

# **4161 MANUAL**

**PC104-PLUS 100BT Ethernet**

PRELIMINARY V1.0



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# GENERAL

## DESCRIPTION

The 4I61 is a low cost, high performance 10/100 BaseT Ethernet card in PC/104-plus format. It uses the National Semiconductor DP83815 Ethernet chip with integrated PHY for minimum component count and reliability.

The 4I61 is a universal card and can work in 5V and 3.3V systems. It is a PC/104-PLUS card, meaning that in addition to the stackthrough PCI connector, the standard PC/104 stackthrough connector is available. The 4I61 can use PC104-Plus slots 0,1, 2

The 4I61 supports full duplex in both 10BT and 100BT modes with 802.3u compatible autonegotiation. A ROM socket is provided for network boot uses. The ROM socket supports writing to flash EEPROMs.

The 4I61 has VLAN and long frame support. A connector is provided for three external status LEDs: link10,link100 and activity

# HARDWARE CONFIGURATION

## GENERAL

Hardware setup jumper positions assume that the 4I61 card is oriented in an upright position, that is, with the PC/104 connectors towards the person doing the configuration, and the on card writing right-side-up.

## PC104-PLUS SLOT NUMBER

The 4I61 card must be assigned a slot number before use. In desktop PCI system the slot number is determined by the physical slot that the PCI card is inserted into. In PC104-PLUS systems, all signals on the bus are the same for each card, so a method is needed to differentiate each card. This is done with the slot number jumpers the 4I61 card. 2 jumpers. W3 and W4 determine the 4I61 slot assignment. The following table shown the jumper settings:

W3	W4	SLOT	IRQ	REQ/GNT	NOTES
DOWN	DOWN	0	A	0	DEFAULT
DOWN	UP	1	B	1	
UP	DOWN	2	C	2	
UP	UP	3	D	2	SHARES SL2 RQ/GNT

## BOOT EPROM

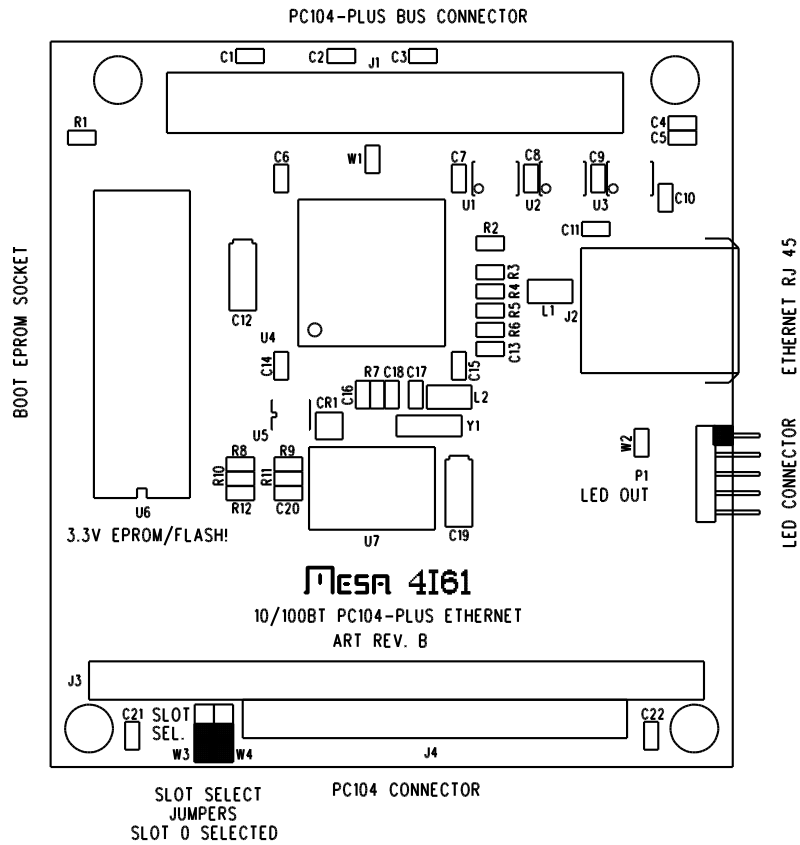
The 4I61 can accommodate a boot EPROM or Flash EEPROM. Socket U6 is provided for the EPROM or flash EEPROM. The 4I61 will only support 3.3V ,32 pin EPROM and Flash EEPROMs.

## ETHERNET ADDRESS

The hexadecimal MAC address is printed on a label on the front edge of the PC/104 connector of the 4I61 card.

# CONNECTORS

## CONNECTOR LOCATIONS AND JUMPER POSITIONS



# CONNECTORS

## ETHERNET CONNECTOR

J2 is the RJ45 Ethernet connector. J2 has built in link and activity LEDs J2 pinout is as follows:

<b>PIN</b>	<b>FUNCTION</b>
<b>1</b>	<b>XMIT+</b>
<b>2</b>	<b>XMIT-</b>
<b>3</b>	<b>RCV+</b>
<b>6</b>	<b>RCV-</b>

## LED CONNECTOR

P2 is an LED connector that can be used if externally visible status LEDs are needed. External LEDs connect with their anodes to +3.3V and their cathodes connected to the appropriate active low drive signal. LED current limit resistor are provided on the 4I61 card. Pin 1 of P1 is marked with a white square on the 4I61 card. P1 is a 10 pin .1" header. P1 pinout is as follows:

<b>PIN</b>	<b>FUNCTION</b>
<b>1</b>	<b>GND</b>
<b>2</b>	<b>GND</b>
<b>3</b>	<b>/100BT LINK</b>
<b>4</b>	<b>/100BT LINK</b>
<b>5</b>	<b>/ACTIVITY</b>
<b>6</b>	<b>/ACTIVITY</b>
<b>7</b>	<b>/10BT LINK</b>
<b>8</b>	<b>/10BT LINK</b>
<b>9</b>	<b>+3.3V</b>
<b>10</b>	<b>+3.3V</b>

# **OPERATION**

## **DRIVERS**

The Distribution disk supplied with the 4I61 has drivers for Windows 9X,NT,2K,CE,ME, DOS, Linux , Vxworks and Netware. In addition the DP83815 chip used on the 4I61 is supported by FreeBSD, NetBSD, OpenBSD, and QNX.



# SPECIFICATIONS

	MIN	MAX
POWER SUPPLY	4.5V	5.5V
POWER CONSUMPTION:		
ACTIVE	----	250 mA
IDLE	----	175 mA
SLEEP MODE	----	35 mA
OPERATING TEMP.	0°C	+70°C
OPERATING TEMP. (-I version)	-40°C	+85°C
OPERATION HUMIDITY	0	95% NON-CONDENSING