

ETLUNIPROG control software
Win98/Win2000/WinXP

ODESSA
2002

1.1 What You'll Need

The following section describe items that are you need to use ETL programming tools with ETLUNIPROG control software .

Hardware checklist

Programmer boards :

- MC68HC05B6 board *
- MC68HC705B16 board*
- MC68HC05L28 board*
- MC68HC11E9 board*
- MC68HC11PA8 board*
- TMS370Cx5x,Cx6x board*
- TMS375C006 board*

Software checklist

OS -MS-Windows (Win98, Win2000, WinXP)

Software tool -ETLUNIPROG software

1.2 Installing the ETLUNIPROG software

The ETLUNIPROG software designed for support early ETL programming tools that arranged the parts of MS-DOS drivers for each separated board now combine into one software shell.

To install the ETLUNIPROG software, follow these steps:

- 1) Insert ETL CD into your CD-ROM drive **
- 2) Close all running application
- 3) Follow prompts to install software to your hard drive
- 4) Restart your PC when installation completed (optimal)

1.3 Starting the ETLUNIPROG software

The software used communicating with boards (listed above).

The ETLUNIPROG user interface includes simple controls to activate boards and modes of operate.

After start the software click left mouse button on "Device" button and select a programming board , click on "radio" button , next step to

set correct device from right side window. So make three simple steps for Board/IC selection : 1 - Click device button; 2 - Click Board;

3 - Confirm device (See Figure 1) When device is selected you should see a message , that indicate selected device (according to supported board) into the message bar. For example MC68HC705B16 board Already selected (See figure 2).

*NOTE1: Programming boards description see Appendix 1

**NOTE2: Download etluniprog .exe from <http://www.etlweb.com>

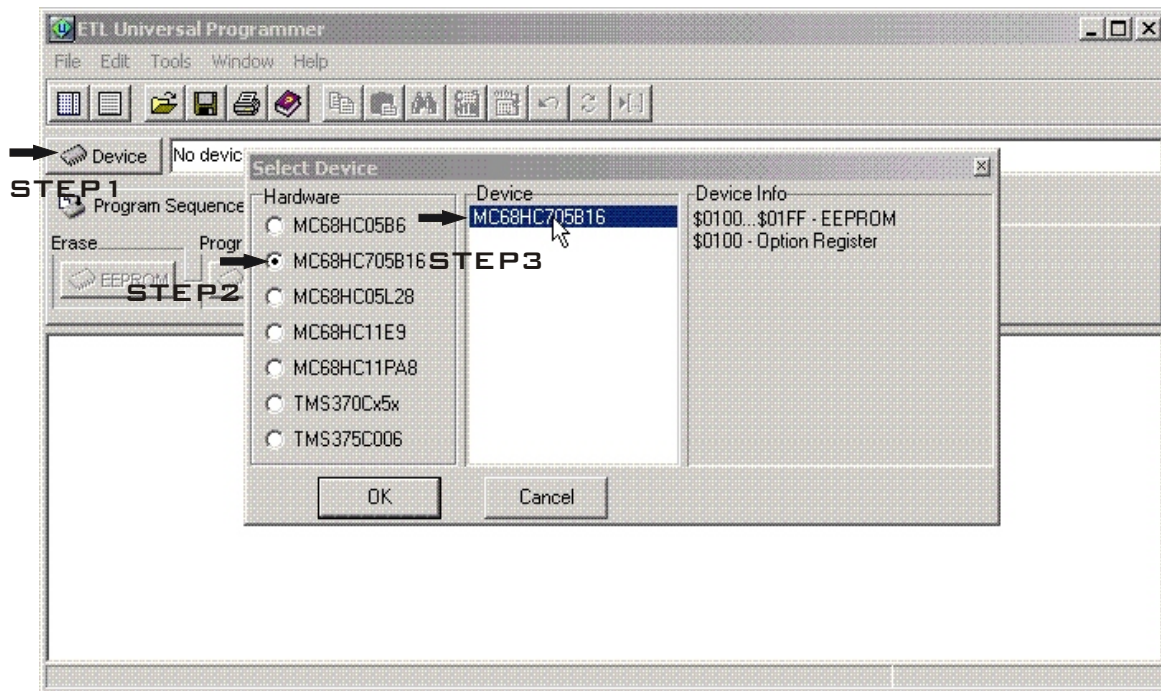


Figure 1 (Select Device)

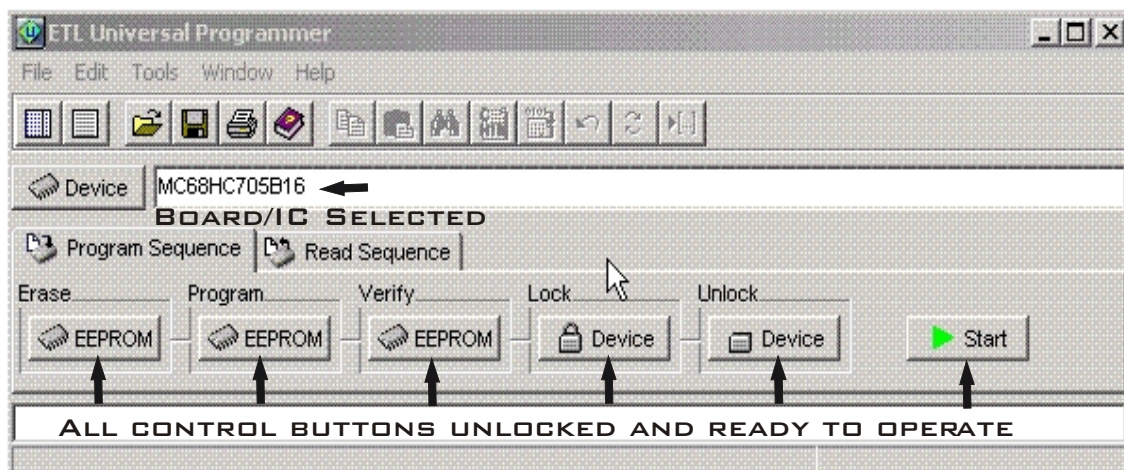


Figure 2 (MC68HC705 board/IC already selected)

Now software ready to operate with selected board/IC. First of all make sure, that board connected to PC communication port (LPT or Com) and supply power to a target board. Second, choice menu Tools and click on Ports Options menu, to configuring your PC ports (See Figure 4). Change the Port number in case of necessary and set speed control slide to slow position (P II/III) or middle position (P IV) ***

**NOTE3: applied to Normal Bi-directional Printer ports. For any other cases use Port expansion card, it can be connected to any free ISA or PCI slot of your PC. MC68HC05L28 programming board must be connected to free Serial Port (Com1-Com4).

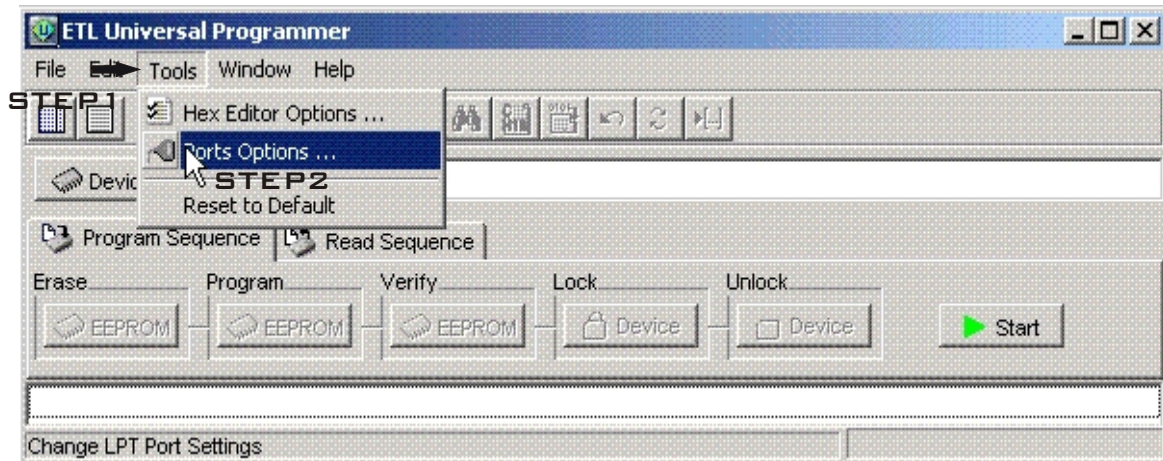


Figure 4 (Select Port options menu)

Set LPT port number
 I/O base addr. \$03F8 /LPT1/
 I/O base addr. \$02F8 /LPT2/
 Set LPT port speed control

Set Serial port number
 I/O base addr. \$0378 /Com1/
 I/O base addr. \$0278 /Com2/

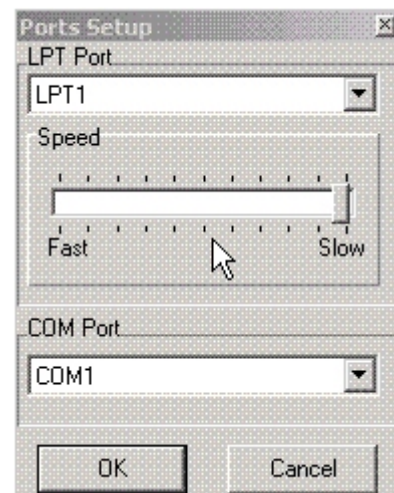


Figure 5 (Port settings inset)

Now choice Program Sequence or Read Sequence docked panel according with your needs, then press a button to activate control and press Start button to begin operation (See Figure 6)

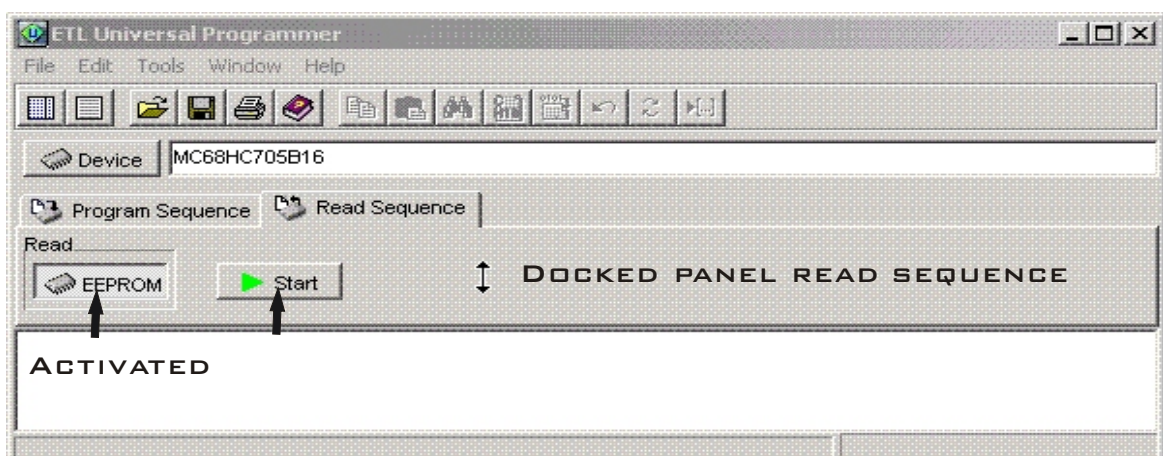


Figure 6 (Button activation)

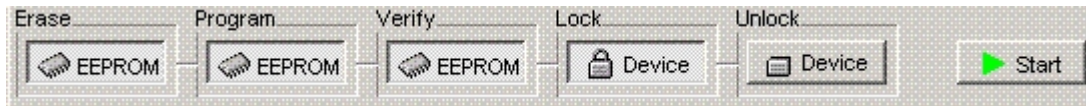


Figure 7 (Control buttons)

BUTTONS CONTROL MEANING:

ERASE - this option erases the EEPROM data from the active device.

PROGRAM - this option programs the EEPROM data active device with the contents of the data array (Dump Editor).

VERIFY - This function compares the EEPROM contents of the active device with the contents of the data array (Dump Editor). It will display an error message and the address if it finds an address where the EEPROM data differs.

LOCK - secured device, when the SEC (NOSEC) bit is changed (See Motorola microcontrollers documentation), its new value will have no effect until the next external or power-on reset.

UNLOCK - unsecured device.

READ - This option reads the EEPROM data active device into the data array (Dump Editor).

ATTENTION: Prior to executing commands, you have to select board/IC as active and insert this explore device in the socket.

OPERATION CONTROL: See manuals of boards currently using.

Default LEDs meaning:

YELLOW (continuously)- power supply turned ON.

GREEN (flashing) - reading device.

RED (flashing) - writing device.

USE BREAK OPERATION:

For interrupt current operation when operation in progress just deselect Start button than click it to deactivate control.

ATTENTION: If operation interrupted this may cause to untemplated results.

MISCELLANEOUS COMMANDS:

COPY - This function copies a block in memory to a new address.

UNDO - As you make changes to the memory buffer, the changes on the data array highlighted (with RED colour as default). If you choose this option, it will reverse all changes made to the highlighted areas.

FIND - search the hex or string value.

PASTE - paste the copied data to specified data array.

FILL - This option is used to fill a block of data array with a specified value. It needs the starting address, the ending address and the value to be copied into this block of data array.

GO TO ADDRESS: go to specified address.

SELECT ALL - select all data array contents.

If after start you should see message similar to this one (Figure 8), check next items:

- 1) Power supply connection is present on target board?
- 2) Interface cable (LPT or Serial cable) attached to target board or PC?
- 3) All contacts in the target socket is good?
- 4) Explored IC not damaged?

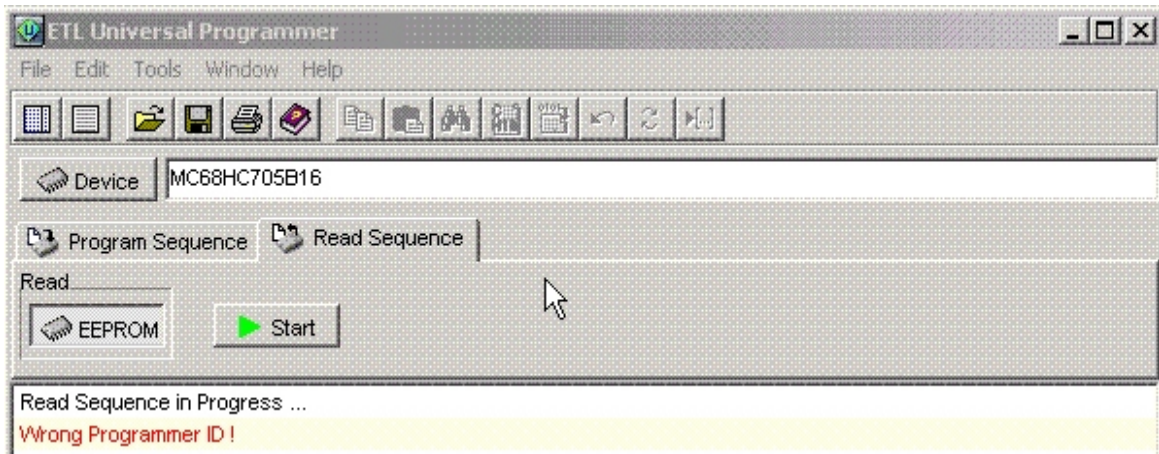


Figure 8 (Error message)

If after start you should see message about successful, when operation completed, save data into a file or make changes in the data array (Dump Editor) according with your needs. Than click Dump Editor button:

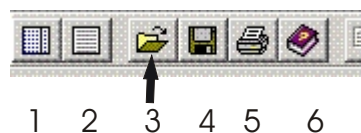


Figure 9 (Common buttons meaning)

Common buttons meaning:

- 1 - Dump Editor button
- 2 - Description button
- 3 - Open file button
- 4 - Save button
- 5 - Print button
- 6 - Help button (This manual)

The data array included all 64K address space (it reserved for future needs) from \$0000 to \$FFFF. In case of necessary to load dump contents less, than specified please use offset control function.

For example: there is a need to load into data array 256 bytes file, that started from address \$0000 for EEPROM data location of MC68HC705B16 microcontroller, that located from \$0100 to \$01FF. So follow next steps: Click Open file button (see figure 9),


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00000000 38 67 0C 75 00 00 00 00 00 00 00 00 00 00 00 00
00000010 01 12 01 26 01 6A 01 54 01 30 01 74 01 94 00 00
00000020 01 8E 01 54 01 6A 01 98 01 04 01 20 01 30 00 00
00000030 01 94 01 92 00 88 00 56 00 88 01 92 01 92 00 05
00000040 01 8E 00 00 00 00 00 00 00 00 01 00 00 00 00 00
00000050 00 00 46 41 3C 39 00 00 00 00 00 00 00 00 00 00
00000060 55 AA 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00000070 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00000080 8B 74 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00000090 8B 74 00 00 00 00 00 00 00 00 00 00 00 00 00 00
000000A0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
000000B0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
000000C0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
000000D0 55 55 55 55 55 55 55 55 55 55 55 55 12 34
000000E0 56 57 00 61 6C 70 68 61 00 34 AA 55 5A A5 00 00
000000F0 01 10 92 00 00 00 00 00 00 00 00 00 15 0E 15 0E

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Figure 10 (Example file)

then disable "Load Entry File" flag, enter addresses and click OK button
Now you can find loaded data into address array according with
adjusted offset value into required address space.

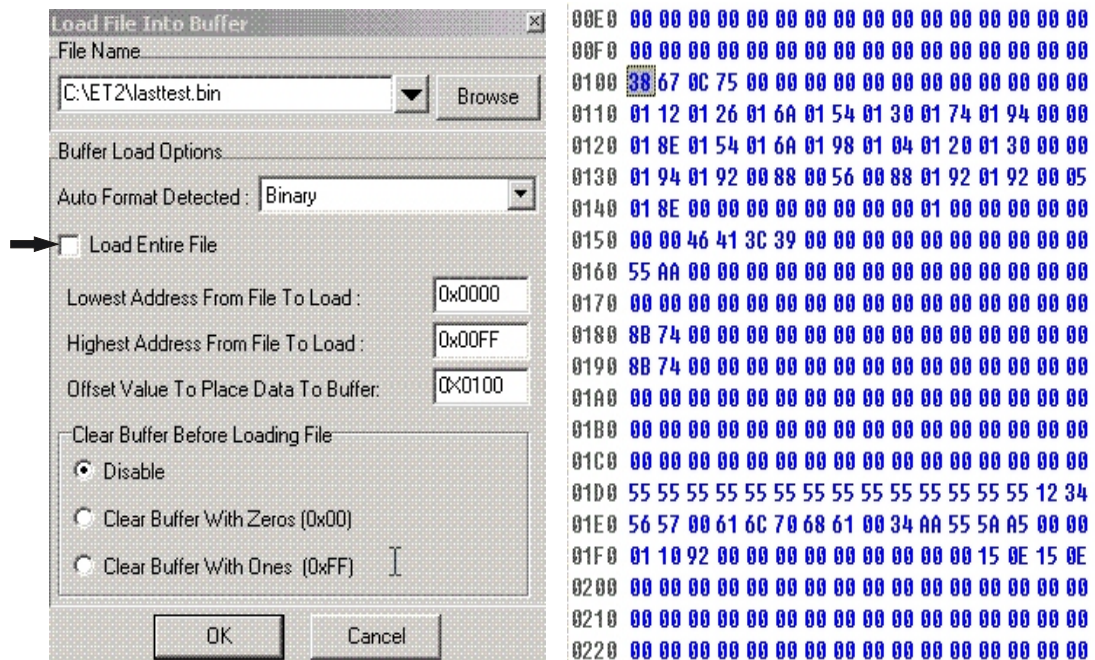


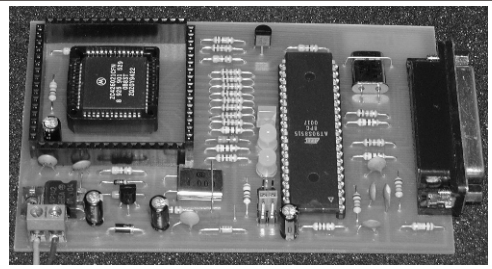
Figure 11 (Offset settings and result array)

2.0 Maintenance of the ETLUNIPROG software

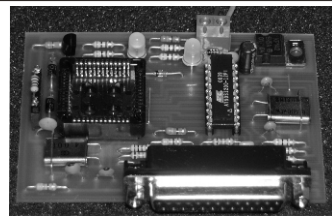
For any troubles, such as disabling string window, progress bar and etc., click Tool panel and chose "Reset To Default" button then click it to restore all previous correct settings.

To uninstall the ETLUNIPROG software tool, click Icon My Computer, then click Control Panel and ADD/REMOVE programs button and remove it in case of necessary.

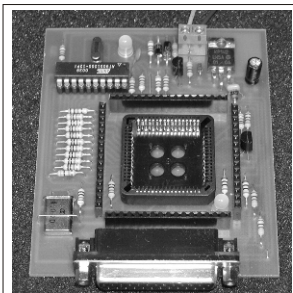
APPENDIX 1:



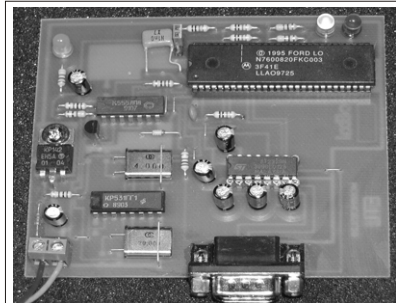
MC68HC705B16 PROG. BOARD.
Supported devices: MC68HC05B6,
MC68HC05B8, MC68HC05B16,
MC68HC05B32, MC68HC705B16,
MC68HC705B32, MC68HC05X16,
MC68HC05X32, MC68HC705X16



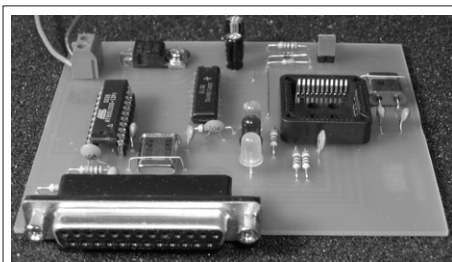
MC68HC05B6 PROG. BOARD.
Supported devices: MC68HC05B6,
MC68HC05B8, MC68HC05B16,
MC68HC05B32



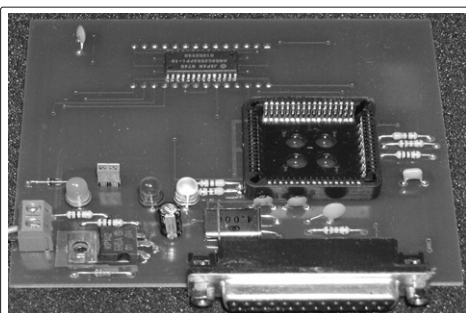
MC68HC11PA8 PROG. BOARD.
Supported devices: MC68HC11PA8,
MC68HC11KA4, MC68HC11KA1,
MC68HC11PA2



MC68HC05L28 PROG. BOARD.
Supported device:
MC68HC05L28

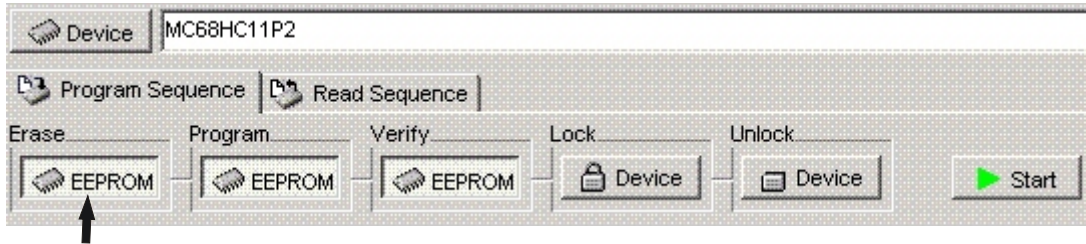


TMS375C006 PROG. BOARD.
Supported devices:
TMS375C006, TMP375C706



TMS370Cx5X PROG. BOARD.
Supported devices:
TMS370C756(A), TMS370C758(A)

Errata (MC68HC11PA8 Prog. Board):

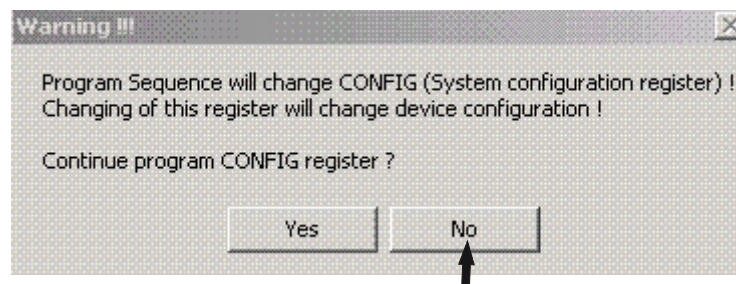


When you using MC68HC11PA8 programming board with ETLUNIPROG software , click ERASE button for every WRITE procedure. (Applied to all supported devices MC68HC11KA1, MC68HC11KA4, MC68HC11PA8, MC68HC11P2).

ATTENTION:

DON'T click LOCK and UNLOCK buttons for MCU's with modify bootstrap loader (for example mask set 0D58J, 1D58J) - this modes can damage CONFIG register data or data will be lost.

After click Start button you should see message similar to this one:



Click No for cancel CONFIG register programming.