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› [Intel](#) /

› Intel Desktop Board DH61AG Thin Mini-ITX User Manual

**Intel BOXDH61AG**

# Intel Desktop Board DH61AG Thin Mini-ITX User Manual

## 1. INTRODUCTION

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The Intel Desktop Board DH61AG Thin Mini-ITX is a compact motherboard designed for small form factor systems, such as Home Theater PCs (HTPCs) or embedded solutions. It supports 2nd Generation Intel Core processors and offers a range of connectivity options in a slim profile, making it ideal for space-constrained environments.



Image: The Intel Desktop Board DH61AG, showcasing its compact Thin Mini-ITX form factor with various ports and components.

## 2. KEY FEATURES

- **Processor Support:** LGA1155 Socket for 2nd Generation Intel Core i7/i5/i3 Processors (up to 65W TDP).
- **Chipset:** Intel H61 Express Chipset.
- **Memory:** 2x DDR3-1333/1066 SODIMM slots, supporting up to 16GB dual-channel non-ECC memory.
- **Expansion Slots:** 1x PCI-Express 2.0 x4 slot, 1x Full-size mini-PCI-Express slot, 1x Half-size mini-PCI-Express slot.
- **Storage:** 2x SATA2 ports, 1x eSATA2 port.
- **Audio:** Realtek ALC892 10-Channel High Definition Audio CODEC.
- **LAN:** Intel 82579V 10/100/1000 Gigabit Ethernet Controller.
- **USB Ports:** 10x USB 2.0 ports (2 rear, 5 by header, 1 via HMC, 2 via FMC), 2x USB 3.0 ports.
- **Video Outputs:** DVI-I and HDMI ports, eDP/LVDS support.
- **Form Factor:** Thin Mini-ITX (6.7 x 6.7 inches / 17.2 x 17.2 cm).

## 3. SPECIFICATIONS

Category	Specification
Board Form Factor	Thin Mini-ITX

Category	Specification
Socket	LGA1155
Max Memory Size	16 GB
Memory Types	DDR3-1333/1066 SODIMM
Memory Channels	2
DIMM Slots	2
Integrated Graphics	Yes (Requires Intel Graphics Technology enabled processor)
Graphics Output	DVI-I, HDMI, eDP/LVDS
PCIe x4 Gen 2.x	1
PCIe Mini Card Slot (Half Length)	1
PCIe Mini Card Slot (Full Length)	1
USB 2.0 Configuration (Back + Internal)	2 + 5 (via headers)
USB 3.0 Configuration (Back + Internal)	2 + 0
SATA Ports	2
eSATA Ports	1
Audio (back channel + front channel)	8 + 2
Integrated LAN	Gigabit (10/100/1000Mbps/s)
Consumer Infrared Headers	Yes
S/PDIF Out Connector	1
Product Dimensions	8 x 7.25 x 2 inches
Item Weight	1.14 pounds

## 4. SETUP INSTRUCTIONS

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Follow these steps for the initial setup of your Intel Desktop Board DH61AG:

- 1. Prepare the Chassis:** Ensure your Thin Mini-ITX compatible chassis is ready for motherboard installation.
- 2. Install CPU:** Carefully open the LGA1155 socket lever. Align the notches on your 2nd Generation Intel Core processor with the socket and gently place the CPU into the socket. Close the lever to secure the CPU.
- 3. Install CPU Cooler:** Attach the appropriate low-profile CPU cooler to the motherboard, ensuring proper contact with the CPU and secure mounting.
- 4. Install Memory:** Open the clips on the DDR3 SODIMM slots. Insert the memory modules firmly until the clips snap into place, securing the modules.
- 5. Connect Storage:** Connect your SATA hard drives or SSDs to the SATA2 ports using SATA data cables. If using an mSATA drive, install it into the full-size mini-PCI-Express slot. Connect power to your storage devices.
- 6. Connect Power:** Connect a compatible 19V DC power adapter to the DC input jack on the motherboard.

7. **Connect Peripherals:** Attach your display cables (HDMI or DVI) to your monitor. Connect USB devices, an Ethernet cable for network access, and audio devices as needed.
8. **Secure Board:** Mount the motherboard into your chassis using the provided standoffs and screws, ensuring it is securely fastened.

## 5. OPERATING GUIDELINES

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Once your system is assembled, follow these guidelines for operation:

1. **Initial Power On:** After all connections are made, apply power to the system. The system should attempt to boot.
2. **BIOS/UEFI Access:** During the initial startup, press the designated key (commonly DEL, F2, or F10) to enter the BIOS/UEFI setup utility. Here you can configure boot order, system time, and other advanced settings.
3. **Operating System Installation:** Install your preferred operating system from a bootable USB drive or an optical drive (if connected via the eSATA port).
4. **Driver Installation:** After the operating system is installed, install all necessary drivers for the chipset, integrated graphics, audio, and LAN. These can typically be found on Intel's official support website or on an included driver CD.

## 6. MAINTENANCE

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Regular maintenance helps ensure the longevity and optimal performance of your motherboard:

- **Dust Removal:** Periodically clean dust from the motherboard, CPU cooler, and chassis fans using compressed air. Dust accumulation can impede airflow and lead to overheating.
- **Cable Management:** Ensure that internal cables are neatly routed and do not obstruct airflow within the chassis.
- **Firmware Updates:** Check Intel's support website regularly for BIOS/UEFI updates. Updating the firmware can improve system stability, compatibility, and performance. Follow Intel's instructions carefully when performing updates.

## 7. TROUBLESHOOTING

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If you encounter issues, refer to these common troubleshooting steps:

- **No Power:**
  - Verify that the 19V DC power adapter is correctly connected to the motherboard and a working power outlet.
  - Check the power button connection from the chassis to the motherboard's front panel header.
- **No Video Output:**
  - Ensure the display cable (HDMI or DVI) is securely connected to both the monitor and the motherboard's video output port.
  - Confirm that your monitor is set to the correct input source.
  - If using a discrete graphics card (via the PCIe x4 slot), ensure it is properly seated and any required auxiliary power connectors are attached.
- **Component Not Detected:**
  - Reseat RAM modules, the CPU, and any expansion cards (e.g., Wi-Fi card in mini-PCIe slot).
  - Check SATA data and power connections for hard drives or SSDs.

- Verify that all installed components are compatible with the Intel Desktop Board DH61AG. Refer to Intel's compatibility lists if available.

## 8. WARRANTY AND SUPPORT

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The Intel Desktop Board DH61AG typically includes a 3-year limited warranty from Intel. For detailed warranty terms, technical assistance, driver downloads, and comprehensive troubleshooting guides, please visit the official [Intel Support Website](#).

When contacting support, please have your product model number (DH61AG) and serial number ready.