



DIVISION OF
CORPORATION FINANCE

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

Mail Stop 3561

September 27, 2006

Via U.S. Mail and Fax (602) 437-3781

Malcolm C. Persen
Chief Financial Officer
Radyne Corporation
3138 East Elwood Street
Phoenix, AZ 85034

**RE: Radyne Corporation
Form 10-K for the fiscal year ended December 31, 2005
Filed March 16, 2006**

**Form 10-Q for the quarters ended March 31 and June 30, 2006
File No. 0-11685**

Dear Mr. Persen:

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. 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 or may not 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.

Annual Report filed on form 10-K for the year ended December 31, 2005

Audit report, page 30

1. The audit report includes a statement that audits are conducted in accordance with the “auditing standards” of the Public Company Accounting Oversight Board. Please ask your auditors to revise this language to comply with the guidance in Auditing Standard 1.
2. The audit report also states that audits are conducted in accordance with generally accepted auditing standards as established by the Auditing Standards Board (United States). Please ask your auditors to tell us why the report includes this representation.

Note 14 Acquisition – Business combination, page 45

3. For your purchase of Xicom Technology, you disclose that you valued the stock issued at \$9.10 “based on the 20 day average.” As the fair value of stock issued should be based on the market price a few days before and after the terms of the acquisition are agreed to and announced, tell us how you applied the guidance in SFAS 141 and EITF 99-12 in determining the value of the stock.
4. We note your statement that the purchase price increased subsequent to the acquisition to reflect “additional acquisition costs.” Describe to us the nature, timing and amounts of the additional costs and why it is appropriate to adjust the purchase price, instead of recording an expense.

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As appropriate, please amend your filing and respond to these comments within 10 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. The cover letter and amendment should be uploaded to the EDGAR system. 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 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 investment 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 filings;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filings; 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 filings or in response to our comments on your filings.

You may contact Paul Monsour, Staff Accountant, at (202) 551-3360 or Terry French, Accountant Branch Chief, at (202) 551-3828, if you have questions regarding comments on the financial statements and related matters. Please contact me at (202) 551-3810 with any other questions.

Sincerely,

Larry Spigel
Assistant Director