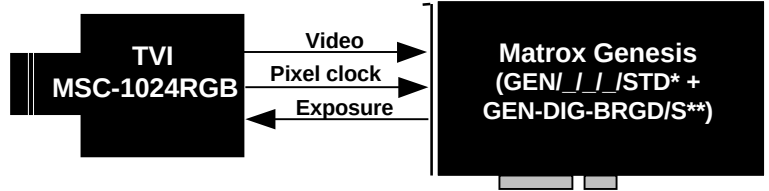
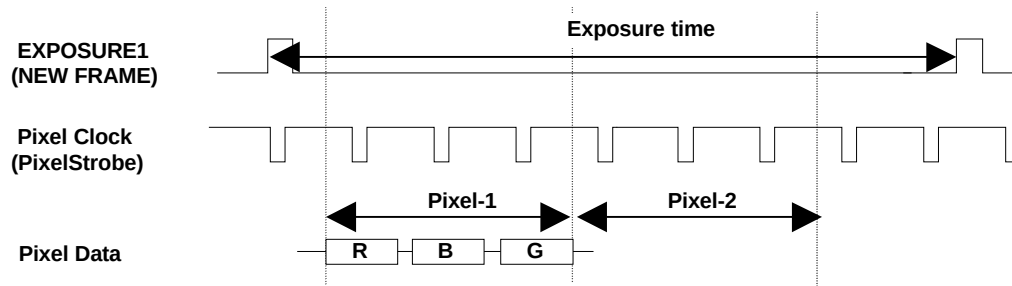


Application Note:

Interfacing non-standard cameras to Matrox Genesis

Temet Vision Industry (TVI) MSC-1024RGB

November 4, 1997

Camera Descriptions	• 1024 pixels per line x 3 (color line-scan camera). • 8-bit digital output (RS-422). • Maximum data rate output: 25 MHz
Interface mode	• Fixed line scan rate mode
Camera Interface Briefs	Mode: Fixed line scan rate mode  • 1024 x 480 x 8-bit. • Digital video output (RS-422). • Line scan rate is programmable and controlled through Matrox Intellicam. • Matrox Genesis sending RS-422 EXPOSURE1 (NEW FRAME) signal to camera; the RS-422 EXPOSURE1 (NEW FRAME) signal initiates line readout. • Matrox Genesis receiving RS-422 Pixel clock (PixelStrobe), RS-422 video signals from camera. • DCF used: TVI.DCF • Requires Matrox Genesis shell version 1.12 and up. Contact Matrox Imaging Applications at 514-822-6061 for more information.
Camera Interface Details	• The line scan rate is programmable and controlled by the RS-422 EXPOSURE1 (NEW FRAME) signal. To change, adjust the Timer1 setting in the EXPOSURE SIGNAL menu in Matrox Intellicam. • The exposure time period between the rising edges of the RS-422 EXPOSURE1 (NEW FRAME) signals. 

Application Note:

Interfacing non-standard cameras to Matrox Genesis

Temet Vision Industry (TVI) MSC-1024RGB

November 4, 1997

Cabling Requirements	The connections between the 50-pin female D-SUB connector of the camera and the 100-pin connector of the GEN-DIG-BRD/S are as follows:			
	TVI MSC-1024RGB		GEN-DIG-BRD/S	
	(50-pin female D-SUB connector)		(GEN/CBL/OPEN connector)	
	<i>Pin name</i>	<i>Pin no.</i>	<i>Pin name</i>	<i>Pin no.</i>
	DATA 15-	2 →	DATA, INPUT, 15-	32
	DATA 15+	18 →	DATA, INPUT, 15+	31
	DATA 14-	3 →	DATA, INPUT, 14-	30
	DATA 14+	19 →	DATA, INPUT, 14+	29
	DATA 13-	4 →	DATA, INPUT, 13-	28
	DATA 13+	20 →	DATA, INPUT, 13+	27
	DATA 12-	5 →	DATA, INPUT, 12-	26
	DATA 12+	21 →	DATA, INPUT, 12+	25
	DATA 11-	6 →	DATA, INPUT, 11-	24
	DATA 11+	22 →	DATA, INPUT, 11+	23
	DATA 10-	7 →	DATA, INPUT, 10-	22
	DATA 10+	23 →	DATA, INPUT, 10+	21
	DATA 9-	8 →	DATA, INPUT, 9-	20
	DATA 9+	24 →	DATA, INPUT, 9+	19
	DATA 8-	9 →	DATA, INPUT, 8-	18
	DATA 8+	25 →	DATA, INPUT, 8+	17
	DATA 7-	10 →	DATA, INPUT, 7-	16
	DATA 7+	26 →	DATA, INPUT, 7+	15
	DATA 6-	11 →	DATA, INPUT, 6-	14
	DATA 6+	27 →	DATA, INPUT, 6+	13
	DATA 5-	12 →	DATA, INPUT, 5-	12
	DATA 5+	28 →	DATA, INPUT, 5+	11
	DATA 4-	13 →	DATA, INPUT, 4-	10
	DATA 4+	29 →	DATA, INPUT, 4+	9
	DATA 3-	14 →	DATA, INPUT, 3-	8
	DATA 3+	30 →	DATA, INPUT, 3+	7
	DATA 2-	15 →	DATA, INPUT, 2-	6
	DATA 2+	31 →	DATA, INPUT, 2+	5
	DATA 1-	16 →	DATA, INPUT, 1-	4
	DATA 1+	32 →	DATA, INPUT, 1+	3
	DATA 0-	17 →	DATA, INPUT, 0-	2
	DATA 0+	33 →	DATA, INPUT, 0+	1
	(Pin-out continued)			

Application Note:

Interfacing non-standard cameras to Matrox Genesis

Temet Vision Industry (TVI) MSC-1024RGB

November 4, 1997

Cabling Requirements	LINE VALID+	41	→	HSYNC, INPUT, +	33
	LINE VALID-	42	→	HSYNC, INPUT, -	34
	PIXEL STROBE +	45	→	CLOCK, INPUT, +	39
	PIXEL STROBE -	46	→	CLOCK, INPUT, -	40
	NEW FRAME +	47	←	EXPOSURE1, OUTPUT, +	95
	NEW FRAME -	48	←	EXPOSURE1, OUTPUT, -	96
	EXP CONTROL +	49	←	EXPOSURE2, OUTPUT, +	97
	EXP CONTROL -	50	←	EXPOSURE2, OUTPUT, -	98

If required, contact your local sales representative or Matrox Sales Office, or contact Matrox Imaging Applications at 514-822-6061 for assistance.

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](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 Matrox for more information, if necessary.

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