

COHERENT INC  
Form 424B7  
October 13, 2006  
Filed pursuant to Rule 424(b)(7)  
Registration No. 333-135669

**PROSPECTUS SUPPLEMENT NO. 2**

(TO PROSPECTUS DATED OCTOBER 6, 2006)

**2.75% Convertible Subordinated Notes due 2011**

**Common Stock Issuable upon Conversion of the Notes**

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This prospectus supplement supplements the prospectus, dated October 6, 2006, relating to the resale by selling securityholders of up to \$200 million aggregate principal amount of 2.75% Convertible Subordinated Notes due 2011 and the shares of common stock issuable upon conversion of the notes.

This prospectus supplement should be read in conjunction with the prospectus, and is qualified by reference to the prospectus, except to the extent that the information presented herein supersedes the information contained in the prospectus. This prospectus supplement is not complete without, and may not be delivered or utilized except in connection with, the prospectus, including any amendments or supplements thereto.

Our common stock is quoted on the Nasdaq Global Select Market under the symbol *COHR*. On October 12, 2006, the last quoted sale price of our common stock was \$36.44 per share.

**Investing in the notes or our common stock involves risks. See Risk Factors beginning on page 9 of the prospectus dated October 6, 2006.**

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**Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus supplement or the prospectus is truthful or complete. Any representation to the contrary is a criminal offense.**

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The date of this prospectus supplement is October 13, 2006.

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**SELLING SECURITYHOLDERS**

The notes were originally issued by Coherent and sold by the initial purchasers of the notes in a transaction exempt from the registration requirements of the Securities Act of 1933, as amended (the Securities Act), to persons reasonably believed by the initial purchasers to be qualified institutional buyers in reliance on Rule 144A under the Securities Act. Selling securityholders, including their transferees, pledgees or donees or their successors, may from time to time offer and sell, pursuant to this prospectus supplement and the prospectus, any or all of the notes and shares of common stock into which the notes are convertible.

The information in the table appearing under the caption Selling Securityholders in prospectus supplement no. 1, dated October 10, 2006, is further supplemented by adding the information below with respect to persons not previously listed in prospectus supplement no. 1, and by superseding the information with respect to persons previously listed in prospectus supplement no. 1 with the information set forth below. The information is based on information provided to us by or on behalf of the selling securityholders, and we have not independently verified this information. The selling securityholders may offer all, some or none of the notes or the common stock into which the notes are convertible. Because the selling securityholders may offer all or some portion of the notes or the common stock, we cannot estimate the amount of the notes or the common stock that will be held by the selling securityholders upon termination of any of these sales; the table below assumes that all selling securityholders will sell all of their notes or common stock, unless otherwise indicated. In addition, the selling securityholders identified below may have sold, transferred or otherwise disposed of all or a portion of their notes since the date on which they provided the information regarding their notes in transactions exempt from the registration requirements of the Securities Act.

The percentage of notes outstanding beneficially owned by each selling securityholder is based on \$200,000,000 aggregate principal amount of notes outstanding. The number of shares of common stock that may be sold includes only shares of common stock into which the notes are initially convertible. The conversion rate of the notes and the number of shares of common stock issuable upon conversion of the notes is subject to adjustment under certain circumstances. Accordingly, the number of shares of common stock into which the notes are convertible may change.

Based upon information provided by the selling securityholders, none of the selling securityholders nor any of their affiliates, officers, directors or principal equity holders has held any position or office or has had any material relationship with us within the past three years, with the exception of Merrill Lynch, Pierce, Fenner & Smith Incorporated, which acted as an initial purchaser in the original issuance of the notes on March 13, 2006 and acted as our financial advisor in connection with our proposed acquisition of Excel Technology.

Name	Principal Amount of Securities Beneficially Owned that May be Sold(1)	Percentage of Notes Outstanding(2)	Number of Shares of Common Stock that May be Sold(1)(3)	Percentage of Common Stock Outstanding(4)
Calamos Growth and Income Portfolio Calamos Advisors Trust(5)	\$ 150,000	* %	3,919	* %
Nuveen Preferred and Convertible Income Fund JPC(6)	\$ 4,250,000	2.13	111,047	*
Piper Jaffray & Co.(7)	\$ 1,000,000	*	26,128	*
Royal Bank of Canada(8)	\$ 10,250,000	5.13	267,820	*

\* Less than 1%.

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(1) Amounts indicated may be in excess of the total amount registered due to sales or transfers exempt from the registration requirements of the Securities Act of 1933 since the date upon which the selling securityholders provided us with the information regarding their holdings of notes and common stock for inclusion herein.

(2) Calculated using \$200,000,000 as the total aggregate principal amount of notes outstanding as of August 2, 2006.

(3) Assumes conversion of all of the holder's notes at a conversion price of \$38.27 per share of common stock. However, this conversion rate will be subject to adjustment as described under the section entitled "Description of Notes Conversion Rights." As a result, the amount of common stock issuable upon conversion of the notes may increase or decrease in the future.

(4) Calculated based on Rule 13d-3(d)(1)(i) of the Exchange Act of 1934, as amended, using 31,252,759 shares of common stock outstanding as of August 2, 2006. In calculating this amount, we treated as outstanding the number of shares of common stock issuable upon conversion of all of that particular holder's notes. However, we did not assume the conversion of any other holder's notes.

(5) Pursuant to an Investment Advisory Agreement, Calamos Advisors LLC acts solely as an investment adviser over these assets and is not the beneficial owner. This selling securityholder was incorrectly listed in prospectus supplement no. 1 as Calamos Growth and Income Fund Calamos Advisers Trust.

(6) Ann Houlihan has voting or investment power over these securities.

(7) This selling securityholder has advised us that it is a registered broker-dealer.

(8) This selling securityholder has advised us that it is an affiliate of registered broker-dealers. The registered broker-dealers are RBC Capital Markets Corp. and RBC Dain Rauscher.

Information about other selling securityholders will be set forth in prospectus supplements or post-effective amendments, if required. Information about the selling securityholders may change from time to time. Any changed information with respect to which we are given notice will be set forth in prospectus supplements.

Beneficial ownership is determined under the rules of the SEC, and generally includes voting or investment power with respect to securities.

None of the selling securityholders who are affiliates of broker-dealers purchased the securities outside of the ordinary course of business or, at the time of the purchase of the securities, had any agreements or understandings, directly or indirectly, with any person to distribute the securities.