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Find the *Emerson / Motorola CPN5365* at our website: *Click HERE*

DATASHEET

MOTOROLA

CPN5365

CompactPCI Peripheral Slot Processor Board

KEY FEATURES

Intel® Pentium® III based CompactPCI compliant non-system slot CPU

Up to 1GB PC100 SDRAM

Accelerated 2D graphics with 4MB video memory

Dual 10/100BaseT Ethernet

Two universal serial bus (USB) channels

Two asynchronous serial ports

PS/2 keyboard/mouse, real-time clock, watchdog timer

One bi-directional IEEE-1284 compliant parallel port

Two 32/64-bit PMC expansion slots

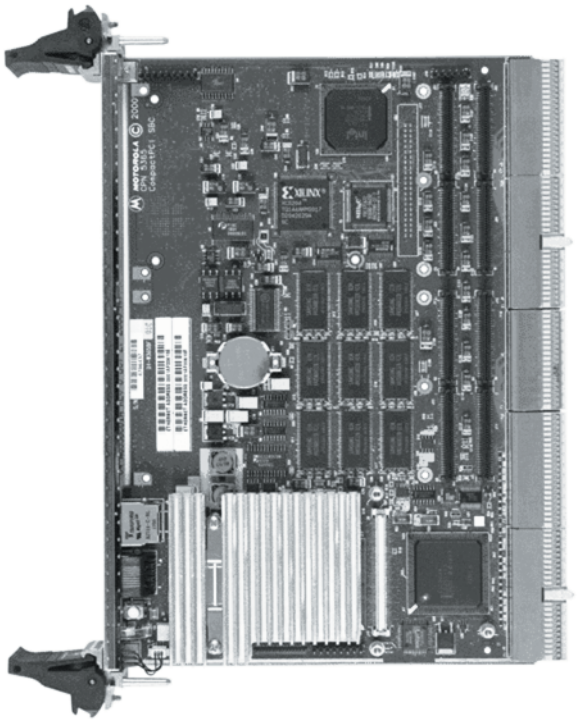
Optional on-board 2.5" EIDE hard drive (replaces one PMC site)

Supported by industry-standard operating systems such as Linux and VxWorks

Functioning as a peripheral slot processor within the CompactPCI® environment, the CPN5365 processor board can be customized quickly and easily with PMC modules to create an application-specific network blade.

The flexibility of the CPN5365 allows it to be used in a variety of applications such as broad-band data or intelligent network switching; CTI server; industrial control and automation; military and aerospace; and medical, scientific, or imaging products.

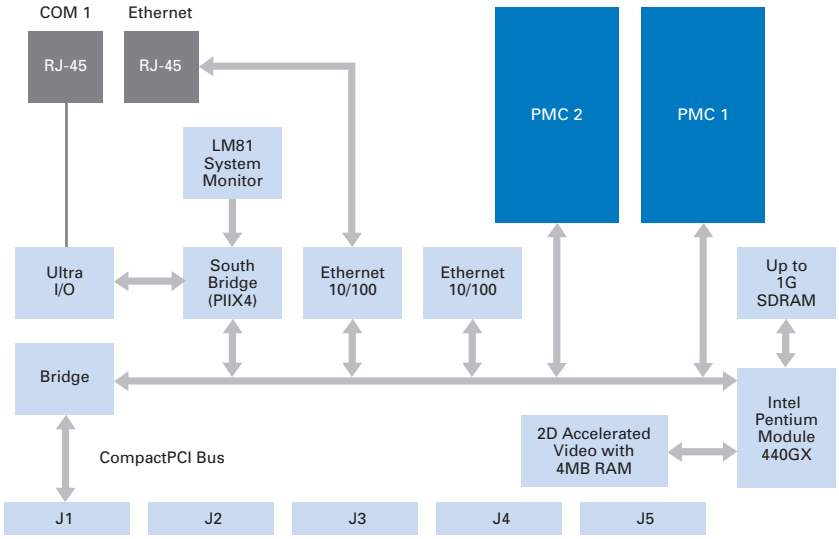
Software support includes Linux and VxWorks board support packages to speed development and time-to-market.



RoHS 0/6 NOT COMPLIANT

See back page for details

The Motorola CPN5365 processor board provides scalable performance and flexibility for non-host slot applications. It complements Motorola's high availability platforms by providing integrated distributed computing required for demanding telecommunications applications.



SYSTEM ARCHITECTURE

INTEL PENTIUM III PROCESSOR

For embedded control applications, the CPN5365 fully supports the Intel Pentium III BGA2 processor. The processor is combined with the Intel® 440GX PCI chipset resulting in excellent processing capability. The processor contains 32KB of internal Level 1 cache memory as well as 256KB of Level 2 cache delivering rapid data access to complex applications. Dynamic execution and dual independent buses are additional performance advantages.

MEMORY

The CPN5365 provides up to 1GB of PC100 compliant synchronous DRAM. Memory size is detected by the system BIOS. The CPN5365 features 512MB of DRAM. The board can support up to 1GB of DRAM by installing CPMEZZ-256 memory expansion modules.

DUAL ETHERNET

Two Intel® 82559 Ethernet controllers provide redundant Ethernet ports for monitoring and telecom applications. One or both of these controllers can be used as a diagnostic interface allowing remote monitoring of system status (for example, voltage, temperature). One Ethernet RJ-45 connector is located on the front panel. Both Ethernet ports are also routed to the rear I/O.

HOT SWAP COMPATIBLE

The CPN5365 can be inserted or removed in a powered system. ENUM# services are in compliance with the PICMG 2.1 Hot Swap Specification.

ON-BOARD PERIPHERALS

The CPN5365 has an extensive array of on-board I/O available from both the front panel of the CPN5365 and/or the rear panel via the CPTM-01 transition module. Front panel I/O includes openings for PMC sites, one RJ-45 connector for Ethernet and one RJ-45 serial connector. Two Ethernet, PS/2 mouse and keyboard, one IDE (secondary), and PMC 2 I/O signals are routed through the backplane via CompactPCI connector J5; one IDE (primary), video, one parallel, and floppy are routed via CompactPCI connector J4; and two serial, two USB, and PMC 1 I/O signals are routed via CompactPCI connector J3.

COMPACTPCI BUS

Designed to the CompactPCI interface standard, the CPN5365 supports a 64-bit PCI interface on the J1 and J2 physical CompactPCI connectors. On-card devices connect directly to the local bus. Off-card CompactPCI bus accesses are supported through the Intel 21555 PCI-PCI non-transparent bridge.

2D ACCELERATED GRAPHICS

A 69030 HiQVideo accelerator with 4MB integrated memory provides eye-opening 2D accelerated graphics performance for human-machine interfaces and imaging applications. Resolutions up to 1600 x 1200 are supported.

SPECIFICATIONS

PROCESSOR

500/700 MHz Intel Pentium III BGA2 processor

Intel 440GX chipset

100 MHz frontside bus frequency

CACHE

Level 1: 16/16KB instruction/data

Level 2: 256KB

MEMORY

Capacity: Up to 1GB

DRAM: PC100 compliant synchronous, 60 ns, parity or ECC mode

COMPACTPCI INTERFACE

Compliance: PCI Specification Rev. 2.1

Connectors: J1/J2

Address/Data Lines: 64

PCI Bus Clock: 33 MHz

Controller: Intel® 21555 PCI-to-PCI interface bridge chip

Signaling: +5V or +3.3V compliant

IEEE 1386.1 PCI MEZZANINE INTERFACE

Address/Data Lines: 64

PCI Bus Clock: 33 MHz

Signaling: 5V

Power: +3.3V, +5V, ±12V

Module Types: Two single-wide or one double-wide, front-panel I/O or J3 and J5 I/O

Note: Due to high component density, uninsulated traces and vias are located in the CPN5365's host I/O keepout area. If installed, PMC modules having conductive I/O connectors could contact these traces and vias. If full IEEE 1386-2001 compliance is required, an insulating shield should be installed.

CLOCK/CALENDAR

Real-time clock with replaceable battery backup; includes CMOS

INTERRUPTS

Four CompactPCI level-sensitive interrupts, configurable to any interrupt vector for plug-and-play compatibility.

Note: All ISA on-board interrupts are plug-and-play compliant.

ETHERNET

Controllers: Two Intel 82559

Interface: 10/100BaseT

PCI Local Bus DMA: Yes, with PCI burst

GRAPHICS

Controller: 69030 HiQVideo 2D accelerated video

Video Memory: 4MB on-chip SDRAM

Resolution: 1600 x 1200 max.

FRONT PANEL I/O INTERFACES

PMC: Two knockouts to accommodate PMC I/O

Serial Port: One RJ-45

Ethernet: One RJ-45

Note: Additional devices may be attached via transition module.

BIOS FEATURES

BIOS in flash EPROM

Auto-configuration or extended setup with serial/parallel ports remappable

Diskless, keyboardless and videoless operation extensions

BIOS POST and Setup

System and video BIOS shadowing

Network boot using PXE (Preboot eXecution Environment)

CMOS backup to flash (allows operation without battery)

SUPERVISORY

Watchdog Timer: Two-level, software programmable (0.46 sec. to 477 sec.); drives interrupt, NMI/system reset, or soft reset

Alarm Microcontroller (NS LM81): CPU temperature (user definable threshold alarm on selectable IRQ: 5, 7, 9, 11, NMI, or SCI), backplane and CPU voltages

Reset Switch: Guarded, on front panel

Front Panel LEDs: Power OK (green), Hot Swap (blue)

On-board Headers: CompactFlash or EIDE, and single PMC site

Rear Panel: Ethernet one and two ports, secondary IDE, PMC I/O, video, printer, floppy, mouse/keyboard, COM1 and COM2, and USB0 and USB1

MECHANICAL

6U, 4HP wide (233 mm x 160 mm x 20 mm)

Conforms to PICMG 2.0 CompactPCI (rev. 2.1) and PCI SIG 2.1 specifications

CPTM-01 TRANSITION MODULE I/O

Transition module provides backplane I/O from J3, J4* and J5 on the CPN5365.

On-board Headers: Dual USB, CompactFlash, EIDE, floppy, serial, parallel, single PIM site

Rear Panel: Keyboard/mouse, dual Ethernet, video, serial, knockout for PIM

*J4 I/O is not available on models of the CPN5365 without connector J4

POWER REQUIREMENTS

(excluding power required by drive option and PMC modules)

	500/700 MHz
+5V	2.0 A typ., 3.5 A max.
+3.3V	2.0 A typ., 2.5 A max.
+12V	<50 mA typ., <100 mA max.
–12V	<25 mA max.

SAFETY

All printed wiring boards (PWBs) are manufactured with a flammability rating of 94V-0 by UL recognized manufacturers.

DEMONSTRATED MTBF

(based on a sample of eight boards in accelerated stress environment)

Mean: 190,509 hours

95%: Confidence: 107,681 hours

(excluding on-board hard drive option)

ENVIRONMENTAL

(excluding on-board hard drive option)

	Operating	Storage/Transit
Temperature:	0° C to +55° C	–40° C to +70° C
Humidity (NC):	5 to 90%	5 to 95%
Vibration:	0.5 G RMS	6 Gs RM
	20–2000 Hz random	20–2000 Hz random

ELECTROMAGNETIC COMPATIBILITY (EMC)

Intended for use in systems meeting the following regulations:

U.S.: FCC Part 15, Subpart B, Class A (non-residential)

Canada: ICES-003, Class A (non-residential)

ORDERING INFORMATION

Part Number	Description
CPN5365-700-01	700 MHz, 512MB SDRAM, two PMC sites
CPN5365-700-02	700 MHz, 512MB SDRAM, one PMC site, hard drive
CPN5365-700-03	700 MHz, 512MB SDRAM, two PMC sites, no J4
CPN5365-700-04	700 MHz, 512MB SDRAM, one PMC site, hard drive, no J4
Transition Modules	
CPTM-01	Transition module with keyboard/mouse, dual Ethernet, video, COM1
Memory Modules	
CPMEZZ-256B	256MB memory mezzanine, bottom installation
CPMEZZ-256T	256MB memory mezzanine, top installation
Documentation	
CPN5365A/IH	CPIP5365 Single-Board Computer and CPTM-01 Transition Module Installation and Use
Documentation is available for on-line viewing and ordering at www.motorola.com/computer/literature.	

PMC MODULE SUPPORT

Motorola offers PMC modules that complement and enhance the functionality of the CPN5365.

Additional information is available at http://www.motorola.com/computer or by contacting a Motorola sales representative or authorized distributor.

USER NOTE: SPECIFICATIONS FOR 2.5" DISK DRIVES

Your attention is directed to the fact that the MTBF of any drives mounted on these blades must be considered independently of the MTBF of the blades themselves. Also, the supported operating parameters of the drives may differ substantially from those of the blades.

It is the User's responsibility to ensure that the operating parameters of these drive offerings are well understood and taken into consideration when designing operating use.

The operating parameters of our current drive offerings can be found on the Motorola Technical Publications Web site at www.motorola.com/computer/literature.



Future RoHS Status

Motorola does not intend to redesign this product for RoHS compliance. This product will only be sold and shipped to customers until the RoHS deadline (June 30th, 2006). After that date, it will no longer be available.

SOLUTION SERVICES

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CPN5365-D5 10/05

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