



apricot **FT2200**

File & print server.
Departmental, business-
critical server



Features

- ▶ Intel Pentium Pro 200MHz processors
- ▶ Dual Processor Support
- ▶ PCI and EISA Expansion Technology
- ▶ Integral Six Speed CD-ROM Drive
- ▶ Optional High Performance SmartRAID System
- ▶ Lockable Fixed and Exchangeable Areas
- ▶ Choice of High Performance SCSI or Ultra-Wide SCSI Hard Drives
- ▶ Up to 1GB Onboard RAM
- ▶ Intelligent Smart-UPS System
- ▶ UK Built



Certificate No's:
FM1716 FS21715 FS30305

System Overview

Building on Mitsubishi Electric's tradition of excellence and innovation in Servers, the FT2200 brings Pentium Pro processing power to the business critical departmental server. Exceptional performance at a budget price is delivered by the FT2200 using the latest in Intel's processor technology with the Pentium Pro, and backed up with an Ultra SCSI disk subsystem to deliver "real world" peak performance.

The FT2200 takes departmental desk-side servers one step beyond previous generations of servers: it has Pentium Pro SMP technology, Ultrawide-SCSI, intelligent RAID storage and mains protection to deliver the power, control and reliability essential for both traditional file and print servers and departmental applications.

Room for Growth

The Apricot FT2200 has the expansion capacity to grow with your network. Expansion options are predominantly PCI based, allowing the use of the latest high performance LAN adapters and disk controllers to complement the Pentium Pro processors. For legacy systems, the EISA bus ensures that the FT2200 maintains compatibility with your existing investment.

To allow the maximum amount of expansion, the FT2200 integrates a PCI based Ultra SCSI interface onto the motherboard, supporting up to seven devices. An optional PCI card can be specified to increase the total number of devices, or to implement a RAID system for higher reliability.

The FT2200 has a class-leading 8 hard disk drive bays, giving a total disk capacity of up to 32GB, with a hot-plug backplane as standard, and RAID as an option.

Data Integrity

As well as integrating the highest quality components, the FT2200 is provided with additional features to protect against disk failure and power failure, the most common causes of data loss.

Secure storage

When data integrity cannot be compromised under any circumstance, specifying the FT2200 SmartRAID option ensures consistent and efficient operation.

The SmartRAID controller operates as a PCI bus master device and drives two Ultrawide-SCSI channels, providing support for RAID levels 0, 1 and 5. All storage operations are monitored and controlled by an on-board dedicated 68040 processor to ensure that connected drives are operating both correctly and efficiently. The intelligence of the controller means that Hot Spare capabilities are provided as standard.

The SmartRAID controller is supplied with 4MB of expandible, ECC protected SmartCache to provide a substantial performance boost in all storage operations.

As a natural partner to the SmartRAID controller, the FT2200 also provides the Apricot Hot-Plug system as standard on all models. This internal backplane allows drives to be safely inserted and removed while the remainder of the RAID system continues to serve the department unhindered.

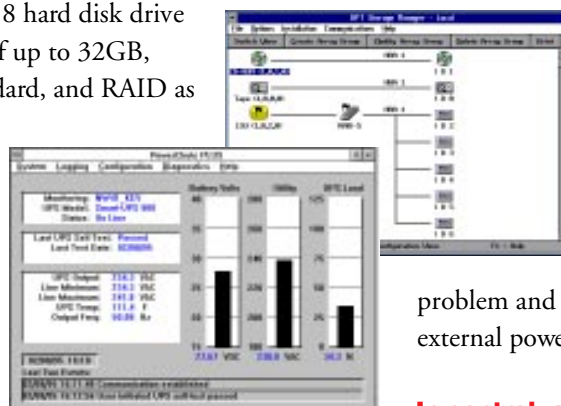
Dependable power

However effective the data protection within the server, it can count for nothing if the input power is compromised. This is why the FT2200 employs a device which ranks among the best in the field of conditioning and protection: the American Power Conversion Smart-UPS 700. This provides full

clean-up and protection against fluctuations in the mains supply. In the case of a power failure, the fully-monitored internal battery system alerts you to the problem and maintains the system until external power is restored.

In control, anywhere

To save valuable maintenance time, key aspects of the FT2200's operation can be monitored and controlled remotely, using intuitive Windows-based utilities.



Remote control of key server aspects.

Features and Benefits

Pentium Pro Power

The FT2200 uses the 200MHz Pentium Pro, the optimal choice for mid range server systems with 256KB level 2 cache and scaleable performance when used in dual processor configurations. The FT2200 is fully SMP ready, the upgrade to dual processors is simple: just install a second Pentium Pro into the socket provided.



EISA and PCI local bus expansion

Emerging network technologies such as 100Mbit/sec Ethernet and ATM, together with the rapid pace of development of disk drive technology, are driving the need for higher bandwidth within servers. The FT2200 provides six PCI slots for use by the latest generation of high performance peripherals. The EISA slots allow access to the largest range of boards available.

Ultra-SCSI ready

The FT2200 is equipped with an advanced Ultra-Wide SCSI interface system centred around the integrated Adaptec 7880 controller. Ultra-Wide SCSI allows sustained data transfer rates of 40 Mbytes per second to be achieved.

Multiple drivebay configuration

The FT2200 has been designed to provide eight full-height 3.5" drive bays. Each of the bays features a quick-release sledge, onto which the drives are mounted, to allow quick changeovers. Three 5.25" bays are provided to accommodate the CD-ROM and optional back-up devices.

Six speed CD-ROM

An E-IDE six speed CD-ROM is provided as standard equipment, so that the FT2200 is ready to accept any of the multi-user operating systems now distributed on CD-ROM.

Easy access to all areas

Using a combination of lockable side, and double-hinged front doors, the FT2200 casing allows complete access to all areas of the system for quick configuration and maintenance, while keeping the fixed and exchangeable areas secure.

SmartRAID option

This provides fault-tolerant operation by intelligently controlling the storage of data across a number of fast access hard drives. Operating as a PCI bus master driving two Ultra-Wide SCSI channels and utilising error-corrected SmartCache RAM, the SmartRAID controller returns rapid performance results, while significantly enhancing overall reliability. Support for a Hot Spare standby drive and the Apricot 2 channel Hot Plug backplane means that server operation can be maintained while drives are installed or removed.



Smart-UPS systems

The FT2200 is protected from the hazards of fluctuating mains supplies. In addition to filtering-out potentially destructive mains spikes, the Smart-UPS guards against brown-out glitches and the more serious black-out failures. Using state-of-the-art battery and inverter technology, together with an instantaneous switch-over system, the Smart-UPS alerts you to mains black-outs, while continuing to run the FT2200 at full power for the vital period until mains power is restored or the system is shut down safely.



High capacity, high speed hard drives

The Ultra-Wide SCSI architecture and cavernous casing of the FT2200 allows a range of high capacity, high performance drives to be installed. Two sizes of SCSI drive are available, 2GB and 4GB, giving the system a maximum capacity of 32GB.

Both drive options provide superior performance and reliability, with MTBF figures of up to 800,000 power-on hours.

Expandable ECC memory

All processor options are accompanied by 32MB of RAM as standard. This is expandable to a massive 1GB. Industry standard SIMM modules are used throughout, with ECC functionality on the memory daughterboard.

420W power supply

A heavy duty, switched mode 420watt power supply ensures that even when fully expanded, the FT2200's need for power is more than satisfied.

Technical Specifications

FT2200	200MHz
Processor	
Type	Intel Pentium Pro™
No. of CPUs	1 or 2
Clock speed (Internal)	200MHz
Clock speed (External)	66MHz
Cache (per CPU)	256KB, Level 2
Coprocessor	Integral
Internal/external bus	300/64-bits
CPU socket type	Intel Type 8
Core logic chipset	Intel Orion ST
iComp benchmark 2.0	220
RAM	
Supplied	32MB
Maximum	1GB (with 32MB SIMMs)
Type	36-bit SIMM
Speed	70ns
Fitted RAM location	Memory Board
Parity	ECC
Sockets: total	8 banks, 2 sockets per bank
free	6 banks
Sizes supported:	8, 16, 32 & 64MB
ROM	
Size	256KB
Type	Flash ROM
Shadowable	Yes
Graphics (standard)	
Controller	Cirrus Logic GD5429
Interface	PCI
Location	System board
Video memory: supplied	1MB
type	DRAM
Max NI resolution	1024 x 768 x 16
Max NI colours	256 @ 1024 x 768
SCSI Controller	
Ultra-SCSI controller (Adaptec 7880)	
max devices	8
max data transfer	40MB/second
I/O ports	
Serial: quantity	2
connectors	1 x 9-pin, 1 x 25-pin D-SUB
Parallel: quantity	1
type	ECP/EPP compliant
Keyboard type	PS/2
Mouse type	PS/2
Expansion	
Slots: EISA full length	2
Shared PCI / EISA	1
PCI Local Bus	5
3.5" x full height removable media drive bays	8
5.25" half height removable media drive bays	3



**MITSUBISHI ELECTRIC
PC DIVISION**
Apricot Computers Ltd
3500 Parkside
Birmingham Business Park
Birmingham B37 7YS
United Kingdom
Tel: +44 (0) 121 717 7171
Fax: +44 (0) 121 717 7799

**MITSUBISHI ELECTRIC
PC DIVISION**
Apricot Computers Ltd
29 Rutherford Road
Southfield Industrial Estate
Glenrothes, Fife, KY6 2RT
United Kingdom
Tel: +44 (0) 1592 773666
Fax: +44 (0) 1592 773427

**MITSUBISHI ELECTRIC
PC DIVISION**
Apricot Computers Ltd
Niederlassung Deutschland
Gothaer Strasse 27
40880 Ratingen
Germany
Tel: +49 (0) 2102 4556
Fax: +49 (0) 2102 455700

FT2200**ALL MODELS****Power supply**

Rating (constant)	420W
Rating (peak)	445W
Type	Switched mode
Voltage setting	Auto Ranger
Voltage input range (AC)	100-120V & 200-240V
Frequency input range	47-63Hz
External connectors	IEC in

Uninterruptable Power Supply (standard)

Model	APC Smart-UPS 700iNET
Maximum power load	700VA
Mains failure runtime	5-17 mins. subject to loading
Peak current capability	6.5KA
Surge energy rating	480 Joules
Typical detection & switchover time	2/4ms
Dimensions: w x d x h weight	137 x 358 x 158mm 13.2Kg

CD ROM

Model	Sony CDU 111E-AP
Type	E-IDE
Speed	6
Buffer memory	128KB
Sustained transfer rate	900KB/s
Photo CD support	Yes (Multi-session)
MTBF (power-on-hours)	100 000

Tape backup devices**QIC****DAT**

Model	Conner Falcon	Conner Peregrine
Type	SCSI-II/512KB buffer	SCSI-II/1MB buffer
Media	QIC-3080 (DC2000 tape)	DAT (120m DDS & DDS II tape)
Native capacity	1.6GB	4GB
Max. capacity	3.2GB @ 2:1	8GB @ 2:1 / 16GB @ 4:1
Compression type	Software	Hardware
Effective backup rate	54MB/min (compressed)	48MB/min (compressed)

RAID Controller (option)

Type	DPT RAID PM 3334 UW
Location	Expansion board
Interface	PCI 32-bit bus
On-board processor	68040 @ 40MHz
Cache supplied (maximum)	4MB (64MB)
Bus master rate	132MB
Maximum SCSI transfer	40MB/s
SCSI bus support	Ultra-Wide SCSI
SCSI channels	2
RAID support	0, 1 & 5 (hardware)
External port	68-pin high density

Floppy drive

Type/capacity	3.5"/1.44MB
Controller	Embedded

mitsubishi electric ireland

West Gate Business Park
Ballymount
Dublin 24
Ireland
Tel: +353 (0) 1 450 5007
Fax: +353 (0) 1 456 1337

**mitsubishi electric corporation
PC DIVISION**

Apricot Business Centre
325 Kamimachiya
Kamakura
Kanagawa
247 Japan
Tel: +81 467 43 8212
Fax: +81 467 43 8397

**mitsubishi electric corporation
PC DIVISION**

Information & Communication
Systems Group
2-3 Marunouchi 2-chome, Chiyoda-ku
Tokyo
100 Japan

LCI COMPUTER IMPORT (BELGIUM)

Sterrebeekstraat 179 D3
1930 Zaventem
Belgium
Tel: +32 2 725 4343
Fax: +32 2 720 8610



FT2200	ALL MODELS	
	2GB	4GB
Hard Drives		
Type	Ultra-Wide SCSI	Fast/Wide SCSI-II
Average access	8.5ms	8.5ms
Track to track seek	0.6ms	1.0ms
Burst data rate	8.95MB/sec	10.26MB/sec
Cache	448KB	1024KB
MTBF (power-on-hours)	800 000	800 000

System Dimensions

Width x depth x height	180 x 600 x 590mm
Weight	19.6Kg

Warranty

Standard cover	3 years on-site repair service (in countries where applicable)
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Software Included

Operating System	DOS 6.22 (UK mainland only)
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Environmental

Temperature (operating)	+5 to +35°C
Temperature (non-op.)	-10 to +60°C
R. humidity (operating)	20 to 80%
R. humidity (non-op.)	20 to 80%
EMI/RFI approvals	CE Compliant with European CE mark regulations for Emissions Susceptibility. VCCI Level 1
Safety approvals	EN 60-950

Monitors

	14" SVGAe	15" FST EVGAe
Standard	SVGAe	EVGAe
CRT size (diag.)	14"	15"
CRT type	Anti-glare	FST anti-glare black tinted
Display area	260 x 190 (+/-3mm)	270 x 203 (+/-3mm)
Dot pitch	0.28mm	0.28mm
Phosphor	P22	P22
Video input	Analogue RGB	Analogue RGB
Max. video bandwidth	65MHz	110MHz
Max. res. x vert freq (non-interlaced)	1024 x 768 x 60Hz	1280 x 1024 x 60Hz 1024 x 768 x 75Hz
Power: full operation	80W	100W
standby	<30W	<30W
active off	>5W	>5W
Power management	VESA DPMS support for EPA compliance	VESA DPMS support for EPA compliance
EMI/RFI approvals	CE mark compliant MPRII	CE mark compliant MPRII
Safety approvals	EN60-950	EN60-950
Dimensions: w x d x h (mm)	351 x 384x327	361 x 382 x 345
weight	12Kg	14Kg

Input Devices

	KEYBOARD
Keys/buttons	102
Interface	PS/2
Cable length	3m
Dimensions: w x d x h	465 x 170 x 45mm
weight	1.4Kg

AS b.v

Herenweg 92
2102 MP Heemstede
Holland
Tel: +31 23 5 47 11 41
Fax: +31 23 5 29 32 33

INTERMEDIUM NETWORKS A/S

Odinsvej 19
DK-2600 Glostrup
Denmark
Tel: +45 43 26 02 00
Fax: +45 43 26 02 03

MITSUBISHI ELECTRIC (TAIWAN) CO LTD

6th Floor
Chung-Ling Building
363 SEc, 2 Fu Hsing Rd
Taipei ROC
Tel: +886 2733 2898
Fax: +886 2735 6244

WORACHAK INTERNATIONAL CO LTD

Bangna Tower B, 11th-15th Floor
2/3 Moo 14 Bangna-Trad Km 6.5
Bangkaew, Bangplee
Samutprakam 10540
Thailand
Tel: +662 312 0707/0808
Fax: +662 312 0800