

GBMSDemo Application

User Guide

SDK Version 3.3

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1 Introduction

This document provides some information about the GBMSDemo application, example application of the MultiScan Full Enhanced SDK.

This example shows how the GBMSGUI component should correctly be used and how to use it in conjunction with the top level and the BASIC SDK components (see chapter "FULL ENHANCED SDK" in MULTISCAN Overview document) in order to perform a complete acquisition process.

Even if GBMS Demo can be used "as it is" in order to have a complete acquisition system, the GBMSGUI library and GBMS Demo itself with their complete source code are provided to allow integrators to customize their own applications.

1.1 Documentation conventions

1.1.1 General Conventions

Green Bit saves the right to make changes, integrations or enhancements to this manual without notice, and this cannot be a reason to consider this present publication inadequate.

In this manual the following acronyms are used:

- IAFIS Integrated Automated Fingerprint Identification System
- IQS Image Quality Specifications

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1.2 Documentation revisions

SDK Version	Date	Description
V1.0	September 2010	Original
V2.7	November 2011	See Modification List
V2.8	August 2012	See Modification List
V2.9	September 2013	See Modification List
V3.1	May 2014	See Modification List
V3.3	March 2015	See Modification List

2 Interface Description

In this chapter a description of graphical user interface is given.

NOTE: when the demo is installed by means of the GBMSDemoSetup.exe installation program, the demo executable is placed in the "Programs" directory of the PC. Therefore sometimes it could happen that, for proper working, the demo requires to be run as administrator.

2.1 Start Window description

The start window is structured as follows:

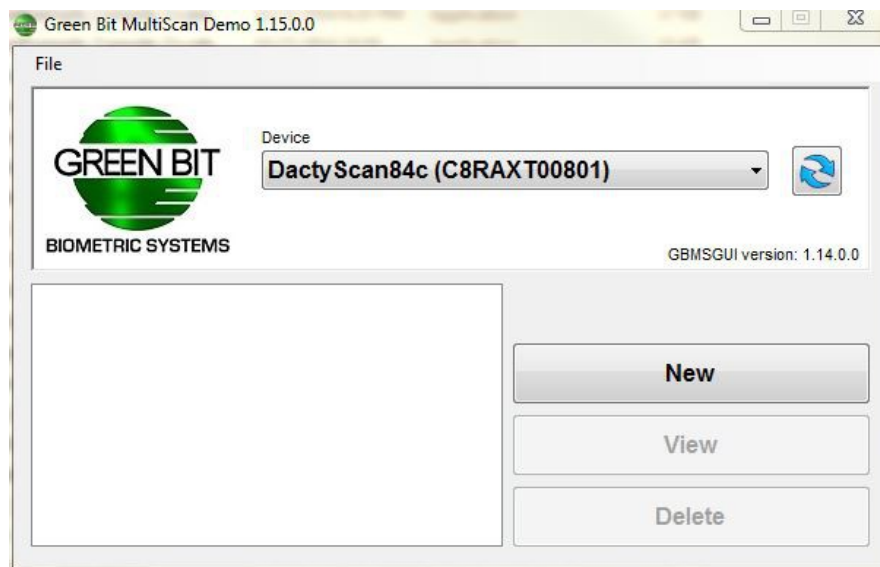


Figure 1 Start Window

2.1.1 Refresh Button

This button allows to refresh the device list (for example it has to be used when a new scanner is plugged to the PC).

2.1.2 Scanner List

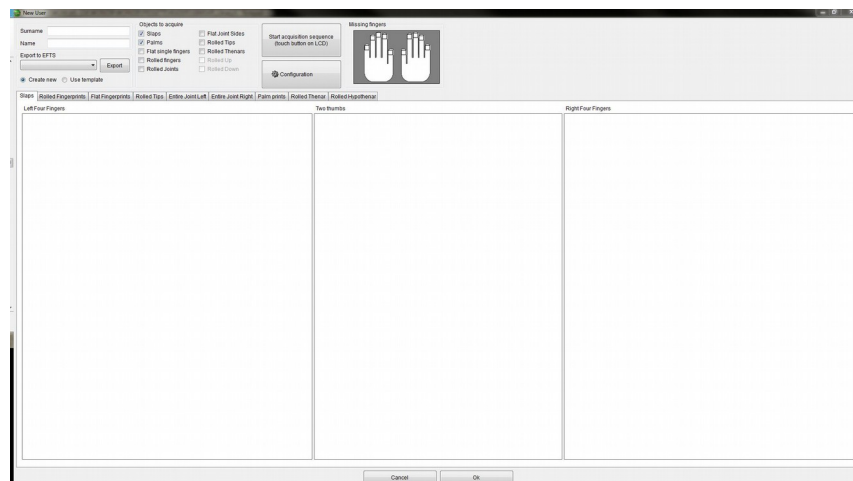
In this combo the list of the scanners plugged to the PC is displayed. When an item of this list is selected, the corresponding scanner is set as the acquisition device.

2.1.3 User control section

In this section three buttons are displayed, that allow a complete user management. The "New" button allows the creation of a new user, and opens the "Main acquisition window" that will be described in a following chapter. The "View" button allows to show the information about the selected users in the "Users list", and the "Delete" button allows to delete the selected user from the list.

2.2 User information acquisition window description

In this chapter a description of the user information acquisition window will be given.



The "Anagraphics" section allows to edit anagraphic information about the user being created.

In the "Objects to acquire" section it's possible, by means of several check boxes (more than one at a time can be checked), the objects that have to be acquired.

The acquisition can be initiated by means of the "Start acquisition sequence" button pressure (in this case all of the objects specified in the "Objects to acquire" section will be acquired), or by means of the "Acquire" context item selection (in this case only an object will be acquired), that appears when right clicking with the mouse on the desired object in the "fingerprint images" section.

Acquired fingerprint images are shown in the "Fingerprint images section" (a tab for each object type).

Fingerprint images, together with some user information, can be stored into an ANSI/NIST ITL 1-2011 or

ANSI/NIST ITL 1-2007 formatted file (see “EBTS” section), starting from an existing file (by checking the “use template” radio button) or creating a new one (by checking the “Create new” radio button).

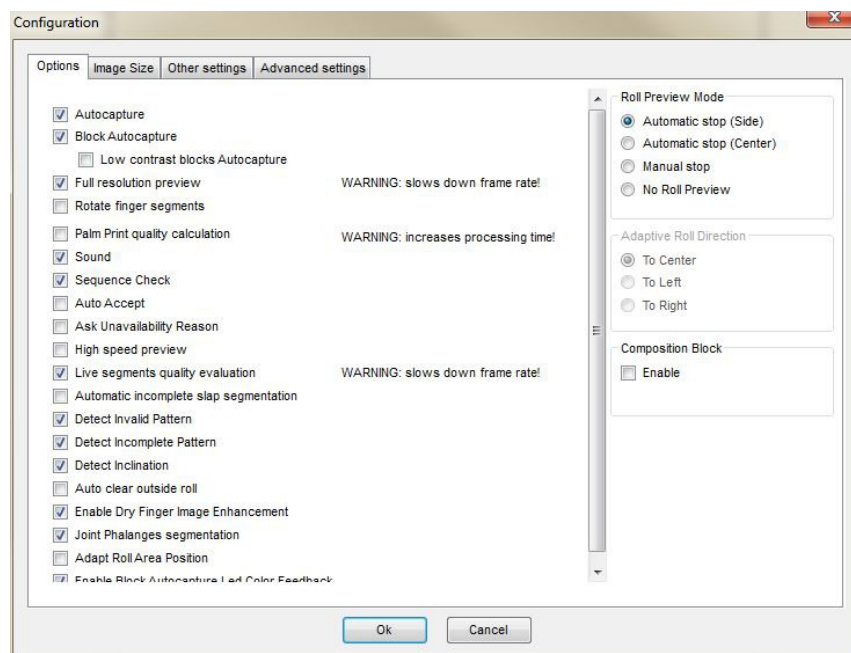
Working option can be set by means of the “Configuration” button, that opens a window described in the following chapter.

In the “missing fingers” section missing fingers can be selected before starting sequence, and this datum will be kept in count during segmentation.

2.3 Configuration window

The configuration window is composed by several tabs, described in the next paragraphs.

2.3.1 “Options” tab



A lot of general options can be set/unset in this tab. Some of them are brand new respect to the older versions, for example the “Adapt Roll Area Position”. For more information about them, see GBMSGUI documentation.

2.3.2 “Image Size” tab

The screenshot shows a 'Configuration' window with four tabs: 'Options', 'Image Size', 'Other settings', and 'Advanced settings'. The 'Image Size' tab is active. It features a 'Standard' dropdown menu set to 'ANSI/NIST-ITL 1-2007/2011'. Below this is a table with columns for 'Width' and 'Height' in inches. To the right of the table is a 'Roll area size' section with two radio buttons: 'IQS' (selected) and 'GA'. At the bottom are 'Ok' and 'Cancel' buttons.

	Width	Height	(Inches)
Upper Palm	5	5	
Lower Palm	5	5	
Writer's Palm	1.8	5	
Four Fingers	3.2	3	
Two Thumbs	3.2	3	
Flat Thumb	1	2	
Flat Finger	1	1	
Rolled Thumb	1.6	1.5	
Rolled Index	1.6	1.5	
Rolled Middle	1.6	1.5	
Rolled Ring	1.6	1.5	
Rolled Little	1.6	1.5	
Rolled Tip	1.6	1	
Rolled Joint	1.6	5	
Flat Joint	1.6	5	
Rolled Thenar	3	4.5	
Rolled Hypothenar	3	4.5	

In this tab image size for each acquirable option can be set. Some pre-compiled settings are available (ANSI/NIST ITL 1-2007/2011, for example), and they can be chosen by selecting an item in the “Standard” combo box.

2.3.3 “Other settings” tab

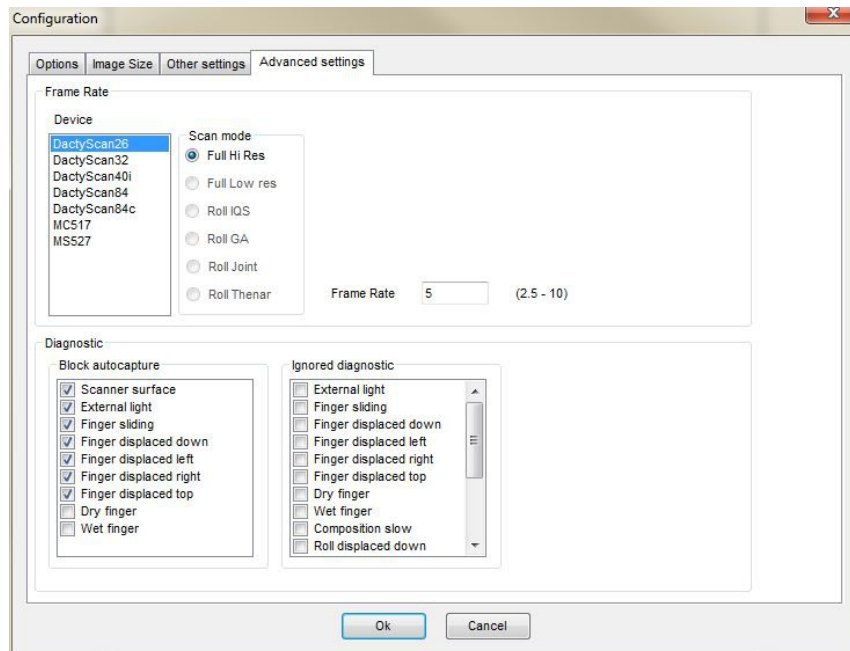
The screenshot shows a 'Configuration' window with a tabbed interface. The 'Other settings' tab is selected. It contains the following controls:

- Options** | **Image Size** | **Other settings** | **Advanced settings**
- IAFIS quality algorithm:** NIST Fingerprint Image Quality (NFIQ) (dropdown)
- Language (for GBMSGUI):** English (dropdown)
- Finger contact evaluation mode:** Dry/Wet warning (dropdown)
- Live segments evaluation timeout:** 10 (text input)
- Image compression for EFTS:**
 - For 500 Dpi images:**
 - ☒ **WSQ** | Bit rate: 0.75 (text input)
 - ☐ **JPEG2000** | Compression rate 1: 14 (text input)
 - For 1000 Dpi images:**
 - ☐ **JPEG2000** | Compression rate 1: 14 (text input)

At the bottom are **Ok** and **Cancel** buttons.

In this tab the algorithm for quality calculation (between NFIQ and Green Bit proprietary), the GBMSGUI language, the finger contact evaluation method and the live segments evaluation timeout can be set.

2.3.4 “Advanced settings” tab



In this tab nominal frame rate can be set (for those scanners allowing it) and the block auto-capture mask can be set with the desired options.



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