

KEY FEATURES

1.8 GHz and 1.6 GHz Intel® Pentium® M processor variants

400 MHz frontside bus

Intel® E7501 dual channel 3.2GB/s memory controller

2GB ECC-protected DDR SDRAM

Dual on-board Gigabit Ethernet interfaces

Support for PICMG 2.16 CompactPCI Packet Switching Backplane specification

Full PICMG 2.1, R2.0 Hot Swap specification compliance

PICMG 2.9 System Management specification support

One PCI mezzanine card (PMC) site

On-board CompactFlash or hard disk drive accessory kits optional

Optional rear transition module in PICMG 2.16 and rear I/O variants

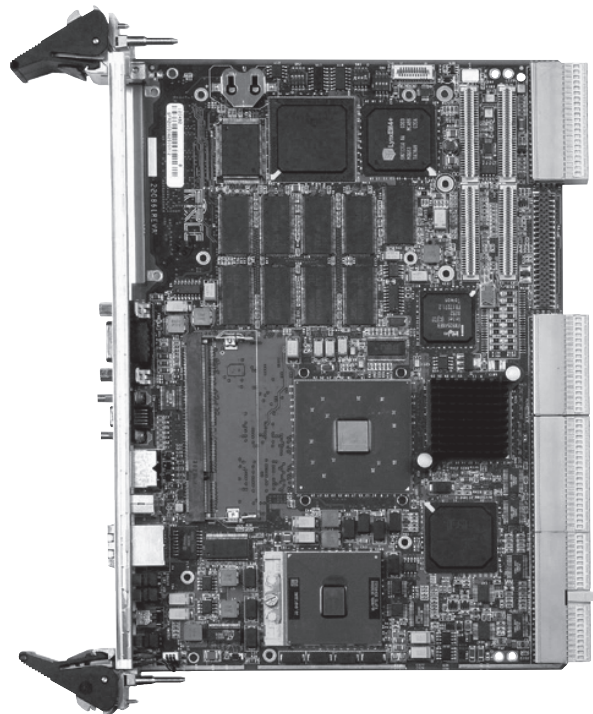
Sentinel64 PCI-to-PCI bridge technology

The CPCI-745 is a low-power, high-performance SBC that offers full hot swap compliance per PICMG® 2.1 and supports the PICMG 2.9 System Management and PICMG 2.16 CompactPCI® Packet Switching Backplane open specifications. In addition to the PICMG 2.16 variants, the CPCI-745 offers other value-added features including the Sentinel64 PCI-to-PCI bridge (PPB) for universal CompactPCI system- or peripheral-slot functionality.

Also, the CPCI-745 board supports the Intelligent Platform Management Interface (IPMI)

specification for full board remote system and platform management as well as base-board management controller (BMC) and peripheral mode.

Overall, with the value-added Sentinel64 and Gigabit Ethernet/PICMG 2.16 features, the CPCI-745 board is a superior choice for telecom applications like softswitches, control plane media-transport nodes, wireless gateways, and control plane CompactPCI and PICMG 2.16 systems.



CPCI-745

PICMG 2.16 Processor Board

The Motorola CPCI-745 single-board computer (SBC) uses the Intel Pentium M processor and E7501 chipset and offers high speed, server-class performance for advanced telecom and control plane applications. The single-slot CPCI-745 SBC is ideal for thermally constrained environments and includes dual Gigabit Ethernet interfaces and dual channel 3.2GB/s high speed, double data rate (DDR) SDRAM.

HARDWARE PROCESSOR

1.8 GHz or 1.6 GHz Intel Pentium M processor
 2MB or 1MB L2 cache; 32KB L1 cache
 400 MHz frontside bus
 Intel E7501/ICH3-S sever-class chipset
 High performance P64H2 bridge with two independent
 64-bit PCI busses
 133 MHz PCI-X bus to Gigabit Ethernet
 32-bit Sentinel64 CompactPCI interface

MEMORY

Dual channel 3.2GB/s memory architecture
 2GB ECC-protected DDR SDRAM

USER FLASH MEMORY

6MB user flash (1MB BIOS, 1MB BIOS backup,
 and 14MB user)

I/O CAPABILITIES

Two Gigabit Ethernet interfaces
 Variants with PICMG 2.16 and rear I/O routing
 Fast Ethernet interface at front panel
 One PMC site
 IPMI remote platform and system management support
 (PICMG 2.9)
 Dual ATA-66/100 interfaces
 Two USB 1.1 interfaces
 Two COM interfaces
 Keyboard/mouse interface
 FDD interface

COMPACTPCI INTERFACE

Universal Sentinel64 PPB
 System- and peripheral-slot capability (32-bit/33 MHz)

OPTIONAL TRANSITION MODULES

CompactFlash socket (Type II), USB2, KB/MS, ICMB,
 COM2, COM1, Reset, IDE, FDD
 CompactFlash socket (Type II), GbE x 2, USB2, KB/MS,
 ICMB, COM2, COM1, Reset, IDE, FDD
 PMC I/O module (PIM), USB2, KB/MS, ICMB, COM2,
 COM1, Reset, IDE, FDD
 PMC I/O module (PIM), GbE x 2, USB2, KB/MS, ICMB,
 COM2, COM1, Reset, IDE, FDD
 On-board 1.8" ATA HDD, USB2, KB/MS, ICMB, COM2,
 COM1, Reset, IDE, FDD
 On-board 1.8" ATA HDD, GbE x 2, USB2, KB/MS, ICMB,
 COM2, COM1, Reset, IDE, FDD

OTHER FEATURES

Watchdog unit
 Status and user LEDs
 Reset switch
 Locking ejector handles
 Power-up ramping and in-rush current protection
 Hot swap support (PICMG 2.1, R2.0)
 Optional on-board CompactFlash or 2.5-inch HDD

POWER REQUIREMENTS

Typical for 1.8 GHz, 2GB memory variant

- 3.3V 11.6W
- 5.0V 20.0W

Typical for 1.6 GHz, 2GB memory variant

- 3.3V 12.0W
- 5.0V 21.2W

MTBF

Calculation: SN 29500/99 (Non-mobile operation,
 Ground benign (Gb), 40°C mean ambient temperature,
 continuous operation 8760 hours per year)
 138,504 hours (consult factory for variant dependencies)

ENVIRONMENTAL REQUIREMENTS

Operating temperature: 0° to +55°C
 Relative humidity: 5% to 95% at +40°C (non-condensing)
 Operating altitude: -300 m to +4500 m
 Product complies with flammability ratings according
 to UL-94V0
 Airflow: 300LFM = 1.54 m/s
 Tested and certified to NEBS Criteria Level 3
 requirements (Bellcore GR-1089-CORE; Issue 3,
 October 2003, and GR-63-CORE, Issue 2, April 2002)
 Operating vibration: 5 to 500 Hz sinusoidal, 2 G
 (1 oct/min); 5-62 Hz, 5 m/s; 62-500 Hz, 20 m/s
 Operating shock: 5 G, 20 ms half sine x 3

ELECTROMAGNETIC COMPATIBILITY (EMC)

Intended for use in systems meeting the following
 regulations:

- US: FCC Part 15, Subpart B, Class A (non-residential)
- Canada: ICES-003, Class A (non-residential)

Motorola board products are tested in a representative
 system to the following standards:

- CE Mark per European EMC Directive 89/336/EEC
 with Amendments; Emissions: EN55022 Class B;
 Immunity: EN55024

DOCUMENTATION

Installation guide and technical reference manual

Hardware Release Notes

BIOS Release Notes

HDD Accessory Kit Installation Guide

CompactFlash Accessory Kit Installation Guide

Linux Installation and Programmer's Guides

VxWorks Installation Guide and Release Notes

SOLUTION SERVICES

Motorola provides a portfolio of solution services optimized to meet your needs throughout the product lifecycle. Design services help speed time-to-market. Deployment services include global 24x7 technical support. Renewal services enable product longevity and technology refresh. And solution extras include enhanced warranty and repairs.

Sales Offices

Tempe, AZ U.S.A. 1 800 759 1107 or +1 602 438 5720

Paris, France +33 1 69 35 25 88

Munich, Germany +49 89 608 14-0

Loughborough, UK +44 1509 634300

Tel Aviv, Israel +972 3 568 4385

Shanghai, China +86 215292 5693

Tokyo, Japan +81 3 5424 3101

Hong Kong, China +852 2966 3209

This document identifies products, their specifications, and their characteristics, which may be suitable for certain applications. It does not constitute an offer to sell or a commitment of present or future availability, and should not be relied upon to state the terms and conditions, including warranties and disclaimers thereof, on which Motorola may sell products. A prospective buyer should exercise its own independent judgment to confirm the suitability of the products for particular applications. Motorola reserves the right to make changes, without notice, to any products or information herein which will, in its sole discretion, improve reliability, function, or design. Motorola does not assume any liability arising out of the application or use of any product or circuit described herein; neither does it convey any license under its patent or other intellectual property rights or under others. This disclaimer extends to any prospective buyer, and it includes Motorola's licensee, licensee's transferees, and licensee's customers and users. Availability of some of the products and services described herein may be restricted in some locations.



www.motorola.com/computing

MOTOROLA and the Stylized M Logo are registered in the U.S. Patent and Trademark Office. PICMG and CompactPCI are registered trademarks of the PCI Industrial Computer Manufacturers Group. Intel and Pentium are registered trademarks Intel Corporation or its subsidiaries in the U.S. and other countries. All other product or service names are the property of their respective owners. © Motorola, Inc. 2005

CPCI745-D2 08/05