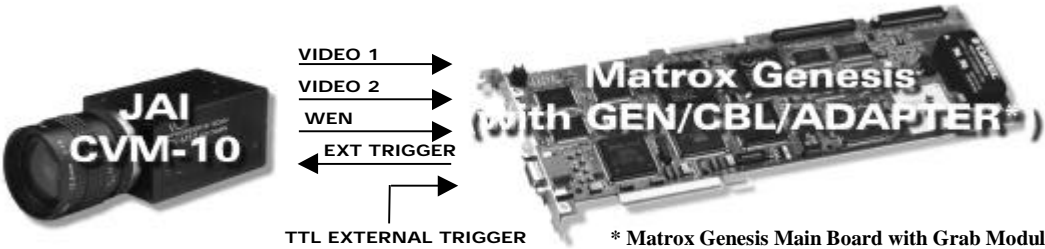
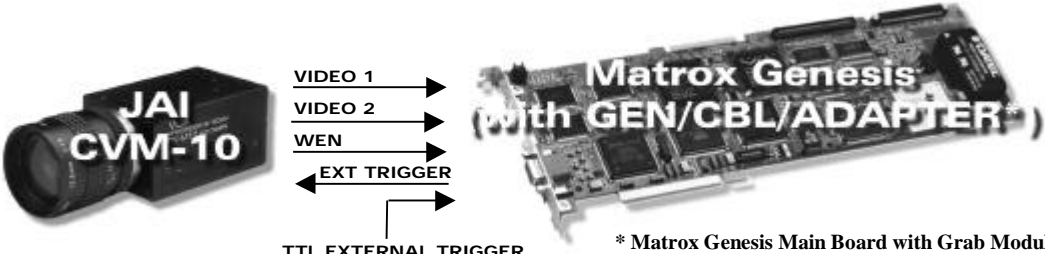


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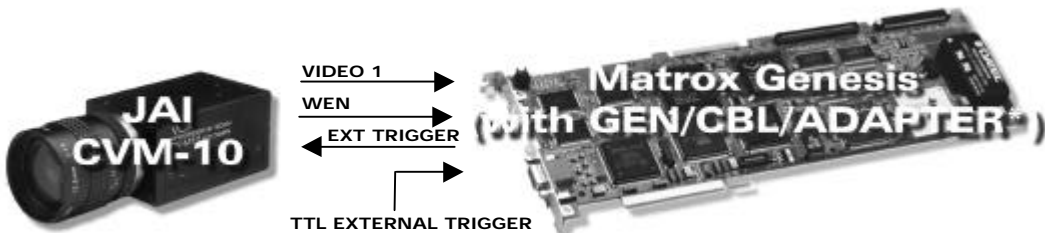
| | |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Camera Descriptions | <ul style="list-style-type: none"> • 640 x 480 @ 30 fps (RS-170) & 768 x 494 @ 25 fps (CCIR). • Single or dual channel analog video output. • Progressive scan. • Internal (composite) or external sync. • Internal exposure control. |
| Interface Mode | <ul style="list-style-type: none"> • Trigger (dual and single tap). |
| Camera Interface Briefs | <p>Mode 1: Trigger (RS-170-dual tap)</p>  <ul style="list-style-type: none"> • 640 x 480 x 8-bit. • Dual channel analog (composite) video. • Progressive scan. • Pixel clock: 12.27 MHz • Matrox Genesis receiving TTL external trigger. • Matrox Genesis sending TTL EXPOSURE1 (EXT TRIGGER) signal to camera. • Matrox Genesis receiving TTL DIGTRIG (WEN) and video signals from camera. • DCF used: CVM10AB.DCF <p>Mode 2: Trigger (CCIR-dual tap)</p>  <ul style="list-style-type: none"> • 768 x 576 x 8-bit. • Dual channel analog (composite) video. • Progressive scan. • Pixel clock: 14.75 MHz • Matrox Genesis receiving TTL external trigger. • Matrox Genesis sending TTL EXPOSURE1 (EXT TRIGGER) signal to camera. • Matrox Genesis receiving TTL DIGTRIG (WEN) and video signals from camera. • DCF used: CVM10CAB.DCF <p>* Matrox Genesis Main Board with Grab Module ** Matrox Digital Cable Adapter Board</p> |

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| <p>Camera Interface Briefs (continued)</p> | <p>Mode 3: Trigger (CCIR-single tap)</p>  <p>* Matrox Genesis Main Board with Grab Module ** Matrox Digital Cable Adapter Board</p> <ul style="list-style-type: none"> • 768 x 576 x 8-bit. • Single channel analog (composite) video. • Progressive scan. • Pixel clock: 14.75 MHz • Matrox Genesis receiving TTL external trigger. • Matrox Genesis sending TTL EXPOSURE1 (EXT TRIGGER) signal to camera. • Matrox Genesis receiving TTL DIGTRIG (WEN) and video signals from camera. • DCF used: CVM10CA.DCF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| <p>Camera Interface Details</p> | <p>Switch settings (switches on rear panel of camera) :</p> <p>Mode 1, 2: Trigger (dual tap)</p> <table border="1" data-bbox="592 1102 738 1407"> <thead> <tr> <th>OFF</th> <th>ON</th> </tr> </thead> <tbody> <tr><td>•</td><td></td></tr> <tr><td>•</td><td></td></tr> <tr><td>•</td><td></td></tr> <tr><td>•</td><td></td></tr> <tr><td>•</td><td></td></tr> <tr><td>•</td><td></td></tr> <tr><td>•</td><td></td></tr> <tr><td>•</td><td></td></tr> </tbody> </table> <table border="1" data-bbox="747 1123 933 1396"> <tbody> <tr><td>1</td><td>Shutter speed</td></tr> <tr><td>2</td><td>shutter speed</td></tr> <tr><td>3</td><td>shutter speed</td></tr> <tr><td>4</td><td>trigger mode</td></tr> <tr><td>5</td><td>interface mode</td></tr> <tr><td>6</td><td>gamma mode</td></tr> <tr><td>7</td><td>gain setting</td></tr> <tr><td>8</td><td>gain setting</td></tr> </tbody> </table> <p>Switches 4 and 5 set to OFF, all others can be set by the user to desired position</p> <p>Mode 3: Trigger (CCIR-single tap)</p> <table border="1" data-bbox="592 1512 738 1816"> <thead> <tr> <th>OFF</th> <th>ON</th> </tr> </thead> <tbody> <tr><td>•</td><td></td></tr> <tr><td>•</td><td></td></tr> <tr><td>•</td><td></td></tr> <tr><td>•</td><td></td></tr> <tr><td></td><td>•</td></tr> <tr><td>•</td><td></td></tr> <tr><td>•</td><td></td></tr> <tr><td>•</td><td></td></tr> </tbody> </table> <table border="1" data-bbox="747 1533 933 1806"> <tbody> <tr><td>1</td><td>Shutter speed</td></tr> <tr><td>2</td><td>shutter speed</td></tr> <tr><td>3</td><td>shutter speed</td></tr> <tr><td>4</td><td>trigger mode</td></tr> <tr><td>5</td><td>interface mode</td></tr> <tr><td>6</td><td>gamma mode</td></tr> <tr><td>7</td><td>gain setting</td></tr> <tr><td>8</td><td>gain setting</td></tr> </tbody> </table> <p>Switch 4 set to OFF, 5 set to ON, all others can be set by the user to desired position</p> | OFF | ON | • | | • | | • | | • | | • | | • | | • | | • | | 1 | Shutter speed | 2 | shutter speed | 3 | shutter speed | 4 | trigger mode | 5 | interface mode | 6 | gamma mode | 7 | gain setting | 8 | gain setting | OFF | ON | • | | • | | • | | • | | | • | • | | • | | • | | 1 | Shutter speed | 2 | shutter speed | 3 | shutter speed | 4 | trigger mode | 5 | interface mode | 6 | gamma mode | 7 | gain setting | 8 | gain setting |
| OFF | ON | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1 | Shutter speed | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | shutter speed | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | shutter speed | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | trigger mode | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | interface mode | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | gamma mode | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | gain setting | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | gain setting | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OFF | ON | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1 | Shutter speed | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | shutter speed | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | shutter speed | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | trigger mode | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | interface mode | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | gamma mode | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | gain setting | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | gain setting | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Application Note:

Interfacing non-standard cameras to Matrox Genesis

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| Cabling Requirements | Mode 1, 2, : Trigger (dual tap) | | | |
| | <ul style="list-style-type: none"> • IMG-7W2-TO-5BNC cable required for video output of camera. • Red BNC connected to Video2 OUT, Green BNC connected to Video1 OUT. • Digital cable adapter board required. • Gray BNC connected to External Trigger source. • The connections between the Matrox Genesis and the camera are as follows: | | | |
| | PLS/CBL/CABLE | | JAI CVM-10 | |
| | (68-pin connector) | | (6-pin male HIROSE connector) | |
| | Pin name | Pin no. | Pin name | Pin no. |
| | EXPOSURE1, OUTPUT | 24 | → | TRIGGER IN 5 |
| | DIG TRIG, INPUT | 67 | → | VALID OUT 6 |
| | Mode 3, : Trigger (single tap) | | | |
| | <ul style="list-style-type: none"> • IMG-7W2-TO-5BNC cable required for video output of camera. • Red BNC connected to Video1 OUT. • Digital cable adapter board required. • Gray BNC connected to External Trigger source. | | | |
| | <ul style="list-style-type: none"> • For all modes: The connections between the 12-pin lens connector of the camera and the power supply are as follows: | | | |
| | POWER SUPPLY | | JAI CV-M10 | |
| | | | (12-pin connector) | |
| | | | Pin name | Pin no. |
| | 12 Volts | | DC+12V in | 2 |
| | GROUND | | GND | 1 |

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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