

ReadISO.exe Example Using LumaUSB.DLL for the LumaScope 600

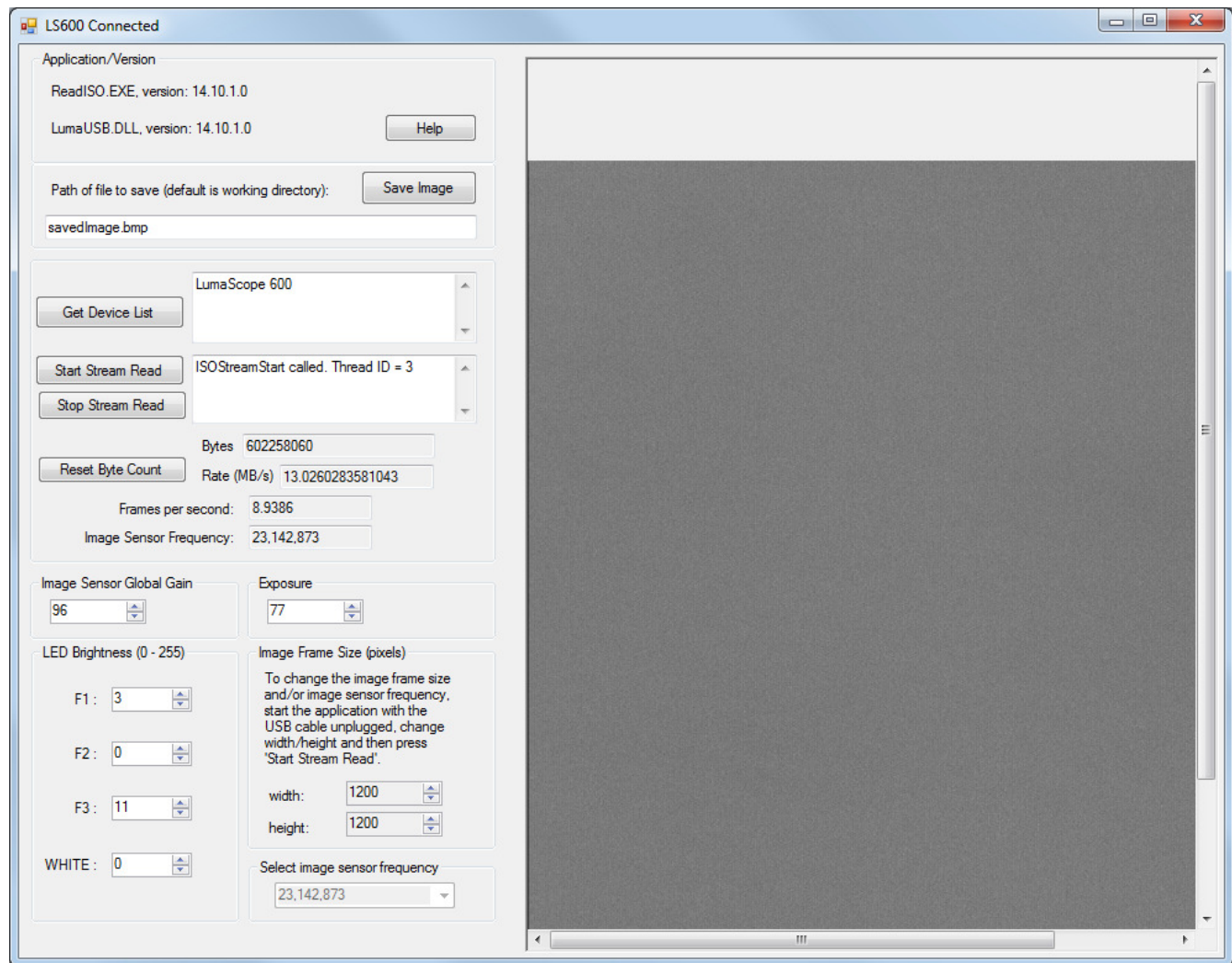
Introduction

This help file describes the features of 'ReadISO.exe'. The purpose of this application is to be an example to developers, who wish to use 'LumaUSB.DLL' for interfacing with the LumaScope 600. 'LumaUSB.DLL' enables the software developer to create a program to interface with the LumaScope 600 without needing LumaView 600. For a description of the 'LumaUSB.DLL' API, see 'LumaUsbApi.chm'. The 'ReadISO.exe' is written in C# and the development kit includes the source code.

Getting Started

A compiled version of 'ReadISO.exe' is included in the development kit, which you can immediately run and see work. Before running 'ReadISO.exe', you must install LumaView 600 as the installation installs the USB drivers, USB is the communication path between the computer and the LumaScope. Ensure that 'ReadISO.exe', 'ReadISO.chm' (help file), 'LumaUSB.dll' and 'Lumascope600.hex' are all in the same folder before running 'ReadISO.exe'. 'Lumascope600.hex' is a code-containing file, that gets loaded into the LumaScope when 'ReadISO.exe' starts if the LumaScope was previously powered off. We recommend making sure that you can run 'ReadISO.exe' successfully before attempting your application development. Also, 'ReadISO.exe' provides a sanity-check when developing, showing that interface to the LumaScope is working.

Features of ReadISO



'Application/Version' Group Box

This group box contains the version of the application, the 'LumaUSB.DLL' and the button to launch the help file.

Image Display

The image data from the LumaScope is displayed in the rectangle on the right side of the application. Note that you must press the "Start Stream Read" button in order to start the image data flowing from the LumaScope.

'Save Image' Button

Pressing the "Save Image" button saves the currently displayed image to the file specified in the adjacent edit box. If no folder is entered in the edit box, the file is saved to the folder where the application is. The file is saved in BMP format, but it is possible to change the code to save in various other image formats.

'Get Device List' Button

Pressing the "Get Device List" button fills the adjacent text box with the LumaScopes connected to the computer. Note: Normally you would only wish to have one LumaScope connected to the computer as more would cause USB 2.0 bandwidth limitations.

'Start Stream Read' Button

Pressing the "Start Stream Read" button starts the image data flowing from the LumaScope.

'Stop Stream Read' Button

Pressing the "Stop Stream Read" button stops the image data flowing from the LumaScope.

'Bytes' Text Box

In the "Bytes" text box is displayed the cumulative received image data bytes. Note that this value will be reset to zero if you press the "Reset Byte Count" button.

'Rate (MB/s)' Text Box

The "Rate (MB/s)" text box displays the rate (in mega bytes per second) of the image data flowing from the LumaScope.

'Frames per second' Text Box

The "Frames per second" text box displays the number of image frames that the application is receiving from the LumaScope per second. A "frame" is the image data that makes up a complete snapshot to display.

'Image Sensor Frequency' Text Box

This "Image Sensor Frequency" text box displays the selected image sensor scanning frequency.

'Image Sensor Global Gain' Up/Down Control

This up/down control allows the user to select the gain for the image sensor. The higher the gain, the brighter the image. The range is zero to 222. Etaluma does not recommend a gain of less than seven.

'Exposure' Up/Down Control

This up/down control allows the user to select the exposure for the image sensor. The higher the exposure, the brighter the image. The range is 0 to 1943.

'LED Brightness (0 - 255)' Group Box

This group box contains four up/down controls for setting the brightness level of the LEDs on the LumaScope. The higher the values, the higher the brightness. Note that the "WHITE" LED is the brightfield LED.

'Image Frame Size (pixels)' Up/Down Control

This group box contains two up/down controls for setting the image frame size of the image data.

'Select image sensor frequency' Combo Box

This control allows the user to select the image sensor's scanning frequency. Generally, the higher the rate the higher the frame rate but the darker the image.

ReadISO v14.10.1