

Wiz ISP Program User Guide

Version 1.1



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1 Introduction

The WizISP Flash Programmer application can be used to download binary/hexadecimal code to the internal memory of W7100/W7100A. It runs under Windows 9x / Me, Windows NT / 2000 / XP / 2003 and Windows Vista as well. Communicating with the target device may be down through a RS232 link or an USB-to-Serial (RS232) link, depending on the communication media supported by the target device. **If user use USB-to-Serial link, the programming speed may slow down so, in this case, it needs some additional settings. For more detailed information about this setting please refer to the Appendix section.**

This software is named WizISP, which stands for: WIZnet's In System Programmer. Its main features are listed as follows.

- Binary file format supported for data file loading and saving
- Intel MCS-86 Hexadecimal Object file converter supported
- Target device control:
 - Erase, Blank check, Program, Read, Verify, Special bytes edition capability
- Buffer control:
 - Data byte modification, going to a specified address, saving specified buffer data to file
- Customizable flow for quick repeating programming
- Convenient tool bar, windows hot keys and progress bar

2 Software Installation and Setup

The following steps show how to install WizISP to a PC. All procedures are explained for Microsoft WindowsXP.

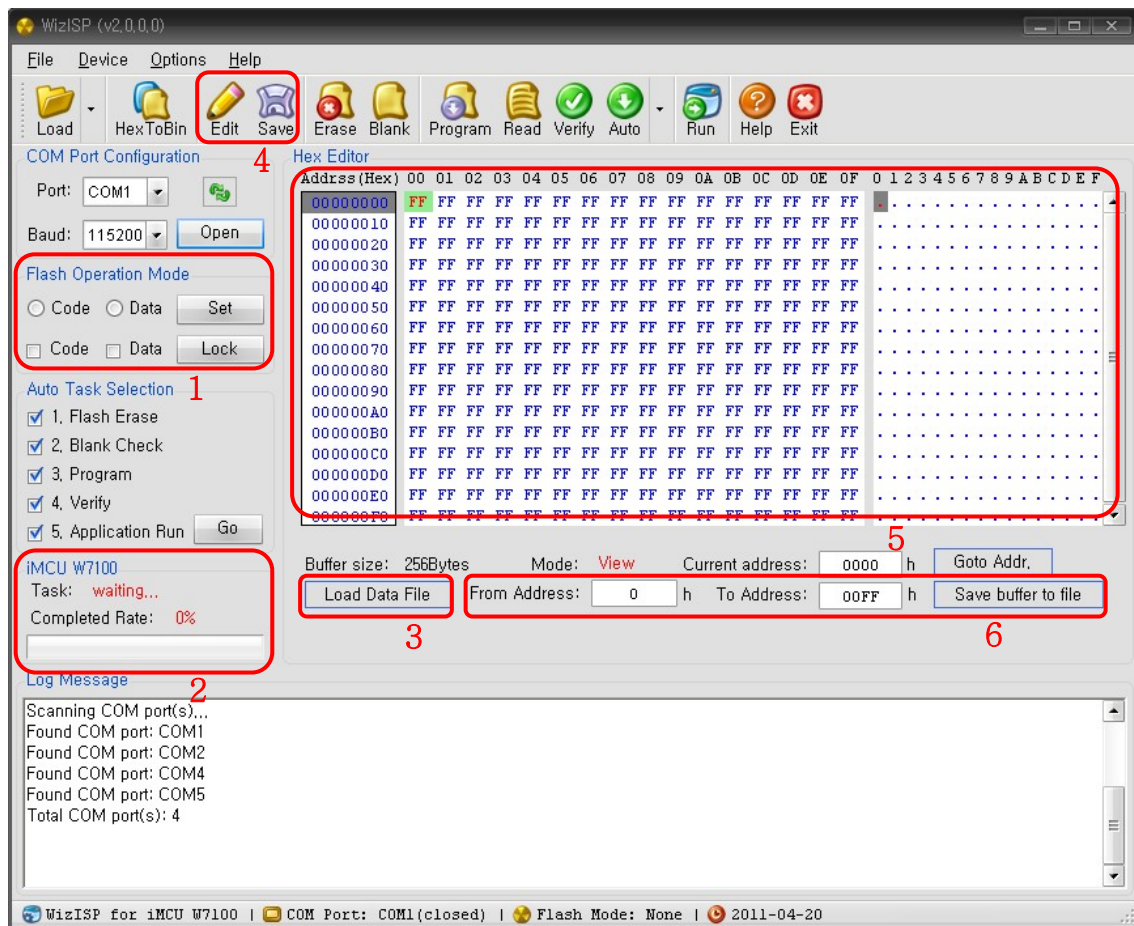
- Copy the WizISP_<version>.rar file to an empty temporary directory.
- Perform the rar file extraction so that it builds a WizISP_<version> directory.
- Open the WizISP_<version> directory and run the *Setup.exe* file.
- Follow the installation program instructions to complete it.

For USB-to-Serial to work, you have to install the proper drivers first.

3 Getting Started

This chapter describes how to use the WizISP flash programmer application through its GUI (Graphical User Interface) as shown in Figure 1, as follows:

- How to download binary file to code memory (see Section 3.1)
- How to download binary file to data memory (see Section 3.2)
- How to modify on chip data memory (see Section 3.3)
- Other special functions introduction (see Section 3.4)



<Figure 3.1> User interface of WizISP

3.1 Programming Code Flash Memory

There are two kinds of memories in W7100: one is the code memory and the other one is data memory. The code memory of W7100 stores the user's program code and its size is 64Kbyte.

The data memory of W7100/W7100A consists with 64Kbyte data memory and 255Byte user data memory. WizISP can program the code memory 64Kbyte and user data memory 255Byte.

This section presents how to download user's code to code memory by using WizISP GUI.

To use the GUI to download xxx.bin/xxx.hex file to a board or module, the procedure is as follows:

- Step 1 Connect your PC to the target board using a serial cable or a USB-to-Serial cable. Make sure you had put the board into 'ISP Mode' already (the BOOTSEL switch of iMCU7100EVB must be turned on); otherwise, you must turn on the BOOTSEL switch and reset the board again.
- Step 2 Run the WizISP by following the Windows Start menu path. In the COM Port Configuration field of the interface, select the PC serial communications port and baud-rate for the board connection. The fastest baud-rate is recommended for fast programming.
- Step 3 Click the 'Open' button to connect the COM port. And check 'Flash Operation Mode' is Code Mode as in the Figure 3.1 highlighted field 1.
- Step 4 If you want use the code/data lock function, check the lock field and click the 'Lock' button as in the Figure 3.1 highlighted field 1.
- Step 5 Click the 'Load' button to load the bin/hex file and select one. If you want load previous file which programmed before, you can use the drop-down list beside the 'Load' button.
- Step 6 Then click the 'Erase' button on the Tool box to erase the code memory area and click the 'Blank' button for blank checking. After that click the 'Program' button to start the programming. To confirm the well programming, we can verify using the 'Verify' button. **But please note that if the code memory was locked, the verification will be failed. Because the WizISP cannot read the code memory if the code memory was locked.**
- Step 7 After the verification, click the 'Run' button to start the user code. Or turn off the BOOTSEL switch and reset the iMCU7100EVB to start the user code.
If you want automatically done these step 6 ~ 7 operations, check the operations on the 'Auto Task Selection' field and click the 'Go' button or 'Auto' button of Tool box. You can see the operation process using the progress bar of the Figure 3.1 highlighted field 2.

3.2 Programming User Data Memory

W7100 has a 255Bytes user data memory to save user's data. The user data memory can keep the data even the power is turned off. Also, the user data memory can be modified directly

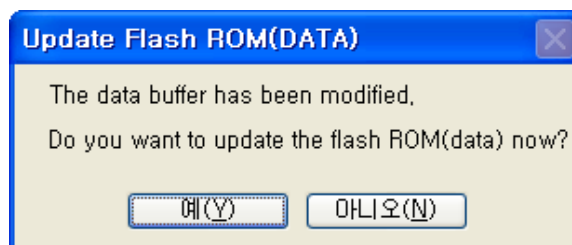
by using this software (see Section 3.3). So it is very useful to keep the user information such as MAC, IP, subnet mask, gateway IP or others. This section describes how to program a binary file (.bin) to the user data memory of W7100/W7100A. This procedure is as follows:

- Step 1 Follow the step 1 ~ 3 of section 3.1 to connect WizISP and iMCU7100EVB.
- Step 2 Select the 'Flash Operation Mode' to Data in the Figure 3.1 highlighted field 1. And click the 'Set' button to change the operation mode.
- Step 3 Click the 'Load Data File' in the Figure 3.1 highlighted field 3 and select the *.bin or *.hex file (the maximum size is 255Byte) to load it.
- Step 8 The programming method is same as step 6 of section 3.1. If the user data memory was locked the verification will be failed and all read data on the 'Hex Editor' is 0xFF.

3.3 Modify User Data Memory

The user data memory can be directly modified via WizISP GUI. Assume that WizISP is running and the target device is connected with WizISP in Data flash operation mode, the remained procedure to modify Data memory is as follows:

- Step 1 Click the 'Read' button on the Tool box; after read over, the Data memory will be displayed in the 'Hex Editor' as shown in Figure 3.1 highlighted field 5.
- Step 2 Click 'Edit' button to transfer the Hex Editor into *Edit* mode from *View* mode; the 'Edit' button will be highlighted.
- Step 3 In the Hex Editor, select the byte in the hexadecimal data area as highlighted area and input a new value (must be in hexadecimal) for this byte through keyboard directly.
- Step 4 After the modification, click the 'Save' button to program the modified data to user data memory. Once 'Save' button is clicked, a dialog box will be popped up. If you click the 'Yes(Y)', WizISP start programming the modified data.

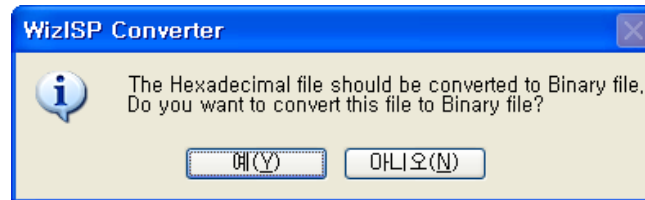


<Figure 3.2> Popup Dialog While Save Button Clicked

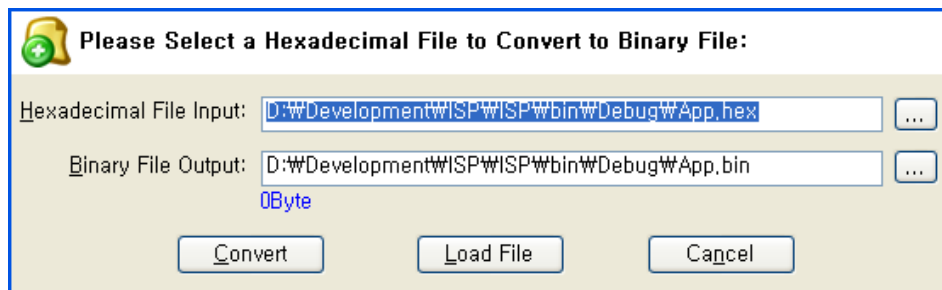
3.4 Other Functions

WizISP also provides some useful and convenient functions, such as HexToBin (hexadecimal file to binary file converter), save current buffer to file, and so on. This section introduces the two main special functions briefly.

HexToBin WizISP supports both *.bin and *.hex file load directly by using the 'Load' button in its toolbox. If a hexadecimal file is selected to load, the follow Figure 8 liked dialog will popup to ask if you convert this file to binary format or not. If you click the 'Yes' button, the HexToBin converter form will come out as shown in Figure 3.3. You can click the Convert button to convert this file to binary format directly. After converting, click Load File button to load the converted binary file to program buffer.



<Figure 3.3> HexToBin Query Dialog



<Figure 3.4> HexToBin Converter Interface

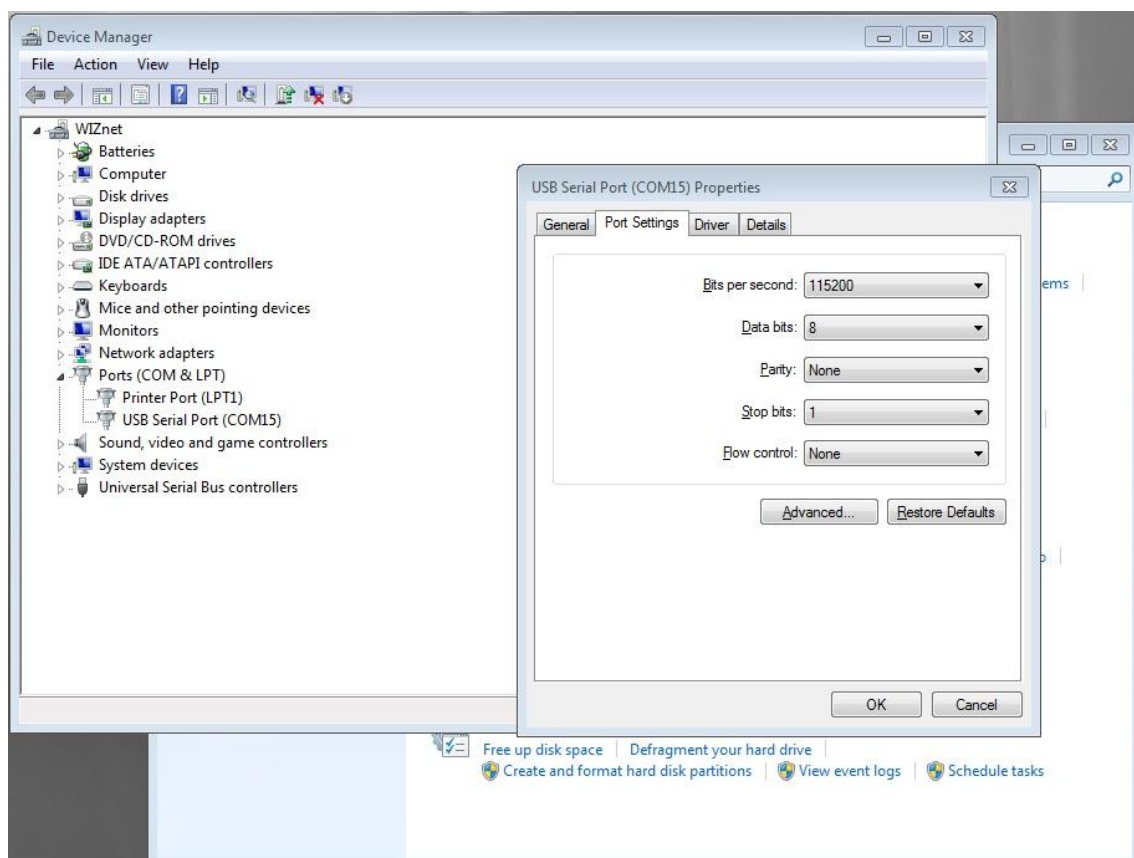
Save Buffer The current view buffer in Hex Editor can be saved to a binary file directly by using the 'Save buffer to file' button as shown in Figure 3.1 highlighted field 6. The start address and end address of the current buffer to save can be specified via input address value in the From Address and To Address textbox.

Appendix

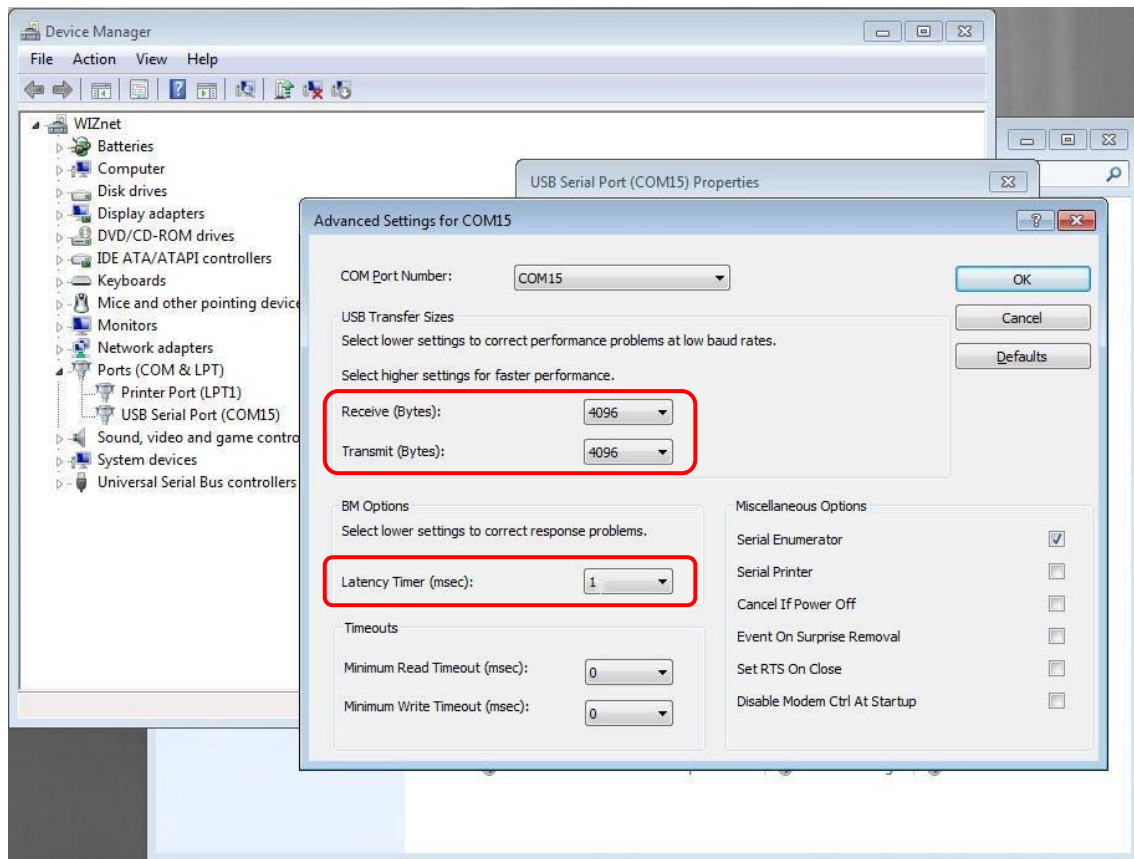
USB to Serial (RS232) Link Setting

Users which have USB to serial link to connect the WizISP and iMCU7100EVB need some additional configuration for good programming speed. All settings are based on Microsoft WindowsXP.

1. Run the device manager through the below path:
Start > Control panel > System > Hardware tap > Device manager
2. Open the Properties window of the USB to serial port by double clicking and select the Port configuration tap. Then click the 'Advanced...' button to set the advanced setting.
3. Set the Receive/Transmit buffer size to maximum value and set the 'Latency Timer' to minimum value as in the Figure 4.2 highlighted field.



<Figure 4.1> Control panel



<Figure 4.2> USB to Serial setting

Important Notice

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Document History Information

Version	Date	Descriptions
ver. 0.9 Beta	Aug. 2009	Release with W7100 launching
Ver. 1.0	Apr. 2011	Added code, data lock function for W7100A
Ver. 1.1	Nov. 2013	Fix the formatting errors in table of contents