



DIVISION OF
CORPORATION FINANCE

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

Mail Stop 6010

July 21, 2008

W. Kirk Patterson
Senior Vice President and Chief Financial Officer
Entorian Technologies, Inc.
8900 Shoal Creek Boulevard
Austin, Texas 78757

Via U S Mail and FAX [(512) 454-2598]

Re: Entorian Technologies, Inc.
Form 10-K for the fiscal year ended December 31, 2007
File No. 0-50553

Dear Mr. Patterson:

We have reviewed your filing and have the following comments. Where indicated, we think you should revise your documents in response to these comments. 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 some of our comments, we may 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 on any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

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Form 10-K for the fiscal year ended December 31, 2007

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

Overview, page 35

1. In your applicable future filings, please expand your "Overview" section to add a balanced, executive-level discussion that identifies the most important themes or other significant matters with which management is concerned primarily in evaluating the company's financial condition and operating results. Discuss material business opportunities, challenges and risks, such as those presented by known material trends and uncertainties, on which the company's executives are most focused, and the actions they are taking in response to them. For further guidance on the content and purpose of the "Overview," see Interpretive Release No. 33-8350 on our website.

Liquidity and Capital Resources, page 41

2. In your future filings, as applicable, please disclose the types and amounts of the auction rate securities that you hold. For example, disclose whether the securities that you hold were issued by municipalities, closed-end funds, student-loan trusts, collateralized debt obligations or otherwise. Please also disclose how the interest, if any, you receive on those securities is determined if the auctions related to those securities continue to fail. In addition, disclose the nature of the guarantee provided by the Federal Family Education Loan Program.

Critical Accounting Estimates - Revenue Recognition and Presentation, page 42

3. Please tell us and revise future filings to disclose your accounting policy for sales of consigned inventory, including how these transactions are reflected in your financial statements. In addition, tell us whether your initial license fees are non-refundable.

Item 11. Executive Compensation, Proxy starting on page 19

Base Salary, Proxy page 19

4. We note from your discussion on page 19 of the proxy statement that you have incorporated by reference, that you disclose that salary is based periodically on

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“performance for the year” and the “competitive marketplace for individuals in comparable positions.” In future filings, disclose in greater detail the elements of performance that are taken into account in setting the base salary levels of your named executive officers. The revised disclosure should discuss how and why your chief executive officer's compensation differs from that of the other named executive officers. Also, identify the companies in the “competitive marketplace” upon which your compensation committee focused. Explain what factors you considered in determining which companies to focus upon.

Variable-Performance Awards, Proxy page 20

5. We note from your discussion on pages 20-21 of the proxy statement that you have incorporated by reference into your Form 10-K that you have not disclosed the specific goals and targets to be achieved in order for your named executive officers to earn their respective variable-performance awards. Please provide such disclosure in your future filings, as applicable. To the extent you believe that disclosure of such information, on a historical basis, would result in competitive harm such that the information could be excluded under Instruction 4 to Item 402(b) of Regulation S-K, please provide us with a detailed explanation supporting your conclusion. To the extent that it is appropriate to omit specific goals and targets, you are required to provide appropriate disclosure pursuant to Instruction 4 to Item 402(b) of Regulation S-K. Refer also to Question 3.04 of the Item 402 of Regulation S-K Interpretations available on our website at www.sec.gov. In discussing how difficult or likely it will be to achieve the goals or targets or other factors, you should provide as much detail as necessary without disclosing information that poses a reasonable risk of competitive harm.

Long-Term Incentives, Proxy page 21

6. We note from your discussion on page 21 of the proxy statement that you have incorporated by reference into your Form 10-K that you refer to various factors in setting the size of the equity grants to executive officers. In your future filings, as applicable, please include substantive analysis and insight into how the Compensation Committee made its equity grant determinations with respect to each named executive officer. Refer to paragraphs (b)(1)(iii) and (v) of Item 402 of Regulation S-K. For example, please discuss and analyze how the Compensation Committee determined the actual amount of

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the equity grant that were awarded to your named executive officers and how and why those awards varied among the named executive officers.

Financial Statements

Note 1. Cash and Cash Equivalents, page 53

7. Please tell us the nature of your variable rate demand note securities with hard put features and how these qualify as cash equivalents. In addition, tell us about your securities with hard put features where the brokers hold the obligation.

Note 3. Southland Acquisition, page 60

8. We note the discussion on page 60 that the total purchase price was allocated to identifiable assets and liabilities based on management's estimate and an independent valuation. Please tell us about the nature and extent of the third party's involvement in your decision-making process associated with the referenced valuation. While in future filings you (management) may elect to take full responsibility for valuing the assets and the liabilities of the acquired entity, if you choose to continue to refer to the expert in any capacity, you may need to revise future filings, beginning with your next 10-Q, to name the independent valuation firm. In addition, please note that if you intend to incorporate your Form 10-K by reference into any registration statement, you will be required to include the consent of the independent valuation firm as an exhibit to the registration statement.

Controls and Procedures, page 73

9. It does not appear that your management has performed its assessment of internal control over financial reporting as of December 31, 2007. Since you were required to file or filed an annual report for the prior fiscal year, it appears you are required to report on your management's assessment of internal control over financial reporting

If your management has not yet performed its assessment, we ask that you complete your evaluation and amend your filing within 30 calendar days to provide the required management's report on internal control over financial reporting.

In performing your evaluation, you may find the following documents helpful:

- the commission's release *Amendments to Rules Regarding Management's Report on Internal Control Over Financial Reporting* (Securities Act Release 8809/Financial Reporting Release 76). You can find this release at: <http://www.sec.gov/rules/final/2007/33-8809.pdf> ;
- the Commission's release *Commission Guidance Regarding Management's Report on Internal Control Over Financial Reporting Under Section 13(a) or 15(d) of the Securities Exchange Act of 1934* (Securities Act Release 8010/Financial Reporting Release 77). You can find this release at <http://www.sec.gov/rules/interp/2007-8810.pdf>; and
- the "Sarbanes-Oxley Section 404 – A Guide for Small Business" brochure at: <http://www.sec.gov/info/smallbus/404guide.shtml>.

In addition, please consider whether management's failure to perform or complete its report on internal control over financial reporting impacts its conclusions regarding the effectiveness of your disclosure controls and procedures *as of the end of the fiscal year* covered by the report and revise your disclosure as appropriate.

Please note that the failure to perform management's assessment adversely affects the company's and its shareholders ability to avail themselves of rules and forms that are predicated on the current or timely filing of Exchange Act reports. For further information regarding these impacts, please see Compliance and Disclosure Interpretation

115.02, which you can find at <http://www.sec.gov/divisions/corpfin/guidance/regs-kinterp.htm>.

Exhibits 31.1 and 31.2

10. We note that you filed your Principal Executive Officer and Principal Financial Officer certifications under Item 601(b)(31) of Regulation S-K. Please revise these certifications to include the introductory language of paragraph 4 and the language of paragraph 4(b) of Item 601(b)(31) of Regulation S-K.

11. In addition, we note that the certifications are not in the exact form required by Exchange Act Rule 13a-14(a). For example, we note that you (1) replaced “registrant’s” with “Company’s” and (2) deleted the language “(or persons performing the equivalent functions)” in the introductory language in paragraph 5. Please revise to use the exact language as specified in Item 601(b)(31) of Regulation S-K.
12. Please revise Exhibits 32 to refer to the fiscal year ended December 31, 2007.

Form 10-Q for the Quarter Ended March 31, 2008

Results of Operations, pages 13 and 14

13. In future filings, please discuss the reason that costs of product revenues exceeded product revenues. You should also discuss management’s efforts to eliminate the gross loss.

Financial Statements

Note 2 Recently Effective Accounting Standards, page 7

14. In future filings, please clarify your disclosures for your auction rate securities by explaining the pricing model and significant assumptions used in the valuation, such as discount rates, interest rates, illiquidity adjustments, and other significant assumptions. Please describe the inputs and the information used to develop the inputs, as required by paragraph 33c of SFAS 157. Also, please disclose the maximum contractual default rate and the current interest rate on these securities at the end of each period.
15. We note that your impairment to the fair value of your auction rate securities was deemed temporary and that you recorded an unrealized loss within other comprehensive income (loss). We also note the discussion that you cannot predict how long these securities will remain illiquid or whether you will be able to liquidate them prior to maturity. Please tell us and revise future filings to disclose how you determined that the impairment was temporary and why you did not consider the impairment to be other than temporary. Your response should address your intent and ability to hold these securities for a period of time sufficient to allow for any anticipated recovery in market value. Please refer to SAB Topic 5:M and paragraph 15 of SFAS 115.

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16. In future filings, please discuss the problems being experienced in the auction rate market that have resulted in these investments becoming illiquid in the first quarter of 2008. For example, discuss the failed auctions that occurred during the quarter and the impact that this had on the liquidity of these securities.
17. Please tell us whether you have realized any gains or losses from the sales of these securities. If you have, please indicate whether you sold these securities at a price discounted from the price you originally paid for the securities.
18. In future filings, please disclose whether you have collected all interest payable on your auction rate securities and whether you expect to continue to do so in the future.

Management's Discussion and Analysis

Quantitative and Qualitative Disclosures About Market Risk, page 19

19. In future filings, please disclose your exposure to auction rate securities and the associated risks with these securities.

Form 8-K Filed November 14, 2007

Note 9. Restatement, page 14

20. Please tell us where you have provided the disclosures required by paragraph 26 of SFAS 154 for the correction of the errors in the financial statements of Southland Micro Systems included in the Form 8-K filed November 14, 2007. In addition, tell us why the financial statements have not been labeled restated.

Form 8-K filed July 16, 2008

21. Please tell us whether the acquisition of Augmentix meets the requirements of Rule 8-04 of Regulation S-X to provide financial statements of the acquired business. If so, please tell us when you will file the financial statements and pro forma financial information required by Rule 8-04 and 8-05 of Regulation S-X.
22. We read that concurrent with this acquisition, you have appointed to your board Krishna Srinivasan, a founding board member of Augmentix. We also note that Mr. Srinivasan is a partner with Austin Ventures, your majority shareholder. Please tell us whether there

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are any affiliations with Augmentix or Austin Ventures that will impact your accounting for this acquisition.

As appropriate, please amend your filing and respond to these comments within 30 business days or tell us when you will provide us with a response. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your responses to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendment and responses to our comments.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing reviewed by the staff to be certain that the filing includes all information required under the Securities Exchange Act of 1934 and that they have provided all information investors require for an informed decision. 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 connection with responding to our comments, please provide, in writing, a 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.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in our review of your filing or in response to our comments on your filing.

You may contact Jeanne Bennett at (202) 551-3606, or me at (202) 551-3676 if you have questions regarding comments on the financial statements and related matters. Please contact Thomas Jones at (202) 551-3602 or Timothy Buchmiller, Senior Attorney, at (202) 551-3635 with any other questions.

Sincerely,

W. Kirk Patterson
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Brian R. Cascio
Accounting Branch Chief