



DIVISION OF
CORPORATION FINANCE

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

January 21, 2011

Mr. Kevin Purcell
Vice President and CFO
Aerosonic Corporation
1212 North Hercules Avenue
Clearwater, Florida 33765

**Re: Aerosonic Corporation
Form 10-K for the year ended January 31, 2010
Definitive Proxy Statement on Schedule 14A
File No. 001-11750**

Dear Mr. Purcell:

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 to this letter within ten business days by amending your filing, 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 or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your filing and the information you provide in response to these comments, we may have additional comments.

Form 10-K for the year ended January 31, 2010

Item 1A. Risk Factors, page 8

1. We note your disclosure that you have described "some of the risk factors, trends and uncertainties which [you] believe could have a material and unfavorable impact" on you. All material risks should be discussed in this section. In your future filings, please revise this paragraph to clarify that you have discussed all known material risks.

Liquidity and Capital Resources, page 21

2. It appears that your recent cash positions have presented certain liquidity constraints in your business operations. Please revise your disclosure to discuss whether this presents a trend and is expected to continue into future periods. Please discuss any specific business reasons for your liquidity challenges despite reporting positive net income, such as, for example, the timing of cash receipts compared to expenditures for certain contracts. Further, please enhance your disclosure regarding your plans for managing your cash position with regard to ongoing operations, and the consequences to your business should

you be unable, for whatever reason, to rely upon the debt facilities that appear to be providing cash for working capital, capital expenditure requirements and other contractual obligations.

Working Capital and Capital Expenditures, page 23

3. Although you have positive working capital in the current year, it appears your current assets consist primarily of less liquid assets, such as inventory, which are not readily available as a source to fund current operating needs. We further note similar circumstances as presented in your Forms 10-Q during 2011. As such, please revise your disclosure to present a more balanced discussion of your working capital to explain how your current assets will provide liquidity for meeting obligations within your ordinary operating cycle.

Signatures, page 38

4. In your future filings, please have your principal accounting officer or controller sign your Form 10-K. Refer to General Instruction D to Form 10-K.

Consolidated Statements of Stockholders' Equity, page F-5

5. We note you have not presented a statement of comprehensive income in accordance with ASC 220-10. Based upon your disclosures, we assume that you have no other comprehensive income items. Please confirm our assumption supplementally or advise.
6. To facilitate the readers' understanding, consideration should be given to disclosing changes in the number of shares of equity securities on the face of the statements of stockholders' equity rather than in the notes to the financial statements.

Consolidated Statements of Cash Flows, page F-6

7. We note, from your disclosures in Footnote 7, that you have insurance for business interruption recoveries as well as for property damage. We believe that proceeds from insurance settlements should be classified in the cash flow statements based upon the nature of the insurance coverage that gave you the right to receive payment. That is, we believe that classification of proceeds should not be effected by how you spend, or plan to spend, those proceeds. Accordingly, we would expect any proceeds that you receive from a business interruption policy to be classified within operating activities. We would also expect classification of proceeds for property damage to be classified depending upon the nature of the covered property. Recovery on owned property or property leased under capital leases should be classified in investing activities while settlements for property under operating leases as well as inventory would be classified within operating activities. Please clarify whether and how your presentation complies with this guidance. We also believe that this should be clarified in your disclosures on an ongoing basis, as applicable. Specifically, with regard to any proceeds please clarify, in detail, what you received, why you received it, what you plan to do with it and how you classified it in the statement of cash flows in MD&A.

Note 11. Long-Term Debt and Revolving Credit Facility, page F-16

8. We note your discussion of warrants and common shares “issued for short-term note.” Please expand your disclosures to describe, in greater detail, the method of estimating the fair value of the equity instruments granted. Alternatively, if this disclosure is included in the notes, please tell us the location.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures, page 29

9. Although we note your disclosure that you have identified a material weakness in your disclosure controls and procedures for the year ended January 31, 2010, it appears you have not stated your conclusion that disclosure controls were either effective or not effective. Please amend this section of your filing to revise your disclosure to clearly state whether your disclosure controls and procedures were either effective or not effective.
10. In this regard, we note that for the quarters ended April 30, 2010, July 30, 2010 and October 29, 2010, you have concluded that your disclosure controls and procedures were not effective. As such, should you determine that your disclosure controls and procedures were effective at January 30, 2010, please provide a detailed and thorough explanation of the procedures you used and evidence you considered when reaching your conclusion.

Definitive Proxy Statement on Schedule 14A

General

11. In your future filings, please include page numbers in your definitive proxy statement.
12. We note that you have not included any disclosure in response to Item 402(s) of Regulation S-K. Please advise us of the basis for your conclusion that disclosure is not necessary and describe the process you undertook to reach that conclusion.

Compensation Discussion and Analysis

Compensation Elements

13. We note your disclosure that your executive compensation is “calibrated by comparison to the executive compensation of executives at similar sized and situated companies in [your] industry.” Please confirm to us that in future filings you will list the companies to which you benchmark and disclose the degree to which the compensation committee considered such companies comparable to you.

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

Mr. Kevin Purcell
Aerosonic Corporation
January 21, 2011
Page 4

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 Kristin Shifflett at 202-551-3381 or Margery Reich at 202-551-3347 if you have questions regarding comments on the financial statements and related matters. Please contact Tonya Bryan at 202-551-3601 or me at 202-551-3211 with any other questions.

Sincerely,

David R. Humphrey
Branch Chief