

## Notice

This guide is designed for experienced users to setup the system in the shortest time.

## Safety Precautions

### **Warning!**



*Always completely disconnect the power cord from your board whenever you are working on it. Do not make connections while the power is on, because a sudden rush of power can damage sensitive electronic components.*

### **Caution!**



*Always ground yourself to remove any static charge before touching the board. Modern electronic devices are very sensitive to static electric charges. Use a grounding wrist strap at all times. Place all electronic components on a static-dissipative surface or in a static-shielded bag when they are not in the chassis.*

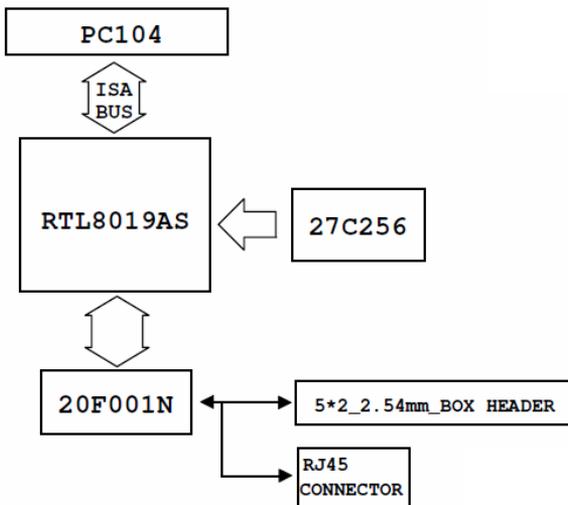
## Introduction

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The PCM-3660 Rev.B is a high-performance 16-bit jumperless Ethernet interface module that attaches to the PC/104 connector on your CPU card or PC/104 CPU module. The module automatically senses whether it is connected to an 8-bit or 16-bit PC/104 system. The PCM-3660 Rev.B fully complies with IEEE 802.3 10 Mbps CSMA/CD standards and is 100% Novell NE2000 compatible.

The module includes a built-in 10BASE-T transceiver and RJ-45 connector. Two diagnostic LEDs indicate the operating The PCM-3660 Rev.B comes with drivers for a wide variety of networks and operating systems. An optional boot ROM lets you boot a remote PC/104 station automatically from a server, making hard or floppy disks unnecessary.

### PCM3660 BLOCK DIAGRAM



## Features

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- Conforms to IEEE 802.3 Ethernet standards, CSMA/ CD protocol for 10 Mbps data transfer
- Hardware and software compatible with Novell NE2000 adapter
- Automatically detects 8-bit or 16-bit data bus
- Remote boot ROM socket for diskless operation
- Built-in 10BASE-T transceiver for unshielded twisted pair cabling up to 100 meters
- Two diagnostic LEDs indicate network status
- Onboard 32K memory for high-performance multi-package buffer  
Software drivers for most popular network environments

## Specification

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### Hardware

● <b>Form Factor</b>	PC/104
● <b>I/O address</b>	200, 220, 240, 260, 280, 2A0, 2C0, 300, 320, 340, 380 or 3A0
● <b>Interrupt levels</b>	IRQ3, 4, 5, 9, 10, 11, or 15
● <b>Boot ROM address</b>	C0000, C8000, D0C00 or D8000H
● <b>Data bus</b>	8-bit or 16-bit, auto-sensing
● <b>Connectors</b>	16-bit PC/104 stack through connector RJ-45 connector for 10BASE-T, 16-pin insulation displacement connector for AUI
● <b>Dimension</b>	3.5" x 3.8" (90mm x 96 mm )

### Software

● <b>Driver Support</b>	-Lantasti 4.x/5.xdriver -NDIS 2.x driver -Packet driver -SCO UNIX driver -Netware ODI driver -NDIS 3.0 miniport driver for Windows NT 31, Windows NT 35 and Windows 95 -OS2driver
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	-Netware serverdriver
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**Standard**

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| ● PC/104 8-bit and 16-bit compatible                         |
| ● Built in IEEE 802.3 10 Mbps CSMA/CD 10BASE-T transceiver   |
| ● 10BASE-2, 10BASE-5 and 10BASE-FDRL by external transceiver |

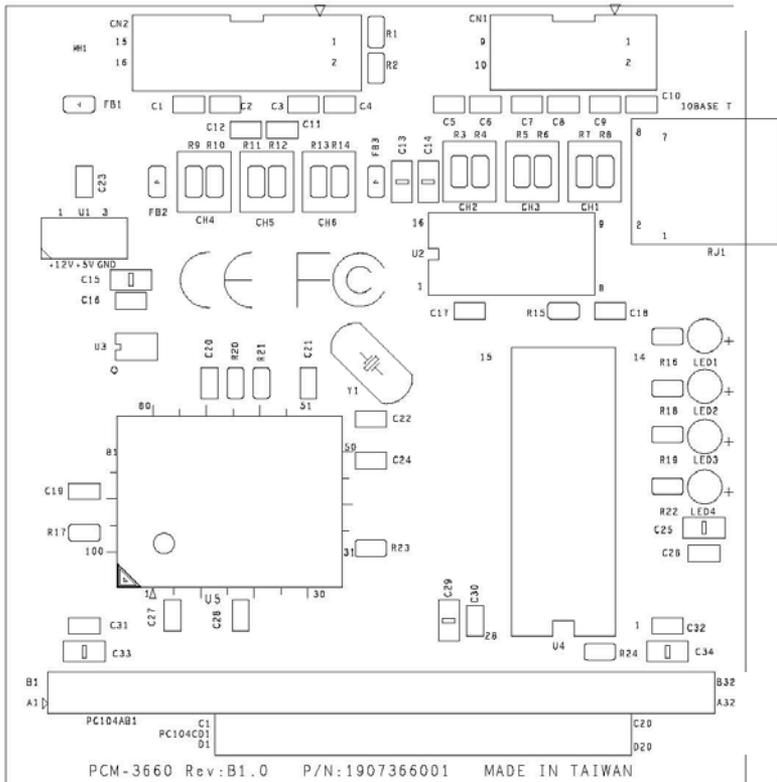
**General**

● <b>Power</b>	+5 V 400 mA max.
● <b>Operating Temperature</b>	32°F~140°F (0°C ~ 60°C)
● <b>Storage Temperature</b>	5°F~176°F (-15°C ~ 80°C)
● <b>Humidity</b>	10% ~ 90%

## Installation

Your package should contain the following items. If they are missing, damaged or fail to meet specifications, contact your dealer/sales representative immediately.

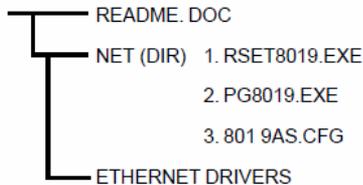
- PCM-3660 Rev.B
- Drivers



## Software Configuration

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The PCM-3660 Rev. B module is supplied with a software utility disk. This disk contains the files necessary for setting up the Ethernet controller. Directories and files on the disk are as follows:



### 1. RSET8019.EXE

This program enables you to view the current Ethernet configuration, reconfigure the Ethernet interface (medium type, etc.), and execute useful diagnostic functions.

### 2. PG8019.EXE

The PCM-3660 is initially set up at the factory using this program. When you receive your card, use RSET8019.EXE to configure it for the working environment. If by chance the EEPROM becomes corrupted, the PG8019.EXE program allows you to reconfigure the card.

### 3. 8019AS.CFG

When you run PG801 9.EXE, it will read the configuration parameters stored in this file.

## Ethernet Interface Configuration

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The PCM-3660 Rev.B onboard Ethernet interface supports all major network operating systems. I/O address and interrupts are easily configured via the RSET801 9.EXE program included on the utility disk.

The RSET8019.EXE program provides two ways to configure the Ethernet interface. Configuration can be done automatically when you choose PNP (plug and play). When you choose jumperless configuration, the following IRQ and I/O address settings are available.

### Ethernet Settings

Default Settings: IRO=5; Address=300H

	IRQ option	I/O address range
Jumperless Configuration	3, 4, 5, 9,10, 11,15	200-3FFH

#### **Note:**

1. You can select an IRQ from the Options shown above, but be sure that your selection does not conflict with other I/O devices.
2. When Boot ROM is installed, the RSET8019.EXE program does not support PNP mode configuration.

To execute the configuration, to see the current configuration, or run diagnostics as followings:

1. Power the PCM-3660 Rev.B on. Make sure that the RSET8019.EXE file is located in a working directory.
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2. At the prompt type RSET8019.exe and press **<Enter>**. Then the Ethernet configuration program will be displayed.

3. A simple screen displays the available options for the Ethernet interface. Highlight the option you are going to change and using the Up and Down keys. To change a selected item press **<Enter>**, and a window will show the available options. Highlight your selection and press **<Enter>**. Each highlighted option has a helpful message guide displayed at the bottom of the screen for additional information.

4. After you have made your selections and you are sure that this is the configuration you want, press **<ESC>**. A prompt will appear asking if you want to save the configuration. Press **Y** if you want to save.

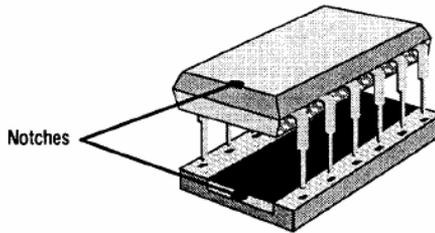
The Ethernet Setup Menu also offers three very useful diagnostic functions. These are:

1. Run EEPROM test.
2. Run Diagnostics on Board.
3. Run Diagnostics on Network

Each option has its own display screen which shows the format and result of any diagnostic tests undertaken.

Remote boot ROM (P/N: PCL-843-ROM)

A boot ROM allows you to boot the workstation directly from the server, avoiding the need for local hard or floppy disks. Install the boot ROM as shown below. Make sure that you align the notch on the ROM chip with the notch on the socket.



## Hardware Installation

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The following instructions show how to install the PCM-3660 Rev.B module on a CPU card. The process is similar to PC/104 CPU modules' and see the figures.

Make sure that you have properly configured the module's jumpers and attached a boot ROM if necessary.

### **Warning!**

*TURN OFF your PC power supply whenever you install or remove the PCM-3660 Rev.B or connect and disconnect cables.*

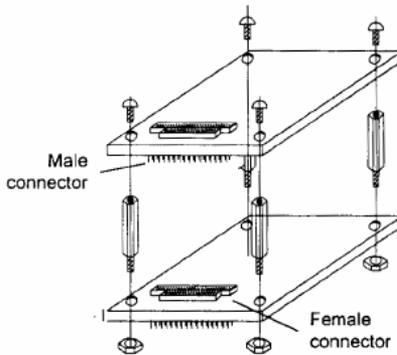
1. Turn off the power of the PC. Turn off the power of any peripheral devices, such as printers and monitors.
2. Disconnect the power cord and any other cables from the back of the computer.
3. Remove the cover of the system unit (see the user's guide for your chassis if necessary)
4. Remove the CPU card from the chassis (if necessary) and access the card's PC/104 connector.
5. Screw the brass spacer (included with the module) into the threaded hole on the CPU card. Do not tighten too much, or the threads may be damaged.
6. Carefully align the connector pins of the PCM-3660 Rev.B (PC104AB1 and PC104CD1) with the PC/104 connector. Slide the module into the connector. The module pins may not slide all the

way into the connector; Do not push too hard or the module may be damaged. If the CPU card has only an 8-bit bus, make sure that the pins on connector PC104CD1 do not touch anything.

7. Secure the module to the CPU card to the threaded hole in the CPU card using the included screw.

8. Reinstall the CPU card and system unit cover. Reconnect the cables you removed in step 2. Turn on the power.

This completes the hardware installation. Install the software drivers according to the instructions of your operating system.



## Ethernet Connection Specifications

The following table shows the network specifications for each Ethernet.

Ethernet Type	Data transfer rate	Topology	Cable Type	Segment Length
10 Base-2	10 Mbps	Bus	50 Ohm Ethernet thin (RG-58)	185m (607 ft.) max.
10 Base-5	10 Mbps	Bus	50 Ohm Ethernet thin (RG-11)	500m (1640 ft.) max.
10 Base-T	10 Mbps	Star	100 Ohm unshielded twisty pair	100m (328 ft.) max.

## Pin Assignment (CN2)

GND  
CD+  
TX+  
GND  
RX+  
GND

1	2
3	4
5	6
7	8
9	10
11	12
13	14
15	16

CD-  
TX-  
GND  
RX-  
AUI+12V  
GND  
AUI+5V

## RJ-45 Connector (RJ1)

Pin	Signal	Description
1	TD+	Data transmission positive
2	TD-	Data transmission negative
3	RD+	Data reception positive
6	RD-	Data reception negative

## LCD Indicators

The module's two LED indicators show the status of the communication link and traffic.

LED	On	Flashing	Off
LED2	-	Traffic	No traffic
LED3	Link OK	-	Link failure

## RJ-45 Pin assignments

