



## PICMG 1.3 Single Board Computer

**PCI  
EXPRESS®**



The LHE8912 is Diversified Technology's Intel Core 2 Duo™ 45nm LGA-775 package processor based board designed for today's high speed/ high bandwidth applications. The board combines low price with high performance. The board was designed to the PCI Industrial Computer Manufacturers Group's, PICMG® 1.3, specification which was adopted to provide more data throughput than the PICMG 1.0 standard. DTI's LHE8912 is equipped with a 2.8GHz Intel® Core 2 Duo™ 45nm LGA-775 package CPU, 3MB L2 cache and support for up to 4GB of memory. The LHE8912 utilizes the Intel® Q965 and ICH8DO chipset.

The I/O peripherals located on-board are dual 10BAST-T/100BASTTX/1000BAST-T Ethernet ports. The board supports up to ten (10) USB 2.0 devices, two (2) serial ports with one RS232 and one a selectable RS232/485 port. While, the CPU board comes equipped with Integrated Intel® GMA 3000 graphics engine with high grade display capability, the PCI express x16 bus allows use of a high performance graphics card in graphics centric backplanes. Flexible design of the quad PCIe x1 buses allows them to be used individually or aggregated as one PCIe x 4 for high bandwidth storage applications.

### Product Features

#### Form Factor

- PICMG 1.3 Processor Board based on the Intel® Core 2 Duo™ 45nm LGA-775 package CPU

#### CPU/Cache/Chipset

- 2.8GHz Intel® Core 2 Duo™ processor
- 3MB L2 Cache per processor
- Intel® Q965 and ICH8DO

#### Bus Interfaces

- 533/667/800 MHz DDRII Memory
- Supports up to Four PCI Devices
- PCI Express expansion interface
  - Four PCI-E x 1
  - One PCI-E x 16
- Up to 1066MHz FSB

#### Memory

Configurable up to 4GB DDR2  
533/667/800MHz SDRAM on two 240-pin DIMM sockets (Non ECC)

#### Storage

- Supports up to six (6) SATA 300 drives
- EIDE: N/A

#### I/O

- Dedicated USB ports on bracket for keyboard and mouse
- Supports up to ten (10) USB 2.0 ports
- Intel® 82575 based Ethernet
- Support VGA interface up to QXGA 75Hz (2048x1536)

#### OS Support

- Windows XP SP2, SP3, Ubuntu 9, Linux 2.6, QNX

#### Warranty

- Parts and labor covered for 2 years

**CPU / Cache**

- 2.8GHz Intel® Core 2 Duo™ processor
- 3MB L2 Cache per processor
- Intel® Q965 and ICH8DO

**Bus Interface**

- 533/667/800 MHz DDRII Memory
- Supports up to Four PCI Devices
- PCI Express expansion interface
  - Four PCI-E x 1
  - One PCI-E x 16
- Up to 1066MHz FSB

Note: Quad PCI express x1 could be aggregated as one PCI x 4 for RAID storage applications

**Memory**

- Configurable up to 4GB DDR2 533/667/800MHz SDRAM on two 240-pin DIMM sockets (Non ECC).

**Data Path (PCI-E)**

- Four PCI Express x 1
- One PCI Express x 16
- Four PCI devices

**BIOS**

- AMI BIOS support

**Peripherals and I/O Interfaces**

- Dedicated USB ports on bracket for keyboard and mouse
- Supports up to ten (10) USB 2.0
- Dual 10BAST-T/100BAST-TX/1000BAST-T Ethernet ports
- Six (6) SATA 300 connections
- Integrated Intel® GMA 3000 graphics engine with high grade display capability.

<b>I/O Interface</b>	<b>Bracket</b>
USB 2.0	2
RJ45 Serial	0
GB Ethernet	2
Analog VGA	1

**OS Compatibility**

- Windows XP SP2, SP3
- Ubuntu 9
- Linux 2.6
- QNX

**Power Requirements**

- +12V 3.4A
- +5V 4.5A

**Mechanical**

- 338.5mm length x 122mm width (13.33" x 4.8")
- 6-layer PCB

**Environmental****Operating**

- Temperature: -5° to 55°C
- Humidity (RNC): 10% to 90% non-condensing
- Altitude: 3,000m / 10,000 ft @40°C
- Shock: 10g 11ms half-sine
- Vibration: 5-100Hz @ ½g sine sweep  
Random 5-20Hz @ 0.01g2/Hz; 20-500 -3dB slope

**Storage and Transit**

- Temperature: -20° to 70°C
- Humidity (RNC): 10% to 90% non-condensing
- Altitude: 12,192m / 40,000 ft
- Shock: 20g 6ms half-sine, 500/axis
- Vibration: Random 5-20Hz @ 0.01g2/Hz;  
20-500 -3dB slope

**Reliability & Serviceability**

- MTBF: 93,332 hours
- 2 year limited warranty

**Regulatory Compliance (pending)**

- CE Certification with national deviations
- Safety: UL/cUL 60950-1:2007; EN/IEC 60950-1:2006
- EMI/EMC: FCC 47 CFR Part 15 Class A;  
EN 55022:2006; EN 50024:1998

**Ordering Information****LHE8912**

PICMG 1.3 SBC with 2.8GHz  
Intel® Core 2 Duo Processor

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