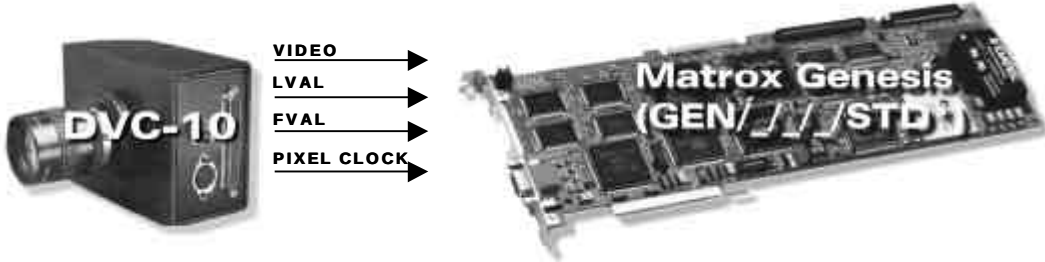
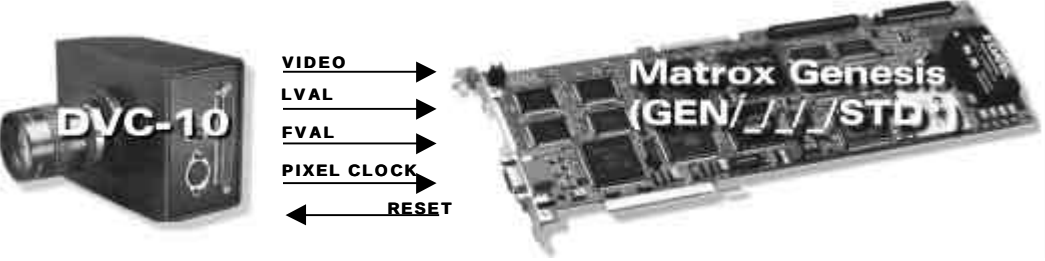


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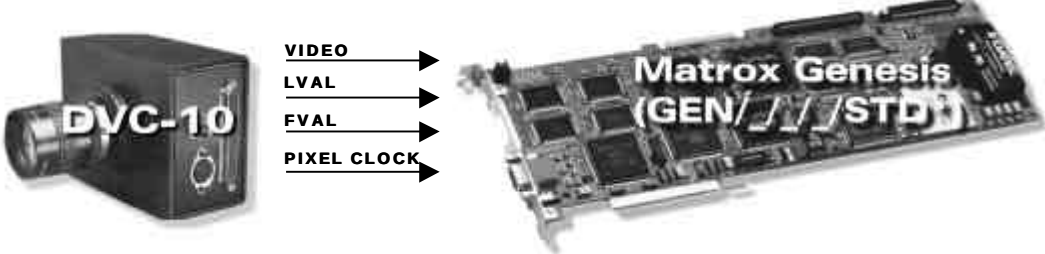
Camera Descriptions	• 755 x 484 x 10-bit. • RS-422 digital video output. • Progressive scan or interlaced. • External synchronization. • Pixel clock rate: 14.3182 MHz
Interface modes	• Continuous, Integration, Trigger (Asynchronous reset)
Camera Interface Briefs	Mode 1: Continuous mode  • 752 x 436 x 10-bit @30 fps (max). • RS-422 digital video output. • Interlaced. • Continuous video. • Matrox Genesis receiving RS-422 HSYNC (LVAL), RS-422 VSYNC (FVAL), RS-422 PIXEL CLOCK and video signals from camera. • DCF used : DVC_C.DCF Mode 2: Integration mode  • 752 x 235 x 10-bit. • RS-422 digital video output. • Progressive scan. • Matrox Genesis receiving RS-422 HSYNC (LVAL), VSYNC (FVAL) RS-422 PIXEL CLOCK and video signals from camera. • Matrox Genesis sending EXPOSURE1 (RESET) signal to camera; the EXPOSURE1 (RESET) signal initiate exposure. • DCF used: DVC_I.DCF

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Camera Interface Briefs (continued)	Mode 3: Trigger mode (Asynchronous reset)  • 752 x 235 x 10-bit. • RS-422 digital video output. • Progressive scan. • Matrox Genesis receiving RS-422/TTL external trigger signal. • Matrox Genesis receiving RS-422 HSYNC (LVAL), VSYNC (FVAL), RS-422 PIXEL CLOCK, and video signals from camera.. • Matrox Genesis sending EXPOSURE1 (RESET) signal to camera; the EXPOSURE1 (RESET) signal initiates exposure. • DCF used: DVC_IT.DCF
Camera Interface Details	Mode 2: Integration mode • Frame rate: Frame scan rate is determined by the period of the EXPOSURE1 (RESET) signal. Matrox Genesis generates a pulse on EXPOSURE1 (RESET), which in turn initiates camera exposure. • Exposure time: The default exposure time for this DCF is 46 ms. Exposure time, using Matrox Intellicam, can be changed by adjusting the period between the falling edge and the rising edge of the EXPOSURE signal. Mode 3: Trigger mode (asynchronous reset) • Frame rate: Frame scan rate is determined by the period of the TTL external trigger. The external trigger is input on the Matrox Genesis via the video input connector trigger input. Once this external trigger is received, the Matrox Genesis generates a pulse on EXPOSURE1 (RESET), which in turn initiates camera exposure. • Exposure time: The default exposure time for this DCF is 46 ms. Exposure time, using Matrox Intellicam, can be changed by adjusting the period between the falling edge and the rising edge of the EXPOSURE signal.

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Cabling Requirements	Mode 1: Fixed line scan rate				
	• GEN/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 100-pin connector of GEN-DIG-BRD/R:				
	DVC-10		GEN-DIG-BRD/R		
	(37-pin dual connector-DB-37)		(GEN/CBL/OPEN connector)		
	Pin name	Pin no.		Pin name	Pin no.
	VIDEO DB0, +	15	→	DATA, INPUT, 9+	19
	VIDEO DB0, -	34	→	DATA, INPUT, 9-	20
	VIDEO DB1,	14	→	DATA, INPUT, 8+	17
	VIDEO DB1,-	33	→	DATA, INPUT, 8-	18
	VIDEO DB2,+	13	→	DATA, INPUT, 7+	15
	VIDEO DB2, -	32	→	DATA, INPUT, 7-	16
	VIDEO DB3, +	12	→	DATA, INPUT, 6+	13
	VIDEO DB3, -	31	→	DATA, INPUT, 6-	14
	VIDEO DB4, +	11	→	DATA, INPUT, 5+	11
	VIDEO DB4, -	30	→	DATA, INPUT, 5-	12
	VIDEO DB5 +	10	→	DATA, INPUT, 4+	09
	VIDEO DB5, -	29	→	DATA, INPUT, 4-	10
	VIDEO DB6, +	09	→	DATA, INPUT, 3+	07
	VIDEO DB6, -	28	→	DATA, INPUT, 3-	08
	VIDEO DB7, +	08	→	DATA, INPUT, 2+	05
	VIDEO DB7, -	27	→	DATA, INPUT, 2-	06
	VIDEO DB8, +	07	→	DATA, INPUT, 1+	03
	VIDEO DB8, -	26	→	DATA, INPUT, 1-	04
	VIDEO DB9, +	06	→	DATA, INPUT, 0+	01
	VIDEO DB9, -	25	→	DATA, INPUT, 0-	02
	PIXEL CLOCK, +	01	→	CLOCK, INPUT, +	39
	PIXEL CLOCK, -	20	→	CLOCK, INPUT, -	40
LINE DATA VALID, +	02	→	HSYNC, INPUT, +	33	
LINE DATA VALID, -	21	→	HSYNC, INPUT, -	34	
FRAME DATA VALID, +	03	→	VSYNC, INPUT, +	35	
FRAME DATA VALID, -	22	→	VSYNC, INPUT, -	36	
GROUND	16		GROUND	50	
GROUND	35		GROUND	50	
GROUND	16		GROUND	50	

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Cabling Requirements	Mode 2 and 3: Integration and Trigger mode (asynchronous reset)			
	• Connections between the 37-pin connector (DB-37) of the camera and the 100-pin Digital Interface connector of Matrox Meteor-II/Digital are as follows:			
	DVC-10		METEOR2-DIG/4/R	
	(37-pin dual connector-DB-37)		(100-pin digital interface connector)	
	Pin name	Pin no.	Pin name	Pin no.
	RESET	17	← EXPOSURE1, OUTPUT, TTL	87
	MODE CONTROL 0	18	→ CAMERA CONTROL BIT0	49
	MODE CONTROL 1	37	→ CAMERA CONTROL BIT1	99
	MODE CONTROL 2	19	→ CAMERA CONTROL BIT2	100

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