

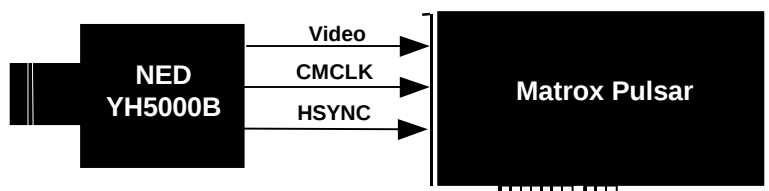
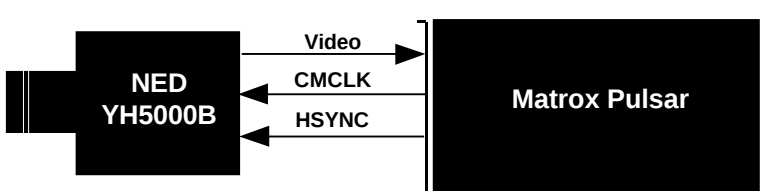
Application Note:

Interfacing non-standard cameras to Matrox Pulsar



NED YH5000B

January 17, 1997

Camera Descriptions	• 5000 x 1 x 8-bit • Line scan camera • Fixed line scan • Analog video output • Digital RS-422 hsync and pclk
Interface Modes	• 2 modes of operation: fixed line scan rate (Camera master, Pulsar master)
Camera Interface Briefs	Mode 1: Fixed line scan rate (Camera master)  • 5000 x 1 x 8-bit • Analog video output • DCF configured for 512 lines per virtual frame • Line scan rate is fixed at 1.9802 kHz with a pixel clock frequency of 10 MHz • Exposure time is inversely proportional to line scan rate • Continuous video • Matrox Pulsar receiving Video, CMCLK, and HSYNC signals from camera • DCF used: YH5B_L.DCF Mode 2: Fixed line scan rate (Pulsar master)  • 5000 x 1 x 8-bit • Analog video output • DCF configured for 512 lines per virtual frame • Line scan rate is fixed at 1.9802 kHz with a pixel clock frequency of 10 MHz • Exposure time is inversely proportional to line scan rate • Continuous video • Matrox Pulsar sending CMCLK and HSYNC signals to camera • DCF used: YH5B_LM.DCF
Cabling Requirements	Mode 1: Fixed line scan rate (Camera master) • Video input BNC of IMG-7W2-TO-1BNC cable should be connected to VIDEO BNC of the camera.

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Cabling Requirements
(continued)

- The connections between the DB-15 female connector of the camera and the DB-37 male connector of the PLS-TTL-CABLE are as follows:

PLS-TTL-CABLE (DB-37 male connector)			Camera Control Box (DB-15 female connector)	
Pin name	Pin no.		Pin name	Pin no.
CLKIN+	04	←	1 CMCK+ / 2 CMCK+	03
HSYNC+	16	←	START+	04
CLKIN-	22	←	1CMCK- / 2CMCK-	10
HSYNC-	34	←	START-	11
- Other connections are required between the camera and the camera control box. Refer to the camera manual for details.

Mode 2: Fixed line scan rate (Pulsar master)

- Video input BNC of IMG-7W2-TO-1BNC cable should be connected to VIDEO BNC of the camera.
- The connections between the DB-15 female connector of the camera and the DB-37 male connector of the PLS-TTL-CABLE are as follows:

PLS-TTL-CABLE (DB-37 male connector)			Camera Control Box (DB-15 female connector)	
Pin name	Pin no.		Pin name	Pin no.
CLKOUT-	05	→	CLOCK-	10
HSYNC+	16	→	START+	04
CLKOUT+	24	→	CLOCK+	03
HSYNC-	34	→	START-	11
- Other connections are required between the camera and the camera control box. Refer to the camera manual for details.

The DCF(s) mentioned in this application note can be found on the MIL and MIL-Lite 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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