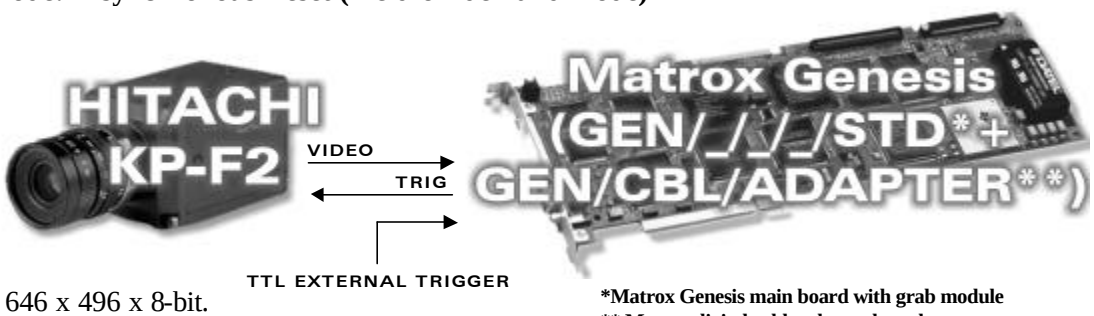
Application Note:
Interfacing non-standard cameras to Matrox Genesis

MATROX GENESIS

Hitachi KP-F2

February 23, 2000

Camera Descriptions	• 658 x 496 x 8-bit @ up to 60fps. • Single or dual channel analog video output. • Progressive scan. • Internal or external exposure control. • Internal or external synchronization. • Pixel clock rate: 40 MHz
Interface mode	• Asynchronous reset (Field-on-demand mode)
Camera Interface Briefs	**Mode: Asynchronous Reset (Field-on-demand mode)**  ***Matrox Genesis main board with grab module** **** Matrox digital cable adapter board** • 646 x 496 x 8-bit. • Single channel analog video. • Progressive scan • Matrox Genesis receiving TTL external trigger signal. • Matrox Genesis sends EXPOSURE1 (TRIG) signal to camera: the EXPOSURE1 signal both initiates exposure and controls exposure time. • Matrox Genesis receiving video signals from camera. • DCF used: KPF2ASY.DCF
Camera Interface Details	**Mode: Asynchronous Reset (Field-on-demand mode)** • Once it has received the external trigger signal, Matrox Genesis sends the EXPOSURE1 (TRIG) signal to the camera with a width equal to the desired exposure. • **Frame rate**: The frame rate is determined by the frequency of the external trigger signal. • **Exposure time**: the active period of EXPOSURE1 (TRIG) signals is the exposure time. In order to change the width and deployment time of EXPOSURE1 (TRIG) use the Exposure Settings menu tab in Matrox Intellicam. Consult the Matrox Intellicam User Guide for more information.

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Cabling Requirements

Mode: Asynchronous Reset (Field-on-demand mode)

- IMG-7W2-TO-5BNC and DBHD68-TO-OPEN cables, and GEN/CBL/ADAPTER board required for TTL external trigger and video output of camera.
- Video input of IMG-7W2-TO-5BNC (RED) cable should be connected to video out of camera (pin number 04 of 12-pin connector).
- TTL external trigger source should be connected to Gray BNC of IMG-7W2-TO-5BNC cable.
- The following connection should be made between the 12-pin connector of the camera and the 68-pin connector of the Digital Cable Adapter board:

GEN/CBL/ADAPTER (68-pin connector)			**Hitachi KP-F2 (12-pin connector)**	
Pin name	***Pin no.***		***Pin name***	***Pin no.***
EXPOSURE0, OUTPUT, TTL	24	→	TRIG	07

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. Contact your local sales representative or Matrox Sales office or Imaging Applications at 514-822-6061 for assistance.

Corporate headquarters:

Canada and U.S.A.

Matrox Electronic Systems Ltd.
1055 St. Regis Blvd.
Dorval, Quebec H9P 2T4
Canada
Tel: (514) 685-2630
Fax: (514) 822-6273

MATROX IMAGING