



# Intel® 855GME GMCH and Intel® 6300ESB ICH for Embedded Computing

## Product Overview

The Intel® 855GME Graphics Memory Controller Hub (GMCH) and Intel® 6300ESB I/O Controller Hub (ICH) create an optimized integrated graphics solution with a 400 MHz system bus and integrated 32-bit 3D core at 133 MHz. While featuring a low-power design, this platform supports the Intel® Pentium® M and Intel® Celeron® M processors, and up to 2 GB of DDR 333 system memory.

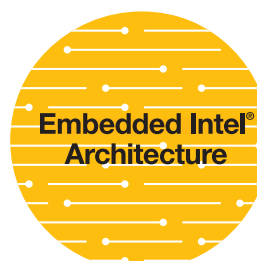
Intel's platform architecture delivers the performance and high scalability required for today's cutting-edge embedded computing applications. The Intel 855GME GMCH and Intel 6300ESB ICH solution is part of Intel's comprehensive validation process that enables fast deployment of next-generation platforms to maximize competitive advantage while minimizing development risks.

## Product Highlights

- The Intel 855GME GMCH is designed, validated, and optimized for the Intel Pentium M and Intel Celeron M processors and associated microarchitecture
- 400 MHz system bus delivers a high-bandwidth connection between the processor and the platform
- Support for integrated graphics utilizing Intel® Extreme Graphics 2 technology
- AGP 4X support
- Advanced packaging technology and industry-leading electrical design innovations deliver long-term system reliability over wide operating conditions
- Support for PCI-X 1.0 and PCI 2.2 with up to four bus masters
- Flexible GMCH support allows for 200, 266, or 333 MHz DDR SDRAM to be designed in, enabling cost-effective, high-volume memory
- Dual integrated UARTs for overall BOM cost savings
- Four USB 2.0 ports with one controller
- Support for two parallel ATA/100 and two serial ATA/150 ports, enabling very fast data and file transfer
- Port 60/64 emulation
- Two-stage watchdog timer
- 37 GPIOs including four High Drive GPIOs
- LPC interface for the Firmware Hub (FWH) eliminating need for a Super I/O component
- Error Correcting Code (ECC) support (in integrated graphics mode)



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### Display

- Analog display support
- Dual independent pipe support
  - Concurrent: different images and native display timings on each display device
  - Simultaneous: same images and native display timings on each display device
- DVO (DVOB and DVOC) support
  - Digital video out ports DVOB and DVOC with 165 MHz dot clock on each 12-bit interface; two 12-bit channels can be combined to form one dual-channel 24-bit interface with an effective dot clock of 330 MHz
  - Compliant with DVI Specification 1.0
- Dedicated Local Flat Panel (LFP) LVDS interface

### Internal Graphics Features

- Core frequency
  - Display core frequency of 133 MHz
  - Render core frequency of 133 MHz

### 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
  - Dual independent display
  - DVO device support/TV-Out
- Dynamic display-mode support
  - User definable and extensible
- Embedded video BIOS
  - Common port interface support
  - Full VGA compatibility

### Intel® 855GME GMCH and Intel® 6300ESB ICH for Embedded Computing

Product	Product Code	Package	Features
855GME Graphics Memory Controller Hub (GMCH)	RG82855GME	732 µFC-BGA	<ul style="list-style-type: none"> <li>■ 400 MHz system bus</li> <li>■ DDR 200, 266 and 333 memory</li> <li>■ Integrated graphics support</li> </ul>
6300ESB I/O Controller Hub (ICH)	FWE6300ESB	689 µBGA	<ul style="list-style-type: none"> <li>■ Direct connection to the GMCH via Hublink 1.5</li> <li>■ PCI-X 64/66 and PCI 32/33 support</li> <li>■ Dual integrated UARTS</li> <li>■ PATA/100 and SATA/150 support</li> <li>■ Four USB 2.0 ports</li> </ul>

### Intel Access

Developer's Site:	<a href="http://developer.intel.com">developer.intel.com</a>
Embedded Intel® Architecture Home Page:	<a href="http://developer.intel.com/design/intarch">developer.intel.com/design/intarch</a>
Intel Technical Documentation Center:	<a href="http://www.intel.com/go/techdoc">www.intel.com/go/techdoc</a> (800) 548-4725 7 a.m. to 7 p.m. CST (U.S. and Canada)  International locations please contact your local sales office.
General Information Hotline:	(800) 628-8686 or (916) 356-3104 5 a.m. to 5 p.m. PST

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