

This RAID in a box disk system claims to be perfect for ProTools. RICHARD WENTK tries it out.

RAID (Redundant Array of Inexpensive Disk), technology has been around for at least ten years now. It's a simple enough idea – by linking together more than one hard disk to create a super-drive, it's possible to enhance speed and reliability. For extra reliability, data is read and written to both disks, so that if one fails a spare copy is available. Some RAID hardware can deal with failures automatically. Users don't lose any data, and may even be able to swap out a bad disk and swap in a new one without stopping.

For audio and video, the extra speed option is more interesting. Data is split between two disks, so that while one is being written or read the other is seeking and getting ready for the next read or write. In theory this can double data throughput. The catch is that if one disk fails, the data on both disks is lost because there isn't enough information to reconstruct the original files. In theory this means the cost of extra speed is lower reliability.

Mac and PC couldn't be simpler. Cables are supplied, and there are no drivers to install – the drive plugs in, and is immediately ready for partitioning and formatting. A trimmer switch at the back – a tiny screwdriver is supplied – sets Striping (speed) and Spanning (single large drive) modes. There's also a JBOD (Just a Bunch of Disks) mode, which shows the two internal drives in the GTO62-500 as single volumes to the computer. Although the review unit did not have RAID1 (mirroring for reliability), this mode was announced in October at AES in New York. Starting November 2007, GTO62 will be shipping with RAID1 in addition to the other three drive modes. RAID1 offers data redundancy and real-time back-up by writing the same data to the two hard drives at the same time. Should a drive failure occur, data is still available on the remaining drive.

Glyph's PR suggests that maximum speeds of 80MB/s are possible. Our tests didn't quite duplicate that – 70MB/s



## GLYPH GTO62 FIREWIRE DISK DRIVE

In practice drive failures cluster around the beginning and end of their working lives, and the failure curve between those two extremes is almost flat. This means that if your drive doesn't fail in the first couple of weeks – and most don't – it should last at least a couple of years. Using two in parallel shouldn't shorten this time.

More advanced combinations of both modes are available in business server hardware, and some of these offer extra protection for data. But in the PC and Mac world it's common for RAID to be implemented as either striping (speed) or mirroring (reliability.) In content production, RAID used to be a slightly exotic option, but as drives become ever-cheaper, a number of manufacturers have entered the RAID market with entry-level products. Relative newcomers Glyph make bigger and more complicated disk systems, but the GTO62 series is aimed at more casual users of ProTools, Final Cut, and other audio and video environments, and offers a simple plug-and-play solution.

Physically, the GTO62 is functional rather than stylish. For transport, it comes in a large padded briefcase – some users will love this, while others will find it bulky and inconvenient. Inside the briefcase is a two-drive sized box – bigger than most budget external drives.

Visually, Glyph seem to be aiming for robustness rather than looks. Instead of a designer casing around a drive that overheats, the GTO62's case includes ample ventilation powered by a built-in fan. In use, it runs reassuringly cool. Glyph are confident about reliability, with two years of data recovery included, and advance replacement for the first year of the three year warranty. Glyph claims a low-vibration design, which means that some thought has been given to noise. It's quieter than many external drives, although far from silent. For comparison, it's slightly louder than a Yamaha o2R desk. With Firewire it's not usually possible to keep the drive in a machine room, so while noise isn't objectionable, an even quieter casing would have been useful.

Some manufacturers quote the total storage of their disks and don't mention that the RAID process eats half of this. But the GTO62-500 really does offer 500GB of storage, with other versions offering up to 2TB. Installation on both

seemed more realistic, although this was on a MacBook Pro laptop rather than a top of the line Apple desktop. Unexpectedly, speed differences between striping and spanning were minimal – striping is around 10MB/s faster. USB 2.0 and Firewire 400 connections are also available, but these effectively cripple the drive so that it runs at around half the maximum speed. Using Firewire 400 on a PC we measured a top speed of around 38MB/s. This is faster than a typical budget no-name external USB drive, but obviously much slower than the drive's personal best. Most Macs are now shipped with Firewire 800. Most PCs aren't, but add-on cards are easy to find.

70MB/s puts the drive around the level of the best internal SATA drives, and while it's short of the very best SAN-based external RAID systems, it's also very much cheaper and easier to install. For those with hands-on PC expertise, it's possible to put together faster systems with top of the line drives running on one of the many motherboards that support RAID. But the GTO62 is portable, it works out of the box, and offers data recovery for peace of mind. Given the relatively low cost, it punches above its weight, and has a lot to recommend it. **AM**

**THE REVIEWER**  
RICHARD WENTK is the owner of Skydancer Media, a digital production company providing sound, image, design and consultancy services to various clients in London and the West Country.

### INFORMATION

- Ⓜ US\$449 (500GB) - US\$1,159 (1500GB), or from GB£290 (exc.VAT) (500GB)
- 📍 Glyph Europe, Steyler St.121, D-41334 Nettetal, Germany
- ☎ +49 (0) 2157 / 870 2232
- ☎ +49 (0) 2157 / 128 9839
- 🌐 www.glyphtech.com
- 📍 Glyph Technologies, 227 Cherry Street, Ithaca, NY 14850, USA
- ☎ 800 335 0345
- ✉ sales@glyphtech.com