



The Intel® 945G Express Chipset Takes the Award-Winning PCI Express* Architecture to New Levels

Platforms based on the Intel® 945G Express Chipset, combined with either the Intel® Pentium® D processor or Intel® Pentium® 4 Processor with HT Technology¹ deliver innovative features and new benefits for both home and business. Exciting improvements expand digital home capabilities, while providing enhanced manageability, security and responsiveness to meet evolving business needs.



The Intel 945G Express Chipset delivers outstanding system performance through high-bandwidth interfaces such as dual-channel DDR2 memory, 1066 MHz system bus, PCI Express* x16 graphics port and PCI Express x1 I/O ports, next-generation Serial ATA and Hi-Speed USB 2.0 connectivity. This chipset also supports stunning displays with the Intel® Graphics Media Accelerator 950 (Intel® GMA 950) enhanced integrated graphics controller.

PCI Express*

The PCI Express* architecture enables increased bi-directional bandwidth to the graphics and I/O interfaces. With theoretical bandwidth up to 4 GB/s per direction, the PCI Express x16 graphics port can provide more than three and a half times the graphics bandwidth over previous high-performance discrete graphics solutions.

Memory Architecture

To support faster memory, increased graphics requirements, and I/O bandwidth, the Intel 945G Express Chipset incorporates an updated Memory Controller Hub (MCH) backbone architecture. This new design includes wider internal data buses that support dual-channel DDR2 memory technology at 667 MHz (up to 10.7 GB/s of peak memory bandwidth) for greater platform performance and memory flexibility. 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 950

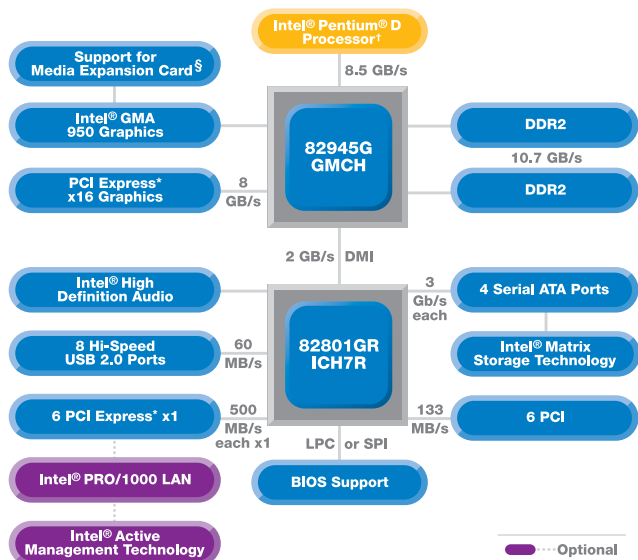
The Intel 945G Express Chipset also features an improved graphics core. Intel GMA 950 enhances the user experience with faster graphics, improved Microsoft DirectX* 9.0 3D performance, and better video playback and quality. The increased performance supports both smooth standard and high-definition video playback. Built-in support of consumer electronic displays allows consumers to plug into native high-definition displays and output to either 720p or 1080i resolutions.

The new graphics core, combined with the Intel high-performance dual-channel memory interface, can deliver significant graphics performance over previous Intel platforms. With support for dual-independent display, enhanced modes for widescreen flat panels, and optimized 3D, PC platforms based on the Intel 945G Express Chipset can deliver an intense, realistic visual experience without requiring a separate graphics card.

The Intel 945G Express Chipset supports both ADD2 and Media Expansion Cards² (MECs). ADD2 and Media Expansion Cards allow a user to take advantage of several video output options (DVI, Dual Independent Display, Component, Composite, HDTV and LVDS) in a single-card solution. In addition, MECs enable video input capability and PVR functionality, and will be available to support a wide range of display types and configurations.

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

The Intel 945G 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.



† The Intel® 945G Express Chipset supports Intel® Pentium® D processor and all other Intel® Pentium® processors and Intel® Celeron® processors in the LGA775 socket, with scalability for future processor innovations.

§ Media Expansion Cards (MEC) are provided by third party manufacturers. In addition, utilizing a MEC requires a system equipped with an Intel® 945G Express Chipset.

The Intel 945G Express Chipset elevates storage performance with next-generation Serial ATA (SATA) and enhancements to Intel® Matrix Storage Technology⁴. 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.

Intel® Active Management Technology⁵ (Intel® AMT) is the next generation of remote client network management to enable down-the-wire management, diagnostics and repair of out-of-band systems for business.

Intel® Stable Image Platform Program

The Intel 945G Express Chipset is a critical element of 2005 Intel Stable Image Platform Program. Businesses can take advantage of this program to help reduce the cost of software image qualification and maintenance.

Features

Benefits

1066/800/533 MHz System Bus	Supports Intel® Pentium® D processor, Intel® Pentium® 4 Processor with HT Technology and all other Intel® Pentium® processors and Intel® Celeron® processors in the LGA775 socket, with scalability for future processor innovations.
PCI Express* Interface	The PCI Express* x16 graphics delivers greater than 3.5 times the bandwidth over the traditional AGP 8X interface and supports the latest high-performance graphics cards. The PCI Express x1 I/O ports offer 3.5 times the bandwidth over traditional PCI architecture, delivering faster access to peripheral devices and networking.
Intel® Graphics Media Accelerator 950	Delivers richer visual color and picture clarity without the need for additional discrete graphics cards.
Intel® High Definition Audio	Integrated audio support enables premium home theater sound and delivers advanced features such as multiple audio streams and jack re-tasking. The Dolby® PC Entertainment Experience ⁶ is available exclusively on systems with Intel® High Definition Audio.
Intel® Matrix Storage Technology	Provides quicker access to digital photo, video and business files with RAID 0, 5, and 10, and protection against data loss from a hard disk drive failure with RAID 1, 5, and 10.
Intel® Active Management Technology	Enables remote, down-the-wire management of out-of-band networked systems regardless of system state. Helps improve IT efficiency, asset management and system security and availability.
Serial ATA (SATA) 3 Gb/s	High-speed storage interface supports faster transfer rate for improved data access.
Dual-Channel DDR2 Memory Support	Delivers up to 10.7 GB/s of bandwidth and 4 GB 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.

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

¹ Look for systems with the Intel® Pentium® 4 Processor with HT Technology and also including an Intel® 955, 945, 925, 915 or 910 Express Chipset (see the product spec sheet or ask your salesperson). Performance and functionality will vary depending on (i) the specific hardware and software you use and (ii) the feature enabling/system configuration by your system vendor. See www.intel.com/product/ht/hyperthreading_more.htm for information on HT Technology or consult your system vendor for more information.

² Media Expansion Cards (MEC) are provided by third party manufacturers. In addition, utilizing a MEC requires a system equipped with an Intel® 945G Express Chipset.

³ Intel® High Definition Audio requires a system with the Intel 955, 945, 925, 915 or 910 Express Chipset and a motherboard with an appropriate codec and the necessary drivers installed. System sound quality will vary depending on the codec, drivers and speakers.

⁴ Intel® Matrix Storage Technology requires a motherboard with the Intel® 82801FR (ICH6R) or Intel® 82801GR (ICH7R) I/O Controller Hub System. The system must also have the RAID controller in the BIOS enabled and the Intel Matrix Storage Technology software driver installed. Please consult your system vendor for more information.

⁵ Intel® Active Management Technology requires a system with an Intel® 955X, 945G, or 945P Express Chipset, Intel® PRO/1000 PM network connection and appropriate third party software. The system must be plugged into a power source and connected to a LAN.

⁶ The Dolby® PC Entertainment Experience Initiative is only available on systems based on the Intel 955, 945, 925, 915 or 910 Express Chipset. Only boards with either Dolby PC Sound Room Ready or Dolby Home Theater Ready or Dolby Master Studio Ready logo and, systems with either the Dolby Sound Room, Dolby Home Theater or Dolby Master Studio logos are capable of supporting the Dolby PC Entertainment Initiative.

* Other names and brands may be claimed as the property of others.

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