

MATROX CORONA-II

CAMERA INTERFACE APPLICATION NOTE

SONY XC-EI30/50, ES30/50

OCTOBER 15, 2001

*Basics about the
camera*

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

*Basics about the
interface modes*

Camera Descriptions

- 754×484 @ up to 60 fps.
- Single channel analog video output.
- Interlaced or progressive scan.
- Internal or external sync.
- Internal or external exposure control.
- 15.734 MHz pixel clock rate.

Interface Modes

- Continuous
- Asynchronous reset (Restart/Reset mode)

Camera Interface Briefs

Mode 1: Continuous

- $754 \times 484 \times 8\text{-bit}$ @ 30 fps.
- Single channel analog video.
- Interlaced scan.
- Matrox Corona-II receiving video signal (composite sync) from camera.
- DCF used: [XC3050C.DCF](#)

SONY
XC-EI/
ES-30/50

VIDEO

Matrox Corona-II
(CORONA2)

Mode 2: Asynchronous Reset (Restart/Reset mode)

- $754 \times 242 \times 8\text{-bit}$ @ up to 60 fps.
- 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 signal (composite sync) from camera.

Continued...

MATROX CORONA-II

CAMERA INTERFACE APPLICATION NOTE

SONY XC-EI30/50, ES30/50

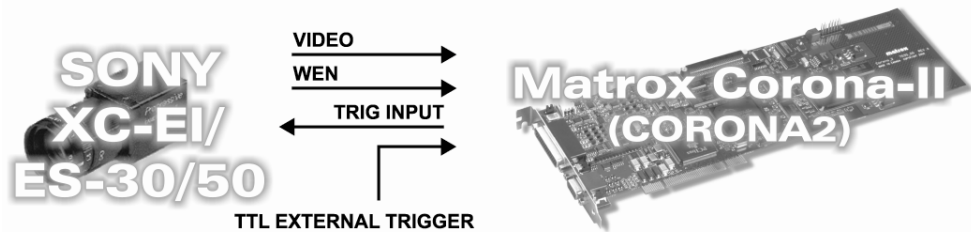
OCTOBER 15, 2001

Basics about the
interface modes

Camera Interface Briefs (Continued)

Mode 2: Asynchronous Reset (Restart/Reset mode)

- DCF used: 3050AEN.DCF



Specifics about the
interface modes

Camera Interface Details

Mode 1: Continuous

- **Frame Rate:** Matrox Corona-II receives the continuous video from the camera at 30 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:** Internal/External synchronization switch and DIP switches are set as follows, refer to the camera manual for additional information:

	EXT	INT
Internal/External Sync		✓

	ON	OFF
Shutter Speed 1	*	*
Shutter Speed 2	*	*
Shutter Speed 3	*	*
Shutter Speed 4	*	*
Field/ Frame/ 5		✓
Mode 6		✓
Mode 7		✓
Mode 8		✓

* Shutter switches are not effective in this mode

Mode 2: Asynchronous Reset (Restart/Reset mode)

- **Frame rate:** The frame rate is determined by the frequency of the external trigger signal, up to a maximum of 30 fps.
- **Exposure time:** The width (rising edge to falling edge) of the EXPOSURE1 (EXT. TRIG IN) signal plus a fixed internal camera delay of 1H to 2H equals the exposure time. 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.

MATROX CORONA-II

CAMERA INTERFACE APPLICATION NOTE

SONY XC-EI30/50, ES30/50

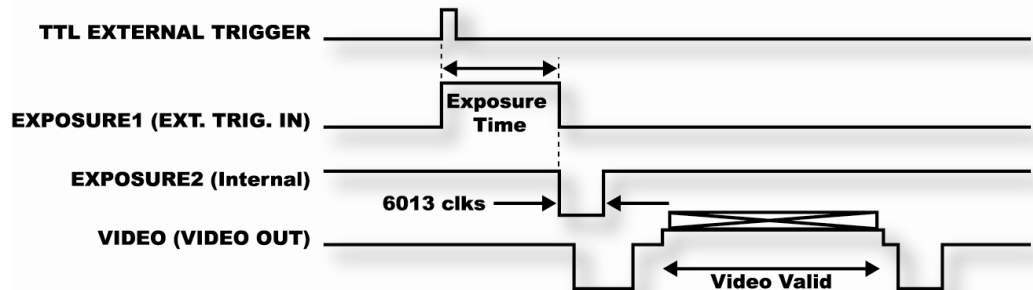
OCTOBER 15, 2001

Specifics about the
interface modes

Camera Interface Details (continued)

Mode 2: Asynchronous Reset (Restart/Reset mode)

Timing diagram:



- **Camera Switch settings:** Internal/External synchronization switch and DIP switches are set as follows, refer to the camera manual for additional information:

	EXT	INT
Internal/External Sync		✓

	ON	OFF
Shutter Speed 1	*	*
Shutter Speed 2	*	*
Shutter Speed 3	*	*
Shutter Speed 4	*	*
Field/ Frame/ 5	✓	
Mode 6		✓
Mode 7		✓
Mode 8	✓	

* Shutter switches are not effective in this mode

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:** 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)			SONY XC-ST70/ST50/ST30 (12-pin connector)	
Pin name	Pin no.		Pin name	Pin no.
VID1_IN	15	←	VIDEO OUTPUT	04
GROUND	17	--	GROUND	03

MATROX CORONA-II

CAMERA INTERFACE APPLICATION NOTE

SONY XC-EI30/50, ES30/50

OCTOBER 15, 2001

Cabling Requirements (continued)

Mode 2: Asynchronous Reset (Restart/Reset mode)

- **Cable:** DBHD44-TO-8BNC/O (open ended) cable required for video, synchronization and control signals.
- **External trigger:** TTL 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)

Pin name

Pin no.

VID1_IN

15

←

EXPOSURE1

38

→

GROUND

17

--

OPTOTRIG +

35

←

OPTOTRIG -

34

←

SONY XC-ST70/ST50/ST30

(12-pin connector)

Pin name

Pin no.

VIDEO OUT

04

EXT. TRIG IN

11

GROUND

03

EXTERNAL TRIGGER SOURCE

BNC SIGNAL

--

BNC GROUND

--

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

POWER SUPPLY

Pin name

Pin no.

DC OUT (+12 V)

--

--

GROUND

--

--

SONY XC-ST70/ST50/ST30

(12-pin connector)

Pin name

Pin no.

+ 12 V

02

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

