

Matrox Meteor-II/Camera Link

Camera Interface Application Note

TELI CS6910CL

January 21, 2004

*Basics about the
camera*

Camera Descriptions

- Effective resolution: 1280 × 960 × 8-bit @ 30 fps.
- Camera Link BASE interface.
- Color (RGB) progressive scan.
- Internal sync.
- Internal or external exposure control.
- 49.09 MHz pixel clock rate.

Interface Mode

- Continuous
- Pseudo-continuous (Random Trigger Shutter Mode)
- Asynchronous reset (Random Trigger Shutter, Ext. Exposure Control)

Camera Interface Briefs

Mode 1: Continuous

- Up to 1280 × 960 × 8-bit @ 30 fps.
- Camera Link BASE interface.
- Color (RGB) progressive scan.
- Matrox Meteor-II/Camera Link receiving LVAL, FVAL, CLK and video signal from camera.
- DCF used: [CS6910CL1280x960Con.DCF](#)



Mode 2: Pseudo-continuous

- Up to 1280 × 960 × 8-bit.
- Camera Link BASE interface.
- Color (RGB) progressive scan.
- 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.

Continued...

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

*Basics about the
interface modes*

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Basics about the
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Camera Interface Briefs (cont.)

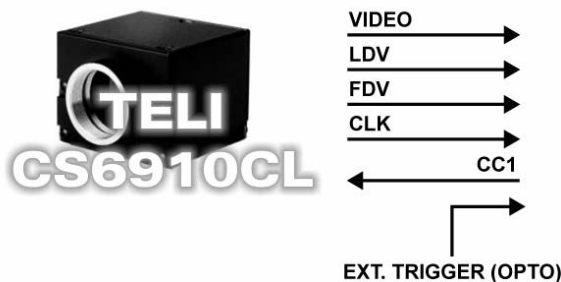
Mode 2: Pseudo-continuous

- DCF used: [CS6910CL1280x960Pcon.DCF](#)



Mode 3: Asynchronous reset

- Up to $1280 \times 960 \times 8$ -bit.
- Camera Link BASE interface.
- Color (RGB) 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.
- DCF used: [CS6910CL1280x960Async.DCF](#)



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 **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 settings:** Camera mode is set using the camera communication software. Refer to the camera manual for additional information.

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Specifics about the
interface modes

Camera Interface Details

Mode 1: Pseudo-continuous

- **Frame Rate:** The frame rate is determined by the frequency of the external trigger signal and the exposure time period.
- **Exposure time:** Exposure time is determined by the camera shutter setting. Refer to the camera manual for more information.
- **Camera settings:** Camera mode is set using the camera communication software. Refer to the camera manual for additional information.

Mode 3: 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:** Camera mode (Random Trigger Shutter) are set using the camera communication software, refer to the camera manual for additional information.

Cabling Requirements

Mode 1 and 2: Continuous/Pseudo-continuous

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

Mode 3: 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 --

Cabling details for the
interface modes

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