SONiX 8-Bit MCU

Smart Development Adapter

User Manual

Version 1.1

SONiX 8-Bit Micro-Controller

Amendment History

Version	Date	Comments
VER 1.0	Oct.2009	First issue
VER1.1	Feb.2010	1. Add target board power supply description; 2. Update SDA figure and cable "pin assignment" description; 3. Add SN8 C Studio software installation information。

Table of Contents

1 Overview

Smart Development Adapter (SDA) provides interface with in system debugging and programming function between PC-host and target board. SDA is convenient for users to debug their program and download SN8 file on-line.

● Note：User must add power for target board；

● Note：Power on target board after SDA connected successfully with PC, please refer to figure 2-2。
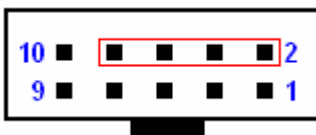
1.1 Features

➢ USB HID Class driver, Plug-and-Play;

➢ Power on auto-detecting and complete the link by target board.

1.2 Product Appearance

Symbol	Illustration
A	USB Port
B	Power / Link LED(●)
C	Debug Mode LED(●/●)
D	10 pin cable connect to target board

10 Pin cable "pin assignment" and "pin description"

Pin Assignment	Illustration
1,3,5,7,9,10	Reserved
2	VDD
4	EICK
6	EIDA
8	GND

Figure 1-1 SDA diagram

SDA LED status information

LED Name	Description	LED Color
Power	**USB link successfully;**	🔴
Run/Stop	1. **SDA connects with target board successfully;** 2. **Leave debug-environment;** 3. **Download SN8 file completed;**	🟠
	1. **Enter debug-environment;** 2. **Download SN8 file.**	🟢

2   Installation
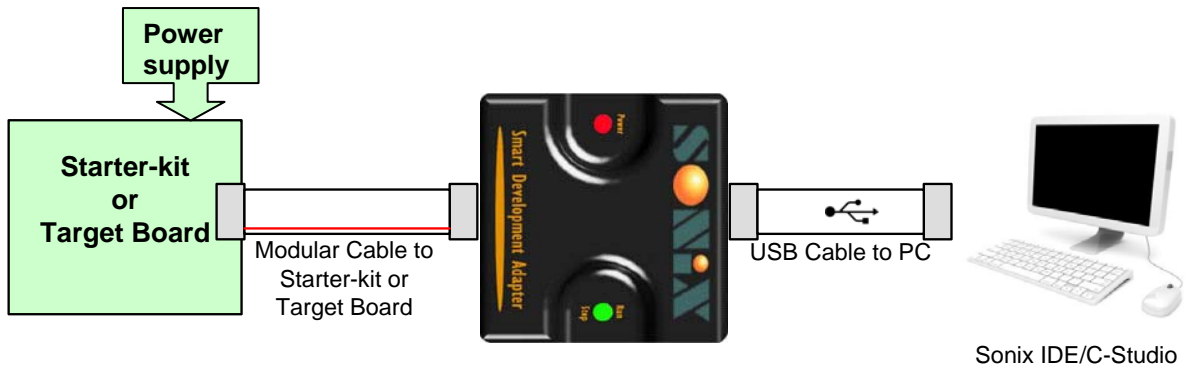
2.1   Installing the Hardware
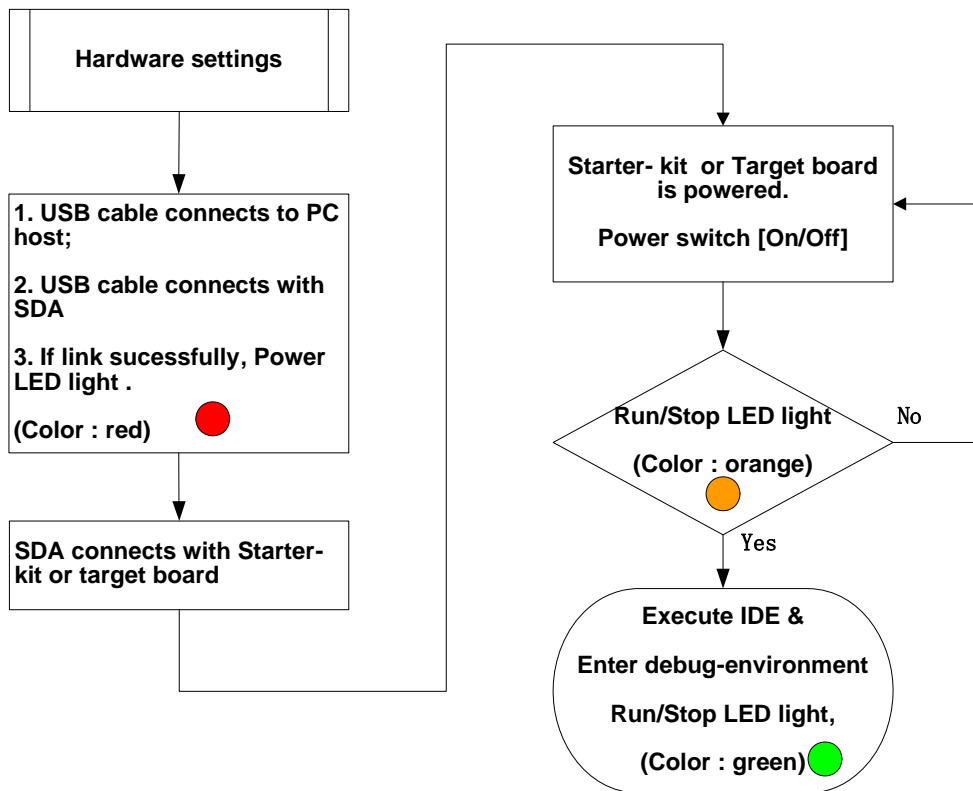

Figure2-1 Hardware connection diagram

Figure2-2 Hardware installation flowchart

2.2 Installing the Software

- ● **M2IDE**
- ➢ **Download M2IDE_Vxxx.exe from SONiX official website www.sonix.com.tw**
  （**M2IDE_V124 or later version**）**.**
- ➢ **Run M2IDE_Vxxx.exe to follow the instructions and install the software program.**

- ● **SN8 C Studio**
- ➢ **Download SN8_C_Studio_Vxxx.exe from SONiX official website www.sonix.com.tw**
  （**SN8_C_Studio_V138 or later version**）**.**
- ➢ **Run SN8_C_Studio_Vxxx.exe to follow the instructions and install the software program.**

3 Start to Debug

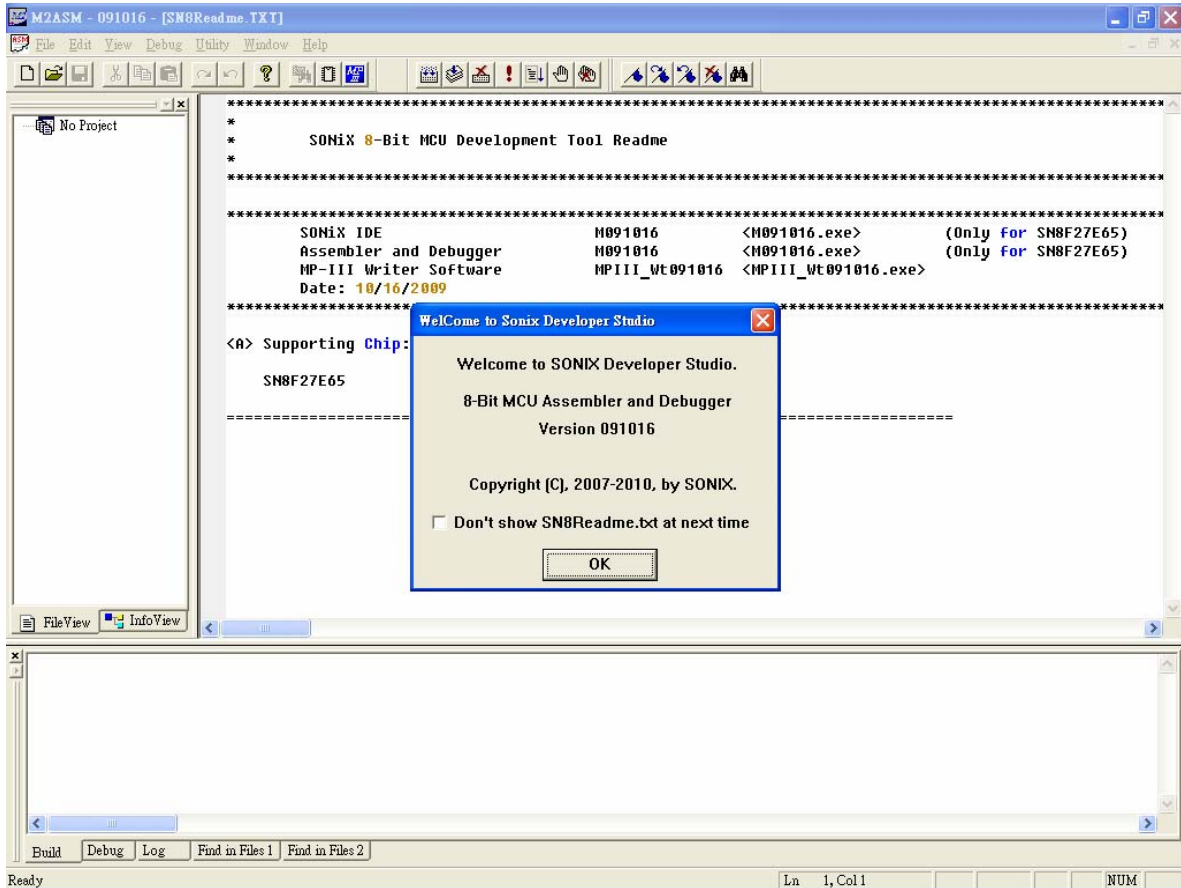## 3.1 Operation Steps

➢ **Run M2Asmxxx.exe**

Figure 3-1

➢ **IDE debug menus and icon introduction**

Debug Menus	Debug Icon	Description
Build (F7)		**Compile /link all the files in the module.**
Rebuild All		**To re-compile/link all the files in the module.**
Download (F8)		**Download SN8 file to MCU.**
Reset (Ctrl+F5)		**Start to program from 0x00 address.**
Go (F5)		**Enter debug-environment;** **Execute program;** **(Free Run).**
Break (F5)		**Stop executing.**
Stop Debugging (Shift+F5)		**Leave debug-environment.**
Single (F11)		**Execute program step by step.**

Step Over (F10)	〔⟩	Execute program step by step, but execute rapidly when met a function.
Step Out (Shift+F11)	〔⟩	Execute rapidly within the function and withdraw when over.

➢ **IDE debug menus and icon introduction**

| Debug Menus	Debug Icon	Description
Run to Cursor (Ctrl+F10)	⁺{}	Execute program to the cursor pointed to.
PC to Cursor (F12)	⁼{}	Change PC value to the cursor pointed to.
Breakpoint (F9)	✋	Insert or remove the program breakpoint.
Remove All Breakpoints (Ctrl+Shift+F9)	✋	Remove all program Breakpoints.
Fill RAM		Fill RAM Value.
Animate Single		Run the program automatically step by step.
Animate StepOver		Execute program step by step automatically, but execute rapidly when met a function.

➢ **Create a new project or build a new item**
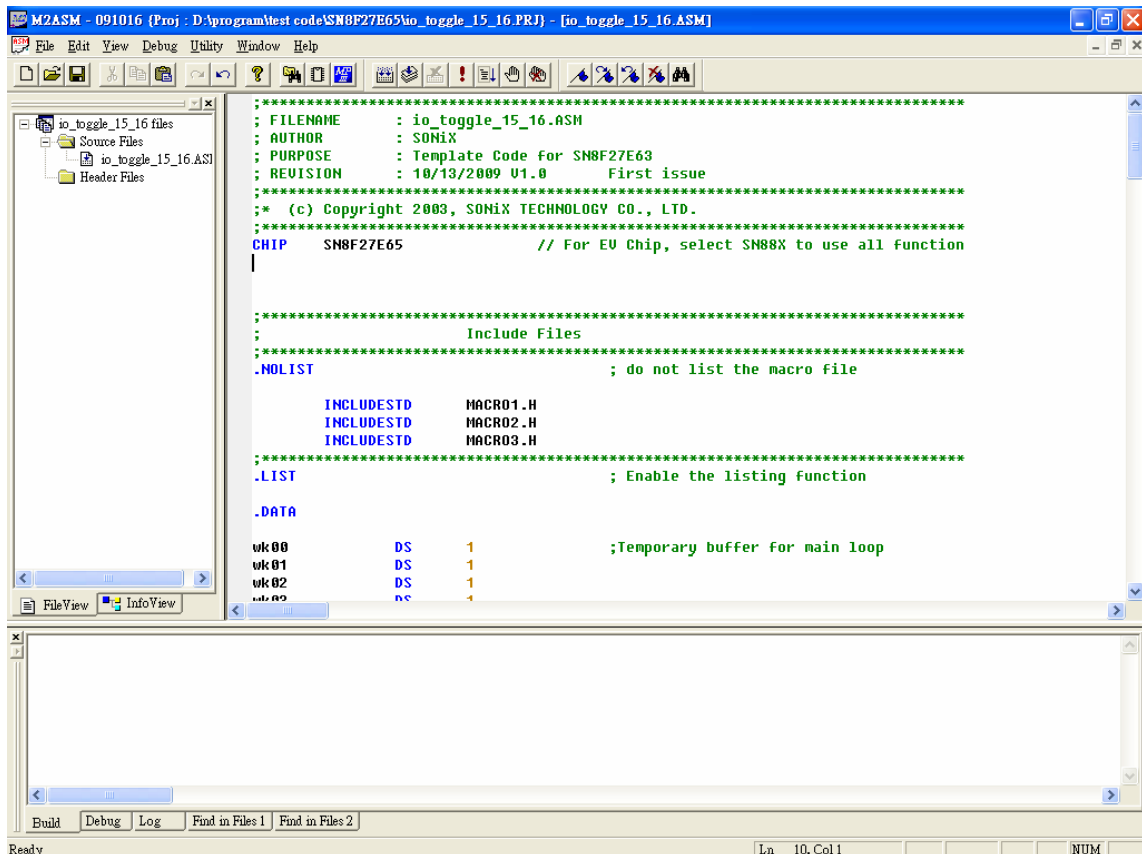
Figure 3-2
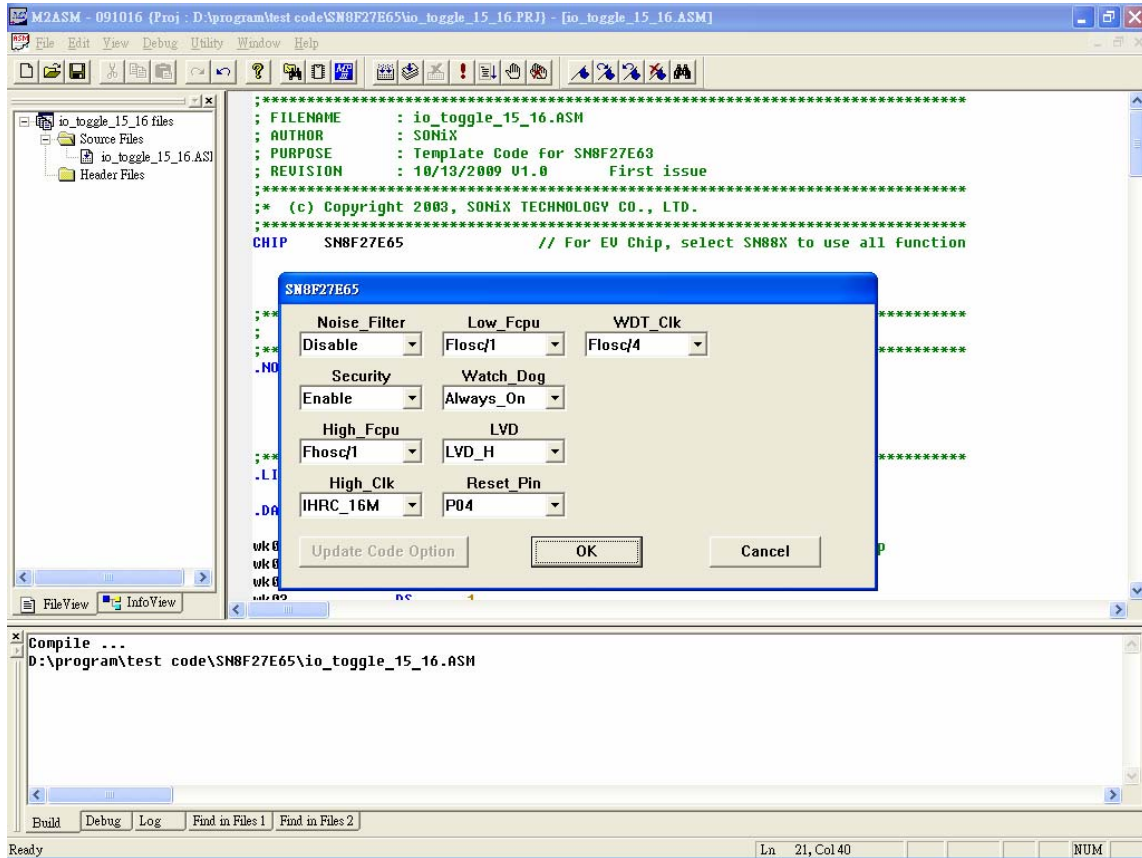
➢ **Compile (Build : F7)and Code option settings**

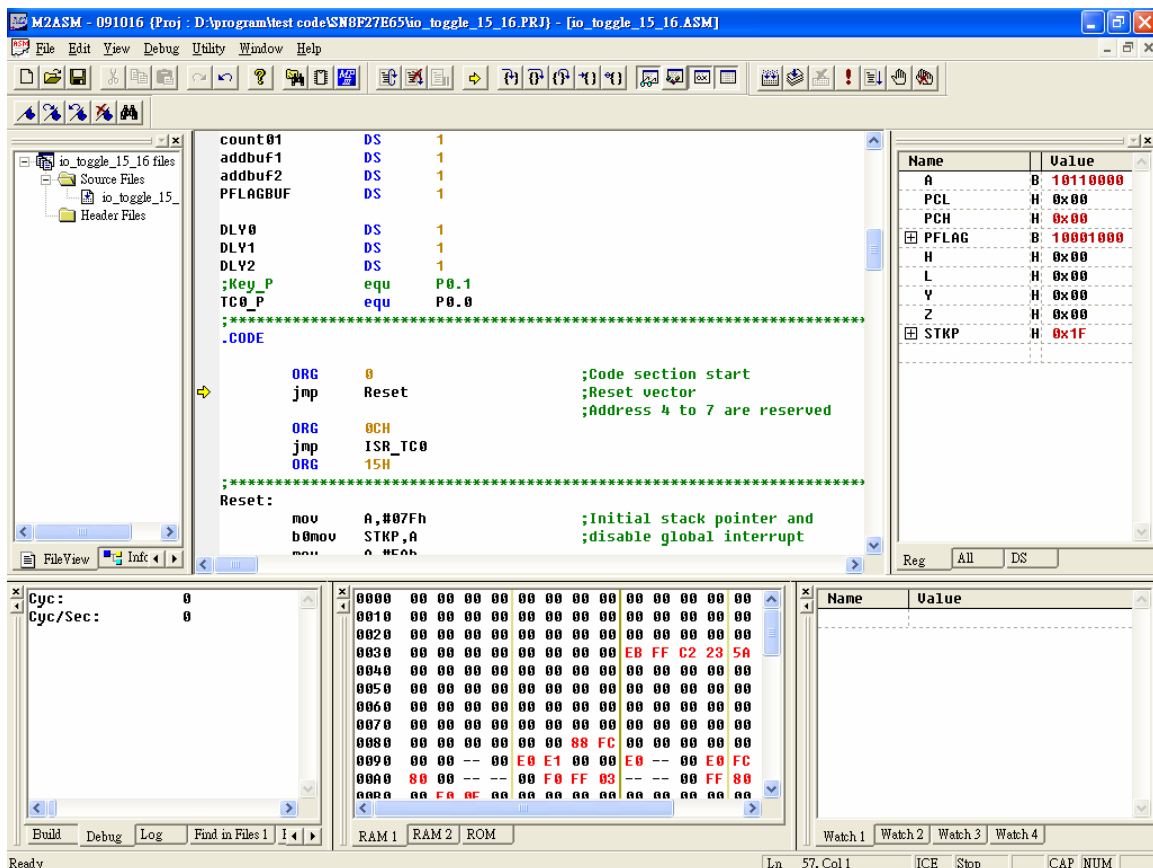
Figure 3-3

➢ **Enter debug-environment (Go : F5)**

Figure 3-4

➢ **Leave debug-environment (Stop Debugging : Shift+F5)**

Figure 3-5

4   Download SN8 file

4.1   Functions

SDA can also update MCU program unnecessary ASM or C source code.

If SN8 file downloaded successfully and SDA cable is removed from target board，MCU free run can be executed on target board it's self automatically when user return on the power on target board.

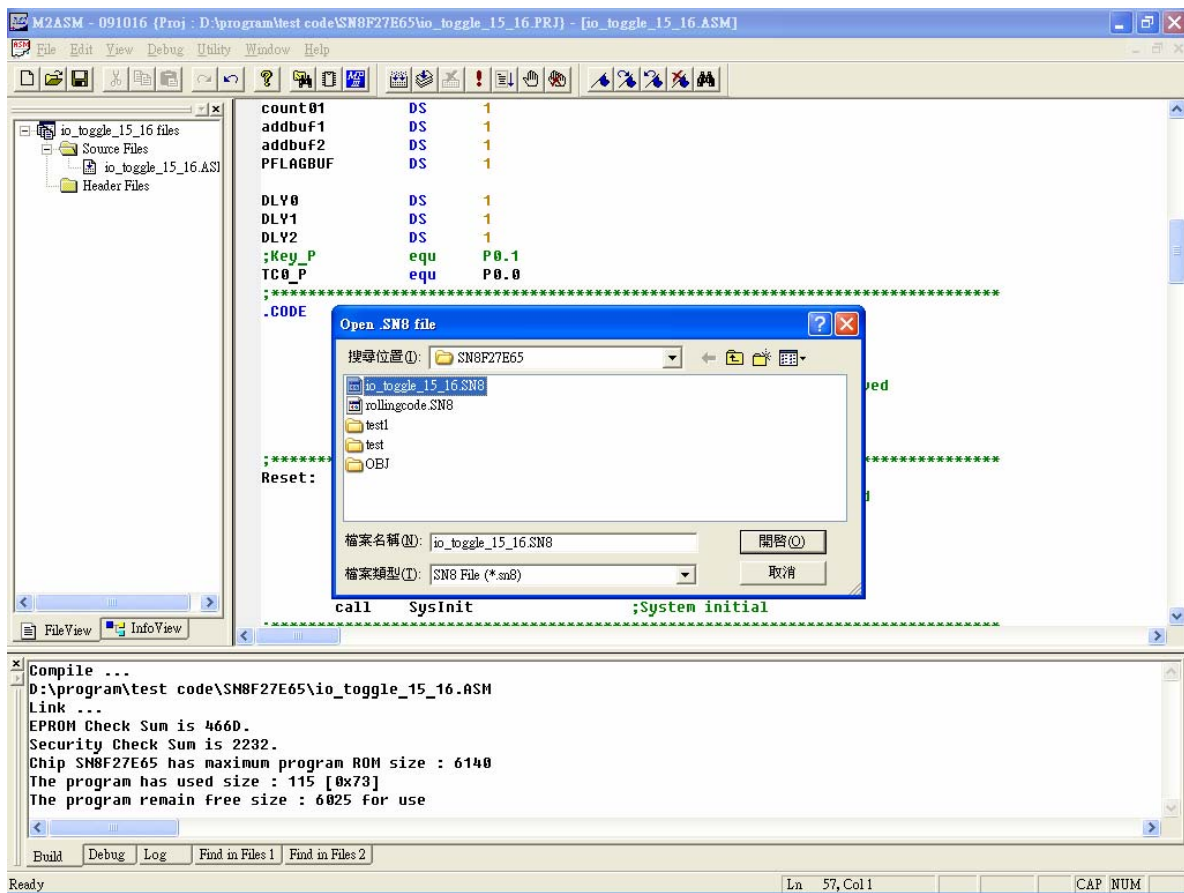## 4.2   Operation Steps

➢ **Download (F8)and open SN8 file**
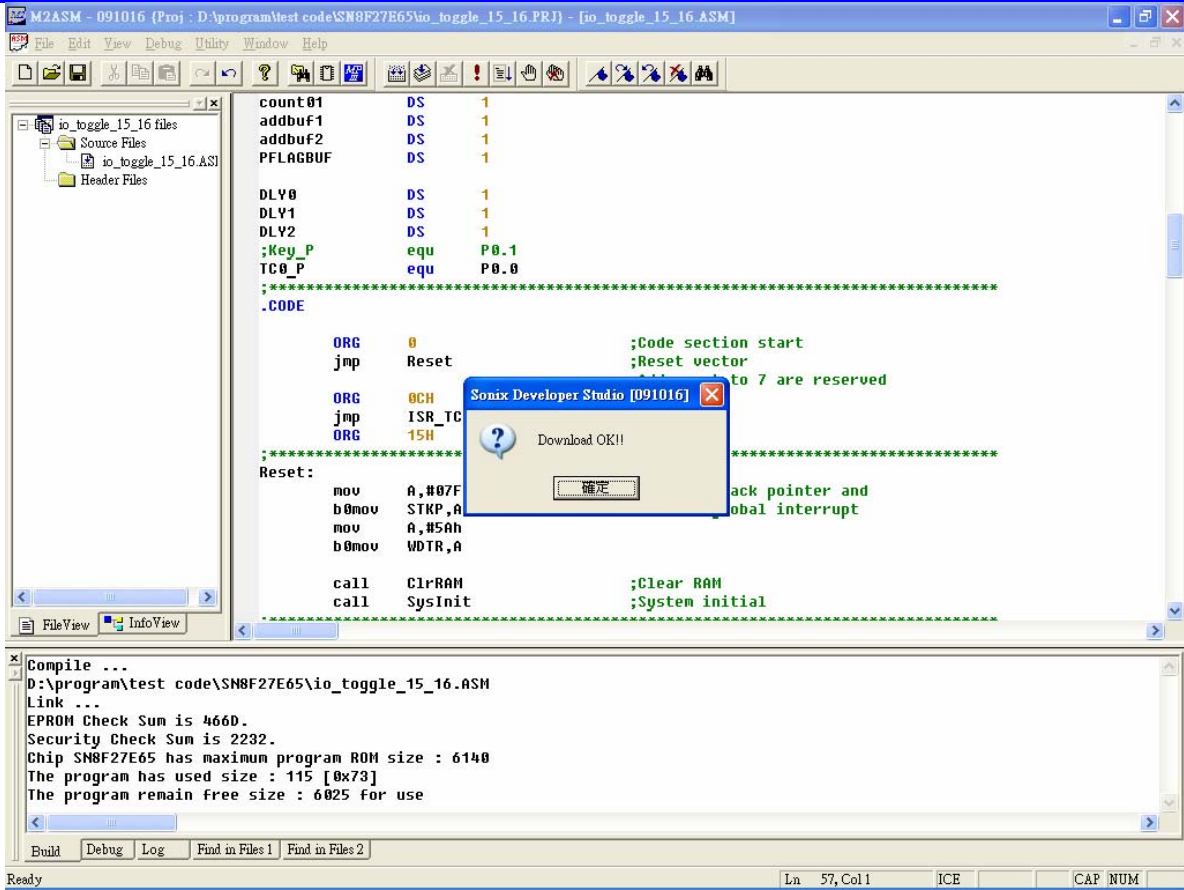

Figure 4-1

Figure 4-2

5   Notice

5.1   Limitations

➢ **Only support 6 breakpoints in IDE operating.**

➢ **Do not support items following as:**

- **Cycle display function.**
- **Breakpoints…function in debug command menu.**
- **Prev Single Trace function in debug command menu.**
- **Prev Trace function in debug command menu.**
- **Next Trace function in debug command menu.**

5.2   Troubleshooting

➢ **When IDE Crashes during debugging, please take following as:**

- **Please remove USB cable from SDA and re-plug again;**
- **Return on the power of target board.**

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