试用 SlickEdit 开发 RTT

2011-08-28 20:46:38 分类: <u>编程开发</u> |字号 订阅

关注 RTT 有一段时间了,其开发方法让我用起来很不爽²²⁹感觉像回到了 DOS 时代²²⁹,所以 Radio 板到手有一段时间了也 没有怎么动过。 准备: SlickEdit16.0.2 MDK4.21 《使用 SlickEdit 编写、编译 ARM/KeilC 代码》 SVN 上最新的 STM32Radio 软件库 Radio 板一块(居然没有版本号?!) JLink一台 过程: 将 STM32Radio 复制出来,去掉 SVN 相关的内容。选定 0_led_simple 作为测试平台。 新建一环境变量 MDKARM=C:\KEIL\ARM\BIN40 新建系统变量 ? 变量名(N): MDKARM 变量值(V): C:\KEIL\ARM\BIN40

参考《使用 SlickEdit 编写、编译 ARM/KeilC 代码》和 project.uv2 新建一个 SlickEdit 工程。

确定

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取消

roject <u>type</u> :	Project <u>n</u> ame:
- (Other)	
⊕– C/C++ –– Ch –– DigitalMars D	Create project directory from project name
庄 Java	32radio examples\examples\0. led_simple
 Makefile Microsoft Visual Studio 2003/2005/2008 NAnt Perl PHP ⊕ Python 	Files will be located at: D:\\examples\0_led_simple\ Executable name:
— Ruby — SAS	⊙ Create new workspace
- Vera / OpenVera	Add to current workspace
- Verilog: Model Technology ModelSim	Dependency of:
Customize	

为以后使用方便建立一个新的工程类型:Keil for Arm

Customize Project Types	E
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- Other C/C++	New
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DigitalMars D TBM PowerNP	
I → Java	
— Macromedia Flash — Makefile	
Microsoft .NET SDK (C#)	

🕵 New Project		
New package name:	Keil for Arm	
Copy settings from:	Other C/C++	~
ок	Cancel 11	

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Command line:	%(MDKARM)\armasm.exe -o "%bd%n.o" "%f"via via\asm.via	
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OK	Cancel	Help Auto Folders Hp://amwox.blog.163.com/

Build 和 Rebuild 不变

Project Package for "Keil for Arm"	
Settings for: All Configurations	Configurations
Files Directories Tools Build Compile/Link Dependencies Open	
Pre Build Commands:	Stop on error:
<double add="" another="" click="" entry="" here="" to=""></double>	
Post Build Commands:	Stop on error:
%(MDKARM)(fromelf.exe132OUTPUT %RN_%b.hex %RN_%b.axf <double add="" another="" click="" entry="" here="" to=""></double>	
Build System	
Note: This option will be applied to all configurations.	
Build without a makefile (dependencies automatically checked)	
O Build with a user-maintained makefile or custom build command	
O Build with an auto-generated, auto-maintained makefile	
Makefile:	•
OK Cancel Help Auto Folders Hp://an	nwox.blog.163.com/

基本设定完毕。 根据 Project.uv2 添加相应的文件



这次添加进来的文件组织结构不理想, 改为目录显示方式



最终效果

Projects	ч х
D:\Temp\stm32radio\stm32radio_exam D led_simple.vpj I clock.c clock.c clock.c clock.c clock.c clock.c ide.c ipc.c <p< td=""><td></td></p<>	
📄 board.c	_
📄 board.h	
led.h	
📄 serial.c	~
	5

在工程目录下添加编译所需的文件 Scatter 和 via



via 中的文件指定了编译、链接行为, Scatter 中的文件指定了链接空间分配规则,可以在 KEIL 的编译输出文件夹中可以找到 类似的文件

via 文件中选项可以参考 KEIL 中编译信息,每个文件都有对应的信息,不知道的可以直接 Copy 相关的内容。

Preprocessor Symbols Define: STM32F10X_HD, USE_ST Undefine:	DPERIPH_DRIVER	
Language / Code Generation Optimization: Level 0 (-00) Optimize for Time Split Load and Store Multiple One ELF Section per Function	Strict <u>A</u> NSI C Enum <u>C</u> ontainer always int Elain Char is Signed Read-Only Position Independent <u>Read-Write Position Independent</u>	Warnings: Kunspecified> ▼ Thumb Mode
Include Paths\\STM32F10x_Libraries\ Misc Controlsdiag_suppress=870 diag_suppress=870 diag_suppress=870 diag_suppress=870 	CMSIS\CM3\DeviceSupport\ST\STM32F10x apcs=interwork -I\\STM32F10x_Libraries\Cf 2F10x -I\\rt-thread\include -	:X\rt-thread\include;\\ MSIS\CM3

好了现在可尝试编译

出现了错误:

```
------ Build Project: '0_led_simple.vpj' - 'Debug' ----- VSLICKERRORPATH="D:\Temp\stm32radio\
stm32radio_examples\examples\0_led_simple"
slock.c
"..\..\rt-thread\kernel\clock.c", line 21: Error: #5: cannot open source input file "rthw.h": No such file or direc
#include <rthw.h>
```

这是没有指定包含的路径,可以在 via 文件中用 -I 选项指定,也可以配置文件中指定。

ttings for: All Co	nfigurations	*	Configurations
es Directories	Tools Build Compile/Link Dependencies Open		
orking directory:			
ferences file:)
icludes:	C:\Keil\ARM\RV31\INC\ \\STM32F10x_Libraries\CMSIS\CM3\DeviceSupport\ST\STM32F10x \\rt-thread\include \\STM32F10x_Libraries\STM32F10x_StdPeriph_Driver\inc \\STM32F10x_Libraries\CMSIS\CM3\CoreSupport \\rt-thread\libcpu\arm\stm32		4
	<double add="" another="" click="" entry="" here="" to=""></double>		
/hen a project is a nclude directories : he References file upport.	<double add="" another="" click="" entry="" here="" to=""> ctivated, the current directory is set to Working directory. specifies the directories used to search for compile errors and include files. refers to a VC++ BSC file used for symbol reference features. Leave this b</double>	olank to use our t	puilt-in reference



stm32radio_examples\examples\0_led_simple" context_gcc.S	2		
"\\rt-thread\libcpu\arm\stm32\context_gcc.S", lin 1 00000000 /*	ne 1: Error:	A1167E: Invalid 1	ine start
"\\rt-thread\libcpu\arm\stm32\context_gcc.S", lis 2 00000000 * File : context_gcc.S	ne 2: Error:	A1159E: Label miss	ing from line start
"\\rt-thread\libcpu\arm\stm32\context_gcc.S", lin 3 00000000 * This file is part of RT-Thread RTO	ne 3: Error: S	A1159E: Label miss	ing from line start

这是在加入文件是加多了与当前配置无关的文件造成的。再次编译...OK!

 Total RO
 Size (Code + RO Data)
 28624 (27.95kB)

 Total RW
 Size (RW Data + ZI Data)
 3544 (3.46kB)

 Total ROM
 Size (Code + RO Data + RW Data)
 28740 (28.07kB)

```
Build successful
C:\KEIL\ARM\BIN40\fromelf.exe --i32 --OUTPUT 0_led_simple_Debug.hex_0_led_simple_Debug.axf 3_COU
```

现在面临一个问题是如何把生成的 HEX 文件下载 RADIO 板 🍪

从 KEIL 的帮助文件中找到这样的内容

Program Flash Example

You may program Flash memory using the following command line:

C:\Keil\UV4\UV4 -f Programming.UVPROJ -o Prg_Output.txt

Where

-f Programming.UVPROJ	specifies the project to program to flash.				
-o Prg_Output.txt	specifies the file to contain the flash program				
	Load "Flash\\Blinky.hex" Erase Done.				
	Programming Done. Verify OK.				
	Application running				

在工程属性中再加多一项

💕 Project	Package for	"Keil for Arm	-				×
Settings for:	All Configurations				8	Configurations)
Files Director	ries Tools Build	Compile/Link Deper	ndencies Oper	7			
<u>T</u> ool name:	*.s Link Build Rebuild Debug Execute				*	Advanced	
Command line:	C:\Keil\UV4\UV4 -f	i dl.UVPROJ					•
Run from dir:	%rw						·
Capture ou	utput	Menu caption:	E&xecute				
Output to b	build window	🛃 Build first					
Clear build	window	Command is	; Slick-C® macro)			
Save none		Verbose out	put				
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Check "Captur the output is c your code.	re output" to capture captured, you can use	and process the comm e the Next Error, Previ	iand's output wil ous Error, coi	:h SlickEdit's built-in mmands from the B	ו error message pr uild menu to help י	rocessing facility,W you identify and corr	hen rect
	Cancel		Auto Fr	lders			7

在 KEIL 中新建一个空的工程,不包含任何文件,指定 CPU,调试器(JLINK),配置与下载相关的选项,并指定输出的文件名与生成的 HEX 文件名相同"0_led_simple_Debug"(编译生成的 AXF、HEX 都是相同的文件名)

🛚 Options for Target 'Target 1'	×
Device Target Output Listing User C/C++ Asm Linker Debug Utilities	
Select Folder for Objects Name of Executable: O_led_simple_Debug	
Create Executable: .\0_led_simple_Debug Debug Information Create HEX File Browse Information	
C Create Library: .\0_led_simple_Debug.LIB	
OK Cancel Defaults OX.blog 16 Help)	m/

这样在执行 Execute 时可以将程序写入目标板??? 试试吧... 疑成功写入,RADIO 板上的灯在闪了 🥙

不知道同样的方法也可以进行调试?再试 🌮

Project	Propert	ies Fo	or D:\Te	np\stm3	2rad	io\st	a 32)	radio_	exampl	es\exam	ple	s\0	- 🗵
Settings for:	All Configurat	ions								~	C	onfigurat	ions
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<u>T</u> ool name:	*.s Link Build Rebuild Debug Executo	9										<u>N</u> ew Advan	
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成功启动 KEIL 进入调试模式,并定位在相应源代码中,不是汇编文件!激动啊 🎉

打开相应的文件,设置断点,全速执行,单步执行,全通过! 试用完毕!