RadiSys

DATA SHEET

EPC®-3307

PENTIUM* III COMPACTPCI* PERIPHERAL PROCESSOR

FEATURE SUMMARY

- Intel® 700MHz Pentium III processor
- A variety of 100MHz SDRAM, ECC memory sizes (256MB to 2GB)
- On-board H.110 Switch
- Integrated Platform Management Interface (IPMI) support
- Two 32-bit PMC expansion slots
- Compatible with major operating systems including Linux,* Solaris,* Windows NT* 4.0 Embedded
- CompactPCI PICMG 2.0 R3.0 and CompactPCI Hot-swap PICMG 2.1 compliant
- Optional Rear Transition Module (RTM) supports flexible I/O configurations
- Front panel interface with Reset button, COM1, and optional Ethernet
- Hot-swappable
- Dual Ethernet
- 100MHz Processor System Bus (PSB) for quicker memory access
- Two year warranty

The incredible growth and development in the Internet combined with the convergence of voice, video and data is rapidly altering the global telecommunications industry. Development of next generation infrastructure is driving the demand for products that provide exceptional performance as applications become more memory intensive and require more flexibility in telecommunications systems.

As the Internet continues its advance into real-time, high-reliability, high-availability applications, customers are looking for products that solve their infrastructure challenges and shorten their time to market. RadiSys Corporation's CompactPCI* embedded computers are the ideal choice for today's telecommunication customers.

APPLICATIONS

The next generation communication infrastructure will be a packet oriented one in which application or services such as voice over IP, voice messaging, speech recognition, text-to-speech conversion, and a multitude of media servers co-exist in a seamless, unified network. Such applications demand powerful processing capabilities that scale as more powerful processors are introduced. Additionally, as software content in these applications increase, memory requirements go up and performing tasks such as voice recognition and text-to-speech in real-time require larger memory blocks. The EPC®-3307, designed as a peripheral processor, is ideally suited to address processor and memory intensive applications such as voice recognition and text-to-speech, as well as additional applications such as media gateway controllers, WAP servers, SS7 signaling gateways, switching and advanced call center applications.

In a MEGACO application the Media Gateway Controller is the entity responsible for controlling the Media Gateways and interacting with the SS7 Signalling Gateways for call processing. This function requires high capacity processing efficiently coupled to a large main memory. The processing power of the 700MHz Pentium* III processor along with the 2GB memory capacity make the EPC-3307 an ideal fit for this application.

The SS7 Signaling Gateway element of the MEGACO application is the entity responsible for signaling termination, processing of signalling information and transport of signalling information to the Media Gateway Controller. To provide an economical solution an SS7 Signaling Gateway must have the processing power and memory capacity to support a large number of SS7 channels as well as an integrated H.110 interface. The integrated H.110 switch on the EPC-3307 along with the processing power and large memory capacity make it a very cost effective solution for a SS7 Signaling Gateway.

Intel® Applied Computing Platform Provider

A WAP server typically includes: the Protocol Gateway to translate requests from the WAP protocol stack to the WWW protocol stack, content encoders and decoders to translate web content into the compact encoded formats required to reduce the size and number of packets travelling over the wireless data network, and a cache of frequently used information to improve user response time. The on-board hard disk drive option of the EPC-3307 along with the processing power and 2GB memory space make it an ideal platform for a WAP server.

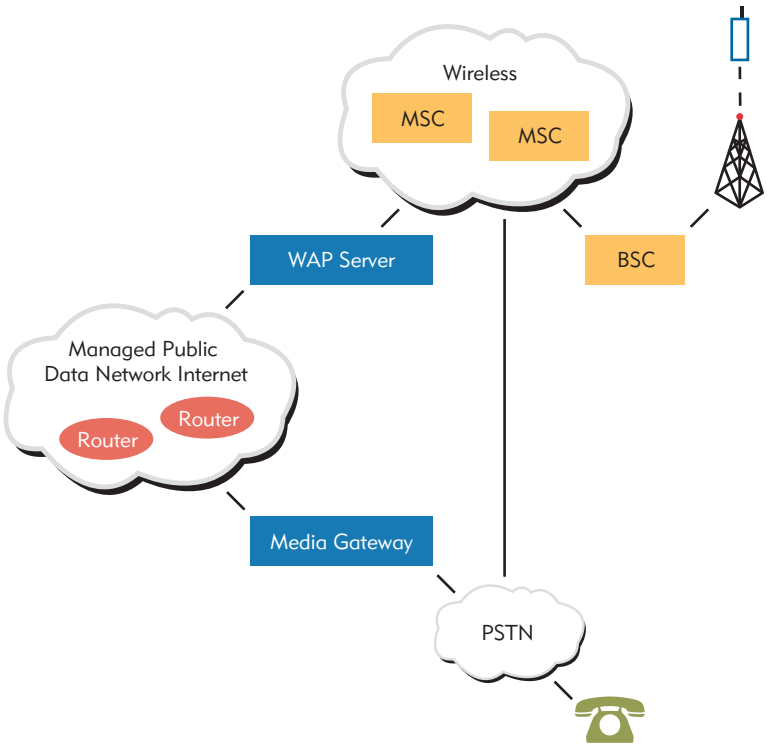
A voice recognition system is a very compute intensive application that requires speedy access to a pattern match database. To achieve maximum density and minimum cost the processor must also be capable of listening to several H.110 time slots. This integrated H.110 capability on the processor board reduces overall system cost and improves channel density by eliminating the H.110 termination card in a voice recognition system. The high performance processor along with the large memory capacity and integrated H.110 switch make the EPC-3307 an ideal high density peripheral processor card in a voice recognition application.

PRODUCT DESCRIPTION

The EPC-3307 is a high performance single slot CompactPCI module that operates as a peripheral processor. It incorporates two PMC sites for flexibility allowing use of a variety of PMC modules such as SVGA, LAN adapter or WAN adapters. To support a wide variety of Computer Telephony applications the EPC-3307 features an H.110 switch with interfaces to the CompactPCI bus as well as a PMC site. It offers a choice of two memory configurations on the main board as well as additional memory modules to expand main memory up to 2GB.

Processing Power

Designed for applications that require lightning-fast performance for increased throughput, the EPC-3307 is powered by a 700MHz Pentium III processor with a passive heat sink for processor cooling.



Memory Options

The EPC-3307 offers several high-reliability Error Correcting Code (ECC) SDRAM memory configurations (256MB to 2GB) for carrier grade applications that require intensive memory and data integrity. The EPC-3307 can be configured with either 256MB or 512MB on-board. Optional high-density memory modules, occupying the space of one of the PMC sites but routed to the memory bus through a high-speed connector, can expand the main memory up to 2GB, providing memory space for the most demanding applications.

Mass Storage Options

For applications requiring mass storage on the Peripheral Processor board, the EPC-3307 accommodates a 2.5" notebook style hard disc in the area that would otherwise hold a PMC card, while maintaining a CompactPCI single slot form factor. This hard disk drive can be either a conventional rotating media drive or a high reliability flash based IDE drive.

Configuration Flexibility

Users can customize the EPC-3307 through the use of two PMC sites, eliminating the need for an additional slot and making the architecture more flexible. These PMC sites accommodate custom or off-the-shelf-modules. An optional Rear Transition Module (RTM) allows for I/O accessibility from the rear of the CompactPCI chassis. To accommodate the on-board memory, one of the PMC sites on the EPC-3307 may violate the keep out areas for some PMCs.

System Management and Reliability

More than any previous architecture, CompactPCI withstands the rigors of harsh and demanding environments, while providing a new level of serviceability, performance, reliability, and open system solutions at a lower cost of ownership. High reliability is provided by the ruggedized Eurocard format and robust connectors that provide front-accessibility and ease of service. A baseboard management controller (BMC) that provides system management functionality compliant with the IPMI specification further enhances system reliability. The BMC reports the temperature of the processor and on-board voltages, along with full identification of the SBC (model, serial number, etc.).

Software Capabilities and Support

The EPC-3307 has the capability to retain main system memory after a reset. This type of reset is referred to as a soft reset. The front panel reset switch, RTM, and watchdog timer each can be independently programmed to produce either a hard or soft reset. This allows for data recovery from the main system memory, a critical feature for a telecommunications CPU.

The EPC-3307 is compatible with major operating systems including Linux,* Solaris,* VxWorks,* and Windows NT* 4.0 Embedded and contains a PC-compatible PhoenixBIOS.*

CompactPCI Form Factor

The EPC-3307's rugged CompactPCI, open, established industrial form factor provides a unique combination of functionality and reliability that fits the needs of today's telecommunications customers. Fully compliant with PICMG 2.0 R3.0 CompactPCI and CompactPCI Hot-swap PICMG 2.1 specifications, the EPC-3307 resides in a peripheral slot and is hot-swappable.

As a peripheral processor, the EPC-3307 relies on a system controller to provide CompactPCI clocking for communications over the CompactPCI bus. However, when no system controller is present, the EPC-3307 employs on-board PCI clocks to operate all on-board devices without requiring a functional CompactPCI bus.

ORDERING INFORMATION

Call for pricing and availability.
Refer to the order codes below.

DESCRIPTION

EPC3307–256L-R–EPC3307 with 256MB memory on main board with rear ethernet.

EPC3307–512D-R–EPC3307 with 512MB memory on main board with rear ethernet.

EPC3307–1GD-R–EPC3307 with 512MB memory on the main board and 1 512MB memory module with rear ethernet.

EPC3307–2GD-R–EPC3307 with 512MB memory on the main board, 1 512MB memory module and 1 1GB memory module with rear ethernet.

EPC3307–256L-HD-R–EPC3307 with 256MB memory on main board and hard drive on-board with rear ethernet.

EPC3307–512D-HD-R–EPC3307 with 512MB memory on main board and hard drive on-board with rear ethernet.

EPC3307–1GL-HDD-R–EPC3307 with 512MB memory on the main board, 1 512MB memory module and hard drive on-board with rear ethernet. *NOTE: Neither the PMCSVGA IIA nor PMCHDLCV can be used with this configuration.*

EPC3307–2GD-HD-R–EPC3307 with 512MB memory on the main board, 1 512MB memory module, 1 1GB memory module and hard drive on-board with rear ethernet. *NOTE: Neither the PMCSVGA IIA nor PMCHDLCV can be used with this configuration.*

OPTIONS

EPC3307-RTM–EPC3307 RTM

PMCSVGA IIA–Video PMC for the EPC-3307

PMCHDLCV–PMC with HDLC Controller and VGA–Required for use of the H.110 bus interface

SPECIFICATIONS

FEATURE	FUNCTION	DESCRIPTION
Board Style		One Slot CompactPCI, Eurocard Size "B"
CPU		700MHz Pentium III processor
Cache		256KB L2 cache
PCI Chipset		Intel® 82440GX PCIset
System Memory	Capacity	256MB to 2GB SDRAM ECC memory
	Size	128Mb or 256Mb chips in a 4-bit format using 1 bank of 18 chips
System BIOS	BIOS Type	PC-compatible PhoenixBIOS with 4MB Bootblock Flash
	Special Features	Linux, Solaris, VxWorks and Windows NT 4.0 Embedded, compatible
Integrated PCI IDE	Number of Devices	Two independent channels
	Connectors	Access through J5 backplane; header on EPC-3307; second EIDE channel on RTM
Integrated Super I/O	Controller	National Semiconductor 87309
	Serial Ports	Two RS-232 ports (300–115,200 baud)
	Floppy Controller	26-pin header on EPC-3307
	Keyboard Controller	8042A-compatible
RTC	Real Time Clock	Accurate to ±13 minutes/yr
	Battery	Field replaceable 3.0V, 200mAH CR2032 lithium battery
Ethernet	10/100Base-TX	Two Intel® 82559 controllers
SVGA Graphics Module		Supported through optional SVGA PMC on EPC-3307
	Chipset	CHIPS 69000
Connectors, Front Panel	Ethernet	One optional RJ-45 Ethernet port connector for Ethernet
	Serial	One RS-232 serial port RJ-45 connector for COM-2
Connectors, Rear Transition Module (RTM)	Keyboard/Mouse	One combination PS/2 style mouse and keyboard port connector
	USB	Two Universal Serial Bus connectors
	RJ-45	Two connectors with Link/Activity LEDs for 10/100Base-TX Ethernet ports
	COM-1	One DB-9 serial port connector for COM-1
	Reset Switch	One reset switch
EPC-3307 Header Connectors		One floppy drive header One debug port header One Primary Channel EIDE header
EPC-3307 RTM Header Connectors		One Secondary EIDE Channel header and one COM-2 header One 10-pin header connector for COM-2
Watchdog Timer		A two-stage configurable for either "soft" reset (main memory contents retained) or "hard" reset.
Power Requirement	Typical with 256MB or 512MB Memory	25 Watts
Compliance	Listed	UL, FCC Class B

The EPC-3307 with the 700MHz Pentium III Processor has been designed to meet the following environmental specifications:

ENVIRONMENTAL SPECIFICATIONS

FEATURE	FUNCTION	DESCRIPTION
Temperature (Ambient)	Operating	5ºC–55ºC derated 2ºC per 1000 ft (300 m) over 6600 ft (2000 m) with 200 LFM airflow
	Non-Operating	–20ºC to 60ºC
Humidity	Operating	5–85% RH non-condensing 25ºC–45ºC
	Non-Operating	5–85% RH non-condensing 25ºC– -45ºC
Altitude	Operating	0–10,000 ft (3000 m)
	Non-Operating	0–40,000 ft (12,000 m)
Airflow	Operating	200 LFM (linear feet per minute)
ESD Susceptibility[1]	Operating	IEC801-2/EN50082-1 (1992) Performance Criteria B: 4KV direct contact, 8KV air
EMC	Operating	Designed to pass CE Mark and FCC Class B (untested)
Radiated Susceptibility[1]	Operating	IEC801-3 1984/EN50082-1 (1992): 3V/m performance criteria A
Vibration (Unpackaged)	Operating	0.04g2/Hz from 5–1,000 Hz random, 10 minute per sweep cycle
	Non-Operating	0.06g2/Hz from 5–1,000 Hz random, 10 minute per sweep cycle
Shock (Unpackaged)	Operating	30g, 11ms duration, half-sine shock pulse
	Non-Operating	50g, 11ms, half-sine shock pulse

[1] Note that these tests are system level tests. Conformance of the product to these specifications may be effected by the ability of the rest of the system to conform.

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