

Information about interfacing a Basler L301bc

mvTITAN-DIG, pcIMAGE-SDIG, mvAcquireControl

Needed hardware:

The following information is based on a Channel-Link version of the L301bc.

For interfacing the camera to the pcIMAGE-SDIG or mvTITAN-DIG it is needed to use the BIC (Basler interface Converter)

and the cable to connect it to the camera. The cable KSBIC/AIA from MATRIX VISION GmbH connects the BIC to the PCimage-SDIG or MVtitan-DIG. To configure the camera, a serial cable between the BIC and the serial connector of the PC is needed.

Supply the BIC with a 12V power supply.

Configuration:

To configure the camera one of the tools CameraConfigurationTool (CCT) or CamReg from Basler AG is needed.

For our tests we used the CCT in the version 2.06.09 and the CamReg in the version 2.5.0.0.

With one of these tools you have to set the camera to the following mode:

- 40MHz, dual 8bit
- Digital Shift 0
- Area of Interest (AOI) not active
- Line Length: 2098, if this value must be changed the value of the command SetInputPitch in the INI file must correspond.
- no testimage active
- Trigger method: choose the mode your application needs. For testing the camera the mode free running mode is preferred.

For starting the tool mvConfig is useful for. The version of the mvAcquireControl should be V3.93 or higher. For a correct display of the single images in mvConfig the plug-in ImageConvert (grabber.ini) is needed.

Changings in the used INI file (here: grabber.ini):

...

[SDIG]

...

InitBoard

...

SetInputPitch 4196L

...

You have to use $2 * \text{number of pixels per line}$ for the InputPitch's value because two 16bit values are sent by the camera per pixel.

Settings in MVacquireControl:

The needed camera definition is "L301-40-2". This definition is made for capturing 2098pixels per line. If an other number of pixels has to be captured you have to fit the value Width in the line DefCamHorizontalAcquire in this camera definition.

In the mvAcquireControls's register Acquire the option Greyscale and 16bit must be activated. If this camera is used in an other program please be sure to use the color mode COL_GREY16.

With these settings images with the 32bpp format are stored in memory. For the evaluation of this data consider that the colors are stored in the order blue-green-red (BGR) and not in red-green-blue (RGB).

The live preview in the mvAcquireControl shows only the upper 16bit. So that it is suggested to use the above described plug-in.

The PlugIn "L301":

The PlugIn "L301" is easier to use and it gives you the possibility to define the order of the colour components in the 32bpp format. This PlugIn is designed for the camera L301bc so that it does the colour conversion without any further needed settings concerning pitch, size and colour format. This means that after this PlugIn was activated correct images of single snaps will be displayed.

In the property dialog of this PlugIn there are 2 rows for each colour component "X" and "Y". With these settings the start conditions are defined for each component:

X: defines in which byte of the 32bpp the component is stored

Y: defines the line from which the component is used for a line. This value must be fitted to the current construction and to the speed of the object o acquire. This is needed to compensate the colour shift caused by the 3 line sensors of the camera.

Notes if using MVtitan-DIG:

If using the L301bc with the mvTITAN-DIG it is needed to supply the frame grabber with an external VSync signal. Because this grabbers needs this signal to start with the acquisition of the lines. The mvTITAN-DIG hasn't got the capability to generate this signal automatically activated by the entry GenerateVSync. You can use this signal as an external trigger signal.

In contrast to the pcIMAGE-SDIG the value of the InputPitch must be divisible by 64 if using the mvTITAN-DIG. This means that the maximum number of pixels per line can only be 2048 pixel.

This point must be considered in the camera setting the camera definition and the InputPitch.