MIC-3390

6U CompactPCI® Intel® Pentium® M Processor-based Board with Dual PCIe GbE/DDR2/SATA/PMC

PICMG 2.16
IPMI 2.0

Features

- Supports low-power Intel® Pentium® M processor at up to 2.0 GHz in a 479-pin Micro-FCPGA socket
- PCI Express dual Gigabit Ethernet on board
- Dual channel DDR2 400/533 MHz SDRAM up to 2 GB
- PICMG 2.16 R1.0 CompactPCI® Packet Switching Backplane Specification compliant
- PICMG 2.9 R1.0 CompactPCI System Management Specification compliant
- PICMG 2.1 R2.0 CompactPCI Hot Swap Specification compliant
- Onboard SATA 2.5" HDD bay, PMC connector and CompactFlash socket

RoHS COMPLIANT 2002/95/EC   c ᴿᵁₗₛ E180881   CE FCC

Introduction

The MIC-3390 single board computer is designed to offer embedded system builders the best value in low-power Intel Pentium M computing. The Intel Pentium M processor, Mobile Intel 915GM/GME Express chipset and Intel I/O Controller Hub ICH6M, enables the MIC-3390 to deliver great computing performance, connectivity and throughput without compromising system thermal design. The MIC-3390 Graphic Memory Controller Hub and ICH6M provide an optimized integrated memory, graphics and I/O solution. The MIC-3390 is validated for all Intel Pentium M processors, and supports up to 2 GB of 400/533 MHz DDR2 memory in dual-channel SODIMMs.

The MIC-3390 maximizes I/O throughput with the ICH6-M's PCI Express (PCIe) ports. The two Intel 82573E Ethernet controllers are linked directly using PCIe connectivity for a total bidirectional peak bandwidth of 2 Gb/s. Another PCIe lane connects to a PCIe to PCI-X Bridge to provide a 64-bit / 100 MHz data path for the PMC and a 64-bit / 66 MHz data path for the CompactPCI Bridge. The flexibility of the bridge allows the MIC-3390 to be used in a system slot or a peripheral slot as an intelligent I/O processor or as an application blade in a multi-processor or clustered architecture. In addition to a full array of industry standard I/O features, ICH6M provides two Serial ATA ports for high speed data transfers up to 150 MB/s. One port is routed to rear I/O and the other port is routed to both the onboard 2.5" SATA drive and rear I/O for a greater choice of connectivity. With an optional mezzanine card, the MIC-3390 provides a fully compatible IPMI 2.0 interface with LAN and serial port support for out-of-band management.

Specifications

Processor System	CPU (Not Included)	Intel Pentium M Processor (Socket 479)
	Max. Speed	2.0 GHz (2 MB L2 cache)
	Chipset	Intel 915GM/GME
	BIOS	Award™ 8 Mbit flash
Bus	Front Side Bus	400/533 MHz
	PCI	Up to 64-bit/100 MHz (PCI-X support)
Memory	Technology	DDR2 400/533 MHz SDRAM
	Max. Capacity	2 GB
	Socket	SODIMM x 2
Graphic	Controller	Integrated in Intel 915GM/GME
	VRAM	Dynamic
	Resolution	Up to 2048 x 1536, 64k color at 75 Hz
Ethernet	Interface	10/100/1000Base-TX Ethernet
	Controller	Intel 82573E x 2
	I/O Connector	RJ-45 x 2 (front)
Storage	Mode	SATA
	Channels	2
	Storage Site	One SATA connector and space reserved for embedded 2.5" HDD
Bridge	Bus	PCI 64-bit/66 MHz
	Interface	Universal (System/Peripheral mode capability)
I/O Interface	Serial (COM1)	RJ-45 x 1 (front)
Operating System	Compatibility	Windows® XP/2000/NT 4.0, Red Hat Fedora Core 3
Hardware Monitor	Controller	Winbond W83782D
	Monitor	CPU temperature, +3.3 V, +5 V, +12 V
Watchdog Timer	Output	System reset
	Interval	Programmable, 0 ~ 255 sec.
PMC	Site	1
	Interface	PCI Mezzanine (IEEE1386.1 compliant)
	Signal	+5 V/+3.3 V compliant

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Specifications Cont.

Miscellaneous	Solid State Disk	One CompactFlash socket			
	LED Indicator	HDD, Power, Hot swap, system/peripheral			
	USB 2.0	2 channels			
	Real Time Clock	Built-in			
Power Requirement (Intel 1.8 GHz with 1 GB memory)	Voltage	+3.3 V	+5 V	+12 V	-12 V
	Typical	4 A	4 A	< 12 mA	< 65 mA
	Maximum	4.2 A	6.2 A	< 20 mA	< 57 mA
Physical Characteristics	Dimensions (W x D)	233.35 x 160 mm (9.19" x 6.3"), 1-slot width			
	Weight	0.8 kg (1.76 lb)			
Environment		Operating		Non-Operating	
	Temperature	0 ~ 65° C (32 ~ 149° F)		-40 ~ 70° C (-40 ~ 140° F)	
	Humidity	-		95% @ 60° C (non-condensing)	
	Shock	20 G		50 G	
	Vibration (5 ~ 500 Hz)	1.5 Grms		2.0 G	
	Altitude	60 m below sea level to 4000 m above sea level			
	Airflow	300 LFM=1.54 m/s			
Regulatory	Conformance	FCC Class A, CE			
	NEBS Level 3	Design for GR-63-core & GR-1089-core			
Compliance	PICMG 2.0 R3.0 CompactPCI Specification PICMG 2.1 R2.0 CompactPCI Hot Swap Specification PICMG 2.9 R1.0 CompactPCI System Management Specification PICMG 2.16 R1.0 CompactPCI Packet Switching Backplane Specification				

Recommended Configurations

CPU Board	PMC Module	Rear I/O Board	Enclosure
MIC-3390E, MIC-3390-AE	MIC-3665-AE, MIC-3665-BE	RIO-3310AE, RIO-3310S-A1E, RIO-3310S-A2E	MIC-3039-B, MIC-3042, MIC-3043, MIC-3081B, MIC-3056, MIC-3041, CP-150 series

Rear Transition Board

Part Number	Rear Panel							Onboard Header/Socket/Connector								Slot Width
	KB & Mouse	COM2*	GbE LAN	VGA	USB	10/100Base-T LAN	SCSI**	IDE	SATA	FDD	COM1	SCSI**	PRT	USB	Conn.	
RIO-3310AE	1	1	2	1	1	1	-	1	1	1	1	-	1	1	J3/J5	1
RIO-3310S-A1E	1	1	2	1	1	1	-	1	1	1	1	1	1	1	J3/J5	1
RIO-3310S-A2E	1	1	2	1	1	1	1	1	1	1	1	1	1	1	J3/J5	1

* Optional 3rd LAN port occupies the rear COM2 port
** Internal Ultra 320 SCSI port with optional external rear I/O port

Ordering Information

Part Number	Front Panel I/O					Main Onboard Features						
	LAN	COM	PMC	USB	VGA	CPU	Memory	CF Socket	IDE Channel	Slot Width	IPMI BMC Module	
MIC-3390E	2	1	1	2	1	-	-	1	2.5" SATA HDD	1	-	
MIC-3390-AE	2	1	1	2	1	-	-	1	2.5" SATA HDD	1	1	

One CompactFlash socket
Two DIMM sockets
One 64-bit/66 MHz PMC connector
One passive CPU heat sink

One PMC knockout
Two USB 2.0 ports
One RJ-45 COM1 port
Two RJ-45 Gigabit LAN ports
One DB-15 VGA port