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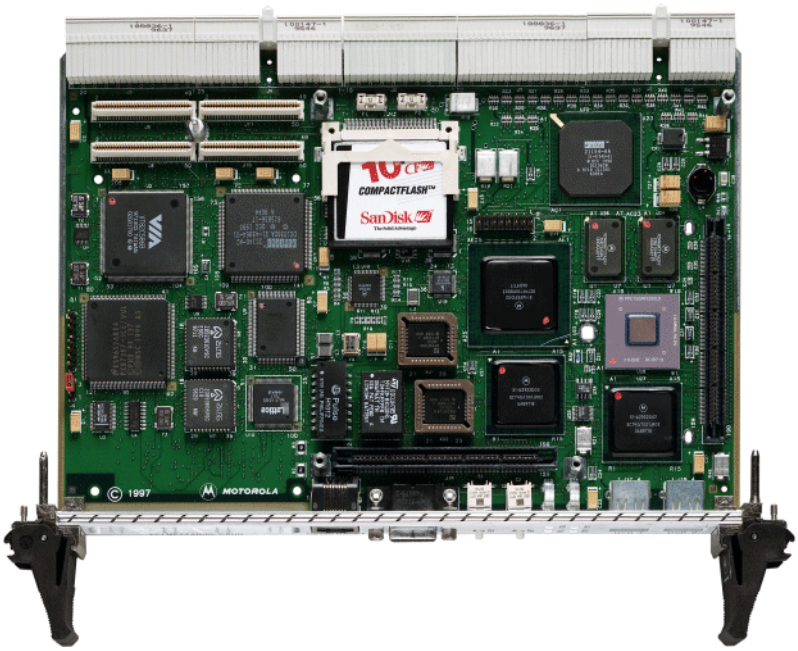
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Find the *Emerson / Motorola MCP750* at our website: *Click HERE*

intelligence everywhere™

MCP750

CompactPCI Host Slot Processor



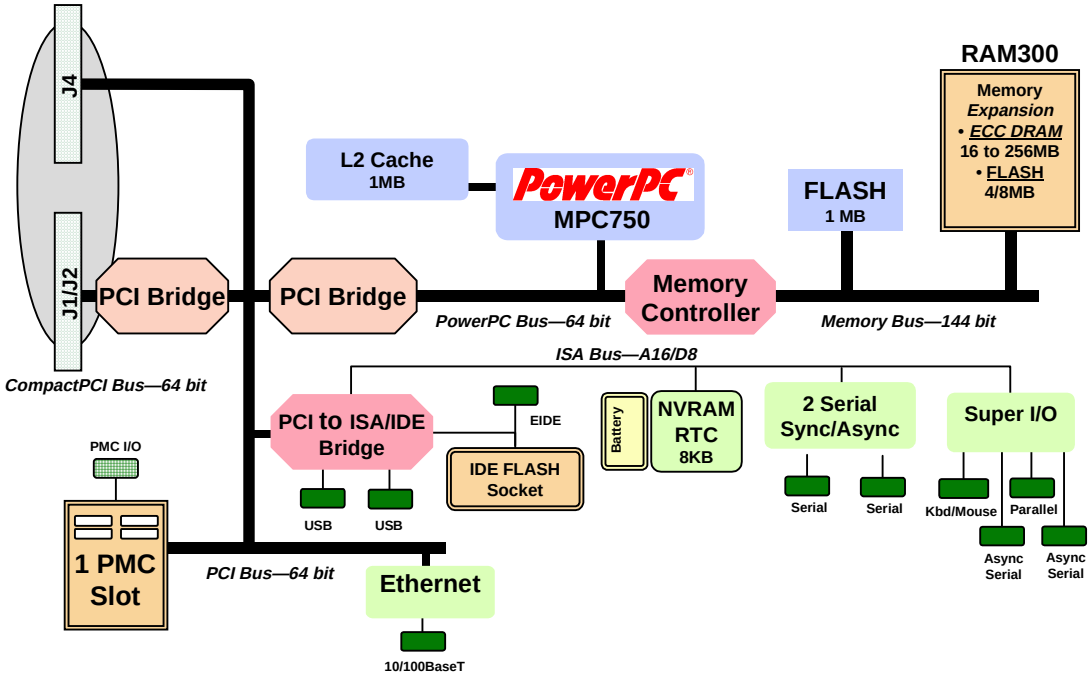
- PowerPC® 750 32-bit microprocessor
- 32KB/32KB L1 cache, 1MB L2 cache
- 16 to 256MB of ECC DRAM
- Up to 9MB on-board Flash memory
- CompactFlash™ memory card socket
- 10/100Mb/s Ethernet interface
- Single 32/64-bit PMC expansion slot with front panel or backplane I/O
- Two Universal Serial Bus (USB) 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 support
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 COM1and 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	PPCBug Firmware Package User's Manual, volumes 1 and 2
PPCDIAA/UM	PPCBug Diagnostics Manual
Documentation is available for on-line viewing and ordering at http://www.motorola.com/computer/literature.	

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