Introduction

Congratulations on choosing the Promise Technology innovative FastTrak adapter for PCI IBM PC compatible systems. This adapter is designed to boost sustained transfer rates and/or provide fault tolerance for the latest Ultra ATA, Enhanced IDE and Fast ATA-2 high performance hard disk drives.

What is the FastTrak Disk Adapter?

Promise designed its FastTrak card to provide a cost-effective, high performance IDE RAID adapter that can add performance and/or reliability to high performance PCI desktop and server machines.

This RAID adapter supports striping, mirroring, and striping/mirroring, operation as defined in the RAID 0, 1 and 0/1 levels, respectively. With striping operation, drives can read and write in parallel to increase performance. Mirroring operation increases read performance through load balancing and elevator sorting while creating a complete backup of your files. Combine striping and mirroring together for both high read/write performance and error tolerance.

A four drive striped array can achieve up to 25 MB/s sustained - not a burst rate. Up to 12 MB/s for a two drive striped array. Burst rates using Ultra ATA drives can reach up to 33 MB/sec per drive. Performance critical workstations running Graphics, CAD/CAM, Multimedia, and Video editing, demand real time response. File servers can benefit from higher throughput.

When a drive fails in a mirrored array on the FastTrak, fault tolerance can be restored automatically with a Spare Drive. Spare Drives wait on standby and are activated when a drive fails. This is accomplished in the background without restarting the system.

The onboard bootable BIOS supports for >8.4GB capacity to break current LBA drive translation limitations. With paritioning types such as FAT32, the array can be addressed as one large *single* volume.

Key Features and Benefits of the FastTrak

The following information offers an overview of the major features of your new Promise FastTrak. It is divided into two areas: Advanced Hardware Design, and Compatibility.

Refer to Chapter 3 for terms associated with FastTrak and Disk Array features.

Advanced Hardware Design	
Features	**Benefits**
Supports Data Striping (RAID 0), Mirroring (RAID 1), and Striping/Mirroring combination (RAID 0/1) from hardware level.	Provides dramatic increase in drive performance and/or fault tolerance options. Perform performance customization and data rebuilds from the BIOS menu.
Supports Ultra DMA 2/1/0, Fast ATA PIO 4/3/2/1/0, DMA 2/1/0	Burst data transfer rates up to 33MB/sec from Ultra ATA drives to boost overall system performance.
PCI Plug-n-Play, PCI Interrupt sharing and *coexists* with mainboard IDE controllers	Easy to install; support four IDE drives on the FastTrak while still supporting four IDE devices on the mainboard IDE controllers.
Supports Concurrent Dual IDE Controller operation	Drive workload is distributed in parallel between members of the array.
Supports IDE Bus Master operation	Allows multiasking during disk transfers which increase CPU efficiency. The CPU is free to process tasks from the L1 and L2 cache during IDE data transfers through the PCI Bus to/from system memory.
Utilizes FastBuild™ automenu from the FastTrak onboard BIOS	Offers pre-set application specific settings which can be optimized for Desktop, Server, or A/V Editing. Has "Auto Setup" option for quick and easy array builds.
Displays status and error checking messages during bootup	Notifies user of possible errors and allows for recovery of mirrored Drive Arrays directly from FastBuild™.
The latest Promise PCI Ultra ATA ASIC technology.	Features software multiple programmable registers for independent drive speed settings. Older drives will not impede performance of Ultra or EIDE drives.
Mirroring supports automatic background rebuilds	Fault Tolerance can be restored automatically without rebooting the system.

Compatibility	
Features	**Benefits**
Complies with PCI v2.1 Local Bus standard	Provides highest level of hardware compatibility.
Compliant with PCI IDE Bus Master standard. PCI IDE Bus Master support for Windows95, Windows NT 3.5x, 4.0, OS/2 2.1x, 3.0 Warp, Netware 3.1x & 4	Provides 32-bit I/O, IDE Bus Master, and Ultra ATA performance for optimal system performance.
Includes Promise UltraTune™ software driver optimizing utility	Has an easy to use interface to change driver block mode size under Windows95 to optimize for audio/video editing or business applications.
Tested compatiblity to coexist with Mainboards that have integrated IDE controllers	Improves system performance of new and existing installations including mainboards with Intel chipsets. Two FastTrak controllers can support eight drives while the mainboard IDE can support an additional four devices.
Compatible with Ultra ATA, EIDE and Fast ATA-2 drives supporting multi-word DMA	Works with newest and current IDE drive specifications. Promise engineers experienced with IDE devices perform verification testing with major drive manufacturers and development partners.
Features LBA and Extended Interrupt13 drive translation in controller onboard BIOS	Breaks capacity barriers for support of drives greater than 8.4GB in capacity. Offers flexible storage options for space demanding applications.

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