# GT 062E™ Manual

## Tabletop FireWire 800, USB 2.0 and eSATA enclosure with RAID 1, RAID 0 and Spanning modes

610030-1.03 GT 062E Manual.pdf
Dec 1, 2009

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## Contacting Glyph

Please use the following contact information to contact Glyph and its distributors.
Glyph USA offers phone support Monday through Friday, 9:00 am to 6:00 PM Eastern Time.

Note: DO NOT ship any return goods to the mailing addresses below unless you have a valid RMA number. All goods will be refused delivery unless a valid RMA number is displayed on the outside of the package.

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## Unpacking Your GT 062E

Your Glyph GT 062E and accessories are packaged in a sturdy shipping container. Please inspect the container for evidence of shipping damage and mishandling. If the container is damaged, file a report with the carrier or dealer immediately. Do not attempt to unpack and operate your GT 062E until the carrier or dealer confirms the damage. If the container is in good condition, proceed with unpacking the GT 062E. Verify that all of the items described in the next section are present and in good condition. If any of the items you expect to find in your container is missing or damaged, contact the dealer before proceeding any further.

In any case, do keep the shipping container and all packing materials in a safe place.

### The GT 062E package includes:

GT 062E Enclosure
Glyph Manager software installer CD
9-Pin FireWire 800 Cable
USB 2.0 Cable (A to Mini-B)
Hard-shell plastic carrying case
IEC Power Cable

# About the GT 062E and Drive Modes

The GT 062E enclosure contains two hard disk drives, which function as one single volume. Through the use of the Glyph Manager software utility, it supports three drive modes: RAID 1 (mirroring), RAID 0 (striping), and Spanning. Each drive mode has its own advantages, depending upon the application.

**RAID 1 (mirroring)** offers data redundancy and real-time backup by writing the same data to the two hard drives at the same time. Should a drive failure happen, data is still available on the remaining drive. In RAID 1 mode, the two drives are seen by the computer as one volume, but with half the capacity. For example, a 1TB GT 062E will be seen as a 500GB drive. Reading and writing occurs on both drives simultaneously so that each of the drives contains exactly the same data, mirroring each other. If either of the drives should fail the other is there to seamlessly continue to provide operation.

**RAID 0 (striping)** increases the performance of the drive system by spreading the data across two drives. RAID 0 is a proven technology for editing video, working with huge graphics files, sound libraries, and streaming instruments that play hundreds of samples simultaneously. RAID 0 is the default shipping drive mode. In RAID 0 (striping) mode, the two drives are seen by the computer as one large drive, and reading and writing occurs on both drives simultaneously. It is designed to increase the performance and data throughput of the drive system. The GT 062E's built-in RAID controller splits each piece of data across both of the drives in segments and distributes the I/O burden. Since data is written without any form of parity data-checking, it allows for the fastest data transfer of all other RAID levels. However, if one drive becomes damaged, the data on both drives can become corrupted. RAID 0 is not redundant or fault tolerant like RAID levels 1, 3, and 5, but the trade off is that it's the fastest of all RAID levels. MAKE SURE TO BACKUP YOUR DATA OFTEN!

In **Spanning mode**, the two drives are seen as one large drive and data is written sequentially across them. When the first drive fills to the limit, data is then written to the second drive. This mode is useful for applications requiring large volumes, but not requiring the speed of RAID 0. Spanning does not provide any performance or redundancy benefits.

# Using the GT 062E with Pro Tools® Software

The 3TB and 4TB GT 062E models only support Pro Tools® when they are configured in RAID 1 mode. This is because RAID 1 shows to the operating system as half the total capacity (1.5TB for the 3TB, and 2TB for the 4TB). Currently, Pro Tools is limited to volumes that are 2TB or less in size. If you attempt to record or playback from any locactions on the disk above 2TB, Pro Tools will give errors. If you set your GT 062E to Spanning or RAID 0 mode, it will work until it is filled to 2TB, then it will give errors. This is currently an open issue that we expect will be resolved in future releases of Pro Tools.

# Using the GT 062E with Windows 2000 / XP

Older versions of Windows, such as 2000 and XP 32-bit, use Master Boot Record which doesn't support volumes larger than 2TB. When the total capacity of the RAID is 2TB or higher, you must format the array using GPT in Windows. GPT format is only supported by Windows XP 64-bit Edition, Windows 2003 Server, Windows Vista, Windows 7, and Mac OS X. GPT format will not work with XP 32-bit or older Windows operating systems. If you want to use Windows 2000 and/or XP 32-bit, you'll need to run the GT 062E in RAID 1 mode because RAID 1 creates a usable volume that is half the total capacity (1.5TB for the 3TB, and 2TB for the 4TB).

# GT 062E Ports

The fastest interface on the GT 062E is eSATA and there is one eSATA port on the rear panel. In RAID 0 mode, the GT 062E can sustain over 200MB/sec (read speed) when connected via eSATA to a fast eSATA card such as the Glyph/Highpoint 2642. FireWire 800 is the next fastest and there are two FW800 ports on the rear panel. Officially, these IEEE 1394b ports run at up to 800Mbits/sec. If using FW800, one of these ports should be connected to your computer, and the other should be connected to other downstream FireWire devices. It doesn't matter which port you connect to the computer, they are functionally identical. If your computer has a FireWire 400 port only, you can use a FW400 to FW800 adapter cable, which is available from Glyph. If your computer doesn't have any FireWire ports you can either purchase an eSATA or FireWire adapter card (recommended), or use the USB 2.0 port on the back of the GT 062E.

# Front panel LED

The GT 062E front panel has a single bi-color LED. The LED will display solid blue when power is on. The LED will flash blue when there is disk activity. The LED will flash or display a solid red color when error conditions exits with the drives inside the array. Those error conditions are discussed in greater detail below.

# Setting up the GT 062E

***NOTE:*** *It is advisable that the Glyph Manager software be installed prior to following the instructions below.*

1. Position the GT 062E by placing the unit on a flat, level surface, or install the unit into a rack with one of Glyph's rack kits. Caution: Speakers are magnetic devices; they can harm your data if they're too close to your hard drives or tapes.

2. Connect the power cable. Make sure that the power is off on all of your computer equipment and the GT 062E. Connect the power cable to the back of the GT 062E. Plug the three-prong plug into an appropriate power receptacle, preferably with surge and spike protection.

3. Connect the FireWire 800, USB, or eSATA cable. Plug one end of the cable into your computer's port, and the other into the back of the GT 062E. Both FireWire 800 ports are functionally identical, so it doesn't matter which one you use.

4. Power up the GT 062E and power up your computer.

5. If you're using Mac OS X, the icon should mount on your desktop. If you're using Windows, please follow the formatting instructions for Windows later in this manual.

# Understanding Glyph Manager Software

***NOTE:*** *For information on installing Glyph Manager, see installation instructions later in this manual*

The Glyph GT 062E ships with Glyph Manager 4 software, a utility for Mac OS X and Windows. When a GT 062E is connected to the computer either by USB, eSATA, or FireWire 800, information about the drives contained within the GT 062E will be displayed. Glyph Manager essentially does two things:

1. Configures the GT 062E in one of the three drive modes: RAID 1, RAID 0, and Spanning

2. Constantly monitors the health of the drives and fan, and displays the health status. When a problem is detected, Glyph Manager alerts the user by animating in the Mac OS X dock or displaying an error balloon from the Windows System Tray. Data can then be backed up before any is lost due to drive failure.

***NOTE:*** *The new version of Glyph Manager (version 4) requires special configurations to communicate with the GT 062E over eSATA. Below are the three conditions in which Glyph Manager will function over eSATA:*
*1. On Mac Pro Desktop machines running OS X when connected to the Glyph Highpoint 2642 PCIe Card*
*2. On Mac laptops running OS X when connected to the FirmTek SeriTek/2SM2-E ExpressCard Adapter*
*3. On Windows XP, Vista, and Windows 7 machines with motherboards that include onboard eSATA*

**The Glyph Manager screen display:**

When installed in the MAC OS X, the left hand pane of the Glyph Manager screen displays general information regarding all Glyph enclosures that can be monitored (GT 062, GT 062E). Each will be displayed with a status state, Model and Serial number. The status of all the enclosure states will be displayed in the System Status box below. The right hand pane will display information specific to whichever of the enclosure units is highlighted.

In both Windows and Mac OS X, Glyph Manager monitors several functional parameters of your Glyph GT 062E drive arrays including Serial number, Volume name, connection type, configuration, selected configuration, fan speed, enclosure and individual drive temperatures, array and drive health. Additionally, in Windows, Glyph Manager monitors the Quick Removal Policy. For how to change this policy, please see the article "Windows Write Performance" on the Glyph web site (http://www.glyphtech.com/docs/630012_WinXP_Vista_write_performance.pdf).

***NOTE:*** *Glyph Manager does not, however, format your GT 062E. After configuring your GT 062E in one of the three drive modes, you must take further steps to format your GT 062E and prepare it for use. These steps are explained in the next sections.*

**Array Information:**

Displayed are the Serial number of the selected enclosure, the volume name (once the drive has been partitioned) and the connection type.

**Configuration and Selected Configuration:**

Normally the Configuration and Selected Configuration should match. "Configuration" is the current disk array configuration, as it was last set. "Selected configuration" is the new configuration that it's being changed to, which is set using the Change Configuration utility. These would be mismatched if you are in the process of changing from one drive mode to another, such as changing from RAID 0 to RAID 1. If these are mismatched, you can set them to match in one of 2 ways:

1. Answer yes to initialize the disk question when Glyph Manager first detects the newly selected array. This changes to the "Selected configuration".

2. Use Glyph Manager to change "Selected configuration" to match "Configuration". This keeps the current configuration.

**Fan Speed:**

The Glyph Manager software controls the enclosure's internal fan rpm, and it is normal for it to vary. It is possible at times for the software to turn the fan off, so a speed of 0 is also a normal condition. The fan speed display is used in helping to diagnose problems relating to excessive temperatures.

**Temperature:**

Individual drive temperatures are monitored, as well as the temperature of the "bridge" (the internal circuits). Drive temperatures over 60 C is detrimental to continued proper operation of the drives.

**Status:**

Indicates array functionality. A properly functioning array condition is "Fully operational". Other states are: "Initialized", "Degraded operation" and "Halted". "Degraded operation" means that a drive has failed. Due to the redundant nature of a RAID 1 array no data has been lost and operation can continue. However, the failure of another drive will result in data loss. The failed drive should be replaced as soon as possible. "Halted" means that the RAID array cannot continue operation due to drive failure and that data has been lost. A drive failure is catastrophic when the array is configured as either Spanning or RAID 0. A loss of a single drive will result in the loss of all data.

**LED behavior relating to Glyph Manager:**

Any error that results in the system state "Halted" generates a solid red LED on the front panel of the drive. All other errors - including RAID state mismatch - result in the blinking red LED. All errors will animate the Glyph ball in the dock under OS X or generate an error balloon under Windows.

**Init status:**

In normal operation the status should be "Success". Possible error conditions are "Disk too small", "Incorrect disk count", "Invalid RAID set", "Multiple RAID sets", "Disk erase fail" and "Unknown init error". Any of these messages indicate a problem with the RAID array.

## *Individual drive information:*

**Port Status:**

Indicates the condition of the drive within the array
"Active" means the disk is in use in the array
"Hot standby" means that a RAID mode has been selected that includes a standby drive that will be automatically added to the array to replace a failed drive.
"Spare" and "Unused" mean that a RAID mode has been selected that does not require the drive.
"Rebuilding" indicates that the drive is in use in the array but that the data is being rebuilt. Under normal operation this will not occur. Occasionally after an improper shutdown - for example if the unit was powered down while data was being written to the disk - you may see a rebuild. If you see repeated rebuilds, please contact Glyph support.
"Failed" means that the drive has been removed from the array due to failure.
"Missing" means that no drive is detected, likely due to disk failure.

**Drive errors and rebuild status:**

Persistent and recoverable errors: Recoverable errors are write errors that required a retry to complete. Persistent errors indicate a disk area that cannot be read from or written to. These should normally be zero. Non-zero numbers indicate a drive that is starting to fail.

**Drive smart status:**

For "Active" drives "smart status" should normally be "Disk OK". "Disk failing - DANGER!" and "SMART not enabled" indicate a drive problem which requires the drive be replaced.

# Glyph Manager Operation In Mac OS X

The GT 062E ships in RAID 0 mode, and drive mode changes are done by using the Glyph Manager software utility (not the OS X Disk Utility). Disk Utility is used to format the new device after drive mode changes are made.

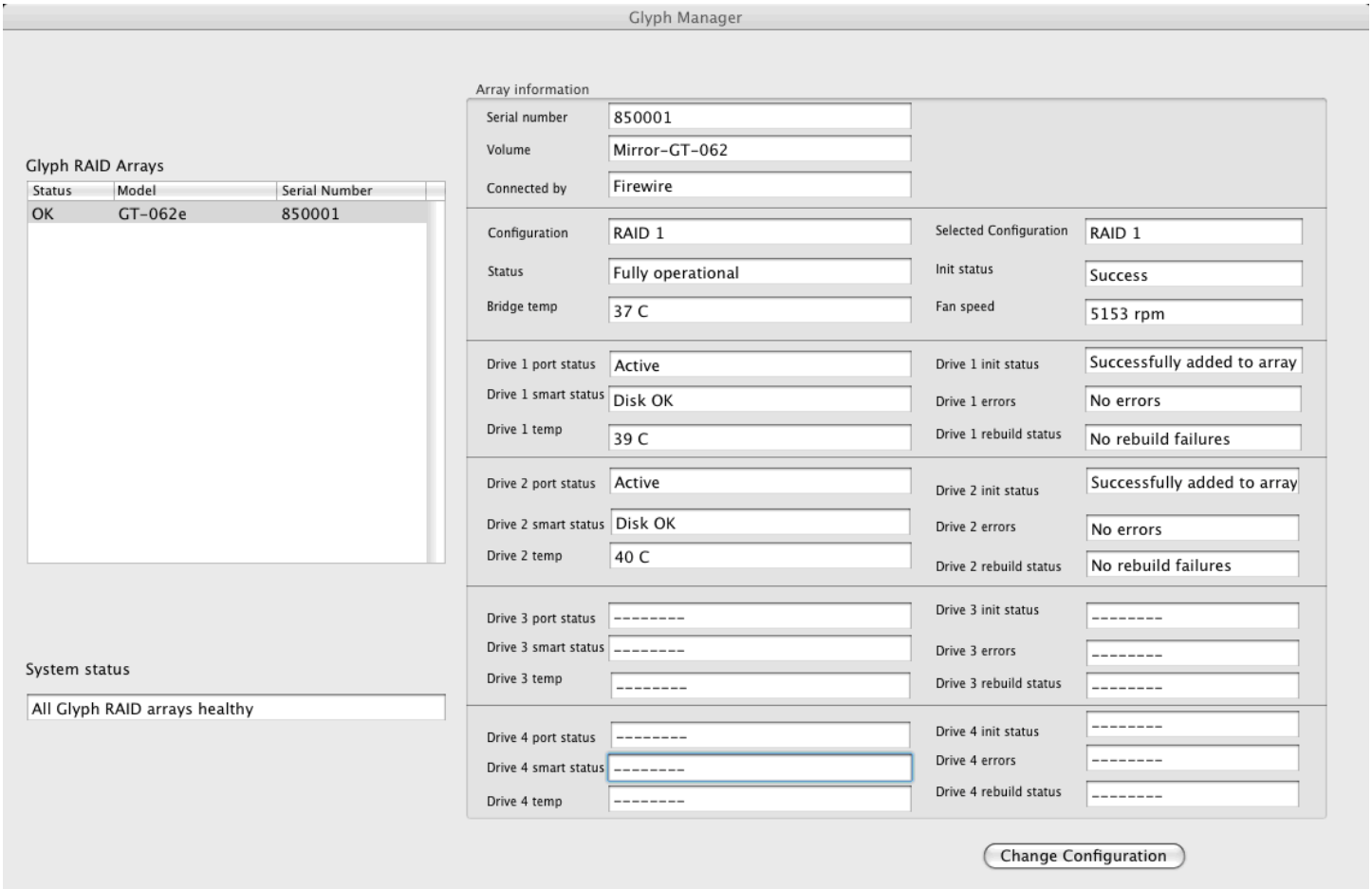
***READ THIS FIRST!*** *Changing drive modes with Glyph Manager will require you to re-format the GT 062E, and result in erasing all of the current data on the drive. Make sure you backup all data before doing so!*

To change the drive mode, follow these steps:

1. Install Glyph Manager software.

2. Connect the GT 062E via FireWire or USB, and open Glyph Manager software. If you have more than one GT 062E connected, choose the desired unit from the list on the left. You can identify the units by their volume names, or by their PCBA serial numbers, which are located on a sticker on the bottom of each unit. The serial number in Glyph Manager should match the PCBA serial number on the sticker.

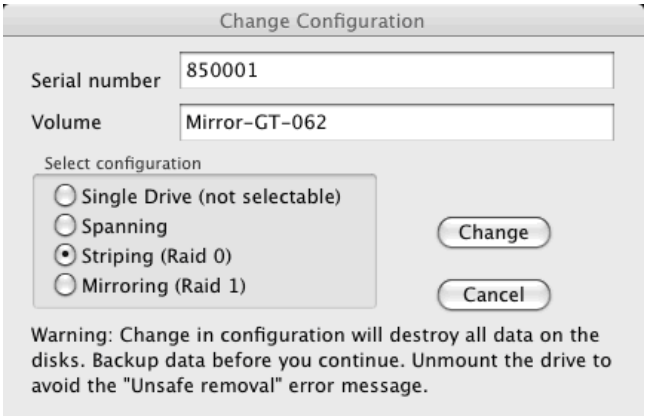
***NOTE:*** *To change drive modes, the GT 062E must be connected via FireWire or USB. Glyph Manager will monitor an eSATA connected GT 062E, but will not allow you to change drive modes.*



3. Un-mount the volume(s) associated with the unit you are configuring by dragging them to the trash in the Finder. ***This is very important to ensure successful drive mode change because it forces Mac OS to "forget" the current configuration.***

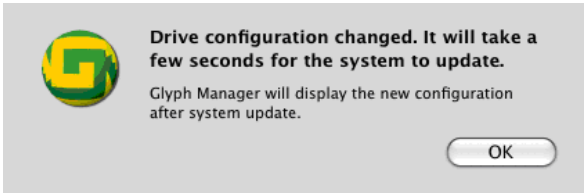
4. Click the **Change Configuration** button.

5. Select the desired configuration on the following screen and click the **Change** button. Note that the top selection (single drive) is not selectable at this time.

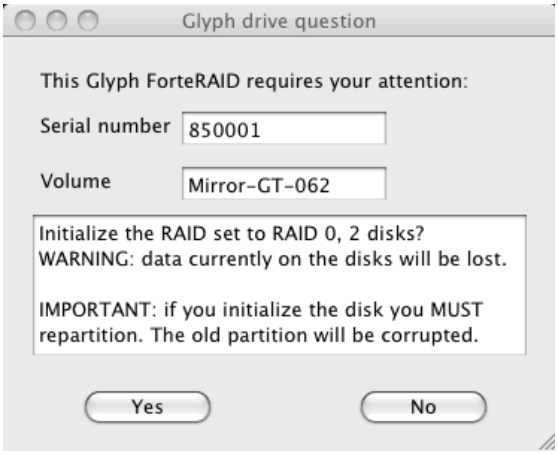



6. The next window requires that you verify the change request. Click **OK** to change the drive configuration. NOTE: ALL DATA ON THE DRIVES WILL BE DESTROYED.

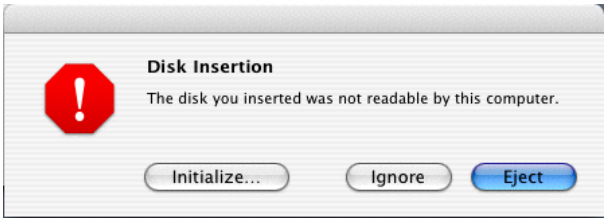
7. The next window reports that the drive configuration has changed. After a few seconds the system will update, and Glyph Manager will display the new drive configuration. Click **OK** in this window.




7. The next window prompts you to finalize the new configuration. Click **YES** to accept the configuration change.




8. At this point you ***may*** see the Mac OS Disk Insertion window. Now that the drive configuration has changed, Mac OS has re-discovered the GT 062E and prompts you to format the newly configured device. If you see the window below, click **Eject.** If you do not see this message, simply go to step 9.



9. Power off the GT 062E, unplug the FireWire or eSATA cable, plug the cable back in, then power it back on again. ***This is important to force Mac OS to "forget" any current drive information.***

10. If you get the Disk Insertion dialog box, this time click **Initialize** which will open Disk Utility. If not, open Disk Utility from your System Volume > Applications Folder > Utilities Folder, and format the new volumes. Mac OS X formatting instructions can be found later in this manual.

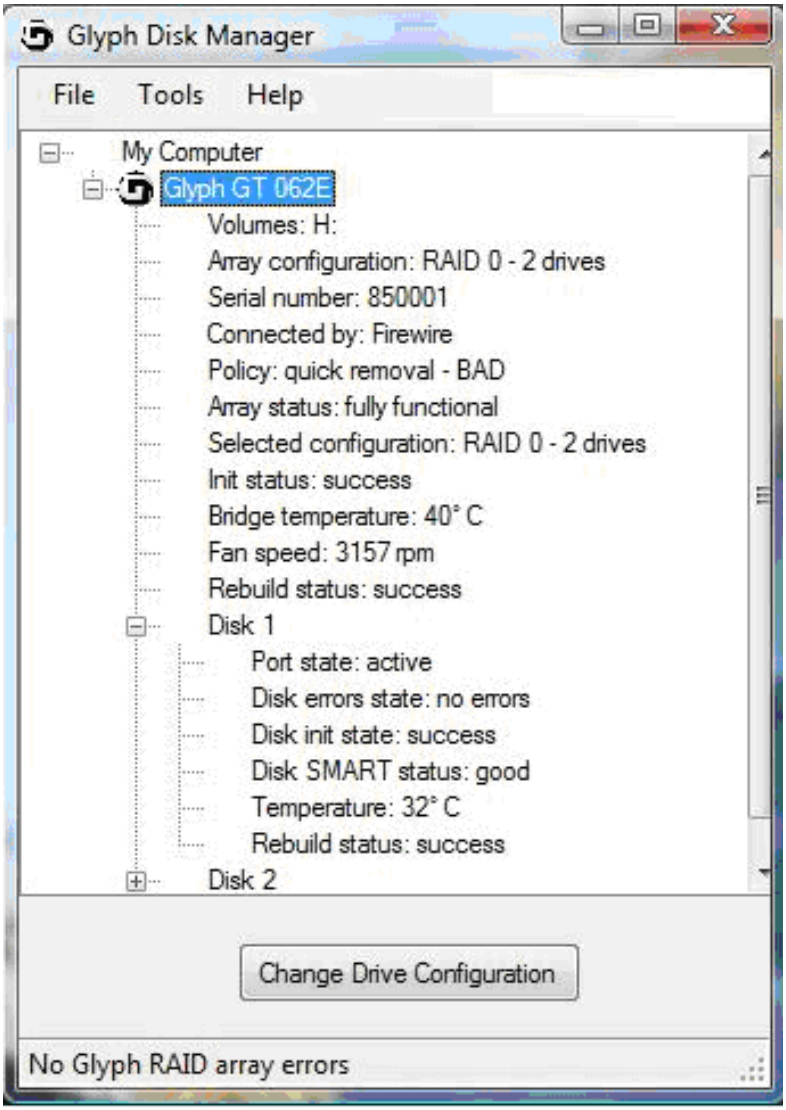
# Glyph Manager Operation in Windows XP, Vista, and Windows 7

Glyph Manager will start automatically and will display a Glyph icon in the lower right corner of the system tray. Right clicking on this icon and then selecting Show will invoke Glyph Manager to the screen.

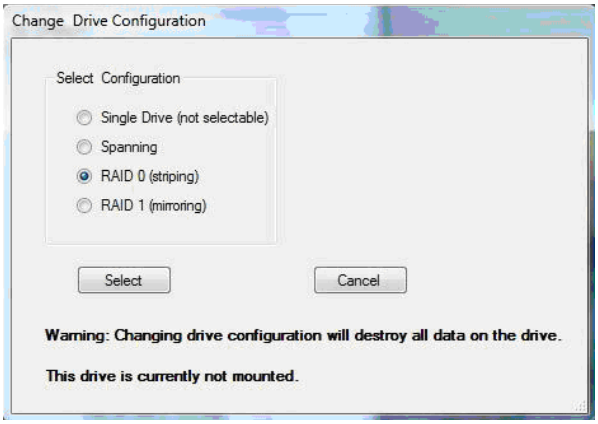
***NOTE:*** With Vista, Windows Defender will block the automatic launch of Glyph Manager. Right click on the Windows Defender icon in the system tray to unblock Glyph Manager. With Windows 7, it is necessary to launch Glyph Manager manually using Start/All Programs/ Glyph Manager.

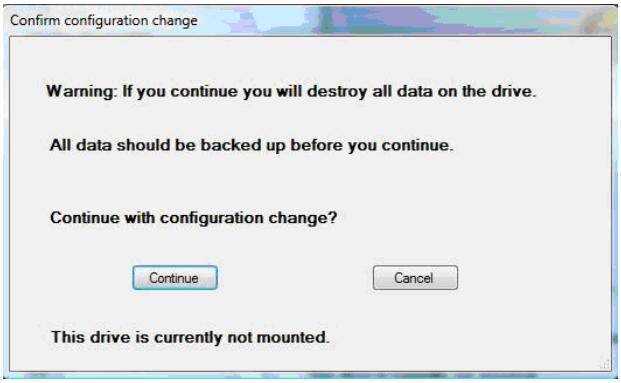
When a GT 062E is connected to the computer either by USB, eSATA or FireWire 800, information about the drives within the 062E will be displayed.

To change the mode of the drives, click the Change Drive Configuration button and select the desired configuration on the following screen.

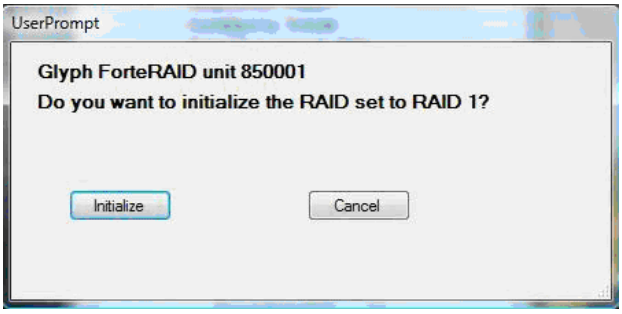


Select the desired configuration on the following screen and click the **Select** button. Note that the top selection (single drive) is not selectable at this time.




Confirm the changed configuration by clicking **Continue** on the following screen.




Finally, click Initialize to initialize the drive array with the new configuration.

Note: After changing drive mode, it is necessary to utilize the Windows Control Panel/Administrative Tools/ Computer Management/Disk Management to format the drives in their new configuration before they will be usable.

The Glyph Manager menu options are as follows:

"File" contains the method to close the program.

"Tools" contains Options with four settings involving the starting and stopping of Glyph Manager.

"Help" contains About Glyph Manager information as well as help files.

Glyph Manager also tells you the Windows policy settings for your GT 062E. If the line reads "quick removal – BAD", then you may experience slow write speeds to the Glyph drive. This setting only applies when using FireWire 800. The default Windows settings for FireWire-connected drives can reduce your Glyph drive performance by as much as 90%. This problem is easily corrected, just follow the instructions in the Glyph document **630012_WinXP_Vista_write_performance.pdf.** This document is available on the support pages of our website and also on the Glyph Manager CD.

Known Restrictions in Glyph Manager 4: Windows Vista requires Service Pack 1.

# Glyph Manager Installation

**Glyph Manager Installation in Mac OS X:**

Insert the Glyph Manager CD, or to get the latest version of Glyph Manager, go to the support section of www.glyphtech.com and download the version for your operating system. The Mac version of Glyph Manager 4 supports Mac OS 10.4 and above. It is a Universal Binary (supports both Intel and PowerPC Macs). You can find your operating system version by going to the Apple Menu and clicking on "About This Mac".

Glyph Manager can run in the background automatically under OS X by using System Preferences/System Accounts/Login Items/Add (+) then selecting Glyph Manager from the Applications folder. Check the "Hide" box to load the Glyph Manager on the Dashboard at login. The above actions are specific to the Account name selected. It is necessary to perform these same steps for each Account name desired to have Glyph Manager automatically load at login.

***Note**: We recommend that you set Glyph Manager to run in the background because it will alert you to any problems with your GT 062E, and allow you to backup your data before any is lost.*

**Glyph Manager Installation in Windows XP and Vista:**

Insert the Glyph Manager CD, or to get the latest version of Glyph Manager, go to the support section of www.glyphtech.com and download the version for your operating system. The Windows version of Glyph Manager 4 supports Windows XP and above. Windows Vista must be patched with Service Pack 1 to allow installation of Glyph Manager. If your installation of Vista is configured for automatic updates, Service Pack 1 is automatically downloaded. If it is not, you must download Service Pack 1 from Microsoft.

Double click the file called setup.exe and then accept the End User Licensing Agreement. Next, accept (or change) the target install folder. The installation will create a Start Menu folder by default. Check the box marked "Don't create a Start Menu folder" if a Start Menu folder is not desired. The install routine will NOT create a desktop icon by default, check the box marked "Create a desktop icon" if one is desired. Since there are options to disable this automatic launch of Glyph Manager, it is recommended that at least one of the above options (icon or Start Menu folder) be used to provide a manual way to launch Glyph Manager.

**NOTE:** Glyph Manager will start automatically when the computer is booted (except with Vista and Windows 7. With Vista, Windows Defender will block the automatic launch of Glyph Manager. Right click on the Windows Defender icon in the system tray to unblock Glyph Manager. With Windows 7, it is necessary to launch Glyph Manager manually using Start/All Programs/Glyph Manager.

The final step of the installation provides three options:
View readme.doc, Launch Microsoft .NET Framework Version 2.0, and Launch Glyph Manager
The readme.doc contains support contact information and should be reviewed.

Glyph Manager requires Microsoft .NET Framework Version 2.0 to be installed. It is recommended that this option be allowed. If .NET Framework Version 2.0 is already installed, the Glyph Manager installation will not attempt to overwrite what's already there. If the installation does detect an existing .NET Framework Version 2.0 already installed, a "Maintenance Mode" dialog box will appear offering the choice to "Repair" or "Uninstall". Neither of these options should be selected and the Cancel button should be clicked. Taking this action will require confirmation by clicking Yes in response to the "Are you sure…" message that follows. Lastly, click Finish in the Setup Cancelled dialog box.

# Formatting Instructions

**Windows 2000 / XP / Vista / Windows 7 Formatting Instructions**

1. Right-click My Computer and click Manage.

2. In the Computer Management window, under Storage, click Disk Management.

The Write Signature wizard pops up.

3. Use the wizard to write a signature to the new drive. If you want only one partition we suggest using a primary partition and selecting the maximum size. In most cases you'll want to use NTFS volumes, this is the default for Windows 2000, Windows XP and Vista. Choose FAT32 if you want to use the drives with Windows 98 or ME, or if you want to use the drive with Windows and Mac OS.

4. Formatting will take a few minutes, after which your drive will be ready to use.

**Windows 98 / 98SE Formatting Instructions**

1. From your computer's task bar, go to Start > Programs > MS-DOS Prompt.

2. At the prompt, type fdisk and press Enter. You'll see a long message about disk support.

3. Enter Y (type Y and press Enter).

4. You are invited to make a choice. Enter 5 to change the current fixed disk drive. MS-DOS displays the connected disk drives.

5. Enter the number of the disk that has no corresponding drive letter.

6. You are invited to make a choice (same list as in Step 3). Enter 1 to create a primary DOS partition. Your computer verifies the drive's integrity, after which you are asked to choose whether you want to use all the space available.

7. Enter Y to opt for using the maximum available space. Your computer again verifies the drive's integrity.

8. When the drive's integrity has been verified, press ESC (Escape) three times to exit fdisk.

9. At the prompt, type exit.

10. Restart your computer.

Your new drive is now ready to use.

**Mac OS X Formatting Instructions**

Since your GT 062E comes pre-formatted for Macintosh you don't need to format them on installation. If you decide to reformat or partition your drive at a later date, use Disk Utility (supplied with the Mac OS X operating system).

*Caution: This procedure will destroy any data currently on the drive. Before formatting a drive, save any important data it contains.*

1. Open Disk Utility:
    -Double click on your internal hard drive mounted on the desktop
    -Open Applications Folder > Utilities Folder > double click on Disk Utility

2. Select your GT 062E drive from the list on the left. The top entry represents the device and the entry underneath it represents the volume associated with that device. Click on the top device which will say something like "XXXGB Glyph Technologies".

3. Click the "Erase" tab on the right side of the screen.

4. Choose the desired volume format from the drop-down list. Glyph recommends the default "Mac OS Extended (Journaled)".

5. Click in the "Name" field and type the desired name for the drive. This name will identify the drive on the desktop.

6. Click the "Install Mac OS 9 Disk Driver" button if you would like your drive to be compatible with OS 9.

7. Click the "Erase" button to erase your drive. Your new drive should automatically mount on the desktop as a Glyph volume.

**Mac OS 9 Formatting Instructions**

Since Glyph drives come pre-formatted for Macintosh you don't need to format them on installation. If you decide to reformat or partition your drive at a later date, you can use the Erase Disk command in the Mac OS 9 operating system. This command will erase all the data on a volume and create a new file system. Erase disk will not allow you to re-partition a FireWire drive or create a different volume structure than what was previously there.

*Caution: This procedure will destroy any data currently on the drive. Before formatting a drive, save any important data it contains.*

1. Select the volume by clicking on it once in the Finder

2. Go to the Special menu and select Erase Disk... The Erase Disk dialog box opens to verify your decision to erase the disk.

3. In the Name field, enter the new name for the disk or leave the name as it is.

4. In the Format drop-down menu, choose an Extended volume and click "Erase".

# More Information

**GT 062E Features**

Brushed, stainless steel face plate 1/8" thick (3MM)
Scratch-resistant black powder-coated aluminum chassis
Engineered to support professional audio and video
Supports three software-selectable drive modes: RAID 1, RAID 0, and Spanning
200MB/sec sustained transfer rate
Internal power supply, no wall wart, internal quiet fan
Ships in hard-shell plastic carrying case
3 Year Warranty
2 Year Free Basic Data Recovery
Advance Replacement in 1st year of warranty

**GT 062E Specifications**

| | |
|---|---|
| Part Number | GT062E1F-xxx (xxx is equal to total capacity) |
| Interfaces | (2) 9-pin FW800 rear ports |
| | (1) eSATA rear port |
| | (1) USB 2.0 Hi-speed rear port |
| Bridging Chip | Oxford 936 |
| Maximum Transfer Rate | eSATA: 300MB/sec (3Gb/sec) |
| Sustained Transfer Rate | eSATA: >200MB/sec |
| Dimensions | H 1.7" x W 8.6" x D 9.5" |
| Configuration | Desktop enclosure (rack mount optional) |
| Weight | 5.9 lb. / 2.7 kg |
| Internal Power Supply | Universal 100-240v 50/60 Hz |
| OS Compatibility | Mac OS 8.6, 9.X, 10.X |
| | Microsoft Windows 98SE, ME, 2000, XP, Vista, 7 |
| | Modern Unix-based, Linux, or BSD |
| Warranty | 3 Years |
| | 1 Year Overnight Advance Replace |
| | 2 Years Free Basic Data Recovery |

**Content Creation Applications**

Qualified with Final Cut Pro, Avid Xpress, Adobe Premiere.
Qualified with all major audio production packages that support FireWire storage, including Digidesign Pro Tools, Steinberg Nuendo and Cubase, Apple Logic, MOTU Digital Performer, Cakewalk Sonar, Sony Vegas and more...

**Configuration**

The GT 062E can be rack mounted in a standard 19-inch rack with Glyph's optional rack kits. There is a single kit (part# GT-RACKEAR) for mounting one drive, and a dual kit (part# GT-RACKEAR2) for mounting two drives. The dual kit allows any two of Glyph's GT Series tabletop drives to be mounted in a single rack space.

**About eSATA**

• eSATA is an external interface technology that grew from the internal SATA I interface.
• The GT 062E's eSATA port supports speeds up to 3 Gb/sec (300 MB/sec), much faster than FireWire 400 or FireWire 800.
• Shielded eSATA cables up to 2 meters in length are available.
• eSATA cables are different than SATA I cables, they are shielded and cannot be used with internal SATA I connectors.
• eSATA uses a "point-to-point" connection, therefore each eSATA drive needs to be connected to its own eSATA port.
• Most computers do not have built-in eSATA, so you'll need a PCI card to connect your drive with eSATA. Glyph sells various eSATA cards.

**About FireWire 800**

• FireWire 800 supports speeds up to 800 Mb/sec, twice as fast as FireWire 400.
• If your computer does not have built-in FireWire 800, you'll need a PCI card to achieve a true FireWire 800 connection.
• Most 800 ports are Bi-Lingual, which means they speak both FireWire 400 and FireWire 800.
• If you connect a 400 device to an 800 device, you will be running at 400 speed maximum.
• FireWire is forward-compatible and back-compatible, but the bus always runs at the speed of the slowest link.
• Beta cables are used to connect 800 devices to 800 devices.
• Bi-Lingual cables are available to connect 400 devices to 800 devices.
• Bi-Lingual cables have a 9-pin Bi-Lingual connector at one end and a 4-pin or 6-pin FireWire 400 connector at the other end

# Frequently Asked Questions

Q: How do I know if I have the correct version of Glyph Manager?

To get the latest version of Glyph Manager, go to the support section of www.glyphtech.com and download the version for your operating system.

Q: Do I need to have Glyph Manager installed to use the GT 062E?

No, Glyph Manager is used for configuration and monitoring only. It is required to change drive configuration or monitor drive health. It is not necessary to install Glyph Manager, but it is recommended.

Q: Do I need any drivers to use the GT 062E?

No drivers are required to read and write to the drive using eSATA, FireWire or USB. A driver is required to use Glyph Manager to change configuration or monitor drive health. All necessary drivers are installed as part of the Glyph Manager installation.

Q: Do I need RAID software?

RAID software is not needed because the RAID intelligence is built into GT 062E hardware. To configure as a RAID 0 or RAID 1 array, use the Glyph Manager software to switch drive modes, and format the drive. Instructions for re-initializing your drive are included in this manual.

Q: My Windows computer doesn't show the drive in My Computer. What's up?

The default format on the GT 062E is for the Macintosh, and Windows doesn't recognize it. Once you have connected the GT 062E to your Windows PC, you have to re-initialize it for use with Windows. For Windows XP and 2000, that's going to be NTFS format; for Win98/SE, that will be FAT32 format. Instructions for re-initializing your drive are included in this manual.

Q: I'm using Windows 2000 and/or XP 32-bit and my volume is bigger that 2TB. Why does my GT o62E not show up correctly?

Older versions of Windows, such as 2000 and XP 32-bit, use Master Boot Record which doesn't support volumes larger than 2TB. If you want to use Windows 2000 and/or XP 32-bit, you'll need to use RAID 1 which will present a volume that is less than 2TB.

Q: I'm still running Mac OS 9 or Win/ME. Can I still use the GT 062E?

Yes. You can connect the USB port on the drive to your OS 9 or Win/ME machine. You cannot run Glyph Manager to change configuration or monitor drive status, however the GT 062E will run in the last drive mode that it was set to.

Q: What are the differences between FireWire 800 and FireWire 400?

Speed and Protocol. FireWire 800 has a max transfer rate of 800 Mb/sec (about 100 MB/sec peak). FireWire 400 has a max transfer rate of 400 Mb/sec (about 50 MB/sec peak). The higher bus speed helps with things like large file copies and RAID, where FireWire 400 bus speed can be a limiting factor. FireWire 800 uses IEEE-1394b "Beta" protocol; FireWire 400 uses IEEE-1394a "DS" protocol.

For more information, be sure to check out the Glyph website at www.glyphtech.com. There is information posted there concerning FireWire 800/1394B, as well as information about the rest of Glyph's product line.

Q: How can I make my drive work across Windows and Mac platforms?

The only file system that works well between Mac OS and Windows is FAT 32, otherwise known as MS-DOS file system. This is a native Windows file system, but Mac OS 9 and X will mount FAT 32 volumes. Mac OS 9 and 10.1.x would only work with FAT 32 partitions less than 32GB. While Mac OS 10.2.x increased that limitation to 128GB, it wasn't until Mac OS 10.3.x that you could use FAT 32 partitions of any size. Mac OS 10.3.x can additionally read NTFS volumes but cannot write to them. See next question for information specific to Pro Tools software.

Q: How can I use my drive with Windows and Mac Pro Tools systems?

If you are trying to use a hard drive between Windows and Mac Pro Tools systems, FAT 32 will not work for you because a Mac running Pro Tools can only work with HFS formatted volumes. Your best option is to install MacDrive (www.mediafour.com) on your Windows machine to mount your Mac formatted volumes.