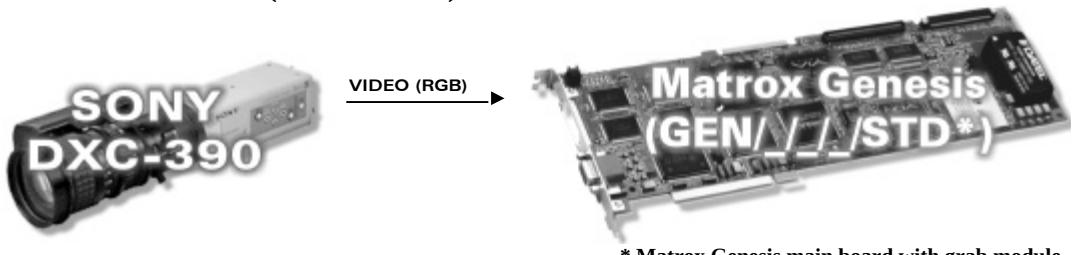
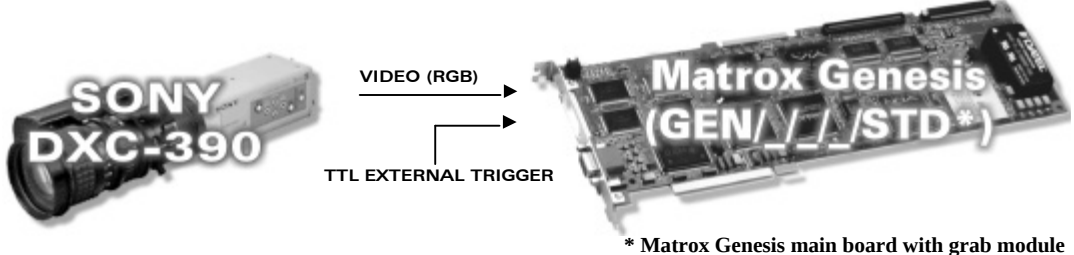


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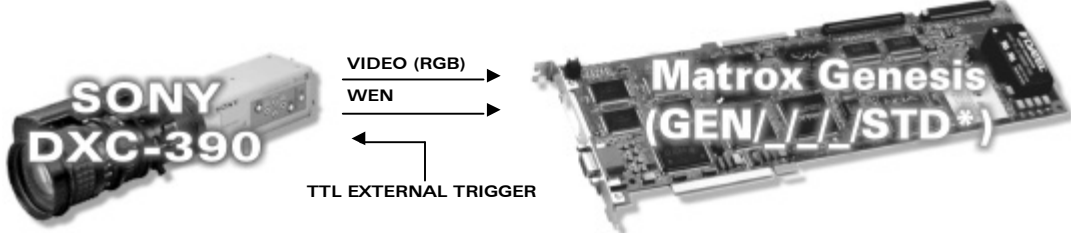
Camera Descriptions	• 768 × 494 (NTSC) or 752 × 582 (PAL) × 10-bit @ 30 fps. • Three channel (3 CCD) color analog video output. • Interlaced scan. • Composite or separate sync. • Internal or external exposure control. • Pixel clock: 12.2727 MHz
Interface modes	• Continuous, Trigger, Long Exposure/Strobe
Camera Interface Briefs	Mode 1: Continuous (Genesis Slave)  * Matrox Genesis main board with grab module • 640 × 480 × 8-bit @ 30 fps • Three channel color analog video. • Interlaced scan. • Matrox Genesis receiving video signals from camera. • DCF used: GDXC390C.DCF Mode 2: Trigger (Genesis Slave)  * Matrox Genesis main board with grab module • 640 × 480 × 8-bit • Three channel color analog video. • Interlaced scan. • Matrox Genesis receiving video signals from camera. • Matrox Genesis receiving TTL external trigger signal to initiate exposure. • DCF used: GDXC390T.DCF

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Camera Interface Briefs (continued)	Mode 3: Long Exposure / Strobe (Genesis Slave)  * Matrox Genesis main board with grab module • 640 × 480 × 8-bit • Three channel analog video. • Interlaced scan. • Matrox Genesis receiving video signals from camera. • Camera receiving TTL external trigger signal. • Matrox Genesis receiving WEN signal to initiate exposure. • DCF used: GDXC390L.DCF
Camera Interface Details	Mode 1: Continuous (Genesis Slave) • Frame rate: Matrox Genesis receives the continuous video from the camera at 30 fps. • Exposure time: Exposure time is inversely proportionate to the frame rate and programmable through RM-C950 Remote Control Unit. • Camera settings: Programmable through RM-C950 Remote Control Unit. Refer to the camera manual for additional information. Mode 2: Trigger (Genesis Slave) • Matrox Genesis receives the continuous video from the camera. Once it has received the external trigger signal, Matrox Genesis initiates exposure on next valid VSYNC. • Frame rate: The frame rate is variable and controlled by the frequency of the external trigger signal. • Exposure time: Exposure time is programmable through RM-C950 Remote Control Unit. Refer to the camera manual for additional information. • Camera settings: Programmable through RM-C950 Remote Control Unit. Refer to the camera manual for additional information. Mode 3: Long Exposure / Strobe (Genesis Slave) • Matrox Genesis receives the continuous video from the camera. Once camera has received the external trigger signal, camera sends exposure signal (WEN) to Matrox Genesis to initiate exposure on next valid VSYNC (Long Exposure) or frame (Strobe). • Frame rate: The frame rate is variable and controlled by the frequency of the external trigger signal. • Exposure time: Exposure time is programmable through RM-C950 Remote Control Unit. Refer to the camera manual for additional information.

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Camera Interface Details (continued)	• Camera settings: Programmable through RM-C950 Remote Control Unit. Refer to the camera manual for additional information. Settings for Strobe or Long Exposure mode should be as follows: <table><tr><th colspan="2">Long Exposure</th></tr><tr><th>Parameter</th><th>Value</th></tr><tr><td>Scene file</td><td>Standard</td></tr><tr><td>System/D-sub sync</td><td>WEN</td></tr><tr><td>System/D-sub/polarity</td><td>Negative pulse</td></tr><tr><td>Exposure/shutter</td><td>Step</td></tr><tr><td>Exposure/speed</td><td>Adjustable (0.1 to 8 sec)</td></tr></table><table><tr><th colspan="2">Strobe</th></tr><tr><th>Parameter</th><th>Value</th></tr><tr><td>Scene file</td><td>Strobe</td></tr><tr><td>System/D-sub sync</td><td>WEN</td></tr><tr><td>System/D-sub/polarity</td><td>Positive pulse</td></tr><tr><td>Exposure/shutter</td><td>Step</td></tr><tr><td>Exposure/speed</td><td>Adjustable (up to shutter off)</td></tr></table>	Long Exposure		Parameter	Value	Scene file	Standard	System/D-sub sync	WEN	System/D-sub/polarity	Negative pulse	Exposure/shutter	Step	Exposure/speed	Adjustable (0.1 to 8 sec)	Strobe		Parameter	Value	Scene file	Strobe	System/D-sub sync	WEN	System/D-sub/polarity	Positive pulse	Exposure/shutter	Step	Exposure/speed	Adjustable (up to shutter off)									
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Cabling Requirements	Mode 1: Continuous (Genesis Slave) • IMG-7W2-TO-5BNC cable required for synchronization and video output of camera. • Connections between Matrox Genesis and the 9-pin connector of the camera are as follows: <table><tr><th colspan="2">Matrox Genesis (7W2 connector)</th><th></th><th colspan="2">SONY DXC-390 (9-pin connector)</th></tr><tr><th>Pin name</th><th>Pin no.</th><th></th><th>Pin name</th><th>Pin no.</th></tr><tr><td>ANALOG VIDEO INPUT 1 (RED BNC)</td><td>A1</td><td>←</td><td>RED</td><td>03</td></tr><tr><td>ANALOG VIDEO INPUT 2 (GRN BNC)</td><td>A2</td><td>←</td><td>GREEN</td><td>04</td></tr><tr><td>ANALOG VIDEO INPUT 3 (BLUE BNC)</td><td>5</td><td>←</td><td>BLUE</td><td>05</td></tr></table> Mode 2: Trigger (Genesis Slave) • IMG-7W2-TO-5BNC cable required for synchronization and video output of camera. • TTL external trigger source should be connected to the TTL trigger input of the IMG-7W2-TO-5BNC cable. • Connections between Matrox Genesis and the 9-pin connector of the camera are as in <i>Mode 1: Continuous</i>. • Connection between Matrox Genesis and the external trigger source are as follows: <table><tr><th colspan="2">Matrox Genesis (7W2 connector)</th><th></th><th>EXTERNAL TRIGGER</th></tr><tr><th>Pin name</th><th>Pin no.</th><th></th><th></th></tr><tr><td>TTL TRIGGER INPUT (GRAY BNC)</td><td>1, 3</td><td>←</td><td>TTL EXTERNAL TRIGGER</td></tr></table>	Matrox Genesis (7W2 connector)			SONY DXC-390 (9-pin connector)		Pin name	Pin no.		Pin name	Pin no.	ANALOG VIDEO INPUT 1 (RED BNC)	A1	←	RED	03	ANALOG VIDEO INPUT 2 (GRN BNC)	A2	←	GREEN	04	ANALOG VIDEO INPUT 3 (BLUE BNC)	5	←	BLUE	05	Matrox Genesis (7W2 connector)			EXTERNAL TRIGGER	Pin name	Pin no.			TTL TRIGGER INPUT (GRAY BNC)	1, 3	←	TTL EXTERNAL TRIGGER
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Cabling Requirements (continued)	Mode 3: Long Exposure / Strobe (Genesis Slave)			
	• IMG-7W2-TO-5BNC cable required for synchronization and video output of camera. • TTL external trigger source connected to the TRIG IN BNC connector of the camera. • Connections between Matrox Genesis and the 9-pin connector of the camera are as in <i>Mode 1: Continuous</i> except for following additional connection:			
	Matrox Genesis		SONY DXC-390	
	(7W2 connector)		(9-pin connector)	
	Pin name	Pin no.	Pin name	Pin no.
	TTL TRIGGER INPUT (GRAY BNC)	1, 3 ←	SYNC/WEN/HD	07

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