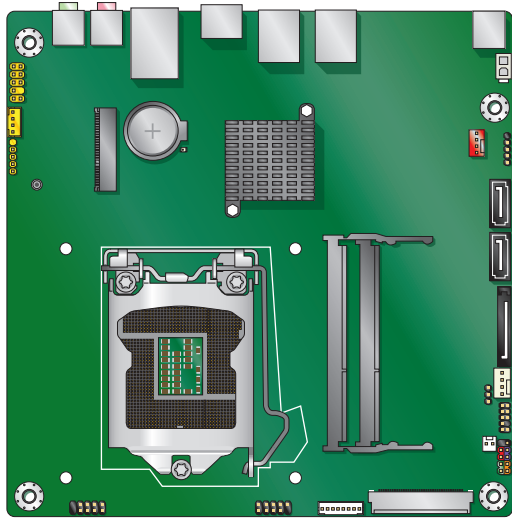


Intel® Desktop Board DH61AGL Integration Guide

This guide contains basic instructions for installing the desktop board in a compatible chassis. For a complete description of the board and its features, refer to the Technical Product Specification at: <http://www.intel.com/products/motherboard>.



The layout of your board may differ slightly from that shown.

Before You Begin

Follow these guidelines before you begin building your system:

- Electrostatic discharge (ESD) can damage components. Perform the procedures described in this guide only at an ESD workstation using an antistatic wrist strap and a conductive foam pad. If such a station is not available, you can provide some ESD protection by wearing an antistatic wrist strap and attaching it to a metal part of the computer chassis.
- Always follow the steps in each procedure in the listed order.
- Set up a log to record information about your computer such as serial numbers, installed options, and BIOS configuration.

Installation Precautions

- When you install the desktop board, observe all warnings and cautions in this guide. To avoid injury, be careful of:
- Sharp pins on headers and connectors
 - Rough edges and sharp corners on the chassis
 - Damage to wires that could cause a short circuit

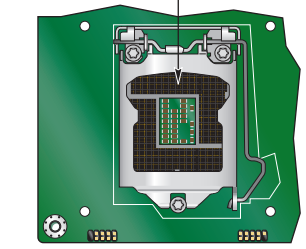
Observe Safety and Regulatory Requirements

Read and follow the instructions in this guide and the instructions supplied with the chassis and associated devices. If you do not follow these instructions and the instructions provided by the chassis and device suppliers, you increase your safety risk and possibility of noncompliance with regional laws and regulations.

1 Install a Processor

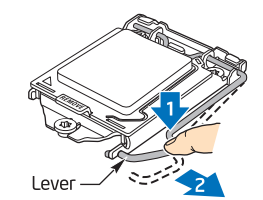
For a list of processors this board supports, go to: <http://processormatch.intel.com>.

LGA1155 Processor Socket



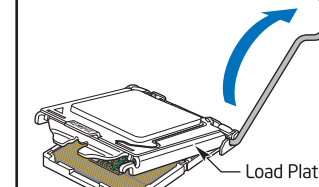
A. Unlatch the Socket Lever

Push the lever down and away from the socket to release it.

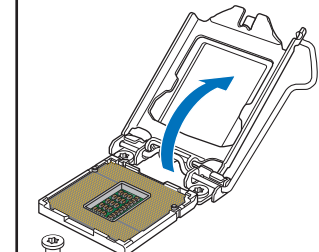


B. Open the Load Plate

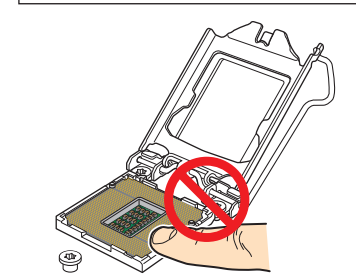
A Rotate the socket lever to lift the load plate away from the socket.



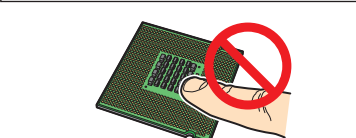
B Make sure the load plate is in the fully open position.



When opening the socket, DO NOT TOUCH the gold socket contacts.



When unpacking a processor, hold by the edges only to avoid touching the gold contacts.



C. Install the Processor

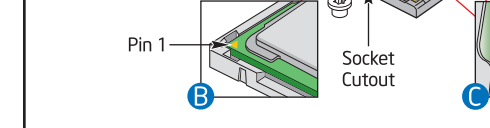
The processor must align correctly with the socket before installation. DO NOT DROP the processor into the socket.

A Hold the processor with your thumb and index finger as shown to align your fingers with the socket cutouts.

B Make sure that the processor Pin 1 indicator (gold triangle) is aligned with the Pin 1 chamfer on the socket.

C Make sure that the notches on the processor align with the posts on the socket.

D Lower the processor straight down without tilting or sliding it in the socket.



D. Close the Load Plate and Secure the Socket Lever

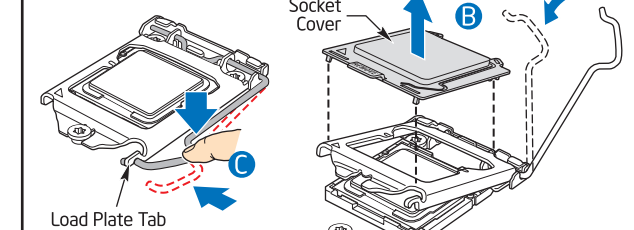
A Carefully lower the load plate and make sure it slides under the shoulder screw cap as the lever is lowered.

B Continue to lower the lever and the socket cover will pop off.

C Latch the socket lever under the load plate tab.

D Pick up the socket cover and remove it from the board.

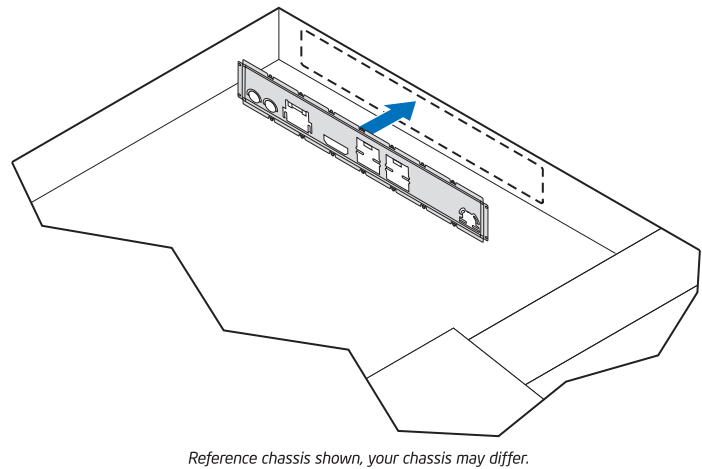
NOTE: Save the socket cover and replace it if the processor is removed.



2 Install the I/O Shield

Place the I/O shield inside the chassis and press it into place so that it fits tightly and securely.

Use caution so you do not deform the I/O shield.



Reference chassis shown, your chassis may differ.

3 Install a Heatsink and the Desktop Board

A Remove the heatsink mounting bracket by unscrewing the four captive screws.

B Apply the provided Thermal Interface Material (TIM) to the top of the processor.

C Remove the two adhesive strips from the heatsink mounting bracket and carefully lower the heatsink into place. Secure the four captive screws to the mounting plate on the underside of the desktop board.

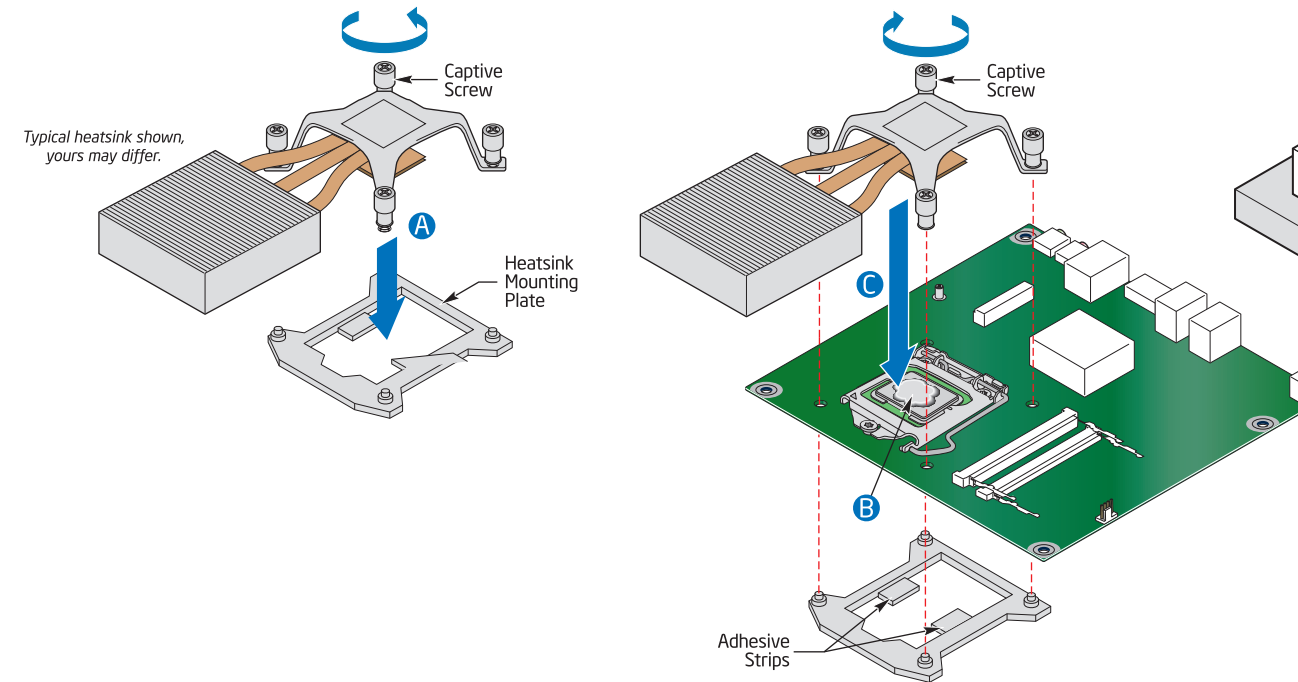
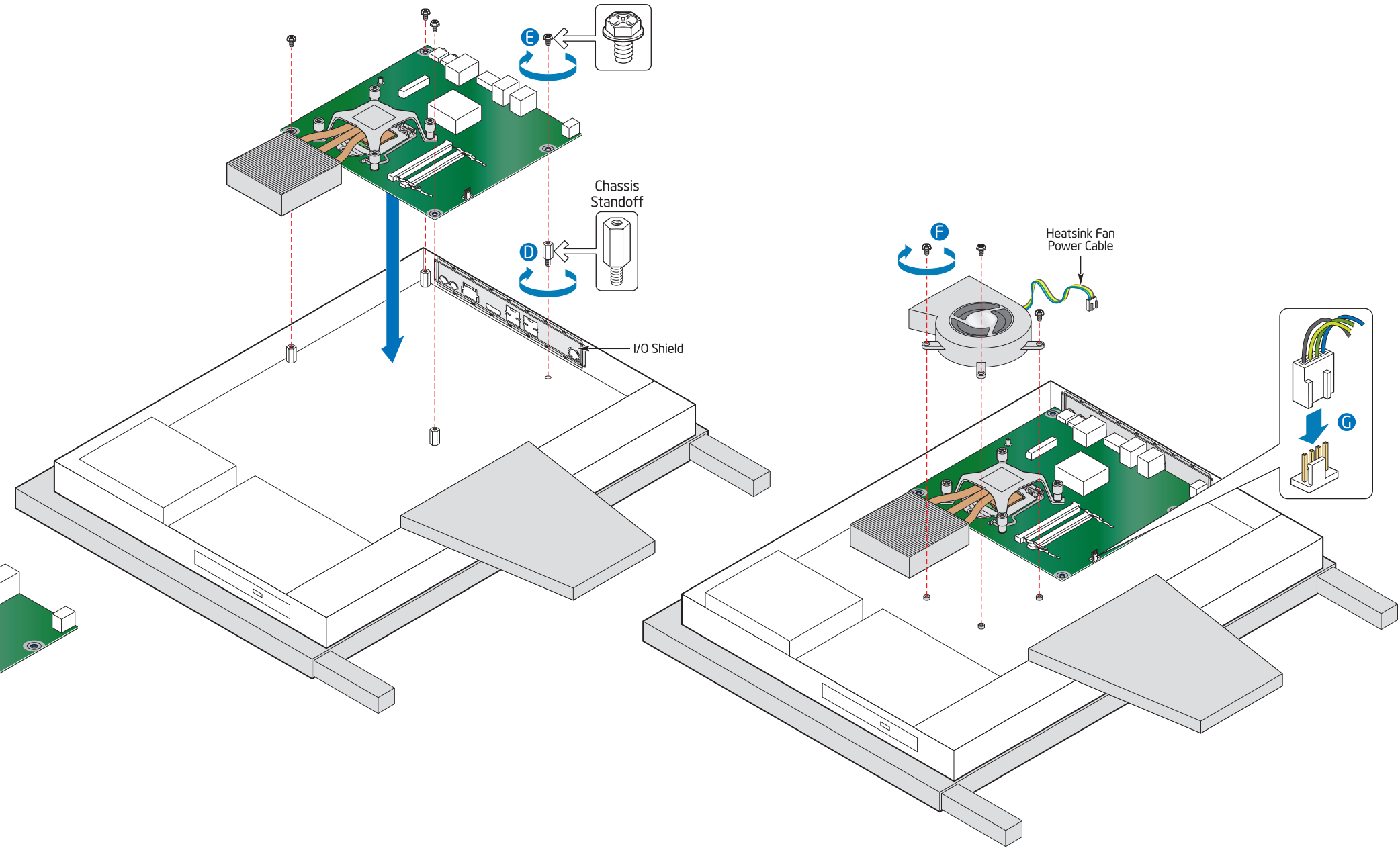
D Four standoffs should be installed into the chassis before installing the desktop board. Locate the threaded standoff holes that match the desktop board, and install a standoff at each location.

NOTE: Some chassis may have one or more standoffs pre-installed. Be sure that only the four necessary standoffs are installed prior to installing the desktop board.

E Install the desktop board assembly by aligning the back panel with the I/O shield and securing it to the standoffs using the screws provided with your chassis.

F Install the fan and secure it with the screws provided.

G Connect the heatsink fan power cable to the processor fan header.



4 Install System Memory

Suggested Memory Configurations and Population Order

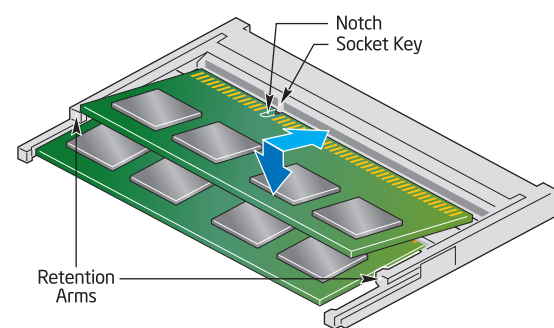
NOTE: This desktop board supports 204-pin DDR3 SO-DIMMs only.

For a list of tested memory go to: <http://www.intel.com/support/go/buildit>.

Do not touch the gold contacts when handling or installing DIMMs.

Hold the SO-DIMM with the back edge tilted slightly upwards, insert it into the socket, aligning the notch in the SO-DIMM with the key in the socket. Gently push the back edge of the SO-DIMM down until it snaps into the retention arms.

If you are installing a second SO-DIMM, repeat this procedure.



SO-DIMM 1 (Channel B)
SO-DIMM 2 (Channel A)

Minimum memory: 1 GB 1066 MHz DDR3 SO-DIMM.
Memory should be installed in DIMM number order:

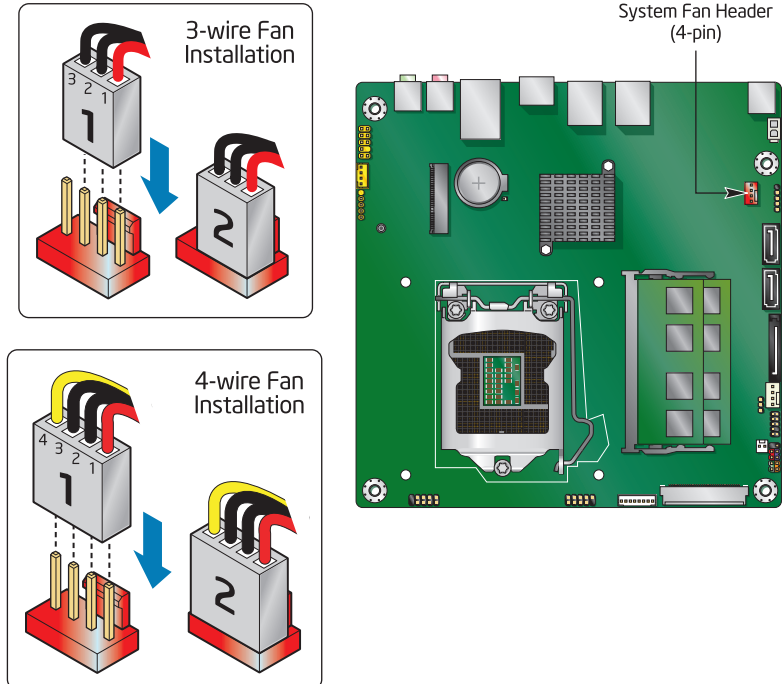
- For single-channel operation, populate Socket 1.
- For dual-channel operation, populate Socket 1 and Socket 2.

For best performance, DIMM pairs should be identical in size, speed, and organization.

5 Connect a Chassis Fan

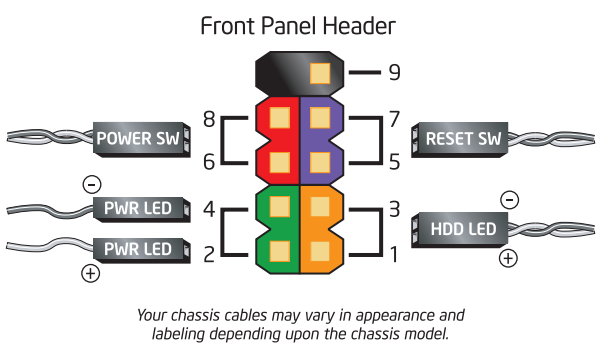
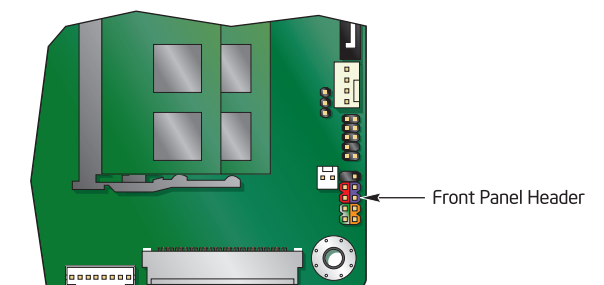
This desktop board has one fan header for connecting a chassis fan. See the details below for connecting either a 3-wire or a 4-wire fan to the system fan header.

NOTE: The pin numbering for the fan connectors is shown for ease of installation.



6 Connect Chassis Front Panel Cables

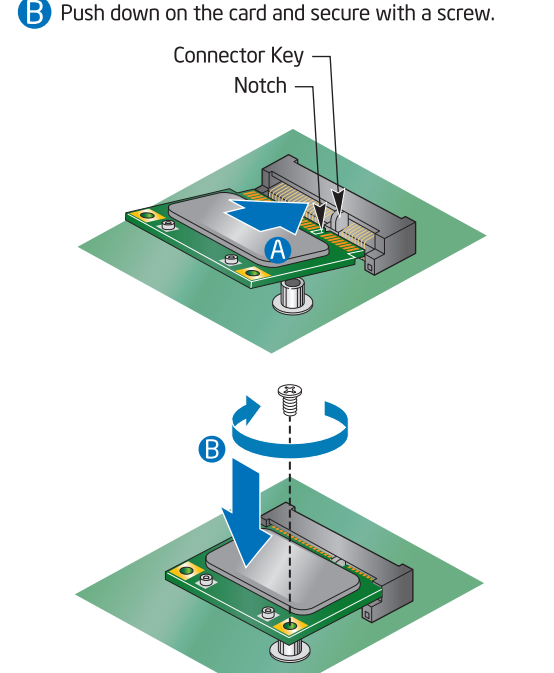
Make the front panel connections as shown in the diagram below.



7 Install a PCI Express* Mini Card In the Half-Mini Card Slot (Optional)

A Align the notch in the card with the connector key and insert the card at a slightly upward angle as shown.

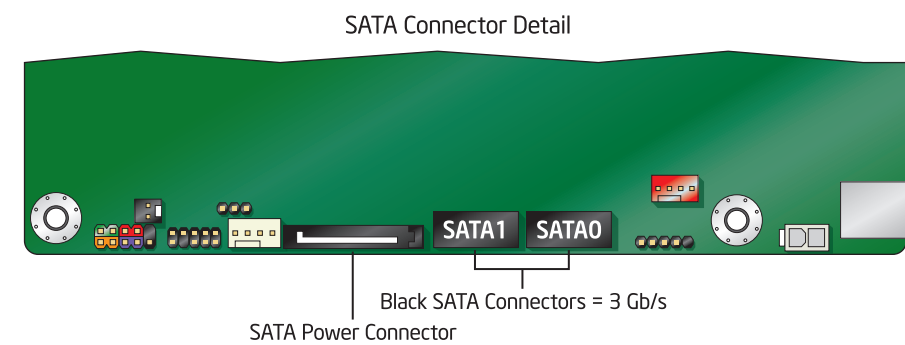
B Push down on the card and secure with a screw.



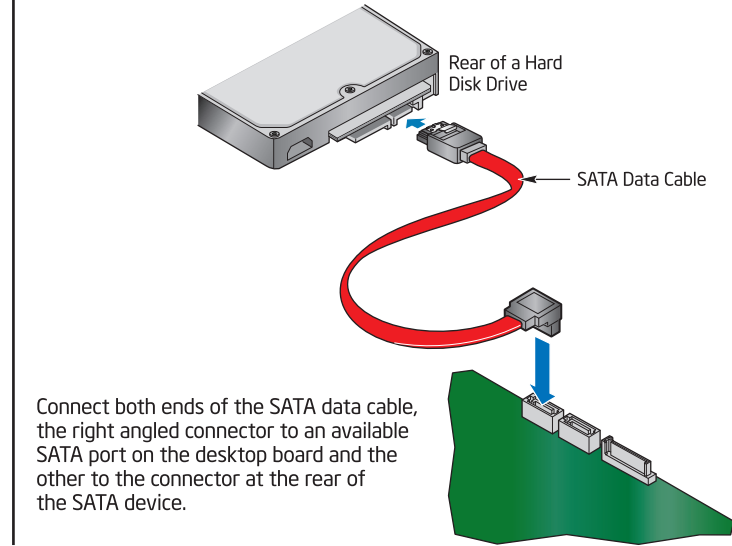
8 Install and Connect SATA Devices

A. Install SATA Devices

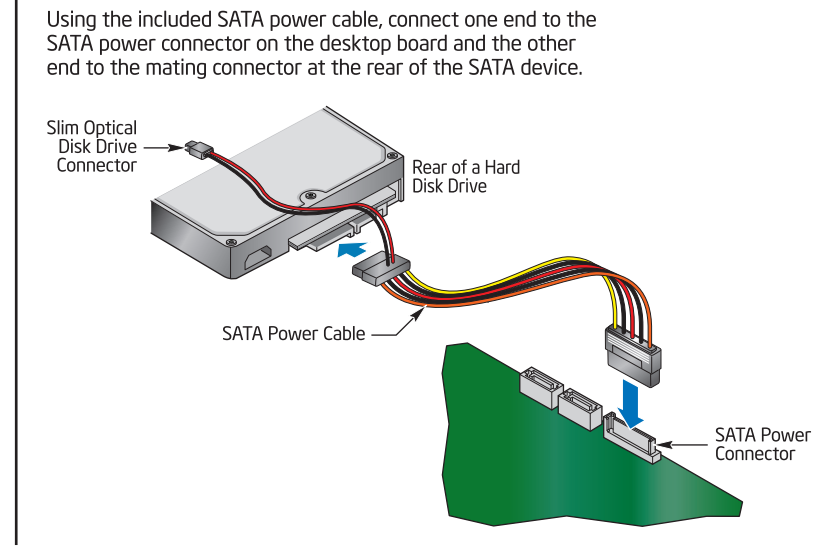
Install your SATA devices (Hard Disk Drive, Optical Drive, etc.). See the documentation that came with your chassis or SATA device for device installation.



B. Connect the SATA Data Cable

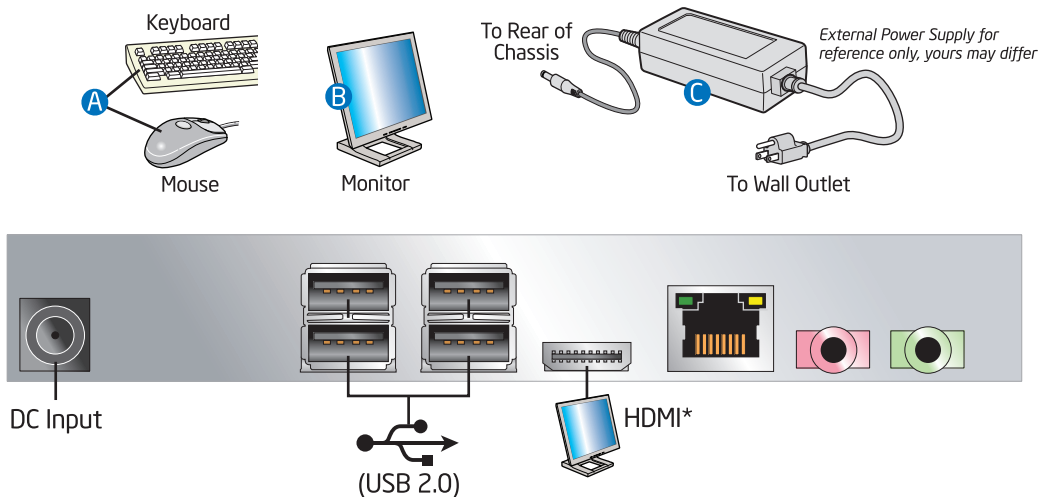


C. Connect your SATA Device to a Power Source



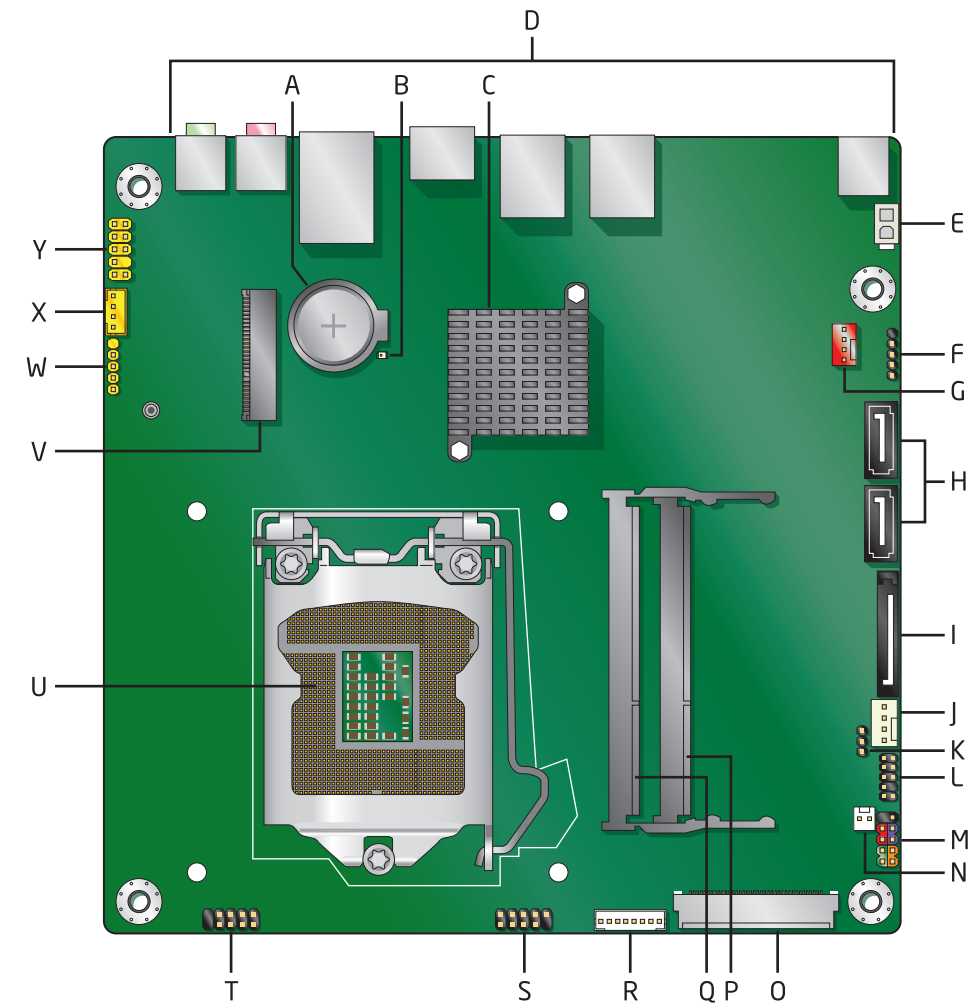
10 Finishing up

- A Connect a mouse and keyboard using any of the available USB ports.
- B Connect a monitor using the available video port.
- C Connect the power cord to the back of the chassis and to a wall outlet.



Reference

Desktop Board Components



- A. Battery
- B. Standby Power LED
- C. Intel® H61 PCH
- D. Back Panel Connectors
- E. 1 x 2 Power Connector
- F. USB 2.0 Front Panel Header (Single Port)
- G. System Fan Header
- H. SATA Connectors
- I. SATA Power Connector
- J. Processor Fan Header
- K. BIOS Configuration Jumper
- L. SYSTEM ID Header
- M. SYSTEM PANEL Header
- N. Backlight-Off and Mute Header
- O. LVDS Connector
- P. SO-DIMM 2 (Channel B)
- Q. SO-DIMM 1 (Channel A)
- R. FPD Brightness Connector
- S. USB 2.0 Front Panel Header (Dual Port, Single Key)
- T. USB 2.0 Front Panel Header (Dual Port, Dual Key)
- U. Processor Socket
- V. PCI Express Half-Mini Card Slot
- W. DMIC Header
- X. Internal Stereo Speakers Connector
- Y. Front Panel HD Audio Connector

11 Software

- A Turn on your computer and install an operating system.
- B Insert the Intel® Express Installer DVD to install the necessary software to complete your desktop board integration. Go to: <http://downloadcenter.intel.com> to download the latest drivers.

Troubleshooting

If your system fails to boot:

- Ensure that your desktop board is connected to a power source.
- Disconnect all power and remove and re-insert the processor, memory, and any add-in cards to make sure they are fully seated. Restart the system.
- Remove any non-essential hardware components, reconnect the power, and restart the system.

If your system still does not boot, go to: http://www.intel.com/p/en_US/support/, select product support for Intel® Desktop Board DH61AGL, and then select "Troubleshooting system 'no boot' issues". This web site contains extensive information to help you solve non-boot problems including a **No Boot Wizard**.

Beep Codes

When a repeating beep code is heard and your system does not boot or display video, the beeps indicate the following:

Beep Pattern	Problem
Two beeps (beep, beep [pause], beep, beep)	No video detected
Three beeps (beep, beep, beep [pause]) This beep pattern repeats until the system is powered off.	Memory error
High/Low beeps (high, low, high, low, high, low, high, low)	CPU thermal trip

For more information, go to: <http://www.intel.com/support/motherboards/desktop/sb/cs-010249.htm>.

9 Make Power Connections

Connect an external power supply to the DC Input connector on the back panel.



Safety and Regulatory Information

Battery Warning

- Risk of explosion if the battery is replaced with an incorrect type. Batteries should be recycled where possible. Disposal of used batteries must be in accordance with local environmental regulations.

FCC Declaration of Conformity

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

For questions related to the EMC performance of this product, contact: Intel Corporation, 5200 N.E. Elam Young Parkway, Hillsboro, OR 97124 1-800-628-8686.

Canadian Department of Communications Compliance Statement

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe B prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

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Korea Certification mark. Includes an adjacent KCC (Korean Communications Commission) certification number: KCC-REM-CPU-DH61AGL.

Date of manufacture: August 2012

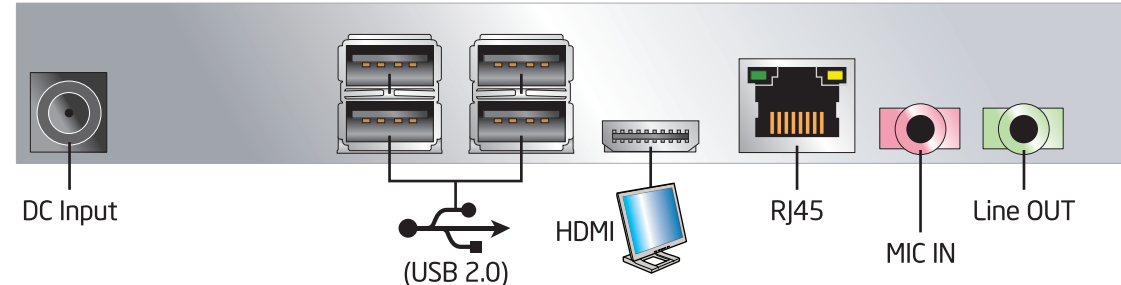
Country of Origin: China

China RoHS Environmentally Friendly Use Period

The Environmentally Friendly Use Period (EFUP) for Intel Desktop Boards has been determined to be 10 years.

For detailed information about the desktop board's regulatory compliance, refer to the Technical Product Specification at: <http://www.intel.com/products/motherboard>.

Back Panel Connectors



BIOS Reference

The BIOS (Basic Input/Output System) controls the computer's boot process. The purpose of the BIOS is to identify and initialize processor, memory, hard drives, optical drives, and other hardware.

BIOS Settings

For a list of BIOS settings along with their purpose and options, refer to the BIOS Glossary at: <http://www.intel.com/support/motherboards/desktop/sb/cs-020304.htm>.

Updating the BIOS

You should update the BIOS on your board only if the newer BIOS version solves a specific problem you have.

BIOS updates are available in Intel's Download Center at: <http://downloadcenter.intel.com/>.

There are various methods of updating an Intel® Desktop Board BIOS to the latest version. The number of methods available for any particular board model varies, depending on drive support and BIOS update file size. For update instructions, go to: <http://www.intel.com/support/motherboards/desktop/sb/cs-022312.htm>.

Troubleshooting the BIOS

For tips on troubleshooting BIOS issues on Intel® Desktop Boards, refer to: <http://www.intel.com/support/motherboards/desktop/sb/cs-028780.htm>.

BIOS Configuration Jumper Settings:

1-2	Normal
2-3	Configuration
No jumper	Recovery

Online Support

For more information on Intel Desktop Board DH61AGL, consult the following online resources:

General board information
Available board configurations
Supported processors
Chipset information
BIOS and driver updates
More integration information
Customer support
Tested memory
Thin Mini-ITX-based Computing

<http://www.intel.com/products/motherboard/index.htm>
<http://ark.intel.com>
<http://processormatch.intel.com>
<http://www.intel.com/products/desktop/chipsets/index.htm>
<http://downloadcenter.intel.com/>
<http://www.intel.com/support/go/buildit>
http://www.intel.com/p/en_US/support?iid=hdr+support
<http://www.intel.com/support/motherboards/desktop/sb/cs-025414.htm>
<http://www.intel.com/go/aio>

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