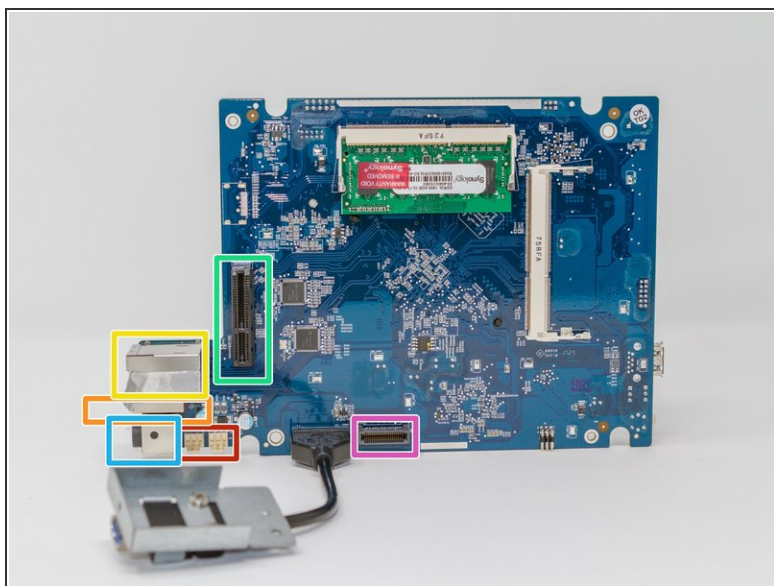
- Remove the 4 screws that secure the motherboard to the case.
- Remove the motherboard from the case paying attention to the USB 3 connector on the front and the power button. To do this, move the front panel a little and lift the motherboard upwards (outside).
- Once the motherboard is out, unscrew the 4 screws of the metal protective cover (metal plate).

Step 18 — Motherboard: processor



- Motherboard processor face
 - INTEL Celeron J3455 / 64-bit / Quad core 1.5 burst up to 2.3 GHz
- Memory battery
- Internal Beep
- USB connector 3
- Power button (power-on)
- Flash memory with pre-loaded DSM 6.1 kernel to allow the NAS to boot before full installation of the OS
- UEFI Insyde H2O BY56 chip ??

Step 19 — Motherboard: memory side and connectors



- Memory side of the motherboard (pre-equipped with 4 GB of RAM)
 - NVMe M.2 SSD expansion card connector
 - Connector (PCIe ??) for SATA disk expansion card
 - Fan connector (x2)
 - Power connector
 - RJ45 LAN Connector (8P8C) x2
 - ESATA connector
- Original 4GB DDR3L RAM Memory Stick 1866

To reassemble your device, follow the instructions in reverse order.

Be careful however, for the grilles of the fans it will be necessary to make sure to align the 2 small raised lugs on the back of the plastic grilles with the 2 small holes between the screws of the bottom of the fans!