

# **User Guide Standards**

## Hulk\_ demo board



## Table of Contents

Firn	nwa	re Upd	late SOP	1
	1	Hardy	vare Guide	1
		(1)	Hardware Requirements	1
		(2)	Hardware Installation	1
	2	Softw	are Guide	3
		(1)	Software Requirements	3
		(2)	Firmware Update by Application Software	3
Har	dwa	re Gui	de	5
	1	Hardy	ware Requirements	5
		(1)	Demo Kit Hardware Description	6
		(2)	Hardware Installation	7
	2	Hulk I	Function Block	9
	3	Legal	Information	9

## Firmware Update SOP

#### **1** Hardware Guide

#### (1) Hardware Requirements

Buy a set of MSP-EXP430G2 from Digi-Key

You will get following stuffs in the package



MSP-EXP430G2

#### (2) Hardware Installation

The programmer need the jump line as the picture below



Connect to MSP430 and Hulk MCU board

- Please connect the Dupont line from J3 (VCC pin) of MSP430 LaunchPad to J1's 2nd pin of Hulk
- Please connect the Dupont line from J3 (TEST pin) of MSP430 LaunchPad to J1's 8th pin of Hulk
- Please connect the Dupont line from J3 (RST pin) of MSP430 LaunchPad to J1's 11th pin of Hulk
- Please connect the Dupont line from J6 (GND pin) of MSP430 LaunchPad to J1's 9th pin of Hulk

Please pay attention! It must remove the Hulk's adapter board when updating Firmware.

When you update Firmware, please confirm if the D2(power indicator) or D2(power indicator) and D1(data indicator) of Hulk are lighted.

- It can update Firmware when indicators are lighted.
- If the indicators are not lighted, please confirm the connect again.



Refer to following figure to setup MSP-EXP430G2 and connect it to your PC

Connect to PC

#### 2 Software Guide

#### (1) Software Requirements

Refer the guideline in following FET-Pro430 Lite website to download and setup driver of MSP-EXP430G2

https://www.elprotronic.com/productdata;jsessionid=2C6DF835A1996E7636AE85821 09D1EC7

Category	Description	Original File Name	Download Link	
Generic-DLL	Generic DLL, and Command-line tool. Version 1.61. Net 4.5.2 (13.Sept.2016)	Generic-DLLs-for-Programmers- 1v61-Setup.zip		
FlashPro-ARM, GangPro-ARM	Installation package for FlashPro-ARM, GangPro-ARM, includes GUI, DLL, and supporting material. Version 2.07 (4.Oct.2016)	X-ProARM-2v07-Setup.zip		
FlashPro-430, GangPro- 430	Installation package for FlashPro-430 and GangPro-430, includes GUI, DLL, and supporting material. Version 5.33 (13.Sept.2016)	X-Pro430-5v33-Setup.zip		
FlashPro-2000	Installation package for FlashPro-2000, includes GUI, DLL, and supporting material. Version 1.72	X-Pro2000-1v72-Setup.zip		
FlashPro-CC, GangPro- CC	Installation package for FlashPro-CC and GangPro-CC, includes GUI, DLL, and supporting material. Version 2.30 (13.Sept.2016)	X-ProCC-2v30-Setup.zip		
FET-Pro-430 Software Pkg STD	Installation package for FET-Pro-430, includes GUI, DLL, and supporting material. Standard Version. Version 3.41 (28.May.2016)	FET-Pro430-3v41-Setup.zip		
FET-Pro-430 Software Pkg LITE	Installation package for FET-Pro-430, includes GUI, and supporting material. Lite Version. Version 3.41 (28.May.2016)	FET-Pro430-Lite-3v41-Setup.zip		drive
REP430F Software Package	Installation package for REP430F, and supporting material.	REP430F-Setup.zip		

Refer to following figure to connect MSP-EXP430G2 with your PC and Hulk together.



Connect to PC

#### (2) Firmware Update by Application Software

- Press drop-down menu "Microcontroller Type" to select a MCU model MSP430F5502
- Please check "Port USB Automatic" to select 4-wires

FET-Pro430 (FET MSP430 Flash Programmer) - E	Elprotronic Inc.		
File       View       Serialization       Tools       About/F         Open Code File       C2_Example tot       pafr.       C2         SIF File       Coup       MSF430750x       Total       Total         Biss       Target       Balance:       0         Stateded Denics Information       RAM:       C144 bytes:       FLASH - 24 kB:         Report       Report       Address = 0x4840 (13277) bytes       Address	Help Upertysozu IkDestrop/demo MI Powet Device from Adapter 33V Device Tom Adapter POWER DRANGEF RESET 0000 Dedc Stam Source: DrakabE4490 Memory Device Senialization Previce Senialization Remory Rem	W Seculty Fuse F Enable BLOW FUSE WICE Action F Relade Black Check AUTO PROS. Verty Seculty Fuse ERASE FLASH BLANK CHECK WRITE FLASH VERIFY FLASH READ / COPY	
Port: USB Automatic JTAG (4-wires)	Erase / Write memory option: * All Memory *		

- Press "Open code file" button to select a firmware file (.txt)
- Press "AUTO PROG" button to update the firmware into MCU

SN File Microcontroller Type Group MSP439F502 ¥ Target BSL: Selected Device Information RAM - 6144 bytes: FLASH - 24 kB: Report Report Code File - Code size = 0x684D [13277] bytes	Power Device from Adapter           33V         Device           POwer ON/OF         Device           POwer ON/OF         Device           POwer ON/OF         Device           Check Sum         Source:           Source:         Device Satisfaction           Power Satisfaction         Read SN           Next SN 0000000         Format: sysp1234	Enable BLOW FUSE  Device Actor Relad Code File Relad Relad File Relad File Relad Relad File Rela	
Port: USB Automatic JTAG (4-wires)	Erase / Write memory option: "All Memory "		

• Show the Pass is firmware update ok.

Upen Code File -> C2_Example.bit path:	C:\Users\yaozu.l\Desktop\demo kit	Blow Security Fuse
SN File	Power Device from Adapter	BLOW FUSE
Microcontroller Type Status	33V V Device	
Group: MSP430F5xx - Pass	Voltage	Device Action
MSP430F5502 -	POWER ON/OFF	Enable Blank Check
Target: MSP430F5502 Balancer 0	RESET 0.00 V	AUTO PROG.
	Check Sum	
	Source: 0x0ADE8498	Venity Security Fuse
RAM - 6144 bytes; FLASH - 24 kB;	Memory: 0x0ADE8498	ERASE FLASH
Report		
Reading Code File done   Code size = 0x484D (19272) butes	- Device Senanzation	BLANK CHECK
ITAC communication interfaction OK	1	WRITE FLASH
Verifying Security Fuse	Read SN	
JTAG communication initialization OK	Next Model-Group-Revision:	WHITE SN / Model
All memory Blank checking OK Flash programming done		VERIFY FLASH
Verifying check sum	Next SN: 00000000	BEAD / COPY
-	Format: yyyy1234	
Port: USB Automatic	Erase / Write memory option:	
JTAG (4-wires)	" All Memory "	AUTO PROGRAM



### **1** Hardware Requirements



MCU board and display adapter



Mini USB cable



Windows PC

#### Table 1 Minimum PC Requirements

СРО	Pentium III 800 MHz or later
RAM	128MB or greater
Required Software	Windows XP
Interface	USB port

#### (1) Demo Kit Hardware Description

The HULK demo Kit includes an MCU board and an E Ink display adapter board. The MCU board and E Ink display adapter board are connected via a 16 pin header. The mini USB port on the demo kit supplies data and power to the MCU board and E Ink panel. Using the E Ink PC application, users can send image data to the board or update settings.



Demo Kit

There are two LEDs on the MCU board, LED 1 and LED 2. LED 1 indicates the board is powered. LED 2 is used as a multi-purpose function light



MCU Board for Demo Kit

\* When LED2 is light on, EPD can't accept any command

#### (2) Hardware Installation

The HULK demo kit is connected to a PC via a mini USB cable. The PC requires a USB driver to be installed on the PC.

• Connect one end of the mini-USB cable to the HULK demo kit and other end to a USB port on a PC.





• Open Device Manager on the computer. A new device called **MSP430-USB Example** should be in the list. If this is the first time setting up the hardware, installation of the device driver is required.

• To install the device driver for **MSP430-USB Example**, double click on the device to bring up the device Window. Click on "Update Driver" and select the file "Hulk-USB-Driver.inf".

🚔 Device Manager	
File Action View Help	
**	<b>建成</b> 成
AG-PC     Conguter     Con	rs SBI Controller ** Update Divis Sfhare Diable Uninstall Scan for hardware changes Properties

- \* This driver has been tested on Windows 7 64-bits
- To verify the installation of the driver was successful, a new device called Virtual COM Port (CDC) should be present under COM LPT.

File Action View Help
(a) (a) (a) (b) (b) (b) (b) (b) (b) (b) (b) (b) (b

#### 2 Hulk Function Block



#### 3 Legal Information

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#### • Revision History

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