

## CoreModule™ 400

### High-integration PC/I04 Single Board System with Onboard Ethernet and Video



#### FEATURES

- 133MHz x86-based STPC Atlas Processor
- 64MB SDRAM
- EIDE (2) drive interface (ATAPI including DVD)
- Two Serial ports
- Floppy Interface
- ECP/EPP Parallel port
- USB port
- PS/2 Keyboard and Mouse ports
- 10/100BaseT Ethernet Interface
- 2D CRT and TFT Flat Panel Interface
- Byte-wide Socket for DiskOnChip® 2000
- Type II CompactFlash Socket

The CoreModule™ 400 PC/I04 Single Board System is a state-of-the-art, high-integration x86-based computer on a single PC/I04 board. Based on STMicroelectronics' new 133MHz STPC® Atlas™ processor, the CoreModule 400 provides complete embedded PC functionality, including Ethernet and video interfaces, normally found on larger boards. Standard features include processor, 64MB on-board SDRAM memory, two RS232 serial ports (one with RS485 capability), EPP/ECP parallel port, USB port, floppy and Ultra/DMA 33 EIDE disk interfaces, 10/100BaseT Ethernet and high-resolution 2D video with CRT and TFT flat panel interfaces. The CoreModule 400 offers two types of solid-state disk interfaces, with a byte-wide socket supporting DiskOnChip® 2000 devices as well as a Type II Socket supporting CompactFlash devices. This extraordinary level of integration allows a single module to serve a wide range of embedded applications.

In spite of its high level of integration, the CoreModule 400 remains fully compliant with the PC/I04 Specification. It replaces earlier CPU modules that required two or even three PC/I04 cards to provide equivalent functionality, reducing both package size and the cost of CPU electronics by as much as 50%.

Like all Ampro CoreModule boards, development with the CoreModule 400 is supported by QuickStart kits, complete development systems (including power supply and disk drives) and Board Support Packages (BSPs) for popular operating systems. Finally, the CoreModule 400 meets the high quality standards and ruggedized environment, including extended temperature specifications, you would expect from the inventor of the PC/I04 and EBX standards.



## Processor

- 133MHz STPC Atlas processor (5x86)
- Unified instruction and data cache, 8KB
- Integral Floating point Unit
- PC/AT compatible System Controllers
- Real Time Clock with CMOS setup; requires external 3.0 - 3.6V battery for backup
- Configuration EEPROM supports batteryless boot capability
  - 512 bits available for OEM use
- System and Video BIOS with Ampro extensions in 1MB Flash Device programmable on the board

## Memory

- 100MHz, 3.3V SDRAM
- 64MB SDRAM, 64 bit wide, soldered
- 1MB Flash Memory for system BIOS for OEM use
- Byte-wide Socket supports DiskOnChip® 2000 bootable flash drive
- Type II CompactFlash Socket

## Bus Interface

- 16-bit PC/104 bus

## I/O

- **EIDE** – Enhanced Ultra 33 Synchronous DMA IDE interface to two drives, ATAPI extensions including DVD
- **Serial** – Two RS-232 ports, one with RS-485 and full modem support
- **Parallel** – ECP/EPP bidirectional
- **Floppy** – Interface to two drives
- **USB** – One USB Open HCI port
- **Keyboard / Mouse** – PS/2 Interface

## ORDERING INFORMATION

MODEL	DESCRIPTION
CM2-400-Q-01	CoreModule 400, 133MHz STPC Atlas CPU, 64MB RAM, Video, Ethernet
CM2-400-Q-02	CoreModule 400, 133MHz STPC Atlas CPU, 64MB RAM, Video
CM2-400-K-10	CoreModule 400, QuickStart Kit (CM2-400-Q-01, Cable Kit, Software, Documentation)
CM2-400-K-81	CoreModule 400 Development System (CM2-400-Q-01, Software, Documentation, Development Platform with power supply, floppy, hard disk drive, CD-ROM, ISA backplane)
CBL-400-Q-01	CoreModule 400 Cable Kit

## Network Interface

- **Ethernet** – Intel 82559ER 10/100BaseT Ethernet

## Video Interface

- Integrated Controller
- 64-bit single-cycle 100MHz 2D graphics engine
- 4MB UMA Frame Buffer
- TFT support
- Up to 256K colors (18-bit)
- Programmable Flat Panel Support up to 1024x768 resolution
- Supports 4/3 and 16/9 screen size
- Allows external TMDS transmitter for advanced flat panel interfaces
- Supports both 3.3V and 5.0V LCD panels

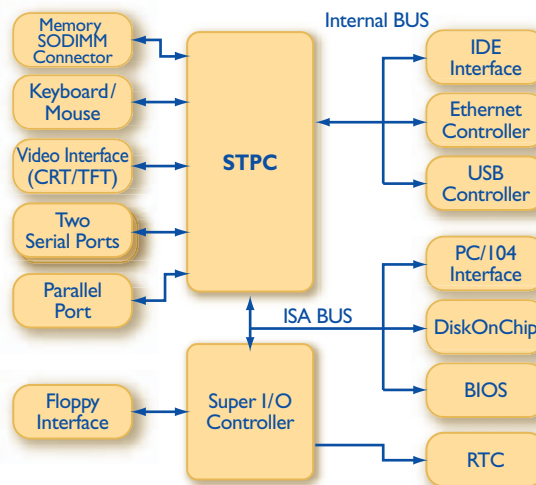
## Software & Development Tools

- Board Support Packages for popular Operating Systems - see Web site for current listings
- General Software BIOS with Ampro extensions

## Mechanical

- **Size** – 90x96 mm (3.6x3.8")
- **Power Requirements** – 1.30A @ +5V
- **Environmental** – Operating temperature: 0° to 70°C standard; -40° to +85°C extended

CoreModule 400 Functional Diagram



DS-CM400 5K 1102