

MATROX CORONA-II

CAMERA INTERFACE APPLICATION NOTE

SONY DXC-390

SEPTEMBER 4, 2001

Basics about the
camera

Camera Descriptions

- $640 \times 494 \times 8\text{-bit}$ @ 30 fps.
- Color (RGB) analog video output.
- Interlaced scan.
- Internal (composite) or external sync.
- Internal or external exposure control.
- 12.2727 MHz pixel clock rate.

Interface Mode

- Continuous
- Trigger (Strobe)
- Long exposure

Camera Interface Briefs

Mode 1: Continuous

- $640 \times 480 \times 8\text{-bit}$ @ 30 fps.
- Color (RGB) analog video output.
- Interlaced scan.
- Matrox Corona-II receiving video signals from camera.
- DCF used: [MDXC390C.DCF](#)



VIDEO



Mode 2: Trigger (Strobe)

- $640 \times 480 \times 8\text{-bit}$.
- Color (RGB) analog video output.
- Interlaced scan.
- Matrox Corona-II receiving external trigger signal.
- Matrox Corona-II sending EXPOSURE1 (TRIG IN) signal to camera to initiate exposure time.
- Matrox Corona-II receiving VSYNC (WEN) and video signals from camera.

Continued...

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

Basics about the
interface Mode

MATROX CORONA-II

CAMERA INTERFACE APPLICATION NOTE

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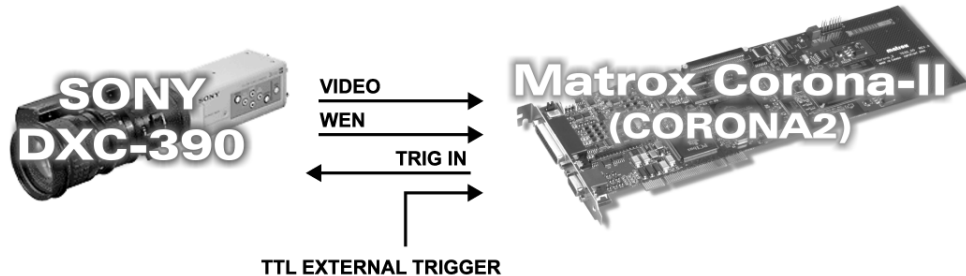
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Basics about the
interface Mode

Camera Interface Briefs (continued)

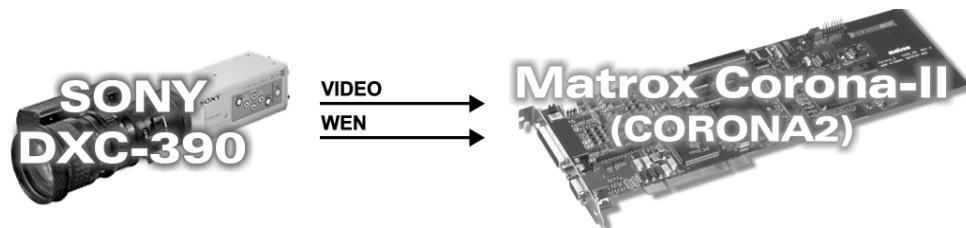
Mode 2: Trigger (Strobe)

- DCF used: [MDXC390S.DCF](#)



Mode 3: Long Exposure

- 640 × 480 × 8-bit.
- Color (RGB) analog video output.
- Interlaced scan.
- Matrox Corona-II receiving VSYNC (WEN) and video signals from camera.
- DCF used: [MDXC390L.DCF](#)



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 frames per second.
- **Exposure time:** Exposure time is inversely proportionate to the frame rate and programmable through the RM-C950 Remote Control unit. Refer to the camera manual for more information.
- **Camera switch settings:** Programmable through the RM-C950 Remote Control Unit. Refer to the camera manual for additional information.

Mode 2: Trigger (Strobe)

- **Frame rate:** The frame rate is determined by the frequency of the external trigger signal.
- **Exposure time:** The falling edge of the EXPOSURE1 (TRIG IN) signal initiates the exposure time. Exposure time is programmable through the RM-C950 Remote Control unit or Side Panel controls. The default exposure time for this DCF is **953 ms**.

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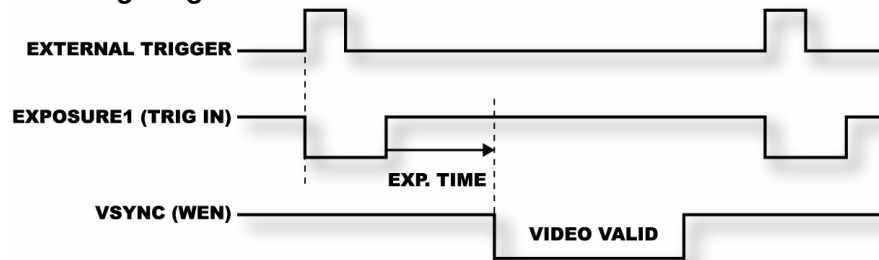
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Specifics about the
interface Mode

Camera Interface Details

Mode 2: Trigger (Strobe)

▪ Timing diagram:



- **Camera switch settings:** Settings are programmable through the RM-C950 Remote Control Unit. Refer to the camera manual for additional information. Switches for this mode should be set as follows:

Parameter	Value
Scene file	STROBE
System/D-sub sync	WEN
System/D-sub/polarity	Negative pulse
System/RGB/sync	G
Exposure/shutter	Step
Exposure/speed	Adjustable (0.1 to 8 sec)
FL	1/10000 Second
General/CCDMode	Frame
General/Trigger	ON
General/Trigger/Polarity	Negative
General/Flicker	OFF

Mode 3: Long exposure

- **Frame Rate:** Matrox Corona-II receives the pseudo-continuous video from the camera.
- **Exposure time:** Exposure time is inversely proportionate to the frame rate and programmable through the RM-C950 Remote Control unit. Refer to the camera manual for more information.
- **Camera switch settings:** Settings are programmable through the RM-C950 Remote Control Unit. Refer to the camera manual for additional information. Switches for this mode should be set as follows:

Parameter	Value
Scene file	STROBE
System/D-sub sync	WEN
System/D-sub/polarity	Negative pulse
System/RGB/sync	G
Exposure/shutter	Step
Exposure/speed	Adjustable (0.1 to 8 sec)
General/CCDMode	Frame
General/Trigger	OFF
General/Flicker	OFF

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Cabling details for the
interface Mode

Cabling Requirements

Mode 1: Continuous

- **Cable:** COR2-44-TO-13/O (open ended) cable recommended for video and synchronization signals.
- **Connection:** Connections between the 9-pin connector of the camera and the 44-pin connector of the Matrox Corona-II are as follows:

CORONA2 (44-pin connector)			SONY DXC-390 (9-pin connector)	
Pin name	Pin no.		Pin name	Pin no.
VID1_IN1	15	←	RED	03
VID1_IN2	44	←	GREEN (with sync)	04
VID1_IN3	13	←	BLUE	05

Mode 2: Trigger (Strobe)

- **Cable:** COR2-44-TO-13/O (open ended) cable required for video, synchronization and control signals.
- **External trigger:** TTL external trigger source should be connected to the OPTO trigger input of the Matrox Corona-II.
- **Connection:** Connections between the 9-pin connector of the camera, the TTL external trigger source and the 44-pin connector of the Matrox Corona-II are as follows:

CORONA2 (44-pin connector)			SONY DXC-390 (9-pin connector)	
Pin name	Pin no.		Pin name	Pin no.
VID1_IN1	15	←	RED	03
VID1_IN2	44	←	GREEN (with sync)	04
VID1_IN3	13	←	BLUE	05
VSYNC_TTL	32	←	WEN	07
EXP(1)	38	→	BNC TRIG IN	--

CORONA2 (44-pin connector)			TTL External Trigger Source	
Pin name	Pin no.		Pin name	Pin no.
OPTOTRIG +	35	←	SIGNAL	--
OPTOTRIG -	34	←	GROUND	--

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Cabling Requirements

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- **Connection:** Connections between the 9-pin connector of the camera and the 44-pin connector of the Matrox Corona-II are as follows:

CORONA2 (44-pin connector)			SONY DXC-390 (9-pin connector)	
Pin name	Pin no.		Pin name	Pin no.
VID1_IN1	15	←	RED	03
VID1_IN2	44	←	GREEN (with sync)	04
VID1_IN3	13	←	BLUE	05
TRIGGER	20	←	WEN	07

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.

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