ADSP-2192 16-Bit DSP

Dual-Core High-Performance for Multichannel Applications

KEY FEATURES:

- High-performance dual-core device—160MHz/320MIPS
- Interprocessor communication
- Code-compatible with popular ADSP-218x family
- 2.4 Mbits on-chip SRAM
  - 96K x 16 DM RAM
  - 32K x 24 PM RAM
  - 4K x 16 DM RAM shared memory
- On-chip boot ROM
- PCI 2.2 33MHz/32-bit compliant interface
  - Master or slave bus control modes
  - Sub-ISA interface mode for embedded applications
- Integrated USB 1.1-compliant interface
- AC'97 rev. 2.1-compliant interface for external audio, modem and handset codecs
- Fourteen DMA channels
- Eight dedicated general-purpose I/O pin
- Serial interface for external EPROM/EEPROM devices
- 2.5V core and 3.3V or 5V I/O
- 144-lead LQFP package

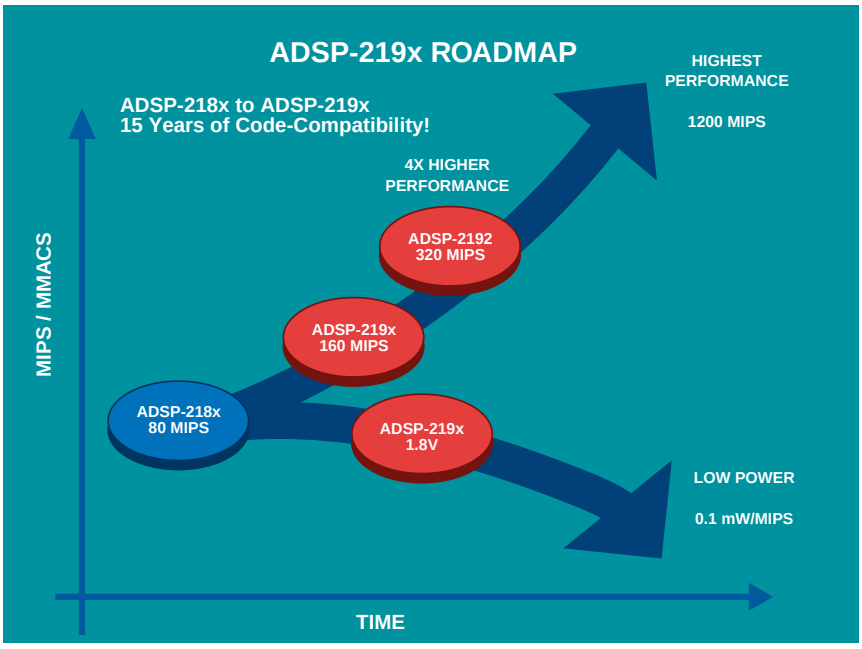
OVERVIEW

The ADSP-2192 dual-core fixed-point 16-bit DSP is the highest performance DSP for multichannel applications and the first member of the new ADSP-219x DSP family. The ADSP-2192 is the first 16-bit DSP to combine two ADSP-219x cores with industry standard PCI, USB, and AC'97 system interfaces, to make the design challenge easier.

Designed for high density multichannel applications like multifunction soft modems, VoIP, SOHO telephony, Data Aquisition Cards, and Integrated Access Devices (IAD), the ADSP-2192 provides the benefits needed to reduce system cost, power consumption and time-to-market.

The dual-core architecture maximizes channel density in multichannel telephony applications. For example, up to 26 toll quality Voice-Over-Network (VON) channels or six V.90 modem ports can be implemented on a single ADSP-2192 device.

Shared Data Memory simplifies interprocessor communication and reduces bottlenecks from off-chip data access.



ADI's ADSP-219x family offers a series of products ranging from multicore, high-performance processors for multichannel applications to single-core, high-performance and power efficient processors for battery-operated products. With the ADSP-219x series roadmap, OEMs can be assured that development investment will be protected.

ANALOG DEVICES

HIGHLY INTEGRATED

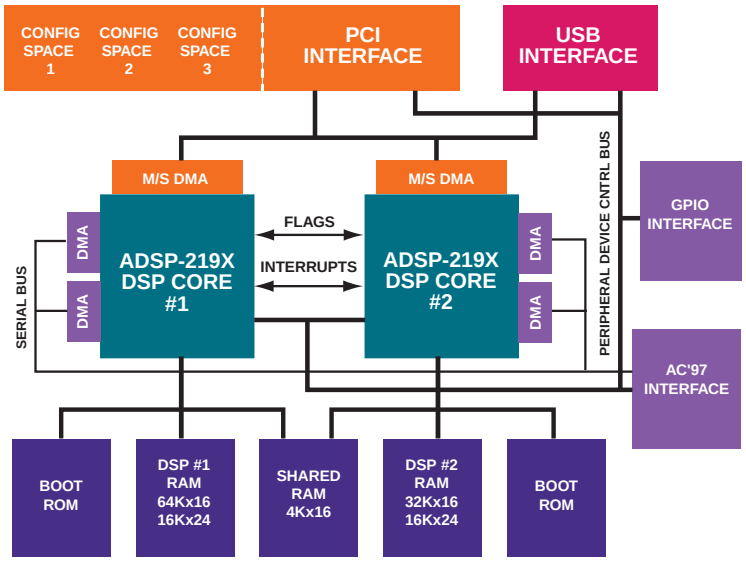
Peripherals

- On-chip peripherals include: host port (PCI or USB); AC'97 port; JTAG test and emulation port; flags and interrupt controller; and DMA. They provide an efficient means of communication between the host system and the ADSP-2192 device.
- The ADSP-2192 can respond to thirteen interrupts at any given time.
- The AC'97 codec port on the ADSP-2192 provides a complete synchronous, full duplex serial interface. This interface completely supports the AC'97 industry standard.

Memory

- The ADSP-2192 provides up to 132K words of on-chip SRAM. This memory is divided into program and data memory blocks. Each core can address a 4K block of "shared" memory.

ADSP-2192 MULTI-CORE ARCHITECTURE OVERVIEW



DEVELOPMENT TOOLS

The ADSP-2192 is fully supported by a complete set of White Mountain DSP™ software development tools. Development tools include VisualDSP® IDE, code generation tools, EZ-KIT Lite™ evaluation systems, simulators and emulators.

VisualDSP is an integrated software development environment, allowing for fast and easy development, debug and deployment.

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ADSP-2192 FEATURES/BENEFITS

Features	Benefits
320 MIPs	High performance
	Real-time signal processing
Dual-Core Device	Maximum sustained performance
	Ideal for multichannel voice/data applications
Large On-chip Memory	Reduces off-chip memory access bottlenecks
	Reduces system cost, size, and power consumption
Shared Data Memory	Improves interprocessor communication
	Allows more efficient use of on-chip memory
PCI/USB/AC'97 Interfaces	Industry standard interfaces
	Reduces overall system and development cost

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