



QNAP Turbo NAS

硬體使用手冊

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感謝您購買威聯通產品。此使用手冊提供 Turbo NAS 的硬體說明及相關功能介紹，請仔細閱讀並依照本手冊使用產品功能。

本使用手冊適用於下列 Turbo NAS 型號：

HS-210、HS-251、HS-251+、TS-112P、TS-128、TS-131、TS-212P、TS-228、TS-231、TS-231+、TS-251、TS-251+、TS-251C、TS-253A、TS-253 Pro、TS-431、TS-431+、TS-431U、TS-451、TS-451+、TS-451S、TS-451U、TS-453A、TS-453 Pro、TS-453S Pro (前身為 SS-453 Pro)、TS-453U、TS-453U-RP、TS-463U、TS-463U-RP、TVS-463、TS-470U-SP/RP、TS-531P、TS-563、TS-651、TS-653A、TS-653 Pro、TVS-663、TS-831X、TS-851、TS-853A、TS-853 Pro、TS-853S Pro (前身為 SS-853 Pro)、TS-853U、TS-853U-RP、TS-863U、TS-863U-RP、TVS-863、TVS-863+、TS-870U-RP、TS-879 Pro、TS-879U-RP、TS-EC879U-RP、TS-1079 Pro、TS-1253U、TS-1253U-RP、TS-1263U、TS-1263U-RP、TS-1270U-RP、TS-1279U-RP、TS-EC1279U-RP、TS-1679U-RP、TS-EC1679U-RP、IS-453S、TS-453mini、TAS-168、TAS-268、TS-253A、TS-453A、TS-653A、TS-853A、TS-128、TS-228、TBS-453A

注意：

- Turbo NAS 及 Turbo vNAS 以下均簡稱為 NAS。
- 本手冊包含威聯通 Turbo NAS 系列網路儲存伺服器的使用說明，部份功能僅適用於特定型號，您所購買的型號可能不支援這些功能。
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注意：

- 請務必定期備份硬碟中的資料，以避免任何意外、人為操作疏失或硬碟故障所造成的資料毀損。威聯通不負責任何資料遺失或復原。
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規範聲明



FCC 聲明

QNAP NAS 符合不同的 FCC 規範等級。詳細資訊，請參考附錄。一旦確定本產品的等級，請參考以下對應的聲明。

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FCC A 級聲明

本產品符合 FCC 規則第 15 部份。產品操作受以下兩條件限制：

1. 本產品不得造成有害干擾。
2. 本產品必須接受任何接受到的干擾，包含可能造成意外操作的干擾。

注意：本產品已通過測試並符合 FCC 規則第 15 部分 A 級數位裝置之限制。此等限制旨在於此裝置於商業環境中操作時，提供免於有害干擾之合理保護所設計。本產品產生、使用、並可能放射無線電頻率能量，若未依據指示安裝及使用，可能對無線電通訊造成有害干擾。在住宅區操作本產品可能會造成有害干擾。在這種情況下，使用者必須自行解決干擾現象。

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A 급기기 (업무용정보통신기기)

이 기기는 업무용으로 전자파 적합 등록을 한 기기이오니,
판매자 또는 사용자는 이 점을 주의하시기 바라며,
만약 잘못 판매 또는 구입하였을 때에는 가정용으로 교환하시기 바랍니다.

FCC B 級聲明

本產品符合 FCC 規則第 15 部份。產品操作受以下兩條件限制：

1. 本產品不得造成有害干擾。
2. 本產品必須接受任何接受到的干擾，包含可能造成意外操作的干擾。

注意：本產品已通過測試並符合 FCC 規則第 15 部分 B 級數位裝置之限制。此等限制旨在為家用裝置提供免於有害干擾之合理保護所設計。本產品產生、使用、並可能放射無線電頻率能量，若未依據指示安裝及使用，可能對無線電通訊造成有害干擾。但特定之安裝並不保證免於發生干擾。若本產品對收音機、電視之收訊造成有害干擾(可開關設備之電源確認)，建議使用者以下列一種或多種方式改善干擾狀況：

- 重新調整或放置接收天線。
- 增加本產品與接收器之間的距離。
- 將本產品連接到與接收器不同的電源插座上。
- 如需協助，請洽詢經銷商或專業的收音機或電視技術人員。

修改：任何未經過威聯通科技股份有限公司同意，對此產品之修改，可能會讓 FCC 規範授予此使用者操作本裝置的權力變為無效。



QNAP NAS 符合不同的 CE 規範等級。詳細資訊，請參考附錄。



SJ/T 11364-2006

本产品符合中国 RoHS 标准。以下表格标示此产品中某有毒物质的含量符合中国 RoHS 标准规定的限量要求。



本产品上会附有“环境友好使用期限”的标签，此期限是估算这些物质“不会有泄漏或突变”的年限。本产品可能包含有较短的环境友好使用期限的可替换元件，像是电池或灯管，这些元件将会单独标示出来。

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (CR(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
壳体	O	O	O	O	O	O
显示	O	O	O	O	O	O
印刷电路板	O	O	O	O	O	O
金属螺帽	O	O	O	O	O	O
电缆组装	O	O	O	O	O	O
风扇组装	O	O	O	O	O	O
电力供应组装	O	O	O	O	O	O
电池	O	O	O	O	O	O

O：表示该有毒有害物质在该部件所有物质材料中的含量均在 SJ/T11363-2006 标准规定的限量要求以下。

X：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T11363-2006 标准规定的限量要求。

本文使用的符號說明

 警告	此符號表示使用者必須嚴格依照說明操作，否則將會導致身體傷害甚至死亡。
 注意	此符號表示該行為可能會引致硬碟資料被清除，或不依照說明操作之情況下，可能會導致資料、硬碟或產品損毀。

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安全須知

1. 本產品的使用環境溫度應介於 0°C–40°C，相對濕度為 0%–95%。請確保其放置場所通風良好。
2. 與本產品連接的線路和裝置必須能提供本產品正常的電量(100W, 90–264V)，以確保其運作正常。
3. 切勿將本產品放置於直接受陽光曝曬或靠近化學藥劑的場所。請確保其所在環境維持穩定的溫度與濕度。
4. 清潔時本產品，先將電源插頭及所有線路拔下，再以乾布擦拭即可。切勿使用任何化學藥劑或噴霧式清潔劑清潔本產品。
5. 為確保機器正常運作，以及避免機器過熱，切勿將任何物品或重物放置於本產品上。
6. 安裝硬碟時，請務必使用平頭螺絲將硬碟固定在硬碟抽取盒上，以確保其運作正常。
7. 切勿使本產品靠近水源。
8. 切勿將本產品放置在不平穩的桌子或檯面上，以避免因本產品滑落而損壞。
9. 使用本產品時，請留意當地的電壓指示。若無法確定，請洽詢經銷商或當地電力公司。
10. 切勿放置任何物品於本產品的電源線上。
11. 切勿自行維修本產品。不當的拆裝，可能導致觸電或其他不良後果。若有任何維修問題，請洽詢當地經銷商。
12. 機架式系統只適用於機房，並應由授權之系統管理員管理及維護。機房必須上鎖，並只允許授權人員進入。
13. TS-809U 配備兩個電源供應器，為避免電擊危險，操作時需要加倍小心，只有當這兩個電源供應器完全斷電時才可以安全操作（進行維修）。



警告：

- 如錯誤更換電池，可能會有導致爆炸的危險。更換電池時，請務必更換同類型之電池，或更換製造商建議的類型。請依照當地廢棄物管理辦法規定，處理使用過之電池組。
- 切勿觸摸系統內之風扇，以避免嚴重性傷害。。



第1章 CPU 處理器及記憶體規格



注意：變更威聯通產品的硬體、軟體或韌體，將導致產品保固完全失效。威聯通不負責任何因改機導致的任何形式的產品毀損或資料流失。使用者需自行負責因變更 Turbo NAS 硬件、更改系統韌體或安裝未授權的第三者應用程式而導致任何可能的資料損失或系統不穩定等問題。

系統型號	TS-112P	TS-212P
CPU 處理器	Marvell 1.6GHz	Marvell 1.6GHz
記憶體	512MB DDR2	512MB DDR2
Flash 快閃記憶	16MB	16MB
可否更換記憶體	-	-
RAM 插槽數目	-	-
硬碟插槽數目	1	2

系統型號	TS-128	TS-231
CPU 處理器	Dual-core ARM [®] v7 1.1GHz	Dual-core ARM [®] v7 1.1GHz
記憶體	1GB DDR3	1GB DDR3
Flash 快閃記憶	4GB	4GB
可否更換記憶體	-	-
RAM 插槽數目	-	-
硬碟插槽數目	1(僅限 3.5 吋硬碟使 用)	2(僅限 3.5 吋硬碟使 用)

系統型號	TAS-168	TAS-268
CPU 處理器	Dual-core Realtek 1.1GHz	Dual-core Realtek 1.1GHz
記憶體	2GB DDR3	2GB DDR3
Flash 快閃記憶	4GB	4GB
可否更換記憶體	-	-
SODIMM 插槽數目	-	-
硬碟插槽數目	1(僅限 3.5 吋硬碟使用)	2(僅限 3.5 吋硬碟使用)
IR 感應器	✓ : RM-IR003(QNAP 遙控器)	✓ : RM-IR003(QNAP 遙控器)

系統型號	TS-131	TS-231
CPU 處理器	Dual-core Freescale™ 1.2GHz	Dual-core Freescale™ 1.2GHz
記憶體	512MB DDR3	512MB DDR3
Flash 快閃記憶	512MB	512MB
可否更換記憶體	-	-
RAM 插槽數目	-	-
硬碟插槽數目	1	2

系統型號	TS-431	TS-431U
CPU 處理器	Dual-core Freescale™ 1.2GHz	Dual-core Freescale™ 1.2GHz
記憶體	512MB DDR3	1GB DDR3
Flash 快閃記憶	512MB	512MB
可否更換記憶體	-	-
RAM 插槽數目	-	-
硬碟插槽數目	4	4

系統型號	TS-231+	TS-431+
CPU 處理器	Annapurna Labs Alpine AL-212 Dual-core 1.4 GHz Cortex-A15	Annapurna Labs Alpine AL-212 Dual-core 1.4 GHz Cortex-A15
記憶體	1GB DDR3	1GB DDR3
Flash 快閃記憶	512MB	512MB
可否更換記憶體	-	-
RAM 插槽數目	-	-
硬碟插槽數目	2	4
PCI-E 擴充槽	-	-
內建 10GbE LAN 連接埠		

系統型號	TS-531P	TS-831X
CPU 處理器	4 核 Annapurna Labs Alpine AL-314 1.4 GHz Cortex-A15	Quad-core Annapurna Labs Alpine AL-314 1.4 GHz Cortex-A15
記憶體	2GB/8GB DDR3 (RAM 可擴充到 16GB)	8GB/16GB DDR3 (RAM 可擴充到 16GB)
Flash 快閃記憶	512MB	512MB
可否更換記憶體	✓ (DDR3 RAM 相 容)	✓ (DDR3 RAM 相 容)
RAM 插槽數目	2 (SODIMM)	2 (SODIMM)
硬碟插槽數目	5	8
PCI-E 擴充槽	1	1
內建 10GbE LAN 連接埠	-	2 x SFP+

系統型號	HS-210
CPU 處理器	Marvell 1.6GHz
記憶體	512MB DDR3
Flash 快閃記憶	16MB
可否更換記憶體	-
RAM 插槽數目	-
硬碟插槽數目	2

系統型號	TS-451U	TS-453U	TS-453U-RP
CPU 處理器	Dual-core Intel® Celeron™ 2.41GHz (最高可至 2.58GHz)	Qual-core Intel® Celeron™ 2.0GHz (最高可至 2.42GHz)	Qual-core Intel® Celeron™ 2.0GHz (最高可至 2.42GHz)
記憶體	1GB DDR3L (可擴充至 8GB)	4GB/8GB DDR3L(可擴充至 8GB)	4GB/8GB DDR3L(可擴充至 8GB)
Flash 快閃記憶	512MB (USB DOM)	512MB (USB DOM)	512MB (USB DOM)
可否更換記憶體	✓(與 DDR3L RAM 相容之記憶體)	✓(與 DDR3L RAM 相容之記憶體)	✓(與 DDR3L RAM 相容之記憶體)
RAM 插槽數目	2 (SODIMM)	2 (SODIMM)	2 (SODIMM)
硬碟插槽數目	4	4	4
電源供應器	250W	250W	2 x 250W

系統型號	TS-853U	TS-853U-RP
CPU 處理器	Qual-core Intel® Celeron™ 2.0GHz (最高可至 2.42GHz)	Qual-core Intel® Celeron™ 2.0GHz (最高可至 2.42GHz)
記憶體	4GB/8GB DDR3L(可擴充至 8GB)	4GB/8GB DDR3L(可擴充至 8GB)
Flash 快閃記憶	512MB (USB DOM)	512MB (USB DOM)
可否更換記憶體	✓(與 DDR3L RAM 相容之記憶體)	✓(與 DDR3L RAM 相容之記憶體)
RAM 插槽數目	2 (SODIMM)	2 (SODIMM)
硬碟插槽數目	8	8
電源供應器	250W	2 x 250W

系統型號	TS-1253U	TS-1253U-RP
CPU 處理器	Qual-core Intel® Celeron™ 2.0GHz (最高可至 2.42GHz)	Qual-core Intel® Celeron™ 2.0GHz (最高可至 2.42GHz)
記憶體	4GB/8GB DDR3L(可 擴充至 8GB)	4GB/8GB DDR3L(可 擴充至 8GB)
Flash 快閃記憶	512MB (USB DOM)	512MB (USB DOM)
可否更換記憶體	✓(與 DDR3L RAM 相 容之記憶體)	✓(與 DDR3L RAM 相 容之記憶體)
RAM 插槽數目	2 (SODIMM)	2 (SODIMM)
硬碟插槽數目	12	12
電源供應器	250W	2 x 250W

系統型號	IS-453S
CPU 處理器	Dual-core Intel® Atom™ 1.91GHz
記憶體	IS-453S-2G : 2GB DDR3L IS-453S-8G : 8GB DDR3L
Flash 快閃記憶	512MB (USB DOM)
可否更換 CPU	-
可否更換記憶體	✓(與 DDR3L-1333/ 1600 SOD IMM RAM 相容之記憶體)
RAM 插槽數目	2 (SODIMM)
硬碟插槽數目	4 (僅限 2.5 吋硬碟使 用)

系統型號	TS-251C	TS-251 / TS-251-4G
CPU 處理器	Dual-core Intel® Celeron™ 2.41GHz (最高可至 2.58GHz)	Dual-core Intel® Celeron™ 2.41GHz (最高可至 2.58GHz)
記憶體	1GB DDR3L	1GB/4GB DDR3L(可擴充至 8GB)
Flash 快閃記憶	512MB	512MB
可否更換記憶體	-	✓(與 DDR3L RAM 相容之記憶體)
RAM 插槽數目	-	2
硬碟插槽數目	2(僅限 3.5 吋硬碟使用)	2
IR 感應器	✓: RM-IR002(QNAP 遙控器)	✓: RM-IR002(QNAP 遙控器)

系統型號	TS-451 / TS-451-4G	TS-451S
CPU 處理器	Dual-core Intel® Celeron™ 2.41GHz (最高可至 2.58GHz)	Dual-core Intel® Celeron™ 2.41GHz (最高可至 2.58GHz)
記憶體	1GB/4GB DDR3L(可擴充至 8GB)	1GB DDR3L (可擴充至 8GB)
Flash 快閃記憶	512MB	512MB
可否更換記憶體	✓(與 DDR3L RAM 相容之記憶體)	✓(與 DDR3L RAM 相容之記憶體)
RAM 插槽數目	2 (SODIMM)	2 (SODIMM)
硬碟插槽數目	4	4 (僅限 2.5 吋)
IR 感應器	✓: RM-IR002(QNAP 遙控器)	✓: RM-IR002(QNAP 遙控器)

系統型號	TS-651 / TS-651-4G	TS-851 / TS-851-4G
CPU 處理器	Dual-core Intel® Celeron™ 2.41GHz (最高可至 2.58GHz)	Dual-core Intel® Celeron™ 2.41GHz (最高可至 2.58GHz)
記憶體	1GB/4GB DDR3L(可 擴充至 8GB)	1GB/4GB DDR3L(可 擴充至 8GB)
Flash 快閃記憶	512MB	512MB
可否更換 CPU	✓(與 DDR3L RAM 相 容之記憶體)	✓(與 DDR3L RAM 相 容之記憶體)
可否更換記憶體	2 (SODIMM)	2 (SODIMM)
RAM 插槽數目	6	8
硬碟插槽數目	✓ : RM-IR002(QNAP 遙控器)	✓ : RM-IR002(QNAP 遙控器)
IR 感應器	TS-651 / TS-651-4G	TS-851 / TS-851-4G

系統型號	HS-251+	HS-251 / HS-251-2G
CPU 處理器	Dual-core Intel® Celeron™ 2.0GHz (最高可至 2.42GHz)	Dual-core Intel® Celeron™ 2.41GHz (最高可至 2.58GHz)
記憶體	2GB DDR3L	1GB / 2GB DDR3L
Flash 快閃記憶	512MB	512MB
可否更換 CPU	-	-
可否更換記憶體	-	-
RAM 插槽數目	-	-
硬碟插槽數目	2	2
IR 感應器	✓ : RM-IR002(QNAP 遙控器)	✓ : RM-IR002(QNAP 遙控器)

系統型號	TBS-453A-4G/ TBS-453A-4G-1T B/TBS-453A-4G- 512GB	TBS-453A-8G/ TBS-453A-8G-1T B/TBS-453A-8G- 512GB
CPU 處理器	Quad-core Intel® Celeron™ N3150 1.6GHz (最高可至 2.08GHz)	Quad-core Intel® Celeron™ N3150 1.6GHz (最高可至 2.08GHz)
記憶體	4GB DDR3L	8GB DDR3L
Flash 快閃記憶	4GB	4GB
可否更換 CPU	-	-
可否更換記憶體	✓ (與 DDR3L RAM 相容之記憶體)	✓ (與 DDR3L RAM 相容之記憶體)
RAM 插槽數目	2 (SODIMM)	2 (SODIMM)
硬碟插槽數目	4	4
IR 感應器	✓ RM-IR002 & RM-IR003 (QNAP 遙控器)	✓ RM-IR002 & RM-IR003 (QNAP 遙控器)

系統型號	TS-251+-2G / TS-251+-8G	TS-253 Pro / TS-253 Pro-8G	TS-453mini-2G / TS-453mini-8G
CPU 處理器	Quad-core Intel® Celeron™ 2.0GHz (最高可至 2.42GHz)	Quad-core Intel® Celeron™ 2.0GHz (最高可至 2.42GHz)	Quad-core Intel® Celeron™ 2.0GHz (最高可至 2.42GHz)
記憶體	2GB/8GB DDR3L(可擴充至 8GB)	2GB/8GB DDR3L(可擴充至 8GB)	2GB/8GB DDR3L(可擴充至 8GB)
Flash 快閃記憶	512MB	512MB	512MB
可否更換記憶體	✓ (與 DDR3L-1333/1600 RAM 相容之記憶體)	✓ (與 DDR3L-1333/1600 RAM 相容之記憶體)	✓ (與 DDR3L-1333/1600 RAM 相容之記憶體)
RAM 插槽數目	2 (SODIMM)	2 (SODIMM)	2 (SODIMM)
硬碟插槽數目	2	2	4
LCD 顯示器	-	-	-
IR 接收器	✓ : RM-IR002(QNAP 遙控器)	✓ : RM-IR002(QNAP 遙控器)	✓ : RM-IR002(QNAP 遙控器)

系統型號	TS-451+-2G / TS-451+-8G	TS-453 Pro / TS-453 Pro-8G	TS-653 Pro / TS-653 Pro-8G
CPU 處理器	Quad-core Intel® Celeron™ 2.0GHz (最高可至 2.42GHz)	Quad-core Intel® Celeron™ 2.0GHz (最高可至 2.42GHz)	Quad-core Intel® Celeron™ 2.0GHz (最高可至 2.42GHz)
記憶體	2GB/8GB DDR3L(可擴充至 8GB)	2GB/8GB DDR3L(可擴充至 8GB)	2GB/8GB DDR3L(可擴充至 8GB)
Flash 快閃記憶	512MB	512MB	512MB
可否更換記憶體	✓(與 DDR3L RAM 相容之記憶體)	✓(與 DDR3L RAM 相容之記憶體)	✓(與 DDR3L RAM 相容之記憶體)
RAM 插槽數目	2 (SODIMM)	2 (SODIMM)	2 (SODIMM)
硬碟插槽數目	4	4	6
LCD 顯示器	-	✓	✓
IR 接收器	✓ : RM-IR002(QNAP 遙控器)	有支援 : RM-IR002 (QNAP 遙控器)	有支援 : RM-IR002 (QNAP 遙控器)

系統型號	TS-853 Pro / TS-853 Pro-8G	TS-453S Pro (前身 為 SS-453 Pro)	TS-853S Pro (前身 為 SS-853 Pro)
CPU 處理器	Quad-core Intel® Celeron™ 2.0GHz (最高可至 2.42GHz)	Quad-core Intel® Celeron™ 2.0GHz (最高可至 2.42GHz)	Quad-core Intel® Celeron™ 2.0GHz (最高可至 2.42GHz)
記憶體	2GB/8GB DDR3L(可擴充至 8GB)	4GB DDR3L (可擴充至 8GB)	4GB DDR3L (可擴充至 8GB)
Flash 快閃記憶	512MB	512MB	512MB
可否更換記憶體	✓(與 DDR3L RAM 相容之記憶體)	✓(與 DDR3L RAM 相容之記憶體)	✓(與 DDR3L RAM 相容之記憶體)
RAM 插槽數目	2 (SODIMM)	2 (SODIMM)	2 (SODIMM)
硬碟插槽數目	8	4 (僅限 2.5 吋硬碟使用)	8 (僅限 2.5 吋硬碟使用)
LCD 顯示器	✓	-	✓
IR 接收器	✓ : RM-IR002(QNAP 遙控器)	✓ : RM-IR002(QNAP 遙控器)	✓ : RM-IR002(QNAP 遙控器)

系統型號	TVS-563-4G / TVS-563-8G	TVS-463-4G / TVS-463-8G	TVS-663-4G / TVS-663-8G
CPU 處理器	Quad-core AMD 2.0GHz	Quad-core AMD 2.4GHz	Quad-core AMD 2.4GHz
記憶體	4GB/8GB DDR3L(可 擴充至 16GB)	4GB/8GB DDR3L(可 擴充至 16GB)	4GB/8GB DDR3L(可 擴充至 16GB)
Flash 快閃記憶	512MB	512MB	512MB
可否更換記憶體	✓ (與 DDR3L-1600 RAM 相容之記憶體)	✓ (與 DDR3L-1600 RAM 相容之記憶體)	✓ (與 DDR3L-1600 RAM 相容之記憶體)
RAM 插槽數目	2 (SODIMM)	2 (SODIMM)	2 (SODIMM)
硬碟插槽數目	5	4	6
PCI-E 擴充插槽	1	1	1
HDMI	-	✓	✓
LCD 顯示器	-	✓	✓
IR 接收器	-	✓ : RM-IR002(QNAP 遙控器)	✓ : RM-IR002(QNAP 遙控器)

系統型號	TVS-863-4G / TVS-863-8G	TVS-863+-8G / TVS-863+-16G
CPU 處理器	Quad-core AMD 2.4GHz	Quad-core AMD 2.4GHz
記憶體	4GB/8GB DDR3L(可 擴充至 16GB)	8GB/16GB DDR3L (可擴充至 16GB)
Flash 快閃記憶	512MB	512MB
可否更換記憶體	✓ (與 DDR3L-1600 RAM 相容之記憶體)	✓ (與 DDR3L-1600 RAM 相容之記憶體)
RAM 插槽數目	2 (SODIMM)	2 (SODIMM)
硬碟插槽數目	8	8
PCI-E 擴充插槽	1	1 (出貨時包含 1 埠 10GbE 網卡)
HDMI	✓	✓
LCD 顯示器	✓	✓
IR 接收器	✓ : RM-IR002(QNAP 遙控器)	✓ : RM-IR002(QNAP 遙控器)

系統型號	TS-253A-4G / TS-253A-8G	TS-453A-4G / TS-453A-8G	TS-653A-4G / TS-653A-8G
CPU 處理器	Quad-core Intel® Celeron® N3150 1.6GHz (最高可至 2.08GHz)	Quad-core Intel® Celeron® N3150 1.6GHz (最高可至 2.08GHz)	Quad-core Intel® Celeron® N3150 1.6GHz (最高可至 2.08GHz)
記憶體	4/8 GB DDR3L (可 擴充至 8GB)	4/8 GB DDR3L (可 擴充至 8GB)	4/8 GB DDR3L (可 擴充至 8GB)
Flash 快閃記憶	512MB	512MB	512MB
可否更換記憶體	✓ (與 DDR3L-1600 RAM 相容之記憶體)	✓ (與 DDR3L-1600 RAM 相容之記憶體)	✓ (與 DDR3L-1600 RAM 相容之記憶體)
RAM 插槽數目	2 (SODIMM)	2 (SODIMM)	2 (SODIMM)
硬碟插槽數目	2	4	6
PCI-E 擴充插槽	-	-	-
HDMI	2	2	2
LCD 顯示器	-	✓	✓
IR 接收器	✓ RM-IR002 (QNAP 遙控器)	✓RM-IR002 (QNAP 遙控器)	✓RM-IR002 (QNAP 遙控器)

系統型號	TVS-853-4G / TVS-853-8G
CPU 處理器	Quad-core Intel® Celeron® N3150 1.6GHz (最高可至 2.08GHz)
記憶體	4/8 GB DDR3L (可 擴充至 8GB)
Flash 快閃記憶	512MB
可否更換記憶體	✓ (與 DDR3L-1600 RAM 相容之記憶體)
RAM 插槽數目	2 (SODIMM)
硬碟插槽數目	8
PCI-E 擴充插槽	-
HDMI	2
LCD 顯示器	-
IR 接收器	✓ RM-IR002 (QNAP 遙控器)

系統型號	TS-463U	TS-463U-RP	TS-863U
CPU 處理器	Quad-core AMD 2.0GHz	Quad-core AMD 2.0GHz	Quad-core AMD 2.0GHz
記憶體	4 GB DDR3L(可擴充 至 16GB)	4 GB DDR3L(可擴充 至 16GB)	4 GB DDR3L(可擴充 至 16GB)
Flash 快閃記憶	512MB	512MB	512MB
可否更換記憶體	✓ (與 DDR3L-1600 RAM 相容之記憶體)	✓ (與 DDR3L-1600 RAM 相容之記憶體)	✓ (與 DDR3L-1600 RAM 相容之記憶體)
RAM 插槽數目	2 (SODIMM)	2 (SODIMM)	2 (SODIMM)
硬碟插槽數目	4	4	8
PCI-E 擴充插槽	1 (出貨時包含 LAN-10G1SR-D 網 卡)	1 (出貨時包含 LAN-10G1SR-D 網 卡)	1 (出貨時包含 LAN-10G1SR-U 網 卡)
HDMI	-	-	-
LCD 顯示器	-	-	-

系統型號	TS-863U-RP	TS-1263U	TS-1263U-RP
CPU 處理器	Quad-core AMD 2.0GHz	Quad-core AMD 2.0GHz	Quad-core AMD 2.0GHz
記憶體	4 GB DDR3L (可擴 充至 16GB)	4 GB DDR3L (可擴 充至 16GB)	4 GB DDR3L (可擴 充至 16GB)
Flash 快閃記憶	512MB	512MB	512MB
可否更換記憶體	✓ (與 DDR3L-1600 RAM 相容之記憶體)	✓ (與 DDR3L-1600 RAM 相容之記憶體)	✓ (與 DDR3L-1600 RAM 相容之記憶體)
RAM 插槽數目	2 (SODIMM)	2 (SODIMM)	2 (SODIMM)
硬碟插槽數目	8	12	12
PCI-E 擴充插槽	1 (出貨時包含 LAN-10G1SR-U 網 卡)	1 (出貨時包含 LAN-10G1SR-U 網 卡)	1 (出貨時包含 LAN-10G1SR-U 網 卡)
HDMI	-	-	-
LCD 顯示器	-	-	-

第2章 電源按鈕及系統重置按鈕說明

- 電源按鈕：按此按鈕開啟或關閉系統。

系統型號	開啟系統	硬體關機	強制關機
所有型號	按一下	按 1.5 秒	按 5 秒

- 重置按鈕：按此按鈕重設系統至預設值。

系統型號	系統基本重設 (嗶一聲)	系統進階重設 (嗶兩聲)
所有型號	按 3 秒	按 10 秒

系統基本重設 (按重設鍵 3 秒)

持續按系統重置按鈕 3 秒，系統會嗶一聲。以下設定將回復至預設值：

- 系統管理員密碼：admin
- TCP/IP 設定：使用動態 IP 位址
- TCP/IP 設定：關閉 Jumbo Frame
- TCP/IP 設定：若有啟用 Port Trunking (適用於支援雙 LAN 型號)，系統將回復設定為 Active Backup (網路容錯) 模式。
- 系統通訊埠：8080
- 安全等級：接受所有連線
- LCD 面板密碼：空白*
- VLAN 會被停用

*此功能只適用於配有 LCD 面板的機種，詳情請參考 <http://www.qnap.com>。

系統進階重設 (按重設鍵 10 秒)

持續按系統重置按鈕 10 秒，系統會在第 3 秒及第 10 秒發出嗶聲，然後照系統網頁重設設定，所有資料將會保存，但系統設定如使用者帳號、使用者群組、網路資料夾將全部被清除，如要存取舊資料，可以照原來路徑建立資料夾便可。

第3章 USB 單鍵備份

系統型號	按鍵秒數 (按單鍵備份按鈕複製資料)
所有 NAS 型號	0.5 秒

透過前方 USB 埠執行單鍵備份功能

NAS 支援透過自動備份按鈕直接由前方的 USB 埠將資料從外接儲存裝置複製資料至 NAS，或將 NAS 的資料備份至外接儲存裝置。要使用此功能，請依照以下步驟：

1. 確認已安裝硬碟至 NAS。預設資料夾 Qusb 或 Usb 已建立。
2. 開啟 NAS。
3. 在 [系統工具] > [USB 單鍵備份] 頁面設定備份的模式。
4. 連接 USB 外接儲存裝置至 NAS 前方的 USB 埠。
5. 按 NAS 自動備份按鈕一下。系統將根據在 NAS 上的設定備份資料。

注意：

- 本功能採用增量備份，執行第一次完全備份後，系統會針對差異的檔案進行備份。
- 本功能僅限特定 NAS 使用，詳請洽 www.qnap.com。

第4章 系統燈號及蜂鳴器說明

NAS 的 LED 燈號指示系統狀態；當 NAS 開啟時，可以檢查以下項目確定系統運作正常。注意檢視燈號狀態前，必須在 NAS 上正確安裝好硬碟、接上電源及連接至網路。

LED	顏色	LED 狀態	說明
系統狀態	紅/綠	綠燈/紅燈每 0.5 秒交錯閃爍	<ol style="list-style-type: none"> 1. 硬碟格式化中。 2. 系統初始化中。 3. 韌體更新中。 4. RAID 組態重建中。 5. RAID 容量擴充 (Online RAID Capacity Expansion) 進行中。 6. RAID 組態遷移 (Online RAID Level Migration) 進行中。
		紅燈常亮	<ol style="list-style-type: none"> 1. 硬碟異常。 2. 硬碟群組容量已滿。 3. 硬碟群組容量將滿。 4. 系統風扇異常。 5. 硬碟讀寫錯誤。 6. 硬碟壞軌。 7. RAID 降階模式，即 RAID 5 或 RAID 6 組態有 2 顆硬碟損毀，系統資料仍能被讀取。 8. 硬體自我檢查錯誤。
		紅燈每 0.5 秒閃爍	降階模式 (RAID 1、RAID 5、RAID 6 降階模式)。
		綠燈每 0.5 秒閃爍	<ol style="list-style-type: none"> 1. 系統開機中。 2. 系統未設定。 3. 硬碟未格式化。
		綠燈每 2 秒閃爍	系統正處於 S3 睡眠模式 ¹ 。
		綠燈常亮	系統可使用。
		關閉	所有硬碟進入待命模式。

¹ 本功能僅限特定 NAS 使用，詳請洽 www.qnap.com。

LED	顏色	LED 狀態	說明
LAN	橙	常亮	使用者透過網路存取資料中並發生讀寫錯誤。
		閃爍	LAN 存取中。
10 GbE ²	綠	綠燈常亮	10GbE 網路擴充卡已安裝。
		關閉	沒有安裝 10GbE 網路擴充卡。
HDD (硬碟) ³	紅/綠	紅燈閃爍	存取硬碟中，但發生讀寫錯誤。
		紅燈常亮	硬碟讀寫錯誤。
		綠燈閃爍	硬碟讀取中。
		綠燈常亮	硬碟可被存取。
USB ³	藍	每 0.5 秒閃爍	<ol style="list-style-type: none"> 1. 系統偵測到有 USB 裝置連接至前方的 USB 埠。 2. 連接至系統前方的 USB 裝置正被移除。 3. 連接至系統前方的 USB 裝置正被存取中。 4. 正在複製系統資料至外接 USB/eSATA 裝置，或正由外接 USB/eSATA 裝置複製資料至系統。
		常亮	系統偵測到前方 USB 埠有連接 USB 裝置 (USB 裝置已掛載至系統)。
		關閉	<ol style="list-style-type: none"> 1. 系統沒有偵測到任何的 USB 裝置。 2. 系統已完成複製資料至前方的 USB 裝置，或已完成由前方 USB 裝置複製資料至系統。
eSATA ³	橙	閃爍	資料存取中。
		關閉	系統沒有偵測到任何 eSATA 裝置。

² 10 GbE 網路擴充功能只適用於 TVS-463、TVS-663、TVS-863/863+、TS-879 Pro、TS-1079 Pro、TS-879U-RP、TS-1279U-RP、TS-EC879U-RP、TS-EC1279U-RP、TS-1679U-RP、TS-EC1679U-RP、TS-870U-RP、TS-1270U-RP。

³ 本功能僅限特定 NAS 使用，詳請洽 www.qnap.com。

警示蜂鳴器：適用於所有 NAS 型號

警示蜂鳴器可於 [系統工具] > [硬體設定] 頁面關閉。

嗶叫聲	次數	說明
短嗶 (0.5 秒)	1	1. 系統開啟中。 2. (透過軟體) 關閉系統中。 3. 系統重設。 4. 韌體已更新。
短嗶 (0.5 秒)	3	備份資料至外接硬碟時，資料無法複製。
短嗶 (0.5 秒) , 長嗶 (1.5 秒)	3 (每 5 分鐘)	系統風扇異常。
長嗶 (1.5 秒)	2	1. 硬碟群組容量快滿。 2. 硬碟群組容量已滿。 3. 硬碟降階模式。 4. 硬碟開始重建。
	1	1. 硬體關閉系統。 2. 系統可使用。

第5章 升級 Turbo NAS 記憶體 (安裝 RAM 模組)



警告：

- 以下操作說明必須由授權及合格的技術人員進行。
- 請務必依照以下說明安裝網路擴充卡至 NAS，否則將有可能導致身體傷害甚至死亡。
- 在您開始執行任何步驟之前，請務必關閉 NAS 電源，移除 NAS 的電源變壓器、網路線及其他連接裝置及連接線。
- 在安裝記憶體模組前，請先戴上防靜電的手腕帶，並確保接地線接至地上。

安裝多個記憶體模組時，各槽務必使用相同大小甚或同類型 / 同型號的模組。

QNAP 提供不同的 RAM 模組 (選配)，供使用者擴充 NAS 記憶體，請按下列步驟外加記憶體模組進行擴充。



請依照以下說明安裝額外的記憶體模組替 NAS 升級記憶體。

5.1 TS-453mini (4-bay)

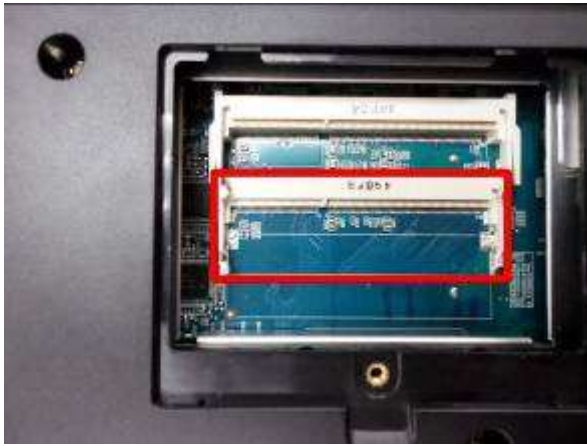
1. 使用一字起子鬆開 NAS 底部的記憶體插槽蓋上的螺絲並移開記憶體插槽蓋。



2. 如果記憶體插槽上已裝有記憶體模組，請將記憶體模組兩邊之扣夾推開，此時記憶體會翹起，然後直接移除記憶體。



注意：請務必確認將記憶體模組安裝在主要插槽（紅色）中。否則，系統將會無法啟動。系統支援最大合併記憶體為 8GB。



3. 將欲裝入之記憶體模組以約 45 度角的方式置放於插槽中。平均施力直到記憶體完全插入插槽中。



4. 關上 NAS 外蓋然後鎖上螺絲，最後將電源及網路線重新插回至 NAS 上。

5.2 TBS-453A

1. 拿開橡膠墊片，鬆開 NAS 底部的四顆手動螺絲，取下護蓋。



2. 拉開兩側的固定夾，模組向上傾斜，以便取出已安裝的記憶體模組。



請注意：記憶體模組務必安裝於紅色主插槽，否則系統可能無法開機。記憶體最大可擴充到 8GB。



3. 將記憶體模組以 (大約) 45 度角插入插槽，向下壓直到卡入定位。模組務必插到底使的固定夾彈回定位。



4. 蓋好 NAS 護蓋，鎖緊四顆手動螺絲，蓋回橡膠墊片，重新連接電源線及網路線到 NAS。

5.3 TS-451S、TS-531P、TS-651、TS-851、TS-x53/x53S Pro、TS-563、TVS-x63、TS-x53A 系列 (2/4/6/8-bay)

1. 移除 NAS 背面的三顆螺絲。



2. 小心地移除 NAS 的外殼。



3. 找到擴充記憶體插槽，並確認插槽沒有安裝任何記憶體。

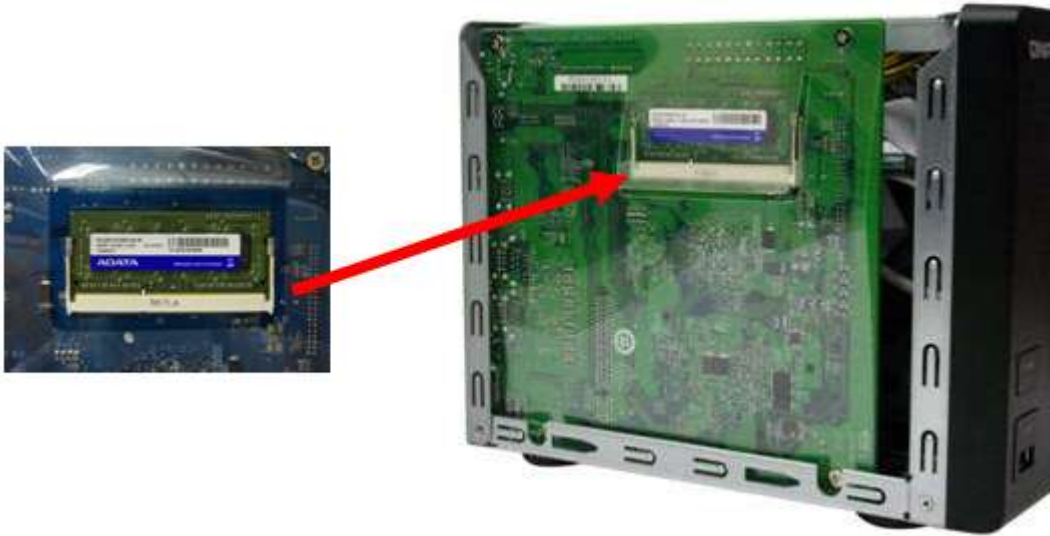
注意：針對 TS-x53/x53S Pro、TS-451S、TS-531P、TS-651、TS-851 和 TS-x53A 機型，請務必確認將記憶體模組安裝在主要插槽（紅色）中。否則，系統將會無法啟動。支援的最大記憶體總量為 8GB。



4. 小心握住記憶體模組邊緣，將模組金邊上的接口與記憶體插槽的接口對齊。以大約 45 度角斜放記憶體，將記憶體推入插槽。



5. 平均施力壓下記憶體模組，直至記憶體模組插入正確的位置。
6. 將模組向背板方向旋轉直至擴充插槽兩端的固定片吻合。



7. 將 NAS 外殼蓋上並鎖上螺絲，重新連接電源變壓器、電源線及網路線等。
8. 要檢查記憶體模組是否成功被 NAS 偵測，請開啟 NAS 電源，然後以管理者帳號登入網頁管理介面。在 [系統狀態] > [系統資訊] 頁面的 [硬體資訊] 檢視記憶體總容量。

5.4 TS-431U、TS-451U、TS-x53U、TS-x63U 系列 (4/8/12-bay)

1. 開啟 NAS 上蓋。
 - a. TS-431U、TS-451U、TS-453U、TS-463U：移除 NAS 上方所有的螺絲。



- b. TS-853U、TS-863U、TS-1253U 及 TS-1263U：移除 NAS 背面的兩顆螺絲。



2. 打開 NAS，拉開兩側的固定夾，模組向上傾斜，以便取出已安裝的記憶體模組。



3. 以大約 45 度角斜放記憶體，將記憶體推入插槽。



4. 壓下記憶體模組，確認模組正確安裝並與擴充插槽兩端的固定片吻合。



注意：針對 TS-x53U 及 TS-451U 機型，請務必確認將記憶體模組安裝在主要插槽（下圖紅色框處）中。否則，系統將會無法啟動。支援的最大記憶體總容量為 8GB。



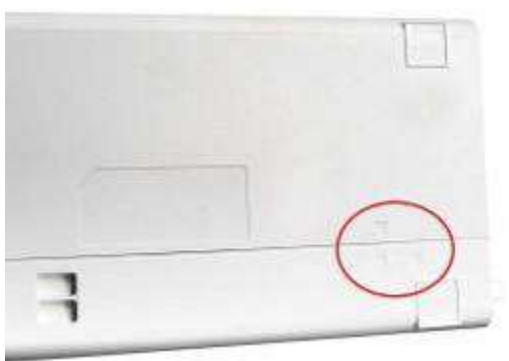
5. 蓋好 NAS 上蓋並鎖上螺絲，重新連接電源變壓器、電源線及網路線等。

5.5 TS-251+、TS-251、TS-451+、TS-451

1. 拆下 NAS 背面（最上方與最下方）上的螺絲。如果是雙插槽 NAS，會有兩顆螺絲；四插槽 NAS 會有四顆。



2. 以滑開的方式，慢慢取下 NAS 的機殼蓋（查看 NAS 的底側可以看到 NAS 機殼鎖定 / 解鎖的指示圖示）。



3. 卸下硬碟外盒的四顆內螺絲（每側兩顆）。



4. 如果是四插槽 NAS，那麼還需要卸下硬碟外盒頂部的兩顆螺絲。



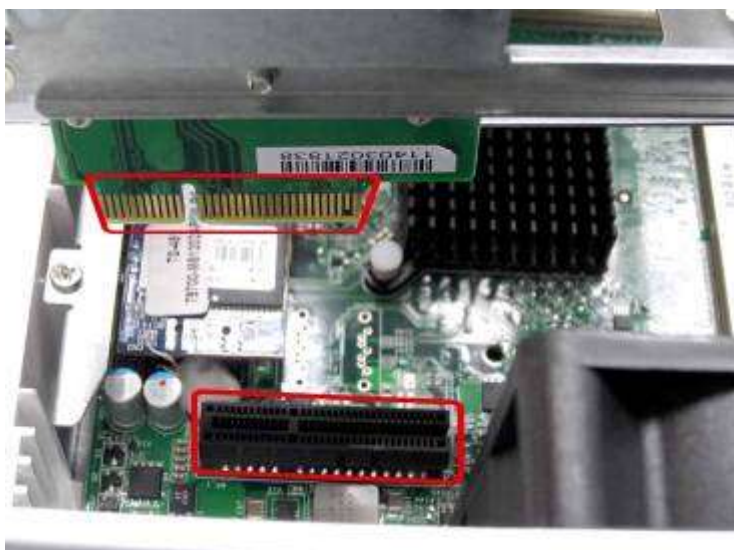
5. 慢慢將硬碟外盒往上提起，使其離開插槽，並從 NAS 中取出。



- 務必確保將記憶體模組安裝於主要插槽中（紅色）。如果沒有，系統將無法啟動。安裝兩個記憶體模組時，請確保其大小相同，兩個記憶體插槽也最好使用相同類型的 RAM。支援的最大記憶體為 8GB 總量。



- 將硬碟外盒重新裝回到 NAS。請確保正確插入插槽中。



- 鎖緊四顆內螺絲，將硬碟外盒固定好 (若是四插槽 NAS，請另外再鎖緊兩顆上方螺絲)。然後，慢慢滑動 NAS 的機殼蓋，來重新裝回。
- 鎖緊 NAS 背面的兩顆/四顆螺絲。
- 將硬碟重新插入 NAS。
- 將電源變壓器和纜線接回至 NAS。
- 若要檢查 NAS 是否能辨識記憶體模組，請開啟 NAS 電源，然後以管理員身分登入 Web 介面。移至 [系統狀態] > [系統資訊]，然後查看 [硬體資訊] 中的總記憶體大小。

5.6 IS-453S

- 鬆開 NAS 底部四顆螺絲和後方面板上的兩顆螺絲，然後將 NAS 底蓋移除。



- 拉開記憶體插槽兩側的固定片，並將原本的記憶體模組移除。



注意：若您僅需安裝一條記憶體模組，請務必確認將該記憶體模組安裝在主要插槽中（下圖中標示 DIMM1 處）。否則，系統將無法啟動。支援的最大記憶體總容量為 8GB。



3. 以大約 45 度角斜放記憶體模組，然後將記憶體模組推入插槽，下壓直到固定。請確認記憶體模組已裝妥，且兩側固定片已固定住記憶體模組。



4. 蓋上 NAS 底蓋，並將其用螺絲鎖緊（螺絲位置請參考步驟 1）。重新連接電源變壓器、電源線、及網路線等。

第6章 安裝網路擴充卡



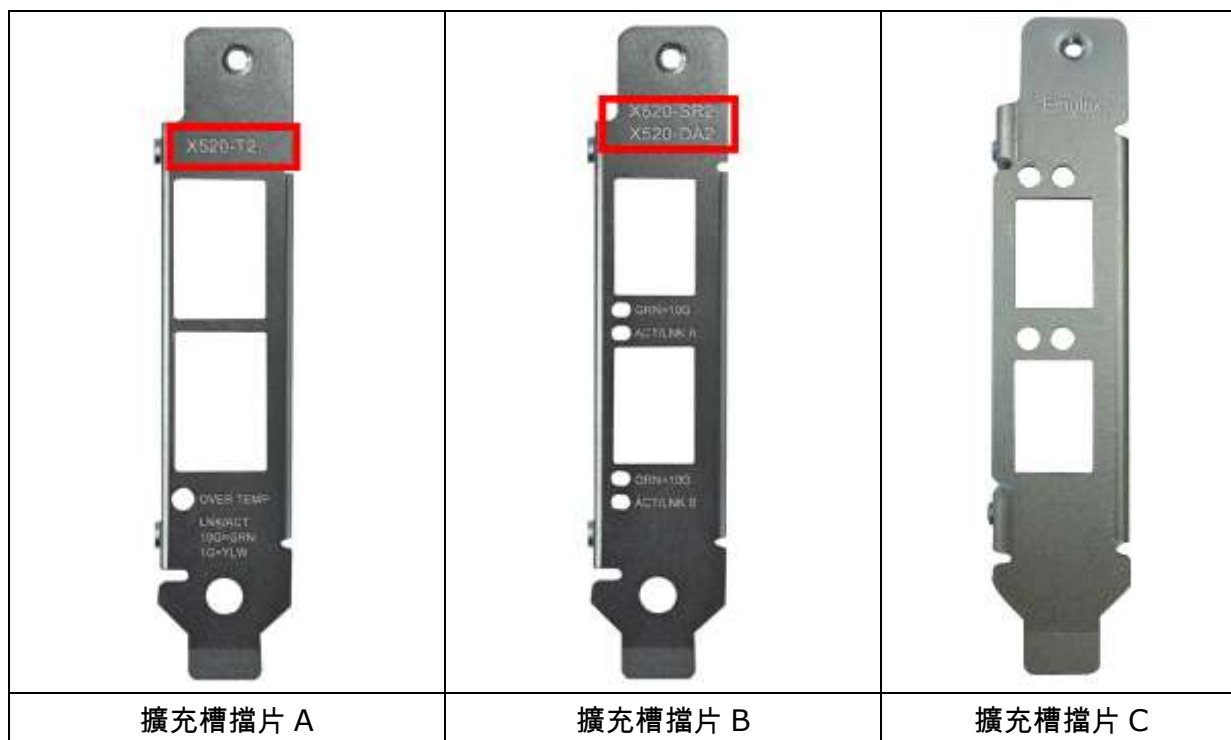
警告：

- 以下操作說明必須由授權及合格的技術人員進行。
- 請務必依照以下說明安裝網路擴充卡至 NAS，否則將有可能導致身體傷害甚至死亡。

特定 NAS 會配備網路卡擴充插槽，使用者可以安裝額外的網路擴充卡（需另購）至 NAS 的主機板以增加網路頻寬。如需相容性清單，請參考 <http://qnap.com/compatibility>

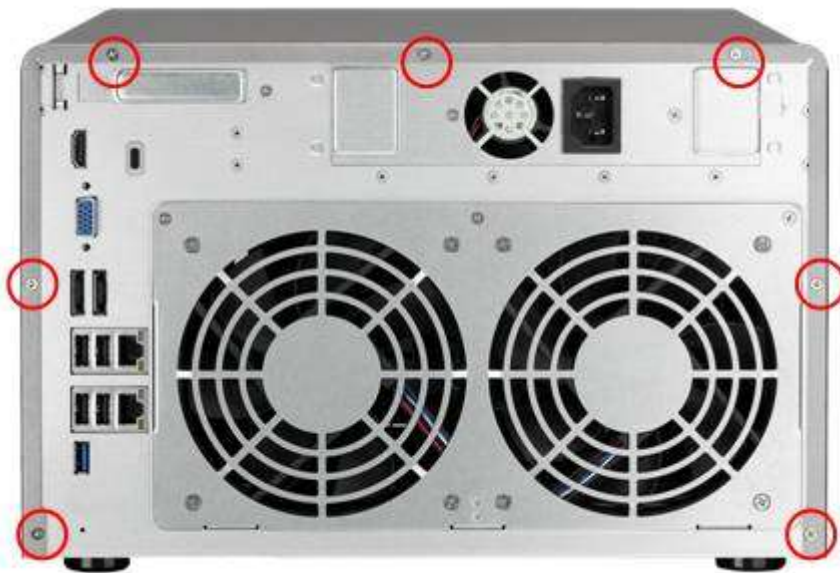
6.1 TVS-463、TS-531P、TVS-663、TS-831X、TVS-863、TS-563、TS-879 Pro、TS-1079 Pro、TS-463U、及 TS-463U-RP

請參考以下內容，為網路擴充卡更換合適的擴充槽擋片。



	相容網路擴充卡
擴充槽擋片 A (X520-T2)	Intel® Ethernet Server Adapter X520-T2 (E10G42B)
擴充槽擋片 B (X520-SR2/X520-DA2)	<ol style="list-style-type: none"> 1. Intel® Ethernet Server Adapter X520-SR2 (E10G42BFSR) 2. Intel® Ethernet Server Adapter X520-DA2 (E10G42BTDA)
擴充槽擋片 C (Emulex)	<ol style="list-style-type: none"> 1. Emulex OneConnect 10GbE Network Adapters, SFP+ Direct attach copper (OCe11102-NX) 2. Emulex OneConnect 10GbE Network Adapters, Short reach optical (OCe11102-NM) 3. Emulex OneConnect 10GbE Network Adapters, SFP+ Direct attach copper (OCe11102-IX) 4. Emulex OneConnect 10GbE Network Adapters, Short reach optical (OCe11102-IM)

1. 關閉 NAS 電源，移除 NAS 的電源變壓器、網路線及其他連接裝置及連接線。
2. 安裝網路擴充卡前，請先戴上防靜電的手腕帶，並確保接地線接至地上。
3. 移除 NAS 背面的螺絲。



4. 小心地移除 NAS 的外殼。



若為 TVS-463：取出外部螺絲然後移除電源供應器。



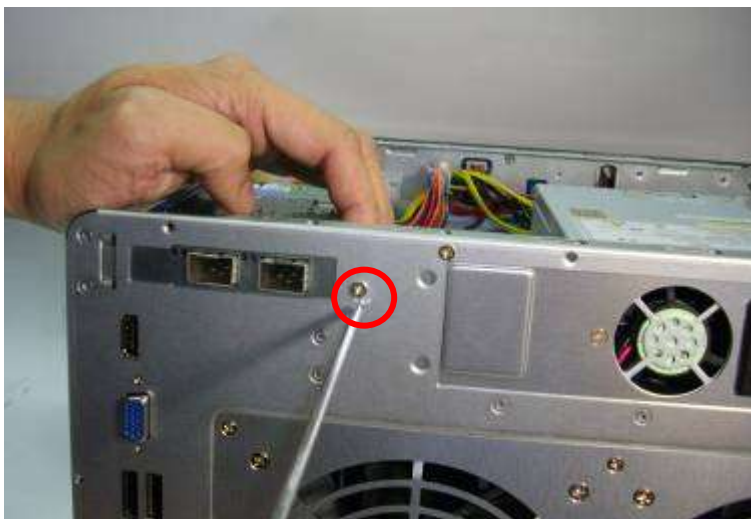
5. 移除螺絲及擴充插槽的面板。



6. 小心握住網路擴充卡的邊緣，將擴充卡金邊上的接口與插槽的接口對齊。將網路擴充卡插入插槽直至完全緊合。



7. 鎖上螺絲。



- 將 NAS 外殼蓋上並鎖上螺絲，重新連接電源變壓器、電源線及網路線等。
- 要檢查網路擴充卡是否成功被 NAS 偵測，請開啟 NAS 電源，然後以管理者帳號登入網頁管理介面。在 [系統狀態] > [網路] > [TCP/IP] 頁面檢查網路介面的數目。

6.2 TS-463U、TS-463U-RP 及 TVS-471U

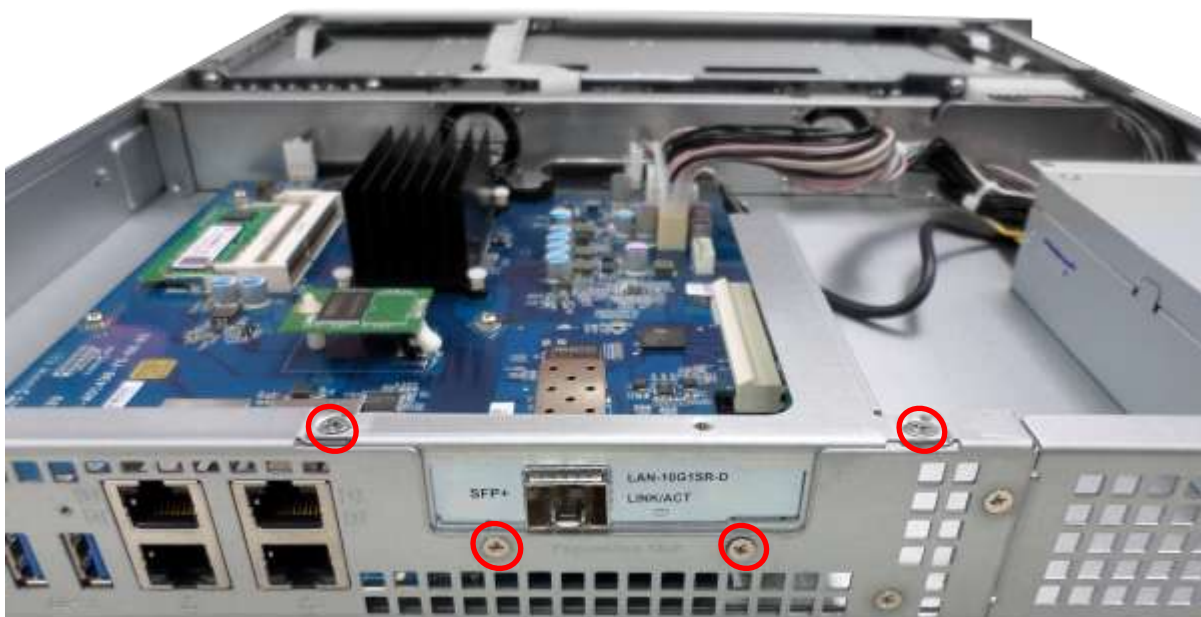
- 關閉 NAS 電源，移除 NAS 的電源變壓器、網路線及其他連接裝置及連接線。
- 安裝網路擴充卡前，請先戴上防靜電的手腕帶，並確保接地線接至地上。
- 移除 NAS 背面上所有螺絲。



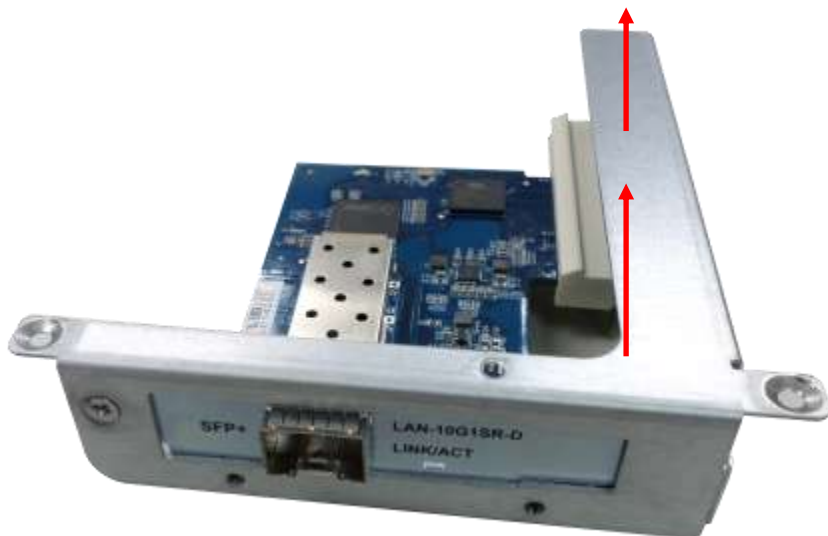
- 用雙手將上蓋卸下。



- 如圖示移除 Riser Card 模組螺絲。



6. 握住 Riser Card 模組的金屬邊緣，並小心地移除 Riser Card 模組。



7. 移除網路擴充卡 / 檔片。

a. TS-463U 及 TS-463U-RP：移除螺絲以及網路擴充卡。



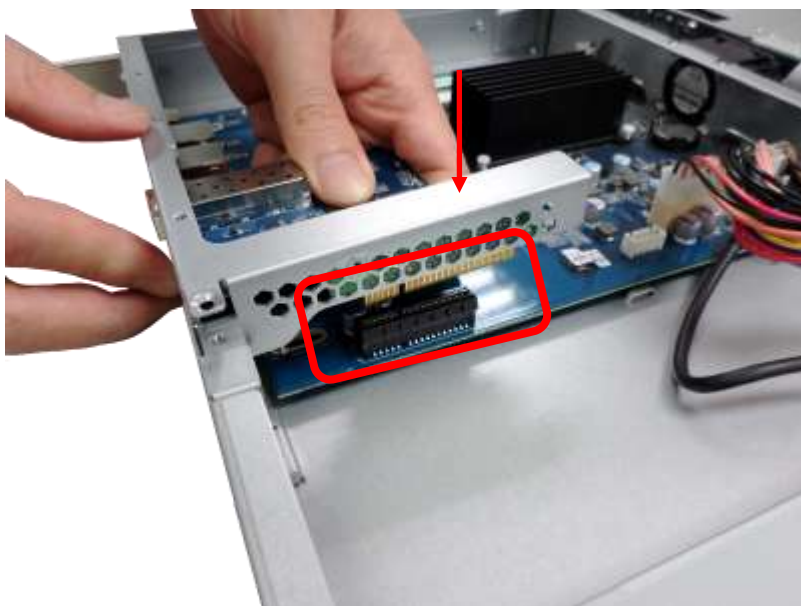
b. TVS-471U：移除螺絲以及檔片。



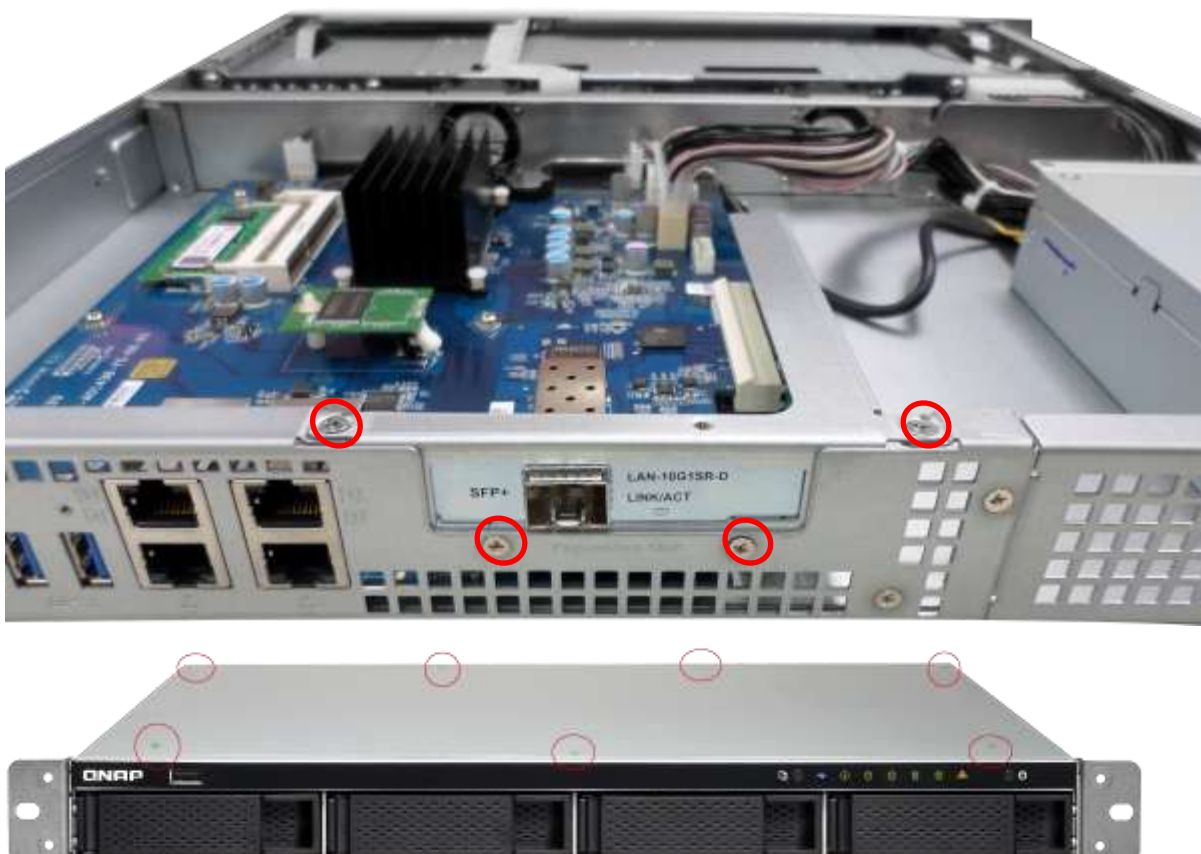
8. 將新的網路擴充卡插入 Riser Card 模組直至完全緊合，然後鎖上螺絲。



9. 將新的網路擴充卡插入 Riser Card 模組直至完全緊合，然後鎖上螺絲。



10. 鎖上螺絲。將 NAS 外殼蓋上並鎖上螺絲。



11. 重新連接電源變壓器、電源線及網路線等。

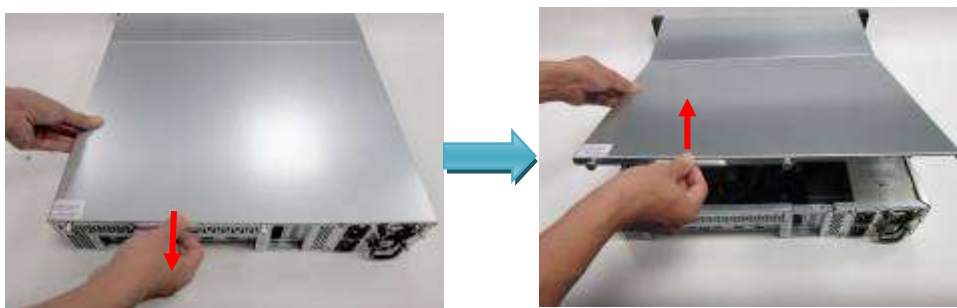
12. 要檢查網路擴充卡是否成功被 NAS 偵測，請開啟 NAS 電源，然後以管理者帳號登入網頁管理介面。在 [系統狀態] > [網路] > [TCP/IP] 頁面檢查網路介面的數目。

6.3 TS-863U、TS-863U-RP、TS-1263U、及 TS-1263U-RP

1. 關閉 NAS 電源，移除 NAS 的電源變壓器、網路線及其他連接裝置及連接線。
2. 安裝網路擴充卡前，請先戴上防靜電的手腕帶，並確保接地線接至地上。
3. 移除 NAS 背面的兩顆螺絲。



4. 握住上蓋邊緣溝槽拉出上蓋，用雙手將上蓋卸下。



5. 移除螺絲及擴充插槽的面板。



6. 小心握住網路擴充卡的邊緣，將擴充卡金邊上的接口與插槽的接口對齊。將網路擴充卡插入插槽直至完全緊合。



7. 鎖上螺絲。



8. 將 NAS 外殼蓋上並鎖上螺絲，重新連接電源變壓器、電源線及網路線等。

9. 要檢查網路擴充卡是否成功被 NAS 偵測，請開啟 NAS 電源，然後以管理者帳號登入網頁管理介面。在 [系統狀態] > [網路] > [TCP/IP] 頁面檢查網路介面的數目。

第7章 安裝及熱抽換硬碟



注意：

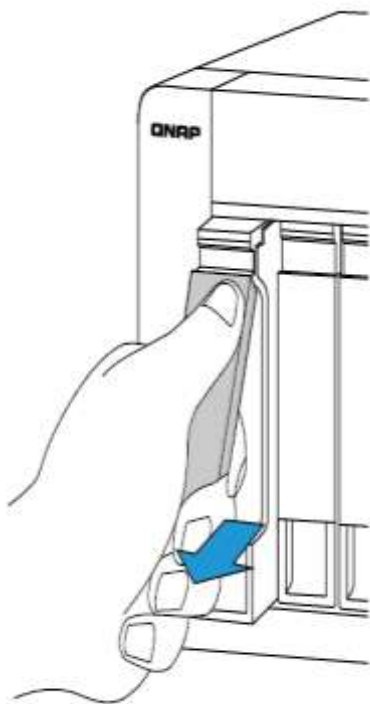
- 在您開始執行任何步驟之前，請務必關閉 NAS 電源，移除 NAS 的電源變壓器、網路線及其他連接裝置及連接線。
- 在安裝記憶體模組前，請先戴上防靜電的手腕帶，並確保接地線接至地上。

7.1 安裝硬碟

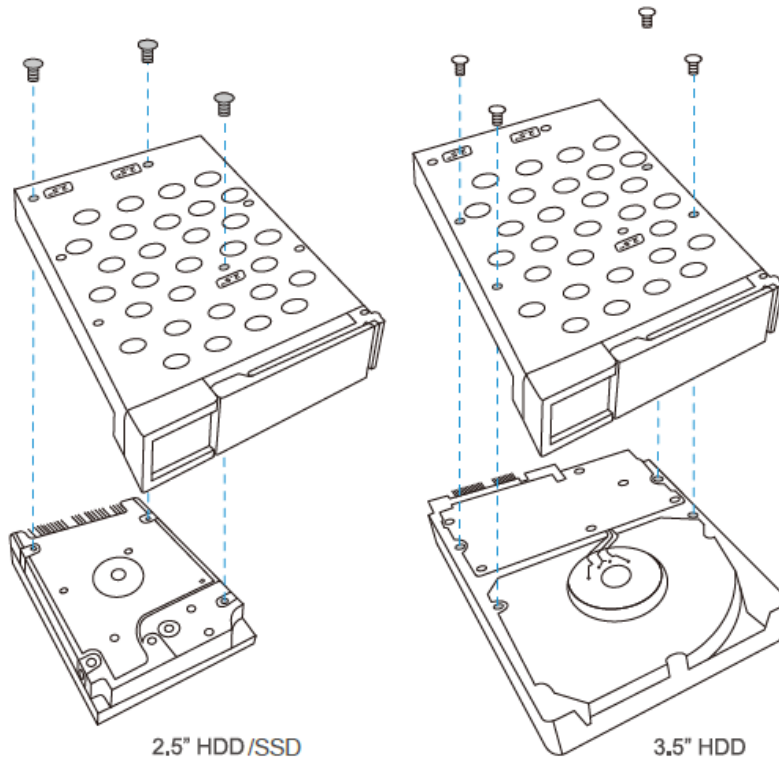
請參考以下步驟替 NAS 安裝硬碟。

7.1.1. TVS-x63、TVS-x63、TS-563、TS-x53 Pro、TS-651、 TS-851、TS-531P、TS-x53A

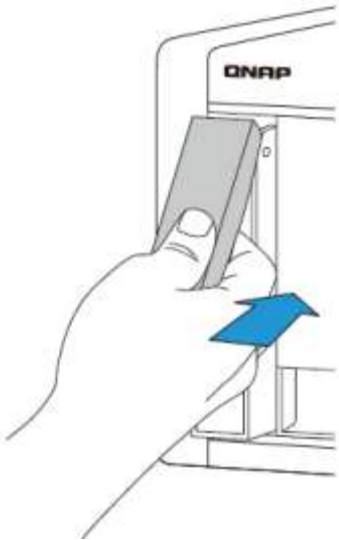
1. 打開並抽出硬碟托盤。



2. 安裝硬碟：
 - a. 3.5"硬碟：將硬碟由托盤底部用四顆螺絲鎖住。
 - b. 2.5"硬碟：依照托盤底部標示用三顆螺絲鎖住硬碟。

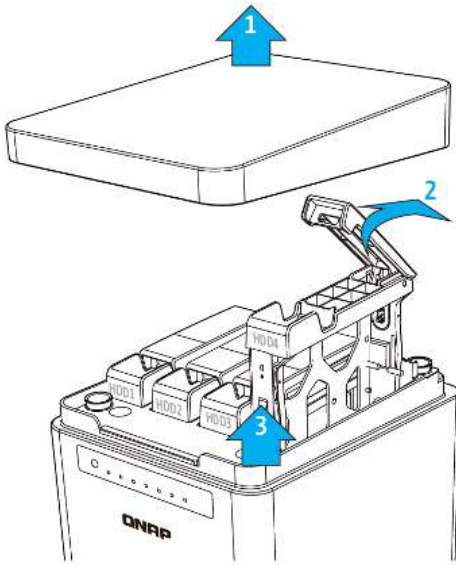


3. 將裝有硬碟的硬碟托盤插入至 NAS 底部，直到聽到喀一聲。



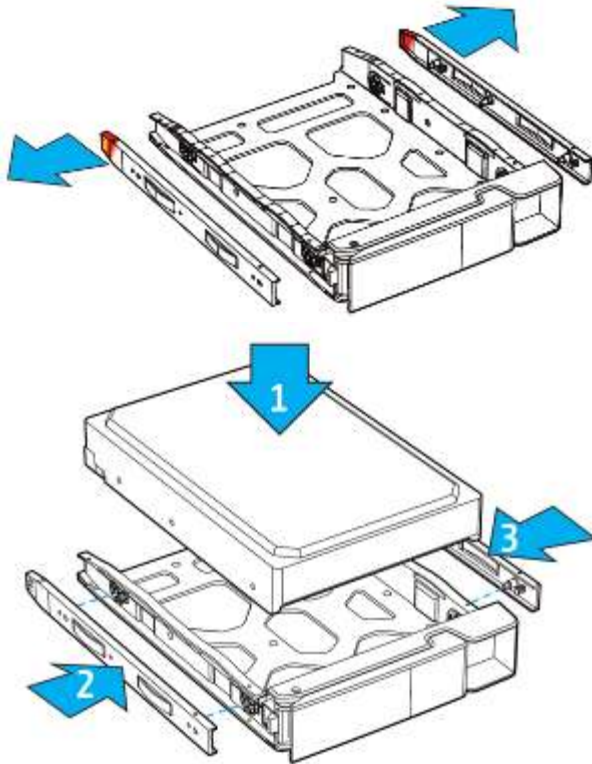
7.1.2. TS-453Mini

1. 移除上蓋，打開然後抽出硬碟托盤。

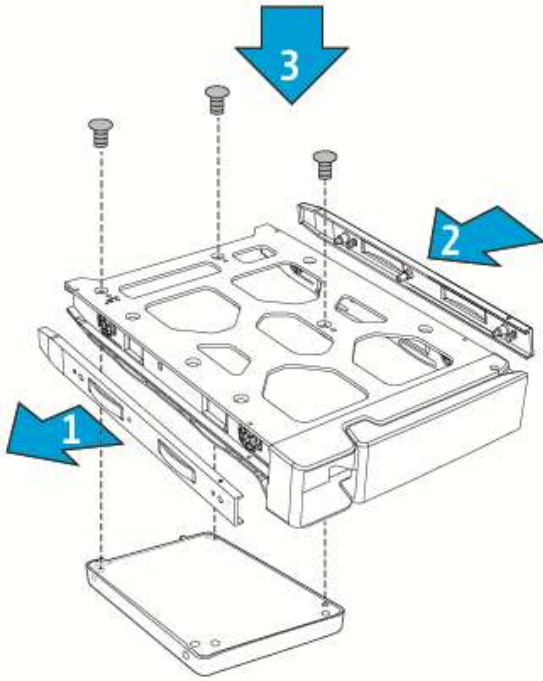


2. 安裝硬碟：

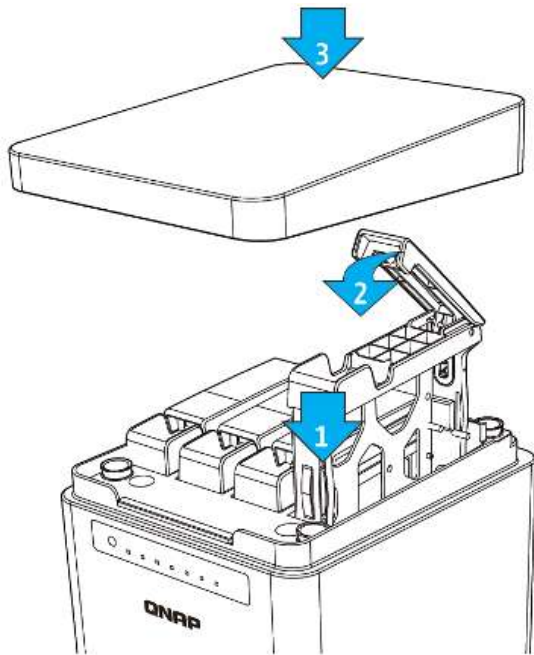
- a. 如為 3.5" 硬碟，移除托盤兩側之固定片（在固定片上標有 Pull 處將固定片往外撥），將硬碟放入托盤上並將兩側固定片裝回托盤（請將固定片對準托盤孔洞後再行裝上）。



- b. 如為 2.5" 硬碟或固態硬碟，先將靠近 2.5" 托盤孔洞那邊的固定片移除（您可在托盤底部看到 2.5" 托盤孔洞標示），然後將硬碟由托盤底部用三顆螺絲鎖住。

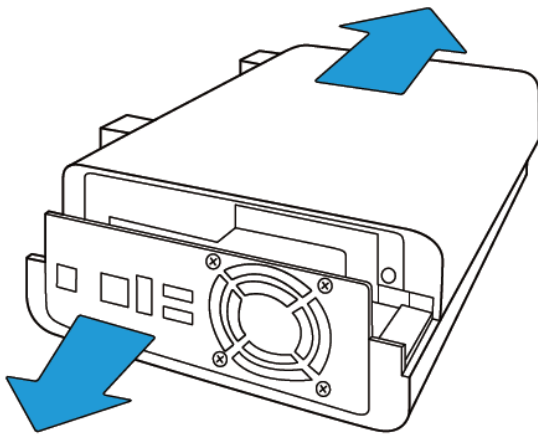


3. 將裝有硬碟的硬碟托盤插入至 NAS 底部，然後關上上蓋。



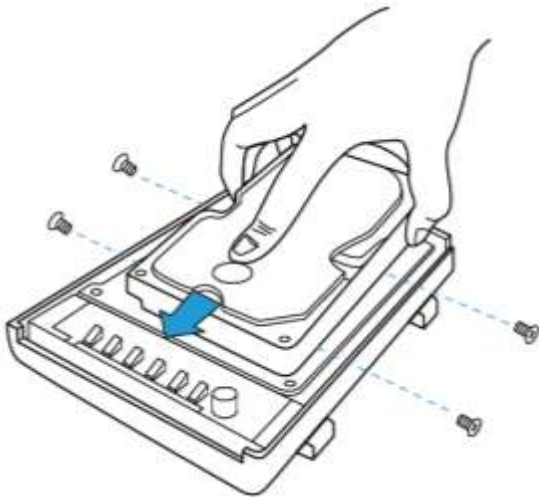
7.1.3. TS-112P、TS-212P 及 TS-251C

1. 鬆開NAS後面的螺絲（左上方跟左下方）。向前推出並移除外殼（NAS下方有鎖上及打開圖示可供參考）。

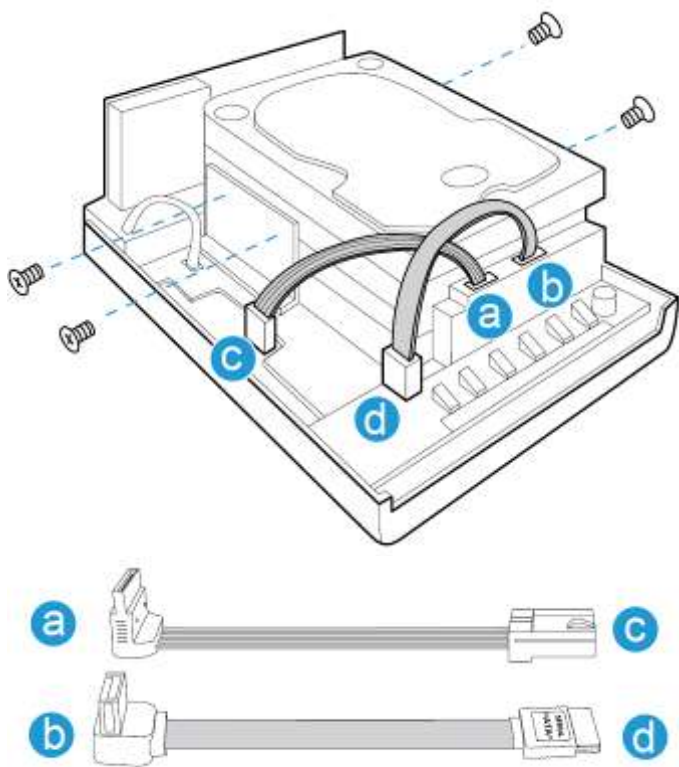


2. 安裝硬碟：

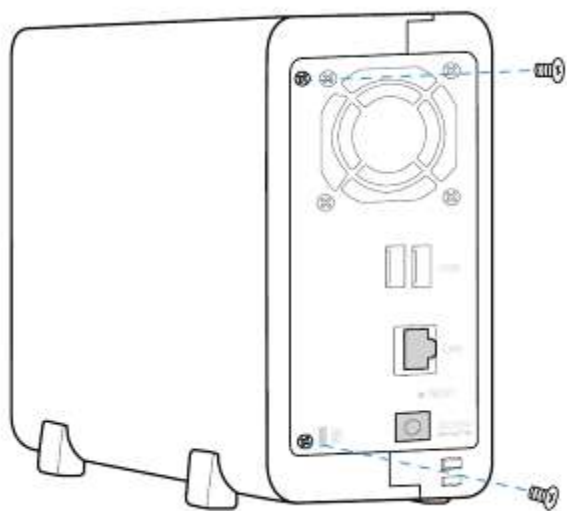
- a. TS-112P：將硬碟放入硬碟支架上，將硬碟向前推直，至與主機板上之硬碟插槽密合。在硬碟支架上鎖上螺絲將硬碟固定。



- b. TS-212P及TS-251C：將第一顆硬碟放入硬碟支架上，將硬碟向前推，直至與主機板上之硬碟插槽密合。將第二顆硬碟放在第二顆硬碟上，在硬碟支架上替兩顆硬碟鎖上螺絲以將起固定。插入SATA信號線及電源

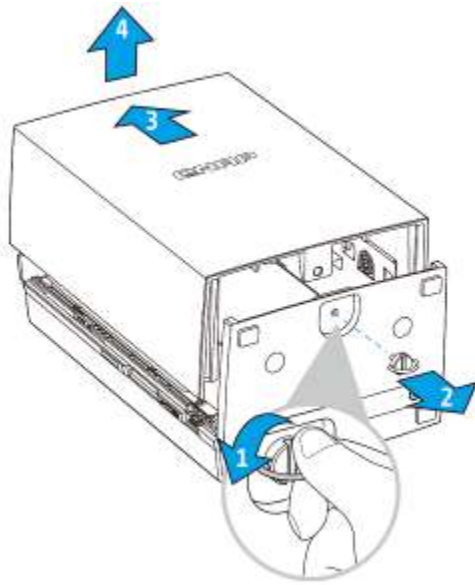


3. 裝妥硬碟之後，蓋上NAS外殼並在後方鎖上螺絲。最後，將NAS直立。

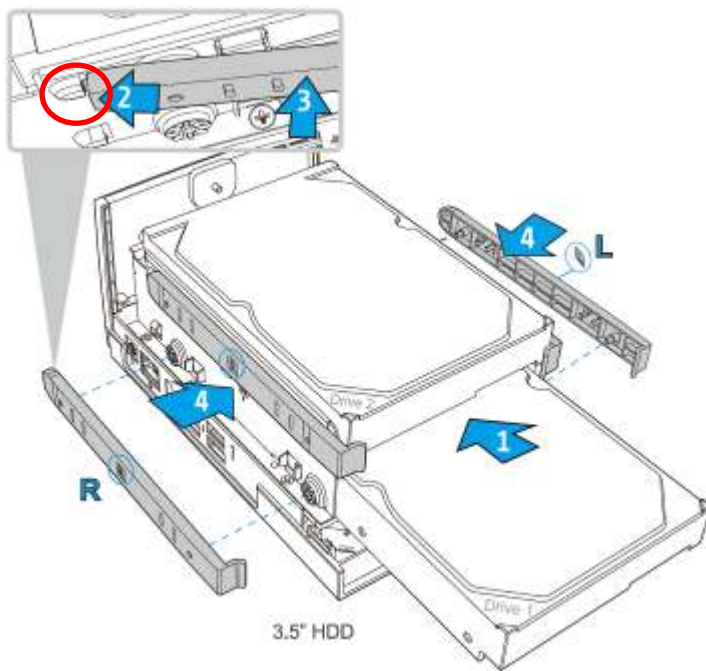


7.1.4. TAS-168、TAS-268、TS-128、TS-228

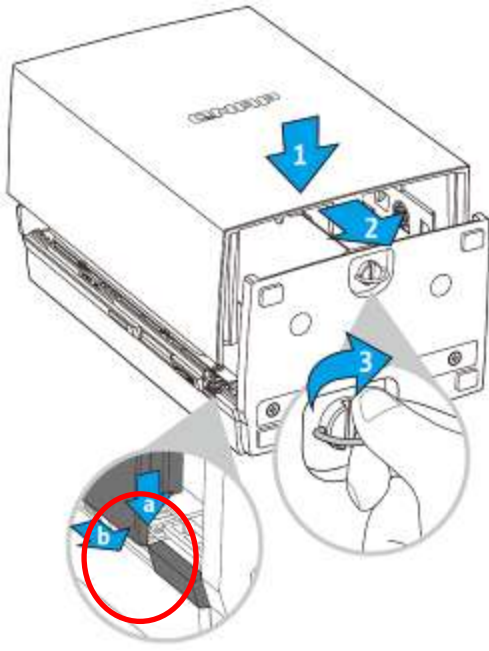
1. 鬆開手動螺絲以及移除上蓋。



2. 將第一顆硬碟放入硬碟支架上，將硬碟向前推，直至與主機板上之SATA硬碟插槽密合，接著將兩側固定片裝回硬碟支架。在裝上固定片時，請先將固定片頂端插入圖中之點2，然後再將固定片朝托盤按下（若為TAS-268，請重複相同步驟裝入第二顆硬碟）。

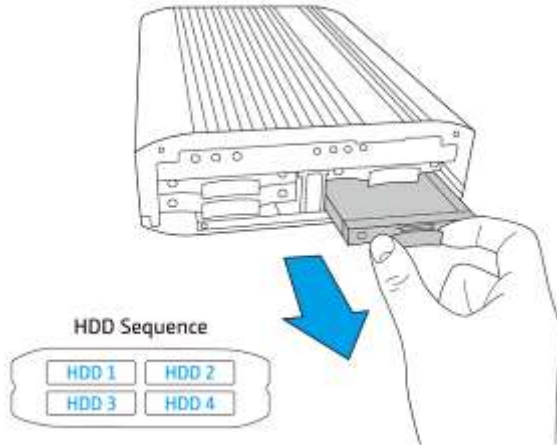


3. 將圖中之上蓋a點對準底座b點，將上蓋向前推，接著鎖緊底部螺絲。

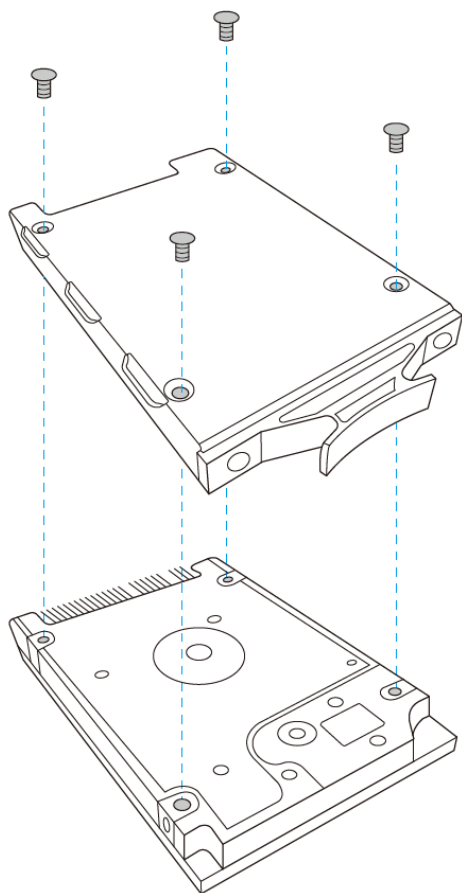


7.1.5. IS-453S

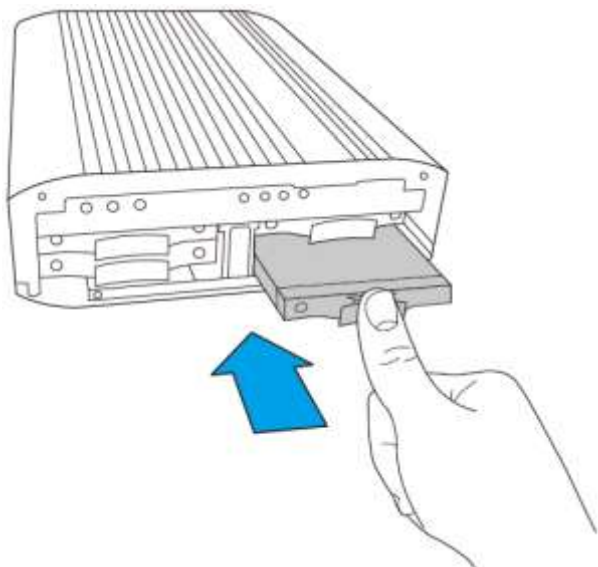
1. 鬆開並移除前方面板上的四個螺絲。
2. 抽出硬碟插槽。



3. 將硬碟固定至硬碟插槽上，並鎖上螺絲。

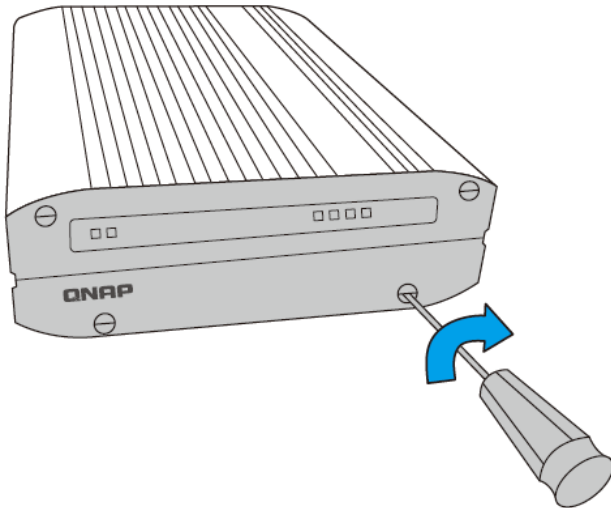


4. 將裝有硬碟的硬碟插槽裝入至NAS內。



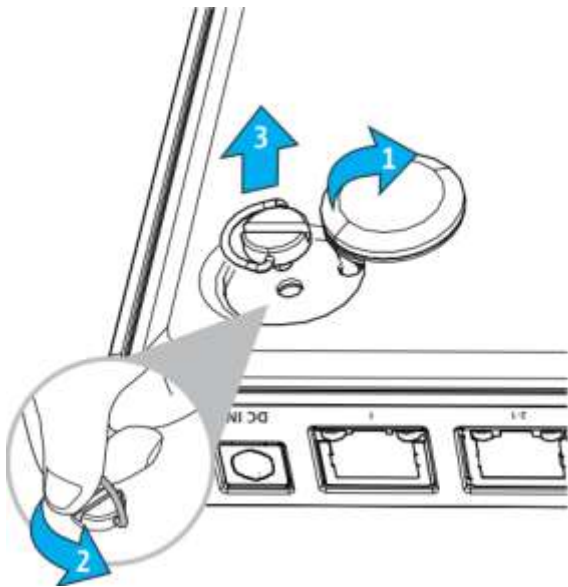
5. 重複步驟2至4來安裝剩下的硬碟，(請依照步驟2中的硬碟順序來進行安裝)。

6. 固定並鎖緊前方面板。

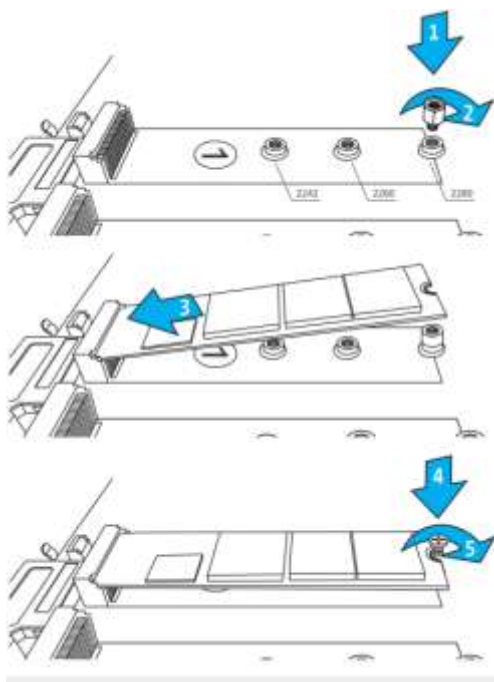


7.1.6. TBS-453A

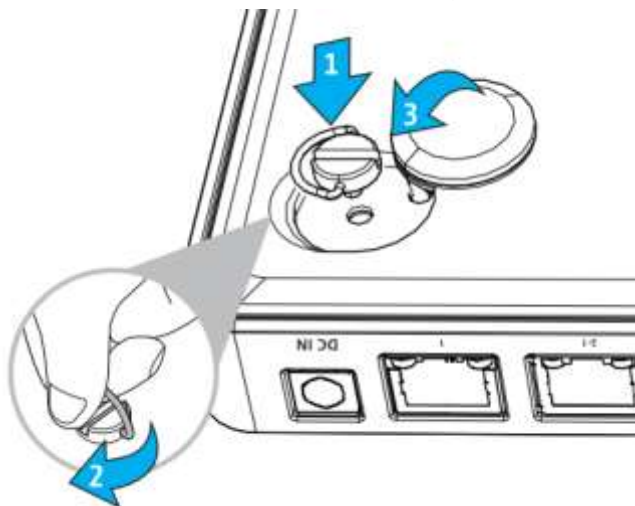
1. 系統底部有四個 M.2 SSD 插槽，可插入 M.2 SSD 模組擴充儲存容量或將現有 M.2 SSD 模組升級。請按下列步驟新增/更換 M.2 SSD 模組。打開底蓋的方法如下：取下橡膠墊片，逆時針旋轉鬆開底部四個角落的四顆螺絲。



2. TBS-453A 支援 3 種不同大小的 M.2 SSD (2242, 2260, 及 2280)。按個別 M.2 SSD 的大小，將升起螺絲移動固定在適當的位置，插入 M.2 SSD，用隨附的螺絲固定。



3. 用底蓋四角的螺絲順時針旋轉，將底蓋固定回系統底部，再將橡膠墊片蓋回。



7.2 熱抽換硬碟

QNAP NAS 支援各大硬碟品牌之 2.5 吋/3.5 吋 SATA 硬碟，有關支援硬碟資訊，請至威聯通網站查詢：<http://www.qnap.com>。



注意：

- 威聯通不負責任何情況、原因下錯誤安裝或使用硬碟所導致的產品損壞與不正常運作下的資料損失。
- 若要安裝之硬碟從未被安裝至 NAS，硬碟將會自動被格式化，硬碟上的資料會被清除。

系統型號	支援 3.5 吋 SATA 硬碟	支援 2.5 吋 SATA 硬碟	支援 SSD 固態硬碟	支援硬碟熱抽換(RAID 1 或以上磁碟組態)
TS-112P、TS-212P、TS-251C	✓	-	-	-
TAS-168、TAS-268、TS-128、TS-228	✓	-	-	✓
HS-210、HS-251、HS-251+、TS-131、TS-231、TS-231+、TS-251、TS-251+、TS-431、TS-431+、TS-431U、TS-451、TS-451+、TS-651、TS-851、TS-253 Pro、TS-453 Pro、TS-453S Pro、TS-563、TS-653 Pro、TS-853 Pro、TS-853S Pro、TS-879 Pro、TS-1079 Pro、TS-879U-RP、TS-1279U-RP、TS-EC879U-RP、TS-EC1279U-RP、TS-1679U-RP、TS-EC1679U-RP、TS-451U、TS-453U、TS-453U-RP、TS-853U、TS-853U-RP、TS-1253U、TS-1253U-RP、TS-870U-RP、TS-1270U-RP、TS-470/470 Pro、TS-670/670 Pro、TS-870/870 Pro、TVS-463、TVS-663、TS-831X、TVS-863、TVS-863+、TS-453minI、TS-463U、TS-463U-RP、TS-863U、TS-863U-RP、TS-1263U、TS-1263U-RP、TS-531P、TS-253A、TS-453A、TS-653A、TS-853A	✓	✓	✓	✓
TS-451S、TS-453S Pro、TS-853S Pro、IS-453S	-	✓	✓	✓
TBS-453A			✓ M.2	

NAS 支援熱抽換 RAID 1 組態內一顆失效硬碟或 RAID 5/RAID 6 組態內一至兩顆失效硬碟。請依照以下說明熱抽換 RAID 磁碟組態中失效的硬碟：

1. 登入 NAS，於 [硬碟管理] 頁面檢查硬碟群組的狀態。
2. 硬碟群組的狀態應為 [降階模式]。

3. 準備一顆新的硬碟，硬碟的容量應該與原來的硬碟容量相同或大於原來的硬碟。
4. 將 NAS 的失效硬碟拔出。等待 20 秒或直至 NAS 發出兩次嗶聲。
5. 將失效硬碟從硬碟抽取盒上移除。
6. 安裝新的硬碟至硬碟抽取盒，然後安裝至 NAS。
7. 系統會發出兩次嗶聲（每次約 1.5 秒）。
8. 在管理頁面再次檢查硬碟群組狀態，狀態應為 [重建中]。



警告：為避免觸電，強烈建議使用者在更換硬碟前，先關閉系統。

第8章 RAID 回復

QNAP NAS 支援獨家 RAID 復原技術，若 NAS 設定為 RAID 1、RAID 5 或 RAID 6 磁碟陣列，並有硬碟意外地被移除，使用者可以將被移除的硬碟插回原來的硬碟插槽，然後在頁面按 [回復]，磁碟陣列的狀態將由 [未啟動] 回復至 [降級模式]。

如硬碟群組設定為 RAID 0 或 JBOD，並有一顆或以上硬碟意外地被移除，使用者可以使用此功能將磁碟組態由 [未啟動] 回復至 [正常]。

磁碟組態	支援 RAID 回復	允許被移除的最大硬碟數目
單獨硬碟	否	-
JBOD	是	1 顆或以上
RAID 0	是	1 顆或以上
RAID 1	是	1 顆或 2 顆
RAID 5	是	2 顆或以上
RAID 6	是	3 顆或以上
RAID 10	否	-

如硬碟群組狀態為 [未啟動]，使用者可以將原來的硬碟安裝至 NAS 上原來的硬碟插槽，然後在 [磁碟管理] > [硬碟管理] 頁面按 [回復]，請等候約 60 秒，之後便可以重新存取資料。

注意：

- 將 RAID 1、RAID 5 或 RAID 6 磁碟群組從 [未啟動] 回復至降階模式後，使用者可以正常讀寫資料，磁碟群組在資料同步後，將回復至正常狀態。
- 如被移除的硬碟已損毀，復原功能將無法使用。

	一般 RAID 5	QNAP RAID 5	一般 RAID 6	QNAP RAID 6
降階模式	N-1	N-1	N-1 & N-2	N-1 & N-2
唯讀保護 (供即時資料備份或硬碟更換)	N/A	N-1, 在陣列其餘硬碟成員中發現有損壞磁區(bad blocks)	N/A	N-2, 在陣列其餘硬碟成員中發現有損壞磁區(bad blocks)
RAID 回復 (RAID 狀態: 未啟動)	N/A	重新安裝原有硬碟至 NAS 上, 硬碟可以運轉, 可被辨認及存取, 硬碟的 Superblock 沒有損壞。	N/A	重新安裝原有硬碟至 NAS 上, 硬碟可以運轉, 可被辨認及存取, 硬碟的 Superblock 沒有損壞。
RAID 損毀	N-2	N-2, 其餘硬碟成員無法運轉, 被辨認及存取。	N-3	N-3, 其餘硬碟成員無法運轉, 被辨認及存取。

N = 磁碟陣列中的硬碟數目。

第9章 使用 LCD 面板

*此功能只適用於配有 LCD 面板的機種，詳情請參考 <http://www.qnap.com>。

NAS 提供方便的 LCD 面板，讓使用者設定硬碟組態及檢視系統資訊。

系統開始時，會顯示伺服器名稱及IP位址：

```
N A S 5 F 4 D E 3
1 6 9 . 2 5 4 . 1 0 0 . 1 0 0
```

第一次安裝時，LCD面板會顯示偵測到的硬碟數目及IP位址，使用者可以視硬碟數目設定硬碟組態。

硬碟數目	預設硬碟組態	可供選擇的硬碟組態*
1	Single (單獨硬碟)	Single
2	RAID 1	Single -> JBOD ->RAID 0 -> RAID 1
3	RAID 5	Single -> JBOD -> RAID 0 -> RAID 5
4 或以上	RAID 5	Single ->JBOD -> RAID 0 -> RAID 5 -> RAID 6

*按 [Select] 按鈕選擇要設定的項目，按 [Enter] 按鈕確定。

例如，NAS已安裝五顆硬碟，LCD面板會顯示：

```
C o n f i g .   D i s k s ?
-> R A I D 5
```

按[Select]按鈕瀏覽其他選項，如RAID 6。按[Enter]按鈕選擇所需設定的組態，按[Select] 按鈕選擇 [Yes]。

```
C h o o s e   R A I D 5 ?
-> Y e s   N o
```

執行RAID 1、RAID 5或RAID 6設定時，系統會格式化硬碟、建立RAID磁碟陣列、格式化RAID磁碟陣列，然後將磁碟組態掛載至NAS，使用者可以在LCD面板檢視進度，當進度達100%時，使用者可以存取磁碟組態（如建立共用資料夾或上傳檔案至NAS）。系統在完成以上步驟後，會執行RAID資料同步，使用者可以在 [磁碟管理] > [硬碟管理] 頁面檢視進度，同步速度約 30-60 MB/s（視硬碟型號、系統資源使用狀況等而定），資料同步執行時，仍可存取磁碟。

注意：如RAID磁碟組態的其中一顆硬碟於同步時被移除或失效，RAID磁碟組態會進入降階模式 (degraded mode)，裝置的資料仍可被讀取，若更換新的硬碟至裝置，系統便會開始重組磁碟組態。使用者可以在 [硬碟管理] 頁面檢視硬碟組態的狀態。

若要增加硬碟群組的安全性，請於<Encrypt Volume?>設定選擇Yes (系統預設的密鑰密碼為admin)，若需要變更密鑰密碼，請透過使用者管理頁面 [裝置設定] > [硬碟/硬碟群組] 網頁進行修改。

E	n	c	r	y	p	t		V	o	l	u	m	e	?	
→	Y	e	s					N	o						

設定完成後，面板會顯示系統名稱及IP位址，如NAS無法設定硬碟組態，將顯示以下訊息。

C	r	e	a	t	i	n	g	.	.	.					
R	A	I	D	5		F	a	i	l	e	d				

注意：資料加密功能因部份國家或地區之相關法例限制而不提供。

使用LCD面板檢視系統資訊

當NAS的LCD面板顯示系統名稱及IP位址時，可以按[Enter]按鈕進入Main Menu(主選單)。

Main Menu提供以下選項：

1. TCP/IP
2. Physical disk
3. Volume
4. System
5. Shut down
6. Reboot
7. Password
8. Back

1. TCP/IP

在TCP/IP，可以檢視以下項目：

- LAN IP Address
- LAN Subnet Mask
- LAN Gateway
- LAN PRI. DNS
- LAN SEC. DNS
- Enter Network Settings
 - ✓ Network Settings – DHCP
 - ✓ Network Settings – Static IP*
 - ✓ Network Settings – BACK
- Back to Main Menu

* 在 Network Settings – Static IP，可以設定 LAN 1 及 LAN 2 的 IP 位址、子網路遮罩、通訊閘以及 DNS。

2. Physical disk

在Physical disk，可以檢視以下資訊：

- Disk Info
- Back to Main Menu

硬碟資訊包括硬碟的溫度及容量。

```
D i s k : 1   T e m p : 5 0 ° C
S i z e :   2 3 2   G B
```

3. Volume

此選項顯示NAS的硬碟組態，第一行顯示硬碟組態及容量，第二行顯示組態的硬碟成員。

```
R A I D 5   7 5 0 G B
D r i v e   1 2 3 4
```

如有多於一個硬碟群組，按 [Select] 檢視相關資訊。以下為RAID 5硬碟群組的訊息說明。

LCD面板訊息	硬碟組態
RAID5+S	RAID5+spare
RAID5 (D)	RAID 5 degraded mode
RAID 5 (B)	RAID 5 rebuilding
RAID 5 (S)	RAID 5 re-synchronizing
RAID 5 (U)	RAID 5 unmounted
RAID 5 (X)	RAID 5 non-activated

4. System

此選項顯示系統溫度及風扇轉速。

```
C P U   T e m p :   5 0 ° C
S y s   T e m p :   5 5 ° C
```

```
S y s   F a n : 8 6 5 R P M
```

5. Shut down

使用此選項關閉系統，按 [Select] 按鈕選擇 [Yes]，然後按 [Enter] 確定。

6. Reboot

使用此選項重新啟動系統，按 [Select] 按鈕選擇 [Yes]，然後按 [Enter] 確定。

7. Password

LCD面板的預設密碼為空白。使用此選項變更LCD面板密碼，按 [Yes] 繼續。

C h a n g e P a s s w o r d
Y e s → N o

密碼最多為8個數字位元 (0-9) ，輸入完成後，選擇 [OK] ，按 [Enter] 按鈕，然後再確認一次新密碼。

N e w P a s s w o r d :
O K

8. Back

選擇此項目回到主目錄 (Main Menu) 。

系統訊息

當系統發生錯誤或異常狀況時，LCD面板會顯示系統訊息，按 [Enter] 按鈕檢視訊息內容，再按一下 [Enter] 可檢視下一個訊息。

S y s t e m E r r o r !
P l s . C h e c k L o g s

系統訊息	說明
Sys. Fan Failed	系統風扇異常
Sys. Overheat	系統過熱
HDD Overheat	硬碟過熱
CPU Overheat	CPU過熱
Network Lost	在Failover或Load balancing模式下，LAN 1及LAN 2網路連線中。
LAN1 Lost	LAN 1網路連線中
LAN2 Lost	LAN 2網路連線中
HDD Failure	硬碟異常
Vol1 Full	硬碟群組容量已滿
HDD Ejected	硬碟被拔出
Vol1 Degraded	硬碟群組進入degraded mode (降階模式)
Vol1 Unmounted	硬碟群組unmounted
Vol1 Nonactivate	硬碟群組未啟動

第10章 安裝電源供應器

注意：

- 以下說明只適用於機架式 NAS 型號。
- TS-879U-RP 及 TS-EC879U-RP 的電源供應器必須由授權及合格的技術人員進行。

10.1 1U Turbo NAS (配備熱抽換 PSU)

注意：以下操作說明必須由授權及合格的技術人員進行。

要安裝額外的電源供應器至 1U Turbo NAS，請參考以下說明：

1. 關閉 NAS 電源。
2. 如圖示移除螺絲及隔板。



3. 插入電源供應器並推至末端。



4. 鎖緊螺絲。

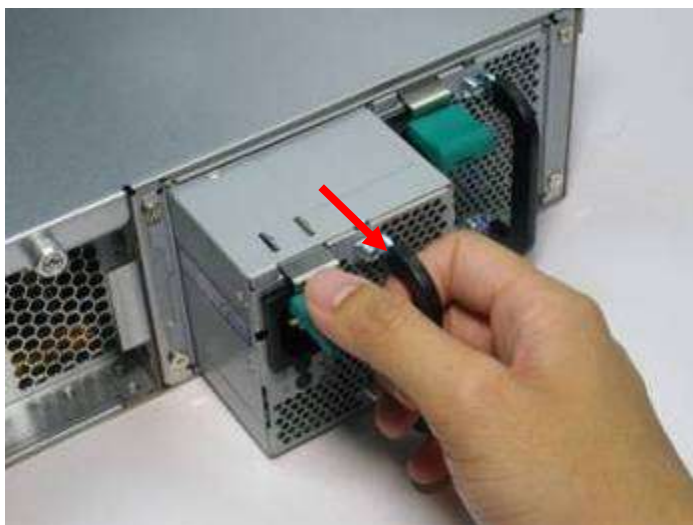


5. 開啟 NAS。

6. 注意：要更換失效的電源供應器，請先關閉 NAS，然後拔出失效的電源供應器，再重複以上步驟 3-5 安裝新的電源供應器。
7. 2U / 3U Turbo NAS (只適用於 TS-853U-RP、TS-1253U-RP)
8. 注意：以下操作說明必須由授權及合格的技術人員進行。
9. 要更換 Turbo NAS 上的失效電源供應器，請參考以下說明：
10. 關閉 NAS 電源。
11. 握緊黑色手把並同時按下綠色槓桿。



12. 抽出失效的電源供應器。



13. 插入新的電源供應器至 NAS。



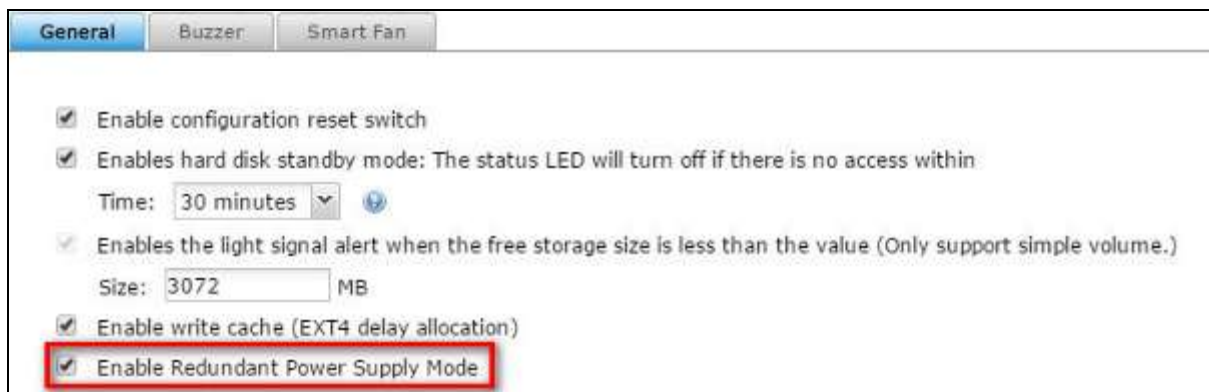
14. 開啟 NAS。

於管理頁面啟動備援電源警告：

如 NAS 配備兩組電源供應器，並已連接至電源插頭，兩顆電源供應器會同時供電（適用於 1U 及 2U 型號）。使用者可以登入 NAS 管理頁面，進入 [系統管理] > [硬體設定] 啟動 [備援電源供應模式]，當系統的電源供應器發生錯誤，如被拔除或失效，NAS 會發出聲響，並在 [系統紀錄] 頁面記錄錯誤訊息。

如 NAS 只安裝一組電源供應器，建議不要啟動此功能。

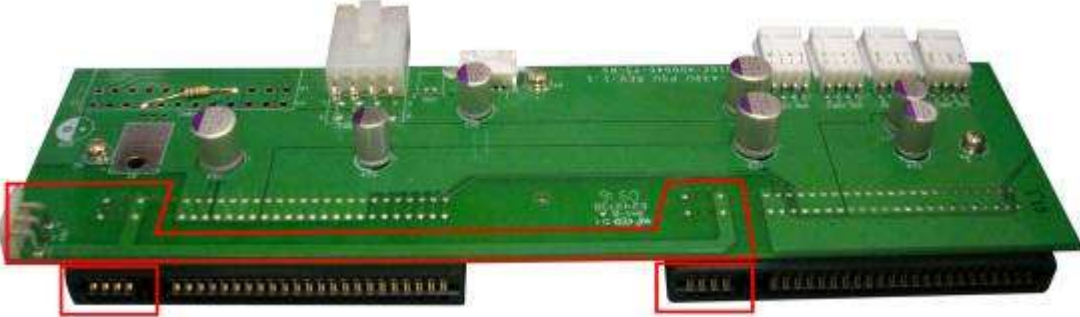
*此功能預設為關閉。





警告：觸電危險

系統背板之接頭（如下圖紅框所示）內藏高電壓，切勿觸摸此部份，以免觸電。



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