



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

DIVISION OF
CORPORATION FINANCE

September 23, 2011

Via E-mail

Mr. Gregory R. Beecher
Vice President, Chief Financial Officer and Treasurer
Teradyne, Inc.
600 Riverpark Drive
North Reading, MA 01864

**Re: Teradyne, Inc.
Form 10-K for the Fiscal Year Ended December 31, 2010
Filed March 1, 2011
File No. 1-06462**

Dear Mr. Beecher:

We have reviewed your filing and have the following comments. We have limited our review to only your financial statements and related disclosures and do not intend to expand our review to other portions of your documents. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter within ten business days by providing the requested information, or by advising us when you will provide the requested response. If you do not believe our comments apply to your facts and circumstances, please tell us why in your response.

After reviewing the information you provide in response to these comments, we may have additional comments.

Form 10-K for the Fiscal Year Ended December 31, 2010

Selected Financial Data, page 20

1. Please revise future filings to briefly describe, or cross-reference to a discussion thereof, factors that materially affect the comparability of the information reflected in selected financial data. In this regard, we note your impairment charge in 2008. Refer to Instruction 2 to Item 301 of Regulation S-K.

Management Discussion and Analysis of Financial Condition and Results of Operations, page 20

Critical Accounting Policies and Estimates, page 21

Income Taxes, page 23

2. In future filings, please expand your discussion regarding the factors and evidence you consider when deciding to reduce or eliminate your valuation allowance. In this regard, please further discuss significant uncertainties that could support a reversal of a significant portion or all of the valuation allowance, as disclosed in Note O – Income Taxes on page 91.

Contractual Obligations, page 33

3. We note certain other long-term liabilities reflected on your balance sheet that appear to be excluded from the contractual obligations table and related footnotes. Please revise future filings to provide all of the disclosures required by Item 303(A)(5) of Regulation S-K. To the extent that you are not able to predict the timing of the settlement of the obligations, revise to include footnotes to the table that disclose the liabilities and why you are unable to estimate the timing of the settlement of such liabilities.

Liquidity and Capital Resources, page 34

4. We note the amount of pre-tax foreign income and your policy of indefinitely reinvesting the earnings of your foreign subsidiaries on page 92. To the extent such amounts could be considered material to an understanding of your liquidity and capital resources, please revise your future filings to disclose the amounts of the cash and investment amounts held by your foreign subsidiaries that would not be available for use in the United States. Further, please provide a discussion of any known trends, demands or uncertainties as a result of this policy that are reasonably likely to have a material effect on the business as a whole or that may be relevant to your financial flexibility. Refer to Item 303(a)(1) of Regulation S-K, SEC Release 33-8350, and Financial Reporting Codification Section 501.03.a.

Notes to Consolidated Financial Statements, page 46

Note B – Accounting Policies, page 46

Net Income (Loss) per Common Share, page 53

5. In future filings, please expand your accounting policy to describe how all significant reconciling items, as disclosed in Note J on page 72, are computed in determining diluted

earnings per share. In particular, please address the income impact of convertible notes, convertible note shares, and convertible note hedge warrant shares.

Note P – Operating Segment, Geographic and Significant Customer Concentration, page 92

6. We note your disclosure here that you have two reportable segments. We also note your disclosure on page 67 that the segments consist of an aggregation of multiple components. Please explain to us in detail how you have considered the guidance in FASB ASC 280-10-50-11 in concluding that aggregation into these two reportable segments is appropriate. In this regard, clearly identify the operating segments that make up each reportable segment. For each reportable segment, discuss how you considered all of the factors outlined in FASB ASC 280-10-50-11.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Exchange Act of 1934 and all applicable Exchange Act rules require. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

In responding to our comments, please provide a written statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

You may contact Gary Newberry at (202) 551-3761 or me at (202) 551-3643 if you have questions regarding comments on the financial statements and related matters. In this regard, do not hesitate to contact Martin James, Senior Assistant Chief Accountant at (202) 551-3671.

Sincerely,

/s/ Kevin L. Vaughn

Kevin L. Vaughn
Accounting Branch Chief