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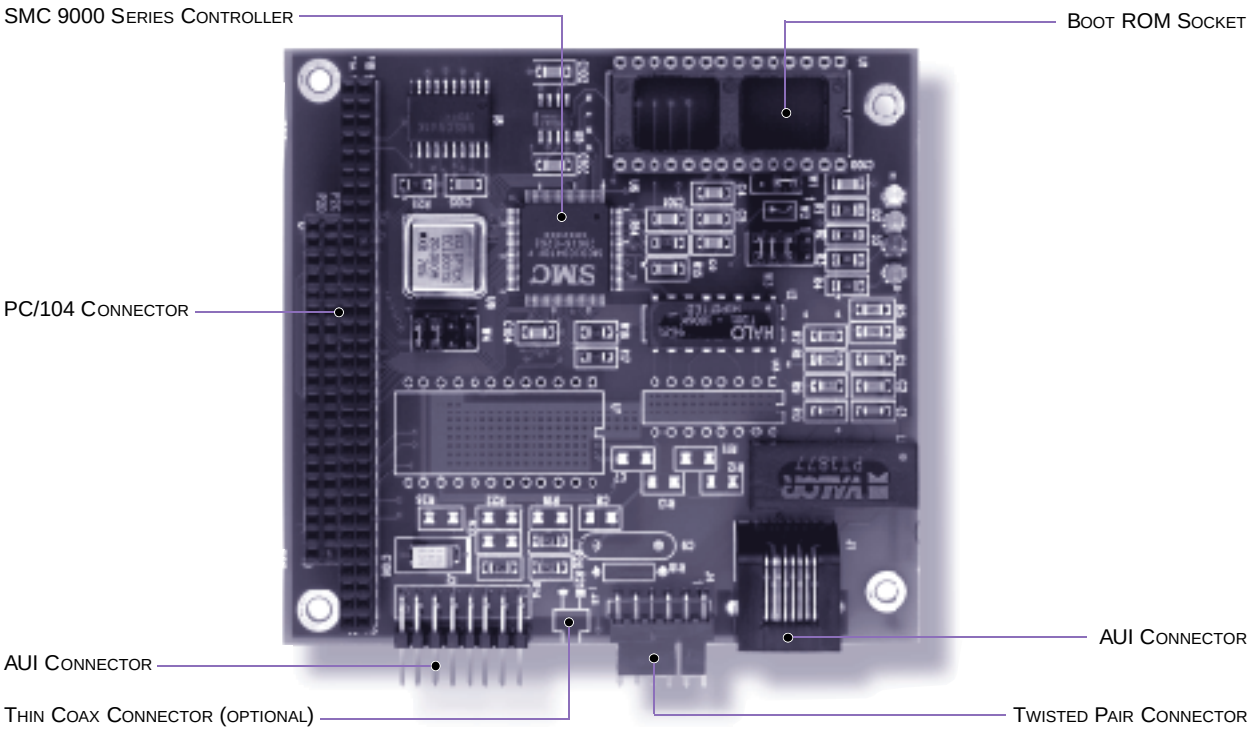
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MM2-ETH

MiniModule™/Ethernet-II • *10Base-T Ethernet LAN controller*



The MiniModule/Ethernet-II network interface module offers connectivity to the popular Ethernet local area network (LAN) for PC/104-based embedded systems. The module implements the Carrier Sense, Multiple Access/Collision Detect (CSMA/CD) node access protocol defined by the IEE802.3 (ANSI 8802-3) Ethernet standard and operates at a data rate of 10 megabits per second.

The MiniModule/Ethernet-II is based on the popular SMC 91C94 Ethernet controller and is therefore supported under DOS, Windows®, Windows95, Windows NT, OS/2™, and a variety of real-time operating systems. The broad range of networking support available from Ampro and third-party companies includes drivers for Novell Netware, a variety of peer-to-peer network operating systems, and support for TCP/IP and NFS. Consequently, Ethernet connectivity can easily be incorporated into most embedded applications without the costs and risks of developing and debugging custom driver software. The MiniModule/Ethernet-II also provides a socket for a standard "remote boot" EPROM which can be used to boot the embedded system directly from the network, thereby eliminating the requirement for a local disk drive.

Two versions of the MiniModule/Ethernet-II support all standard Ethernet media. One version offers a thin coax (10Base-2) interface. The other connects directly to twisted pair (10Base-T) media, but also provides an "AUI" connector for use with external interfaces to thick coax (10Base-5), fiber optic connections, etc. Transition cables, available separately, are generally used to interface between the module's "header" connectors and standard external media connectors.

The MiniModule/Ethernet-II complies with the 16-bit PC/104 form-factor specification and can be used in conjunction with any 16-bit Ampro CoreModule™ or Little Board™ CPU.

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MM2-ETH

SPECIFICATIONS



GENERAL

- Complies with IEEE 802.3 (ANSI 8802-3) Ethernet network standard

CONTROLLER IC
- SMC 91C94 (SMC 9000 series)

TOPOLOGY
- Ethernet bus, using CSMA/CD

MEDIA INTERFACE OPTIONS
- 10Base-T (twisted pair)
- 10Base-2 (thin coax)
- Others, via AUI interface

DATA RATE
- 10M bits/second

DATA BUFFER
- 4608 byte onboard RAM, accessed via I/O ports

I/O BASE ADDRESS OPTIONS
- 300h, 320h, 340h, or 360h

INTERRUPT OPTIONS
- IRQ2, IRQ3, IRQ4, IRQ5, IRQ10, IRQ11

DMA
- Not used

CONFIGURATION
- Onboard preprogrammed EEPROM contains 7 jumper selectable I/O address and IRQ assignments. Custom configurations can be programmed using a software utility.

REMOTE BOOT SOCKET
- Supports 16 or 32 KByte EPROMs
- EPROM base address options: C8000h, CC000h, D0000h, or D4000h

THIN COAX VERSION
- External cabling: 0.2 inch, RG-58A/U, 50 ohm
- Max. cable segment length: 607 feet (185 meters)
- Max. number of repeater-joined cable segments: 5
- Max. total network cable length: 3,035 feet (925 meters)
- Max. nodes per trunk segment: 30
- Min. distance between nodes: 1.5 feet (0.5 meters)
- Optional thin coax cable adapter provides bulkhead-mount BNC connector

TWISTED PAIR VERSION
- External cabling: 22 or 24 AWG solid copper twisted pair
- Max. cable length per segment: 100 meters
- Onboard RJ45 connector allows direct connection to standard 10Base-T cables
- 6-pin locking connector supports optional transition cable with bulkhead-mount RJ45 connector
- AUI interface:
  - — Supports external media interfaces
  - — Optional transition cable provides bulkhead-mount female DB15 connector
- Onboard status LEDs: board select, link, receive, and transmit

MECHANICAL

SIZE
- 3.6 x 3.8 x 0.9 in. (90 x 109 x 23 mm) (Includes stackthrough pins. Please refer to PC/104 specification for stacking and other dimensions.)

BUS
- 16-bit PC/104 bus

POWER
- Requirements (typical) +5V ± 5%
  - — 180 mA
  - — When AUI interface is used, external transceiver may require +12V (consult transceiver specifications)

ENVIRONMENTAL
- Operating temperature: 0° to 70° C standard; –40° to +85° C extended (special order)
- 5% to 95% relative humidity, non-condensing
- Storage temperature: –55° to +85° C
- Weight: 2.6 oz. (74 gm)

Note: Contact Ampro regarding custom configurations and special order options.

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