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How to write the firmware into WIZwiki-W7500

Writing firmware into WIZwiki-W7500 has four ways.

- Using the CMSIS-DAP (Drag and Drop)
- Using the CMSIS-DAP (through Keil uVision5)
- Using the ISP
- Using the SWD Debugger

Examples Binary

- Hardware test & Loop back binary (WIZwiki-W7500 default binary) : Download
- LED Blink binary : Download
- Serial Out binary : Download

Using the CMSIS-DAP (Drag and Drop)

1. When you connect the USB cable to the WIZwiki-W7500, PC recognized as a removable disk. Removable disk name is MBED.

2. You "drag and drop" or copy the firmware to the removable disk, the firmware writing progress has



- 3. After completing the firmware writing, open to check the removable disk.
- 4. If "fail.txt" file is exists in the removable disk, it means writing the firmware has failed.
- 5. After pressing the Reset button (SW1) of WIZwiki- W7500, please repeat the steps from step 2.

Using CMSIS-DAP Debugger

CMSIS-DAP does support USB cable and Debugger as well. You need to Set Flash Algorithm to use CMSIS-DAP Debugger in Keil.

To Follow

1. Click 'Flash' in top menu and open 'Configure Flash Tools'. Set 'Debug' on top menu with choosing 'CMSIS-DAP Debugger'.

File Edit View Project Flash Debug Peripherals	s To
Options for Target 'Target 1'	
○ Use Simulator Settings □ Limit Speed to Real-Time Imit Speed to Real-Time Imit Speed to Real-Time Imit Run to main() Initialization File: Imit Edit Restore Debug Session Settings Imit Edit Imit Breakpoints Imit Toolbox Imit Watch Windows & Performance Analyzer Imit Memory Display Imit Speed to Real-Time Imit Speed to Real-Time	Image: Settings Image: Settings Attera Blaster Cortex Debugger Settings Stellaris ICDI Signum Systems JTAGjet J-LINK / J-TRACE Cortex main() Initializatic J-LINK / J-TRACE Cortex Initializatic ULINK Pro Cortex Debugger SiLabs UDA Debugger E dit Restor CMSIS-DAP Debugger Imitalizatic Bir Fast Models Debugger Imitalizatic Watch Windows Imitalizatic Watch Windows Imitalizatic PEMicro Debugger Imitalizatic Watch Windows Imitalizatic System Viewer
Dialog DLL: Parameter: DARMCM1.DLL pCM0 OK Ca	Dialog DLL: Parameter: TARMCM1.DLL pCM0 ancel Defaults Help

2. Click 'Utilities' and choose 'CMSIS-DAP Debugger'. Open 'Settings' menu and unchecked 'SWJ' in Debug menu. Then confirm 'ARM CoreSight SW-DP' set on SW Device.

Device Target Output Listing User C/C+ Configure Rash Menu Command • Use Target Driver for Rash Programming • UllNK2/ME Contex Debugger • Stellars ICDI • Signum Systems JTAGlet • ULINK / J-TRACE Contex • Command: • Stabs UDA Debugger • Stabs UDA Debugger • Configure Image File Processing (FCARM): • Output File: • Image Files Root Folder:	Asm Linker Debug Utilities 3. Use Debug Driver Settings Update Target before Debugging Edt Cortex-M Target Driver Setup 4. Debug Flash Download 6. CMSIS-DAP - JTAG/SW Adapter MBED CMSIS-DAP Serial No: [80120203066B111 Firmware Version: 1.0 5. SWJ Port: SW _ Max Clock: 1MHz Debug Flash Download 0. CMSIS-DAP - JTAG/SW Adapter MBED CMSIS-DAP Serial No: [80120203066B111 Firmware Version: 1.0 C Automatic Detection C Manual Configuration Add Detete Upd	Device Name Move ARM CoreSight SW-DP Up Dowm ID CODE: Device Name: AP: 0x00
	Debug Connect & Reset Options Connect: Normal Reset: Autodetect F Reset after Connect OK Ca	ache Options Download Options Cache Code Cache Memory Venfy Code Download Download to Rash ancel Help

3. Next to the Debug menu bar, Click 'Flash Download' and set 'Erase Full Chip' in Download Function, '0x20000000 to 0x4000' in RAM for Algorithm, Add 'W7500_128KB_FLASH' on Programming Algorithm. After checking it with below figure, click 'OK'. 2015/06/13 00:49



4. Download the firmware into WIZwiki-W7500. You can check complete message and the CMSIS-DAP Debugger at the bottom. Chick the 'Debug icon' or **Ctrl+F5** to debug.



2015/05/20 19:36 · ekkim

Reference

• Set Flash Algorithm

Using the ISP

W7500 ISP Program

• W7500 ISP Program Download

When W7500 is in the boot mode, firmware writing is possible via the ISP since WIZwiki-W7500 has built-in an ISP header. As ISP header supports the UART signals, you need a converter like TTL to RS232 or TTL to USB in order to connect to your PC.

Please refer the block diagram setting as below.



To follow

1. Run "W7500_ISP (20xxxxx) .exe".

Last update: 2011/06/02 2012

W7500 ISP Tool Image: Step 1 - Serial Option Step 1 - Serial Option Step 2 - Erase Baud Rate 115200 • Open Close Den Close Baud Rate 115200 • Open Close Baud Rate 115200 • Close Close Den Close Baud Rate Close Close Close Den Close Frase Data Block All Code Block Frase All Code Read Lock or Data R/W Lock Frase All Code Read Lock/Data R/W Lock All Code Read Lock/Data R/W Lock All Code Read Lock / Data R/W Lock All Code Write Lock	0:30	
Elle [SP Help Step 1 - Serial Option Serial Port COM31 • Refresh Baud Rate 115200 • Open Close Erase Block 2 (0x00003FE00~0x0003FFF) Erase Block 3 (0x00003F00~0x00000FFF) Erase Block 3 (0x0000300~0x00003FFF) Erase Block 3 (0x0000300~0x00003FFF) Erase Block 3 (0x0000300~0x0000300~0x0000300 Erase Block 3 (0x00003000~0x00003000~0x0000300 Step 3 - Code Read Lock or Data R/W Lock F All Code Read Lock or Data R/W Lock F All Code Read Lock or Data R/W Lock F All Code Read Lock or Data R/W Lock F All Code Read Lock or Data R/W Lock F All Code Read Lock or Data R/W Lock F All Code Read Lock or Data R/W Lock F All Code Read Lock or Data R/W Lock F All Code Write Lock F All Code Write Lock F All Code Write Lock Step 3 - Select the binary file Binary File :	W7500 ISP Tool	
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Step 3 - Code Read Lock or Data R/W Lock All Code Read Lock/Data R/W Lock All Code Read Unlock/Data R/W Unlock Code Read Code All Block Write Data 1 Read Data 0 Read Data 1 Write Data 0 Write Step 4 - Code Write Lock All Code Write Lock All Code Write Lock All Code Write Lock Image: Step 4 - Code Write Lock Image: Step 5 - Select the binary file Step 5 - Select the binary file Image: Step 4 - Code Write Diverse Hold E Write		Erase All Code Block
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ISP Start	ISP	Start

2. To make WIZwiki-W7500 enter the Boot Mode, press the SW1 once while keeping the SW2 pressed.

3. Select the device connected to the ISP header from "Serial Port" and click "Open". If you entered Boot Mode successfully, then "Serial Open Complete" message will be printed on the status bar at the bottom of window.

Before click the open button of ISP tool, we suggest you to test it in other terminal windows.

After opening serial port using the terminal windows, enter the capital "U". If it is in the ISP mode, you can see the returned character.

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How to write the firmware into WIZwiki-W7500

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4. Click "Browse" to select the binary file.

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- 5. Click "ISP Start" button, then the firmware writing will be performed.
- 6. After the firmware writing completes, the window like below will pop up.



How to connect an external SWD debugger to WIZwiki-W7500

This page shows how to write and debug firmware in WIZwiki-W7500 with an external SWD debugger. When you need to debug firmware, you have two ways. One is debugging with an external SWD debugger and the other is using the CMSIS-DAP debugger. In this page, how to debug firmware with the SWD debugger is posted only.

Using the SWD debugger

1. You can find SWD Header in the middle of WIZwiki-W7500 and Debugger Sel Jumper with three caps above it.

Then open the J3, J4, J5 jumper cap in Debugger Sel Jumper. Now, your WIZwiki-W7500 is ready to connect the SWD debugger.



- 2. Connect ULINK debugger and SWD Header. At this moment, be careful of matching pin number.
- 3. Setting Flash Algorithm and ULINK debugger in Keil and Download on WIZwiki-W7500. Then you can check the success message.



Reference

How to set Flash Algorithm

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Permanent link: http://wizwiki.net/wiki/doku.php?id=products:wizwiki_w7500:start_getting_started:write_firmware Last update: 2015/06/02 16:36