# 41-921, 51-921
# PCI to PXI Remote Control Interface

- **Provides Seamless Interface Between a PC Controller PCI and PXI Chassis**
- **Supports Two PXI Chassis From A Single PCI Card**
- **2.5Gb/s StarFabric™ Serial Interface Ensures Fast Operation**
- **Supports 32/64 Bit & 33/66MHz PCI Interfacing**
- **Uses RJ45 Connectors, Shielded Cat 5E Cables**
- **Operating System Independent**
- **Low Power Consumption, Supporting 5V and 3.3V PCI**
- **Single Slot 3U PXI Module (41-921)**
- **Single Slot Short PCI Card (51-921)**



**Use 41-921A & 51-921A For New Designs**

The 41-921 and 51-921 provide a seamless connection between a control PC's PCI interface and a PXI chassis. The 51-921 resides in one of the controllers PCI slots and provides two independent StarFabric™ serial interfaces, each capable of driving a separate PXI chassis.
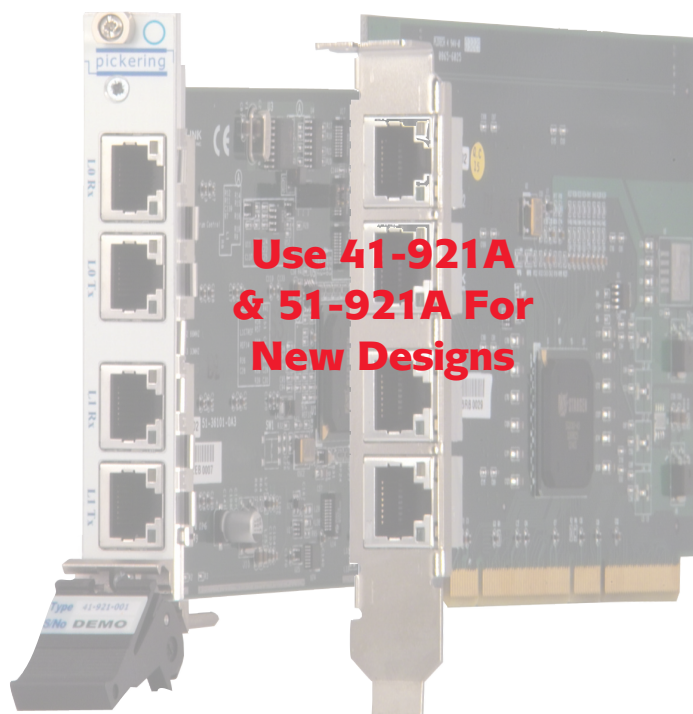
The 41-921 resides in the Slot 1 position of a PXI chassis and interfaces to the backplane of the PXI chassis. When located in a generic peripheral slot the 41-921 can be used to drive two extension PXI chassis.

The use of the StarFabric™ interface operating at 2.5Gb/s minimizes the impact on system speed. The PCI interface of the 51-921 supports both 32 bit and 64 bit operation and backplane speeds of 33MHz and 66MHz, ensuring the highest speed operation under all conditions. The StarFabric™ interface ensures the modules perform seamlessly with no impact on the test system software.

The serial interface connections are made using RJ45 connectors and shielded twisted pair cables (2 per interface connection) to cover distances up to 10m.

The 41-921 and 51-921 are designed to minimize the space taken, and the cost, of control interfaces in both the controller and the PXI chassis for larger systems requiring multiple chassis.

The 41-921 and 51-921 are the ideal choice of PXI chassis control, providing the highest performance and the most cost effective solution with the smallest system mechanical occupancy.

NOTE: The 41-921/51-921 StarFabric™ interface is not compatible with the Windows 7 operating system.

The 41-921A/51-921A is available which includes Windows 7 support and existing 41-921/51-921 modules can be upgraded - contact your Pickering sales office for information.
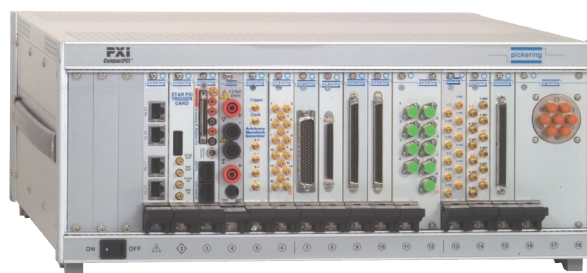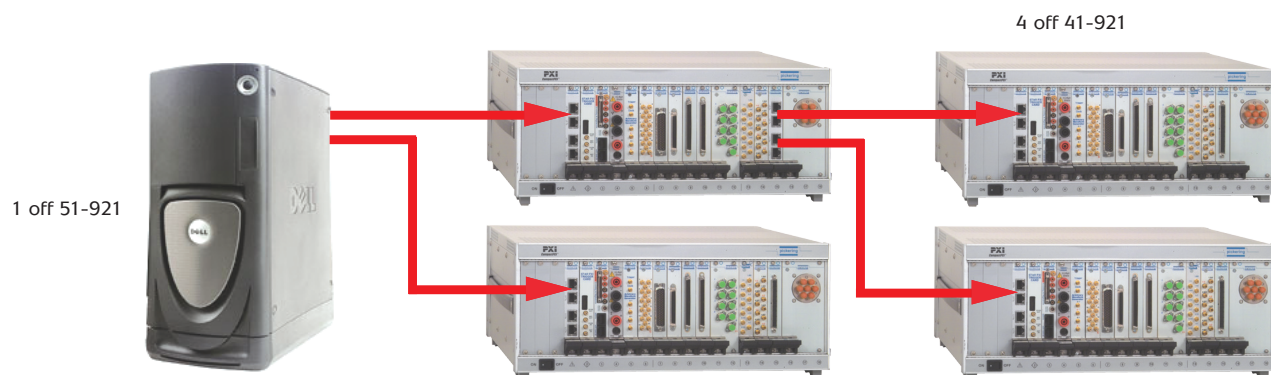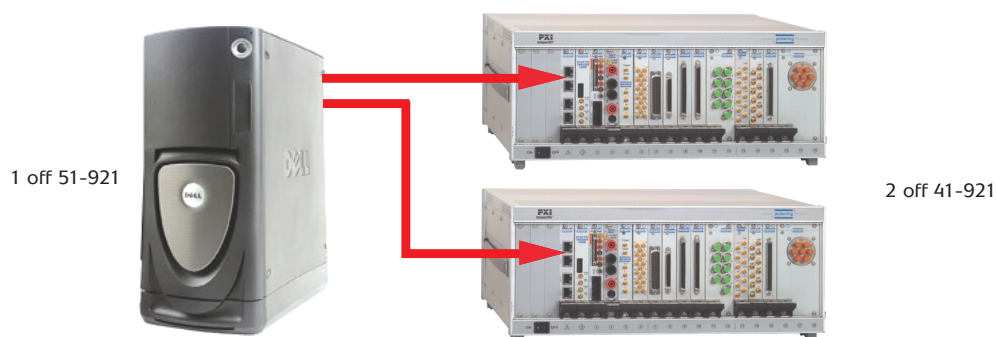
For new applications we recommend the use of the 41-924-001-KIT to provide the simplest support for Windows 7 (and future operating systems) and modern PC platforms.



**Typical PXI System Using the 41-921 Remote Control Interface**

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## Typical System Configurations

**Based on Single 51-921 module.**

1 off 51-921                1 off 41-921

1 off 51-921                2 off 41-921

4 off 41-921

1 off 51-921
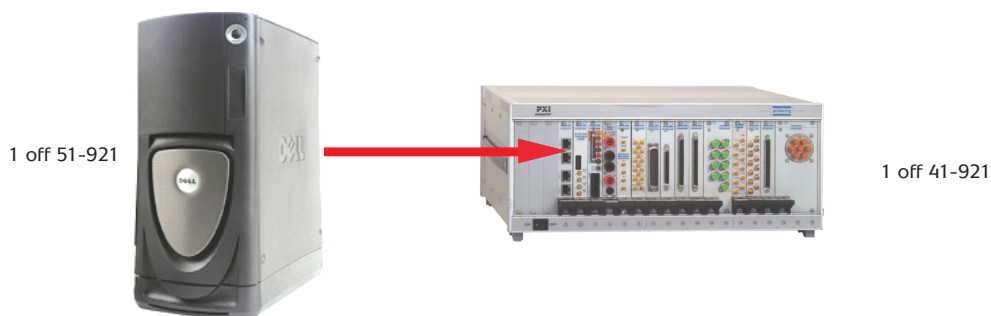
**Based on Dual 51-921 modules.**

4 off 41-921

2 off 51-921
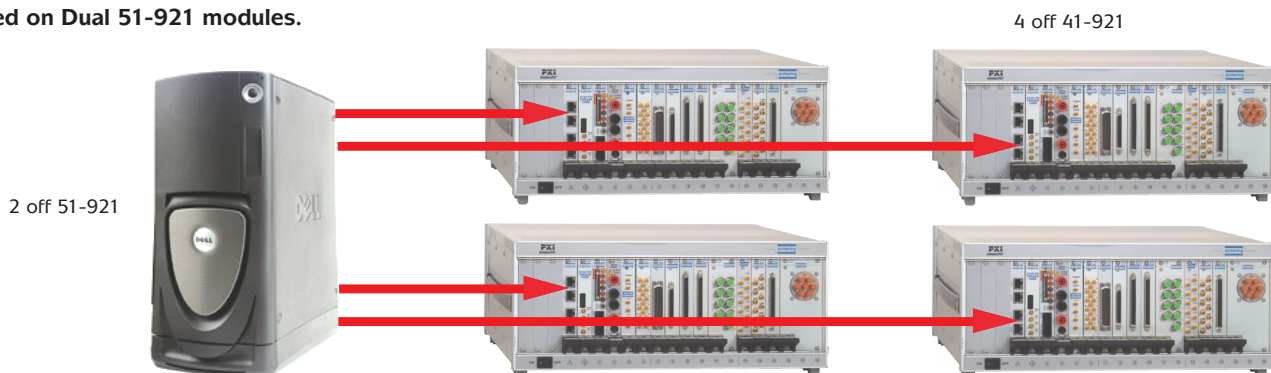
The 41-921 and 50-921 modules each support two serial interfaces allowing the cost effective expansion of PXI test systems with the minimum number of slots being consumed.

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## Functionality

51-921 provides two ports between PCI backplane and independent Star Fabric serial interfaces.

41-921 provides a StarFabric™ serial interface connection to the PXI backplane. When placed in a generic PXI slot the 40-921 provides two StarFabric™ interfaces that extend the PXI chassis connection to two further chassis. Further chassis can be added in daisy chain or tree arrangements.

Operation of the modules is operating system and test system software independent.

## Chassis Compatibility

51-921 is suitable for any PC with a single PCI slot.

41-921 is suitable for any chassis compliant with the PXI/cPCI standard

## Maximum Data Transfer

132 Mbytes/sec (32 bit, 33 MHz PCI)
528 Mbytes/sec (64 bit, 66 MHz PCI)

## Maximum Connection Distance

10 m using shielded RJ 45 Cat 5E cables (two per link)

## Mechanical

51-921:     1 PCI slot of the control PC
41-921:     1 slot of 3U or 6U PXI/cPCI chassis (using a mechanical adaptor)

Each module supports two StarFabric™ serial interfaces.

Serial interface connectors use RJ45 connectors, 2 pairs per interface.

## Power Requirements

|        | +3.3V | +5V | +12V | -12V |
|--------|-------|-----|------|------|
| **51-921** | 250mA | 190mA | 0 | 0 |
| **41-921** | 0 | 540mA | 0 | 0 |

## Width and Dimensions

51-921:     Single slot short PCI Card
41-921:     Single slot 3U PXI module (CompactPCI card)

## PXI & CompactPCI Compliance

All Pickering Interfaces PXI modules comply with the PXI Specification 2.2. Local Bus, Interrupts, Trigger Bus and Star Trigger are not implemented.

## Safety & CE Compliance

All modules are fully CE compliant and meet applicable EU directives:  Low-voltage safety EN61010-1:2001, EMC Immunity EN61000-6-1:2001, Emissions EN55011:1998.

## Operating/Storage Conditions

### Operating Conditions

Operating Temperature:     0°C to +55°C
Humidity:                  10 to 90% non-condensing
Altitude:                  5000m

### Storage and Transport Conditions

Storage Temperature:       -20°C to +75°C
Humidity:                  10 to 95% non-condensing
Altitude:                  15000m

## Comparison With National Instruments MXI-4™

National Instruments launched the orginal MXI-3 serial remote interface for PXI in the late 90's.  Pickering's 41-921/51-921 has all the  capabilities of the original MXI-3 but with much improved capacity, operating speed, bus width and value and all built around an industry standard interconnect, StarFabric™.

|  | Pickering 41-921/51-921 | National Instruments MXI-4 |
|---|---|---|
| **Transparent Operation** | Yes | Yes |
| **Supports All OS's** | Yes | Yes |
| **Supports Both 3.3V and 5V PCI** | Yes | Yes |
| **Uses Industry Standard Interconnect** | Yes, StarFabric™ | No, Proprietary |
| **Bus Speeds Supported** | 33MHz and 66MHz | 33MHz only |
| **Bus Widths Supported** | 32 Bit and 64 Bit | 32 Bit only |
| **Uses Low Cost Cabling** | Yes | No, Proprietory only |
| **Supports 1 or 2 PXI Chassis** | Yes | 1 only |

## Product Order Codes

| | |
|---|---|
| PCI To PXI Remote Control Kit | **41-921-001-KIT** |
| (complete kit: 51-921-001, 41-921-001, 2 x Cat5E 2m cables) | |
| PCI To Star Fabric Module | **51-921-001** |
| Star Fabric To PXI Module | **41-921-001** |

## Mating Connectors & Cabling

Please refer to the Pickering Interfaces **"Connection Solutions"** catalog for a full list of connector/cabling options, including drawings, photos and specifications.  This is available in either print or as a download.

Alternatively our web site has dynamically linked connector/cabling options, including pricing, for all Pickering PXI modules.
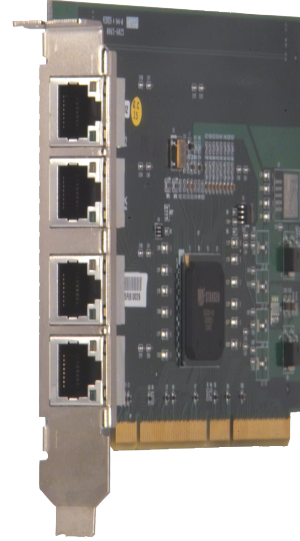


## Latest Details

Please refer to our Web Site for Latest Product Details.
www.pickeringtest.com
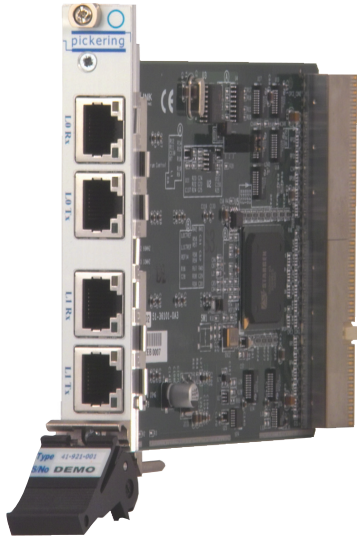
**41-921 PXI Module (Resides in Slot 1 of PXI Chassis)**



**51-921 PCI Card (Resides In Host Computer)**

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