Matrox Meteor-II/Camera Link
Camera Interface Application Note
DALSA1M28-SA September 22, 2003

Basics about the camera

Camera Descriptions

- Effective resolution: 1024 × 1024 × 8-bit @ 27 fps (full scanning).
- Camera Link BASE interface (single tap).
- Progressive scan.
- Internal sync.
- Internal exposure control.
- 28 MHz pixel clock rate.

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

Interface Modes

- Continuous (Freerunning)
- Asynchronous reset (Triggered Mode with External Edge Triggered Control)

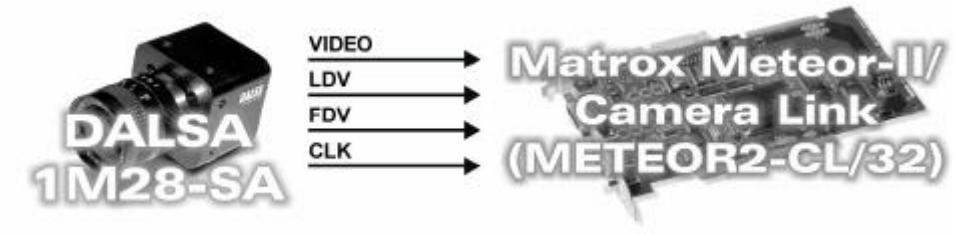
Basics about the interface modes

Camera Interface Briefs

Mode 1: Continuous

- 1024 × 1024 × 8-bit @ 27 fps.
- Camera Link BASE interface (single tap).
- Progressive scan.
- Matrox Meteor-II/Camera Link receiving LDV, FDV, CLK and video from camera.
- DCF used: 1M28_1024x1024_8bitCon.dcf

(NOTE: This DCF requires MIL/MIL-Lite 7.5 with GNL 3.2 build 5)



Mode 2: Asynchronous reset

- 1024 × 1024 × 10-bit.
- Camera Link BASE interface (Single tap).
- Matrox Meteor-II/Camera Link receiving external trigger signal.
- Matrox Meteor-II/Camera Link sending EXPOSURE1 (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…

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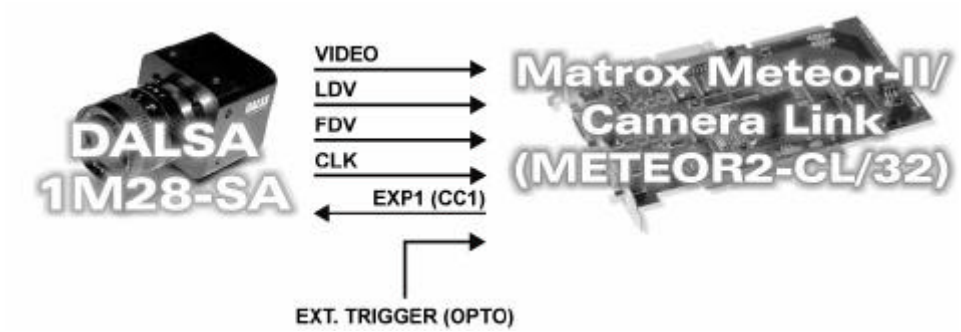
Basics about the interface modes

Camera Interface Briefs (cont.)

Mode 2: Asynchronous reset

- DCF used: 1M28_1024x1024_8bitAsync.dcf
  (NOTE: This DCF requires MIL/MIL-Lite 7.5 with GNL 3.2 build 5)



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 27 frames per second (full scanning). The frame rate depends on the ROI size and internal exposure setting. Refer to the camera manual for additional information.
- **Exposure time:** Exposure time is determined by the camera exposure time setting. Refer to the camera manual for more information.
- **Camera settings:** Refer to the camera manual for additional information on PFRemote software.

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 (rising edge to falling edge) of the EXPOSURE1 (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:** Refer to the camera manual for additional information on PFRemote software. For this mode, set camera to **Combined Trigger Exposure** and check **Sync Pulse High Active** checkbox.

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Cabling details for the interface modes

Cabling Requirements

Mode 1 and 2: Continuous and Pseudo-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	--

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