

PLATFORM BRIEF

Intel® Pentium® Processor G2120 with
Intel® B75 Express, Intel® Q77 Express,
and Intel® C216 Chipsets
Inteligent Systems



Intel® Pentium® Processor G2120-based Platforms for Intelligent Systems

Ideal for Intelligent Systems—context-aware, securely managed embedded devices that connect seamlessly to networks, clouds and each other.



Product Overview

Based on 22nm process technology and next-generation Intel® microarchitecture codename Ivy Bridge, the Intel® Pentium® processor G2120^A features dual-core processing, Intel® HD Graphics¹, and Intel® Virtualization Technology² to ease software migration, improve real-time performance and enhance security for intelligent systems. When paired with the Intel® B75 Express, Intel® Q77 Express, or Intel® C216 chipset, these platforms are ideal for market segments such as retail, digital signage, digital surveillance, gaming, medical, communications, print imaging, and industrial automation and control. Additionally, Error Correcting Code (ECC) capabilities are enabled when paired with the Intel C216 chipset.

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

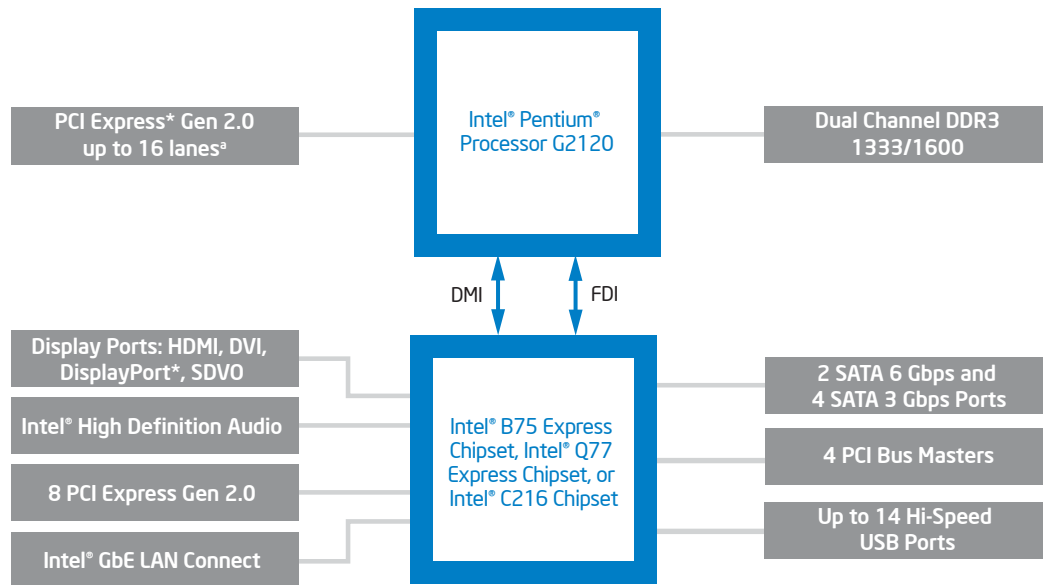
Product Highlights

Intel HD Graphics: 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 (with Intel C216 chipset).

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

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



^a1x16; 2x8; 1x8 + 2x4

Software Overview

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

OPERATING SYSTEM

Microsoft Windows* 8
 Microsoft Windows 7
 Microsoft Windows XP SP3
 Microsoft Windows 2008 Server
 Microsoft Windows Embedded Standard 7
 Microsoft Windows Embedded Standard 2009
 Microsoft Windows Embedded POSReady 7
 Microsoft Windows Embedded POSReady (WEPOS)
 Red Hat Enterprise Linux* 6.1
 SUSE SLE* 11 SP1
 Wind River Linux* 5.0
 Wind River VxWorks* 6.9

CONTACT

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

BIOS

American Megatrends
 Insyde Software
 Phoenix Technologies
 Byosoft

Features and Benefits

FEATURES	BENEFITS
Supports key embedded platform requirements	Ideal for compute-intensive intelligent systems applications.
Extended life cycle product support	Protects system investment by enabling extended product availability for embedded customers.
Ecosystem support	Along with a strong ecosystem of hardware and software vendors, including members of the Intel® Intelligent Systems Alliance (intel.com/go/intelligentsystems-alliance), Intel helps to cost-effectively meet development challenges and speed time-to-market.
Intelligent performance	Delivers optimum efficiency by adapting performance to the needs of intelligent systems.
Intel® Smart Cache Technology	Large on-die shared last-level cache reduces latency to data, improving performance and power efficiency.
Error Correcting Code memory (with Intel® C216 chipset)	Detects multiple-bit memory errors; locates and corrects single-bit errors to keep the system up and running.
Intel® Intelligent Power Technology	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 (VT-x) ²	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). 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.

Intel® Pentium® Processor G2120 for Intelligent Systems

PROCESSOR NUMBER ^A	CORES	BASE FREQUENCY	INTEL® SMART CACHE	THERMAL DESIGN POWER	PACKAGE	ERROR CORRECTING CODE ^a	INTEL® VIRTUALIZATION TECHNOLOGY (VT-x)
Intel® Pentium® Processor G2120	2	3.10 GHz	3 MB	65 W	LGA1155	YES	YES

^aWhen paired with the Intel® C216 chipset.

Intel® Chipsets for Intelligent Systems

PRODUCT	PRODUCT CODE	PACKAGE	FEATURES
Intel® BD82B75 Platform Controller Hub	BD82B75	942 FCBGA	6 SATA ports; 12 USB ports (4 USB 3.0; 8 USB 2.0); 8 PCI Express I/O ports
Intel® BD82Q77 Platform Controller Hub	BD82Q77	942 FCBGA	Intel® Active Management Technology 8.0; 6 SATA ports; 14 USB ports (4 USB 3.0; 10 USB 2.0); 8 PCI Express I/O ports
Intel® BD82C216 Platform Controller Hub	BD82C216	942 FCBGA	Supports ECC and Intel® Active Management Technology ⁴ 8.0; 6 SATA ports; 14 USB ports (4 USB 3.0; 10 USB 2.0); 8 PCI Express* I/O ports

Intel in Intelligent Systems: intel.com/intelligentsystems

¹ 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.

² Built-in visual features are not enabled on all PCs and optimized software may be required. Check with your system manufacturer. Learn more at <http://www.intel.com/go/biv>.

³ Intel® Virtualization Technology requires a computer system with an enabled Intel® processor, BIOS, and virtual machine monitor (VMM). Functionality, performance or other benefits will vary depending on hardware and software configurations. Software applications may not be compatible with all operating systems. Consult your PC manufacturer. For more information, visit <http://www.intel.com/go/virtualization>.

⁴ Drivers available at downloadcenter.intel.com (enter chipset name).

⁵ Requires activation and a system with a corporate network connection, an Intel® AMT-enabled chipset, network hardware and software. For notebooks, Intel AMT may be unavailable or limited over a host OS-based VPN, when connecting wirelessly, on battery power, sleeping, hibernating or powered off. Results dependent upon hardware, setup and configuration. For more information, visit <http://www.intel.com/technology/platform-technology/intel-amt>.

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