Dilog *2XFR +*

"Versatility and Performance All in One Package"

The Dilog 2XFR+ is a fourth generation high performance Ultra SCSI RAID controller designed for either striping (RAID 0) or mirroring (RAID 1). When connected to two, four, six or eight SCSI hard drives in striping mode, the sustained data transfer rate is doubled and the capacity is the sum of the individual disks. In the mirroring mode, the mirrored drive set is an exact duplicate of the master set such that if 1 drive fails, the system continues to operate at full performance levels

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Technology

The **2XFR+** effectively doubles the transfer rate of a single disk by interleaving the sectors of the drive set via smart switching buffers, managed only by hardware. This enables the 2XFR+ to transfer data without overhead and to utilize the full bandwidth of the wide Ultra SCSI bus (40MB/sec).

Mirroring

Mirroring is done with no performance penalty. When a failed drive is replaced, the **2XFR+** rebuilds the new drive with a priority scheme that is determined by the user.

Performance

The **2XFR+** has 2 Ultra SCSI (40MB) drive ports and 1 Ultra SCSI host port to maximize throughput of the latest high performance SCSI drives allowing actual speeds up to 36.4 MB/sec to the host.

Applications

- Non Linear Audio/Video
- Network servers
- Internet Servers
- Seismic
- Animation
- Geophysics
- High end personal computers and workstations
- Large Scale imaging and graphics
- Satellite Imaging
- CAD/CAM
- Supercharging RAID disk arrays
- Radio and TV Broadcast
- Pre-Press and rendering

Drives

2XFR+ is compatible with all SCSI hard disk drives with 50 or 68 pin interfaces. Also with drives with LVD interfaces in single ended mode.

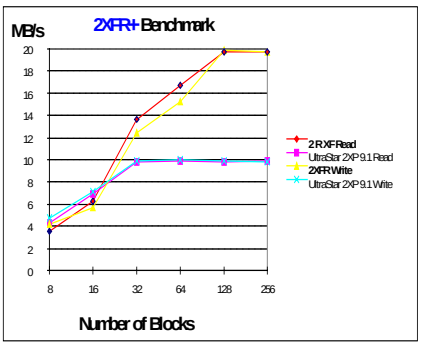
Capacity and Volume Size

The **2XFR+** in RAID 0 mode will provide capacity equal to the sum of the individual disks. In RAID 1 it will be 1/2 of that. This capacity is presented to the Host as a single SCSI drive with one node address.

	RAID 0	RAID 1
2 - IBM 4.5GB	**9GB**	**4.5GB**
2 - Seagate 9GB	**18.2GB**	**9GB**
8 - Seagate 9GB	**72GB**	**36GB**
8 - Elite 23 23GB	**184GB**	**92GB**

Benchmark Results

The **2XFR+** has been benchmarked on a variety of computers running various operating systems. Below are typical results in transfer rates when using the **2XFR+** in RAID 0 mode with 2 IBM's UltraStar 2XP. 7200 RPM drives



Benchmarks were run on an SGI O2 machine with 64MB of memory measuring raw disk I/O.

Features

- **Striping (RAID 0) Doubles Sustainable HDD data rates.**
- **Industry standard Interface -68 pin SCSI 3 FAST 20.**
- **Compatible with all SCSI hard disk drives.**
- **Compatible with 50 / 68 pin single ended interfaces.**
- **Concatenates all drives to present a single standard SCSI drive to the host.**
- **Easy fast installation.**
- **Disk Spindle Synchronization, improves data throughput.**
- **Doubles available drive cache.**
- **Mirroring (RAID 1) option protects data.**
- **Jumper selectable SCSI Host ID.**
- **Jumper selectable Write Cache Enable.**
- **Very low power consumption.**
- **Easy to mount, uses 3½" drive factor.**

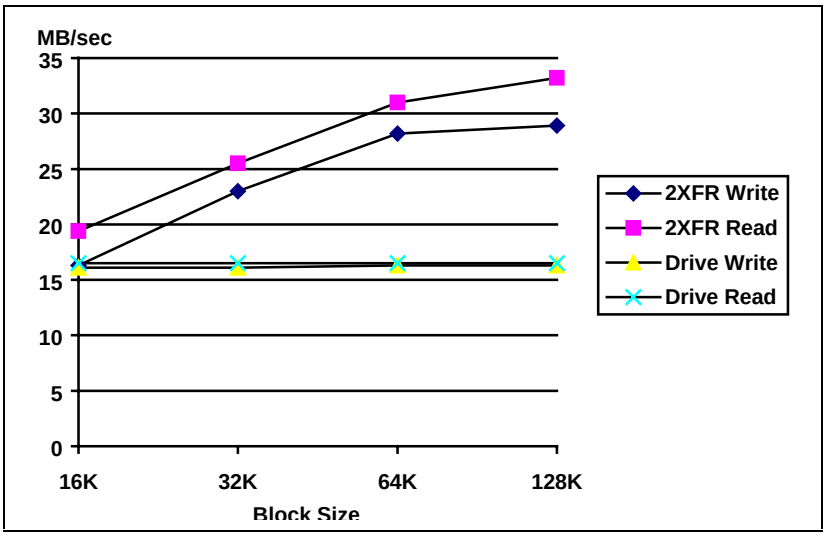
Benefits

- Doubles transfer rate - without additional system overhead.
- High data rates - up to 40MB/sec data transfer speed..
- Enhances current range of drives and provide protection for investment in older drives.
- Integrate 68 pin or 50 pin SCSI hard disk drives.
- Very large drive capacity available to the system without using more than one SCSI ID and no limits on partitioning.
- Simply to install, (select options and host SCSI ID)
- Add Synchronization cable between drives to stabilize variable rotation offset.
- Doubles usable read and write cache segments used to smooth data flow.
- RAID 1 offers the most secure form of data protection.
- Jumper Host SCSI ID.
- Automatically enables the Drive Write Cache.
- Cooling does not have to be a consideration.
- Simple integration into existing system enclosures and drive enclosures.

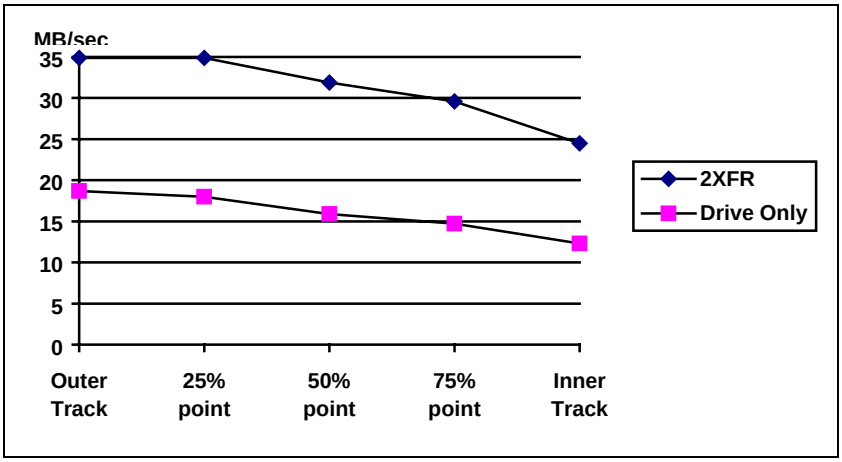
DLI Diverse Logistics Inc.

SPECIFICATIONS

CONFIGURATION	RAID 0/1 External
Host Interface	1 Channel SCSI-3 Ultra Fast Wide Single ended
Host Cabling	68 pin high density
Target Interface	2 Channels SCSI-3 Ultra Fast Wide Single ended
Target Cabling	68 pin high density
DRIVES	All SCSI 50 pin and 68 pin interface
Number	Up to 8 Drives
TOTAL CAPACITY	
RAID 0	Sum of individual drive capacities
RAID 1	1/2 of individual drive capacities
RS233 TERMINAL	3 pin 9600 baud N81
POWER	
Connector	Std. 4 pin Molex
Requirements	+5VDC 1A. Max +12VDC .1A
DIMENSIONS	
3 1/2" Drive Form Factor	
Height	25 mm / .975"
Width	102 mm / 3.978"
Depth	150 mm / 5.85"
RELIABILITY	
MTBF	<750,000 hours
MTTR	>30 minutes
OPERATING ENVIRONMENT	
Temperature	5 to 55C
Humidity	8-90% non-condensing



Benchmarks with IBM 9GB DGVS 10,000 RPM drives showing the relationship between a single drive and two drives with the **2XFR+** at various block sizes. Windows NT4.0 SP3 on P200MMX 64MB on the first 1 GB of disk using Adaptec SCBENCH32.EXE with Tekram DC-390F Ultra/Wide PCI SCSI adapter.



Benchmark showing sustained throughput as a function of the track position on the drive. Seagate Cheetah 9LP 9GB 10,000 RPM drives on P233 with NT4.0 using Adaptec 2940UW PCI SCSI adapter and Adaptec SCBENCH32.exe

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