

Fujitsu GDC Flasher

User Manual

Version 1.0.0.1

Fujitsu Semiconductor Europe GmbH

FUJITSU



Graphics Competence Center

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I. Introduction

1. General Information

Please check the *Customer Information* section of this manual for further details about this version.

2. System Requirements

a. Software

Supported OS

Windows 2000 Professional, Service Pack 4
Windows XP Professional or Home Edition, Service Pack 2 or higher
Windows Vista™, (32 bit Editions)

Additional Requirements

Microsoft® .NET Framework 2.0
Full Administrator Rights
Local Installation

b. Hardware

Processor

32-bit Intel Pentium or equivalent Processor

Available Hard-Disk Space

5 MB for Fujitsu GDC Flasher Program Files and Help
50 MB for Microsoft .NET Framework (when not already installed)

RAM

Minimum Requirement is 32 MB (for Fujitsu GDC Flasher only)

Resolution

Recommended Resolution is 1024 x 768

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No liability or omissions can be accepted for any inaccuracy of this manual.

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6. Installation Procedure

The installation files are as follows,

- **setup.exe**
- **FujitsuGDCFlasherSetup.msi**

For installation you can either double click the *setup.exe* file or you can select and right clicking the *FujitsuGDCFlasherSetup.msi* file to open the context menu and select the install item.

Please follow the installation procedure.

- **Installation Information**

Program Files Folder :

Fujitsu Semiconductor Europe GmbH - GCC/Fujitsu GDC Flasher/

Subdirectories :

/user	main user directory
/user/binary	for binary files

Program Menu Folder :

Fujitsu Semiconductor Europe GmbH - GCC > Fujitsu GDC Flasher

File Links :

Fujitsu Gdc Flasher	main application
Fujitsu Gdc Flasher User Manual	direct link to the user manual
Fujitsu Gdc Flasher Release Notes	information about the current and previous release versions
Link to Fujitsu Gdc Flasher User Directory	link to the main user directory

7. Uninstall Software

Choose *Add/Remove Software* in the *Windows Control Panel*.
(*Start Menu > Settings > Control Panel > Add/Remove Software*)

Press the *Remove* button and follow the uninstall instructions.

8. Contact

Homepage :

<http://www.fujitsu.com/emea/services/microelectronics/gdc/contact.html>

E-Mail :

gdc_tech_support@fme.fujitsu.com

Phone :

+49 (0) 89 218 938 400

9. Startup Information

- **First Time Start**

Only one instance of Fujitsu GDC Flasher can be open at a time to prevent hardware resource allocation conflicts.

- **Registry Settings**

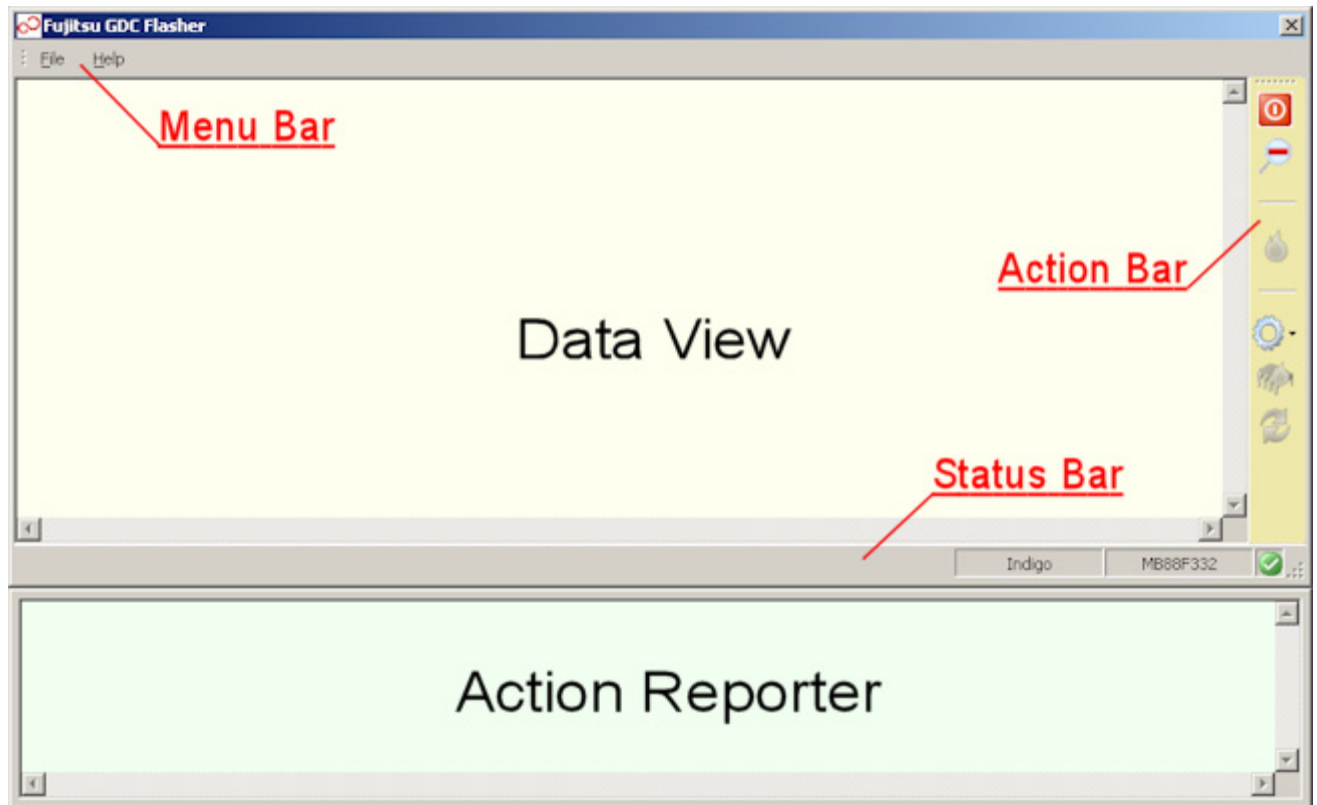
When the Fujitsu GDC Flasher starts the first time then default settings will be written into the *Windows Registry*.

Main Registry Path :

[HKEY_LOCAL_MACHINE]¥¥SOFTWARE¥¥
Fujitsu Semiconductor Europe GmbH - GCC¥¥Fujitsu GDC Flasher

These values will be reset to default when a new release version of the GDC Flasher is installed.

II. Overview



1. Menu Bar

The *Menu Bar* represents the main interface for the user concerning the Fujitsu GDC Flasher application.

a. File Menu

- Open

- Binary

Allows opening a Binary File.

The loaded content of the file will then be displayed in the *Data View*.

Currently supported are the following file formats,

<code>.gdc32dat</code>	Standard hex dump file
<code>.bin</code>	Standard hex dump file

File Information `.gdc32dat` :

Is a standard binary file in which the values are stored as UInt32.

E.g. when on the *Data View* two 32 bit values are displayed as,

`0x12345678 0x0ABCDEF0`

then the binary file contains the following byte stream,

`78 56 34 12 F0 DE BC 0A`

b. Target Menu

This menu item is prepared for multiple chip support - future extensibility.

- **Indigo / MB88F332 - SPI - Aardvark**

Supports the connection PC - Aardvark - SPI - Indigo/MB88F332.

- **JadeD / MB86R02 - SPI - Aardvark**

Supports the connection PC - Aardvark - SPI - JadeD/MB86R02.

- **EmeraldL / MB86R11 - SPI - Aardvark**

Supports the connection PC - Aardvark - SPI - EmeraldL/MB86R11.

c. Help Menu

- **Index**

Open the *Index Page* of the *HTML Help File*.

- **Contents**

Open the *Contents Page* of the *HTML Help File*.

- **About Fujitsu GDC Flasher**

Open the *About Box* with detailed information of the current version.

2. Status Bar

The *Status Bar* typically contains essential status and process information. This bar is located on the bottom of the Fujitsu GDC Flasher application.

Currently the following information is supported,

- **Last Hardware Access Action**



This icon will be displayed when no action was performed.



When this symbol appears then the last action, e.g. read / write access failed its execution.



When this symbol appears then the last action, e.g. read / write access was successfully executed.

- **Progress Status Information**



This icon will be displayed when scanning / checking is in progress.



If displayed the destination / target will be removed or erased.



This is a special icon that illustrates flashing of the *Flash Memory Chip*.

3. Action Bar

The *Action Bar* supports the user with fast access to specific actions.

- **Hardware Connection / Disconnection**



When this symbol is highlighted the hardware is currently connected. By pressing this button the hardware will be disconnected.



This symbol replaces the previous one when the hardware is disconnected and ready to be connected once again.

- **Last Action Access Reporter**



By pressing this icon the *Action Bar* will open a docked dialog with information to the last error that happened while accessing the hardware. This symbol only appears when the *Last Action Access Dialog* is closed.



Pushing this button will close the currently open *Last Action Access Dialog*. This symbol only appears when the *Last Action Access Dialog* is open.

- **Flash Action(s)**



This special button is executing the following events automatically,

- Erasing Flash Chip
- Flashing Data
- Verifying Data

It can be used instead of the other buttons below. Multiple Action Button.

Information :

To get an improved flashing speed the values to write will be scanned if they are equal to 0xFFFFFFFF. If so, then writing of this value will be skipped because this is the default value after erasing the flash chip - which was automatically performed at the beginning.

Depending on the ratio between "empty" to "non-empty" input data the time consuming flashing can be speed up.

The optimization is only available in this so called "All Inclusive" mode.



This button offers menu items with some special flash options.

Erase Flash Chip

Erasing the complete Flash Chip.

Erase Single Flash Sector

Allows to select one of the Flash Sectors to be erased.

Single Action Button.



By pressing this button all values which are currently available in the *Data View* will be written to the internal flash memory of the hardware.

A state machine will perform some checks / actions before finally writing to the flash memory. This mechanism is implemented to guarantee an optimal life-time of the flash.

Depending on their state, the following checks / actions will be done,

- **Checking destination flash memory block if already empty or containing valid data.**
If already empty writing can be performed at once.
- **Comparing destination flash memory block and edited/manipulated memory block.**
If identical nothing must be done.
- **Saving current destination flash memory block to local memory.**
To prevent overwriting already valid content of the corresponding flash memory sectors, they will be saved.
- **Modifying local memory to update the content.**
Write the modified memory block to the local memory storage of the flash memory.
- **Erasing corresponding sectors.**
The sectors corresponding to the offset and modified data block will be erased.
- **Flashing corresponding sectors.**
Write the updated local data storage to the flash memory.

Write Flash Chip

Writing the content of the Text Box to the Flash Chip starting with Sector 0.

Write Single Flash Sector

Select the Start Sector where the content of the Text Box should be written to.

Single Action Button.

Information :

Depending on the hardware connection speed and the number of items to write this can take some time.



This button allows comparing the data that is currently present in the *Data View* with the content of the flash memory.

Verify Flash Chip

Start comparing the content of the Text Box with the Flash Chip starting with Sector 0.

Verify Single Flash Sector

Comparing the content of the Text Box starting with the selected sector.

Single Action Button.

4. Action Reporter

The *Action Reporter* gives a short overview of errors and/or warnings that happened on the last hardware action (like read, write, ...) that was executed by the user.

If the last action was successfully then the window color will be displayed in light green without any messages on it.

When an hardware access error / warning occur then the window color will be light red with a detailed explanation of the failed action.

III. How to ...

IV. Troubleshooting ...

1. mscoree.dll

Problem :

... the dynamic link library mscoree.dll could not be found ...

When this error message appears then the required *.NET Framework* is not installed on the target computer.

Solution :

Please install the *.NET Framework 2.0* on the target computer.
Then connect to the *Microsoft Update Server* to get the latest updates and fixes.

2. Security Warning

Problem :

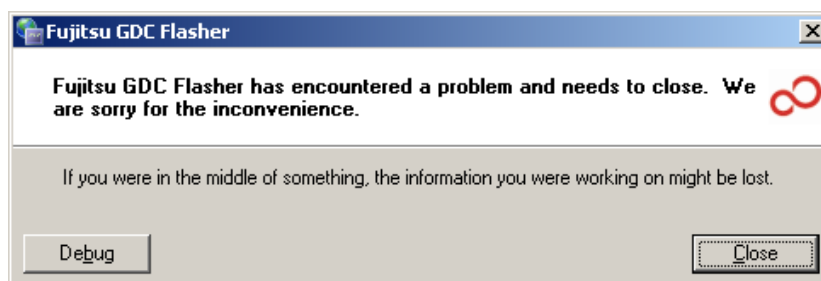
... **The publisher could not be verified. Are you sure you want to run this software ? ...**

When an error dialog appears that contains the above mentioned message then the Fujitsu Gdc Flasher was probably started from a network device. After selecting the **"Run"** button the application crashes.

Solution :

The Fujitsu Gdc Flasher application can only be installed and used on a *Local Computer*. Executing the application on a network device will lead to a security warning and / or crash.

Dialogs :



3. Installation

Problem :

... **Unable to install because a newer version of this product is already installed. ...**

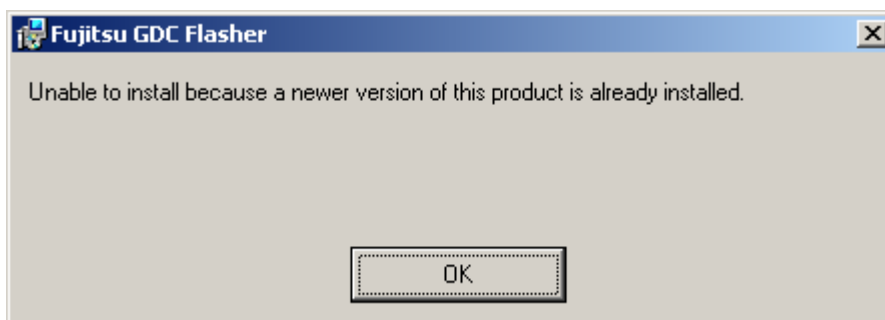
When this dialog appears then there is already an instance of the Fujitsu Gdc Flasher installed on the target computer which is newer than the version which should be installed.

Solution :

Normally it is useful to install always the latest version of the application. Nevertheless if it is required to install a previous version then the current one must be uninstalled first.

This can be done in the **Control Panel -> Add or Remove Software**, selecting the Fujitsu Gdc Flasher application and pressing the "**Remove**" button.

Dialog :



4. Flash Problems

Problem :

It is not possible to properly Write to the Internal Flash Memory.

Root Cause / Solution :

1. Loss of connection

It is possible that the connection to the Indigo device over the USB to SPI (PC connection) is lost.

Solution :

- close the Fujitsu Gdc Flasher
- check the connection to the USB to SPI device
- check the connection from the USB to SPI device to the Indigo board
- check the power supply
- open the Fujitsu Gdc Flasher and check connection again

5. Connection / Disconnection Problems

Problem :

It is not possible to connect / disconnect the Fujitsu Gdc Flasher properly with / from the target device.

Root Cause / Solution :

1. Connection / Disconnection Button fail

Please refer to the [Version 0.9.0.1 Remarks](#) page which is available in the [Customer Information](#) section of this manual.

2. Conflicting Applications

When using another tool or application beside the Fujitsu Gdc Flasher which also accessing the SPI interface of the Indigo it is possible that these applications conflicting each other.

Solution :

- close all open applications that are accessing the SPI interface
- now open only those application that is required for the current usage

6. Unknown Error Or Exception

**Attention : Expert Users Only !
All other Users please contact us.**

Problem :

Unknown Error Or Exception.

Root Cause / Solution :

On any other unknown error or exception the following can be done.
Read carefully BEFORE executing the following steps.

1. Enter Registry :
 - Windows Start Menu -> Run
 - in the text field enter : **regedit**
(press return afterwards)
2. Remove the Fujitsu GDC Flasher Registry Entry :
 - step through the registry tree and select the following Key / Entry :
[HKEY_LOCAL_MACHINE]¥¥SOFTWARE¥¥Fujitsu Semiconductor Europe GmbH -
GCC¥¥Fujitsu GDC Flasher
 - now delete the Fujitsu GDC Flasher Registry Key / Entry - and only this one

Attention : Any other deleted Key / Entry in the Registry can harm your PC !

3. Close the Registry and Restart the Fujitsu GDC Flasher
The Application will now set all internal values to default and add cleaned information to the Registry automatically.

If the Error or Exception still occurs please contact us.

V. Customer Information

1. Version 0.9.0.1 Remarks

Attention :

The Fujitsu GDC Flasher is supporting the latest Aardvark I2C / SPI Software, Version 5.01.

To ensure that the Aardvark Device is working properly it is required to update the Firmware of the Aardvark Device to Version 3.41, or higher - compatible versions only. The reason for this is to fix the missing frame reset command of the Aardvark Device which prevents initializing the Indigo Device over SPI properly.

Info :

To update the Aardvark Device to Firmware 3.41, or higher please visit the Homepage of [Total Phase, Inc.](http://www.totalphase.com) under www.totalphase.com and download the required "Aardvark Firmware update utility" from the Support page.