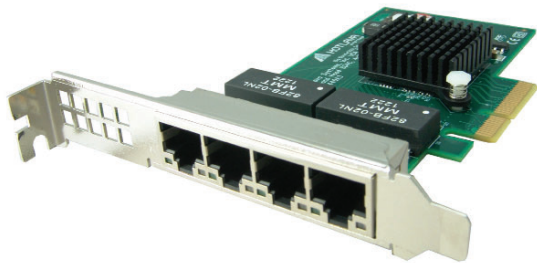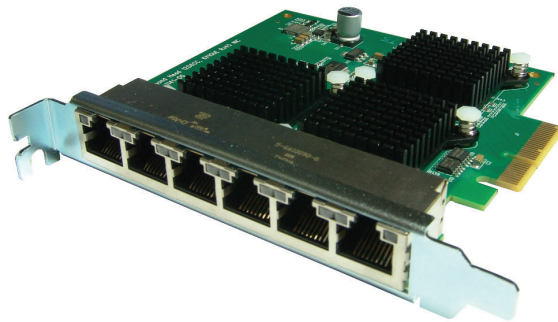# Quad-Port and Six-Port RJ-45 Gigabit Ethernet Network Adapter

HotLava Systems' quad-port and six-port copper RJ-45 Gigabit Ethernet NIC delivers high port density and low latency network connectivity in a low-profile, space saving design.
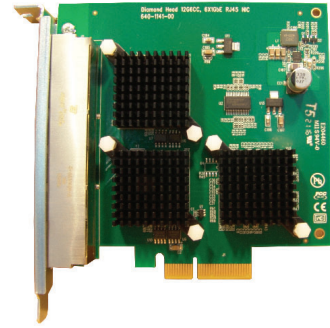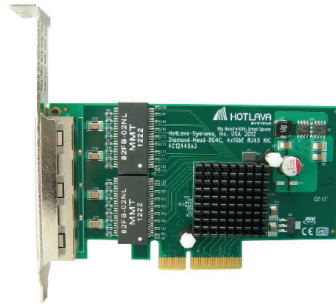
Diamond Head 8G4C

Diamond Head 12G6CC

Highlights

- Four or six RJ-45 GbE ports in one adapter
- 8 or 12 Gbps of full-duplex bandwidth
- PCIe Gen 2 (5GT/s), x4
- TAA (Trade Agreement Act) Compliant

Features

- Intel I350 Gigabit Ethernet Controller and drivers
- PCI-SIG SR-IOV support (Direct assignment)
  - » Up to 8 Virtual Functions per Port
- Virtual Machine Device queues (VMDq)
  - » 8 VMs per port (one queue per VM)
- 8 Tx and 8 Rx queues per port
- Teaming Support
- IEEE 802.3ad (Link Aggregation Control Protocol)
- Intel I/O Acceleration Technology
  - » Direct Cache Access (DCA)
  - » Low Latency Interrupts
  - » MSI-X support
  - » Receive Side Scaling (for Windows)
- Preboot eXecution Environment (PXE)
- iSCSI remote boot
- VLAN Support with VLAN tag insertion, stripping and packet filtering for up to 4096 VLAN Tags
- Intel PROSet Utility Support
- Advanced Packet Filtering
  - » 24 exact matched packets (unicast or multicast)
  - » 4096 -bit hash filter for unicast and multicast frames
  - » Promiscuous (unicast and multicast) transfer support mode
  - » Optional filtering of invalid frames

Benefits

- World class Intel-based Gigabit Ethernet technology
- Flexible I/O virtualization for port partitioning and quality of service (QoS) of up to 32 virtual ports
- Scalable iSCSI performance delivering cost-effective SAN connectivity
- CAT5e+ cable up to 100 meters
- Standard Intel drivers for easy installation without disruption of existing applications
- Wire speed bidirectional GbE performance
- Requires only one low-profile, half-length PCIe slot
- Ships with both full-height and low-profile mounting brackets

Product Specifications

Product Name	Diamond head 8G4C	Diamond Head 12G6CC
Number of ports	4 RJ45	6 RJ45
Slot Type	x4, PCI-e Gen2 (5GT/s)	x4, PCI-e Gen2 (5GT/s)
Speed	10/100/1000BASE-T	10/100/1000BASE-T
Form Factor	Low-profile, 4.75 in x 2.19 in	Std Height, 4.38 in x 4.38 in
Power Consumption	5W Max	10W Max

Operating Systems Support

Windows Server 2003+
Windows XP, Vista, 7, 8, 10, 11
Linux 2.6x+
FreeBSD 7.2+
OpenBSD
Novel ODI
RedHat RHEL 3+

NetBSD
VMWare ESX 4.x+
XenServer
Microsoft Hyper-V
Vyatta 6.3+
MikroTik RouterOS
Nexenta 3.x+

Additional Features

One Intel I350 Ethernet Controller

Dual On-chip Buffers
 • Default transmit 20KB / port
 • Default receive 36KB / port

IEEE 1588 protocol and 802.1AS implementation
802.3az - Energy Efficient Ethernet (EEE)

Switch Fault Tolerance
Adaptive Load Balancing
Interrupt Moderation
Adapter Fault Tolerance
Receive Side Scaling (for Windows)
IPv6 offloading
Direct Cache Access (DCA)
I/O Acceleration Technology
DMA Coalescing

802.1Q VLAN Tagging
802.3x Flow Control
802.1p Class of Services
802.3ad Link Aggregation
TCP and UDP Checksum Offload
TCP Segmentation Offload
Virtual Machine Device queues (VMDq)
VLAN support with VLAN tag insertion, stripping and packet filtering for up to 4096 VLAN tags
9.5 KByte Jumbo Frames

Environmental

Operating Temp	0 to 55 °C
Storage Temp	-40 to 70 °C
Operating Humidity	5 to 85% non-condensing
Storage Humidity	90% non-condensing relative humidity at 35 °C
Power Consumption	Quad-Port: 5.0 Watts / Six-Port: 11.0 Watts Max
RoHS 3, Directive 2015/863	Yes

Applications

Network Appliances

Unified Threat Management
SDN Router / Switch
Application Gateway
High Availability / Redundancy

Servers

Link Aggregation
High Availability / Redundancy
Backup Networks
Storage / Web / DNS
Switch Bypass

Virtualization

Increased Network Bandwidth
Multiple Dedicated VM Ports
Hypervisor Bypass

Video over IP

Surveillance
IPTV

SAN

iSCSI initiator
Increased Throughput
Switch Bypass

Traffic Generator

Increased Bandwidth
Maximum Connectivity

Ordering Information

Product Name	Part Number
Diamond Head 8G4C	4C12470A3
Diamond Head 12G6CC	6C12470B1