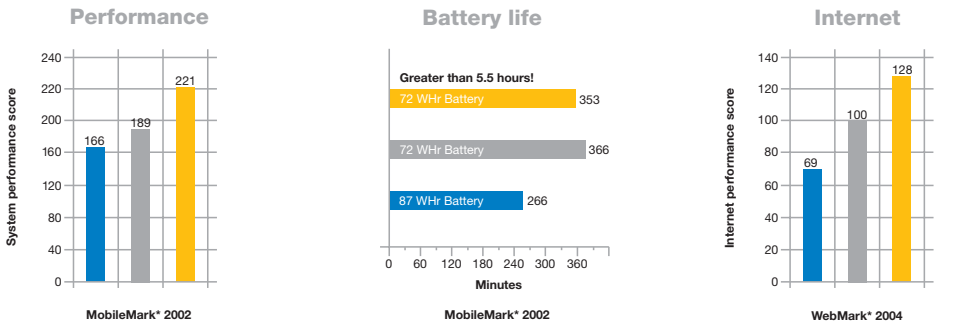
Product Brief

Intel® Pentium® M Processor

The Intel® Pentium® M processor uses a new microarchitecture, built from the ground up specifically for mobile computing applications.

The Intel® Pentium® M processor enables extended battery life in high-performance notebooks for greater freedom without compromising the user's computing experience†. The Intel Pentium M processor provides higher CPU performance with a 2 MB power-managed cache. Its power-optimized 400 MHz system bus allows faster execution of instructions while consuming less power. Enhanced Intel SpeedStep® technology, with multiple voltage and frequency operating points, dynamically matches processor performance to application demand, capitalizing on reduced power consumption whenever possible. These and a host of other power-reducing features make the Intel Pentium M processor the right choice for thin and light notebooks that can operate longer without sacrificing performance†.

Measuring mobile performance

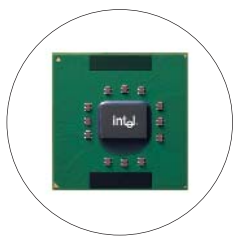


Mobile Intel® Pentium® 4 Processor - M 2.60 GHz
Intel® 845MP Chipset
Intel® PRO/Wireless 2011B

Intel® Pentium® M processor 1.70 GHz
Intel® 855PM Chipset
Intel® PRO/Wireless 2100 Network Connection

Intel® Pentium® M processor 755
-90nm, 2 MB cache, 2 GHz, 400 MHz FSB
Intel® 855PM Chipset
Intel® PRO/Wireless 2100 Network Connection

Performance tests and ratings are measured using specific computer systems and/or components and reflect the approximate products as measured by those tests. Any difference in system hardware or software configuration, as well as system use patterns including wireless connectivity, may affect actual test results and ratings. For more information on performance tests and on the performance of Intel products, visit www.intel.com/performance/resources/limits.htm



Intel® Pentium® M Processor Features and Benefits

Breakthrough Mobile Performance†

Feature	Benefit
90nm and strained silicon process technologies	Enable higher performance and allows more frequency head room
2 MB power-optimized L2 cache, enhanced register access manager, enhanced data pre-fetcher	Higher performance due to reduced off-chip memory accesses, more efficient register management, increased availability of valid data in L2 cache
Power-optimized 400 MHz processor system bus, micro-ops fusion and dedicated stack manager	Allow faster execution of instructions at lower power
Advanced instruction prediction	Enables fewer re-dos for increased performance
Second-generation Streaming SIMD Extensions (Streaming SIMD Extensions 2)	Improves performance and allows SW compatibility with previous Intel® microprocessor generation

Enables Extended Battery Life†

Support for Enhanced Intel SpeedStep® technology with multiple voltage and frequency operating points	Allows for a better match of performance to application demand
Power-optimized logic design, enabling low voltage capabilities	Power-efficient transistor technology optimizes power consumption/dissipation for lower CPU average power
Intelligent power distribution	Focuses system power where CPU needs it and shuts down anything not being used

Thinner, Lighter Design

Support for Intel® Mobile Voltage Positioning (Intel® MVP IV)	Dynamically lowers voltage based on processor activity to lower thermal design power, enabling smaller notebooks
Micro FCPGA and FCBGA packaging technology	Optimized for a range of thinner, lighter designs, including <1" thick, that deliver outstanding performance†

Intel® Microprocessors Comparison

Features	Mobile Intel® Pentium® 4 Processor - M	Intel® Pentium® M Processor	Intel® Pentium® M Processor
Processor number	NA	NA	7xx sequence of numbers[1]
90nm process technology	No	No	Yes
On-die L2 cache	512 KB	1 MB	2 MB
Processor system bus	400 MHz	400 MHz	400 MHz
Processor frequency up to	2.60 GHz	1.70 GHz	2 GHz
Power-optimized processor system bus, dedicated stack manager, micro-ops fusion	No	Yes	Yes
Support for Enhanced Intel SpeedStep® technology	No[2]	Yes	Yes
Support for Intel® Mobile Voltage Positioning (Intel® MVP IV)	No	Yes	Yes

Business: intel.com/ebusiness/mobile

Consumer: intel.com/home/notebooks

† System performance measured by MobileMark* 2002. System performance, battery life, wireless performance and functionality will vary depending on your specific hardware and software configurations. See http://www.intel.com/products/centrino/more_info for more information.

[1] See http://www.intel.com/products/processor_number for more information.

[2] Mobile Intel® Pentium® 4 Processor - M has support for Enhanced Intel SpeedStep® technology without multiple voltage and frequency operating points.

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