



Intel® NetStructure™ MPCBL5525 High-Performance Processor Board

Product Overview

This high-performance, standards-based building block is designed for carrier-grade telecom and Internet applications requiring exceptional processing power from a single slot. The Intel® NetStructure™ MPCBL5525 High-Performance Processor Board is designed to the PICMG* 2.16 specification, and features the Intel® Pentium® M processor/Intel® E7501 chipset platform. The MPCBL5525 board offers configurable high availability, I/O expansion, and 66 MHz CompactPCI* bridging features. Additionally, it supports a number of major operating systems, including real-time software.

The Intel Pentium M processor utilizes a split-transaction, deferred reply protocol. The 400 MHz processor side bus uses Source Synchronous Transfer (SST) of address and data to improve performance by transferring data four times per bus clock (4X data transfer rate, as in AGP 4X). Key features include:

- Support for Intel® Architecture with dynamic execution
- High-performance, low-power core
- On-die, 1 MByte second-level cache with Advanced Transfer Cache architecture
- Advanced branch prediction and data prefetch logic
- Streaming SIMD Extensions 2 (SSE2)

The Intel E7501 Memory Controller Hub (MCH) is the central hub for all data passing through core system elements, the memory, and both the 64-bit PCI/PCI-X and I/O controller hubs. It delivers 3.2 GB/s of bandwidth across the 400 MHz system bus and up to 3.2 GB/s of bandwidth across two high-performance Double Data Rate (DDR) SDRAM memory channels.



Product Highlights

- 1.6 GHz Intel Pentium M processor/Intel E7501 MCH platform
- 512 MB to 2 GB system memory options
- PMC or IDE configuration
- Dual 10/100/1000 Mb/s plus single 10/100 Mb/s Ethernet interface
- 8 MB on-board flash

Industry Standards

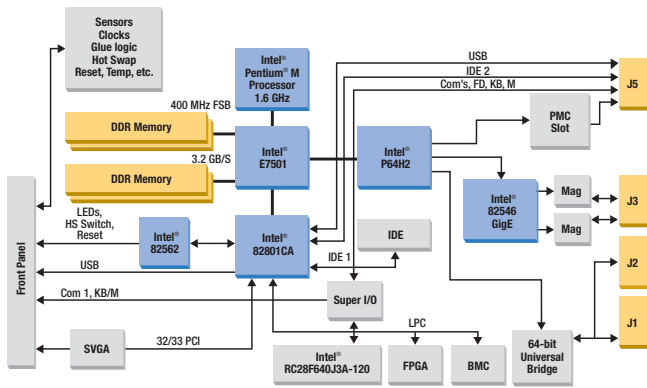
The MPCBL5525 processor board is designed to be compliant with the following industry standards:

- CompactPCI Core Specification, PICMG 2.0 R3.0
- CompactPCI Hot Swap Specification, PICMG 2.1 R2.0
- CompactPCI System Management, PICMG 2.9 R1.0
- CompactPCI Packet Switching Backplane Specification, PICMG 2.16 R1.0
- IPMI 1.5 specification for standards-based management
- NEBS Level 3

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Order Options

The base product of the MPCBL5525 High-Performance Processor Board includes a single Intel Pentium M processor, system memory (DIMM site provided for additional memory), dual Gig Ethernet and one PMC site. Memory from the E7501 chipset is dual channel. A DIMM of the same size as the memory on the board must be installed for optimum performance.

Order Code	Description	MM #
MPCBL5525N01	Single Board Computer with 512 MB Memory	857411
MPCBL5525N02	Single Board Computer with 1 GB Memory	857412

Optional accessories available through Intel channels:

MPRTM4808A	Rear-Panel Transition Board	857413
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Additional memory (.5 or 1 GB SODIMM) may be purchased from multiple sources. Please refer to the product Compatibility Report for latest MPCBL5525 add-ons (developer.intel.com/design/network/products/cbp/mpcbl5525.htm), or contact your Intel Sales Representative for details.

Intel Access

Developer's Site:	developer.intel.com
Networking and Communications Design Components:	developer.intel.com/design/network/products/cbp/index.htm
Intel Technical Documentation Center:	www.intel.com/go/techdoc
General Information Hotline:	(800) 628-8686 or (916) 356-3104 5 a.m. to 5 p.m. PST

Specifications

Processor

■ CPU	Intel® Pentium® M processor
■ Max. Speed	1.6 GHz
■ L2 Cache	1 MB
■ Chipset	Intel® E7501 chipset
■ BIOS	PhoenixBIOS® 4.0 Release 6.1

Bus

■ Front Side Bus	400 MHz
■ PCI	64-bit/133 MHz (PCI-X support)

Memory

■ Technology	DDR 200 SDRAM with ECC
■ Max. Capacity	MPCBL5525N01 – 512 MB; MPCBL5525N02 – 2 GB
■ Bandwidth	Dual Channel Memory, 3.2 GB/sec

Graphics

■ Controller	Silicon Motion LynxEM*
■ VRAM	4 MB
■ Resolution	Up to 1600 x 1200 64K color @ 75 Hz

Ethernet

■ Interface	10/100/1000 BASE-TX Gigabit Ethernet and Single 10/100 Mb interface
■ Controller	Intel® 82546EB x 1 (dual GbE ports)
■ I/O Connector	RJ-45 X1 (front)

EIDE

■ Mode	PIO mode 4, DMA 33/66/100 mode
■ Channels	Two
■ Storage Site	One IDE connector

Bridge

■ Bus	PCI 64-bit/66 MHz
■ Interface	Universal (system/peripheral mode capability)

I/O

■ Serial	1 (COM1)
■ USB	1.1

Operating Systems

■ Compatibility	Windows® XP, Windows® 2000, Windows NT® 4.0, Red Hat® Linux® 8.0, VxWorks® (Tornado® 2.2) MontaVista CGL*
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Watchdog Timer

■ Output	Interrupt, system reset, NMI
■ Interval	Programmable, 0-255 sec.

PMC

■ Sites	One
■ Interface	PCI mezzanine (IEEE 1386.1-compliant)
■ Signal	+5 V/+3.3 V-compliant

Miscellaneous

■ Solid State Disk	Carrier for CompactFlash*
■ BMC Support	Vitesse, IPMI 1.5
■ LEDs	HDD, power, hot swap
■ Real-Time Clock	Built-in the south bridge

Power

■ Voltage	+3.3 V	+5 V	+12 V	-12 V
■ Typical	2.0 A	3 A	50 mA	<25 mA
■ Maximum	2.5 A	10 A	<100 mA	<25 mA

Physical

■ Dimensions	233.35 mm x 160 mm (9.19" x 6.3")
■ Width	0.8" (1-slot width)
■ Weight	0.8 kg (1.76 lb)

Environmental

■ Temperature	Operating 0-55° C (32-122° F)	Non-Operating -40-70° C (-40-140° F)
■ Humidity	95% @ 40° C (non-condensing)	90-95% @ 40° C (non-condensing)
■ Shock	20 G	50 G
■ Vibration (5-500 Hz)	1.5 Grms	3.13 Grms
■ Altitude	60 m below sea level to 4000 m above sea level	

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