



DIVISION OF
CORPORATION FINANCE

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

Mail Stop 3720

April 20, 2010

Via U.S. Mail and Fax

Mr. James E. Doyle
Vice President of Finance and Chief Financial Officer
Applied Signal Technology, Inc.
460 West California Avenue
Sunnyvale, CA 94086

**RE: Applied Signal Technology, Inc.
Form 10-K for the fiscal year ended October 31, 2009
Filed January 12, 2010
File No. 0-21236**

Dear Mr. Doyle:

We have completed our review of your Form 10-K and related filings and do not, at this time, have any further comments.

Sincerely,

Larry Spigel
Assistant Director