



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

DIVISION OF
CORPORATION FINANCE

Mail Stop 3030

April 28, 2016

Via E-mail

Gregory R. Beecher
Chief Financial Officer
Teradyne, Inc.
600 Riverpark Drive
North Reading, Massachusetts 01864

Re: Teradyne, Inc.
Form 10-K for the Fiscal Year Ended December 31, 2015
Filed February 29, 2016
File No. 001-06462

Dear Mr. Beecher:

We have reviewed your filing and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond these comments within ten business days by providing the requested information or advise us as soon as possible when you will respond. If you do not believe our comments apply to your facts and circumstances, please tell us why in your response.

After reviewing your response to these comments, we may have additional comments.

Form 10-K for the Fiscal Year Ended December 31, 2015

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

Critical Accounting Policies and Estimates

Goodwill, Intangible Assets and Long-Lived Assets, page 24

1. We note that you have \$262.9 million of goodwill associated with your Wireless Test segment as of December 31, 2015. Given the goodwill impairment of \$98.9 million in 2014 for this segment, please tell us your consideration of the requirements of Item 303(a)(3)(ii) of Regulation S-K, which requires a description of a known uncertainty and the guidance in Section V of Release 33-8350, which states that under the existing MD&A disclosure requirements, you should address material implications of

uncertainties associated with the methods, assumptions and estimates underlying the company's critical accounting measurements.

Results of Operations, page 26

2. We note from statements made by your CEO and CFO during your January 28, 2016 earnings call that your business typically experiences a downward trend in revenue during odd years as compared to even years, but in 2015, it appears that you overcame this historical odd-year decline. In future filings, please discuss any known trends affecting your business. Include an analysis of any deviations from these trends and whether you believe these trends will likely continue. Refer to Regulation S-K Item 303(a)(3)(iii).

Item 8. Financial Statements

Note I. Goodwill and Intangible Assets, page 69

3. In future filings, please revise the table showing the changes in the carrying amount of goodwill to include any impairment losses recognized during the period as a separate line item. Refer to ASC 350-20-50-1(e).

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.

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You may contact Dennis Hult at (202) 551-3618, or Kate Tillan, Assistant Chief Accountant, at (202) 551-3604 if you have questions regarding comments on the financial statements and related matters. Please contact Laurie Abbott at (202) 551-8071 or Amanda Ravitz, Assistant Director, at (202) 551-3154 with any other questions.

Sincerely

/s/ Kate Tillan for

Martin James
Senior Assistant Chief Accountant
Office of Electronics and Machinery

cc: Charles J. Gray