Intel® 845GV Chipset for Embedded Computing

Intel in Communications

Product Overview

Evolutionary Architecture

The Intel® 845GV chipset-based platform extends the Intel® Pentium® 4 processor capabilities with integrated graphics while maintaining a balance of price and performance for embedded computing segments.

The Intel® 845GV chipset consists of two controller hubs

The 82845GV Memory Controller Hub (GMCH) supports a 400 MHz or 533 MHz system bus, DDR266/200 or PC133 SDRAM memory and the latest integrated graphics support. The 82801DB I/O Controller Hub (ICH4) makes a direct connection to the graphics and memory for faster access to peripherals. It provides the features and bandwidth required for embedded computing-usage models.

The Intel® Platform Advantage

Intel's platform architecture delivers the performance and high scalability required for today's cutting-edge e-Business and e-home applications. Intel's comprehensive efforts to enable the industry ensure fast deployment of next-generation platforms, maximizing competitive advantage. Our world-class platform validation creates a robust foundation for emerging applications, while minimizing deployment risks.

Product Highlights

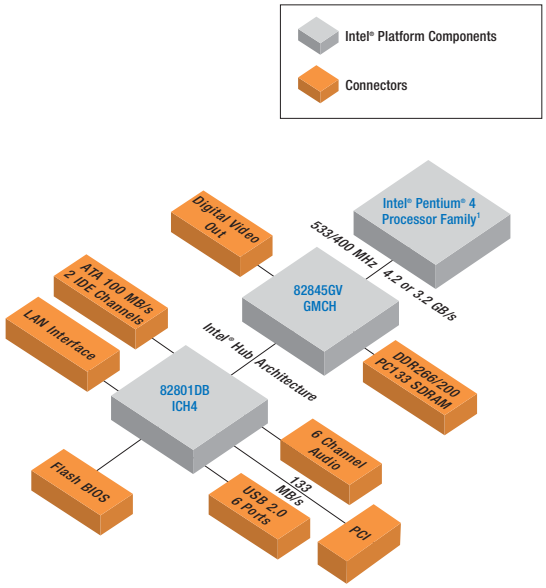
- The Intel 845GV chipset is designed, validated, and optimized for the Intel Pentium 4 processor with Intel® NetBurst® microarchitecture
- 400 MHz or 533 MHz system bus delivers a high-bandwidth connection between the Intel Pentium 4 processor and the platform, providing 3x the bandwidth over platforms based on Intel® Pentium® III processors
- Advanced packaging technology and industry-leading electrical design innovations deliver long-term system reliability over wide operating conditions
- Three USB host controllers provide high-performance peripherals with 480 Mbps of bandwidth, while enabling support for up to six USB 2.0 ports. This results in a significant increase over previous integrated 1-4 port hubs at 12 Mbps
- The latest AC '97 implementation delivers 20-bit audio for enhanced sound quality and full surround sound capability. Integrated audio solutions continue to enjoy success as a very cost-effective, yet high-performance solution
- LAN Connect Interface (LCI) provides flexible network solutions such as 10/100 Mbps Ethernet and 10/100 Mbps Ethernet with LAN manageability
- The Intel® SingleDriver™ technology supports all three network options, which simplifies network connectivity and eases deployment
- Dual Ultra ATA 100 controllers, coupled with the Intel® Application Accelerator – a performance software package – support faster IDE transfers to storage devices

run
Better, faster and further.

- The Intel Application Accelerator software provides additional performance over native ATA drivers. The Intel Application Accelerator improves system performance by improving I/O transfer rates and enables faster O/S load time resulting in accelerated boot times
- Communication and Network Riser (CNR) offers flexibility in system configuration with a baseline feature set that can be upgraded with an audio card, modem card, or network card
- Embedded lifecycle support
- Integrated Graphics
  - Core frequency of 200 MHz
  - 3D setup and render engine
  - Discrete triangles, strips, and fans support
  - Indexed vertex and flexible vertex formats
  - Pixel accurate fast scissoring and clipping operation
  - Backface culling support
  - Supports D3D and OGL pixelization rules
  - Anti-aliased lines support
  - Sprite points support
  - High-quality texture engine
  - 3D graphics rasterization enhancements
  - 2D graphics
  - Video DVD/PC-VCR
  - Video overlay
- Analog display support
  - 350 MHz integrated 24-bit RAMDAC
  - Up to 2048x1536 at 60 Hz refresh
  - Hardware color cursor support
  - DDC2B compliant interface
- Digital display channels
  - Two dedicated digital display channels
  - 165 MHz dot clock on each 12-bit interface
  - Can combine two 12-bit channels to form one 24-bit interface: Supports flat panels up to 2048x1536 at 60 Hz or dCRT/HDTV at 1920x1080 at 85 Hz
  - Supports Hot Plug and Display
  - Supports LVDS, TMDS transmitters, or TV-out encoders

Intel® Embedded Graphics Driver

- Graphics interface support
  - GDI and DirectX* DirectDraw* with overlay for Windows* XP, Windows* 2000, and Windows* Embedded XP
  - XFree86*, XAA, and Xv for Linux*
- Multi-monitor support
  - Multiple programmable configurations
  - DVO device support/TV-Out
- Dynamic display-mode support
  - User definable and extensible
- Embedded video BIOS
  - Common port interface support
  - Full VGA compatibility



[1] Validated with Intel® Pentium® 4 processor in the 478-pin package

Intel® 845GV Chipset Linecard

Product	Product Code	Package	Features
82845GV Memory Controller Hub (GMCH)	82845GV	760 FC-BGA	400 MHz or 533 MHz System Bus; DDR200/266 Memory; SDRAM PC133; Integrated graphics support
I/O Controller Hub 4	FW82801DB	421 mBGA	Direct connection to MCH with Intel's accelerated hub architecture; Supports 32-bit PCI IDE controllers with ATA 100; Six USB ports with USB 2.0 support; AC '97 controller with 20-bit audio support; Integrated LAN connect interface

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