Generating and Loading MSP430 Binary Files

From Texas Instruments Embedded Processors Wiki

Generating and Loading MSP430 Binary Files

This Wiki document gives necessary instructions to (1) generate MSP430 binary files (.txt/.hex files) using both IAR and CCS, and (2) download the binary files onto MSP430 device.

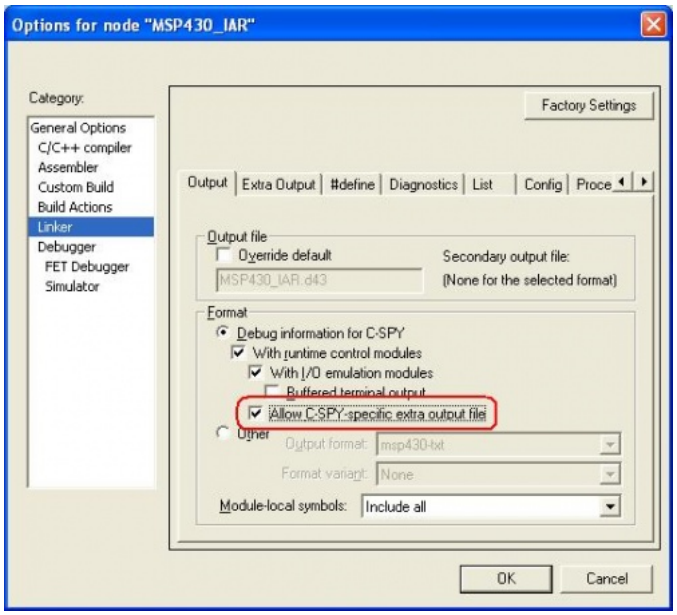
Contents

How to Generate MSP430 Binary Files

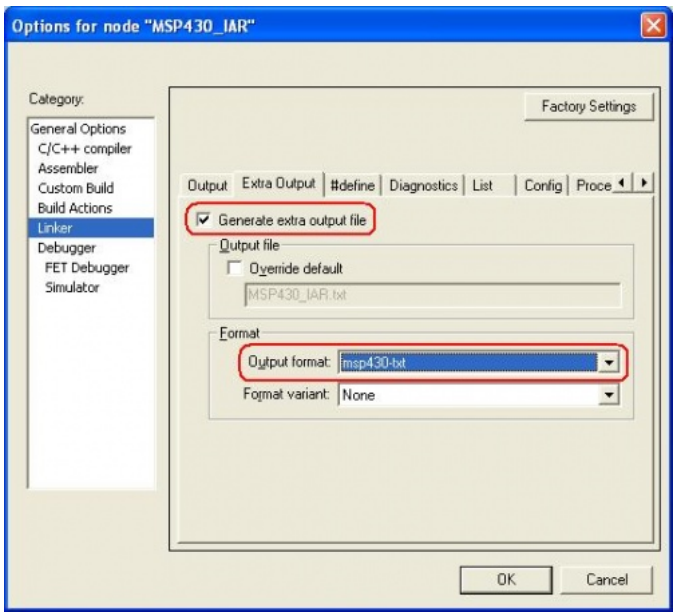
Using IAR

1. Select the project for which the binary files are to be generated and then Open **Project** -> **Options**
2. In the Options window select the category **Linker**

Under the **Output** tab, check the box “Allow C-SPY specific extra output file”.



Next, under the **Extra Output** tab, check the box “Generate extra output file” and then select the binary file format from the "Output format" drop box. In the figure below, “msp430-txt” option is selected. Selecting this option generates a .txt binary file.



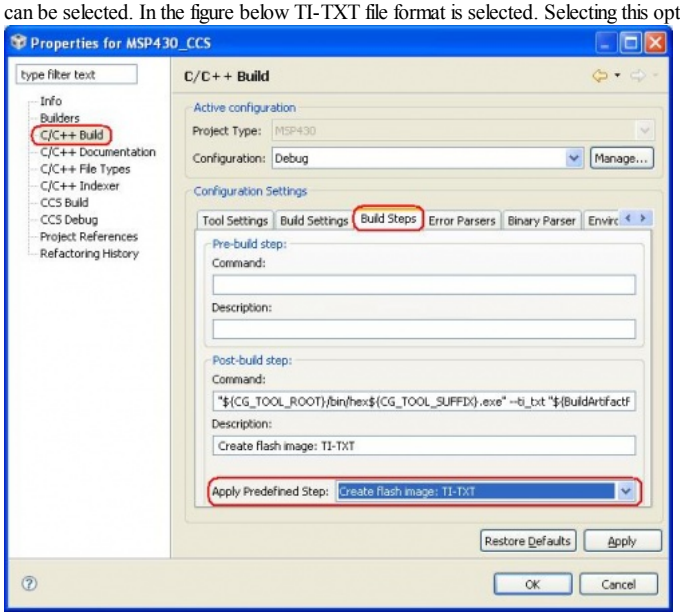
3. Then click OK to close the Options window.

4. Next select **Project** -> **Rebuild All** to generate the binary file. In this case, the .txt file that is generated can be found under the "Output" folder of the project. The file can be located under the folder path: …Project Folder\Debug\Exe\

Using CCS

1. Select the project for which the binary files are to be generated and then Open **Project** -> **Properties**
2. In the Properties window select the category **C/C++ Build**.

Under the **Build Steps** tab, select the binary file format from the drop box next to "Apply Predefined Step". Either the TI-TXT or INTEL-HEX formats can be selected. In the figure below TI-TXT file format is selected. Selecting this option generates a .txt binary file.

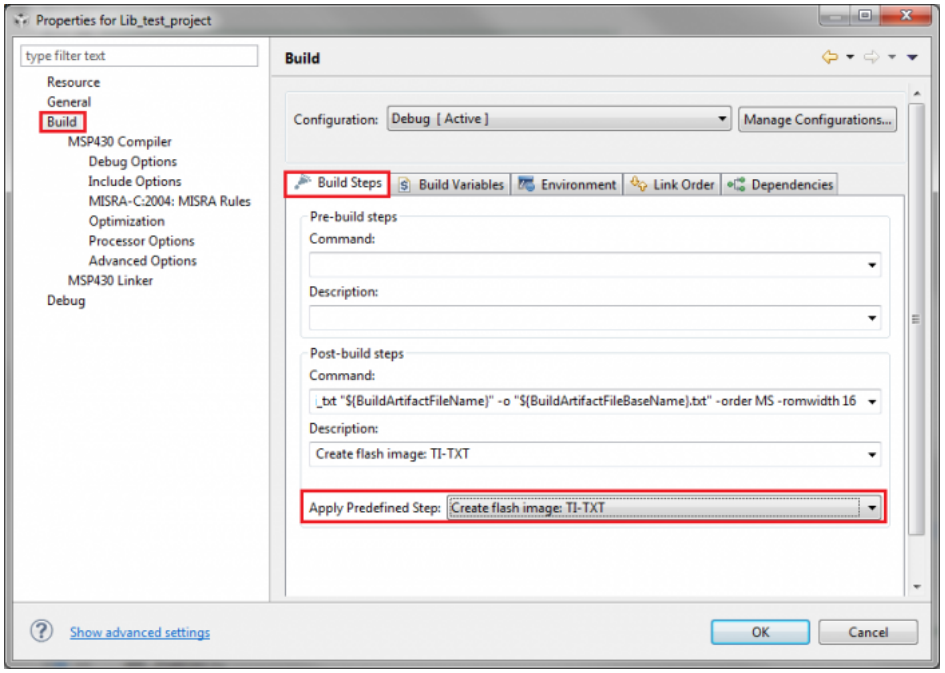


3. Then click OK to close the Properties window.
4. Next select **Project** -> **Rebuild All** to generate the binary file. In this case, the .txt file that is generated can be found under the "Debug" folder of the project. The file can be located under the folder path: ….Project Folder\Debug\

Using CCS v5.0 and above

1. Select the project for which the binary files are to be generated and then Open **Project** -> **Properties**
2. In the Properties window select the category **Build**.

Under the **Build Steps** tab, select the binary file format from the drop box next to "Apply Predefined Step". Either the TI-TXT or INTEL-HEX formats can be selected. In the figure below TI-TXT file format is selected. Selecting this option generates a .txt binary file.

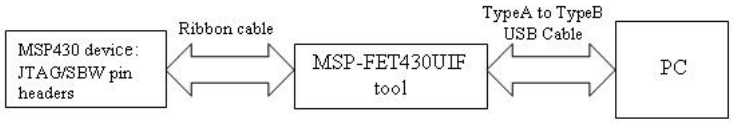


3. Then click OK to close the Properties window.
4. Next select **Project** -> **Clean..** and Build Project to generate the binary file. In this case, the .txt file that is generated can be found under the "Debug" folder of the project. The file can be located under the folder path: ….Project Folder\Debug\

Download Binary files onto the MSP430 device

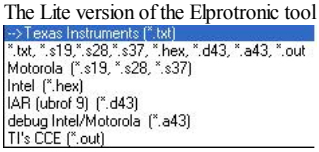
Hardware Setup

Shown below is the hardware set-up required to load the binary files onto the MSP430 device

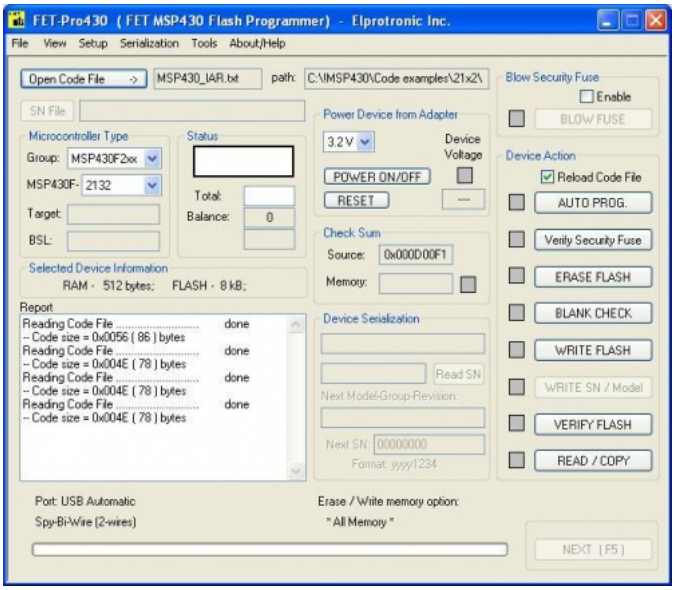


Software Setup

1. Download the free PC GUI tool from Elprotronic (http://www.elprotronic.com/) (MSP430 3rd party tools manufacturer). The tool can be downloaded from the following link: Download Now (http://www.elprotronic.com/files/FET-Pro430-Lite-Setup.zip) . For downloading the latest tool version, visit www.elprotronic.com/download.html (http://www.elprotronic.com/download.html) and look for **FET-Pro430 Lite** Software
2. The Lite version of the Elprotronic tool supports the following binary file formats:



3. Open the PC GUI and select appropriate micro-controller group and device
4. Select the binary file that needs to be downloaded onto the device using "Open Code File ->" button.



5. Pressing the AutoProg button on the GUI would download the binary file onto the device.

Note: To change between JTAG and SBW options in the GUI tool, open **Setup** -> **Connection/Device Reset** and select between JTAG (4 wires) or Spy Bi Wire (2 wires) options in the Target's Connection/Reset Options window.