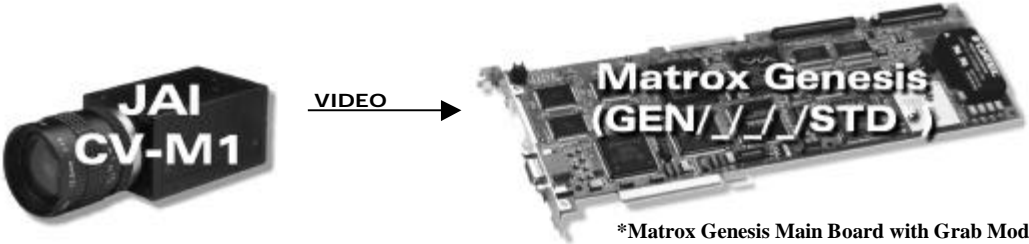
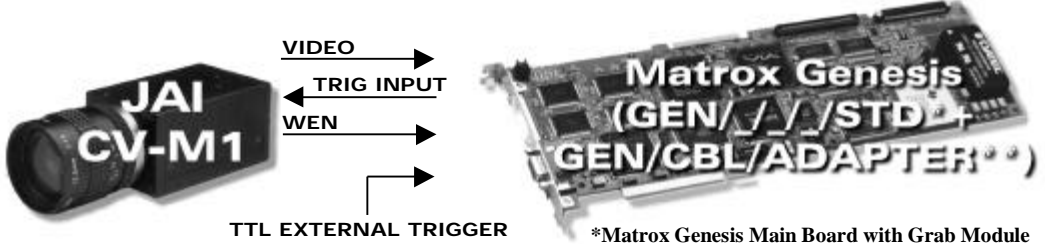


# Application Note:

## Interfacing non-standard cameras to Matrox Genesis

JAI CV-M1

February 23, 1999

<b>Camera Descriptions</b>	<ul style="list-style-type: none"> <li>• 1300 x 1030 x 8-bit @ 12 fps (or 1300 x 515 x 8-bit @ 24 fps).</li> <li>• Single channel analog video output.</li> <li>• Progressive scan.</li> <li>• External sync.</li> <li>• Internal exposure control.</li> <li>• Pixel clock: 20.20 MHz</li> </ul>
<b>Interface modes</b>	<ul style="list-style-type: none"> <li>• Continuous, asynchronous reset</li> </ul>
<b>Camera Interface Briefs</b>	<p><b>Mode 1: Continuous</b></p>  <p>*Matrox Genesis Main Board with Grab Module</p> <ul style="list-style-type: none"> <li>• 1300 x 1025 x 8-bit @ 12 fps (normal speed readout).</li> <li>• 1300 x 509 x 8-bit @ 24 fps (double speed readout).</li> <li>• Single channel analog video.</li> <li>• Progressive scan.</li> <li>• Continuous video</li> <li>• Matrox Genesis receiving video signals from camera.</li> <li>• DCF used: <a href="#">CVM1CONT.DCF</a> (normal speed readout)</li> <li>• DCF used: <a href="#">CVM1CFR.DCF</a> (double speed readout)</li> </ul> <p><b>Mode 2: Asynchronous Reset</b></p>  <p>*Matrox Genesis Main Board with Grab Module ** Matrox Digital Cable Adapter Board</p> <ul style="list-style-type: none"> <li>• 1300 x 1025 x 8-bit (normal speed readout).</li> <li>• 1300 x 509 x 8-bit (double speed readout).</li> <li>• Single channel analog video.</li> <li>• Progressive scan.</li> <li>• Matrox Genesis receiving TTL external trigger.</li> <li>• Matrox Genesis sending EXPOSURE1 (TRIGGER INPUT) signal to camera.</li> <li>• Matrox Genesis receiving TRIGGER (WEN) and video signals from camera.</li> <li>• DCF used: <a href="#">CVM1TS.DCF</a> (normal speed readout)</li> <li>• DCF used: <a href="#">CVM1TFR.DCF</a> (double speed readout)</li> </ul>

# Application Note:

## Interfacing non-standard cameras to Matrox Genesis

JAI CV-M1

February 23, 1999

Camera Interface Details	<p>Switch settings (SW1 on rear panel of camera) :</p> <p>Mode 1 and 2: Continuous mode, Asynchronous reset mode</p> <table><tr><th>OFF</th><th>ON</th><th></th></tr><tr><td>•</td><td></td><td>1 Shutter speed</td></tr><tr><td>•</td><td></td><td>2 Shutter speed</td></tr><tr><td>•</td><td></td><td>3 Shutter speed</td></tr><tr><td>•</td><td></td><td>4 Shutter speed</td></tr><tr><td></td><td>•</td><td>5 Readout mode</td></tr><tr><td>•</td><td></td><td>6 Ext. trigger mode</td></tr><tr><td>•</td><td></td><td>7 Ext. trigger mode</td></tr><tr><td>•</td><td></td><td>8 Interface</td></tr></table> <p>Switch 5 set to ON, all others are set to OFF or to desired shutter settings</p>	OFF	ON		•		1 Shutter speed	•		2 Shutter speed	•		3 Shutter speed	•		4 Shutter speed		•	5 Readout mode	•		6 Ext. trigger mode	•		7 Ext. trigger mode	•		8 Interface
OFF	ON																											
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	•	5 Readout mode																										
•		6 Ext. trigger mode																										
•		7 Ext. trigger mode																										
•		8 Interface																										
	<p>Mode 1: Continuous</p> <ul style="list-style-type: none"><li>• IMG-7W2-TO-5BNC cable required for video output of camera.</li></ul> <p>Mode 2: Asynchronous Reset</p> <ul style="list-style-type: none"><li>• DBHD68-TO-OPEN and IMG-7W2-TO-5BNC cables required for TTL external trigger, sync, control, and video signals.</li><li>• Connections between the 6-pin multi connector (HIROSE) of the camera and Matrox Genesis are as follows:</li></ul> <table><tr><th colspan="2">JAI CV-M1 (HIROSE 6-pin connector)</th><th></th><th colspan="2">Digital Cable Adapter Board (68-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>TRIGGER INPUT</td><td>05</td><td>←</td><td>EXPOSURE1, OUTPUT, TTL</td><td>24</td></tr><tr><td>WEN OUTPUT</td><td>06</td><td>→</td><td>TRIGGER, INPUT, TTL</td><td>67</td></tr></table>	JAI CV-M1 (HIROSE 6-pin connector)			Digital Cable Adapter Board (68-pin connector)		Pin name	Pin no.		Pin name	Pin no.	TRIGGER INPUT	05	←	EXPOSURE1, OUTPUT, TTL	24	WEN OUTPUT	06	→	TRIGGER, INPUT, TTL	67							
JAI CV-M1 (HIROSE 6-pin connector)			Digital Cable Adapter Board (68-pin connector)																									
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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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