Lock and load!
Introducing the Intel® Desktop Board DX58SO2, designed to unleash the power of the new Intel® Core™ i7 processors.

Build upon a winner
With the Intel Desktop Board DX58SO2, Intel is breaking down barriers when it comes to the performance and bandwidth that gamers, digital media creators, and ultimate multitaskers need most. The Intel Desktop Board DX58SO2 provides breakaway performance in production and editing, as well as digital media rendering and real-time audio/video preview capabilities. Superior Phase Shedding Technology keeps the system performing in the most efficient optimum state. The massive data throughput and support for the Intel Core i7 processor runs more applications simultaneously, with less wait time.

Power for the hottest new games
With incredible support for up to 12 threads of raw processing power, unprecedented bandwidth, triple-channel DDR3 memory, and full support for ATI® CrossFireX® and NVIDIA® SLI® technologies, the Intel Desktop Board DX58SO2 goes where no desktop board has gone before.

The optimized eight-layer stack up provides flawless signal speed and industry-leading power delivery to critical components to deliver more advanced performance tuning1 and, with superior graphics flexibility, gamers enjoy a smoother, more realistic experience. Intel® Extreme Memory Profiles (Intel® XMP) is a performance-packed expansion of the standard DDR3 memory specification, enabling a robust and stable solution for ultra-fast memory.
The boxed Intel® Desktop Board DX58SO2 solution includes:

- ATX compliant I/O shield
- UV-reactive SATA cables
- Extreme mouse pad
- Bluetooth® / Wi-Fi® module
- Board and back panel I/O layout stickers
- Quick reference guide
- Intel® Express Installer driver and software DVD
- Windows Vista® Premium WHQL certified
- NVIDIA® SLI® bridge connectors
- Post code information card

Software included:

<table>
<thead>
<tr>
<th>CAPABILITY</th>
<th>SOFTWARE INCLUDED:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilities</td>
<td>• Intel® Core Utilities Bundle²</td>
</tr>
<tr>
<td></td>
<td>• Intel® Extreme Tuning Utility³ (XTU) (Internet download)</td>
</tr>
<tr>
<td>Antivirus</td>
<td>• ESET® Smart Security</td>
</tr>
</tbody>
</table>
Intel® Desktop Board DX58SO2 Extreme Series
Features and Benefits

1. **Support for the Intel® Core™ i7 processor Extreme Edition in the LGA1366 package**: Supports both four-core and six-core processors. Features Intel® Turbo Boost Technology and Intel® Hyper-Threading Technology for exceptional performance and scalability, and 12 MB shared Intel® Smart Cache, enabling dynamic and efficient allocation of cache.

2. **Intel® X58 Express Chipset with ICH10R**: Features Intel® QuickPath Interconnect (Intel® QPI) to the processor for 25.6 GB/s maximum peak bandwidth.

3. **Six DIMM connectors**: Designed to support overclocked DDR3 1600+ / 1333 / 1066 MHz memory, delivering up to 48 GB/s memory bandwidth.

4. **Two SuperSpeed USB 3.0 ports, two IEEE 1394a ports (one external port and one port via internal header), and 12 USB 2.0 ports (six back ports and six ports via three internal headers)**: Provides for the most flexible back panel connectivity options.

5. **Three PCI Express x16 connectors**: Improved graphics bandwidth and support for certified triple-card ATI® CrossFireX® and NVIDIA® SLI®.

6. **PCI Express and PCI connectors**: Flexibility to support PCI Express and legacy PCI devices.

7. **Two SATA 6.0 Gb/s ports, six SATA 3.0 Gb/s ports, and two eSATA back ports**: Support for up to ten ports with external SATA capability and the ability to disable individual ports via the Intel® Matrix Storage driver stack.

8. **Intel® Matrix Storage Technology**: Performance and reliability with support for RAID 0, 1, 5, and 10, and new Intel® Rapid Recover Technology.

9. **Ten-channel Intel® High Definition Audio**: Enables high-quality integrated audio that rivals the performance of high-end discrete solutions.

10. **Dual Intel® Gigabit Ethernet LAN**: Features onboard 10/100/1000 Mb/s Ethernet LAN connectivity.

11. **Consumer infrared receiver and transmitter**: Supports receiving, learning, and emitting capabilities, controls up to two additional CE devices with your PC, and eliminates the need for a USB CIR dongle.

12. **Back-to-BIOS switch**: Allows easy access to the BIOS for easy overclocking and recovery.

13. **Post code decoder**: Allows for display of post codes for debug along with the included post code quick reference card displaying critical areas to help troubleshoot performance-increase roadblocks.

14. **Exclusive voltage regulator thermal solutions**: Provides reliable and silent cooling for extreme performance tuning.

15. **Solid-state capacitors and exclusive Maximum ePower processor voltage regulation design**: Maximizes stability and power for advanced performance tuning.

16. **Tweaker switches**: Speed bump, power, and reset switches for overclocking on the go, quick reset, and power on.

17. **ATX Form Factor**: ATX board supports more fully featured tower designs.

18. **Lead-free**: Meets all worldwide regulatory requirements for lead-free manufacturing.
Intel® Desktop Board DX58SO2 Extreme Series Technical Specifications

**PROCESSOR**
Processor Support
- Intel® Core™i7 processors in the LGA1366 package
- Intel® Turbo Boost Technology®
- Intel® Hyper-Threading Technology®
- Integrated Memory Controller with support for up to 48 GB of system memory
- DDR3 1600/1333/1066 SDRAM memory support
- Non-ECC Memory

**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 3.0b

**Intel® PRO 10/100/1000 Network Connection**
- Dual LAN on the back panel
- New low-power design can meet Energy Star® 5.0 specifications

**ExpansionCapabilities**
- Three PCI Express® 2.0 x16 connectors (configured as x16 / x8 / x8 in triple-graphics mode)
- Two PCI Express® 2.0 x1 connectors
- One PCI connector

**Audio**
- 10-channel Intel® High Definition Audio® codec
- 8-channel via the back panel
- 2-channel via the front panel
- Back panel support for output via optical cable
- One internal header for S/PDIF output for HDMI® support

**SYSTEM MEMORY**
Memory Capacity
- Six 240-pin DIMM connectors supporting triple-channel memory. Two double-sided DIMMs per channel.
- Maximum system memory up to 48 GB using 8 GB double-sided DIMMs

**Intel® Rapid BIOS Boot**
- Rapid BIOS Boot
- Intel® Express BIOS update support: BIOS update via new F7 function key

**Chipset**
- Intel® X58 Express Chipset
  - Intel® B2X58TH IOH with ICH10R
  - Intel® Matrix Storage Manager (RAID 0, 1, 5, 10)
  - Two SATA (3.0 Gb/s) ports and 6 SATA (3.0 Gb/s) ports
  - Two eSATA (3.0 Gb/s) ports on the back panel

**USB Ports**
- Integrated Intel®ICH10R controller
  - Six Hi-Speed USB 2.0 ports via back panel
  - Six additional Hi-Speed USB 2.0 ports via three internal headers
  - Two SuperSpeed USB 3.0 ports via NEC controller

**System BIOS**
- 32 Mb Flash EEPROM with Intel® Platform Innovation Framework for EFI Plug and Play, IDE drive auto-configure
- Advanced configuration and power interface V3/0b, DMI 2.1

**Intel® Rapid BIOS Boot**
- Rapid BIOS Boot
- Intel® Express BIOS update support: BIOS update via new F7 function key

**Warning:** Altering clock frequency and/or voltage may (i) reduce system stability and useful life of the system and processor; (ii) cause the processor and other system components to fail; (iii) cause reductions in system performance; (iv) cause additional heat or other damage; and (v) affect system data integrity. Intel has not tested, and does not warranty, the operation of the processor beyond its specifications.

**The Intel® Core™ Utility Bundle includes Intel® Integrator Assitant, Intel® Integrator Toolkit, Intel® Express installer, and Intel® Express BIOS Update.**

**Intel® Extreme Tuning Utility is only compatible with Intel® Desktop Boards.**

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

For the most current product information, visit www.intel.com/go/idb

For specific CPU compatibility, visit http://processormatch.intel.com

**Memory Types**
- DDR3 1600/1333/1066 SDRAM memory support
- Non-ECC Memory

**Memory Modes**
- Triple-, dual-, or single-channel operation support

**Memory Voltage**
- 1.35 V low voltage
- 1.5 V standard JEDEC voltage
- Support for Intel® XMP extended voltage profiles

**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
- Three front-panel Hi-Speed USB 2.0 headers
- Front-panel audio header
- One PCIe 1394a header

**MECHANICAL**
- Board Style: ATX
- Board Size: 9.6” x 11.6” (24.38 cm x 29.46 cm)

**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 and Canada
  - UL 1950, Third edition—CAN/CSA C22.2 No. 950-95 with recognized U.S. and Canadian component marks
  - Nemko certified to EN 60950 International Nemko certified to IEC 60950 (CB report with CB certificate)
  - EMC regulations (tested in representative chassis)
    - United States FCC Part 15, Class B
    - Canada ICES-003, Class B
  - Australia/New Zealand
    - AS/NZS 3548, Class B
  - Taiwan
    - CNS 13438, Class B International

**Power requirements vary. Complies with US CRF via EN55022 +6 db in system configurations with an open chassis and EU Directive 89/336/EEC and use via EN55022 and EN55062-1 in a representative chassis.**

**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.**

**Copyright:** © 2010 Intel Corporation. All rights reserved.

**1110/BJ/NS/PDF 324568-001US**