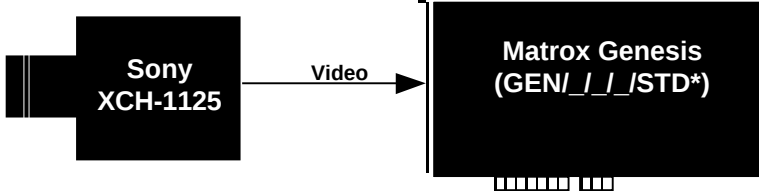
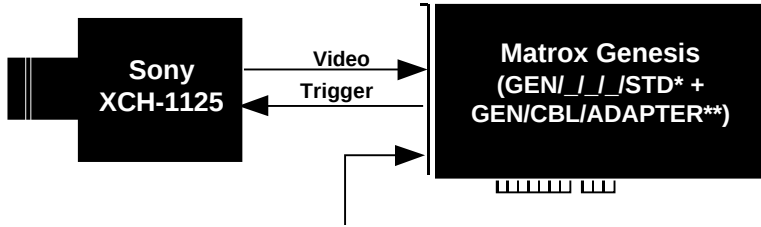


Application Note:

Interfacing non-standard cameras to Matrox Genesis

Sony XCH-1125

March 5, 1997

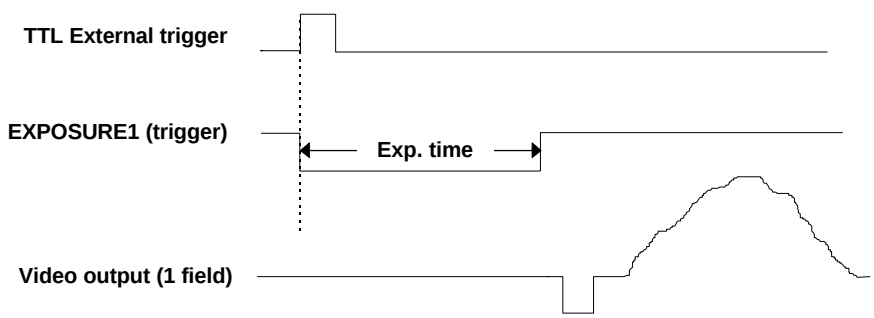
Camera Descriptions	• 1920 (H) x 1035 (V) • Analog video output. • Interlaced or non-interlaced. • Internal (composite) or external sync. • Internal or external exposure control.
Interface Modes	• Continuous and Asynchronous reset (LTR) modes
Camera Interface Briefs	Mode 1: Continuous mode  * Matrox Genesis Main Board with Grab Module • 1920 (H) x 1035 (V) @ 30 FPS. • Analog (composite) video output. • Interlaced. • Matrox Genesis receiving video signals from camera. • DCF used: 1125.DCF Mode 2: Asynchronous reset (LTR) mode  TTL external trigger * Matrox Genesis Main Board with Grab Module ** Matrox Digital Cable Adapter Board • 1920 (H) x 517 (v). • Analog (composite) video output. • Non-interlaced. • External exposure control. • Matrox Genesis receiving TTL external trigger. • Matrox Genesis sending TTL EXPOSURE1 (Trigger) signal to camera; the TTL EXPOSURE1 signal sent to trigger input of camera to initiate exposure. • Matrox Genesis receiving video signal from camera. • DCF used: 1125AE.DCF
Camera Interface Details	Mode 1: Continuous mode • Through the on-screen MENU settings, it is possible to change the operation parameters. Refer to the camera manual for additional information. continued

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Camera Interface Details (continued)	- This mode is operational with the camera on-screen MENU settings as follows: <table> <tr> <th><i>parameter</i></th><th><i>setting</i></th></tr> <tr> <td>SCAN</td><td>NON</td></tr> <tr> <td>R.R.</td><td>OFF</td></tr> <tr> <td>FRM/FLD</td><td>FRM</td></tr> <tr> <td>SYNC</td><td> (BI-Level)</td></tr> </table> Mode 2: Asynchronous reset (LTR) mode - As discussed in the camera manual, it is important that the operational parameters are set correctly in order to use the electronic shutter. Using the on-screen MENU function, select the LTR (long-term reset) setting under SHUTTER. Check with the camera manual for additional information. - Frame scan rate is determined by the period of the TTL external trigger. - The external trigger is input on the Genesis via the analog video input connector trigger pin. - Once an external trigger is received, the Genesis generates a TTL EXPOSURE1 pulse which in turn initiates the camera exposure. - In this mode, exposure time is determined by the width of the active level of the EXPOSURE1 (Trigger) signal. - The default exposure time for this DCF is 17ms, however exposure time can be adjusted using either Matrox Intellicam, Genesis Native Library's imCamControl() or MIL's MdigControl() functions. Refer to the respective manual for additional information. - This mode is operational with the camera on-screen MENU settings as follows: <table> <tr> <th><i>parameter</i></th><th><i>setting</i></th></tr> <tr> <td>SCAN</td><td>NON</td></tr> <tr> <td>R.R.</td><td>OFF</td></tr> <tr> <td>FRM/FLD</td><td>FRM</td></tr> <tr> <td>SYNC</td><td> (BI-Level)</td></tr> </table> 	<i>parameter</i>	<i>setting</i>	SCAN	NON	R.R.	OFF	FRM/FLD	FRM	SYNC	 (BI-Level)	<i>parameter</i>	<i>setting</i>	SCAN	NON	R.R.	OFF	FRM/FLD	FRM	SYNC	 (BI-Level)
<i>parameter</i>	<i>setting</i>																				
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SCAN	NON																				
R.R.	OFF																				
FRM/FLD	FRM																				
SYNC	 (BI-Level)																				
Cabling Requirements	Mode 1: Continuous mode - IMG-7W2-TO-5BNC cable required for video output of camera. - Video input of IMG-7W2-TO-5BNC cable should be connected to the video out BNC connector of camera.																				

Application Note:

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Cabling Requirements (continued)

Mode 2: Asynchronous reset (LTR) mode

• IMG-7W2-TO-5BNC cable required for video output of camera and TTL external trigger source and PLS/CBL/OPEN required exposure signals in TTL format. Video input of IMG-7W2-TO-5BNC cable should be connected to video out BNC connector of camera.

• Digital cable adapter board required.

The connections between the digital cable adapter and MSI (20-pin) connector of the camera are as follows:

Digital Cable Adapter Board (PLS/CBL/OPEN)			Sony XCH-1125 (20-pin MSI connector)	
Pin name	Pin no.		Pin name	Pin no.
EXPOSURE1, OUTPUT, TTL	24	→	Trig IN (signal)	13
GROUND	25	→	Trig IN (Gnd)	14

The connections between the power supply and the 20-pin lens connector of the camera are as follows:

Power Supply			Sony XCH-1125 (20-pin MSI connector)	
Pin name			Pin name	Pin no.
+ 12V			+12V	1
GROUND			GND	2

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 Matrox for more information, if necessary.

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