

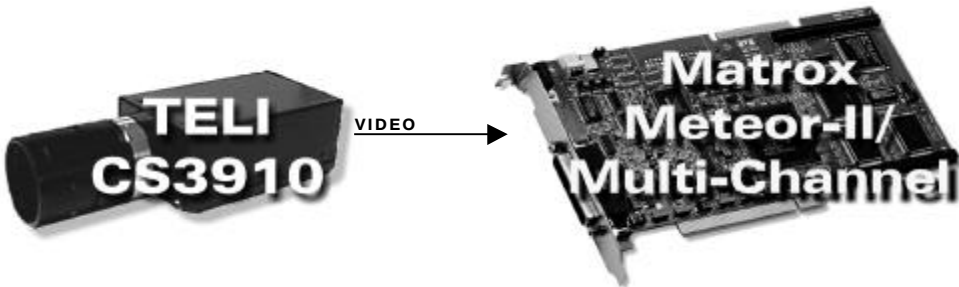
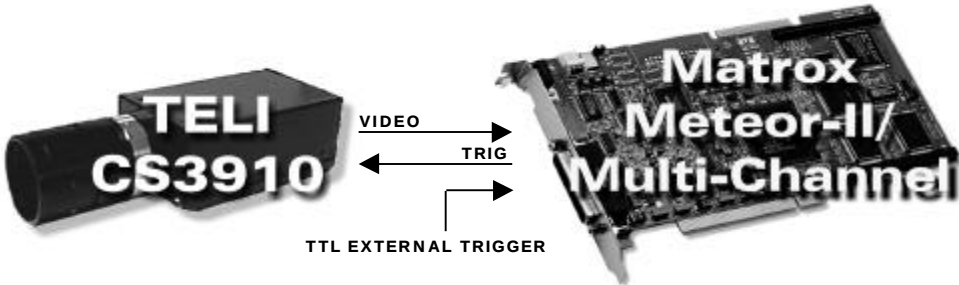
Application Note:

Interfacing non-standard cameras to Matrox Meteor-II



TELI CS3910

July 22, 1999

Camera Descriptions	• 1300 x 1030 x 10-bit. • Single channel analog or LVDS digital video output. • Progressive scan. • External synchronization. • External exposure control. • Pixel clock: 20.2450 MHz
Interface modes	• Continuous, asynchronous reset (Random Trigger Mode)
Camera Interface Briefs	Mode 1: Continuous  • 1280 x 1008 x 8-bit* @ 12 fps. • Single channel analog video. • Progressive scan. • Continuous video. • Matrox Meteor-II receiving video signal from camera. • DCF used: 3910NC.DCF
	Mode 2: Asynchronous Reset (Random Trigger Mode)  • 1280 x 1008 x 8-bit*. • Single channel analog video. • Progressive scan. • Matrox Meteor-II receiving TTL external trigger. • Matrox Meteor-II sending EXPOSURE1 (TRIG) signal to camera, EXPOSURE1 (TRIG) signal initiates and controls exposure time. • Matrox Meteor-II receiving video signals from camera. • DCF used: 3910NASY.DCF * Note Matrox Corona supports only 8-bits per channel monochrome

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Camera Interface Details

Mode 1: Continuous

- **Frame rate:** Matrox Meteor-II receives the continuous video from the camera. The frame rate is equal to 12 frames per second.
- **Exposure time:** Exposure time is inversely proportionate to the frame rate (no shutter) or determined by the shutter setting. Refer to the camera manual for more information.
- **Camera switch settings:** Switches are located internally (PROCESS board). Refer to the camera manual for additional information. Switches should be set as follows:

Mode 1: Continuous

Internal Switches (on PROCESS board)	
Switch	Setting
1 / Read-out mode	OFF
2 / Shutter mode setting	OFF
3 / Shutter mode setting	OFF
4 / Shutter speed	OFF
5 / Shutter speed	OFF
6 / Shutter speed	OFF
7 / NC	OFF
8 / NC	OFF

Mode 2: Asynchronous Reset (Random Trigger Mode)

- Once it has received the external trigger signal, Matrox Meteor-II sends the EXPOSURE1 (WEN) signal to the camera with a width equal to the desired exposure time.
- **Frame rate:** The frame rate is determined by the frequency of the external trigger signal.
- **Exposure time:** The active and inactive periods of the EXPOSURE1 (TRIG) signal is the exposure time. The default exposure time for this DCF is equal to **4.3 ms**. In order to change the width and deployment time of EXPOSURE1 (TRIG) use the Exposure Settings menu tab in Matrox Intellicam. Consult the Matrox Intellicam User Guide for more information.
- **Camera switch settings:** Switches are located internally (PROCESS board). Refer to the camera manual for additional information. Switches should be set as follows:

Mode 2: Asynchronous reset

Internal Switches (on PROCESS board)	
Switch	Setting
1 / Read-out mode	OFF
2 / Shutter mode setting	OFF
3 / Shutter mode setting	ON
4 / Shutter speed	OFF
5 / Shutter speed	OFF
6 / Shutter speed	OFF
7 / NC	OFF
8 / NC	OFF

Application Note:

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Camera Interface Details (continued)	Mode 1: Continuous			
	• DBHD44-TO-8BNC cable required for video output of camera. • The following connections should be made between the 6-pin connector of the camera and Matrox Meteor-II are as follows:			
	METEOR2-MC/_ (44-pin connector)		TELI CS3910 (6-pin connector)	
	Pin name	Pin no.	Pin name	Pin no.
	VID_IN1	15	VIDEO	01
	GROUND	14	VIDEO.GND	02
	GROUND	03	GND	03
	DC OUT (+12V)	01	+12V	06
Mode 2: Asynchronous Reset (Random Trigger Mode)				
• DBHD44-TO-8BNC cable required for TTL external trigger and analog video output of camera. • TTL external trigger source should be connected to DBHD44-TO-8BNC cable. • The following connections should be made between the 6-pin connector of the camera and Matrox Meteor-II are as follows:				
	METEOR2-MC/_ (44-pin connector)		TELI CS3910 (6-pin connector)	
	Pin name	Pin no.	Pin name	Pin no.
	VID_IN1	15	VIDEO	01
	GROUND	14	VIDEO.GND	02
	GROUND	03	GND	03
	EXP(1)	38	TRIG	04
	DC OUT (+12V)	01	+12V	06
	METEOR2-MC/_ (44-pin connector)		TTL External Trigger Source	
	Pin name	Pin no.		
	TRIGGER	20	←	

The DCF(s) mentioned in this application note can be found on the MIL and MIL-Lite CD, or our FTP site ([ftp.matrox.com](ftp:matrox.com)). 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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