Smart Flash Programmer

Quick Start Guide

QS005803-0208

Introduction

Zilog's Smart Flash Programmer (SFP) version 2.2 is a software tool used to program Flash devices that support Zilog's Flash based microcontroller products.

This Quick Start Guide helps you to get started with SFP under following topics:

Features

SFP is designed to work with hex files generated by Zilog Developer Studio II (ZDS II) Integrated Development Environment (IDE). ZDS II IDE supports code editing, assembler/C-compiler/linker features, and source-level debugging for quick and efficient development of embedded applications. ZDS II IDE is available for free download at www.zilog.com.

Key features of SFP include:

- Windows®-based Flash programming tool
- Single step programming
- Supports all Zilog's Flash based microcontrollers (eZ80Acclaim!®, Z8 Encore!®, ZNEO®, and Crimzon® Series of MCUs)
- Supports Serial Smart Cable, USB Smart Cable, and Ethernet Smart Cable

- Provides two end-user configurations:
  - **Setup configuration**—provides options to configure communication and memory settings specific to target board
  - **Production configuration**—provides minimal interfaces to Program, Verify, and Erase the Flash
- Supports multiple hex file programming
- Programs multiple targets attached sequentially over Ethernet or USB Smart Cable
- Provides Code Memory window to view, edit, and save the code memory contents of the target
- Provides interface to calculate hex file and Flash checksum
- Supports following types of serialization for assigning a unique ID to the target:
  - Autoincrement serialization
  - Hex, Decimal, Date and Time, IP, and MAC serialization values
- Provides programming support for various external Flash devices like Atmel, Micron, STMicro, Intel, and AMD
- Provides scripting commands to automate the execution of the Flash operations

System Requirements

This section describes the hardware and software requirements for installing and using SFP.

Hardware Requirements

The hardware requirements for SFP include:

- Pentium II 233 MHz processor (Recommended: Pentium 500 MHz processor)
- 96 MB RAM (Recommended: 128 MB)
- 25 MB hard disk space
- Super VGA video adapter
- CD-ROM drive
- Ethernet port
- RS-232 communication port with hardware flow control (Recommended: High-speed USB port when using USB Smart Cable)

Software Requirements

The software requirements for SFP include:

- Windows Vista / 2000 SP4 / NT 4.0 SP6 / 98 SE / XP Professional (Recommended: Windows XP Professional)
- Internet Explorer 6.0

Debug Tool Requirements

Use one of the following cables to connect the PC to the target board:

- Serial Smart Cable
- USB Opto-isolated Smart Cable
- USB Smart Cable
- Ethernet Smart Cable
- ZPAK II with CAT 5 Ethernet Cable (eZ80Acclaim!®)

Installing SFP

You can install SFP either from the CD-ROM provided by Zilog® or download it from the Zilog website (www.zilog.com).

Follow the steps below to install SFP:

1. Double-click the installation file `ZSFP_2.2` (if you have downloaded SFP from Zilog website) or use the menu option **Install SFP** (if installing from CD-ROM).
2. Click **Next** in the installation wizard.
3. Click **Yes** to accept the agreement.
4. Click **Next** after choosing the destination folder.
5. Click **Next**.

Note: *The default installation path is* `C:\Program files\Zilog\SFP_2.2`.

SFP Directory Structure

Figure 1 displays the directory structure created in the installation directory when you install SFP on the host PC.

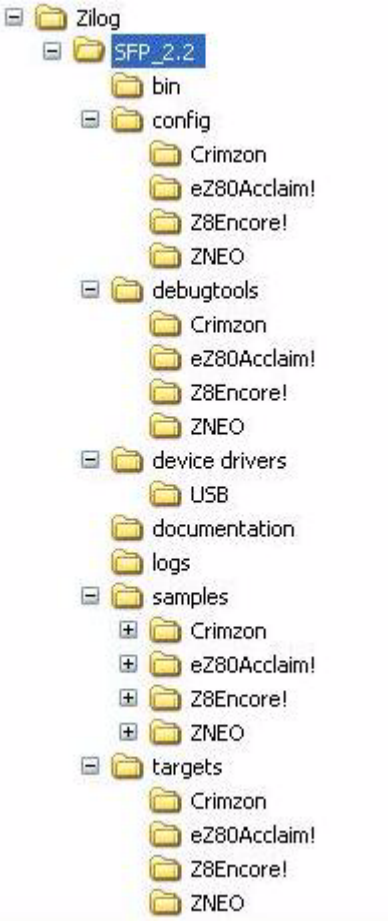

Figure 1. SFP Directory Structure

Table 1 describes the folders of SFP directory.

Table 1. SFP Folder Contents

Folder	File Type	Description
`\bin`	Exe and DLL files	This folder contains SFP application executable file, DLL files used for target communication, and SFP online help file. **Note:** *Do not delete any of these files.*
`\config`	Configuration files	This folder contains the CPU specific configuration files and `FlashDevice.xml` file. You can change the `FlashDevice.xml` file to add or change any new external Flash details.
`\debugtools`	XDT files	This folder contains default and intermediate files to handle various target communications.
`\devicedrivers`	Device drivers	This folder contains USB device driver files.
`\documentation`	User docs	This folder contains SFP related documents.
`\logs`	Log files	This folder contains log files (if logging feature is enabled in SFP).
`\samples`	Sample projects	This folder contains various sample files grouped based on the CPU family*.
`\targets`	Target files	This folder contains the target files grouped based on the CPU family*.

* The CPU families include Crimzon®, Z8 Encore!®, eZ80Acclaim!®, and Z8 Encore!®.

Getting Started with SFP

Follow the steps below to run a sample project:

Note: *In this sample project Crimzon Development Board is used with USB Smart Cable as debug tool (for more details on other MCUs, refer to SFP Online Help). The Crimzon Development Board must have appropriate ZLF chip placed on U4 or U5.*

1. Click **Start → Programs → Zilog Smart Flash Programmer 2.2 → Smart Flash Programmer 2.2** to launch the SFP application (see Figure 2 on page 7).
2. In **Project File Selection** window, double-click on **<Browse...>** and open the `ledblink.zfpproj` project from `samples\Crimzon\ZLF645_ledBlink` folder.
3. On **Project Explorer** window, click **Communication** and select the communication type as **USBSmartCable** from the **Type** drop-down list.

Note: *If you are unable to view the* **Project Explorer** *window, click* **Setup Configuration** *button.*

4. Click **Refresh** to establish the connection between the communication cable and the target. The Serial Number of the connected cable is displayed.
5. Select **Serial Number** of the USB Smart Cable(s) connected to the target boards in the **List** box.
6. Click **Flash Files** option in the **Project Explorer** which automatically displays the added hex files (`ledblink.hex`).
7. Click **Fast Program** (or **Program/Verify**) button to program the hex file into the Flash device on the target board.

The ZLF645 chip on Crimzon Development target board is now programmed with the selected hex file.

Figure 2 displays the SFP GUI.

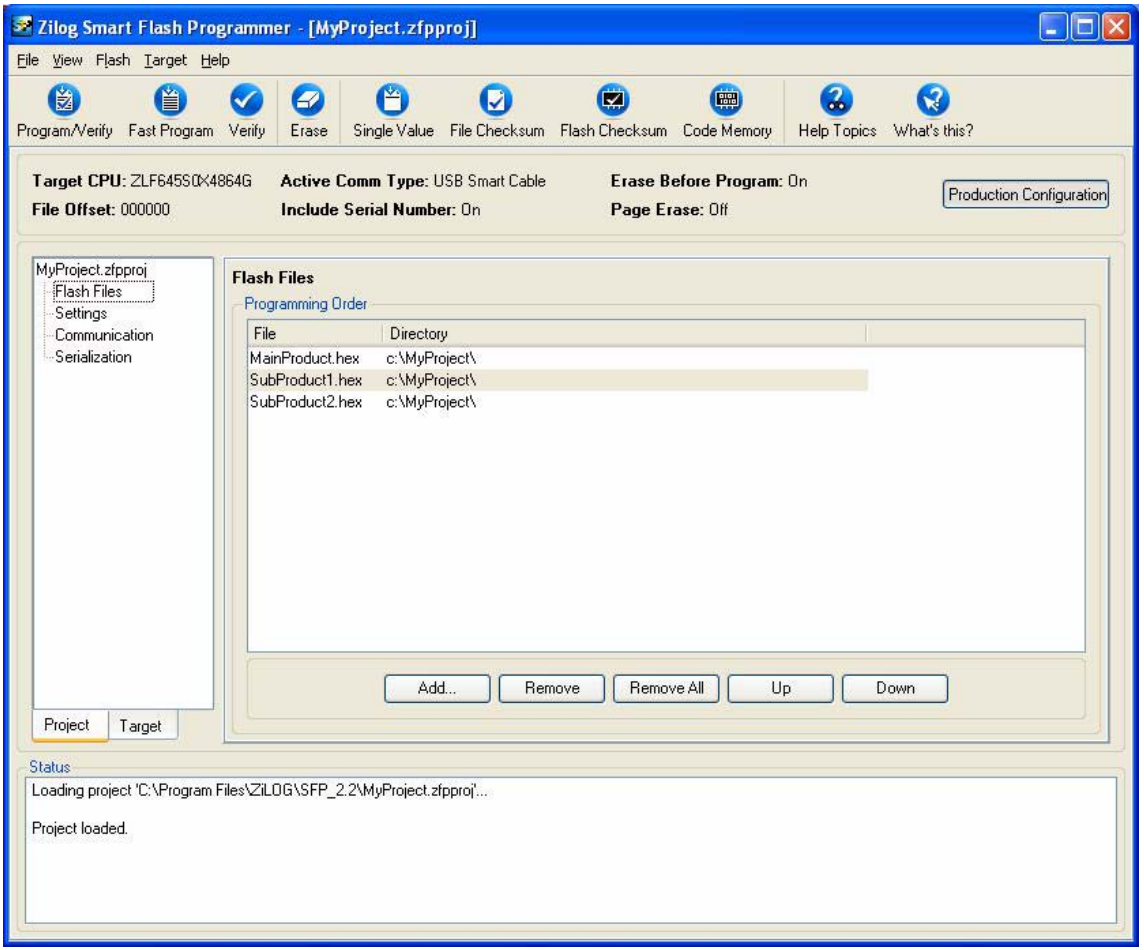

Figure 2. SFP GUI

Starting SFP from Command Prompt

`zdsflash` command is used to start SFP from Windows command prompt.

Syntax

```
zdsflash [-switch] [<project file path>]<project_file>
```

where,

`project_file` is the name of the project file to be loaded.

`switch` can be any of the following:

- `s` — Starts SFP with the **Project Selection** window.
- `l <log_file>` — Changes the name of the default log file to `log_file`.
- `h` — Provides help information for the `zdsflash` command.
- `dl`— Disables logging.
- `b` — To execute the script file. For example, `zdsflash -b <script_file>`.

Note: *You can run* `Zdsflash` *command only in* `<SFP_installation_path>/bin` *or by entering the absolute or relative path to* `zdsflash.exe` *in the Windows command prompt.*

SFP Scripting

SFP provides various scripting commands to automate the execution of the project and Flash operations.

The script file is a text-based file with a collection of commands. This file can be created with any text editor, such as Notepad. Each command in the script file must start from a new line. Any text or line preceded with a semicolon (;) is considered a comment.

Execute the script file (for example, `test.zfpscr`) using one of the following methods:

- From SFP GUI — Select **Run Script File** submenu from the **File** menu in the SFP and select the script file that you created and click **Open** to execute.
- From command prompt — From the command prompt, enter the following command:

  ```
  zdsflash -b <script_file>
  ```

  where,

`-b` — Switch to run the script file.

`<script_file>` — Name of the script file to be executed.

For more information on using SFP and building projects, refer to *SFP Online Help* integrated with the SFP application.

Warning: DO NOT USE IN LIFE SUPPORT

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