GigaDevice MCU Team	Version	10 Pages
	English V 1.0	
	Name： GigaDevice GD-Link Programmer User Manual	

GigaDevice GD-Link Programmer
User Manual

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Directory

1. Introduction

This user manual describes an application used to operate the flash or config GigaDevice MCUs with available USB cable and GD-Link adaptor. GD-Link programmer is a tool for the user to use MCUs with high speed.

With GD-Link programmer, user can download the application program to the internal flash memory or secure chip and so on, in the same time programmer can config GD-Link offline download function.

1.1 Purpose

Besides a perfect stage for users to download application program with high speed, GD-Link programmer also aims to provide wonderful and creative experience. The description was edited for a better service.

1.2 Target Customers

GD-Link programmer was developed for users who need download application with high speed or need offline download function.

1.3 Jargon and Contraction

- **GD-Link:** GD-Link adapter is a three-in-one multi-function development tool for GD32 series of MCUs. It provides CMSIS-DAP debugger port with JTAG/SWD interface. User can use GD-Link adapter for online programming or debug code in compatible IDE such as Keil or IAR. Another important function is offline programming.

- **USB：** Universal Serial Bus (USB) connects more than computers and peripherals. It has the power to connect you with a whole new world of PC experiences.

2. The Sketch of GD-Link Programmer

2.1 Application

GD-Link Programmer is an application used to operate the flash or config GD-Link online or offline download functions convenient.

2.2 Running

This software is running on PC and compatible computers, and on platforms of WINDOWS. There's no need to setup the software, the only thing you need to do is to click the icon to operate the software.

2.3 Configuration

Software Requirements：Chinese or English Windows XP、Windows 7 and advanced operation systems.

Hardware Requirements: GD-Link adapter.

3. Using Details

3.1 Installment

If you want to use this software, you shouldn't worry about the installment. It is very easy for everyone. When you get the document, you just have to decompress the document, and find out the document named GD-Link Programmer.exe (As shown in chart 1) and CMSIS_DAP.dll, then place it in a file folder for your convenience. Then click the icon, open it and you are welcome to run it.
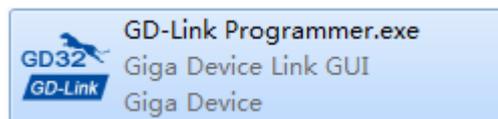
Chart 1

3.2 Flowchart of Operation
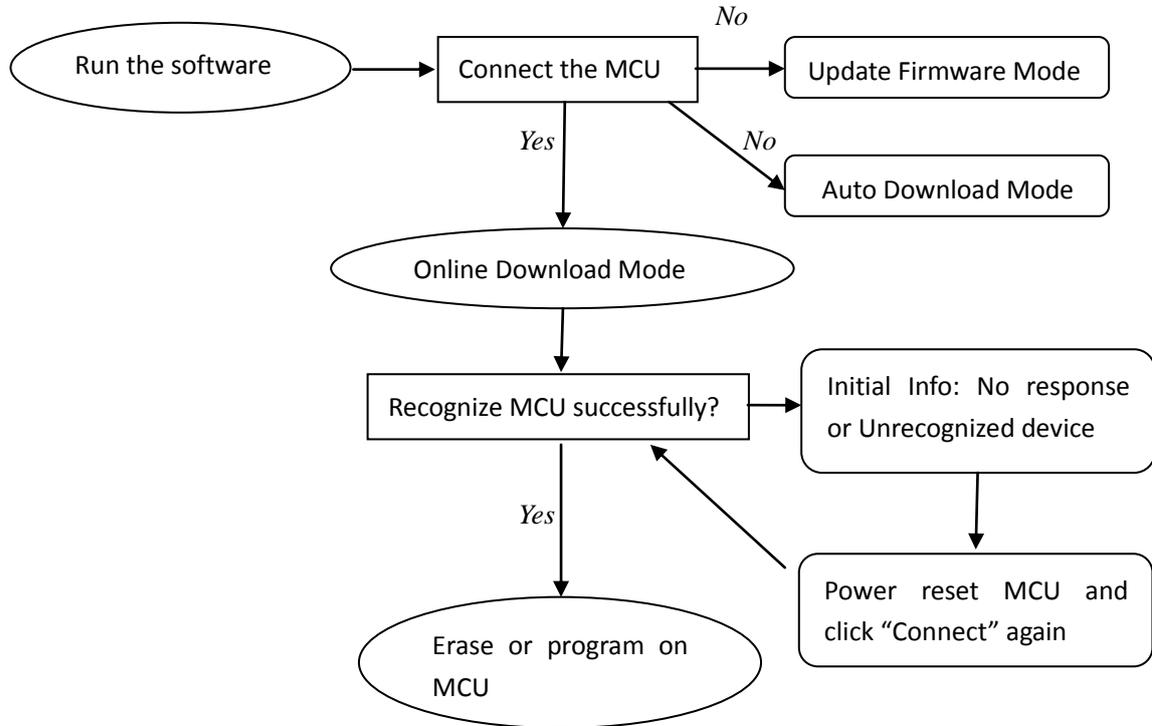
Chart 2

3.2.1 Properties Window

Chart 3 shows the properties about GD-Link and target MCU. In order from top to bottom:

3.2.1.1 GD-Link Property

- ➢ Connect Interface: GD-Link use USB connect to PC
- ➢ Device Interface: Users can choose SWD or JTAG to connect to MCU, the default selection is SWD.
- ➢ Firmware Version: Current MCU firmware version.
- ➢ UID: Shows the UID of the MCU in the GD-Link.
- ➢ SN: Shows the serial number of the GD-Link.

3.2.1.2 JTAG/SWD Property

- ➢ Initial Speed: Users can change the GD-Link transfer speed here, the default speed is 500 kHz.

3.2.1.3 Target MCU Property

➢ MCU Part No.:

➢ Endian: GD MCU is little endian.

➢ Check core ID: The default selection is Yes.

➢ Core ID: Shows the MCU core ID value.

➢ Use RAM: The default selection is Yes, RAM is used to program faster.

➢ RAM Address: Shows the RAM start address value.

➢ RAM Size: Shows the RAM size of the target MCU.

➢ UID: Shows the UID of the target MCU.

3.2.1.4 Flash Property

➢ Flash size: Shows the flash size of the target MCU. Different MCU maybe has different Flash size and different erase/program registers, users can reference User Manual of MCU for the detail.

➢ Flash Base Address: Shows the Flash base address value.
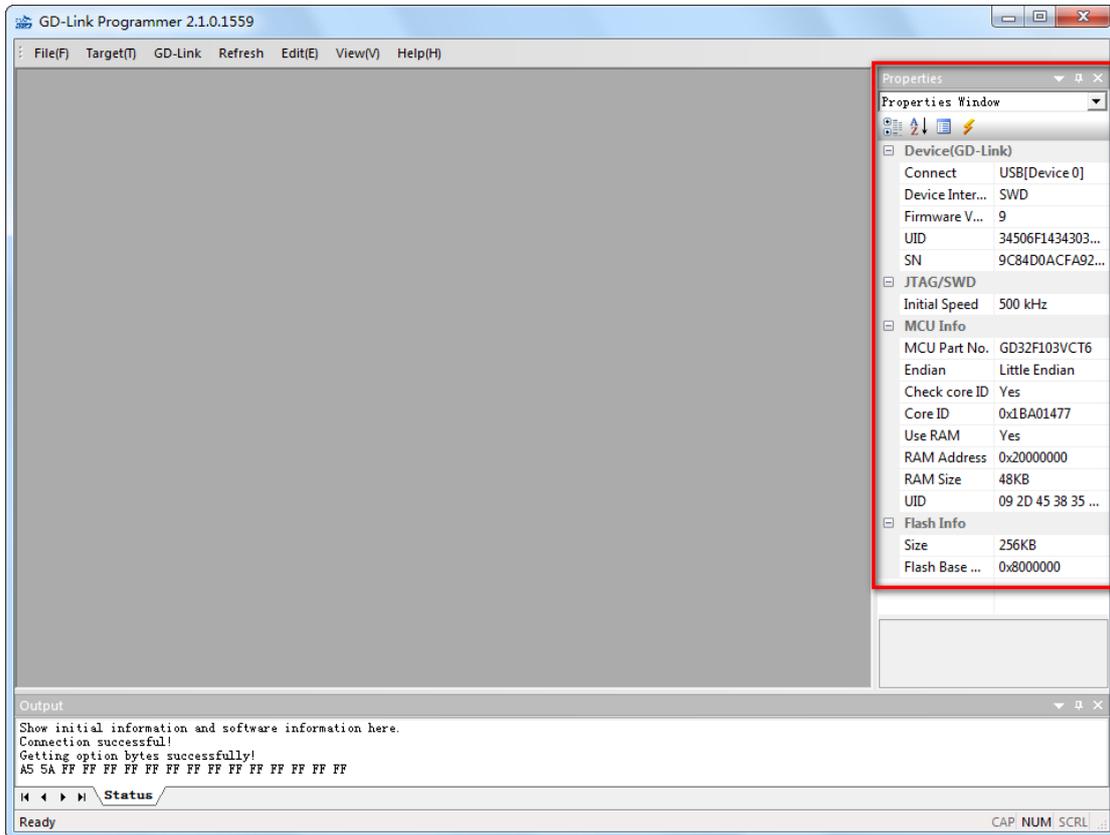
Chart 3

3.2.2 Refresh Properties List

This button allows user refresh properties list without close this app(As shown in chart 4).
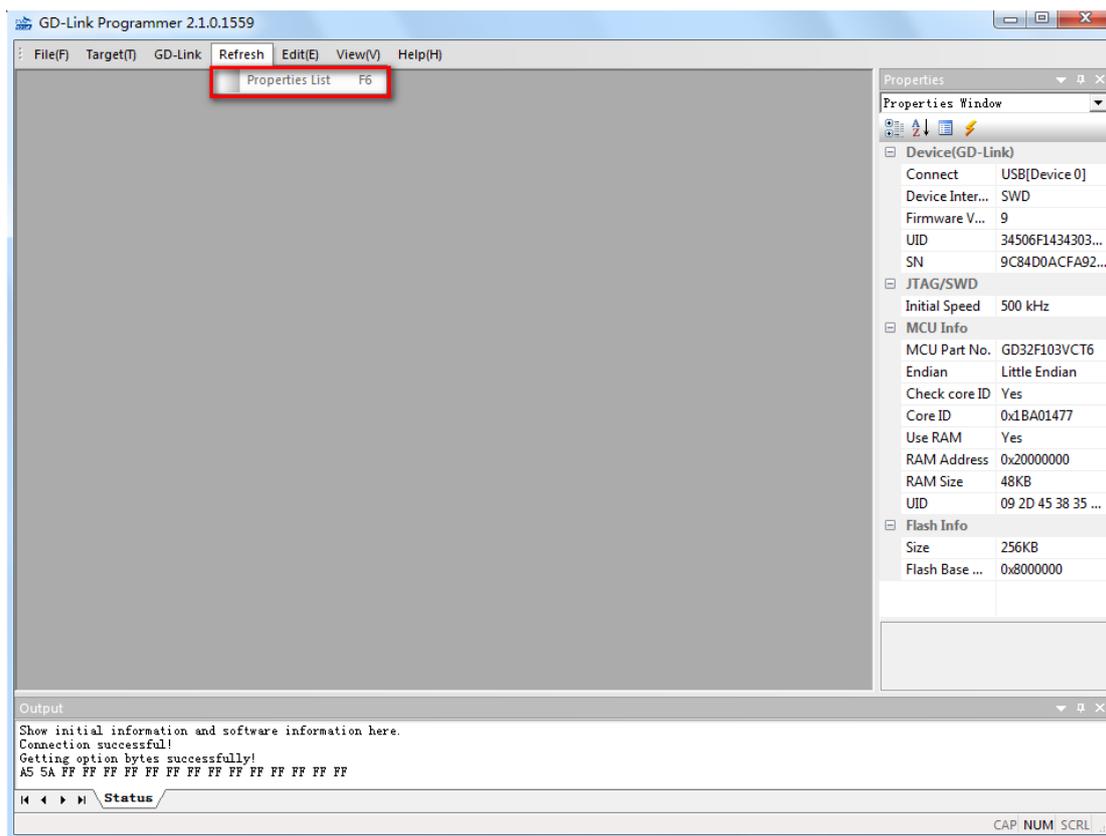
Chart 4

3.2.3 GD-Link

This menu includes Update program files, Config GD-Link and Update firmware (As shown in chart 5).

3.2.3.1 Update Program Files

This menu can update the file store in the GD-Link for offline-programming. Users should open file in bin or hex format first before updating the file.

3.2.3.2 Config GD-Link

This menu includes Offline-Programming Configuration, Online-Programming Configuration and Product SN three parts (As shown in chart 6, this menu will add more function by updating firmware).

➢ Offline-Programming Configuration: This menu config whether secure chip after offline -programming. This will take effect after update program files.

➢ Online-Programming Configuration: This menu config whether secure chip after online-programming. This will take effect while click "OK" button.

➢ Product SN: This menu config product SN value after online-programming (As shown in chart 6). Check the checkbox means write product SN to target MCU after online-programming. Users config the address to write product SN, product SN value and

product SN increase value.
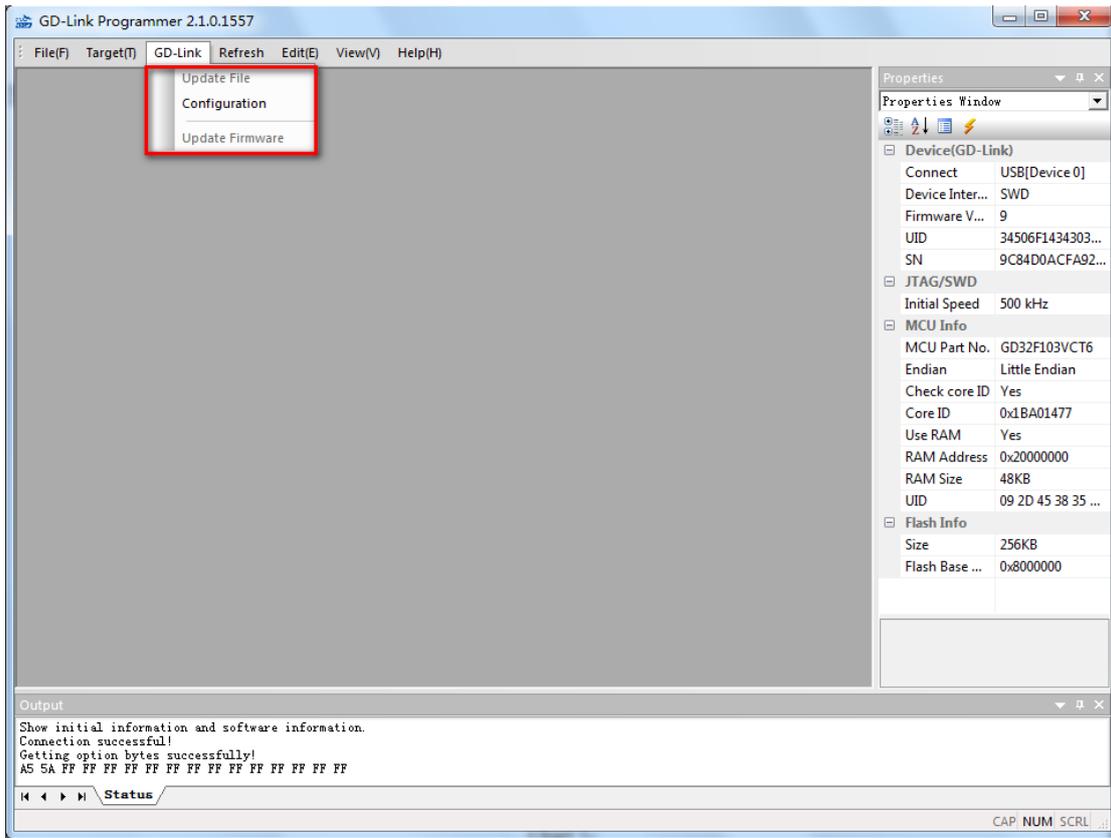
Chart 5
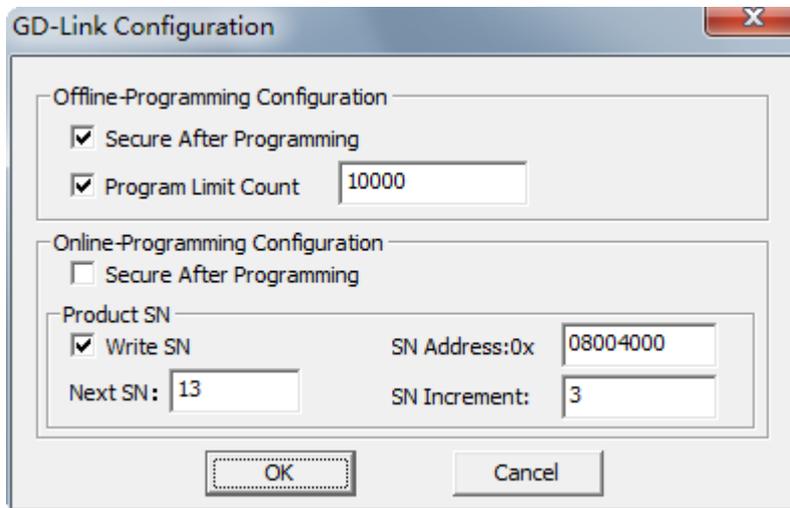
Chart 6

3.2.3.3 Update Firmware

This menu update GD-Link firmware if GD-Link is in update firmware mode (Hold on offline-programming button on GD-Link before power on). Please make sure your software is the latest version before you update your GD-Link firmware.

3.2.4 Target MCU

This page includes Connect, Disconnect and other operation menus (As shown in chart 7).

➢ Connect: Users must click this menu before operating target MCU with keyboard shortcuts F2.

➢ Disconnect: This menu is enabled after connection successful, it is used to disconnect from target MCU.

➢ Security: Security includes two levels, GD10x series only low level can be set while GD1x0 series can use two levels. The GD1x0 series MCU will not insecurity if set high level.

➢ Insecurity: Clicking this menu can remove low level security.

➢ Mass Erase: Users can use this menu to erase full chip with keyboard shortcuts F4. Maybe users need to wait for a moment while MCU Flash size more than 512KB.

➢ Page Erase: This menu allow users can erase MCU by pages with keyboard shortcuts F3.

➢ Program: Programming the selection file to the target MCU. The software will secure the chip and write product SN if users have configed online-programming options in "Configuration" menu.

➢ Continuous Program: This function is enabled while software disconnect from target MCU. The software will detect whether new MCU is power on automatically and connect to MCU. Then the software will program the new MCU with current selection file and wait for next MCU connect.

➢ Read Data: With this function user can read target MCU by two ways: Read full chip or Read by range.

➢ Run App: Run the program file after programming.

Chart 7