

**UF-4712 Board Test Guide**  
Revision 0

## UF-4712 Board Test Procedure

Once you have finished soldering the UF-4712 board, you need to run the test program. The test program will verify that the FPGA, clock, PS/2 port, and VGA port are functioning properly, but it will not test any of the switches or LED blocks.

- Start by plugging the power adapter into your board. The power LED should light up.
- Now add two jumpers to the JEPC headers in the upper left corner of the board. Also add jumpers to Pins 3, 4, 115, 118, 119, 120, and 121. These jumpers connect the FPGA on the board with the PS/2 and VGA ports.
- Now plug the USB (or parallel port) ByteBlaster to the port labeled BB (for ByteBlaster). Be sure not to plug it in backwards.

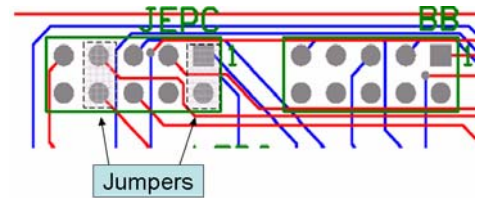


Figure 1. Jumpers for test program.

- Plug a VGA monitor and PS/2 keyboard into the UF-4712 board. The board is now ready to be programmed!
- Go to the class website and download the test file (EEL4712\_Test.sof) at [http://mil.ufl.edu/4712/docs/uf-4712\\_board/EEL4712\\_Test.sof](http://mil.ufl.edu/4712/docs/uf-4712_board/EEL4712_Test.sof). (If Quartus is not installed, install it using the instructions on the class website.)

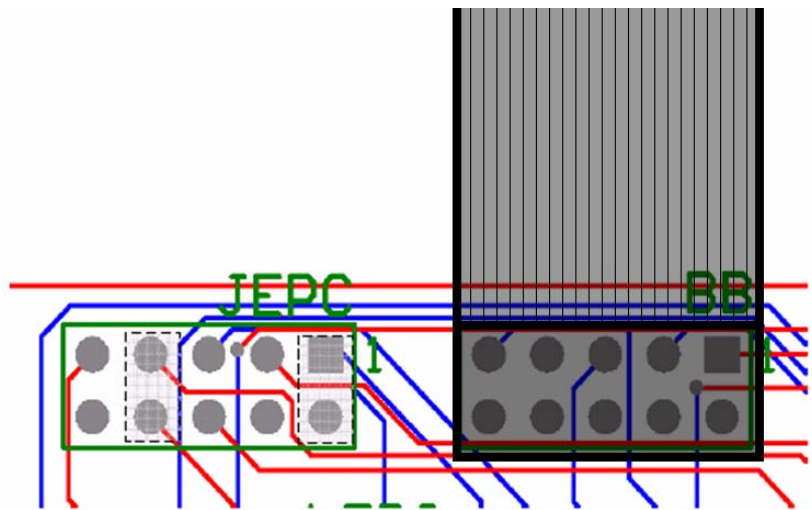


Figure 2. ByteBlaster cable connection.

- Connect the USB (or parallel port) ByteBlaster to your computer. If you have not used the ByteBlaster before, you need to install the driver. The driver is in the Quartus folder, probably “C:\altera\71sp1\quartus\drivers\usb-blaster”.
- Open Quartus and go to Tools- | Programmer. Select the “Hardware Setup” button. You should see “USB Blaster” under Available Hardware Items. Click on “USB Blaster” to highlight it and then click the “Close” button. Click on the “Add File” button and find EEL4712\_Test.sof. Check the “Program/Configure” box and click “Start”. The status bar should go to 100% and the messages area at the bottom of the screen should say “Device Programmed Successfully”.
- The VGA monitor should display some text and color bars. Type something slowly on the keyboard and confirm that it appears on the screen. You have now successfully tested your board!