

WLINK ICE Operation Manual REV. 1.1 April 17, 2012

The document is Weltrend confidential information. Do not copy.



Version	Date	Applicant	Description
Version V1.0 V1.1	Date 2012/1/10 2012/4/17	Applicant Derek	Description



Table of Contents

CHAPTER 1: PREFACE	4
CHAPTER 2: INTRODUCTION	4
CHAPTER 3: INSTALLATION DRIVER PROGRAM	6
3.1 INSTALLATION OPERATION DESCRIPTION AUTOMATICALLY. 3.2 MANUALLY OPERATION GUIDE. 3.2.1 WLINK-SWUT Manually Operation Guide 3.2.2 WLINK-I2C Manually Installation Guide	9 9
CHAPTER 4: KEIL C PROGRAM SETTING AND OPERATION DESCRIPTION	13
 4.1 START KEIL C UVISION PROJECT	
CHAPTER 5: KEIL C ISP OPERATION DESCRIPTION	21
5.1 KEIL C ISP OPERATION ENVIRONMENT SETTING 5.2 KEIL C UVISION PROGRAMMING ENVIRONMENT SETTING 5.3 START PROGRAMMING	23

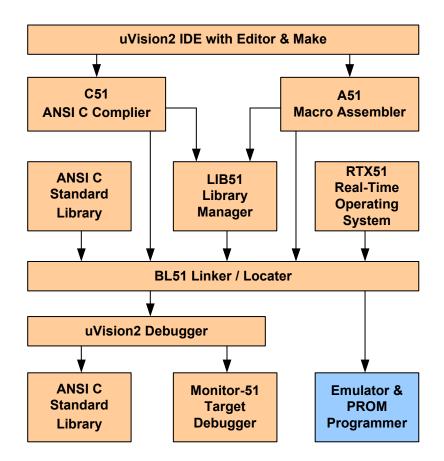


Chapter 1: Preface

- WLINK ICE must work together with WLINK Adapter or WLINK-SWUT Adapter and WLINK-I2C Adapter.
- WLINK-SWUT can be applied to the MCU product : WT56Fxxx series, WT51Fxxx series (exclude WT51F516)
- WLINK-I2C can be applied to the MCU product: WT51F516.

Chapter 2: Introduction

WLINK can connect to Taiwan famous IC design house (WELTREND) general purpose MCU; in 8052 core to program and debug. Now the complete development tool for 8051/8052 chip is Keil C uVision. This development tool is in Windows environment, and focus on 8051/8052 core chip. It has perfect management, and provide interface that users can edit, assemble, connect, and execute.



Keil C µVision function structure (refer to: http://www.keil.com/uvision/)



In above block diagram, there are four parts of function:

- > uVision IDE: combine edit operating environment; has compile, assemble, link, and build project functions
- C51 provides ANSI C compiler; A51 provide 8051 Macro Assembler.
- When program links, it provides standard ANSI database, LIB51 program administrator, and RTX51 real-time operation system.
- > uVision Debugger: has strength debug tool and parallel simulation system.

WLINK can connect to development board to proceed ICE function. Weltrend provides all 8051/8052 chip DLL (Dynamic Link Library) file, and can be embedded in Keil C uVision, and through WLINK to debug. The following is system block diagram.



ICE Debug System Diagram

[Note 1] Before using WLINK ICE, it must install WLINK driver and Keil C uVision IDE software.

[Note 2] WLINK Driver install procedure, please see (WLINK Adapter Installation Manual).

[Note 3] Before In-Circuit Emulation, the ICE program should be burned in the demo board.

[Note 4] Keil uVision IDE software document and download trial version, please see website http://www.keil.com/uvision/.

[Note 5] Keil uVision IDE user manual (English Version) http://www.keil.com/support/man/docs/uv4/.

(JapanseVersion) http://www.keil.com/support/man/docs/uv4jp/



Chapter 3: Installation Driver program

3.1 Automatic Installation Operation Description

[Step 1] Go to the Weltrend Website, clicks "Weltrend_ICE_Setup.msi", enter into ICE Driver Installation wizard. the installation program just supports WT56F216/WT56F104/WT51F516, please confirm your IC type, then press "Next".

				20200 V0000 V
		Vers	ion :	1.0.
The installation program will guid Weltrend ICE Driver. This installation program applies WT56F216, WT51F104, WT51	to the IC :	stallation process installed	l on your com	iputer
Windows XP and Windows 7 I Windows 2000 Installation locat			٨	
windows 2000 mistaliadom locad	011 (Windows 20	oo (Jystemb2 (

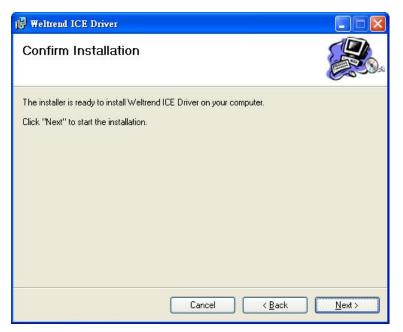
Installation first page

[Step 2] Now the installation program stop at "Select Installation Folder" page, confirm PC operating system, then select the installation disk, then press "Next". "Windows XP: path C:\WINDOWS\system32", "Windows 7: path C:\WINDOWS\system32", "Windows 2000: path C:\WINDOWS 2000\system32".

🕲 Weltrend ICE Driver	
Select Installation Folder	
The installer will install Weltrend ICE Driver to the following folder To install in this folder, click "Next". To install to a different folder	
Eolder: C:\WINDOWS\system32\	Browse
	Disk Cost
Cancel	< Back Next >



[Step 3] Press "Next".



Confirm Installation page



Installing page

[Step 4]



[Step 5] Program will stop at the Page "Do you want to add supported IC in the TOOLS.ini file ?", the default install path is

At "C:\keil\TOOLS.INI", if Keil C install at other path, please press "Open" to choose suitable path, then press "Load Keil C Tool.ini".

B Weltrend ICE Driver	
Installing Weltrend ICE Driver	
🕑 Weltrend ICE Drive Setup	
The Setup support ICE Drive for : <u>WT51F104</u> <u>WT51F516</u> <u>WT56F216</u> Please choose correct operation .\Keil\TOOL	.INI folder.
C:\Keil\TOOLS.INI Open	
Load Keil C Tool.ini Cancel	
Cancel < Back	<u>N</u> ext>

Keil C Tag input

[Step 6] If the window information appears as below, please press "Close" to finish the installation program.

🙀 Weltrend ICE Driver			
Installation Complete			
Weltrend ICE Driver has been successfully ins Click "Close" to exit.	talled.		
	Cancel	K Back	Close

Installation Complete

[Note] If the installation is failure, please refer to the manual installation guide; If the installation is successful, please go Chapter 4 and continue your operation.



3.2 Manual Operation Guide

3.2.1 WLINK-SWUT Manually Operation Guide

The following example illustrates WT56F216

- Go to Weltrend website and choose UPort.dll and WT56F216_AGDI.dll file, copy to "Windows XP: path C:\WINDOWS\system32", "Windows 7: path C:\WINDOWS\system32", "Windows 2000: path C:\WINDOWS 2000\system32".
- If the operating system is not installed in C: \, please select the correct operating system installation directory.

🕈 system 32	2					
ile <u>E</u> dit (<u>V</u> iew F <u>a</u> vorites <u>T</u> ools	Help				1
🕃 Back 🝷		Search 😥 Folders 🛄 🕶				
ddress 🛅 🔿	:\WINDOW5\system32					💌 🔁 Go
olders	×	Name 🔺	Size	Туре	Date Modified	
÷	🛅 Debug 🛛 🔨	🔤 wstrenderer.ax	234 KB	AX File	4/14/2008 12:00 PM	
	Downloaded Prog	🖄 wtsapi32.dll	18 KB	Application Extension	4/14/2008 12:00 PM	
Đ	Driver Cache	🔊 wuapi.dll	421 VB	Application Extension	-4/14/2008 12:00 PM	
	a ehome	🌯 wuaudt		Terminal Server SDK API	5 /14/2008 12:00 PM	
	Fonts	🌯 wuauclt1	Company: Microsoft C File Version: 5.1.2600		/14/2008 12:00 PM	
Ŧ		E]wuaucpl	Date Created: 4/14/2		/14/2008 12:00 PM	
		S wuaueng1.dll	Size: 18.0 KB		/14/2008 12:00 PM	
	🔁 java 👘	🛐 wuaueng.dli	1,109 KB	Application Extension	4/14/2008 12:00 PM	
	L2Schemas	Nuauserv.dll	7 KB	Application Extension	4/14/2008 12:00 PM	
	Media	🛐 wucltui.dl	110 KB	Application Extension	4/14/2008 12:00 PM	
	Minidumo	🍓 wupdmar	32 KB	Application	4/14/2008 12:00 PM	
æ		wups.dll	32 KB	Application Extension	4/14/2008 12:00 PM	
	msapps	Nuweb.dl	118 KB	Application Extension	4/14/2008 12:00 PM	
œ	insapps	🔊 wzcdlą. dl	375 KB	Application Extension	4/14/2008 12:00 PM	
	Diagnost	wzcsapi.dl	52 KB	Application Extension	4/14/2008 12:00 PM	
E		Swzcsvc.dl	473 KB	Application Extension	4/14/2008 12:00 PM	
	Gilline Web Page	Nactsry.dll	90 KB	Application Extension	4/14/2008 12:00 PM	
	Coptions		30 KB	Application	4/14/2008 12:00 PM	
1	C pchealth	Nenroll.dll	171 KB	Application Extension	4/14/2008 12:00 PM	
	PeerNet 📃	Sxmllite.dll	1/1 KB	Application Extension	4/14/2008 12:00 PM	
1 <u>111</u> 7	Prefetch	Nince.uli	119 KB 126 KB	Application Extension	4/14/2008 12:00 PM	
	Provisioning	Sxmlprovi.dll	120 KB 49 KB	Application Extension	4/14/2008 12:00 PM	
Ŧ	Registration	Niprovi.ui		Application Extension		
	🚞 repair	Spob2res.dll	12 KB 429 KB		4/14/2008 12:00 PM	
	C Resources			Application Extension	4/14/2008 12:00 PM	
E	C security	Sxpsp1res.dll	183 KB	Application Extension	4/14/2008 12:00 PM	
	🚞 SoftwareDistribut	xpsp2res.dll	2,830 KB	Application Extension	4/14/2008 12:00 PM	
±	🚞 srchasst	🔊 xpsp3res.dll	673 KB	Application Extension	4/14/2008 12:00 PM	
	🚞 system	Sipfldr.dll	331 KB	Application Extension	4/14/2008 12:00 PM	
Ŧ	🗀 system32 🛛 🗸	WT56F216_AGDI.dll	180 KB	Application Extension	11/10/2011 11:37 AM	
		🔊 UPort.dll	36 KB	Application Extension	11/21/2011 11:43 AM	

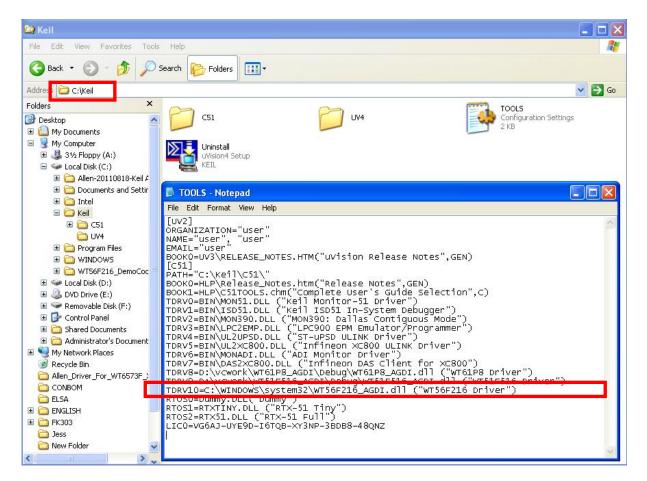
Copy UPort.dll and WT56F216_AGDI.dll



Add WLINK ICE Driver list:

Firstly in the Keil C installation directory can be found "TOOLS.INI" file (Keil C installation directory, the standard path is C: \ Keil), then use the file editing software to edit.

- Add TDRV10 = C: \ windows \ system32 \ WT56F216_AGDI.dll ("WT56F216 Driver") to a file. Where TDRV0 is already used the list, the order TDRV0 TDRV1, TDRV2 ... TDRVN).
 Please remember the x behind TDRV cannot be repeated.
- 2. Finish editing and saving the file.



Editing TOOL.INI



3.2.2 WLINK-I2C Manual Installation Guide

The following example illustrates WT51F516:

- Go to the Weltrend website and choose "WT_I2C.dll" and "WT51F516_AGDI.dll" file, copy to "Windows XP: path C:\WINDOWS\system32", "Windows 7: path C:\WINDOWS\system32", "Windows 2000: path C:\WINDOWS 2000\system32" folder.
- If the operating system is not installed in C:\, please select the correct operating system installation directory.

system 32					
le <u>E</u> dit <u>V</u> iew F <u>a</u> vorites <u>T</u> ool	s <u>H</u> elp				/
ᢖ Back 🔹 🐑 🕆 💋 🔎	Search 🧭 Folders 🛄 -				
dres: 🗀 C:\WINDOWS\system32					💌 🄁 G
	Name 🔺	Size	Туре	Date Modified	
System Tasks 🛛 🔕	🍓 wuaudt.exe	109 KB	Application	4/14/2008 1:00 PM	
👼 Hide the contents of this	🖻 wuaucpl.cpl	159 KB	Control Panel exten	4/14/2008 1:00 PM	
folder Hide the contents of this	🔊 wuaueng1.dll	179 KB	Application Extension	4/14/2008 1:00 PM	
Add or remove programs	💽 wuaueng.dli	1,109 KB	Application Extension	4/14/2008 1:00 PM	
Search for files or folders	🔊 wuauserv.dll	7 KB	Application Extension	4/14/2008 1:00 PM	
Jearch for files of folders	💽 🔊 wucltui. dll	110 KB	Application Extension	4/14/2008 1:00 PM	
	🌑 🌯 wupdmgr.exe	32 KB	Application	4/14/2008 1:00 PM	
File and Folder Tasks	💽 🔊 wups.dll	32 KB	Application Extension	4/14/2008 1:00 PM	
	🔊 wuweb.dll	118 KB	Application Extension	4/14/2008 1:00 PM	
👩 Make a new folder	🔊 wzcdlg.dll	375 KB	Application Extension	4/14/2008 1:00 PM	
Rublish this folder to the	🔊 wzcsapi.dli	52 KB	Application Extension	4/14/2008 1:00 PM	
Web	wzcsvc.dll	473 KB	Application Extension	4/14/2008 1:00 PM	
😡 Share this folder	💽 🔊 xactsrv.dll	90 KB	Application Extension	4/14/2008 1:00 PM	
	xcopy.exe	30 KB	Application	4/14/2008 1:00 PM	
	🔊 🔊 xenroll.dll	171 KB	Application Extension	4/14/2008 1:00 PM	
Other Places	🔊 xmllite.dll	119 KB	Application Extension	4/14/2008 1:00 PM	
	xmlprov.dll	126 KB	Application Extension	4/14/2008 1:00 PM	
WINDOWS	🔊 xmlprovi.dll	49 KB	Application Extension	4/14/2008 1:00 PM	
My Documents	xolehlp.dll	12 KB	Application Extension	4/14/2008 1:00 PM	
C Shared Documents	xpob2res.dll	429 KB	Application Extension	4/14/2008 1:00 PM	
My Computer	xpsp1res.dll	183 KB	Application Extension	4/14/2008 1:00 PM	
My Network Places	xpsp2res.dll	2,830 KB	Application Extension	4/14/2008 1:00 PM	
G	xpsp3res.dll	673 KB	Application Extension	4/14/2008 1:00 PM	
	Sipfldr.dll	331 KB	Application Extension	4/14/2008 1:00 PM	
Details 😵	001.JPG	5 KB	JPEG Image	4/25/2012 6:08 PM	
	UPort.dll	36 KB	Application Extension	3/1/2012 1:45 PM	
		176 KB	Application Extension	4/23/2012 6:53 PM	
	WT51F516 AGDI.dll	148 KB	Application Extension	4/13/2012 2:16 PM	
	WIWI56F216 AGDI.dl	176 KB	Application Extension	4/24/2012 9:47 AM	
	SWT_I2C.dll	28 KB	Application Extension	6/21/2011 9:20 AM	

Copy WT_I2C.dll and WT51F516_AGDI.dll



Add WLINK ICE Driver List:

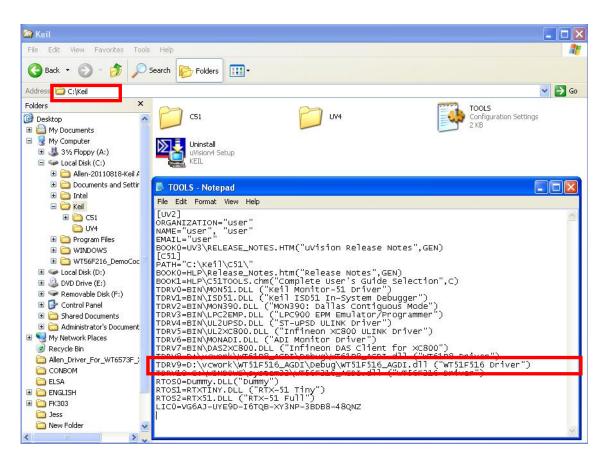
Firstly Keil C in the Keil C installation directory can find "TOOLS.INI" file (Kiel C installation directory, the standard path is C:\Keil), then use the file editing software to edit.

1. Add "TDRV10 = C:\windows\system32\WT51F516_AGDI.dll ("WT51F516 Driver")" to file,

TDRV0 is used list; the series are TDRV0, TDRV1, TDRV2...TDRVN.

Please remember the x number behind TDRVx cannot be repeated.

2. Finish editing and save.



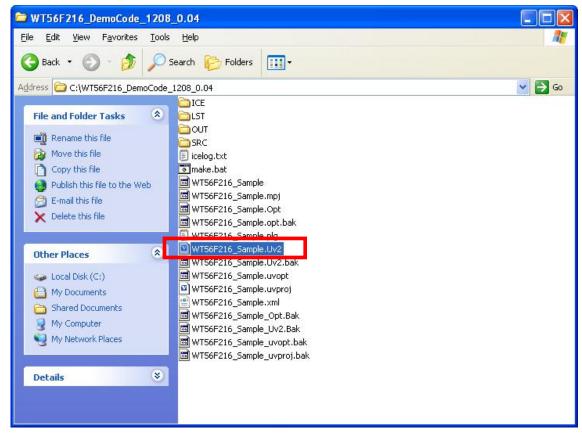
Editing TOOL.INI



Chapter 4: Keil C Program setting and Operation Description

4.1 Start Keil C uVision Project

Please go to Weltrend website and find the program file WT56F216_Sample.Uv2, click the file you can start **Keil C uVision project**.

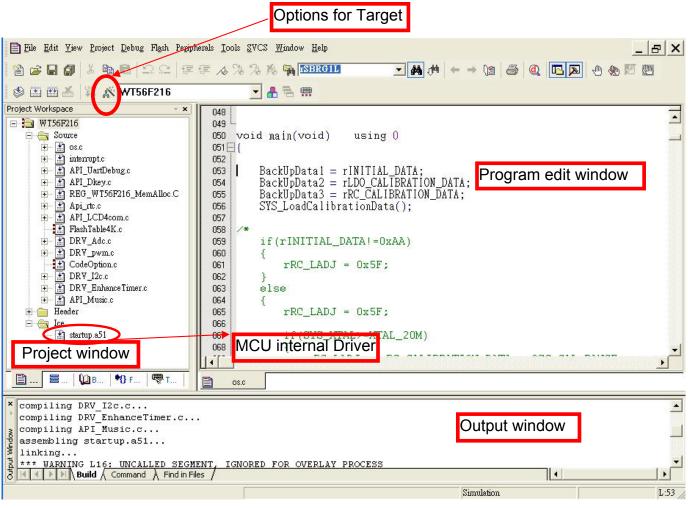


Start project



4.2 Keil C uVision Operation Environment Setting

After opening WT56F216 project, it will show the following figure, it needs to confirm [startup.a51] (ICE) internal driver program) is embedded in project or not, or it cannot use ICE function.



Keil C operation environment

[Note] [startup.a51] is the sub-program for interrupting ICE, every MCU has its own startup.a51, and the program version will be described at file.



4.3 Keil C uVision In-Circuit Emulation

4.3.1 WLINK-SWUT Keil C uVision In-Circuit Emulation Setting

> WLINK-SWUT Adapter connect port order number:

When WLINK connects to PC USB port, Operation System will detect the "USB-to-Serial Comm Port", now can enter into "Device Manager" and confirm the connecting port order number.

📩 Device Manager	x
Eile Action View Help	
🗇 🔿 🔳 🔄 🖬 💀 🕸 🏍	
 SE-Armorhead-PC Computer Disk drives Display adapters DVD/CD-ROM drives Human Interface Devices Human Interface Devices IDE ATA/ATAPI controllers Keyboards Mice and other pointing devices Network adapters Ports (COM & LPT) Prolific USB-to-Serial Comm Port (COM3) Processors Sound, video and game controllers System devices Universal Serial Bus controllers 	
	_

Device Manager-> Comm Port status



In Keil C environment, press "Options for Target" or select "Project -> Options", below figure will be opened. Select "Debug" tab, then press "Use" and select "WT56F216" in the Drop-down list. If no "WT56F216 Driver" in the Drop-down list, please go back to Keil C directory to confirm "TOOLS.INI" file location.

Options for Target 'W156F216'	
C Use Simulator Settings ☐ Limit Speed to Real-Time I Load Application at Startup I Run to main() Initialization File:	A51 BL51 Locate BL51 Miss Debug Utilities ♥ Use: WT56F216 Driver ▼ Settings Keil Monitor-51 Driver Keil ISD51 In-System Debugger MON 390: Dallas Contiguous Mode LPC900 EPM Emulator/Programmer ST-uPSD ULINK Driver Infineon XC800 ULINK Driver
Restore Debug Session Settings Breakpoints I Toolbox Watchpoints & PA Memory Display	ADI Monitor Driver Restore Infineon DAS Client for XC800 W T61P8 Driver W U51F516 Driver Vacapoints ✓ Memory Display
CPU DLL: Parameter:	Driver DLL: Parameter:
S8051.DLL Dialog DLL: Parameter: DP51.DLL -p52	S8051.DLL Dialog DLL: Parameter: TP51.DLL -p52
	友消 Defaults 説明

Options for Target

> WLINK-SWUT Adapter connecting port setting:

From above figure click "Settings" and choose Debugger Com Port, then will from the port connect WLINK Evaluation Board and execute ICE.



Debug ComPort



4.3.2 WLINK-I²C Keil C uVision In-Circuit-Emulation setting

Press "Options for Target" in Keil C operation environment or choose "Project->Options", and will open the following window. Then click "Debug" in the top, press "Use", and choose "WT51F516 Driver" in the Drop-down list. If no "WT51F516 Driver", please go back to Keil C directory to confirm "TOOLS.INI" file location.

evice Targe 🤆 Use Simula		C51 A Settings	-	Locate BL51 Mi T51F516 Driver	sc Debug	Utilities Settings
	d to Real-Time		Kei	il ISD51 In-System		
✓ Load Appli Initialization Fi	ication at Startup 🔽 Run le:	to main()	✓ Load LPC ST- Initializati Inf	DN 390: Dallas Cor C900 EPM Emula -uPSD ULINK Dri meon XC800 ULI	tor/Program ver	o main()
		Edit)I Monitor Driver ineon DAS Client	for XC800	Edit
🔽 Breakp	tg Session Settings oints ⊽ Toolbox oints & PA y Display			T51F516 Driver T56F216 Driver T56F216 Driver_D points iry Display	Debug	2
CPU DLL:	Parameter:		Driver DLL:	Parameter:		
\$8051.DLL			\$8051.DLL			
Dialog DLL:	Parameter:		Dialog DLL:	Parameter:		
DP51.DLL	-p51		TP51.DLL	-p51		

Options for Target

➢ WLINK-I²C Adapter Port Set up:

In the above window, click "Settings", and choose "ICE Interface". This port connects WLINK-I²C to Evaluation Board, and proceeds ICE function.

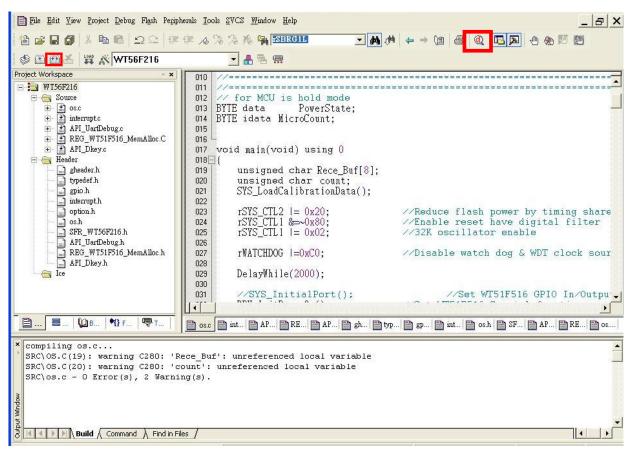
larget Setup		
ICE Interface	I2C Setting Clock Delay 0 Byte Delay 0	
(OK	Cancel	

Debug ComPort



4.4 In-Circuit-Emulation

After finished all of Keil C operation system setting, click 'Build' will show a '*.HEX' file, then programming the HEX file to IC (referring to "WLINK-SWUT ISP Operation Manual"), then press "Debug - Start/Stop Debug Session" or choose "Debug -> Start/Stop Debug Session" from the list, the program will enter into detection mode.



□ Build 」 Figure

When program is in debug mode, it can use Keil C uVision to debug. The function is completed, and has breakpoints, single-step execution, show changes in the internal registers and memory situations, etc.

[Note 1] Before In-Circuit Emulation, program must write to the MCU.

[Note 2] WT56F216 support 8 Breakpoints.

[Note 3] WT51F104 support 8 Breakpoints.



i 😂 🖬 👩	X 🖻 🛱	ug Fl <u>a</u> sh Peripherals <u>∽</u>				2 4 Q G A () ()
	-			230 BRA		
	₯ %	♦ ₩\$ 0€ 🖳		NO. 20		
ect Workspace	* X		id main(v	oid) usi	ng O	
gister	Value	51: {				
Regs	0.00	C:0x0800	CODO	PUSH	TADC CTL (OVDO)	
r0 r1	0x00 0x00	C:0x0802	75D000	MOV	rADC_CTL(OxDO)	98)
12	0x00	53:		kUpData1	<pre>rADC_CTL(0xD0),#rCHIP_ID(0x = rLVD_CTL;</pre>	
r3	0x00	C:0x0805	900002	MOV	DPTR, #rLVD CTL (0x0002)	
r4	0x00	C:0x0808	E0	MOVX	A, ODPTR	
r5	0x00	C:0x0809	F53E	MOVA	BackUpData1(Ox3E),A	
тб	0x01	54:			= rISP CHG CTL;	
r7 Sys	0x00	C:0x080B	900004	MOV	DPTR, #rISP CHG CTL (0x0004)	
a	0x14	C:0x080E	500004 EO	MOVX	A, 0DPTR	
b	0x00	C:0x080F	E0 F53F	MOVA	BackUpData2 (0x3F), A	
sp	0xa8	55:			= rCSTM ID3;	
dptr	0x0008	C:0x0811	90000F	MOV	DPTR, #rCSTM ID3 (OxOOOF)	
PC \$	C:0x0	C:0x0814	EO	MOVX	A, ODPTR	
LPC \$	0x00802	C:0x0815	F540	MOV	BackUpData3 (0x40), A	
+ psw	0x00	56:			ibrationData();	
		57:	212	_boaucar.	ipracionpaca(),	
		58:				
		59:				
		C:0x0817	121D47	LCALL	SYS LoadCalibrationData(C:1	D471
		60:		S CTL &=-		//Enable reset have digital filter
		C:0x081A	900001	MOV	DPTR, #rSYS CTL (0x0001)	, , Enable reset have digital filter
		C:0x081D	EO	MOVX	A, ODPTR	
		C:0x081E	547F	ANL	A,#0x7F	
		C:0x0820	FO	MOVX	ODPTR, A	
		61:		T CTL =(//Disable watch dog
		C:0x0821	900078	MOV	DPTR, #rWDT CTL (0x0078))) Disabie watch abg
		C:0x0824	EO	MOVX	A,@DPTR	
		C:0x0825	4440	ORL	A, #rMI2C CTL (OxAO)	
		C:0x0827	FO	MOVX	ODPTR, A	
		62:		ayWhile(*		
		63:	DCI	ay white (1000),	
		C:0x0828	7FAO	MOV	R7,#rMI2C CTL(OxAO)	
		C:0x082A	7EOF	MOV	R6,#rCSTM ID3(0xOF)	
		C:0x082C	1217CE	LCALL	DelayWhile(C:17CE)	
		64:		Initial		et WT56F216 GPIO In/Output
		C:0x082F	20112 2012 - 2000 - 2	LCALL	SYS InitialPort(C:197A)	co «.corzio orio in ouchuc
		65:		InitPowe		/Set WT56F216 Special function
		C:0x0832	1214D5	-	DRV InitPowerOn(C:14D5)	, See wissizio Special lancelon
		92:			<pre>r XMIN();</pre>	
		<	UT A	101-01		
	N .	os.c				

Debug mode Figure



4.5 Keil C ICE Operation Description

📸 💷 🖉 🕂 🖓 🕐 🖑 🔜 🖄 🐽 😥 😳 😫 💷 😸 🖉 💮 🐨 🗐 👘

Above figure is Keil C debug tool list, the following are tool function description:

- Reset CPU: This key will reset CPU, and clear Time counter to 0.
- Start Debug: Start debug, and execute program.
- Stop Debug: Stop the program which is executing.
- Get into function: Execution step by step. Get in the function when function is encountered.
- **P** Execution step by step: Execution step by step. Get in the function when function is not encountered.
- * Perform to Cursor: Perform to cursor location.
- Debug: Shift debug and edit window.
- Breakpoints: Add or delete breakpoints in the program.
- Clear Breakpoints: Clear all breakpoints in the program.
- Disable Breakpoints: Ignore all breakpoints in the program.

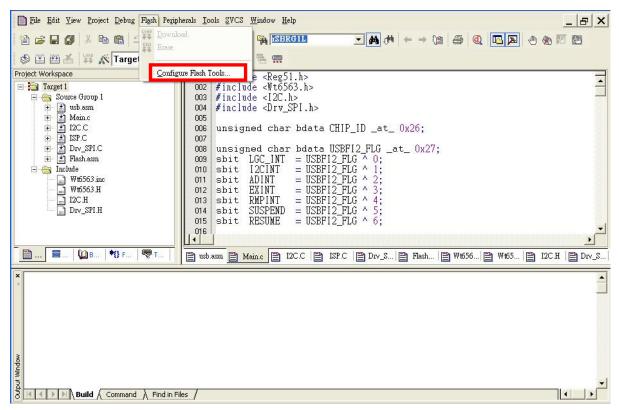


Chapter 5: Keil C ISP Operation Description

WLKINK Adapter and WLINK-SWUT Adapter both support the Keil C ISP.

5.1 Keil C ISP Operation Environment setting

Please refer to Chapter 3, please install the driver firstly then open the Keil C uVision project. Under Keil C operation environment, press "Options for Target" or choose the "Flash" in the list -> "Configure Flash Tools…" the operation as the figure below.



Keil C ISP setting

Weltrend WLINK ICE Operation Manual 偉詮電子

Click "Debug" from the window below, then press "Use" and choose "WT56F216 Driver" at Drop-down list. If no "WT56F216 Driver" appeared at the list, please go back to Keil C directory to confirm "TOOLS.INI" file location, then click "Settings" choose "ICE Interface" and choose "USB", after selected the port will connect WLINKI2C to Evaluation Board and execute ICE, after setting, press "OK" to exit ICE Interface setting window.

ptions for Target '	'₩T56F216'	_			×
Device Target C C Use <u>S</u> imulator C Limit Speed to R	Dutput Listing 1 Real-Time	Jser C51 A Settings	51 BL51 Lo • Use: WT5	cate BL51 Misc 6F216 Driver	Debug Utilities
✓ Load Application Initialization File:	n at Startup 🔽	Run to main() Target Setup	🔽 Load Applid	ation at Startup	▼ Run to main()
Restore Debug Ses Breakpoints Watchpoints Memory Disp	⊽ Toolbo &PA	Port: Com 8 Baudrate: 115200		sion Settings Toolbox	
CPU DLL: Pe	urameter:	OK	Cancel	rameter:	
	uranneter: p52		Dialog DLL: TP51.DLL	Parameter: -p52	
		確定 即	(消 Def	aults	

Keil C ISP setting



5.2 Keil C uVision Programming Environment setting

Choose Flash \rightarrow Configure Flash Tools... \rightarrow at the Command field open: Option for Target window, choose "Utilities", now will show the figure as below, at "Use Target Driver for Flash Programming" list choose "WT56F216 Driver".

Options for Target 'W	T56F216'
Device Target Out	put Listing User C51 A51 BL51 Locate BL51 Misc Debug Utilities
Configure Flash Men	u Command
🖲 Use Target Drive	r for Flash Programming
WT5	6F216 Driver 🗾 👻 Settings 🔽 Update Target before Debugging
Init File:	Edit
Command:	ash Download Setup
Arguments:	I ⊂ Erase Flash I ⊂ Program Flash I ⊂ Verify Flash
L	Cancel
	確定 取消 Defaults 説明

Keil C setting

From above figure press "Setting" then will show the "Flash Download Setup" window, at the main window press "Programming", will show the window. As the figure below, if all of the three options are chosen, when you press "programming" IC will be finished "Erase Flash", "Program Flash" and "Verify Flash" in order.

Download Func	tion
LOAD	🔽 Erase Flash
53	🔽 Program Flash
	🔽 Verify Flash

ISP procedure executed



5.3 Start Programming

After finishing all of the setting above mentioned, go back to the starting main page, you will find the "programming" key be enabled, now press the "programming" the programming will be executed follow up the setting as the figure above "Flash Download Setup", and the programming information will be showed on the "Output Windows" (as the figure below).

₩T56F216_Sample - 猩ision3 - [D:\WT_Work'	WT56F216_DemoCode_1208_0.04\SRC\os.c]				
File Edit View Project Debug Flash Peripherals	Iools SVCS Window Help				
🕸 🏦 📇 🙀 💦 WT56F216					
Project Workspace	040 BYTE idata Test Mode:				
🖃 🛅 WT56F216	041 BYTE idata Test_Item;				
E Source	042 #endif				
	043 //				
	044 // For Mco is note mode 045 BYTE data PowerState;				
t API_Dkey.c	046 BYTE idata MicroCount;				
🕀 🔝 REG_WT56F216_MemAlloc.C	047				
🕂 🔛 Api_rtc.c	048				
	049 L 050 void main(void) using 0				
	051 051 main(void) using 0				
🕀 🔝 DRV_pwm.c	052				
CodeOption.c	053 BackUpData1 = rINITIAL_DATA;				
	054 BackUpData2 = rLDO_CALIBRATION_DATA; 055 BackUpData3 = rRC_CALIBRATION_DATA;				
	056 SYS_LoadCalibrationData();				
🕂 🧰 Header	057				
	058 /*				
🔛 🔝 startup.a51	059 if (rINITIAL_DATA!=0xAA)				
E Files	Sc. API_Music.c Startup.a51				
Load "D:\\WT Work\\WT56F216 DemoCo	ode 1208 0.04\\OUT\\56F216 DemoCode 1208 05"				
Flash Erase Done.					
Flash Write Done: 8285 bytes programmed.					
Flash Verify Done: 8285 bytes verified.					
1 I					
Build (Command) Find in Files /					
Ready	WT56F216 Driver L:57 C:4 /				

Keil C ISP programming figure