

Active Silicon VisionPro Software Adapter

User Manual



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Revision History

Version	Comments
v1.0 01-Oct-2011	Initial release
v1.1 19-Dec-2011	Minor formatting changes

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Introduction

Scope

This document provides instructions for configuring the VisionPro® 7 User interface for use with Active Silicon frame grabbers. It is assumed that the Active Silicon hardware and software have been installed.

For instructions on installing the frame grabber, driver for Windows, driver for VisionPro and setting the configuration file for VisionPro, please refer to the Active Silicon VisionPro software adapter Quickstart Guide.

For instructions on creating a configuration file please refer to the Quickstart Guide for your Active Silicon frame grabber.

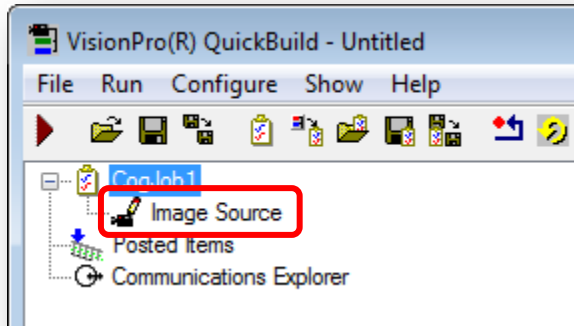
Requirements

Operating System:	Windows 7, Vista, Windows 2000, XP (32 / 64 bit)
Software:	VisionPro 7.0 and above
Hardware:	Active Silicon Phoenix family board
Drivers:	Active Silicon Phoenix Windows Driver v5.65.2 and Active Silicon VisionPro adapter 1.0

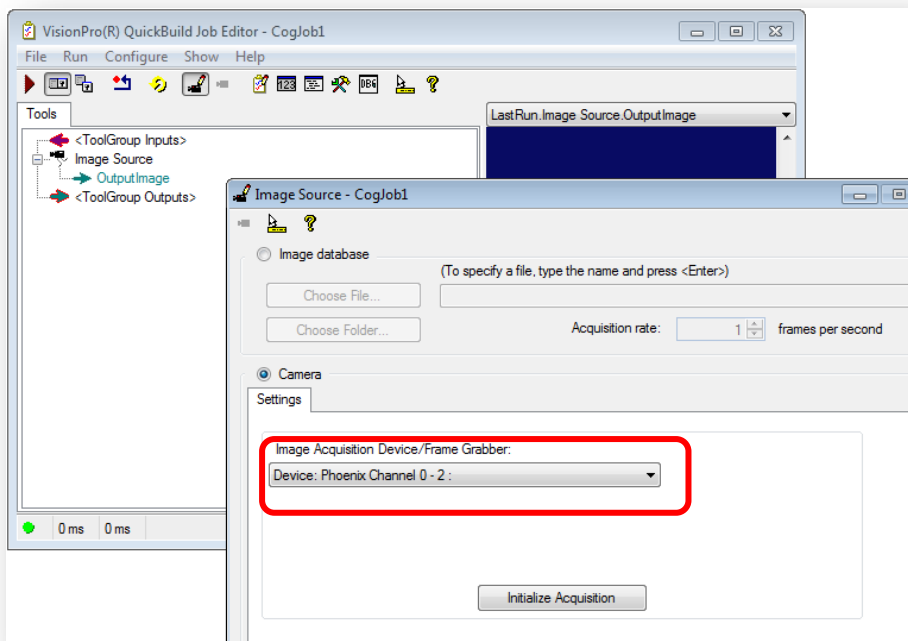
VisionPro camera setup

Initializing the Acquisition

1. Open VisionPro and double click on the “Image Source” icon:

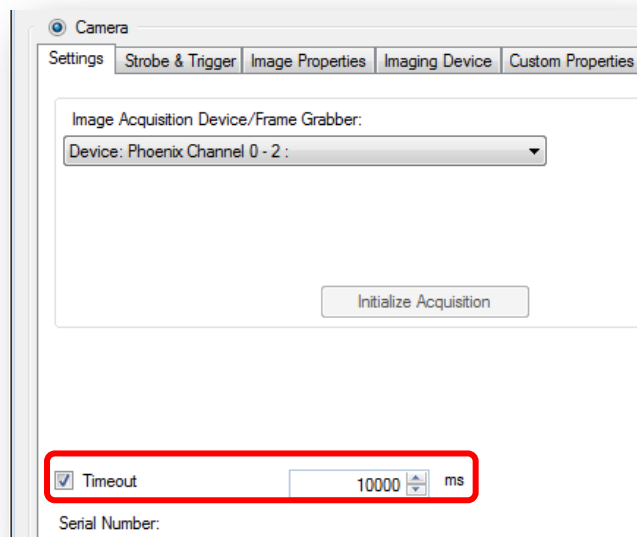


2. Two new windows open. Go to the Image Source windows and select “Camera” and the appropriate device from the drop down list in the Settings.Tab (Phoenix card shown here):



3. Press “Initialize Acquisition” to open the frame grabber.

4. You will then have the option to enable and specify an acquisition timeout value:

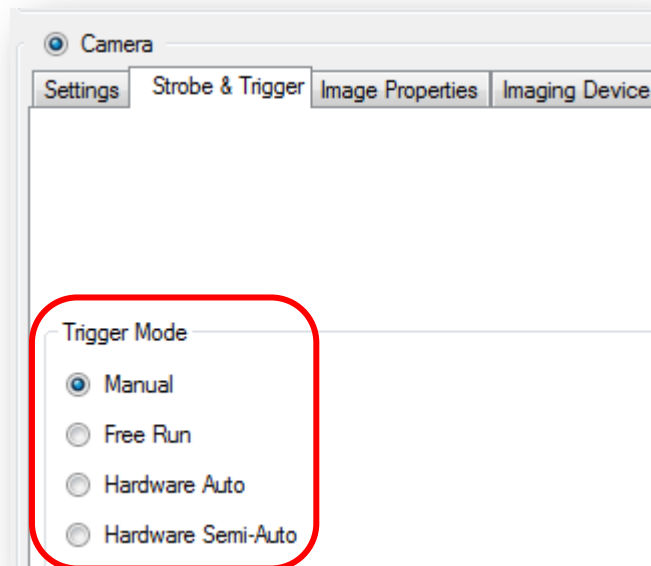


Strobe & Trigger Tab

Select the “Strobe & Trigger” Tab. The triggering options for the Frame grabber card are set by the “*.pcf” configuration file.

Due to the extensive IO and triggering capabilities of Active Silicon frame grabbers there will be several options for triggering. Please contact techsupport@activesilicon.com to discuss triggering options or to obtain a custom configuration file for your application.

The Strobe & Trigger Tab in VisionPro has 4 options that allow triggering to be enabled / disabled in the following modes:



The options are as follows:

- Manual = Acquire an image when you press Run.
- Free Run = Acquire images at the highest frame rate.
- Hardware Auto = Starts image acquisition when the application detects a transition on an external trigger line.
- Hardware Semi-Auto = Acquire an image when you press Run and the application detects a transition on an external trigger line.

Note: You must have a compatible configuration in order to acquire images when the triggering is enabled.

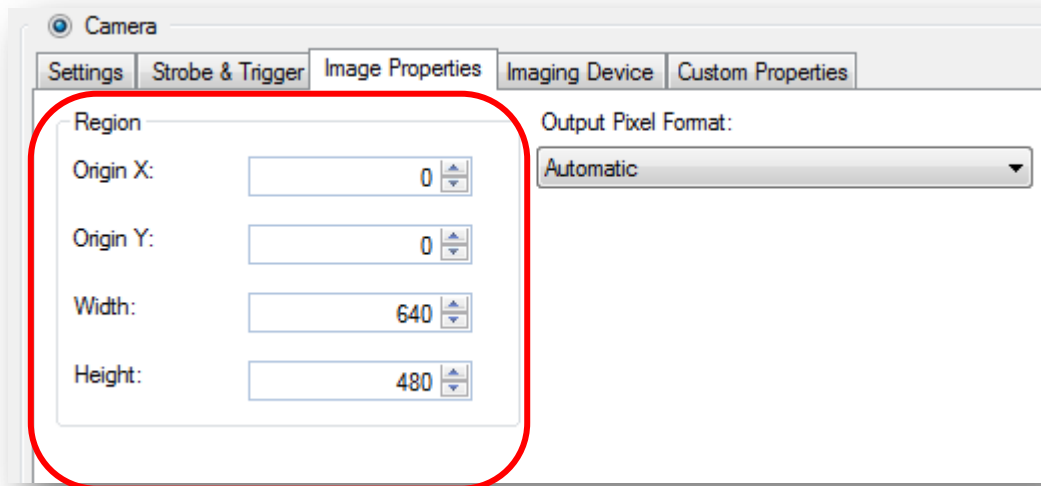
You may also need to adjust the settings of your camera depending on the trigger mode selected

Image Properties Tab.

Here you can specify a Region, it's origin and the Output Pixel Format.

Region

The Region Origin X&Y refers to the start pixel of the Region. The Width and Height refer to the size of the Region of Interest and cannot be greater than the image acquired by the frame grabber.



The default values are for the entire image captured by the frame grabber as set in the configuration file

Note: You must ensure the camera output also matches configuration settings of the frame grabber. Please refer to the camera manufacturer's instructions on setting the Region and Output Pixel Format.

Output Pixel Format

This refers to the colour depth of the image in VisionPro. The following formats are available:

For monochrome:

- Grey 8: 8-bit monochrome image
- Grey16: 16-bit monochrome image
- Automatic: VisionPro selects the color mode

For full color cameras:

- RGB Planar: 8-bits per pixel per colour channel = 24bit colour image.
- Automatic: VisionPro selects the color mode

For Bayer mode cameras the camera output is usually 8,10 or 12 bits per pixel from a mosaic filter sensor:

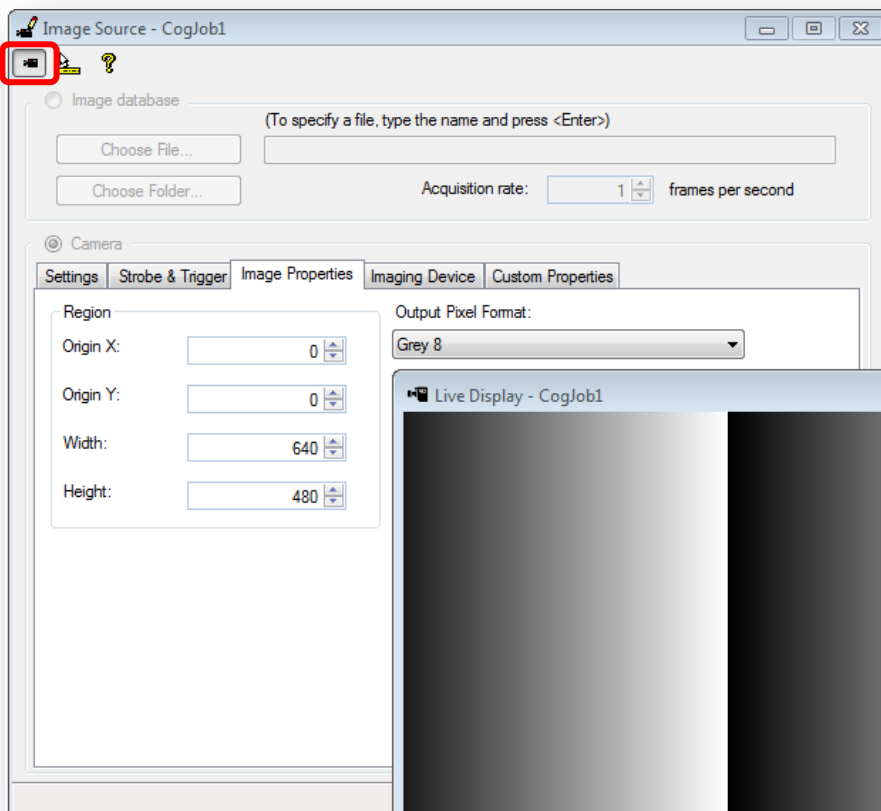
- RGB Planar: 8-bits per pixel per colour channel = 24bit colour image. The colour image is interpolated on the frame grabber hardware. This provides a quick conversion but increases the data transfer to the PC memory
- Automatic: VisionPro provides a software conversion. The Region settings must match the bayer pattern or incorrect images are produced. If different Region settings are required then the RGBPlanar setting should be used.

Note: You must ensure the camera output also matches configuration settings of the frame grabber. Please refer to the camera manufacturer's instructions on setting the Color format and bit-depth.

Previewing the image in VisionPro

VisionPro is now setup to work with the frame grabber. The "Imaging Device" and "Custom Properties" tabs are not required.

To test the acquisition is working it is possible to use the Preview window. To open the preview window, click on the button as shown:





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