## 1 JTAG DLL Insert to Quartus Prime

The JTAG DLL Insert to Quartus Prime allows the Programmer Tool under Quartus to recognize the UnoProLogic. Locate the \Drivers\EPT\_Blaster folder on the EPT FPGA Development System DVD.

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Follow these directions:

- 1. Open the C:\:\..\UNOPROLOGIC\_USB\_CPLD\_PROJECT\_x.x\_DVD  $DriversEPT_Blasterx64$  folder.
- 2. Select the file "jtag\_hw\_mbftdi\_blaster.dll" and copy it.
- 3. Browse over to C:\intelFPGA\_lite\xx.x\quartus\bin64.
- 4. Right click in the folder and select Paste
- 5. Click Ok.
- 6. Open the Quartus Prime application.

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The DLL is installed and the JTAG server should recognize it. Go to the section "Programming the CPLD" of this manual for testing of the programming. If the driver is not found in the Programmer Tool->Hardware Setup box, see the JTAG DLL Insert to Quartus Prime Troubleshooting Guide.

## **1.1** Programming the CPLD

Programming the CPLD is quick and easy. All that is required is a standard USB-C cable and the EPT\_Blaster Driver DLL. Connect the UnoProLogic to the PC, open up Quartus Prime Lite, open the programmer tool, and click the Start button. To program the CPLD, follow the steps to install the USB Driver and the JTAG Driver Insert for Quartus Prime Lite.



If the project created in the previous sections is not open, open it. Click on the Programmer button.



The Programmer Window will open up with the programming file selected. Click on the Hardware Setup button in the upper left corner.

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The Hardware Setup Window will open. In the "Available hardware items", double click on "EPT-Blaster v1.0".

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			Remove Hardware

If you successfully double clicked, the "Currently selected hardware:" dropdown box will show the "EPT-Blaster v1.0 (64)".

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Click on the Auto-Detect button. This will verify that the EPT-Blaster driver can connect with the UnoProLogic device.

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Select the 5M570 under "Device".

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Click on the "Change File" button and browse to the output\_files folder.

Programmer - C:/Users/nelso	Documents/EPT_5M57_AP_M4_	Transfer_Test/EPT_5M57_AP_M4_Top/EPT_5M57_AP_M4_To	p - EPT_5M57_AP_M4_Top - [EPT_5M57_A	P_M4_Top.cdf]*	
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Click on the EPT\_5M57\_AP\_U2\_Top.pof file to select it.

Programmer - C:/Users/nels	elso/Documents/EPT_5M57_AP_M4_Transfer_Test/EPT_5M57_AP_M4_Top/EPT_5M57_AP_M4_Top - EPT_5M57_AP_M4_Top - [EPT_5M57_AP_M4_Top.cdf]*	
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Click the Open button in the lower right corner.

Next, selet the checkbox under the "Program/Configure" of the Programmer Tool. The checkboxes for the CFM and UFM will be selected automatically.

dware Setup EPT-JTAG	-Blaster v1.0 (64) [MBUSB-0]		Mo	de: JTAG		•	Progress	:		
le real-time ISP to allow ba	ckground programming when	available								
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Click on the Start button to to start programming the CPLD. The Progress bar will indicate the progress of programming.

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When the programming is complete, the Progress bar will indicate success.

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At this point, the UnoProLogic is programmed and ready for use. To test that the CPLD is properly programmed, bring up the Active Host Test Tool. Click on one of the LED's and verify that the LED selected lights up. Press one of the switches on the board and ensure that the switch is captured on the Active Host Test Tool. Now you are ready to write some code to transfer data between CPLD and PC.