Appendix C - An Introduction to WinLV

Introduction:

The WinLV is an interface to the functionality of the MicroMaster LV48 produced by ICE Technology. It has a user-friendly GUI (Graphical User Interface) that is optimized to enable quick and easy access to all functionalities. The software contains many features and a very good help system. We will cover here the minimum functionality that is required for this experiment; however the **Help** system offers many tutorials that we found very helpful.

Installation:

The software is spanned on 3 floppy disks. The installation file is located on the first disk. Installation of the WinLV program is as easy as any standard windows installation. Check www.icetech.com for any updates.

PC connection:

MicroMaster LV48 box hooks to the parallel port of a PC using a standard parallel port cable.

Software Start-up:

Start Screen   **WinLV icon**

Before you start the software make sure that the programmer is connected to the PC and its power supply is plugged. The software will recognize the type of the programmer when run, there are other programmer types produced by ICE that uses the same software.

Basic Screen Components:
The basic on-screen components of the WinLV software are as follows-:

1) Programming Buffer Window

```
  Byte    00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F    0123456789ABCDEF
00000000  FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF    ................
00000010  FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF    ................
00000020  FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF    ................
00000030  FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF    ................
00000040  FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF    ................
00000050  FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF    ................
00000060  FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF    ................
00000070  FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF    ................
00000080  FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF    ................
00000090  FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF    ................
000000A0  FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF    ................
000000B0  FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF    ................
000000C0  FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF    ................
000000D0  FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF    ................
000000E0  FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF    ................
000000F0  FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF    ................
00000100  FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF    ................
00000110  FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF    ................
00000120  FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF    ................
```

Most part of the window is used for displaying the programming buffer. The buffer can be viewed differently by selecting any of the Buffer View options (see Display Modes below). The buffer can also be edited so that data can be changed before or after it has been programmed into a device.

2) WinLV Toolbars & Display Panels

The toolbars & display panels allow you to view current WinLV information and settings as well as select specific functions as an alternative to using the WinLV menus. The Toolbars and Panels are-:

General Toolbar:

The options from left to right are:

1.   Opens a new Buffer or Fuse map depending on which device is currently selected.

2.   Opens a previously saved file.

3.   Saves the currently opened file.

4.   Opens a previously saved project.

5.   Saves the currently opened project.

6.   Print the contents of the buffer/fuse map.

7.   Preview the buffer contents to see how it will look when printed.

8.   Cut the highlighted portion of the buffer (move to the clipboard).

9.   Copy the highlighted portion (move to the clipboard).

10.   Paste the current contents of the clipboard.

11.   WinLV Help

Edit Toolbar

The options from left to right are:

1.   Fill buffer with user-defined value.

2.   Go to specific address/value in the buffer.

3.   Search the currently open buffer to find a specific value at an address.

4.   Search the currently open buffer to find the previous occurrence of specific find value.

5.   Search the currently open buffer to find the next occurrence of specific find value.

6.   Swap bytes in the currently open buffer.

7.   Swap words in the currently open buffer.

8.   Open the checksum calculator.

Display Mode Panel
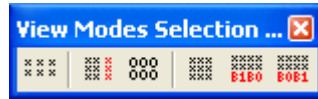
It displays modes operative when viewing programming address buffer.

The options from left to right are:

1.   View the currently open buffer in Nibble Mode.

2.   View the currently open buffer in Byte Mode.

3.   View the currently open buffer in Octal Mode.

4.   View the currently open buffer in 12 Bit Mode.

5.   View the currently open buffer in Word Mode (byte 1:byte 0).

6.   View the currently open buffer in Word Mode (byte 0:byte 1).

Information Panel
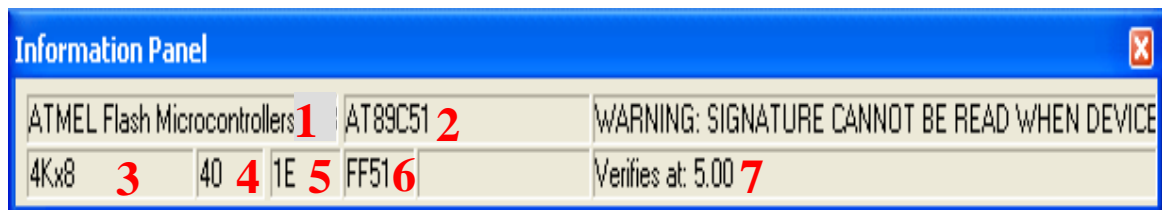
The displayed information is:

1.   Device manufacturers name

2.   Device part number

3.   Device memory size

4.   Number of pins

5.   Manufacturers ID code

6.   Device ID code

7.   Verification information

The Programmer toolbar

The options from left to right are:

1.   Select Device

2.   Device Operations

3.   Match 74/4000 device

3) WinLV Menus

The menu selection bar along the top of the screen allows you to view the WinLV menus and then select specific menu items. Use the mouse or keyboard to select the menus and menu commands.
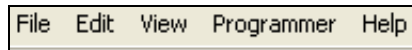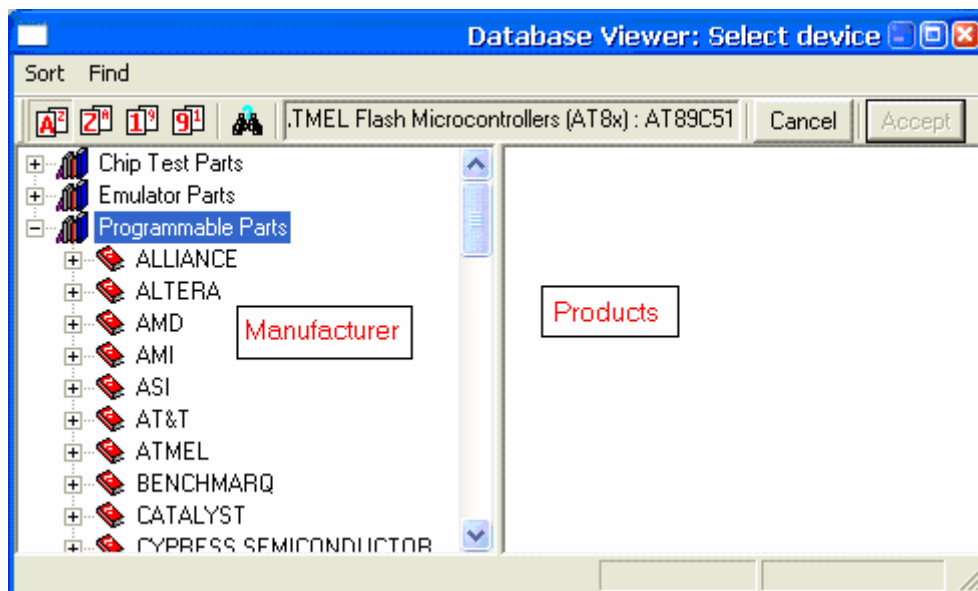
Device Selection:

Before you can program any device you must select it and tell WinLV that you want to work with it. The process is easy:

Go to the (Programmer → Select Device) option or press [icon] on the programmer toolbar.

The following window will appear:

To select a device you can either use the left pane to find the manufacturer or use the searching tool to find the device by part number as shown in the figure below:
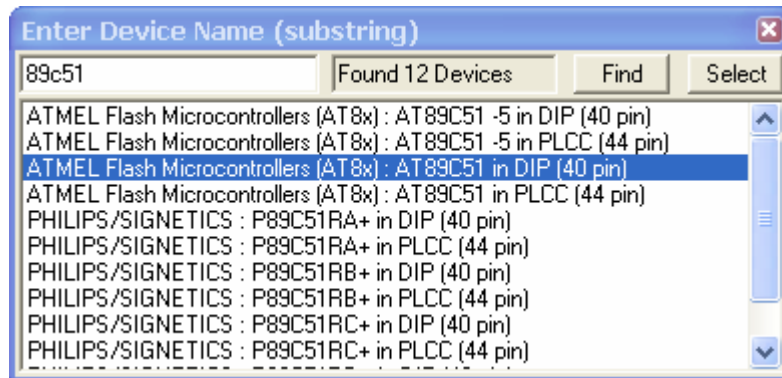

Once you find your device click "**Accept**" to go back to the previous "Database Viewer", then "**Accept**" again and you will go back to the main window. You will notice that your device name is displayed in the title of the window as shown below:

Loading Data:

Select the file you would like to program into the selected EPROM or Micro following these steps:

- Select the File menu and then Open… or press
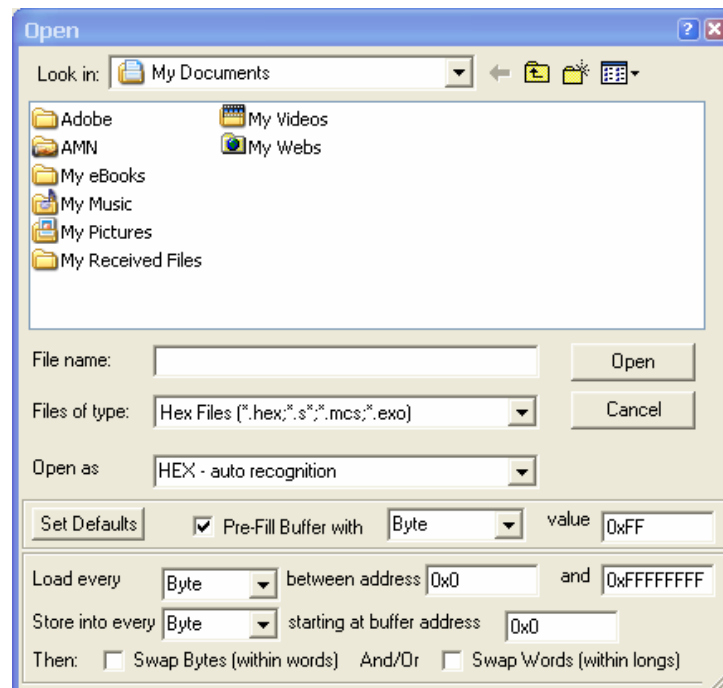
- Select which file you want to load into the buffer. OR type the file name into the File Name box

- If any files that you expecting to see aren't there try using the Files of Type drop down menu to select which file type is displayed in the main window

- Use the Open as drop down menu to select which format the file will be opened as and loaded into the buffer.

- Set the Defaults to pre-fill the buffer with 0xFF so that all empty address locations are filled with FF.

- Remember - If you want to specify more advanced file open settings this can be set in the lower half of the Open dialogue window.

- Remember - If the buffer size is not large enough for the file selected then it will truncate the file before loading. To increase the buffer size select New Buffer from the File menu and use the slider bar to increase the buffer size and then re-load the file.

Programming the Device

Once the data is in the buffer, you can go ahead and program it on the device. To do that go to (programmer→ Operations) or click [icon]. You will get the following window:
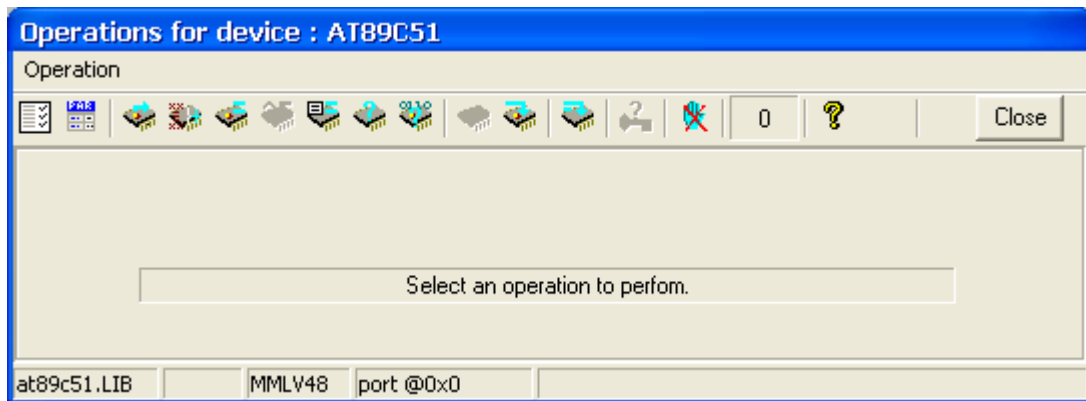
You can do a lot of operations here, they include:

[icon] Read the existing data in the device.

[icon] Device checksum

[icon] Verify

[icon] Blank check

[icon] Erase, Program, Verify

The latter option is most commonly used. After clicking this option the contents of the buffer will be programmed on the device and it is ready to be connected to the circuit.