



UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

September 15, 2011

Via E-mail

Bradley A. Cleveland
Chief Executive Officer
Proto Labs, Inc.
5540 Pioneer Creek Drive
Maple Plain, MN 55359

**Re: Proto Labs, Inc.
Amendment No.1 to Registration Statement on Form S-1
Filed: August 31, 2011
File No.: 333-175745**

Dear Mr. Cleveland:

We have reviewed your registration statement and have the following comments.

Prospectus Summary

Overview, page 1

1. We note your response to comment 11 in our letter dated August 19, 2011. In an appropriate section of the filing, please revise your disclosure to incorporate your response articulating the basis of your market leadership position.
2. We note your response to comment 12 in our letter dated August 19, 2011. We continue to believe that your disclosure of a “significant growth” in total revenues should be counter-balanced by quantifiable disclosure regarding the change in your operating expenses during the same time period. Such disclosure will allow investors to quickly ascertain the measure by which your business has grown. We note for example, that your disclosure in the last paragraph on page 34 does not quantify the increase in your operating expenses.

Our Industry and Market Opportunity, page 1

3. We note your response to comment 13 in our letter dated August 19, 2011. We have also reviewed the supplemental information provided in response to that comment. The disclaimer on the cover page of the Jon Peddie Research Report states that the report is made available “to a restricted number of clients” and that the “[r]eproduction or disclosure in whole or in part to parties other than the John Peddie Research client who is not the original subscriber to th[e] report is permitted only with the written and express consent of Jon Peddie Research.”

Please advise, or otherwise file a consent by Jon Peddie Research in accordance with Rule 436 of Regulation C and Section 7 of the Securities Act of 1933.

Management's Discussion and Analysis of Financial Condition and Results of Operations, page 34

Results of Operations, page 37

4. We have read your response to comment 22 in our letter dated August 19, 2011. You disclose on page 39 that your overall revenue growth was driven by a 62.6% increase in U.S. revenue, a 53.4% increase in international revenue, a 53.1% increase in Protomold revenue and a 87.8% increase in Firstcut revenue, in each case for the six months ended June 30, 2011 compared with the same period in 2010. However, you do not provide an analysis that explains the underlying reasons for the increase in U.S / International revenue and Protomold / Firstcut revenue. For example, if sales increased as a result of your marketing efforts that you discuss on pages 3, 40, and 61, please amend your filing to disclose marketing as a contributing factor to the increase in sales. Additionally, if you determine that market opportunities, as discussed on page 58, contributed to increased sales please amend your filing to discuss the impact on sales related to the increase in market size. This comment is also applicable to your analysis of cost of revenue and gross profit. See Section 501.04 of the Financial Reporting Codification.
5. We have read your response to comment 24 in our letter dated August 19, 2011. Please expand MD&A to fully explain the factors which have adversely impacted the profit margins of your international operations. In this regard, we again reference your prior disclosure regarding international gross margins being less than domestic gross margins. We also note the disclosure on page 12 that the geographic distribution of sales could materially impact your operating results. The disclosure on page 13 indicates that economic conditions in foreign markets materially impact your operating results. The disclosure on page F-14 states that a 2010 impairment charge was required at your Japanese subsidiary. The disclosure on page F-19 indicates that your international operations have been unprofitable since 2009. Given the materiality of your foreign sales and assets and that you intend to expand your international operations (page 4), please disclose the specific factors that have materially impacted your foreign operations. Also, please disclose any known financial or non-financial trends that could cause an impairment in your foreign assets. See Section 501.12.b.4 of the Financial Reporting Codification.

Gross Margin, page 39

6. We note that higher capacity utilization positively impacted your gross margins in both 2010 and 2011. Please either quantify your estimated capacity utilization or provide a disclosure that enables an investor to understand the extent to which your existing capacity is being used. Absent such disclosure, a reader cannot assess the extent to which this factor can positively impact future periods i.e. similar future benefits would not be expected if you are near 100% capacity utilization. See Section 501.12.b.3 of the Financial Reporting Codification.

Provision for income taxes, page 40

7. Please provide a disclosure explaining why your June 30 effective tax rate decreased from 38% to 32% in 2011.

Liquidity and Capital Resources, page 46

8. Please disclose your estimated capital expenditures for the next year. See Item 303(a)(2) of Regulation S-K.

Financing Arrangements, page 49

9. We note your response to comment 29 in our letter dated August 19, 2011. Based on your "Sources of Liquidity" disclosure where you state that you have historically financed your operations through, among other things, bank loans, and on your comprehensive "Financing Arrangements" disclosure on page 49, please provide us with a detailed analysis of your conclusion that the line of credit agreement does not constitute a material agreement to your business. Please ensure that you address in your analysis why the existence of outstanding debt plays a factor in determining whether the agreement is material to your business, considering that you may tap into the credit line at any time as long as you are in compliance with the various covenants of the agreement. Also, please further revise your disclosure to clearly specify what the "certain financial thresholds" under the agreement are.

Business, page 57

Our Competitive Advantages, page 60

Expand into New Geographical Markets, page 62

10. Please revise your disclosure at the end of the paragraph to disclose the "select new geographical regions" where you plan to expand.

Note 15 – Segment and Geographic Information, page F-22

11. As previously requested, please provide us with copies of your CODM reports for all periods presented. In order for us to complete our analysis, please furnish all reports that contained any operating results information pertaining to your business activities, and that were provided to the CODM on a periodic basis during 2010-2011. If the CODM received reports with disaggregated financial information on a geographic or subsidiary basis then those reports should also be provided. Multiple versions of the same report need not be provided if year-to-date versions of that report are available. If for 2008 or 2009 similar versions of each report were provided to the CODM, then that data should also be provided.

You may contact Tracey McKoy, Staff Accountant, at (202) 551-3772 or Al Pavot, Senior Staff Accountant, at (202) 551-3738 if you have questions regarding comments on the financial statements and related matters. Please contact Era Anagnosti, Staff Attorney, at (202) 551-3369 or Craig Slivka, Special Counsel, at (202) 551-3729 with any other questions.

Sincerely,

/s/ Craig E. Slivka, for

Pamela A. Long
Assistant Director

cc: Via E-mail
W. Morgan Burns, Esq.
Erik J. Romslo, Esq.
Faegre & Benson LLP