IFT-6200

Tower RAID Array Subsystems

IFT-6300

Rackmount RAID Array Subsystems

SCSI-to-IDE
Fibre-to-IDE

EXTREMELY
EASY
TO USE

Infortrend ®

OVERVIEW

The IFT-6200 (tower) and IFT-6300 (rackmount) product lines include both SCSI-to-IDE and Fibre-to-IDE disk array subsystems all powered by Infortrend's sophisticated RAID controller technology and a PowerPC RISC processor. With advanced firmware functions as well as 64-bit hardware architecture, data is distributed and processed at raging speed. The IFT-6200's desktop enclosure houses six IDE drives in hot-swappable disk trays. The IFT-6300 rackmount configuration units provide hot-swappable trays for up to eight IDE drives in a standard 19-inch equipment cabinet-size enclosure.

The RAID array in all models can be configured to levels 0, 1 (0+1), 3, or 5. Each system model allows one HDD failure without impact on the existing data and failed drive rebuild is transparent to the host. System operation is constantly protected by redundant cooling fans and redundant power-supplies. Environmental informa-

tion is accessible either via the control panel or through Infortrend's RAIDGuide Manager. The IFT-6200 and IFT-6300 units are cost-effective IDE disk array subsystems with completely integrated high-performance and data-protection capabilities which meet or exceed the highest industry standards.

KEY FEATURES

- **Ultra160-Wide** LVD SCSI; Transfer rate up to 160MB/sec
  OR
- **FC-AL** 1GHz Fibre Channel; Transfer rate up to 100MB/sec
- **Tower Models** : Up to 6 EIDE ATA-66/UDMA-66 hard disk drives (ATA-/UDMA-100 compatible)
- **Rackmount Models** : Up to 8 EIDE ATA-66/UDMA-66 hard disk drives (ATA-/UDMA-100 compatible)
- OEM board only solution for both six and eight drive versions
- Supports 3.5" x 1" high EIDE drives
- RAID levels: 0, 1 (0+1), 3, 5
- Smooth hot-swappable drive tray mechanism
- User-friendly RAIDGuide GUI Manager
- Convenient front LCD control panel
- Redundant, hot-swappable power supplies
- Redundant cooling fans
- Compact enclosure design

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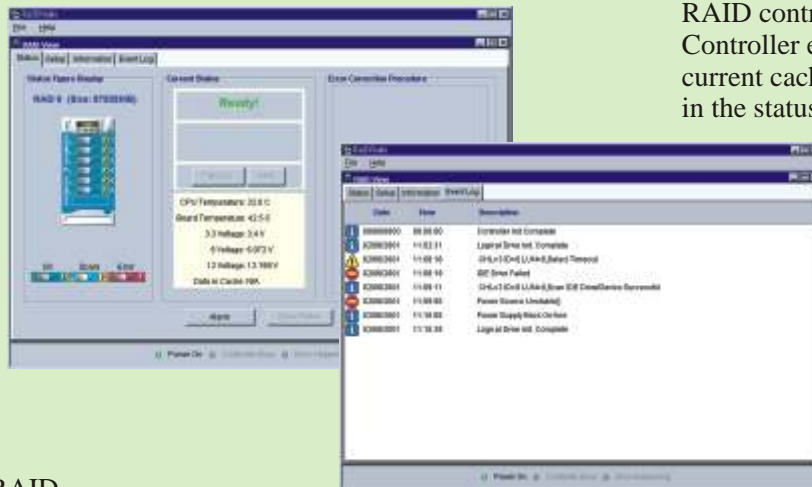
High Performance

The IFT-6200's high performance comes from its 64-bit PowerPC 603e RISC CPU and Infortrend's proprietary ASIC. The 64-bit bus bandwidth at 66MHz between SDRAM and CPU makes its high data throughput more than sufficient for small-to-medium sized servers or workstations. Data can be distributed through a high-speed 64-bit path at a burst rate up to 533MB/sec. The system's overall performance reaches up to 100MB/second (sustained reads, Ultra160 SCSI model). The two independent PCI bus design efficiently eliminates bandwidth bottlenecks for IO traffic. Balanced bus loading and a user-friendly design make it an optimal RAID solution for a wide range of SCSI-based PCs, single-user workstations, NT or Linux-based PC servers and Unix-based servers.

RAIDGuide Manager

RAIDGuide is an easy-to-use, Java-based GUI RAID management software designed specifically for use with Infortrend's SCSI-to-IDE and Fibre-to-IDE RAID subsystems and controller boards. Operating under Java 2.0 (Java Run-time Environment 1.2 or 1.3), RAIDGuide provides a complete management interface to the disk array and a constant real-time report of the current RAID status, errors, events, and capacity.

RAIDGuide permits IDE RAID managers to quickly locate and rectify problematic hardware without downtime or data loss.

Many RAID controller functions, such as password management and firmware upgrades can be handled

through the RAIDGuide console. The Information window provides information about all installed hard drives and the key elements of the RAID controller such as cache size. Controller environmental conditions and current cache data status are displayed in the status window, and RAID manual and auto setup, and RAID expansion are also supported from within RAIDGuide.

RAIDGuide makes IDE RAID array management an easy matter of point-and-click from the local host or even remotely via Java-enabled browser over a LAN.

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High Data Availability

The system provides RAID levels 0, 1 (0+1), 3 and 5. RAID configurations can be managed either through the LCD control panel or by the system-embedded configuration utilities. Its high data availability and protection derives from the following capabilities: automatic drive failure detection, automatic failed drive rebuilding, hot spare and background rebuild, disk hot swap, and online background rebuilding.

Redundant Power Supply

Two hot-swappable redundant power supplies provide zero-downtime and fault-tolerant power. With two power supplies installed, both will share the current power needs of the whole system. If one should fail, an alarm will sound and the remaining power supply will take over the full load until the faulty unit is replaced. The hot-swap feature ensures that the system remains operational while replacement is taking place.

Redundant Cooling Fan

Two cooling fans are integrated for redundancy. Failures are displayed by the RAIDGuide manager software. The system's ventilation is from front to back. Specially designed airflow passages dissipate heat from the hard disks and the controller. Power-supply modules are equipped with their own independent cooling fans.

Setup and Status Monitoring

The system will automatically initialize based on the number of disk drives installed at start up. Manual configuration and monitoring can be done through the LCD control panel. The firmware also contains an embedded management program that can be accessed using a terminal connected to the RS-232C port. The latter is a convenient platform-independent management utility.

IFT-7200 CONTROLLER BOARD (OEM Solution)

A 6 or 8-drive OEM controller board only solution, the IFT-7200 is available for customers who have their own enclosure and want to take full advantage of the SCSI-to-IDE or Fibre-to-IDE controller's advanced functionality. The controller's sophisticated features, including environmental monitoring and fault management, can be easily integrated into OEM systems. Modular IDE backplanes (with 1" drive pitch) and daughterboard options for different host types are available with the controller board.

SUBSYSTEM SPARE PARTS

In order to facilitate customer service, Infortrend makes spare parts available for IDE subsystems:

IFT-9201 LCD Panel

IFT-9211 Power Supply (one unit, tower configuration)

IFT-9212 Fan

IFT-9215 Tray

IFT-9216 Internal RS-232 Cable (tower configuration)

IFT-9250 Front Bezel (tower configuration)

IFT-9251 Safety Door w/ Lock and Keys (tower configuration)

* Note: each of these spare parts items may have a minimum order requirement.

SPECIFICATIONS

Controller
- PowerPC-603e 100MHz RISC processor
- Standard 32MB cache memory on one SODIMM SDRAM; Other available cache sizes:
  64/128/256MB; Addressable up to 1GB
- Firmware in Flash ROM for easy upgrades

RAID Operation
- RAID level 0, 1 (0+1), 3 and 5
- Hot-spare drive operation
- Drive hot-swapping
- Automatic background rebuild
- Online drive expansion

Drive Interface
- EIDE ATA-66/UDMA-66 (ATA-/UDMA-100
  compatible; and fully backward compatible
  with earlier ATA and UDMA standard drives)
- 6 or 8 hot-swap drive bays and trays
- Supports 1-inch height form factor

Host Interface
- **Ultra160-Wide** LVD SCSI; Transfer rate up to
  160MB/sec
  OR
- **FC-AL** 1GHz Fibre Channel; Transfer rate up to
  100MB/sec
- Concurrent I/O commands
- Tagged Command Queuing
- Automatic bad-sector reassignment

Controls / Indicators
- Front LCD control panel for setup and configuration
- 3 drive LED indicators: power, busy, attention
- Power and drive failure indication through LCD
- Built-in alarm / alarm mute button

Management Software
- RAIDGuide management software for Windows
  2000 / NT via in-band SCSI or in-band Fibre
- Firmware-embedded manager via RS-232C
  (platform independent)

Physical / Electrical Interfaces
One 68-pin, LVD SCSI host channel on SCSI subsystems, or one 3-pin Fibre connector with one external DB-9 Fibre port for Fibre subsystems, and one DB-9 RS-232C serial port (38400, n, 8, 1) for terminal connections

Power Supply
2 redundant hot-swappable power supplies with PFC
Input — 90 to 265VAC, 47 to 63 Hz
Output — @12V (14A max.), 5V (16A max.), 250Watts

Cooling Fan
2 redundant cooling fans in separate modules: 3.62 inch diameter, ball bearing, 12V, 0.3A, 2850rpm, 34 dbA

Operating Temperature
5 to 40 C

Relative Humidity
10-95%, non-condensing

Altitude
Sea level to 10,000 ft

Dimensions
Tower — 13.8H x 6.8W x 12.9D inches
Rackmount — 3U x 18.9W x 19.3D inches (standard 19" equipment cabinet size)

ORDERING INFORMATION

	DRIVES	DRIVE TYPE	HOST TYPE	CONFIGURATION
6200-6U3	6 drive	IDE	Ultra160	Tower Subsystem
6200-6F1	6 drive	IDE	FC-AL Fibre	Tower Subsystem
6300-8U3	8 drive	IDE	Ultra160	Rackmount Subsystem
6300-8F1	8 drive	IDE	FC-AL Fibre	Rackmount Subsystem

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FC

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- Quality is our priority and we back it with a 3 year warranty for the RAID controller and a 1 year warranty for enclosure components.
- Specifications are subject to change without prior notice.
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