EXP-ETH8

EPIC Express
Octal Ethernet Port

Features

8 independent Gigabit Ethernet ports

10/100/1000 Mb/s

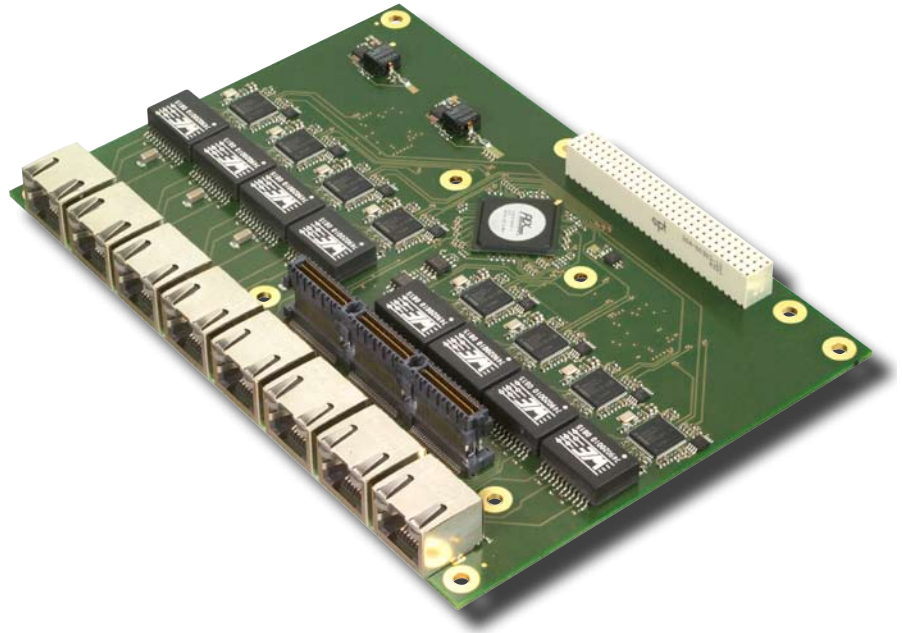Full duplex at all speeds

Configurable Rx and Tx FIFOs

LAN disable function

PCI Express x8

PCI Express bas spec 1.1 compliant

+5 V only supply

Optionally, extended temperature range
-40 °C…+85°C

EXP-ETH9 is an eightfold Ethernet extension board for EPIC Express CPUs, which can also be used as a carrier board for PCI/104 Express processor boards.

Each port is accessible via a standard RJ45 connector that features two activity LEDs. (link up, activity)

The integrated PCI Express switch can either use the upper or lower half of the x16 lane, allowing up to 2 EXP-ETH8 boards per CPU, if the CPU allows this operation mode. Up to two boards are stackable on LiPPERT's new Hurricane-QM57single board computer.

Main applications are in the field of security, where each Ethernet channel requires its own independent MAC and MAC-ID and where the higher bandwidth is needed.

Drivers are avialble for Windows XP, Windows XP Embedded, QNX, and Linux operation systems.

LiPPERT is an independent design house and manufacturer that develops and builds special custom solutions. Please ask for a specific quotation.

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EXP-ETH8
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Technical Data

Board Format	EPIC Express 115.00 x 165.00 mm (4.528 x 6.496 inches)
Controller	8x Intel 82574L PCI Express x1 based GBIT Ethernet Controller
PCI Express Switch	PLX PEX8618

Ethernet
- MAC
  — Flow Control Support compliant with the 802.3X Specification
  — VLAN support 802.1Q compliant
  — MAC Address filters
  — filters; multicast hash filtering, broadcast filter
  — promiscuous mode
  — Statistics
  — MAC loopback
- PHY
  — Compliant with 802.3 802.3u 802.3ab
  — 802.3ab auto negotiation support
  — Full duplex at 10/100/1000 Mb/s
  — Half duplex at 10/100 Mb/s
  — Auto MDI, MDI-X crossover

Ethernet Features
- — TCP segmentation capability
- — Support up to 256 KB TCP segmentation (TSO v2)
- — Fragmented UDP checksum offload for packet reassemble
- — IPv4 and IPv6 checksum offload support
- — Split header support
- — Receive Side Scaling (RSS) with two hardware receive queues
- — 9 KB jumbo frame support
- — 40 KB packet buffer size

Controller Features
- Manageability
  — NC-SI for remote management core
  — SMBus advanced pass through interface
- Low Power
  — Magic Packet* wake-up enable with unique MAC address
  — ACPI register set and power down functionality supporting D0 and D3 states
  — Full wake up support (APM and ACPI 2.0)
  — Smart power down at S0 no link and Sx no link
  — LAN disable function

PCI Express
- — 64-bit address master support
- — Programmable host memory receive buffers (256 bytes to 16 KB)
- — Intelligent interrupt generation
- — Descriptor ring management hardware for transmit and receive software controlled reset
- — Message Signaled Interrupts (MSI and MSI-X)
- — Configurable receive and transmit data FIFO, programmable in 1 KB increments

Status LED	Yes, 2 activity leds per port
Operating Temperature	0°C…+60°C (commercial) -20°C…+60°C (industrial) -40°C…+85°C (extended)
Supply Current	t.b.d.
Supported OS	Windows 7, Windows XP, XP Embedded, Linux

Ordering Information

Ordering Number	Description
*t*14-0004-10	EPIC Express board with 8 Gigabit Ethernet ports

Note: t denotes the temperature range. Use 7 for commercial, 8 for industrial and 9 for extended temperature range

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