

InTANK
iR2022
User Manual

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Introduction

Thank you for purchasing RAIDON products. This User Manual will introduce you the InTANK iR2022 storage product. Before using your iR2022, please read it thoroughly. Although all information contented in this User Manual had already been carefully verified before publishing, however, the actual product and its specification will be based upon the time of delivery from RAIDON. Any update to the product or its relevant information may be listed on www.raidon.com.tw. Product is subjected to change without prior notifications.

If you have any question regarding to the product you purchased, or you would like to know the latest product information, User Manual's update, please contact to your local supplier or visit to www.raidon.com.tw for further information.

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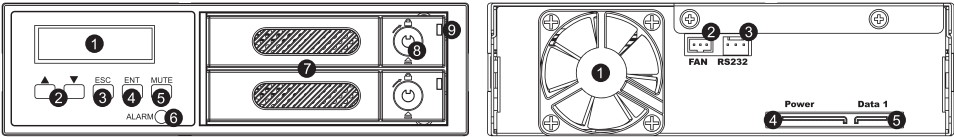
1. Package Contents and Product Views

Open the package and you should find the following parts:

iR2022
iR2022 x1 (with removable drive tray enclosed x2)
Internal RS232 Cable x1
External RS232 Cable x1
SATA Cable x1
Key x2
CD-Rom x1
Accessories Kit bag x3
Quick Installation Guide x1

Please make sure that the contents listed above are not damaged or missing. If you should find damages or missing contents, please contact your supplier immediately.

Product View, Front and Back



1. LCD Display

2. UP/DOWN Buttons

3. ESC Button

4. Enter Button

5. Mute Button
6. Power/False Indicator

7. Removable Drive Tray

8. HDD Tray Key Lock
And Tray Open Button

9. HDD Status Indicator
1. Cooling Fan

2. Fan Connector

3. RS232 Port

4. 15-pin SATA Power Connector

5. 7-pin SATA Connector

LED Indicators :

Status	System Indicato	HDD/SSD Indication	Buzzer
Fan Failure (Stop Rotating)	Solid Purple	--	ON
Overheat (≥50℃)	Solid Purple	--	ON
HDD Failure	Solid Purple	Solid Red	ON
Standing-by	Solid Blue	Solid Blue	--
Formating / Accessing Data	Solid Blue	Flashing Blue-Purple	--
Rebuilding (Source)	Solid Blue	Solid Blue	--
Rebuilding (Target)	Solid Blue	Flashing Red	--

2. Operation Information

Operating Temperature : 0 ~ 40 °C (32 ~ 104 °F)
Storage Temperature : -10 ~ 70 °C (14 ~ 158 °F)
Line Voltage : 100 ~ 240V AC

3. Hardware Requirements and Precautions

1. Computers or servers must be with SATA I, SATA II, or SATA III.

2. Hard drive must be with SATA I, SATA II, or SATA III.

3. You are strongly advised to set the storage mode before using your iR2022.
- Note:

The default (Factory) setting is the RAID 1 mode.

4. iR2022 product allows user to simultaneously use the two different hard drives from two different manufactures.
However, if the user expects a better efficiency, we strongly recommend the user to use the two hard drives from the same manufacturer.
5. Please make sure that the two hard drives are free from bad blocks or defects prior to installation in order to avoid system crashes or data loss.
6. The actual storage capacity of iR202 recognized by the system may differ from the total capacity stated on the hard drives combined once the drives have been formatted.
7. It is highly recommended for user to back up important data contained within the iR2022 unit on a regular basis or whenever the user feels necessary to a remote or a separate storage device. RAIDON will not be responsible for any lost of data caused during the use of the unit or the recovery of the data lost.

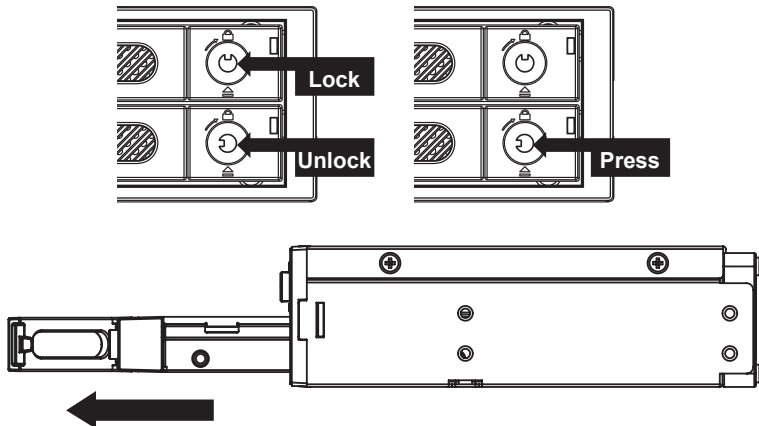
Note:

Once the drive mode configuration has been completed, re-configuration using the same hard drives to set the drive mode will result in complete data loss. If you must change the drive mode, make sure to backup all data prior to the mode change.

4. Hard Installation procedure

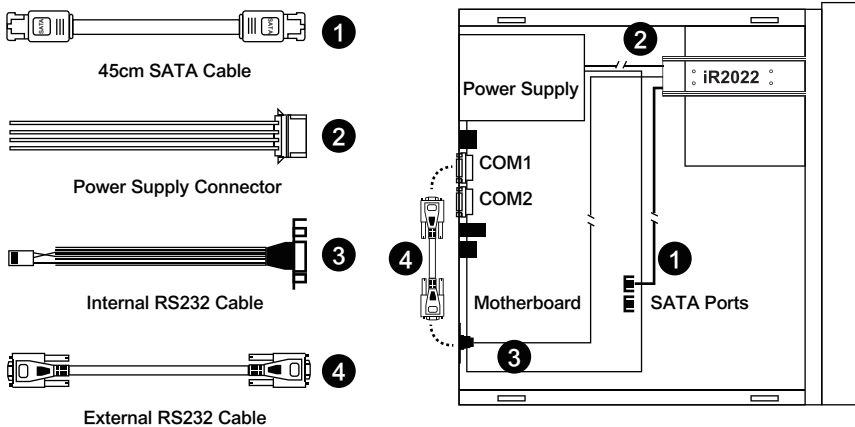
Please follow the instructions below to complete the hardware installation.

- Step 1 Open the package, take out the product, and make sure that all the enclosed contents are not damaged or missing. Should you find damages or missing contents, please contact to your supplier immediately.
- Step 2 Put the system on a stable surface, ensure that it is well ventilated without blockage of the air flow, and keep it away from the wet and any area which may easily get damaged.
- Step 3 Use the key included in the Accessory Kit, insert it into the Key Access Opening to eject the removable drive tray latch, and extract the Removable Drive Tray.



- Step 4 Mount your hard drives onto the Removable Drive Tray, secure it with the screws included in the Accessory Kit to avoid any damage to the hard drive due to accidental movements.

- Step 5 When the hard drive installation has been completed, insert the hard drive tray into the system horizontally and secure the latch into place.
- Step 6 Use the preferred cable included to connect your computer to the relative interface connection on the iR2022 unit.



※ Note :

1. RS232 Port and RS232 Cable: User can use RS232 to monitor the status of two hard disks in industrial control system or IPC.
2. We do not recommend user to disassemble the device without proper instructions and the authorization. The Manufacture Warranty will not cover the damages caused by unauthorized disassembling.
3. To prevent the device from malfunction, please make sure that your device is well connected with a direct and dedicated power supply for a stable power input.

5. RAID Mode Setting

After placing your two hard disks, turn on power and press UP Button, you are with the RAID Setting mode. (Since the default setting is RAID 1 mode by factory, you do not have to reset RAID if you want to use your iR2022 with RAID 1 mode.)

1. RAID 1 mode

- 1). Place two new hard drives into iR2022.

We would strongly suggest you to use two identical hard drives to get the maximum memory capacity. And if the capacities of your two hard drives are difference, iR2022 only recognizes the memory capacity at the small capacity hard drive.

- 2). Under RAID 1 mode, two hard drives will have the identical information as one from its mirroring feature, therefore, even though one and only one of the two hard drives failed, iR2022 will still work fine and properly. Once you replace the failed hard disk with a new one, iR2022 will automatically do rebuilding the data from the good one to the new hard disk.

2. RAID 0 mode

1). Place two new hard drives into iR2022.

We would strongly suggest you to use two identical hard drives to get the maximum memory capacity. And if the capacities of your two hard drives are difference, iR2022 only recognizes the memory capacity at the small capacity hard drive.

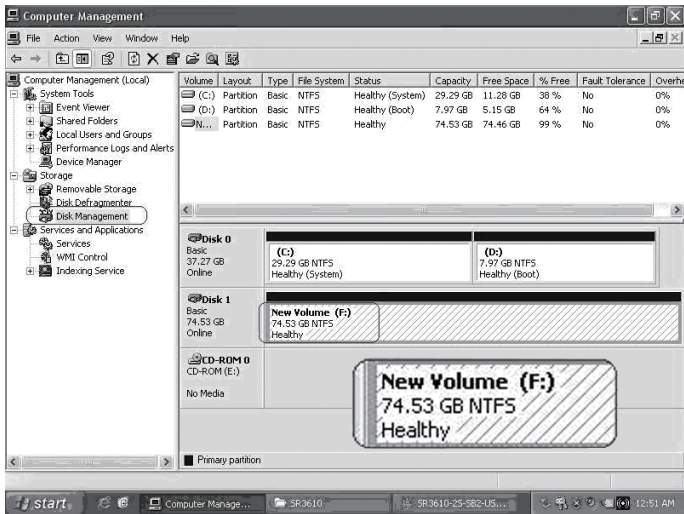
2). Under RAID 0 mode, the total memory capacity of iR2022 would be double from the small capacity hard drive. And also, RAID 0 mode will perform an excellent efficiency from its high data transfer rate for user to read & write data.

6. Computer Setup

When the hardware setup for iR2022 is complete, you are now ready to turn the machine on.

After the hardware installation is complete, the iR2022 will be treated as one single hard drive. When the computer is turned on, the system will retrieve the following information.

1. Device Manager Utility of Window OS will automatically detect the hard drive(s).
2. You can choose to format the hard drive by using the Disk Management tool of the operating system before using the iR2022.



At this point, the installation process is completely finished. The user can freely retrieve and save data to iR2022 just like retrieving and saving data to a regular hard drive. If the user has any problem during the operation, please refer to the Question & Answer (Q&A) section in Appendix.

7. Hard Disk Status on LCD Screen

1. Booting and Normal status.

iR2022
RAID-1 vxxxxxx.x

Pri HDD : OK
Sec HDD : OK

2. Over Heat ($\geq 50^{\circ}\text{C}$)

Pri HDD : OK
Sec HDD : OK T

3. Fan Failure

Pri HDD : OK F
Sec HDD : OK

4. RAID 1 Degraded : Primary hard drive is failure, but secondary hard drive is normal.

RAID-1 degraded
Pri : X Sec : O

5. RAID 1 Failure : Primary and secondary hard drives are failure.

RAID-1 failure
Pri : X Sec : X

6. RAID 1 Failure : Double Source

RAID-1 failure
Double Source

7. RAID 0 Failure : Primary hard drive is missing, but secondary hard drive is normal.

RAID-0 failure
Pri : M Sec : O

8. Rebuilding

Rebuilding
Sec → Pri 32%

8. Data Rebuilding Operation

The Hot Swappable hard drive and Auto Rebuilding features are available.

Off-line Back up : When the data is stored in iR2022, user can remove one of the hard drives as back up drive for data such as system operation file, secured files, seldom modified files or image and music files. The user can periodically insert the hard drive back into iR2022 to execute automatic backup to protect the system from being hit by computer virus or to avoid the risk of having both hard drives failing at the same time.

When one of the two hard drives fails in iR2022, it will issue an alert of a hard drive failure message in both LCD display and the monitoring software. User can remove the failed hard drive from the system while the system is still in operation without shutting down the machine. If the failed hard drive is replaced shortly, the system will automatically execute the Auto Rebuilding function without affecting the system operation and also any operation command from the user.

When the iR2022 detects one hard drive missing or failure, the Buzzer starts BEEPING and the LCD displays the following messages :

RAID-1 degraded
 Pri : X Sec : O

After replacing a new hard disk with the failed one, LCD displays the following messages:

Pri HDD : OK
 Sec HDD : Insert

Pri HDD :Insert
 Sec HDD : OK

After few seconds from your inserting a new hard drive, LCD displays the data rebuilding progress :

Rebuilding
 Sec → Pri 32%

Rebuilding
 Pri → Sec 32%

When iR2022 completes its rebuilding, LCD again displays the following messages :

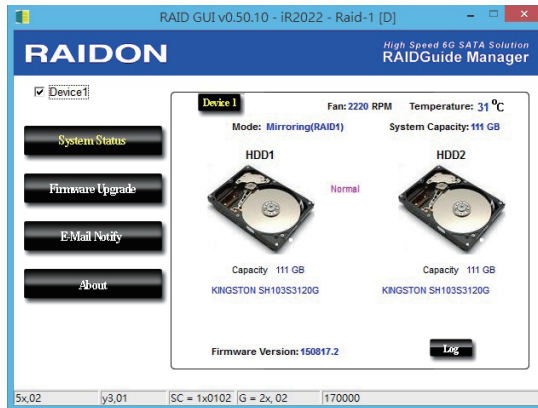
Pri HDD : OK
 Sec HDD : OK

9. GUI Monitoring Software and Firmware Update

You can install GUI software to monitor the status of iR2022. And this can be done by installing software from CD.

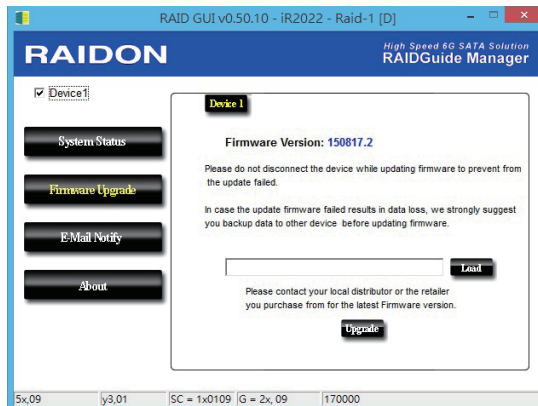
1. System Status:

This GUI automatically detects your iR2022 and reveals relative information accordingly.



2. Firmware Upgrade:

You may update the Firmware via this GUI, to just simply click on the "Load" button to locate the firmware file to proceed. After completing the update, you may restart the power to work with the new firmware.



※ Caution: Any random firmware update may cause the malfunction at your iR2022, We strongly recommend you not to change/upgrade iR2022 firmware if still works properly.

3. Email Notification

Please first set up an e-mail address for the notification of a malfunction drive or the removed drive.

3-1 Setup

- 1). Select an Outgoing SMTP and write down your e-mail name and address.
- 2). If it requests a password, select an option SMTP Login Authentication, and key-in the password.

RAID GUI v0.50.10 - iR2022 - Raid-1 [D]

RAIDON High Speed 6G SATA Solution RAIDGuide Manager

☒ Device1

System Status
Firmware Upgrade
E-Mail Notify
About

Setup **HDD Fail** **Device Removed**

E-Mail Setup

Port: 25 (Default 25)

E-Mail Host (SMTP):

Local Information

Name:

E-Mail Address:

Time Out

Connect E-mail Host: 0 (Sec)

☐ SMTP Login Authentication

OK Ignore

1y,0D | y3,01 | SC = 1x010D | G = 2x, 0D | 170000

- 3). When completing the configuration, click on the “OK” button to save.

※ Device must be in the operation states during configuration works.

3-2 HDD Failure / Device Removed

- 1). Insert your e-mail address as the receiver for notification, and click on “+” to add the e-mail address onto the Notification List. (Maximum up to 10 e-mail addresses)
- 2). Key-in the Subject title and contents in the columns of “Subject” and “Contents”.

RAID GUI v0.50.10 - iR2022 - Raid-1 [D]

RAIDON High Speed 6G SATA Solution RAIDGuide Manager

☒ Device1

System Status
Firmware Upgrade
E-Mail Notify
About

Setup **HDD Fail** **Device Removed**

E-Mail Address

E-Mail Edit

Subject

Contents

Auto Add : Hard Disk Fail info. and system info. in front of E-Mail contents.

☐ Don't send EMail for this event.

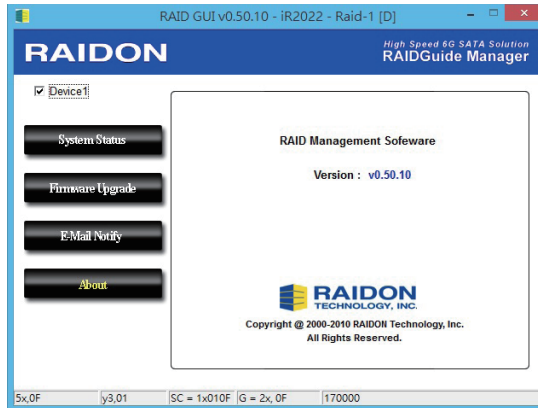
OK Ignore

5x,1D | y3,01 | SC = 1x011D | G = 2x, 1D | 170000

- 3). When completing the configuration, click on “OK” button to save.

※ Device must be in the operation status during configurations works.

The GUI Management Software Version:



10. Questions & Answers

Unstable system after installing iR2022

Q1. After installing iR2022, we are unable to start the computer or the computer doesn't recognize iR2022.

- A:
1. Please check whether if the readings of iR2022 LCD appears normal.
 2. Please check whether if the SATA Cable properly connects to the computer and whether if the two hard disks are functioning properly.
 3. If all the devices work properly but user is still unable to start the computer, it might be the system incompatibility problem. If such incompatibility takes place, please contact to our Customer Service Department to supporting@raidon.com.tw.

Q2. Computer works fine, but iR2022 doesn't perform right in reading/writing messages properly.

- A:
- Please first check whether if iR2022 is executing the auto REBUILDING work. If it works for REBUILDING, your iR2022 is a good device. And if it doesn't, please follow the following two ways to find out the possible root cause:
1. Please examine if your SATA cable is too long and will attenuate signal, or whether if the Two SATA cables fail to meet the cable specification requirements.
 2. If the two cables meet the requirements at both the specification & length, please turn off the computer, remove the two hard drives from iR2022, and directly connect the hard drives to computer, format them, and then try to read/write data into them.
You may find out that the hard disk (s) are with unacceptable bad sector quantity.

Hard Disk Drive (HDD) Failure

Q1. Under the Mirror mode (RAID 1), what will be the total storage capacity when adding a brand new HDD?

- A:
1. The total storage capacity at your iR2022 is determined by the storage capacity of the primary HDD installed during the initial usage.
 2. The storage capacity will not be increased even though you replace a larger capacity new HDD.

Q2. Why does the error message appear when I install the second HDD?

- A:
- The storage capacity of the new replaced HDD must be larger than the first HDD. Otherwise, iR2022 is unable to perform REBUILDING work.

About the Auto Rebuilding Function

Q1. What will happen if we turn off the computer power while iR2022 is still executing auto REBUILDING work?

- A:
- Under the Mirror mode (RAID 1), if computer power is off during REBUILDING work, iR2022 will still remember the percentage of its REBUILDING work, and then resume it back to its REBUILDING work while computer power is back on.

Q2. Is it possible to lose data during the REBUILDING work?

- A:
- The REBUILDING work will automatically duplication data from one sector to another sector. Technically speaking, the data should not be lost during its REBUILDING work. However, if the original HDD is detected with too many bad sectors during the REBUILDING work, iR2022 will make hypothetical duplication instead of treating the bad sectors as HDD failure. Therefore, the data stored in the bad sectors could potentially be lost during REBUILDING work.

關於這份手冊

感謝您使用 RAIDON 的產品。本手冊將介紹 InTANK iR2022 產品。在您開始使用 iR2022 系列產品前，建議您先閱讀過本手冊。手冊裡的資訊在出版前雖已被詳細確認，實際產品規格仍將以出貨時為準；任何產品規格或相關資訊更新請您直接到 www.raidon.com.tw 網站查詢，本公司將不另行通知。若您想獲得 RAIDON 最新產品訊息、使用手冊、韌體或對 RAIDON 產品有任何疑問，請您聯絡當地供應商或到 www.raidon.com.tw 取得相關訊息。

本手冊相關產品內容歸銳銳科技股份有限公司版權所有

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7. LCD 訊息顯示
8. 資料重建功能說明
9. GUI 功能說明與韌體更新
10. 常見問題

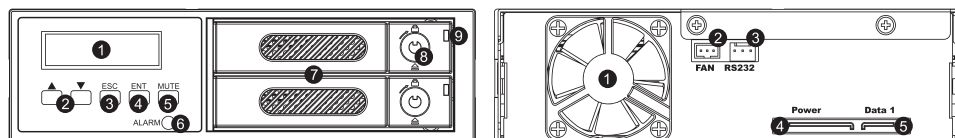
1. 產品外觀及包裝內容

打開包裝外盒後，包裝內容應包含下列組件：

iR2022
iR2022 產品本體 x1(內含抽取盒 x2)
內接 RS232 線 x1
外接 RS232 線 x1
SATA 線 x1
鑰匙 x2
光碟 x1
零件包 x3
快速安裝導引 x1

請確認相關配件與產品本身是否有受損或配件缺少，若有任何疑問請與本產品供應商聯絡。

正面與背面示意圖



1. 液晶顯示面板
2. 選擇鍵 (UP/DOWN)
3. 取消鍵 (ESC)
4. 確認鍵 (Enter)
5. 靜音按鈕 (MUTE)
6. 電源 / 故障顯示燈
7. 硬碟托盤把手
8. 硬碟卡榫按鈕
9. 硬碟讀寫燈

1. 風扇
2. 風扇連接埠
3. R232 連接埠
4. SATA 15Pin 電源輸入埠
5. SATA 7Pin 資料連接埠

燈號一覽表：

狀態	系統警示燈	硬碟指示燈	蜂鳴器
風扇故障	紫燈恆亮	— —	鳴叫
溫度過高 ($\geq 50^{\circ}\text{C}$)	紫燈恆亮	— —	鳴叫
硬碟故障	紫燈恆亮	紅燈恆亮	鳴叫
待機	藍燈恆亮	藍燈恆亮	— —
格式化 / 資料存取	藍燈恆亮	藍紫燈交互閃爍	— —
Rebuilding-Source	藍燈恆亮	藍燈恆亮	— —
Rebuilding-Target	藍燈恆亮	紅燈閃爍	— —

2. 環境需求

工作溫度：0 ~ 40 °C (32 ~ 104 °F)

儲存溫度：-10 ~ 70 °C (14 ~ 158 °F)

工作電壓：100 ~ 240V AC

3. 硬體需求與注意事項

1. 電腦或伺服器具備 SATA I、SATA II 或 SATA III 介面。
2. 具備 SATA I、SATA II 或 SATA III 介面的硬碟。
3. 強烈建議使用 iR2022 前先設定好 RAID 模式 (預設值是 RAID 1)。
4. 本系統允許使用不同廠牌的硬碟。但如果要獲得更好的效能，我們強烈建議使用相同廠牌型號的硬碟。

5. 安裝硬碟前請先確認所使用的硬碟並無壞軌或是其他問題，以免導致系統損毀或資料遺失。
6. 硬碟格式化後，iR2022 的總使用儲存容量或許會與硬碟容量加總後的有所不同。
7. 強烈建議除了使用 iR2022 系列的資料儲存功能外，請針對重要資料備份到另一個儲存裝置上或遠端備份，雙重備援您重要的資料。若您儲存在 iR2022 系列的資料損毀或遺失，RAIDON 將不負任何的責任。

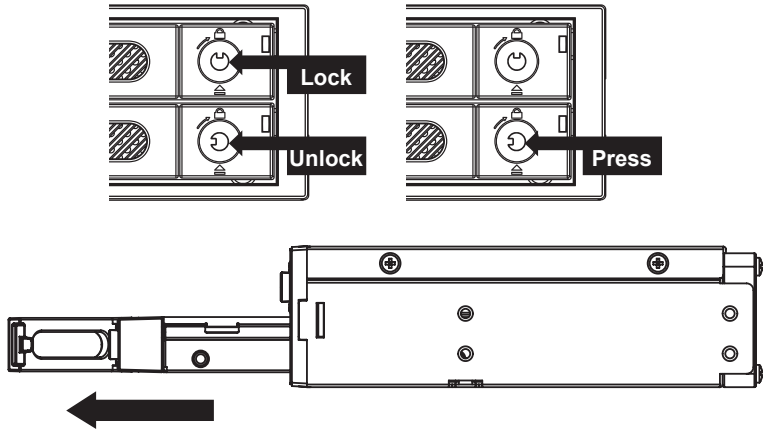
注意：

一旦使用模式確認後，使用相同的硬碟進行模式切換將會導致資料遺失。如果需要進行模式變更，請於變更前先進行資料備份。

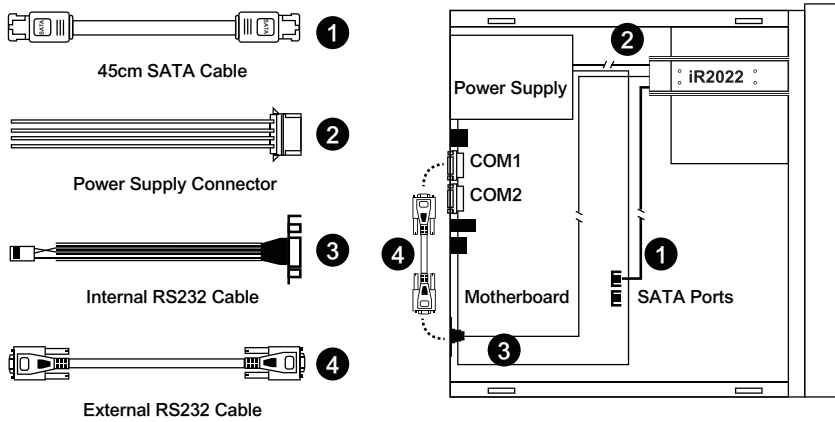
4. 硬體安裝

請參照以下步驟完成硬體安裝

- 步驟 1 拆開外包裝並取出產品本體。(請確認相關配件與產品本身是否有受損或是缺少配件，若有任何疑問請與您的經銷商或業務人員連絡。)
- 步驟 2 將系統擺放於穩固平台，並確認散熱風扇口沒有被其他物體擋住，系統四周有適當的散熱空間。(擺放環境請避免接近潮濕或其他易對產品造成損傷的環境。)
- 步驟 3 請使用零件包內附的鑰匙插入鑰匙孔向左轉 90 度，輕按鎖頭抽取盒門門將會輕彈開啟，即可將硬碟抽取盒取出。



- 步驟 4 將硬碟安裝到抽取盒上，並以零件包內附的螺絲加以固定，以避免不必要的移動對硬碟造成傷害。
- 步驟 5 硬碟安裝完成後請將抽取盒平移放入主機內並關上把手。
- 步驟 6 將附件中的連接線分別接到電腦與 iR2022 的相關連接埠。(參照以下圖面)



※ Note :

1. RS232 埠與 RS232 線：在工控系統或是工業電腦裡，使用者可以透過 RS232 達成監控硬碟機狀態。
2. 我們不建議使用者在未經授權的情況下自行拆卸系統。如未經授權自行拆卸所導致的損毀將不在保固之列。
3. 為了防止系統發生問題，請確保系統的電源供應是穩定且獨立的。

5. 設定 RAID 層級

將兩顆硬碟放入後，開機時按 ▲ 鍵即可進入 RAID 的切換畫面。(出廠預設值為 RAID 1，若使用 RAID 1 則不須更動。)

1. RAID 1 模式

- 1). 將兩顆新的硬碟放入 iR2022 中。強烈建議您使用兩顆相同的硬碟，以便取得對等的容量。如果兩顆硬碟的容量不同，iR2022 將會以小容量的硬碟為依據。
- 2). RAID 1 模式下，兩顆硬碟是鏡射關係因此擁有相同的資料，因此有一顆硬碟損毀仍然可以正常運作。當放入新硬碟取代損毀硬碟後，系統會自動將資料重建到新的硬碟。

2. RAID 0 模式

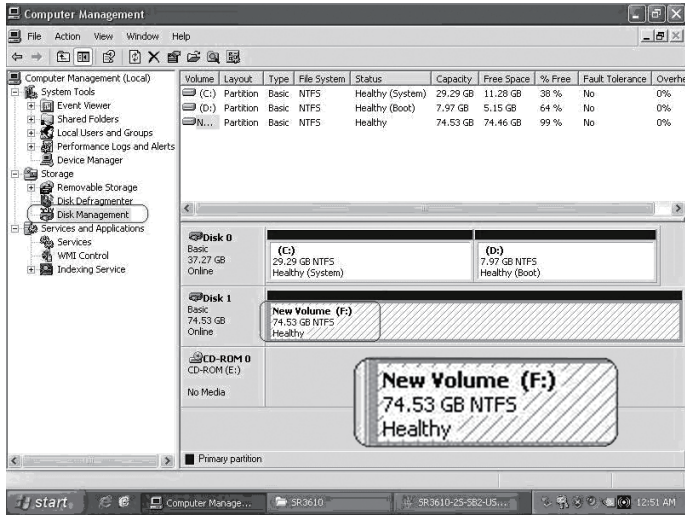
- 1). 將新的硬碟放入 iR2022 中。強烈建議您使用兩顆相同的硬碟，以便取得對等的容量。如果兩顆硬碟的容量不同，iR2022 將會以小容量的硬碟為依據。
- 2). RAID 0 模式下，兩顆硬碟的容量會被加總成一個大儲存容量，並且提供更佳的存取效能。

6. 電腦設定

當 iR2022 的硬體安裝完成，即可準備進行開機動作。

硬體安裝完成後，將 BIOS 的硬碟偵測設定為自動，iR2022 將會被視為如同一顆硬碟一般。當電腦開機後，系統會顯示下列偵測訊息：

1. 安裝在 iR2022 中的硬碟能夠被 Windows 的裝置管理員偵測到。
2. 使用 iR2022 前，使用者可以透過磁碟管理選擇硬碟的格式。



到此完成整個安裝程序。使用者可以如同存取一般硬碟般的使用 iR2022。如果使用上仍有問題，請參閱附件的 Q&A。

7. 訊息顯示

1. 開機與正常待機狀態

iR2022
RAID-1 vxxxxxx.x

Pri HDD : OK
Sec HDD : OK

2. 溫度過高 ($\geq 50^{\circ}\text{C}$)

Pri HDD : OK
Sec HDD : OK T

3. 風扇故障

Pri HDD : OK F
Sec HDD : OK

4. RAID 1 降級，Pri 硬碟損毀而 Sec 硬碟仍然可正常存取

RAID-1 degraded
Pri : X Sec : O

5. RAID 1 損毀，Pri 與 Sec 硬碟皆損毀

RAID-1 failure
Pri : X Sec : X

6. RAID 1 損毀，Source 碟重複

RAID-1 failure
Double Source

7. RAID 0 損毀，Pri 硬碟遺失而 Sec 硬碟仍然正常

RAID-0 failure
Pri : M Sec : O

8. 資料重建

Rebuilding
Sec → Pri 32%

8. 資料重建功能說明

具備硬碟熱抽拔與自動資料重建功能。

離線備份。當資料儲存在 iR2022 後，使用者可以移除其中一顆硬碟當作資料備份碟，確保相關資料例如作業系統檔案、加密文件、較少存取的檔案甚至影音檔案的安全。使用者可以定期的將硬碟放回 iR2022 執行自動資料重建，確保系統不會被病毒攻擊或是減少兩顆硬碟同時損毀的風險。

當 iR2022 中的其中一顆硬碟損毀，系統會透過 LCD 顯示幕與監控軟體發出警示。使用者可以在系統仍在運作下，無需關掉機器即可將損毀的硬碟取出。一旦替換損毀硬碟後，iR2022 即會在不影響系統運作的情況下自動開始進行資料重建，使用者也無需對 iR2022 下任何指令。

當 iR2022 偵測到硬碟遺失或是損毀，蜂鳴器會啟動，LCD 螢幕會顯示以下訊息：

RAID-1 degraded
Pri : X Sec : O

當移除損毀的硬碟並替換一顆新硬碟後，如果新硬碟有正確安裝，LCD 螢幕會顯示以下訊息：

Pri HDD : OK
Sec HDD : Insert

Pri HDD :Insert
Sec HDD : OK

安裝新硬碟後幾秒鐘，LCD 螢幕會顯示資料重建的進度：

Rebuilding
Sec → Pri 32%

Rebuilding
Pri → Sec 32%

當資料重建完成後，LCD 螢幕會顯示以下訊息：

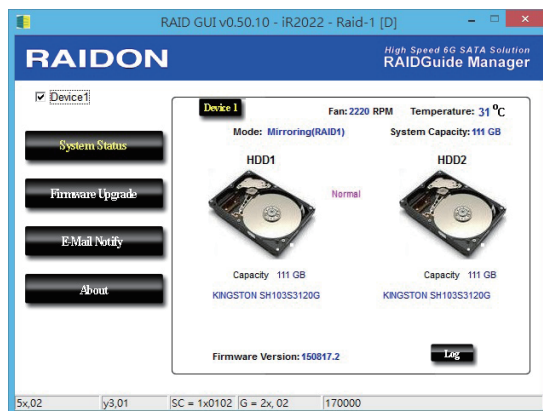
Pri HDD : OK
Sec HDD : OK

9. GUI 功能說明與韌體更新

使用者可以透過光碟來安裝 GUI 軟體，藉此監控 iR2022 的狀態。

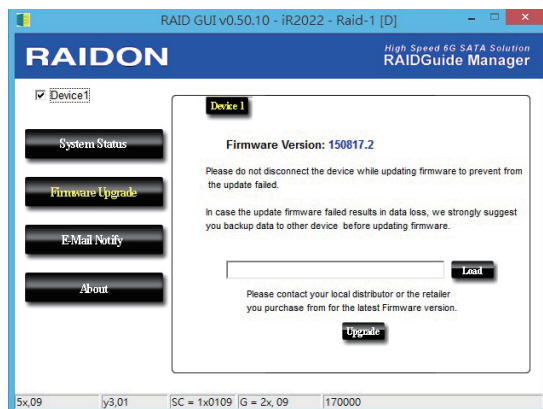
1. 系統狀態

GUI 會自動偵測 iR2022 並且顯示相關資訊。



2. 韌體升級

使用者可以透過此 GUI 進行韌體升級。只需簡單的點選“Load”指定韌體檔案位置後即可進行升級。升級過程或許需要重新啟動系統來完成整個升級程序。



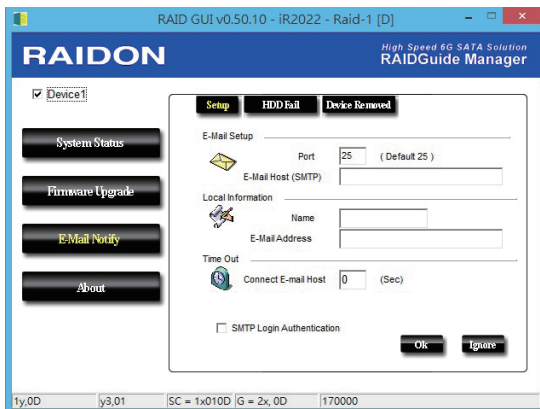
※ 注意：任意更新韌體有可能導致系統運作不正常。強烈建議如果系統運作正常情況下不要進行韌體升級。

3. E-Mail 通知

設定 e-mail 帳號來收取系統問題或被移除通知。

3-1 設定

- 1). 填入 e-mail 相關名稱與完整位置，以及 SMTP 的相關資訊。
- 2). 如果需要密碼，請勾選“SMTP Login Authentication”並輸入密碼。

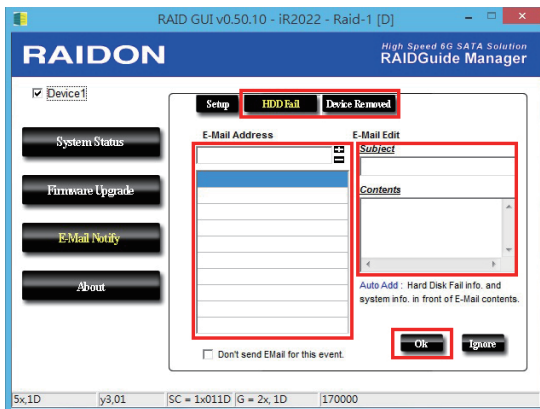


- 3). 相關資訊填寫完成後，點選“OK”。

※ 設定過程中，系統必須維持在正常運作狀態。

3-2 硬碟損毀 / 裝置被移除

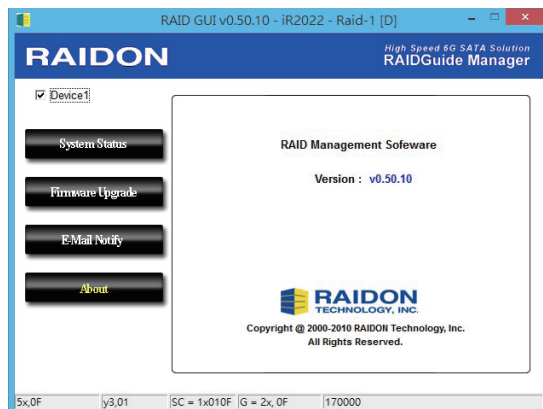
- 1). 在 E-Mail Address 欄位填入要收取通知的 e-mail，點選“+”即可增加另一組。(最多可填入 10 組 e-mail)



- 2). 在“Subject”與“Contents”填入 e-mail 訊息的主旨與內容。
- 3). 相關資訊填寫完成後，點選“OK”。

※ 設定過程中，系統必須維持在正常運作狀態。

4. 關於 GUI 軟體版本



10. 常見問題

連接 iR2022 後系統不穩定

Q1. 安裝完 iR2022 後，電腦無法開機或是電腦認不到 iR2022。

- A:
1. 請確認 iR2022 上的 LCD 螢幕顯示正常。
 2. 請確認 SATA 線有正確的跟電腦連接且硬碟是可正常運作。
 3. 如果一切正常但使用者還是無法正常開機，這有可能是因為硬體上的相容性問題。如果是硬體上相容性問題，請連繫我們的客服部門。

Q2. 使用時，電腦運作正常但是 iR2022 的存取效能不正常。

- A:
1. 請確認 iR2022 是否正在資料重建。
 2. 請確認所使用的連接線長度，是否所使用的 SATA 線太長以及是否合乎標準規範。
 3. 如果線材的長度與規格都沒問題，請關閉 iR2022 並取出其中的硬碟。直接接硬碟連接到電腦並進行檢測，有可能是硬碟中的壞軌導致。

硬碟損毀

Q1. RAID 1 模式下，如果放入一顆新的硬碟，系統的總容量會是？

- A:
1. iR2022 的總容量是依據一開始安裝的主硬碟容量而定。
 2. 安裝完成後，即使更換一顆較大容量的硬碟，儲存容量也不會增加。

Q2. 為何當我安裝第二顆硬碟時出現錯誤訊息？

- A:
1. 第二顆硬碟的容量必須大於第一顆硬碟，否則 iR2022 不會進行資料重建。

關於資料自動重建功能

Q1. 如果當 iR2022 在資料重建時關掉電腦電源，會不會怎樣？

A: 在 RAID 1 模式下資料重建過程中關閉電源，控制器會自動記憶已完成的百分比，當再度開啟電源後，重建過程會從斷電前的百分比繼續。

Q2. 資料重建過程中是否有可能會遺失資料？

A: 資料重建功能是 **Sector to Sector** 的拷貝方式。技術上來說，資料並不會在資料重建過程中遺失。但是，如果資料重建過程中，原本的硬碟 (**Source**) 被偵測到壞軌，iR2022 將會採用模擬方式而不會因此壞軌認為硬碟損毀。因此，這種情況下儲存在壞軌的資料就有可能會遺失。

