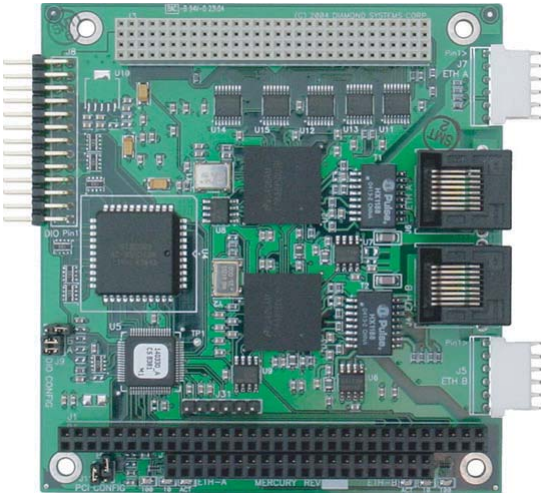


# MERCATOR

## PC/104-Plus Expansion Module with Ethernet and Digital I/O



- 2 PCI-based 10/100Mbps Ethernet Ports Autocalibration of A/D and D/A
- NS DP83815 Mac+Phy chips 8 digital inputs and 8 digital outputs
- Latching pin headers and RJ-45 jacks
- 24 digital I/O using 82C55 on ISA bus
- Dimensions: 3.55" x 3.775"
- Socket for GSM/GPRS and CDMA wireless communications modules

### DESCRIPTION

The Mercator PC/104 module integrates 2 PCI-based 10/100 Ethernet ports with 24 user-configurable digital I/O lines in the compact and rugged PC/104 format. This 2-in-1 combination of Ethernet and digital I/O can help lower the size and cost of your embedded system by eliminating one additional board from your PC/104 stack.

The Ethernet ports utilize the National Semiconductor DP83815 Mac + Phy PCI controller chip and are NE2000 compatible.

The 24 digital I/O lines are based on an 82C55 chip and feature programmable direction in 4- and 8-bit groups. All I/O lines contain user-configurable 10K Ohm pull-up resistors for convenience.

Extended temperature capability (-40 to +85°C) enables the board to operate in environments with extreme temperature swings, such as vehicles or outdoor installations. In addition, the board may be custom-configured with 0-ohm resistors in place of jumper blocks for increased ruggedness in high-vibration environments.

Diamond Systems offers appropriate mating cables for your convenience. Cable no. C-PRZ-02 provides a panel-mountable RJ-45 connector for the Ethernet, and cable no. C-26-18 is a 26-conductor ribbon cable for the digital I/O.

### SPECIFICATIONS

#### CAN Circuit

CAN channels	2, 2.0B
Controller	Philips SJA1000T
Transceiver	Philips 82C251
Isolation	500V channel to channel
Transceiver power	5V, on-board or loop
Clock rate	16MHz
Data rate	1Mbps
Bus interface	Memory or I/O

#### Wireless Modules

Type	GSM/GPRS or CDMA
Manufacturer	MultiTech SocketModem
Interface	1 or 2 channel RS-232

#### GPS Module

Manufacturer	Trimble Navigation
Model	Lassen SKII 8 channel
Interface	1 or 2 channel RS-232

#### General

Dimensions	3.55" x 3.775", PC/104 form factor
PC/104 bus	16-bit stackthrough ISA bus
Power supply	+5VDC±5% @ XXXXXXXXXmA (without modules)
Operating temp	-40 to +85°C
Weight	2.1 oz

A low-cost version with one Ethernet port and no digital I/O is also available as model no. MRC-100-XT.

### Configuration Options

Several features are configurable using either a dual-row 2mm size jumper block or a switch. Provision is made on the board for zero-ohm resistors to replace jumpers to enable a hard-wired configuration.

- \* Digital I/O base address (8 address options with 3 jumpers)
- \* Digital I/O configuration: pull-up enabled or disabled
- \* PCI slot selection for each Ethernet port

## ORDERING INFORMATION

Part No.	Description
MRC-224-XT	PC/104+ Dual 10/100Mbps Ethernet Module

## FOR MORE INFORMATION

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