

# Matrox Helios eCL/XCL

## Camera Interface Application Note

### COHU 7812-2000

August 15, 2006

Basics about the  
camera

#### Camera Descriptions

- Effective resolution:  $1280 \times 1024 \times 8\text{-bit}$  @ 30 fps.
- Camera Link BASE interface (Single channel).
- Progressive scan.
- Internal sync.
- Internal exposure control.
- 40 MHz pixel clock rate.

#### Interface Mode

- Continuous (Free running)

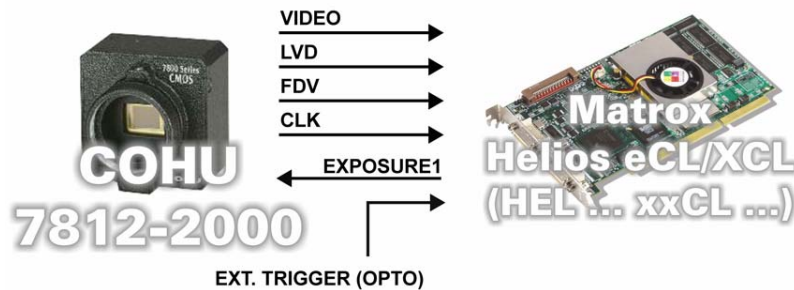
Mode of operations as  
per Matrox Imaging (in  
parentheses as per  
camera manufacturer)

Basics about the  
interface modes

#### Camera Interface Briefs

##### Mode: Continuous

- $1280 \times 1024 \times 8\text{-bit}$  @ 30 fps or  $640 \times 512 \times 8\text{-bit}$  @ 107 fps.
- Camera Link BASE interface (Single channel).
- Progressive scan.
- Matrox Helios eCL/XCL receiving LDV, FDV, CLK and video signal from camera.
- DCF used: [7812-2000\\_1280x1024\\_8bitCon.DCF \(Full frame\)](#)
- DCF used: [7812-2000\\_640x512\\_8bitCon.DCF \(Partial frame\)](#)



Specifics about the  
interface modes

#### Camera Interface Details

##### Mode: Continuous

- **Frame Rate:** Matrox Helios eCL/XCL receives the continuous video from the camera at 30/107 frames per second at full/partial resolution respectively.
- **Exposure time:** Exposure time is determined by the shutter setting. Refer to the camera manual for more information.

Continued

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Specifics about the  
interface modes

#### Camera Interface Details (cont.)

##### **Mode: Continuous**

- **Camera Command Controls:** Refer to the camera manual for more information. Set the camera command controls as follows using MIL MdigControl() function:

| DCF                      | Command                                                | Definition                                                                                                  |
|--------------------------|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| ...1280x1024_8bitCon.DCF | cD                                                     | Set camera to default mode                                                                                  |
| ...640x512_8bitCon.DCF   | cF0, 319<br>cF1, 959<br>cF2, 255<br>cF3, 767<br>cF4, 1 | Set partial readout start and stop positions<br><br><br><br><br><a href="#">Enable partial readout mode</a> |

Cabling details for the  
interface modes

#### Cabling Requirements

##### **Mode: Continuous**

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

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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