

Matrox Radiant eV-CL

Feature-packed high-performance Camera Link® frame grabber



Benefits

Support the most high-performance Camera Link cameras with available support for Full and 80-bit mode at up to 85 MHz.

Perform deterministic image acquisition by way of the jitter-free Camera Link 2.0 interface.

Eliminate missed frames through a PCIe® 2.0 x8 host interface and ample on-board buffering.

Optimize multi-camera applications via support for up to four (4) Base or two (2) Full/80-bit Camera Link cameras per board.

Minimize space requirements and maximize PC compatibility through a half-length design with mini Camera Link connectivity for true single slot operation.

Improve and simplify system connectivity with Power over Camera Link (PoCL) support at extended cable lengths.

Maintain flexibility and choice by way of 32-bit and 64-bit Windows® 7/8.1/10 and Linux®.

Feature-packed Camera Link frame grabber

The Matrox Radiant eV-CL is a Camera Link frame grabber with the most comprehensive features currently available in the industry. Built upon the field-proven design of the Radiant eV-series of frame grabbers, the new Matrox Radiant eV-CL offers reliable image acquisition, extended cable length support, and high frame rate image capture that will extend the effectiveness of the Camera Link standard for many years to come.

Versatile high-performance image acquisition

The Matrox Radiant eV-CL is capable of handling image capture from a single lowest-data-rate Camera Link device to multiple maximum-bandwidth Camera Link cameras. With the possibility of interfacing up to four (4) Base or two (2) Full/80-bit mode Camera Link cameras at up to 85 MHz on a single board with Power over Camera Link (PoCL) support, the Matrox Radiant eV-CL provides users with the flexibility to configure the system to best match their imaging needs while simplifying overall setup.

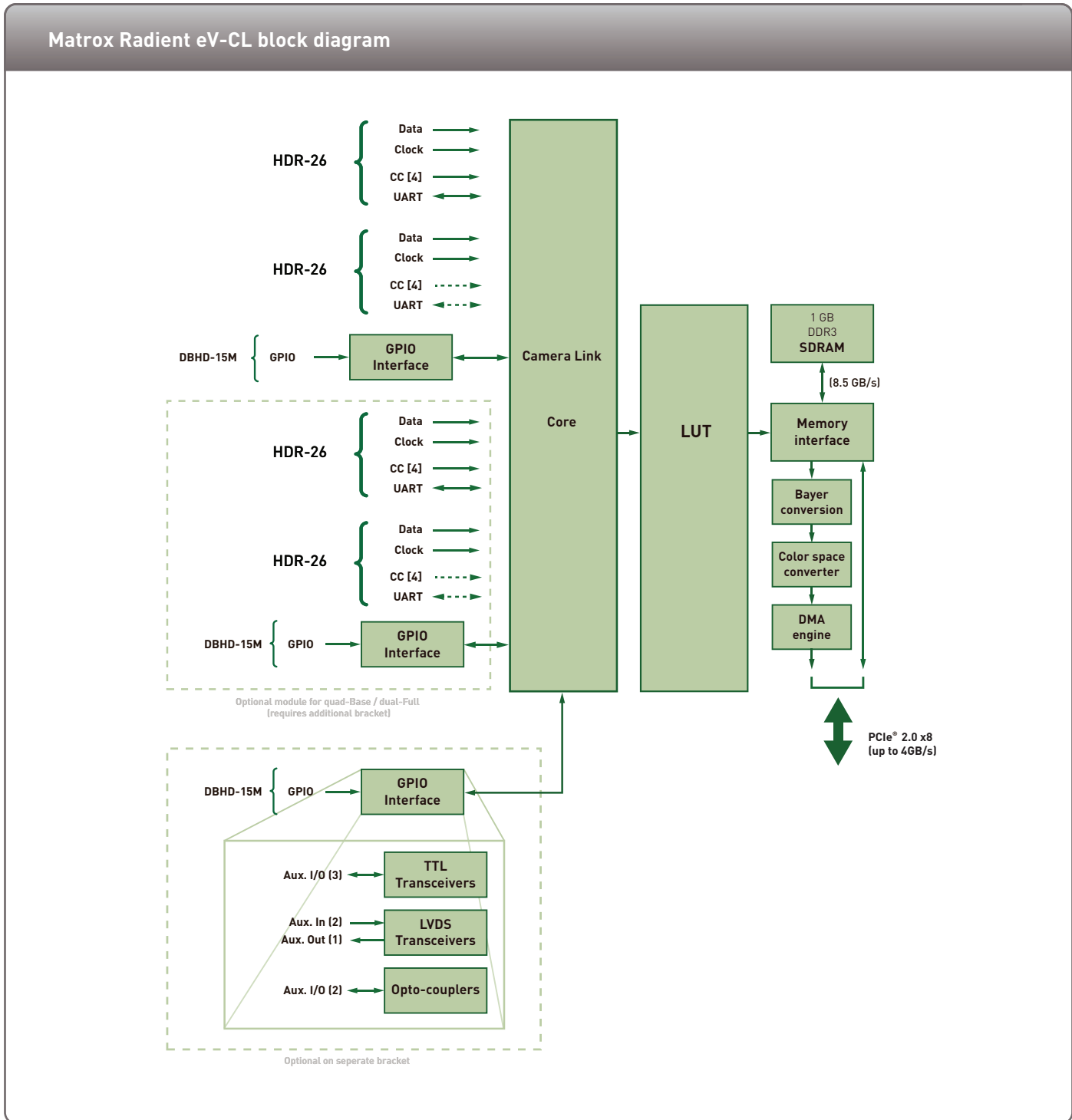
A PCIe 2.0 x8 host interface provides the throughput necessary to ensure the continuous flow of pixels from the Matrox Radiant eV-CL to host memory. With a peak bandwidth of up to 4GB/s, the Matrox Radiant eV-CL's host interface prevents pixels from inadvertently being discarded. Furthermore, via a programmable option, the Matrox Radiant eV-CL is capable of handling applications where image capture rates exceed the tens of thousands of frames per seconds, all without host intervention. The Matrox Radiant eV-CL is also designed to work at extended cable lengths. The feature allows cameras to be placed at distances previously not possible from the computer while maintaining the same maximum throughput.

Lifecycle managed for consistent long term supply

Each component on the Matrox Radiant eV-CL has been carefully selected to ensure product availability in excess of five years. The Matrox Radiant eV-CL is also subject to strict change control to provide consistent supply. Longevity of stable supply lets you achieve maximum return on the original investment by minimizing the costs associated with the repeated validation of constantly-changing products.

Field-proven application development software

The Matrox Radiant eV-CL is supported by the Matrox Imaging Library (MIL), a comprehensive collection of software tools for developing industrial imaging applications. MIL features interactive software and programming functions for image capture, processing, analysis, annotation, display and archiving. These tools are designed to enhance productivity, thereby reducing the time and effort required to bring your solution to market. Refer to the MIL datasheet for more information



Specifications

Hardware

- Half-length, full-height board
- PCIe® 2.0 x8 host bus interface
- 1 GB of DDR3 SDRAM
- Camera Link® 2.0 compliant
 - Two (2) independent Base Camera Link® ports (dual-Base)
 - One (1) Medium/Full Camera Link® port (single-Full)
 - up to 80-bit mode
 - Four (4) independent Base Camera Link® ports (quad-Base)
 - Two (2) independent Medium/Full Camera Link® ports (dual-Full)
 - up to 80-bit mode
- 20 MHz to 85 MHz Camera Link® clock
- Power over Camera Link® with SafePower
- Extended Camera Link® cable length support
- Supports frame and line scan sources
- On-board image reconstruction
- On-board color space conversion
 - Input formats
 - Mono/Bayer 8-bit and 16-bit
 - BGR packed 24-bit and 48-bit
 - Output formats
 - Mono 8-bit and 16-bit
 - BGR packed 24-bit and 48-bit
 - BGR planar 24-bit and 48-bit
 - YUV 16-bit
 - BGRa 32-bit
- On-board look-up tables (LUTs)
 - 8/10/12 bit support
- On-board Bayer conversion
 - GB, BG, GR, RG pattern support
- One (1) / two (2) DBHD-15 male GPIO connector(s) (dual-Base and single-Full / quad-Base and dual-Full)
 - Three (3) TTL configurable auxiliary I/O's
 - Two (2) LVDS auxiliary inputs
 - One (1) LVDS auxiliary output
 - Two (2) opto-isolated auxiliary inputs
- One (1) / two (2) optional additional DBHD-15 male GPIO connector(s) (dual-Base / quad-Base)
 - Three (3) TTL configurable auxiliary I/O's
 - Two (2) LVDS auxiliary inputs
 - One (1) LVDS auxiliary output
 - Two (2) opto-isolated auxiliary inputs
- Support for one (1) quadrature rotary encoder per Camera Link® port
- MIL license fingerprint and storage

Specifications (Cont.)

Software

- Matrox Imaging Library (MIL) drivers for 32/64-bit Windows 7/8.1/10
- MIL drivers for 32/64-bit Linux®
- Implements GenICam™ 2.3.1 (CLProtocol 1.1) and GenICam GenCP 1.0 under Windows/Linux

Dimensions and environmental information

- 167.6 mm L x 111.1 mm x 18.7 mm (6.6" x 4.38" x 0.74")
- operating temperature: 0°C to 55°C (32°F to 131°F)
- FCC class A
- CE class A
- RoHS-compliant

Ordering Information

Hardware

Part number & Description

| | |
|-----------------------|--|
| RAD EV 1G CLDB | Matrox Radiant eV-CL dual-Base Camera Link® PCIe® 2.0 x8 frame grabber with 1GB DDR SDRAM and HDR26 (mini CL) connectors. Includes cable adaptor (aux. I/O). |
| RAD EV 1G CLSF | Matrox Radiant eV-CL single-Full Camera Link® PCIe® 2.0 x8 frame grabber with 1GB DDR SDRAM and HDR26 (mini CL) connectors. Includes cable adaptor (aux. I/O). |
| RAD EV 1G CLQB | Matrox Radiant eV-CL quad-Base Camera Link® PCIe® 2.0 x8 frame grabber with 1GB DDR SDRAM and HDR26 (mini CL) connectors. Includes cable adaptor (aux. I/O). Ask for availability. |
| RAD EV 1G CLDF | Matrox Radiant eV-CL dual-Full Camera Link® PCIe® 2.0 x8 frame grabber with 1GB DDR SDRAM and HDR26 (mini CL) connectors. Includes cable adaptor (aux. I/O). Ask for availability. |

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