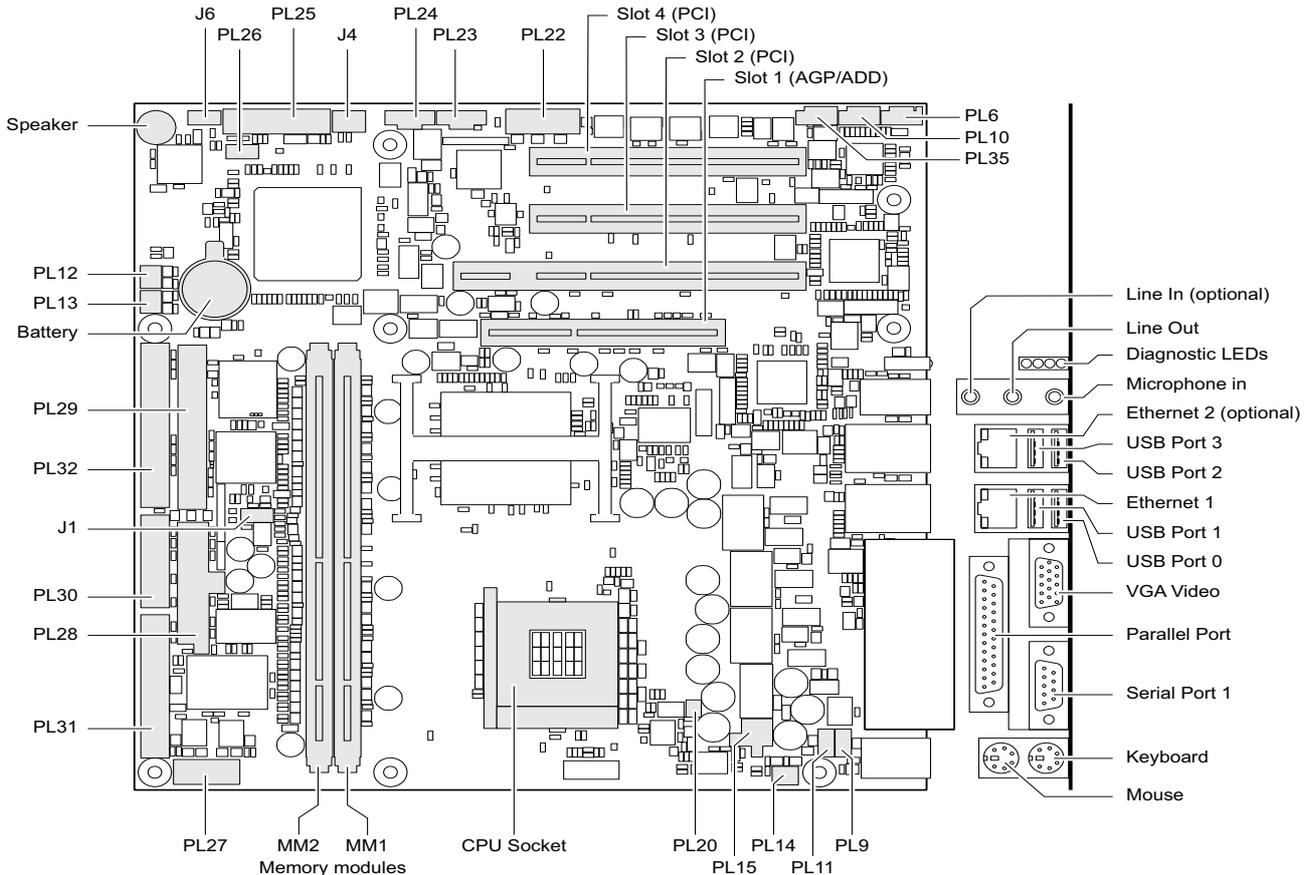


The following information is provided to help you quickly configure, install and operate your RadiSys BG845G/GV motherboard. Refer to the product manual for more detailed information.

The RadiSys BG845G/GV is an ATX-family motherboard that meets the  $\mu$ ATX form factor specifications and is based around an Intel<sup>®</sup> 845-family chipset that supports Intel<sup>®</sup> Celeron<sup>™</sup>, Pentium<sup>®</sup> 4 and Mobile Pentium<sup>®</sup> 4-M processors. Its features include integrated video, system monitoring, 3-slot riser support on all PCI slots, six USB 2.0 ports and up to two optional Ethernet channels on a board measuring 9.6 x 9.6 inches.



J1	P4 Processor Selection Jumper	PL22	External LAN Status LED Header
J4	Operating Mode and Riser Enable Jumper	PL23	USB Port 5 Header
J6	3-Pin Power LED Header	PL24	USB Port 4 Header
PL6	ATAPI CD-ROM Audio Line-In Header	PL25	Front Panel Header
PL9	Keyboard Header	PL26	SMBUS Header
PL10	ATAPI AUX Line-In Header	PL27	RS232 Serial Port 2 Header
PL11	Mouse Header	PL28	ATX Power Connector
PL12	System Fan 2	PL29	Secondary IDE Connector
PL13	System Fan 1	PL30	GPIO Header
PL14	Processor Fan	PL31	Floppy Diskette Connector
PL15	ATX12V Power Connector	PL32	Primary IDE Connector
PL20	Remote Thermal Sensor Header	PL35	ATAPI Audio Line-Out Header

### Quick Start

To begin operating your BG845G/GV motherboard, 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.

## Processor Support

The motherboard supports Intel® Socket478 FC-PGA and µFC-PGA Celeron™, Pentium® 4 and Pentium® 4-M Mobile processors operating at 400MHz and 533MHz bus speeds. In the majority of cases, the processor voltage is set automatically based on the voltage requirement indicated by the processor's VID code. If this cannot be determined automatically, a jumper (J1) is provided to enable the voltage to be set based on the type of processor fitted. Refer to the product manual for further details.

## System Memory

Two vertical 184-pin DIMM sockets are available that accept 64bit wide PC1600 (200MHz) or PC2100 (266MHz) DDR memory modules with Serial Presence Detect (SPD), providing support for 32MB to 2GB.

## Video

The video controller is integrated within the chipset to provide on-board AGP video. The AGP/ADD slot supports digital display adapters (ADD cards) for driving flat panel monitors or to provide TV-Out capability. AGP video card support is only available on motherboards fitted with the Intel 845G chipset option.

## Ethernet (Optional)

Either one or two IEEE 802.3 compatible Ethernet ports are available as build options that are based around Intel controllers (82551ER and 82540EM) to provide 10/100Mbps and/or 10/100/1000Mbps configuration. Connection to the network is achieved through two RJ45 connectors, available on the rear panel, which have integral LED's to provide Link status information.

## PCI Riser Support

The three bus master PCI 2.2 compliant slots each have 3-slot riser card support providing a maximum of five usable slots in total. PCI Slot 2 provides riser support via its standard ATX riser connector and requires no reconfiguration when switching between a riser or direct PCI slot. When using a riser in either PCI slots 3 or 4, however, the riser enable jumper (J4) must be set to differentiate it from a direct PCI slot. See the product manual for further information.

## BIOS

Configuration of the motherboard, 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 will be 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

<b>Operating Mode and Riser Enable Jumper (J4)</b>			
Pin	Signal	Pin	Signal
1	NORMAL	2	Not Used
3	+3.3V	4	RISER ID
5	CONFIGURE	6	GND

See description opposite.

### J4 Operation

*Normal Mode* (Jumper fitted between pins 1-3)  
The BIOS uses the current configuration information and passwords for booting.

*Configure Mode* (Jumper fitted between pins 3-5)  
After POST is run, Setup is run automatically using BIOS defaults.

*Recover Mode* (No jumper fitted between pins 1, 3 or 5)  
The BIOS attempts to recover the BIOS configuration using a recovery diskette.

*Enable riser support* (Jumper fitted between pins 4-6)  
Fit this jumper to enable riser support for PCI Slots 3 & 4.

# RadiSys Endura BG845G/GV µATX

## P4 Processor Selection Jumper (J1)

Pin	Signal
1	P4 MOBILE
2	GND
3	P4 DESKTOP

## 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

## USB Internal Ports 4 & 5 (PL23 and 24)

Pin	Signal
1	+5V Fused
2	DATA-
3	DATA+
4	GND
5	GND

## SMBus Header (PL26)

Pin	Signal
1	+3.3V
2	DATA
3	CLOCK
4	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-

## 3-Pin Power LED (J6)

Pin	Signal
1	GREENLED+
2	KEY
3	GREENLED-

## 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

## External LAN LED Header (PL22)

Pin	Signal	Pin	Signal
1	330R Pullup	2	LAN 2 ACTIVITY#
3	KEY	4	LAN 2 LINK#
5	LAN 2 SPEED# (1000Mb)	6	LAN 2 SPEED# (100Mb)
7	330R Pullup	8	LAN 1 ACTIVITY#
9	330R Pullup	10	LAN 1 LINK#
11	LAN 1 SPEED# (1000Mb)	12	LAN 1 SPEED# (100Mb)

## 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

## Processor and System Fans (PL12, 13 & 14)

Pin	Signal
1	GND
2	+12V
3	TACHO

## Remote Thermal Sensor (PL20)

Pin	Signal
1	DIODE+
2	DIODE-

## ATX Power Connector (PL28)

Pin	Signal	Pin	Signal
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	GND	13	GND
4	+5V	14	PSON#
5	GND	15	GND
6	+5V	16	GND
7	GND	17	GND
8	PWROK	18	Not Used
9	+5VSBY	19	+5V
10	+12V	20	+5V

## ATX12V Power Connector (PL15)

Pin	Signal	Pin	Signal
1	GND	3	+12V
2	GND	4	+12V

**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.