

Matrox Odyssey Xpro

Camera Interface Application Note

UNIQ UP-1830CL

November 7, 2007

Basics about the
camera

Camera Descriptions

- Effective resolution: $1024 \times 1024 \times 10\text{-bit}$ @ 30 fps.
- Camera Link BASE interface (single channel).
- Progressive scan.
- Internal sync.
- External or internal exposure control.
- 45 MHz pixel clock rate.

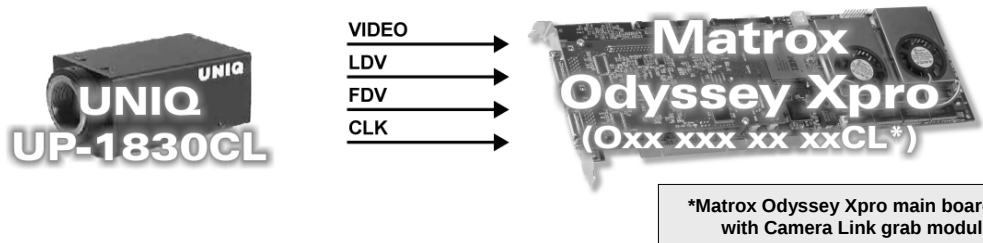
Interface Mode

- Continuous
- Asynchronous reset (pulse width control)

Camera Interface Briefs

Mode 1: Continuous

- $1024 \times 1024 \times 10\text{-bit}$ @ 30 fps.
- Camera Link BASE interface (single channel).
- Progressive scan.
- Matrox Odyssey Xpro receiving LDV, FDV, CLK and video from camera.
- DCF used: [UP1830CL1024x1024Con.DCF](#)



Mode 2: Asynchronous reset

- $1024 \times 1024 \times 10\text{-bit}$.
- Camera Link BASE interface (single channel).
- Progressive scan.
- Matrox Odyssey Xpro receiving external trigger signal.
- Matrox Odyssey Xpro sending VINT (CC2) signal to camera to initiate the exposure.
- Matrox Odyssey Xpro receiving LDV, FDV, CLK and video from camera.

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

Basics about the
interface modes

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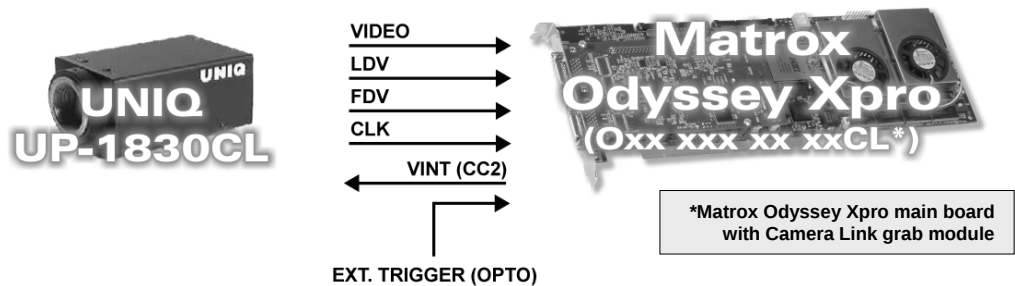
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Basics about the
interface modes

Camera Interface Briefs (cont.)

Mode 2: Asynchronous reset

- DCF used: [UP1830CL1024x1024Async.DCF](#)



Specifics about the
interface modes

Camera Interface Details

Mode 1: Continuous

- **Frame Rate:** Matrox Odyssey Xpro receives the continuous video from the camera at 30 frames per second (full resolution).
- **Exposure time:** Exposure time is determined by the camera shutter setting (camera's rear). Refer to the camera manual for more information.

Mode 2: Asynchronous Reset

- **Frame rate:** The frame rate is determined by the frequency of the external trigger signal.
- **Exposure time:** The width (falling edge to rising edge) of the VINT (CC2) signal is the exposure time, which can be modified in the DCF using Matrox Intellicam, with the ONL imCamControl() or imDigControl() function, or with the MIL MdigControl() function. Consult the respective manual for more information.
- **Camera Control:** The camera mode is set using Windows HyperTerminal. Type **am** at the prompt to set the mode to asynchronous capture and **smf** to set the shutter mode to **Pulse Width Control**. Refer to the camera manual for the serial command.

Cabling Requirements

Mode 1: Continuous

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

Cabling details for the
interface modes

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*Cabling details for the
interface modes*

Cabling Requirements

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, 2007-2011.

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