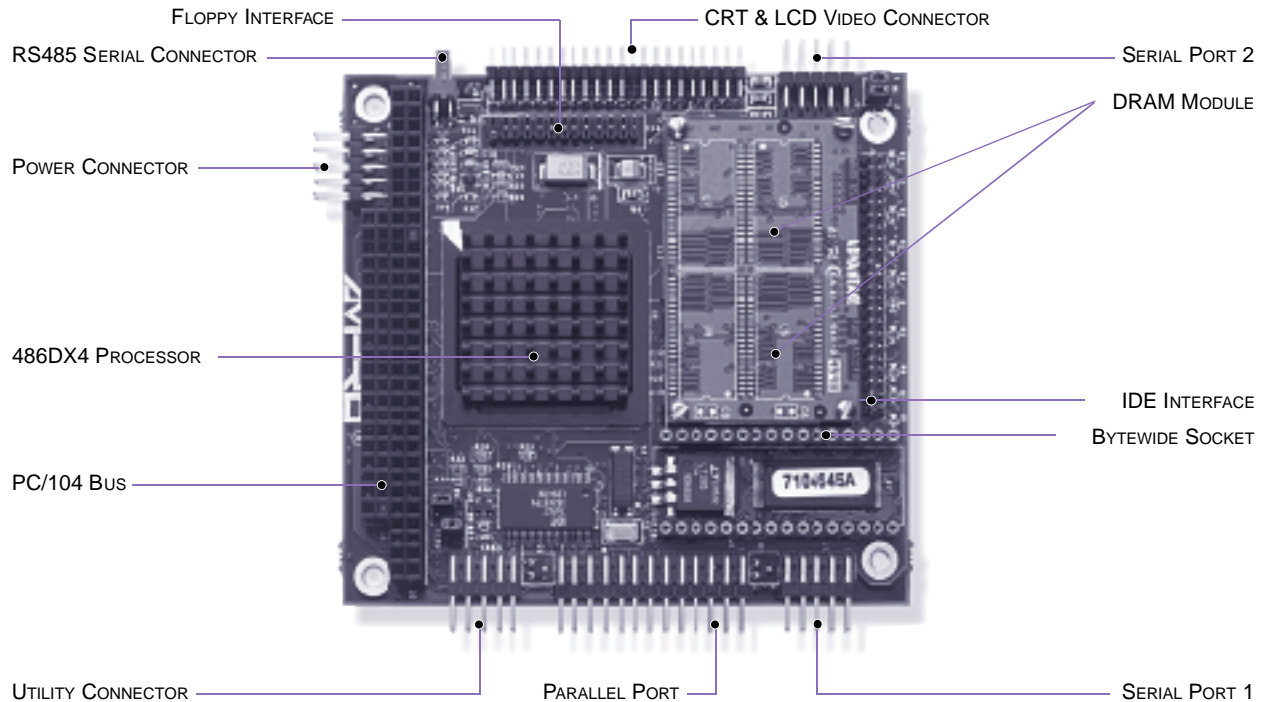


# CM2-4GV

CoreModule™/4GV • High integration PC/104™ single board system with onboard display interface



The CoreModule/4GV, along with the CoreModule/4GE, is the first of Ampro's new family of high integration PC/104 CPUs. These modules pack 486 processing power together with all standard embedded PC product features—including CPU and memory subsystems, communications ports and disk interfaces—plus key additional features into less than 14 square inches of board space. This high level of integration allows a single module to serve a wide range of embedded applications.

## DISPLAY INTERFACE

The CoreModule/4GV combines core CPU features with a sophisticated CRT and flat panel video interface. Based on the C&T 65550 graphics controller, the video function supports resolutions of up to 1280 x 1024 in 16 colors, as well as 24-bit true color in 640 x 480 resolution. A programmable VGA BIOS provides support for virtually all types and resolutions of digital flat panels, including monochrome and color LCD, electroluminescent (EL), and plasma. Bias voltage generation and power sequencing logic are supplied via an offboard

adapter. Other available adapters provide NTSC/PAL (television) and PanelLink or LVDS (differential) signal conversion, allowing the module to be used with nearly any type of video display technology.

## EMBEDDED READY

The CoreModule/4GV is designed from the ground up to meet the demands of embedded systems through its compact design, low power consumption, wide operating temperature range, and high reliability. An extensive set of embedded PC BIOS enhancements ensures robust operation in unpredictable real-world environments.

As the "computing engine" in an OEM system, the CoreModule/4GV can be used as a macrocomponent plugged into a proprietary application board, or can be combined with PC/104 expansion products to form compact, highly integrated control subsystems.

Full compatibility with PC hardware and software standards assures seamless integration with a wide range of off-the-shelf expansion modules, operating systems, application software and peripheral devices.

# CM2-4GV

## SPECIFICATIONS

### PC MOTHERBOARD FUNCTIONS

#### CPU

- Auctor Maple integrated processor (486DX4 compatible), 100 MHz

#### MEMORY

- 4, 16, 32 or 64 Mbytes (via socketed DRAM module)

#### SYSTEM CONTROLLERS

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

#### REAL TIME CLOCK

- Speaker port with 0.1W drive
- Real time clock with CMOS RAM (146818 equivalent); requires external 3.0 - 3.6V battery
- Battery-free operation option

#### BIOS

- Award ROM-BIOS with Ampro embedded PC enhancements

### ADDITIONAL ONBOARD FUNCTIONS

#### SERIAL

- Two RS232 serial ports with full handshaking
- One port supports RS485 serial option
- Both ports implemented using 16C550 equivalent with 16 byte data FIFOs

#### PARALLEL

- Parallel printer port with bi-directional data lines

#### IDE

- Supports 1 or 2 IDE disk drives

#### FLOPPY

- Standard floppy port; supports 1 or 2 drives
- Uses 2 mm cable connector (adapter for standard 0.1 inch cable available separately)

#### BYTEWIDE SOCKET

- Supports DiskOnChip2000™ or DiskOnChip Millennium bootable flash drive
- Supports up to 128KB EPROM, +5V flash EPROM, or NOVRAM memory device

#### CONFIGURATION EEPROM

- 2K bit configuration EEPROM
- 512 bits available for OEM use (supported through Ampro enhanced BIOS services)

#### WATCHDOG TIMER

- Utilizes real time clock alarm function
- Timeout triggers hardware reset or non-maskable interrupt

### DISPLAY INTERFACE

#### CONTROLLER

- Chips & Technologies 65550; uses local bus interface to CPU
- 2MB display RAM (independent of system DRAM)

#### CRT INTERFACE

- Analog CRT display output

#### FLAT PANEL SUPPORT

- Software programmable flat panel interface timing, contained in flash EPROM
- Supports LCD, EL, plasma, and other display technologies (monochrome and color)

#### LCD BIAS SUPPLY OPTION

- Offboard adapter module (sold separately) features:
  - LCD bias voltage conversion
  - Sequences LCD power to protect display

#### VIDEO MODES & RESOLUTIONS

- 1024 x 768, interlaced or non-interlaced; 1280 x 1024, interlaced only
- Supports 24-bit "true color"

#### DISPLAY OPTIONS

- Supports television (NTSC or PAL) and differential (LVDS or Panellink) output signals via offboard adapter modules (sold separately)

### MECHANICAL

#### SIZE

- 3.6 x 3.8 x 0.9 in. (90 x 96 x 23 mm) (Includes PC/104 bus stackthrough pins. Please refer to PC/104 specification for stacking and other dimensions.)

#### BUS

- 16-bit PC/104 bus

#### POWER

- Requirements (typical 100 MHz with 16 Mbytes RAM): +5V +/- 5%
  - Active: 5.8W

#### ENVIRONMENTAL

- Operating temperature: 0° to 70° C standard; contact factory for extended temperature options.
- Storage temperature: -55° to +85° C
- 5% to 95% relative humidity, non-condensing
- Weight: 3.5 oz. (99.4 gm.)