Mini-ITX / MicroATX-Compatible Form Factor

Intel® Desktop Board D945GCLF Essential Series

Small on Size. Big on Potential.

When Intel introduced an innovative, affordable desktop called the nettop, this desktop computer brought an exciting new category of small-form-factor designs to value users. The nettop is used to address the needs for an Internet-centric usage model for broad channel.

The new Intel® Desktop Board D945GCLF was designed to support basic computing, delivering incredible capabilities for the new flexible Mini-ITX form factor. Featuring the integrated 45nm Intel® Atom™ processor and the Intel® 945GC Express Chipset, this board delivers an energy-efficient nettop solution for home users as well as for unique vertical market needs.

The futuristic Intel Atom processor is Intel's smallest low-power processor[1]. Designed with Intel's leading-edge technology, using Intel's 45nm Hi-k metal gate silicon, the Intel Desktop Board D945GCLF uses 47 million of the world's smallest transistors. Energy efficient, lightweight, and designed for low-power usage, the Intel Atom processor delivers a richer, full experience in a tiny, power-packed package.

The Intel 945GC Express Chipset features built-in Intel® Graphics Media Accelerator 950, Intel® Flex Memory Technology, and integrated HD Audio. Combined with the Intel Desktop Board D945GCLF, this chipset offers incredible opportunities to communicate, listen, watch, play, and learn.

The Intel Desktop Board D94GCLF also features the newest Mini-ITX form factor. Backward compatible with ATX/MicroATX, this form factor allows you to build green and energy-efficient solutions. In a compact 6.75" X 6.75" size, this board powers simple, affordable, and Internet-centric computers.

Nettops represent a fundamental shift in system design—small, yet powerful enough to enable a big Internet experience for all audiences. The flexible footprint and low-power features enable new and exciting devices. At an affordable price point, the Intel Desktop Board D94GCLF is ideal for innovative system usage models such as kiosks, call centers, home surveillance, classrooms, emerging markets, and entry-level home entertainment systems.

Intel® Desktop Board D945GCLF

The boxed Intel® Desktop Board D945GCLF includes:

- Integrated Intel® Atom™ Processor
- ATA 100/66 and Serial ATA Cable
- Back Panel I/O and Board Layout Stickers
- Quick Reference and Product Guides
- Intel® Express Installer Driver and Software CD

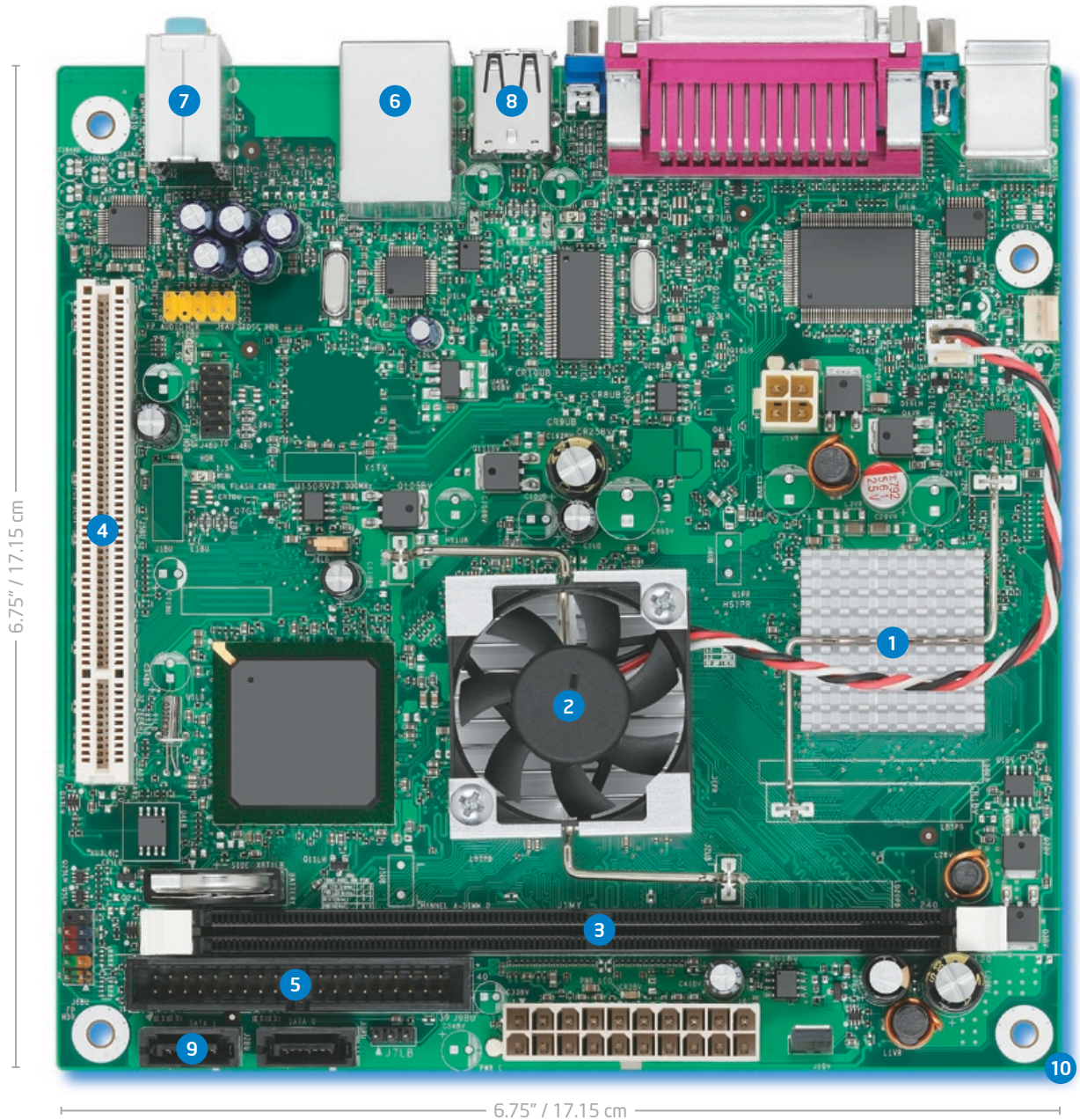
Software Included:

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

Features and Benefits

Intel® Desktop Board D945GCLF

1. **Intel® Atom™ Processor:** Integrated, low-power processor with 533 MHz system bus.
2. **Intel® 945GC Express Chipset featuring Intel® Graphics Media Accelerator 950**
3. **Single DIMM socket:** Designed to support up to 2 GB of DDR2 667 / 533 SDRAM.
4. **PCI slot:** Expansion slot for custom system configurations and future add-in card upgrades.
5. **IDE connector:** Supports up to two ATA 100/66 devices.
6. **Integrated 10/100 LAN:** On-board 10/100-Mb/s Ethernet LAN connectivity.
7. **High Definition Audio (2+2 Channel) with front panel header:** Integrated stereo audio at an excellent value.
8. **Support for up to six Hi-Speed USB 2.0 ports:** Four back panel ports and one front panel header supporting two additional USB 2.0 ports.
9. **Two Serial ATA ports** (3.0 Gb/s)
10. **Mini-ITX/microATX-compatible form factor**



Technical Specifications

Processor

Processor Support

- Intel® Atom™ Processor 230 integrated (1.6 GHz / 512 KB L2 Cache / 533 System Bus)

Chipset

- Intel® 945GC Express Chipset with ICH7

I/O Features

- Integrated super I/O LPC bus controller
- Ultra ATA 100/66 device support
- Two SATA ports (3.0 Gb/s)
- One PCI local bus slot

USB 2.0

- Four back panel ports
- One onboard header providing two ports support

Audio Solution

- Integrated High Definition Audio (2+2 channel) with front panel header

10/100 Network Connection

- Onboard 10/100 Ethernet LAN

SPI

System BIOS

- 4 Mb Flash EEPROM with Intel® Tiano BIOS featuring Plug and Play, IDE drive auto-configure
- Advanced configuration and power interface V1.0b, DMI 2.0

Intel® Rapid BIOS Boot

- Optimized POST for fast access to PC from power-on

System Memory

Memory Capacity

- One 240-pin DIMM connector
- Designed to support up to 2 GB of system memory using DDR2 667 / 533 SDRAM

Memory Type

- DDR2 667 / 533 SDRAM

Memory Voltage

- 1.8 V

Wake-up from Network

- Wired for Management (WfM) 2.0-compatible
- Support for system wake-up using an add-in network interface card with remote wake-up capability

Expansion Capabilities

- One PCI bus add-in card connector

Jumpers and Front-Panel Connectors

Jumpers

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

Front Panel Connectors

- Reset, HD LED, Power LEDs, power on/off, aux LED
- One USB 2.0 header
- Audio header

Mechanical

Board Style

- Mini-ITX/microATX compatible
- 6.75" x 6.75" (17.145 cm x 17.145 cm)

Desktop Board Power Requirements

- ATX12V or SFX12V

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, Issue-004 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-3/2007.04, V-4/2007.04, 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. For the most current product information, visit developer.intel.com/products/desktop/motherboard/

[1] Processor size based on actual Intel® architectural product offerings.

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