

Altera Cyclone, Arria, Stratix Transceivers Design Note #106

Native Mode Transceiver Protocol Design for Medical Imaging



'Native Mode', 'PCI Express', 'Rapid-I/O', 'Gigabit Ethernet', who cares - as long as my child is safe and sound. Communications technology from Orchid Technologies ensures positive outcomes.



"-- You can do that? Gigabit data rates really work?"

"-- Yes they do and they exhibit remarkable communications properties!"

- Business Development Mgr
- Orchid Tech

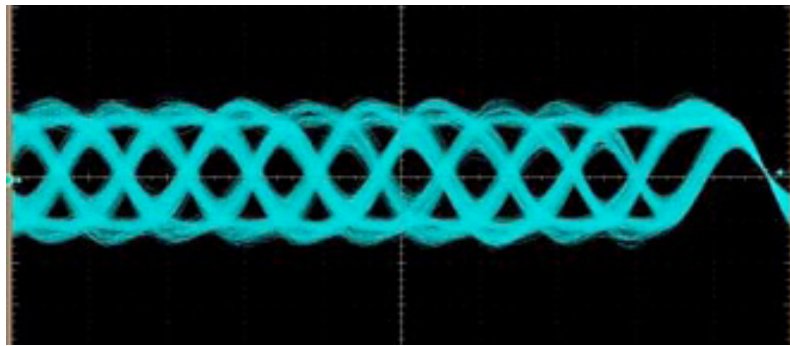
Native Mode Transceiver Protocol Design

Transceiver technology from Altera Corporation makes previously unimaginable high speed data communications possible. GX and GT class transceivers are capable of 3 to 6 gigabit per second data rates respectively. High data rates support standard communications protocols such as PCI Express, XAUI, Fibre Channel, ATM, and Rapid IO. High speed transceivers also support a host of industry specific data rates such as HDMI, DVI and SDI video standards to name a few. Orchid is well versed in custom transceiver design, making use of Altera transceiver technology in native mode. Custom data rates, enhanced data encoding protocols and specific synchronization schemes may be utilized to enhance the properties and performance of a communications link.

Medical Imaging Over an 8b/10b Data Link

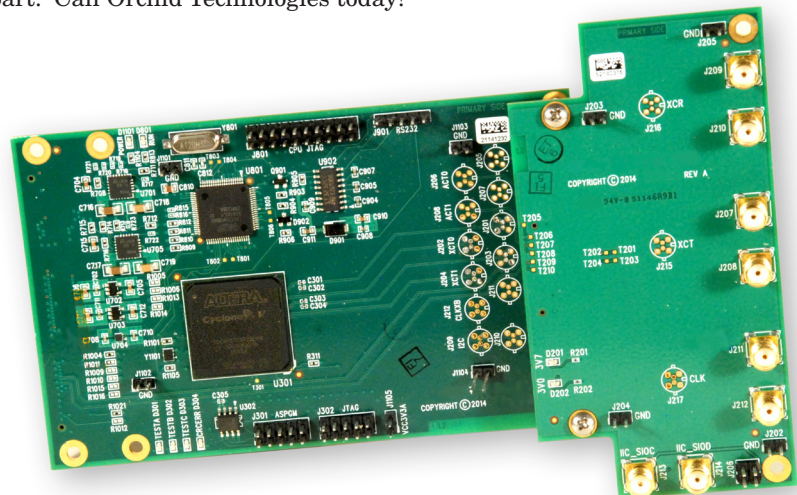
Originally developed by IBM, 8b/10b (and related data coding methods) have interesting electrical properties which make multi-gigabit communication links possible. The robust 8b/10b data coding method controls AC balance, provides disparity support and allows robust maintenance of data synchronization. Native mode Altera transceiver instantiation allows the design to adjust transceiver properties for the application at hand.

Gigabit Transceiver PECL Waveforms



Orchid Technologies: Altera Transceivers

The development of custom electronic products for our OEM clients is Orchid's entire business. The design of custom native-mode transceivers with rapid design cycles, demanding technical requirements, and unforgiving schedules sets us apart. Call Orchid Technologies today!



ORCHID TECHNOLOGIES
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Custom Engineering From Concept to Production

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