Product Brief

Intel® G31 Express Chipset

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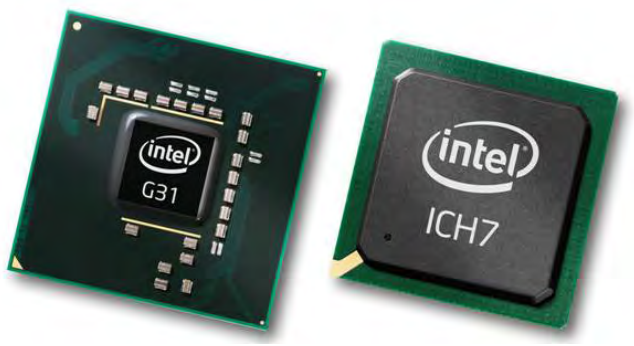
Flexibility and scalability for essential computing

The Intel® G31 Express Chipset supports Intel's upcoming 45nm processors and enables Windows Vista* premium experience for value conscious consumers.



The Intel G31 Express Chipset

Desktop PC platforms, combined with either the Intel® Core™2 Duo or the Intel® Core™2 Quad processor, deliver new technologies and innovating capabilities for all consumers. With a 1333MHz system bus, DDR2 memory technology and support for Windows Vista Premium, the Intel G31 Express chipset enables scalability and performance for essential computing. Support for 45nm processor technology and Intel® Fast Memory Access (Intel® FMA) provide increased system performance for today's computing needs. The Intel G31 Express Chipset enables a balanced platform for everyday computing needs.

Intel® Viiv™ processor technology

Intel® Viiv™ processor technology1 is a set of PC technologies designed for the enjoyment of digital entertainment in the home. The Intel G31 Express Chipset supports Intel Viiv processor technology with either the Intel® ICH7R or ICH7DH SKUs.

Faster System Performance

The Intel® G31 Express Chipset Graphics Memory Controller Hub (GMCH) incorporates an updated GMCH backbone architecture to increase system performance. It supports Intel Fast Memory Access, which reduces memory access latency. This updated GMCH also includes support for the next-generation 45nm Intel® Core™ processor family.

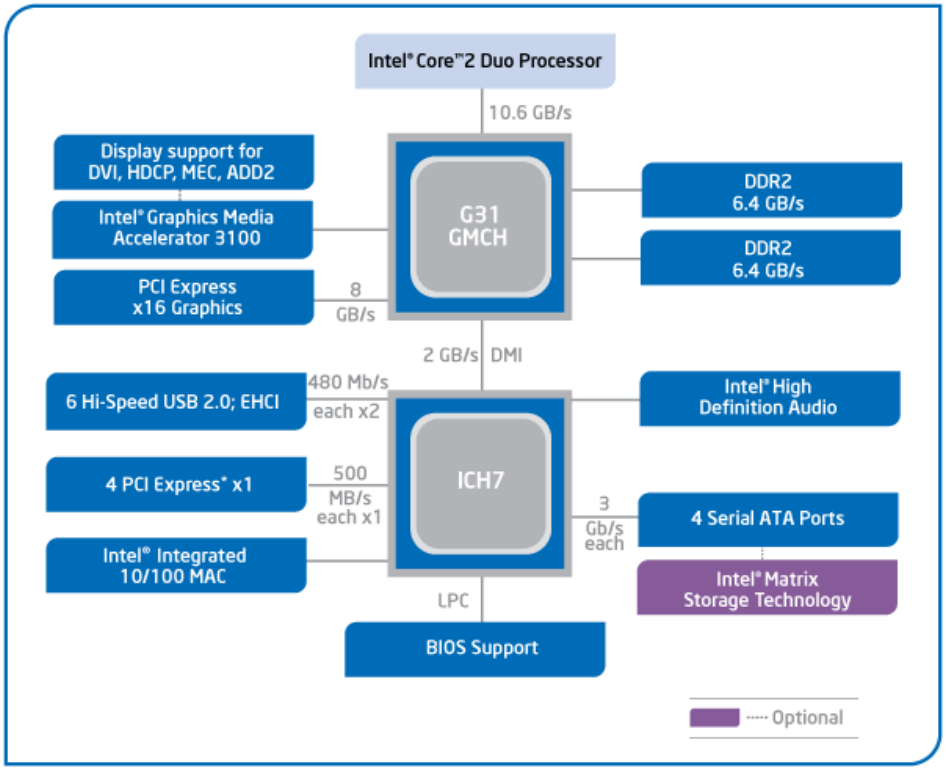
Graphics Enhancements

The Intel G31 Express Chipset delivers an excellent blend of graphics capabilities and features to meet entry consumer needs with the new Intel® Graphics Media accelerator 3100 (Intel® GMA 3100). With support for Microsoft DirectX* 9.0c, Shader Model 2.0 and OpenGL* 1.4, Intel GMA 3100 delivers excellent 3D graphics and stunning graphics responsiveness. Intel GMA 3100 also includes support for the latest PC operating systems, including Windows Vista*.

Intel® I/O Controller Hub (Intel® ICH7/R)

The Intel G31 Express Chipset elevates storage performance with Serial ATA (SATA) and enhancements to Intel® Matrix Storage Technology2. This chipset has four integrated SATA ports for transfer rates up to 3 Gb/s (300 MB/s) to SATA hard drives or optical devices. Support for RAID 0, 1, 5 and 10 allows for different RAID capabilities that address specific needs and usages. For example, critical data can be stored on one array designed for high reliability, while performance-intensive applications like games can reside on a separate array designed for maximum performance. The Advanced Host Controller Interface (AHCI) provides native hot plug and boosts performance with Native Command Queuing (NCQ) for faster boot times and file transfers.

The Intel G31 Express Chipset integrates Intel® High Definition Audio3 (Intel® HD Audio) enabling premium home theater sound and delivers advanced features such as multiple audio streams and jack re-tasking.



Intel® G31 Express Chipset Block Diagram

Intel® G31 Express Chipset Features at a Glance

Feature	Benefit
1333/1066/800 MHz System Bus	• Supports the Intel® Core™2 Duo and the Intel® Core™2 Quad processors. Note: 1333 FSB is supported with Intel® Core™2 Duo processors only. Intel® Core™2 Quad processors are supported up to 1066MHz FSB speeds.
PCI Express* 1.1 Interface	• The PCI Express 1.1 provides 8 GB/s bandwidth for platform graphics.
Intel® Fast Memory Access	• Updated Graphics Memory Controller Hub (GMCH) backbone architecture that improves system performance by optimizing the use of available memory bandwidth and reducing the latency of the memory accesses.
Dual-Channel DDR2 Memory Support	• Delivers up to 12.8GB/s (DDR2 800 dual 6.4GB/s) of bandwidth and 4GB memory addressability for faster system responsiveness and support of 64-bit computing.
Intel® Flex Memory Technology	• Facilitates easier upgrades by allowing different memory sizes to be populated and remain in dual-channel mode.
Intel® Graphics Media Accelerator 3100	• 3D enhancements enable greater flexibility and scalability and improved realism with support for Microsoft DirectX* 9.0c Shader Model 2.0, OpenGL* 1.4. Intel® Graphics also support the highest levels of the Windows Vista* Aero experience.
Intel® High Definition Audio	• Integrated audio support enables premium digital surround sound and delivers advanced features such as multiple audio streams and jack re-tasking
Intel® Matrix Storage	• With a second hard drive added, provides quicker access to digital photo, video and data files with RAID 0, 5, and 10, and greater data protection against a hard disk drive failure with RAID 1, 5, and 10.

For more information, visit the Intel Web site: www.intel.com/products/desktop/chipsets

[1] Home networking capability and many Intel® Viiv™ technology-based usage models will require additional hardware devices, software, or services. Functionality of Intel Viiv technology verified devices will vary; check product details for desired features. System and component performance and functionality will vary depending on your specific hardware and software configurations. See www.intel.com/go/viiv_info for more information.

[2] Intel® Matrix Storage Technology requires the computer have an MST-enabled Intel chipset, RAID controller in the BIOS enabled and the Intel Matrix Storage Technology software driver installed. Please consult your system vendor

[3] Intel® High Definition Audio requires a system with an appropriate Intel chipset and a motherboard with an appropriate codec and the necessary drivers installed. System sound quality will vary depending on actual

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