

# EPIC: Embedded Platform for Industrial Computing

**Primary target applications:**

Industrial control, medical equipment, HMI/operator interface, data acquisition, communications devices

**Consortia:**

PC/104 Consortium ([www.pc104.org](http://www.pc104.org))

**Year of specification release:** 2004

**Year of latest major update:** 2006, to EPIC 2.0

**Sponsors:**

Ampro Computers, Micro/sys, Octagon Systems, VersaLogic, WinSystems

**Specification:** Download for free at

[www.pc104.org/technology/PDF/EPIC\\_Spec\\_2.0.pdf](http://www.pc104.org/technology/PDF/EPIC_Spec_2.0.pdf)

**Dimensions:**

4.528" x 6.496" (115.00 mm x 165.00 mm)

**Mounting:**

Stand-alone, no baseboard required

Eight holes – four at corners, four at PC/104 outline corners

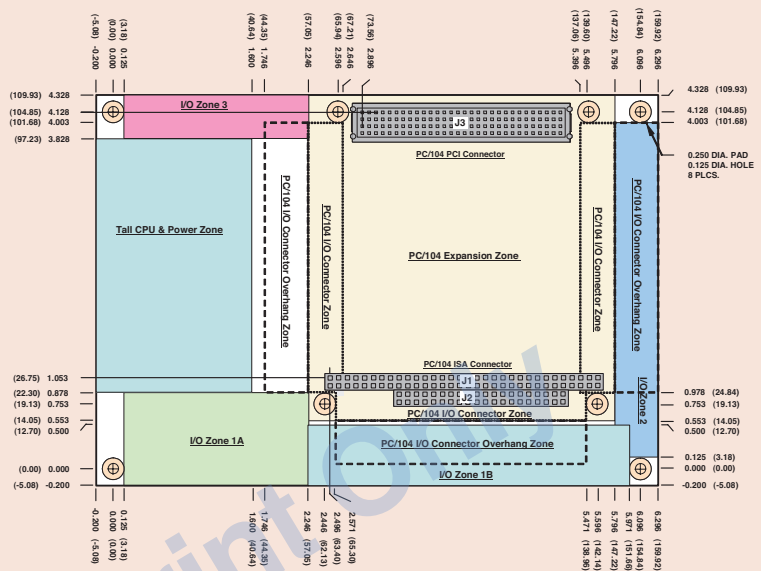
**Power input:**

Completely flexible, whatever is preferred for the application(s) targeted

Some suggestions are made in Appendix B of the specification

**Features:**

- PC/104 family of expansion (PC/104 ISA, PCI-104 PCI, or PC/104-Plus with both)
- Tall CPU and power zone for components and cooling
- I/O connectors are flexible as long as interfaces are located in I/O zones as indicated



**EPIC: Midsize just right for I/O connectors**

By Colin McCracken  
Director of marketing  
Ampro Computers

PC/104	EPIC	EBX
90 mm x 96 mm	115 mm x 165 mm	146 mm x 203 mm
86.4 cm <sup>2</sup>	189.8 cm <sup>2</sup>	296.4 cm <sup>2</sup>
3.550 in x 3.775 in	4.528 in x 6.496 in	5.75 in x 8.0 in
13.4 in <sup>2</sup>	29.4 in <sup>2</sup>	46.0 in <sup>2</sup>

In response to the market need for a midsize embedded board standard, five companies created the Embedded Platform for Industrial Computing (EPIC) standard in March 2004. EPIC is larger than a PC/104 module and smaller than an EBX board. This midsize platform allows additional space to support advanced processors or complex I/O functions for data acquisition, field wiring termination, I/O circuit protection, video processing, networking, motion control, power supplies, and thermal solutions for dual core processors.

EPIC is a small, industrial-grade, embedded SBC that:

- Includes the option of I/O expansion via PC/104, PC/104-Plus, USB, Ethernet, and more
- Uses expansion complementary to EBX and PC/104
- Emphasizes I/O connector area
- Can bridge from current technology into the future, meaning that it could possibly support PCI Express, ExpressCard, and other technologies

One problem that small and midsize SBCs present is difficulty handling I/O. It is possible to squeeze a CPU and peripheral functions on the card, but connection and cabling become a major issue. EPIC's strength is in its wide area available for I/O connectors. Real-world applications demand a variety of different sizes and styles. EPIC accommodates them in three different I/O zones and with PC/104 expansion modules.

Embedded systems manufacturers that require faster CPUs and/or more I/O than found on a PC/104 CPU can now design in a broadly supported, standardized, full-featured platform. This is especially important for applications that can't accommodate larger, industrial-grade, EBX-sized boards. EPIC provides designers a much-needed industry standard for a midsize board.