

# Matrox Networks

## Specialized PC Server NICs

*Matrox Networks provides superior solutions to meet your growing network needs - today and in the future.*

Matrox Networks offers a complete and innovative suite of specialized PCI cards designed specifically for PC servers. Matrox is the first company to incorporate high-end network performance directly into the server to meet bandwidth and bottleneck problems head-on. Our suite of PCI cards boasts an incredible feature set including: peer to peer switching (Ethernet/Fast Ethernet), multiple repeater ports (Fast Ethernet), multiple Client/Server segments (Ethernet/Fast Ethernet), high speed server up-links, auto-negotiation between 10/100Mbps, SNMP Management, low server CPU utilization, built-in intelligence... to mention but a few. These revolutionary PCI cards provide small businesses and corporate workgroups with a simple and cost-effective solution to improve performance in Client/Server and peer-to-peer environments.

## Matrox Piranha SwitchNIC-10/8

### All-In-One Ethernet Solution

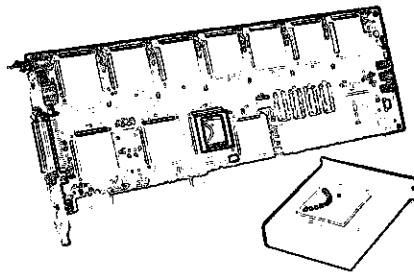
**Matrox Piranha SwitchNIC-10/8** is a revolutionary board that combines an Ethernet Switch, a Multiport Ethernet Adapter and a 1Gbps high speed link to the server's CPU, all on a single PCI card. Piranha offers the most flexible and economical method of bringing switched Ethernet performance to LANs and servers.

Each Piranha SwitchNIC-10/8 board provides eight switched Ethernet segments accelerating LAN performance by up to 800%. The Piranha's non-blocking switching architecture and on-board CPU (i960) provide wire speed switching for each segment. The Piranha's PCI architecture maximizes throughput by reducing overall server CPU utilization.

*"The Matrox Piranha SwitchNIC has a lot going for it. It is inexpensive, reliable, and performs well - all in all, an excellent implementation of switching in a network server"*

*written by: Jeffrey N. Fritz  
Network World, May 6, 1996*

The Piranha SwitchNIC-10/8 is ideally suited for servers with a limited number of PCI slots or for high throughput servers that process multiple network tasks. It is by far the simplest and most cost effective solution for improving performance in Client/Server and peer to peer environments.



Matrox Piranha SwitchNIC-10/8  
(8 Switched 10BaseT ports)  
RJ-45 Connector

### Features

- Eight switched 10BaseT ports
- Wire speed switching
- 1 Gbps high speed up-link to the server
- Full duplex operation
- 16 000 MAC addresses
- SNMP Agent (MIB II compliant)
- Driver Support: Novell Netware®, Microsoft® Windows NT™
- Spanning Tree Algorithm (for Novell Netware®)

### Specifications

- Three year warranty
- EMC: FCC Class A, CE
- Power: +5V, 4.5 Amp max
- 8 RJ-45 10BaseT connectors
- Bus mastering capability
- PCI V2.1 compliant
- Full support of IEEE 802.3, ISO/IEC 8802-3
- Status LEDs and Auto Polarity Detect
- Support for Category 3 and 5 UTP wiring

## Matrox Shark 100 Multiport NIC

### All-In-One Fast Ethernet Solution

**Matrox Shark-100 Multiport NIC** is a high performance PCI adapter to meet the needs of servers today and in the future. This PCI card provides four independent channels of 10BaseT/100BaseTX Ethernet while occupying just one of the server's precious PCI slots. The Shark maximizes access to high performance applications (ie. Intranets, Databases and Desktop Video). It is the perfect solution for connecting multiple LAN segments to a single server.

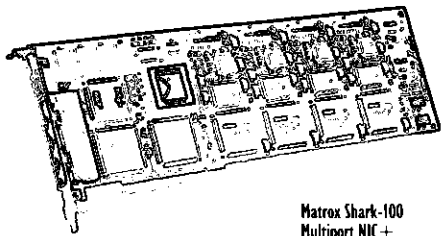
**The Shark-100 Multiport NIC+** version provides all of the above, plus an integrated CPU (i960). The Shark takes advantage of this unique on-board CPU architecture to provide two distinct performance enhancements:

1. *Accelerated Client/Server Communications*  
The Shark provides a "performance driver" specifically developed for its on-board CPU suited for users performing intensive Client/Server requests. By combining the on-board CPU and the "performance driver", overall Client/Server communication is maximized and server CPU utilization is reduced by up to 40%. These unique drivers provide superior packet transport performance across Fast Ethernet networks.

2. *Ethernet/Fast Ethernet Switching*  
For users performing high-bandwidth peer to peer applications, the Shark provides a "SwitchNIC driver" specifically for its on-board CPU. The Shark's CPU now acts as a switching engine, allowing all four of the card's segments to be switched over a 1 Gbps bus (independent of the Host PCI bus). Users benefit from increased workgroup performance and the need for an external workgroup switch is eliminated.

## Matrox Shark Fast Ethernet HubCard

By utilizing the processing power of the on-board CPU, the Shark allows users to benefit from high-end network performance and functionality - not typically found in standard Network Adapters.



Matrox Shark-100  
Multiport NIC +  
(4 ports 100BaseTX)

### Features

- Four ports of 10BaseT/100BaseTX
- 800 Mbps aggregate bandwidth
- Full Duplex operation
- Optional on-board CPU(i960) provides:
  - \* "Performance driver" to accelerate Client/Server communications
  - \* "SwitchNIC driver" for Ethernet/Fast Ethernet switching
- SNMP Agent (MIB II compliant) for SwitchNIC version
- Driver Support: Novell Netware, Microsoft Windows NT
- Spanning Tree Algorithm (for Novell Netware)
- Bracket mounted LEDs for Link Activity and Collisions

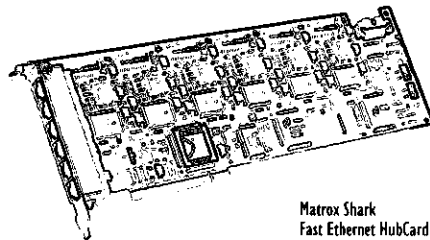
#### Specifications

- Three year warranty
- EMC: FCC Class A, CE
- Power: 25 Watts (NS-100/4/C)  
20 Watts (NS-100/4)
- Bus mastering capability
- PCI V2.1 compliant
- Full support of IEEE 802.3, 802.3u, ISO/IEC 8802-3
- Support for Category 3 and 5 UTP wiring

### Six Port Fast Ethernet - PCI HubCard

**Matrox Shark Fast Ethernet HubCard** is the ideal solution for workgroups that perform high bandwidth applications. It provides six shared Fast Ethernet (100BaseTX) ports, an additional shared Fast Ethernet port for communication between the Card and the server's CPU and on-board management capabilities - all on a single PCI card that installs directly into a server.

This revolutionary HubCard combines the ease and simplicity of a Network Interface Card with the performance and functionality of a Fast Ethernet Hub. The Shark Fast Ethernet HubCard provides ten times the performance of standard Ethernet, increases bandwidth, eliminates bottlenecks and ensures low port-to-port latency. If network nodes increase, an on-board expansion bus allows additional ports to be added simply by stacking multiple cards within the same server. The additional Fast Ethernet port provides direct communication between the HubCard and the server's CPU (managed version). The HubCard provides the most logical solution for today's Client/Server applications.



Matrox Shark  
Fast Ethernet HubCard  
(6 ports shared 100BaseTX)

### Features

- Six shared 100BaseTX ports (Class II-Repeater)
- An additional shared port for high bandwidth communication to the server's CPU
- On-board expansion bus to stack multiple cards (within the same collision domain)
- Scalable solution permits separate collision domains to exist within the same server (by installing multiple managed HubCards).
- SNMP Agent (MIB II compliant)
- Auto-partitioning isolates network failures
- Parallel detection automatically ensures that all connections are at 100 Mbps
- Driver Support: Novell Netware, Microsoft Windows NT

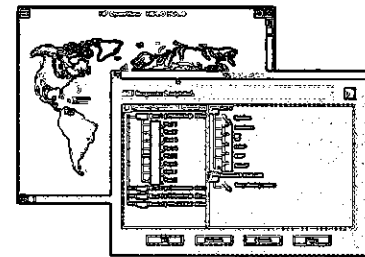
#### Specifications

- Three year warranty
- EMC: FCC Class A, CE
- Power: 25 Watts
- Bus mastering capability
- PCI V2.1 compliant
- Full support of IEEE 802.3, ANSI 8802-3
- Support for Category 3 and 5 UTP wiring

## Matrox Guardian 1.0

### Windows Based Network Management

**Matrox Guardian** is a Windows based network management software package running under HP OpenView for Windows. It is designed specifically for networks that utilize our specialized PC Server NICs. Guardian provides an intuitive graphical user interface that allows network managers to monitor and control their networks with ease and simplicity.



Matrox Guardian 1.0

### Features

- Enable/disable ports
- Program half duplex/full duplex operation
- View network statistics
- View port statistics
- View IP and interface statistics

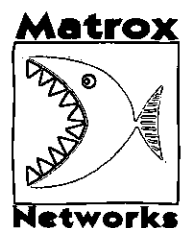
Solutions

Made

Simple

Reliable

Affordable



## About Matrox

Matrox is dedicated to the design, development, manufacturing and marketing of "state-of-the-art" hardware and software products for Graphics, Video, Imaging and Networking. Headquartered in Dorval, Quebec, Matrox employs over 1000 dedicated employees worldwide, has annual sales exceeding \$500 million and a leading R & D team committed to delivering the highest quality products at the most competitive prices. Matrox products have in the past two years alone received over 200 International awards for the "Best of Breed" in such areas as performance, reliability and price.

## Matrox Networks

Matrox Networks, the latest and most innovative division of Matrox, offers the same leading edge technology that has enabled Matrox to grow from a small start-up to a renowned industry leader. Matrox Networks provides high performance networking solutions to enhance Client/Server and peer-to-peer networks. Products include a full and versatile line of 10 and 100 Mbps Ethernet switches and specialized server NICs. For **solutions made simple, reliable and affordable**, look no further than Matrox Networks.



NEW! RLD INTEROP'96 NEW! RLD INTEROP'96

## Ordering Information

Part No.	Description
NS-10/8/8X	8 port SwitchNIC with RJ-45 Connector (MDIX)
NS-10/8/0X	8 port SwitchNIC with RJ-45 Connector (MDI)
NS-100/4	4 port Fast Ethernet NIC
NS-100/4/C	4 port Fast Ethernet NIC - with i960 (includes "performance driver" and "SwitchNIC driver")*
NS-100/1X6	6 port shared 100BaseTX HubCard (standard version)
NS-100/1X6/M	6 port shared 100BaseTX HubCard (managed version)
MTX-Guardian/OV	Management console for Matrox PC Server NICs:

\*Note: "Performance driver" and "SwitchNIC driver" do not run simultaneously on the same Shark-100 Multiport NIC+. User must select which driver to use based on network topology or application desired.

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