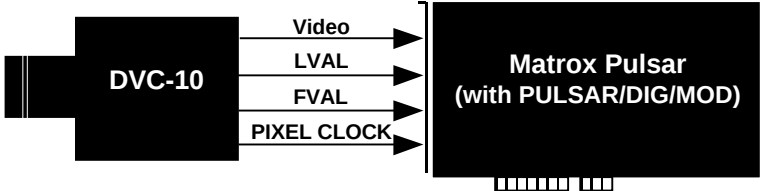
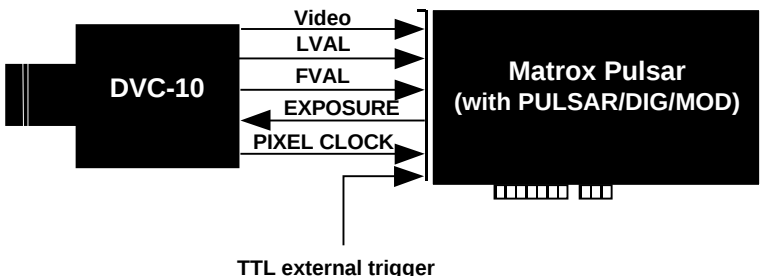


Application Note:

Interfacing non-standard cameras to Matrox Pulsar

DVC-10

May 9, 1997

Camera Interface Overview	• 755 x 484 x 10-bit or 8-bit @30 fps (max.) • Digital video output (RS-422) • Interlaced • Internal hsync, vsync, and pixel clock signals (all RS-422) supplied externally • 14.318 MHz pixel clock rate • 2 modes of operation: Continuous and triggered (asynchronous reset)
Camera Interface Details	Mode 1: Continuous mode  • 752 x 480 x 10-bit or 8-bit @30 fps (max.) • Digital video output (RS-422) • Interlaced • Continuous video • Matrox Pulsar receiving RS-422 hsync (Line Valid or LVAL), vsync (Frame Valid or FVAL) and pixel clock signals from camera • DCF used for 10-bit: DVC10_D.DCF • DCF used for 8-bit: DVC8_D.DCF Mode 2: Trigger mode (asynchronous reset)  • 752 x 240 x 10-bit • Digital video output (RS-422) • Non-interlaced • Matrox Pulsar receiving RS-422/TTL external trigger signal • Matrox Pulsar receiving RS-422 hsync (Line Valid or LVAL), vsync (Frame Valid or FVAL) and pixel clock signals from camera • Matrox Pulsar sending exposure signal to camera • DCF used: DVC_10i.DCF

Application Note:

Interfacing non-standard cameras to Matrox Pulsar



DVC-10

May 9, 1997

Cabling Requirements	Mode 1:Continuous mode				
	• PULSAR/DIG/MOD required for digital data in RS-422 format. The following connections should be made between the 37-pin DB-37 connector of the camera and the 68-pin connector of PULSAR/DIG/MOD:				
	PULSAR/DIG/MOD (68-pin connector)			DVC-10/DVC-08 (DB-37 plug)	
	Pin name	Pin no.		Pin name	Pin no.
	CLKIN+	29	←	CLK+	01
	CLKIN -	63	←	CLK-	20
	HSYNC+	26	←	HSYNC+	02
	HSYNC-	60	←	HSYNC-	21
	VSYNC+	25	←	VSYNC+	03
	VSYNC-	59	←	VSYNC-	22
	GROUND	01		GND	16
	GROUND	68		GND	35
	DATA9+	08	←	DB9+	15
	DATA9-	42	←	DB9-	34
	DATA8+	09	←	DB8+	14
	DATA8-	43	←	DB8-	33
	DATA7+	10	←	DB7+	13
DATA7-	44	←	DB7-	32	
DATA6+	11	←	DB6+	12	
DATA6-	45	←	DB6-	31	
DATA5+	13	←	DB5+	11	
DATA5-	47	←	DB5-	30	
DATA4+	14	←	DB4+	10	
DATA4-	48	←	DB4-	29	
DATA3+	15	←	DB3+	09	
DATA3-	49	←	DB3-	28	
DATA2+	16	←	DB2+	08	
DATA2-	50	←	DB2-	27	
DATA1+	19	←	DB1+	07	
DATA1-	53	←	DB1-	26	
DATA0+(LSB)	20	←	DB0+	06	
DATA0- (LSB)	54	←	DB0-	25	
GROUND	12		GND	16	
TTL_EXP1	66	→	RESET	17	
TTL_USER0	31	→	MODE CONTROL0	18	
TTL_USER1	32	→	MODE CONTROL1	37	
TTL_USER2	33	→	MODE CONTROL2	19	

Application Note:

Interfacing non-standard cameras to Matrox Pulsar

MATROX
PULSAR

DVC-10

May 9, 1997

	Mode 2: Trigger mode (asynchronous reset) • IMG-7W2-TO-5BNC cable required for TTL external trigger source and PULSAR/DIG/MOD required for digital data, syncs and control signals in RS-422 format. • TTL external trigger source should be connected to the TTL Trigger Input of the IMG-7W2-TO-5BNC cable. • all connections are as in Mode 1: <i>Continuous mode</i> • it is recommended that the non-used data bits are not left floating, in other words, the data bits 10(+) to 15(+) should be connected to 0V and the data bits 10(-) to 15(-) should be connected to 5V.
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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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