

# Matrox Odyssey eCL/XCL

## Camera Interface Application Note

### PULNiX TMC-6700CL

September 29, 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:  $640 \times 480 \times 8\text{-bit RGB}$  @ 60 fps.
- Camera Link BASE interface (single tap).
- Progressive scan.
- Internal sync.
- External or internal exposure control.
- 25.49 MHz pixel clock rate.

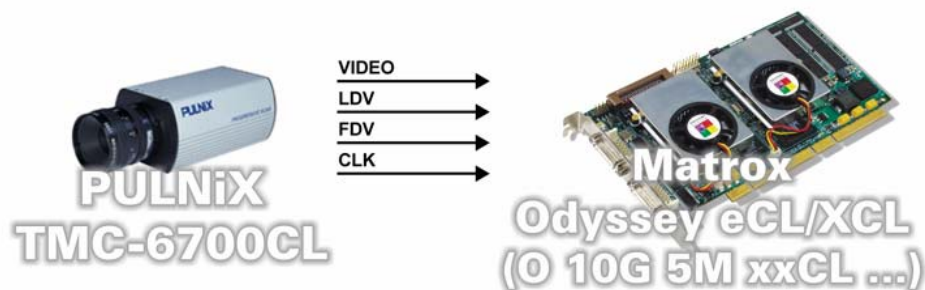
#### Interface Mode

- Continuous
- Asynchronous reset (pulse width control)

#### Camera Interface Briefs

##### Mode 1: Continuous

- $640 \times 480 \times 8\text{-bit RGB}$  @ 60 fps.
- Camera Link BASE interface (single tap).
- Progressive scan.
- Matrox Odyssey eCL/XCL receiving LDV, FDV, CLK and video from camera.
- DCF used: [TMC6700CL640x480Con.DCF](#)



##### Mode 2: Asynchronous reset

- $640 \times 480 \times 8\text{-bit RGB}$ .
- Camera Link BASE interface (single tap).
- Progressive scan.
- Matrox Odyssey eCL/XCL receiving external trigger signal.
- Matrox Odyssey eCL/XCL sending VINT (CC1) signal to camera to initiate the exposure.
- Matrox Odyssey eCL/XCL receiving LDV, FDV, CLK and video from camera.

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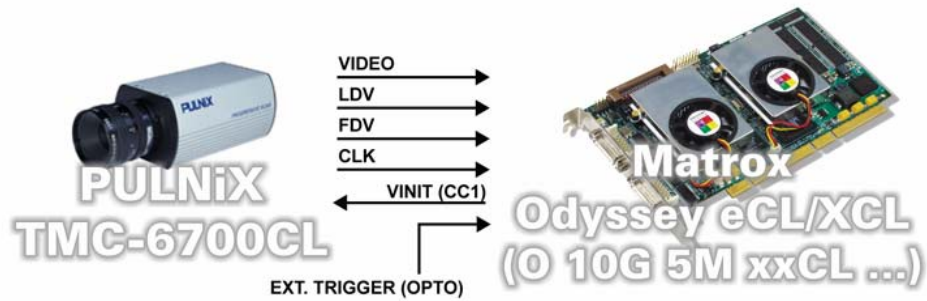
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Basics about the  
interface modes

#### Camera Interface Briefs (cont.)

##### Mode 2: Asynchronous reset

- DCF used: [TMC6700CL640x480Async.DCF](#)



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 30 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 Control:** The camera mode is set using the PULNiX Camera Control software version 1.2 or later. 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 (CC1) signal is the exposure time. The exposure time 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:** Refer to Mode 1: Continuous.

#### 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, 2006-2011.

#### **Matrox Electronic Systems Ltd.**

1055 St. Regis Blvd.  
Dorval, Quebec H9P 2T4  
Canada  
Tel: (514) 685-2630  
Fax: (514) 822-6273  
ODY-CID-016

