

Endura LS855

MICRO ATX INTEL® PENTIUM® M
LOW POWER, HIGH-PERFORMANCE
PCI MOTHERBOARD

FEATURE SUMMARY

- 479-pin PGA ZIF socket for Intel® Pentium® M processors at 400MHz FSB
- Intel® 855 chipset
- Up to 2GB ECC DDR SDRAM
- Intel® Extreme Graphics 2
- On-board LVDS flat panel support and analog VGA
- Dual independent displays
- AGP/ADD slot for other display interfaces
- Single 10/100 Ethernet port
- AC97 audio
- 3 PCI slots
- System management and fan control
- Power management
- Watchdog timer
- Phoenix FirstBIOS™ Notebook Pro
- 6 USB 2.0 ports
- 2 serial ports (rear I/O & header)
- 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

ADVANCED PERFORMANCE

Based on the Intel® 855 chipset and Intel® Pentium® M processor, the RadiSys LS855 motherboard is the latest product in the Endura product line to provide a solution for low power embedded computing applications. The Intel Pentium M has been designed with a high performance, low power micro-architecture and includes several innovative features like a high performance, power optimized 400MHz System Bus and 1MB level 2 cache. Using Enhanced Intel SpeedStep™ technology, this enables the Pentium M to achieve mobile performance at very low power using real-time dynamic switching of the voltage and frequency between multiple performance modes.

LOW POWER OPERATION

The Intel Pentium M processor working in tandem with the Intel 855 chipset is able to achieve very low power operation subject to the performance demand of the application. This enables the possibility of fan-less operation using a passive cooling solution for the processor, therefore increasing the system reliability and reducing noise.

DUAL DISPLAY INTERFACES

The on-board LVDS flat panel display interface can be used in conjunction with the integrated Intel Extreme Graphics 2 analog VGA output to provide dual independent display interfaces. With the use of an ADD card it is also possible to provide two independent digital display interfaces. This is particularly useful for transaction terminal applications such as ATMs and kiosks, point of sale applications and industrial control systems.

EMBEDDED SUPPORT

Unlike commercial motherboards, RadiSys is able to meet the true needs of the embedded marketplace by 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.

SPECIFICATIONS

ORDERING INFORMATION

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

DESCRIPTION

The following base configurations are available:

Single 10/100 Ethernet, no processor

MODEL • LS1L00-0-0

Single 10/100 Ethernet, 1.3GHz Pentium M

MODEL • LS1L00-P13-0

Single 10/100 Ethernet, 1.6GHz Pentium M

MODEL • LS1L00-P16-0

FEATURE	FUNCTION	DESCRIPTION
Processor	Socket	479-pin PGA socket for µFC-PGA Pentium M processors
	FSB	400MHz
Chipset		Intel 855 with Intel ICH4 I/O hub
Memory	Type	Two 184-pin DIMM sockets for ECC DDR SDRAM (PC1600, PC2100 and PC2700)
	Capacity	Maximum 2GB
Video	VGA	Integrated Intel Extreme graphics 2 On-board LVDS flat panel support LVDS and analog VGA function as dual independent displays
	Resolution	1600 x 1200 pixels with 32-bit color support at 85Hz
	LVDS	30-pin shielded connector for VDL/VCL Single channel 24-bit interface
	AGP	7-pin backlight control connector (DBL) AGP 4X / ADD slot with integrated retention mechanism Dual DVO channels (single or wide) Supports LVDS, DVI, DFP, TV-out via ADD cards
Audio	AC97	Analog Devices AD1885 CODEC for AC97 v2.1 CODEC Digital audio integrated in chipset
	Rear Connectors	Mic, Line Out and Line In jacks on rear panel
	On-board Connectors	CD In, AUX In, Line Out ATAPI connectors on-board
Network	Controllers	Single Intel 82551ER controller for 10/100 Ethernet Build options for dual Ethernet and Gigabit Ethernet controllers available to special order for high volume customers IEEE 802.3 10Base-T and 100Base-TX compatible
	Rear Connector	RJ45 rear panel connector with two LEDs to indicate line activity, link integrity and line speed
	On-board Connector	On-board header to connect to external LEDs
	Remote boot/Wake-up	Not supported
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" microATX compliant
I/O	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 and 2 USB 2.0 ports on internal headers (also supports USB 1.1)
	Keyboard & Mouse	Swappable PS/2 connectors, on-board header connectors
	Front Panel	Connectors for power control and status, Reset, LAN LEDs, IDE activity LED
	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
System Management	Monitoring	Monitoring of voltage, temperature and fans Automatic CPU fan speed control (OS independent) Anti-tamper security
	Watchdog	Watchdog timer SMBus connector
Security		TCPA compliant TPM module (build option)
Power Management		PCI PME, ACPI 1.0b, APM 1.2
Power Supply	Type	Support for hard- and soft- switched power supplies Must conform to ATX12V specification
		No requirement for -5V supply
Battery		Lithium coin cell (5 years operating life typical)
BIOS	Type	Based on Phoenix FirstBIOS™ Notebook Pro
	Special Features	Customizable defaults, customer logo, silent boot, QuickBoot, automatic configuration, Universal Console Redirection
Drivers	Operating Systems	Windows 2000, XP, XPe, Linux, 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 Temp.	0°C to 55°C
	Storage Temp.	-40°C to 85°C
	Relative Humidity	5% to 95% non-condensing

