A-Z80 Quick Start

Windows first time setup; download and install the following tools:

**Altera** *Quartus II Web Edition*: <https://www.altera.com/download> OR

**Xilinx** *ISE Webpack*: <http://www.xilinx.com/products/design-tools/ise-design-suite.html> OR

**Lattice** *ICECube* toolchain from Synopsys.

For Altera DE1 board, the latest free version that supported Cyclone II was Quartus 13.0 SP1.

Download *ModelSim* from the same Altera site.

Python 3.5.x: <https://www.python.org/downloads/>

*How do I add A-Z80 sources to my Z80-based project?*

Run Python script “cpu/export.py” which will copy all core CPU files to a directory of your choice. Then, add all Verilog (\*.v) files to your project and ensure that Verilog include files (\*.vh) are on the include path (do not explicitly add those). Instantiate a CPU using “z80\_top\_direct\_n” module declared in the “z80\_top\_direct\_n.v” file.

Note for the users of Lattice FPGA toolset: instead of “data\_pins.v”, manually copy and use “data\_pins\_lattice.v file” instead.

*How do I setup my Altera DE1 board to run Sinclair ZX Spectrum?*

Flash the ZX Spectrum combined ROM package (“host/zxspectrum\_de1/rom/combined.rom”) into the flash memory at address 0. Use “DE1\_ControlPanel.exe” utility from your DE1 CD disk (you can also download it from terasic.com site).

In Quartus: open, compile and flash project “host/zxspectrum\_de1/zxspectrum\_de1.qpf”.

Connect VGA, PS/2 keyboard and line-in to load Spectrum programs. Plug in a set of earphones to Line-out.

You can select from thousands of ZX Spectrum games and load them by using *Baltazar Studios’* [PlayZX](http://play.google.com/store/apps/details?id=com.baltazarstudios.playzxtapes) app which was built just for this purpose and can be found on Google Play store.

*Still stuck?*

Read the full *User’s Guide*.

Visit [www.baltazarstudios.com](http://www.baltazarstudios.com), post a question and/or send me an email.

In any case – I would like to hear from you --

Hope you have fun using it,

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