

# Application Note:

## Interfacing non-standard cameras to Matrox Genesis

i2S IVC182BC

December 20, 1996

Camera Descriptions	<ul style="list-style-type: none"><li>• Linear camera.</li><li>• 5000 pixels per line.</li><li>• Single channel 8-bit digital video output (TTL).</li></ul>																																																																						
Interface Mode	<ul style="list-style-type: none"><li>• Continuous line scan rate.</li></ul>																																																																						
Camera Interface Briefs	<p>Mode : Continuous line scan rate</p> <div><p>* PC interface board for high-speed line scan cameras (i2S)</p><p>**Matrox Genesis Main Board with Grab Module</p></div> <ul style="list-style-type: none"><li>• 5000 Pixels per line.</li><li>• 8-bit digital video output (TTL).</li><li>• DCF configured for 256 lines per virtual frame.</li><li>• Matrox Genesis receiving pixel clock and hsync signals from camera.</li><li>• Pixel clock: 0 to 30 MHz.</li><li>• DCF used: <a href="#">I182DL.DCF</a></li></ul>																																																																						
Cabling Requirements	<p>Mode : Continuous line scan rate</p> <ul style="list-style-type: none"><li>• the connections between the i2S iSM307 PC interface board and the digital interface connector on the Genesis Grab Module are as follows:</li></ul> <table><thead><tr><th colspan="2">i2S (iSM307 board) (40-pin connector)</th><th></th><th colspan="2">Genesis Grab Module (100-pin double flat ribbon cable)</th></tr><tr><th>Pin name</th><th>Pin no.</th><th></th><th>Pin name</th><th>Pin no.</th></tr></thead><tbody><tr><td>DRDY</td><td>01</td><td>→</td><td>TTLHSIN</td><td>02</td></tr><tr><td>RCLK</td><td>03</td><td>→</td><td>TTLCKIN</td><td>06</td></tr><tr><td>D7</td><td>05</td><td>→</td><td>TTLD7</td><td>61</td></tr><tr><td>D6</td><td>07</td><td>→</td><td>TTLD6</td><td>60</td></tr><tr><td>D5</td><td>09</td><td>→</td><td>TTLD5</td><td>58</td></tr><tr><td>D4</td><td>11</td><td>→</td><td>TTLD4</td><td>57</td></tr><tr><td>D3</td><td>13</td><td>→</td><td>TTLD3</td><td>56</td></tr><tr><td>D2</td><td>15</td><td>→</td><td>TTLD2</td><td>55</td></tr><tr><td>D1</td><td>17</td><td>→</td><td>TTLD1</td><td>53</td></tr><tr><td>D0</td><td>19</td><td>→</td><td>TTLD0</td><td>52</td></tr><tr><td>GROUND</td><td>23</td><td>→</td><td>GROUND</td><td>01</td></tr><tr><td>GROUND</td><td>02</td><td>→</td><td>GROUND</td><td>05</td></tr></tbody></table> <p>(Pin-out continued)</p>	i2S (iSM307 board) (40-pin connector)			Genesis Grab Module (100-pin double flat ribbon cable)		Pin name	Pin no.		Pin name	Pin no.	DRDY	01	→	TTLHSIN	02	RCLK	03	→	TTLCKIN	06	D7	05	→	TTLD7	61	D6	07	→	TTLD6	60	D5	09	→	TTLD5	58	D4	11	→	TTLD4	57	D3	13	→	TTLD3	56	D2	15	→	TTLD2	55	D1	17	→	TTLD1	53	D0	19	→	TTLD0	52	GROUND	23	→	GROUND	01	GROUND	02	→	GROUND	05
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<b>Cabling Requirements (continued)</b>	<b>i2S (iSM307 board) (40-pin connector)</b>			<b>Genesis Grab Module (100-pin double flat ribbon cable)</b>	
	<i>Pin name</i>	<i>Pin no.</i>		<i>Pin name</i>	<i>Pin no.</i>
	GROUND	04	→	GROUND	07
	GROUND	06	→	GROUND	11
	GROUND	08	→	GROUND	51
	GROUND	10	→	GROUND	54
	GROUND	12	→	GROUND	59
	GROUND	14	→	GROUND	15
	GROUND	16	→	GROUND	64
	GROUND	18	→	GROUND	17
	<ul style="list-style-type: none"> <li>To interface the iSM307 board with the digital interface connector on the Genesis Grab Module, it will be necessary modify the double flat ribbon supplied with the board as documented above.</li> </ul>				

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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