Overview

Camera Roper Scientific MegaPlus 1.6

Running modes

Freerunning	[X]	
Restart/Reset	[ ]	[remarks]
Ext. Synchronized	[ ]	[remarks]
Trigger Shutter	[ ]	[remarks]
Flash & Reset	[ ]	[remarks]

Resolution

Horizontal	1	pixel
Vertical	[no. lines]	pixel
Bits per Pixel	10	bpp
Binning	[ ]	
Partial Scan	[ ]	

Timings

Pixel clock	10	MHz
Horizontal	[h. freq.]	kHz
Vertical	5.46 .. 1.4	fps

MATRIX VISION GmbH Frame Grabber

Typ	MvTITAN-DIG					
Line Enable by	camera	[X]	Frame Grabber	[ ]	external	[ ]
Frame Enable by	camera	[X]	Frame Grabber	[ ]	external	[ ]
Trigger by	external	[ ]	Frame Grabber	[ ]		
Flash by	camera	[ ]	Frame Grabber	[ ]	external	[ ]

Software

MVacquireControl	[X]	
mvIMPACT Go!	[X]	
Other	[X]	[e.g. LabView™, Halcon, etc.]

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This document requires the general knowledge of the usage and the technical data of the used frame grabber, camera and application.
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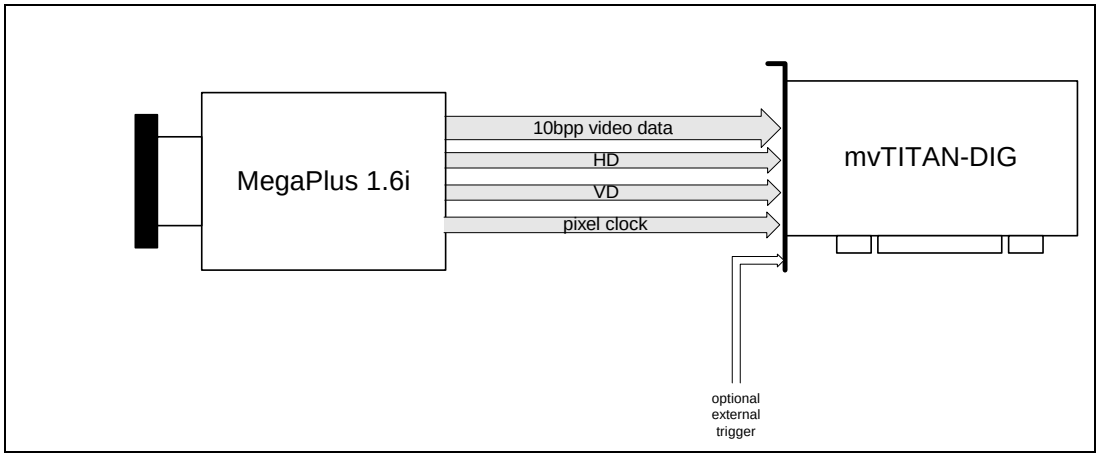
Freerunning Mode

Camera runs with its own timing and sends the image data, pixel clock, HD and VD to the mvTITAN-DIG.

Signal map



Camera settings set by software

Using the *Kodak Remote* program with the serial port of your computer it is needed to set the shutter to either *Disable/Open* or *Enable*. Never use *Disable/Close*. In this mode the camera sends no image. All other settings must be set depending on the application.

Cable

Use standard AIA compatible cable with serial connector available on the market.

Cameradefinition

Use only the following camera definition with the mvTITAN-DIG.

```
/* -------------------- Kodak Mega Plus Model 1.6i digital--------------------------
*/
/* for usage with PCimage-SDIG/AIA and mvTITAN-DIG*/
DefCamType              "MegaPlus1.6Dig" VM_DIG10 NONINTERLACED 5 7462 10000
PCLK_EXTERN
DefCamAcquireSetup      "MegaPlus1.6Dig" VSCAN INV_SYNC NEXT_FIELD
DefCamAnalogParam       "MegaPlus1.6Dig" AC 1 0 0 1200
DefHorizontalUnit       "MegaPlus1.6Dig" PIXEL
DefVerticalUnit         "MegaPlus1.6Dig" LINES
DefCamHorizontalAcquire "MegaPlus1.6Dig" 10L 1524L 1
DefCamVerticalAcquire   "MegaPlus1.6Dig" 4L 1024L 1
DefCamClamp             "MegaPlus1.6Dig" 2L 20L
DefCamZero              "MegaPlus1.6Dig" 2L 20L
DefCamFieldGate         "MegaPlus1.6Dig" 0L 0L
```

Remarks

Warning: Never use an mvTITAN-DIG Option P with a standard AIA cable and MegaPlus 1.6. This can damage the camera but at least can provoke malfunction.

In the used configuration file (e.g. ..\windows\grabber.ini) insert the input pitch as follows:
….
[TITAN]
…
InitBoard
…

SetInputPitch 1524
…

In mvAcquireControl activate the option *Greyscale* with *10bit* to acquire proper images with 10bit resolution.

To get proper images in mvIMPACT Go! You have to set *Default bitshift for 16bit images* to *2 (use for 10 bit images)* to see the 10bit images correctly. You find this point in main menu under *Tools / Options.*

Using the camera in your own program use colormode *COL_GREY16*. Now you will get the images in the DMA buffer in 16bpp resolution where the 10bit are stored LSB aligned in the 16bit. You can change this alignment by use of mvSetMSBDataPos().

Glossary

Expression	Explanation
VD	Vertical drive, signal is sent to signalize next field (noninterlaced) or frame (interlaced). Also called Frame Enable, VSync or frame start signal.
HD	Horizontal drive, signal is sent to signalize next line. Also called Line Enable, HSync or line start signal.