# CoreModule<sup>™</sup>/4DX*e* • High Performance PC/AT-compatible PC/104<sup>™</sup> compliant CPU module



The new CoreModule/4DX*e* provides highperformance "5x86" processing power and PC/AT compatibility in a compact, preconfigured subsystem module. Within just 14 square inches of space, the CoreModule/4DX*e* includes the equivalent functions of a PC/AT motherboard plus several additional expansion cards. Performancecritical embedded applications that formerly required chip-based custom designs can now benefit from an off-the-shelf module with the power of a 133 MHz 32-bit AMD "5x86" CPU, along with hardware and software standards like PC/AT and MS-DOS compatibility. The CoreModule/4DX*e* is designed to meet the demands of embedded systems through its extremely compact design, low power consumption, +5V-only operation, wide operating temperature range, and high reliability.

## **CONFIGURATION FLEXIBILITY**

The CoreModule/4DX*e* can be used as a macrocomponent, plugged into a proprietary application board, or it can be combined with PC/104-compatible expansion products to form compact, highly integrated control subsystems. Multiple modules can be stacked together without the cost and space penalties of additional mounting hardware.

## SPECIFICATIONS

PC MOTHERBOARD FUNCTIONS

CPU	<ul> <li>AMD "5x86" (486DX5) CPU, 133 MHz internal clock rate; jumper selectable to 100 MHz (66 MHz version also availble)</li> </ul>
ORY	• 4 or 16 Mbytes directly surface mounted, expandable to 64 Mbytes via socketed DRAM module

## MEMORY SYSTEM CONTROLLERS

- 7 DMA channels (8237 equivalent)
- 14 interrupt channels (8259 equivalent)
- 3 programmable counter/timers (8254 equivalent)
- **KEYBOARD** PC/AT-compatible keyboard port

BIOS

- Speaker port with 0.1 watt drive
   Real time clock with CMOS RAM
  - Real time clock with CMOS RAM (MC146818 equivalent); requires external 3.0 3.6V battery
  - Battery-free operation option
  - Award ROM-BIOS with Ampro embedded-PC enhancements

### ADDITIONAL **ONBOARD FUNCTIONS** SERIAL Two RS232C serial ports with full handshaking One port is jumper-configurable for RS232 or RS485 Both ports implemented using 16C550 equivalent with 16 byte data FIFOs PARALLEL Parallel printer port with bidirectional data lines FAST IDE Supports 1 or 2 IDE hard disk drives Low profile 44 pin compact 2 mm connector FLOPPY Supports 1 or 2 drives BYTEWIDE SOCKET Usable with 32K - 1 Mbyte EPROMs, 32K - 512K Flash EPROMs, 32K - 512K SRAMs, or 32K - 512K NOVRAMs • Configurable as 64K, or 128 Kbyte window, addressed in the range D0000-EFFFFh Usable with DiskOnChip2000<sup>™</sup> read/write Flash SSD device SRAM backup using off board battery **OEM FLASH OPTION** Onboard 1 Mbyte OEM Flash 960 Kbytes available for OEM use (balance used by system BIOS) • Configurable as 64 Kbyte window, addressed in the range D0000-DFFFFh or E0000-EFFFFh SSD 5.31 Support Software converts into an in-system programmable read only SSD device • OEM Flash TrueFFS software converts into a full read/write solid state disk drive (not usable simultaneously with DiskOnChip2000™) • 2K bit configuration EEPROM, with 512 bits for OEM use **CONFIG EEPROM** Supports battery-free capability WATCHDOG TIMER Utilizes real-time clock alarm function • Timeout triggers hardware reset or non-maskable interrupt MECHANICAL SIZE 3.6 x 3.8 x 0.9 in. (90 x 96 x 23mm); PC/104 compliant form-factor (Includes stackthrough pins. Please refer to PC/104 specification for stacking and other dimensions.) BUS 16-bit PC/104 bus POWER Requirements (typical with 4 Mbytes RAM): +5V ±5% — 133 MHz: 1170 mA active / 210 mA sleep — 100 MHz: 930 mA active / 150 mA sleep **ENVIRONMENTAL** • Operating temperature: 0° to 70° C standard; -40° to +85° C extended (special order) Note: additional airflow or heatsinking required to maintain 85° C maximum CPU case temperature. 5% to 95% relative humidity, non-condensing Storage temperature: -55° to +85° C • Weight: 3.4 oz. (96 gm) NOTE: Contact Ampro regarding custom configurations and special order options.

Дистрибьютор в России и странах СНГ: MicroMax Computer Intelligence, Inc. Россия, 117638, Москва, улица Азовская, дом 6, корпус 3 Телефоны: +7 (495) 310-7666, 310-7427 Факс: +7 (495) 310-2502 Интернет: www.micromax.ru

