

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

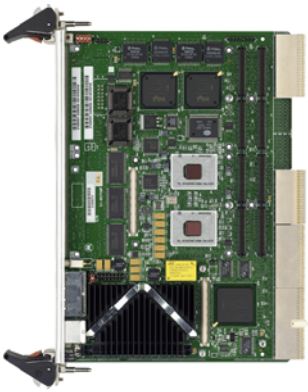
Find the *Emerson / Motorola MCPN805-330* at our website: *Click HERE*

Datasheet

805 Series

CompactPCI Peripheral Processor Board

MOTOROLA
intelligence everywhere™



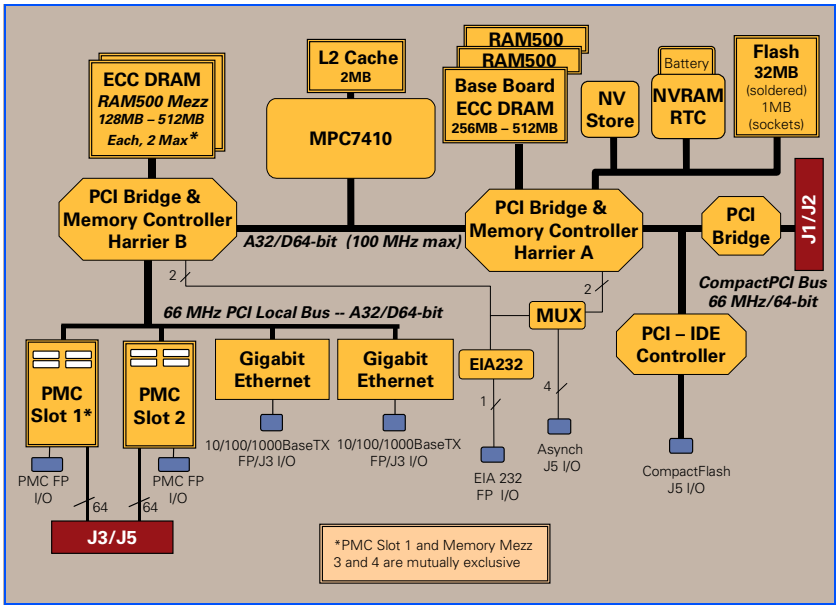
Providing a new level of functionality and performance, while bringing leading-edge flexibility and value through standards compliance.

The 805 series of CompactPCI® boards combines the latest high-performance microprocessors, Motorola's PowerPlus III Architecture, new dual 10/100/1000BaseTX capable Ethernet, enhanced PCI mezzanine card (PMC) slots (up to two 32/64-bit slots, depending on memory configuration) and the ability to support up to 2.5GB of ECC protected memory. All this is available in a single CompactPCI slot.

Using the high-performance MPC7410 processor, a 64-bit local PCI bus for the on-board peripherals and a new dual bridge architecture that also brings new DMA capabilities, the 805 series offers maximum performance and flexibility in a most efficient package.

The product set now offers compliance with PICMG® 2.16 (CompactPCI packet switching backplane), PICMG 2.9 (system management interface), Hot Swap Specification (PICMG 2.1), PICMG 2.0 CompactPCI specification, PICMG 2.1 keying of CompactPCI boards, PICMG 1.1 PCI-PCI bridging and IEEE 1386 standard for PMCs. This series of boards is also designed to be compatible with the proposed VITA 32 draft standard for processor mezzanines.

- MPC7410 microprocessor
- 2MB of secondary backside L2 cache
- Up to 2.5GB ECC DRAM
- Dual 10/100/1000BaseTX Ethernet interface
- Two 32/64-bit PMC expansion slots with front panel and backplane I/O
- 32MB on-board Flash memory for user-specified requirements
- Two 32-pin PLCC/CLCC sockets for Flash memory; up to 1MB of socketed/removable Flash memory for on-board firmware or user-specified requirements
- Optional CompactFlash memory card socket for CompactFlash memory on transition module
- On-board debug monitor with self-test diagnostics
- Four async serial ports
- 32KB NVRAM and time-of-day clock with replaceable battery backup
- Eight 31-bit timers, four watchdog timers



Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

IEEE P1386.1 Compliant PMC Slots

The 805 series features dual PMC slots with support for both front-panel and backplane I/O. Both PMC slots support 32/64-bit operations at 33 MHz. In addition to providing high-performance expansion I/O, the IEEE P1386.1 compliant PMC slots form a common architecture for future generations. Changing I/O requirements can be satisfied by simply replacing PMCs while reusing the same base platform and software, reducing the long-term cost of ownership.

PowerPlus III Architecture

The third-generation architecture, PowerPlus III Architecture, builds upon Motorola's leading technology by offering higher system performance through hardware DMA engines and compliance with PCI 2.2 standard. A number of elements in the design of the PowerPlus III Architecture contribute to its outstanding performance including the processor/memory subsystem, high-speed local bus, optimally decoupled architecture, decoupling the processor from PCI and the advanced CompactPCI interface that reduces PCI delays.

MCPTM-02

The MCPTM-02 transition module provides industry-standard connector access to two RJ-45 Ethernet connectors, one serial port connector (configured as EIA DTE) and two PIM slots for PMC interface modules or serial port access (ports 2 through 4). One socket for optional CompactFlash memory is also provided in addition to a 512B serial EEPROM for vital product data.

MCIPTM-02

The MCIPTM-02 transition module is similar to the MCPTM-02 transition module since it provides industry-standard connector access to one serial port connector (configured as EIA DTE), two PIM slots for PMC interface modules or serial port access (ports 2 through 4) and one socket for optional CompactFlash memory. However, this transition module is designed for systems implementing PICMG 2.16 backplanes (in place of external Ethernet access) and supports four COM ports via RJ-45 connectors.

Firmware Monitor

Firmware must fulfill the traditional functions of test and initialization, in addition to operating system boot support. The 805 series firmware monitor exceeds these requirements plus expands features like power-up tests with extensive diagnostics, as well as a powerful evaluation and debug tool for simple checkout or when high-level development debuggers require additional support. All this is included with the 805 series firmware, plus it supports booting both operating systems and kernels.

Operating Systems

The 805 series supports booting a complete range of real-time operating systems, kernels and embedded Linux cores that may be purchased from software providers including Wind River, MontaVista Software and other leading providers.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

SPECIFICATIONS

Processor

Microprocessor:	500 MHz MPC7410
On-chip Cache (I/D):	32K/32K
On-board Cache (L2):	200 MHz, 2MB

Memory

ECC Protected Main Memory Capacity:	256MB to 2.5GB
Architecture:	64-bit, single interleave
EEPROM/Flash:	On-board programmable
Capacity:	1MB via two 32-pin PLCC/CLCC sockets, 32MB surface mount, 16KB serial EEPROM for vital product data, IDE Flash socket on transition module
NVRAM:	32KB; 24KB available for users
Cell Capacity Life:	5 years at 100% duty cycle, 25° C
Removable Battery:	Yes

CompactPCI Interface

Controller:	Intel 21555
Address/Data:	A32/D32/D64
PCI Bus Clock:	33 MHz
Signaling:	3.3V output; input defined by VIO

Dual Ethernet Interface

Controller:	Two Intel 82544
Interface Speed:	10/100/1000Mb/s
PCI Local bus DMA:	Yes, with PCI burst
Connector:	Dual RJ-45 on front panel; both channels routed to J3 for optional use on transition module or for PICMG 2.16 compliant backplane access

Asynchronous Serial Ports

Controller:	16C550C compatible UARTs
Number of Ports:	Four
Async Baud Rate, bps max.:	38.4K EIA-232
Connector (COM1):	Front panel; also RJ-45 on MCPTM-02
Connector (COM2/3/4):	Routed to J5

Counters/Timers

TOD Clock Device:	M48T37V; 32KB NVRAM
Real-Time Timers/Counters:	Four 32-bit programmable
Watchdog Timer:	Time-out generates reset

IEEE P1386.1 PCI Mezzanine Card Slot

Address/Data:	A32/D32/D64, PMC JN1, JN2, JN3, JN4 connectors
PCI Bus Clock:	33/66 MHz
Signaling:	5V
Power:	+3.3V, +5V, 12V, 7.5 watts maximum per PMC slot
Module Types:	Two single-wide or one double-wide, front panel I/O or J3 and J5 I/O

Hot Swap

Compliant with PICMG Hot Swap Specification, Revision 2.0

Power Requirements

(maximum)

	+3.3V ±5%	**+5V ±5%**	**+12V ±5%**	**–12V ±5%**
MCPN805-130	6.4 A	5.0 A	20 mA	<10 mA

Demonstrated MTBF

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

Mean:	214,322 hours
95% Confidence:	121,141 hours

Board Size

Height:	233.4 mm (9.2 in.)
Depth:	160.0 mm (6.3 in.)
Front Panel Height:	261.8 mm (10.3 in.)
Width:	19.8 mm (0.8 in.)
Max. Component Height:	14.8 mm (0.58 in.)

Miscellaneous

Recessed reset/abort switch on front panel; three LEDs for FAIL, CPU activity and hot swap

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

MCPTM-02 Transition Module

I/O Connectors

Asynchronous Serial Ports: One RJ-45 connector labeled as COM1; COM2, COM3 and COM4 are accessible via PIM interface

Ethernet: Two RJ-45

PIM Card Slot

Power: +3.3V, +5V, +12V, –12V

Module Types: Two single-wide or one double-wide

Note: Jn0 PIM connectors incorporate other 805 series I/O for future host interface modules.

CompactFlash Memory Card Interface

Controller: PC1646U26

Interface: ATA, true IDE mode

CompactFlash Cards (optional): Motorola CFLASH-*xxx* series

Connector: One standard Type II 50-pin socket

Board Size

Height: 233.4 mm (9.2 in.)

Depth: 80.0 mm (3.1 in.)

Front Panel Height: 261.8 mm (10.3 in.)

Width: 19.8 mm (0.8 in.)

All Modules

Environmental

	Operating	Nonoperating
Temperature:	0° C to +55° C, forced air cooling	–40° C to +85° C
Humidity (NC):	10% to 80%	10% to 90%
Vibration:	0.5 G RMS, 20–2000 Hz random	6.0 Gs RMS, 20–2000 Hz random

Safety

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

Electromagnetic Compatibility (EMC)

(results pending)

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)

This product was 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

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

ORDERING INFORMATION

The following items are available to order:

Part Number	Description
All MCxx805 configurations use an MPC7410 CPU running at 500 MHz with dual 10/100/1000BaseTX Ethernet ports and dual PMC slots. Model numbers, bus compatibility, memory size and PMC site configurations are shown below.	
MCPN805-130	cPCI Bus, 256MB DRAM, 33 MHz PMC
MCPN805-330	cPCI Bus, 512MB DRAM, 33 MHz PMC
MCPM805-230	cPCI & PICMG 2.9 Bus, 256MB DRAM, 66 MHz (3.3V only) PMC
MCPM805-430	cPCI & PICMG 2.9 Bus, 512MB DRAM, 66 MHz (3.3V only) PMC
MCIP805-130	PICMG 2.9 Bus, 256MB DRAM, 33 MHz PMC
MCIP805-330	PICMG 2.9 Bus, 512MB DRAM, 33 MHz PMC
ECC Memory Expansion Modules	
Note: Four modules maximum and you must select "bottom" first and then "top."	
RAM500-005	128MB ECC DRAM (top)
RAM500-015	128MB ECC DRAM (bottom)
RAM500-006	256MB ECC DRAM (top)
RAM500-016	256MB ECC DRAM (bottom)
RAM500-010	512MB ECC DRAM (top)
RAM500-020	512MB ECC DRAM (bottom)

Part Number	Description
Related Products	
MCPTM-02	805 transition module/PIM carrier, two RJ-45 Ethernet connectors, one RJ-45 async serial port connector, COM2–COM4 accessible via PIM slots, one CompactFlash socket, two PIM slots
MCIPTM-02	805 transition module/PIM carrier for systems implementing PICMG 2.16 backplanes; COM1–COM4 accessible via ganged 4-port RJ-45 connectors, one CompactFlash socket, two PIM slots
CFLASH-*xxx*	CompactFlash memory card (where *xxx* = number of MB)
Documentation	
MCPN805A/IH	MCPN805/MCIP805/MCPM805 CompactPCI Single Board Computer Installation and Use Manual
MCPN805A/PG	MCPN805/MCIP805/MCPM805 CompactPCI Single Board Computer Programmer's Reference Guide
PPCBUGA1/UM and PPCBUGA2/UM	PPCBug Firmware Package User's Manual
PPCDIAA/UM	PPCBug Diagnostics Manual
Documentation is available for online viewing and ordering at http://www.motorola.com/computer/literature.	

Motorola Computer Group Regional Offices

NORTH AMERICA: Tempe, AZ 1 800 759 1107 or+1 602 438 5720

EUROPE: Loughborough, UK +44 1509 634300

EAST MEDITERRANEAN: Tel Aviv, Israel +972 3 568 4388

ASIA: Shanghai, China +86 21 5292 5693

PACIFIC RIM: Tokyo, Japan +81 3 5424 3101

ASIA/PACIFIC: Hong Kong +852 2966 3210

MOTOROLA

www.motorola.com/computer

MOTOROLA and the Stylized M Logo are registered in the U.S. Patent and Trademark Office. CompactPCI and PICMG are registered trademarks of PCI Industrial Computer Manufacturers Group. All other product or service names are the property of their respective owners.

This datasheet 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 judgement 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.

CN805-D2 4/03

© Motorola Inc. 2003

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP