



**iCOMP<sup>®</sup> Index 2.0**  
**Performance Brief**  
**Pentium<sup>®</sup> II Processors**  
**Addendum**



May 1997

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## 1.0 WHO SHOULD READ THIS REPORT?

This report extends the *iCOMP® Index 2.0 Performance Brief* (Order Number 243127) to cover the addition of the Pentium® II processor into Intel's microprocessor product line. The iCOMP® Index ratings and test configurations used for these processors are contained herein. Individuals who need to better understand the derivation of iCOMP Index 2.0 should reference the *iCOMP® Index 2.0 Performance Brief*. This report assumes that the reader understands some of the technology differences between the various Intel microprocessor families and has some knowledge of how microprocessor performance is measured.

## 2.0 USING iCOMP® INDEX 2.0

Figure 1 below shows the iCOMP Index 2.0 ratings for several Intel microprocessors. The base processor is the Pentium processor at 120 MHz, which has been scaled<sup>1</sup> to the value of 100. All other rated processors will have a number that is either above 100, meaning a faster processor, or below, meaning a slower processor. The difference between any two index ratings provides a relative measure of the increase in the performance of one processor versus another.

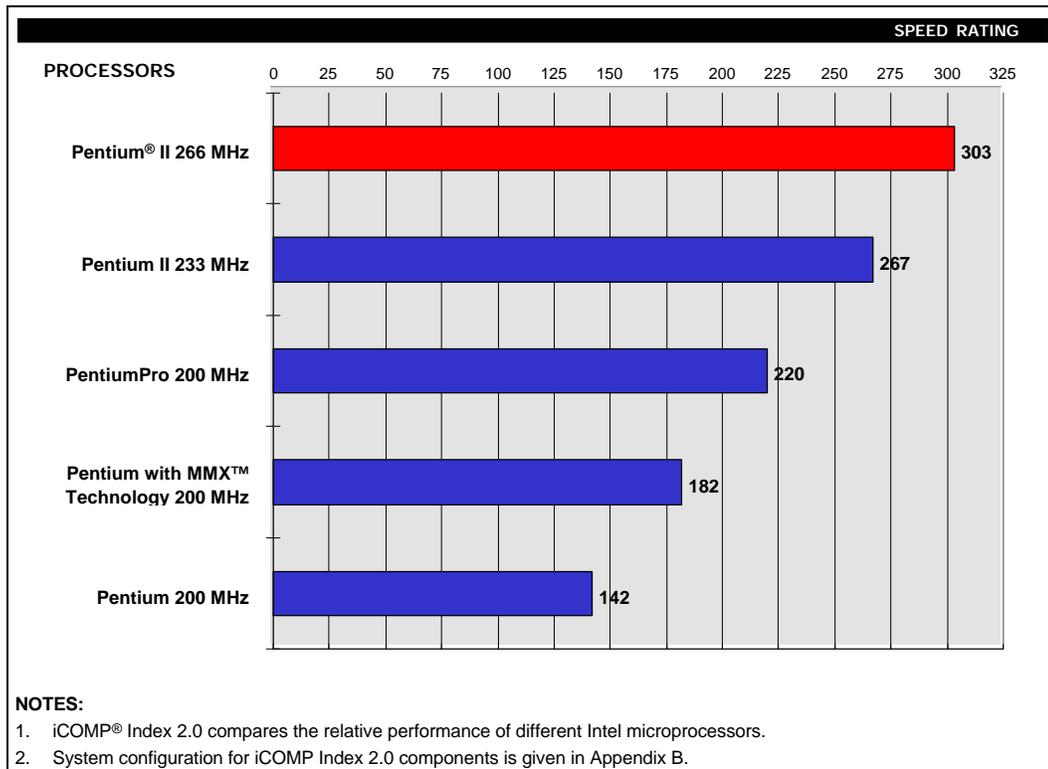


Figure 1. Chart of iCOMP® Index 2.0 Ratings

iCOMP Index 2.0 reflects 32-bit applications and benchmarks. It combines five benchmarks:

### Footnotes

<sup>1</sup> A technical overview is provided to explain the iCOMP Index 2.0 formula in *Section 4.6 of the iCOMP® Index 2.0 Performance Brief*.

CPUmark32\*, Norton SI-32\*, SPECint\_base95\*, SPECfp\_base95\*, and the Intel Media Benchmark. Each processor's rating is calculated on a desktop system at the time the processor is introduced. Performance on mobile systems will vary, and other differences in hardware and software configurations, including MMX technology enabled software, will also affect actual performance. Ratings for processors introduced before iCOMP Index 2.0 were calculated upon version 2.0's release. Ratings for Pentium II processors were calculated with 512 Kbyte L2 cache. Ratings for the Pentium Pro processors were calculated with 256 Kbyte L2 cache. For more information about iCOMP Index 2.0, including a description of the systems used to calculate ratings, contact Intel at 1-800-628-8686 or visit <http://www.intel.com>.

### 3.0 RESULTS

Table 1 contains the current iCOMP Index 2.0 ratings for various microprocessors measured in desktop systems.

Table 1. iCOMP® Index 2.0 Ratings <sup>(1)</sup>

Processors	iCOMP® Index 2.0
Pentium® II Processor at 266 MHz	303
Pentium II Processor at 233 MHz	267
Pentium Pro Processor at 200 MHz	220
Pentium Processor with MMX™ Technology at 200 MHz	182
Pentium Processor at 200 MHz	142

**NOTES:**

1. See Appendix B for a description of the specific platform configuration used to calculate these results.

### 4.0 CONCLUSION

iCOMP Index 2.0 provides a comprehensive measure of relative processor performance by covering numerous aspects of processor usage while reflecting the emergence of 32-bit operating systems and applications, and multimedia and communications capabilities. iCOMP Index 2.0 also provides PC users with a balanced performance metric. iCOMP Index 2.0 is a repeatable, representative microprocessor performance index which reflects today's trend toward modern 32-bit software and the proliferation of multimedia.

One should reference the *iCOMP® Index 2.0 Performance Brief* for more information regarding the derivation of the iCOMP Index 2.0 formula.



## APPENDIX A. RESULTS AND RATINGS

*CPUmark32\**, *Norton SI-32\**, *SPEC CPU95\**, and *Intel Media Benchmark Scores*

Processor Benchmarks (512 Kbyte L2)	Pentium® Processor 200 MHz	Pentium Processor with MMX™ Technology 200 MHz	Pentium Pro Processor 200 MHz 256 Kbyte L2	Pentium II Processor 233 MHz 512 Kbyte L2	Pentium II Processor 266 MHz 512 Kbyte L2
<b>SPEC CPU95* (UNIX*)</b>					
SPECint_base95*	5.00	6.41	8.20	9.49	10.80
SPECfp_base95*	2.98	3.90	5.54	5.91	6.43
<b>Windows*</b>					
Norton SI-32* (Windows 95)	43.8	56.7	90.0	112.6	127.3
CPUmark32* (Windows 95)	382	423	553	606	693
Intel Media Benchmark (Windows 95)	153.06	253.08	196.29	310.25	351.10
Video	153.42	267.23	160.97	269.48	304.40
Image Processing	157.77	742.65	222.04	1022.94	1129.15
3D Geometry	155.69	160.19	212.41	246.74	280.22
Audio	148.50	323.81	239.27	403.03	457.78

### *iCOMP® Index 2.0 Ratings*

	Pentium® Processor 200 MHz	Pentium Processor with MMX™ Technology 200 MHz	Pentium Pro Processor 200 MHz 256 Kbyte B L2	Pentium II Processor 233 MHz 512 Kbyte L2	Pentium II Processor 266 MHz 512 Kbyte L2
iCOMP® Index 2.0 Rating	142	182	220	267	303

## APPENDIX B. BENCHMARK CONFIGURATION

### *System Configuration Used in iCOMP® Index 2.0 Ratings*

Processor	Pentium® Processor 200 MHz	Pentium Processor with MMX™ Technology 200 MHz	Pentium Pro Processor 200 MHz	Pentium II Processor 233 MHz and 266 MHz
FPU	Integrated			
System	Intel 82430 FX PCIsset based motherboard	Intel 82430 VX PCIsset based motherboard	Intel 82440 FX PCIsset based motherboard	Intel 82440 FX PCIsset based motherboard (PD440FX)
Primary Cache	16 Kbyte (8 Kbyte I + 8 Kbyte D)	32 Kbyte (16 Kbyte I + 16 Kbyte D)	16 Kbyte (8 Kbyte I + 8 Kbyte D)	32 Kbyte (16 Kbyte I + 16 Kbyte D)
Secondary Cache	512K WB		256K WB	512K WB
Hard Disk	Quantum Fireball* EIDE with Integrated EIDE Disk Controller			
Video	Matrox Millennium* PCI			
Audio	Creative Labs Sound Blaster* 16			
<b>For SPEC95*:</b>				
Memory Size	64 MB EDO	64 MB SDRAM	64 MB EDO	
Operating System	UnixWare 2.0			
C Compiler	Intel C Ref. Compiler 2.3			
FORTTRAN Compiler	Intel FORTRAN Ref. Compiler 2.3			
<b>For All Other Benchmarks:</b>				
Memory Size	32 MB EDO	32 MB SDRAM	32 MB EDO	
Operating System	Windows 95*			
Graphics	All benchmarks except Intel Media Benchmark – 1024x768 Resolution, 256 Colors  Intel Media Benchmark – 1024x768 Resolution, 16-bit color			