

Product Brief

Mobile Intel® GME965 Express Chipset

Embedded Computing



Mobile Intel® GME965 Express Chipset for Embedded Computing

Product Overview

The Mobile Intel® GME965 Express chipset provides excellent flexibility for developers of embedded applications by offering outstanding graphics and I/O bandwidth, asset management capabilities, storage speed and reliability. It is optimized for and validated with the Intel® Core™2 Duo processors, addressing requirements of a broad range of embedded applications such as interactive clients, gaming, medical, and print imaging platforms, and industrial automation equipment.

This chipset includes an integrated 32-bit 3D graphics engine with eight graphics cores, enabling up to 500 MHz graphics frequency. Additional features include a 533/800 MHz Front-Side Bus (FSB), up to 4 GB of 533/667 MHz DDR2 SODIMM system memory, Intel® Active Management Technology¹ (Intel® AMT), and Intel® Matrix Storage Technology.

The Mobile Intel GME965 Express chipset consists of the Intel® 82GME965 Graphics Memory Controller Hub (GMCH) and Intel® I/O Controller Hub 8-M (ICH8-M), available in two SKUs. It delivers outstanding system performance through high-bandwidth interfaces such as PCI Express*, Serial ATA, and Hi-Speed USB 2.0 connectivity.

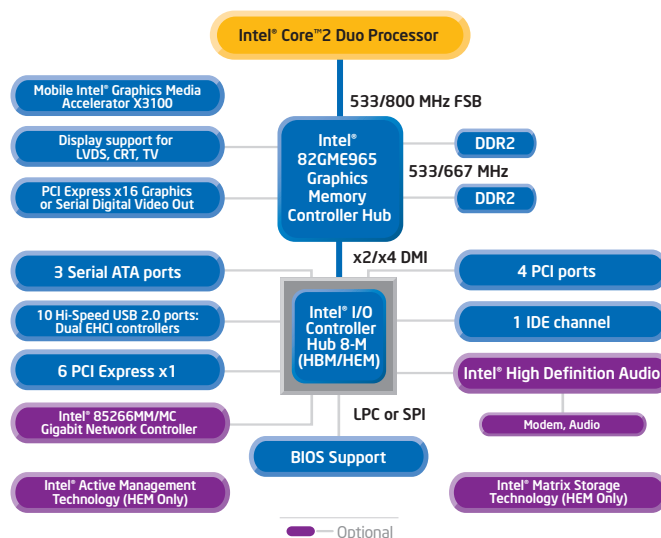
The Mobile Intel GME965 Express chipset platform is part of Intel's comprehensive validation process, enabling fast deployment of next-generation platforms to help developers maximize their competitive advantage while minimizing development risks.

Product Highlights

- Designed for and validated with the following Intel Core 2 Duo processors for embedded applications:
 - Intel Core 2 Duo processor T7500^A at 2.2 GHz with 35 watts thermal design power (TDP)
 - Intel Core 2 Duo processor L7500^A at 1.6 GHz (17 watts TDP)
 - Intel Core 2 Duo processor U7500^A at 1.06 GHz (10 watts TDP)
- 533 MHz or 800 MHz FSB delivers a high-bandwidth connection between the processor and platform
- Single- or dual-channel, non-ECC, 533 MHz or 667 MHz DDR2 SODIMM high-speed system memory provides greater platform performance
- Mobile Intel® Graphics Media Accelerator X3100 (Intel® GMA X3100), Intel® Clear Video Technology, and graphics core speeds up to 500 MHz provide enhanced graphics and 3D rendering performance, along with improved high-definition video playback
- Dual independent display support provides a wealth of options for high-resolution displays
- x16 PCI Express graphics or a dual-channel Serial Digital Video Out (SDVO) graphics interface support high throughput for high-end graphics
- Advanced packaging technology and industry-leading electrical design innovations deliver long-term system reliability over a broad spectrum of operating conditions
- Direct Media Interface chip interconnect between the GMCH and the ICH can be implemented at x4 or x2 widths, and provides up to 1 GB/s in each direction in full duplex
- Five UHCI host controllers and two EHCI host controllers provide up to 10 high-performance peripherals with 12 Mb/s of bandwidth for USB 1.1-compliant devices, and 480 Mb/s of bandwidth for USB 2.0-compliant devices
- Six PCI Express ports are configurable on the ICH8-M as follows:
 - Six (6) x1
 - One (1) x4 and two (2) x1
 - One (1) x2 and four (4) x1
- Intel® High Definition Audio² interface delivers premium digital multi-channel sound
- LAN connect interface (LCI) provides flexible network solutions such as 10/100/1000 Mb/s Ethernet with LAN manageability
- Integrated Serial ATA host controller supports three ports for increased storage capacity

Product Highlights (continued)

- Intel Matrix Storage Technology provides both Advanced Host Controller Interface (AHCI) and RAID functionality for improved storage speed and data redundancy
- Intel AMT, when used with the Intel® 82566MM Gigabit Network Controller, supports asset management capabilities such as remote management of unmanned sites
- The chipset is supported by the Intel® Embedded Graphics Drivers and video BIOS, developed specifically for embedded products and applications (developer.intel.com/design/intarch/Swsup/graphics_drivers.htm)
- Embedded lifecycle support protects system investment by enabling extended product availability for embedded and communications customers
- Along with a strong ecosystem of hardware and software vendors, including members of the Intel® Communications Alliance (intel.com/go/ica), Intel helps developers cost-effectively meet design challenges and speed time-to-market



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Product	Product Code	Package	Features
Intel® 82GME965 Graphics Memory Controller Hub (GMCH)	LE82GME965	1299 µFCBGA	533/800 MHz front-side bus; Up to 4 GB of 667 MHz DDR2 SODIMM system memory; Mobile Intel® GMA X3100; PCI Express* graphics support.
Intel® I/O Controller Hub 8-M (ICH8-M-Base)	NH82801HBM	676 mBGA	Direct connection to the GMCH via Direct Media Interface; Six PCI Express ports; Three-port Serial ATA controller; Up to ten USB 2.0 ports; Intel® High Definition Audio interface.
Intel® I/O Controller Hub 8-M Enhanced (ICH8-M-Enhanced)	NH82801HEM	676 mBGA	Direct connection to GMCH via Direct Media Interface; Six PCI Express ports; Three-port Serial ATA controller; Up to ten USB 2.0 ports; Intel High Definition Audio interface; RAID 0/1; Intel® Active Management Technology support.

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

¹ Intel® Active Management Technology requires the platform to have an Intel® AMT-enabled chipset, network hardware and software, as well as connection with a power source and a corporate network connection. With regard to notebooks, Intel AMT may not be available or certain capabilities may be limited over a host OS-based VPN or when connecting wirelessly, on battery power, sleeping, hibernating or powered off. For more information, see <http://www.intel.com/technology/amt>.

² 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 implementation, controller, codec, drivers and speakers. For more information about Intel® HD audio, refer to www.intel.com.

Intel Access

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