

---

# **Compact Programmer for QzROM MCU User's Manual**

Rev 1.0  
Revision date: April, 15, 2008

---

# Table of Contents

<b>Table of Contents</b> .....	ii
<b>Chapter 1. Compact Programmer Concept</b> .....	4
1.1 Overview .....	4
1.2 System Requirements .....	4
1.3 Operating Environment .....	4
<b>Chapter 2. Hardware Description</b> .....	5
2.1 Block Diagram .....	5
2.2 Components and Interface .....	5
2.3 Power Supply .....	5
2.4 Switches .....	6
2.5 Jumper .....	6
2.6 LEDs .....	7
2.7 Target Connector .....	7
<b>Chapter 3. Hardware Usage</b> .....	8
3.1 System Connection .....	8
3.2 Load Program Data .....	8
3.3 Program QzROM MCU .....	8
<b>Chapter 4. Software Installation</b> .....	10
4.1 Install the PC Software .....	10
4.2 Install USB Bus Driver .....	13
4.3 Continue to Install USB to UART Controller Driver .....	14
<b>Chapter 5. Software Description</b> .....	16
5.1 Main Window .....	16
5.2 Menu Bar Structure .....	16
5.3 Tool Bar Structure .....	17
5.4 Data Area .....	18
<b>Chapter 6. Software Usage</b> .....	19
6.1 Open .....	19
6.2 Save/Save As .....	19
6.3 Exit .....	19
6.4 Clear RAM .....	19
6.5 Erase Ext-Dataflash .....	19
6.6 Target Select .....	19
6.7 Upload .....	20
6.8 Blank Check .....	21
6.9 Download .....	21
6.10 Bit Verify .....	22
6.11 Check Sum .....	23

---

6.12 Protect.....	24
6.13 Help Topics .....	25
Appendix1: Q/A .....	26
Appendix2: Used pins for QzROM programming with compact programmer.....	27

# Chapter 1. Compact Programmer Concept

## 1.1 Overview

The Compact Programmer can be used for QzROM MCU programming. It can support QzROM MCU on-board and off-board programming at on-line mode or off-line mode.

## 1.2 System Requirements

In addition to the products listed below, prepare them before you use.

- (1) Host computer
- (2) CP board
- (3) USB cable
- (4) AC adapter
- (5) MCU socket board

## 1.3 Operating Environment

Host computer operating environment is shown below:

<b>Host Computer</b>	<b>IBM PC/AT compatible machine with USB</b>
<b>OS</b>	<b>Microsoft Windows 98SE/2000/XP</b>
<b>CPU</b>	<b>Pentium III 600MHz or newer</b>
<b>Memory</b>	<b>128MB or above</b>

# Chapter 2. Hardware Description

## 2.1 Block Diagram

Figure 2-1 is the representative connections from PC to user target board

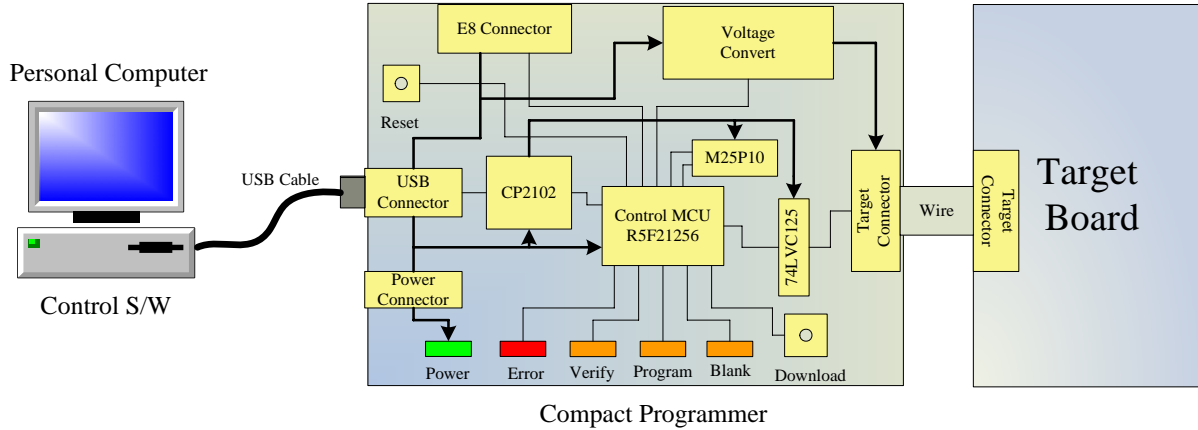


Figure 2-1 Connections Block Diagram

## 2.2 Components and Interface

The Figure 2-2 is representative of the Compact Programmer components layout and interface.

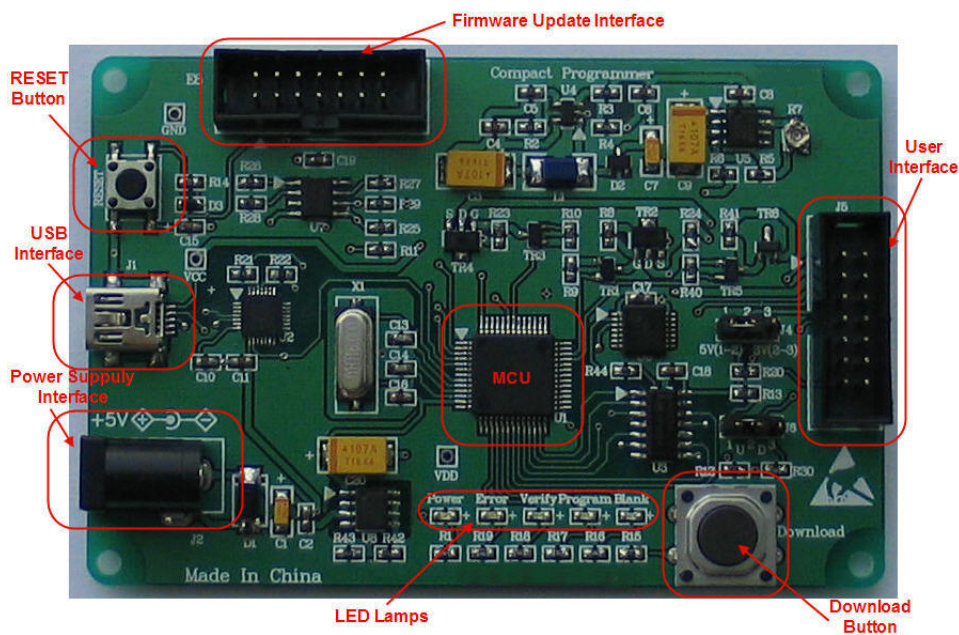


Figure 2-2 Components and Interface

## 2.3 Power Supply

- Requirements

This Compact Programmer operates from a 5V power supply. A diode provides reverse polarity protection only if a current limiting power supply is used. When operates the Compact Programmer by PC, the power can be supplied by PC through USB cable.

The Compact Programmer has a centre positive supply connector using a 2.1mm barrel power jack, through it, an adapter (220V AC – 5V DC) can be used to supply the Compact Programmer.

**Warning**

**The Compact Programmer is neither under nor over voltage protected. Use a centre positive supply for it.**

- Power On Behaviour

The Compact Programmer has pre-programmed the monitor program into the control MCU (R5F21256/58). As soon as powering on it, the user LED will light for a while and then off.

- Power Option

The Compact Programmer can supply 3V or 5V power for target board by one jumper (refer to 3.4).

## 2.4 Switches

There are two switches located on the Compact Programmer. The function of each switch is shown in Table 2-1.

Switch	Function
RESET	When pressed, the control MCU on the Compact Programmer is reset.
Download	When pressed, the compact programmer will execute the following operation: 1) Check if target MCU is blank (data=0xFF), otherwise change another blank MCU; 2) Program the specified memory contents of control MCU into the target MCU; 3) Read the contents of the target MCU memory and compare with the specified memory of control MCU to verify if keep consistently.

**Table 2-1 Switch Functions**

**Note: The “Download” switch is invalid when compact programmer connected to PC.**

## 2.5 Jumper

There are two jumpers located on the Compact Programmer. The connection of each jumper is shown in Table 2-2.

MCU	Jumper	Connection	Action
M34283	J4	2---3	Compact Programmer supply 3V DC for target board programming
	J6	2---3	SDA data line select pull-down resistor (1K)
M34508/09, M34559/455A, R5G0C22, R5G0C24,	J4	1---2	Compact Programmer supply 5V DC for target board programming
	J6	1---2	SDA data line select pull-up resistor (4.7K)
M37544/45, M37546/47, M37548/49, M3850A/58, M38D2/D5, M3823/03H,	J4	1---2	Compact Programmer supply 5V DC for target board programming

R5G0C30, R5G0C31, R5G0C32, R5G0C33, R5G0C34, R5G0C40, R5G0C41, R5G0C50, R5G0C51, R5G0C52	J6	1---2	SDA data line select pull-up resistor (4.7K)
--	----	-------	--

Table 2-2 Jumper Connections

## 2.6 LEDs

There are five LEDs on the Compact Programmer. Table 2-3 below, describes the LED status and functions.

Operation		LED Status	Description	
Power On		"Power" on	When power on the Compact Programmer, LED "Power" on	
Program	Normal	"Program" blink, "Verify" blink "Blank" blink	LED "Program" and "Verify" blinking while downloading, if download successfully, "Program" and "Verify" on for 5s, and then off; LED "Blank" blinking while execute blank check operation.	
		Error	"Error" on	On-line: If communication error happens, LED "Error" on; Off-line: If the serial Flash is blank, LED "Error" on.
			"Blank" on, "Error" on	If the MCU is not blank, LED "Blank" on and "Error" on;
	"Program" on, "Error" on		If program error happens, LED "Program" and "Error" on;	
	"Verify" on, "Error" on		If bit verify error happens, LED "Verify" and "Error" on.	
		All of LED on (off-line)	The QzROM MCU is protected or block protection, no target.	

Table 2-3 LED Status and Functions Description

## 2.7 Target Connector

Figure 2-3 below shows the target connector pin assignment.

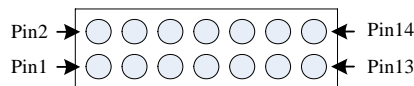


Figure 2-3: Pin Assignment

About used pins for QzROM programming with compact programmer, please refer to Appendix 2.

# Chapter 3. Hardware Usage

## 3.1 System Connection

Connect PC and Compact Programmer with USB cable (refer to Figure 3-1), the PC control software will display connection success message if PC find the Compact Programmer, otherwise disconnect the cable and connect again. About the usage of PC control software, please refer to the manual of Compact Programmer Software.

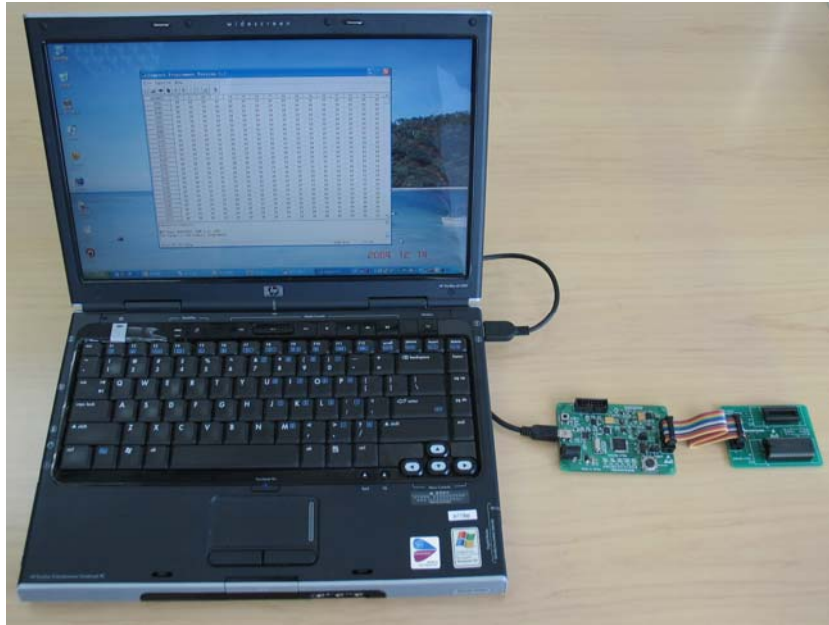


Figure 3-1 System Connections

## 3.2 Load Program Data

Load the data to be written into target MCU and download them to the Serial Flash external. You may also program QzROM MCU by PC control software directly, please refer to the software part of this manual for detail.

## 3.3 Program QzROM MCU

- Disconnect PC and Compact Programmer, connect Compact Programmer and target board (refer to Figure 3-2);
- Power on the Compact Programmer, if system starts up normally, all of user LEDs will light on for 5s and then off;
- Push the "Download" switch, the monitor program will execute "Blank Check", "Program" and "Bit Verify" operation orderly, if there are not errors, corresponding LED will blink, and the Program and Verify LED will light on for 1s after program ends. About the LED's status explanation and program error information, please refer to part 5
- Change another user board and repeat (3);





Figure 3-2 Compact Programmer Connection

# Chapter 4. Software Installation

## 4.1 Install the PC Software

- Step 1: Run "setup.exe" from CD-ROM or operate according to screen indication when the installation CD automatically runs. Click **Next** to continue installation Compact Programmer Version 1.6.

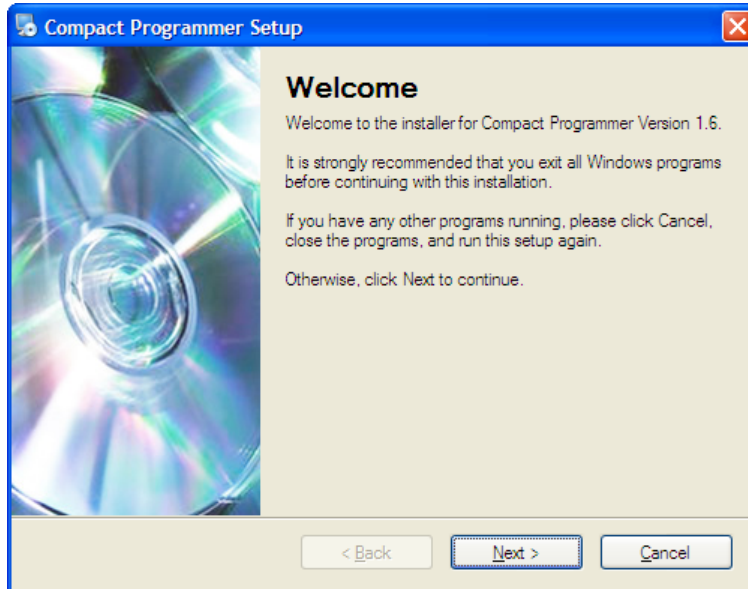


Figure 4-1: Compact Programmer Installation Window

- Step 2: Click Change to modify path of the application program, then click **Next** to continue install.

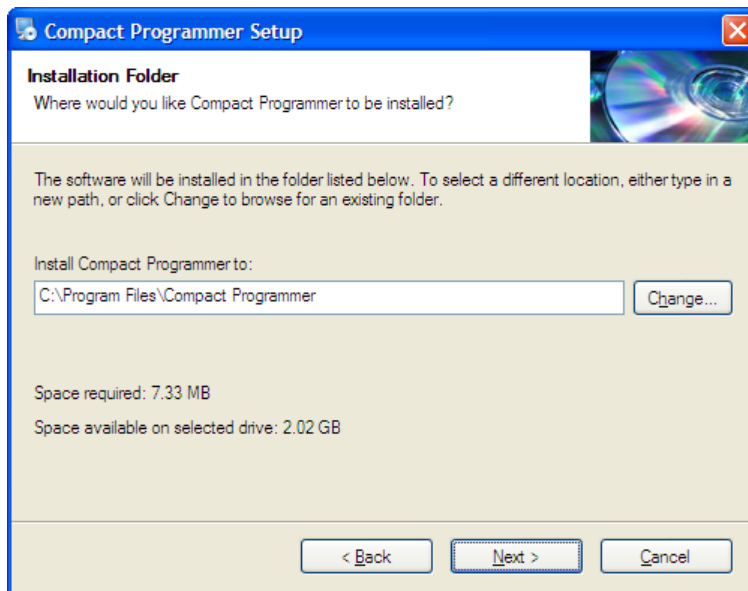


Figure 4-2: Select Install Path

- Step 3: Select shortcut folder location.

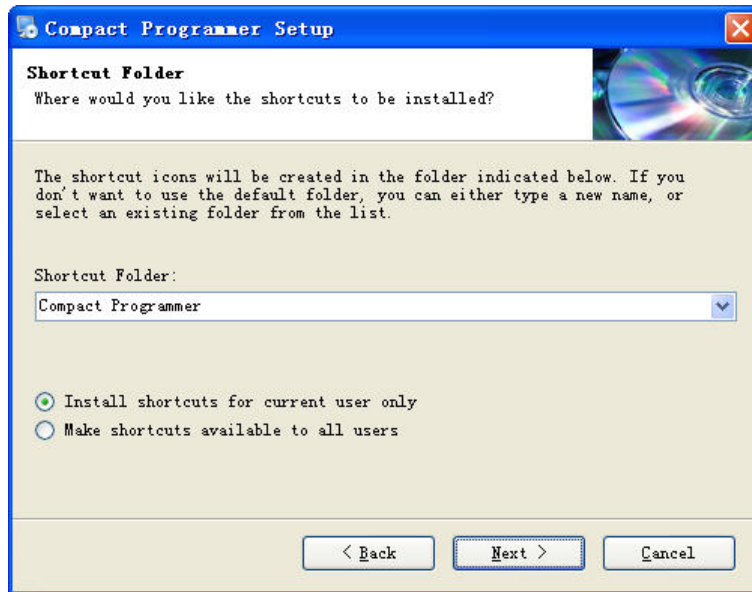


Figure 4-3: Modify the Start Menu Item

- Step 4: Confirm the installation information, click **Next** to start copy files.

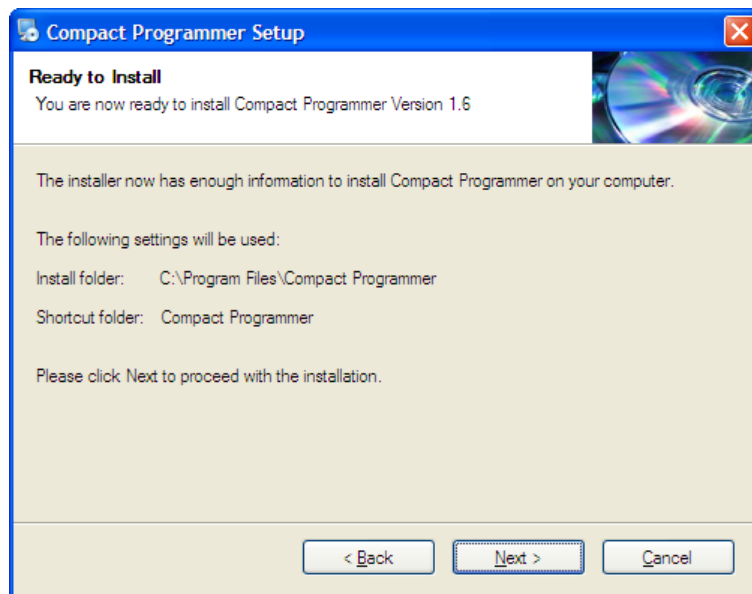


Figure 4-4: Copy Files to Your PC

- Step 5: Copy files.

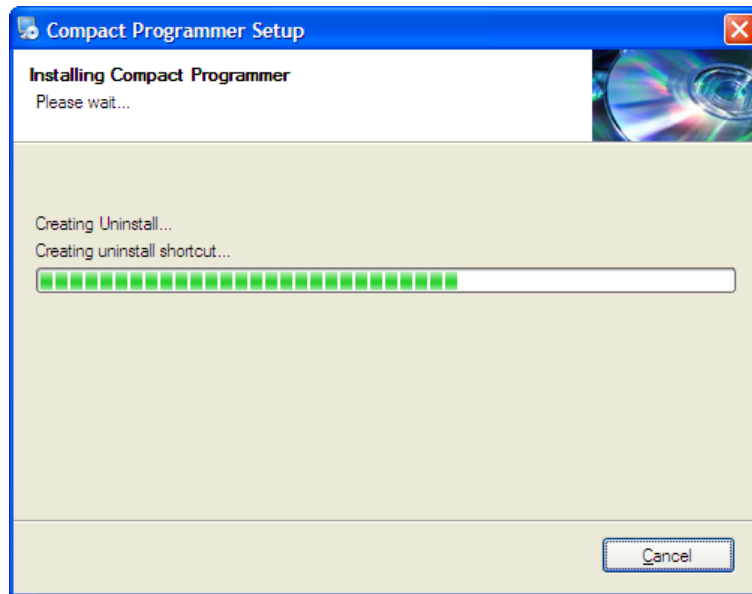


Figure 4-5: Installation Completed

- Step 6: Click **Finish** to complete Installation.

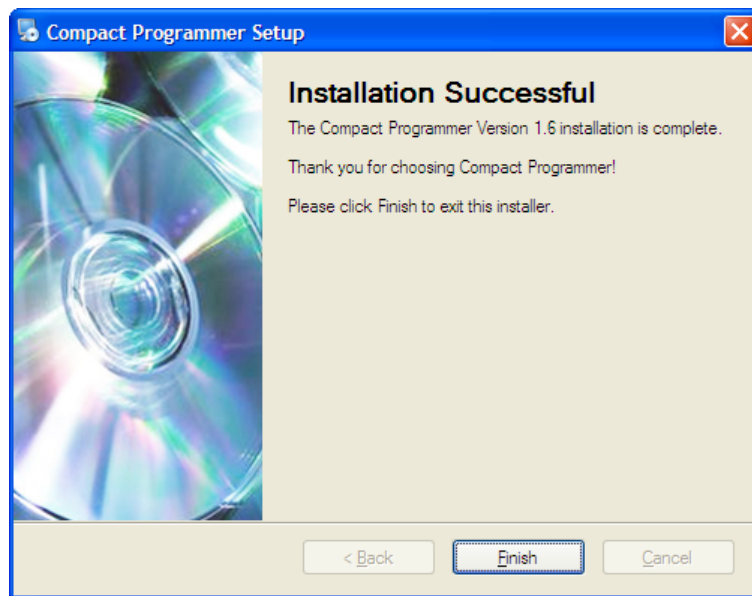


Figure 4-6: Installation Completed

## 4.2 Install USB Bus Driver

The new hardware will be installed automatically at the first time to connect the CP to PC.

- Step 1: Select install from a list or special location then click **Next**.

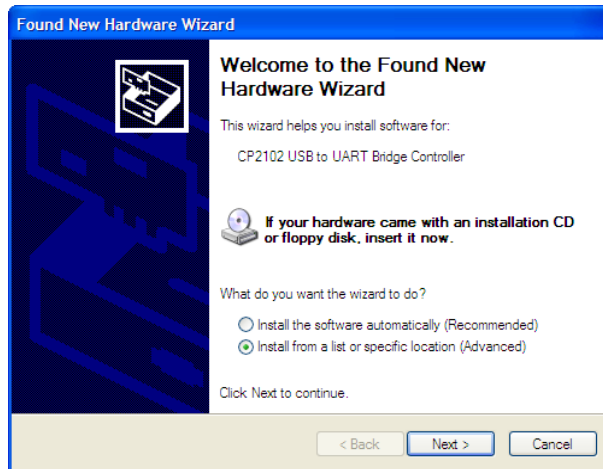


Figure 4-7: Install the Driver of USB Bus

- Step 2: Click **Browse** and select "**C:\windows\system32\drivers**" (depend on the OS), then click **Next**.

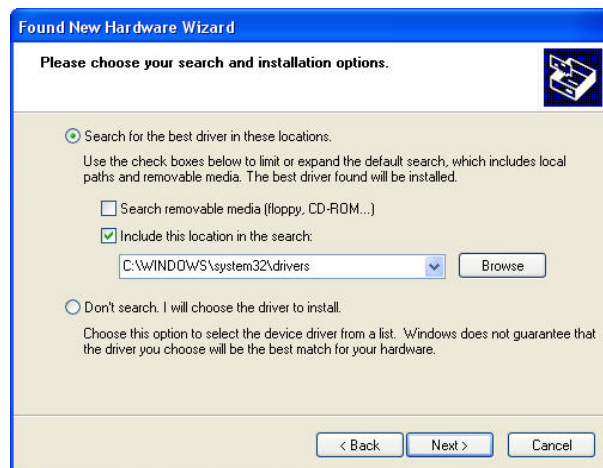


Figure 4-8: Designated the Drivers Path

- Step 3: OS will install the USB bus driver to your computer. Click the button of **Continue Anyway**

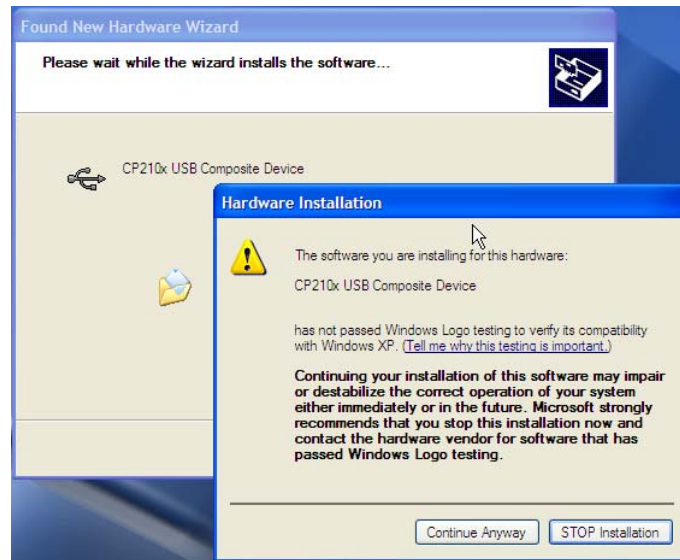


Figure 4-9: Install USB Bus Driver

- Step 4: The USB bus driver has been installed to your computer. Click **Finish**.

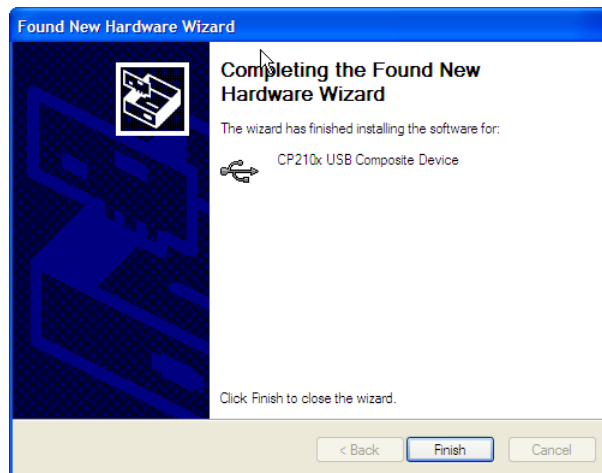


Figure 4-11: The USB Bus Driver has been Installed.

### 4.3 Continue to Install USB to UART Controller Driver

After above, the OS will prompt you to install the driver of the USB to UART controller.

- Step 5: Select install from a list or special location then click **Next**.

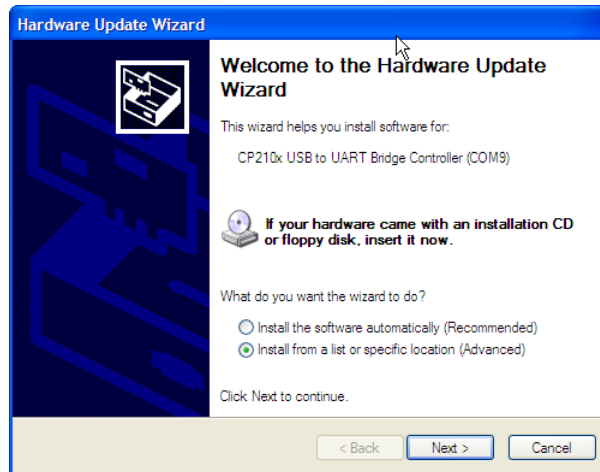


Figure 4-12: Install the USB to UART Controller Driver

- Step 6: Click **Browse** and select "**C:\windows\system32\drivers**" (depend on the OS), then click **Next**.

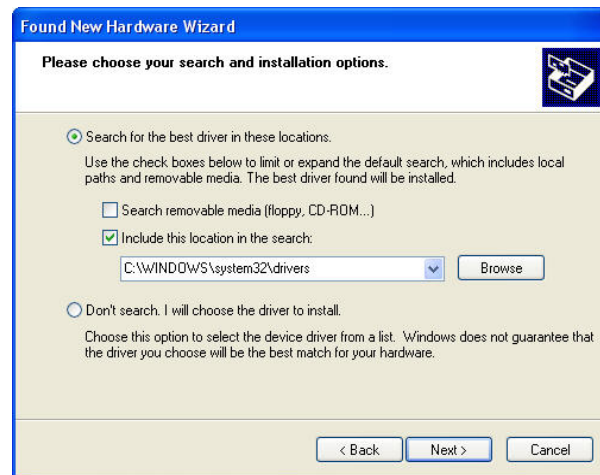


Figure 4-13: Designated the Drivers Path

- Step 7: The driver of the USB to UART controller has been install to your PC. Click **Finish**.

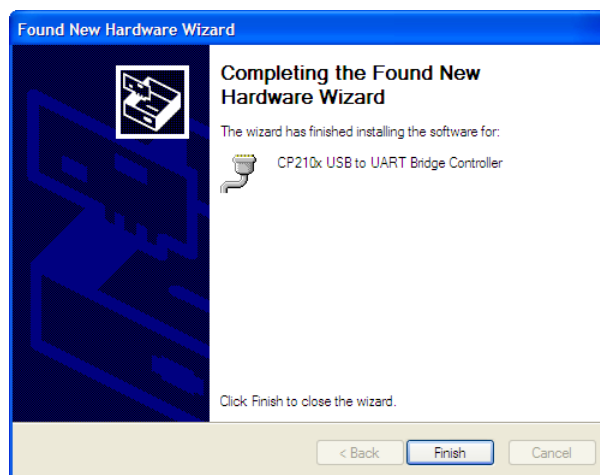


Figure 4-14: The Driver of the USB to UART Controller has been Installed.



# Chapter 5. Software Description

## 5.1 Main Window

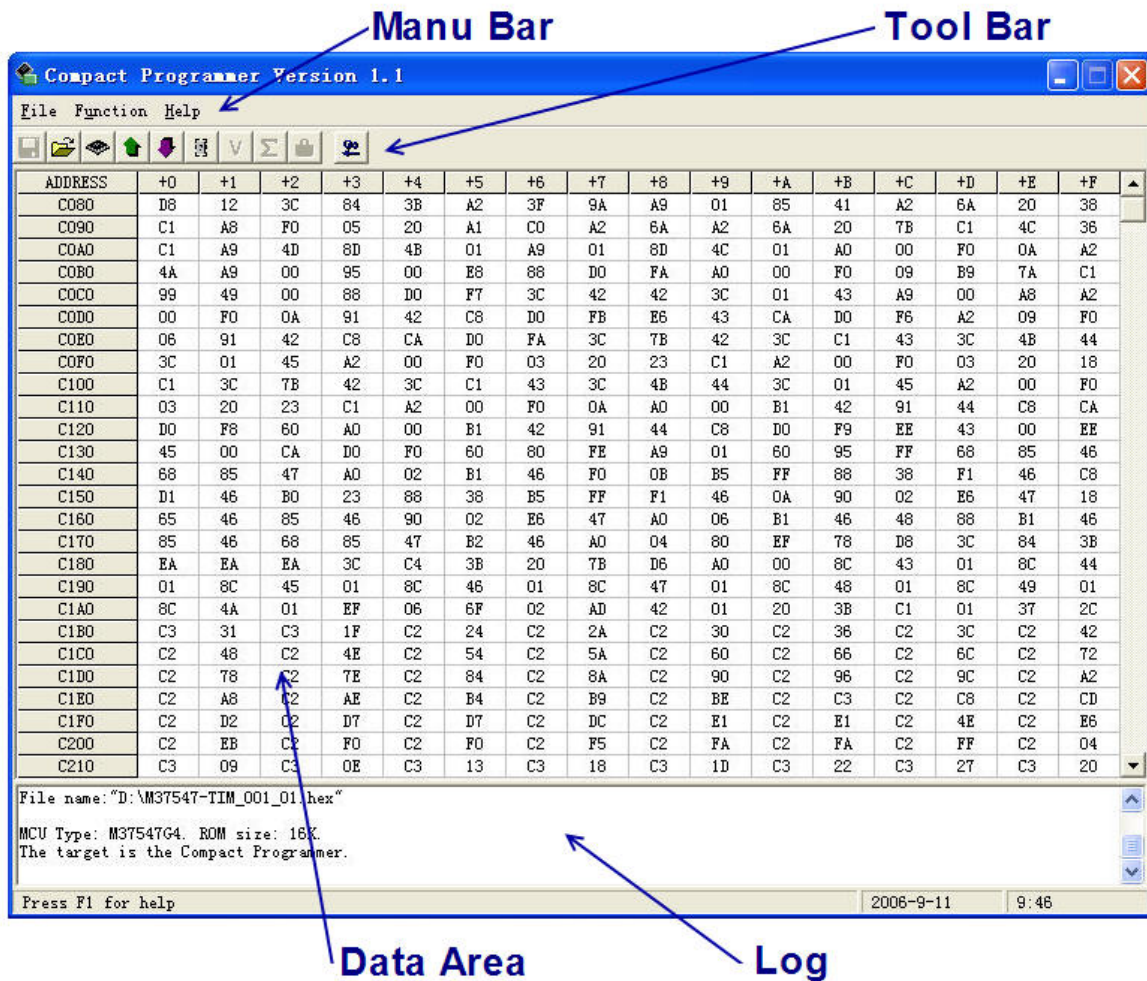


Figure 5-1: Main Window

## 5.2 Menu Bar Structure

There are three menus of menu bar. The detail functions of the menus refer to the Chapter 6 description.

**File Function Help**

Figure 5-2: Menu Bar

- File: This menu contains of "Open...", "Save", "Save As..." and "Exit".

Note: Disable some menus operations in the menu bar, when those operations are forbid.

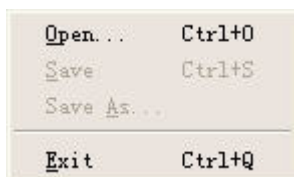


Figure 5-3: File Menu



- Function: This menu contains of "Clear RAM", "Goto Address...", "Target Select...", "Upload...", "Download", "Blank Check", "Bit Verify", "Check Sum" and "Protect".

Note: Disable some menus operations in the menu bar, when those operations are forbid.



Figure 5-4: Function Menu

- Help: This menu contains of "Help Topics" and "About Compact Programmer".

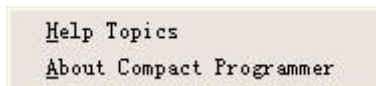


Figure 5-5: Help Menu

## 5.3 Tool Bar Structure

There are nine buttons of tool bar. The detail functions of the buttons refer to the Chapter 6 description.

Note: Disable some operations in the tool bar, when those operations are forbid.

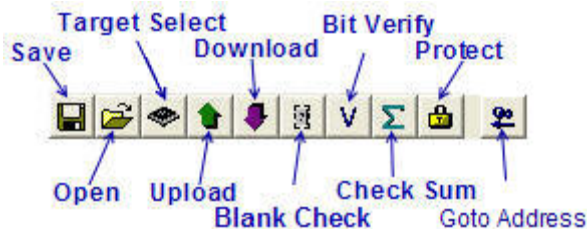


Figure 5-6: Tool Bar

- Save: Save read data in a file. The compact Programmer for M34283 (4bits MCU) only support ".hex" file format. If Select an invalid file the program will jump a warning window with doing nothing.
- Open: Open a ".hex" file in the RAM. The compact Programmer only support ".hex" file format for M34283. If open an invalid file the program will jump a warning window with doing nothing. If there is an active file, the download button is set enabled.
- Target Select: The target MCU or CP can be selected as download operation target. If target MCU is invalid, the target can only be CP. Protect operation is enable only when target MCU is selected.
- Upload: Upload data from target MCU. When click this button, the software will prompt enter start address, end address and data length. After that click OK to upload data from target MCU.

Note: No matter the target select which one of CP/Target MCU, Compact Programmer only read data from target MCU for security of source codes. And when the target MCU is protected, the upload operation will fail and the software will pop up a message window to show the error type.

- Blank Check: Before program a target MCU, Blank check should be operated for avoid program error. The result of blank check will show in the message window.
- Download: Click this button, the active data in RAM will download to recent target.
- Bit Verify: After data download, select Bit Verify to compare the data in the target and in the RAM bit by bit. The result will show in the message window.
- Check Sum: After data download, select Check Sum to compare the Sum of download data in the target and the sum of the PC RAM. The result will show in the message window.
- Protect: If the target MCU is selected, the protect operation is set enabled. Click the protect button to protect the target MCU. The operation result will show in the message window.
- Goto Address: Click this button, Data Area will refresh display from a designated address.


## 5.4 Data Area

ADDRESS	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
C080	D8	12	3C	84	3B	A2	3F	9A	A9	01	85	41	A2	6A	20	38
C090	C1	A8	80	05	20	A1	C0	A2	6A	A2	6A	20	7B	C1	4C	36
C0A0	C1	A9	4D	8D	4B	01	A9	01	8D	4C	01	A0	00	F0	0A	A2
C0B0	4A	A9	00	95	00	E8	88	D0	FA	A0	00	F0	09	B9	7A	C1
C0C0	99	49	00	88	D0	F7	3C	42	42	3C	01	43	A9	00	A8	A2
C0D0	00	80	0A	91	42	C8	D0	FB	E6	43	CA	D0	F6	A2	09	F0
C0E0	06	91	42	C8	CA	D0	FA	3C	7B	42	3C	C1	43	3C	4B	44
C0F0	3C	01	45	A2	00	F0	03	20	23	C1	A2	00	F0	03	20	18
C100	C1	3C	7B	42	3C	C1	43	3C	4B	44	3C	01	45	A2	00	F0
C110	08	20	23	C1	A2	00	F0	08	A0	00	B1	42	91	44	C8	CA
C120	D0	F8	60	A0	00	B1	42	01	44	C8	D0	F9	EE	43	00	EE
C130	45	00	CA	D0	F0	60	80	FE	A9	01	60	95	FF	68	85	46
C140	68	85	47	A0	02	B1	46	F0	0B	B5	FF	88	38	F1	46	C8
C150	D1	46	B0	23	88	38	B5	FF	F1	46	0A	90	02	E6	47	18
C160	65	46	85	46	90	02	E6	47	A0	06	B1	46	48	88	B1	46
C170	85	46	88	85	47	B2	46	A0	04	80	EF	78	D8	3C	84	3B
C180	EA	EA	EA	3C	C4	3B	20	7B	D6	A0	00	8C	43	01	8C	44
C190	01	8C	45	01	8C	46	01	8C	47	01	8C	48	01	8C	49	01
C1A0	8C	4A	01	EF	06	6F	02	AD	42	01	20	3B	C1	01	37	2C
C1B0	C3	31	C3	1F	C2	24	C2	2A	C2	30	C2	36	C2	3C	C2	42
C1C0	C2	48	C2	4E	C2	54	C2	5A	C2	60	C2	66	C2	6C	C2	72
C1D0	C2	78	C2	7E	C2	84	C2	8A	C2	90	C2	96	C2	9C	C2	A2
C1E0	C2	A8	C2	AE	C2	B4	C2	B9	C2	BE	C2	C3	C2	C8	C2	CD
C1F0	C2	D2	C2	D7	C2	D7	C2	DC	C2	E1	C2	E1	C2	4E	C2	E6
C200	C2	EB	C2	F0	C2	F0	C2	F5	C2	FA	C2	FA	C2	FF	C2	04
C210	C3	09	C3	0E	C3	13	C3	18	C3	1D	C3	22	C3	27	C3	20


Figure 5-7: Data Area

# Chapter 6. Software Usage

## 6.1 Open

Click File -> Open..., use shortcut key "Ctrl+O" or click open button  directly, select a Hex file and click open, the data of the file will display in the data area.

## 6.2 Save/Save As

Click File -> Save/Save As..., use shortcut key "Ctrl+S" or click save button  directly, enter the file name and click OK to save data in a file. The save operation can be used only after a successful read operation.

## 6.3 Exit

Click File -> Exit, use shortcut key "Ctrl+Q" or click save button directly to quit the Compact Programmer application program.


## 6.4 Clear RAM

Click Function -> Clear RAM to clear the data in the PC RAM. The data area of the main window also is cleared. If the read or write operation generate some error, use this function can eliminate the effect of error operation.

## 6.5 Erase Ext-Dataflash

Click Function -> Erase Ext-Dataflash to clear the data of the CP. This operation will erase the content of the serial flash. The download program will lose!

## 6.6 Target Select

Click Function -> Target Select or click Target Select button  directly to choice the download target. The program will prompt select target in the select target window (refer to Figure 6-1).

- Select Compact Programmer: The data of download file will download to CP. We can download to target QzROM MCU through press the download button on the CP without PC support.
- Select Target MCU: The data of download file will write to the QzROM MCU directly.



Figure 6-1: Target Select

## 6.7 Upload

Click Function -> Upload or click upload button  directly to do upload operation.

Note: No matter the target select which one of CP/Target MCU, Compact Programmer only read data from target MCU for security of source codes. And when the target MCU is protected, the upload operation will fail and the software will pop up a message window to show the error type.

- Step 1: Click upload the software will prompt enter start address, end address and data length (refer to Figure 6-2). Enter two items of the start address, end address and data length to upload designate QzROM area. Use default value read all QzROM area of target MCU.

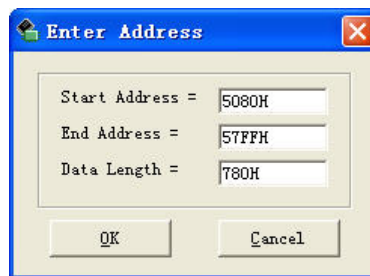


Figure 6-2: Enter Address

- Step 2: Click OK to read out data of target MCU. On the message window we can find the progress of upload (refer to Figure 6-3).

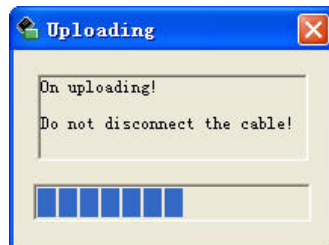



Figure 6-3: Upload Message Window

- Step 3: After complete the upload operation, the data will display in blue in the data area of the main window (refer to Figure 6-4). The other area will display with dummy data "FF". And then the data can be saved in a hex file when press save button.

ADDRESS	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
5000	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
5010	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
5020	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
5030	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
5040	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
5050	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
5060	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
5070	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
5080	D8	12	3C	4C	3B	A2	3F	9A	A9	01	85	41	A2	6A	20	38
5090	51	A8	F0	05	20	A1	50	A2	6A	A2	6A	20	9B	51	4C	36
50A0	51	A9	58	8D	54	01	A9	01	8D	55	01	A0	00	F0	0A	A2
50B0	4A	A9	00	95	00	E8	88	D0	FA	A0	00	F0	09	B9	95	51
50C0	99	49	00	88	D0	F7	3C	4E	42	3C	01	43	A9	00	A8	A2
50D0	00	F0	0A	91	42	C8	D0	FB	E6	43	CA	D0	F6	A2	01	F0
50E0	06	91	42	C8	CA	D0	FA	3C	9B	42	3C	51	43	3C	54	44
50F0	3C	01	45	A2	00	F0	03	20	23	51	A2	00	F0	03	20	18
5100	51	3C	96	42	3C	51	43	3C	4F	44	3C	01	45	A2	00	F0
5110	03	20	23	51	A2	05	F0	0A	A0	00	B1	42	91	44	C8	CA
5120	D0	F8	60	A0	00	B1	42	91	44	C8	D0	F9	EE	43	00	EE
5130	45	00	CA	D0	F0	60	80	FE	A9	01	60	B5	03	49	80	95
5140	03	B5	01	49	80	95	01	E8	E8	E8	E8	B5	FF	D5	FD	D0
5150	04	B5	FE	D5	FC	60	95	FF	68	85	48	68	85	47	A0	02
5160	B1	46	F0	0B	B5	FF	88	38	F1	46	C8	D1	46	B0	23	88
5170	38	B5	FF	F1	46	0A	90	02	E6	47	18	65	46	85	46	90
5180	02	E6	47	A0	06	B1	46	48	88	B1	46	85	46	68	85	47
5190	B2	46	A0	04	80	EF	00	00	00	00	01	78	D8	CF	2A	3C

Figure 6-4: Upload Data

## 6.8 Blank Check

Click Function -> Blank Check or click blank check button  directly to check whether the target MCU is blank. The result will be shown in the message window (refer to Figure 6-5).

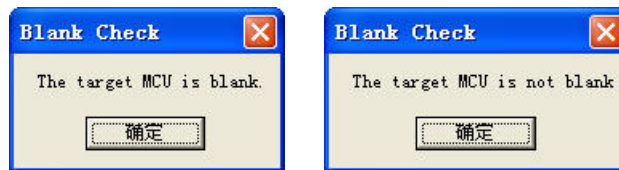



Figure 6-5: Blank Check Message Window

## 6.9 Download

Click Function -> Download or click download button  directly to download the data to target. At first, we must get the active data in the PC RAM through open a hex file or upload the data from a target MCU.

- Step 1: Open a hex file. If the file is valid, the data will show in the data area of main window (refer to Figure 6-6). The download function is enabled.

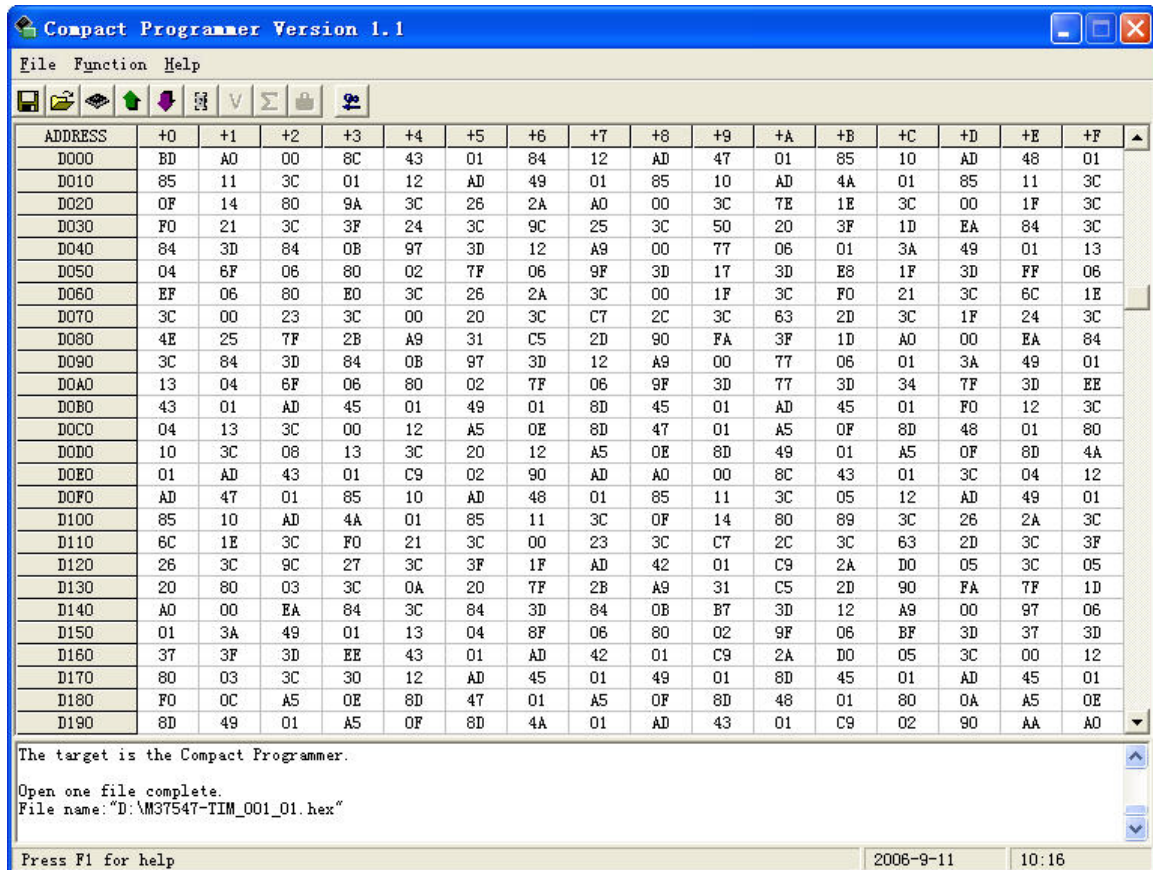


Figure 6-6: Tool Bar when Open a Valid File

- Step 2: Select target (refer to 6.5). If there is not any change, this step can be jumped over.
- Step 3: Click Download button or menu bar to start download data to target. On the message window we can find the progress of download (refer to Figure 6-7). If there is any error in this step, this application program will pop up a message window to show the error. The operation information can be finding in the log textbox.

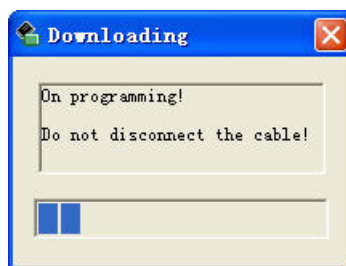


Figure 6-7: Download Message Window

- Step 4: If download operation is complete, the Bit Verify and Check Sum buttons is enabled. We can check the program result by these two functions. When select target MCU, we can use upload function to check the download result before protect MCU. About Bit Verify and Check Sum will be described as below.

## 6.10 Bit Verify

Click Function -> Bit Verify or click bit verify button  directly to check the download result.



- Bit Verify is correct: The check result will be shown in the message window (refer to Figure 6-8).



Figure 6-8: Bit Verify is Correct

- Bit Verify is not correct: The check result will be shown in the message window. We can find the number of the error bytes. The different bytes will redisplay original data in red (refer to Figure 6-9).

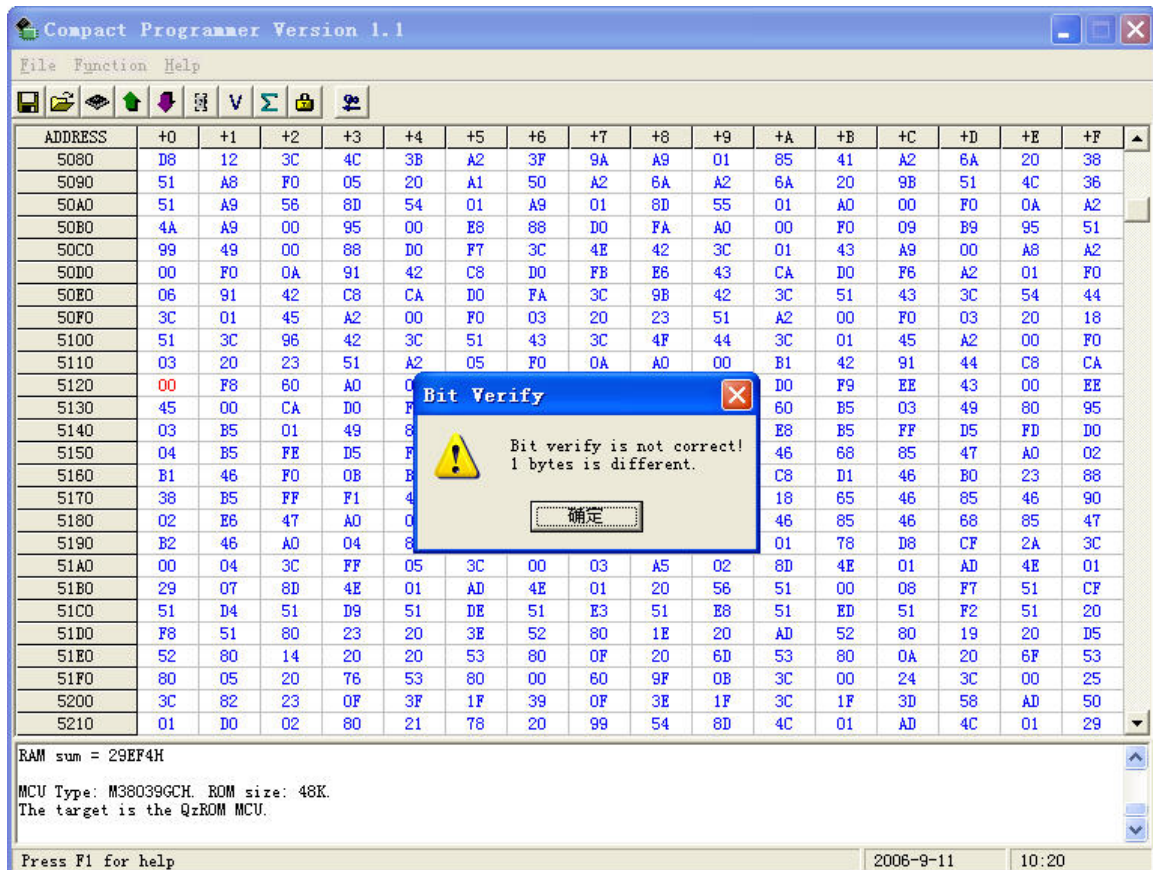


Figure 6-9: Bit Verify is not Correct

## 6.11 Check Sum


Click Function -> Check Sum or click check sum button  directly to check the download result. The check sum value will be shown in the log textbox.



Figure 6-10: Check Sum Message Window

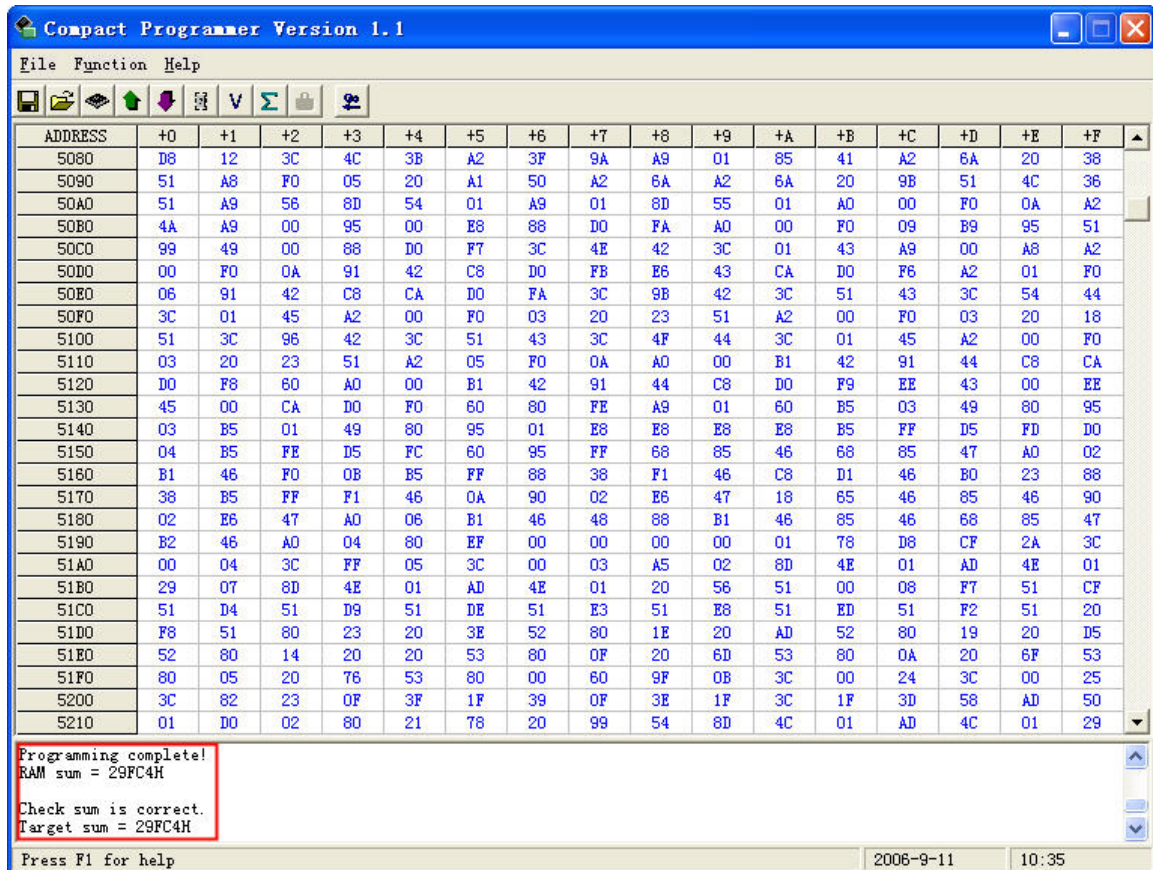



Figure 6-11: Check Sum Message Window

## 6.12 Protect

Click Function -> Protect or click protect button  to protect the target MCU. The operation result will be shown in the message window.

- Step 1: If MCU support block protection, select protection type at first. Click OK then program prompt to confirm protect operation.



Figure 6-12: Protection Window

- Step 2: Click OK to protect the target MCU.





Figure 6-13: Protect Confirm Window

- Step 3: The result of operation will be shown in the message window.



Figure 6-14: Protect Message Window

## 6.13 Help Topics

Click Function -> Help Topics or press "F1" to show the help topics.

## Appendix1: Q/A

Question	Answer
Why the power Led can not light after connect power adapter?	Please check the power adapter or the Compact Programmer is destroyed.
Why the yellow Led lamps and red Led lamp can not light for while and turn off after power on?	Please confirm MCU and oscillator mount normally or the Compact Programmer is destroyed.
Why the PC software always display "Please connect a programmer" after connect the Compact Programmer?	<ol style="list-style-type: none"> <li>1. Please confirm the USB cable is in good condition.</li> <li>2. Please review the ports item in the device manager of the OS after connects the Compact Programmer. Please confirm the USB driver is installed completely. (Refer to Chapter 5)</li> <li>3. Whether the COM port number of the "Renesas Compact Programmer for QzROM" device is greater than 16? If this value is over 16, the Compact Programmer can not be recognized. Please modify the COM port number in the advanced setting option of the device property's port setting option group by manual.</li> </ol>
How to protect a 740 family MCU after download automatically in off-line mode?	<p>Firstly, please modify the correct value of the ROM code protection Byte in the Hex file or in the data area window. Secondly, please download the data to the serial flash of the Compact Programmer.</p> <p>Finally, please press the download button to complete the ROM code programming and protection.</p>
How much the power consumption of the Compact Programmer?	It consume about 60mA when work normally.

**Note: Do not any modification of the components on the Compact Programmer.**

## Appendix2: Used pins for QzROM programming with compact programmer

Signal	Compact Programmer Target Header Pin No	4283	4508 R5G0C22	4509	4559 R5G0C24	7544 R5G0C30	7545 R5G0C32	7546 7547 R5G0C31	7548 7549 R5G0C33 R5G0C34	3803	3823 R5G0C52	38D2 R5G0C50 R5G0C51	38D5	3850A/58 R5G0C40 R5G0C41
SCLK	1	E0	P21	P21	D3	P12	P20	P12	P06	P46	P42	P31	P42	P43
GND	2	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS
VPP	3	E2	CNVss	CNVss	CNVss	CNVss	CNVss	CNVss	CNVss	CNVss	CNVss	CNVss	CNVss	CNVss
PGMB	4	G1	D3	D3	D2	P10	P06	P10	P07	P47	P43	P30	P43	P40
NC	5													
NC	6													
SDA	7	G0	P20	P20	D4	P11	P07	P11	P10	P45	P44	P32	P41	P42
VCC	8	VDD	VDD	VDD	VDD	VCC	VCC VDDR	VCC	VCC	VCC	VCC	VCC	VCC	VCC
NC	9													
NC	10													
NC	11													
NC	12													
RESET	13					RESET	RESET	RESET	RESET	RESET	RESET	RESET	RESET	RESET
GND	14	Xin	Xin RESET	Xin RESET	Xin/Xcin P20/21 VDCE RESET									

---

Compact Programmer for QzROM MCU

User's Manual

Publication Date      Rev 1.0    April 15, 2008

---