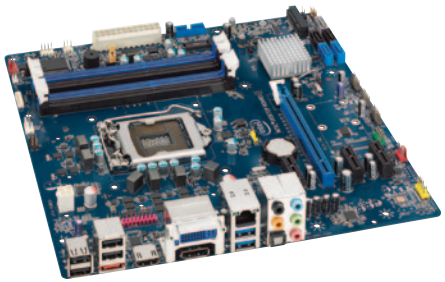
PRODUCT BRIEF
Intel® Desktop Board DH77EB
Media Series

MicroATX Form Factor

Intel® Desktop Board DH77EB Media Series



Supports the 2nd and 3rd generation Intel® Core™ processors in the LGA1155 package

The Intel® Desktop Board DH77EB is based on the Intel® H77 Express Chipset and supports the 2nd and 3rd generation Intel® Core™ processors, including the Intel® Core™ i7 and Intel® Core™ i5 processors and other Intel® processors in the LGA1155 package. Intel Core processors feature optimized Intel® Turbo Boost Technology[1] and enhanced Intel® Hyper-Threading Technology,[2] which provide smarter performance and a seamless visual experience.

Dual independent display for processors with Intel® HD Graphics and Lucidlogix* Virtu* Universal

The Intel Desktop Board DH77EB is equipped with DisplayPort*, HDMI*, and DVI-I connectors and supports flexible dual independent display for processors with Intel® HD Graphics. Coupled with Intel HD Graphics, Lucidlogix* Virtu* Universal software allows the system to simultaneously take full advantage of both the low-power, best-in-class media processing features of the 2nd and 3rd generation Intel Core processors and the 3-D gaming performance of add-in graphics cards.

The Intel Desktop Board DH77EB also supports Intel HD Graphics with frequency tuning to maximize visual performance.

Premium features

The Intel Desktop Board DH77EB offers premium features such as dual-channel DDR3 1600[3] MHz memory with four connectors (32 GB[4] max), Intel® Rapid Storage Technology for RAID 0, 1, 5, and 10, Intel® Smart Response Technology, Intel® High Definition Audio[5] 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 DH77EB is designed with a wide range of 1.2 V to 1.8 V memory voltage control to maximize memory DIMM compatibility.

Two onboard SATA 3.0 ports promise a new level of performance with 6.0 Gb/s link speed between storage devices and the host.

Two back panel SuperSpeed USB 3.0 ports and one USB 3.0 onboard header for two front-panel ports address the needs of higher performance connections between the PC and increasingly sophisticated peripherals by offering a higher transfer rate of 5.0 Gb/s.

One PCI Express* Mini Card connector is provided with support for mSATA Solid-State Drive for Intel® Smart Response Technology.

Intel® Rapid Storage Technology

The Intel Desktop Board DH77EB features Intel Rapid Storage Technology and supports RAID 0, 1, 5, and 10. Intel Rapid Storage Technology provides new levels of protection, performance, and expandability for desktop platforms. Whether using one or multiple hard drives, users can take advantage of enhanced performance and lower power consumption. When using more than one drive, users have additional protection against data loss in the event of a hard drive failure.

Intel® Smart Response Technology

Intel® Smart Response Technology provides a single drive volume that combines the high-performance benefits of Solid-State Drives with the large storage capacities of traditional hard drives to dramatically increase PC responsiveness and enable faster boot time.[6]

Intel® Desktop Board DH77EB Media Series

The boxed Intel® Desktop Board DH77EB solution includes:

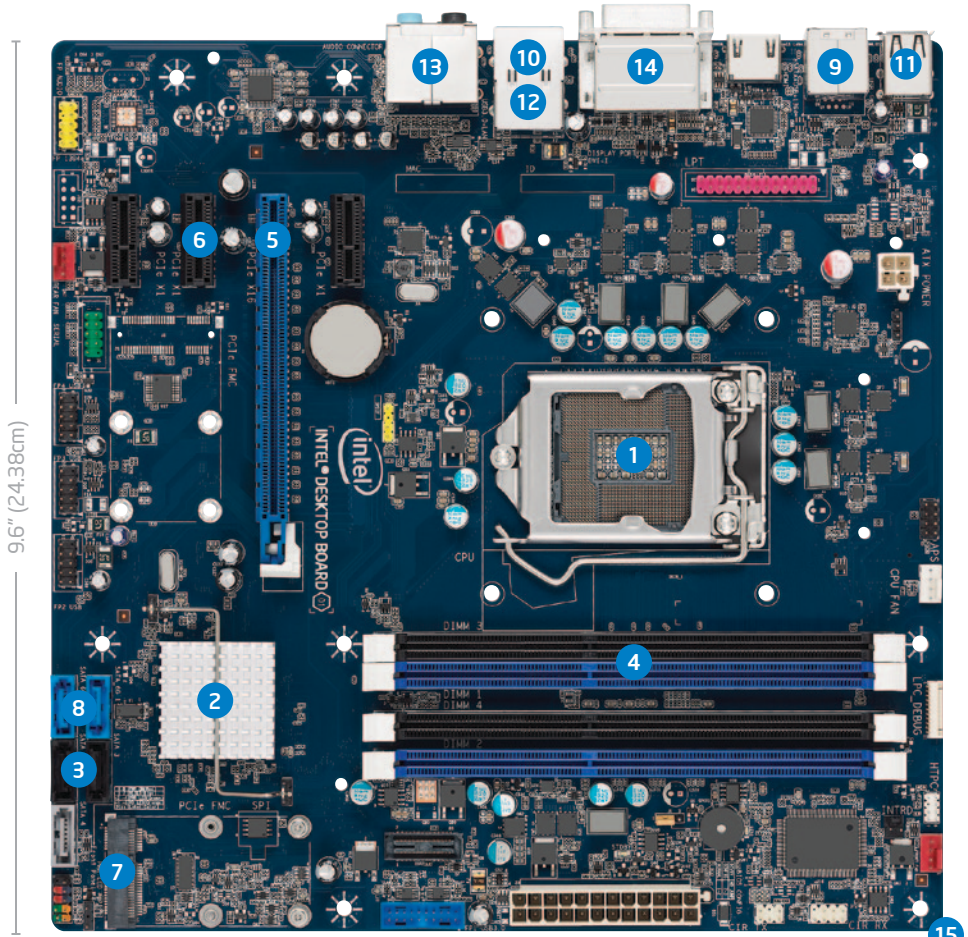
- ATX / MicroATX compliant I/O shield
- SATA cables
- Board and back panel I/O layout stickers
- Integration guide
- Intel® Express Installer driver and software DVD

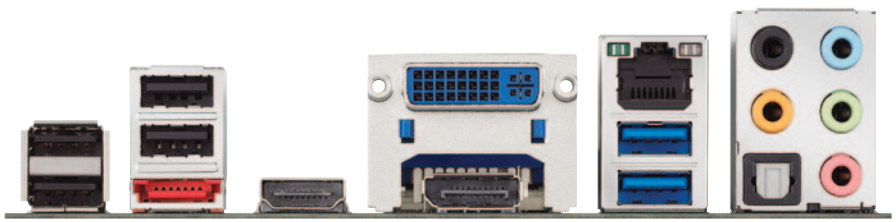
Software included:

CAPABILITY	SOFTWARE INCLUDED:
Utilities	▪ Intel® Integrator Toolkit ▪ Intel® Desktop Utilities
Productivity	▪ Laplink* PCmover Express* ▪ Splashtop* Remote Desktop
Antivirus	▪ McAfee* Antivirus Plus ▪ ESET* Smart Security
GPU Virtualization	▪ Lucidlogix* Virtu* Universal

Intel® Desktop Board DH77EB Media Series
Features and Benefits

1. **Supports the 2nd and 3rd generation Intel® Core™ processors, including the Intel® Core™ i7 and Intel® Core™ i5 processors and other Intel® processors in the LGA1155 package for exceptional performance**
2. **Intel® H77 Express Chipset PCH**
3. **Intel® Rapid Storage Technology for RAID 0, 1, 5, and 10 and Intel® Smart Response Technology**
4. **Dual-channel DDR3 with four connectors for 1600[3] / 1333 / 1066 MHz memory support (32 GB[4] max):** Supports 1.2 V to 1.8 V memory voltage control for maximum DIMM compatibility.
5. **PCI Express* 3.0 x16 graphics connector[7]**
6. **Three PCI Express 2.0 x1 connectors**
7. **PCI Express Mini Card connector with support for mSATA Solid-State Drive**
8. **Two SATA 6.0 Gb/s ports and three SATA 3.0 Gb/s ports**
9. **One eSATA 3.0 Gb/s port**
10. **Four SuperSpeed USB 3.0 ports:** Two back panel ports and two additional ports via one internal header with 5.0 Gb/s signaling rate for high-speed connections to peripherals.
11. **Ten Hi-Speed USB 2.0 ports:** Four back panel ports and six additional ports via three internal headers.
12. **Integrated Intel® PRO 10/100/1000 Network Connection for high speed and low power consumption**
13. **Ten-channel Intel® High Definition Audio[5] with multi-streaming capability:** Features five stack analog audio ports, one optical S/PDIF out port, internal S/PDIF header, and front panel audio header.
14. **DisplayPort* + HDMI* + DVI-I ports:** Supports dual independent display and allows for the most flexible display output for Intel processors with Intel® HD Graphics.
15. **MicroATX Form Factor**





Intel® Desktop Board DH77EB Media Series
Technical Specifications

For ordering information, visit **www.intel.com**

For the most current product information, visit **www.intel.com/products/motherboard**

PROCESSOR

Processor Support
- The 2nd and 3rd generation Intel® Core™ i7 and Intel® Core™ i5 processors, and other Intel® processors in the LGA1155 package
- Supports Intel® 64 architecture[8]

CHIPSET

Intel® H77 Express Chipset
- Intel® 82H77 Platform Controller Hub (PCH)

Peripheral Connectivity
- Two SATA 6.0 Gb/s ports
- Three SATA 3.0 Gb/s ports
- One eSATA 3.0 Gb/s port
- Four SuperSpeed USB 3.0 ports with 5.0 Gb/s link speed (two back panel ports and two additional ports via one internal header)
- Ten Hi-Speed USB 2.0 ports (four back panel ports and six additional ports via three internal headers)

System BIOS
- 64 Mb Flash EEPROM with Intel® Platform Innovation Framework for EFI Plug and Play
- Advanced configuration and power interface V3.0b, SMBIOS2.5
- 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* 3.0 x16 connector[7]
- Three PCI Express 2.0 x1 connectors
- One PCI Express Mini Card connector with support for mSATA Solid-State Drive

Audio
- 7.1 + 2 multi-streaming Intel® High Definition Audio[5]
- Five stack analog audio ports and one optical S/PDIF out port
- Internal S/PDIF header and front panel audio header

Video
- DisplayPort* + HDMI* + DVI-I: support dual independent display for Intel processors with Intel® HD Graphics

SYSTEM MEMORY

Memory Capacity
- Four 240-pin DIMM connectors supporting up to four double-sided DIMMs
- Maximum system memory up to 32 GB[4] using 8 GB double-sided DIMMs

Memory Types
- DDR3 1600[3] / 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 audio header

Other Connectors
- Consumer IR emitter/receiver headers
- Chassis intrusion detect header
- One serial port header
- One parallel port header

MECHANICAL

Board Style
- MicroATX

Board Size
- 9.6" x 9.6" (24.38cm x 24.38cm)

Baseboard Power Requirements
- ATX 12 V

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

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)

[1] 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 for more information.

[2] 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 for more information.

[3] DDR3 1600 memory is only supported by the 3rd generation Intel® Core™ processors.

[4] 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.

[5] 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/hdaudio.htm

[6] Responsive performance measurements are performed using the Intel® Core™ processor, Intel® Z68 Express Chipset, Intel® Solid-State Drive, and Intel® Rapid Storage Technology driver. Performance as measured by PCMark* Vantage v1.0.1 tests on systems with the Intel® Desktop Board DZ68BC, Intel Core processor, Intel® 6 Series Chipset, Microsoft* Windows* 7 Ultimate 64-bit, SATA 2 for both SSD and HDD, Hitachi* 7200 RPM 320 GB HDD, Intel® 20/40/80 GB Solid-State Drives, Integrated Graphics, 4 GB 1066 MHz DDR3 DRAM. System performance improvement on platforms is configuration-dependent; as measured by PCMark Vantage tests. Boot times taken with Microsoft Velocity v4.3 and Microsoft PwrTest (included in Microsoft WDK, for S4 times only)

[7] PCI Express* 3.0 support requires select 3rd generation Intel® Core™ processors.

[8] 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.

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