Instructions for Matlab Driver

V1.0.1

TUCSEN

1. Introduction

This instruction document contains the installation of the driver file and the basic operation of the third-party software to call Camera, which is intended to make it easier for users to use Tucsen's Camera in the third-party software, and this document is disclosed for the above purpose only.

For the development and advanced operation of the third-party software, please consult the technical support of the third-party software.

Updates to the User's Manual:

Tucsen makes no commitment to update or maintain the information currently contained in this document at any time with notice. If changes are made to the product, such changes will be added into the new version of the manual without notice.

2. Installation of Matlab

Please obtain the relevant installation package through Matlab's official channels and complete the software license required by Matlab. After the software is installed, the corresponding software icon will appear on the desktop. When installing the software, please note that the supported versions and models are as follows:

- Matlab 2011
- Matlab 2016

Note:

Currently only Matlab 2011 and Matlab 2016 are supported, other versions are not compatible.

3. Driver Configuration

1) Connect the camera to the power cord and data cable.

2) Copy the files corresponding to the Matlab version to the installation path bin folder of Matlab, such as 'D:\Program Files\MATLAB\R2011b\bin'.
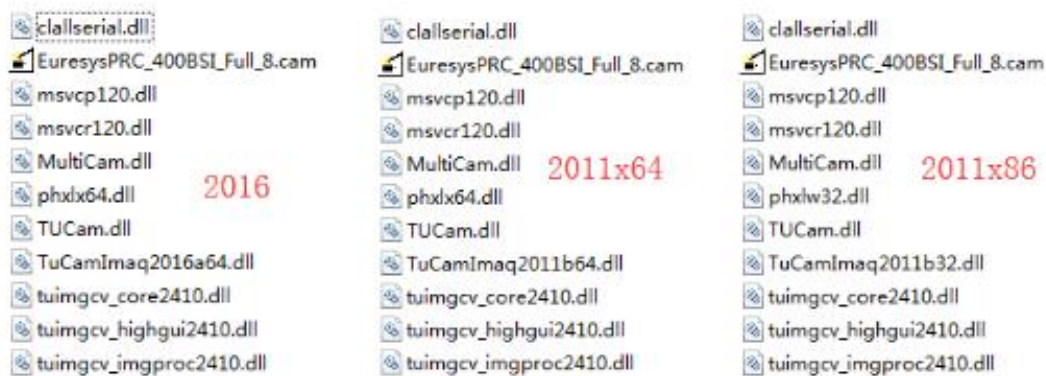

Figure 3-1

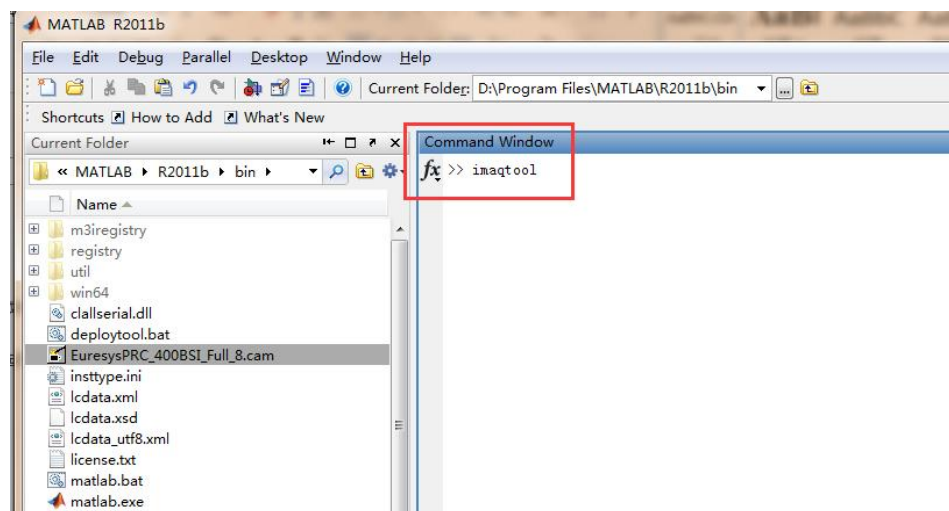3) Open the Matlab and type 'imaqtool' in 'Command window', the 'Image Acquisition Tool' interface will appear.

Figure 3-2

4) Click the 'Tool' to select 'Register a Third-Party Adaptor', click the 'Open' button and select 'TuCamImaq2011b32.dll' or 'TuCamImaq2011b64.dll' file. Click 'Open' button to enter the 'Refresh Image Acquisition Hardware?' interface.
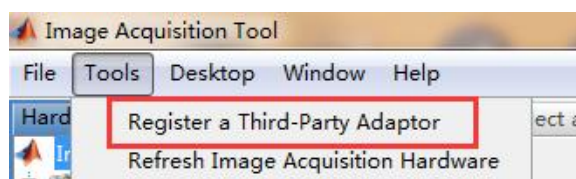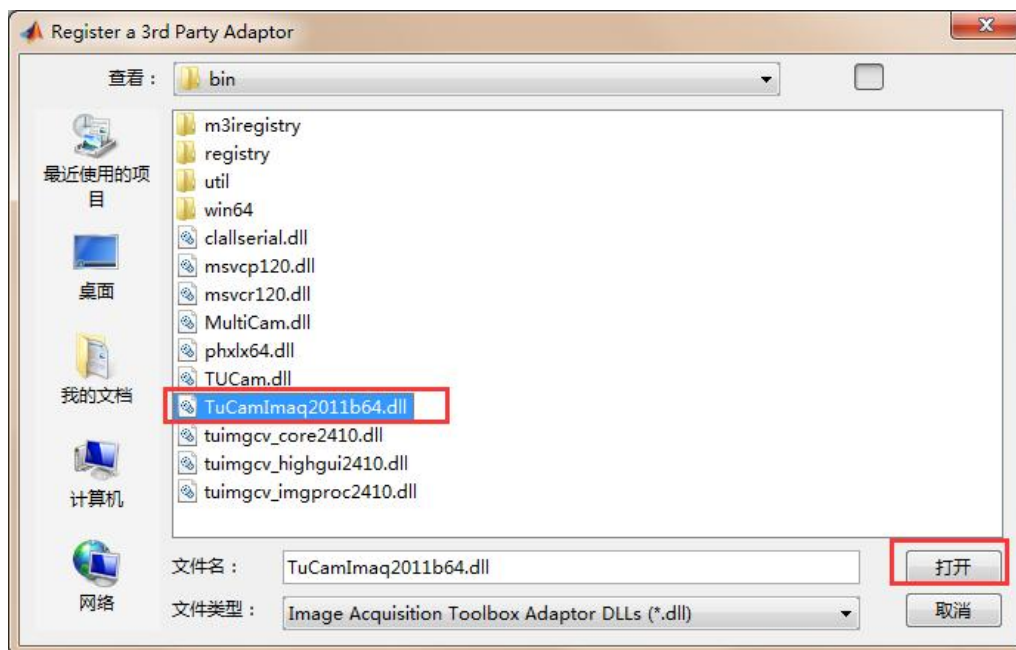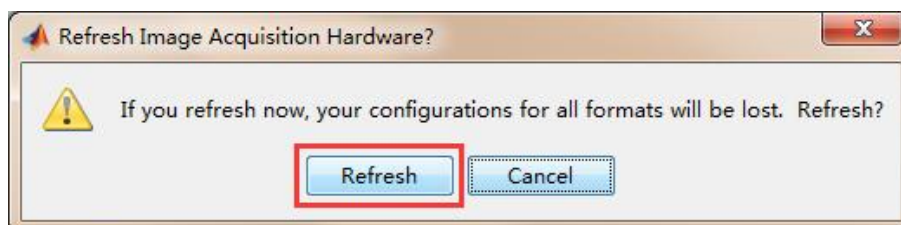
Figure 3-3

Figure 3-4

Figure 3-5

5) Click the 'refresh' button to enter the 'Refresh completed' interface.

Figure 3-6

6) Click the button to complete the camera configuration.

Note:

When using the latest plug-in, please update the 'TUCam.dll' file in 'C:\Windows\System32' directory to the latest version, otherwise, the camera may be unable to connect or function error.

4. Camera Configuration

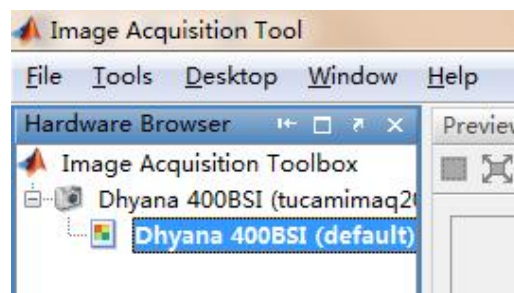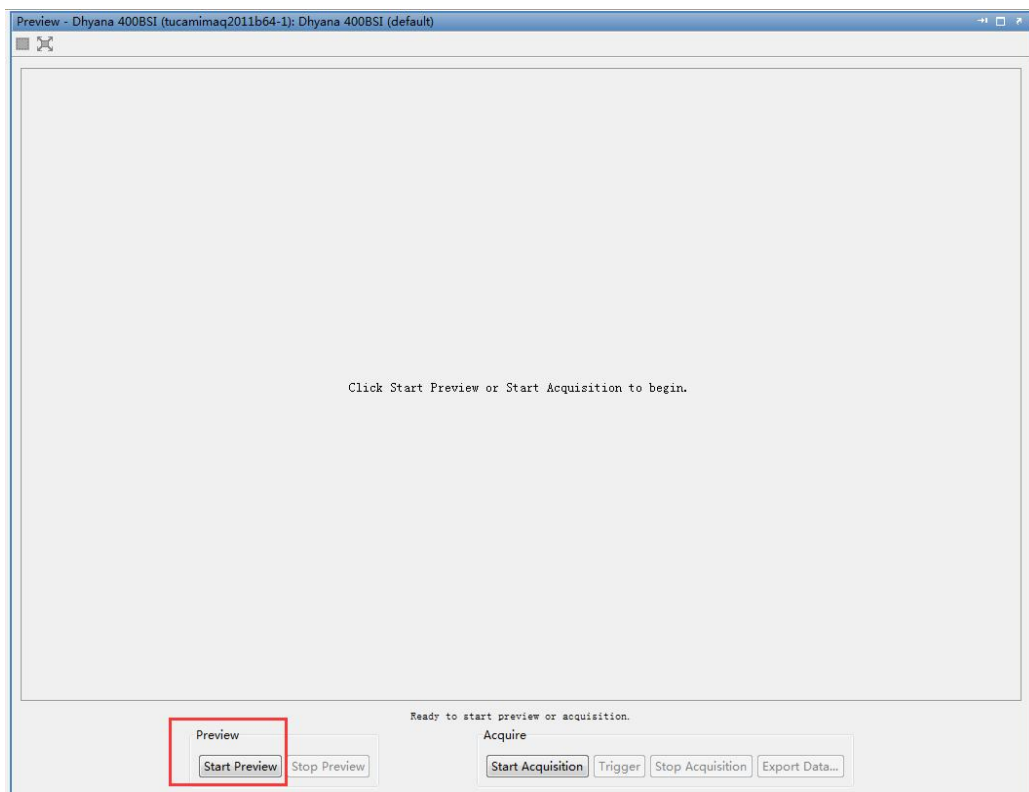1) Click the selected device in the Hardware Browser list and click 'Start Preview'.

Figure 4-1

Figure 4-2

2) 'Acquisition Parameters' interface can be used to adjust the camera parameters. 'Device Properties' and 'Region of Interest' are two interfaces related to the camera.
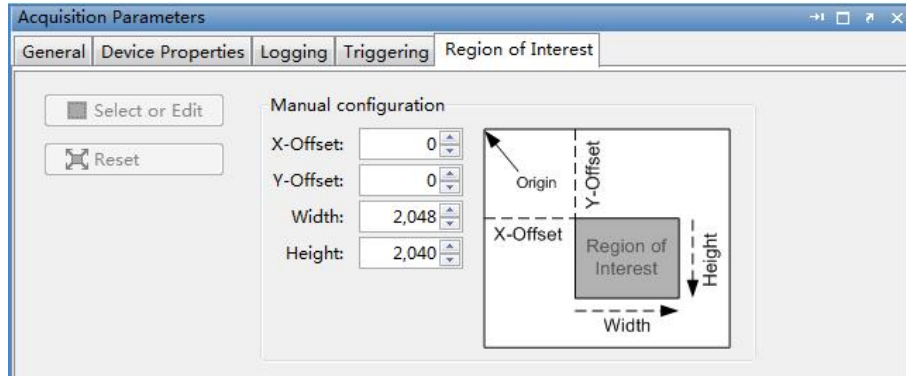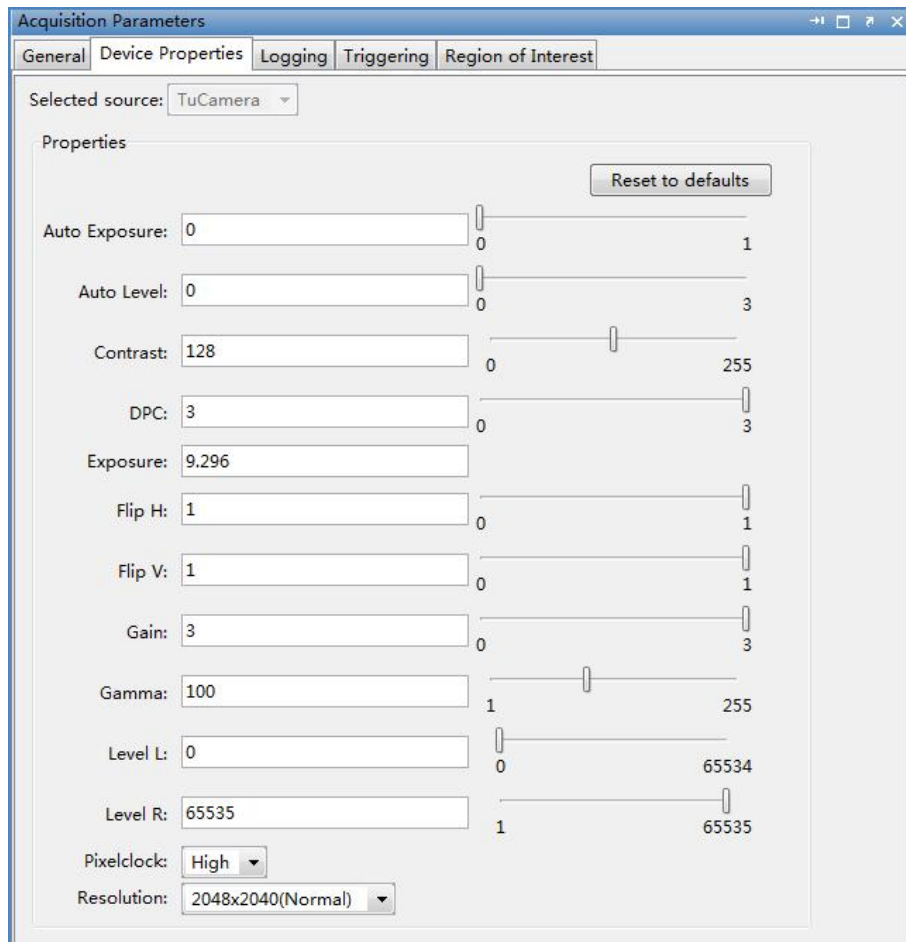

Figure 4-3

Figure 4-4

3) Click 'Start Acquisition' to capture the current image, then click 'Export Data' to

select the desired image format and save the image to the computer. The depth of the image taken by Matlab is fixed three-channel.
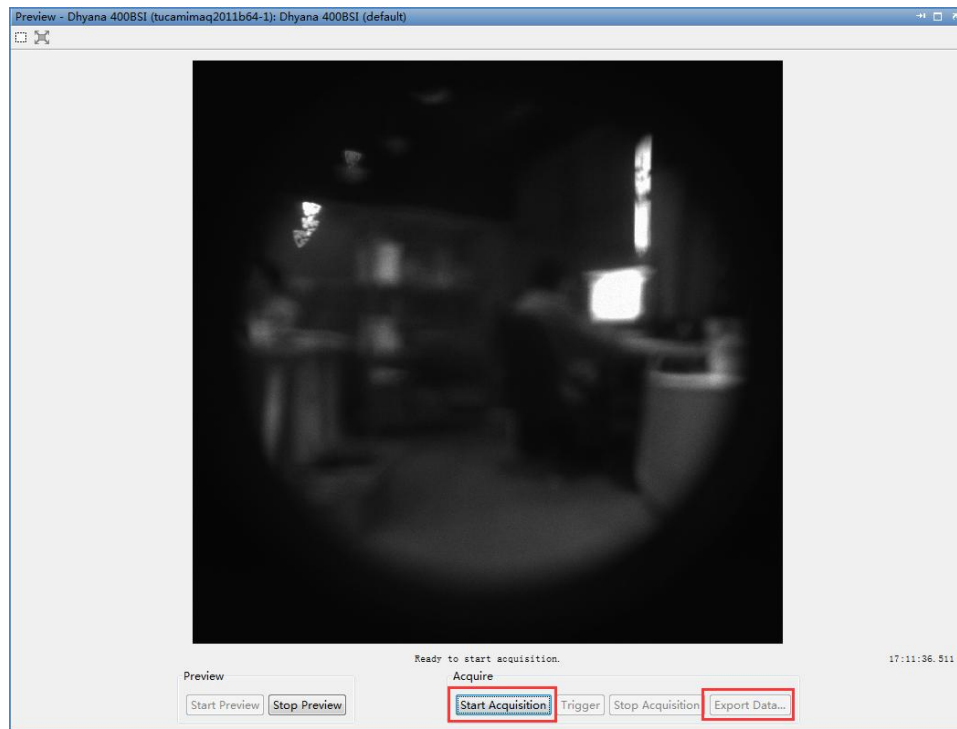

Figure 4-5

4) To turn off the camera, close the 'Image Acquisition Tool' interface firstly and exit the camera process by typing 'imaqreset' into the 'Command Window'.
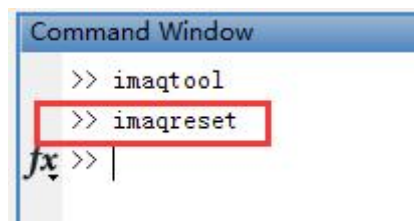

Figure 4-6

Note:

1) When using the latest plug-in, please update the 'TUCam.dll' file in 'C:\Windows\System32' directory to the latest version, otherwise, the camera may be unable to connect or function error.

2) It only supports Matlab R2016 and Matlab R2011. Other versions of Matlab are not compatible.

3) Matlab R2016 is not compatible with Matlab R2011, The camera cannot be opened and the software internal error.

4) Matlab R2016 is not compatible with Matlab R2014. The camera can be opened and previewed, but the parameter Settings are invalid.

5) Matlab R2011 is not compatible with Matlab R2016. The camera can be opened and previewed, but the parameter settings are invalid.

6) Matlab R2016 only has 64-bit software, no 32-bit software, Matlab R2015b is the last version that supports 32-bit.

7) The main preview interface of Matlab R2016 software adds the function of displaying the frame rate, but it is not accurate, the highest frame rate can reach 100fps.

8) There will be error SDK setting and obtaining parameters if Euresys frame grabber runs Matlab R2011b on Win10. Euresys frame grabber can run normally When the error reporting window is closed. There will be no error if run Matlab R2016a (the reason is Euresys collection card SDK problem).

9) The generated SDK configuration files are saved in the 'MATLAB\R2011b\bin' path.