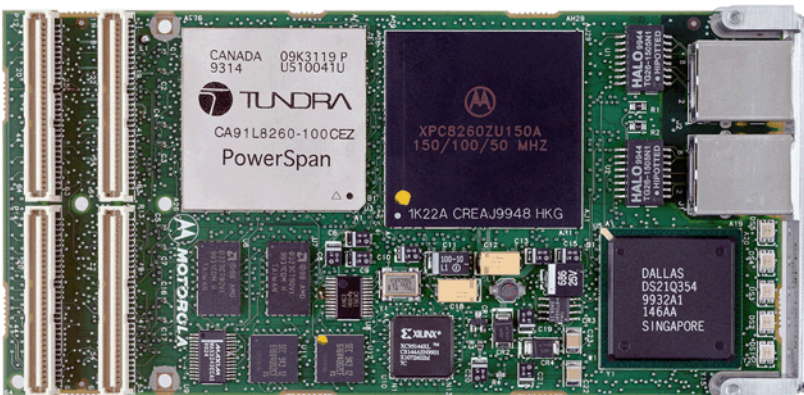


MPMC8260 Series

PMC Communication Controllers



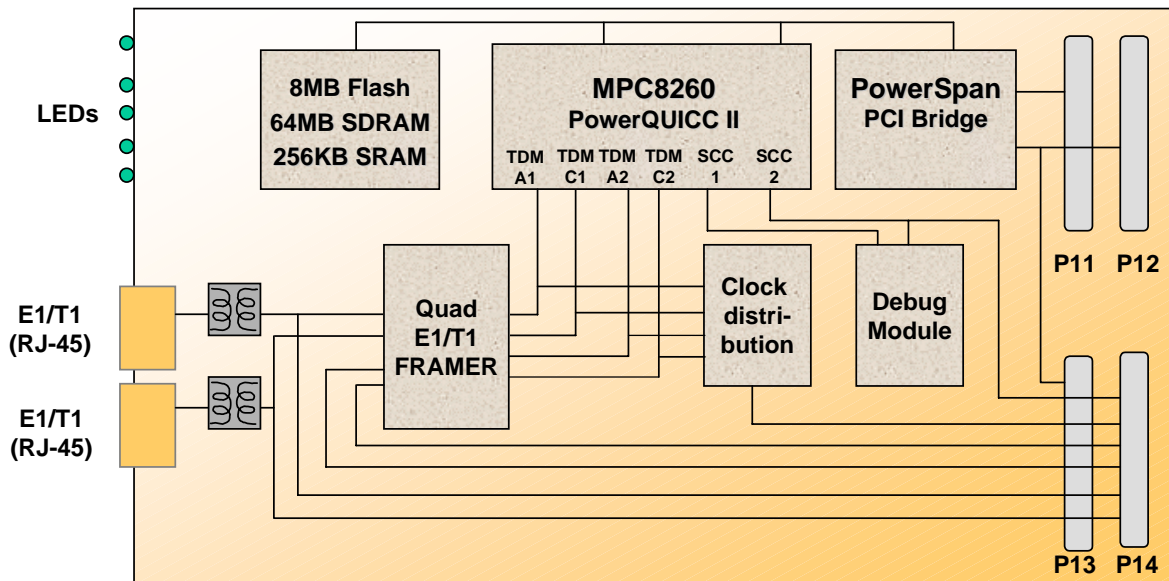
- ◆ MPC8260 PowerQUICC II™ integrated communications processor
- ◆ 64MB of on-board SDRAM
- ◆ 8MB of on-board Flash memory
- ◆ 256KB of on-board SRAM
- ◆ 32- or 64-bit data, up to 33 MHz, PCI 2.2 compliant interface
- ◆ Single-wide PMC form factor
- ◆ IEEE P1386.1 (PMC) compliant
- ◆ Four T1 or E1 rear I/Os available over PMC connector P14 or dual T1 or E1 through front-panel RJ-45 connectors
- ◆ Five software programmable status LEDs
- ◆ Flexible clock routing scheme for E1/T1 lines in carrier-grade applications
- ◆ 10Mb Ethernet available on add-on debug module
- ◆ Serial debug port available on add-on debug module or through PMC connector P14
- ◆ Reset switch available on add-on debug module

Versatile communication processor designed for high-bandwidth voice and data switching designs

The MPMC8260 series of single-wide PCI Mezzanine Cards (PMCs) provides powerful building blocks for communications applications requiring T1 or E1 connectivity.

Powered by the MPC8260 PowerPC® versatile communications processor (PowerQUICC II), the MPMC8260 series is designed to meet the needs of embedded application developers addressing high-bandwidth voice and data switching designs.

When coupled with CompactPCI® or VME processor modules, the MPMC8260 series makes an ideal platform for applications in areas such as wireless infrastructure, unified messaging servers, enterprise computer telephony, intelligent peripherals and the advanced intelligent network.



MPMC8260 Details

Motorola MPC8260 Processor

The MPC8260 PowerQUICC II processor is the most advanced integrated microprocessor ever designed for tele-communications and networking applications. A combination of a high-speed PowerPC core, a communications processor module (CPM), plus highly integrated networking and communication peripherals, provides an ideal solution for building high-end communications systems. This dual-processor architecture is optimized for communications needs. Offloading lower-layer protocol functions to the CPM leaves the PowerPC core free to handle higher-level tasks and protocols. The MPC8260 has evolved from the MPC860, providing higher performance, greater flexibility, extended capabilities and greater integration than its predecessor.

The CPU on the MPC8260 is a 32-bit PowerPC implementation that incorporates memory management units (MMUs) and instruction and data caches.

The CPM realizes the communication features of the MPC8260. Key features are a RISC processor, two multi-channel controllers (MCC), three fast communication controllers (FCC), four serial communication controllers (SCC), two serial management controllers (SMC), one serial peripheral interface (SPI), one I²C[®] interface, 24KBs of dual-port RAM and a time-slot assigner that supports multiplexing of the data from the communication controllers.

PCI Host Bridge

The Tundra[®] PowerSpan PCI bridge (CA91L8260) provides the bridge function between the MPC8260 processor bus and the PCI bus. It provides 32-bit addressing and 32- or 64-bit data PCI interface. The PowerSpan supports PowerQUICC II processor external bus frequencies up to 66 MHz and PCI frequencies up to 33 MHz. The interface is PCI revision 2.2 compliant.

SDRAM

The MPMC8260 is populated with 64MB of 64-bit wide, 10 ns SDRAM. The SDRAM is controlled by the MPC8260 processor.

SRAM

An additional memory bank is connected to the MPC8260 local bus. It provides fast access to data structures needed to control serial operation. This local bus memory is implemented as one bank of 256KB fast static memory. This bank is 32 bits wide.

Flash Memory

The MPMC8260 is populated with 8MB (AM29DL323) of 32-bit wide Flash. The Flash memory is controlled by the MPC8260 processor. The Flash supports simultaneous read/write. The MPMC8260 is delivered with the Flash memory containing the EPPC Bug debugging and diagnostic firmware.

E1/T1 Controller

The MPMC8260 implements four E1/T1 ports. The Dallas Semiconductor DS21Q354 is used as the E1 controller and the DS21Q352 as the T1 controller. The signals of all four ports are routed to PMC I/O connector P14. Port 1 and 2 are alternatively available at the PMC module's front panel. The controller chips are capable of driving 120 Ohm E1 lines or 100 Ohm T1 lines respectively.

MPMC8260 PIM

The MPMC8260 PIM, available separately, is a single-wide form factor PMC I/O Module (PIM) with four RJ-45 connectors. The PIM can be mounted onto a special PIM transition board available for CompactPCI systems. One PIM is connected to one MPMC8260. Two variations of the MPMC8260 PIM offer support for either 120 Ohm balanced twisted pair E1 with high return loss, or 100 Ohm balanced twisted pair T1 interfaces according to ITU-T G.703/704.

Specifications

Processor

200 MHz MPC8260 PowerPC Communications Processor

Cache

Level 1: 16KB instruction, 16KB data (MPC8260 resident)

Memory

SDRAM: 64MB, 64-bit wide 10 ns, no parity
SRAM: 256KB, 32-bit wide
Flash: 8MB, 32-bit wide

Bus Interface

PCI bus: PCI Specification Rev. 2.2 compliant, 32- or 64-bit data, up to 33 MHz operation

I/O Interfaces

T1/E1 Ports: Two RJ-45 connectors on front panel or four rear I/O links via PMC connector P14. T1 links can also operate in J1 mode. ITU-T G.703/704

T1/E1 PIM: Four RJ-45 connectors. T1 links can also operate in J1 mode. ITU-T G.703/704. FCC47, part 68 and ITU-T K.20 and K.21

Serial: One EIA-232 9-pin Dsub on debug module front panel

Ethernet: One 10BaseT port on debug module front panel

COP/JTAG: 16-pin connector on debug module front panel

Firmware

Flash-resident EPPC Bug firmware, including debugging features, diagnostic functions and PCI upload mechanism.

LEDs

Front Panel LEDs: Five bi-color, all software programmable

Mechanical

Single-wide PMC board (74 mm x 149 mm); conforms to Common Mezzanine Card Specification P1386 Draft 2.0 and PCI Mezzanine Card Specification P1386.1 Draft 2.0

Power Requirements

	Standard
+3.3V:	7W
+5V:	not used
+12V and -12V:	not used

Demonstrated MTBF

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

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

Environmental

(verification pending)

	Operating	Nonoperating
Temperature:	0° C to +55° C, forced air cooling	-40° C to +85° C
Humidity (NC):	20% to 80%	10% to 90%
Vibration:	2 Gs RMS, 20-2000 Hz random	6 Gs RMS, 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)

Motorola board products are tested in a representative system to the following standards: (results pending for PIM-Q-E1 and PIM-Q-T1)

CE Mark per European EMC Directive 89/336/EEC with Amendments; Emissions: EN55022 Class B; Immunity: EN50082-1

Safety

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

Ordering Information

Part Number	Description
All models include MPC8260 @ 200 MHz, 64MB SDRAM, 8MB Flash, local bus SRAM, and front/rear panel I/O.	
MPMC8260-E1-F & K	Quad E1 PMC
MPMC8260-T1-F & K	Quad T1 PMC
Related Products	
PIM-Q-E1	E1 QUAD PIM for MPMC8260
PIM-Q-T1	T1 QUAD PIM for MPMC8260
MPMC8260-DEBUG	Debug module for MPMC8260
MPMC8260VXW-001	MPMC8260 VxWorks BSP CD
Documentation	
MPMC8260A/IH	MPMC8260 Installation and Use Manual
MPMC8260A/PG	MPMC8260 Programmer's Reference Guide
Once released, 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
905-507-7135 or 888-366-3624

Eastern Pan America

1650 Tysons Boulevard, Suite 250
McLean, VA 22102
703-714-0725

Western Pan America

1150 Kifer Road, Suite 202
Sunnyvale, CA 94086
408-991-8633

Asia Pacific and Japan

34/F Nat West Tower
Times Square, 1 Matheson St
Causeway Bay, Hong Kong
852-2966-3209

East Mediterranean

6 HaTaas Street
Ramat-Gan, Isreal 52523
972-3-610-4388

France

Zone Technopolis - Immeuble
THETA 3, avenue du Canada - BP304
91958 LES ULLIS
Courtaboeuf Cedex, France
+33 (0) 1 64 86 64 00

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 4993 61250

Nordic

Dalvagen 2
S-169 56 Solna, Sweden
+46 (0) 8 734 8800

United Kingdom

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

Motorola and the stylized M logo are registered trademarks and DigitalDNA, the DigitalDNA logo and PowerQUICC II are trademarks of Motorola, Inc. PowerPC and the PowerPC logo are registered trademarks of International Business Machines Corporation and are used by Motorola, Inc. under license from International Business Machines Corporation. CompactPCI is a registered trademark of the PCI Industrial Computer Manufacturers Group. Tundra is a registered trademark of Tundra Semiconductor Corporation. I²C is a registered trademark of Philips Electronics. All other product or service names are the property of their respective owners.

This data sheet 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.

© Reg. U.S. Pat. & Tm. Off.

© 2000 Motorola, Inc. All rights reserved. PM826-D2 12/00