FIC PT-2200 PCI SYSTEM BOARD
BENCHMARKING REPORT

Document Revision 2.0

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1.0 Introduction

To evaluate the PT-2200 performance and to ensure its compatibility with a complete range of the most popular operating systems and software applications, FIC 's Motherboard R&D Team conducted a comprehensive suite of benchmark tests on the board in a variety of hardware configurations, including a full selection of Intel Pentium , IBM/Cyrix 6x86, AMD-K5 , AMD K6 and Intel Pentium with MMX processors as well as Fast Page Mode, EDO and Synchronous DRAM types. The performance of the board running some of the most popular VGA adapter cards was also tested.

In order to demonstrate realistic business application performance, Winstone 97 under Windows 95 was chosen as the primary benchmarking tool for FIC's tests. Winstone 97 Version 1.0 was developed by the Ziff-Davis Publishing Company to provide a tool for accurate and realistic measurement of system performance of personal computers running popular business-oriented applications in the Microsoft Windows 95 operating system environment.

System Tests Configuration :

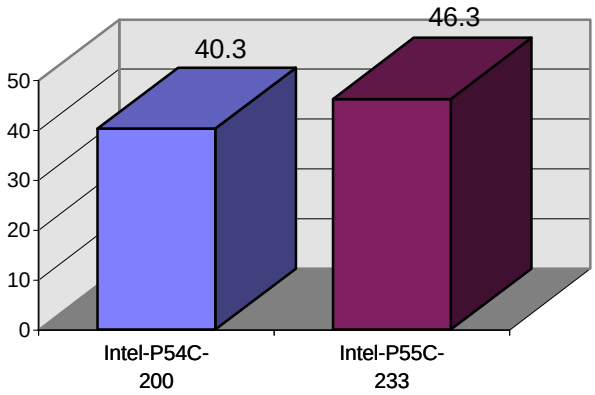
Main Board	FIC PT-2200 PCB Ver:2.2
System Core Logic	Intel 430HX
System BIOS	AMI BIOS Version TII 1.07
Video	Matrox Mystique 4MB SGRAM with VGA BIOS Version 1.3
Video Driver	Matrox Mystique Windows 95 Driver Version 3.22
IDE Driver	Intel PIIX Bus Master IDE Driver Version 2.85
IDE HDD	Quantum 1.2GB DMA IDE FB-1280A
Operating System	Microsoft Windows 95 4.00.950b (OSR2)

2.0 Processor Benchmarks Performance Summary

A) Intel Pentium Processor Performance

The chart below illustrates the Winstone 97 under Windows 95 performance processor benchmark with the PT-2200 using different speed Intel Pentium and Pentium with MMX processors. The following is a sample of the results using 512KB Pipeline Burst SRAM, 32MB of Synchronous DRAM Memory , with a Matrox Mystique, 4MB SGRAM PCI VGA card in 1024 x 768 x 256 colors, resolution refresh rate of 75Hz, small font.

PT-2200 Winstone 97 Intel Pentium with MMX Performance Comparison Chart



The table below provides more detailed benchmark testing data about the PT-2200 using different speed Intel Pentium and Pentium with MMX processors. The board was configured with 512KB Pipeline Burst SRAM and 32MB of synchronous Memory .

Benchmarks	Weighted Suite	Intel P54C-200	Intel P55C-233
Winstone 97	Business Winstone 97	40.3	46.5
	High End Winstone 97	17.9	20.8
Winbench 97	Business Disk WinMark 97	827	880
	High End Disk WinMark9 7	2680	2810
	CPUmark 16	365	455
	CPUmark 32	367	440
	Business Graphics WinMark 97	68.8	103
	High End Graphics WinMark 97	32.3	45.4

B) Cyrix 6x86 Processor Performance

The chart below illustrates the Winstone 97 under Windows 95 performance processor benchmark with the PT-2011 using different speed Cyrix/IBM processors. The board was configured with 512KB Pipeline Burst SRAM and 32MB synchronous DRAM of main Memory , with a Matrox Mystique, 4MB SGRAM PCI VGA card in 1024 x 768 x 256 colors, resolution refresh rate of 75Hz, small font.

The table provides a detailed summary of PT-2200 benchmark performance using different speed Cyrix/IBM 6x86 processors. The board was configured with 512KB Pipeline Burst SRAM and 32MB synchronous DRAM of main memory.

Benchmarks	**Weighted Suite**	**Cyrix/IBM 6x86L-P166^{+}**
Winstone 97	Business Winstone 97	39.2
	High End Winstone 97	15.5
Winbench 97	Business Disk WinMark 97	826
	High End Disk WinMark 97	2670
	CPUmark 16	325
	CPUmark 32	337
	Business Graphics WinMark 97	68.5
	High End Graphics WinMark 97	32.1

C) AMD K5 and K6 Processor Performance

The chart below illustrates the Winstone 97 under Windows 95 performance processor benchmark with the PT-2200 using different speed AMD-K5/K6 processors. The board was configured with 512KB Pipeline Burst SRAM and 32MB Synchronous DRAM of main memory , with a Matrox Mystique, 4MB SGRAM PCI VGA card in 1024 x 768 x 256 colors, resolution refresh rate of 75Hz, small font.

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The table summarizes the processor benchmark performance of the PT-2200 using different speed AMD-K5 /K6 processors. The board was configured with 512KB Pipeline Burst SRAM and 32MB Synchronous DRAM of main memory .

Benchmarks	**Weighted Suite**	**AMD K5-PR166**	**AMD K6-200**
Winstone 97	Business Winstone 97	39.7	46.8
	High End Winstone 97	16.8	19.8
Winbench 97	Business Disk WinMark 97	857	857
	High End Disk WinMark 97	2690	2770
	CPUmark 16	276	398
	CPUmark 32	305	485
	Business Graphics WinMark 97	76.6	97.9
	High End Graphics WinMark 97	36	43.7

2.1 Memory Configurations

This table measures the performance of the PT-2200 using different memory sizes of 32MB and 64MB. The tests were done on a board featuring an Intel Pentium with MMX 233MHz processor, 512KB Pipeline Burst Cache and EDO Main Memory.

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Benchmarks	Weighted Suite	32MB EDO	64MB EDO
Winstone 97	Business Winstone 97	46.5	47.5
	High End Winstone 97	20.8	22.9
Winbench 97	Business Disk WinMark 97	880	891
	High End Disk WinMark 97	2810	2990
	CPUmark 16	455	446
	CPUmark 32	440	429
	Business Graphics WinMark 97	103	103
	High End Graphics WinMark 97	45.4	46

2.1 Cache Configurations

The table below provides more detailed measurements of the performance of the PT-2200 using the following different cache sizes : 256K, 512K . The tests were conducted on a board featuring an Intel 233MHz Pentium with MMX processor, 32MB synchronous DRAM of Main Memory.

Benchmarks	Weighted Suite	256K	512K
Winstone 97	Business Winstone 97	45.7	46.5
	High End Winstone 97	20.7	20.8
Winbench 97	Business Disk WinMark 97	868	880
	High End Disk WinMark 97	2770	2810
	CPUmark 16	440	455
	CPUmark 32	408	440
	Business Graphics WinMark 97	100	103

	High End Graphics WinMark 97	44.7	45.4