

# LBC9316

## Single Board Computer



### Product Features

#### Form Factor

PICMG® 1.0 PCI/ISA Single Board Computer

#### Processor Options

- Intel® Core 2 Duo processor
- Intel® Pentium® 4 processor
- Intel® Q965 chipset with ICH8

#### Bus Interface

- 1066/800/533MHz Front Side Bus
- 33MHz PCI Bus
- 8.33MHz ISA Bus

#### Memory

Up to 4GB using DDR2 800/667/533 SDRAM 240Pin using two sockets

#### I/O

- (6) USB Ports
- PS/2 mouse and keyboard
- (2) Serial Ports and 1 Parallel Port
- Floppy Disk support
- (4) SATA 300 ports
- (2) 10/100/1000Base-T Ethernet
- IrDA 1.0 port
- Two Channel Audio

#### BIOS

PCI 2.1 compliant field upgradeable Award BIOS with PC98 support

#### Physical Dimensions

13.33" x 4.80" PCB 6-Layer.

#### OS Support

Windows 2000, XP; UnixWare; Red Hat Linux; Hard Hat Linux, QNX

#### Warranty

Parts and labor covered for 2 years



The LBC9316 single board computer addresses wide ranging, high performance, long-life applied computing, low power applications.

The board features an Intel® Core 2 Duo processor in a LGA-775 package with Intel® Q965 and ICH8 chipset with 1066/800/533MHz front side bus, and up to 4GB DDR2 800/667/533 SDRAM DIMMs. Onboard are an integrated Intel® GMA 3000 graphics engine with high grade display capability, dual 10/100/1000Base-T Ethernet, four SATA 300 ports, as well as six Universal Serial Bus (USB 2.0) ports, serial/parallel ports, floppy drive interface, two channel audio and IrDA 1.0 support.

The LBC9316 is compliant with PCI local bus specification V2.1 (supports 4 master PCI slots) and PICMG® 1.0 Rev 2.0 (32-bit/33MHz PCI and 16-bit ISA). A PCI to ISA bridge supports ISA bus mastering, for at least 3 slots.

The Award BIOS, in field upgradeable Flash ROM, supports software video/Ethernet enable/disable, serial/parallel port re-mapping/disable, keyboard disable, and PnP compliant onboard ISA interrupts. Other features include a hardware monitor (voltages, temperature, and fan), programmable watchdog timer, general purpose I/O, and a 2 year limited warranty.

Scalable CPU/memory processing performance. Extensible I/O. Diversified Technology's LBC9316 PCI/ISA industrial PC is the power choice for application developers addressing high performance broadcast/media, wireline and wireless datacom/telecom, messaging, IVR/CTI, industrial control & automation, instrumentation, medical/imaging, and COTS defense/aerospace markets.

**CPU / Cache (LGA-775)**

- Intel® 64-bit Core 2 Duo embedded processor at 2.13GHz and 2MB L3 cache
- Intel® 32-bit Pentium® 4 embedded processor at 3.0GHz and 1MB L3 cache
- Intel Q965 chipset with ICH8

**Bus Interface**

- 1066/800/533MHz Front Side Bus
- 33MHz PCI Bus; 8.33MHz ISA Bus
- Supports four 32-bit/33MHz PCI slots
- Supports three ISA slots

**Memory**

- Two 240-pin latching DIMM sockets
- Up to 4GB using DDR2 800/667/533 SD RAM 240Pin

**Data Path**

- 8.6 GB/s on CPU Front side bus
- 12.8 GB/s memory bus
- 3GB/s SATA 300
- 133MB/s on off-board PCI bus
- 480Mb/s USB 2.0
- 5MB/s on ISA bus

**Flash Memory**

- Flash ROM for BIOS field upgrade.

**I/O**

- USB Ports: six, 2.0 compliant (four via two 10-pin headers, two Type A on face plate)
- PS/2 mouse and keyboard (requires optional bracket adapter to 6-pin mini-DIN)
- Serial Ports: one RS-232 and one configurable RS-232/422/485 with BIOS selectable IRQs and addressing, (two male 10-pin metric shrouded headers)
- Parallel Port: one bi-directional with all IEEE 1284 protocols supported and BIOS selectable IRQs and addressing, (male 26-pin metric shrouded header)
- Floppy Disk: support for two drives (360 KB to 2.88 MB), (male 34-pin metric shrouded header)
- Four SATA 300 ports
- Ethernet: 10 /100 /1000Base-T Ethernet (shielded RJ-45 on face plate with link and activity LEDs)
- IrDA 1.0 port
- 2-channel Audio (with optional bracket)

**Video/Audio**

- Integrated GMA 3000 controller, (female DB-15 on face plate)
- Supports CRTs with resolution up to 2048 x 1536 @ QXGA 75Hz refresh.

**Clock / Calendar**

- Real-time clock with 256 byte battery backup CMOS RAM

**Misc.**

- Speaker (4-pin)
- Front Panel (8-pin) /w reset, HD activity LED, Power button
- CPU (4-pin) /System (3-pin) monitored fans

**BIOS**

PCI 2.1 compliant field upgradeable Award BIOS with PC98 support

**Supervisory**

- Programmable watchdog timer drives NMI or system reset
- Hardware system monitor (voltages, CPU temperature, fan speed)

**OS/Driver Compatibility**

Windows VISTA, XP, 2000; Linux Red Hat, SUSE, QNX

**Mechanical**

- 13.33" x 4.80" x 1.74"
- Low Profile heatsink standard
- Conforms to IEEE P996 PC/AT bus, PCI Rev. 2.2, and PICMG 1.0 Rev. 2.0 standards

**Power Requirements**

Max Power Dissipation:	76.6W
ICC typical +5V	4.45A
12V	1.70A

**Environmental****Operating**

- Min Temperature: 0°C
- Max Temperature: 60°C
- Humidity (RNC): 90%
- Vibration: 1G 5-500Hz

**Storage and Transit (in approved packaging)**

- Temperature: -20 to 80°C
- Humidity (RNC): 90%
- Shock: 40" free fall
- Vibration: Random 5-20Hz @ 1.0 m2/s3; 20-200 -3dB; 30 minutes

**Reliability**

- MTBF: 93,788 hrs (not including processor and fan)
- 2 year limited warranty

**Regulatory Compliance**

- Safety: UL/cUL 60950-1:2003 (UL File # E139737) EN/IEC 60950-1:2001
- EMC: FCC Part 15, Subpart B: 2006 Class A ICES-003 I3: 1997; AS/NZS CISPR 22: 2004; EN 55022: 1998; EN 61000-3-2: 1995; EN 61000-3-3: 1995; EN 55024: 1998; EN 61000 4-2: 1995; EN 61000 4-3: 1997; EN 61000 4-4: 1995

**Ordering Information****LBC9316/2130**

Core 2 Duo Embedded, 2.13 GHz  
FSB 1066 MHz 2 MB L3 Cache

**LBC9316/3400**

Pentium 4 3.4GHz HT (embedded roadmap)  
FSB 800MHz 2MB L2 Cache

\*cables included

**Optional**

- Audio bracket with dual USB ports
- Dual USB port bracket

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