

Matrox Corona-II

Camera Interface Application Note

JAI CV-A50

March 28, 2002

*Basics about the
camera*

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

*Basics about the
interface mode*

Camera Descriptions

- Effective resolution: 752 × 484 @ 30/60 fps.
- Single channel analog video output.
- Interlaced and progressive scan.
- Full or partial scan.
- Internal or external sync.
- Internal or external exposure control.
- 14.318 MHz pixel clock rate.

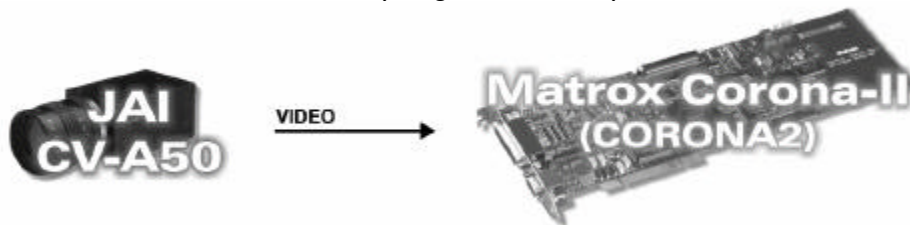
Interface Mode

- Continuous
- Asynchronous reset (pulse width control trigger mode)

Camera Interface Briefs

Mode 1: Continuous

- 752× 484 @ 30 fps (Interlace scan).
- 752× 242 @ 60 fps (Progressive scan).
- Single channel analog video.
- Interlace and progressive scan.
- Matrox Corona-II receiving video signal (composite sync) from camera.
- DCF used: [CVA50CI.DCF](#) (Interlace scan)
- DCF used: [CVA50CN.DCF](#) (Progressive scan)



Mode 2: Asynchronous Reset (pulse width control trig. mode)

- 752× 243.
- Single channel analog video.
- Progressive scan.
- Matrox Corona-II receiving external trigger signal.
- Matrox Corona-II sending EXPOSURE1 (EXT. TRIG IN) signal to camera to initiate and control exposure time.
- Matrox Corona-II receiving video and sync from camera.
- DCF used: [CVA50AN.DCF](#)

Matrox Corona-II

Camera Interface Application Note

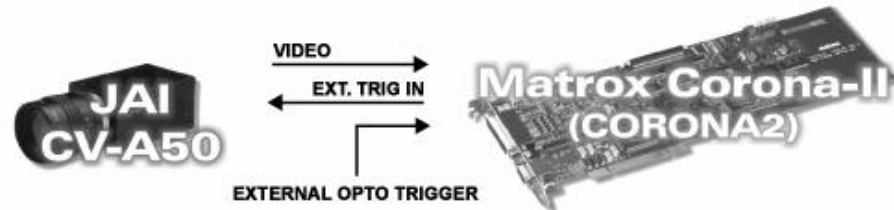
JAI CV-A50

March 28, 2002

Basics about the
interface mode

Camera Interface Briefs (cont.)

Mode 2: Asynchronous Reset (pulse width control trig. mode)



Specifics about the
interface mode

Camera Interface Details

Mode 1: Continuous

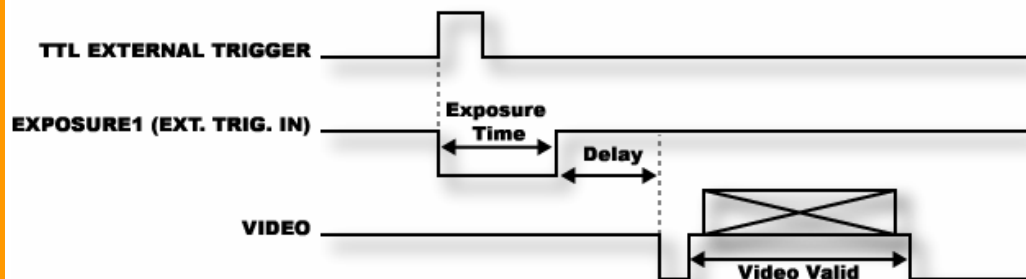
- **Frame Rate:** Matrox Corona-II receives the continuous video from the camera at 30/60 frames per second (Interlaced or progressive scan respectively).
- **Exposure time:** Exposure time can be modified through the camera configuration software. Refer to the camera manual for more information.

Mode 2: Asynchronous Reset (pulse width control trig. mode)

- **Frame rate:** The frame rate is determined by the frequency of the external trigger signal and the period of the exposure time.
- **Exposure time:** The width (falling edge to rising edge) of the EXPOSURE1 (EXT. TRIG IN) signal equals the exposure time. An internal camera delay of **127 ms** is present before the video valid. The exposure time can be modified in the DCF using Matrox Intellicam or with the MIL digitizer control function **MdigControl()**. Refer to the appropriate manual or user guide for more information.
- **Camera switch settings:** Refer to the camera manual for additional information. Internal switches for this mode should be set as follows:

Switches	Settings
SW1-1 (Internal HD)	ON
SW1-2 (Internal VD)	ON
SW2-1 (75Ω Termination)	ON
SW2-2 (75Ω Termination)	ON

- **Timing diagram:**



Matrox Corona-II

Camera Interface Application Note

JAI CV-A50

March 28, 2002

Cabling details for this
interface mode

Cabling Requirements

Mode 1: Continuous

- **Cable:** DBHD44-TO-8BNC/O (open ended) cable required for video, synchronization and control signals.
- **Connection:** Connection between the 12-pin connector of the camera and the 44-pin connectors of the Matrox Corona-II are as follows:

CORONA2 (44-pin connector)			JAI CV-A50 (12-pin connector)	
Pin name	Pin no.		Pin name	Pin no.
VID1_IN	15	←	VIDEO OUT	04
GROUND	17	--	GROUND	03

Mode 2: Asynchronous Reset (pulse width control trig. mode)

- **Cable:** DBHD44-TO-8BNC/O (open ended) cable required for video, synchronization and control signals.
- **External trigger:** External trigger signal connected to the OptoCoupled Trigger input (pin 34, 35) of the DBHD44-TO-8BNC/O cable.
- **Connection:** Connections between the 12-pin connector of the camera and the 44-pin connectors of the Matrox Corona-II are as follows:

CORONA2 (44-pin connector)			JAI CV-A50 (12-pin connector)	
Pin name	Pin no.		Pin name	Pin no.
VID1_IN	15	←	VIDEO OUT	04
EXPOSURE1	38	→	EXT. TRIG IN	11
GROUND	17	--	GROUND	03
EXTERNAL TRIGGER SOURCE				
OPTOTRIG +	35	←	--	--
OPTOTRIG -	34	←	--	--

- **Power supply:** connections are as follows:

POWER SUPPLY			JAI CV-A50 (12-pin connector)	
Pin name	Pin no.		Pin name	Pin no.
DC OUT (+12 V)	--	--	+ 12 V	02
GROUND	--	--	GROUND	01

The DCF(s) mentioned in this application note can be found on the MIL 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.

Corporate headquarters:

Canada and U.S.A.

Matrox Electronic Systems Ltd.
1055 St. Regis Blvd.
Dorval, Quebec H9P 2T4
Canada
Tel: (514) 685-2630
Fax: (514) 822-6273

