



QNAP

JBOD 擴充裝置

TL-R1200C-RP

使用者指南

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1. 前言





關於本指南

本指南涵蓋 QNAP TL-R1200C-RP JBOD 擴充裝置的相關資訊，以及安裝硬體的逐步指示。此外，本指南也提供基本操作說明與疑難排解資訊。

適用對象

本文件的適用對象為消費者與儲存空間管理員。本指南預設使用者對於儲存與備份概念有基本的認識。

慣用符號

符號	說明
	注意事項。用於提供預設組態設定與其他補充資訊。
	重要注意事項。用於提供必要組態設定及其他重要資訊。
	提示。用於提供任務執行或組態設定的建議或替代方式。
	警告。忽略此類資訊可能導致潛在損失、受傷甚至死亡事故。

2. 產品概觀

本章介紹 QNAP JBOD 擴充設備 JBOD 擴充裝置的基本資訊。

關於 TL-R1200C-RP

QNAP JBOD 擴充裝置的目的為提升 NAS 或電腦的容量及應用，並支援多項儲存應用程式。安裝於 JBOD 擴充裝置的硬碟可獨立管理或藉由主機裝置設置為軟體 RAID。TL-R1200C-RP 搭載的 USB 3.1 Gen 2 Type-C 連接埠，可確保 JBOD 擴充裝置和主機裝置之間快速、高效率的資料傳輸。TL-R1200C-RP 與執行 Windows®、Mac® 或 Linux® 作業系統的裝置相容。

硬體規格



警告

- 如果您的 QNAP 產品有硬體瑕疵，請將產品寄回 QNAP 或 QNAP 授權服務中心進行維修或換貨。只要您或未經授權的第三方嘗試修復產品或執行產品維修流程，皆會導致產品保固失效。
- 對於因未獲授權進行修改或安裝不支援之第三方應用程式所導致的任何損害或資料遺失，QNAP 一概不予負責。如需詳細資訊，請參見：[QNAP 保固條款與條件](#)。

元件	TL-R1200C-RP
訂購資訊	
儲存	
硬碟插槽	12 x 3.5 吋 SATA 6 Gbps
硬碟相容性	3.5 吋插槽： <ul style="list-style-type: none"> • 3.5 吋 SATA 硬碟 • 2.5 吋 SATA 硬碟 • 2.5 吋 SATA 固態硬碟
熱抽換	支援
外接 I/O 埠和擴充插槽	
USB 連接埠	1 x USB 3.1 Gen 2 Type-C
介面	
按鈕	<ul style="list-style-type: none"> • 電源 <div style="display: flex; align-items: center;"> <div> <p>重要 QNAP 建議在關閉 JBOD 擴充裝置電源後，至少等待兩秒再重新開啟電源。</p> </div> </div> <ul style="list-style-type: none"> • 風扇 • 警示音
尺寸	
外型	2U 機架式
尺寸 (高 x 寬 x 深)	88.6 x 482 x 562.5 mm (3.49 x 18.98 x 22.15 in)

元件	TL-R1200C-RP
淨重	11.03 kg (24.32 lbs)
其他	
滑軌相容性	RAIL-B02  注意 <ul style="list-style-type: none"> JBOD 擴充裝置不含機架滑軌，必須另外購買。如需詳細資訊，請聯絡授權經銷商或前往 http://shop.qnap.com。 如需安裝機架滑軌的相關資訊，請參見機架滑軌包裝中的安裝指南。
電源供應器	TL-R1200C-RP：2 x 250W · 100 - 240V AC · 50/60 Hz  警告 為了降低走火或觸電風險，務必只將電源線連接至正確接地的電源插座。
系統電池	CR2032 鋰電池 (3V · 225 mAh)  警告 更換電池時，請務必使用相同類型的電池，以免電池爆炸造成受傷或元件損壞。  重要 請遵照當地法規或電池製造商的指示處置廢棄電池。
噪音值	33.4 dB(A)  注意 從旁觀者位置（距 JBOD 擴充裝置一公尺內）測試噪音值。在測試用的 JBOD 擴充裝置中安裝最多數量的硬碟，並以低速運行。
風扇	系統：2 x 7 cm · 12V DC 智慧型風扇  警告 請勿在 JBOD 擴充裝置連上電源時觸碰風扇，以免受傷或損壞元件。
工作溫度	0°C 到 40°C (32°F 到 104°F)
相對濕度	<ul style="list-style-type: none"> 不凝結相對溼度：5% 至 95% 濕球溫度：27°C (80.6°F)



提示

型號規格如有變更，恕不另行通知。若要查看最新規格，請前往：<https://www.qnap.com>。

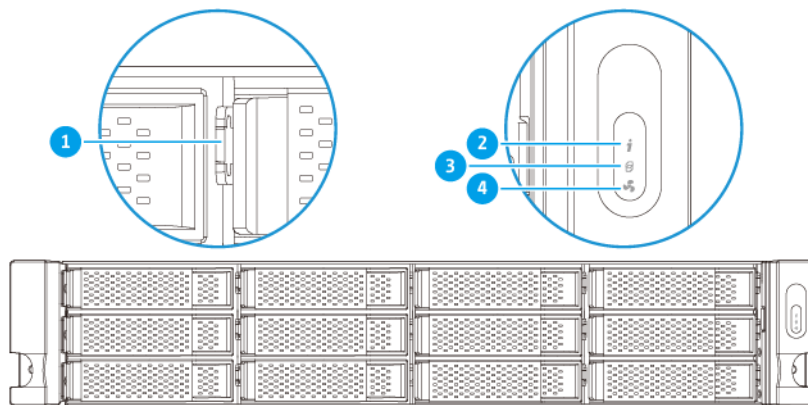
包裝內容

項目	數量
TL-R1200C-RP	1
電源線	2
USB 3.1 Gen 2 Type-C 轉 USB Type-A 接頭纜線	1

項目	數量
3.5 吋硬碟用螺絲	48
2.5 吋硬碟用螺絲	36
快速安裝手冊 (QIG)	1

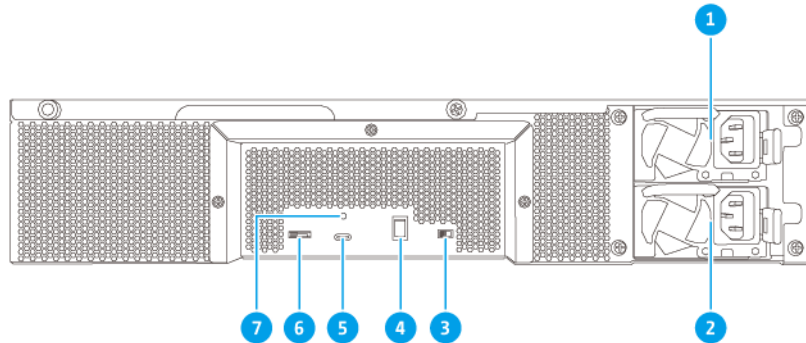
元件

前方面板



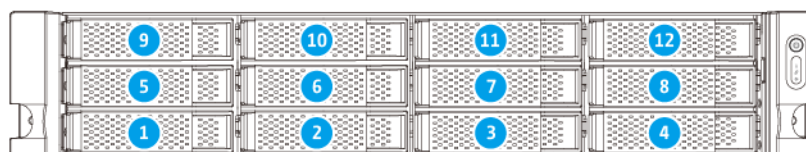
編號	元件	編號	元件
1	硬碟 LED 燈	3	連線 LED 燈
2	狀態 LED 燈	4	風扇錯誤 LED 燈

背部面板



編號	元件	編號	元件
1	電源供應器 1	5	USB 3.1 Gen 2 Type-C 連接埠
2	電源供應器 2	6	風扇轉速開關
3	警示音開關	7	USB 連接線固定夾插槽
4	電源開關	-	-

硬碟編號



安全資訊

以下指示幫助確保人身安全及環境安全。執行任何操作前，請仔細閱讀本安全指示。

一般指示

- NAS 應放置在實施進出管制的場所，控管方式包括工具、鎖鑰或其他安全機制。
- 唯有具技能且獲得授權的合格裝置管理員能夠存取 NAS；合格裝置管理員必須熟悉所有管制方法、安全注意事項、安裝及保養程序。
- 為避免受傷或元件損壞，在觸碰硬碟及其他內部系統元件前，請先確認其是否已經冷卻。
- 請遵守靜電放電 (ESD) 程序以防止潛在傷害或元件損壞。

電源

- 為了降低走火或觸電風險，務必只將電源線連接至正確接地的電源插座。



具有備援電源供應器的裝置可能配備一條或多條電源供應器 (PSU) 電源線。為防止嚴重傷害事故發生，在安裝或更換系統元件前，所有 PSU 電源線必須由經訓練之維修技術人員從裝置拔除。

系統電池

- 更換電池時，請務必使用相同類型的電池，以免電池爆炸造成受傷或元件損壞。
- 請遵照當地法規或電池製造商的指示妥善處置廢棄電池。

移動的零件



轉動的風扇葉片：裝置連接至電源時，請使身體部位遠離正在轉動的風扇葉片。



移動的元件：使身體部位遠離正在移動的其他元件。

安裝需求

類別	項目
環境	<ul style="list-style-type: none"> • 室溫：0°C 到 40°C (32°F 到 104°F) • 不凝結相對溼度：5% 至 95% • 濕球溫度：27°C (80.6°F) • 平坦且防靜電的表面，不受陽光直射，亦不與液體或化學物質接觸

類別	項目
硬體和週邊設備	<ul style="list-style-type: none"> • NAS 或電腦 • 儲存硬碟 <p> 提示 請前往 https://www.qnap.com/compatibility 查看相容的硬碟機型清單。</p> <ul style="list-style-type: none"> • 網路線 • USB 接頭纜線
工具	<ul style="list-style-type: none"> • 1 號或 2 號十字螺絲起子 • 防靜電腕帶

設定 JBOD 擴充裝置

1. 將 JBOD 擴充裝置放置於符合需求的環境
如需詳細資訊，請參見：[安裝需求](#)。
2. 將 JBOD 擴充裝置安裝到機架上。
3. 安裝硬碟。
如需詳細資訊，請參見下列主題：
 - [在 3.5 吋托盤上安裝 3.5 吋硬碟](#)
 - [在 3.5 吋托盤上安裝 2.5 吋硬碟](#)
4. 連上電源線。
5. 連接 JBOD 擴充裝置至 NAS 或電腦。
如需詳細資訊，請參見下列主題：
 - [連接 JBOD 擴充裝置至 NAS](#)
 - [連接 JBOD 擴充裝置至電腦](#)
6. 開啟 JBOD 擴充裝置的電源。

3. 硬體安裝

本節介紹安裝硬碟、記憶體模組以及擴充卡的相關資訊。

硬碟安裝

QNAP JBOD 擴充裝置與 3.5 吋硬碟、2.5 吋硬碟以及 2.5 吋固態硬碟相容。

在 3.5 吋托盤上安裝 3.5 吋硬碟



警告

- 安裝硬碟會刪除硬碟上的所有資料。
- 請遵守靜電放電 (ESD) 程序以防止元件損壞。

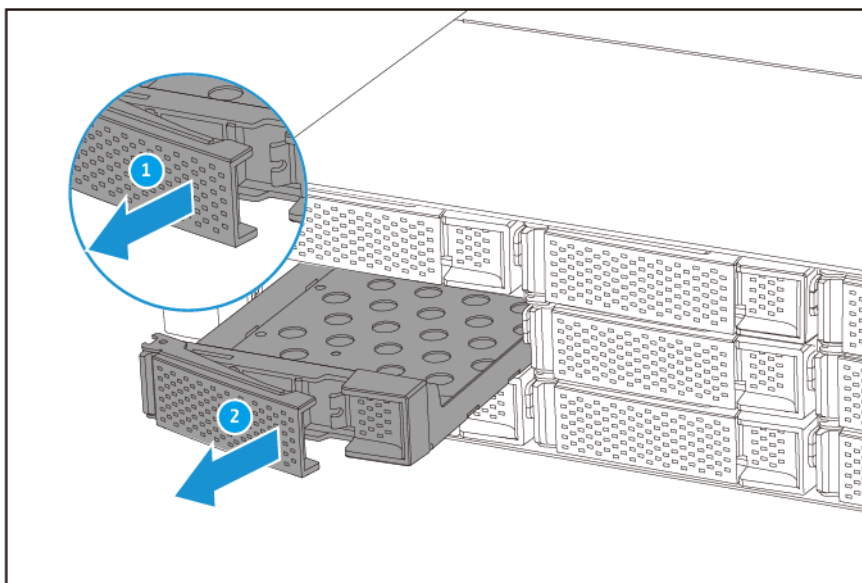


轉動的風扇葉片：使雙手及身體其他部位遠離正在轉動的風扇葉片。

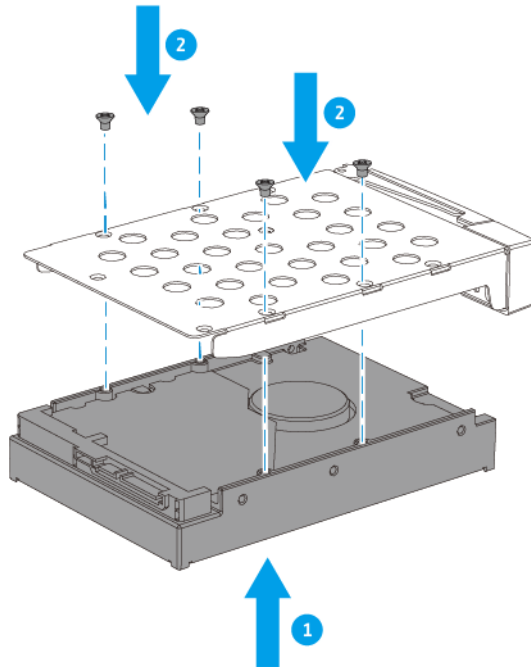


其他移動的元件：使雙手及身體其他部位遠離正在移動的其他元件。

1. 關閉 JBOD 擴充裝置的電源。
2. 取出硬碟托盤。
 - a. 拉把手以鬆開托盤。
 - b. 將托盤拉出。

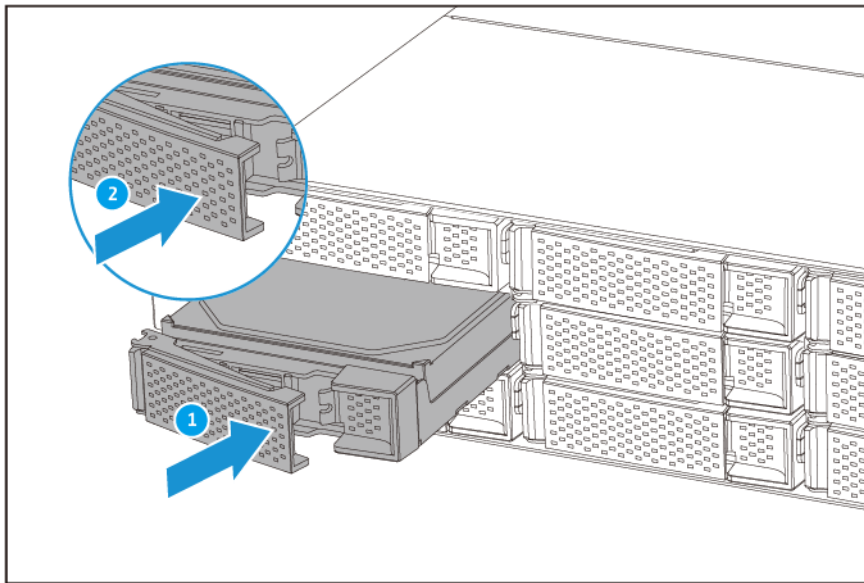


3. 在托盤上安裝硬碟。
 - a. 將硬碟放在托盤上，讓硬碟兩側的孔洞與托盤兩側的孔洞對齊。
 - b. 鎖上螺絲，使硬碟更加穩固。

**重要**

QNAP 建議您先鎖上硬碟托盤的螺絲再移動裝置。

4. 將托盤裝入磁碟插槽。
 - a. 將托盤插入插槽。
 - b. 推入把手。



5. 開啟 JBOD 擴充裝置的電源。



注意

JBOD 擴充裝置可能需要長達 30 秒的時間，才能偵測到新的硬碟。

在 3.5 吋托盤上安裝 2.5 吋硬碟

請前往 <https://www.qnap.com/compatibility> 查看相容的硬碟機型清單。



警告

- 安裝硬碟會刪除硬碟上的所有資料。
- 請遵守靜電放電 (ESD) 程序以防止元件損壞。

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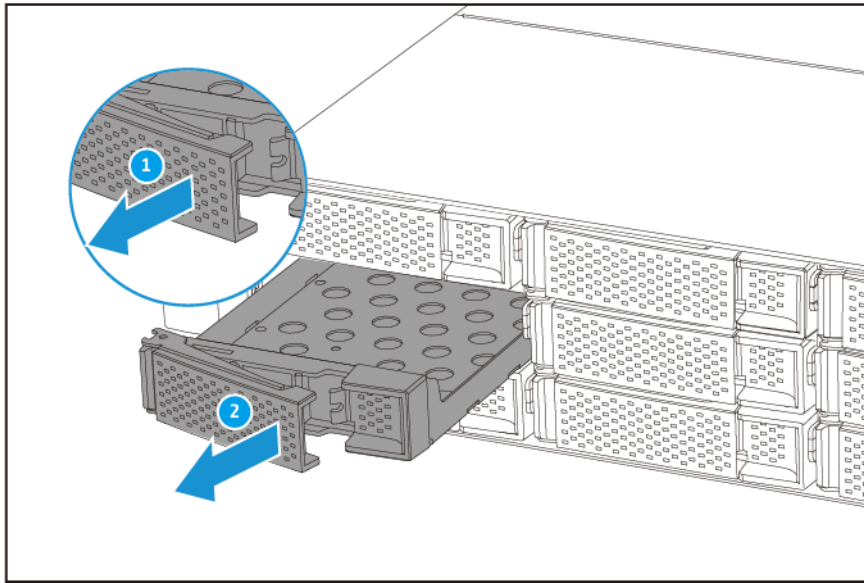
轉動的風扇葉片：使雙手及身體其他部位遠離正在轉動的風扇葉片。

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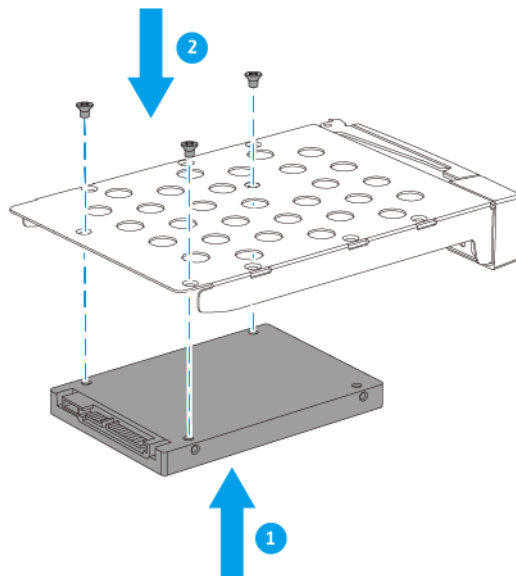
其他移動的元件：使雙手及身體其他部位遠離正在移動的其他元件。

1. 關閉 JBOD 擴充裝置的電源。
2. 取出硬碟托盤。
 - a. 拉把手以鬆開托盤。
 - b. 將托盤拉出。



3. 在托盤上安裝硬碟。

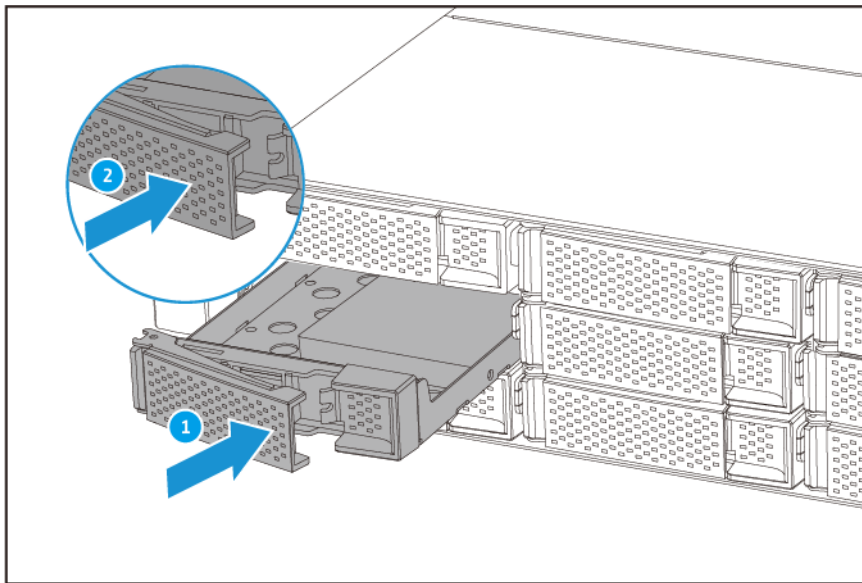
- a. 將硬碟放在托盤上，讓硬碟底部的孔洞與托盤底部的孔洞對齊。
- b. 鎖上螺絲。



4. 將托盤裝入插槽。

- a. 將托盤插入插槽。

- b. 推入把手。



5. 開啟 JBOD 擴充裝置的電源。



注意

JBOD 擴充裝置可能需要長達 30 秒的時間，才能偵測到新的硬碟。

連接 JBOD 擴充裝置至 NAS



重要

- QTS 最多支援兩台 JBOD 擴充裝置。
- QNAP JBOD 擴充裝置不支援 USB 2.0 連接。
- 視已安裝的硬碟數目，JBOD 擴充裝置可能使用比主機裝置在單一 USB 連接能支援的數量還多的 USB 端點。因此，主機裝置可能無法辨識所有安裝在 JBOD 擴充裝置的硬碟。
您可以在主機裝置安裝 USB 擴充卡來解決此問題。您可向 QNAP 或授權經銷商購買相容的 USB 擴充卡。

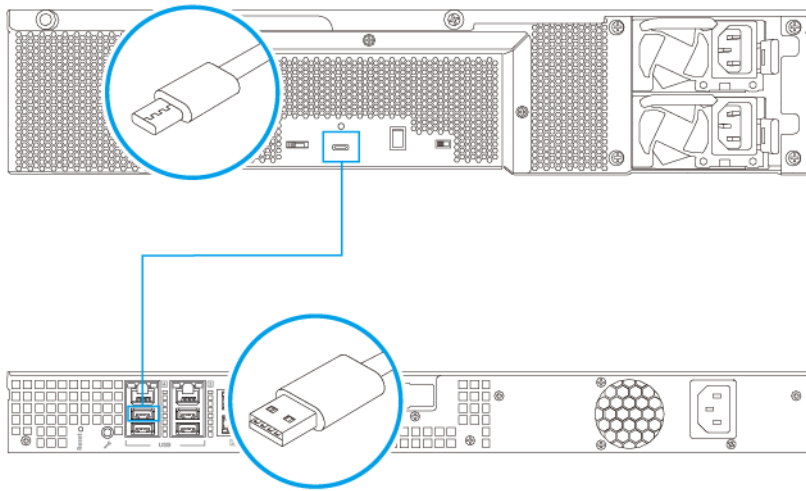


警告

- 請勿透過 USB 集線器連接 JBOD 擴充裝置至主機裝置。
- 若在短時間內，重複將外接裝置與主機裝置中斷連接再重新連接，可能會發生開機失敗。QNAP 建議您等待 10 秒後，再將外接裝置重新連接至主機裝置。

1. 關閉 NAS。
2. 關閉 JBOD 擴充裝置。
3. 連接 JBOD 擴充裝置至 NAS。
 - a. 將 USB 連接線連接至 JBOD 擴充裝置上的 USB 3.1 Gen 2 Type-C 連接埠。
 - b. 將 USB 連接線連接至 NAS 上的 USB Type-A 連接埠。

- c. 選擇性: 連接第二台 JBOD 擴充裝置至 NAS 。



4. 開啟 JBOD 擴充裝置。
5. 開啟 NAS。
6. 確認 NAS 已辨識 JBOD 擴充裝置。
 - a. 使用管理員身分登入 QTS。
 - b. 前往 [主選單] > [儲存與快照總管] > [總覽] > [儲存空間]。
 - c. 確認畫面列出 JBOD 擴充裝置。



注意

NAS 可能需要長達 30 秒的時間，才能偵測到 JBOD 擴充裝置及已安裝的硬碟。

連接 JBOD 擴充裝置至電腦



重要

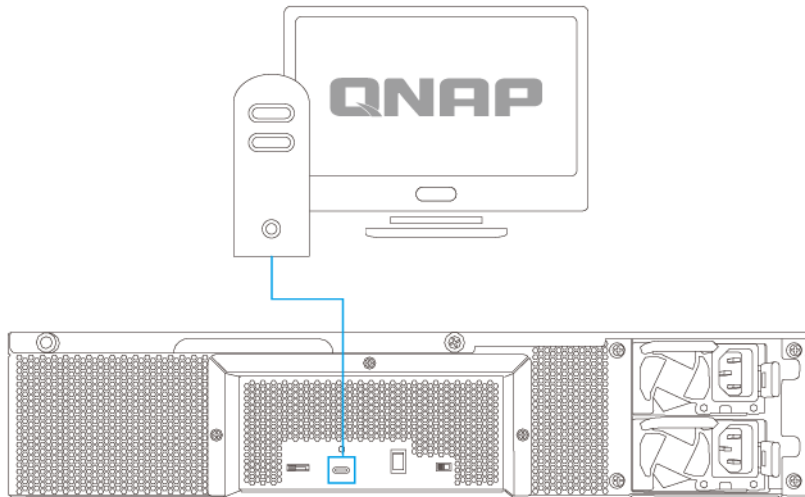
- QNAP JBOD 擴充裝置無法同時連接至一個以上的主機。
- QNAP JBOD 擴充裝置不支援 USB 2.0 連接。
- 視已安裝的硬碟數目，JBOD 擴充裝置可能使用比主機裝置在單一 USB 連接能支援的數量還多的 USB 端點。因此，主機裝置可能無法辨識所有安裝在 JBOD 擴充裝置的硬碟。
您可以在主機裝置安裝 USB 擴充卡來解決此問題。您可向 QNAP 或授權經銷商購買相容的 USB 擴充卡。



警告

- 請勿透過 USB 集線器連接 JBOD 擴充裝置至主機裝置。
- 若在短時間內，重複將外接裝置與主機裝置中斷連接再重新連接，可能會發生開機失敗。QNAP 建議您等待 10 秒後，再將外接裝置重新連接至主機裝置。

1. 關閉電腦電源。
2. 關閉 JBOD 擴充裝置。
3. 連接 JBOD 擴充裝置至電腦。
 - a. 將 USB 連接線連接至 JBOD 擴充裝置上的 USB 3.1 Gen 2 Type-C 連接埠。
 - b. 將 USB 連接線接至電腦上的 USB 連接埠。
 - c. 選擇性: 連接額外 JBOD 擴充裝置至電腦。



4. 開啟 JBOD 擴充裝置。
5. 開啟電腦電源。
6. 確認電腦已辨識 JBOD 擴充裝置。
 - a. 前往電腦的硬碟管理應用工具，或開啟 Windows 或 Ubuntu 中的 QNAP JBOD Manager。
 - b. 確認畫面列出 JBOD 擴充裝置。

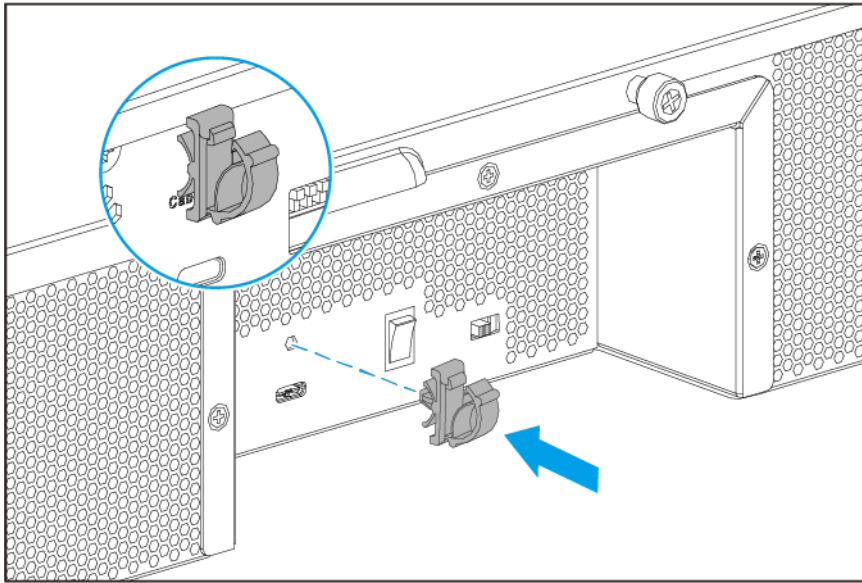
裝上 USB 連接線固定夾



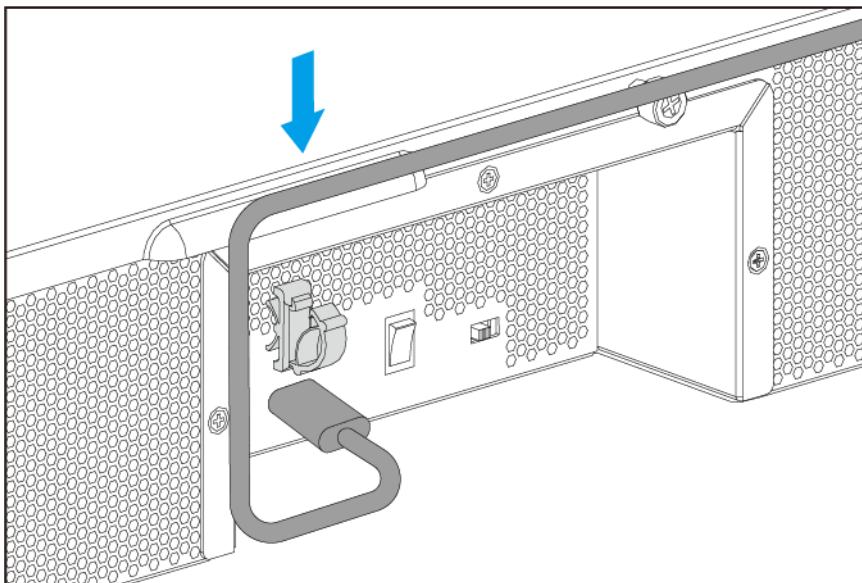
重要

USB 連接線固定夾可讓連接線固定在裝置周遭，避免連接線或任何附近元件意外受損。

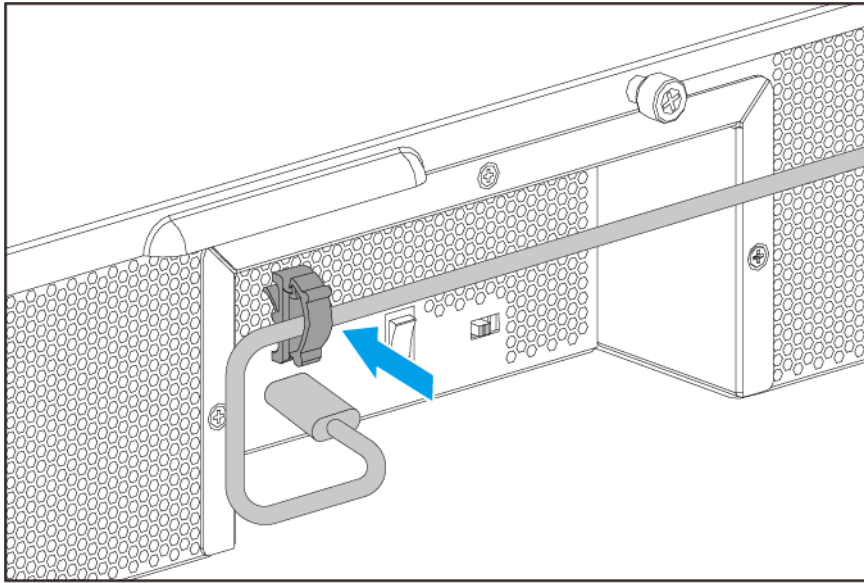
1. 將連接線固定夾插入固定夾插槽中。



2. 將連接線置入固定夾。

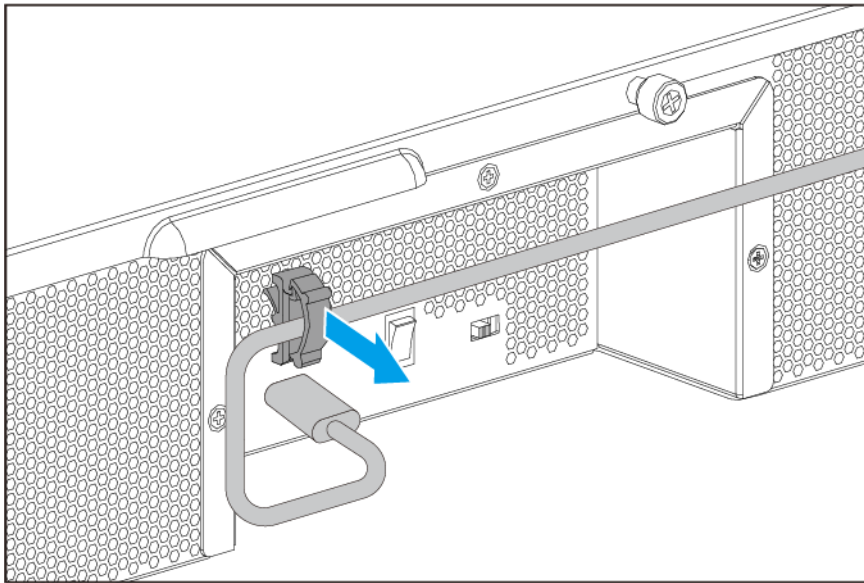


3. 將固定夾扣上以固定連接線。

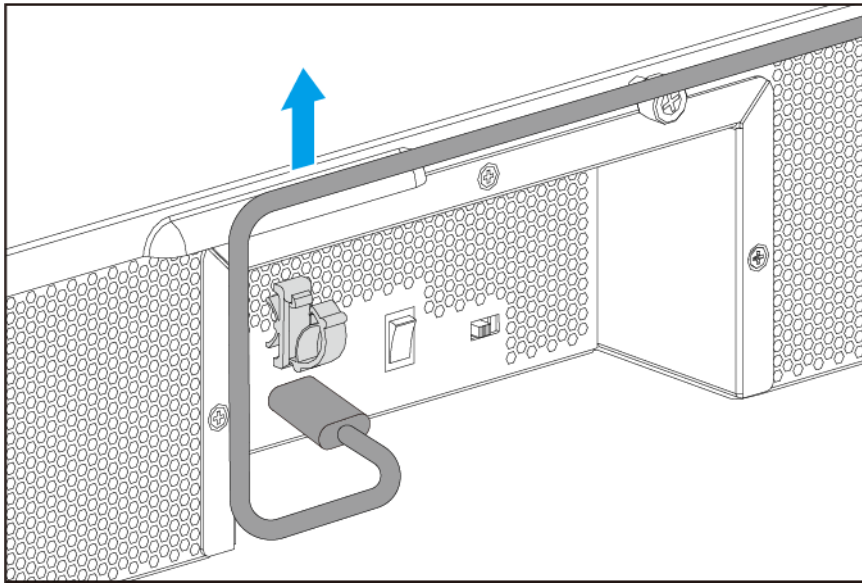


從 USB 連接線固定夾取下 USB 連接線

1. 打開連接線固定夾。



2. 將連接線從固定夾取下。



熱抽換備援電源供應器

隨附備援電源供應器 (PSU) 的 JBOD 擴充裝置支援熱抽換。

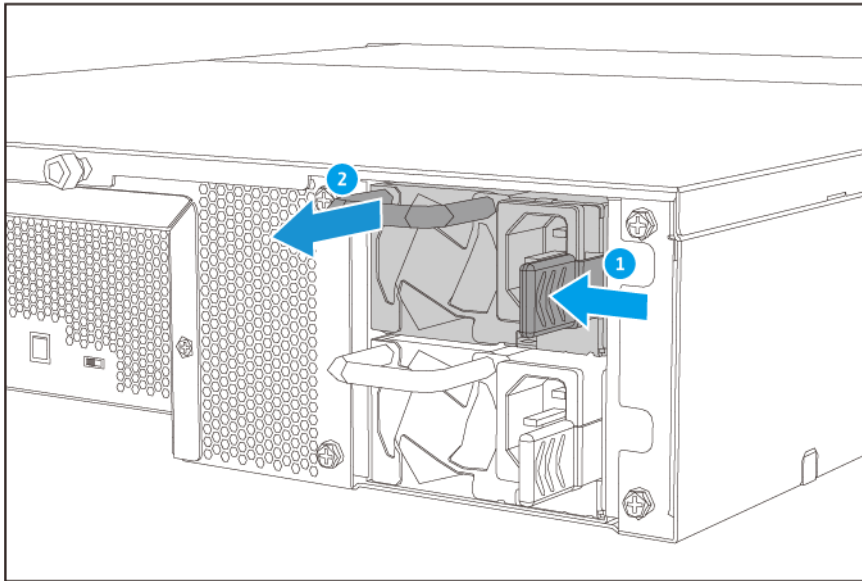


警告

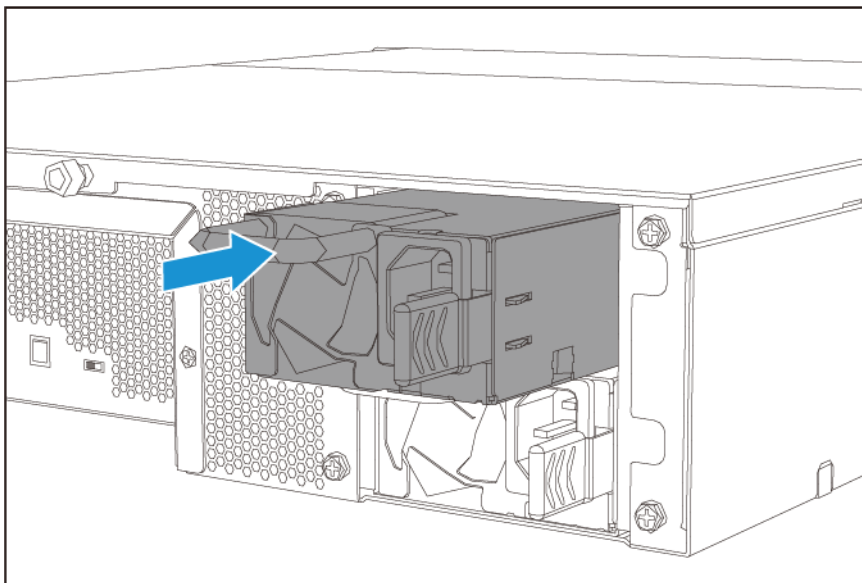


NAS 至少配備一條電源供應器 (PSU) 的電源線。為防止嚴重傷害事故發生，在安裝或替換系統元件前，應由受過訓練的技術人員拔下所有 PSU 電源線。

1. 關閉 JBOD 擴充裝置的電源。
2. 從電源插座和被更換的電源供應器上拔下電源線。
3. 朝把手方向按住門門，然後拉出電源供應器。



4. 插入新的電源供應器。



5. 將電源線連上電源供應器並插入電源插座。
6. 開啟 JBOD 擴充裝置的電源。

機架滑軌

TL-R1200C-RP 與下列型號相容：

- RAIL-B02

JBOD 擴充裝置不含機架滑軌，必須另外購買。如需詳細資訊，請聯絡授權經銷商或前往 <http://shop.qnap.com>。

您可以在機架滑軌的包裝中找到安裝資訊。

4. 基本操作

本章說明 JBOD 擴充裝置的基本操作。

LED 燈號

LED 燈號指示 JBOD 擴充裝置開機時的系統狀態與相關資訊。下列 LED 燈號資訊僅適用於已正確安裝硬碟且 JBOD 擴充裝置已連線的情況。

如需 LED 燈號的位置資訊，請參見「[元件](#)」。

LED 燈號	狀態	描述
系統狀態	綠燈	JBOD 擴充裝置就緒。
	紅燈	<ul style="list-style-type: none"> 系統風扇異常。 系統溫度超過 65°C。
項目	綠燈	JBOD 擴充裝置已連接至主機裝置。
	關閉	JBOD 擴充裝置未連接至主機裝置。
風扇	紅燈	系統風扇異常。
磁碟	綠燈	<ul style="list-style-type: none"> JBOD 擴充裝置電源已開啟。 硬碟可供存取。
	綠燈閃爍	資料存取中。
	紅燈	硬碟讀寫錯誤。



注意

硬碟 LED 燈只有在連接至執行 QTS、QTS hero 或 QNAP JBOD Manager 的 NAS 或電腦時運作。

警示音



注意

警示音可透過 JBOD 擴充裝置的背部面板之警示音開關進行開關。如需詳細資訊，請參見：[背部面板](#)。

期間	頻率	描述
短嗶 (0.5 秒)	1	<ul style="list-style-type: none"> 與 JBOD 擴充裝置連線中。 與 JBOD 擴充裝置的連線已中斷。
長嗶 (2 秒)	3 聲 (每 5 分鐘)	<ul style="list-style-type: none"> 系統風扇異常。 系統溫度超過臨界值。 <div style="border-left: 2px solid #0070C0; padding-left: 10px; margin-top: 10px;"> <p>注意</p> <ul style="list-style-type: none"> 預設溫度警示臨界點為 65°C。您可以使用 QNAP JBOD Manager 將臨界溫度設定為 55°C 和 69°C 之間。 嚴重警示溫度臨界值為 70°C。 </div>

風扇轉速開關

JBOD 擴充裝置的背部面板含有風扇轉速開關，可供手動設定系統風扇之轉速。

風扇轉速設定：

- 自動
設定為自動後，風扇轉速將根據 JBOD 擴充裝置內部溫度自動變更。
- 高
- 中
- 低

如需詳細資訊，請參見：[背部面板](#)。

5. 疑難排解

本章介紹基本的疑難排解資訊。

強制「儲存與快照總管」或 QNAP JBOD Manager 辨識 JBOD 擴充裝置

如果「儲存與快照總管」或 QNAP JBOD Manager 於運作中無法找到 JBOD 擴充裝置，表示硬碟或資料可能損壞。

1. 關閉 JBOD 擴充裝置的電源。
2. 移除所有硬碟。
3. 開啟 JBOD 擴充裝置的電源。
4. 使用「儲存與快照總管」或 QNAP JBOD Manager 來尋找 JBOD。
5. 將硬碟重新插入。
6. 繼續操作。

熱抽換故障硬碟

JBOD 擴充裝置支援具備下列情況的硬碟熱抽換：

- RAID 1：一個硬碟故障
- RAID 5：一個硬碟故障
- RAID 10：
 - 一個硬碟故障
 - 兩個硬碟故障
- RAID 50：每個硬碟子群組的一個硬碟故障
- RAID 60：每個硬碟子群組的兩個硬碟故障

1. 登入 QTS。
2. 前往 [主選單] > [儲存與快照總管] > [儲存空間] > [外接儲存裝置]。
3. 找出故障的硬碟。
4. 準備一個新的硬碟，且容量至少與故障硬碟相同。
5. 將故障硬碟從 JBOD 擴充裝置取下。
6. 等待 30 秒或等到 JBOD 擴充裝置發出兩次嗶聲。
7. 將故障硬碟從硬碟托盤取下。
8. 將新的硬碟插入硬碟托盤。
9. 安裝新的硬碟。
JBOD 擴充裝置發出兩次嗶聲。
10. 等待 30 秒或等到 JBOD 擴充裝置發出兩次嗶聲。

11. 前往 [主選單] > [儲存與快照總管] > [儲存空間] > [儲存空間/快照] 。
12. 找出新硬碟所在的磁碟區，然後確認其狀態為 [重建中] 。

支援和其他資源

QNAP 提供下列資源：

資源	URL
文件	https://docs.qnap.com
服務入口網站	https://service.qnap.com
下載	https://download.qnap.com
社群論壇	https://forum.qnap.com

6. 詞彙

QTS

QNAP NAS 作業系統

QNAP JBOD Manager

讓您檢視及設定 QNAP JBOD 擴充裝置的 Windows、Linux 和 macOS 軟體工具

儲存與快照總管

QTS 應用工具可讓您檢視並設定與 QNAP NAS 相連的 QNAP JBOD 擴充裝置

7. 聲明

本章介紹擔保、免責聲明、授權以及聯邦法規的相關資訊。

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Version 3, 29 June 2007

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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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“Major Component”, in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The “Corresponding Source” for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work’s System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

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- c. Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.
- d. Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

- e. Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

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The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

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