DIY DEVICES

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DIY Cellphone

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Ordering the Circuit Board

You can order a version of the circuit board from OSH Park. It costs about $60 and you get three copies of the board.

- Order LCD variant from OSH Park.
- Order LED matrix variant from OSH Park.

Alternatively, you can upload the Gerber files to a fabrication service yourself, either OSH Park, Advanced Circuits, AP Circuits, or a number of others. Each time I order boards, I save the Gerber files in my GitHub repository, in a directory named according to the date. Find the latest here: LCD variant, LED matrix variant.

There are a few different files in the directory:

- .cmp: top (component) side copper layer (i.e. the lines of copper forming the actual electronic connections on the top side of the board)
- .sol: bottom (solder) side copper layer (same, for the bottom of the board)
- .stc: top (component-side) solder mask (stop) layer (i.e. the green layer covering the copper)
- .sts: bottom (solder-side) solder mask (stop) layer
- .plc: top (component-side) silk screen (legend) layer, plus overall board dimensions (i.e. the white text on the top of the board, plus a line indicating the overall board shape for which there isn't a separate file)
- .pls: bottom (solder-side) silk screen (legend) layer (white text on the bottom of the board)
- .drd: (excellon) drill file (specifies where holes should be drilled in the board and how big they should be)
- .dri: drill tool file, often not needed (text description of the drill sizes used)

You'll need to upload these (typically in a single zip file) and sometimes specify which file is what. This is a two-layer board, 5.15″ x 2.3″, and the standard options for board thickness (0.62″), copper weight (1 oz), and solder mask should be fine. You'll want to get solder mask and silk-screen on both sides. Getting the corners rounded might count as a complex shape and cost extra; I think it's worth it but it's not necessary.

Next: Getting the Parts **»**

One Response to "Ordering the Circuit Board"

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1.   *admin* says:

[November 6, 2014 at 3:47 pm](#)
Some PCB services might expect different extensions, so you might need to rename some files first**.**

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