IBM ARTIC960 Programmable Co-Processors
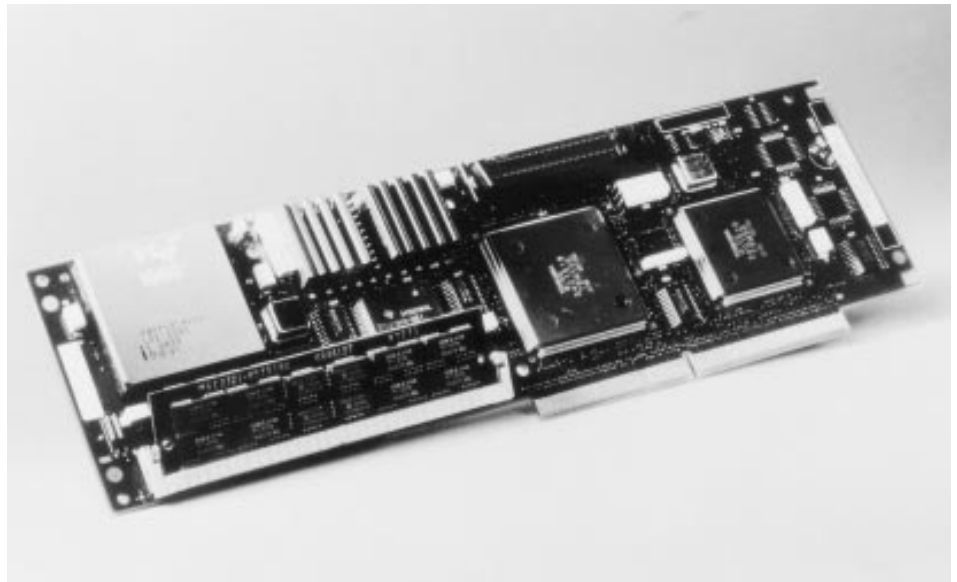
IBM ARTIC960 Platform

- Intel i960® CA 25 MHz Processor
- 32-Bit PCI Interface With 64-Bit Streaming (80 MB/s Capability)
- 32-Bit Micro Channel Busmaster With 64-Bit Streaming (80 MB/s Capability)
- High-Performance, Dual Memory Architecture (Both Memories Required)
  - 1 MB Instruction Memory Bank (Soldered)
  - 1-16 MB Packet Memory Bank (SIMM)
  - Architected to Support Over 32 MB RAM
- Error Checking and Correction Memory (ECC)
- Memory Protection
- Flexible Connections Via 32-Bit AIB Interface

IBM ARTIC960 Firmware

- Real-Time Operating Kernel
- Fully Programmable 32-Bit Interfaces
- Integrated Trace, Debug, and Status Utilities
- Peer-to-Peer Messaging Between Adapter and Host System
- Dynamic Resource Management
- Dynamic Memory Allocation and Suballocation

ARTIC is an acronym for "A Realtime Interface Co-Processor" – IBM's family of general-purpose, coprocessor adapters that serve to off-load realtime demands, facilitate high-speed communication tasks, and provide front-end processing for a variety of communication data. ARTIC adds computer-within-a-computer capability to PCI, ISA, and Micro Channel systems including PC's, Servers, and RS/6000's. ARTIC has an open hardware and software architecture allowing IBM software, device drivers, and interface boards to be complemented with IBM Business Partner products. This open architecture allows these various products to be customized to meet specific customer needs.
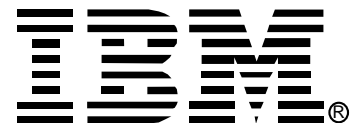
ARTIC960 PCI and ARTIC960 MCA are two of the newest members of IBM's ARTIC family. The ARTIC960 delivers features such as a 32-bit Intel RISC processor, a real-time, multi-tasking kernel, and a 32-bit PCI-interface or a 32-bit Micro Channel interface, both with 64-bit streaming capability. It's main engine is the Intel 80960CF microprocessor which serves to off-load the system unit microprocessor of chores typically associated with I/O. On-board storage includes from 1 to 16 MB of 80960 "packet" DRAM and up to 4 MB of instruction DRAM for high-bandwidth applications.

IBM ARTIC960 is ideally suited for applications such as downstream connections to multiple devices, upstream connections to host computers, Wide Area Networking (WAN) such as X.25, high-performance storage systems, network bridging and routing, multiple Local Area Networks (LAN), and satellite communications. In addition, the ARTIC960 can provide effective solutions in airline and hotel reservation systems, manufacturing process control, telephony and communication networks. It can also provide high-throughput support for emerging tech-

AVAILABILITY:
Worldwide

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nologies such as ISDN primary, Asynchronous Transfer Mode (ATM) and multi-media.

Using the ARTIC960 platform, developers can create state-of-the-art communications solutions by programming or designing custom Application Interface Boards (AIBs). By using the ARTIC960 as a platform, solutions can be leveraged in a variety of host computers and extended with other protocols, including proprietary and AIBs.

For general serial communication applications, a high-speed, four-port multi-interface AIB is available. This AIB offers four ports of EIA-232 or EIA-530 (RS-422), or ISO 4903 (X.21), or ISO 4902 (V.36). Four-port modem attach cables are also available. Other features include line speeds up to 2.048 Mbps on each port and 8 "smart" DMA channels.

DEVICE DRIVERS

The latest device drivers for DOS, OS/2 Warp, AIX, Novell, Windows NT and other operating systems can be downloaded from the ARTIC Home Page on the world wide web or from the ARTIC Bulletin Board Service.

DEVELOPER'S TOOLS

To assist in hardware and/or software application development, a Developer's Kit is offered. Included is complete technical reference materials, programming guide, AIB development guide, programming samples, and an on-card source-level debugger. Also included is Developer Assistance support via phone and e-mail.