

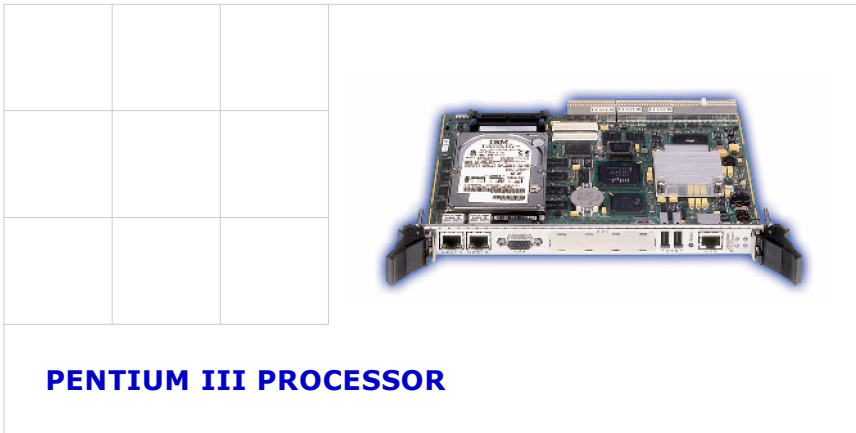


**PERFORMANCE
TECHNOLOGIES**

Unity in Systems Design

ZT 5503

System Master



This CompactPCI[®] System Master is designed for telecommunications and Internet applications requiring completely integrated multiprocessing solutions for increased performance and system reliability. Optionally, it can operate in a peripheral slot in drone mode, whereby it does not communicate on the CompactPCI bus. This option permits use of the ZT 5503 as a stand-alone computer in a peripheral slot.

The high performance of the ZT 5503 comes from the Pentium[®] III processor and the CompactPCI bus. Support for major operating systems and real-time software speeds application development. A generous set of onboard embedded features and the 6U Eurocard mechanical form factor address the system integration and reliability requirements of OEM system builders.

Key Design Elements

Multiprocessing Support

The ZT 5503 functions as a 6U system processor in a CompactPCI multiprocessing system (compactnet). The ZT 5503 interfaces to the CompactPCI backplane through a transparent, PCI-to-PCI (P2P) bridge, allowing it to communicate directly with all peripheral CPU boards in the system via the CompactPCI bus.

Highlights

- ◆ **850 MHz Pentium III processor—Low Power (BGA2)**
- ◆ **512 Mbytes to 1 Gbyte ECC SDRAM**
- ◆ **Intel[®] 440 GX chipset**
- ◆ **64-bit, 33 MHz CompactPCI interface**
- ◆ **Onboard Flash memory**
- ◆ **EIDE hard drive and PMC site**
- ◆ **Standard PC/AT peripherals**
- ◆ **Dual onboard Fast Ethernet**
- ◆ **Dual Universal Serial Bus (USB)**
- ◆ **Optional CompactFlash[®] support**
- ◆ **Supports 5V CompactPCI signaling environment**
- ◆ **Compliant with PICMG[®] 2.0 R3.0 (CompactPCI) and 2.1 R2.0 (Hot-Swap) specifications**
- ◆ **Support for Windows[®] 2000, Linux[®] and VxWorks[®]**

Pentium III Processor

The 850 MHz Pentium III processor—Low Power provides excellent computing power for the embedded system designer, incorporating a 100 MHz processor side bus and 256 Kbytes of L2 cache. The ZT 5503 may be configured with a companion rear-panel transition board (ZT 4804 or ZT 4806) specifically designed to support the available I/O signals.

Drone Mode

The ZT 5503 is designed to optionally operate in a peripheral slot. In this mode, it receives power but does not communicate on the CompactPCI bus. Onboard logic qualifies its location when inserted into a peripheral slot, thereby isolating the board from the CompactPCI bus.

Standard Features

Memory

All RAM options for the ZT 5503 are Error-Correcting Code (ECC) SDRAM for improved reliability and data integrity, and the board supports memory options from 512 Mbytes to 1 Gbyte. The Pentium III processor contains integrated L1 and L2 cache memory.

Flash Memory and CompactFlash

The ZT 5503 includes 4 Mbytes of onboard Flash memory. The flash memory supports the system BIOS, which is field-upgradeable, and the additional flash memory may store a bootable operating system image. Additional Flash memory capacity may be added with a CompactFlash carrier mezzanine card, provided as an accessory and available in lieu of a hard drive. This rugged, solid-state storage solution provides complete software compatibility with operating systems and applications, which support standard IDE devices.

Ethernet

Two Ethernet ports deliver high networking performance via onboard 10/100 Mbps Ethernet LAN interfaces. Either 10 or 100 Mbit Ethernet protocols are available through auto-configuring RJ-45 front-panel connectors. Link and activity status LEDs provide Ethernet operation, and two additional Ethernet ports are located on the rear panel.

Hard Drive and PMC Site

A 20 Gbyte EIDE hard drive is mounted on the ZT 5503 in the standard product configuration. Space remains on the baseboard, and connectors are provided for a single PMC card.

Watchdog Timer

An onboard, two-stage watchdog timer is provided for system integrity. Once enabled, failure to strobe the watchdog timer within a programmable time period (1s, 8s, 64s, 256s) generates a non-maskable interrupt (NMI or processor "INIT"), followed by a hardware reset.

Video

An onboard SVGA-compatible graphics controller, CHPS 69000, is included with video connectors provided on the front plate.

Regulatory Compliance

NEBs Compliant

CE Certification

The ZT 5503 meets intent of Directive 89/336/EEC for Electromagnetic Compatibility & Low-Voltage Directive 73/23/EEC 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, & Short Interruptions

Software and Support

The ZT 5503 comes standard with an embedded BIOS loaded in onboard Flash. The BIOS is user-configurable to boot an operating system residing in local flash memory, from a fixed or floppy drive, or over a network. The ZT 5503 is PC-compatible and will run operating systems developed for the PC. Enhanced support is also provided for Windows 2000, Linux and VxWorks, including additional drivers for select peripherals and flash drives.

Warranty

One year

Specifications

The ZT 5503 is compliant with the following specifications:

- ◆ CompactPCI Core Specification, PICMG 2.0, R3.0
- ◆ CompactPCI Hot-Swap Specification, PICMG 2.1, R2.0

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=12.0B (20mA)

Mechanical

Measures 9.2" x 6.3 (233.35mm x 160mm)
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	Compat.
COM 1	RJ-45	J3	16550
COM 2	N/A	J3	16550
LPT 1	N/A	N/A	IEEE 1284
VGA	15-pin D-shell	N/A	with AGP
Keyboard	N/A	J3	PS/2-style
Mouse	N/A	J3	PS/2-style
Floppy	N/A	J3	PC/AT
EIDE	2.5"	J3	ultra DMA/33
Ethernet (2x)	RJ-45	J3	Intel 82559
USB 0	4-pin USB	N/A	USB Type A
USB 1	4-pin USB	J3	USB Type A

Custom configuration options may be available. Contact Sales Support for more information.

Ordering Information

The ZT 5503 System Master Processor Board may be ordered with the following options:

Processor Configurations

- ◆ ZT 5503C-1A: 850 MHz Pentium III processor—Low Power, 512 Mbytes ECC SDRAM, EIDE 20 Gbyte HD and SVGA
- ◆ ZT 5503C-1B: 850 MHz Pentium III processor—Low Power, 1 Gbyte ECC SDRAM, EIDE 20 Gbyte HD and SVGA

Accessories

- ◆ ZT 4804: Rear-Panel Transition Board
- ◆ ZT 4806: Rear-Panel Transition Board
- ◆ 19635: IDE CompactFlash Carrier

Product Information and Sales Support

- ◆ 805-783-6004
- ◆ ztsupport@pt.com



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Note: To provide proper cooling to the ZT 5503, 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).