GT 050™

Fixed-Mount FireWire Tabletop Hard Drive

Quick Guide

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Quick Guide

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ABOUT THIS DOCUMENT

This document is a brief introduction to Glyph's GT 050, a fixed-mount FireWire tabletop hard drive.

DOCUMENT CONVENTIONS

NOTES

Notes alert you to important information. They are indented and preceded by the word **Note** in bold type.

CAUTIONS

Cautions alert the user to actions or situations that can result in damage to users or data. Cautions are accompanied by a triangle icon, as in the example below.

CAUTION:

⚠ If the container is damaged, file a report with the carrier or dealer immediately.

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*.

United States of America

Mailing Address	Phone/Fax	Email and Web Site
Glyph Technologies 227 Cherry St Ithaca, NY 14850 USA	Phone: +1 607-275-0345 Fax: +1 607-275-9464	General information: info@glyphtech.com Sales enquiries: sales@glyphtech.com Technical support: tech@glyphtech.com **www.glyphtech.com**

Europe

Mailing Address	Phone/Fax	Email and Web Site
Steyler Str. 121 D - 41334 Nettetal Germany	Phone: 0049 (0) 21 57 / 12 76 23 Fax : 0049 (0) 21 57 / 12 83 12	Sales enquires: sales.europe@glyphtech.com Technical support: support.europe@glyphtech.com **www.glyphtech.com**

Contents of This Guide

Glyph's GT Series

The GT Series is a cross-functional line of FireWire-based storage subsystems designed for mobility and easy expansion. GT Series members include:

GT Key - A hot-swappable FireWire Drive

GT 050 - A Fixed-Mount FireWire Tabletop Drive

GT 051 - A Hot-Swappable FireWire Tabletop Drive

GT 103 - A One-space Thee-bay enclosure

GT 308 - A Three-space Eight-bay enclosure

The hot-swap member of the GT Series incorporate Glyph's own advanced FireWire technology called Integrity™. Inspired by the limitations of existing hybrid ATA-to-FireWire hot-swap products, Glyph engineers resolved the data integrity problems that arise from breaking at the ATA interface by incorporating unique enhancements to existing FireWire standards. As a result, the GT Key drive cartridge contains the ATA-to-FireWire bridging technology in the cartridge itself. When removing a hard drive from the receiver, the drive and its bridge remain together to support hard drive hot-swapping in the proper way—using circuits and protocols that are intended for hot-swap applications. The GT Series sets new standards as Glyph's Integrity™ technology surpasses today's other hot-swappable storage.

Firewire is an implementation of the IEEE 1394 serial bus standard. It not only supports automatic configuration ("plug and play") and hot-swapping of devices, it's fast, and best of all it's reliable for audio/video as well as for computer peripherals.

FireWire supports peripherals in a tree-like structure, as opposed to SCSI's linear structure. It allows peer-to-peer device communication—e.g. between a scanner and a printer—to take place, without using system memory or the CPU.

With FireWire you don't have to worry about IDs or device termination; you can hook up to 63 devices to the same bus, with cable lengths of up to 4.5 meters (14 feet) including internal cabling, allowed between devices.

Its cable is not only more convenient than SCSI's but can also carry power. This allows low-consumption devices to operate without a separate power cord, by using power supplied by other devices on the bus.

Noise Control

ELIMINATION OF SIGNAL NOISE

Components in GT Series enclosures are of the highest quality possible. These include:

- Heavy-gauge internal power cabling to carry current with minimal loss
- Bridge circuit boards designed to provide extra functions and top performance
- High-quality data cables to maintain signal integrity at high data rates

We use Teflon ribbon cables in our GT Series FireWire solutions because Teflon is the best insulator for minimizing cross-talk and maintaining high-frequency signal integrity. Good insulation maintains signal quality. Maintaining signal quality ensures maximum data transfer rates.

ELIMINATION OF ACOUSTIC NOISE

GT Series enclosures and the GT Key incorporate QuietMetal™ to support quiet recording by virtually eliminating noise caused by the vibrations of hard drives and fans.

QuietMetal is a constrained-layer composite—a laminate formed of two layers of metal sandwiching a viscoelastic polymer core. Vibration felt by the metal layers is dampened by the softer center layer: the deformation of the core facilitates the absorption of vibrational energy. The combination of QuietMetal and secure fastening with sturdy steel mounting hardware helps to ensure a still, quiet environment for your recording sessions.

METAL SKIN
VISCOELASTIC POLYMER CORE
METAL SKIN

Power

Glyph uses efficient, high-quality power supplies, selected specifically for the demands of production environments.

Our power supplies have a large amount of headroom, so your Glyph system will function, for brief periods of time, with AC lines significantly below specified limits.

Glyph FireWire devices, even when they're not turned on, will pass signal and bus power through to downstream FireWire devices.

Glyph's FireWire solutions are 100% compliant with FireWire specifications for reliable operation using FireWire's repeater functionality.

About the GT 050

The GT 050 is a fixed-mount FireWire tabletop hard drive perfectly suited for audio and video production.

Indicator Light on Chassis

- The power switch LED glows green to indicate that AC power is applied: the GT 050 is plugged in and switched on.
- The LED labeled "Activity" glows yellow to indicate drive activity.

Features

- QuietMetal noise-damping construction
- AC power input filter
- Efficient power supply
- Durable tabletop enclosure

- Single quiet ventilator fan
- Indicator lights to monitor drive activity

Requirements

MACINTOSH COMPUTER

- Computer with FireWire port(s) or FireWire host bus adapter
- MacOS 8.5 or greater, including Mac OS X
- (OS 9 users) Version 2.7 or later of Apple's FireWire Enabler and FireWire Support Extensions, enabled. In the case of G4 computers, version 2.8.1 or later of the Apple FireWire Enabler

WINDOWS COMPUTER

- Computer with FireWire port(s) or FireWire host bus adapter
- Windows 98 SE, 2000, ME or XP

Unpacking Your GT 050

Your Glyph GT 050 and accessories are packaged in a sturdy shipping container. Please inspect the container for evidence of shipping damage and mishandling.

CAUTION:

⚠️ If the container is damaged, file a report with the carrier or dealer immediately. Do not attempt to unpack and operate your GT 050 until the carrier or dealer confirms the damage.

If the container is in good condition, proceed with unpacking the GT 050. Verify that all of the items described in the next section are present and in good condition.

Inspection

CAUTION:

⚠ **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 050 package includes:

- GT 050
- FireWire cable
- Power cable
- Documentation CD with warranty card and this guide

Installing the Hardware

1. Position the GT 050.

   Place the unit on a flat, level surface.

CAUTION:

⚠ **Speakers are magnetic devices; they can harm your data if they're too close to your hard drives or tape cartridges.**

2. Connect the power cable (power off):

   Make sure that the power is off on all of your computer equipment and the GT 050.

Connect the power cable to the back of the GT 050. Plug the three-prong plug into an appropriate power receptacle, preferably with surge and spike protection.

3. Connect the FireWire cable.

    Plug one end of the FireWire cable into your computer's FireWire port, and the other into the back of the GT 050. The two ports provide the same function, so it doesn't matter which one you use.

4. Power up the GT 050.

5. Power up your computer.

If you are using a Macintosh computer the drive should mount automatically on your desktop. You can now start using your GT 050.

Preparing Your Drive for Use: Mac OS 9 Users

Since your hard disk drive comes pre-formatted for Macintosh you don't need to format it on installation. If you should need to re-initialize the disk, you can use the Erase Disk command in the Mac 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.

If you need more functionality than what is supplied by Mac OS 9, get yourself a formatting and partitioning utility. Glyph recommends FWB's Hard Disk Toolkit or Charismac's Anubis utility. These will allow you to re-partition a disk and create multiple volumes, as well as format those volumes. Directions for using these utilities will be included with them.

Mac OS X users should use Disk Utility (supplied with the Mac OS X operating system) to format and partition drives.

Re-initializing your drive using Erase Disk (Mac OS 9 Users)

Your new drive should have automatically mounted on the desktop as a Glyph volume. We advise that you give it a recognizable name or number on your desktop.

Your drive is a single volume by default. To re-initialize your drive, use the following procedure.

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.

    All GT 050 units are formatted at the factory as Extended volumes.

5. Click Erase.

    The disk is now erased and should mount on your desktop with the new volume information.

Preparing Your Drive for Use: Mac OS X Users

Since your Glyph hard disk drive comes pre-formatted for Macintosh you don't need to format it on installation. If your computer is running Mac OS X and you decide to reformat or partition your drive, use Disk Utility (supplied with the Mac OS X operating system).

Preparing Your Drive for Use: Windows Users

Because Glyph hard disk drives are formatted for Macintosh, Windows users must reformat their drives in order to use them.

WINDOWS 98 SE

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).

    You are invited to make a choice.

```
Current fixed disk drive: 1

Choose one of the following:

1. Create DOS partition or Logical DOS Drive
2. Set active partition
3. Delete partition or Logical DOS Drive
4. Display partition information
5. Change current fixed disk drive

Enter choice: [5]
```

4. 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 (in the example below, that's Drive 2).

```
                   Change Current Fixed Disk Drive

  Disk   Drv   Mbytes   Free   Usage
   1             8676      1    100%
          C:     6934
          D:     1741
   2            17500  17500       %












  (1 MByte = 1048576 bytes)
  Enter Fixed Disk Drive Number (1-2).......................[2]
```

You are invited to make a choice (same list as in Step 3).

6. 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.

```
                   Create Primary DOS Partition

  Current fixed disk drive: 2

  Do you wish to use the maximum available size for a Primary DOS Partition
  (Y/N)..................................................? [Y]
```

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**.
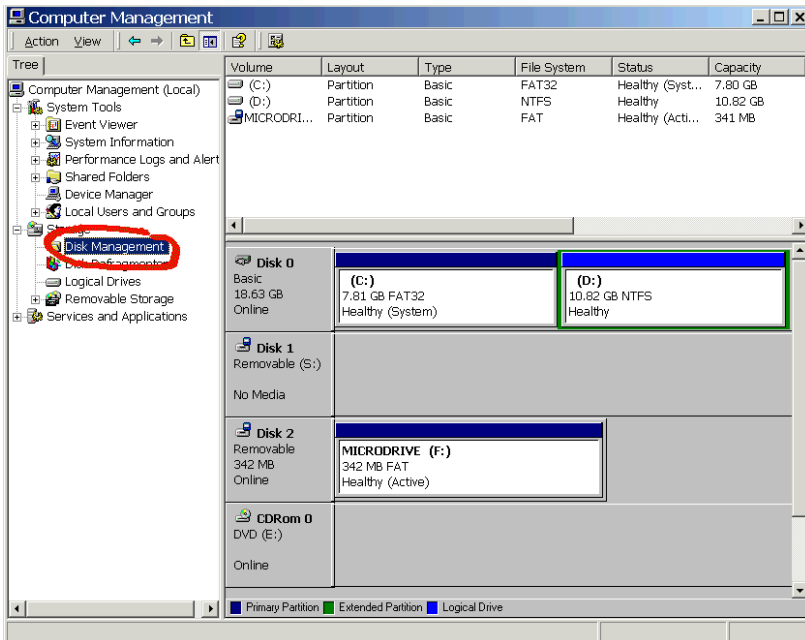
---

9. At the prompt, type **exit**.

10. Restart your computer.

Your new drive is now ready to use.

WINDOWS 2000

1. Right-click **My Computer** and click **Manage**.

2. In the **Computer Management** window, click **Disk Management**.

The **Write Signature** wizard pops up.

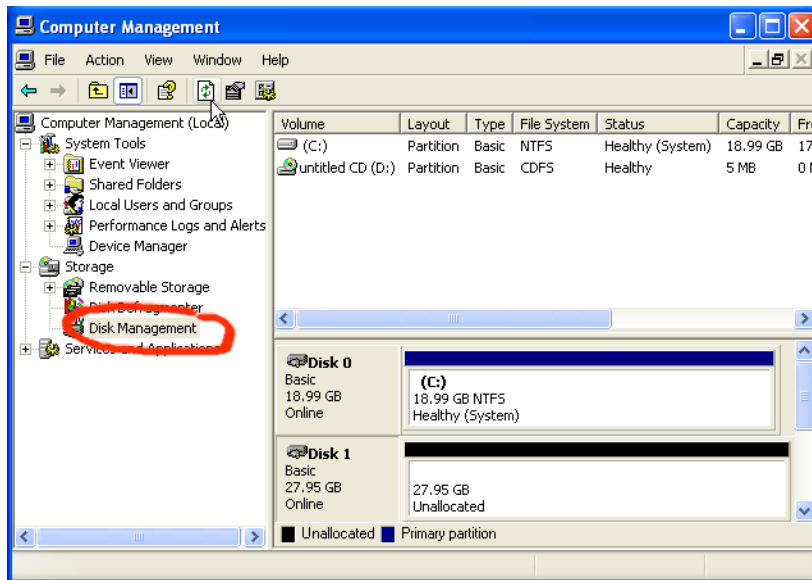3. Use the wizard to write a signature to the new drive.

4. Use the instructions that came with your operating system to continue formatting the drive. We suggest a Quick Format.

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

WINDOWS XP

1. Open **Control Panel** and click **Administrative Tools**.
2. Click **Computer Management.**
3. Click **Disk Management**.

The **Write Signature** wizard pops up.

4. Use the wizard to write a signature to the new drive.
5. Use the instructions that came with your operating system to continue formatting your drive. We suggest a Quick Format.

Care and Maintenance of the GT 050

CAUTION:

⚠ To properly operate and store your GT 050, make sure you observe the rules for temperature and humidity specified under Tabletop Portable Specifications on page 19.

Power

Current

• Use only 100-240V AC.

• Avoid plugging into an outlet used by high-current equipment like copiers or shredders.

Power and FireWire Cables

• Don't crush cables or place heavy items on them. If the cable insulation appears worn or broken, don't use the cable.

• Always unplug a cable by holding the plug. Never pull the cable itself, as it may damage the plug.

• If you are not planning to use your drives for a while, unplug the power cable from the outlet.

Environmental Conditions

Shock and Vibration

Don't subject the unit to excessive vibration. When shipping, Use original packaging if possible.

Dust, Heat, Humidity

Don't leave the GT 050 in a location subject to excessive dust, direct sunlight, sudden changes in temperature (the resulting condensation can cause damage), or high humidity or temperature.

CAUTION:

⚠️ If the GT 050 is turned on with condensation inside, the drive or the GT 050 may be damaged. After a sudden change in temperature wait at least one hour before turning on the GT 050.

Ventilation

The GT 050 is equipped with a single quiet fan for ventilation. Install the unit where it will have free air circulation around the case, and don't cover it while it's running.

Troubleshooting

If you are having difficulties or need assistance getting started, Glyph Technical Support will be glad to assist you. Contact addresses and numbers are on page 3 of this guide.

Before contacting Glyph please review the table below.

Symptom	Diagnosis	Treatment
Errors when reading from or writing to drive in Pro Tools.	Your Pro Tools DAE setting may be wrong.	Check DAE setting in Pro Tools.
	No obvious reason?	Run Norton Speed Disk.
Mac OS 9: Glyph FireWire drive does not mount on the Desktop.	The cables may not be connected.	Connect cables.
	The Mac FireWire extensions may not be enabled.	Enable FireWire extensions: FireWire Enabler and FireWire Support.
Mac OS 9 or X: Glyph FireWire drive is visible on the FireWire bus, but not on the Desktop.	The drive's directory structure may be damaged.	Use a disk repair utility such as Alsoft Disk Warrior or Norton Disk Doctor to repair the directory.
Mac OS 9 or X: When I unplug the drive from the FireWire bus an error message appears on the screen.	You may be unplugging the drive without dismounting the volume first.	Always drag the volume(s) to the trash on the Mac before unplugging the drive or turning off the drive's power.

GT 050 Specifications

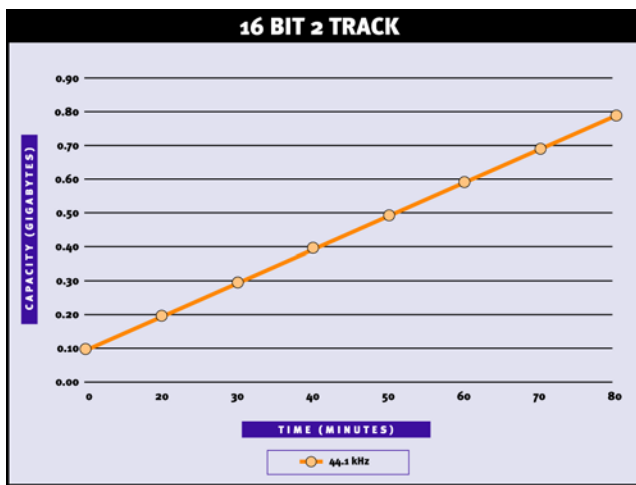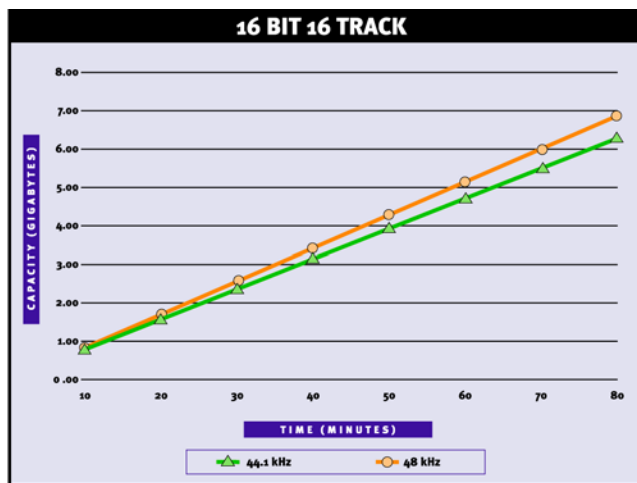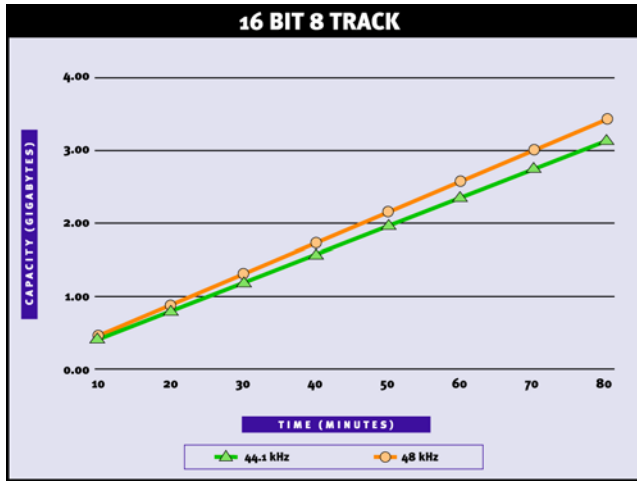| Form configuration		Tabletop Fixed-mount hard drive
Construction		QuietMetal around the drive, heat-dissipating aluminum enclosure, stainless steel faceplate.
Interface connectivity IEEE 1394 (FireWire)		Oxford 911 bridging chip
Power supply		Universal 100-240 V AC 50/60 Hz
Temperature	Operating	5°C to 55°C (41°F to 131°F)
	Non-operating	-40° C to 65°C (-40°F to 149°F)
Humidity	Operating	30% to 80% (assuming no condensation)
	Non-operating	10% to 90%
Weight		1.94 kg (4.30 lbs)
Physical dimensions (H x W x D)		1.72" x 8.61" x 9.47"
Warranty		3 years

Audio Storage Guide

Be careful not to underestimate your needs. For maximum performance you should use a drive at least 30% larger than your estimated need. This gives you the room you need for operating overhead and extra files generated during mixing and editing.

Note: The following charts illustrate the capacities required for specific bit depths, sample rates and track counts. The ability to achieve higher track counts depends on your DAW.

16 Bit Audio Storage Guide

24 bit Audio Storage Guide

24 BIT 24 TRACK

CAPACITY (GIGABYTES) vs TIME (MINUTES)

Legend: 48 kHz, 96 kHz, 192 kHz

24 BIT 48 TRACK

CAPACITY (GIGABYTES) vs TIME (MINUTES)

Legend: 48 kHz, 96 kHz, 192 kHz

24 BIT 64 TRACK

24 BIT 128 TRACK