

Roscher Fred
Form 4
August 30, 2006

FORM 4

**UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549**

OMB APPROVAL

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Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(h) of the Investment Company Act of 1940

(Print or Type Responses)

1. Name and Address of Reporting Person *
Roscher Fred

2. Issuer Name and Ticker or Trading Symbol
APPLIED SIGNAL TECHNOLOGY INC [APSG]

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

(Last) (First) (Middle)
400 W. CALIFORNIA AVE
(Street)

3. Date of Earliest Transaction (Month/Day/Year)
08/29/2006

____ Director
 Officer (give title below) _____ Other (specify below)
Exec. VP Communications Group

SUNNYVALE, CA 95037

4. If Amendment, Date Original Filed(Month/Day/Year)

6. Individual or Joint/Group Filing(Check Applicable Line)
 Form filed by One Reporting Person
 Form filed by More than One Reporting Person

(City) (State) (Zip)

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

| 1. Title of Security (Instr. 3) | 2. Transaction Date (Month/Day/Year) | 2A. Deemed Execution Date, if any (Month/Day/Year) | 3. Transaction Code (Instr. 8) | 4. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5) | 5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4) | 6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 7. Nature of Indirect Beneficial Ownership (Instr. 4) |
|---------------------------------|--------------------------------------|--|--------------------------------|---|---|--|---|
| | | | Code | V Amount (A) or (D) Price | | | |
| Common Stock | 08/29/2006 | | M | 3,000 A \$ 5.25 | 11,603 | I | By Wife |
| Common Stock | 08/29/2006 | | M | 5,000 A \$ 8 | 16,603 | I | By Wife |
| Common Stock | 08/29/2006 | | M | 3,333 A \$ 9.25 | 19,936 | I | By Wife |
| Common Stock | 08/29/2006 | | M | 2,000 A \$ 11.625 | 21,936 | I | By Wife |
| Common Stock | 08/29/2006 | | M | 1,500 A \$ 12.125 | 23,436 | I | By Wife |

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Common Stock 08/29/2006 S 14,833 D \$ 14.4217 8,603 I By Wife

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

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(9-02)

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned
(e.g., puts, calls, warrants, options, convertible securities)

| 1. Title of Derivative Security (Instr. 3) | 2. Conversion or Exercise Price of Derivative Security | 3. Transaction Date (Month/Day/Year) | 3A. Deemed Execution Date, if any (Month/Day/Year) | 4. Transaction Code (Instr. 8) | 5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5) | 6. Date Exercisable and Expiration Date (Month/Day/Year) | 7. Title and Amount of Underlying Securities (Instr. 3 and 4) | 8. Amount or Number of Shares |
|--|--|--------------------------------------|--|--------------------------------|---|--|---|-------------------------------|
| Stock Option (Right to Buy) ⁽¹⁾ | \$ 5.25 | 08/29/2006 | | M | 3,000 | 01/12/2006 01/12/2011 | Common Stock | 3,000 |
| Stock Option (Right to Buy) ⁽²⁾ | \$ 8 | 08/29/2006 | | M | 5,000 | 08/22/2005 08/22/2010 | Common Stock | 5,000 |
| Stock Option (Right to Buy) ⁽³⁾ | \$ 9.25 | 08/29/2006 | | M | 3,333 | 05/07/2006 05/07/2012 | Common Stock | 3,333 |
| Stock Option (Right to Buy) ⁽⁴⁾ | \$ 11.625 | 08/29/2006 | | M | 2,000 | 11/18/2001 11/18/2007 | Common Stock | 2,000 |
| Stock Option (Right to Buy) ⁽⁵⁾ | \$ 12.125 | 08/29/2006 | | M | 1,500 | 11/19/2000 11/19/2006 | Common Stock | 1,500 |

Reporting Owners

| Reporting Owner Name / Address | Relationships | | | |
|--|---------------|-----------|-------------------------------------|-------|
| | Director | 10% Owner | Officer | Other |
| Roscher Fred 400 W. CALIFORNIA AVE SUNNYVALE, CA 95037 | | | Exec. VP Communications Group | |

Signatures

Fred Roscher 08/30/2006

 Signature of Date
Reporting Person

Explanation of Responses:

- * If the form is filed by more than one reporting person, *see* Instruction 4(b)(v).
- ** Intentional misstatements or omissions of facts constitute Federal Criminal Violations. *See* 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).
- (1) The Options vested 20% on 01/12/02, then beginning monthly thereafter through 01/12/06.
- (2) The Options vested 20% on 08/22/01, then beginning monthly thereafter through 08/22/05.
- (3) The Options vested 20% on 05/07/03, then beginning monthly thereafter through 05/07/07.
- (4) The Options vested 100% on 11/18/01.
- (5) The Options vested 100% on 11/18/01.

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, *see* Instruction 6 for procedure. Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB number.