



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：

TS-110、TS-210、TS-410、TS-410U、TS-112、TS-212、TS-412、TS-412U、TS-119、TS-219P、TS-419P、TS-419U、TS-119P+、TS-219P+、TS-419P+、TS-419U+、TS-119P II、TS-219P II、TS-419P II、TS-419U II、TS-239 Pro、SS-439 Pro、TS-439 Pro、TS-439U-RP、TS-439U-SP、TS-239 Pro II、TS-439 Pro II、TS-239 Pro II+、TS-439 Pro II+、TS-639 Pro、SS-839 Pro、TS-509 Pro、TS-809 Pro、TS-809U-RP、TS-259 Pro、TS-459 Pro、TS-459U-RP/SP、TS-559 Pro、TS-659 Pro、TS-859 Pro、TS-859U-RP、TS-259 Pro+、TS-459 Pro+、TS-459U-RP/SP+、TS-559 Pro+、TS-659 Pro+、TS-859 Pro+、TS-859U-RP+、TS-459 Pro II、TS-559 Pro II、TS-659 Pro II、TS-879 Pro、TS-1079 Pro、TS-879U-RP、TS-1279U-RP、TS-EC879U-RP、TS-EC1279U-RP、TS-1679U-RP 及 TS-EC1679U-RP。

注意：

- Turbo NAS 以下簡稱為 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：

1. 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。
2. 如要把 NAS 或任何包裝內零件退回或維修，請確定貨品妥善包裝以確保運送無誤。若貨品運送期間因不妥善包裝造成任何損壞，威聯通一概不予負責。



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。

未經製造廠商許可的變更或修改可能導致使用者喪失操作本產品的權利。

應使用遮蔽線纜以符合 FCC 規則第 15 條 B 款所載之 B 級限制。



本產品符合 CE Class B 規範。

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-110	TS-210	TS-410	TS-410U
CPU 處理器	Marvell 800MHz	Marvell 800MHz	Marvell 800MHz	Marvell 800MHz
記憶體	256MB DDR2	256MB DDR2	256MB DDR2	512MB DDR2
Flash 快閃記憶	16MB	16MB	16MB	16MB
可否更換 CPU	否	否	否	否
可否更換記憶體	否	否	否	否
SODIMM 插槽數目	0	0	0	0
硬碟插槽數目	1	2	4	4

系統型號	TS-112	TS-212
CPU 處理器	Marvell 1.2GHz	Marvell 1.2GHz
記憶體	256MB DDR2	256MB DDR2
Flash 快閃記憶	16MB	16MB
可否更換 CPU	否	否
可否更換記憶體	否	否
SODIMM 插槽數目	0	0
硬碟插槽數目	1	2

系統型號	TS-412	TS-412U
CPU 處理器	Marvell 1.2GHz	Marvell 1.2GHz
記憶體	256MB DDR2	256MB DDR2
Flash 快閃記憶	16MB	16MB
可否更換 CPU	否	否
可否更換記憶體	否	否
SODIMM 插槽數目	0	0
硬碟插槽數目	4	4

系統型號	TS-119	TS-219P	TS-419P、TS-419U
CPU 處理器	Marvell 1.2GHz	Marvell 1.2GHz	Marvell 1.2GHz
記憶體	512MB DDR2	512MB DDR2	512MB DDR2
Flash 快閃記憶	16MB	16MB	16MB
可否更換 CPU	否	否	否
可否更換記憶體	否	否	否
SODIMM 插槽數目	0	0	0
硬碟插槽數目	1	2	4

系統型號	TS-119P+	TS-219P+	TS-419P+、TS-419U+
CPU 處理器	Marvell 1.6GHz	Marvell 1.6GHz	Marvell 1.6GHz
記憶體	512MB DDR3	512MB DDR3	512MB DDR3
Flash 快閃記憶	16MB	16MB	16MB
可否更換 CPU	否	否	否
可否更換記憶體	否	否	否
SODIMM 插槽數目	0	0	0
硬碟插槽數目	1	2	4

系統型號	TS-119P II	TS-219P II	TS-419P II、 TS-419U II
CPU 處理器	Marvell 2.0GHz	Marvell 2.0GHz	Marvell 2.0GHz
記憶體	512MB DDR3	512MB DDR3	512MB DDR3
Flash 快閃記憶	16MB	16MB	16MB
可否更換 CPU	否	否	否
可否更換記憶體	否	否	否
SODIMM 插槽數目	0	0	0
硬碟插槽數目	1	2	4

系統型號	TS-239 Pro	SS-439 Pro、 TS-439 Pro、 TS-439U-RP、 TS-439U-SP	TS-239 Pro II	TS-439 Pro II
CPU 處理器	Intel Atom 處理器 (1.60 GHz)	Intel Atom 處理器 (1.60 GHz)	Intel Atom 處理器 (1.66 GHz)	Intel Atom 處理器 (1.66 GHz)
記憶體	1GB DDR2	1GB DDR2	1GB DDR2	1GB DDR2
Flash 快閃記憶	128MB (IDE DOM)	128MB (IDE DOM)	512MB (USB DOM)	512MB (USB DOM)
可否更換 CPU	否	否	否	否
可否更換記憶體	<ul style="list-style-type: none"> • 支援 DDR2 667 DRAM • 可升級至最高 2GB 	<ul style="list-style-type: none"> • 支援 DDR2 667 DRAM • 可升級至最高 2GB 	支援 DDR2 667 DRAM	支援 DDR2 667 DRAM
SODIMM 插槽數目	1	1	1	1
硬碟插槽數目	2	4	2	4

系統型號	TS-239 Pro II+	TS-439 Pro II+
CPU 處理器	Intel Atom 處理器 (1.80 GHz)	Intel Atom 處理器 (1.80 GHz)
記憶體	1GB RAM	1GB RAM
Flash 快閃記憶	512MB (USB DOM)	512MB (USB DOM)
可否更換 CPU	否	否
可否更換記憶體	可	可
SODIMM 插槽數目	1	1
硬碟插槽數目	2	4

系統型號	TS-639 Pro	SS-839 Pro
CPU 處理器	Intel Atom 處理器 (1.60 GHz)	Intel Atom 處理器 (1.60 GHz)
記憶體	1GB DDR2	2GB DDR2
Flash 快閃記憶	128MB (IDE DOM)	128MB (IDE DOM)
可否更換 CPU	否	否
可否更換記憶體	<ul style="list-style-type: none"> 支援 DDR2 667 DRAM 可升級至最高 2GB 	<ul style="list-style-type: none"> 支援 DDR2 667 DRAM 可升級至最高 2GB
SODIMM 插槽數目	1	1
硬碟插槽數目	6	8

系統型號	TS-509 Pro	TS-809 Pro、TS-809U-RP
CPU 處理器	Intel Celeron 處理器 (1.60 GHz)	Intel Core 2 Duo 處理器 (2.80 GHz)
記憶體	1GB DDR2	2GB DDR2
Flash 快閃記憶	128MB (IDE DOM)	128MB (IDE DOM)
可否更換 CPU	可	可
可否更換記憶體	<ul style="list-style-type: none"> 支援 DDR2 667 DRAM 可升級至最高 4GB 	<ul style="list-style-type: none"> 支援 DDR2 667 DRAM 可升級至最高 4GB
SODIMM 插槽數目	2	2
硬碟插槽數目	5	8

系統型號	TS-259 Pro	TS-459 Pro	TS-459U-RP/SP
CPU 處理器	Dual core Intel Atom 處理器 (1.66 GHz)	Dual core Intel Atom 處理器 (1.66 GHz)	Dual core Intel Atom 處理器 (1.66 GHz)
記憶體	1GB DDR2	1GB DDR2	1GB DDR2
Flash 快閃記憶	512MB (USB DOM)	512MB (USB DOM)	512MB (USB DOM)
可否更換 CPU	否	否	否
可否更換記憶體	支援 DDR2 667 DRAM	支援 DDR2 667 DRAM	支援 DDR2 667 DRAM
SODIMM 插槽數目	1	1	1
硬碟插槽數目	2	4	4

系統型號	TS-559 Pro	TS-659 Pro	TS-859 Pro	TS-859U-RP
CPU 處理器	Dual core Intel Atom 處理器 (1.66 GHz)			
記憶體	1GB DDR2	1GB DDR2	1GB DDR2	1GB DDR2
Flash 快閃記憶	512MB (USB DOM)	512MB (USB DOM)	512MB (USB DOM)	512MB (USB DOM)
可否更換 CPU	否	否	否	否
可否更換記憶體	支援 DDR2 667 DRAM			
SODIMM 插槽數目	1	1	1	1
硬碟插槽數目	5	6	8	8

系統型號	TS-259 Pro+	TS-459 Pro+	TS-459U-RP/SP+
CPU 處理器	Dual core Intel Atom 處理器 (1.80 GHz)	Dual core Intel Atom 處理器 (1.80 GHz)	Dual core Intel Atom 處理器 (1.80 GHz)
記憶體	1GB RAM	1GB RAM	1GB RAM
Flash 快閃記憶	512MB (USB DOM)	512MB (USB DOM)	512MB (USB DOM)
可否更換 CPU	否	否	否
可否更換記憶體	可	可	可
SODIMM 插槽數目	1	1	1
硬碟插槽數目	2	4	4

系統型號	TS-559 Pro+	TS-659 Pro+	TS-859 Pro+	TS-859U-RP+
CPU 處理器	Dual core Intel Atom 處理器 (1.80 GHz)			
記憶體	1GB RAM	1GB RAM	1GB RAM	1GB RAM
Flash 快閃記憶	512MB (USB DOM)	512MB (USB DOM)	512MB (USB DOM)	512MB (USB DOM)
可否更換 CPU	否	否	否	否
可否更換記憶體	可	可	可	可
SODIMM 插槽數目	1	1	1	1
硬碟插槽數目	5	6	8	8

系統型號	TS-459 Pro II	TS-559 Pro II	TS-659 Pro II
CPU 處理器	Dual core Intel Atom 處理器 (1.80 GHz)	Dual core Intel Atom 處理器 (1.80 GHz)	Dual core Intel Atom 處理器 (1.80 GHz)
記憶體	1GB DDR3 (可擴充至 3GB)	1GB DDR3 (可擴充至 3GB)	1GB DDR3 (可擴充至 3GB)
Flash 快閃記憶	512MB (USB DOM)	512MB (USB DOM)	512MB (USB DOM)
可否更換 CPU	否	否	否
可否更換記憶體	支援 DDR3 800 DRAM	支援 DDR3 800 DRAM	支援 DDR3 800 DRAM
SODIMM 插槽數目	2	2	2
硬碟插槽數目	4	5	6

系統型號	TS-879 Pro	TS-1079 Pro	TS-879U-RP
CPU 處理器	Intel Core i3 Dual Core (3.30 GHz)	Intel Core i3 Dual Core (3.30 GHz)	Intel Core i3 Dual Core (3.30 GHz)
記憶體	2GB DDR3 RAM	2GB DDR3 RAM	2GB DDR3 RAM
Flash 快閃記憶	512MB (USB DOM)	512MB (USB DOM)	512MB (USB DOM)
可否更換 CPU	否	否	否
可否更換記憶體	否	否	可
LONG-DIMM 插槽數目	2	2	2
硬碟插槽數目	8	10	8
擴充插槽數目	1	1	2

系統型號	TS-1279U-RP	TS-EC879U-RP	TS-EC1279U-RP
CPU 處理器	Intel Core i3 Dual Core (3.30 GHz)	Intel Xeon Quad Core (3.10 GHz)	Intel Xeon Quad Core (3.10 GHz)
記憶體	2GB DDR3 RAM	4GB DDR3 ECC RAM	4GB DDR3 ECC RAM
Flash 快閃記憶	512MB (USB DOM)	512MB (USB DOM)	512MB (USB DOM)
可否更換 CPU	否	否	否
可否更換記憶體	可	可	可
LONG-DIMM 插槽數目	2	2	2
硬碟插槽數目	12	8	12
擴充插槽數目	2	2	2

系統型號	TS-1679U-RP	TS-EC1679U-RP
CPU 處理器	Intel Core i3 Dual Core (3.30 GHz)	Intel Xeon Quad Core (3.1GHz)
記憶體	2GB DDR3 RAM	4GB DDR3 ECC RAM
Flash 快閃記憶	512MB (USB DOM)	512MB (USB DOM)
可否更換 CPU	否	否
可否更換記憶體	可	可
LONG-DIMM 插槽數目	4	4
硬碟插槽數目	16	16
擴充插槽數目	2	2

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。

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 (TS-119 不提供智慧型風扇) 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
		綠燈常亮	系統可使用
		關閉	所有硬碟進入待命模式
LAN	橙	常亮	LAN 已連線
		閃爍	LAN 存取中
10 GbE ¹	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

¹ 10 GbE 網路擴充功能只適用於 TS-879 Pro、TS-1079 Pro、TS-879U-RP、TS-1279U-RP、TS-EC879U-RP、TS-EC1279U-RP、TS-1679U-RP 及 TS-EC1679U-RP。

HDD (硬碟)	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	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 ²	橙	閃爍	資料存取中
		關閉	系統沒有偵測到任何 eSATA 裝置

² TS-210、TS-219、TS-439U-RP/SP、TS-809 Pro、TS-809U-RP 及 TS-212 不提供 eSATA 接頭。

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 (TS-119 不提供智慧型風扇)
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 RAM 模組至 NAS，否則將有可能導致身體傷害甚至死亡。

QNAP 提供 1GB DDR3 RAM 記憶體模組（可選購）將 NAS 的記憶體升級。



5.1 TS-x59 Pro II系列（4/5/6-bay型號）

請依照以下說明安裝額外的記憶體模組至 NAS 升級記憶體。

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。
3. 移除 NAS 背面的三顆螺絲。



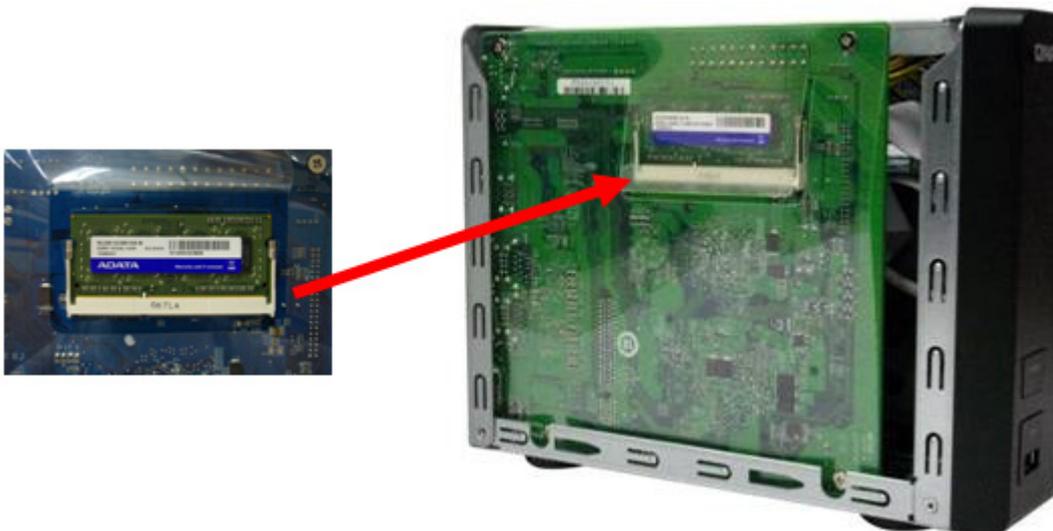
4. 小心地移除 NAS 的外殼。



5. 掀起保護膠膜，找到擴充記憶體插槽，並確認插槽沒有安裝任何記憶體。
6. 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。



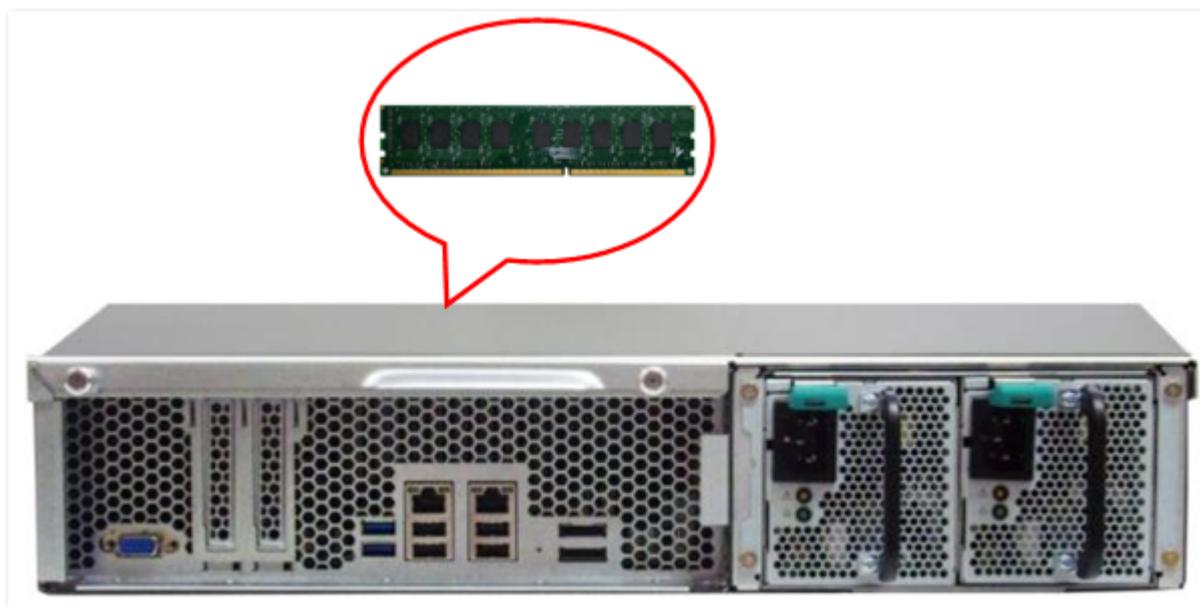
7. 平均施力壓下記憶體模組，直至記憶體模組插入正確的位置。
8. 將模組向背板方向旋轉直至擴充插槽兩端的固定片吻合。



9. 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。
10. 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。

5.2 TS-879U-RP、TS-1279U-RP、TS-EC879U-RP、TS-EC1279U-RP、 TS-1679U-RP、TS-EC1679U-RP

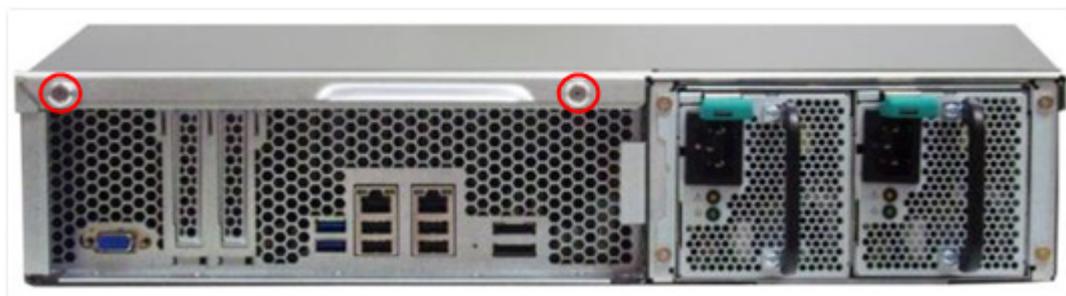
QNAP 提供 2GB DDR3*記憶體模組（可選購）及 4GB DDR3 ECC**記憶體模組（可選購）將 NAS 的記憶體升級。使用者可以將額外的記憶體模組安裝至 NAS 的主機板，升級後的記憶體資訊可以在系統管理頁面的 [系統資訊] 中查閱。



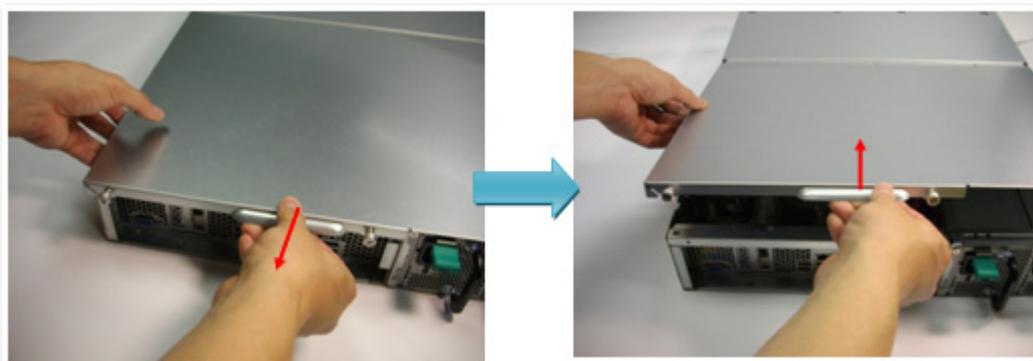
*適用型號：TS-879U-RP、TS-1279U-RP 及 TS-1679U-RP

**適用型號：TS-EC879U-RP、TS-EC1279U-RP 及 TS-EC1679U-RP

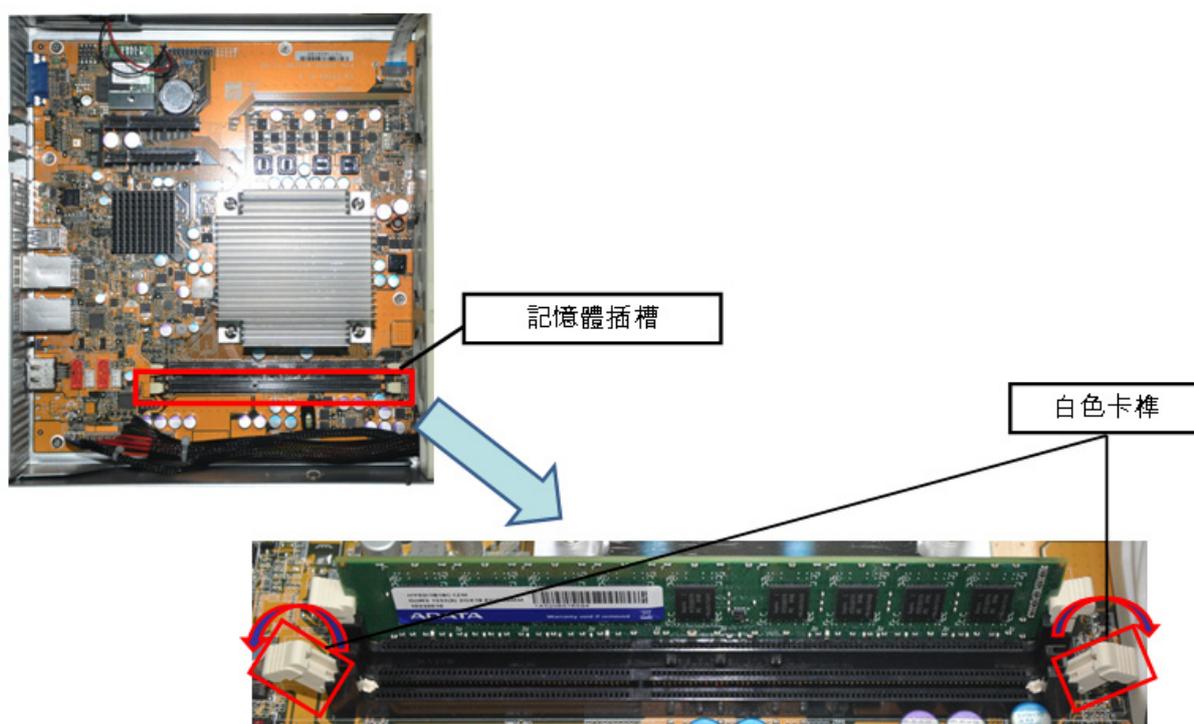
1. 如圖示移除 NAS 後方的兩顆螺絲。



2. 握住上蓋邊緣溝槽拉出上蓋，用雙手將上蓋卸下。



3. 將記憶體擴充槽的白色卡榫向外撥開。



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，將記憶體推入插槽直至完全聚合。



第6章 安裝網路擴充卡



警告：

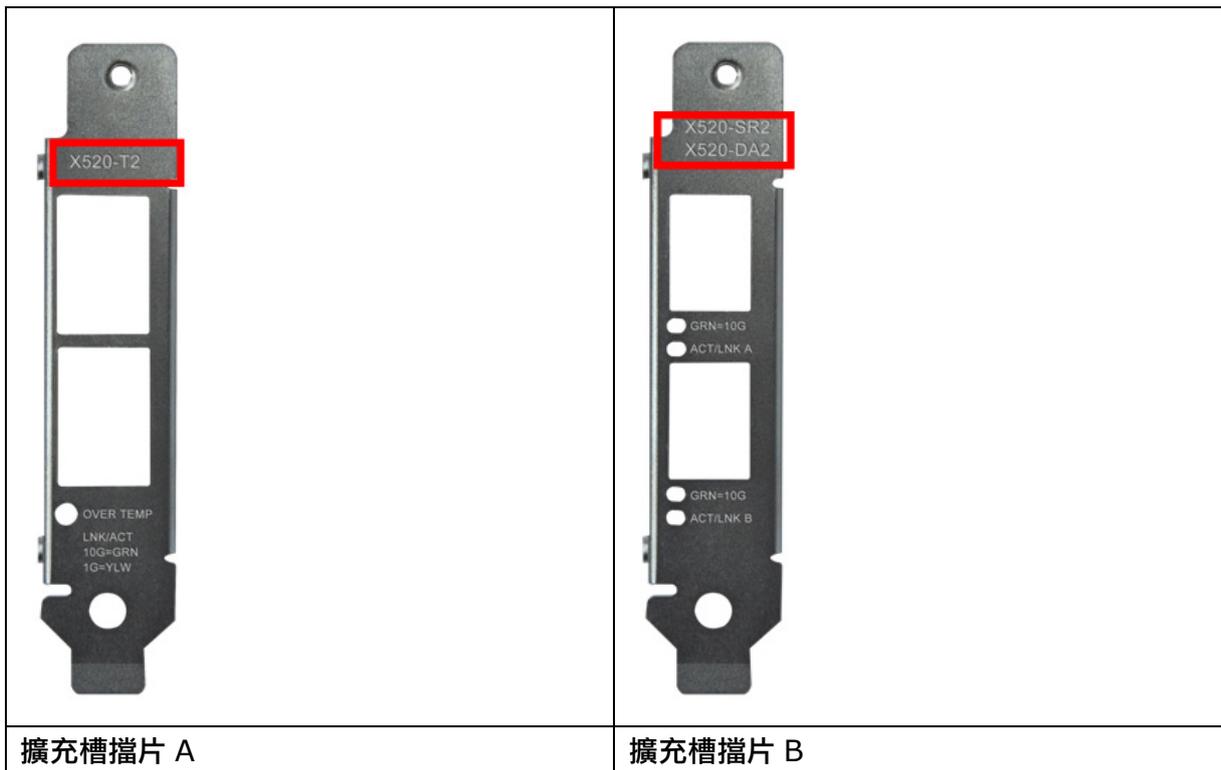
以下操作說明必須由授權及合格的技術人員進行。

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。

TS-x79 Pro 系列提供網路擴充插槽，使用者可以安裝額外的網路擴充卡（需另購）至 NAS 的主機板增加網路頻寬。

6.1 TS-879 Pro及TS-1079 Pro

請參考以下內容，為網路擴充卡更換合適的擴充槽擋片。

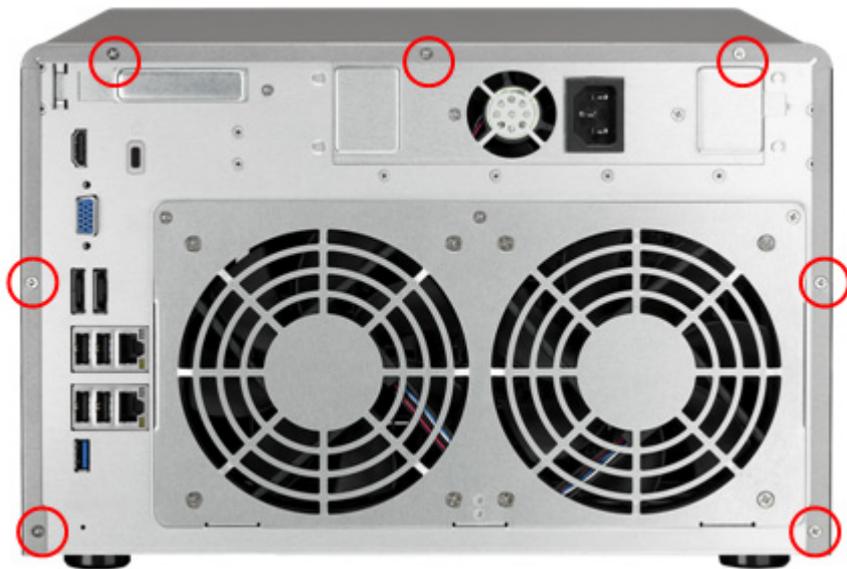




擴充槽擋片 C

	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 背面的七顆螺絲。



4. 小心地移除 NAS 的外殼。



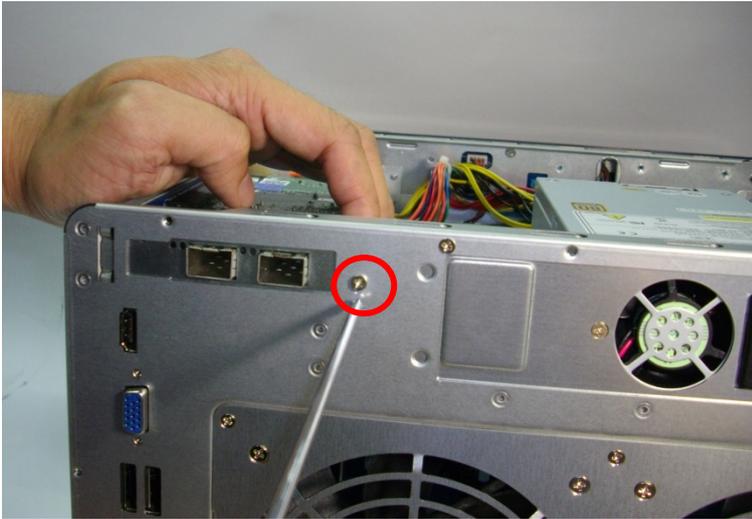
5. 移除螺絲及擴充插槽的面板。



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。

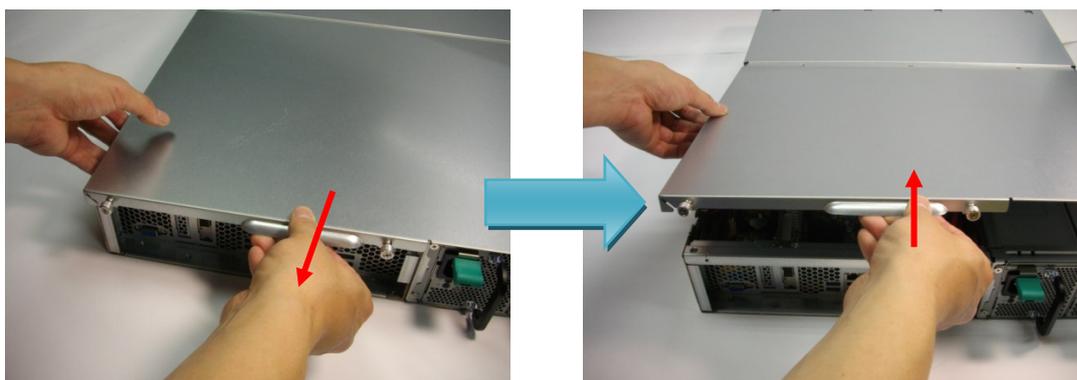
9. 要檢查網路擴充卡是否成功被 NAS 偵測，請開啟 NAS 電源，然後以管理者帳號登入網頁管理介面。在 [系統狀態] > [網路] > [TCP/IP] 頁面檢查網路介面的數目。

6.2 TS-879U-RP及TS-1279U-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。



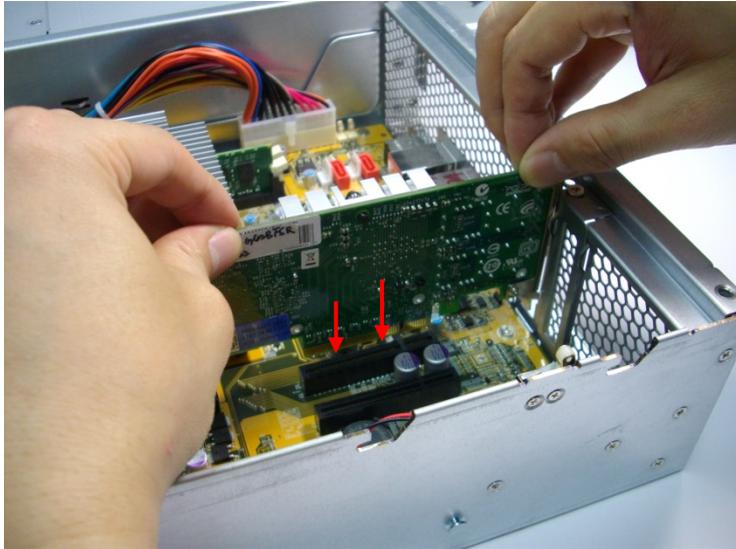
4. 握住上蓋邊緣溝槽拉出上蓋，用雙手將上蓋卸下。



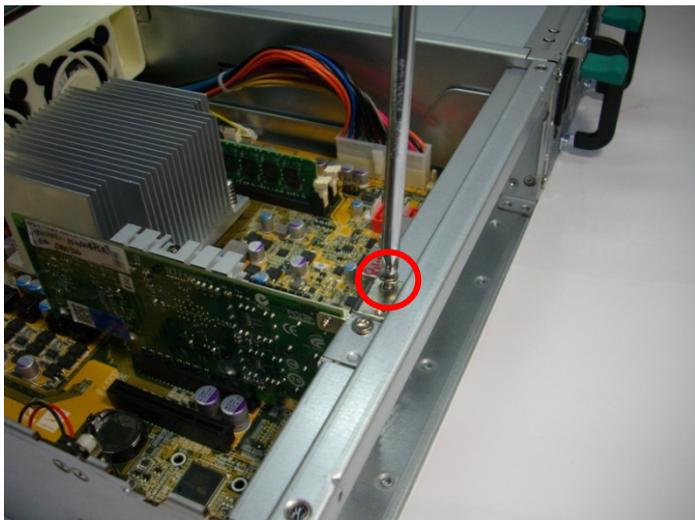
5. 移除螺絲及插槽的面板。



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。



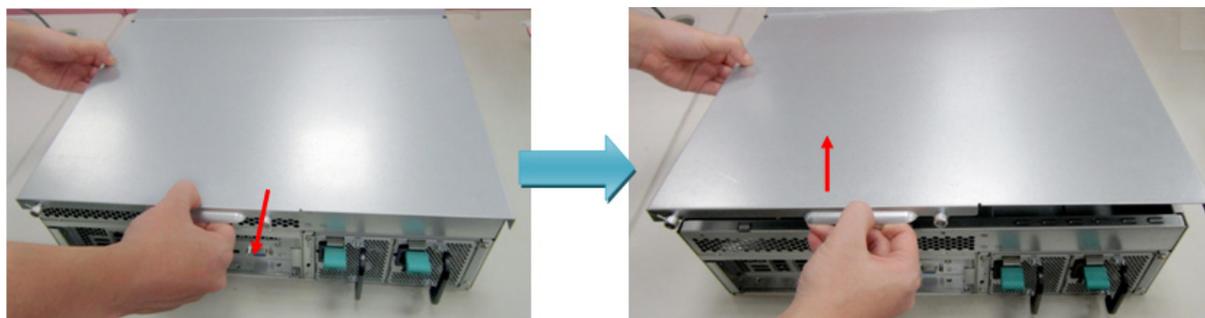
8. 將 NAS 外殼蓋上並鎖上螺絲，重新連接電源變壓器、電源線及網路線等。
9. 要檢查網路擴充卡是否成功被 NAS 偵測，請開啟 NAS 電源，然後以管理者帳號登入網頁管理介面。在 [系統狀態] > [網路] > [TCP/IP] 頁面檢查網路介面的數目。

6.3 TS-1679U-RP及TS-EC1679U-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。



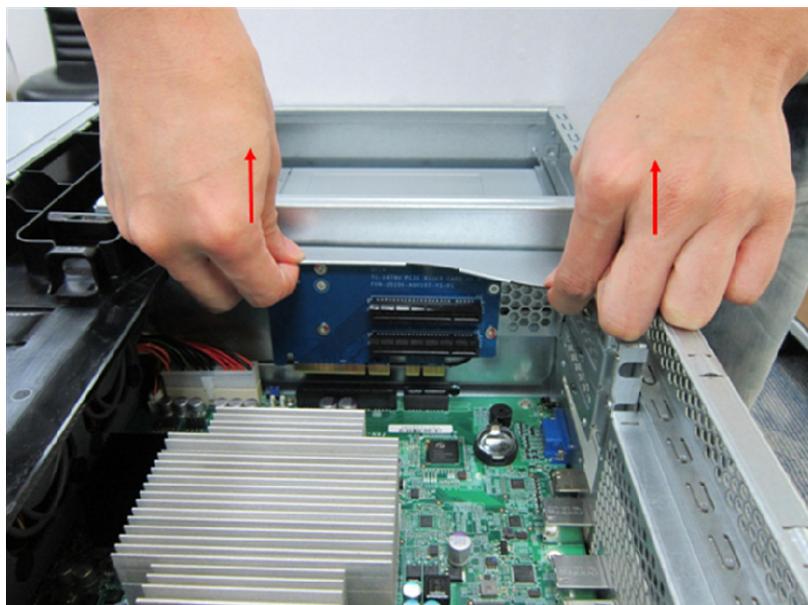
4. 握住上蓋邊緣溝槽拉出上蓋，用雙手將上蓋卸下。



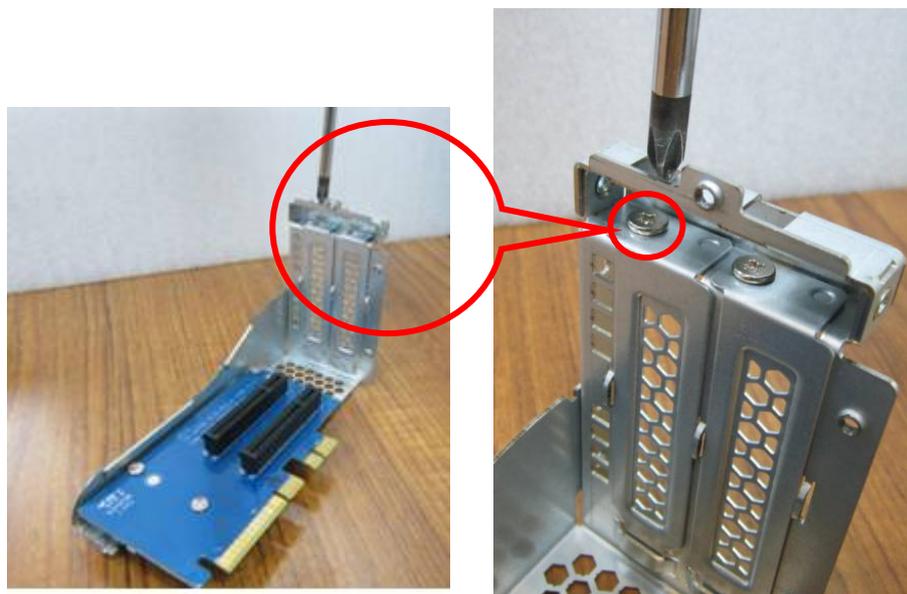
5. 如圖示移除四顆螺絲。



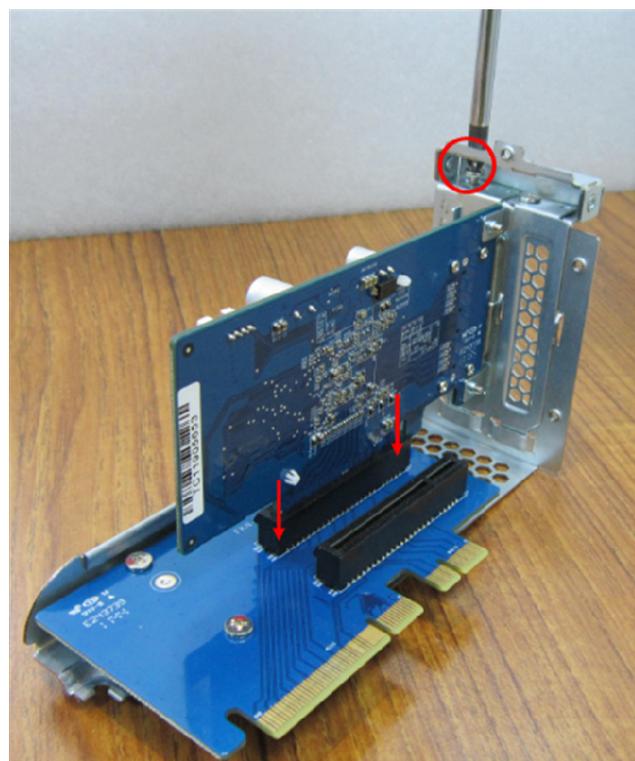
6. 握住金屬擴充卡的邊緣，並小心地移除擴充卡。



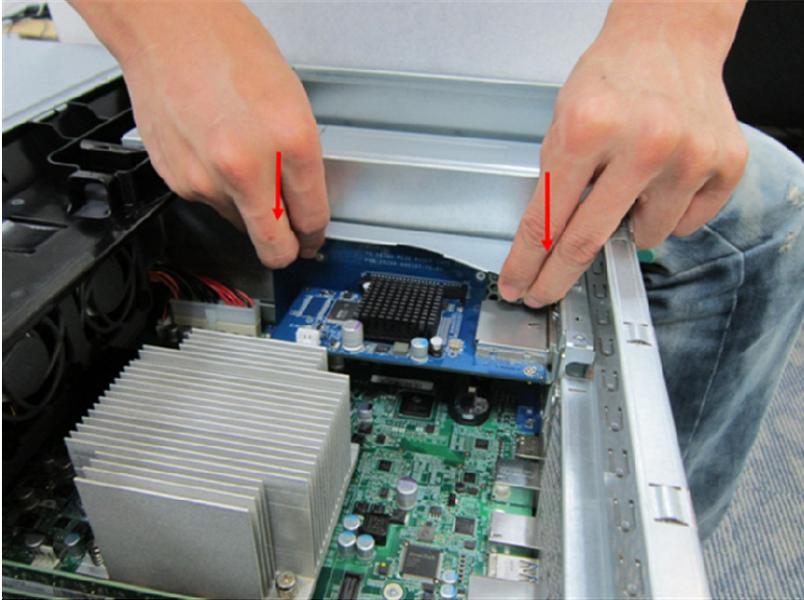
7. 移除螺絲及擴充槽的面板。



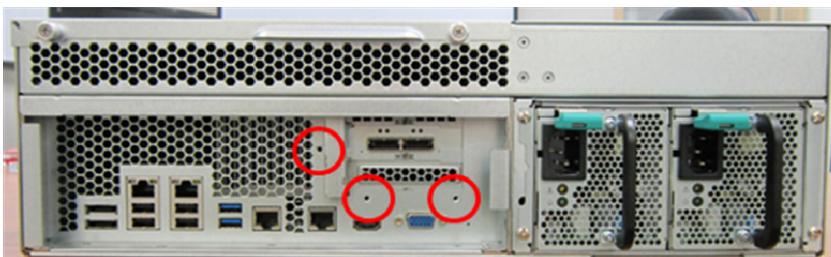
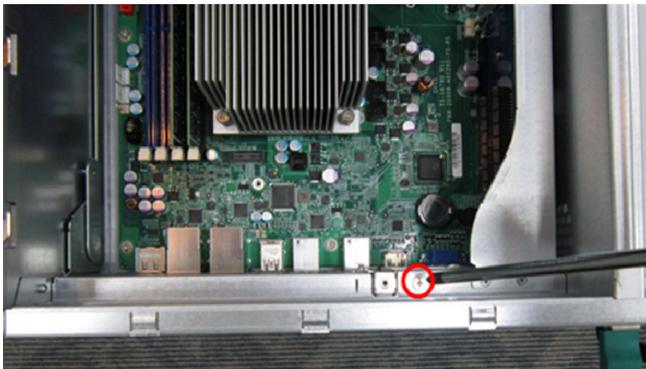
8. 將網路擴充卡插入 PCI 插槽直至完全緊合。鎖上螺絲。



9. 小心握住擴充卡模組的邊緣，將擴充卡金邊上的接口與 PCIe 插槽的接口對齊。將擴充卡插入 PCIe 插槽直至完全緊合。



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。

第7章 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-110、TS-119、TS-210、 TS-112、TS-212	是	否	否	否
TS-119P+、TS-119P II	是	是	是	否
TS-219	是	否	否	是
TS-219P+、TS-419P+、 TS-219P II、TS-419P II、 TS-419U II、TS-219P、 TS-239 Pro、TS-239 Pro II、 TS-259 Pro、TS-410、 TS-410U、TS-419P、TS-419U、 TS-419U+、TS-439 Pro、 TS-439 Pro II、TS-239 Pro II+、 TS-439 Pro II+、 TS-439U-RP/SP、TS-459 Pro、 TS-459U-RP/SP、 TS-459U-RP/SP+、 TS-509 Pro、TS-559 Pro、 TS-639 Pro、TS-659 Pro、 TS-809 Pro、TS-809U-RP、 TS-859 Pro、TS-859U-RP、 TS-259 Pro+、TS-459 Pro+、 TS-559 Pro+、TS-659 Pro+	是	是	是	是

TS-859 Pro+、TS-859U-RP+、 TS-412、TS-412U、 TS-459 Pro II、TS-559 Pro II、 TS-659 Pro II、TS-879 Pro、 TS-1079 Pro、TS-879U-RP、 TS-1279U-RP、 TS-EC879U-RP、 TS-EC1279U-RP、 TS-1679U-RP、TS-EC1679U-RP				
SS-439 Pro、SS-839 Pro	否	是	是	是

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載檔案至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				

* TS-110、TS-119、TS-210、TS-219、TS-219P、TS-410、TS-419P、TS-410U、TS-419U、TS-119P+、TS-219P+、TS-419P+、TS-119P II、TS-219P II、TS-419P II、TS-419U II、TS-112、TS-212、TS-412、TS-419U+及TS-412U不支援此功能。

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

以下說明只適用於機架式 NAS 型號。

TS-809U-RP/859U-RP+/879U-RP/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

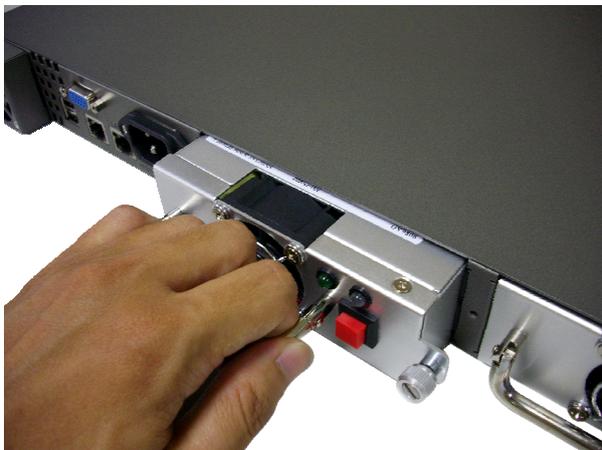
以下操作說明必須由授權及合格的技術人員進行。

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。

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。



警告：當 NAS 的備援電源功能啟動時，NAS 支援在不關機的情況下熱抽換備援電源供應器，但為免引致觸電之危險，強烈建議先關閉 NAS 電源，再更換電源供應器。

如使用單顆電源供應器之 NAS 型號 (SP)，使用者可以安裝一顆額外的電源供應器，將 NAS 升級為備援電源型號 (RP)。

10.2 2U/3U Turbo NAS (只適用於TS-1279U-RP、TS-EC1279U-RP、TS-1679U-RP及TS-EC1679U-RP)

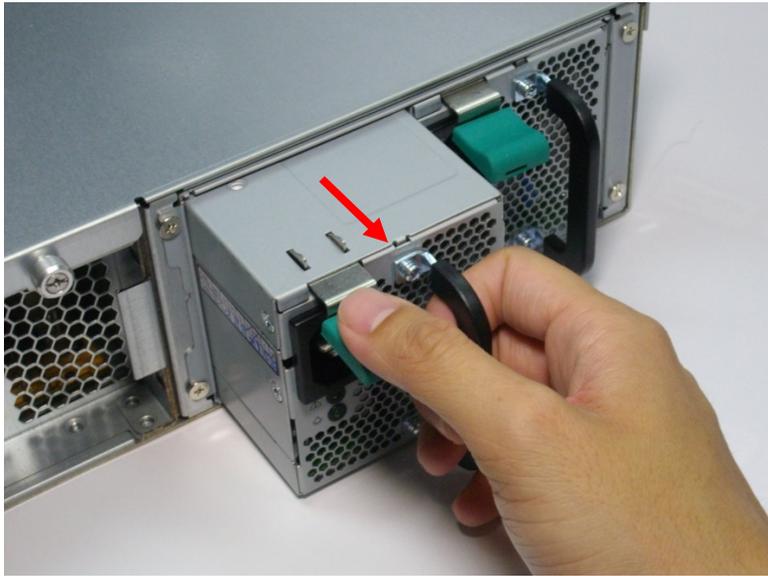
以下操作說明必須由授權及合格的技術人員進行。

要更換 TS-1279U-RP、TS-EC1279U-RP、TS-1679U-RP 或 TS-EC1679U-RP Turbo NAS 上的失效電源供應器，請參考以下說明：

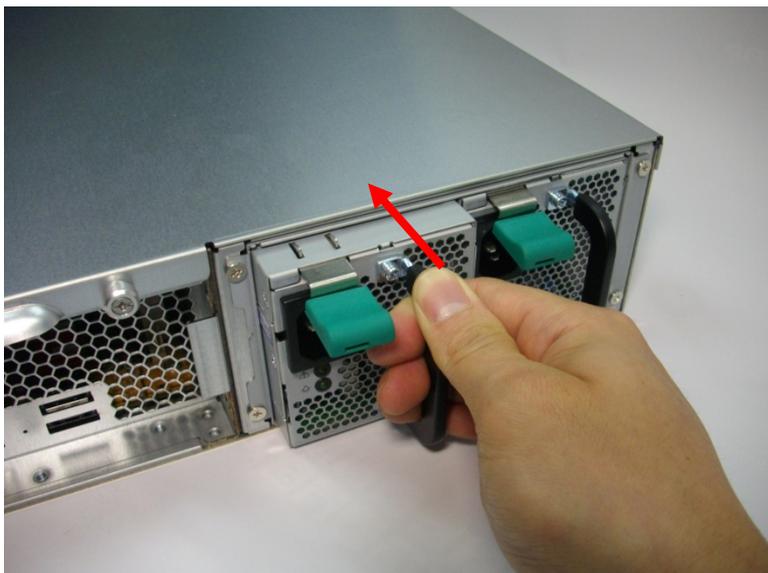
1. 關閉 NAS 電源。
2. 握緊黑色手把並同時按下綠色按鈕。



3. 抽出失效的電源供應器。



4. 將新的電源供應器插入至 NAS。



5. 開啟 NAS。

10.3 2U Turbo NAS (TS-1279U-RP及TS-EC1279U-RP除外)

以下操作說明必須由授權及合格的技術人員進行。

要更換 2U Turbo NAS 上的失效電源供應器，請參考以下說明：

1. 關閉 NAS 電源。
2. 以逆時針方向鬆開失效的電源供應器旁的螺絲。



3. 拔出失效的電源供應器。



4. 插入新的電源供應器並推至末端。



5. 以順時針方向將電源供應器旁的螺絲鎖緊。



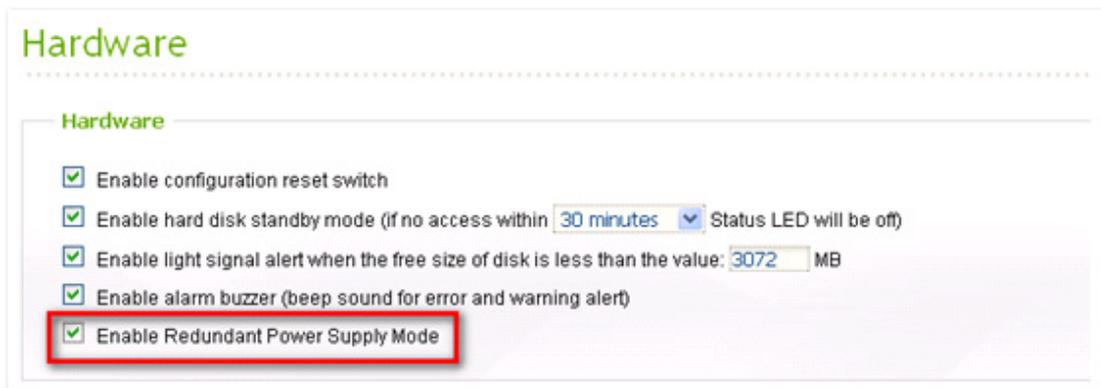
6. 開啟 NAS。

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。



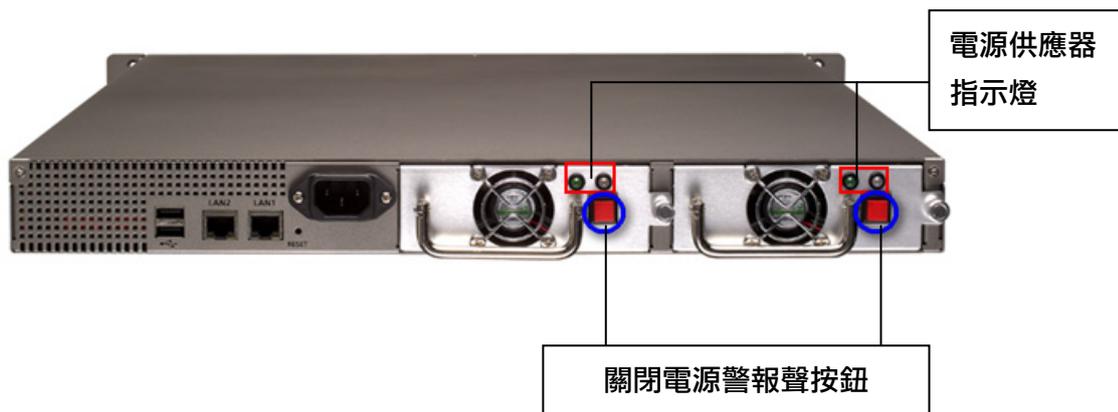
以下內容只適用於 1U NAS 型號。

(1) 電源供應器指示燈：

- ✓ 綠色電源指示燈（左方）：表示電源供應器運作正常。
- ✓ 紅色電源指示燈（右方）：表示電源供應器發生錯誤。

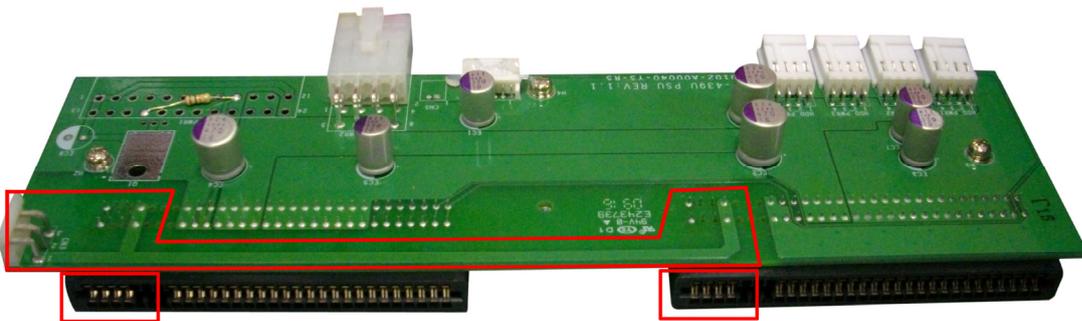
(2) 關閉電源警報聲按鈕：

當系統偵測到電源供應器發生錯誤時，系統會發出警報聲通知管理人員，按此按鈕可關閉警報聲。



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。



技術支援

威聯通提供貼心的線上支援及即時通客戶服務，聯絡方式如下：

線上支援：<http://www.qnap.com>

MSN: q.support@hotmail.com

Skype: qnapskype

論壇：<http://forum.qnap.com>

美國及加拿大地區技術支援

Email: q_supportus@qnap.com

電話：909-595-2819

地址：166 University Parkway, Pomona CA 9176

服務時間：08:00-17:00 (GMT- 08:00 Pacific Time, 星期一至星期五)

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Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

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An interactive user interface displays “Appropriate Legal Notices” to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The “source code” for a work means the preferred form of the work for making modifications to it. “Object code” means any non-source form of a work.

A “Standard Interface” means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

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