



Highlights

- >> Single Slot 6U Single Board Computer
- >> 1GHz Intel® Pentium® III Processor
- >> Integrated 512KB L2 Cache
- >> Onboard 64-bit, 33/66MHz PCI Interface
- >> Supports up to 2GB, PC133 SDRAM Memory
- >> 16MB Onboard Flash Memory
- >> Accepts 2.5" Low-Profile, Board Mounted EIDE Hard Drive or Optional CompactFlash® Type II Drive Carrier
- >> Dual 10/100/1000Mbps Ethernet Interfaces
- >> Supports IPMI System Management
- >> Onboard Programmable, Two-Stage Watchdog Timer
- >> VxWorks®, Windows® 2000/XP and Linux®

This 6U CompactPCI® board is designed for redundant processing configurations where very high levels of system availability are required. Its architecture is tailored for demanding applications such as servicing the telecom network and the Internet.

The ZT 5551 High Availability Processor Board supports up to 12 CompactPCI peripheral boards, and when used in conjunction with a second ZT 5551 can provide 99.999 percent (five-nines) availability. It features a 1GHz Intel® Pentium® III processor, is hot-swappable and includes several onboard peripherals and optional I/O expansion features.

Key Design Elements

Redundant Processing

The ZT 5551 can operate alone or in a dual-redundant configuration. Dual ZT 5551s can provide 99.999 percent availability as system masters, when used with a supporting high availability (HA) CompactPCI backplane. In this configuration, the two ZT 5551 boards operate in an active/hot standby mode with only one of the two boards active on the watchdog timeouts, which can cause a switchover to the standby CPU board. A dedicated Ethernet channel between CPUs provides an application with a software synchronization mechanism across the HA backplane.

Dual ZT 5551 boards can also be configured to run in active/active mode. In this configuration, each bus segment is controlled independently by each of the boards. Should either CPU board go out of service, the other can take control of the entire backplane without interruption of service. The two ZT 5551s and their associated CompactPCI slots may also be operated as a PC cluster without bus segment failover, using standard operating clustering features.

Dual CompactPCI Interfaces

The ZT 5551 communicates with up to 12 CompactPCI peripheral boards through two peer-transparent 64-bit bridges, allowing optimum peripheral performance.

Setup and System Management

Interrupt routing and configuration options are all accessible through BIOS set up screens, which can be configured locally at boot time. The ZT 5551 also supports the PICMG 2.9 Intelligent Platform Management Interface (IPMI) specification, which allows for remote, comprehensive management capabilities such as on-board temperature and voltage monitoring.

ZT 5551

High Availability CompactPCI® Single Board Computer

Standard Features

Computing Core

The ZT 5551 features a single 1GHz Low Voltage Intel® Pentium® III processor supporting a 133MHz Front Side Bus. It also contains integrated 512KB L2 cache and supports up to 2GBs of PC133 SDRAM with ECC. The ZT 5551 also has integrated video with 2MB SDRAM.

Peripherals and I/O

There is 16MB of onboard Flash to support the field-upgradeable system BIOS. The base board also supports a single 2.5" IDE HDD or an optional CompactFlash carrier. Dual 10/100/1000 Ethernet interfaces deliver high-performance networking.

There are several I/O expansion configurations that can support additional peripheral devices:

- A standard 3.5" floppy drive option is available and requires a second slot.
- One or two single-height PMC modules can be supported and requires a second slot. Rear panel I/O for the PMC cards is provided on J3 and J5 of the second slot.

Warranty

One year

Contact Information

Performance Technologies

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www.pt.com



ZT 5551

High Availability CompactPCI® Single Board Computer

Ordering Information

The ZT 5551 may be ordered with the following options:

>> Base Board

ZT 5551: 1GHz Intel® Pentium® III processor, 16MB Flash, IPMI, VGA

>> Memory

M1: 512MB PC133 SDRAM
M2: 1GB PC 133 SDRAM

>> EIDE Hard Drive

H1: EIDE hard drive

>> I/O Expansion Mezzanine (requires second slot)

X1: Floppy drive and hard drive
X2: PMC site

>> Accessories

ZT 4802: Rear panel transition board (for I/O expansion board)
ZT 4804: Rear panel transition board
ZT 4806: Rear panel transition board

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Specifications

The ZT 5551 is compliant with the following specifications:

- CompactPCI® Core Specification 2.0, R3.0
- CompactPCI Hot-Swap Specification, PICMG® 2.1, R2.0
- Compliant with standard IPMI v1.5 specification

Power

Single 1GHz, 1GB SDRAM

Voltage (VDC)	Current (A)	
	Typical	Max
5.00V, +5%, -3%	3.1	3.5
3.30V, +5%, -3%	5.0	7.0
12.0V, ±10%, 0.3	10 ma	100m

Environmental

- Required airflow: 250 linear feet per minute
- Operating Temperature: 0° C to 45° C
- Storage Temperature: -40° C 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	Compat.
COM 1	DB9	J3	15C550
COM 2	DB9	J3	15C550
VGA (w/IOX)	15-pin D-shell	J5 (on IOX)	SM712
Keyboard	6-pin D-shell	J3	8042
Mouse	6-pin D-shell	J3	PS/2
Floppy	N/A	J3	ATA-33
EIDE	N/A	J3	ATA-33
Ethernet (Chn A)	RJ-45 (10/100/1000)	J3	82546
Ethernet (Chn B)	RJ-45 (10/100/1000)	J5	82546
USB 0	4-pin USB	N/A	USB Type A
USB 1	N/A	J3	USB Type B

Note: To provide proper cooling to the ZT 5551, each unused slot in the chassis should be populated with an air management blade. All rear slots should be populated with a rear filler panel. See the list below for orderable components:

- To cover a single rear panel slot, use a filler panel that is 6U x 4HP (horizontal pitch=0.2") (Performance Technologies PN 18299).
- To cover six rear panel slots, use a filler plate that is 6U x 24HP (Performance Technologies PN 20434).

- To fill a front slot, use an air management blade that is 6U X 4HP (Performance Technologies PN 20456).
- To fill a power supply bay, use an air management blade that is 3U X 8HP (Performance Technologies PN 20455).
- To fill an SM slot, use a filler panel that is 3U X 4HP (Performance Technologies PN 18309).

Regulatory Compliance

Designed for NEBS Level 3 and ETSI

CE Certification

The ZT 5551 meets intent of Directive 89/336/ECC for Electromagnetic Compatibility and Low-Voltage Directive 72/23/ECC for Product Safety. Compliance was demonstrated to the following specifications as listed in the Official Journal of the European Communities:

Safety

- UL/cUL 60950 Safety for Information Technology Equipment
- EN/IEC 60950 Safety for Information Technology Equipment
- CB Report Scheme CB certificate and Report

Emissions Test Regulations

- FCC Part 15, Subpart B
- EN 55022
- CISPR 22
- Bellcore GR-1089

EN 50081-1 Emissions

- GR-1089-CORE Sections 2 and 3
- EN 55022 Class A Radiated
- EN 55022 Power Line Conducted Emissions
- EN 61000-3-2 Power Line Harmonic Emissions
- EN 61000-3-3 Power Line Fluctuation and Flicker

EN 50024 Immunity

- GR-1089-CORE Sections 2 and 3
- EN 61000 4-2 Electro-static Discharge (ESD)
- EN 61000 4-3 Radiated Susceptibility
- EN 61000 4-4 Electrical Fast Transient Burst
- EN 61000 4-5 Power Line Surge
- EN 61000 4-6 Frequency Magnetic Fields
- EN 61000 4-11 Voltage dips, Variations, and Short Interruptions