MITSUBISHI ELECTRIC

apricot
VS660

The fully expandable mini tower PC and Server

Features

▶ Choice of 75, 100, 133 or 166MHz Pentium CPUs

▶ Up to 128MB EDO high performance RAM

▶ State-of-the-art Intel 430FX PCIset chipset

▶ Choice of 850MB or 1.2GB high performance hard disk

▶ Server option with high performance 2GB SCSI hard disk

▶ Upgradable to the next generation of CPUs or OverDrive processors

▶ Integrated 64Bit PCI graphics

▶ 200Watt power-supply

▶ Six expansion slots

▶ Six drive bays

▶ UK built

Designed for
Microsoft® Windows®95

intel inside
pentium PROCESSOR

BSI REGISTERED FIRM
NATIONAL ACCREDITATION OF CERTIFICATION BODIES

Certificate No's:
FM1716   FS21715   FS30305

System Overview

The Apricot VS660 combines robustness and value for money in a mini-tower chassis that provides massive room for expansion. Now there's virtually no limit to your choice when it comes to specifying your business PC. Because it comes with only the components you need, there's no cost burden of unwanted frills and features with the VS660. You can start with the exact combination of processor, memory and hard disk you need, and then add whatever else you want: scanner, tape streamer, additional hard drives, CD-ROM, sound card, modem — almost without limit. Because the VS660 meets Apricot's own exacting performance standards, you can be sure that whatever additions you make, you can rely on them performing to the very best of their capabilities.

Highly Specified

From a fast 75MHz Pentium to the latest 166MHz model. The standard 8MB of EDO high performance RAM can be expanded to 128MB, and there is a choice of hard disk drive from 850MB to a massive 1.2GB. Every component is chosen from the best available to ensure that the VS660 lives up to the promise of the Apricot name: from the fast PCI internal bus, to the accelerated PCI graphics sub-system.

Expandable and upgradeable

The VS660 does more than just provide room for expansion: it offers a choice of three dedicated PCI slots, two dedicated ISA and an additional dual-standard slot. There are no less than six drive bays, and a 200 watt power supply to feed them all. The upgrading process has been well thought out too: with facility for a faster Pentium OverDrive processor and up to 128MB of EDO 32-bit memory can be mixed and matched in the four SIMM sockets.

Server Options

Drawing on Apricot's extensive experience of the best server technology, the VS660 is available as a Server with either a 133MHz or 166MHz Pentium CPU. VS660 Servers feature a high performance PCI SCSI controller, essential for hard working server systems, and have 2GB SCSI hard drives as standard. The VS660 Server can support up to 4GB of high performance SCSI disk storage and offers the latest high capacity tape drives to keep that data secure. With Apriot's server technology, the VS660 Server is the most cost-effective server system in it's class.

STANDARD FEATURES

Mass Storage
1.44MB floppy drive
Choice of 850MB or 1.2GB high speed IDE hard drives

Graphics
PCI Local bus enhanced VGA graphics
1MB RAM standard, upgradeable to 2MB

Expansion
Six expansion slots
Dual high speed serial ports
Parallel port

Pre-installed Software
Windows® 95
Optional DOS 6.22 and Windows for Workgroups 3.11

Peripherals
14", 15", 17" or 21" high resolution monitors
Enhanced 102 key keyboard
Two button mouse

Server Systems
Pentium 133MHz or 166MHz CPU
16MB RAM
Quad speed IDE CD-ROM
SCSI controller and 2GB SCSI hard drive
MS-DOS 6.22

Features and Benefits

Pentium processing power

Pentium processors have rapidly become the industry standard. With the VS660, you can choose exactly the model you need for a specific situation. The cost-effective Pentium 75 can cope with everything the software can throw at it — at the lowest possible cost. At the other end of the scale, the latest 133 and 166MHz chips offer the ultimate in performance. The state-of-the-art Intel 430FX PCIset chipset is designed to achieve maximum performance of the system's PCI bus.

Memory options

By providing a choice of memory options, the VS660 models allow even more opportunities for matching performance against budget. EDO SIMM memory has enhanced performance which reduces the need for a cache: This feature is fully exploited in the Pentium 75 models, where the cache is eliminated to enhance their price competitiveness. In the Pentium 100, 133 and 166MHz models, a 256K Pipeline Burst mode cache gives enhanced performance.

High capacity, high speed hard drives

Fast, powerful computers require large, high performance disk drives. The VS660 comes with the choice of a large 850MB drive or a massive 1.2GB, both with exceptionally high performance. The PCI bus-master enhanced mode 4 IDE interface increases the available bandwidth to the disk drives to 16.6Mbytes/sec ensuring that data transfer is carried out at the drives' maximum capacity.

Future-proof design

The VS660 has been designed to anticipate future processor developments: the VS660 mother-board incorporates the Intel OverDrive Type 7 CPU socket, which incorporates support for as yet unannounced Pentium processors, giving the buyer a wide range of options for choice in the future.

Energy Saving

The VS660 model has BIOS facilities which you can use to put it into "Low Power" power saving mode. This switches off the monitor power and the fan, and stops the hard disk, saving wear and tear on the machine, as well as your electricity bill. When you wish to resume work, a simple keystroke or a touch of the mouse button puts you back in business within a few seconds.

Video acceleration

The VS660 is capable of stunning video performance, made possible by the use of accelerated local bus video processors. The S3 Trio 64V+ video controller uses the PCI local bus to link with the main system processor, ensuring that even the most graphically demanding applications move like lightning.

Video RAM

The VS660's S3 Trio 64V+ video controller has 1MB of video RAM, which means that it is capable of providing non-interlaced, high resolutions straight from the box. Socketed video memory means that this can be quickly and easily upgraded to 2MB when higher resolutions are required.

14", 15", 17" and 21" Hi Vision monitors

Every VS660 is provided with a choice of high resolution monitors, from the industry standard 14" SVGA model to the stunning 21" Diamondtron model. All monitors have energy-saving automatic power-down modes and meet all EU and International Health and safety regulations for screen emissions.

Built in the UK by Apricot

Apricot is one of Britain's longest established and most experienced computer manufacturers, now a major part of the worldwide Mitsubishi Electric Corporation. All Apricot systems are designed and built in the UK under the control of ISO 9001 (1994) quality management systems and backed by the world class manufacturing expertise and resources of one of the world's largest industrial groups.

Technical Specifications

	VS660	575 / 5100	5133	5166
Processor				
Type		Pentium	Pentium	Pentium
Clock speed (Internal)		75MHz / 100MHz	133MHz	166MHz
Clock speed (External)		50MHz / 66MHz	66MHz	66MHz
Internal cache		2x8KB	2x8KB	2x8KB
Coprocessor		Integral	Integral	Integral
Data/address bus		64/32-bits	64/32-bits	64/32-bits
CPU socket type		321-pin ZIF (Type 7)	321-pin ZIF (Type 7)	321-pin ZIF (Type 7)
iCOMP benchmark		610 / 815	1110	1308
Core Logic chipset		Intel 430FX PCIset	Intel 430FX PCIset	Intel 430FX PCIset
External cache				
Supplied		None / 256KB Pipeline Burst	256KB Pipeline Burst	256KB Pipeline Burst
Maximum		256KB Pipeline burst	256KB Pipeline burst	256KB Pipeline burst
Mapping		Direct	Direct	Direct
Writing scheme		Write back	Write back	Write back
Cache speed		- / 66MHz	66MHz	66MHz
RAM				
Supplied		8/16MB	8/16MB	8/16MB
Maximum		128MB	128MB	128MB
Type		32-bit EDO SIMM	32-bit EDO SIMM	32-bit EDO SIMM
Speed		70ns	70ns	70ns
Fitted RAM location		Motherboard	Motherboard	Motherboard
Parity		None	None	None
Sockets: total		4	4	4
free		2	2	2
Sizes supported		4, 8, 16 & 32MB	4, 8, 16 & 32MB	4, 8, 16 & 32MB
ROM				
Size		2Mbit	2Mbit	2Mbit
Type		Flash ROM	Flash ROM	Flash ROM
Shadowable		Yes	Yes	Yes
Graphics				
Controller		S3 Trio V64+	S3 Trio V64+	S3 Trio V64+
Interface		PCI Local Bus	PCI Local Bus	PCI Local Bus
Location		Motherboard	Motherboard	Motherboard
Video memory: supplied		1MB	1MB	1MB
max		2MB	2MB	2MB
type		DRAM	DRAM	DRAM
Max N.I. resolution @ 1MB		1280x1024 (16 colours)	1280x1024 (16 colours)	1280x1024 (16 colours)
Max N.I. resolution @ 2MB		1280x1024 (256 colours)	1280 x1024 (256 colours)	1280 x1024 (256 colours)
Max N.I. colours @ 1MB		65,536 (640x480)	65,536 (640x480)	65,536 (640x480)
Max N.I. colours @ 2MB		16.7 million (800x600)	16.7 million (800x600)	16.7 million (800x600)

MITSUBISHI

apricot

	VS660	575 / 5100	5133	5166
Security				
Technology		BIOS Level Security	BIOS Level Security	BIOS Level Security
Access control		Power On/	Power On/	Power On/
		CMOS Setup Password	CMOS Setup Password	CMOS Setup Password
		Floppy write-protect	Floppy write-protect	Floppy write-protect
Hardware		Security loop	Security loop	Security loop
Expansion				
Total slots		6 (one shared PCI/ISA)	6 (one shared PCI/ISA)	6 (one shared PCI/ISA)
PCI		4 full length	4 full length†	4 full length†
ISA		3 full length	3 full length	3 full length
				†3 free in server models
I/O ports				
Serial: quantity		2 (16550 compliant)	2 (16550 compliant)	2 (16550 compliant)
connectors		2 x 9-pin D-SUB	2 x 9-pin D-SUB	2 x 9-pin D-SUB
Parallel: quantity		1	1	1
type		ECP/EPP compliant	ECP/EPP compliant	ECP/EPP compliant
Dual channel PCI bus EIDE controller				
ATA IDE standard		Mode 4	Mode 4	Mode 4
Connector type		40-pin	40-pin	40-pin
Max data transfer		16.6MB/s	16.6MB/s	16.6MB/s
Keyboard type		PS/2	PS/2	PS/2
Mouse type		PS/2	PS/2	PS/2
SCSI card		-	Yes	Yes
SCSI PCI controller (server models only)				
Type		-	Adaptec AHA2940	Adaptec AHA2940
SCSI support		-	SCSI-II	SCSI-II
No. of channels		-	1	1
Power supply				
Rating (constant)		180W	180W	180W
Rating (peak)		200W	200W	200W
Type		Switched mode	Switched mode	Switched mode
Voltage setting		External switch	External switch	External switch
Voltage input range (AC)		90-135V & 180-265V	90-135V & 180-265V	90-135V & 180-265V
Frequency input range		47-63Hz	47-63Hz	47-63Hz
Max loads: +5V		20A	20A	20A
+12V		6A	6A	6A
-12V		0.8A	0.8A	0.8A
External connectors		IEC in	IEC in	IEC in
Floppy drive				
Type/capacity		3.5"/1.44MB	3.5"/1.44MB	3.5"/1.44MB
Controller		Embedded	Embedded	Embedded
Drive bays				
5.25" accessable		3 free	3 free	3 free
3.5" internal		2 (1 free)	2 (1 free)	2 (1 free)

VS660	**ALL MODELS**		
Hard Drives	**850MB**	**1.2GB**	**2GB SCSI (Servers only)**
Type	E-IDE	E-IDE	SCSI
Average access	14ms	12ms	8.5ms
Track to track seek	5ms	3.1ms	1.83ms
Burst data rate	6.5MB/sec	10.5MB/s	8.95MB/s
Cache	128KB	128KB	448KB
MTBF	300 000 poh	500 000 poh	800 000 poh

System Dimensions

Width x depth x height	210 x 460 x 405mm
Weight	10Kg

Warranty

Standard cover *(UK mainland only)*	3 years limited warranty (1st year on-site, 2nd and 3rd year parts only); Monitor one year on-site only
	Server Systems: MSDOS 6.22 only

Preloaded Software

Operating System	Windows® 95, optional DOS 6.22 and Windows for Workgroups 3.11 (UK mainland only)

Environmental

Temperature (operating)	5 to +35^{0}C
Temperature (non-op.)	5 to +65^{0}C
R. humidity (operating)	10 to 80%
R. humidity (non-op.)	10 to 90%
EMI/RFI approvals	$C\epsilon$ Compliant with European CE mark regulations for Emissions Susceptibility. VCCI Level 2
Safety approvals	EN60-950, UL1950

Monitors	**14" SVGAe**	**15" FST EVGAe**	**17" FST EVGAe**	**21" Diamondtron**
Standard	SVGAe	EVGAe	EVGAe	EVGAe
CRT size (diag.)	14"	15"	17"	21"
CRT type	Anti-glare	FST anti-glare black tinted	FST dynamic focus, anti-glare/static	Diamondtron dark tint, anti-glare/static
Display area	260 x 190 (+/-3mm)	270 x 203 (+/-3mm)	290 x 218 (+/-3.5mm)	380 x 285 (+/-4mm)
Dot pitch	0.28mm	0.28mm	0.28mm	0.30mm
Phosphor	P22	P22	P22	P22
Video input	Analogue RGB	Analogue RGB	Analogue RGB	Analogue RGB
Max. video bandwidth	65MHz	110MHz	130MHz	180MHz
Max. res. x vert freq (non-interlaced)	1024 x 768 x 60Hz	1280 x 1024 x 60Hz 1024 x 768 x 75Hz	1600 x 1200 x 60Hz 1280 x 1024 x 75Hz	1600 x 1200 x 75Hz
Power: full operation	<80W	<100W	<130W max	165W
standby	<30W	<30W	<5W	<30W
active off	>5W	>5W	>5W	>11W
Power management	VESA DPMS support for EPA compliance	VESA DPMS support for EPA compliance	VESA DPMS support for EPA compliance	VESA DPMS support for EPA compliance
EMI/RFI approvals	CE mark compliant MPRII	CE mark compliant MPRII	CE mark compliant MPRII	CE mark compliant MPRII
Safety approvals	EN60-950	EN60-950	EN60-950	EN60-950
Dimensions: w x d x h (mm)	351 x 384x327	361 x 382 x 345	411 x 480 x 380	500 x 488 x 490
weight	12Kg	14Kg	23Kg	35Kg

Input Devices	**KEYBOARD**	**MOUSE**
Keys/buttons	102	2
Interface	PS/2	PS/2
Resolution	N/A	400dpi
Cable length	3m	1.83m
Dimensions: w x d x h	465 x170 x 45mm	63 x 114 x 40mm
weight	1.4Kg	127g