# FlashPro-CC Flash Programmer for the CC series devices - Chipcon product from TI Command Line interpreter User's Guide

**PM024A03 Rev.0** April-12-2007

Elprotronic Inc.

# Elprotronic Inc.

16 Crossroads Drive Richmond Hill, Ontario, L4E-5C9 CANADA

Web site: www.elprotronic.com E-mail: info@elprotronic.com

Fax: 905-780-2414 Voice: 905-780-5789

## Copyright © Elprotronic Inc. All rights reserved.

## Disclaimer:

No part of this document may be reproduced without the prior written consent of Elprotronic Inc. The information in this document is subject to change without notice and does not represent a commitment on any part of Elprotronic Inc. While the information contained herein is assumed to be accurate, Elprotronic Inc. assumes no responsibility for any errors or omissions.

In no event shall Elprotronic Inc, its employees or authors of this document be liable for special, direct, indirect, or consequential damage, losses, costs, charges, claims, demands, claims for lost profits, fees, or expenses of any nature or kind.

The software described in this document is furnished under a licence and may only be used or copied in accordance with the terms of such a licence.

**Disclaimer of warranties**: You agree that Elprotronic Inc. has made no express warranties to You regarding the software, hardware, firmware and related documentation. The software, hardware, firmware and related documentation being provided to You "AS IS" without warranty or support of any kind. Elprotronic Inc. disclaims all warranties with regard to the software, express or implied, including, without limitation, any implied warranties of fitness for a particular purpose, merchantability, merchantable quality or noninfringement of third-party rights.

**Limit of liability**: In no event will Elprotronic Inc. be liable to you for any loss of use, interruption of business, or any direct, indirect, special incidental or consequential damages of any kind (including lost profits) regardless of the form of action whether in contract, tort (including negligence), strict product liability or otherwise, even if Elprotronic Inc. has been advised of the possibility of such damages.

## END USER LICENSE AGREEMENT

PLEASE READ THIS DOCUMENT CAREFULLY BEFORE USING THE SOFTWARE AND THE ASSOCIATED HARDWARE. ELPROTRONIC INC. AND/OR ITS SUBSIDIARIES ("ELPROTRONIC") IS WILLING TO LICENSE THE SOFTWARE TO YOU AS AN INDIVIDUAL, THE COMPANY, OR LEGAL ENTITY THAT WILL BE USING THE SOFTWARE (REFERENCED BELOW AS "YOU" OR "YOUR") ONLY ON THE CONDITION THAT YOU AGREE TO ALL TERMS OF THIS LICENSE AGREEMENT. THIS IS A LEGAL AND ENFORCABLE CONTRACT BETWEEN YOU AND ELPROTRONIC. BY OPENING THIS PACKAGE, BREAKING THE SEAL, CLICKING "I AGREE" BUTTON OR OTHERWISE INDICATING ASSENT ELECTRONICALLY, OR LOADING THE SOFTWARE YOU AGREE TO THE TERMS AND CONDITIONS OF THIS AGREEMENT. IF YOU DO NOT AGREE TO THESE TERMS AND CONDITIONS, CLICK ON THE "I DO NOT AGREE" BUTTON OR OTHERWISE INDICATE REFUSAL, MAKE NO FURTHER USE OF THE FULL PRODUCT AND RETURN IT WITH THE PROOF OF PURCHASE TO THE DEALER FROM WHOM IT WAS ACQUIRED WITHIN THIRTY (30) DAYS OF PURCHASE AND YOUR MONEY WILL BE REFUNDED.

### 1. License.

The software, firmware and related documentation (collectively the "Product") is the property of Elprotronic or its licensors and is protected by copyright law. While Elprotronic continues to own the Product, You will have certain rights to use the Product after Your acceptance of this license. This license governs any releases, revisions, or enhancements to the Product that Elprotronic may furnish to You. Your rights and obligations with respect to the use of this Product are as follows:

### **YOU MAY:**

- A. use this Product on many computers;
- B. make one copy of the software for archival purposes, or copy the software onto the hard disk of Your computer and retain the original for archival purposes;
- C. use the software on a network

## **YOU MAY NOT:**

- A. sublicense, reverse engineer, decompile, disassemble, modify, translate, make any attempt to discover the Source Code of the Product; or create derivative works from the Product;
- B. redistribute, in whole or in part, any part of the software component of this Product;

C. use this software with a programming adapter (hardware) that is not a product of Elprotronic Inc.

## 2. Copyright

All rights, title, and copyrights in and to the Product and any copies of the Product are owned by Elprotronic. The Product is protected by copyright laws and international treaty provisions. Therefore, you must treat the Product like any other copyrighted material.

## 3. Limitation of liability.

In no event shall Elprotronic be liable to you for any loss of use, interruption of business, or any direct, indirect, special, incidental or consequential damages of any kind (including lost profits) regardless of the form of action whether in contract, tort (including negligence), strict product liability or otherwise, even if Elprotronic has been advised of the possibility of such damages.

### 4. DISCLAIMER OF WARRANTIES.

You agree that Elprotronic has made no express warranties to You regarding the software, hardware, firmware and related documentation. The software, hardware, firmware and related documentation being provided to You "AS IS" without warranty or support of any kind. Elprotronic disclaims all warranties with regard to the software and hardware, express or implied, including, without limitation, any implied warranties of fitness for a particular purpose, merchantability, merchantable quality or noninfringement of third-party rights.



This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

<u>NOTE:</u> This equipment has been tested and found to comply with the limits for a Class B digital devices, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of more of the following measures:

- \* Reorient or relocate the receiving antenna
- \* Increase the separation between the equipment and receiver
- \* Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- \* Consult the dealer or an experienced radio/TV technician for help.

<u>Warning:</u> Changes or modifications not expressly approved by Elprotronic Inc. could void the user's authority to operate the equipment.



This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appereil numerique de la classe B respecte toutes les exigences du Reglement sur le material brouilleur du Canada.

# **Table of Contents**

•
•

# 1. FlashPro-CC Command Line interpreter

The **FlashPro-CC Multi-FPA API-DLL** can be used with the command line interpreter shell. This shell allows to use the standard Command Prompt windows or script file to execute the API-DLL functions. See the **FlashPro-CC Multi-FPA API-DLL User's Guide** ( **PM024A02** ) for detailed descriptions of the API-DLL functions.

When the standard software package is installed then all required files are located in the directory

## C:\Program Files\Elprotronic\CCxx\USB FlashPro-CC\CMD-line

and contains

```
FP-CC-commandline.exe -> command line shell interpreter
FlashProCC-FPAsel.dll -> standard API-DLL files
DlashProCC-FPA1.dll -> ----,...,------
CClist.ini -> initialization file
```

All API-DLL files should be located in the same directory where the **FP-CC-commandline.exe** is located. To start the command line interpreter, the **FP-CC-commandline.exe** should be executed.

## **Command Syntax:**

## Example-1:

## Run the FP-CC-commandline.exe

```
Type:
```

```
F_OpenInstancesAndFPAs( "*# *" ) // open instances and find the first adapter (any SN) Press ENTER - result ->1 (OK)

Type:
```

**F\_Initialization**() //initialization with config taken from the config.ini //setup taken from the FlashPro-CC - with defined CCxx type, code file etc.

```
Press ENTER - result ->1 (OK)
```

Type:

## F\_AutoProgram(0)

Press ENTER - result ->1 (OK)

Type:

## F\_Report\_Message()

Press ENTER - result -> displayed the last report message (from the F\_Autoprogram(0))

```
C:\Elprotronic\Project\Cpp-Chipcon\FlashProCC-CommandLine-DLL\Release\FP-CC-commandline.exe
This is a command line function call demo.
> f_openinstancesandfpas("*# *")
  f_initialization()
  f_autoprogram(0)
 f_report_message()
== Auto Program ===
SoC communication initialization....
                                                       OK
SoC communication
Erasing memory
SoC communication initialization...
OK
                                                                  done
                                                       оĸ
Used Memory Blank checking....
Flash programming
                                                       done
Verifying check sum
Writing Lock bits ..
                                                                  OK
                                                       done
                             ( run time =
             DONE
```

Figure A-1

See figure A-1 for result:

Type quit() and press ENTER to close the FP-CC-commandline.exe program.

## Example-2:

Run the **FP-CC-commandline.exe** and type the following commands:

```
F OpenInstancesAndFPAs( "*# *")
                                       // open instances and find the first adapter (any SN)
F_Initialization()
F_Report_Message()
F_ConfigFileLoad( "filename" )
                                       //put vaild path and config file name
F_ReadCodeFile( 1, "FileName" )
                                       //put vaild path and code file name (TI.txt format)
F_AutoProgram(0)
F_Report_Message()
.....
.....
F_Put_Byte_to_Buffer( 1, 0x8000, 0x11 )
F_Put_Byte_to_Buffer( 1, 0x8001, 0x21 )
.....
F_Put_Byte_to_Buffer(1, 0x801F, 0xA6)
F_Open_Target_Device()
F_Segment_Erase(0x8000)
F_Copy_Buffer_to_Flash( 0x8000, 0x20 )
F_Copy_Flash_to_Buffer( 0x8000, 0x20 )
F_Get_Byte_from_Buffer( 1, 0x8000 )
F_Get_Byte_from_Buffer( 2, 0x8000 )
F_Get_Byte_from_Buffer( 1, 0x8001 )
F_Get_Byte_from_Buffer( 2, 0x8001 )
.....
F_Get_Byte_from_Buffer( 1, 0x801F )
F_Get_Byte_from_Buffer(2, 0x801F)
F_Close_Target_Device()
quit()
```

## **List of command line instructions**

```
; close the command interpreter program
quit()
help()
                    ;display list below
F_Trace_ON()
F Trace OFF()
F_OpenInstances( no )
F_CloseInstances()
F_OpenInstancesAndFPAs( "FileName" )
F_Set_FPA_index(fpa)
F_Get_FPA_index()
F_LastStatus(fpa)
F_DLLTypeVer()
F_Multi_DLLTypeVer()
F_Check_FPA_access(index)
F_Get_FPA_SN(fpa)
F_APIDLL_Directory( "APIDLLpath" )
F_Initialization()
F_DispSetup()
F_Close_All()
F_Power_Target( OnOff )
F_Reset_Target()
F_Report_Message()
F_ReadCodeFile( file_format, "FileName" )
F_Get_CodeCS( dest )
F_ConfigFileLoad( "filename" )
F_SetConfig(index, data)
F_GetConfig( index )
F_Put_Byte_to_Buffer( addr, data )
F_Get_Byte_from_Buffer( addr )
F_Clr_Code_Buffer()
F_Put_Byte_to_Code_Buffer( addr, data )
F_Get_Byte_from_Code_Buffer( addr )
F_Put_IEEEAddr64_to_Buffer("Hex data string")
F_Get_IEEEAddr64_from_Buffer()
F_AutoProgram(0)
F Verify Lock Bits()
```

```
F_Memory_Erase( mode )
```

F\_Memory\_Blank\_Check()

F\_Memory\_Write( mode )

F\_Memory\_Verify( mode )

F\_Memory\_Read()

F\_Write\_IEEE\_Address()

F\_Read\_IEEE\_Address()

F\_Write\_Lock\_Bits()

F\_Open\_Target\_Device()

F\_Close\_Target\_Device()

F\_Segment\_Erase( address )

F\_Sectors\_Blank\_Check( start\_addr, stop\_addr )

F\_Copy\_Buffer\_to\_Flash( start\_addr, size )

F\_Flash\_to\_Buffer( start\_addr, size )

F\_Write\_Byte\_to\_XRAM( addr, data )

F\_Read\_Byte\_from\_XRAM( addr )

F\_Write\_Byte\_to\_direct\_RAM( addr, data )

F\_Read\_Byte\_from\_direct\_RAM( addr )

F\_Copy\_Buffer\_to\_XRAM( start\_addr, size )

F\_Copy\_XRAM\_to\_Buffer( start\_addr, size )

F\_Copy\_Buffer\_to\_direct\_RAM( start\_addr, size )

F\_Copy\_direct\_RAM\_to\_Buffer( start\_addr, size )

F\_Set\_PC\_and\_RUN( xram\_en, PC\_addr )

F\_Get\_MCU\_Data(type)

F\_Get\_Targets\_Vcc()

F\_Disable\_FPA\_index(fpa)

F\_Enable\_FPA\_index(fpa)

See chapter 4 for detailed description of the instructions listed above.

**Note:** 

Not all instructions listed in the chapter 4 are implemented in the command line interpreter. For example - all instructions uses pointers are not implemented, however this is not limiting the access to all features of the API-DLLs, because all instructions uses pointers are implemented also in the simpler way without pointers.