MC68000

MC68010

MC68012   MC68020   MC68881

MC68008

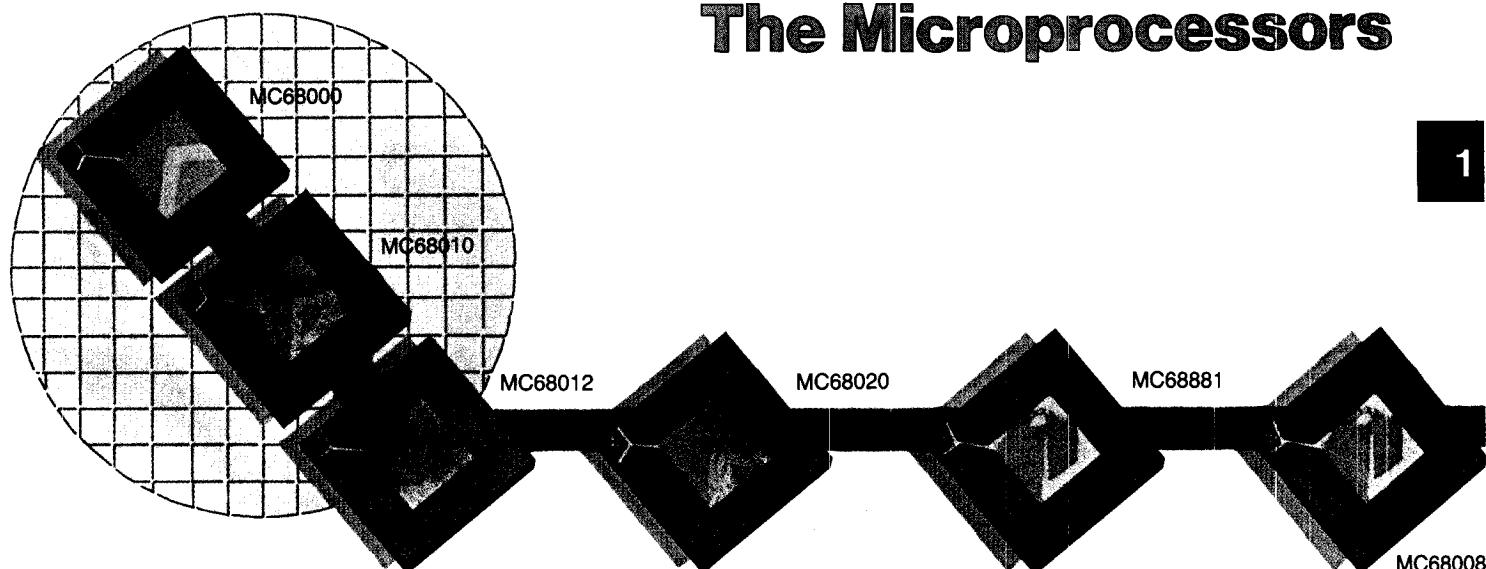## The Compatible Processors

The MC68000 — The first of the Motorola VLSI family of microprocessors, the 16-bit MC68000 combines state-of-the-art technology, advanced circuit design and computer science to achieve the following user-significant features:

● 32-bit-Data and Address Registers
● 16 Megabyte Direct Addressing Range
● 56 Powerful Instruction Types
● Operations on Five Main Data Types
● Memory Mapped I/O
● 14 Addressing Modes

The MC68010 — An M68000 Family member with enhancements that make it ideal for virtual memory and virtual machine systems.

Its most significant enhancement is the facility for complete, controlled storing of the internal processor state upon receipt of a bus error signal during a faulty bus cycle.

Additionally, the MC68010 may be used as a virtual processor with one governing operating system handling the supervisory chores of any number of subordinate operating systems.

The MC68012 — Maintains all the features, functions, and upward compatability of the MC68008, MC68000 and MC68010 and adds seven more address lines allowing for a 2-gigabyte linear address range.

The MC68020 — The first complete 32-bit microprocessor whose processing power rivals that of today's more advanced minicomputers and even those of many mainframe machines, while maintaining software compatibility to all preceding M68000 MPUs. The MC68020 features instruction-set enhancements, co-processor operation, improved operating system support and innovative techniques to improve bus efficiency. HCMOS manufacturing techniques allow the MC68020 to provide all these features and power while dissipating less than 1.5 watts in a system.

The MC68008 For 8-Bit Applications — Allows the design of cost-effective systems using 8-bit data buses while providing the benefits of 32-bit internal architecture. Performance rivaling that of many 16-bit machines is made possible by (up to) 10 MHz processing speed and other attributes associated with the MC68000 processor. System cost, however, is significantly reduced through the use of byte-wide memories and peripherals as well as the lower cost of the less demanding architecture of the 8-bit output requirements.

The MC68881 Floating Point Coprocessor — Provides full support for IEEE specified floating point high-level math functions and for all transcendental functions. All calculations are performed to 80 bits of precision and no software "envelope" is required. The FPCP can perform either as a coprocessor to the full 32-bit MC68020 microprocessor or as a tightly coupled peripheral to the MC68000 or MC68010.