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# 2-Slot PC Card (PCMCIA and CardBus) Carrier

**NEW**

## NI 8221, PXI-8220

- 2-slot PC Card adapter in a single-slot PXI module
- Two type I/II cards or one type III card acceptance
- Compatible 3.3 or 5 V PC Card
- PCI interface for maximum performance
- Serialized interrupt request (IRQ) in PXI handles legacy ISA-style interrupts

### NI 8221

- Handles PCMCIA (16-bit) and CardBus (32-bit)
- Compatible with NI 8171 Series embedded controllers

### PXI-8220

- Handles PCMCIA (16-bit)
- Compatible with PXI-8150, PXI-8150B, and PXI-8170 Series embedded controllers

### Compatible Operating Systems

- Windows 2000

### Applications

- PC Card flash hard disks for removable storage media
- Sound cards
- Bus interfaces
- Video cards
- Modems
- Any PC Card function



## Overview

The NI 8221 and PXI-8220 accept two PC Cards in a single-slot PXI module, giving you more options for expanding PXI and CompactPCI systems. You can use the NI 8221 and PXI-8220 to add any functionality currently available in PCMCIA plug-ins. Additionally, the NI 8221 accepts CardBus plug-ins.

Use the NI 8221 with the new NI 8171 Series of PXI embedded controllers. Use the PXI-8220 with the legacy PXI embedded controllers, such as the PXI-8150, PXI-8150B, and PXI-8170 Series. Because you cannot use NI embedded controllers behind a MXI-3 remote controller, you must place both the NI 8221 and PXI-8220 PC Card carriers in the same chassis.

## Hardware

The NI 8221 and PXI-8220 PC Card adapters can control two fully independent PC Card sockets. They accept either two type I or type II PC Cards or one type III PC Card. Both modules handle 16-bit PCMCIA PC Cards, and the NI 8221 also handles 32-bit CardBus PC Cards that can operate at the full speed of the PCI bus (132 Mbytes/s). The NI 8221 can also handle mixed operation of PCMCIA and CardBus PC Cards.

### INFO CODES

For more information, or to order products online, visit [ni.com/info](http://ni.com/info) and enter:

ni8221

pxi8220

**BUY ONLINE!**

	NI 8221	PXI-8220
PCMCIA (16-bit) compatibility	✓	✓
CardBus (32-bit) compatibility	✓	X
For use with NI 8171 Series embedded controllers	✓	X
For use with PXI-8150, PXI-8156B, and PXI-8170 Series embedded controllers	X	✓
For use with PXI-833x MXI-3 remote controllers	X	X

Table 1. PC Card and PXI Controller Compatibility



Figure 1. Use a PC Card flash hard disk with the NI 8221 PC Card adapter for easily removable memory storage or as the booting hard drive for your PXI system.

# 2-Slot PC Card (PCMCIA and CardBus) Carrier

## Serialized IRQ

The NI 8221 and PXI-8220 PC Card adapters implement a special feature of the PXI and CompactPCI specification called Serialized IRQ for handling PCMCIA PC Cards. Serialized IRQ implements standard ISA interrupt requests in a PCI-based system, such as PXI or CompactPCI. This approach provides a mechanism for communicating between ISA legacy components, such as PCMCIA, with PCI components and controllers.

## LED Indicators

The NI 8221 and PXI-8220 PC Card adapters have two independent LED status indicators that light when a PC Card is properly installed and configured. The modules automatically supply the power required by either 3.3 or 5 V PC Cards.

## Ordering Information

NI 8221 .....	778470-01
PXI-8220 .....	777689-01

Includes the PXI module and driver software

## Specifications\*

Complies with the PXI specification, CompactPCI (PICMG 2.0), and Serialized IRQ Specification  
 Compatibility for PCI Systems Specification Revision 6.0, PC Card Standard, PCMCIA 2.1, and JEIDA 4.1

### Power Requirements

+5 VDC .....	100 mA + PC Card requirements
+3.3 VDC .....	100 mA + PC Card requirements
+12 VDC .....	PC Card requirements
-12 VDC .....	PC Card requirements
Total power .....	1 W plus PC Card requirements, maximum

### Physical

Dimensions.....	16.0 by 10.0 cm (6.3 by 3.9 in.), 3U
Weight	
NI 8221 .....	180 g (6.4 oz)
PXI-8220 .....	140 g (5 oz)
I/O connector .....	Two 68-pin PC Card sockets

### Operating Environment

Ambient temperature range .....	0 to 55 °C (Meets IEC-60068-2-1 and IEC-60068-2-2.)
Relative humidity range .....	10 to 90%, noncondensing (Meets IEC-60068-2-56.)

### Storage Environment

Ambient temperature range .....	-20 to 70 °C (Meets IEC-60068-2-1 and IEC-60068-2-2.)
Relative humidity range .....	5 to 95%, noncondensing (Meets IEC-60068-2-56.)

### Shock and Vibration

Functional shock .....	30 g peak, half-sine, 11 ms pulse (Meets IEC 60068-2-27. Test profile developed in accordance with MIL-T-28800E Class 3.)
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### Random Vibration

Operating .....	5 to 500 Hz, 0.31 $g_{rms}$
Non-operating .....	5 to 500 Hz, 2.46 $g_{rms}$ (Meets IEC 60068-2-64. Non-operating test profile developed in accordance with MIL-T-28800E and MIL-STD-810E Method 514.)

### Safety and EMC/EMI Compliance

Safety.....	EN 61010-1:1993
EMC/EMI .....	CE, C-Tick, and FCC Part 15
Electrical emissions .....	EN 55011 Class A at 10 m, and FCC Part 15 Class A above 1 GHz
Electrical Immunity .....	EN 61326: 1998, Table 1

\*Specifications subject to change without notice



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