



DIVISION OF
CORPORATION FINANCE

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

Mail Stop 3030

April 9, 2009

Via U.S. Mail and Facsimile 408-970-9998

Helene Simonet
Executive Vice President and Chief Financial Officer
Coherent, Inc.
5100 Patrick Henry Drive
Santa Clara, CA 95054

Re: Coherent, Inc.
Form 10-K for the Fiscal Year Ended September 27, 2008
Filed November 25, 2008
File No. 001-33962

Dear Ms. Simonet:

We have reviewed your response dated April 1, 2009. Where indicated, we think you should revise your future filings in response to this comment. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In our comment, we ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Form 10-K for the Fiscal Year Ended September 27, 2008

Financial Statements, page 77

Note 2. Significant Accounting Policies, page 83

Goodwill, page 87

1. We note your response to prior comment 1 where you indicate that you perform your annual goodwill impairment test at the beginning of the fourth quarter of each fiscal year and you would record any resulting impairment in the fourth quarter of the fiscal year. However, you did not address the disclosure that you perform the annual test using the balance sheet as of the end of the third fiscal quarter. Please explain how that would be consistent with paragraph 26 of SFAS 142. Explain why, since you have selected a testing date that is within the third quarter, you would not be required to provide the disclosures required by paragraph 47 of SFAS 142 as well as record any impairment loss that had been determined within the third quarter and not wait until the fourth quarter. Otherwise, please confirm that you performed the testing on the balance sheet as of the first day of your fourth quarter and revise future filings accordingly.

As appropriate, please respond to this comment within 10 business days or tell us when you will provide us with a response. Please furnish a letter that keys your response to our comment and provides any requested information. Detailed letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your response to our comment.

You may contact Kate Tillan, Assistant Chief Accountant, at (202) 551-3604 or me at (202) 551-3671 if you have questions regarding comments on the financial statements and related matters.

Sincerely,

Martin James
Senior Assistant Chief Accountant