



ENDURA EM945G

Long Life Intel® 945G Pentium® 4 MicroATX Embedded Motherboard

LATEST TECHNOLOGY

The Endura EM945G microATX motherboard is based on Intel®'s 945G second-generation PCI Express chipset. PCI Express is the latest high speed serial interconnect standard. For example, a PCI Express x1 slot delivers 500 MB/s, over 3.5 times the bandwidth of a conventional PCI slot at 133 MB/s. In addition, the 945G has integrated fourth-generation graphics with Intel® Graphics Media Accelerator (GMA950), which supports widescreen LCD displays, accelerated DirectX 9 and has new 3D graphics capabilities. The EM945G has a x16 PCI Express graphics slot for applications that need to use the latest graphics acceleration cards. This slot can also be used with an ADD2 card to provide a second independent video channel.

Integrated Intel® High Definition Audio provides 24-bit, two-channel, stereo audio with support for 192 kHz quality audio. With a front side bus of 800MHz, the Endura EM945G supports Intel® Pentium® 4 and Celeron™ D processors with Hyperthreading Technology for multi-tasking applications. Flexible memory support is available with DDR2-667 and DDR2-533 dual channel memory with a maximum of 4GB.

Eight USB 2.0 ports (4 rear I/O and 4 headers) provide support for high-speed I/O peripherals with 40X the speed of USB 1.1. Four SATA 300 ports facilitate data transfers at 300 MB/s for the hard drives and optical drives. An ATA/100 port is available for legacy hard drives and optical drives.

ROHS COMPLIANCE

With increasing market demand for RoHS (Restriction on the use of certain Hazardous Substances) compliant products, the EM945G is designed to be fully RoHS compliant.

DESIGNED FOR EMBEDDED APPLICATIONS

All RadiSys Endura motherboards are designed for long life (5 – 7 years typical). Components are chosen to meet the more demanding needs of embedded applications such as 24 / 7 operation. RadiSys provides full product life cycle management, including integration support, revision control and sustaining support. Combined with the benefit of time-to-market designs, the RadiSys Endura product line enables customers to achieve fast time to money and low cost-of-ownership.

FEATURE SUMMARY

- MicroATX 9.6" x 9.6"
- Intel® Pentium® 4 and Celeron™ D processors
- LGA775 socket
- 800 / 533MHz FSB
- Two DDR2 DIMM sockets
- Support for DDR2-667, DDR2-533 and DDR2 400 memory
- Up to 4GB system memory
- Intel® 945G chipset
- Intel® GMA950 graphics
- Intel® High Definition Audio
- Auto-sensing audio jack sockets
- One x1 PCI Express slot
- Two PCI slots (one with riser extension)
- x16 PCI Express graphics slot
- Eight USB 2.0 ports
- Two serial ports
- One parallel port
- Four SATA 300 ports
- RAID Support (EM2G03 only)
- One ATA/100 port
- One diskette interface
- PS/2 keyboard and mouse ports
- Single 10/100 Ethernet or dual Gigabit Ethernet controllers
- Phoenix Award BIOS
- User-defined BIOS settings
- Customizable BIOS logo
- Suspend to RAM support
- System monitoring
- Automatic fanspeed control
- Watchdog timer
- GPIO port
- RoHS compliant



Endura EM945G Specifications

| Feature | Function | Description |
|-------------------|-----------------------|--|
| Processor | Type | Support for Intel® Pentium® 4 and Celeron™ D processors |
| | Socket | LGA775 socket |
| | FSB | 800MHz and 533MHz system bus |
| Chipset | Type | Intel® 945G Express chipset. EM1W03-0-0 uses ICH7 (excludes RAID), EMG03-0-0 uses ICH74 (includes support for RAID 0, 1, 5, 10) |
| Memory | Type | Two sockets for DDR2-667, DDR2-553 and DDR2-400 DIMM modules |
| | Capacity | Up to 4GB of system memory (3.2GB approx available for system memory) |
| Video | Type | Integrated Intel® GMA950 (Graphics Media Accelerator) |
| | Resolution | 2048 x 1536 at 75Hz and 32-bit color |
| | Graphics Acceleration | x16 PCI Express graphics slot |
| | ADD2 | Two Serial Digital Video Out (SDVO) ports for flat-panel monitors via Advanced Digital Display (ADD2) cards Can be used with a second independent video channel |
| Audio | Type | Intel® High Definition Audio subsystem using Sigmatel STAC9200 audio codec providing two-channel stereo audio |
| | Connectors | Two auto-sensing jack sockets on the rear I/O panel and three ATAPI connectors for CD Input, Line Out and Mic In |
| Ethernet | Controller | Single 10/100 Ethernet using integrated MAC and Intel 82562GZ transceiver |
| | | Dual Gigabit Ethernet using Intel 82573L PCI Express Ethernet controller |
| Expansion | PCI Express | One x1 PCI Express slot |
| | PCI | Two PCI slots with PCI riser extension socket in slot 2 |
| Power Management | ACPI | ACPI 2.0 supporting states S0, S3 (suspend to RAM), S4 and S5 |
| System Management | System Monitoring | Voltage, temperature and fan monitoring (3 fans) |
| | | Lithium cell voltage monitoring |
| | | Automatic fanspeed control based on thermal monitoring |
| | Watchdog | Programmable watchdog timer |
| | Management | SMbios |
| | SMbus | SMbus header |
| Power Supply | Type | Support for hard- and soft- switched power supplies |
| | | Must conform to ATX12V specification |
| | Connector | 2 x 12 power connector (provides additional power for x16 PCI Express cards) |
| Battery | - | Lithium coin cell (5 years operating life typical) |
| BIOS | - | Phoenix Award BIOS |
| | | Includes video BIOS and network boot |
| | | Customizable logo and BIOS settings |
| I/O | USB | Eight USB 2.0 ports – four on rear I/O panel and four on headers |
| | Firewire | Not supported |
| | GPIO | 13-bit General Purpose I/O header |
| | Serial Ports | COM1 on 9-pin D-type, COM2 via 10-pin header |
| | Parallel Port | 25-pin D-type supporting bi-directional EPP and ECP modes |
| Disks | SATA | Four SATA 300 headers |
| | IDE | One Ultra ATA100 interface |
| | FDD | One floppy drive header |
| Drivers | Operating Systems | Windows XP, Windows XPe, Windows 2000, Windows Vista, Red Hat Enterprise Linux 4.0 AS, Novell SUSE Linux Enterprise Server 9.0, Knoppix Linux 3.7 |
| Safety Compliance | - | Evaluated in accordance with UL60950, EN60950 and IEC60950 |
| EMC Compliance | - | Evaluated in accordance with EN55022, EN55024 and FCC Part 15 Class B |
| Environment | Operating Temp. | 0°C to 55°C |
| | Storage Temp. | -40°C to 85°C |
| | Relative Humidity | 5% to 95% non-condensing |

Ordering Information

Toll-Free: 800-950-0044

Phone: 503-615-1100

Support: 866-385-6167

Call for pricing and availability. Refer to the order codes below.

Description:

EM945G with a single 10/100 Ethernet controller, RoHS

PRODUCT CODE: EM1W03-0-0

EM945G with dual Gigabit Ethernet controllers, RoHS

PRODUCT CODE: EM2G03-0-0

ATX I/O Shield Order Codes:

ATX-L BL IOSHLDR (single LAN), RoHS

ATX-2L BLK IOSHLDR (dual LAN), RoHS

Fansink for LGA775 Pentium® 4 processors, RoHS

PRODUCT CODE: FNSNK P4-775 R

Embedded Processor Support

Intel® 2.93GHz Celeron™ D processor 341

Intel® 3.2GHz Celeron™ D processor 352

Intel® 3.0GHz Pentium® 4 processor 531

Intel® 3.4GHz Pentium® 4 processor 551

Intel® 3.4GHz Pentium® 4 processor 651



Contact Information

www.radisys.com

info@radisys.com

Channels and other locations

Corporate Headquarters

5445 NE Dawson Creek Dr.

Hillsboro, OR 97124 USA

Phone: 503-615-1100

Fax: 503-615-1121

Toll-Free: 800-950-0044

Support: 866-385-6167

EMEA: +49 811 555457-0

China: 86.21.50804062

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