IPC

3452/346x SCSI-3 Mirror Disk Systems

Features

- **Complete, redundant storage**
- **Hardware-based mirror controller (RAID-1)**
- **4 MB of controller cache, expandable to 64 MB**
- **Hardware recovery of mirror storage after drive replacement**
- **4.55 and 9.1 GB formatted disk capacities**
- **Multisegment read-ahead caching and FIFO buffer on each drive**
- **Fast access times**
- **Ultra SCSI-3 bus master controller**
- **Fillable media**
- **Stand-alone copy utility (IPCDTC)**
- **Stand-alone relocating loader (IPCSAL)**
- **Compatible with MAX IV F.0, MAX 32 B.0, and later OS versions**
- **Supports File Manager and BIOS volumes**
- **Supports IPC video display**

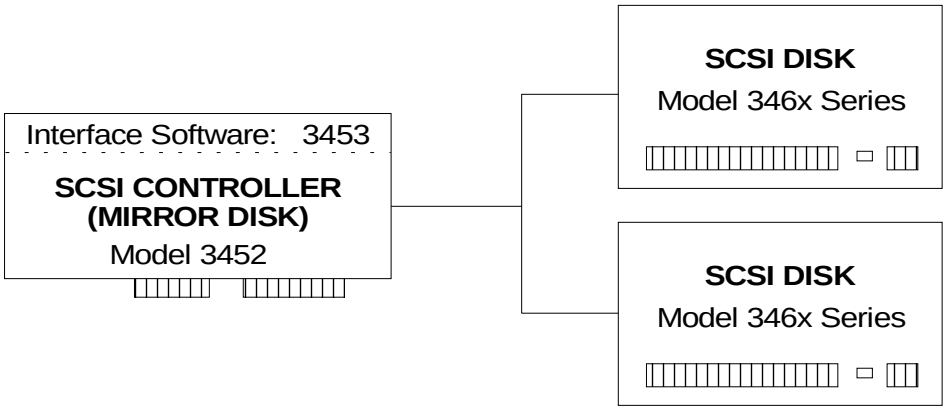

Figure 1: SCSI Mirror Disk System

IPC Model 3452/346x SCSI Mirror Disk Systems provide completely redundant disk media for the ultimate in reliable storage for MODCOMP computers. This type of storage system provides continuous data availability and freedom from concern over loss of information due to mechanical failure of a disk.

Each mirror disk system consists of Model 3452 SCSI Mirror Controller, Model 3453 SCSI Mirror Disk Interface software, plus one or more pairs of drives from the Model 346x family of disk drives. These systems support both SCSI-2 and SCSI-3 peripherals.

IPC mirror systems include the features and compatibility of the IPC Model 3450/346x SCSI Disk Systems plus fully redundant storage provided by the SCSI mirror controller hardware. To expedite throughput, the 3452 controller also includes 4 MB of ECC cache memory (expandable to 64 MB).

All redundant storage functions and failure detection are implemented by the Model 3452 mirror controller without impacting the MODCOMP, IPC, or application software. Failure of a single disk triggers an alarm but does not interfere with normal storage activities. When the failed disk is replaced, mirror storage is reestablished automatically by the Model 3452 controller.

The 3452 controller uses a single expansion slot and connects to one or more pairs of 346x disks. A single, compact IPC system

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can support a complete 3452/346x SCSI mirror disk system plus a DAT tape drive, a floppy disk drive, and additional communications such as Ethernet and asynchronous channels to provide the total peripheral interface system for most MODCOMP systems. Disks may be partitioned to share the redundant storage media between DOS-formatted IPC data and MODCOMP-formatted data. This versatility makes an IPC SCSI mirror disk system highly cost-effective.

Model 3453 mirror disk interface software provides complete support for the IPC SCSI mirror disk system for both MODCOMP MAX IV and MAX 32 systems. OS support includes compatibility for both File Manager and BIOS-based disks.

Stand-alone software, included in the 3453 package, supports booting fillable programs, loading relocatable programs like the operating system and diagnostics, and off-line disk-to-tape copy functions between IPC and conventional peripherals, using a format compatible with MODCOMP's DTC and MAXDTC. The stand-alone loader (IPCSAL) even allows default startup scripts to be installed with the PATCH utility to automatically load and start the OS or other program.

The 3453 software may be used with Models 3135/6/8 UPS to provide continuous operation during loss of AC power and to secure all data via a safe shutdown in the event line power is not restored prior to depletion of battery power.

SCSI Disk Drive Model	3464D	3466A	3469
Formatted capacity (GB)	4.55	9.1	9.1
Average seek time (ms)	9.5/10.5	9.5/10.5	7.1/ 7.8
Average latency (ms)	4.17	4.17	4.17
FIFO cache (KB)	512	512	512
Int. Transfer rate (mbits/sec.)	108-192	108-192	120-190
Ext. Transfer rate (mbytes/sec.)	20/40	20/40	20/40
Disks	2	4	5
Data heads	4	8	10
Power dissipation (watts)	11	11	13
Form factor	1”	1”	1"
MTBF (hours)	800,000	800,000	1,000,000
Manufacturer's warranty (yrs.)	3	3	5

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