



Zebra **Rapixo CL** >>>

High-performance frame grabbers for demanding applications

Overview

Flexible and powerful Camera Link frame grabbers

Zebra® Rapixo CL is the latest iteration of the established Rapixo series of frame grabbers. Offering support for Camera Link 2.1, the Rapixo CL provides a PCIe Gen2 x4 interface that can be used for both dual-Base and single-Full configurations, making this frame grabber an ideal add-in for applications needing cost-effective yet powerful image acquisition capabilities. With ample PCIe bandwidth and included support for an event-logging utility, Rapixo CL frame grabbers are ideally suited for applications in semiconductor, electronics, and flat panel display manufacturing.

Synchronized, high-performance image acquisition

Zebra Rapixo CL frame grabbers deliver versatile performance by supporting both dual-Base and single-Full Camera Link configurations in a single board. Engineered to meet the stringent demands of industries such as semiconductor, electronics, and flat panel display manufacturing, Rapixo CL boards support Camera Link 2.1 and feature a PCIe Gen2 x4 interface, ensuring ample bandwidth to handle high-performance Camera Link cameras operating up to 80-bit mode and 85 MHz.

Additionally, Rapixo CL frame grabbers include hardware synchronization between boards for precise image capture and integration in multi-camera setups. They balance PC compatibility and cost efficiency, making these boards a valuable asset for users seeking reliable and flexible image acquisition solutions.

Zebra Rapixo CL at a glance

Power dual-Base and single-Full configurations from a single board with a PCIe Gen2 x4 interface

Drive the highest-performance Camera Link cameras with complete support for 80-bit mode up to 85 MHz

Perform deterministic image acquisition by way of a jitter-free Camera Link 2.1 interface

Leverage ample PCIe bandwidth to match camera throughput and eliminate missed frames

Maximize PC compatibility and minimize costs with a frame grabber that optimizes price/performance metrics

Monitor and troubleshoot acquisition performance in detail with Aurora Gecho event-logging utility

Software Environment

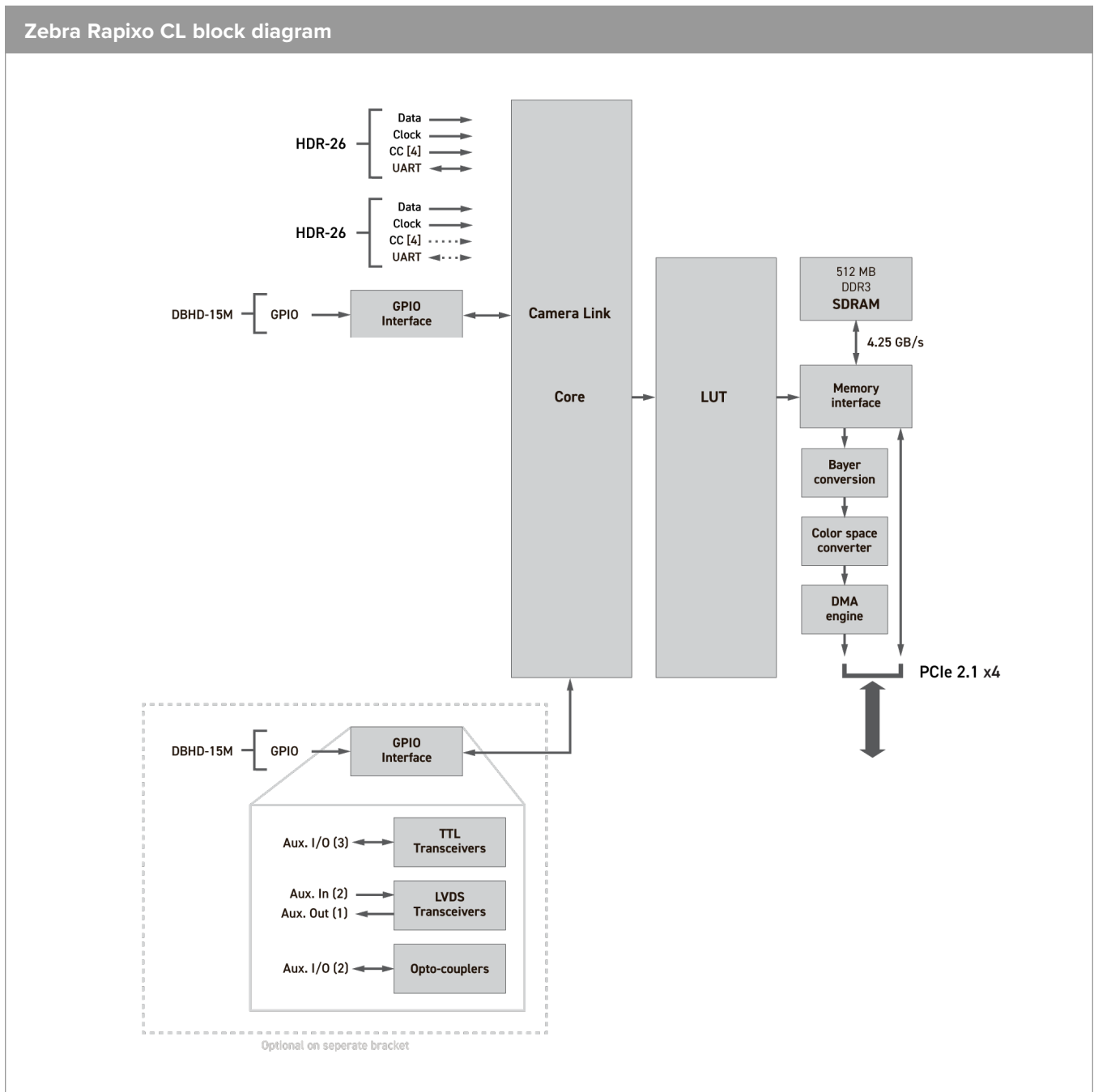
Field-proven application development software

Zebra Rapixo CL is supported by Aurora Imaging Library, a comprehensive collection of software tools for developing industrial imaging applications. Aurora Imaging Library 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 solutions to market. Refer to the [Aurora Imaging Library datasheet](#) for more information.

Includes support for event-logging utility

Offered with the Rapixo CL is Aurora Gecho, a logging utility that records events generated by the Zebra CL device driver, before saving them to a JSON or CSV file. Made to log acquisition activity for the purpose of troubleshooting capture errors and identifying performance bottlenecks by measuring latencies and execution times, the Aurora Gecho utility works to optimize the acquisition process and ensure it runs as expected. Resulting trace files can be loaded into [Google Perfetto](#) for viewing on an interactively navigable graphical timeline.

Connectivity



Specifications

Zebra Rapixo CL	
Hardware	
Host interface	
Interconnect	PCIe 2.0 x4
Camera/video interface	
Standard	Camera Link 2.1
Configuration	Two (2) independent Base Camera Link ports (dual-Base)
	One (1) Medium/Full Camera Link port (single-Full)
	Up to 80-bit mode
Speeds	20 MHz to 85 MHz Camera Link clock
Connectors	HDR26 (mini Camera Link)
Power output	PoCL with SafePower
Miscellaneous	Supports frame and line scan sources
Memory	
Type	DDR3 SDRAM
Quantity	512 MB
Purpose	Image buffering and pre-processing
Image processing capabilities	
Onboard look-up tables	8-/10-/12-bit support
Onboard Bayer interpolation	GB, BG, GR, and RG pattern support
Onboard color space conversion	Input formats: 8-/16-bit mono/Bayer, 24-/48-bit packed BGR
	Output formats: 8-/16-bit mono, 24-/48-bit packed/planar BGR, 16-bit YUV, 32-bit BGRa
I/Os	
Types	Three (3) TTL configurable auxiliary I/Os per Camera Link port
	Two (2) LVDS auxiliary inputs per Camera Link port
	One (1) LVDS auxiliary output per Camera Link port
	Two (2) opto-isolated auxiliary inputs per Camera Link port
Connectors	One (1) DBHD-15 male GPIO connector(s)
	One (1) optional additional DBHD-15 male GPIO connector(s) (dual-Base)
I/Os synchronization	One (1) quadrature rotary encoder per Camera Link port
	Four (4) 16-bits timer
Physical	
Form factor	Half-length, full-height, PCIe add-in card
Dimensions (L x W x H)	167.6 x 111.1 x 18.7 mm (6.6 x 4.38 x 0.74 in)

Specifications (cont.)

Zebra Rapixo CL	
Environmental	
Operating temperature	0°C to 55°C (32°F to 131°F)
Certifications	
Electromagnetic compatibility	FCC Class A
	CE Class A
Substance control	RoHS-compliant
Software	
Compatible software	Aurora Imaging Library
Operating system support	Windows 7 (64-bit)
	Windows 10 (64-bit)
	Linux (64-bit)
Camera communication	GenICam CLProtocol 1.2
	GenICam GenCP 1.3
Licensing provisions	Aurora Imaging Library license fingerprint and storage

Ordering Information

Part number	Description
Hardware	
RAP5MCL	Zebra Rapixo CL dual-Base/dual-Medium/single-Full Camera Link® PCIe® 2.1 x4 value frame grabber with 512MB and HDR26 (mini CL) connectors



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