



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

January 10, 2012

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.4 to Registration Statement on Form S-1  
Filed December 29, 2011  
File No. 333-175745**

Dear Mr. Cleveland:

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

Results of Operations, page 37

1. Based on your segment information on page F-23 we note material changes in segment income as a percentage of segment sales. Please amend your filing to explain the change in segment income as a percentage of segment sales period over period and quantify the underlying reasons driving the change. For example, we note segment income as a percentage of segment sales for your U.S. segment increased from 26% in 2009 to 32% in 2010 and 13% in 2009 to 20 % in 2010 for your Europe segment. Refer to Section 501.06a for guidance.

Provision for Income Taxes, page 36

2. Please amend your filing to explain to readers how the Japanese tax election created a tax deduction and how this election could impact future tax provisions (i.e. did the election enable you to deduct Japanese losses on your U.S. tax return whereas in prior years you were not allowed to take the election). Please also clarify whether you will be allowed to get a tax deduction for such Japanese losses in periods after 2010. If not, please amend your filing to explain the circumstances under which Japanese losses would not generate the same U.S. tax deduction similar to that in 2010.

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,

Mr. Bradley A. Cleveland  
Proto Labs, Inc.  
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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.  
Faegre & Benson LLP