Finding a board supplier

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I'm having a little difficulty with my board supplier. Lead times are lengthening which is putting my schedules for some projects in trouble. The market for the PCB service I'm using/looking for is kind of new and obviously things haven't settled out. And what is the service? Small volumes - 1 to 25 pieces. Non-standard software - use your favorite design package (I like FreePCB [1]). This gives you options. Like trying some one else. No NRE (or a price so low that it doesn't matter). To get to the no NRE point, Design Rule Checking must be automated and the process standardized as much as possible - for instance one service I'm aware of only allows 10 standard hole sizes. Below is a survey of some houses I'm familiar with and some I have found on searches. If you know of others, have an experience to share, or just want to flack your company leave a note in the comments.

DorkbotPDX [2]. I have ordered boards from them. Their quality is excellent. They will hold 6 mil lines and 13 thou vias. And the price is $1.67 per square inch in lots of three (or $5 a square inch for the lot). Very nice.

BatchPCB [3] a part of SparkFun Electronics. They charge $2.50 a square inch and you can order one. There is a $10 NRE per order (I'm not sure if that means per board or just $10 if you submit a group of boards). Minimum via size is 20 thou. Line is 8 mils. You can sell your designs through them. [4]

AP Circuits [4] is the supplier with 10 standard drill holes. The price runs $5 a square inch for boards with no solder mask or silkscreen. The killer is the shipping. About $25 minimum. They are a Canadian Company and only use FedEx.

Factory Automation Software Blog - Merging modern software development with electrons and metal [5] has some thoughts on what these low cost prototypes mean for design, development, and (what else?) factory automation. Mr. Automation likes Sierra Circuits, Inc. [6] for PCB prototypes.

What does all this mean? Well for one thing the price of prototypes is going down. Another thing it means is that you will probably never wire a project again. I have done only 2 wire jobs in last 40 years. And they had to pay me. Otherwise I have

been a strictly PCB guy. I know when I say that now I get odd looks from time to time. In the future I expect only knowing nods. Why have I done things that way? First off I do every design with the idea that it could lead to volume production. That means I might as well get to know the PCB as an object from the start. The second reason is electrical. Wires and solderblobs and indefinite ground planes are different from foils with known spacings. Might as well avoid two different problem domains from the beginning. And now there is very little economic penalty for a PCBs only policy. And if you are willing to pay a little more even the time disadvantage can be erased. Besides - I can't even contemplate hand wiring a 6 pin SOT23 along with its associated bypass capacitor. Doing it on a board is easy. Even for an old man with bad eyes (the First Mate just bought me a pair of Walgreen's 3.25 magnification reading glasses - they work wonders) and shaky hands (you have to brace them properly for the fine work). Keep the tweezers handy.

M. Simon's e-mail can be found on the sidebar at Space-Time Productions [7].

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