



#### MicroATX Form Factor

## Intel® Desktop Board DG31PR Classic Series

Based on the latest Intel® G31 Express Chipset

#### **Flexible. Reliable. Affordable.**

The ideal mainstream platform for home and office applications.

#### **Experience new levels of digital living**

Explore new possibilities and digital lifestyle with the latest Intel® Desktop Board DG31PR, based on the Intel® G31 Express Chipset. This board, coupled with the power of the Intel® Core™2 Quad\*\* or Intel® Core™2 Duo processor, enables you to experience a new level of digital exhilaration.

#### **More flexibility. More possibilities.**

The Intel® Desktop Boards are built to support a range of processors, including the Intel Core 2 Quad\*\*, Intel Core 2 Duo, Intel® Pentium® Dual-Core, and Intel® Celeron® processors. For those with high memory needs, this solution delivers support of up to 4 GB<sup>1</sup> of DD2 800 / 667 SDRAM memory.

Besides the performance and stability, enjoy the integrated graphics and connectors for all your digital needs.

- Have the integrated graphics performance that comes with Intel® Graphics Media Accelerator X3100.
- Enjoy the rich sound quality of the Intel® High Definition Audio with 5.1 surround sound.
- Up to eight USB ports to support all your computer paraphernalia.
- Enjoy great network connectivity with the integrated 10/100/1000 Network Connection.
- Windows Vista\* Premium WHQL certified.



# Intel® Desktop Board DG31PR

Dive right into your new digital experience and benefit from the host of software included with the Intel® Desktop Board DG31PR.

- Enrich your multimedia experience with software such as Intel® Audio Studio and premium VoIP service offers.
- Protect your precious data with the antivirus software, while many more utilities enhance the reliability and stability of your system.
- Enjoy Diskeeper® Home Edition, Norton Internet Security®, Skype®, TypePad®, Kaspersky® Anti-Virus (*Russian*), and Kingsoft® Antivirus (*Chinese*).



## The boxed Intel® Desktop Board DG31PR solution includes:

- ATX 2.2 Compliant I/O Shield
- Floppy, SATA, and ATA 100/66 Cables
- Board and Back Panel I/O Layout Stickers
- Quick Reference and Product Guide
- Intel® Express Installer Driver and Software CD
- Windows Vista® Premium WHQL certified

## Software Included:

- Diskeeper® Home Edition
- Norton Internet Security®
- Skype®
- TypePad®
- Kaspersky® Anti-Virus (*Russian*)
- Kingsoft® Antivirus (*Chinese*)

## Features and Benefits

# Intel® Desktop Board DG31 PR

### 1 Support for the Intel® Core™2 Quad\*\* and Intel® Core™2 Duo processors:

Features quad-core and dual-core processing and 1333 / 1066 / 800 MHz system bus in the LGA775 package.

### 2 Intel® G31 Express Chipset:

Offers a new level of visual quality with integrated Intel® Graphics Media Accelerator X3100 (Intel® GMA X3100).

### 3 Dual-Channel DDR2 800 / 667 memory support:

Two DIMM sockets, designed to support up to 4 GB<sup>1</sup> of DDR2 800 / 667 memory, deliver greater platform performance and flexible memory support.

### 4 PCI Express\* x16 Graphics connector:

Increased graphics bandwidth provides up to 4 Gb per direction.

### 5 Four Serial ATA ports (3.0 Gb/s):

Facilitates high-speed storage and data transfers at up to 3 Gb/s for each of four ports.

### 6 Integrated 10/100/1000 Network Connection:

Features on-board 10/100/1000 Mb/s Ethernet LAN connectivity.

### 7 Intel® High Definition Audio with 5.1 surround sound:

Enables high quality integrated audio that rivals the performance of high-end discrete solutions.

### 8 Two PCI connectors:

Provides expansion slots for custom system configurations and future add-in card upgrades.

### 9 One PCI Express\* x1 connector:

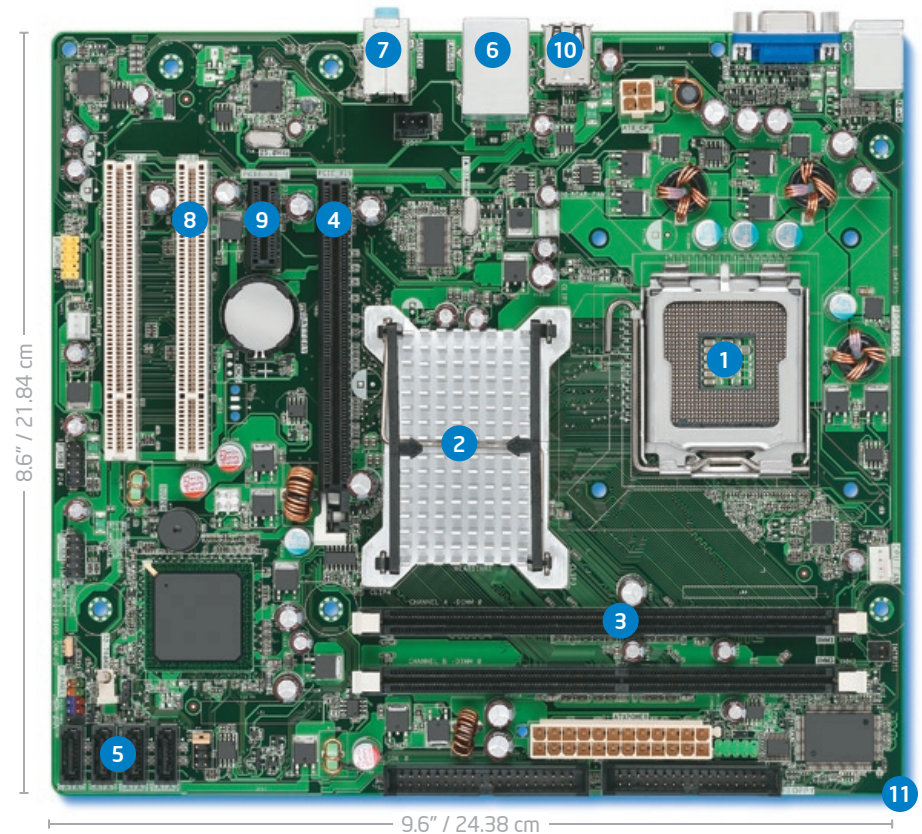
Designed for bandwidth-intensive applications, PCI Express\* x1 I/O offers up to 3.5 times the bandwidth over traditional PCI architecture.

### 10 Eight Hi-Speed USB 2.0 ports:

Provides four back panel ports and an additional four USB ports via two internal headers.

### 11 MicroATX form factor:

Smaller form factor, great for mini-tower systems



## Technical Specifications

### Processor

#### Processor Support

- Intel® Core™2 Quad\*\* processor in the LGA775 package
- Intel® Core™2 Duo processor in the LGA775 package
- Intel® Pentium® Dual-Core processor in the LGA775 package
- Intel® Celeron® 400 Sequence processor in the LGA775 package
- Supports Intel® 64 Architecture<sup>2</sup>

### Chipset

#### Intel® G31 Express Chipset

- Intel® LE82G31 Graphics Memory Controller Hub (GMCH)
- Intel® 82801GB I/O Controller Hub (ICH7)
- Serial Peripheral Interface (SPI) Flash

#### Graphics Memory Controller Hub (GMCH)

- Designed to support up to 4 Gb<sup>1</sup> of system memory using DDR2 800 / 667 SDRAM memory
- Intel® Fast Memory Access
- Intel® Graphics Media Accelerator X3100

#### Intel® I/O Controller Hub

- Ultra ATA 100/66 devices
- Four SATA (3.0 Gb/s) ports
- Integrated 10/100/1000 Network Connection

### USB 2.0

Integrated Intel® ICH7 controllers:

- Four back-panel ports (two dual stack)
- Four additional ports (via two headers)

### I/O Features

- Integrated super I/O LPC bus controller
- Two PCI local bus slots
- One PCI Express\* x1 local bus slot

### System BIOS

- 8 Mb Flash EEPROM with Intel® Platform Innovation Framework for EFI Plug and Play, IDE drive auto-configure
- Advanced configuration and power interface V1.0b, DMI 2.0, multilingual support

### System Memory

#### Memory Capacity

- Two 240-pin DIMM connectors supporting up to two double-sided DIMMs

#### Memory Types

- DDR2 800 / 667 SDRAM memory support
- Non-ECC Memory

#### Memory Modes

- Dual or single-channel operation support

#### Memory Voltage

- 1.8V

### 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 1.0b

### Expansion Capabilities

- Two PCI bus add-in card connectors
- One PCI Express\* x1 bus add-in card connector
- One PCI Express\* x16 Graphics connector

### Jumpers and Front-Panel Connectors

#### Jumpers

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

#### Front-Panel Connectors

- Reset, HD LED, Power LEDs, power on/off
- Two front-panel Hi-Speed USB 2.0 headers
- Front-panel audio header
- Front-panel serial header

### Mechanical

#### Board Style

- ATX 2.2 compliant

#### Board Size

- 9.6" x 8.6" (24.38 cm x 21.84 cm)

#### Baseboard Power Requirements

- ATX12V

### Environment

#### Operating Temperature

- 0° C to +55° C

#### Storage Temperature

- 40° C to +70° C

### Regulations and Safety Standards

#### United States and Canada

CSA/UL 60950-1, First Edition (Binational Standard)

#### Europe

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

#### International

IEC 60950-1:2001, First Edition

### EMC Regulations

#### (tested in representative chassis)

##### United States

FCC 47 CFR Part 15, Subpart B

##### Canada

ICES-003 Class B

##### Europe

(EMC Directive 2004/108/EC)

EN 55022:2006 and EN 55024:1998

##### Australia/New Zealand

EN 55022:2006 Class B

##### Japan

VCCI V-3/04.04, V-4/03.04, Class B

##### South Korea

KN-22:2005 and KN-24:2005

##### Taiwan

CNS 13438:2006 Class B

##### International

CISPR 22:2005 +A1:2005 +A2:2006 Class B

### Environmental Compliance

#### Europe

Europe RoHS (Directive 2002/95/EC)

#### China

China RoHS (MII Order # 39)



**Lead-Free:** The symbol is used to identify electrical and electronic assemblies and components in which the lead (Pb) concentration level in any of the raw materials and the end product is not greater than 0.1% by weight (1000 ppm). This symbol is also used to indicate conformance to lead-free requirements and definitions adopted under the European Union's Restriction on Hazardous Substances (RoHS) directive, 2002/95/EC.

**Ordering Information: See the Intel Web site at [www.intel.com](http://www.intel.com)**

**For the most current product information, visit [developer.intel.com/design/motherbd/](http://developer.intel.com/design/motherbd/)**

**For ENERGY STAR\* recommended configurations, visit [www.intel.com/go/energystar](http://www.intel.com/go/energystar)**

<sup>1</sup> System resources (such as PCI and PCI Express\*) require physical memory address locations that reduce available memory addresses above 3 GB. This may result in less than 4 GB of memory being available to the operating system and applications.

<sup>2</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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\*\* Supports 95W Thermal Design Power, Intel® Core™2 Quad Processors with 1066 MHz System Bus. For information, visit [www.intel.com/go/findCPU](http://www.intel.com/go/findCPU)

