

# Intel® Desktop Board D845GLVA Quick Reference

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*This guide is written for technically qualified personnel with experience installing and configuring desktop board.*

## Before You Begin

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## Items on the Intel® Express Installer CD-ROM

- Product warranty
- Intel Express Installer
- *Intel® Desktop Board D845GLVA Product Guide*
- Software utilities and drivers
- Software license agreement
- Readme file

Part Number: C30685-001

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The Desktop Board D845GLVA may contain design defects or errors known as errata which may cause the product to deviate from published specifications. Current characterized errata are available on request.

Contact your local Intel sales office or your distributor to obtain the latest specifications and before placing your product order.

Copies of documents which have an ordering number and are referenced in this document, or other Intel literature, may be obtained from Intel Corporation by going to the World Wide Web site at: <http://www.intel.com> or by calling 1-800-548-4725.

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# Before You Begin

## Warning and Caution



### WARNING

*Disconnect the desktop board's power supply from its AC power source before you connect or disconnect cables, or install or remove any board components. Failure to do this can result in personal injury or equipment damage. Some circuitry on the desktop board can continue to operate even though the front panel power switch is off.*



### CAUTION

*Electrostatic discharge (ESD) can damage desktop board components. Install the board at an ESD-controlled workstation. If such a workstation is not available, wear an antistatic wrist strap or touch the surface of the antistatic package before handling the board.*



### CAUTION

*Many of the midboard and front panel connectors provide operating voltage (+5 V DC and +12 V DC, for example) to devices inside the computer chassis, such as fans and internal peripherals. These connectors are not overcurrent protected. Do not use these connectors for powering devices external to the computer chassis. A fault in the load presented by the external devices could cause damage to the computer, the interconnecting cables, and the external devices themselves.*

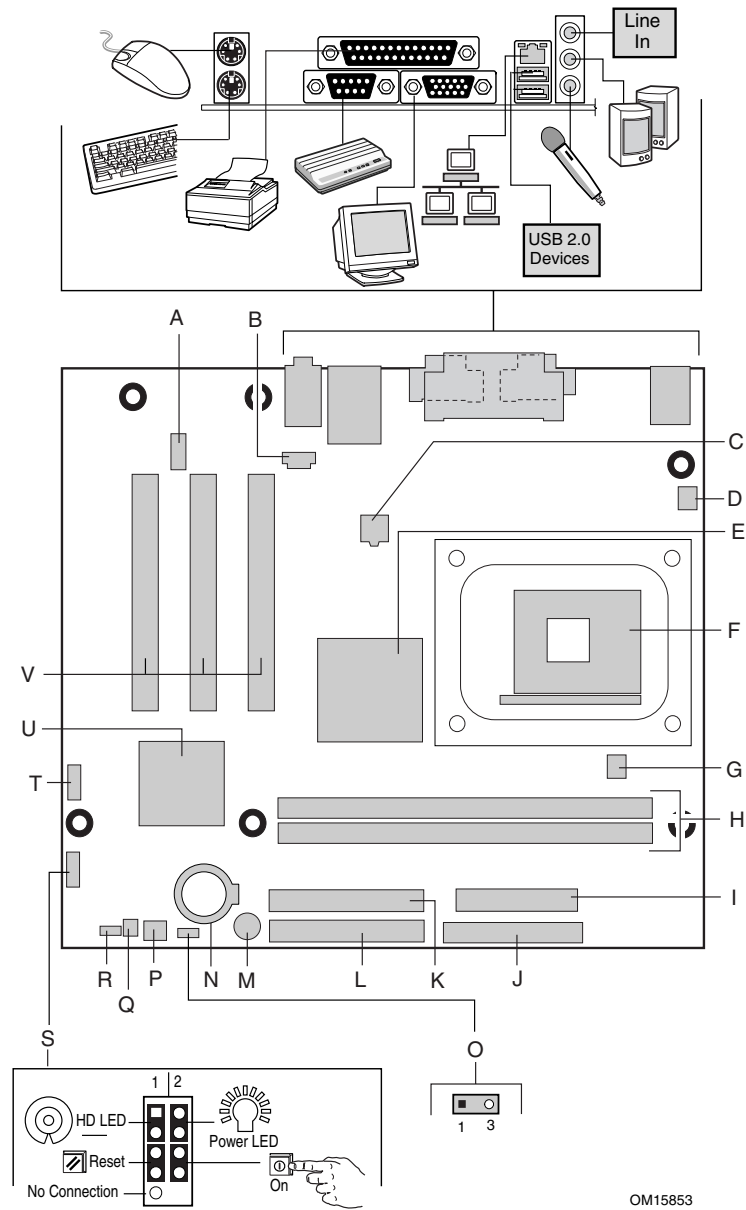
## Safety and Regulatory Notice

See the *Intel Desktop Board D845GLVA Product Guide* for all applicable regulatory compliance statements, product certification markings, and safety and electromagnetic compatibility (EMC) standards and regulations the desktop board is compliant with.

***Replacement battery warning label provided:*** Place the label inside the chassis in an easy-to-see location near the battery but not on the board itself.

***Intended uses:*** This product was evaluated as information technology equipment (ITE) for home or office use when installed into an appropriate computer chassis. Other end uses or locations may require further evaluation.

# Desktop Board Components



**Figure 1. Desktop Board Components**

continued

## Desktop Board Components (continued)

|   |                                       |   |                                |
|---|---------------------------------------|---|--------------------------------|
| A | Front panel audio header              | L | Primary IDE connector          |
| B | CD-ROM connector (ATAPI)              | M | Speaker                        |
| C | 12 V processor core voltage connector | N | Battery                        |
| D | Rear chassis fan header               | O | Power LED header               |
| E | Intel® 82845GL (GMCH)                 | P | Front chassis fan header       |
| F | Processor socket                      | Q | Chassis intrusion header       |
| G | Processor fan header                  | R | BIOS configuration jumper      |
| H | DIMM sockets                          | S | Front panel header             |
| I | Main power connector                  | T | USB 2.0 header                 |
| J | Diskette drive connector              | U | Intel® 82801DB (ICH4)          |
| K | Secondary IDE connector               | V | PCI bus add-in card connectors |



### CAUTION

*Failure to use an ATX12V or SFX-12V power supply, or not connecting the additional power supply lead to Desktop Board D845GLVA may result in damage to the desktop board and/or power supply.*

*For more information on the ATX12V and SFX -12V power supply, refer to the Intel Desktop Board D845GLVA Product Guide on the Intel Express Installer CD-ROM.*

# Supported Components

## Processors

Desktop Board D845GLVA supports the following processors:

| Type                           | Designation   | FSB <sup>1</sup><br>Frequency | L2 Cache |
|--------------------------------|---|-------------------------------|----------|
| Intel® Pentium®<br>4 processor | 2.60, 2.50, 2.40, 2.20, 2A,<br>1.80A, and 1.60A GHz | 400 MHz                       | 512 KB   |
| Intel® Celeron®<br>processor   | 2.20, 2.0, 1.80, and 1.70 GHz                       | 400 MHz                       | 128 KB   |

<sup>1</sup> Front side bus

For the latest information on processors supported by Desktop Board D845GLVA, refer to the Intel World Wide Web site at:

<http://support.intel.com/support/motherboards/desktop/>

## Memory Module Requirements

Desktop Board D845GLVA supports system memory as defined below:

- Up to two 184-pin Double Data Rate (DDR) 266/200 SDRAM DIMMs with gold-plated contacts
- 2.5 V memory only
- Memory configurations up to 2.0 GB using 512 Mbit technology
- Serial Presence Detect (SPD)
- Unbuffered, non-ECC RAM (registered memory is not supported)



### NOTES

*Desktop Board D845GLVA has been designed to support DIMMs based on 512 Mbit technology up to 2 GB, but this technology has not been validated on the board.*

*All memory components and DIMMs used with the desktop board must comply with PC SDRAM specifications. These include the PC SDRAM Specification (memory component specific) and the PC Unbuffered DIMM Specification. To view or download these specifications, refer to this Intel World Wide Web site:*

<http://www.intel.com/technology/memory/pcsdram/>

*For information about vendors that support these memory requirements, refer to the Desktop Board D845GLVA link on the Intel World Wide Web site at:*

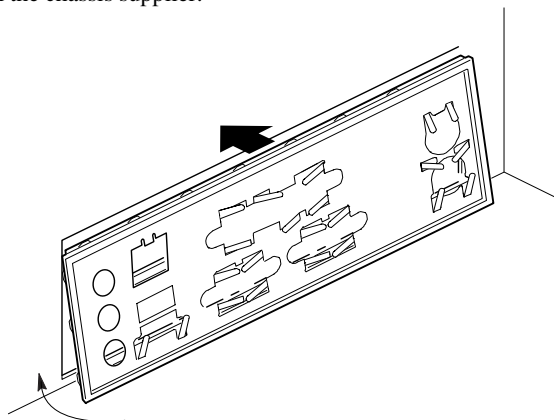
<http://support.intel.com/support/motherboards/desktop/>

# Installation Steps

## 1 Installing the I/O Shield

The desktop board comes with an I/O shield. When installed in the chassis, the shield blocks radio frequency transmissions, necessary to pass emissions (EMI) certification testing, protects internal components from dust and foreign objects, and promotes correct airflow within the chassis.

Install the I/O shield before installing the desktop board in the chassis. Place the shield inside the chassis as shown in Figure 2. Press the shield into place so that it fits tightly and securely. If the shield doesn't fit, obtain a properly-sized shield from the chassis supplier.



OM13621

**Figure 2. I/O Shield**

## 2 Installing the Desktop Board



### CAUTION

*Failure to use an ATX12V or SFX-12V power supply, or not connecting the additional power supply lead to the Desktop Board D845GLVA may result in damage to the desktop board and/or power supply.*

*For more information on the ATX12V and SFX-12V power supply, refer to the Intel Desktop Board D845GLVA Product Guide on the Intel Express Installer CD-ROM.*

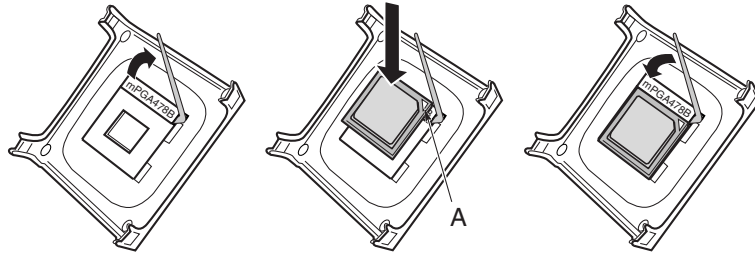
Refer to your chassis manual for specific instructions on installing and removing the desktop board. Secure the desktop board to the chassis standoffs using the screws.

Desktop Board D845GLVA is secured to the chassis with six screws. Refer to Figure 1 on page 4 for the location of the mounting screw holes.

### 3 Installing the Processor

To install the processor, follow these steps (see Figure 3):

1. Observe the precautions in “Before You Begin” on page 3.
2. Lift the processor socket lever.
3. Install the processor so that the corner with the triangle marking (A) is aligned with the corner where the lever is attached to the socket.
4. Lower the lever back to its original position.



OM12078

**Figure 3. Installing the Processor**

5. The desktop board comes with an integrated processor heatsink retention mechanism (RM). For instructions on how to install the processor fan heatsink, refer to the boxed processor manual or the Intel customer support World Wide Web site at:

*<http://support.intel.com/support/processors/pentium4/intnotes478.htm>*



## 4 Installing Memory Modules



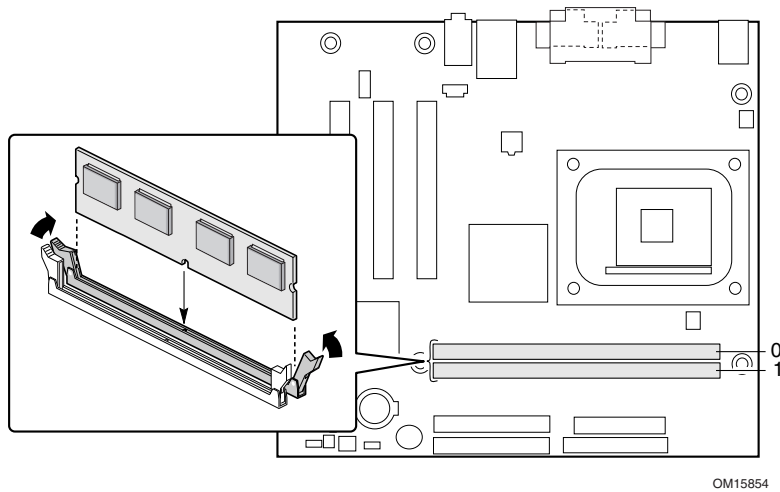
### CAUTION

*Install memory in the DIMM sockets prior to installing a video card in PCI slot 1 to avoid interference with the memory retention mechanism.*

The two DIMM sockets on Desktop Board D845GLVA are arranged as banks 0 and 1, as shown in Figure 4. If installing a single DIMM, install it in bank 0.

To install DIMMs, follow these steps:

1. Observe the precautions in “Before You Begin” on page 3.
2. Remove the PCI card from PCI slot 1 if it interferes with the DIMM clips from being easily opened and closed.
3. Align the small notch in the bottom edge of the DIMM with the key in the socket.
4. When the DIMM is inserted, push down on the top edge of the DIMM until the retaining clips snap into place. Make sure the clips are firmly in place.



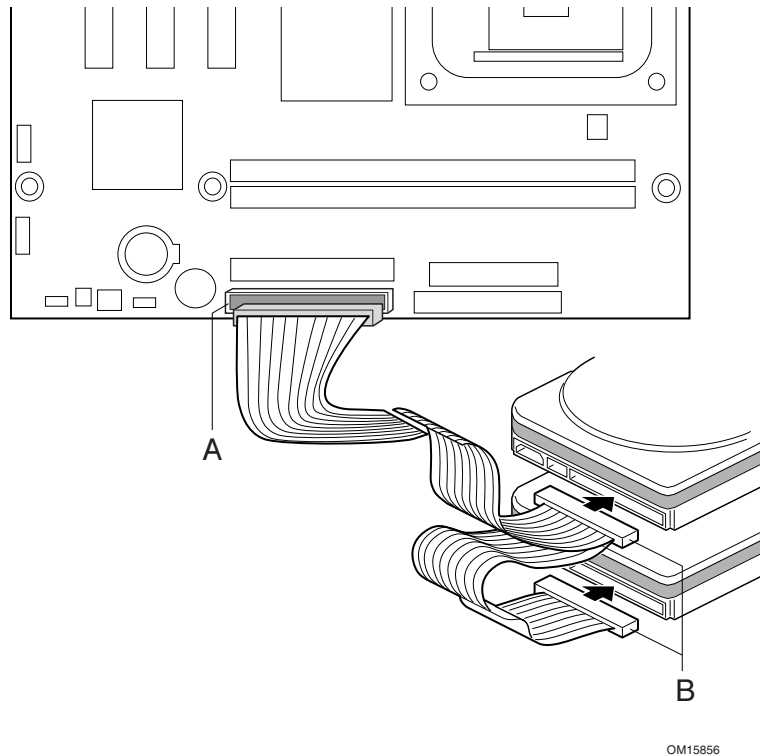
**Figure 4. Installing a Memory Module**

## 5 Attaching IDE Drives

The Intel® boxed desktop board package includes an IDE cable. The cable can connect two drives to the desktop board. The cable supports the ATA-66/100 (40-contact, 80-conductor) transfer protocol and is backward compatible with drives using slower IDE transfer protocols.

The cable will work correctly only when oriented as shown in Figure 5. For correct cable function:

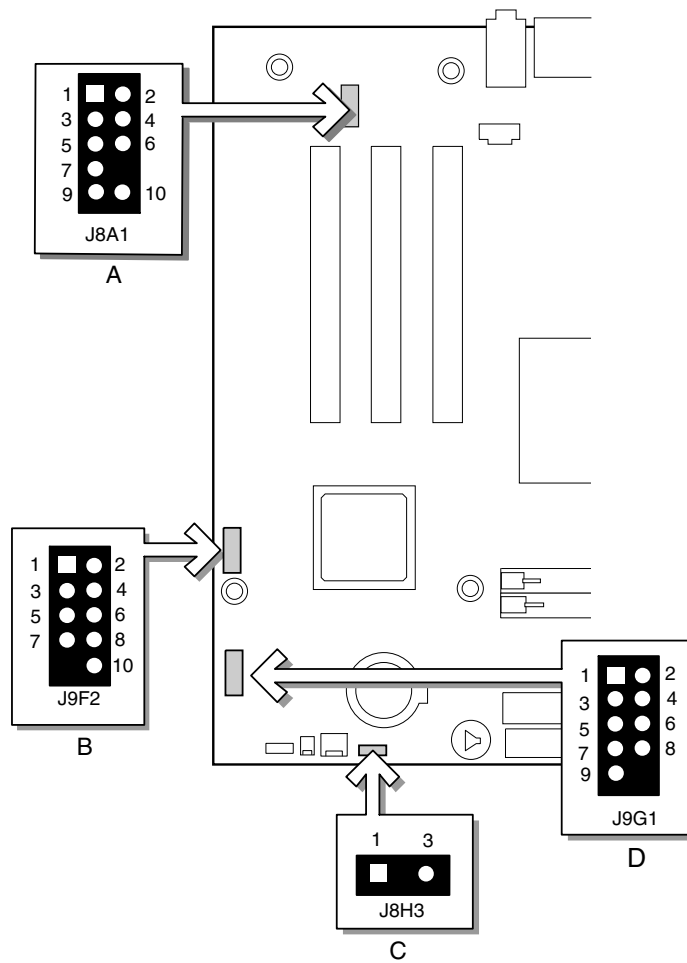
1. Observe the precautions in “Before You Begin” on page 3.
2. Attach the cable end with the single blue connector (A) to the desktop board.
3. Attach the cable end with the two closely spaced black and gray connectors (B) to the drives.



**Figure 5. Connecting the IDE Cable**

## 6 Connecting Internal Headers

Figure 6 shows the location of internal headers.



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| Label | Description              |
|-------|--------------------------|
| A     | Front panel audio header |
| B     | USB 2.0 header           |
| C     | Power LED                |
| D     | Front panel header       |

**Figure 6. Location of Internal Headers**

**NOTE**

Before connecting internal headers, observe the precautions in “Before You Begin” on page 3.

**Connecting the USB 2.0 Header**

The table below shows the pin assignments for the USB 2.0 header.

**USB 2.0 Header Signal Names**

| Pin | Signal name   | Pin | Signal name   |
|-----|---------------|-----|---------------|
| 1   | VBUS0 (Power) | 2   | VBUS1 (Power) |
| 3   | D-            | 4   | D-            |
| 5   | D+            | 6   | D+            |
| 7   | Ground        | 8   | Ground        |
| 9   | Key (no pin)  | 10  | Not connected |

Note: USB ports may be assigned as needed.

**Connecting the Front Panel Header**

The table below shows the pin assignments for the front panel header.

**Front Panel Header**

| Pin                     | Signal    | I/O | Description                           | Pin           | Signal       | I/O | Description            |
|-------------------------|-----------|-----|---------------------------------------|---------------|--------------|-----|------------------------|
| Hard Drive Activity LED |           |     |                                       | Power LED     |              |     |                        |
| 1                       | HD_PWR    | Out | Hard disk LED pull-up (330 Ω) to +5 V | 2             | HDR_BLNK_GRN | Out | Front panel green LED  |
| 3                       | HDA#      | Out | Hard disk active LED                  | 4             | HDR_BLNK_YEL | Out | Front panel yellow LED |
| Reset Switch            |           |     |                                       | On/Off Switch |              |     |                        |
| 5                       | Ground    |     | Ground                                | 6             | SWITCH_ON#   | In  | Power switch           |
| 7                       | FP_RESET# | In  | Reset switch                          | 8             | Ground       |     | Ground                 |
| 9                       | +5 V      | Out | Power                                 | 10            | N/C          |     | Not connected          |

**Installing a Front Panel Audio Solution**

The table below shows the pin assignments for the front panel audio header.

**Front Panel Audio Header Signal Names**

| Pin | Signal Name  | Pin | Signal Name |
|-----|--------------|-----|-------------|
| 1   | AUD-MIC      | 2   | AUD-GND     |
| 3   | AUD-MIC-BIAS | 4   | AUD-VCC     |
| 5   | AUD-FPOUT-R  | 6   | AUD-RET-R   |
| 7   | HP-ON        | 8   | KEY         |
| 9   | AUD-FPOUT-L  | 10  | AUD-RET-L   |

To install the cable that connects the front panel audio solution to the front panel audio header, follow these steps:

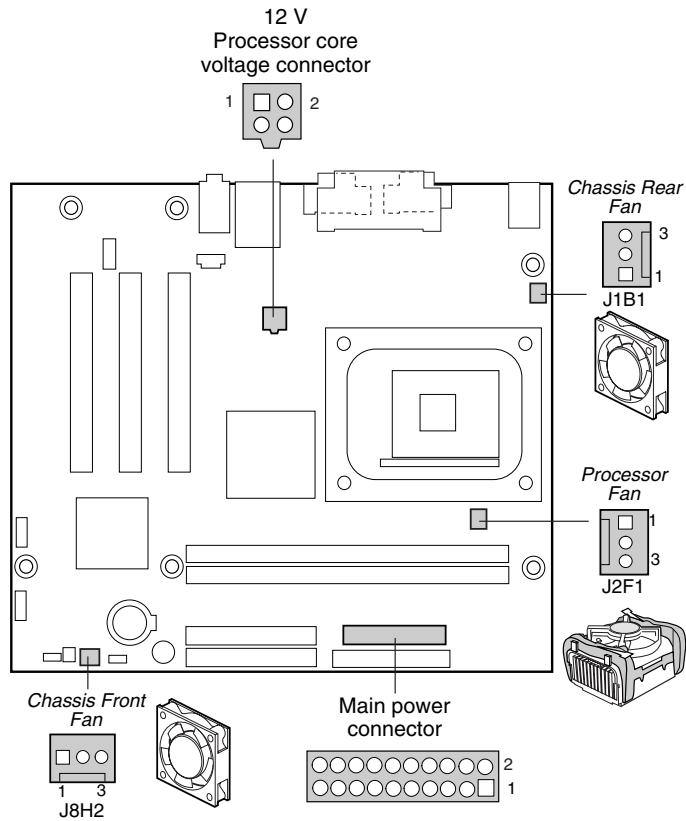
1. Observe the precautions in “Before You Begin” on page 3.
2. Turn off all peripheral devices connected to the computer. Turn off the computer and disconnect the AC power cord.
3. Remove the cover.
4. Locate the front panel audio header. Remove the two jumpers from the header to disable the back panel audio connectors.
5. Install a correctly keyed and shielded front panel audio cable.
6. Connect the audio cable to the front panel audio solution.
7. Replace the cover.

To restore back panel operations, follow these steps:

1. Observe the precautions in “Before You Begin” on page 3.
2. Turn off all peripheral devices connected to the computer. Turn off the computer and disconnect the AC power cord.
3. Remove the cover.
4. Remove the front panel audio cable.
5. Install a jumper on pins 5-6 (rear R channel).
6. Install a jumper on pins 9-10 (rear L channel).
7. Replace the cover.

## 7 Connecting Fans and Power Cables

Figure 7 shows the location of the fan headers. Connect the processor's fan heat sink cable to the processor fan header on the board. Connect the chassis fan cables to the board fan headers shown in Figure 7.



OM15855

**Figure 7. Location of Fan Headers and Power Connectors**



### CAUTION

*Failure to use an ATX12V power supply, or not connecting the 12 V processor core voltage power supply connector to Desktop Board D845GLVA may result in damage to the desktop board and/or power supply.*

*For more information on the ATX12V power supply, refer to the Intel Desktop Board D845GLVA Product Guide on the Intel Express Installer CD-ROM.*

See Figure 7 for the location of the power connectors.

1. Observe the precautions in “Before You Begin” on page 3.
2. Connect the 12 V processor core voltage power supply cable to the 2x2 connector.
3. Connect the main power cable to the 2x10 connector.

## Using the BIOS Setup Program

The BIOS Setup program can be used to view and change the BIOS settings for the computer. The BIOS Setup program is accessed by pressing the <F2> key after the Power-On Self-Test (POST) memory test begins and before the operating system boot begins.

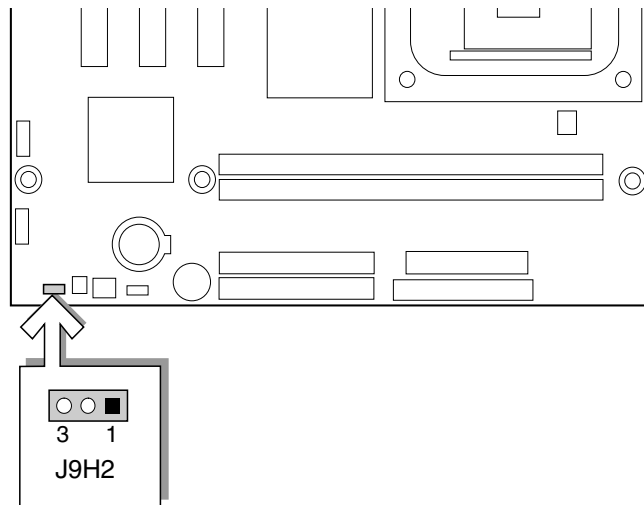
## Setting the BIOS Configuration Jumper Block



### CAUTION

*Always turn off the power and unplug the power cord from the computer before changing the jumper block settings. Moving the jumper with the power on may result in unreliable computer operation.*

The BIOS configuration jumper block determines the operating mode of the BIOS Setup Program and enables BIOS recovery in the event of a failed BIOS update (see Figure 8 for the location of the jumper block).






OM15857

**Figure 8. Location of the BIOS Configuration Jumper Block**

The following table describes the jumper block settings for the BIOS Setup configuration jumper.

**BIOS Setup Configuration Jumper Block (J9H2) Settings**

| Jumper Setting  | Mode                    | Description   |
|---|-------------------------|---|
|  | Normal (default)<br>1-2 | The BIOS uses the current configuration and passwords for booting.  |
|  | Configure<br>2-3        | After the Power-On Self-Test (POST) runs, the BIOS displays the Maintenance Menu. Use this menu to clear passwords. |
|  | Recovery<br>None        | The BIOS recovers data from a recovery diskette in the event of a failed BIOS update.*                              |

\*To update or recover the BIOS, see the instructions in the Intel Desktop Board D845GLVA Product Guide on the Intel® Express Installer CD-ROM.

For a complete list of BIOS Setup settings, see:

- The *Intel Desktop Board D845GLVA Product Guide* on the Intel Express Installer CD-ROM
- The Intel World Wide Web Site at:  
<http://support.intel.com/support/motherboards/desktop/>

## Troubleshooting

### Desktop Board D845GLVA system fails to boot.

- Ensure that the power supply cable with the 4-pin connector is plugged into the 12 V processor core voltage connector located near the processor socket on the desktop board.
- Remove and re-insert the Intel Pentium 4 processor or Celeron processor, memory, and any add-in cards to make sure they are fully seated. Remove any non-essential hardware components and boot the system.
- Disconnect all power and remove the CMOS battery. Wait 10 minutes, then re-install the battery, reconnect power, and boot the system.

### A repeating beep error code is heard and the desktop board does not boot or show any video.

This beep code may indicate a problem during detection of the DDR SDRAM memory device. Check to ensure that system memory is properly installed and that the DIMMs meet the Memory Module Requirements listed in the Supported Components section of this document.

### Resolving slow IDE boot times.

Extended boot time can be the result of IDE drive jumper configuration. For additional information, visit

<http://support.intel.com/support/motherboards/desktop/slowboot.htm>



## Customer Support Links

View or download product support information from Intel's World Wide Web site at:

<http://support.intel.com/support/motherboards/desktop/>

Follow the link to your Intel Desktop Board for the following information:

- Known Issues and Solutions
- Software and Drivers (latest BIOS and driver updates)
- Compatibility (supported Intel® processors and memory information)
- Product Documentation
  - Technical Product Specification
  - Specification Update
  - Quick Reference Guide

The Intel World Wide Web site also includes telephone numbers for Intel customer support:

- Intel Customer Support World Wide Phone Numbers at:

<http://support.intel.com/support/9089.htm>

- Intel Desktop Board Email Support Form at:

<http://supportmail.intel.com/scripts-emf/welcome.asp?id=36>

If you can't find the information you need on the Web, contact your point of purchase.

