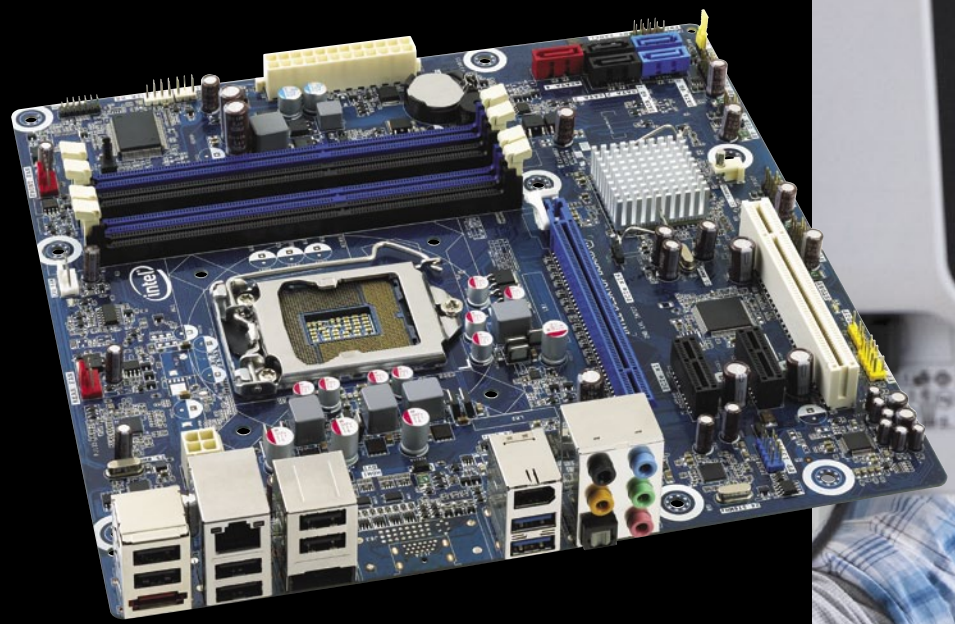
Intel® Desktop Board
DZ68AF
Media Series MicroATX Form Factor



PRODUCT BRIEF

Media Series

Intel® Desktop Board DZ68AF

Media Series

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

The Intel® Desktop Board DZ68AF is based on the Intel® Z68 Express Chipset and supports 2nd generation Intel® Core™ processors, including the Intel® Core™ i7 and Intel® Core™ i5 processors, and other Intel® processors in the LGA1155 package. The 2nd generation Intel Core processors feature optimized Intel® Turbo Boost Technology[1] and enhanced Intel® Hyper-Threading Technology[2], which provide exceptional computing performance needed for the latest in gaming and media applications.

Built-In Processor Frequency and Memory Frequency Tuning needed for the Intel® -K processors[3]

The Intel Desktop Board DZ68AF is equipped with built-in capabilities to adjust processor frequency and memory frequency[3] and is optimized to be used with the Intel® -K processors and take advantage of the unlocked features of the Intel® -K processors.

Premium features

The Intel Desktop Board DZ68AF offers premium features such as dual-channel DDR3 1333 MHz memory with four connectors (32 GB[4] max), Intel® Rapid Storage Technology for RAID 0, 1, 5, and 10, 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 DZ68AF 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 Revision 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 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.

Legacy features such as three PCI connectors provide backward compatibility for peripherals.

Intel® Rapid Storage Technology

The Intel Desktop Board DZ68AF 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

The DZ68AF board offers the customization features every power user needs along with the new Intel® Smart Response Technology which dramatically improves PC responsiveness for faster application loading and boot times. Intel Smart Response Technology provides SSD like performance and up to 50% improvement in responsiveness as compared to an HDD only system.[8]

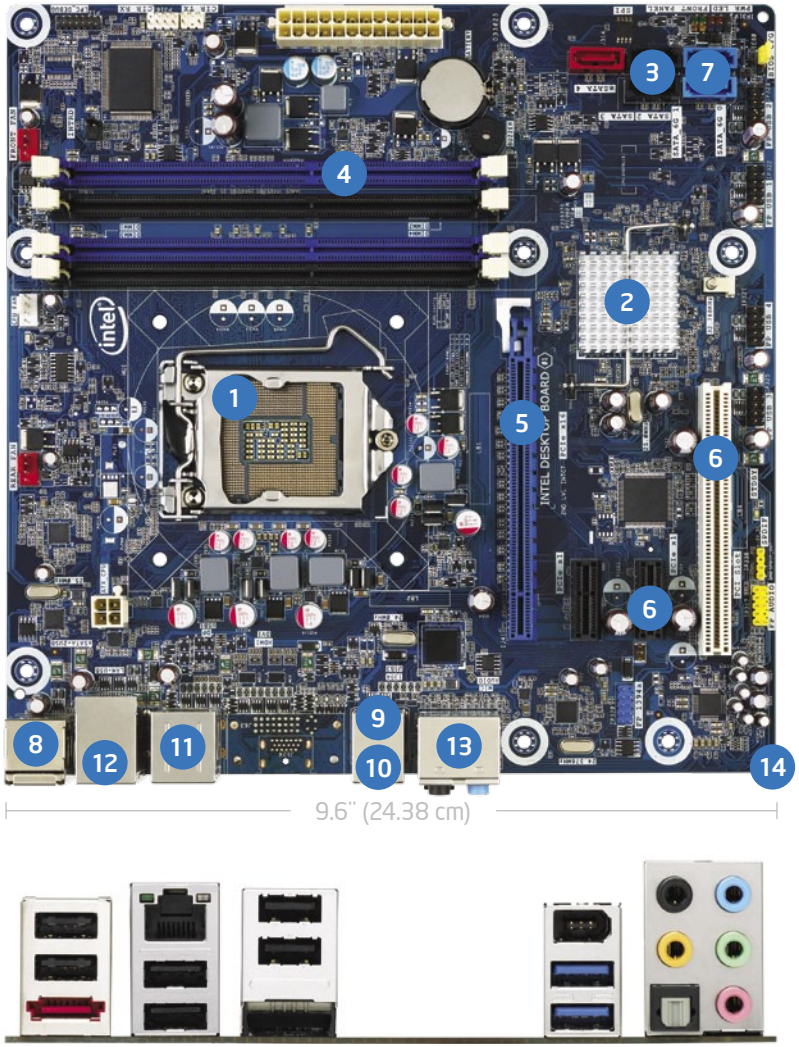
The boxed Intel® Desktop Board DZ68AF solution includes:

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

Capability	Software included
Utilities	▪ Intel® Core Utilities Bundle[6] ▪ Intel® Desktop Utilities
Productivity	▪ Laplink* PCmover Express*
Antivirus	▪ Eset* Smart Security 4 (45-day license)

Intel® Desktop Board DZ68AF

Features and Benefits



Media Series

1. **Supports the 2nd 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® Z68 Express Chipset PCH**
3. **Intel® Rapid Storage Technology for RAID 0, 1, 5, and 10**
4. **Dual-channel DD R3 with four connectors for 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* 2.0 x16 graphics connector**
6. **Two PCI Express* x1 connectors and three PCI connectors**
7. **Two SATA 6.0 Gb/s ports and three SATA 3.0 Gb/s ports, with one port compatible with an eSATA extension**
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 IEEE 1394a ports:** One back panel port and one via internal header
11. **Fourteen Hi-Speed USB 2.0 ports:** Six back panel ports and eight additional ports via four 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. **MicroATX Form Factor**

Intel® Desktop Board DZ68AF

Technical Specifications

Media Series

PROCESSOR
Processor Support
- Intel® Core™ i7 and Intel® Core™ i5 processors and other Intel® processors in the LGA1155 package
- Supports Intel® 64 architecture[7]

CHIPSET
Intel® Z68 Express Chipset
- Intel® 82Z68 Platform Controller Hub (PCH)

PERIPHERAL CONNECTIVITY
- Two SATA 6.0 Gb/s ports
- Three SATA 3.0 Gb/s ports with one SATA port compatible with eSATA extension
- Two SuperSpeed USB 3.0 ports with 5.0 Gb/s link speed
- Fourteen Hi-Speed USB 2.0 ports (six back panel ports and eight additional ports via four internal headers)
- Two IEEE 1394a ports (one back panel port and one via internal header)

SYSTEM BIOS
- 32 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* 2.0 x16 connector
- Two PCI Express 2.0 x1 connectors
- Three PCI connectors

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

SYSTEM MEMORY
Memory Capacity
- Four 240-pin DIMM connectors supporting up to four double-sided DIMMs
- Maximum system memory up to 32 GB using 8 GB double-sided 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 audio header

Other Connectors
- Consumer IR emitter/receiver headers
- Chassis intrusion detect header

MECHANICAL
Board Style
- MicroATX

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

Baseboard Power Requirements
- MicroATX 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 Technologyenabled 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] Intel does not warrant against use of its processors and desktop boards outside of specification. Intel recommends users to ensure sufficient airflow and cooling of the system when enabling the processor and memory frequency tuning feature.

[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] The Intel® Core Utilities Bundle includes Intel® Integrator Assistant, Intel® Integrator Toolkit, Intel® Express Installer, and Intel® Express BIOS Update.

[7] 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.

[8] Responsive performance measurements performed using 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 Intel DZ68AF motherboard, 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.

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