



# Intel® NetStructure™ ZT 5504 System Master Processor Board

## Introduction

Designed to the PICMG\* 2.16 specification, this processor board offers excellent value with an optimized feature set to support a broad range of telecom and Internet applications. Modular and standards-based, the Intel® NetStructure™ ZT 5504 System Master Processor Board supports efficient time-to-market development. It is validated with the Intel® NetStructure™ family of packet switched backplane (PSB) products, and is designed to interoperate with third-party, PICMG 2.16-compliant components.

The ZT 5504 board can function as a system master processor in a CompactPCI\* multi-processing system. It interfaces to the backplane through a transparent, PCI-to-PCI (P2P) bridge, allowing it to communicate directly with all peripheral CPU boards via the CompactPCI bus. Optionally, it can operate in drone mode, thus permitting its use as a stand-alone computer. On-board logic qualifies the location of the board when inserted into a peripheral slot, thereby isolating it from the bus.

The PICMG 2.16 CompactPCI Packet Switching Backplane Specification is designed to accelerate the convergence of telecom and Internet IP-based applications. Standards-based modular design simplifies development, and all slots are served by redundant fabric connections, supporting system failover in the event of a fabric failure. Backplane interconnect speeds are user-definable and scalable from 10 Mbps to 2000 Mbps per node slot.

## Highlights

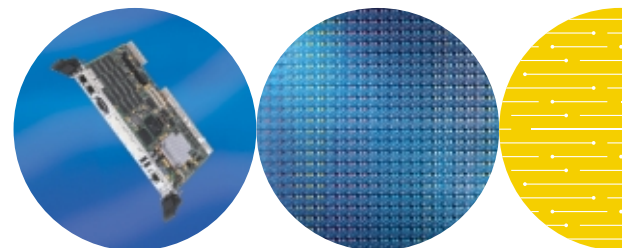
### Computing Core

- 1 GHz Intel® Pentium® III processor — Low Power (BGA2) with 100 MHz processor side bus and 256 Kb L2 cache
- 512 Mb to 1 Gb ECC SDRAM with L1 and L2 cache memory
- Intel® 440 GX chipset

### Peripherals and I/O

- 64-bit/33 MHz CompactPCI interface
- 4 Mb on-board flash memory to support embedded applications
- 20 Gb EIDE hard drive and PMC site; optional CompactFlash\* carrier mezzanine card available in lieu of hard drive
- On-board 10/100 Mb Fast Ethernet LAN interfaces
- Optional CD-ROM drive mezzanine simplifies installation of software
- Universal Serial Bus (USB)
- On-board SVGA-compatible CHPS 69000 graphics controller with front-plate video connectors
- On-board, two stage programmable watchdog timer (1s, 8s, 64s, 256s) generates non-maskable interrupt (NMI or processor "INIT") followed by a hardware reset

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## Manageability

- Features integrated IPMI-based Baseboard Management Controller (BMC)
- Designed to PICMG 2.9 standards
- Supports comprehensive, protected lights-out management scheme (with the Intel® NetStructure™ ZT 7102 Chassis Management Module)
- Designed to IPMI 1.0 specifications for standards-based management and increased reliability

## Ethernet

- Two Ethernet ports deliver high networking performance
- Can be routed to rear panel through BIOS setup configuration
- Auto-configuring RJ-45 front-panel connectors
- Link and activity status LEDs

## Software and Support

- Embedded BIOS loaded in on-board flash
- User-configurable BIOS to boot an operating system residing in local flash memory, from a fixed or floppy drive, or over a network
- PC compatible to run operating systems developed for the PC
- Enhanced support provided for Windows\* 2000, Linux\*, and VxWorks\*
- Additional drivers for select peripherals and flash drives

Please reference the most up-to-date Order Configurations and Regulatory Compliance specifications along with additional product information at

[developer.intel.com/design/network/products/cbp/zt5504.htm](http://developer.intel.com/design/network/products/cbp/zt5504.htm)

## Specifications

The ZT 5090 platform is designed with the following standards:

- CompactPCI Core Specification, PICMG 2.0 R2.1
- CompactPCI Hot Swap, PICMG 2.1 R2.0
- CompactPCI Computer Telephony, PICMG 2.5 R1.0
- CompactPCI System Management, PICMG 2.9
- CompactPCI Power Interface, PICMG 2.11
- CompactPCI Packet Switching Backplane Specification, PICMG 2.16
- IPMI 1.0 Specification

### Power Req.

### Typical

Supply Voltage, Vcc	+5VDC +5%, -3%
Supply Current, Vcc=5.0VDC	4A
Supply Voltage, V3.3V	+3.3VDC +5%, -3%
Supply Current, V3.3V=3.3VDC	6A
Supply Voltage, V12.0V	+12VDC ±10%
Supply Current, V12V=12.0V	20mA

### Mechanical

- Measures 9.2" x 6.3" (233.35 mm x 160 mm)
- Width: 0.8" (1 slot - 4HP)
- Connector: IEC-1076-4-101 (J1-J5)

### Environmental

- Operating Temperature (requires 200 LFM airflow): 0° to 50° C
- Storage Temperature:
  - (with hard disk) -40° to +65° C
  - (without hard disk) -40° to +85° C
- Non-Condensing Relative Humidity: less than 95% at 40° C

### Peripherals and I/O Interfaces

I/O Interface	Front Panel	Rear Panel <sup>1</sup>	Compatibility
COM 1	RJ-45	J5	16550
COM 2	N/A	J5	16550
LPT 1	N/A	N/A	IEEE* 1284
VGA	15-pin D-shell	J5	with AGP
Keyboard	N/A	J5	PS/2-style
Mouse	N/A	J5	PS/2-style
Floppy	N/A	J5	PC/AT
EIDE	2.5"	J5	ultra DMA/33
Ethernet	RJ-45	J3	Intel® 82559
USB 0	4-pin USB	J5	USB Type A
USB 1	4-pin USB	J5	USB Type A

<sup>1</sup> The ZT 5504 may be configured with a companion rear-panel transition board (ZT 4807), specifically designed to support the available I/O signals.

## Intel Access

Networking and Communications Building Blocks:

[developer.intel.com/design/network](http://developer.intel.com/design/network)

Other Intel Support:

Intel Literature Center [developer.intel.com/design/litcentr/](http://developer.intel.com/design/litcentr/)  
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International locations please contact your local sales office.

General Information Hotline:

(800) 628-8686 or (916) 356-3104 5 a.m. to 5 p.m. PST

For more information, visit the Intel Web site at: [developer.intel.com](http://developer.intel.com)

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