

Intel® Pentium® M Processor AdvancedMC™ Module



APPLICATIONS

The PR AMC/33x is a high performance single width full height processor AdvancedMC™ module. The module supports the 2.0 GHz Intel® Pentium® M processor 760 and the 1.4 GHz Intel® Pentium® M processor Low Voltage 738, with the Intel® E7520 server chipset and up to 2 Gbytes soldered DDR2-400 ECC memory. The memory and the processor are soldered resulting in a higher MTBF and improved cooling. The PR AMC/33x is designed in compliance to AMC.0, AMC.1 Type 8 (PCI-Express®),



AMC.2 Type E2 (Gigabit Ethernet) and AMC.3 Type S2 (SATA ports). The module also features two USB 2.0 ports, two RS232 ports and 1 Mbyte Application Flash EPROM. Supporting full hot swap and IPMI capabilities with a range of industry standard operating systems, the PR AMC/33x is designed for use in AdvancedTCA® or MicroTCA™ applications in the telecommunications, scientific, and defense markets. Application examples include media-servers or blade-servers.

HIGHLIGHTS

- Single width, full height AdvancedMC processor module:
 - compliant to AMC.0
- 2.0 GHz or 1.4 GHz Intel Pentium M processor:
 - up to 533 MHz Front Side Bus
 - 64 Kbytes L1 cache
 - 2 Mbytes L2 cache
 - CPU fan not required
- Up to 2 Gbytes of soldered DDR2-400 SDRAM (with ECC)
- Intel E7520 server chipset:
 - up to 3.2 Gbytes/sec peak memory bandwidth
 - interfaces to Intel® 6300ESB IO Controller Hub
- 2 x Gigabit Ethernet (Serdes type) ports:
 - AMC.2 Type E2
- PCI Express® x8 data port:
 - AMC.1 Type 8
- 2 x Serial ATA ports on rear I/O:
 - AMC.3 Type S2
- 2 x USB ports:
 - 1 front and 1 rear
- 2 x RS232 serial channel ports:
 - 1 front and 1 rear
- 1 Mbyte Application Flash EPROM
- 1 Mbyte of BIOS Flash EPROM
- Hot swap compliant:
 - compliant to AMC.0
- IPMI (Intelligent Platform Management Interface):
 - IPMI Version 1.5 according to AMC.0
- Watchdog timer and Long Duration Timer
- Extended temperature version available:
 - -25°C to +70°C (E-Series)
 - supporting 1.4 GHz processor
- Support for Linux®, Windows® 2000, Windows® Server 2003, Windows® XP, Windows® XP Embedded, QNX® and VxWorks®

Central Processor

- 2.0 GHz Intel® Pentium® M processor 760:-
→ 533 MHz Front Side Bus (FSB)
- 1.4 GHz Intel® Pentium® M processor Low Voltage 738:-
→ 400 MHz Front Side Bus (FSB)
- common processor features are:-
→ uses µFC-BGA 479
(micro Flip-Chip Ball Grid Array) package
→ 64 Kbytes of primary (L1) on-die cache
→ 2 Mbytes of secondary (L2) on-die cache
→ no CPU fan
- utilizes 64-bit Intel® E7520 server chipset:-
→ supports DDR2-400 memory to give a peak bandwidth of 3.2 Gbytes/s
→ uses Intel® 6300ESB I/O Controller Hub
provision for ITP debug port

DRAM

- supporting up to 2 Gbytes DDR2-400 ECC SDRAM:-
→ up to 2 Gbytes soldered on-board
→ single bit error correction
- accessible from processor AMC connector

PICMG® AdvancedMC™ Interfaces

- hot swap compliant to AMC.0
- PCI Express® x8 fabric interconnection:-
→ AMC.1 Type 8
→ transfer rate up to 4 Gbytes/s
→ can support dual x4 and dual x1 fabric connections
- rear I/O compliant to AMC.1 specification

Hard Disk Interfaces

- 2 x Serial ATA150 channels:-
→ AMC.3 Type S2
→ dual channel support via AMC connector
→ transfer rate up to 150 Mbytes/s
- implemented by Intel® 6300ESB ICH

Ethernet Interfaces

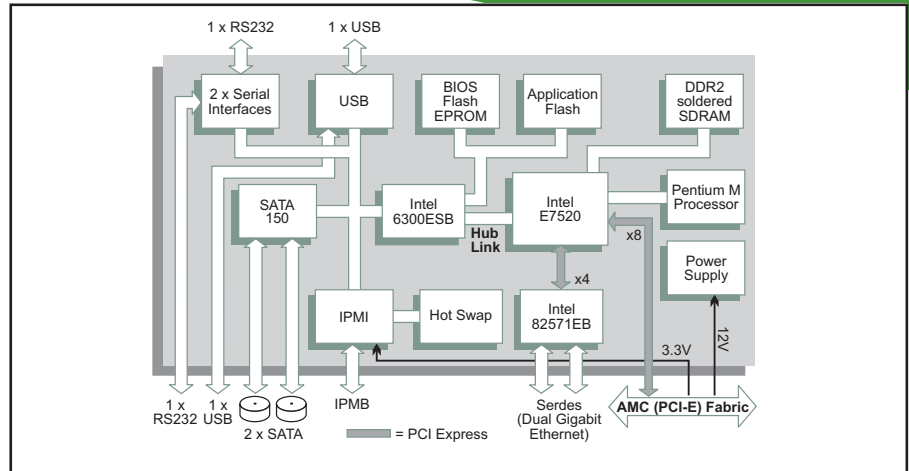
- 2 x Gigabit Ethernet channels:-
→ AMC.2 Type E2
→ supporting Serdes type 1000Base-BX via AMC connector
- implemented by Intel® 82571EB LAN Controller via PCI Express x4 serial bus

Serial Interfaces

- 2 x RS232 serial channels:-
→ 1 channel via a 9-way D-type connector on front panel
→ 1 channel via AMC connector
- 16550 compatible UART
- modem control signals supported:-
→ front channel supports RI, CTS, RTS, DSR, DTR and DCD
→ rear channel supports CTS and RTS only

Other Peripheral Interfaces

- PC-compatible Real Time Clock (Year 2000 compliant)
- watchdog timer
- 1 x 32-bit Long Duration Timer with processor interrupt capability
- CPU temperature monitor; voltages monitor:-
→ all accessible via IPMI
- 2 x USB 2.0 (Universal Serial Bus) channels:-
→ 1 channel via front panel
→ 1 channel via AMC connector



IPMI

- IPMI Version 1.5 according to AMC.0
- on-board BMC (Baseboard Management Controller)
- supports 8 Kbytes of non-volatile memory

Flash EPROMs

- 1 Mbyte of Application Flash EPROM - 8-bits wide
- 1 Mbyte of BIOS Flash EPROM - 8-bits wide

Firmware Support

- Phoenix® TrustedCore™ Server
- comprehensive Power-On Self-Test (POST)
- LAN boot firmware included

Software Support

- support for Linux®, Windows® 2000, Windows® Server 2003, Windows® XP, Windows® XP Embedded, QNX® and VxWorks®

Electrical Specification

- +12V@3.4A (typical at 2.0 GHz with 1 Gbyte DRAM); ±2V
- +3.3V@0.01A; ±5%

Safety

- PCB (PWB) manufactured with flammability rating of 94V-0

Environmental Specification

- operating temperature:-
→ 0°C to +55°C (N-Series: up to 2.0 GHz)
→ -25°C to +70°C (E-Series: 1.4 GHz)
- 10% to 90% Relative Humidity, non-condensing (operating)
- -40°C to +85°C (storage)
- 10% to 90% Relative Humidity, non-condensing (storage)

Mechanical Specification

- AMC.0 single-width full-height form-factor: 180.6mm x 73.5mm (7.1inches x 2.9inches)

ORDERING INFORMATION

Order Number Product Description (Hardware)

PR AMC/331-02	1.4 GHz Pentium M Processor Low Voltage 738, 1 Gbyte SDRAM, AdvancedMC Module
PR AMC/331-03	1.4 GHz Pentium M Processor Low Voltage 738, 2 Gbytes SDRAM, AdvancedMC Module
PR AMC/333-02	2.0 GHz Pentium M Processor 760, 1 Gbyte SDRAM, AdvancedMC Module
PR AMC/333-03	2.0 GHz Pentium M Processor 760, 2 Gbytes SDRAM, AdvancedMC Module

For extended temperature, E-Series, please contact your local sales office