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720-565-5995



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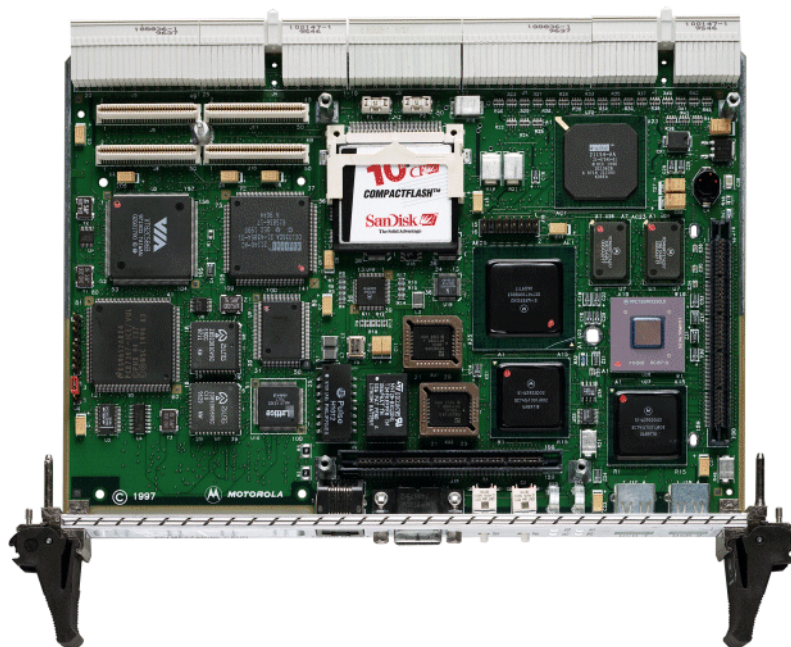
We are a systems integrator and value added reseller of computer hardware and software primarily focusing on the embedded marketplace. We provide custom turnkey solutions to get your project started quickly. We pride ourselves in our agility and ability to engineer complex solutions quickly.

Contact us today to find out how our experts can help in your embedded computing needs.

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MCP750

CompactPCI Host Slot Processor



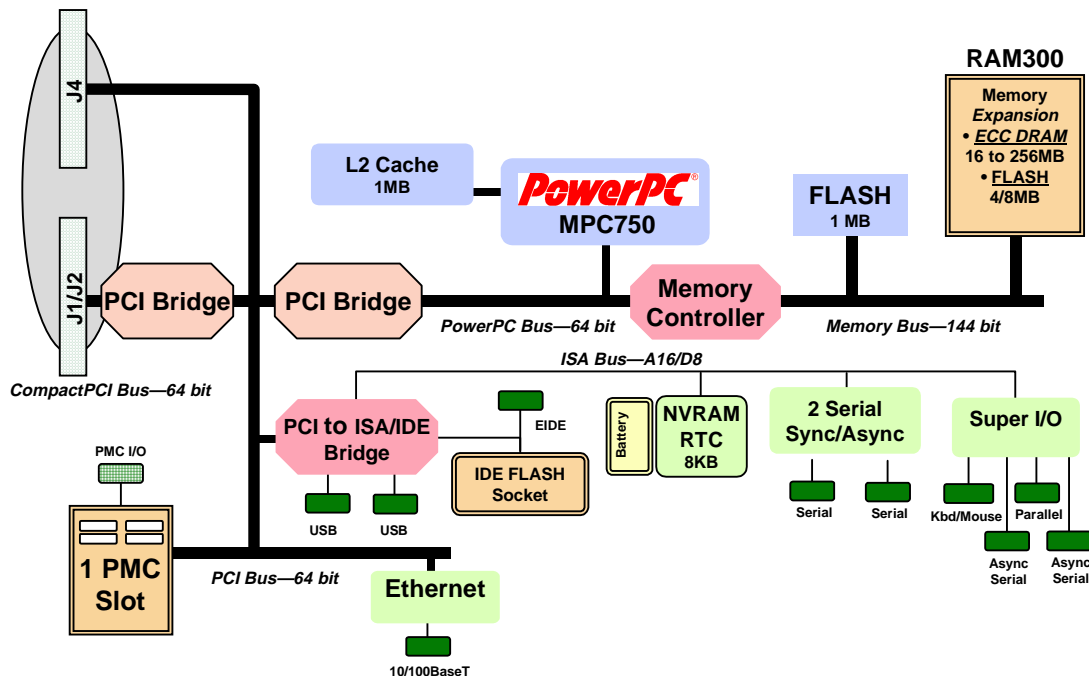
- ♦ PowerPC® 750 32-bit microprocessor
- ♦ 32KB/32KB L1 cache, 1MB L2 cache
- ♦ 16 to 256MB of ECC DRAM
- ♦ Up to 9MB on-board Flash memory
- ♦ CompactFlash™ memory card socket
- ♦ 10/100Mb/s Ethernet interface
- ♦ Single 32/64-bit PMC expansion slot with front panel or backplane I/O
- ♦ Two Universal Serial Bus (USB) ports
- ♦ Two async serial ports, two async/sync serial ports, parallel port, keyboard, and mouse
- ♦ PCI Enhanced IDE (EIDE) controller and floppy disk controller
- ♦ On-board debug monitor with self-test diagnostics
- ♦ 8K x 8 NVRAM and time-of-day clock with replaceable battery backup
- ♦ Four 32-bit timers, three watchdog timers
- ♦ 64-bit CompactPCI® interface
- ♦ Optional secondary CompactPCI interface
- ♦ Single CompactPCI slot, even when fully configured

Presents optimum performance from Motorola's low-power, high-performance microprocessor

The MCP750 series is a family of PowerPC microprocessor-based CompactPCI host-slot processor modules. Benefiting from Motorola's PowerPlus Architecture, the MCP750 series pushes performance and functionality to unprecedented levels.

Utilizing Motorola's low-power, high-performance PowerPC 750 microprocessors with 1MB of secondary cache, the peripheral component interconnect (PCI) bus for the on-board peripherals, processor/memory bus to PCI bus bridge, and a 64-bit bridge to the CompactPCI interface, the MCP750 packs optimum performance and functionality in just a single CompactPCI slot.

MOTOROLA
digital dna™ 



MCP750 Details

TMCP700

The TMCP700 transition module provides industry-standard connector access to the IEEE-1284 parallel port, a single mouse/keyboard connector, two USB Series A receptacles, EIDE and floppy connectors, two RJ-45 connectors providing access to the asynchronous serial ports configured as EIA DTE, and two HD-26 connectors providing access to the sync/async serial ports. These serial ports, labeled as Serial 3 and Serial 4 on the face plate of the TMCP700, are individually user configurable as EIA-232, EIA-530, V.35, or X.21 DCE or DTE via the installation of Motorola's serial interface modules (SIMs).

Operating Systems and Kernels

MCP750 supports booting a complete range of real-time operating systems and kernels which may be purchased from the following companies:

Integrated Systems, Inc.:	pSOSystem™
Lynx Real-Time Systems, Inc.:	LynxOS™
Microware Systems Corporation:	OS-9®/OS-9000™
Microtec:	VRTX32™
Wind River Systems, Inc.:	VxWorks®

Specifications

Processor

Microprocessor: 233/366/466 MHz MPC750

On-chip Cache (I/D): 32K/32K

Memory

MAIN MEMORY: Dynamic RAM

Capacity (60ns FPM): 16, 32, or 64MB on RAM300

Capacity (50ns EDO): 128 or 256MB on RAM300

Single Cycle Accesses: 9 read/4 write

Read Burst Mode (60ns FPM): 9-1-2-1 idle; 3-1-2-1 aligned page hit

Read Burst Mode (50ns EDO): 8-1-1-1 idle; 2-1-1-1 aligned page hit

Write Burst Mode: 4-1-1-1 idle; 3-1-1-1 aligned page hit

Architecture: 128-bit, 2 way interleaved

Parity/ECC: No/Yes

L2 CACHE: 1MB

Cache Bus Clock Frequency: Processor clock divided by 2 (233 MHz) or by 2.5 (366 MHz)

FLASH: On-board programmable

Capacity: 1MB via two 32-pin PLCC/CLCC sockets; 4 or 8MB surface mount

Read Access (4MB port): 68 clocks (32 byte burst)

Read Access (1MB port): 260 clocks (8 byte burst)

Write Access (1MB/4MB): 19 clocks (2 bytes/8 bytes)

NVRAM: 8KB, 4KB available for users

Cell Storage Life: 50 years at 55° C

Cell Capacity Life: 10 years at 100% duty cycle

Removable Battery: Yes

CompactPCI Interface

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

Ethernet Interface

Controller: Intel® 21140
Interface Speed: 10/100Mb/s
PCI Local bus DMA: Yes, with PCI burst
Connector: RJ-45 on front panel

Asynchronous Serial Ports

Controller: PC87307
Number of Ports: Two, 16550 compatible
Configuration: EIA-574-DTE
Async Baud Rate, bps max.: 38.4K EIA-232, 115Kbps raw
Connector (COM1): Front panel DB-9, also RJ-45 on TMCP700
Connector (COM2): Routed to J3, RJ-45 on TMCP700

Synchronous Serial Ports

Controller: 85230/8536
Number of Ports: Two
Configuration: TTL to P2 (both ports), SIM on TMCP700
Baud Rate, bps max.: 2.5M sync, 38.4K async
Oscillator Clock Rate (PCLK): 10 MHz/5 MHz
Connector: Routed to J3, HD-26 on TMCP700

Parallel Port (IEEE 1284)

Controller: PC87307
Compatibility: Centronics®
Configuration: 8-bit bidirectional, full IEEE-1284 sup-port
Modes: Master only
Connector: Routed to J5, HD-36 on TMCP700

EIDE Interface

Controller: 82C586
Connector: Routed to J5, one 40-pin header on TMCP700

Counters/Timers

TOD Clock Device: M48T18, 8KB NVRAM
Real-Time Timers/Counters: Four 32-bit programmable
Watchdog Timers: Three, time-out generates reset

USB

Controller: 82C586
Connectors: Two Series A receptacles on front panel, also routed to J5 for optional use of two Series A receptacles on TMCP700

Floppy

Controller: PC87307
Compatible Controllers: DP8473, 765A, N82077
Configuration: 3.5" 2.88MB and 1.44MB; 5.25" 1.2MB
Connector: Routed to J3, 34-pin header on TMCP700

Mouse/Keyboard Interface

Controller: PC87307
Connector: Routed to J3, 6-pin mini DIN on TMCP700

IEEE P1386.1 PCI Mezzanine Card Slot

Address/Data: A32/D32/D64, PMC PN1, PN2, PN3, PN4 connectors
PCI Bus Clock: 33 MHz
Signaling: 5V
Power: +3.3V, +5V, ±12V, 7.5 watts maximum per PMC slot
Module Types: Basic, single-wide, front panel I/O or J3 I/O

CompactFlash Memory Card Interface

Controller: 82C586
Interface: ATA, true IDE mode
CompactFlash Cards (optional): Motorola CFLASH-xxx series
Connector: Standard 50-pin socket

Power Requirements

(not including power required by PMC or SIMs)

	+3.3V ±5%	+5V ±5%
MCP750-1242:	1.9 A typ. 2.5 A max.	3.8 A typ. 4.4 A max.
with TMCP700-001:	1.9 A typ. 2.5 A max.	4.0 A typ. 4.8 A max.

Demonstrated MTBF

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

Mean:	190,509 hours
95% Confidence:	107,681 hours

Board Size

Height:	233.4 mm (9.2 in.)
Depth:	60.0 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

Reset and abort switches on front panel; four LEDs for FAIL, CPU, PCI, and CPCI

TMCP700 Transition Module

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.)

Transition Module I/O Connectors

Asynchronous Serial Ports:	Two, RJ-45 labeled as COM1 and COM2
Synchronous Serial Ports:	Two, HD-26 labeled as Serial 3 and Serial 4. User configurable via the installation of SIMs. Two 60-pin connectors on TMCP700 planar for installation of two serial interface modules.
Parallel Port:	HD-36 Centronics compatible
Mouse/Keyboard:	6-pin circular female mini DIN
USB:	Two 4-pin Series A receptacles
Floppy:	34-pin header
EIDE:	One 40-pin headers
PMC I/O:	Two 64-pin headers (32 I/O, 32 ground each)

All Modules

Environmental

	Operating	Nonoperating
Temperature:	0° C to +55° C, forced air cooling exit air	-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)

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

Ordering Information

Part Number	Description
MCP750-1222A	233 MHz MPC750, 16MB DRAM, 5MB Flash
MCP750-1232A	233 MHz MPC750, 32MB DRAM, 5MB Flash
MCP750-1242A	233 MHz MPC750, 64MB DRAM, 5MB Flash
MCP750-1252A	233 MHz MPC750, 128MB DRAM, 5MB Flash
MCP750-1262A	233 MHz MPC750, 256MB DRAM, 5MB Flash
MCP750-1332	366 MHz MPC750, 32MB DRAM, 9MB Flash
MCP750-1342	366 MHz MPC750, 64MB DRAM, 9MB Flash
MCP750-1352	366 MHz MPC750, 128MB DRAM, 9MB Flash
MCP750-1362	366 MHz MPC750, 256MB DRAM, 9MB Flash
MCP750-1462	466 MHz MPC750, 256MB DRAM
MCP750-1462-RR	466 MHz MPC750, 256MB DRAM, remote reset
MCP750-366-F	366 MHz MPC750 (memory mezzanine required)
High Availability Versions	
(High availability versions are used primarily in Motorola Computer Group (MCG) high availability system products.)	
MCP750HA-1232	233 MHz MPC750, 32MB DRAM
MCP750HA-1242	233 MHz MPC750, 64MB DRAM
MCP750HA-1252	233 MHz MPC750, 128MB DRAM
MCP750HA-1262	233 MHz MPC750, 256MB DRAM
MCP750HA-233A	233 MHz MPC750 (memory mezzanine required)
MCP750HA-233	233 MHz MPC750 (memory mezzanine required)
MCP750HA-366	366 MHz MPC750 (memory mezzanine required)
MCP750HA-466A	466 MHz MPC750, (memory mezzanine required)

Related Products

TMCP700-001	Transition module: Two RJ-45 async serial port connectors, two HD-26 sync/async serial port connectors, one HD-36 parallel port connector, one mouse/keyboard 6-pin mini DIN, two 4-pin USB Series A receptacles
SIM232DCE or DTE	EIA-232 DCE or DTE Module
SIM530DCE or DTE	EIA-530 DCE or DTE Module
SIMV35DCE or DTE	V.35 DCE or DTE Module
RAM300-003	32MB ECC DRAM Mezzanine, 8MB Flash, non-stackable
RAM300-004	64MB ECC DRAM Mezzanine, 8MB Flash, non-stackable
RAM300-005	128MB ECC DRAM Mezzanine, 8MB Flash, non-stackable
RAM300-006	256MB ECC DRAM Mezzanine, 8MB Flash, non-stackable
CFLASH-xxx	CompactFlash memory card (where xxx = number of MB)
Documentation	
MCP750A/IH	MCP750 Installation and Use
MCP750A/PG	MCP750 Programmer's Reference Guide
TMCP700A/IH	TMCP700 Transition Module Installation and Use
PPCBUGA1/UM and PPCBUGA2/UM	PPC Bug Firmware Package User's Manual, volumes 1 and 2
PPCDIAA/UM	PPC Bug Diagnostics Manual
Documentation is available for on-line viewing and ordering at http://www.motorola.com/computer/literature .	

**MOTOROLA**

www.motorola.com/computer
1-800-759-1107

Motorola Computer Group
2900 S. Diablo Way
Tempe, AZ 85282

Regional Sales Offices**Canada & Central Pan America**

400 Matheson Blvd. West
Mississauga, Ontario
L5R 3M1 Canada
905-507-7200

Eastern Pan America

120 Turnpike Rd, 1st Floor
Southborough, MA 01772
508-357-8260

Western Pan America

1150 Kifer Road, Suite 100
Sunnyvale, CA 94086
408-991-8634

Asia Pacific and Japan

40/F Nat West Tower
Times Square, 1 Matheson St
Causeway Bay, Hong Kong
852-2966-3210

East Mediterranean

6 Kremenetski Street
Tel Aviv 67899 Israel
972-3-568-4388

France

Zone Technopolis - Immeuble
THETA 3, avenue du Canada - BP304
91958 LES ULIS
Courtaboeuf Cedex, France
+33 (0) 1 64 86 64 24

Germany

Hagenauer Strasse 47
D-65203 Wiesbaden, Germany
+49 (0) 611-3611 604

Benelux

De Waal 26, 5684 PH Best
PO Box 350, 5680 AJ Best
Netherlands
+31 (0) 4993 61250

Nordic

Dalvagen 2
S-169 56 Solna, Sweden
+46 (0) 8 734 8880

United Kingdom

London Road, Old Basing,
Basingstoke, Hampshire
RG24 7JL England
+44 (0) 1256 790555

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