Intel® Pentium® Processor

Product Overview

The Intel® Pentium® processor is ideal for a desktop system that can handle all your basic computing needs. With the attributes of Intel's newest microarchitecture, an Intel Pentium processor-based PC is not only reliable, but offers the solid performance needed to run applications simultaneously and efficiently.

PCs based on the Intel Pentium processor are well suited to the home and office. With improved power efficiency, an Intel Pentium processor system can be built to meet new global energy standards, making it an excellent choice for government and education.

Technology

The Intel Pentium processor's technology includes Intel® Smart Cache with shared L3 cache, which improves performance by reducing latency. The Integrated Memory Controller provides a higher memory bandwidth for faster data access and Intel® HD Graphics is the ideal graphics solution for your everyday visual computing needs. Intel® Quick Sync Video technology now available on Intel Pentium processor delivers breakthrough hardware acceleration that makes video creation and conversion faster and easier.

Comparison Table	4th Gen Intel® Pentium® Processor	3rd Gen Intel® Pentium® Processor	2nd Gen Intel® Pentium® Processor
	Intel Pentium G3XXX	Intel Pentium G2XXX	Intel Pentium G8XX/G6XX
Socket	LGA1150	LGA1155	LGA1155
Manufacturing Process	22 nm	22 nm	32 nm
Intel® Smart Cache	3 MB L3 shared	3 MB L3 shared	3 MB L3 shared
Integrated Memory Controller	Yes	Yes	Yes
Memory Speed	DDR3 1333/1600 MHz	DDR3 1333/1600 MHz	DDR3 1333 MHz
Processor Graphics	Intel® HD Graphics with DirectX* 11.1, Open CL* 1.2, OpenGL* 4.0	Intel® HD Graphics DirectX* 11, Open CL* 1.1 (1.2 with latest graphics driver), OpenGL* 4.0	Intel® HD Graphics DirectX* 10.1, OpenGL* 3.1
Processor Graphics Execution Units	10	6	6
Intel® Quick Sync	Yes	No	No
Number of Displays Supported[1]	3	3	2
PCI Express* Revision	3.0	2.0	2.0
Intel® Virtualization Technology (Intel® VT-x)[2]	Yes	Yes	Yes
Recommended Intel® Express Chipset	Intel® H97, Intel® H87 and Intel® H81 Express Chipset[1]	Intel® H77 and Intel® H61 Express Chipset	Intel® H61 Express Chipset

Features and Benefits of the Intel® Pentium® Processor

Feature	Benefit
Dual-Core Processing	Runs two independent processor cores in one physical package at the same frequency.
Intel® Smart Cache	The shared cache is dynamically allocated to each processor core, based on workload. Significantly reduces latency and improves performance.
Integrated Memory Controller	Offers stunning memory read/write performance through efficient prefetching algorithms, lower latency, and higher memory bandwidth.
Intel® HD Graphics	4th Gen Intel® processors now with more execution units, provides a better graphics experience compared to previous generations. This new architecture delivers casual and online gaming capabilities through support of Microsoft DirectX* 11.1 and OpenGL* 4.x Provides Blu-ray* and HD playback with full HW decode acceleration, sharper images, richer color, and immersive browsing.
Intel® Quick Sync Video	Intel® Quick Sync Video makes fast work of creating, editing, syncing, and sharing your videos—at home and online. Intel Quick Sync Video, built into 4th generation Intel Pentium processors, delivers breakthrough hardware acceleration that lets you complete in minutes what used to take hours. Create DVDs or Blu-ray* discs, edit videos, convert video files for your portable media device, and convert videos for upload to your favorite social networking sites—all in a flash.
Intel® Virtualization Technology (Intel® VT-x)[3]	Allows one hardware platform to function as multiple "virtual" platforms. Offers improved manageability by limiting downtime and maintaining productivity by isolating computing activities into separate partitions.
Intel® Designed Thermal Solution for Boxed Processors	Includes a four-pin connector for fan speed control to help minimize the acoustic noise levels generated from running the fan at higher speeds for thermal performance[4] and power usage.

For more information on the Intel® Pentium® processor, visit
www.intel.com/content/www/us/en/processors/pentium/pentium-processor.html