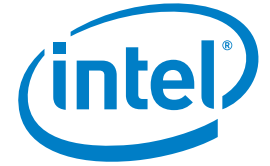


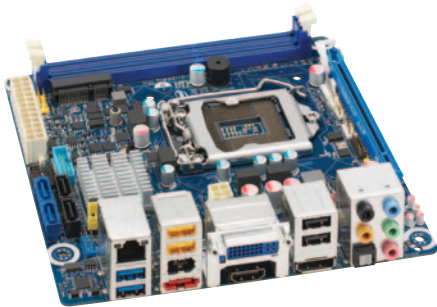
## PRODUCT BRIEF

Intel® Desktop Board DH77DF  
Media Series



Mini-ITX Form Factor

# Intel® Desktop Board DH77DF Media Series



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

The Intel® Desktop Board DH77DF 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<sup>1</sup> and enhanced Intel® Hyper-Threading Technology<sup>2</sup>, which provide smarter performance and a seamless visual experience.

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

The Intel Desktop Board DH77DF is equipped with DisplayPort\*, HDMI\*, and DVI-I connectors and supports flexible dual independent display for processors with Intel® HD Graphics.

The Intel Desktop Board DH77DF also supports Intel HD Graphics with frequency tuning to maximize visual performance.

### **Premium features**

The Intel Desktop Board DH77DF offers premium features such as dual-channel DDR3 1600<sup>3</sup> MHz memory with two connectors (16 GB<sup>4</sup> max), Intel® Rapid Storage Technology for RAID 0, 1, 5, and 10, Intel® Smart Response Technology, 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 DH77DF 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 DH77DF 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.<sup>6</sup>



## Intel® Desktop Board DH77DF Media Series

### The boxed Intel® Desktop Board DH77DF 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:

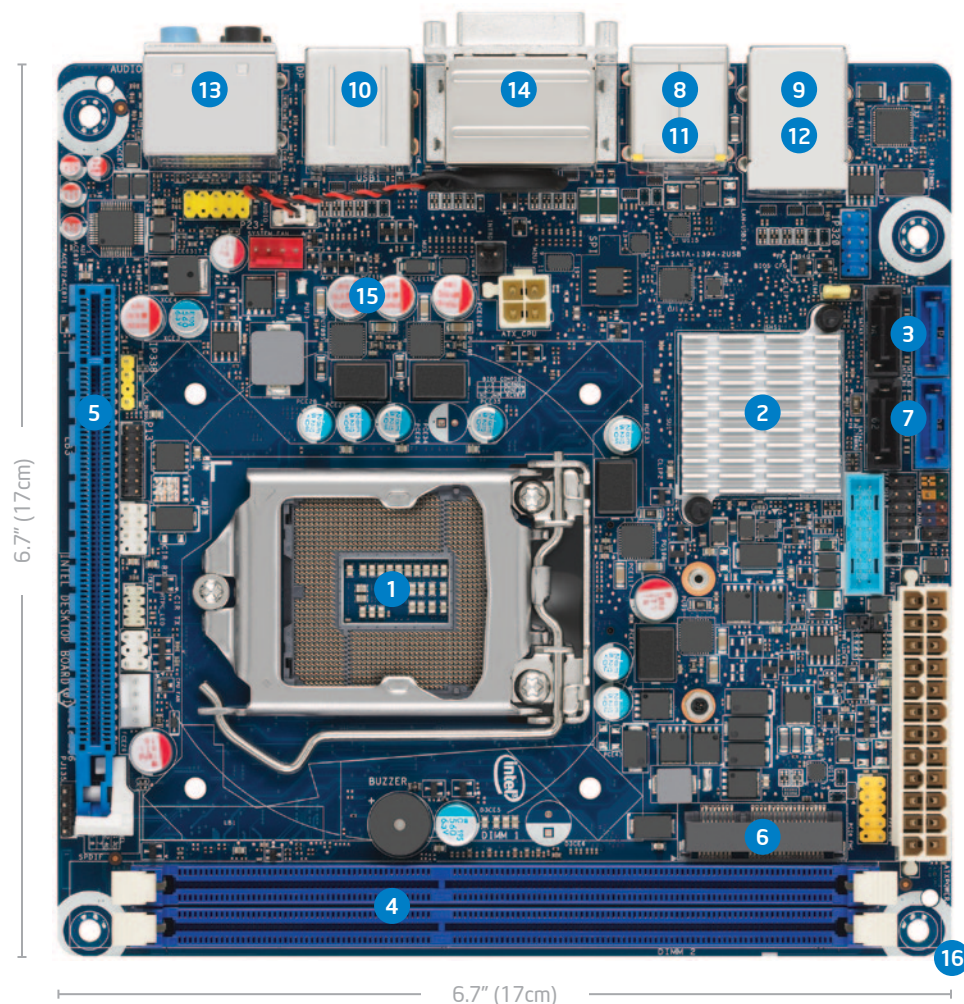
CAPABILITY	SOFTWARE INCLUDED:
Utilities	<ul style="list-style-type: none"><li>▪ Intel® Integrator Toolkit</li><li>▪ Intel® Desktop Utilities</li></ul>
Productivity	<ul style="list-style-type: none"><li>▪ Laplink* PCmover Express*</li><li>▪ Splashtop* Remote Desktop</li></ul>
Antivirus	<ul style="list-style-type: none"><li>▪ McAfee* Antivirus Plus</li><li>▪ ESET* Smart Security</li></ul>
Audio	<ul style="list-style-type: none"><li>▪ Dolby* Home Theater* v4</li></ul>

# Intel® Desktop Board DH77DF 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 two connectors for 1600<sup>3</sup> / 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.
- 5 One PCI Express\* 3.0 x16 graphics connector<sup>7</sup>
- 6 One PCI Express Mini Card connector with support for mSATA Solid-State Drive
- 7 Two SATA 6.0 Gb/s ports and two SATA 3.0 Gb/s ports
- 8 One eSATA 3.0 Gb/s port
- 9 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.
- 10 Ten Hi-Speed USB 2.0 ports: Four back panel ports, four ports via two internal headers and two ports via PCI Express Mini Card connector.
- 11 Two IEEE 1394a ports: One back panel port and one via internal header.
- 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 and 110dB DAC signal-to-noise ratio for superior sound reproduction: 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.
- 15 100% solid-state capacitors
- 16 Mini-ITX Form Factor





# Intel® Desktop Board DH77DF Media Series

## Technical Specifications

### 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<sup>8</sup>

### CHIPSET

#### Intel® H77 Express Chipset

- Intel® 82H77 Platform Controller Hub (PCH)

#### Peripheral Connectivity

- Two SATA 6.0 Gb/s ports
- Two 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, four ports via two internal headers and two ports via PCI Express\* Mini Card connector)
- Two IEEE 1394a ports (one back panel port and one via internal header)

#### 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<sup>7</sup>
- One PCI Express Mini Card connector with support for mSATA Solid-State Drive

#### Audio

- 7.1 + 2 multi-streaming Intel® High Definition Audio<sup>5</sup>
- 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

- Two 240-pin DIMM connectors supporting up to two double-sided DIMMs
- Maximum system memory up to 16 GB<sup>4</sup> using 8 GB double-sided DIMMs

#### Memory Types

- DDR3 1600<sup>3</sup> / 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

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

For the most current product information, visit [www.intel.com/products/motherboard](http://www.intel.com/products/motherboard)

### 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

### MECHANICAL

#### Board Style

- Mini-ITX

#### Board Size

- 6.7" x 6.7" (17cm x 17cm)

#### 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)

<sup>1</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>2</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>3</sup> DDR3 1600 memory is only supported by the 3rd generation Intel® Core™ processors.

<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 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/hdaudio.htm](http://www.intel.com/design/chipsets/hdaudio.htm)

<sup>6</sup> 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)

<sup>7</sup> PCI Express\* 3.0 support requires select 3rd generation Intel® Core™ processors.

<sup>8</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.

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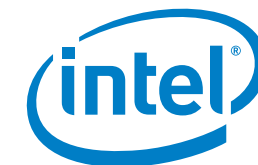
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