

Matrox Meteor-II/Camera Link

Camera Interface Application Note

DALSTAR 1M60 (DS-2x-01M60)

December 1, 2005

*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: $1024 \times 1024 \times 12\text{-bit}$ @ 60 fps.
- Camera Link BASE interface (two channels).
- Progressive scan.
- Internal sync.
- Internal or external exposure control.
- 40 MHz pixel clock rate.

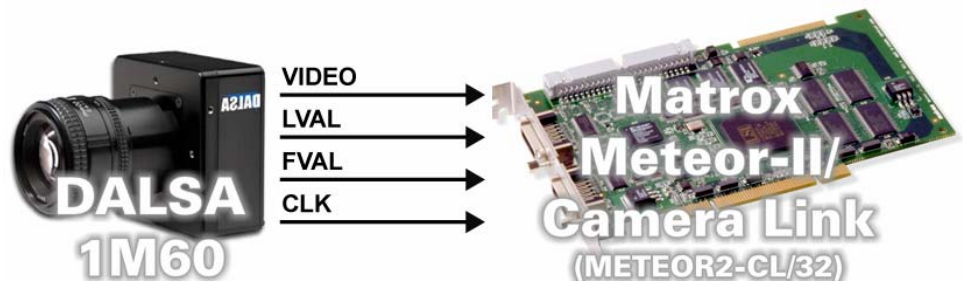
Interface Modes

- Continuous (free running)
- Asynchronous reset (external integration)

Camera Interface Briefs

Mode 1: Continuous

- $1024 \times 1024 \times 12\text{-bit}$ @ 60 fps.
- Camera Link BASE interface (two channels).
- Progressive scan.
- Matrox Meteor-II/Camera Link receiving LVAL, FVAL, PIXEL CLOCK (CLK @ 40 MHz) and video signals from camera.
- DCF: [1M60PC12.DCF](#)



Mode 2: Asynchronous reset

- $1024 \times 1024 \times 12\text{-bit}$.
- Camera Link BASE interface (two channels).
- Progressive scan.
- Matrox Meteor-II/Camera Link receiving external OPTO trigger signal.
- Matrox Meteor-II/Camera Link sending periodic EXPOSURE2 (CC1) signal to camera to initiate and control exposure time.
- Matrox Meteor-II/Camera Link receiving LVAL, FVAL, PIXEL CLOCK (CLK @ 40 MHz) and video signals from camera.

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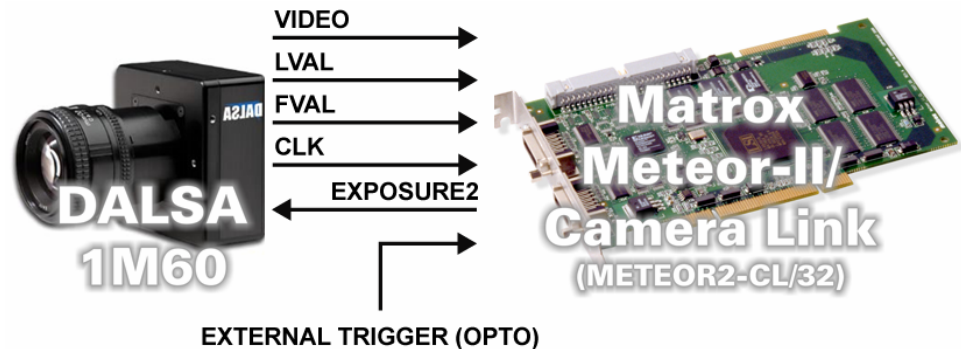
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Basics about the
interface modes

Camera Interface Briefs (continued)

Mode 2: Asynchronous reset

- DCF used: [1M60PA12.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 60 frames per second.
- **Exposure time:** Exposure time is determined by the shutter setting. Refer to the camera manual for more information.
- **Camera Control:** The camera mode is set using Windows HyperTerminal. Type **sem 1** at the prompt to set the mode, and **OMS 12** to set the output to 12-bits. Refer to the camera manual for the serial command descriptions.

Mode 2: Asynchronous Reset

- **Frame rate:** The frame rate is determined by the frequency of the external trigger signal.
- **Exposure time:** The width (rising edge to falling edge) of the EXPOSURE2 (CC1) signal is the exposure time. The exposure time can be modified in the DCF using Matrox Intellicam or with the MIL MdigControl() function. Refer to the respective manual for more information.
- **Camera Control:** The camera mode is set using Windows HyperTerminal. Type **sem 4** at the prompt to set the mode, and **OMS 12** to set the output to 12-bits. Refer to the camera manual for the serial command descriptions.

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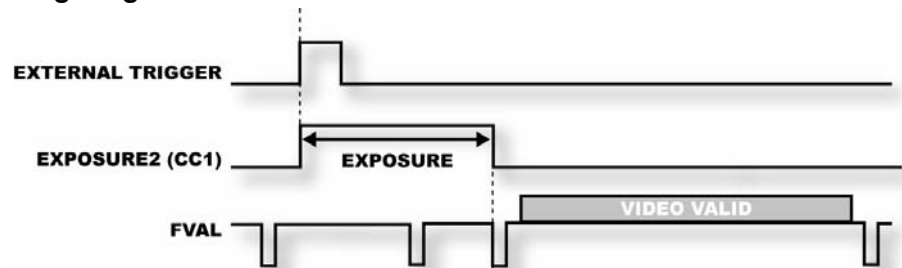
December 1, 2005

Specifics about the
interface modes

Camera Interface Details (continued)

Mode 2: Asynchronous Reset

- Timing diagram:



Cabling details for the
interface modes

Cabling Requirements

Mode 1: Continuous

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

Mode 2: Asynchronous reset (Pulse width control)

- **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://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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