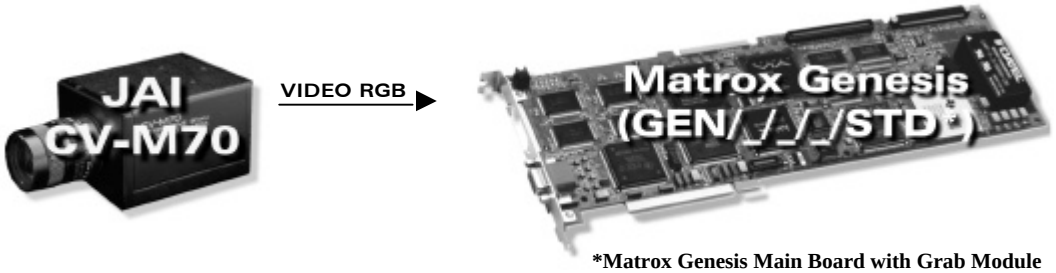
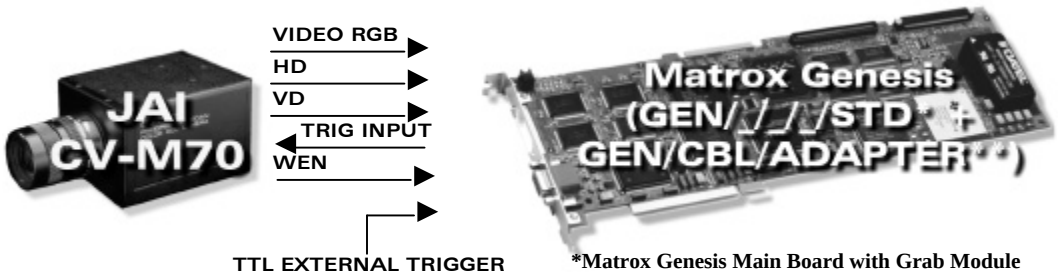
Application Note:
Interfacing non-standard cameras to Matrox Genesis

MATROX GENESIS

JAI CV-M70 **November 9, 1998**

Camera Descriptions	• 640 x 480 x 8-bit @ 30 fps. • Single channel analog video output. • Progressive scan. • External sync. • Internal exposure control. • Pixel clock: 12.637 MHz
Interface modes	• Continuous, asynchronous reset
Camera Interface Briefs	**Mode 1: Continuous**  ***Matrox Genesis Main Board with Grab Module** • 640 x 480 x 8-bit @ 30 fps. • Analog RGB video output. • Progressive scan. • Matrox Genesis receiving RGB video signals from camera. • DCF used: CVM70AC.DCF **Mode 2: Asynchronous Reset**  ***Matrox Genesis Main Board with Grab Module** ****** Matrox Digital Cable Adapter Board** • 640 x 480 x 8-bit. • Analog RGB video output. • Progressive scan. • Matrox Genesis receiving TTL external trigger. • Matrox Genesis sending EXPOSURE1 (TRIGGER INPUT) signal to camera. • Matrox Genesis receiving HSYNC (HD), VSYNC (VD), TRIGGER (WEN) and RGB video signals from camera. • DCF used: CVM70AT.DCF

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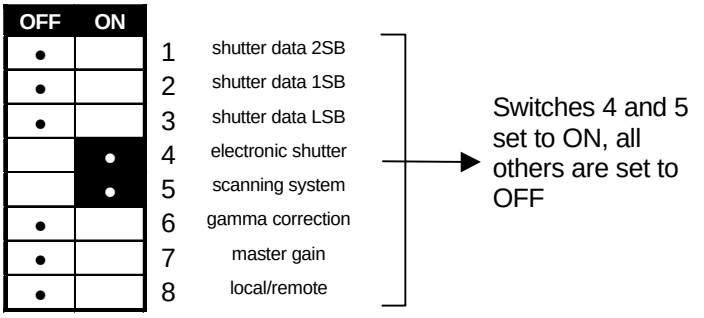
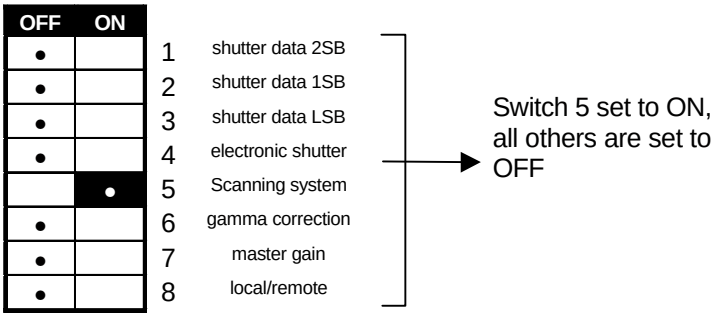
Camera Interface Details

Switch settings (SW1 on rear panel of camera) :

Mode 1 : Continuous mode



Mode 2 : Asynchronous reset mode



Cabling Requirements

Mode 1: Continuous

- IMG-7W2-TO-5BNC cable required for video output of camera.
- Red BNC connected to pin #3 (9-pin D-SUB connector-Red Video Source), Green BNC connected to pin #4 (9-pin D-SUB connector-Green Video Source), Blue BNC connected to pin #5 (9-pin D-SUB connector-Blue Video Source) and Black BNC connected to pin #7 (9-pin D-SUB connector-Black Int. Sync Out).

Mode 2: Asynchronous Reset

- IMG-7W2-TO-5BNC and DBHD68-TO-OPEN cables required for video output of camera, and sync and control output.
- Red, Green, Blue and Black BNC connections as in Mode 1: *Continuous*.
- Connections between the 6-pin multi connector (RS-232C) of the camera and the 68-pin connector of the Matrox Genesis are as follows:

JAI CV-M70 (6-pin multi connector)			**GEN/_/_/_/STD (DBHD68-TO-OPEN) (68-pin digital interface connector)**	
Pin name	***Pin no.***		***Pin name***	***Pin no.***
TRIGGER INPUT	05	←	EXPOSURE1, OUTPUT, TTL	24
WEN OUTPUT	06	→	TRIGGER, INPUT, TTL	67

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Cabling Requirements (continued)

- Connections between the 12-pin multi connector (DC/Ext. Sync) of the camera and the 68-pin connector of the Matrox Genesis are as follows:

JAI CV-M70 (12-pin multi connector)			**GEN/_/_/_/STD (DBHD68-TO-OPEN) (44-pin digital interface connector)**	
Pin name	***Pin no.***		***Pin name***	***Pin no.***
HD	06	→	HSYNC, INPUT, TTL	34
VD	07	←	EXPOSURE2, OUTPUT, TTL	58

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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