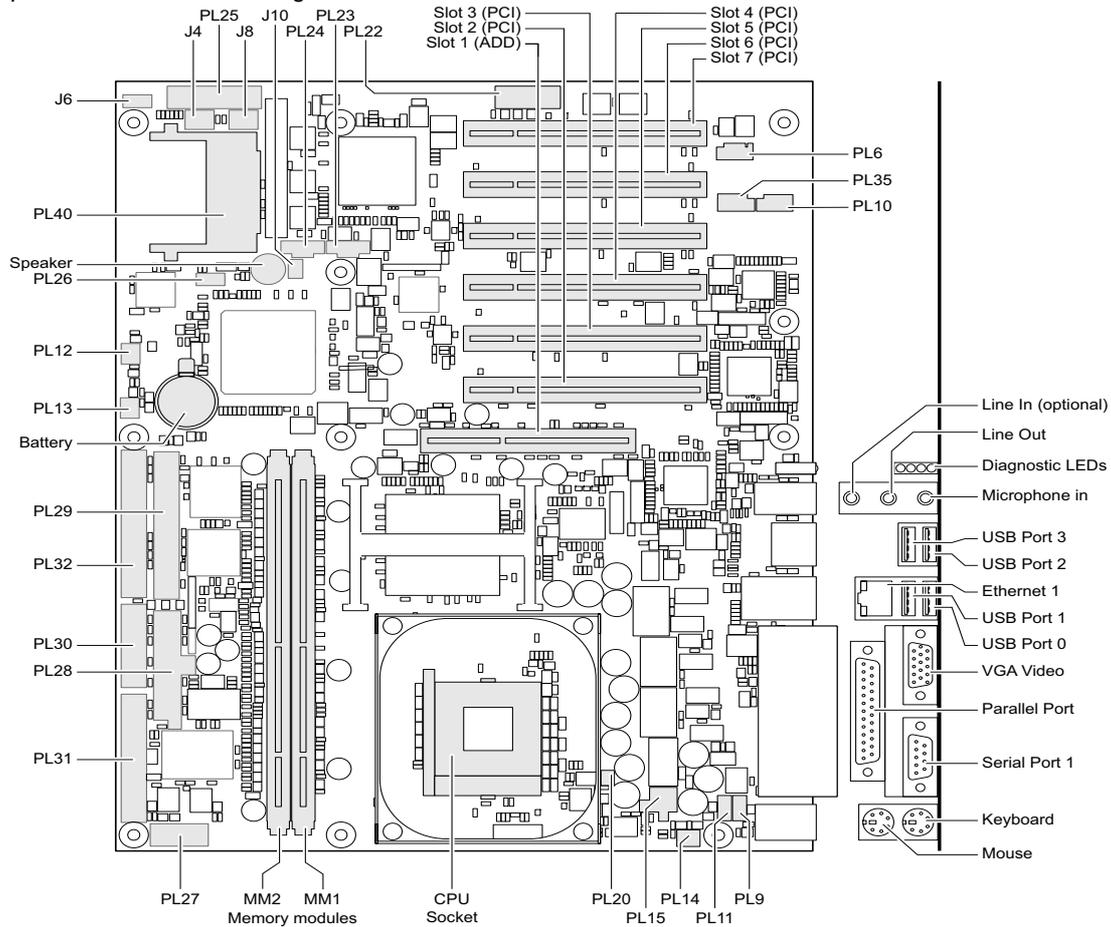


### Embedded Motherboards

The following information is provided to help you quickly configure, install and operate your Endura SH845GV ATX board. Refer to the Product Manual for more detailed information.

The Endura SH845GV is an ATX board based on an Intel® 845GV chipset with support for Intel® Celeron™ and Pentium® 4 processors. Its features include integrated video, audio, Ethernet, Compact Flash, watchdog timer and six USB 2.0 ports on a board measuring 12 x 9.6 inches.



J4	Operating Mode and Riser Enable Jumper	PL22	External LAN Status LED Header
J6	3-Pin Power LED Header	PL23	USB Port 5 Header
J8	Compact Flash Jumper (*See text below)	PL24	USB Port 4 Header
J10	Hard-Switched PSU Jumper	PL25	Front Panel Header
PL6	ATAPI CD-ROM Audio Line-In Header	PL26	SMBUS Header
PL9	Keyboard Header	PL27	Serial Port 2 Header
PL10	ATAPI AUX Line-In Header	PL28	ATX Power Connector
PL11	Mouse Header	PL29	Secondary IDE Connector
PL12	System Fan 2	PL30	GPIO Header
PL13	System Fan 1	PL31	Floppy Diskette Connector
PL14	Processor Fan	PL32	Primary IDE Connector
PL15	ATX12V Power Connector	PL35	ATAPI Audio Line-Out Header
PL20	Remote Thermal Sensor Header	PL40	Compact Flash Socket

### Quick Start

To begin operating the SH845GV ATX board, perform the following:

- Read and save all instructions.
- Ensure that the jumper settings match your requirements.
- Attach all necessary peripheral devices to the appropriate headers and connections using the information provided on the following page.
- Power on the system.
- Run the BIOS setup utility (press <F2> during POST) if you need to change any settings to match your requirements.

Caution - There is a risk of explosion if the battery is replaced with an incorrect type. Dispose of used batteries according to the manufacturer's instructions.



To avoid damage or injury, always exercise the following precautions when handling this product:

- Use a grounding wrist strap or other static dissipating device.
- Power off the system.
- Disconnect all power cables.

## Power Supply Requirements

The board supports both hard- and soft-switched ATX style power supplies that have the additional 12V connector and that conform to the ATX12V specification. The BIOS can be configured via system enclosure data for the appropriate type being used. In cases when a hard-switched power supply does not provide a 5V standby rail on its PSU connector the Hard-Switched PSU jumper (J10) should be fitted.

## Processor Support

The Endura SH845GV supports Intel® Socket478 FC-PGA and µFC-PGA Celeron™ and Pentium®4 processors operating at 400MHz and 533MHz bus speeds. The processor voltage is set automatically based on the voltage requirement indicated by the processor's VID code.

## System Memory

Two vertical 184-pin DIMM sockets are available that accept 64-bit PC2100 (DDR266) and PC2700 (DDR333) DDR SDRAM memory modules with Serial Presence Detect (SPD), providing support for 32MB to 2GB.

## Video

Intel® Extreme Graphics VGA video is integrated within the 845GV chipset and available from the rear I/O panel. The ADD slot supports digital display adapters (ADD cards) for driving flat panel monitors or to provide TV-Out capability.

## IDE/Compact Flash

The board features two Ultra ATA/100 IDE interfaces with BIOS support for 48-bit LBA (ATA drives >137GB) and a Compact Flash socket that is shared with the secondary IDE channel.

*Note that at present the compact flash multi-way jumper (J8) only supports the Master configuration mode, so for normal compact flash operation a jumper should be fitted between pins 4 and 6. Slave configuration and IDE/CF selection support should be made available in a later PCB revision.*

## Ethernet

The SH845GV has a single IEEE 802.3 compatible Ethernet port that is based on the Intel® 82551ER controller. Connection to the network is achieved through the RJ45 connector on the rear I/O panel, which has integral LEDs to provide Link status information.

## Operating Mode Jumper (J4)

This jumper selects one of three operating modes for the motherboard:

**Normal Mode - Default (Jumper fitted between pins 1 & 3)**

This is the position the jumper should be in for normal operation of the motherboard.

**Configure Mode (Jumper fitted between pins 3 & 5)**

Following POST, the BIOS Setup utility will automatically run with its options reset to their default values. Additional BIOS settings are also available within Setup in this mode.

**Recovery Mode (No jumper fitted)**

In this mode the motherboard will not boot but will wait until a valid recovery diskette is detected and will then copy a new BIOS into the ROM. The motherboard must be powered down and then re-powered with the jumper in the normal position before normal operation can resume.

## BIOS

Configuration of the SH845GV ATX board, in the majority of cases, is achieved through BIOS settings. These can be viewed and modified using the BIOS setup utility that can be started by pressing the <F2> key during POST.

The BIOS, based on Phoenix ServerBIOS™ 3.0, also has the facility to display a custom logo and to set customizable defaults. The instructions to create these are in the product manual.

## Technical and Product Support

BIOS updates, device drivers, product and technical support documentation is available for download from the RadiSys Web site (<http://www.radisys.com>) and on a CD-ROM that is available on request.

Note: It is recommended that only the drivers supplied by RadiSys are used as those posted on the device manufacturer's Web sites are unlikely to function correctly.

## Connector Descriptions

3-Pin Power LED Header (J6)	
Pin	Signal
1	GREENLED-/YELLOWLED+
2	KEY
3	GREENLED+/YELLOWLED-

Compact Flash Jumper (J8)			
Pin	Signal	Pin	Signal
1	CF DETECT	2	Not Used
3	SELECT	4	SELECT
5	IDE SELECT	6	GND

To use compact flash it will be necessary to fit a jumper between pins 4 -6 for Master operation.

ATAPI Audio Headers (PL6, PL10 & PL35)*	
Pin	Signal
1	LEFT CHANNEL
2	GND
3	GND
4	RIGHT CHANNEL

Keyboard & Mouse Headers (PL9 & PL11)	
Pin	Signal
1	+5V Fused
2	DATA
3	GND
4	CLOCK

Processor and System Fans (PL12, 13 & 14)	
Pin	Signal
1	GND
2	+12V
3	TACHO

SMBus Header (PL26)	
Pin	Signal
1	+3.3V
2	DATA
3	CLOCK
4	GND

Remote Thermal Sensor Header (PL20)	
Pin	Signal
1	DIODE+
2	DIODE-

External LAN Status LED Header (PL22)			
Pin	Signal	Pin	Signal
1	330R Pull up	2	LAN 2 ACTIVITY#
3	330R Pull up	4	LAN 2 LINK#
5	LAN 2 SPEED# (1000Mbps)	6	LAN 2 SPEED# (100Mbps)
7	330R Pull up	8	LAN 1 ACTIVITY#
9	330R Pull up	10	LAN 1 LINK#
11	LAN 1 SPEED# (1000Mbps)	12	LAN 1 SPEED# (100Mbps)

Note: The LAN2 pins are inactive.

USB Internal Ports 4 & 5 (PL23 and 24)	
Pin	Signal
1	+5V Fused
2	DATA-
3	DATA+
4	GND
5	GND

Front Panel Header (PL25)			
Pin	Signal	Pin	Signal
1	HDLED+	2	PWRLED+
3	HDLED-	4	PWRLED-
5	RESETSW-	6	PWRSW+
7	RESETSW+	8	PWRSW-
9	+5V Fused	10	SPKR+
11	Not Used	12	SPKR-
13	GND	14	KEY
15	Not Used	16	SPKR-
17	Not Used	18	TAMPERSW+
19	Not Used	20	TAMPERSW-

Serial Port 2 Header (PL27)			
Pin	Signal	Pin	Signal
1	DCD	2	DSR
3	RxD	4	RTS
5	TxD	6	CTS
7	DTR	8	RING
9	GND	10	KEY

Note: Matches standard 9-way pin out via ribbon cable.

General Purpose I/O Header (PL30)			
Pin	Signal	Pin	Signal
1	GND	2	+5V Fused
3	PWM	4	GPIO20
5	GPIO21	6	GPO22
7	GPIO10	8	GPIO11
9	GPIO12	10	GPIO13
11	GPIO14	12	GPIO15
13	GPIO16	14	GPIO17
15	Reserved	16	KEY
17	GND	18	GPI23
19	GND	20	GPI24

**\*Note:** The Line-Out connectors are designed to drive headphones or active speakers and care must be taken when using both simultaneously to ensure that the combined load does not have an adverse effect on the output levels.