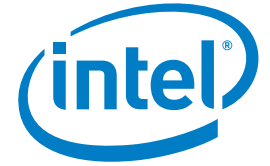


**PRODUCT BRIEF**

**Intel® Desktop Board DH61AG  
Media Series**

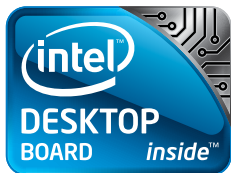


Thin Mini-ITX Form Factor

# Intel® Desktop Board DH61AG Media Series

## Supports the 2nd generation Intel® Core™ processors in the LGA1155 package

The Intel® Desktop Board DH61AG is based on the Intel® H61 Express Chipset and supports 2nd generation Intel® Core™ processors, including the Intel® Core™ i5, Intel® Core™ i3, and other Intel® processors in the LGA1155 package.<sup>1</sup> The 2nd generation Intel Core processors feature optimized Intel® Turbo Boost Technology<sup>2</sup> and enhanced Intel® Hyper-Threading Technology,<sup>3</sup> which provide smarter performance and a seamless visual experience. The innovative low z-height Thin Mini-ITX form factor with external power supply support provides maximum design flexibility to support system designs ranging from slim high performance AIO systems to Tiny FF systems and Home Theatre PC systems.



## Dual independent display for processors with Intel® HD Graphics

The Intel Desktop Board DH61AG is equipped with DVI-I, HDMI\* display connectors and supports flexible dual independent display. In addition, the DH61AG also supports eDP and LVDS flat panel Displays. Powered by 2nd generation Intel Core processors with Intel HD Graphics, the Intel Desktop Board DH61AG delivers a superb visual performance for sharper images, richer color, and lifelike audio and video as well as best-in-class media processing features. Enjoy a rich, immersive, liquid-smooth visual experience on your AIO system or monitor or HDTV.

## Premium features

The Intel Desktop Board DH61AG supports low profile SO-DIMM and PCI Express\* mini-card connectors and offers premium features such as dual-channel DDR3 1333 MHz memory with two SO-DIMMs (16 GB<sup>4</sup> max), SuperSpeed USB 3.0, and fast

charging hi-current USB 2.0 connectors. There is also support for one full size PCI Express\* mini-card and one half size PCI Express\* mini-card connectors. The mini-card connectors are ideal for support of Intel® mSATA modules as well as Intel® WiFi and third party TV Tuner modules. In addition, the DH61AG board supports Intel® High Definition Audio<sup>5</sup> with 7.1 surround sound and multi-streaming capability, and an integrated Intel® PRO 10/100/1000 Network Connection in a low-power design.

The Intel Desktop Board DH61AG is designed with a wide range of 1.2 V to 1.8 V memory voltage control to maximize memory DIMM compatibility.

Two back panel SuperSpeed USB 3.0 ports address the needs of higher performance connections between the PC and increasingly sophisticated peripherals by offering a higher transferring rate of 5.0 Gb/s. There are also two USB 2.0 connectors which are designed to support Hi-Current and fast charging of external devices.

# Intel® Desktop Board DH61AG Media Series

## The boxed Intel Desktop Board DH61AG solution includes:

- Thin Mini-ITX compliant I/O shield
- SATA cables
- Board and back panel I/O layout stickers
- Quick reference guide
- Intel® Express Installer driver and software DVD

## Software Included:

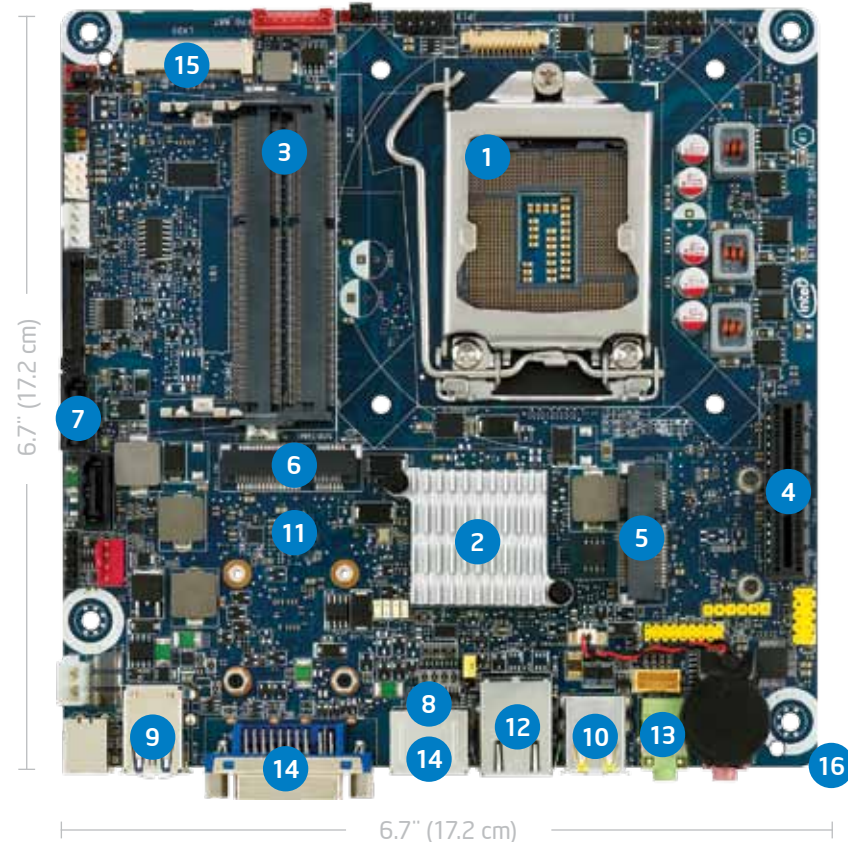
Capability	Software Included
<b>Utilities</b>	<ul style="list-style-type: none"><li>▪ Intel® Core Utilities Bundle<sup>6</sup></li><li>▪ Intel® Desktop Utilities</li></ul>
<b>Productivity</b>	<ul style="list-style-type: none"><li>▪ Laplink* PCmover Express*</li></ul>
<b>Antivirus</b>	<ul style="list-style-type: none"><li>▪ ESET* Smart Security 4 (1-year license)</li></ul>



# Intel® Desktop Board DH61AG Media Series

## Features and Benefits

- 1 Supports the 2nd generation Intel® Core™ processors, including the Intel® Core™ i5, Intel® Core™ i3, and other Intel® processors in the LGA1155 package up to 65W TDP for exceptional performance.<sup>1</sup>
- 2 Intel® H61 Express Chipset PCH.
- 3 Dual-channel DDR3 with two connectors for 1333/1066 MHz memory support (16 GB<sup>4</sup> max): Supports 1.2 V to 1.8 V memory voltage control for maximum DIMM compatibility.
- 4 PCI Express\* 2.0 x4 connector.
- 5 One half size PCI Express\* mini-card connector.
- 6 One full size PCI Express\* mini-card connector.
- 7 Two SATA 3.0 Gb/s ports.
- 8 One eSATA 3.0 Gb/s port.
- 9 Two SuperSpeed USB 3.0 ports: 5.0 Gb/s signaling rate for high speed connections to peripherals.
- 10 Two Hi-Current/Fast Charging USB 2.0 ports.
- 11 Eight Internal USB 2.0 ports (5 via headers, 1 via HMC, 2 via FMC).
- 12 Integrated Intel® PRO 10/100/1000 Network Connection for high speed and low power consumption.
- 13 Ten-channel Intel® High Definition Audio<sup>5</sup> with multi-streaming capability.
- 14 DVI-I + HDMI\*: Supports dual independent display and allows for the most flexible display output for Intel processors with Intel® HD Graphics.
- 15 Flexible eDP/LVDS flat panel display support.
- 16 Thin Mini-ITX form factor.



**HDMI®**  
HIGH-DEFINITION MULTIMEDIA INTERFACE

# Intel® Desktop Board DH61AG Media Series

## Technical Specifications

### PROCESSOR

#### Processor Support

- Intel® Core™ i5, Intel® Core™ i3, and other Intel® processors in the LGA1155 package<sup>1</sup> with up to 65W TDP
- Supports Intel® 64 architecture<sup>2</sup>

### CHIPSET

#### Intel® H61 Express Chipset

- Intel® 82H61 Platform Controller Hub (PCH)

### PERIPHERAL CONNECTIVITY

- Two SATA 3.0 Gb/s ports with one SATA ports
- Two SuperSpeed USB 3.0 ports with 5.0 Gb/s link speed
- Eight internal USB 2.0 ports (5 via headers, 1 via HMC, 2 via FMC)

### SYSTEM BIOS

- 32 MB Flash EEPROM with Intel® Platform Innovation Framework for EFI Plug and Play
- Advanced configuration and power interface V3.0b, SMBIOS 2.5
- Intel® Express BIOS update support

### HARDWARE MANAGEMENT FEATURES

- Processor fan speed control
- Front and rear system chassis fan speed control
- Voltage and temperature sensing
- Fan sensor inputs used to monitor fan activity
- ACPI-compliant power management support

### INTEL® PRO 10/100/1000 NETWORK CONNECTION

- Low-power design

### EXPANSION CAPABILITIES

- One PCI Express\* 2.0 x4 connector

### AUDIO

- 7.1 + 2 multi-streaming Intel® High Definition Audio<sup>5</sup>
- Back panel analog/digital line-out and analog line-in
- Digital audio header (2nd SPDIF out), analog surround audio header, and front panel mic/headphone header

### VIDEO

- DVI-I + HDMI\*: supports dual independent display
- Flexible eDP/LVDS for flat panel display support

### SYSTEM MEMORY

#### Memory Capacity

- Two SO-DIMM connectors
- Maximum system memory up to 16 GB<sup>4</sup> using 8 GB double-sided SO-DIMMs

#### Memory Types

- DDR3 1333/1066 SDRAM memory support
- Non-ECC Memory
- Dual- or single-channel operation support

#### Memory Voltage

- Memory voltage control from 1.2 V to 1.8 V
- 1.5 V standard JEDEC voltage

### JUMPERS AND FRONT PANEL CONNECTORS

#### Jumpers

- Jumper access for BIOS maintenance mode

#### Front Panel Connectors

- Reset, HD LED, Power LEDs, power on/off
- Front-panel mic/headphone header

or more of physical addressable memory being available to the operating system and applications, depending on the system configuration and operating system.

<sup>5</sup> Intel® High Definition Audio requires a system with an appropriate Intel® chipset and a motherboard with an appropriate codec and the necessary drivers installed. System sound quality will vary depending on actual implementation, controller, codec, drivers, and speakers. For more information about Intel® HD Audio, refer to [www.intel.com/design/chipsets/haudio.htm](http://www.intel.com/design/chipsets/haudio.htm).

<sup>6</sup> The Intel® Core Utilities Bundle includes Intel® Integrator Assistant, Intel® Integrator Toolkit, Intel® Express Installer, and Intel® Express BIOS Update.

<sup>7</sup> 64-bit computing on Intel® architecture requires a computer system with a processor, chipset, BIOS, operating system, device drivers, and applications enabled for Intel® 64 architecture. Processors will not operate (including 32-bit operation) without an Intel 64 architecture-enabled BIOS. Performance will vary depending on your hardware and software configurations. See <http://developer.intel.com/technology/intel64/index.htm> for more information.

### Other Connectors

- Consumer IR receiver headers

### MECHANICAL

#### Board Style

- Thin Mini-ITX

#### Board Size

- 6.7" x 6.7" (17.2 cm x 17.2 cm), 20 mm height

#### Power Requirements

- External 19VDC power supply

### ENVIRONMENT

#### Operating Temperature

- 0° C to +55° C

#### Storage Temperature

- 20° C to +70° C

### REGULATIONS AND SAFETY STANDARDS

#### United States

- UL 60950-1

#### Canada

- CAN / CSA-C22.2 No. 60950-1

#### Europe

- (Low Voltage Directive 2006/95/EC)  
EN 60950-1

#### International

- IEC 60950-1

### EMC Regulations (Class B)

#### United States

- FCC CFR Title 47, Chapter I, Part 15, Subparts A/B

#### Canada

- ICES-003

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### Europe

- (EMC Directive 2004/108/EC)  
EN 55022 and EN 55024

### Australia/New Zealand

- EN 55022

### Japan

- VCCI V-3, V-4

### South Korea

- KN-22 and KN-24

### Taiwan

- CNS 13438

### International

- CISPR 22

### Environmental Compliance

#### Europe

- Europe RoHS (Directive 2002/95/EC)  
WEEE (Directive 2002/96/EC)

#### China

- China RoHS (MII Order # 39)

For ordering information, visit:  
[www.intel.com](http://www.intel.com)

For the most current product information, visit:  
<http://developer.intel.com/products/desktop/motherboard/>

<sup>1</sup> Using the Intel® Desktop Board DH61AG with a 95W TDP Core and the supplied standard Intel thermal solution may not meet thermal requirements if used in a mini-ITX chassis. For specific processor compatibility, please visit <http://processormatch.intel.com>.

<sup>2</sup> Intel® Turbo Boost Technology—maximum single-core turbo frequency (GHz). Intel Turbo Boost Technology requires a PC with a processor with Intel Turbo Boost Technology capability. Intel Turbo Boost Technology performance varies depending on hardware, software, and overall system configuration. Check with your PC manufacturer on whether your system delivers Intel Turbo Boost Technology. See [www.intel.com/technology/turboboost](http://www.intel.com/technology/turboboost) for more information.

<sup>3</sup> Intel® Hyper-Threading Technology requires a computer system with a processor supporting HT Technology and an HT Technology-enabled chipset, BIOS, and operating system. Performance will vary depending on the specific hardware and software you use. See [www.intel.com/info/hyperthreading](http://www.intel.com/info/hyperthreading) for more information.

<sup>4</sup> System resources and hardware (such as PCI and PCI Express\*) require physical memory address locations that can reduce available addressable system memory. This could result in a reduction of as much as 1 GB

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