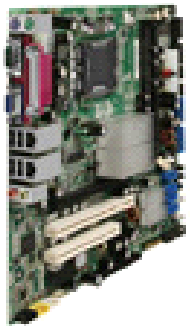
RadiSys

DATASHEET



FEATURE SUMMARY

- Performance Pentium 4 motherboard for mid - high end graphics applications

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Endura EM945G

Endura 945G uATX Pentium 4 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.

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 ICH7R (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	Lilthium 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
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	Evaluated in accordance with UL60950, EN60950 and IEC60950

	COMPLIANCE
EMC COMPLIANCE	Evaluated in accordance with EN55022, EN55024 and FCC Part 15 Class B

PHYSICAL SPECIFICATIONS

ENVIRONMENT	Temperature	Operating	0°C to 55°C
		Storage	-40°C to 85°C
	Relative Humidity	5% to 95% non-condensing	

Ordering Information

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