i-RAM (GO-RAMDISK-BOX-RH)

User's Manual

Rev. 100

24MD1-IRMBOX-02R

* The WEEE marking on the product indicates this product must not be disposed of with user's other household waste and must be handed over to a designated collection point for the recycling of waste electrical and electronic equipment!!
* The WEEE marking applies only in European Union's member states.

English

Thank you for selecting GIGABYTE's latest i-RAM product. This user's manual gives information about i-RAM features and specifications, and will lead you through the installation of i-RAM in your system. Read this guide and related precautions before installing i-RAM.

Table of Contents

1. Product Features

- Fastest System Boot-Up speed
  Fully SATA1.0a compliant; i-RAM can be used as a boot device.
- Fastest Solid State Disk
  Dedicated DDR design, Supports DDR 266/333/400 memory modules.
- Fastest Data Access
  Ideally design for applications that require massive storage data access, like Audio/Video Capture & Edit, 3D Graphics designs, File sharing, Database exchange, Server, Workstation and Web/Email servers etc.
- Data Protection
  After PC shutdown, the stored data can be protected by using PC standby power.
  When AC wall power is off or after unplug power cord; the stored data can be protected by using i-RAM backup battery(Note 1). This is good for user/engineer to do some needful actions (e.g. move i-RAM alone or with PC in the short distance/period and backup i-RAM data) before AC wall power resume or re-plug in power cord.
- No additional drivers required.
- Supports Backup and Restore software utilities.
- Noiseless solution compared to traditional hard drives.
- Vibration proof compared to traditional hard drives.

(Note 1): Actual battery life may vary based on usage and different memory modules.

2. Product Specifications

- Convenience to use for both PC and Server .
- SATA Interface
- SATA 1.0a Compliant
- Supports one SATA connector
- Up to 150MB/s data transfer rate
- Memory Interface
- Max amount of memory supported is 4GB
- Four 184-Pin/2.5V DDR DIMM sockets
- Supports DDR 266/333/400(Note 2)
- Supports DIMM up to 4.2mm thickness (including heat-sink)
- Backup Battery
- One 1,700mAh lithium battery

3. Product Requirements

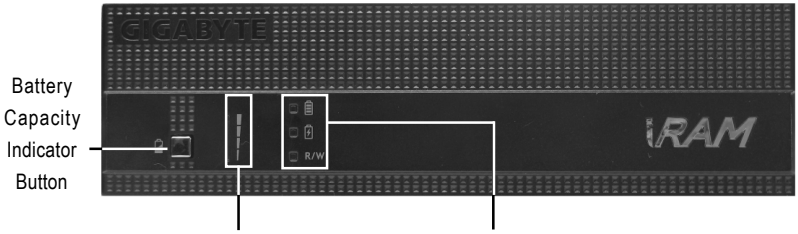
- One available SATA (1.5Gb/s) compliant connector
- Systems based on Intel ICH6 / ICH7 / ICH8 / C19 series, VIA 8237A / VIA8237R / VIA 8237R+ series, SiS 964, nVIDIA MCP51 / MCP55 / MCP61 / CK804 South Bridge.

(Note 2): Please refer to the recommended memory support list on Page 9.

If the i RAM box temperature is too high(over 50°C), then it could cause the battery to over heat prompting to battery bulging. This can also affect the battery to be unable to charge and discharge power normally.
The data in the i-RAM will be lost when the battery has no more power.

4. Product Introduction

Front Panel



Battery Capacity Indicator Button

LED Light	Capacity
4 section	100%
3 section	75%
2 section	50%
1 section	25%

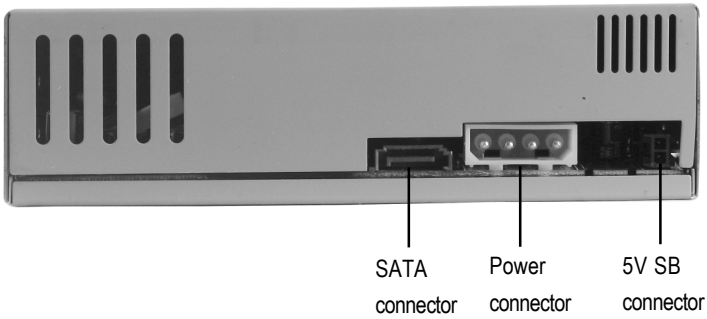
Battery Status Indicator Button

LED Light	Status	Message
Full	Green	Full
Charge	Red	Charge
R / W R/W	Yellow	Data Read/Write

NOTE

Even in power off mode, battery indicator button can still be used for the purpose of checking the power level. The battery can be charge only when the i-RAM is at the power off mode. Once it is fully charged, the red LED will shut off.

Rear Panel



5. Precautions

General Precautions:

- The memory size available will be less than the total size of the installed memory.
- When the system is set to RAID mode, the RAID controller might occupy some disk space as buffer. For example, when the ICH7R RAID controller is set to RAID 0 or RAID 1, the total hard drive capacity will be 512MB~1GB less than the actual capacity.
- For users who wish to install operating system in i-RAM, please prepare the minimum free hard disk space for the operating system.
- To protect data integrity and extend battery lifespan, it is not recommended that you unplug the AC power cord of the power supply.

Important Battery Information:

- Please do not remove the battery. If the battery appears to be damaged or does not function properly, please contact the place of purchase for further checking.
- i-RAM memory sockets are powered on after the battery is charged, please handle with care to prevent short circuit and damage.
- Do not dispose of the battery in fire. To avoid injuries or causing fire hazard, please do not disassemble or touch battery terminals with metal objects or your fingers.
- If the i RAM box temperature is too high, then it could cause the battery to over heat prompting to battery bulging. This can also affect the battery to be unable to charge and discharge power normally.

Data Loss Preventions:

To prevent data from being lost or damaged, read the following guidelines:

- Do not remove the installed memory module(s) from i-RAM.
- The data in the i-RAM will be lost when the battery has no more power.
- Each time before setting up the i-RAM, make sure to remove system power and the i-RAM battery to prevent damage.
- Please back up the data in i-RAM regularly using either GIGABYTE's backup tool (please download it from GIGABYTE's website at http://www.gigabyte.com.tw) or third-party backup utilities. Please note that data in i-RAM is not covered under the warranty.

6. Installation Directions

Each time before setting up the i-RAM, make sure to remove system power and the i-RAM battery to prevent damage.

Please read the following installation directions before using i-RAM:

Hardware Installation

8-1 : Open the cover

Please remove the four screws on the cover (Figure a), then pull up the cover (Figure b).

Figure a

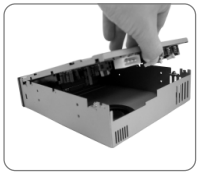


Figure b

8- 2: Install Memory Module(s)

Place i-RAM card on an anti-static pad.

The DIMM socket has a notch, so the memory module can only fit in one direction. Push the clips at both end of the DIMM socket outwards to the open position(Figure c). Insert the memory module into the DIMM socket. Then push it down until the retaining clips snap into place (Figure d). We recommend slotting memory modules from the top socket. Replace the i-RAM battery after inserting the memory module(s).

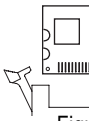
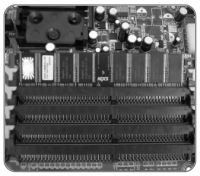


Figure c



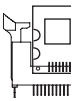
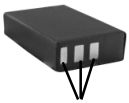


Figure d

8- 3: Install Battery

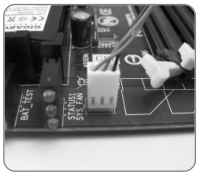
Please make sure that the battery is properly installed to the battery socket. The 3 gold pins of the battery should be at the same direction with the battery socket pins direction.



Anode

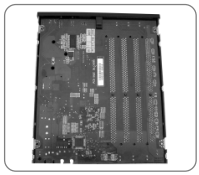
8- 4: Install FAN connector

Please double check the 3-pin connector to the CPU Fan connector on the motherboard.



8- 5: Close the cover

First place the cover over the i-RAM card and make sure the card and screw hole are align then fit in the base cover. Put in the screw once the base cover and its screw hole are well aligned.



8- 6: Install i-RAM BOX into the system

Put i-RAM box into the 5.25 inch cd-rom drive.

8- 7: Connect the power connector of the rear panel

8-7-1 Connect the cable of the 5V SB

Connect the cable of the 5V SB to the 5V SB connector of the rear panel . Connect another 24 pin power connector to the motherboard (Figure f).

Figure e

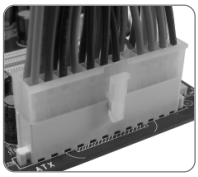
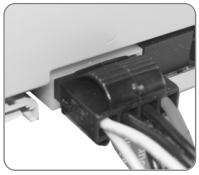


Figure f

8-7-2 Connect the 4 pin power connector to the rear panel.

5V SB connector



8- 8: Connect the SATA cable to the rear panel

Connect one end of the SATA connector of the rear panel (Figure g) then connect the other end to the motherboard SATA port.

Figure g

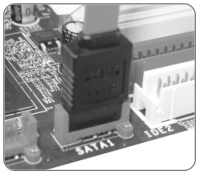


Figure h

SATA connector

8- 9 : Complete

Software Setup

1- 1: Configure System BIOS

At system startup, enter system BIOS when prompted. Read the motherboard or system documentation and assure that the motherboard SATA port connecting to i-RAM is enabled. Finally, make sure i-RAM has been detected as a normal hard drive by system BIOS.

1- 2: Format i-RAM

In order for i-RAM to be visible in your operating system, it must be formatted. You can format i-RAM using FDISK, Windows Disk Management or other third-party tools.

You are now ready to use i-RAM as a normal hard drive.

7. Appendix

Recommended Memory Support List

Please refer to the memory support list below:

DDR400 (256MB)

Module Supplier	Comp. Used	Module P/N.	Component P/N.
Samsung	Samsung	KOREA 0309 PC3200U-30331-A1 M381L3223ETM-CCC 256MB DDR PC3200 CL3 ECC	K4H560838E-TCCC (ECC)
Micron	Micron	MT16VDDT3264AG-40BB5 PC3200U-30330-B1 256MB DDR400 CL3	MT 46V16M8-5B
Buffalo	Buffalo	DD4333-S256/MC PC3200U-30330-A1 256MB 400Mhz-CL3	MT 46V32M8-5BC
HYNIX	HYNIX	HYMD2364A8J-D43AA	HY5DU56822AT-D43

DDR400 (512MB)

Module Supplier	Comp. Used	Module P/N.	Component P/N.
Transcend	Mosel	512M 184 DDR=HP 512M DDR400 DIMM 3-3-3 8144 Y0347	V58C2256804SAT5B
Elixir	Elixir	M2U51264DS8HC1G-5T 512MB DDR400 CL3PC3200U-30330	ELIXIR N2DS25680CT-5T
Geil	Geil	512M DDR400ULTRA(32M8)	MPEA3200C2UD2-512
ProMOS	Mosel	V826664K24SCIW-D3	0512PP V58C2256804SC15
Transcend	PSC	512M DDR400 DIMM 2.5-3-3	PSD A256D30BTP 513ASN14 TAIWAN AN-5
SIS	SIS	SLX164M8-T5B	DDR6408-5B 6627

NOTE For the latest memory support list information, please visit GIGABYTE's website at http://www.gigabyte.com.tw.

DDR400 (1GB)

Module Supplier	Comp. Used	Module P/N.	Component P/N.
Transcend	Micron	1G184PDDR=LR 1GDDR400 DIMM 3-3-3	MT 46V64M8-5B C
Kingston	Samsung	KVR400X64C3A/1G	K4H510838C-UCCC
Apacer	Samsung	77.11136.464	K4H510838B-TCCC
A-DATA	ADATA	MDOAD6G3141Y0B1E0H	ADD9608A8A-5C H0511
Buffalo	Buffalo	PC3200U-30330-B1	MT46V64MB-5B
elixir	elixir	M2U1G64DS8HB1G-5T	N2DS51280BT-5T
MDT	MDT	M924-400-16-P15480	MDT25D5128OS-5
NANYA	NANYA	NT1GD64S8HC0GY-5T	NT5DS64M8CS-5T 10300CPT
SAMSUNG	SAMSUNG	M368L2923CUN-CCC	K4H510838C-UCCC
TwinMOS	Hynix	M2SA016AJAHXAG0811A1	HY5DU12822AT-D43
SAMSUNG	SAMSUNG	M368L2923CUN-CB3	K4H510838C-UCB3
KINGSTON	HYNIX	KVR400X64C3A/1G	HY5DU12822CTP-D43

8. iRAM EasyBackup utility introduction

Installation guide :

Please click the folder "i-RAM backup utility" from provided driver CD (or download it from GIGABYTE's website at http://www.gigabyte.com.tw). Extract the file and it will creat two main backup utility folders, DOS and Windows version.

Windows version:

After Windows OS installation, please click the icon to install the iRAM EasyBackup.

DOS version:

Please run the file "iram".

iRAM EasyBackup main screen :

For Windows :

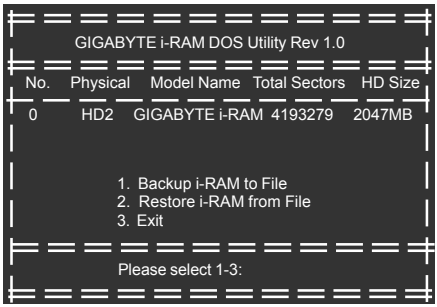
Backup i-RAM to File :

Backup i-RAM data to hard disk.

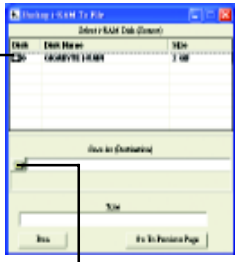
Restore File To i-RAM :

Restore the backup data from i-RAM.

For DOS :

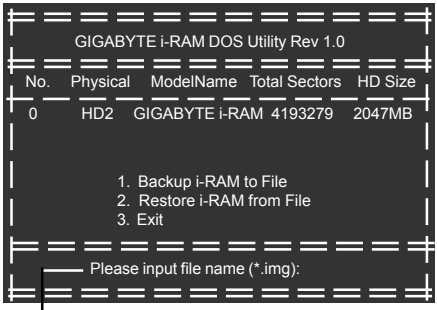


iRAM EasyBackup screen :



Save as (destination)

select i-RAM disk (source)



Please keyin disk drive and path, and file name must be¡ §*.img ¡."

i-RAM
(GO-RAMDISK-BOX-RH)

使用手冊

Rev. 100

* 產品上之 WEEE logo 意指本產品必須透過特定廢棄物回收管道回收，不得任意拋棄！
* 此 WEEE 相關法令規定僅於歐盟國家實施。

感謝您購買技嘉科技最新推出的 i-RAM 產品。本使用說明提供您 i-RAM 的產品特色及規格資訊，同時亦提供完整的安裝指引。請您在安裝 i-RAM 至您的系統前務必詳讀此份說明及相關注意事項。

繁體中文

目錄

一、產品特色

- **最快的系統開機速度**
  符合SATA 1.0a界面標準，與一般硬碟相同，i-RAM可做為作業系統的開機磁碟。
- **最快的資料存取速度**
  使用高速的DDR記憶體，支援DDR 266/333/400記憶體模組。
- **資料的讀寫速度最快**
  最適合應用於需要大量資料存取的程式。例如：影音編輯、3D/2D電腦繪圖軟體、網路伺服器、電子郵件伺服器、資料庫存取交換、伺服器與工作站等。
- **安全有效的資料保存**
  當電腦關機後，i-RAM的資料，可使用電腦上的備用電源(Standby Power)，長期保存。當市電中斷或拔掉電腦的電源插頭後，i-RAM的資料亦可經由i-RAM的充電電池，繼續供電一段時間，以保存資料(註1)，方便使用者或工程師在等待供電恢復之前，進行必要的資料移植備份措施，也有利於i-RAM與電腦在短時間與短程的搬遷過程中，不需擔心i-RAM的資料會遺失。
- **符合SATA 1.0a界面標準**
  在使用任何有支援SATA 1.0a標準的作業系統時，不需要另外安裝驅動程式。
- **備份工具相容**
  支援一般磁碟機資料備份/回存軟體。
- **無噪音**
  沒有一般磁碟機運轉時所發出的噪音。
- **防震動**
  採用電子式的資料存取，可在劇烈搖晃的環境中正常運作。

註1：
使用電池電力保存資料的時間，隨著所使用的記憶體模組數量及容量而有所不同。

二、產品規格

- **適合個人電腦和伺服器的安裝使用**
- **SATA 界面：**
  符合SATA 1.0a 界面標準
  使用 SATA連接插頭
  資料傳輸率為每秒 150MB
- **記憶體界面：**
  支援最大記憶容量為 4GB
  四個 184-Pin/2.5V DDR 記憶體模組插槽
  支援 DDR 266/333/400 記憶體模組(註2)
  支援總厚度達 4.2mm 的記憶體模組(包含散熱片)
- **備份電池：**
  1,700mAh鋰電池

三、系統需求

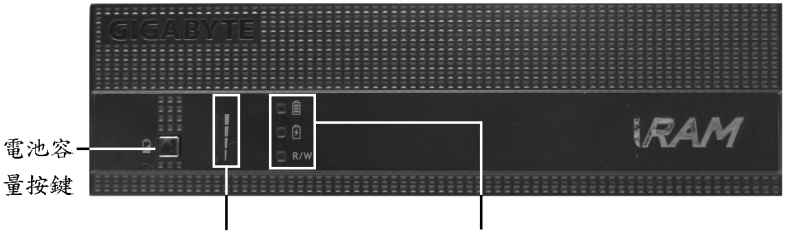
- 支援 SATA (1.5Gb/s)規格的 SATA 插座
- 採用 Intel ICH6 / ICH7/ ICH8/ C19 系列、 VIA 8237A/ VIA 8237R/ VIA 8237R+ 系列、 SiS 964 、 nVIDIA MCP51/ MCP55 / MCP61 / CK804 南橋晶片主機板

註2：
請參考第 9 頁的記憶體支援表。

CAUTION
若 i-RAM 盒內溫度過高(大於 50°C)，導致電池過熱膨脹，會影響電池無法正常充放電功能。
i-RAM 在沒有電力維持下，會造成 i-RAM 資料遺失。

四、產品介紹

前面板



電量容量指示燈說明：

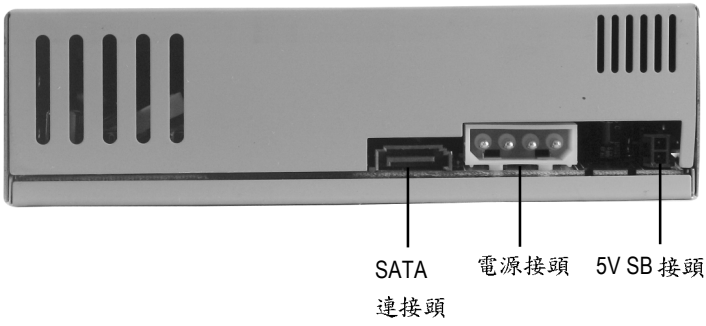
LED 指示燈	容 量
4 格	100%
3 格	75%
2 格	50%
1 格	25%

電池狀態指示燈說明：

LED 指示燈	狀 態	訊 息
Full	綠燈	電池為充飽狀態
Charge	紅燈	電池充電中
R/W R/W	黃燈	資料讀寫中

NOTE 在關機狀態時，也可使用電池容量按鍵，以辨視目前之電池容量。
只有在關機狀態下，才可進行充電，待電池充飽後，面板紅燈即熄滅。

後面板



繁體中文

五、注意事項

一般注意事項：

- 偵測到的記憶體容量會略小於實際安裝的記憶體總容量。
- 當系統被設定為磁碟陣列時，磁碟陣列控制器可能會挪用部份硬碟空間做為 buffer 。例如在 ICH7R 主機板使用 RAID 0 或 RAID 1 時，總容量會短少 512MB~ 1GB 為正常狀況，不影響其它功能。
- 若需在 i-RAM 安裝作業系統時，請留意安裝該作業系統所需要的最低硬碟容量。
- 建議您不要完全拔掉電源供應器之市電插頭，以維持 i-RAM 上資料的完整性並延長電池壽命。

電池注意事項：

- 電池充電後 i-RAM 即為通電狀態，因此移動或放置時請小心造成短路，避免損害。
- 請勿將電池置於火源中，為防止受傷或起火，嚴禁拆卸本電池或以金屬物碰觸到電池電極端。
- 請勿自行將電池拔除，若發現電池有異狀時，請聯絡技嘉科技快服中心做進一步檢測。
- 若 i-RAM 盒內溫度過高，導致電池過熱膨脹，會影響電池無法正常充放電功能。

資料安全守則：

為避免儲存於 i-RAM 上的資料毀損或遺失，請特別注意以下幾點:

- 請勿將安裝於 i-RAM 上的記憶體拔除。
- 在每次拆裝記憶體前，請先將資料備份，確定完全移除系統電源時，再取下電池。
- i-RAM 在沒有電力維持下，會造成 i-RAM 資料遺失。
- 建議定期將 i-RAM 內的資料做備份，可使用技嘉科技所提供(請至技嘉科技網站 http://www.gigabyte.com.tw 下載)或市面流通的硬碟資料備份軟體。技嘉科技提供的保固服務不包含儲存於 i-RAM 內的資料。

六、安裝步驟

在每次安裝或移除記憶體前，請務必先將資料備份，確定完全移除系統電源時，再取下電池。才可安裝或移除記憶體，再將電池裝回。

開始使用 i-RAM 之前，請先執行下列步驟：

硬體安裝

8-1：開啟上蓋

先移除上蓋的 4 顆螺絲(如圖 a)，再將蓋子向上拉起(如圖 b)。

圖 a

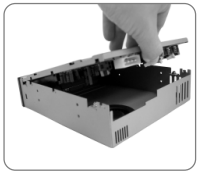


圖 b

8-2：安裝記憶體

將 i-RAM 平放於防靜電墊上。記憶體模組有一個凹痕，所以只能以一個方向插入。請扳開記憶體插槽卡榫(如圖 c)，以雙手按在記憶體模組上邊兩側，將記憶體模組下壓推入插槽。一旦確實壓入插槽，兩旁的卡榫便會自動向內卡住記憶體模組予以固定(如圖 d)。建議由最上面的記憶體插槽開始安裝。

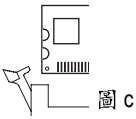
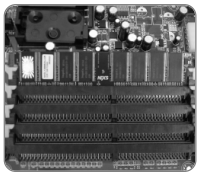


圖 c



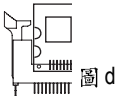
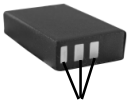


圖 d

8-3：安裝電池

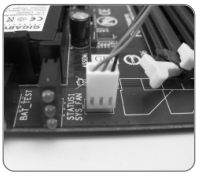
請將電池的三個金屬點，對準電池座上的金屬排針。



金屬點

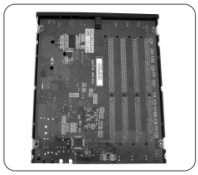
8-4：安裝風扇連接頭

請確認風扇連接頭確定接在板子上的風扇插座上。



8-5：關閉上蓋

先蓋上板子，並確定板子及螺絲孔位都已對齊。再蓋上底板，請再次確定底板及螺絲孔位都要已對齊，固定螺絲即可。



繁體中文

8-6：將 i-RAM BOX 裝入系統內

將 i-RAM BOX 裝入 5.25 吋的光碟機槽。

8-7：連接後背板之電源接頭

8-7-1 連接 5V Stand By 連接線。
將 5V Stand By 連接線接頭端接到 i-RAM 背板上的 5V SB 接頭(如圖 e)。
再將之另一端 24-pin 電源接頭，接到主機板上的電源插座(如圖 f)。

圖 e

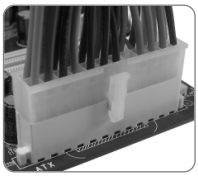
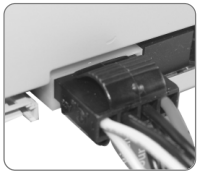


圖 f

5V SB 連接線接頭

8-7-2 連接電源供應器之 4-pin 電源接頭。



8-8：連接後背板之 SATA 傳輸線

將 SATA 資料傳輸線的一端連接至 i-RAM 背板上的 SATA 插座(如圖 g)，再將另一端插入主機板上的 SATA 插座(如圖 h)。

圖 g

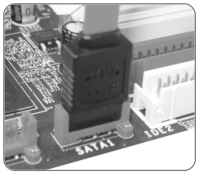


圖 h

SATA 連接線接頭

8-9：安裝完成

軟體設定

1-1：設定系統 BIOS

開機後依螢幕指示進入系統 BIOS 設定程式。參考主機板 / 系統使用手冊，確認連接 i-RAM 的 SATA 插座為啟動狀態。最後再度確認 i-RAM 是否已被系統 BIOS 正確辨識為一般硬碟。

1-2：格式化 i-RAM

為使作業系統正確辨識 i-RAM ，您需先將 i-RAM 進行格式化。您可以使用 FDISK 、 Windows 磁碟管理工具或其它工具來格式化 i-RAM 。

將 i-RAM 格式化之後，您即可將 i-RAM 當做一般硬碟使用。

七、記憶體支援列表

建議參考以下記憶體表格:

DDR400 (256MB)

Module Supplier	Comp. Used	Module P/N.	Component P/N.
Samsung	Samsung	KOREA 0309 PC3200U-30331-A1 M381L3223ETM-CCC 256MB DDR PC3200 CL3 ECC	K4H560838E-TCCC (ECC)
Micron	Micron	MT16VDDT3264AG-40BB5 PC3200U-30330-B1 256MB DDR400 CL3	MT 46V16M8-5B
Buffalo	Buffalo	DD4333-S256/MC PC3200U-30330-A1 256MB 400Mhz-CL3	MT 46V32M8-5BC
HYNIX	HYNIX	HYMD2364A8J-D43AA	HY5DU56822AT-D43

DDR400 (512MB)

Module Supplier	Comp. Used	Module P/N.	Component P/N.
Transcend	Mosel	512M 184 DDR=HP 512M DDR400 DIMM 3-3-3 8144 Y0347	V58C2256804SAT5B
Elixir	Elixir	M2U51264DS8HC1G-5T 512MB DDR400 CL3PC3200U-30330	ELIXIR N2DS25680CT-5T
Geil	Geil	512M DDR400ULTRA(32M8)	MPEA3200C2UD2-512
ProMOS	Mosel	V826664K24SCIW-D3	0512PP V58C2256804SC15
Transcend	PSC	512M DDR400 DIMM 2.5-3-3	PSD A256D30BTP 513ASN14 TAIWAN AN-5
SIS	SIS	SLX164M8-T5B	DDR6408-5B 6627

NOTE 若要查詢最新記憶體支援相關資訊，請至技嘉科技網站 (http://www.gigabyte.com.tw) 查詢。

DDR400 (1GB)

Module Supplier	Comp. Used	Module P/N.	Component P/N.
Transcend	Micron	1G184PDDR=LR 1GDDR400 DIMM 3-3-3	MT 46V64M8-5B C
Kingston	Samsung	KVR400X64C3A/1G	K4H510838C-UCCC
Apacer	Samsung	77.11136.464	K4H510838B-TCCC
A-DATA	ADATA	MDOAD6G3141Y0B1E0H	ADD9608A8A-5C H0511
Buffalo	Buffalo	PC3200U-30330-B1	MT46V64MB-5B
elixir	elixir	M2U1G64DS8HB1G-5T	N2DS51280BT-5T
MDT	MDT	M924-400-16-P15480	MDT25D5128OS-5
NANYA	NANYA	NT1GD64S8HC0GY-5T	NT5DS64M8CS-5T 10300CPT
SAMSUNG	SAMSUNG	M368L2923CUN-CCC	K4H510838C-UCCC
TwinMOS	Hynix	M2SA016AJAHXAG0811A1	HY5DU12822AT-D43
SAMSUNG	SAMSUNG	M368L2923CUN-CB3	K4H510838C-UCB3
KINGSTON	HYNIX	KVR400X64C3A/1G	HY5DU12822CTP-D43

NOTE 若要查詢最新記憶體支援相關資訊，請至技嘉科技網站 (http://www.gigabyte.com.tw) 查詢。

八、 i-RAM 備份軟體介紹

安裝說明：

請從隨貨附贈的光碟中，點選目錄”i-RAM backup utility”，解壓縮後會產生 DOS 及 Windows 兩個目錄，以下分別介紹 DOS 及 Windows 版本的使用說明。

Wondows 版本：

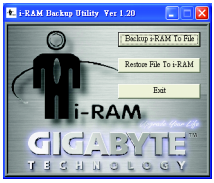
安裝完成後，請執行桌面上 iRAM EasyBackup 的選項。

DOS 版本：

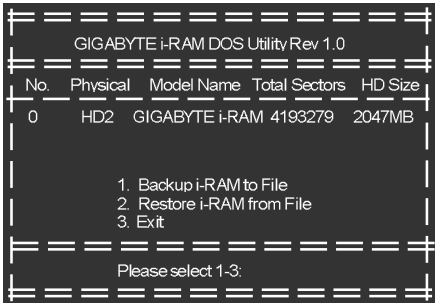
請執行目錄內檔案 iram。

iRAM EasyBackup 主畫面：

For Windows :



For DOS :



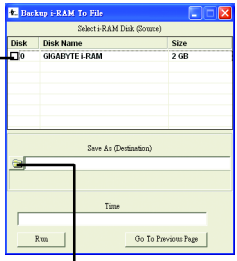
Backup i-RAM to File：

將 iRAM 內的資料檔案備份至硬碟中。

Restore File To i-RAM：

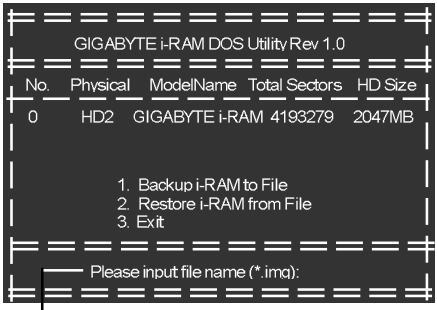
將硬碟中之來源資料，還原至 i-RAM 中。

iRAM EasyBackup 備份畫面：



選擇 i-RAM 磁碟機

選擇儲存檔案之所在位置



請輸入磁碟機代碼及路徑，副檔名務必為 “*.img” 。

繁體中文

繁體中文