

Camera Link module

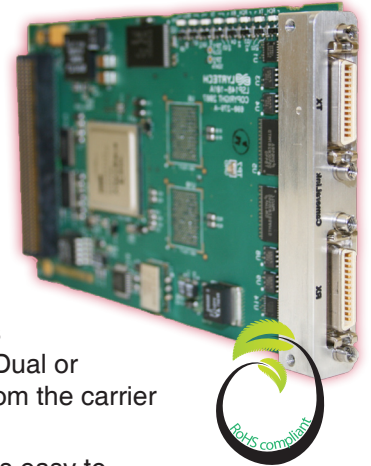
Add-on module for the SignalMaster Dual and SignalMaster Quad

The Camera Link module is a LYRIO+ add-on module designed for the SignalMaster Dual and the SignalMaster Quad. The module is equipped with one RX and one TX base mode Camera Link MDR26 interfaces, coupled to a powerful Virtex-4 FPGA. It is designed to

AT A GLANCE

- Very-high-speed LYRIO+ module
- One RX and one TX Camera Link base mode interfaces (2.38 Gbps)
- Onboard preprocessing and post-processing LX Virtex-4 FPGA
- Support for model-based design flow

bring new levels of performance and flexibility to a wide variety of machine vision applications, advanced image processing applications, and more. The Camera Link module is equipped with one onboard LX25 Virtex-4 FPGA that allows the module to preprocess incoming data before it is transferred to the carrier SignalMaster Dual or SignalMaster Quad (post-processing from the carrier board is also possible).



The Camera Link module comes with a complete board software development kit that makes its easy to design and test complex image processing algorithms. With the Camera Link module, it is also possible to simultaneously design and test in a real-time environment through the module's integration to the model-based design software tools for Simulink.



Stellar processing power

The 24,192 logic cells and 48 XtremeDSP slices of the Virtex-4 LX25 FPGA make meeting the highest processing needs surprisingly easy.

Integrated to System Generator for DSP

The Camera Link module is fully integrated to System Generator for DSP from Xilinx, which allows using high-level abstractions that can be automatically compiled into the FPGA without losing any performance over designs implemented with VHDL.



Applications

The following are some applications where the Camera Link module truly shines:

- Vision
- Advanced image processing
- Video security

Specifications

Camera Link input	<ul style="list-style-type: none"> • Base mode (2.38 Gbps) Camera Link input • MDR26 connectors
Camera Link output	<ul style="list-style-type: none"> • Base mode (2.38 Gbps) Camera Link output • MDR26 connectors
Xilinx LX25 Virtex-4 FPGA	<ul style="list-style-type: none"> • Maximum of 24,192 logic cells • Maximum of 48 XtremeDSP slices
Mezzanine communications interface for carrier board	<ul style="list-style-type: none"> • LYRIO+ (x1) • Minimum 12 Gbps, full-duplex <p><i>For details about this Lyrtech mezzanine communications interface, contact info@lyrtech.com.</i></p>

Features

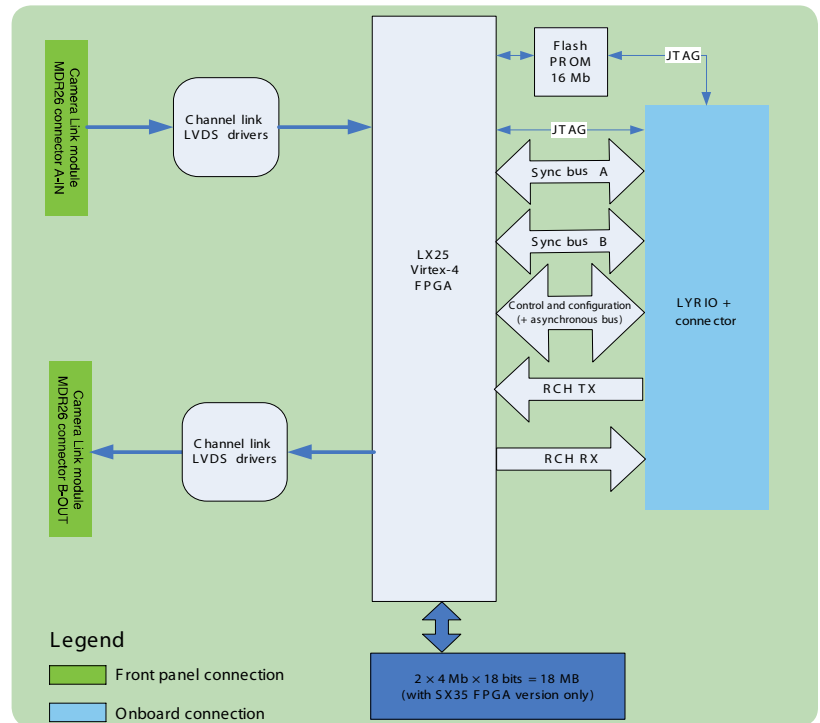
The Camera Link module offers the following features:

- Camera Link MDR26 input interface (x1)
- Camera Link MDR26 output interface (x1)
- Xilinx LX25 Virtex-4 FPGA that offers unsurpassed capabilities and high-performance logic (x1)
- Onboard flash PROM that simplifies booting the FPGA (x1)
- QDR II FPGA SRAM (2x4 Mx18 bits). For details about availability, contact info@lyrtech.com.
- An array of tools that allow designing complex image processing algorithms such as block models with the popular MATLAB and Simulink programs.

Software development tools

The Camera Link module's flash PROM comes preloaded with an application that loads the FPGA of the module when it starts. The application allows transferring data from the Camera Link input/output interfaces to the LYRIO+ interface and configuration path, which, in turn, allows data to be directly exchanged with the SignalMaster Dual or SignalMaster Quad.

Block diagram



Communication and configuration from the carrier board

The development kits of the SignalMaster Dual and the SignalMaster Quad include the necessary software to transfer data between the carrier's FPGAs and the Camera Link module. They also come with DSP APIs (for BSDK users) and blocksets (for MBDK users) to control the module's parameters.

Camera Link module board software development kit

The Camera Link module board software development kit (BSDK) allows targeting the onboard FPGA through ISE Foundation projects. The kit also comes with detailed FPGA core documentation and a complete set of hardware functional examples that illustrate how to use the module's onboard I/Os and interfaces, which includes an example about how to access the external QDR II SRAM. For details about availability, contact info@lyrtech.com.

Camera Link module model-based design kit

The optional Camera Link module model-based design kit (MBDK) allows targeting the onboard FPGA using System Generator for DSP from Xilinx and Simulink from The MathWorks. The MBDK also comes with a complete set of hardware functional examples that illustrate how to use the module's I/Os and interfaces in a model-based design environment, but excludes the external QDR II SRAM Simulink block. For details about availability, contact info@lyrtech.com.

Hardware options

The Camera Link module has the following optional hardware packages:

- Light—featuring an LX25 Virtex-4 FPGA
- Advanced—featuring an SX35 Virtex-4 FPGA with FPGA QDR II SRAM. For details about availability, contact info@lyrtech.com.

FOR MORE INFORMATION

Lyrtech Inc.

2800 Louis-Lumière Street, Suite 100
Quebec City, Quebec
G1P 0A4 CANADA

Phone: (1) 418-877-4644 (international)
1-888-922-4644 (toll free USA and Canada)
Fax: (1) 418-877-7710

www.lyrtech.com

info@lyrtech.com

With over 25 years of experience delivering advanced digital signal processing solutions to companies worldwide, Lyrtech serves customers across the Americas, Asia, and Europe. Lyrtech offers a full range of DSP-FPGA development platforms, as well as product development services. Lyrtech works in partnership with such industry leaders as Texas Instruments, The MathWorks, and Xilinx to deliver unsurpassed quality and support to its large OEM customer base, which includes many prestigious names of the consumer electronics, telecommunications, aerospace, and defense fields. In a world where digital signal processing technology is vital to network and wireless communications, audio and video processing, as well as electronic systems in all fields of technology, Lyrtech is an ideal partner.

Lyrtech products are constantly being improved; therefore, Lyrtech reserves itself the right to modify the information herein at any time and without notice.

2009-06

Lyrtech Inc. All rights reserved.

