

The MSP430 Flash Programmer
Command Line interpreter User's Guide

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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

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*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.*

NOTE: *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.*

Warning: *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 appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

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1. *FlashPro430 Command Line interpreter*

The **FlashPro430 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 files to execute the API-DLL functions. See the **FlashPro430 Multi-FPA API-DLL User's Guide (PM010A05)** 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\MSP430\USB FlashPro430\CMD-line

and contains

FP430-commandline.exe	-> command line shell interpreter
MSP430FPA.dll	-> standard API-DLL files
MSP430FPA1.dll	-> ----,---,-----
MSPlist.ini	-> initialization file

All API-DLL files should be located in the same directory where the **FP430-commandline.exe** is located. To start the command line interpreter, the **FP430-commandline.exe** should be executed.

Command Syntax:

instruction_name (parameter1, parameter2,)

parameter:

1. string (file name etc.) - "filename"

2. numbers

	integer decimal	eg. 24
or	integer hex	eg. 0x18

Note: Spaces are ignored

Instructions are not case sensitive

F_OpenInstancesAndFPAs("*"# "*")

and **f_openinstancesandfpas("*"# "*")**

are the same.

Example-1:

Run the **FP430-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 FlashPro430 - with defined MSP430 type, code file etc.
```

Press ENTER - result ->1 (OK)

Type:

```
F_AutoProgram( 0 )
```

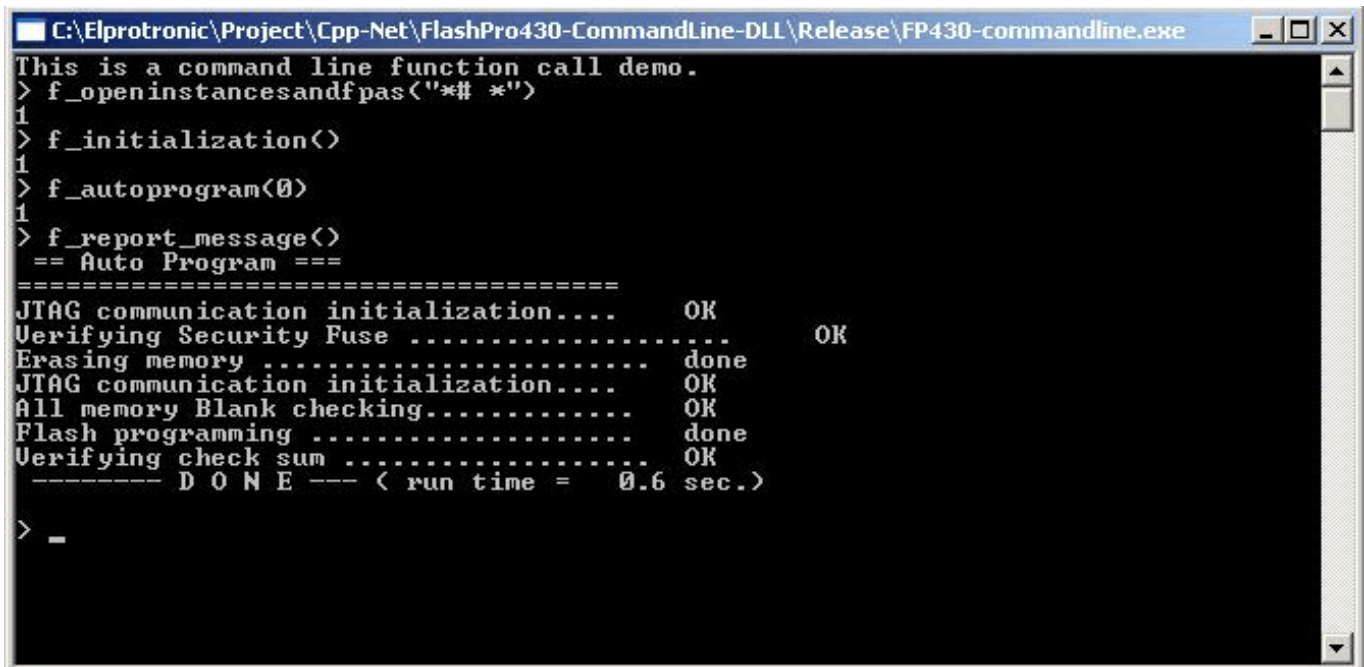
Press ENTER - result ->1 (OK)

Type:

```
F_Report_Message()
```

Press ENTER - result -> displayed the last report message (from the F_Autoprogram(0))

See figure A-1 for result:



```
C:\Elprotronic\Project\Cpp-Net\FlychPro430-CommandLine-DLL\Release\FP430-commandline.exe
This is a command line function call demo.
> f_openinstancesandfpas("&# *")
1
> f_initialization()
1
> f_autoprogram(0)
1
> f_report_message()
== Auto Program ==
=====
JTAG communication initialization....      OK
Verifying Security Fuse .....            OK
Erasing memory .....                     done
JTAG communication initialization....      OK
All memory Blank checking.....           OK
Flash programming .....                  done
Verifying check sum .....                OK
----- D O N E ----- < run time =  0.6 sec.>

> _
```

Figure A-1

Type **quit()** and press ENTER to close the **FP430-commandline.exe** program.

Example-2:

Run the **FP430-commandline.exe** and type following instructions:

```
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 (TL.txt format)
F_AutoProgram( 0 )
F_Report_Message()
.....
F_Put_Byte_to_Buffer( 0x8000, 0x11 )
F_Put_Byte_to_Buffer( 0x8001, 0x21 )
.....
F_Put_Byte_to_Buffer( 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( 0x8000 )
F_Get_Byte_from_Buffer( 0x8001 )
.....
F_Get_Byte_from_Buffer( 0x801F )
F_Close_Target_Device()
quit()
```

List of command line instructions

quit() ;close the command interpreter program
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_ReadPasswFile(file_format, "FileName")
F_ConfigFileLoad("filename")
F_SetConfig(index, data)
F_GetConfig(index)
F_Put_Byte_to_Buffer(addr, data)
F_Copy_Buffer_to_Flash(start_addr, size)
F_Copy_Flash_to_Buffer(start_addr, size)
F_Copy_All_Flash_to_Buffer()
F_Get_Byte_from_Buffer(addr)
F_GetReportMessageChar(index)
F_Clr_Code_Buffer()
F_Put_Byte_to_Code_Buffer(addr, data)

F_Put_Byte_to_Password_Buffer(addr, data)
F_Get_Byte_from_Code_Buffer(addr)
F_Get_Byte_from_Password_Buffer(addr)
F_AutoProgram(0)
F_VerifyFuseOrPassword()
F_Memory_Erase(mode)
F_Memory_Blank_Check()
F_Memory_Write(mode)
F_Memory_Verify(mode)
F_Open_Target_Device()
F_Close_Target_Device()
F_Segment_Erase(address)
F_Sectors_Blank_Check(start_addr, stop_addr)
F_Blow_Fuse()
F_Write_Word(addr, data)
F_Read_Word(addr)
F_Write_Byte(addr, data)
F_Read_Byte(addr)
F_Copy_Buffer_to_RAM(start_addr, size)
F_Copy_RAM_to_Buffer(start_addr, size)
F_Set_PC_and_RUN(PC_addr)
F_Synch_CPU_JTAG()
F_Get_Targets_Vcc()

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.*