LAN93xx 10/100 ETHERNET SWITCH

EEPROM CONFIGURATION TOOL MANUAL VER 2.0

1 INTRODUCTION

This document describes the **2.0** release contents and new features. This is the second release of the LAN93xx EEPROM Configuration Tool (ECT).

ECT is delivered as a Windows XP 32-bit EXE named Ect93xx.exe. It is ready to run. It does not contain a self-extracting archive.

2 LAUNCHING THE ECT

Double-clicking on its icon/filename launches it. The user is assumed to be already familiar with the LAN931x datasheet pertaining to the format of the EEPROM image.
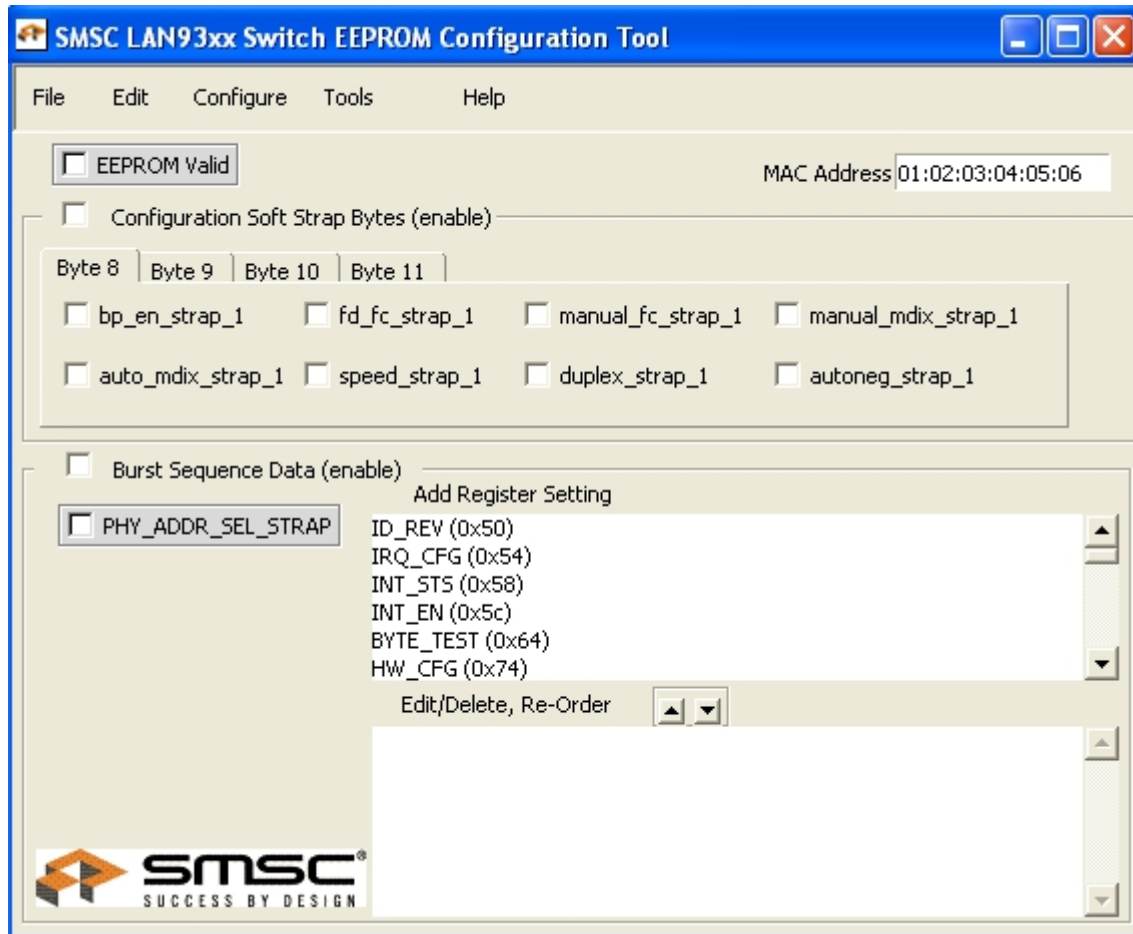
3 MAC ADDRESS:

On startup you will notice three main areas:

- MAC address
- Configuration Soft Straps
- Burst Sequence Data

There are two features regarding the MAC address (MA). One is the MA widget itself; the other is the EEPROM Valid checkbox. By placing the Windows mouse cursor over the MA widget and clicking on it, the focus shifts to the widget itself, allowing the user to modify the MA. Pressing the TAB key validates the MA and moves the focus out of the widget. If the value is a valid 48-bit MAC address, the widget will flash green. A mistake in the value will be acknowledged by the widget flashing red. Notice that changing the MAC address also sets the EEPROM Valid checkbox. This can be unset if you wish, but note that this box corresponds to the byte0 flag in the serial EEPROM image, and must be checked for any EEPROM data to be valid. In saving the image, the value of this flag if checked is 0xa5.

Configuration Soft Straps:

Each checkbox in this area sets or clears the corresponding bit in the soft straps found in bytes 8, 9, 10, and 11 of the EEPROM image. Checking the box sets the bit to a '1', clearing it sets the bit to a '0'. Setting the Configuration Soft Strap Bytes (enable) checkbox will result in an image value of 0xa5

Burst Sequence Data:

This section refers to the named registers that set on a chip reset or not, depending upon your application. There is a listbox widget of register names (Add Register Setting). Double-clicking on a name copies it to the text widget underneath (Edit/Delete, Re-Order) with a value equal to its offset. THIS IS NOT A VALID DEFAULT REGISTER VALUE. Once present in the text widget, double-clicking on the register name allows you to edit in a valid hexadecimal value. Pressing the Enter key will complete the edit. Only hexadecimal digits are accepted. Invalid input is ignored. The order that the registers appear is the order they will be written to the device on reset. Should you wish to re-order the list, single click on a register, and use the up/down key that appear at the top of the text widget to move that register. To delete a register, double-click on it and press the Delete key.

Setting the Burst Sequence Data (enable) checkbox will result in an image value of 0xa5.

4   SAVING AND RESTORING THE EEPROM IMAGE

To save your image, press Menu --> File --> SaveAs ... or begin the session with Menu --> File --> New. The only file format which can be input into the ECT is ASCII Hex (*.ini) format, which is 2 ASCII digits per byte, separated by a blank space. For safety, save your image often between keystrokes and mouse clicks.

To restore your image use Menu --> File --> Open, which can be used to re-edit an existing image (*.ini) file.

5   IMAGE OUTPUT FORMAT

There are 4 output formats available which can be used to prepare EEPROMs. They are engaged by pressing Menu --> File --> SaveAs ... and selecting Save as Type. The output formats are described in the following table:

Name	File Extension	Description
Intel8 Hex	*.hex	
Binary	*.bin	
Linux shell script	*.sh	Used by the SMSC cmd931x program available in the LAN931x Linux driver distribution
Simulation	*.dat	For validation purposes only

The Linux shell script can be sent via a terminal emulator to a target Linux command shell, assuming use of the SMSC driver for the LAN931x. This driver comes with a command tool, useful for "tweaking" the driver. The command tool is called cmd931x.

Output formats cannot be read by the ECT; only the ASCII Hex (*.ini) format is readable by the ECT.