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Intel® Pentium® 4 Processor - M for Applied Computing

Intel in Communications

Product Highlights

- Available at 1.7 GHz and 2.2 GHz with a 400 MHz processor side bus delivering 3.2 GB of data per second into and out of the processor

- Featuring the Intel® NetBurst™ microarchitecture

  - Hyper-pipelined technology of the NetBurst microarchitecture doubles the pipeline depth compared to the microarchitecture used on today's Intel® Pentium® III processors

  - Level 1 Execution Trace Cache includes 8 KB data cache, as well as an Execution Trace Cache that stores up to 12K decoded micro-ops in the order of program execution

  - Rapid Execution Engine includes two Arithmetic Logic Units (ALUs) that are clocked at twice the core processor frequency

  - 512 KB Level 2 Advanced Transfer Cache (ATC) delivers a high data throughput channel between the Level 2 cache and the processor core. Features of the ATC include:

    - Non-blocking, full speed, on-die level 2 cache

    - 8-way set associativity

    - 256-bit data bus to the level 2 cache

    - Data clocked into and out of the cache every clock cycle

  - Deep, out-of-order speculative Advanced Dynamic Execution engine

  - Enhanced Floating-point and Multi-media Unit expands floating-point registers to a full 128-bit and adds an additional register for data movement

  - Internet Streaming SIMD Extensions 2 (SSE2) adds 144 new instructions that include 128-bit SIMD integer arithmetic and 128-bit SIMD double-precision floating-point operations

  - Data Prefetch Logic functionality anticipates the data needed by an application and pre-loads it into the Advanced Transfer Cache, further increasing processor and application performance

- Validated with the Intel® 845E chipset

- Manufactured on state-of-the-art 0.13µ process technology

- Memory cacheability up to 4 GB of addressable memory space and system memory scalability up to 64 GB of physical memory

- Support for uni-processor designs
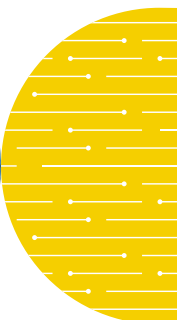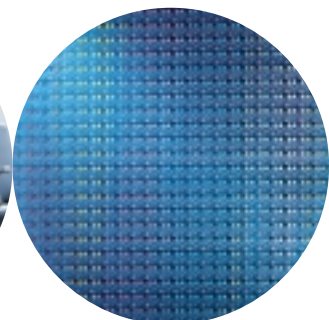
- Data integrity and reliability features such as Error Correcting Code, Fault Analysis and Recovery for both system and L2 cache buses
- Fully compatible with existing Intel® Architecture-based software
- Micro-FC-PGA 478 package
- Embedded lifecycle support

Intel® Pentium® 4 Processor - M Overview

The Intel Pentium 4 Processor - M is ideal for scalable performance applied computing. An advanced microarchitecture and a clock speed at 1.7 GHz and 2.2 GHz enables the Intel Pentium 4 Processor - M to meet applied computing demands today and in the future. The Intel Pentium 4 Processor - M is ideal for communications, interactive client and industrial automation applications. While incorporating new features and improvements, the Intel Pentium 4 Processor - M remains software compatible with previous members of the Intel® microprocessor family.

The Intel Pentium 4 Processor - M for Applied Computing is validated with the Intel 845E chipset. The Intel 845E chipset expands the Intel Pentium 4 Processor - M platform with a great balance of price and performance for applied computing segments. This chipset provides up to 2 GB single channel (DDR200 or DDR266) DDR memory, and features configurable optional Error Correcting Code (ECC) operation.

Intel® Pentium® 4 Processor - M for Applied Computing

Product Number	Core Speed	External Bus Speed	L2 Cache	Thermal Design Power	Voltage	Tjunction (Max)	Package
RH80532GC029512*	1.7 GHz	400 MHz	512 KB	30 watts	1.3V	100° C	Micro-FC-PGA 478
RH80532GC049512*	2.2 GHz	400 MHz	512 KB	35 watts	1.3V	100° C	Micro-FC-PGA 478

*Please note that the Intel® Pentium® 4 Processor - M for Applied Computing at 1.7 GHz and 2.2 GHz are the same products as the Mobile Intel® Pentium® 4 Processor - M at 1.7/1.2 GHz and 2.2/1.2 GHz respectively. Because the Embedded Intel Architecture Group does not support Intel Speedstep® Technology, additional design guidelines must be followed to operate the processors at the 1.7 GHz or 2.2 GHz speeds. Please refer to our Web site http://developer.intel.com/design/intarch/designgd/251319.htm for additional design guidelines.

Intel Access

Developer's Site:	developer.intel.com
Embedded Intel® Architecture Home Page:	developer.intel.com/design/intarch
Other Intel Support:	Intel Literature Center developer.intel.com/design/litcentr/ (800) 548-4725 7 a.m. to 7 p.m. CST (U.S. and Canada) International locations please contact your local sales office.
General Information Hotline:	(800) 628-8686 or (916) 356-3104 5 a.m. to 5 p.m. PST

For more information, visit the Intel Web site at: **developer.intel.com**

UNITED STATES AND CANADA
Intel Corporation
Robert Noyce Bldg.
2200 Mission College Blvd.
P.O. Box 58119
Santa Clara, CA 95052-8119
USA

EUROPE
Intel Corporation (UK) Ltd.
Pipers Way
Swindon
Wiltshire SN3 1RJ
UK

ASIA-PACIFIC
Intel Semiconductor Ltd.
32/F Two Pacific Place
88 Queensway, Central
Hong Kong, SAR

JAPAN
Intel Kabushiki Kaisha
P.O. Box 115 Tsukuba-gakuen
5-6 Tokodai, Tsukuba-shi
Ibaraki-ken 305
Japan

SOUTH AMERICA
Intel Semicondutores do Brazil
Rue Florida, 1703-2 and CJ22
CEP 04565-001 Sao Paulo-SP
Brazil