

PI2EQX5964

5.0Gbps 4-Lane PCIe® 2.0 ReDriver™ with Equalization, Emphasis, & I²C Control

Pericom Semiconductor's PI2EQX5964 (or 5904) is a low power, PCIe® compliant signal redriver also suitable for other high speed serial signals such as serdes backplane and non protocol specific protocols. The device provides programmable equalization, amplification, and de-emphasis by using 8 select bits, to optimize performance over a variety of physical mediums by reducing Inter-symbol interference.

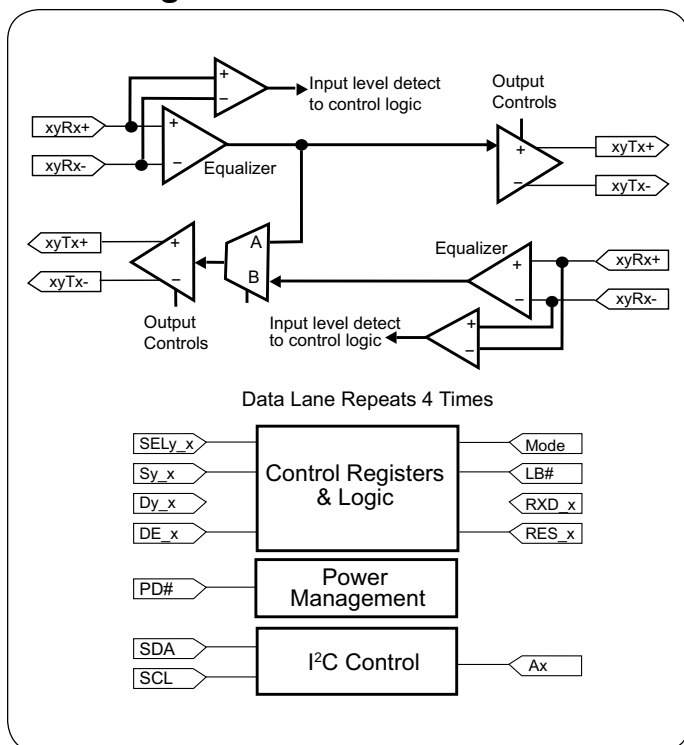
PI2EQX5964 supports eight 100Ω Differential CML data I/O's between the Protocol ASIC to a switch fabric, across a backplane, or extends the signals across other distant data pathways on the user's platform.

The integrated equalization circuitry provides flexibility with signal integrity of the PCI Express signal before the ReDriver™, whereas the integrated de-emphasis circuitry provides flexibility with signal integrity of the signal after the redriver.

In addition to providing signal re-conditioning, Pericom's PI2EQX5964 also provides power management Stand-by mode operated by a Bus Enable pin.

Target markets for this ReDriver are networking, embedded, industrial, server and storage applications, including non-protocol-specific and high-speed signal applications.

Block Diagram



Features

- Up to 5.0Gbps PCI Express® 2.0 Serial ReDriver
- Supporting 8 differential channels or 4 lanes of PCIe Interface
- I²C configuration controls (3.3V tolerant)
- Adjustable receiver equalization and transmitter de-emphasis and output levels
- Increased output drive for longer trace and cable applications
- Variable input and output termination
- 1:2 channel broadcast
- Channel loop-back/Mux and Demux Mode
- Electrical Idle fully supported
- Receiver detect and individual output control
- Fine adjustment of electrical idle threshold via I²C
- Single supply voltage, 1.2V ± 0.05V
- Power down modes
- Industrial Temp support, -40°C ~ +85°C
- Packaging: 56-contact TQFN, Pb-free & Green

Figure 1

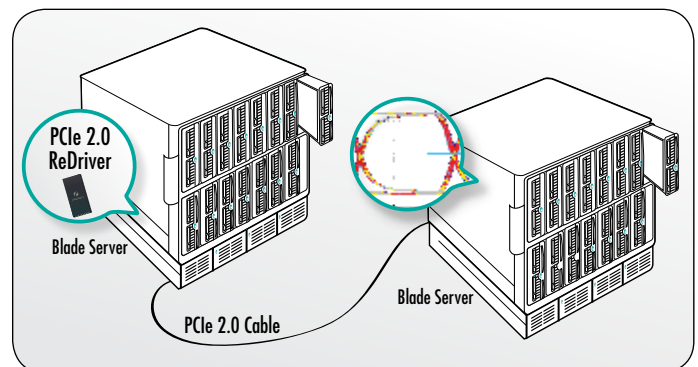


Figure 1

Redrivers with emphasis and equalization signal conditioning technology ensure the integrity of high-frequency PCIe signals by opening closed signal eyes to recover data and meet strict compliance testing requirements. Increased signal margin also supports longer drive lengths over even low-quality cables.