RadiSys
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ENDURA BG845G

MicroATX Intel® 845GV PCI Embedded Motherboard

FEATURE SUMMARY

- 478-pin PGA ZIF socket for Intel® Pentium 4 and Celeron processors at 400MHz and 533MHz FSB
- Support for mobile Pentium 4 processor
- Intel® 845GV chipset (845G option)
- Up to 2GB DDR SDRAM
- Intel® Extreme Graphics
- ADD Slot (845GV
- ADD and 4X AGP Slot (845G only)
- Single or dual Ethernet (option)
- 10/100 or Gigabit Ethernet (option)
- AC97 audio
- TCPA security (option)
- 3 PCI slots
- System management and fan control
- Power management
- Watchdog timer
- Phoenix ServerBIOS*
- 6 USB 2.0 ports
- 2 serial ports
- Parallel port
- PS/2 keyboard and mouse ports (also via internal headers
- 13 GPIO lines (supports an LCD character display)
- 9.6" x 9.6" microATX
- ROHS 6 Compliant

Pb RoHS Compliant

ADVANCED PERFORMANCE

The RadiSys BG845G expands the Endura motherboard family to deliver a high performance embedded platform based on the latest Intel® Pentium* 4 and Celeron* processors. Featuring the Intel 845GV chipset, the BG845G delivers cutting edge technology and versatility to meet the needs of a broad range of embedded applications such as test and measurement, industrial automation, medical, transaction terminals, gaming and Enterprise applications.

Platform enhancements feature integrated Intel Extreme Graphics, greater bandwidth for high performance processors with a bus speed of 533MHz, reduced power consumption with support for mobile Pentium 4 processors, large memory support with up to 2GB of DDR SDRAM, integrated high speed USB 2.0 at 40 times the speed of USB 1.1 and support for a variety of flat panel and TV-out display interfaces using ADD cards. RadiSys has also designed a companion LVDS ADD card for use with LVDS flat panel displays.

EMBEDDED FEATURES

To address the needs of specific embedded applications, the BG845G also features a build option for dual Ethernet ports using either 10/100 or Gigabit Ethernet controllers for the latest high bandwidth communications applications.

Support for riser cards facilitates the use in low profile chassis and internal connectors, such as keyboard and mouse, enables direct connections to the motherboard inside chassis such as used in test and measurement equipment. A build option for a write-protected BIOS, a BIOS socket and an ITP port lends the board well for use in gaming applications which are subject to regulatory control. A TCPA compliant module also enables the BG845G to be used as a secure computing platform, particularly important for transaction terminals.

EMBEDDED SUPPORT

Unlike commercial motherboards, RadiSys is able to meet the true needs of the embedded marketplace offering a superior level of support demanded by embedded equipment manufacturers. This includes long life products (up to 5 years), revision control, product life cycle management, engineering support and high quality design and manufacture. The combined benefits all serve to offer customers a low cost of ownership with Endura motherboards.

Endura BG845G Specifications

FEATURE	FUNCTION	DESCRIPTION
Processor	Socket	478-pin µPGA socket for Pentium 4 processors
		ITP port (build option)
	FSB	400MHz and 533MHz
Chipset	-	Intel® 845GV with ICH4 (long life embedded chipset) or Intel® 845GV with ICH4 (option for 4X AGP support, but not embedded)
Memory	Sockets	Two 184-pin DIMM sockets for DDR SDRAM (PC1600 and PC2100)
	Capacity	Maximum 2GB
	ECC/Parity	Not supported
Video	VGA	Integrated Intel® Extreme graphics with 48MB dynamic memory
	Resolution	1600 x 1200 pixels with 32-bit color support
	ADD	AGP Digital Display card support with dual DVO channels for TMDS (PanelLink)
		LVDS and TV-out interfaces
		AGP 4X 1.5V cards supported with 845G chipset only
	AGP	ADD cards supported with 845GV and 845G chipsets
Audio	AC97	Analog Devices AD1885 CODEC for AC97 v2.1
	Rear Connectors	Mic, Line Out and Line In (dependent on SKU) jacks on rear panel
	On-board Connectors	CD In, AUX In, Line Out ATAPI connectors on-board
Network	Controllers	Single or dual Intel® 82551ER controllers for 10/100 Ethernet
		Single or dual Intel® 82540EM controllers for Gigabit Ethernet
		IEEE 802.3 10Base-T, 100Base-TX, 1000Base-T compatible
	Rear Connectors	Two RJ45 rear panel connectors each with two LEDs to indicate line activity, link integrity and line speed with on-board header to connect to external duplicate LEDs
	Remote/Wake-up	Remote boot and wake-up supported by 82540EM controller
IDE	Devices	Two Ultra ATA/100 interfaces via 40-way boxed header
	Drive Types	Supports ATAPI, LS120 and ZIP drives
Floppy	Types	Supports standard 3.5" and 3-mode floppy drives
Mechanical	Dimensions	9.6" x 9.6", 4-layer PCB, microATX compliant
I/O	VGA	Via 15-way D-type
	Parallel Port	25-pin D-type supporting bi-directional, EPP and ECP modes
	Serial Ports	COM1 on 9-pin D-type, COM2, via 10-way header
	USB	4 rear panel USB 2.0 ports (also supports 1.1), 2 USB 2.0 ports on internal headers
	Keyboard & Mouse	Swappable PS/2 connectors, on-board header connectors
	Front Panel	Connectors for power control and status, Reset, IDE activity, LED, speaker and intrude detect
	GPIO	13 GPIO lines via header (also supports an LCD character display)
Expansion Slots	PCI	3 dedicated bus master 32-bit PCI 2.2 slots
	Riser Support	PCI riser extension on Slot 2 , multi-slot riser support on Slots 2, 3 and 4
System Management	Monitoring	Voltage, temperature and fans
		Automatic CPU fan speed control (O/S independent)
		Anti-tamper security
	Watchdog	Watchdog timer
		SMBus connector
Security	-	TCPA compliant TPM module
Power Management	-	PCI PME, ACPI 1.0b, APM 1.2
Power Supply	Type	Support for hard- and soft- switched power supplies
	Power Consumption	91W with a 2.8GHz Pentium 4 and 57W with a 1.7GHz Pentium 4-M with 1GB SDRAM, measured running Windows* 2000 power stress software
Battery	-	Lithium coin cell (5 years operating life typical)
BIOS	Type	Based on Phoenix ServerBIOS 3.0
	Special Features	Customizable defaults, customer logo, silent boot, QuickBoot, automatic configuration, Universal Console Redirection
Drivers	Operating Systems	Windows 2000, NTe, XP, XPe, Linux, Microware OS-9, others on request
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 Temperature	0°C to 55°C

Storage Temperature	-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

The following base configurations are available with embedded Pentium 4, Celeron and mobile Pentium 4 processors.

BG845GV uATX with single !0/100 Ethernet, RoHS
PRODUCT CODE: BGGV1L03-0-0

BG845GV uATX with single !0/100 Ethernet, 2.4GHz Pentium 4 and fansink, RoHS
PRODUCT CODE: BGGV1L03-P24-0

BG845GV uATX with dual 10/100 Ethernet, RoHS
PRODUCT CODE: BGGV2L03-0-0

I/O shield for single Ethernet, RoHS
PRODUCT CODE: ATX-L BG IOSHLD

I/O shield for dual Ethernet, RoHS
PRODUCT CODE: ATX-2L BG IOSHLD

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Contact Information

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