

Roscher Fred  
Form 4  
August 30, 2006

**FORM 4**

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

OMB APPROVAL

OMB Number: 3235-0287  
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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 \_\_\_\_\_ 10% Owner  
 Officer (give title below) \_\_\_\_\_ Other (specify below)  
Exec. VP Communications Group

SUNNYVALE, CA 95037  
(City) (State) (Zip)

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

**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.

**Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB control number.**

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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
				Code	V	(A)	(D)	Title	Amount or Number of Shares
Stock Option (Right to Buy) <u>(1)</u>	\$ 5.25	08/29/2006		M		3,000		Common Stock	3,000
Stock Option (Right to Buy) <u>(2)</u>	\$ 8	08/29/2006		M		5,000		Common Stock	5,000
Stock Option (Right to Buy) <u>(3)</u>	\$ 9.25	08/29/2006		M		3,333		Common Stock	3,333
Stock Option (Right to Buy) <u>(4)</u>	\$ 11.625	08/29/2006		M		2,000		Common Stock	2,000
Stock Option (Right to Buy) <u>(5)</u>	\$ 12.125	08/29/2006		M		1,500		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.