

Matrox Odyssey eCL/XCL

Camera Interface Application Note

PULNiX PC-640CL

September 19, 2006

Basics about the camera

Mode of operations as per Matrox Imaging (in parentheses as per camera manufacturer)

Basics about the interface modes

Camera Descriptions

- Effective resolution: $640 \times 480 \times 8\text{-bit}$ @ 60 fps.
- Camera Link BASE interface (single tap).
- Progressive scan.
- Internal sync.
- Internal exposure control.
- 20 MHz pixel clock rate.

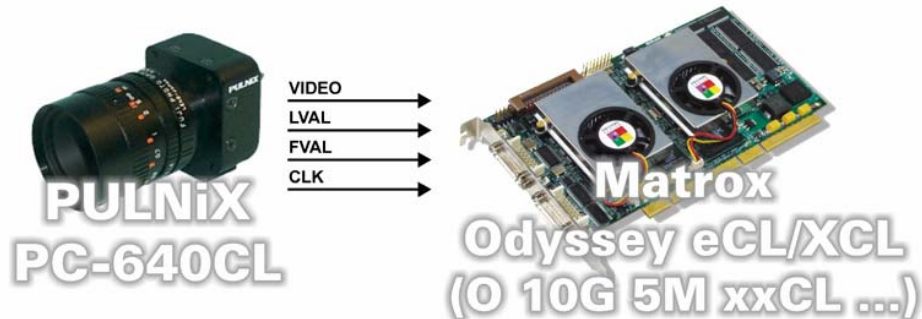
Interface Modes

- Continuous
- Asynchronous reset

Camera Interface Briefs

Mode 1: Continuous

- $640 \times 480 \times 8\text{-bit}$ @ 60 fps.
- Camera Link BASE interface (single tap).
- Matrox Odyssey eCL/XCL receiving LDV, FDV, CLK and video from camera.
- DCF used: [PC-640CL640x480_8bitCon.DCF](#)



Mode 2: Asynchronous Reset – external trigger

- $640 \times 480 \times 8\text{-bit}$.
- Camera Link BASE interface (single tap).
- Matrox Odyssey eCL/XCL receiving external trigger signal.
- Matrox Odyssey eCL/XCL sending EXPOSURE1 (CC1) signal to camera to initiate the exposure.
- Matrox Odyssey eCL/XCL receiving LDV, FDV, CLK and video from camera.
- DCF used: [PC-640CL640x480_8bitAsync.DCF](#)

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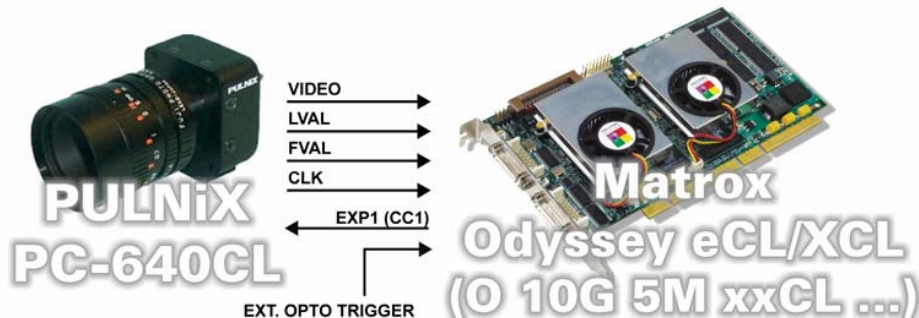
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Basics about the
interface modes

Camera Interface Briefs (cont.)

Mode 2: Asynchronous Reset – external trigger



Specifics about the
interface modes

Camera Interface Details

Mode 1: Continuous

- **Frame Rate:** Matrox Odyssey eCL/XCL receives the continuous video from the camera at 60 frames per second (full resolution).
- **Exposure time:** Exposure time is determined by the camera shutter setting. Refer to the camera manual for more information.
- **Camera switch settings:** Refer to the camera manual.

Mode 2: Asynchronous Reset

- **Frame rate:** The frame rate is determined by the frequency of the external trigger signal.
- **Exposure time:** The exposure time is set internally using the camera configuration utility. Refer to the camera manual for more information.
- **Camera switch settings:** Refer to the camera manual.

Cabling details for the
interface modes

Cabling Requirements

Mode 1: Continuous

- **Cable and Connection:** Standard Camera Link cable.

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*Cabling details for the
interface modes*

Cabling Requirements (cont.)

Mode 2: Asynchronous reset

- **Cable and Connection:** Standard Camera Link.
- **External trigger:** External trigger should be connected to the OPTO TRIG input of the 9-pin connector (pins 7 and 2) on the Expanded I/O adapter bracket.

EXPANDED I/O BRACKET (9-pin connector)

				External Trigger Source	
OPTOTRIG +	07	←	SIGNAL	--	
OPTOTRIG -	02	←	GROUND	--	

The DCFs mentioned in this application note are also attached (embedded) to this PDF file – use the Adobe Reader's View File Attachment to access the DCF files. The information furnished by Matrox Electronics System, Ltd. is believed to be accurate and reliable. Please verify all interface connections with camera documentation or manual. Contact your local sales representative or Matrox Sales office or Matrox Imaging Applications at 514-822-6061 for assistance. © Matrox Electronic Systems Ltd, 2006-2011.

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