



# apricot FT//ex 1500

Departmental, business-critical server



## Features

- ▶ Processor choice of Intel Pentium 90, 120 or 150MHz
- ▶ Dual Processor Support
- ▶ PCI and EISA Expansion Technology
- ▶ Integral Quad Speed CD-ROM Drive
- ▶ Optional High Performance SmartRAID System
- ▶ Lockable Fixed and Exchangeable Areas
- ▶ Choice of High Performance SCSI Hard Drives
- ▶ Up to 256MB Onboard RAM
- ▶ Intelligent Smart-UPS System
- ▶ UK Built



Certificate No's:  
FM1716 FS21715 FS30305

# System Overview

Apricot has led the field with network-ready workstations, and is now bringing more than a decade of system-building experience to produce a server with dependable performance at a price to suit the departmental budget. For departmental business-critical applications, the FT//ex 1500 is the clear choice: it is an industry standard, desk-side server with a PCI equipped Pentium core, intelligent RAID storage and mains protection and conditioning to deliver the power, control and assured reliability needed for major workgroup and departmental applications. The new FT//ex 1500 models offer three speeds of processor, with dual processor support, boosted by a full-width secondary cache, and using a 64-bit wide interface for up to 256MB of memory.

## Room for Growth

The Apricot FT//ex 1500 has the capacity and expansion capability to grow with expanding networks. By combining two high-speed bus architectures the FT//ex 1500 is equipped to meet the needs of growing business.

- **The new PCI bus architecture permits a peak throughput of 132MB/sec, ensuring that there are no bottlenecks.**
- **The established EISA architecture provides a high throughput while retaining compatibility with a wide range of EISA and ISA expansion products.**

All models include a PCI-based SCSI-II interface, located on the motherboard, which supports 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. All drives in the FT//ex 1500 have been chosen for their high performance and reliability in business-critical and deliver substantial MTBF figures of up to one million power-on hours.

## Full protection

As well as specifying closely-matched components of the highest quality, Apricot has provided the FT//ex 1500 with two additional features to protect both vital data and the electrical power supply.

## Secure storage

When data security cannot be compromised under any circumstance, specifying the FT//ex 1500 SmartRAID option ensures consistent and efficient operation.

The SmartRAID controller operates as a PCI bus master device and drives three SCSI channels, providing support for RAID levels 0, 1 and 5. All storage operations are monitored and controlled by an on-board dedicated 68030 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 FT//ex 1500 also provides the Apricot Hot-Plugging system. 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

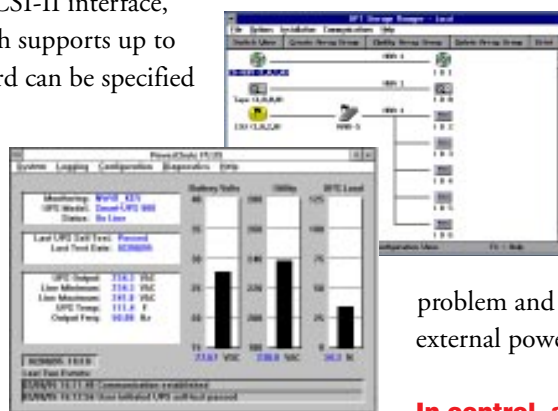
However effective the data protection within the server, it can count for nothing if the input power is compromised. This is why the FT//ex 1500 employs a device which ranks among the best in the field of conditioning and protection: the American Power Conversion Smart-UPS 700. This provides full

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 FT//ex 1500's operation can be monitored and controlled remotely, using intuitive Windows-based utilities.



Remote control of key server aspects.

# Features and Benefits

## Pentium power

The FT//ex 1500 offers three versions of Pentium processor: 90, 120 or 150MHz models, in single or dual configuration. All versions use a unique modular system for easy upgrading.



## 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 FT//ex 1500 provides three PCI slots for use by the latest generation of high performance peripherals. The free EISA slots allow access to the largest range of boards available.

## SCSI-II controller

The FT//ex 1500 is equipped with an advanced SCSI-II interface system centred around the Adaptec AIC-7870 controller. SCSI-II allows sustained data transfer rates of 10 Mbytes per second to be achieved.

## Multiple drivebay configuration

The FT//ex 1500 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.

## Quad speed CD-ROM

A SCSI quad speed CD-ROM is provided as standard equipment, so that the FT//ex 1500 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 FT//ex 1500 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 three 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 Hot Plugging backplane means that server operation can be maintained while drives are installed or removed.



## Smart-UPS systems

The FT//ex 1500 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 FT//ex 1500 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 SCSI-II architecture and cavernous casing of the FT//ex 1500 allows a large range of high capacity, high performance drives to be installed. Four sizes of SCSI drive are available, 1GB, 2GB, 4GB and 5GB, giving the system a maximum capacity of 40GB.

While all of the drive options provide superior performance and reliability, the larger drives have MTBF figures of up to 1,000,000 power-on hours.

## Expandable memory

All processor options are accompanied by 16MB of ram as standard. This is expandable to 256MB. Industry standard SIMM modules are used throughout.

## 350W power supply

A heavy duty, switched mode 350 watt power supply ensures that even when fully expanded, the FT//ex 1500's need for power is more than satisfied.

# Technical Specifications

	<b>FT//ex 1500</b>	<b>590</b>	<b>5120</b>	<b>5150</b>
<b>Processor</b>				
Type		Intel Pentium™ 90MHz	Intel Pentium™ 120MHz	Intel Pentium™ 150MHz
Clock speed (Internal)		90MHz	120MHz	150MHz
Clock speed (External)		60MHz	60MHz	60MHz
Internal cache		2 x 8KB	2 x 8KB	2 x 8KB
Coprocessor		Integral	Integral	Integral
Data/address bus		64/32-bits	64/32-bits	64/32-bits
Upgradeable to		Dual 90MHz	Dual 120MHz	Dual 150MHz
CPU socket type		273-pin LIF & 320-pin ZIF upgrade	273-pin LIF & 320-pin ZIF upgrade	273-pin LIF & 320-pin ZIF upgrade
Core logic chipset		Intel Mercury	Intel Mercury	Intel Mercury
<b>External cache</b>				
Supplied		512KB	512KB	512KB
Mapping		Direct	Direct	Direct
Writing scheme		Write through	Write through	Write through
Cache speed		15ns	15ns	15ns
<b>RAM</b>				
Supplied		16MB	16MB	16MB
Maximum		256MB	256MB	256MB
Type		36-bit SIMM	36-bit SIMM	36-bit SIMM
Speed		70ns	70ns	70ns
Fitted RAM location		SIMM Sockets (motherboard & processor card)	SIMM Sockets (motherboard & processor card)	SIMM Sockets (motherboard & processor card)
Parity		Checked	Checked	Checked
Sockets: total		8	8	8
free		6	6	6
Sizes supported: bank 0 & bank 1		8, 16 & 32MB	8, 16 & 32MB	8, 16 & 32MB
Sizes supported: processor card		8, 16 & 32MB	8, 16 & 32MB	8, 16 & 32MB
<b>ROM</b>				
Size		128KB	128KB	128KB
Type		Flash ROM	Flash ROM	Flash ROM
Shadowable		Yes	Yes	Yes
<b>Graphics (standard)</b>				
Controller		Cirrus Logic GD5424	Cirrus Logic GD5424	Cirrus Logic GD5424
Interface		ISA	ISA	ISA
Location		Expansion board	Expansion board	Expansion board
Video memory: supplied		512KB	512KB	512KB
type		DRAM	DRAM	DRAM
Max NI resolution		1024 x 768 x 16	1024 x 768 x 16	1024 x 768 x 16
Max NI colours		256 @ 800 x 600	256 @ 800 x 600	256 @ 800 x 600
<b>I/O ports</b>				
Serial: quantity		2	2	2
connectors		1 x 9-pin, 1 x 25-pin D-SUB	1 x 9-pin, 1 x 25-pin D-SUB	1 x 9-pin, 1 x 25-pin D-SUB
Parallel: quantity		1	1	1
type		ECP/EPP compliant	ECP/EPP compliant	ECP/EPP compliant
SCSI-II controller (Adaptec 7870)				
max devices		7	7	7
max data transfer		10MB/second	10MB/second	10MB/second
Keyboard type		PS/2	PS/2	PS/2
Mouse type		PS/2	PS/2	PS/2
<b>Expansion (free)</b>				
Slots: EISA full length		4(3)	4(3)	4(3)
Shared PCI / EISA		1	1	1
PCI Local Bus		2	2	2
3.5" x full height removable media drive bays		8(7)	8(7)	8(7)
5.25" half height removable media drive bays		3(2)	3(2)	3(2)



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**FT//ex 1500****ALL MODELS****Power supply**

Rating (constant)	350W
Rating (peak)	436W
Type	Switched mode
Voltage setting	External switch
Voltage input range (AC)	100-120V & 200-240V
Frequency input range	47-63Hz
3.5" internal cables	1 (0 free)
5.25" internal cables	3 (2 free)
Max loads: +5V	43A
+12V	9A
-5V	1A
-12V	1A
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	137 x 358 x 158mm
weight	13.2Kg

**CD ROM**

Model	Sony CDU76S
Type	SCSI
Speed	4.2
Buffer memory	256KB
Sustained transfer rate	684KB/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 PM3224 & SX4000/2
Location	Expansion board
Interface	PCI 32-bit bus
On-board processor	68030 @ 40MHz
Cache supplied (maximum)	4MB (64MB)
Bus master rate	132MB
Maximum SCSI transfer	20MB/s
SCSI bus support	Fast SCSI-II
SCSI channels	3
RAID support	5 (hardware)
External port	68-pin high density

**Floppy drive**

Type/capacity	3.5"/1.44MB
Controller	Embedded

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<b>FT//ex 1500</b>	<b>ALL MODELS</b>			
	<b>1GB</b>	<b>2GB</b>	<b>4GB</b>	<b>5GB</b>
Hard Drives				
Type	SCSI-II	SCSI-II	SCSI-II	SCSI-II
Average access	10.5ms	7.5ms	8.5ms	8.4ms
Track to track seek	2.3ms	0.6ms	1.0ms	0.6ms
Burst data rate	6.9MB/sec	12.6MB/sec	10.26ms	12.6MB/sec
Cache	448KB	512KB	1024KB	572KB
MTBF (power-on-hours)	350 000	1 000 000	800 000	1 000 000

#### 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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#### Preloaded Software

Operating System	DOS 6.22 (UK mainland only)
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#### Environmental

Temperature (operating)	+10 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	<b>CE</b> Compliant with European CE mark regulations for Emissions Susceptibility, VCCI Level 1
Safety approvals	EN 60-950

#### Monitors

	<b>14" SVGAe</b>	<b>15" FST EVGAe</b>	<b>15" Trinitron EVGAe</b>
Standard	SVGA	EVGA	EVGA
CRT size (diagonal)	14"	15"	15"
CRT type	Anti-glare	FST	Super Fine Trinitron anti-glare/static
Display area	245 x 183 (+/- 3mm)	270 x 203 (+/- 3mm)	270 x 202 (+/- 2mm)
Dot pitch	0.28mm	0.28mm	0.26mm
Phosphor	P22	P22	P22
Video input	Analogue RGB	Analogue RGB	Analogue RGB
Maximum video bandwidth	35MHz	110MHz	107MHz
Max resolution (non-interlaced)	800 x 600	1280 x 1024 x 60Hz	1280 x 1024 x 60Hz
Power: full operation	Less than 80W	100W	110W maximum
standby	Less than 20W	<5W	8W maximum
active off	>5W	>5W	>5W
Power management	VESA DPMS support for EPA compliance	VESA DPMS support for EPA compliance	VESA DPMS support for EPA compliance
EMI/RFI approvals	EN 55022 Limit B VDE 0871 Vfg 243 Limit B MPRII	EN 55022 Limit B VDE 0871 Vfg 243 Limit B MPRII	CE mark compliant MPRII
Safety approvals	EN60-950	EN60-950	EN60-950
Dimensions: w x d x h	351 x 384 x 327mm	361 x 382 x 345mm	368 x 385 x 373mm
weight	11.5Kg	16Kg	13.7Kg

#### Input Devices

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

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