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EEL3701C - Fall 2025

Lab Software Installation (Windows)

This installation guide will walk you through installing **Quartus Prime Lite Edition v24.1**, **ModelSim v20.1.1, Logisim Evolution v3.9.0**, and WaveForms on Windows. You will be using this software in various other courses, such as *Digital Design* (EEL4712C), and *Microprocessor Applications* (EEL4744C).

Installing Quartus Prime Lite Edition v24.1

1. Navigate to the [Quartus 24.1 Installer](#) page.
2. Download the **Intel Quartus Prime Lite Edition Installer (SFX)**:

3. After it has finished downloading, run the installation file:
   "*qinst-lite-windows-24.1std-1077.exe*"
4. Make sure that the following items are checked off before installing:
   - Quartus Prime
   - MAX 10 FPGA device support
   - Quartus Prime Programmer and Tools
   - After-install actions
   - Agree to Intel License Agreement

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Look at the image below to ensure that you have checked off everything you need to install the software:

5. Click **Download and Install** at the bottom. This will take some time!
6. Once the installation is complete, it will open up the USB connector software. Click **Next** to start the installation, and if it doesn't work, follow the instructions at the bottom in the **Troubleshooting: USB Blaster** section.

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Installing ModelSim v20.1.1

1. Install **ModelSim 20.1.1** from the Installer Page.

Downloads

Multiple Download   Individual Files   Additional Software   Copyleft Licensed Source
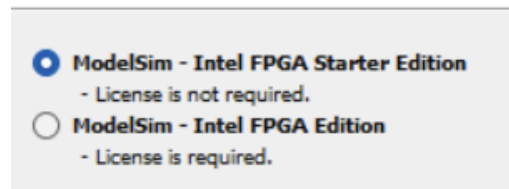
Intel® Quartus® Software

ModelSim-Intel® FPGA Edition (includes Starter Edition)

Download
ModelSimSetup-20.1.1.720-windows.exe

Size: 1.2 GB
SHA1: d484e4c7882fca584a9b0243cbbd74953a4aeb25

2. After the ModelSim software has finished downloading, run the installation file: "***ModelSimSetup-20.1.1.720-windows.exe***"

3. Click **Next** until it prompts you with the edition you would like to install. Select the default "**ModelSim- Intel FPGA Starter Edition**", where a license is not required. Click **Next**.

Select the ModelSim edition you like to install

○ **ModelSim - Intel FPGA Starter Edition**
 - License is not required.
○ **ModelSim - Intel FPGA Edition**
 - License is required.

4. Accept the license agreement, then press **Next**.
5. Leave the installation directory as the default: "**C:\intelFPGA\20.1**", then click **Next** twice to finish installing the software.

Installing Logisim Evolution v3.9.0

1. Navigate to the [Logisim Evolution v3.9.0 release page](#).
2. Install the version based on what type of system you have.
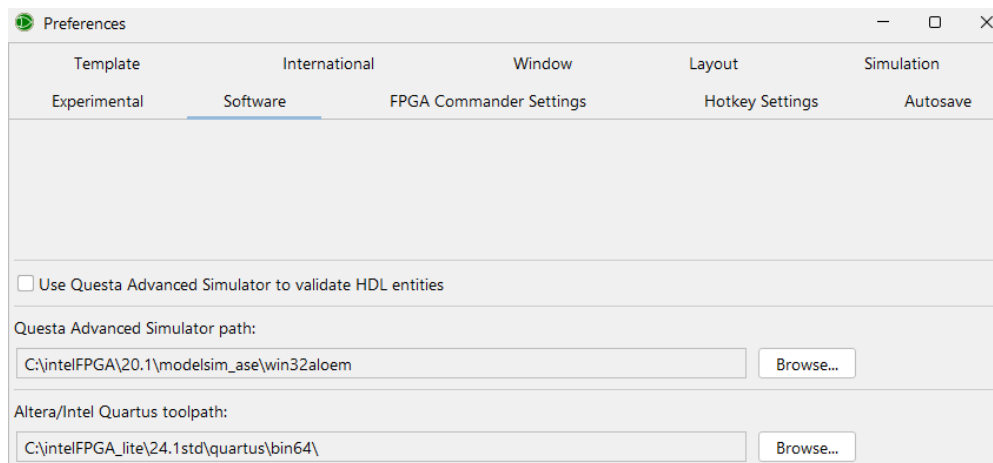
Finding your version:
You can check what type of processor you have by going to **Settings > System > About**. It will show your system type (example of x86_64 processor).

System type	64-bit operating system, x64-based processor

If this is you, get the **x86_64.msi** version. Otherwise, you can get the aarch64 msi version.

Integrating Logisim with Quartus and ModelSim

1. Open up Logisim and navigate to **File > Preferences**
2. Add these paths to the '**Software**' tab:

Questa Advanced Simulator path (ModelSim 20.1.1):
"**C:\intelFPGA\20.1\modelsim_ase\win32aloem**"

Altera/Intel Quartus toolpath (Quartus 24.1):
"**C\intelFPGA_lite\24.1std\quartus\bin64**"

These are the executable paths that allow Logisim to use the power of these 3rd-party softwares to simulate complex circuits, as well as program the DE10-Lite board you will be using in the labs.
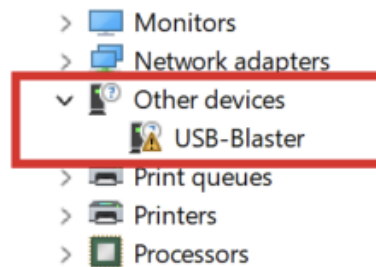
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Installing WaveForms

You can find WaveForms for all major operating systems <u>here</u>.
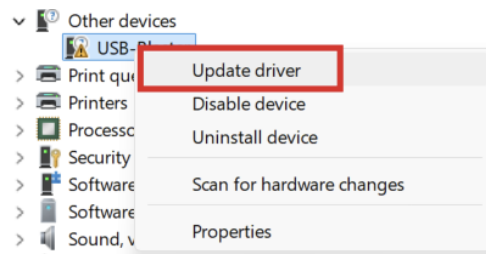
Troubleshooting: USB Blaster

<u>Here are the preliminary steps to set up the USB Blaster:</u>

1. Plug in the DE10-Lite board to your computer. Navigate to the **Device Manager** application, and find the board here (*called USB-Blaster*):

2. Update your driver:

3. Click **Browse my Computer for drivers** (locate and install a driver manually).
4. Click on **Browse**, and navigate to the following location:
   "**C:\intelFPGA_lite\20.1\quartus\drivers\usb-blaster**"

5. Click **Next**. *Hopefully* the installation worked.
   Note: If this **DID NOT** work for you, try and follow the next steps.

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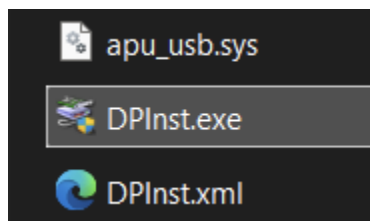**EEL3701C - Fall 2025**

These are some potential solutions that could work. The solutions are in order of 'easier' to 'harder' to get working. Please try these, and if nothing works, please work with a PI to fix it.

Solution 1:
You can try following the USB-blaster setup instructions again but using the following driver: "**C:\intelFPGA_lite\24.1std\quartus\drivers\usb-blaster-ii**"

Solution 2:
Navigate to "**C:\intelFPGA_lite\24.1std\quartus\drivers**" in your *File Explorer.* Run the executable called "**DPInst.exe**" – this will pull up the GUI to help you install the driver.

Solution 3:
Open this link and download "**Usb_blaster_q16.1.zip**". Unzip this repository. Select "Update driver" like in the original instructions.. Select 'Browse my computer for drivers" and navigate to the parent directory of the extracted zip you downloaded and choose OK. A pop up may appear asking to install a driver, allowing it to be installed.

Solution 4 (Not recommended):
In the Windows Security app, from the sidebar go to Device Security > Core Isolation, turn off "Memory Integrity" then restart the computer. After that go back to Device Security > Core Isolation in the Windows Security app and turn off "Microsoft Vulnerable Driver Blocklist". Perform **solution 3** from this point onwards. Once your driver updates successfully and the blaster appears in the Quartus programmer's hardware setup window, *it is highly recommended to re-enable the disabled security features.*

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FAQ

1. **What if I am using a Mac or Linux?**

See the following instructions for:

Macintosh M-Series: https://mil.ufl.edu/3701/docs/quartus/Quartus_on_MAC_M1.pdf

Linux: See this document for installation instructions

2. **Where should I set up my Quartus and Modelsim Projects?**

You should create a folder within your C:\ or user directory for projects. **DO NOT** put spaces or special characters other than underscores in your file or directory names.

It is also not recommended to store these within OneDrive, as it can create issues where Modelsim believes a file is being continuously updated when syncing with OneDrive, necessitating many compiles. The desktop on Windows 11 is backed up to OneDrive by default, hence you should create your Digital Logic folder somewhere other than your desktop.

If you cannot find your C: Drive, go to **This PC**, and it should show up.