

Intel® Pentium® Processor G6950 for Embedded Computing



Product Overview

Based on 32nm process technology and Intel® Core™ microarchitecture, the Intel® Pentium® processor G6950^Δ features dual-core processing with integrated graphics and Error Correcting Code (ECC) capabilities. It also includes Intel® Virtualization Technology¹ to ease software migration, improve real-time performance and enhance security for embedded systems. When paired with the Intel® Q57 chipset or Intel® 3450 chipset, these platforms provide ideal solutions for embedded market segments such as retail, digital signage, digital surveillance, gaming, medical, communications, printing imaging, and industrial automation and control.

The graphics engine is integrated into the processor, providing a two-chip solution with enhanced graphics performance in a smaller footprint, compared to previous Intel® platforms. The memory controller hub has also been integrated into the processor for faster performance. While incorporating advanced technology, these processors remain software-compatible with previous IA-32 processors.

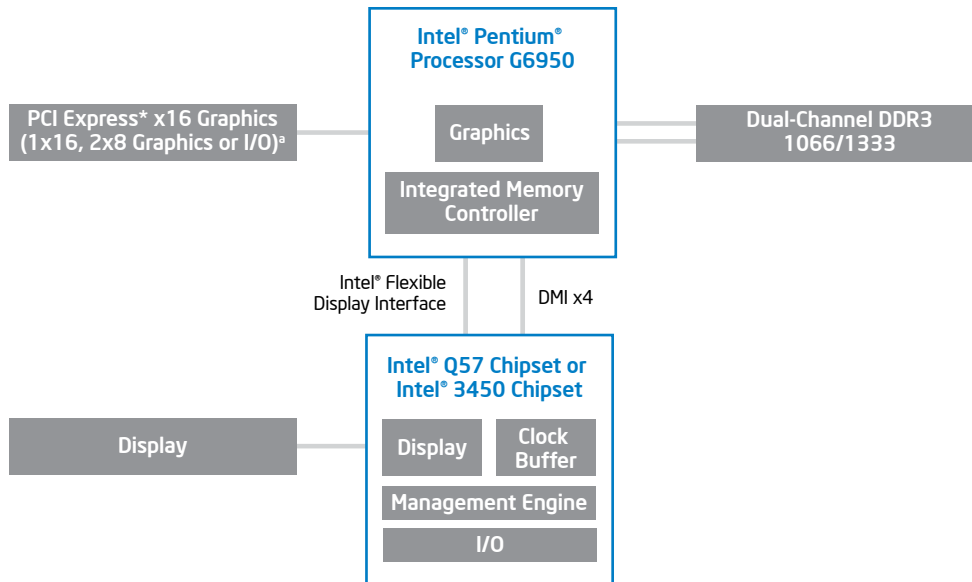
Product Highlights

Integrated graphics engine: Supports enhanced graphics performance and capabilities while reducing overall platform power requirements and footprint.

ECC memory: Corrects memory errors without requiring system reset - enhancing performance, uptime and autonomous operation - essential for remote, embedded applications (when paired with Intel 3450 chipset).

Intel® Intelligent Power Technology²: Reduces power consumption through architectural improvements such as integrated power gates and automated low power states.

Intel® Virtualization Technology: By providing hardware-based assistance for virtualization software, this technology enables creation of multiple virtual machines that run on a single system.



^a2x8 PCIe graphics option available when paired with Intel® 3450 chipset.

Software Overview

The following independent operating system and BIOS vendors provide support for these platforms.

OPERATING SYSTEM

Vista* SP2
 Windows Server* 2003/2008
 Windows* 7
 Microsoft Windows* XP SP3
 Microsoft Windows Embedded Standard (XPe)
 Microsoft Windows Embedded POSReady (WEPOS)
 Red Hat Enterprise Linux* 5.1
 Fedora Core* 7
 SUSE Enterprise Linux* 10 SP 1
 Wind River Linux* 3.0
 Wind River VxWorks* 6.8

CONTACT

Intel provides drivers³
 Intel provides drivers³
 Intel provides drivers³
 Intel provides drivers³
 Intel provides drivers³
 Intel provides drivers³
 Red Hat
 Red Hat
 Novell
 Wind River
 Wind River

BIOS

American Megatrends
 Insyde Software
 Phoenix Technologies

Features and Benefits

FEATURES	BENEFITS
Supports key embedded platform requirements	Ideal for compute-intensive embedded applications.
Extended life cycle product support	Protects system investment by enabling extended product availability for embedded customers.
Embedded ecosystem support	Along with a strong ecosystem of hardware and software vendors, including members of the Intel® Embedded Alliance (intel.com/go/eca), Intel helps to cost-effectively meet development challenges and speed time-to-market.
Intelligent performance	Delivers optimum efficiency by adapting performance to embedded application needs.
Intel® Advanced Smart Cache	Large on-die shared Last Level Cache reduces latency to data, improving performance and power efficiency.
Error Correcting Code memory (with Intel® 3450 chipset)	Detects multiple-bit memory errors; locates and corrects single-bit errors to keep the system up and running.
Intel® Intelligent Power Technology ²	Automated energy efficiency reduces power consumption.
Integrated power gates	Reduces idle processor cores to near zero power when not in use to help conserve power and lower operating costs.
Automated low power states	Adjusts system power consumption based on real-time processor loads.
Flexible virtualization	Eases software migration, improves real-time performance and enhances security.
Intel® Virtualization Technology ¹	Speeds up the transfer of platform control and the movement of data between the virtual machine monitor (VMM) and other platform agents (including guest OSs and I/O devices). By lowering the workload on the VMM, this technology addresses many embedded system design challenges, like migrating legacy software, increasing real-time performance, and making applications more secure.

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PROCESSOR NUMBER ^A	CORES	BASE FREQUENCY	LAST LEVEL CACHE	THERMAL DESIGN POWER	PACKAGE	ERROR CORRECTING CODE ³	INTEL® VIRTUALIZATION TECHNOLOGY
Intel® Pentium® Processor G6950	2	2.80 GHz	3 MB	73 W	LGA1156	▪	▪

^AWhen paired with Intel® 3450 chipset only.

Intel in Embedded and Communications: intel.com/embedded

[^] Intel processor numbers are not a measure of performance. Processor numbers differentiate features within each processor family, not across different processor families. See www.intel.com/products/processor_number for details.

¹ Intel® Intelligent Power Technology requires a computer system with an enabled Intel® processor, chipset, BIOS and for some features, an operating system enabled for it. Functionality or other benefits may vary depending on hardware implementation and may require a BIOS and/or operating system update. Please check with your system vendor for details.

² Intel® Virtualization Technology requires a computer system with an enabled Intel® processor, BIOS, virtual machine monitor (VMM) and, for some uses, certain computer system software enabled for it. Functionality, performance or other benefits will vary depending on hardware and software configurations and may require a BIOS update. Software applications may not be compatible with all operating systems. Please check with your application vendor.

³ Drivers available at: downloadcenter.intel.com (enter chipset name).

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