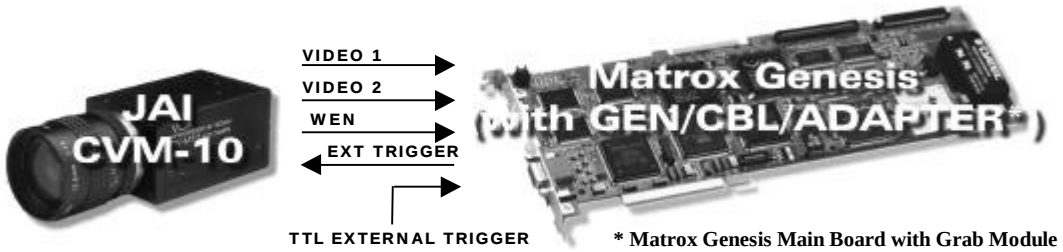
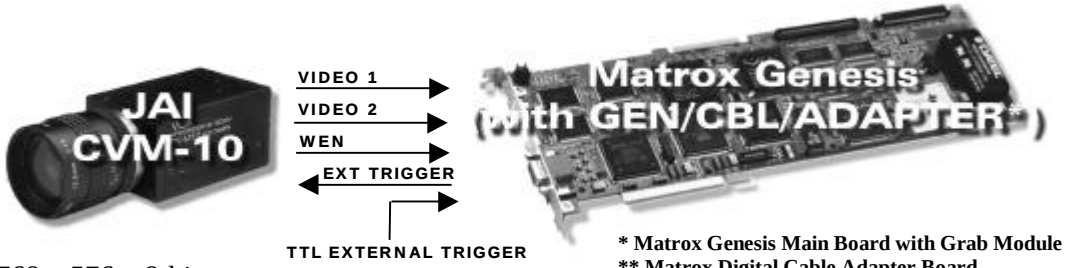
Application Note:
Interfacing non-standard cameras to Matrox Genesis

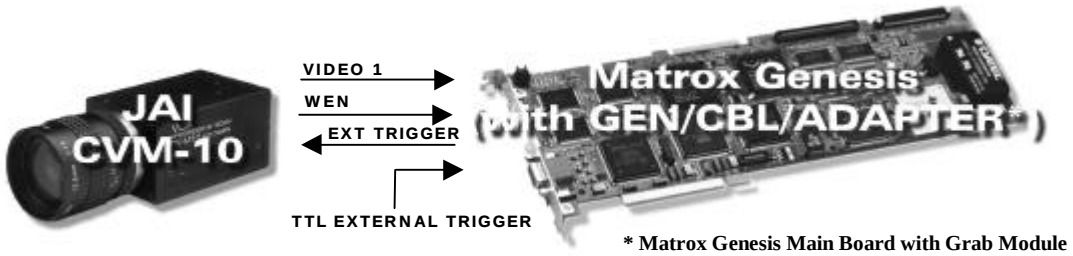
MATROX GENESIS

JAI CV-M10 **November 23, 1998**

Camera Descriptions	• 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	• Trigger (dual and single tap).
Camera Interface Briefs	**Mode 1: Trigger (RS-170-dual tap)**  *** Matrox Genesis Main Board with Grab Module** **** Matrox Digital Cable Adapter Board** • 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 **Mode 2: Trigger (CCIR-dual tap)**  *** Matrox Genesis Main Board with Grab Module** **** Matrox Digital Cable Adapter Board** • 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

Camera Interface Briefs (continued)

Mode 3: Trigger (CCIR-single tap)



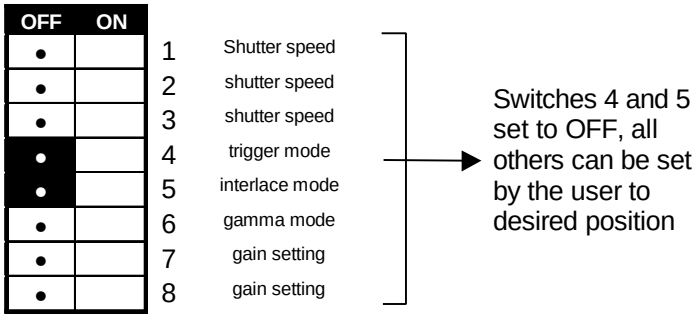
*** Matrox Genesis Main Board with Grab Module**
**** Matrox Digital Cable Adapter Board**

- 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

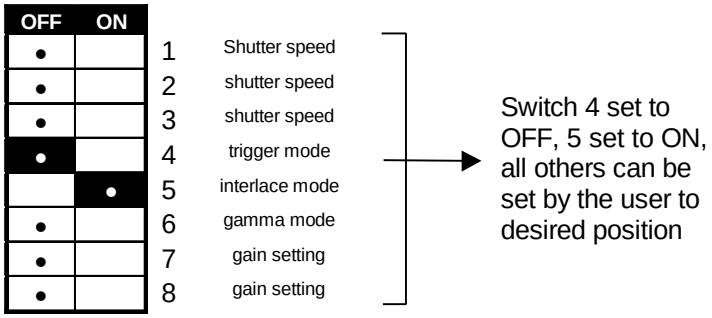
Camera Interface Details

Switch settings (switches on rear panel of camera) :

Mode 1, 2: Trigger (dual tap)



Mode 3: Trigger (CCIR-single tap)



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Cabling Requirements

Mode 1, 2, : Trigger (dual tap)

- 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 (68-pin connector)			**JAI CVM-10 (6-pin male HIROSE connector)**	
Pin name	**Pin no.**		**Pin name**	**Pin no.**
EXPOSURE1, OUTPUT	24	→	TRIGGER IN	5
DIG TRIG, INTPUT	67	→	VALID OUT	6

Mode 3, : Trigger (single tap)

- 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.

- **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). 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. C*ontact your local sales representative or Matrox Sales office or Matrox Imaging Applications at 514-822-6061 for assistance.*

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MATROX IMAGING