

ATT7025/7027 Development Tool's User Manual

Version history

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Directory

1 Introduction	4
2 Features	4
3 Software and Related documentations	4
4 Overview	4
5 USB-Serial Port Device	5
6 Software Installation	5
7ATT702x driver and C compiler	8
8Creating a new project	11
9 Creating a new file	14
10 Building and Loading your program	18
11Debugging Suggestions.	19
12 C code debugging suggestions	20
13 ASM debugging suggestions	20

1 Introduction

MedWin is an Integrated Development Environment that combines project management, source code editing, and program debugging in one single, powerful environment. It provides a most convenient way for debugging the ATT702X products. This user manual explains the steps needed to use MedWin.

2 Features

Two breakpoints

Communication through USB-Serial Port device

Connect an extern power supply to ATT702X

3 Software and Related documentations

MedWinV3 software

ATT702X driver

USB to Serial driver

Medwin_manual. pdf

ATT702x development tool's user manual (downloaded from the ATT702x web site at www.hitrendtech.com)

4 Overview



5 USB-Serial Port Device



The red line represents pin 1, all the pins are configured as the chart below:

1	RX0	VCC	2
3	GND	/RST	4
5	TX0	TMS1	6
7	Undefined	Undefined	8
9	Undefined	Undefined	10



The switch should be turned to right, in other words the narrower side.

6 Software Installation

The file "MedwinV3 software and related documentations . rar" includes 3 folders described

as below: 1) the installation file of MedWinV3

2) ATT702x Driver

3) USB-Serial Driver

To install the MedWinV3 software for ATT702x:

(1)Double click "setup.exe" in "MedWinV3" folder. The setup program guides you through installation process. Follow the setup instructions on the screen. On completion of the setup program execution, the MedWinV3.0 program icons are created in the selected folder.

(2) Please copy all the files in "ATT702X_Driver" folder to the selected folder in process one (the folder user select to install MedWinV3).

(3) To install USB-Serial driver:

a) Connect the USB-Serial Port device to PC, there will be a "Found New Hardware" dialog on the screen, please select "No, not this time"

Found New Hardware Wizard				
	Welcome to the Found New Hardware Wizard Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission). Read our privacy policy			
	Can Windows connect to Windows Update to search for software? Yes, this time only Yes, now and every time I connect a device No, not this time			
	< <u>B</u> ack <u>N</u> ext > Cancel			

b)Follow the wizard to finish the installation process:

Found New Hardware Wizard
This wizard helps you install software for: Manley TPRP2-Protocol Controller If your hardware came with an installation CD or floppy disk, insert it now. What do you want the wizard to do? Install the software automatically (Recommended) Install from a list or specific location (Advanced) Click Next to continue.
<u><</u> <u>B</u> ack <u>N</u> ext > Cancel

	stallation options.
O Search for the best driver in these	locations.
Use the check boxes below to limit paths and removable media. The b	t or expand the default search, which includes local best driver found will be installed.
Search removable media (flo	oppy, CD-ROM)
Include this location in the s	earch:
D:\TPBP2	Browse
	< <u>B</u> ack <u>N</u> ext > Cancel
nd New Hardware Wizard lease wait while the wizard installs the soft	< Back
nd New Hardware Wizard lease wait while the wizard installs the soft Manley TPRP2-Protocol Controller	< Back

passed Windows Logo testing.

Continue Anyway

STOP Installation

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c)If you install this driver at the first time, maybe the operation system will remind you to install the driver again.

7ATT702x driver and C compiler

ver Manager	
■ Insight ME-52HU Family Emulator ■ 80C51 Simlator Driver	<u>S</u> elect
ChipICE JEW79E201 Emulator Driver ChipICE JEW79E825 Emulator Driver	Add
ChipICE JEW79E834 Emulator Driver ChipICE JEW79E659 Emulator Driver ChipICE JEW79E659 Emulator Driver ChipICE JEW79E649 Emulator Driver	Remove
ChipICE JEW681308 Emulator Driver	
	<u>о</u> к
	<u>C</u> ancel

(1) Add ATT702x driver to MedWinV3: "Settings" "Driver Manager"



Driver Manager	×
■ Insight ME-52HU Family Emulator ■ 80C51 Simlator Driver	<u>Select</u>
ChipICE JEW79E201 Emulator Driver ChipICE JEW79E825 Emulator Driver ChipICE JEW79E834 Emulator Driver ChipICE JEW79E834 Emulator Driver	Add
ChipICE JEW79E659 Emulator Driver ChipICE JEW79E218 Emulator Driver ChipICE JEW681308 Emulator Driver	<u>R</u> emove
Add Driver	? 🛛
Look jn: C MedWinV3	
File <u>n</u> ame: Files of <u>type:</u> Driver Files(*,inf)	Cancel
Driver Manager	
Insight ME-52HU Family Emulator 80C51 Simlator Driver	Select
ChipICE JEW79E201 Emulator Driver ChipICE JEW79E825 Emulator Driver ChipICE JEW79E834 Emulator Driver	Add
ChipICE JEW79E659 Emulator Driver ChipICE JEW79E218 Emulator Driver ChipICE JEW681308 Emulator Driver ChipICE ATT702X Emulator Driver	<u>R</u> emove
 Copyright(c)2000-2007 Manley Electronics Co., LtJ. ATT702X.dll Ver.1.00.00 ATT702X.lib Ver.3.00.00 	
HCU List	<u>O</u> K
K	<u>C</u> ancel

Please select "ChipICE ATT702X Emulator Driver" and click the button "OK". According to the crystal on target board, user should select the clock of development tool.

Set	tings <u>T</u> ools <u>W</u> indow	
ď	Emulator	
■ 1%	Working Director	
\$	<u>C</u> ompiler Tools	
	Communication	
D	Driver <u>M</u> anager	
-	Environment	
đ	Options	
	Diagnose	
Em c1	ulator Setting .ock 5.5296MHz *	∑
E	<u>O</u> k Insert debugging co	<u>Cancel</u> de

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If all the operations are correct, the status will be shown at the bottom of MedWinV3:

Emulator: ATT702X 😑 Monitor / USB 🥌 5.5296MHz

If there are some problems, the status shown at the bottom of MedWinV3 will like this: Funktur: 4TT7022 Unit r / 158 = 5.5295//Hz

(2)Add C compiler to MedWinV3: "Settings" "Compiler Tools"



If user select Keil company 's compiler, you should set path to folder that Keil was installed before. (You must ensure that you have installed Keil software in your PC)

Compiler Tools		
Translate setting O Default Asse O Path User de	s emble and linker efined	
Tools	C:\Keil\C51	Select
O Executable f	îles and path user defined	
C compiler		Brows
Assembler		Brows
Linker		Brows
INC path		Brows
LIB path		Brows
	<u>Q</u> K <u>C</u> ancel	

8Creating a new project



New Project-Step1		×
	Device Driver Select Driver ChipICE ATT702X Emulator Driver	
	Cancel < <back next="">> Einish</back>	
New Project-Step2	Project Select compiler output format according to specified compiler in project wizad: OMF format.(Maniley A51/L51,Keil C51/A51/BL51)) OUBROF format.(IAR C8051)	~
		_

(3) In the project Name field, type the project name. In the location field, type or browse to the folder you created.



New Project-Step3			
TIME CALLOR A A A A A A A A A A A A A A A A A A A	Projec <u>N</u> ame Alias Path Include Path Description	F:WVorkDir F:WVorkDir Cancel	Browse
	L	Canter Seark Mexico	Emist

(4) Recommended Optimizations setting is "<default>"

New Project-Step4		K
New Project-Step4	Target Asm C Link Output Code Compile ctrl Include path Define Undefine Misc NOAREGS Optimizations Level <default> Options <default> Embedded assemble</default></default>	3
0	Embedded assemble SRC Command line DB OE Cancel < <back next="">> Einish</back>	

(5) You can add the source files, library files or head files that have been created before in this dialog. If you don't want to add any file, please click Next.



New Project-Step5					
	Source Files Header Files	Library Files (Language	Comp	Add Import Delete
		ancel	<< <u>B</u> ack	Next>>	Move Up Move Down <u>E</u> inish
6) Click Finish. MedWinV	3 creates a project fil	e.			
New Project-Step6	Project description -				
	Compiler Ti Project Nan Project Path Project Inclu Proejct Des Source File Library Files Output Files Output Files Fi	ool Format: Inter C ne: first : F:WorkDinf s: first ude Path: cribe: s: s: s: s: wWorkDinfirst\Deb WVorkDinfirst\Deb	DMF irst ug\first.m51 but\first.hex		
	<u> </u>	ancel	<< <u>B</u> ack	Next>>	<u><u> </u></u>

9 Creating a new file

(1) "Project" "New File"



(2)Type the file name in the file name field and choose the file type you want to create.

New file wiza	ard-1	×
New file -		
	File name mytttt asm	
	File type Assemble language C language 	
Description	n	
	The steps to create a new assembler file of wizard are as follows: 1. Select 'create assembler program', enter a new name into field of file name. The name should not contain '-","?","*" and ".". The system default extension of a assembler file is .ASM. Following rules are recommended: a. Use "A" ~ "Z" or "_" as first character of a name; b. Don't use a too long name;	
	<u>C</u> ancel < <u>B</u> ack <u>N</u> ext <u>F</u> inish)

(3)If a C language file will be created, the wizard will guide user as below:

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HiTrendteck	ATT7025/7027	Devel	opment	Tool's	User	Manual
ew file wiza	ırd-2					
INT0 Time	er0 INT1 Timer1 Ser	rial				
Generatio	n					
	Initinitialization		() Low	priority		
	Interrunt routing		High	priority		
	Register bank default			Contraction of		
	and group warm addition					
Trigger –	(a) Law Joyal					
	O E W					
	🖵 Falling edge					
	<u>C</u> an	cel	< <u>B</u> ack	Next		<u>F</u> inish
ew file wiza	ard-3					
Options -		2.7				
	lude SFR define file	Cro	iose SFR fi	les RE351.	Н	~
Ma Ma	ike head file					
Head file						
L ST	DIO.H					
	DI IB H					
	ISACC.H					
	TRINS.H					
ST	DARG.H					
SE SE	TJMP.H					
SE	TJMP.H					

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< <u>B</u>ack

Next

<u>F</u>inish

<u>C</u>ancel



New file wize	ar d-4	X
Declare -	MYTTTT	
	Generate main0	
	<u>Eunction</u> <u>Variable</u> <u>D</u> elete <u>M</u> odify	
	<u>Cancel < B</u> ack Next <u>F</u> inish	

Preview	File: MYTTTT.c #define _MYTTTT_C_ #include "reg51.h" #include "mytttt.h"	1
	File: MYTTTT.h	
	/ #ifndefMYTTTT_H_ #defineMYTTTT_H_ /*/	
	***/	

(4) Click finish and you will see the new file in Files Manager.





(5) If the status at the bottom of MedWinV3 is the same as the picture below, user can debug the file he or she created.

Emulator ATT702X 🛛 🕙 Monitor / UCD 👘 📑 5 5296Mi z

10 Building and Loading your program

(1)When you have created a functional program, you can build it. Use the "Project" "Rebuild all" the first time you build the project. An output window will show the build process and status. When the build is finished, the output window will display "<Compiler> C51 COMPILATION COMPLETE. 0 WARNING(S), 0 ERROR(S)"

■■ 🕸 🖽 🖩

(2) If you want to debug your program, you can use the "Project" "Make and Download".

(3)The program in debugging mode will be like the picture below: 01 #define _MYTTT_C_ 02 #include "reg51.h" 03 #include "myttt.h" 04 05

06 unsigned char a, b, c; 07 main() 08 2 🖻 { 09/ a = 1; b = 2; 10 . 11 12 c = 3; ٠ }

(4)If program is in debugging mode, the development tools inserts some debugging codes to corresponding hex files in output files. If user has finished debugging the program and want to create original hex file, please use "Settings" "Emulator". The check box "Insert debugging code" decides whether to insert some codes for debugging to hex file.

Set	ttings <u>T</u> ools <u>W</u> indow					
ď	Emulator					
∎ _L	Working <u>D</u> irector					
황	<u>C</u> ompiler Tools					
	Comm <u>u</u> n cation					
D	Driver <u>M</u> anager					
	Environment					
æ	Options					
	Diagnose					
En	ulator Settin	g		×		
C1	ock 5.5296MHz 🗸					
		acer				
E	Insert debugging code					
(5)Y	ou can download your pro	gram to ta	rget board dir	ectly by	y using "memory"	"Download".
Me	mory <u>B</u> reak					
	Download					
	Config					
Pro	gram flash		X			
Fil						
	Download file according to postfix, suppo	rt Intel HEX. BIN	and Intel OMF form			
Op	tions					
	Mass erase before programming		Program/Verify			
	veniying and Encrypting		Elase			
O;	ssage sen downloaded file to data buffersuccee	• •				
			<u>C</u> lose			

11Debugging Suggestions

(1)There are some restrictions when user is debugging the program.

1)Serial Port 0 and Time 2 can't be configured. User can't disable EA and Serial Port 0 interrupt. Watch Dog needs to be disabled.

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2)The system must be 5.5296MHz or 11.0592MHz.

3)The SFR window in MedWinV3 can't display written-protect registers correctly. User can get real values through indirect ways.

4)32K flash can only be configured as code flash and user can't program from 7C00H to 8000H.

5)When user is debugging the program, MCU always execute at high frequency mode.

6)Two breakpoints can't be set adjacently.

7)If user has finished executing "memory" "download" "Program/Verify", please don't close the "Program flash" window at once. You should remove USB-Serial Port at first otherwise the program download before will be erased.

12 C code debugging suggestions

It is not recommended to set the breakpoint at the end of subroutine or interrupt routine.

13 ASM debugging suggestions

Program execution may stop on wrong address when the following situations happen at the same time.

(1)User sets breakpoints at the end of subroutine or interrupt routine.

(2) The instruction under break address is the entrance address of a function.

(3) The PC is under the break address and user execute "RUN".

The picture below is a example:

13		
14 •	INC	A
15 🐴	INC	A
16 • 🗹 🖻 CCC:	INC	A
17 •	INC	A
18 •	INC	A
19 •	NOP	
20 •	NOP	
21 •	NOP	
22 •	NOP	
23 🕰	NOP	
24 •	NOP	
25 •	NOP	
26 •	NOP	
27 •	AJMP	CCC