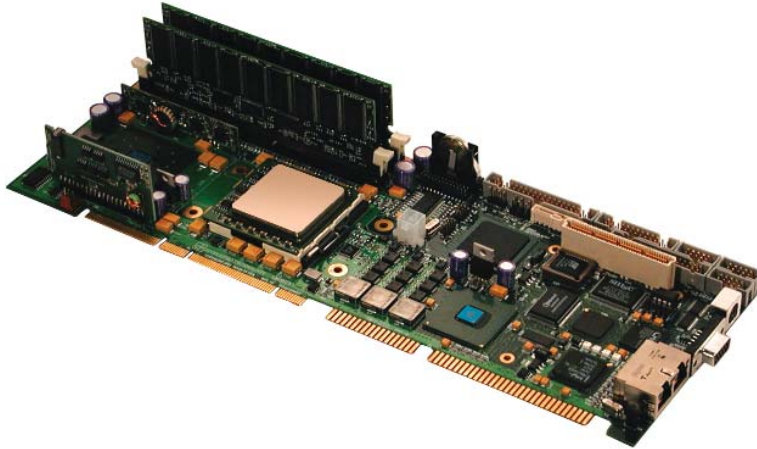


# PCI/ISA Single Board Computer

## LBC-9017



- Intel® LV Xeon™ / Xeon™ Processor to 3.06GHz with 512KB L2 Cache
- Intel® E7501 Chipset with 400/533MHz FSB
- Up to 4GB DDR200/266 SDRAM
- Video with 8MB for CRT and LVDS Flat Panel
- Dual Gigabit Ethernet
- Ultra ATA/100 EIDE and FDD
- Optional Ultra320 SCSI
- USB, Serial, and Parallel Ports
- ISA/PCI/PCI-X Bus Support

***Diversified Technology's LBC-9017 Intel Xeon processor-based PICMG® compliant passive backplane SBC has 4GB DDR memory, dual Gigabit Ethernet ports, optional Ultra320 SCSI and supports ISA/PCI/PCI-X busses.***

The LBC-9017 features an Intel Xeon or Low Voltage Xeon processor with high performance NetBurst™ Micro-Architecture and Hyper-Threading technology, 512KB 8-way set associative L2 cache running at full processor core speed, Intel E7501 chipset with 400/533MHz high throughput front side (system) bus, and up to 4GB Double Data Rate (DDR200/266) DIMMs on two sockets. Onboard are a high performance graphics controller with concurrent, independent CRT and LVDS display, dual 10/100/1000Base-TX Ethernet auto-negotiating controllers, PCI Ultra ATA/100 IDE interface, as well as Universal Serial Bus (USB 1.1) ports, serial/parallel ports, and floppy drive interface. An Ultra320 SCSI LVD/SE daughter card on a Hub Link 2.0 1GB/s bus is optional. A 12V power connector is provided; 3.3V from the backplane is not required.

The LBC-9017 supports onboard PCI and PCI-X (used by GbE) busses as well as an off-board 32-bit/33MHz or 64-bit/66MHz PCI buss. A PCI to ISA bridge supports ISA bus mastering with up to 20-slot drive capability.

The AMI BIOS, in field upgradeable Flash ROM, supports peripheral enable/disable, serial/parallel port re-mapping/disable, and is PnP compliant. Other features include a hardware monitor (voltages, temperature, and fan), three-stage programmable watchdog timer, diagnostic LEDs, and a 2 year limited warranty.

3GHz Xeon Hyper-Threading compute performance, server class chipset and large DDR226 memory size make Diversified Technology's LBC-9017 industrial PC the perfect choice for application developers addressing data intensive broadcast/media, wireline and wireless datacom/telecom, messaging/IVR/CTI, industrial control & automation, medical/imaging, and COTS defense/aerospace markets.



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## SPECIFICATIONS

### CPU / Cache

- Intel Xeon processor at 2.4 to 3.06GHz with 512KB L2 8-way set associative cache
- Intel Low Voltage Xeon processor at 2.0GHz with 512KB L2 8-way set associative cache
- 12KB level one Execution Trace Cache and 8KB L1 data cache
- Intel E7501 chipset

### Bus Interface

- 400/533MHz Front Side Bus
- 32-bit/33MHz or 64-bit/66MHz PCI and 64-bit/66 to 133MHz PCI-X Busses;
- 16-bit/8.33MHz ISA Bus
- High drive ISA buffers, up to 20 slots

### Memory

- Two 184-pin latching DIMM sockets
- Up to 4GB using 64/128/256/512 x 72 with ECC DDR266 (2.5V)

### Data Path

- 64-bit / 400/533MHz on CPU and memory bus
- 32-bit/33MHz on onboard PCI bus
- 64-bit/66,100,133MHz onboard PCI-X bus
- 32-bit/33MHz or 64-bit/66MHz off-board PCI bus
- 16-bit on off-board ISA bus
- 1GB/s Hub Link 2.0

### Flash Memory

- 8Mb (1MB) Flash ROM for BIOS field upgrade

### I/O

- USB Ports: two, 1.1 compliant (via 4-pin headers)
- PS/2 mouse and keyboard (10-pin shrouded IDC header and 6-pin on faceplate)
- Serial Ports: two RS-232 (16C550) with 16 byte FIFO as COM1-2 with BIOS selectable IRQs and addressing, (two male 10-pin shrouded headers)
- Parallel Port: one bi-directional with all IEEE 1284 protocols supported and BIOS selectable IRQs and addressing, (male 26-pin shrouded header)
- Floppy Disk: support for two drives (360 KB to 2.88 MB), (male 34-pin shrouded header)
- EIDE: PCI Ultra ATA/100, support for two drives (master/slave configuration); PIO Mode 4, Bus Master IDE or DMA mode transfers up to 100MB/s, (male 40-pin shrouded headers)
- Gigabit Ethernet: 10/100/1000Base-TX (Intel 82546EB), (shielded RJ-45 on face plate w/ link, speed and activity LEDs)
- Hub Link Expansion (80-pin socket): opt. Ultra320 SCSI LVD/SE card

### Video

- PCI SVGA concurrent, independent CRT and LVDS flat panel controller with 8MB SDRAM memory (SM Lynx3DM+) (female DB-15 on face plate, 20-pin shrouded header)

### Video (cont'd)

- Supports displays with resolution up to 800 x 600, 16.8M colors; 1024 x 768, 64K colors; or ECC 1280 x 1024, 256 colors, non-interlaced

### Clock / Calendar

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

### Misc.

- Speaker (4-pin), reset (2-pin), HD activity LED (2-pin)
- Onboard Wake-on-LAN (S1)
- 12V CPU power (4-pin); CPU fan power (3-pin)
- Intruder alert (2-pin)

### BIOS

- PCI 2.2 compliant field upgradeable AMI BIOS
- Boot from LAN (PXE 2.0)
- Supports memory hole at 15-16MB; PnP V1.0a compatible
- Setup console redirection to serial port (VT100 or ANSI mode) with CMOS setup access
- Onboard video, Ethernet enable/disable
- Diskless, keyboardless, and videoless operation extensions; system, video and third party option card ROM shadowing
- Advanced security features for floppy and HDD; S.M.A.R.T.; SMBIOS V2.3.1
- Processor thermal management, ACPI Rev 1.0b & 2.0 compliant
- Custom graphical boot, multi boot

### Supervisory

- Three-stage programmable watchdog timer drives interrupt on 1st stage, NMI on 2nd stage, system reset on 3rd stage
- Hardware system monitor (voltages, CPU temperature, fan speed)

### OS/Driver Compatibility

- Windows®98/ME/2000/XP/NT; Monta Vista Hard Hat and Red Hat Linux®

### Mechanical

- 13.30 in. x 4.80 in. x 2.42 in. at CPU / fan (338 mm x 122 mm x 61 mm)
- Conforms to IEEE P996 PC/AT bus, PCI Rev. 2.2, PICMG 1.0 Rev. 2.0, & PCI-SIG PCI-X Addendum to the PCI Local Bus Specification, Rev. 1.0b standards

### Power Requirements

Max Power Dissipation	124W
ICC typ.*	+5V 8A
	+12V 7A
	-5V 0mA
	-12V 0mA

\*Measured with 2.8GHz CPU, 4GB DDR & HDD

### Environmental

#### Operating

- Min Temperature: 0°C / 32°F
- Max Temperature:
  - 3.06, 2.8, 2.4GHz : 40°C / 104°F
  - 2.0GHz : 50°C / 122°F

### Environmental (cont'd)

- Humidity (RNC): 5 to 95% @ 40°C / 104°F
- Altitude: 3048m / 10,000ft @ 28°C / 82°F
- Vibration: 1G 5-500Hz

### Storage and Transit (in approved packaging)

- Temperature: -40° to 70°C / -40° to 158°F
- Humidity (RNC): 0 to 95% @ 40°C / 104°F
- Altitude: 15,240m / 50,000ft
- Shock: 30" free fall
- Vibration: 0.5G 5-50Hz, 3G 50-500Hz

### Reliability

- MTBF: >170,000 hours @ 20°C / 68°F (Telecordia)
- 2 year limited warranty
- USB and keyboard/mouse voltage protected by self-resetting fuses

### Regulatory Compliance

- Safety: UL/cUL 60950-1:2003; EN/IEC 60950-1:2001
- EMC Class A: FCC 47 CFR part 15-B, CISPR22:1997/EN55022:1998, EN55024:1998

### Ordering Information

#### LBC-9017/3060

PCI/ISA SBC with 3.06GHz/533MHz Xeon processor with 512KB L2 cache

#### LBC-9017/2800

PCI/ISA SBC with 2.8GHz/533MHz Xeon processor with 512KB L2 cache

#### LBC-9017/2400

PCI/ISA SBC with 2.4GHz/533MHz Xeon processor with 512KB L2 cache

#### LBC-9017/2000

PCI/ISA SBC with 2.0GHz/400MHz Low Voltage Xeon processor with 512KB L2 cache

### Options

- DDR266 DIMMs
- SDC-320 SCSI daughter card
- Cables



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