



ForeRunnerHE[®] 155 and 622 ATM Network Interface Cards (NICs)

Key Benefits

- Keeps pace with client demands on servers
- Industry's best ATM software, licensed to over 40 partners, including Microsoft, Hewlett-Packard, and SGI
- High-performance, universal PCI support for investment protection
- Superior server connectivity and capabilities
- Solutions for all types of computers deployed in the user environment

Key Features

- ForeThought[®] software support
- Marconi's advanced NetPro ASIC
- 33/66 MHz, 32/64 bit PCI (66 MHz PCI available, HE 622 only)
- Support for 4,000 virtual circuits
- Wide range of operating systems supported
- UBR, VBR, CBR support; 622 Mbps speeds
- ABR PVC
- ABR SVC ready

Unleash the Power of Servers Throughout the Enterprise

ForeRunnerHE[®] ATM NICs, designed to reach a new level for high-performance networking, offer the most advanced features of any ATM NIC, along with the support of Marconi's industry-leading ForeThought software. Targeted to servers and high-performance workstations, ForeRunnerHE NICs set a new standard for high-performance network connectivity.

Servers are the brain centers of any computing-based enterprise. But a server is only useful if you can access it efficiently. The explosion of Internet and intranet installations, along with increased processor speeds, have led to higher demands on server resources. As computing demands increase, so does the need for high-performance network connectivity. ForeRunnerHE NICs deliver 155 Mbps and 622 Mbps of full-duplex connectivity, with software support for multiple cards in a system.

Superior Architecture and Superior Performance

Utilizing 33/66 MHz PCI bus speeds and 64-bit data transfer options, ForeRunnerHE NICs ensure the maximum performance allowed by standards. With silicon support for the ATM Forum ABR specification and up to 4,000 active virtual circuits (with any mix of CBR, VBR, UBR, and ABR) ForeRunnerHE NICs provide industry-leading functionality.

Delivering 155 Mbps and 622 Mbps of full-duplex bandwidth to connect servers directly to ATM backbones, the PCI-based ForeRunnerHE NICs are perfectly designed to manage the bandwidth demands of data, while still ensuring the Quality of Service (QoS) needed for voice and video. They're the ideal choice for high-performance server networking.

Leveraging the Strengths of ATM

ForeRunnerHE NICs eliminate intermediate hops and translation devices between the server and network backbone to measurably increase both LAN and WAN client performance. With 622 Mbps bandwidth, users can aggregate client traffic to relieve network congestion at the server. A ForeRunnerHE connection provides the bandwidth required to support hundreds or even thousands of clients without impacting overall network performance. For redundancy, users can load balance traffic and have failover capabilities at either 155 Mbps or 622 Mbps.

Marconi's leadership in ATM comes to the forefront with features such as 33/66 MHz PCI support, 64-bit data transfer, TCP checksum calculation, dynamic DMA burst sizes, and multiple programmable interrupts to make networking efficient and maximize client/server potential. The NetPro ASIC, the heart of the ForeRunnerHE NIC, is the industry's most advanced ATM ASIC — with hardware support for ABR, VBR, CBR, and UBR. Using this ASIC, voice, video, and data can be carried simultaneously via high-performance systems. And because this is Marconi's fifth generation of ATM NIC technology, the user knows Marconi can deliver on its functionality promises.

TECHNICAL SPECIFICATIONS

Hardware

ATM support:NetPro ASIC supports UBR, CBR, VBR (ABR SVC ready); OC-3c (155 Mbps) and OC-12c (622.08 Mbps) full-duplex capabilities
 Environmental:Operating temperature: 5° to 40° C, up to 10,000 ft; Operating humidity: 20 to 80% relative humidity, non-condensing; Storage temperature: -40° to +70° C, up to 30,000 ft
 DMA support:384 bytes (write), 1536 bytes for HE 622, 768 bytes for HE 155 (read) maximum burst size
 PCI bus:Designed to Universal Peripheral Component Interconnect (PCI) 2.1/2.2 specification PC or server PCI 2.1, 33/66 MHz (66 MHz available only on HE 622), 32-bit addressing, 32- or 64-bit data; 3.3V or 5V; Universal PCI short form factor; cache-line aware design for efficient bus utilization

Power requirements

Electrical:15 watts @ 5 volts
 Optical:-14 to -20 dBm transmit power (HE 155/HE 622); -14 to -30 dBm receiver sensitivity (HE 155); -14 to -26 dBm receiver sensitivity (HE 622)

Connectors and cabling

Multimode fiber:Duplex 62.5 µm/125 µm, 2,000 m maximum, 10 dB loss, SC connectors
 UTP:2-pair, 100-ohm Category 5 UTP or Category 5 Screened UTP cable, 100 m maximum, RJ-45 connector
 Host interface:Full bus mastering, dynamic burst sizing, multiple programmable interrupts, receive queue prioritization, TCP checksum calculation
 Memory:2 MB of synchronous DRAM for buffering; support for 4000 VCs
 Emissions and electrical:Safety: UL1950/CSA 950, EN60950, EN60825, IEC 825.1, Compliance:IEC825.2; EMI: FCC Part 15, Class A, EN55022 Class A, VCCI Class 1, TS016; EMC: EN50082-1, EN50022
 Platform support:Intel Pentium, Pentium Pro, and Pentium II; Sun Microsystems Ultra SPARC; SGI Origin/Onyx 2; DEC Alpha (Windows NT only)

Software

ATM support:ForeThought software, including MPOA, LANE 1.0, and CLIP (RFC1577); AAL5, AAL0, and AAL1 support (via AAL0); UNI 3.0/3.1
 Value-added software:Load-balancing/failover software supports multiple IP interfaces in a single system; Lapp QoS for legacy application service guarantees
 Industry-standard APIs:XTI and WinSock2 for native ATM programming

Compatibility Matrix

ForeRunnerHE 155 and 622 support the following machine types and operating systems:

Machine Types Supported	Operating Systems Supported
Intel Pentium and Pentium Pro-based personal computers and servers	Windows NT 4.0
Silicon Graphics	IRIX 6.5 (available from SGI)
Sun Ultra SPARC	Solaris 2.5, 2.6, 2.7 (7.0)
HP Machines	HPUX 10.2/11.0 (available from Hewlett-Packard)
Compaq/Digital Machines	Compaq True64 Unix V4.0D or higher (formerly Digital Unix) (available from Compaq)

Ordering Information

- 105-1101-100**
155 Mbps UTP5 RJ-45
- 105-1112-100**
155 Mbps OC-3 MMF (SC)
- 105-1212-100**
622 Mbps OC-12 MMF (SC)
- 105-1232-100**
622 Mbps OC-12 SMF (SC)
- 105-1212-510**
622 Mbps OC-12 MMF (SC) + OC-12 ATM network module #NM1/622MMSCLC
- 105-1212-520**
622 Mbps OC-12 SMF (SC) + OC-12 ATM network module #NM1/622MMSCD



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