

Intel® Desktop Board DH87MC

Support for 4th generation Intel® Core™ processors
Superior BIOS experience with Intel® Visual BIOS
Full ATX board for full expansion possibilities



PRECISION POWER

Delivering the performance you need and want to finish tasks quickly with power that keeps up with them. Intel® Desktop Board DH87MC supports 4th generation Intel® Core™ processor so you can multitask quickly and move effortlessly between applications, from e-mail to a web browser to a video or spreadsheet and back again.

DH87MC featuring Power Supervisor to protect critical components by automatically monitoring and controlling the power flow, and Advanced Protection Shield to protect the processor and the motherboard from the electrostatic discharge damage.



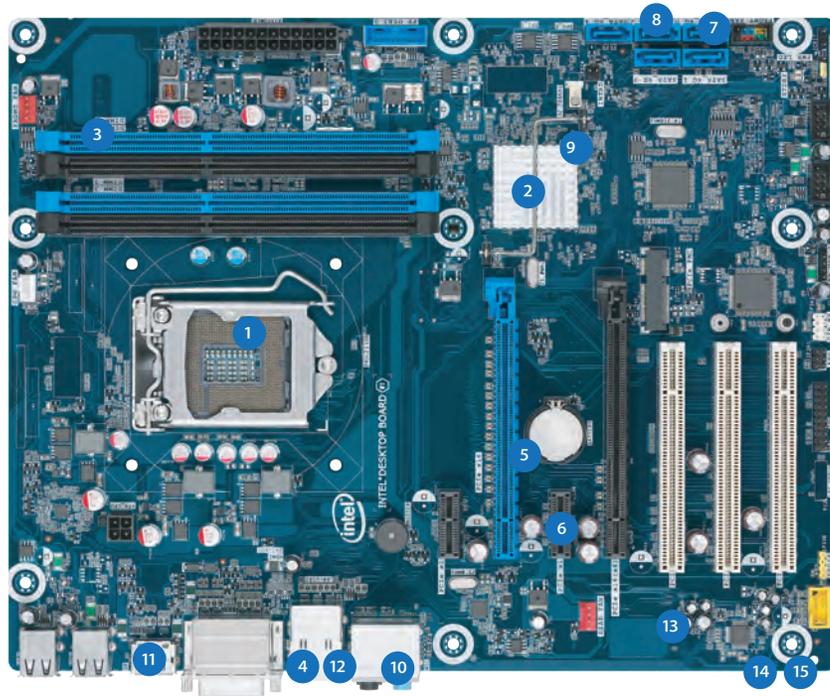
COMPLETE CONTROL = COMPLETE POWER

Control is all about the BIOS and only genuine Intel® Desktop Boards have the most advanced BIOS interface available today: Intel® Visual BIOS. Easily configure your system with a completely graphical interface to meet your specific computing needs. With new features like intelligent search, file explorer, profile management and favorites option, Intel Visual BIOS makes configuring your BIOS fast and simple.



Intel® Desktop Board DH87MC

Features and Benefits



11.6" (29.46cm)

9.6" (24.38cm)



HDMI[®]
HIGH-DEFINITION MULTIMEDIA INTERFACE

Media Series

- 1 Support for the Intel® 4th Generation Core™ i7, Intel Core i5 processor in the LGA 1150 package :** Features Intel® Turbo Boost Technology, Intel® Hyper-Threading Technology for exceptional performance and scalability, and 8 MB Shared Intel® Smart Cache, enabling dynamic and efficient allocation of cache.
- 2 Intel® H87 Express Chipset:** Features Intel® Smart Response Technology.
- 3 Four DIMM slots:** Support DDR3 1600/1333 MHz memory, delivering up to 32 GB /s memory bandwidth. 1.2V to 1.8V memory voltage control for maximum DIMM compatibility.
- 4 Four Super-Speed USB 3.0 ports :** (2 external, 2 via internal header), and Ten Hi-Speed USB 2.0 ports (4 external, 5 via internal headers) One Hi-Speed USB 2.0 port via internal Mini PCIe slot.
- 5 One PCI Express 3.0* x16 graphics connector**
- 6 Two PCI Express 2.0* x1, One PCI Express 2.0* x4 and Three PCI Slots:** Flexibility to support PCI Express and legacy PCI devices
- 7 6 SATA 6.0Gb/s ports (1 port via mSATA connector)**
- 8 Intel® Rapid Storage Technology:** Performance and reliability with support for RAID 0, 1, 5, 10, and Intel® Rapid Recover Technology.
- 9 Intel® Smart Response and Intel® Rapid Start Technologies:** Provides SSD like performance with HDD capacity. Dramatically improves response time when a small capacity SSD is used in conjunction with a large HDD.
- 10 (8+2) 10-channel Intel® High Definition Audio (7.1):** Enables high-quality integrated audio that rivals the performance of high-end discrete solutions
- 11 DisplayPort* + HDMI*+DVI-I ports:** Supports triple independent display and allows for the most flexible display output for the Intel processors with Intel HD Graphics.
- 12 Intel® Gigabit Ethernet LAN:** Features onboard 10 /100 /1000 Mb /s Ethernet LAN connectivity.
- 13 100% Solid state capacitors**
- 14 ATX (9.6" × 11.6") Form Factor:** ATX board supports more fully featured tower designs
- 15 Lead-free:** Meets all worldwide regulatory requirements for lead-free manufacturing.

Intel® Desktop Board DH87MC

Technical Specifications

PROCESSOR

Processor Support

- Supports the 4th generation Intel® Core™ i7, Intel® Core i5 and other Intel® processors in the LGA1150 package
- Intel® Turbo Boost Technology⁴
- Intel® Hyper-Threading Technology⁵
- Support Intel® 64 architecture³

CHIPSET

- Intel® H87 Express Chipset
- Intel® Rapid Storage Technology (RAID 0, 1, 5, 10)
- Intel® Smart Response Technology
- Intel® Rapid Start Technology⁸
- Intel® Smart Connect Technology

INTEL® PRO 10/100/1000 NETWORK CONNECTION

- Intel® Pro 10/100/1000 LAN on the back panel
- New low-power design can meet Energy Star* 5.0 specifications

USB/1394 PORTS

- Two Super-Speed USB 3.0 ports (blue) via back panel
- Two Super-Speed USB 3.0 ports via one internal header
- Four Hi-Speed USB 2.0 ports (black) via back panel
- Five Hi-Speed USB 2.0 ports via three internal headers
- One Hi-Speed USB 2.0 port via internal Mini PCIe slot)

EXPANSION CAPABILITIES

- Two PCI Express* 2.0 x1 slots
- One PCI Express* 2.0 x4 slot
- Three PCI slots
- One full length PCIe Mini Card slot supporting mSATA Solid-State Drive capability
- Six SATA 6.0Gb/s ports (one via mSATA connector)

GRAPHICS

- One PCI Express* 3.0 x16 connector
- One DisplayPort* connector via pack panel
- One DVI-I connector via back panel
- One HDMI connector via back panel
- Supports triple independent display

AUDIO

- 10-channel Intel® High Definition Audio⁷ codec
- 8-channel audio via back panel
- 2-channel audio via front panel
- Back panel support for output via optical cable
- Front panel mic/headphone via internal header
- One internal header for S/PDIF output

SYSTEM BIOS

- Intel® Visual Bios
- 64 Mb Flash EEPROM with Intel® Platform Innovation Framework for EFI Plug and Play, IDE drive auto-configure
- Advanced configuration and power interface V3.0b, SMBIOS2.5
- Intel® Express BIOS update support
- Fast Boot BIOS – Optimized POST for almost instant-on access to PC from power on

HARDWARE MANAGEMENT FEATURES

- Processor fan speed control
- System chassis fan speed control
- Voltage and temperature sensing
- Fan sensor inputs used to monitor fan activity
- Power management support for ACPI 3.0b

SYSTEM MEMORY

Memory Capacity

- Four 240-pin DIMM connectors supporting dual-channel memory. Two double-sided DIMMs per channel. Maximum system memory up to 32GB¹ using 8 GB double-sided DIMMS

Memory Types

- DDR3 1600/1333 SDRAM memory support
- Non-ECC memory

Memory Voltage

- 1.2V to 1.8V memory voltage control
- Support for Intel® Extreme Memory Profile (Intel® XMP)

JUMPERS AND FRONT PANEL CONNECTORS

Jumpers

- Single configuration jumper design
- Jumper access for BIOS maintenance mode

Front Panel Connectors

- Reset, HDD LED, Power LED, Power on/off
- One front-panel Super-Speed USB 3.0 header (2 ports)
- Three front-panel High-Speed USB 2.0 headers (5 ports)
- Front-panel audio header

MECHANICAL

Board Style

- ATX

Board Size

- 11.6" x 9.6" (29.46 cm x 24.38 cm)

Baseboard Power Requirements

- ATX 12 V

COMPLIANCE WITH REGULATIONS AND STANDARDS

Safety Regulations

- UL/CSA 60950-1
- EN 60950-1
- IEC 60950-1

ENVIRONMENT

Operating Temperature

- 0°C to +55°C

Storage Temperature

- -20°C to +70°C

EMC Class B Regulations

- CISPR 22
- CISPR 24
- FCC 47 CFR Part 15, Subpart B
- ICES-003
- EN 55022
- EN 55024
- EN 61000-3-2
- EN 61000-3-3
- IEC/EN 61000-4 Series
- VCCI V-3
- KN-22
- KN-24
- CNS 13438

Environmental Compliance

- Europe RoHS
- China RoHS

1 WARNING: Altering PC memory frequency, voltage and/or latency may: (i) reduce system stability and useful life of the system, memory and processor; (ii) cause the processor and other system components to fail; (iii) cause reductions in system performance; (iv) cause additional heat or other damage; and (v) affect system data integrity. Intel has not tested, and does not warrant, the operation of the memory beyond its specifications. Intel assumes no responsibility that the memory, including if used with altered clock frequencies and/or voltages, will be fit for any particular purpose. Check with memory manufacturer for warranty and additional details.

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

3 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.

4 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 for more information.

5 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. For more information including details on which processors support HT Technology, see www.intel.com/info/hyperthreading.

6 Maximum peak memory bandwidth requires four DDR 3 modules to be populated in each of the blue memory slots. DDR 3 2400 memory support on this motherboard requires advanced knowledge of BIOS and memory tuning. Individual results may vary. For specific supported memory for this motherboard, please visit www.intel.com/products/motherboard/ for more details.

7 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/ndaudio.htm.

8 BIOS Update may be required to support Rapid Start Technology features. This Feature may not be available at initial launch of product

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Requires an Intel® iWDI enabled system and Intel iWDI enabled receiver device. 1080p and Blu-ray™ or other protected content playback only available on 2nd or 3rd gen Intel® Core™ processor-based PCs with built-in visuals enabled, a compatible receiver device and media player, and supporting Intel iWDI software and graphics driver installed. Consult your PC manufacturer. For more information, see www.intel.com/go/wlid.

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1012/FH/MED/PDF 328150-001US

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