Matrox Meteor-II/Camera Link
Camera Interface Application Note
TELI CSB4000CL February 3, 2003

Basics about the camera

Camera Descriptions

- Effective resolution: 2008 × 2040 × 10-bit @ 7 fps.
- Camera Link BASE interface (Single channel).
- Progressive scan.
- Internal sync.
- Internal or external exposure control.
- 33 MHz pixel clock rate.

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

Interface Mode

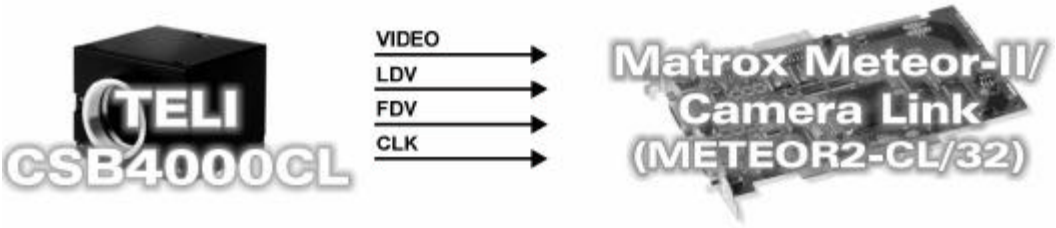
- Continuous
- Asynchronous reset (Random Trigger Mode)

Basics about the interface modes

Camera Interface Briefs

Mode 1: Continuous

- Up to 2008 × 2040 × 10-bit @ 7 fps.
- Camera Link BASE interface (Single channel).
- Progressive scan.
- Matrox Meteor-II/Camera Link receiving LVAL, FVAL, CLK and video signal from camera.
- DCF used: CSB4KC.DCF (2008 × 2040 @ 7 fps)
- DCF used: CSB4KCW.DCF (WOI: 640 × 480 @ 79 fps)



Mode 2: Asynchronous reset

- Up to 2008 × 2040 × 8-bit.
- Camera Link BASE interface (Single channel).
- Progressive scan.
- Matrox Meteor-II/Camera Link receiving external trigger signal.
- Matrox Meteor-II/Camera Link sending TIMER2 (CC1) signal to camera to initiate and control exposure time.
- Matrox Meteor-II/Camera Link receiving LVAL, FVAL, CLK and video signal from camera.

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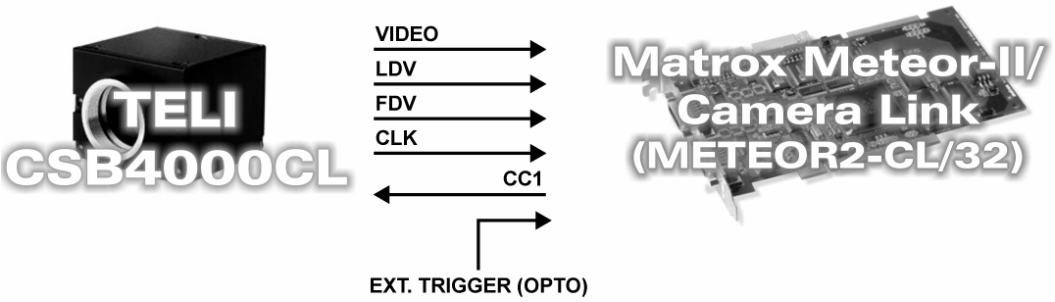
Basics about the interface modes

Camera Interface Briefs (cont.)

Mode 2: Asynchronous reset

- DCF used: CSB4KA.DCF (2008 × 2040)
- DCF used: CSB4KAW.DCF (WOI: 640 × 480)



Specifics about the interface modes

Camera Interface Details

Mode 1: Continuous

- **Frame Rate:** Matrox Meteor-II/Camera Link receives the continuous video from the camera at **7/79** frames per second (full resolution or Window of Interest (WOI) respectively).
- **Exposure time:** Exposure time is determined by the camera shutter setting. Refer to the camera manual for more information.
- **Camera settings:** WOI dimensions (640 x 480) and camera mode are set using the camera communication software, refer to the camera manual for additional information.

Mode 2: Asynchronous reset

- **Frame Rate:** The frame rate is determined by the frequency of the external trigger signal and the exposure time period.
- **Exposure time:** The width (falling edge to rising edge) of the TIMER2 (CC1) signal is the exposure time. The exposure time can be modified in the DCF using Matrox Intellicam or with the MIL MdigControl() function. Consult the respective manual for more information.
- **Camera settings:** WOI dimensions (640 x 480) and camera mode (Random Trigger Mode) are set using the camera communication software, refer to the camera manual for additional information.

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Cabling details for the interface modes

Cabling Requirements

Mode 1: Continuous

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

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 DCF(s) mentioned in this application note can be found on our FTP site (ftp.matrox.com/pub/imaging/). 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.

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