Dilog 2XFR

"Tomorrow's Performance using Today's Drives"

The Dilog 2XFR is a high performance Ultra SCSI controller designed so that when connected to two, four, six or eight SCSI hard drives, the sustained data transfer rate is doubled and the capacity is the sum of the individual disks. The controller is designed to appear and play as a standard SCSI disk drive thereby simplifying installation.

Technology

The 2XFR effectively doubles the transfer rate of a single disk by interleaving the sectors of the two disk drives. The data is transferred via a smart switching buffer, managed totally by hardware. This unique feature enables the controller to transfer data without overhead and to better utilize the bandwidth of the wide Ultra SCSI bus (40MB/sec).

Interface

3 Channel Ultra Wide SCSI-3 (68 pin Single-Ended). Backward compatible with all previous versions of SCSI.

Performance

The 2XFR will linearly increase both read and write performance until the transfer rate doubling effect takes place. The doubling effect is dependent on disk drive dynamics and transfer size. This effect takes place without increasing the demand on operating system and platform resources.

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.

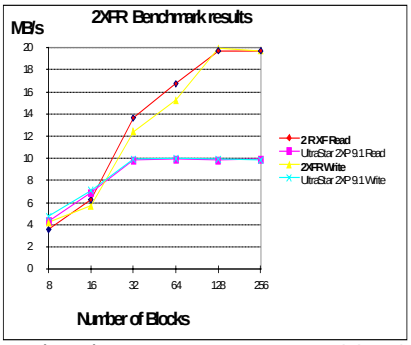
Capacity

When formatted the 2XFR will provide capacity equal to the sum of the individual disks. This capacity is presented to the Host via one single SCSI node address.

2XFR + two IBM Capricorn 4.5GB = **9GB**
2XFR + two Cheetah 9LP = **18.2GB**
2XFR + eight Cheetah 9LP = **72GB**
2XFR + eight Elite 23 = **184GB**

Benchmark Results

The 2XFR has been benchmarked on various computer platforms running various operating systems. Below are typical results in transfer rates when using the 2XFR 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

- **Doubles Sustainable data rates from pairs of HDDs**
- **Industry standard Interface -68 pin SCSI 3 FAST 20.**
- **Compatible with all SCSI hard disk drives.**
- **Compatible with 50 / 68 pin single ended interfaces.**
- **Performance & Compatibility verified at IBM Storage System Division Integration Laboratories.**
- **Easy fast installation.**
- **Disk Spindle Synchronization, improves data throughput.**
- **Doubles available drive cache.**
- **Increases capacity per SCSI bus.**
- **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.
- All major SCSI drives, Controllers, Platforms and Operating Systems tested for compatibility.
- 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.
- Up to eight SCSI HDDs per SCSI ID.
- 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 External
Host Interface	SCSI-3 Ultra Fast Wide Single ended
Host Cabling	68 pin high density
Target Interface	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	Sum 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

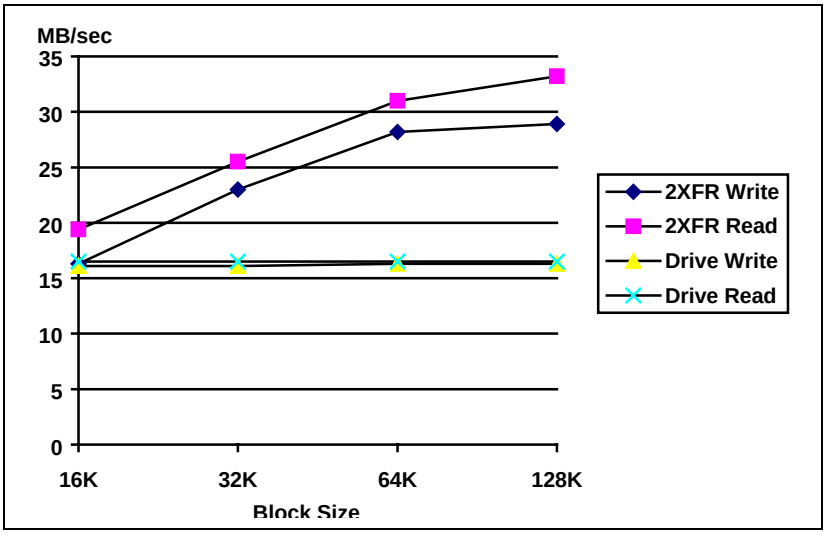
Height	25 mm / .975"
Width	102 mm / 3.978"
Depth	150 mm / 5.85"

RELIABILITY

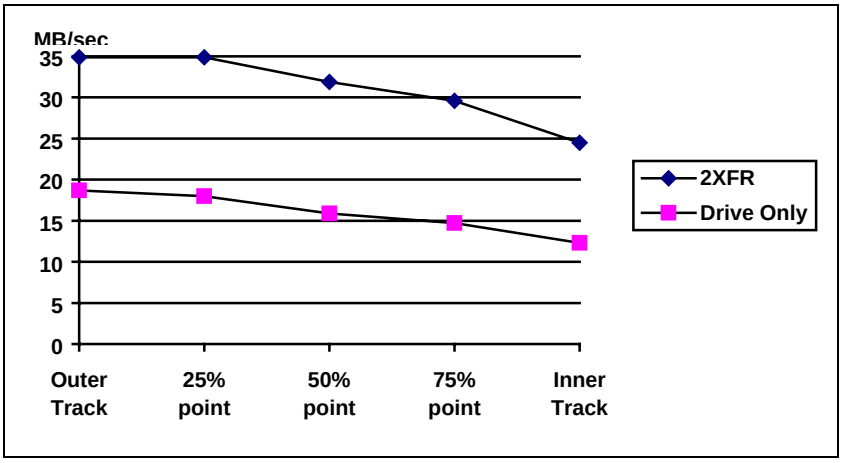
MTBF	750,000 hours
MTTR	>30 minutes

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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