

# i960<sup>®</sup> KA/KB 32-Bit Embedded Microprocessors

## Product Overview

The i960<sup>®</sup> KA/KB embedded RISC processors were introduced in 1988 as the first members of the Intel i960 32-bit microprocessor family. They are based on the family's high-performance, common core architecture and are capable of execution rates in excess of 9.4 MIPS. The i960 KA/KB processors are well-suited for a wide range of embedded applications, including page printers, image processing, industrial control, robotics and telecommunications products.

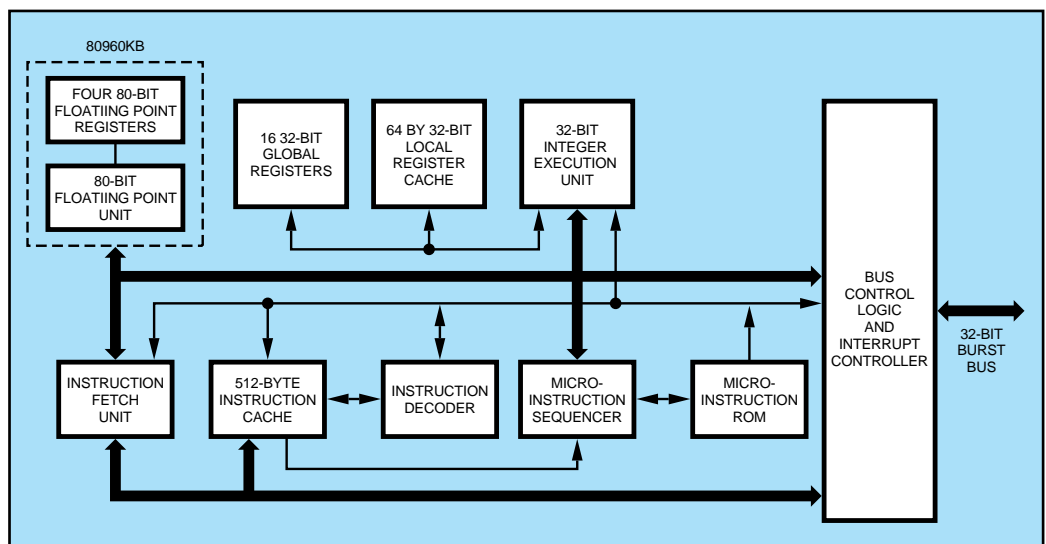
The i960 KB processor is pin-compatible with the i960 KA processor and integrates an IEEE 754 compatible floating point unit. The i960 KA/KB processors are object code-compatible with all of the i960 microprocessor family members, including the low-cost i960 SA/SB processors; the superscalar i960 CA/CF processors; and the military i960 MC processor, enabling a strong growth path in both performance enhancement and cost reduction.

## Product Highlights:

- High-Performance 32-bit Embedded Architecture
- 512-byte Direct Mapped Instruction Cache
- 4 Gigabyte, Linear Address Space
- Multiple Register Sets with Register Scoreboarding
- Built-in Interrupt Controller
- Built-in IEEE 754 Compatible Floating Point Unit (i960 KB processor only)
- Available in 16, 20 and 25 MHz



*The i960<sup>®</sup> KA and i960 KB processors are available in 132-lead Pin Grid Array (PGA) and 132-lead Plastic Quad Flat Pack (PQFP) packages.*



**i960<sup>®</sup> KA/KB Microprocessor Block Diagram**

## Features

- High-Performance 32-bit RISC Processor
  - 25 MIPS burst
  - 9.4 MIPS sustained
- Integrated Interrupt Controller
  - 4 direct interrupt inputs
  - 256 interrupt vectors
  - 32 priority levels
  - 8259A support
- 32-bit Address Space
- Integrated FPU (i960 KB processor only)
  - Full IEEE 754 Compatible
- Integrated 512-byte Instruction Cache
  - Direct mapped
  - Parallel load/decode for uncached instructions
- Large Register Set
  - 16 32-bit Local registers
  - 16 32-bit Global registers
- Integrated 256-byte Register Cache
  - Four local on-chip register sets
  - Register scoreboarding
- Object-code Compatible with other i960 Products such as the i960 SA/SB and the i960 CA/CF processors.
- System Level Testing
  - ONCE Mode
  - Integrated debug and tracing
- Integrated Self-Test
- Full Solutions960™ Program Support Including:
  - Evaluation Board      Debug Tools
  - C Compiler              Operating Systems
  - Assemblers              Support Components
- Complete Technical Services

## Benefits

- Brings high performance to your design.
- Reduces board level costs by reducing chip count.
- Offers flexibility in memory mapping peripherals and memory components.
- Provides high speed arithmetic without additional parts.
- Fast execution for critical routines.
- Fewer memory accesses means faster execution.
- Fast context switching for critical routines.
- Offers a strong growth path and cost reduction path for the future.
- Makes testing and debug of surface mount systems possible using ICE™ In-Circuit Emulator.
- Aids in assuring system reliability.
- Provides a complete development environment from hardware debug to software development and debug.
- Helps you get to market sooner.

## Support Information

<b>Product and Sales Information</b>	Intel product information, sales office and distributor phone numbers.	<b>800-628-8686</b>
<b>Literature Department</b>	To order Intel product literature.	<b>800-548-4725</b>
<b>Development Tools Hotline</b>	Technical applications support for Intel development tools.	<b>800-843-4481</b>
<b>FaxBack Service</b>	Automated response system that faxes Intel documents to your fax machine at no cost. For a listing of all i960 micro-processor documents, order FaxBack service document #2068.	<b>800-628-2283</b>
<b>Applications Bulletin Board Service</b>	24-hour access via modem to publicly available technical information. For a complete listing of all files available on BBS, call the FaxBack service and request catalog #6 (BBS Master File Listing).	<b>916-356-3600</b>

Phone numbers listed above are for U.S. and Canada only.

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