

Application: Multi-Port Network Interface Pericom Device: PI7C7300 3-Port PCI-to-PCI Bridge

Overview

A rapidly growing number of households today contain multiple Personal Computers (PC's) and peripherals. Like a small business, these products are being linked together to create a small network. This can be accomplished through the use of Routers, Hubs, and/or Multi-Port Network Interface Cards (NIC). Figure 1 shows a typical small network configuration.

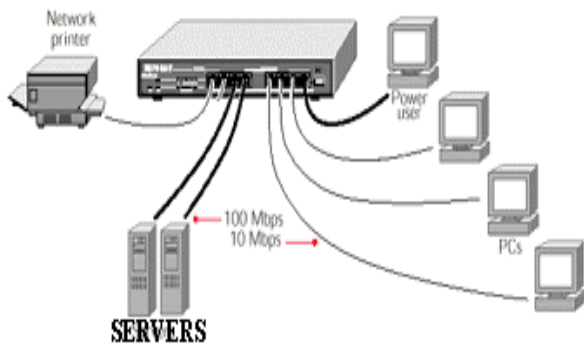


Figure 1

The Server is a place where files can be shared and accessed by the other PC's on the network. Multiple connections can be attached to the Server via a Multi-Port Network Interface Card (NIC). The PI7C7300 3-Port PCI-to-PCI Bridge allows each NIC to have more than 1 port.

Multi-Port NIC

Located inside the Server is a PCI Bus. What is PCI? PCI stands for "Peripheral Component Interconnect", and is an interconnection system between a microprocessor and attached devices. You'll recognize this inside your PC as the slots that the peripheral cards attach to. Because the PCI bus has loading restrictions, only four or five slots (typical) are available in each Server. With video cards, audio cards,

and other multimedia peripherals taking a number of the slots, there aren't enough slots left for multiple NIC's to connect to the other PC's on the network. Multiple ports or network connections can be combined on one card by using the PI7C7300 PCI Bridge. This way, multiple ports are achieved while only taking up one slot on the PCI bus. Figure 2 shows the configuration of a multi-port NIC.

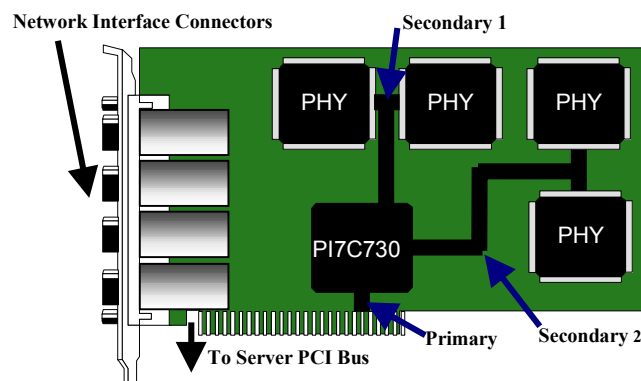


Figure 2

The Primary Port of the PI7C7300 is connected to the PCI bus of the Server. Each Secondary Port of the PI7C7300 has 2 network interfaces. Without the PI7C7300, only one of the network interfaces would be able to connect to the PCI Bus on the Server.

Key Features & Specifications:

PI7C7300

[PI7C7300 Data Book](#)

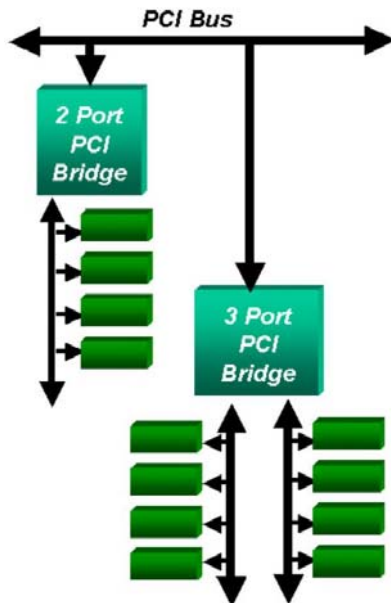
- ❑ 32-bit/66MHz on Primary Port and Two Secondary Ports
- ❑ Compliant with the *PCI Local Bus Specification, Revision 2.2*
- ❑ Compliant with the *PCI-to-PCI Bridge Architecture Specification, Revision 1.1*
- ❑ Three 128-byte FIFO's for delay transactions and posted memory transactions
- ❑ Dual Addressing Cycle (DAC)
- ❑ Industrial Temperature Range -40°C to 85°C
- ❑ 272-ball PBGA package (NA272)

Key Benefits

- ❑ Supports up to 16 devices
 - 8 on each Secondary Port
- ❑ Saves space, power, and cost over 2 “traditional” 2-port bridges
- ❑ Integrated switching fabric allows for peer-to-peer transactions between secondary ports

Competing Solutions

Competing solutions from companies like Intel offer a 2-Port device rather than the 3-Port solution. In some cases, this requires the customer to purchase two of the competitors' parts to accomplish what the PI7C7300 can do alone.



Additional Information and Sales Tools

- ❑ Application Notes on the Web
 - *Three Port PCI Bridge Performance Advantages*
[AN40.pdf](#)
 - *Schematic & Board Layout Recommendations for PI7C7300*
[AN44.pdf](#)

Product Status

- ❑ Samples: Available Today
- ❑ Production: 8 - 10 Week Leadtime

Contact Information

Please contact your local Pericom sales representative or franchised distributor.

Or contact Pericom at:

Steve Lam
 Product Marketing Engineer
 Pericom Semiconductor Corporation
 408-435-0800 x213
<mailto:slam@pericom.com>