Using the ChipMax Universal Programmer

The ChipMax Universal Programmer will be used to program Programmable Logic Devices (PLDs) in lab. The PLD programmer is simple to use: we simply need to give it information on what type of device is to be programmed and to download the JEDEC file (.JED) produced by PLDShell or some other PLD development software. Detailed procedures are shown below.

Procedure:

1.   Use PLDShell or some other PLD development software to generate the JEDEC file for the circuit to be programmed into the PLD.
2.   Turn on the PLD programmer and the computer to which it is connected.
3.   Insert a PLD into the programmer. Be careful as the devices are *static sensitive*.
4.   Launch the PLD programmer software using the MAXLOADER icon on the screen or by using START – PROGRAMS – EETOOLS - MAXLOADER (from taskbar). The main window should appear as shown in Figure 1 below.
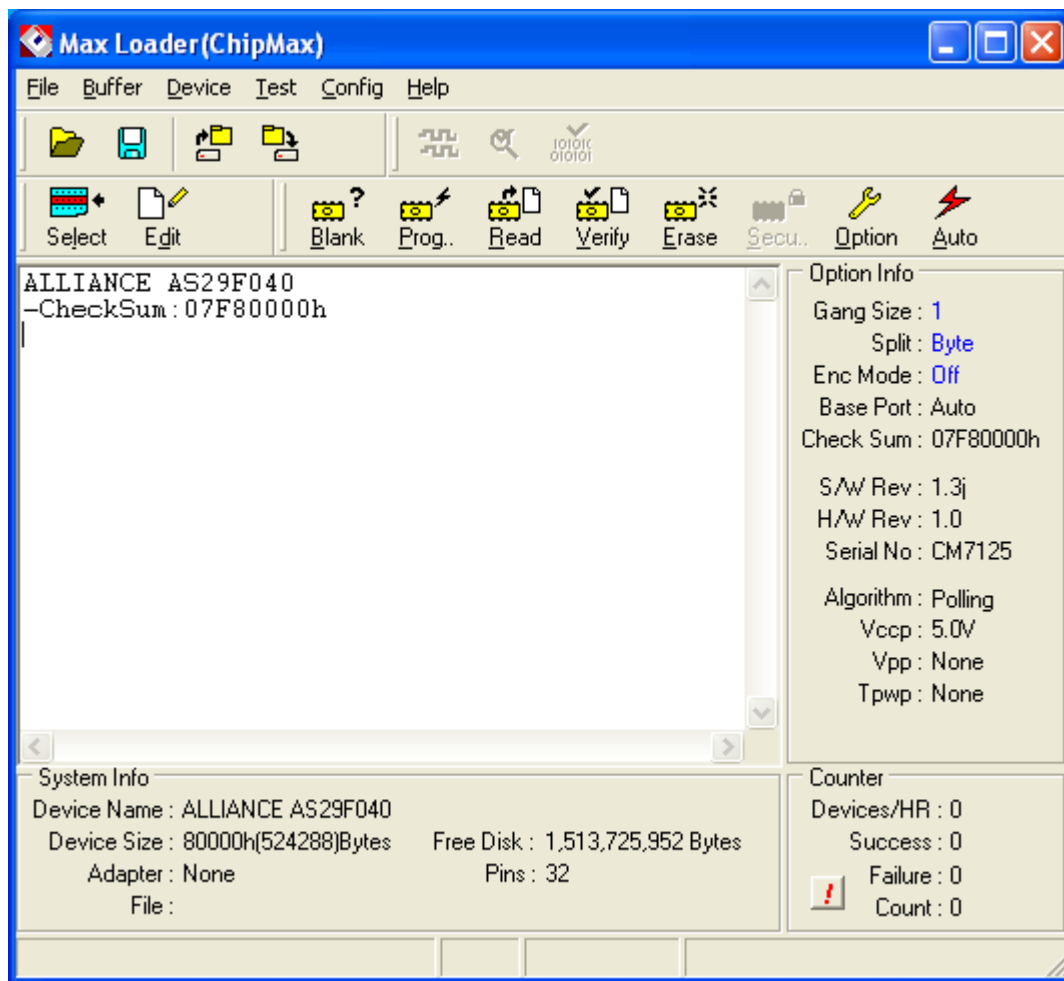

Figure 1:   CHIPMAX Main Window

5. Pick **Device - Select** from the menu (or use the Select tool) and then select the manufacture name (Lattice) and device name (GAL22V10/B/C/D) as shown in Figure 2 below.
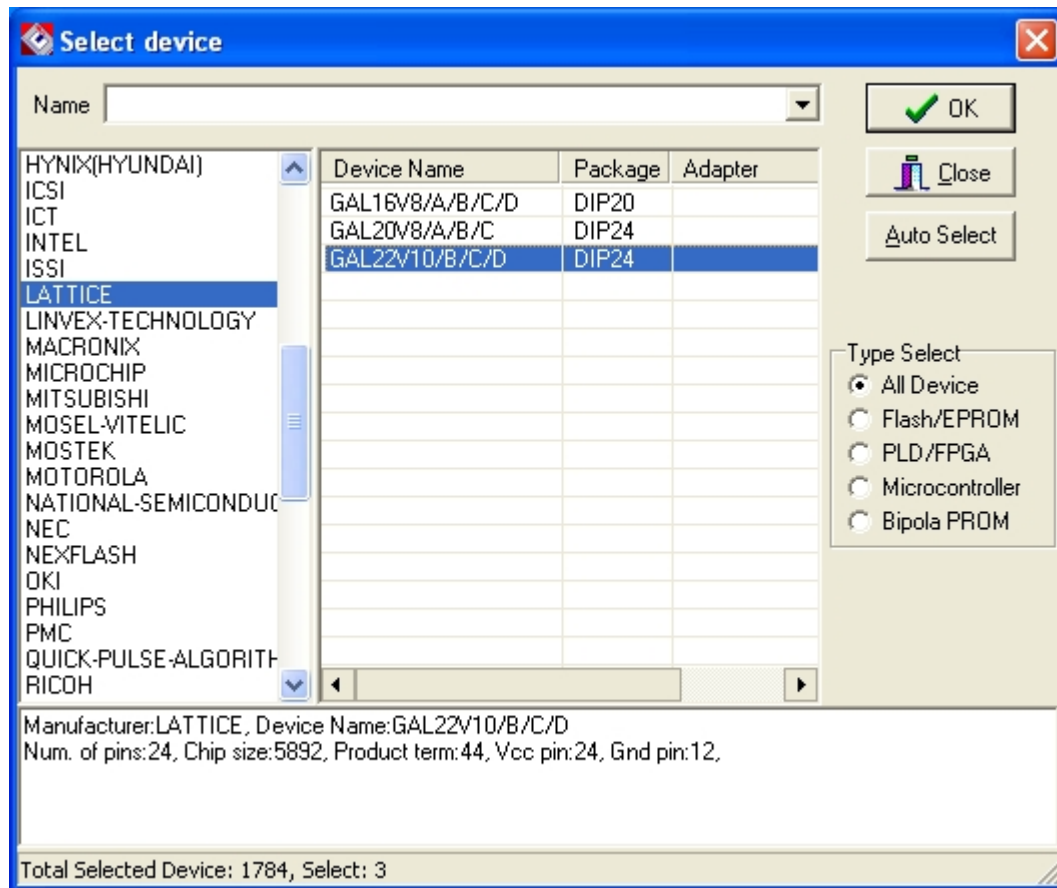

Figure 2:   Selecting the device to program

6. Pick **File - Load** from the menu (or use the File – Load tool) and then select the appropriate JEDEC file (E:SOP3.JED in this case) as shown in Figure 3 below.
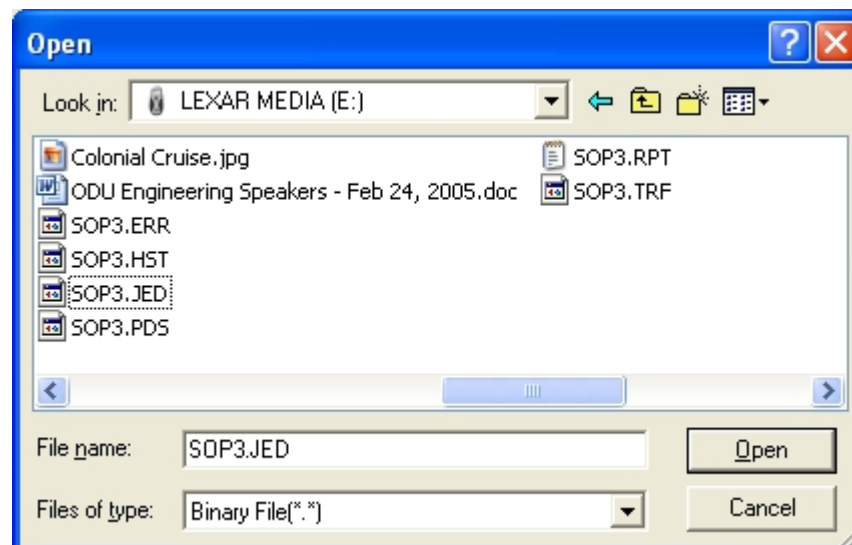

Figure 3:   Specifying the JEDEC file

7. Pick **Device - Auto** from the menu to automatically program the PLD (or the Auto tool). This will perform 5 actions (which can also be performed separately if desired):
   a) Erase the PLD
   b) Perform a Blank Check on the PLD
   c) Verify the contents of the PLD
   d) Set the Security option on the PLD
   e) Check the test vectors on the PLD

Responses to each of the five actions should appear on the screen as shown in Figure 4 below.
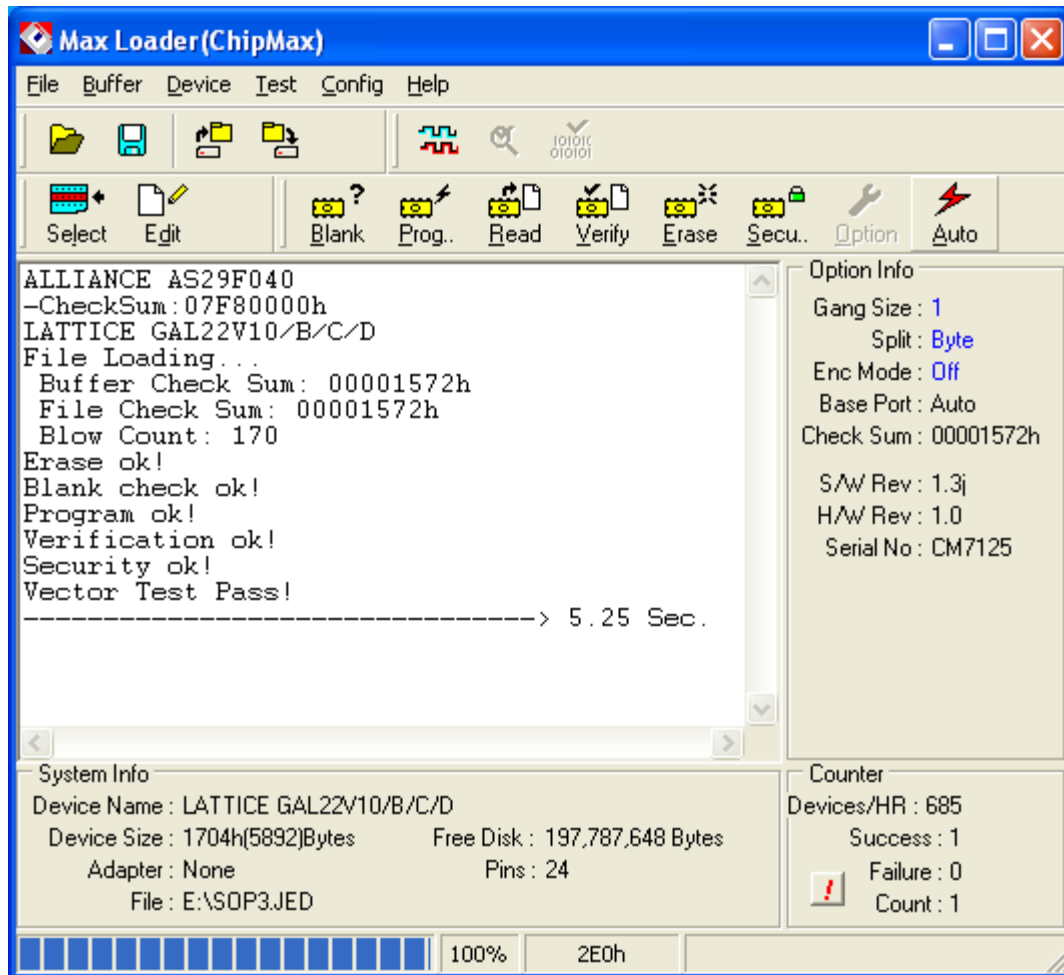

Figure 4: Auto Programming the PLD

8. Remove the PLD from the universal programmer.