

Form 5500 Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Annual Return/Report of Employee Benefit Plan This form is required to be filed for employee benefit plans under sections 104 and 4065 of the Employee Retirement Income Security Act of 1974 (ERISA) and sections 6047(e), and 6058(a) of the Internal Revenue Code (the Code). <p style="text-align: center;">▶ Complete all entries in accordance with the instructions to the Form 5500.</p>	OMB Nos. 1210-0110 1210-0089 2009 This Form is Open to Public Inspection
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Part I	Annual Report Identification Information
For calendar plan year 2009 or fiscal plan year beginning <u>01/01/2009</u> and ending <u>12/31/2009</u>	
A This return/report is for:	☐ a multiemployer plan; ☐ a multiple-employer plan; or ☒ a single-employer plan; ☐ a DFE (specify) ____
B This return/report is:	☐ the first return/report; ☐ the final return/report; ☒ an amended return/report; ☐ a short plan year return/report (less than 12 months).
C If the plan is a collectively-bargained plan, check here.	☐
D Check box if filing under:	☒ Form 5558; ☐ automatic extension; ☐ the DFVC program; ☐ special extension (enter description)

Part II	Basic Plan Information —enter all requested information				
1a Name of plan <u>APPLIED SIGNAL TECHNOLOGY, INC. 401K RETIREMENT PLAN</u>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">1b Three-digit plan number (PN) ▶</td> <td style="width: 20%; text-align: center;"><u>001</u></td> </tr> <tr> <td colspan="2">1c Effective date of plan <u>01/01/1988</u></td> </tr> </table>	1b Three-digit plan number (PN) ▶	<u>001</u>	1c Effective date of plan <u>01/01/1988</u>	
1b Three-digit plan number (PN) ▶	<u>001</u>				
1c Effective date of plan <u>01/01/1988</u>					
2a Plan sponsor's name and address (employer, if for a single-employer plan) (Address should include room or suite no.) <u>APPLIED SIGNAL TECHNOLOGY, INC</u> <u>400 WEST CALIFORNIA AVE</u> <u>SUNNYVALE, CA 94086</u>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>2b Employer Identification Number (EIN) <u>77-0015491</u></td> </tr> <tr> <td>2c Sponsor's telephone number <u>408-523-4592</u></td> </tr> <tr> <td>2d Business code (see instructions) <u>334200</u></td> </tr> </table>	2b Employer Identification Number (EIN) <u>77-0015491</u>	2c Sponsor's telephone number <u>408-523-4592</u>	2d Business code (see instructions) <u>334200</u>	
2b Employer Identification Number (EIN) <u>77-0015491</u>					
2c Sponsor's telephone number <u>408-523-4592</u>					
2d Business code (see instructions) <u>334200</u>					

Caution: A penalty for the late or incomplete filing of this return/report will be assessed unless reasonable cause is established.

Under penalties of perjury and other penalties set forth in the instructions, I declare that I have examined this return/report, including accompanying schedules, statements and attachments, as well as the electronic version of this return/report, and to the best of my knowledge and belief, it is true, correct, and complete.

SIGN HERE	Filed with authorized/valid electronic signature.	10/12/2010	GAYLE MCKIM
	Signature of plan administrator	Date	Enter name of individual signing as plan administrator
SIGN HERE	Filed with authorized/valid electronic signature.	10/12/2010	GAYLE MCKIM
	Signature of employer/plan sponsor	Date	Enter name of individual signing as employer or plan sponsor
SIGN HERE			
	Signature of DFE	Date	Enter name of individual signing as DFE

For Paperwork Reduction Act Notice and OMB Control Numbers, see the instructions for Form 5500.

Form 5500 (2009)
v.092307.1

3a Plan administrator's name and address (if same as plan sponsor, enter "Same") APPLIED SIGNAL TECHNOLOGY, INC 400 WEST CALIFORNIA AVE SUNNYVALE, CA 94086	3b Administrator's EIN 77-0015491 3c Administrator's telephone number 408-523-4592
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4 If the name and/or EIN of the plan sponsor has changed since the last return/report filed for this plan, enter the name, EIN and the plan number from the last return/report: a Sponsor's name	4b EIN 4c PN
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5 Total number of participants at the beginning of the plan year	5	1089
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6 Number of participants as of the end of the plan year (welfare plans complete only lines 6a , 6b , 6c , and 6d).		
a Active participants.....	6a	731
b Retired or separated participants receiving benefits.....	6b	3
c Other retired or separated participants entitled to future benefits.....	6c	412
d Subtotal. Add lines 6a , 6b , and 6c	6d	1146
e Deceased participants whose beneficiaries are receiving or are entitled to receive benefits.....	6e	1
f Total. Add lines 6d and 6e	6f	1147
g Number of participants with account balances as of the end of the plan year (only defined contribution plans complete this item).....	6g	1147
h Number of participants that terminated employment during the plan year with accrued benefits that were less than 100% vested.....	6h	13

7 Enter the total number of employers obligated to contribute to the plan (only multiemployer plans complete this item)	7	
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8a If the plan provides pension benefits, enter the applicable pension feature codes from the List of Plan Characteristic Codes in the instructions:
 2E 2F 2G 2J 2R

b If the plan provides welfare benefits, enter the applicable welfare feature codes from the List of Plan Characteristic Codes in the instructions:

9a Plan funding arrangement (check all that apply) (1) ☒ Insurance (2) ☐ Code section 412(e)(3) insurance contracts (3) ☒ Trust (4) ☐ General assets of the sponsor	9b Plan benefit arrangement (check all that apply) (1) ☒ Insurance (2) ☐ Code section 412(e)(3) insurance contracts (3) ☒ Trust (4) ☐ General assets of the sponsor
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10 Check all applicable boxes in 10a and 10b to indicate which schedules are attached, and, where indicated, enter the number attached. (See instructions)

a Pension Schedules

- (1) ☒ **R** (Retirement Plan Information)
 (2) ☐ **MB** (Multiemployer Defined Benefit Plan and Certain Money Purchase Plan Actuarial Information) - signed by the plan actuary
 (3) ☐ **SB** (Single-Employer Defined Benefit Plan Actuarial Information) - signed by the plan actuary

b General Schedules

- (1) ☒ **H** (Financial Information)
 (2) ☐ **I** (Financial Information – Small Plan)
 (3) ☒ 1 **A** (Insurance Information)
 (4) ☒ **C** (Service Provider Information)
 (5) ☒ **D** (DFE/Participating Plan Information)
 (6) ☐ **G** (Financial Transaction Schedules)

<div>SCHEDULE A (Form 5500) <div>Department of the Treasury Internal Revenue Service</div><div>Department of Labor Employee Benefits Security Administration</div><div>Pension Benefit Guaranty Corporation</div></div>	<div>Insurance Information</div> <div>This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA).</div> <div>▶ File as an attachment to Form 5500.</div> <div>▶ Insurance companies are required to provide the information pursuant to ERISA section 103(a)(2).</div>	<div>OMB No. 1210-0110</div> <div>2009</div> <div>This Form is Open to Public Inspection</div>
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For calendar plan year 2009 or fiscal plan year beginning 01/01/2009 and ending 12/31/2009		
A Name of plan APPLIED SIGNAL TECHNOLOGY, INC. 401K RETIREMENT PLAN	B Three-digit plan number (PN) ▶	001
C Plan sponsor's name as shown on line 2a of Form 5500. APPLIED SIGNAL TECHNOLOGY, INC	D Employer Identification Number (EIN) 77-0015491	

Part I	Information Concerning Insurance Contract Coverage, Fees, and Commissions	Provide information for each contract on a separate Schedule A. Individual contracts grouped as a unit in Parts II and III can be reported on a single Schedule A.
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1 Coverage Information:

(a) Name of insurance carrier
TRANSAMERICA FINANCIAL LIFE INSURANCE COMPANY

(b) EIN	(c) NAIC code	(d) Contract or identification number	(e) Approximate number of persons covered at end of policy or contract year	Policy or contract year	
				(f) From	(g) To
36-6071399	70688	JK60733	1147	01/01/2009	12/31/2009

2 Insurance fee and commission information. Enter the total fees and total commissions paid. List in item 3 the agents, brokers, and other persons in descending order of the amount paid.

(a) Total amount of commissions paid	(b) Total amount of fees paid
5	0

3 Persons receiving commissions and fees. (Complete as many entries as needed to report all persons).

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid
M HOLDING SECURITIES 1125 NW COUCH STREET, SUITE 900
PORTLAND, OR 97209

(b) Amount of sales and base commissions paid	Fees and other commissions paid		(e) Organization code
	(c) Amount	(d) Purpose	
5			3

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		(e) Organization code
	(c) Amount	(d) Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		(e) Organization code
	(c) Amount	(d) Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		(e) Organization code
	(c) Amount	(d) Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		(e) Organization code
	(c) Amount	(d) Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		(e) Organization code
	(c) Amount	(d) Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		(e) Organization code
	(c) Amount	(d) Purpose	

Part II Investment and Annuity Contract Information

Where individual contracts are provided, the entire group of such individual contracts with each carrier may be treated as a unit for purposes of this report.

4 Current value of plan's interest under this contract in the general account at year end	4	40058
5 Current value of plan's interest under this contract in separate accounts at year end	5	1509929

6 Contracts With Allocated Funds:**a** State the basis of premium rates ▶

b Premiums paid to carrier	6b	
c Premiums due but unpaid at the end of the year	6c	
d If the carrier, service, or other organization incurred any specific costs in connection with the acquisition or retention of the contract or policy, enter amount. Specify nature of costs ▶	6d	

e Type of contract: (1) ☐ individual policies (2) ☐ group deferred annuity
(3) ☐ other (specify) ▶

f If contract purchased, in whole or in part, to distribute benefits from a terminating plan check here ▶ ☐**7** Contracts With Unallocated Funds (Do not include portions of these contracts maintained in separate accounts)

a Type of contract: (1) ☐ deposit administration (2) ☐ immediate participation guarantee
(3) ☒ guaranteed investment (4) ☐ other ▶

b Balance at the end of the previous year	7b	8941
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c Additions: (1) Contributions deposited during the year	7c(1)	4698	
	7c(2)		
	7c(3)	1431	
	7c(4)		
	7c(5)	56888	

▶ TRANSFERS IN

(6) Total additions	7c(6)	63017
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d Total of balance and additions (add b and c(6))	7d	71958
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e Deductions:

(1) Disbursed from fund to pay benefits or purchase annuities during year	7e(1)		
(2) Administration charge made by carrier	7e(2)		
(3) Transferred to separate account	7e(3)		
(4) Other (specify below)	7e(4)	31900	

▶ TRANSFERS OUT

(5) Total deductions	7e(5)	31900
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f Balance at the end of the current year (subtract e(5) from d)	7f	40058
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Part III Welfare Benefit Contract Information

If more than one contract covers the same group of employees of the same employer(s) or members of the same employee organization(s), the information may be combined for reporting purposes if such contracts are experience-rated as a unit. Where contracts cover individual employees, the entire group of such individual contracts with each carrier may be treated as a unit for purposes of this report.

8 Benefit and contract type (check all applicable boxes)

- a** ☐ Health (other than dental or vision)
 b ☐ Dental
 c ☐ Vision
 d ☐ Life insurance
e ☐ Temporary disability (accident and sickness)
 f ☐ Long-term disability
 g ☐ Supplemental unemployment
 h ☐ Prescription drug
i ☐ Stop loss (large deductible)
 j ☐ HMO contract
 k ☐ PPO contract
 l ☐ Indemnity contract
m ☐ Other (specify) ▶

9 Experience-rated contracts:

a Premiums: (1) Amount received.....	9a(1)		
(2) Increase (decrease) in amount due but unpaid.....	9a(2)		
(3) Increase (decrease) in unearned premium reserve.....	9a(3)		
(4) Earned ((1) + (2) - (3)).....		9a(4)	
b Benefit charges (1) Claims paid.....	9b(1)		
(2) Increase (decrease) in claim reserves.....	9b(2)		
(3) Incurred claims (add (1) and (2)).....		9b(3)	
(4) Claims charged.....		9b(4)	
c Remainder of premium: (1) Retention charges (on an accrual basis) --			
(A) Commissions.....	9c(1)(A)		
(B) Administrative service or other fees.....	9c(1)(B)		
(C) Other specific acquisition costs.....	9c(1)(C)		
(D) Other expenses.....	9c(1)(D)		
(E) Taxes.....	9c(1)(E)		
(F) Charges for risks or other contingencies.....	9c(1)(F)		
(G) Other retention charges.....	9c(1)(G)		
(H) Total retention.....		9c(1)(H)	
(2) Dividends or retroactive rate refunds. (These amounts were ☐ paid in cash, or ☐ credited.).....		9c(2)	
d Status of policyholder reserves at end of year: (1) Amount held to provide benefits after retirement.....		9d(1)	
(2) Claim reserves.....		9d(2)	
(3) Other reserves.....		9d(3)	
e Dividends or retroactive rate refunds due. (Do not include amount entered in c(2).).....		9e	

10 Nonexperience-rated contracts:

a Total premiums or subscription charges paid to carrier.....	10a	
b If the carrier, service, or other organization incurred any specific costs in connection with the acquisition or retention of the contract or policy, other than reported in Part I, item 2 above, report amount.	10b	

Specify nature of costs ▶

Part IV Provision of Information

11 Did the insurance company fail to provide any information necessary to complete Schedule A? ☐ Yes ☒ No

12 If the answer to line 11 is "Yes," specify the information not provided. ▶

SCHEDULE C (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Service Provider Information This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA). ▶ File as an attachment to Form 5500.	OMB No. 1210-0110
		2009
		This Form is Open to Public Inspection.
For calendar plan year 2009 or fiscal plan year beginning 01/01/2009 and ending 12/31/2009		
A Name of plan APPLIED SIGNAL TECHNOLOGY, INC. 401K RETIREMENT PLAN		B Three-digit plan number (PN) ▶ 001
C Plan sponsor's name as shown on line 2a of Form 5500 APPLIED SIGNAL TECHNOLOGY, INC		D Employer Identification Number (EIN) 77-0015491

Part I	Service Provider Information (see instructions)
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You must complete this Part, in accordance with the instructions, to report the information required for **each person** who received, directly or indirectly, \$5,000 or more in total compensation (i.e., money or anything else of monetary value) in connection with services rendered to the plan or the person's position with the plan during the plan year. If a person received **only** eligible indirect compensation for which the plan received the required disclosures, you are required to answer line 1 but are not required to include that person when completing the remainder of this Part.

1 Information on Persons Receiving Only Eligible Indirect Compensation

a Check "Yes" or "No" to indicate whether you are excluding a person from the remainder of this Part because they received only eligible indirect compensation for which the plan received the required disclosures (see instructions for definitions and conditions)..... ☒ Yes ☐ No

b If you answered line 1a "Yes," enter the name and EIN or address of each person providing the required disclosures for the service providers who received only eligible indirect compensation. Complete as many entries as needed (see instructions).

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation
DIVERSIFIED INVESTMENT ADVISORS
13-3689044

(b) Enter name and EIN or address of person who provided you disclosure on eligible indirect compensation
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2. Information on Other Service Providers Receiving Direct or Indirect Compensation. Except for those persons for whom you answered "yes" to line 1a above, complete as many entries as needed to list each person receiving, directly or indirectly, \$5,000 or more in total compensation (i.e., money or anything else of value) in connection with services rendered to the plan or their position with the plan during the plan year. (See instructions).

(a) Enter name and EIN or address (see instructions)

M HOLDING SECURITIES

1125 NW COUCH ST
SUITE 900
PORTLAND, OR 97209

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
16	BROKER	0	Yes ☒ No ☐	Yes ☐ No ☒	10763	Yes ☐ No ☒

(a) Enter name and EIN or address (see instructions)

DIVERSIFIED INVESTMENT ADVISORS

13-3689044

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
12 15 28 37 38 50 54 59 61 62 63 64 65	RECORDKEEPER	7074	Yes ☐ No ☒	Yes ☐ No ☒	0	Yes ☐ No ☒

(a) Enter name and EIN or address (see instructions)

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐

Part I Service Provider Information (continued)

3 If you reported on line 2 receipt of indirect compensation, other than eligible indirect compensation, by a service provider, and the service provider is a fiduciary or provides contract administrator, consulting, custodial, investment advisory, investment management, broker, or recordkeeping services, answer the following questions for (a) each source from whom the service provider received \$1,000 or more in indirect compensation and (b) each source for whom the service provider gave you a formula used to determine the indirect compensation instead of an amount or estimated amount of the indirect compensation. Complete as many entries as needed to report the required information for each source.

(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation
M HOLDING SECURITIES	16	10763
(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	
DIVERSIFIED INVESTMENT ADVISORS 13-3689044	COMMISSIONS	
(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation
(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	
(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation
(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	

Part II Service Providers Who Fail or Refuse to Provide Information

4 Provide, to the extent possible, the following information for each service provider who failed or refused to provide the information necessary to complete this Schedule.

(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
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(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide

Part III **Termination Information on Accountants and Enrolled Actuaries (see instructions)**
(complete as many entries as needed)

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

a Name:	b EIN;
c Position:	
d Address:	e Telephone:

Explanation:

a Name:	b EIN;
c Position:	
d Address:	e Telephone:

Explanation:

<div>SCHEDULE D</div> <div>(Form 5500)</div> <div>Department of the Treasury Internal Revenue Service</div> <div>Department of Labor Employee Benefits Security Administration</div>		<div>DFE/Participating Plan Information</div> <div>This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA).</div> <div>▶ File as an attachment to Form 5500.</div>		<div>OMB No. 1210-0110</div> <div>2009</div> <div>This Form is Open to Public Inspection.</div>	
For calendar plan year 2009 or fiscal plan year beginning 01/01/2009 and ending 12/31/2009					
A Name of plan APPLIED SIGNAL TECHNOLOGY, INC. 401K RETIREMENT PLAN				B Three-digit plan number (PN) ▶ 001	
C Plan or DFE sponsor's name as shown on line 2a of Form 5500 APPLIED SIGNAL TECHNOLOGY, INC				D Employer Identification Number (EIN) 77-0015491	
Part I Information on interests in MTIAs, CCTs, PSAs, and 103-12 IEs (to be completed by plans and DFEs) (Complete as many entries as needed to report all interests in DFEs)					
a Name of MTIA, CCT, PSA, or 103-12 IE: GOVERNMENT FIXED FUND					
b Name of sponsor of entity listed in (a): TRANSAMERICA FINANCIAL LIFE INS CO.					
c EIN-PN 36-6071399-009		d Entity code P		e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 1509929	
a Name of MTIA, CCT, PSA, or 103-12 IE:					
b Name of sponsor of entity listed in (a):					
c EIN-PN		d Entity code		e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	
a Name of MTIA, CCT, PSA, or 103-12 IE:					
b Name of sponsor of entity listed in (a):					
c EIN-PN		d Entity code		e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	
a Name of MTIA, CCT, PSA, or 103-12 IE:					
b Name of sponsor of entity listed in (a):					
c EIN-PN		d Entity code		e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	
a Name of MTIA, CCT, PSA, or 103-12 IE:					
b Name of sponsor of entity listed in (a):					
c EIN-PN		d Entity code		e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	
a Name of MTIA, CCT, PSA, or 103-12 IE:					
b Name of sponsor of entity listed in (a):					
c EIN-PN		d Entity code		e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	
a Name of MTIA, CCT, PSA, or 103-12 IE:					
b Name of sponsor of entity listed in (a):					
c EIN-PN		d Entity code		e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	
a Name of MTIA, CCT, PSA, or 103-12 IE:					
b Name of sponsor of entity listed in (a):					
c EIN-PN		d Entity code		e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	
a Name of MTIA, CCT, PSA, or 103-12 IE:					
b Name of sponsor of entity listed in (a):					
c EIN-PN		d Entity code		e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	
a Name of MTIA, CCT, PSA, or 103-12 IE:					
b Name of sponsor of entity listed in (a):					
c EIN-PN		d Entity code		e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	
a Name of MTIA, CCT, PSA, or 103-12 IE:					
b Name of sponsor of entity listed in (a):					
c EIN-PN		d Entity code		e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	
a Name of MTIA, CCT, PSA, or 103-12 IE:					
b Name of sponsor of entity listed in (a):					
c EIN-PN		d Entity code		e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	
a Name of MTIA, CCT, PSA, or 103-12 IE:					
b Name of sponsor of entity listed in (a):					
c EIN-PN		d Entity code		e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	
a Name of MTIA, CCT, PSA, or 103-12 IE:					
b Name of sponsor of entity listed in (a):					
c EIN-PN		d Entity code		e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	
a Name of MTIA, CCT, PSA, or 103-12 IE:					
b Name of sponsor of entity listed in (a):					
c EIN-PN		d Entity code		e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	
a Name of MTIA, CCT, PSA, or 103-12 IE:					
b Name of sponsor of entity listed in (a):					
c EIN-PN		d Entity code		e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	
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b Name of sponsor of entity listed in (a):					
c EIN-PN		d Entity code		e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	
a Name of MTIA, CCT, PSA, or 103-12 IE:					
b Name of sponsor of entity listed in (a):					
c EIN-PN		d Entity code		e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	
a Name of MTIA, CCT, PSA, or 103-12 IE:					
b Name of sponsor of entity listed in (a):					
c EIN-PN		d Entity code		e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	
a Name of MTIA, CCT, PSA, or 103-12 IE:					
b Name of sponsor of entity listed in (a):					
c EIN-PN		d Entity code		e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	
a Name of MTIA, CCT, PSA, or 103-12 IE:					
b Name of sponsor of entity listed in (a):					
c EIN-PN		d Entity code		e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	
a Name of MTIA, CCT, PSA, or 103-12 IE:					
b Name of sponsor of entity listed in (a):					
c EIN-PN		d Entity code		e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	
a Name of MTIA, CCT, PSA, or 103-12 IE:					
b Name of sponsor of entity listed in (a):					
c EIN-PN		d Entity code		e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	
a Name of MTIA, CCT, PSA, or 103-12 IE:					
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c EIN-PN		d Entity code		e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	
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c EIN-PN		d Entity code		e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	
a Name of MTIA, CCT, PSA, or 103-12 IE:					
b Name of sponsor of entity listed in (a):					
c EIN-PN		d Entity code		e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	
a Name of MTIA, CCT, PSA, or 103-12 IE:					
b Name of sponsor of entity listed in (a):					
c EIN-PN		d Entity code		e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	
a Name of MTIA, CCT, PSA, or 103-12 IE:					
b Name of sponsor of entity listed in (a):					
c EIN-PN		d Entity code		e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	
a Name of MTIA, CCT, PSA, or 103-12 IE:					
b Name of sponsor of entity listed in (a):					
c EIN-PN		d Entity code		e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	
a Name of MTIA, CCT, PSA, or 103-12 IE:					
b Name of sponsor of entity listed in (a):					
c EIN-PN		d Entity code		e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)	
a Name of MTIA, CCT, PSA, or 103-12 IE:					
b Name of sponsor of entity listed in (a):					
c EIN-PN		d Entity code		e Dollar value of interest in MTIA, CCT, PSA, or	

a Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
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103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
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103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
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103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
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103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
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103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
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103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
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103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)

Part II Information on Participating Plans (to be completed by DFEs)

(Complete as many entries as needed to report all participating plans)

a Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN

SCHEDULE H (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Financial Information This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA), and section 6058(a) of the Internal Revenue Code (the Code). ► File as an attachment to Form 5500.	OMB No. 1210-0110
		2009
		This Form is Open to Public Inspection

For calendar plan year 2009 or fiscal plan year beginning <u>01/01/2009</u> and ending <u>12/31/2009</u>		
A Name of plan <u>APPLIED SIGNAL TECHNOLOGY, INC. 401K RETIREMENT PLAN</u>	B Three-digit plan number (PN) ►	<u>001</u>
C Plan sponsor's name as shown on line 2a of Form 5500 <u>APPLIED SIGNAL TECHNOLOGY, INC</u>	D Employer Identification Number (EIN) <u>77-0015491</u>	

Part I	Asset and Liability Statement
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1 Current value of plan assets and liabilities at the beginning and end of the plan year. Combine the value of plan assets held in more than one trust. Report the value of the plan's interest in a commingled fund containing the assets of more than one plan on a line-by-line basis unless the value is reportable on lines 1c(9) through 1c(14). Do not enter the value of that portion of an insurance contract which guarantees, during this plan year, to pay a specific dollar benefit at a future date. **Round off amounts to the nearest dollar.** MTIAs, CCTs, PSAs, and 103-12 IEs do not complete lines 1b(1), 1b(2), 1c(8), 1g, 1h, and 1i. CCTs, PSAs, and 103-12 IEs also do not complete lines 1d and 1e. See instructions.

Assets		(a) Beginning of Year	(b) End of Year
a Total noninterest-bearing cash	1a		
b Receivables (less allowance for doubtful accounts):			
(1) Employer contributions	1b(1)		
(2) Participant contributions	1b(2)		
(3) Other.....	1b(3)		
c General investments:			
(1) Interest-bearing cash (include money market accounts & certificates of deposit)	1c(1)		
(2) U.S. Government securities.....	1c(2)		
(3) Corporate debt instruments (other than employer securities):			
(A) Preferred	1c(3)(A)		
(B) All other.....	1c(3)(B)		
(4) Corporate stocks (other than employer securities):			
(A) Preferred	1c(4)(A)		
(B) Common	1c(4)(B)		
(5) Partnership/joint venture interests	1c(5)		
(6) Real estate (other than employer real property)	1c(6)		
(7) Loans (other than to participants)	1c(7)		
(8) Participant loans	1c(8)	<u>851067</u>	<u>949871</u>
(9) Value of interest in common/collective trusts.....	1c(9)		
(10) Value of interest in pooled separate accounts.....	1c(10)	<u>1836853</u>	<u>1509929</u>
(11) Value of interest in master trust investment accounts	1c(11)		
(12) Value of interest in 103-12 investment entities	1c(12)		
(13) Value of interest in registered investment companies (e.g., mutual funds).....	1c(13)	<u>67153619</u>	<u>91351718</u>
(14) Value of funds held in insurance company general account (unallocated contracts).....	1c(14)	<u>8941</u>	<u>40058</u>
(15) Other	1c(15)	<u>7850538</u>	<u>9462484</u>

1d Employer-related investments:

		(a) Beginning of Year	(b) End of Year
(1) Employer securities	1d(1)		
(2) Employer real property	1d(2)		
e Buildings and other property used in plan operation	1e		
f Total assets (add all amounts in lines 1a through 1e)	1f	77701018	103314060

Liabilities

g Benefit claims payable	1g		
h Operating payables	1h		
i Acquisition indebtedness	1i		
j Other liabilities	1j		
k Total liabilities (add all amounts in lines 1g through 1j)	1k	0	0

Net Assets

l Net assets (subtract line 1k from line 1f)	1l	77701018	103314060
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Part II Income and Expense Statement

2 Plan income, expenses, and changes in net assets for the year. Include all income and expenses of the plan, including any trust(s) or separately maintained fund(s) and any payments/receipts to/from insurance carriers. Round off amounts to the nearest dollar. MTIAs, CCTs, PSAs, and 103-12 IEs do not complete lines 2a, 2b(1)(E), 2e, 2f, and 2g.

Income**a Contributions:**

		(a) Amount	(b) Total
(1) Received or receivable in cash from: (A) Employers	2a(1)(A)	4064878	
(B) Participants	2a(1)(B)	7776459	
(C) Others (including rollovers)	2a(1)(C)	413835	
(2) Noncash contributions	2a(2)		
(3) Total contributions. Add lines 2a(1)(A) , (B) , (C) , and line 2a(2)	2a(3)		12255172

b Earnings on investments:**(1) Interest:**

(A) Interest-bearing cash (including money market accounts and certificates of deposit)	2b(1)(A)		
(B) U.S. Government securities	2b(1)(B)		
(C) Corporate debt instruments	2b(1)(C)		
(D) Loans (other than to participants)	2b(1)(D)		
(E) Participant loans	2b(1)(E)	49833	
(F) Other	2b(1)(F)	1431	
(G) Total interest. Add lines 2b(1)(A) through (F)	2b(1)(G)		51264

(2) Dividends: (A) Preferred stock	2b(2)(A)		
(B) Common stock	2b(2)(B)		
(C) Registered investment company shares (e.g. mutual funds)	2b(2)(C)		
(D) Total dividends. Add lines 2b(2)(A) , (B) , and (C)	2b(2)(D)		0

(3) Rents	2b(3)		
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(4) Net gain (loss) on sale of assets: (A) Aggregate proceeds	2b(4)(A)		
(B) Aggregate carrying amount (see instructions)	2b(4)(B)		
(C) Subtract line 2b(4)(B) from line 2b(4)(A) and enter result	2b(4)(C)		0

		(a) Amount	(b) Total
2b (5) Unrealized appreciation (depreciation) of assets: (A) Real estate.....	2b(5)(A)		
(B) Other	2b(5)(B)		
(C) Total unrealized appreciation of assets. Add lines 2b(5)(A) and (B)	2b(5)(C)		0
(6) Net investment gain (loss) from common/collective trusts	2b(6)		
(7) Net investment gain (loss) from pooled separate accounts	2b(7)		52158
(8) Net investment gain (loss) from master trust investment accounts	2b(8)		
(9) Net investment gain (loss) from 103-12 investment entities	2b(9)		
(10) Net investment gain (loss) from registered investment companies (e.g., mutual funds).....	2b(10)		15747380
c Other income.....	2c		1198726
d Total income. Add all income amounts in column (b) and enter total.....	2d		29304700

Expenses

e Benefit payment and payments to provide benefits:			
(1) Directly to participants or beneficiaries, including direct rollovers	2e(1)	3627814	
(2) To insurance carriers for the provision of benefits	2e(2)		
(3) Other	2e(3)		
(4) Total benefit payments. Add lines 2e(1) through (3)	2e(4)		3627814
f Corrective distributions (see instructions)	2f		
g Certain deemed distributions of participant loans (see instructions).....	2g		56714
h Interest expense.....	2h		
i Administrative expenses: (1) Professional fees	2i(1)		
(2) Contract administrator fees	2i(2)		
(3) Investment advisory and management fees	2i(3)		
(4) Other	2i(4)	7130	
(5) Total administrative expenses. Add lines 2i(1) through (4)	2i(5)		7130
j Total expenses. Add all expense amounts in column (b) and enter total.....	2j		3691658

Net Income and Reconciliation

k Net income (loss). Subtract line 2j from line 2d	2k		25613042
l Transfers of assets:			
(1) To this plan.....	2l(1)		
(2) From this plan	2l(2)		

Part III Accountant's Opinion

3 Complete lines 3a through 3c if the opinion of an independent qualified public accountant is attached to this Form 5500. Complete line 3d if an opinion is not attached.

a The attached opinion of an independent qualified public accountant for this plan is (see instructions):

(1) ☐ Unqualified (2) ☐ Qualified (3) ☒ Disclaimer (4) ☐ Adverse

b Did the accountant perform a limited scope audit pursuant to 29 CFR 2520.103-8 and/or 103-12(d)? ☒ Yes ☐ No

c Enter the name and EIN of the accountant (or accounting firm) below:

(1) Name: CROWE HORWATH LLP

(2) EIN: 35-0921680

d The opinion of an independent qualified public accountant is **not attached** because:

(1) ☐ This form is filed for a CCT, PSA, or MTIA. (2) ☐ It will be attached to the next Form 5500 pursuant to 29 CFR 2520.104-50.

Part IV Compliance Questions

- 4** CCTs and PSAs do not complete Part IV. MTIAs, 103-12 IEs, and GIAs do not complete 4a, 4e, 4f, 4g, 4h, 4k, 4m, 4n, or 5. 103-12 IEs also do not complete 4j and 4l. MTIAs also do not complete 4l.

During the plan year:

	Yes	No	Amount
a Was there a failure to transmit to the plan any participant contributions within the time period described in 29 CFR 2510.3-102? Continue to answer "Yes" for any prior year failures until fully corrected. (See instructions and DOL's Voluntary Fiduciary Correction Program.).....		X	
b Were any loans by the plan or fixed income obligations due the plan in default as of the close of the plan year or classified during the year as uncollectible? Disregard participant loans secured by participant's account balance. (Attach Schedule G (Form 5500) Part I if "Yes" is checked.).....		X	
c Were any leases to which the plan was a party in default or classified during the year as uncollectible? (Attach Schedule G (Form 5500) Part II if "Yes" is checked.)		X	
d Were there any nonexempt transactions with any party-in-interest? (Do not include transactions reported on line 4a. Attach Schedule G (Form 5500) Part III if "Yes" is checked.).....		X	
e Was this plan covered by a fidelity bond?.....	X		500000
f Did the plan have a loss, whether or not reimbursed by the plan's fidelity bond, that was caused by fraud or dishonesty?		X	
g Did the plan hold any assets whose current value was neither readily determinable on an established market nor set by an independent third party appraiser?		X	
h Did the plan receive any noncash contributions whose value was neither readily determinable on an established market nor set by an independent third party appraiser?		X	
i Did the plan have assets held for investment? (Attach schedule(s) of assets if "Yes" is checked, and see instructions for format requirements.).....	X		
j Were any plan transactions or series of transactions in excess of 5% of the current value of plan assets? (Attach schedule of transactions if "Yes" is checked, and see instructions for format requirements.).....		X	
k Were all the plan assets either distributed to participants or beneficiaries, transferred to another plan, or brought under the control of the PBGC?.....		X	
l Has the plan failed to provide any benefit when due under the plan?		X	
m If this is an individual account plan, was there a blackout period? (See instructions and 29 CFR 2520.101-3.).....		X	
n If 4m was answered "Yes," check the "Yes" box if you either provided the required notice or one of the exceptions to providing the notice applied under 29 CFR 2520.101-3.		X	

- 5a** Has a resolution to terminate the plan been adopted during the plan year or any prior plan year?
If yes, enter the amount of any plan assets that reverted to the employer this year ☐ Yes ☒ No Amount:

- 5b** If, during this plan year, any assets or liabilities were transferred from this plan to another plan(s), identify the plan(s) to which assets or liabilities were transferred. (See instructions.)

5b(1) Name of plan(s)

5b(2) EIN(s)

5b(3) PN(s)

5b(1) Name of plan(s)	5b(2) EIN(s)	5b(3) PN(s)

SCHEDULE R (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Retirement Plan Information This schedule is required to be filed under section 104 and 4065 of the Employee Retirement Income Security Act of 1974 (ERISA) and section 6058(a) of the Internal Revenue Code (the Code). ▶ File as an attachment to Form 5500.	OMB No. 1210-0110
		2009
		This Form is Open to Public Inspection.

For calendar plan year 2009 or fiscal plan year beginning 01/01/2009 and ending 12/31/2009

A Name of plan <u>APPLIED SIGNAL TECHNOLOGY, INC. 401K RETIREMENT PLAN</u>	B Three-digit plan number (PN) ▶ <u>001</u>
C Plan sponsor's name as shown on line 2a of Form 5500 <u>APPLIED SIGNAL TECHNOLOGY, INC</u>	D Employer Identification Number (EIN) <u>77-0015491</u>

Part I	Distributions
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All references to distributions relate only to payments of benefits during the plan year.

1 Total value of distributions paid in property other than in cash or the forms of property specified in the instructions.....	1	<u>0</u>
2 Enter the EIN(s) of payor(s) who paid benefits on behalf of the plan to participants or beneficiaries during the year (if more than two, enter EINs of the two payors who paid the greatest dollar amounts of benefits): EIN(s): <u>13-3689044</u>		
Profit-sharing plans, ESOPs, and stock bonus plans, skip line 3.		
3 Number of participants (living or deceased) whose benefits were distributed in a single sum, during the plan year.....	3	

Part II	Funding Information (If the plan is not subject to the minimum funding requirements of section 412 of the Internal Revenue Code or ERISA section 302, skip this Part)
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4 Is the plan administrator making an election under Code section 412(d)(2) or ERISA section 302(d)(2)?.....	☐ Yes	☐ No	☐ N/A
If the plan is a defined benefit plan, go to line 8.			
5 If a waiver of the minimum funding standard for a prior year is being amortized in this plan year, see instructions and enter the date of the ruling letter granting the waiver. Date: Month _____ Day _____ Year _____	If you completed line 5, complete lines 3, 9, and 10 of Schedule MB and do not complete the remainder of this schedule.		
6 a Enter the minimum required contribution for this plan year	6a		
b Enter the amount contributed by the employer to the plan for this plan year	6b		
c Subtract the amount in line 6b from the amount in line 6a. Enter the result (enter a minus sign to the left of a negative amount).....	6c		
If you completed line 6c, skip lines 8 and 9.			
7 Will the minimum funding amount reported on line 6c be met by the funding deadline?	☐ Yes	☐ No	☐ N/A
8 If a change in actuarial cost method was made for this plan year pursuant to a revenue procedure providing automatic approval for the change or a class ruling letter, does the plan sponsor or plan administrator agree with the change?.....	☐ Yes	☐ No	☐ N/A

Part III	Amendments
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9 If this is a defined benefit pension plan, were any amendments adopted during this plan year that increased or decreased the value of benefits? If yes, check the appropriate box(es). If no, check the "No" box.....	☐ Increase	☐ Decrease	☐ Both	☐ No
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Part IV	ESOPs (see instructions). If this is not a plan described under Section 409(a) or 4975(e)(7) of the Internal Revenue Code, skip this Part.
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10 Were unallocated employer securities or proceeds from the sale of unallocated securities used to repay any exempt loan?.....	☐ Yes	☐ No
11 a Does the ESOP hold any preferred stock?	☐ Yes	☐ No
b If the ESOP has an outstanding exempt loan with the employer as lender, is such loan part of a "back-to-back" loan? (See instructions for definition of "back-to-back" loan.)	☐ Yes	☐ No
12 Does the ESOP hold any stock that is not readily tradable on an established securities market?	☐ Yes	☐ No

For Paperwork Reduction Act Notice and OMB Control Numbers, see the instructions for Form 5500.

Schedule R (Form 5500) 2009
v.092308.1

Part V Additional Information for Multiemployer Defined Benefit Pension Plans

13 Enter the following information for each employer that contributed more than 5% of total contributions to the plan during the plan year (measured in dollars). See instructions. *Complete as many entries as needed to report all applicable employers.*

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete items 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete items 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete items 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete items 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete items 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete items 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

- 14** Enter the number of participants on whose behalf no contributions were made by an employer as an employer of the participant for:

a The current year	14a	
b The plan year immediately preceding the current plan year	14b	
c The second preceding plan year	14c	

- 15** Enter the ratio of the number of participants under the plan on whose behalf no employer had an obligation to make an employer contribution during the current plan year to:

a The corresponding number for the plan year immediately preceding the current plan year	15a	
b The corresponding number for the second preceding plan year	15b	

- 16** Information with respect to any employers who withdrew from the plan during the preceding plan year:

a Enter the number of employers who withdrew during the preceding plan year	16a	
b If item 16a is greater than 0, enter the aggregate amount of withdrawal liability assessed or estimated to be assessed against such withdrawn employers	16b	

- 17** If assets and liabilities from another plan have been transferred to or merged with this plan during the plan year, check box and see instructions regarding supplemental information to be included as an attachment. ☐

Part VI Additional Information for Single-Employer and Multiemployer Defined Benefit Pension Plans

- 18** If any liabilities to participants or their beneficiaries under the plan as of the end of the plan year consist (in whole or in part) of liabilities to such participants and beneficiaries under two or more pension plans as of immediately before such plan year, check box and see instructions regarding supplemental information to be included as an attachment. ☐

- 19** If the total number of participants is 1,000 or more, complete items (a) through (c)

a Enter the percentage of plan assets held as:
 Stock: _____% Investment-Grade Debt: _____% High-Yield Debt: _____% Real Estate: _____% Other: _____%

b Provide the average duration of the combined investment-grade and high-yield debt:
☐ 0-3 years ☐ 3-6 years ☐ 6-9 years ☐ 9-12 years ☐ 12-15 years ☐ 15-18 years ☐ 18-21 years ☐ 21 years or more

c What duration measure was used to calculate item 19(b)?
☐ Effective duration ☐ Macaulay duration ☐ Modified duration ☐ Other (specify): _____

**APPLIED SIGNAL TECHNOLOGY, INC.
401(k) RETIREMENT PLAN**

FINANCIAL STATEMENTS
December 31, 2009 and 2008

APPLIED SIGNAL TECHNOLOGY, INC. 401(k) RETIREMENT PLAN
Sunnyvale, California

FINANCIAL STATEMENTS
December 31, 2009 and 2008

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REPORT OF INDEPENDENT AUDITORS

To the Retirement Plan Committee of
Applied Signal Technology, Inc.
401(k) Retirement Plan
Sunnyvale, California

We were engaged to audit the financial statements and supplemental schedule of Applied Signal Technology, Inc. 401(k) Retirement Plan as of December 31, 2009 and 2008 and for the year ended December 31, 2009, as listed in the accompanying contents page. These financial statements and supplemental schedule are the responsibility of the Plan's management.

As permitted by 29 CFR 2520.103-8 of the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974, the plan administrator instructed us not to perform, and we did not perform, any auditing procedures with respect to the information summarized in Note 4, which was certified by TransAmerica Financial Life Insurance Company, Inc., the custodian of the Plan, and State Street Bank and Trust Company, the trustee of the Plan, except for comparing such information with the related information included in the financial statements and supplemental schedule. We have been informed by the plan administrator that the custodian and trustee hold the Plan's investment assets and execute investment transactions. The plan administrator has obtained certifications from the custodian and trustee as of December 31, 2009 and 2008 and for the year ended December 31, 2009 that the information provided to the plan administrator by the custodian and trustee is complete and accurate.

Because of the significance of the information that we did not audit, we are unable to, and do not, express an opinion on the accompanying financial statements and supplemental schedule taken as a whole. The form and content of the information included in the financial statements and supplemental schedule, other than that derived from the information certified by the custodian and trustee, have been audited by us in accordance with auditing standards generally accepted in the United States of America and, in our opinion, are presented in compliance with the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974.

Crowe Horwath LLP

Crowe Horwath LLP

Oak Brook, Illinois
August 19, 2010

APPLIED SIGNAL TECHNOLOGY, INC. 401(k) RETIREMENT PLAN
STATEMENTS OF NET ASSETS AVAILABLE FOR BENEFITS
December 31, 2009 and 2008

	<u>2009</u>	<u>2008</u>
ASSETS		
Investments, at fair value (Note 4)	\$ 103,314,060	\$ 77,701,018
Receivables		
Employer contribution	<u>251,152</u>	<u>122,746</u>
NET ASSETS AVAILABLE FOR BENEFITS	<u>\$ 103,565,212</u>	<u>\$ 77,823,764</u>

See accompanying notes to financial statements.

APPLIED SIGNAL TECHNOLOGY, INC. 401(k) RETIREMENT PLAN
STATEMENT OF CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS
Year ended December 31, 2009

Additions to net assets attributed to:

Investment income (Note 4)	
Net appreciation in fair value of investments	\$ 15,293,791
Interest and dividends	1,840,708

Contributions	
Employer	4,193,284
Participant	7,776,459
Rollovers	413,835
	<u>12,383,578</u>

Total additions	29,518,077
-----------------	------------

Deductions from net assets attributed to:

Benefits paid to participants	3,769,499
Administrative expenses	7,130
Total deductions	<u>3,776,629</u>

Net increase	25,741,448
--------------	------------

Net assets available for benefits

Beginning of year	<u>77,823,764</u>
End of year	<u>\$ 103,565,212</u>

See accompanying notes to financial statements.

APPLIED SIGNAL TECHNOLOGY, INC. 401(k) RETIREMENT PLAN
NOTES TO FINANCIAL STATEMENTS
December 31, 2009 and 2008

NOTE 1 - DESCRIPTION OF PLAN

The following description of the Applied Signal Technology, Inc. 401(k) Retirement Plan ("the Plan") provides only general information. Participants should refer to the plan agreement for a more complete description of the Plan's provisions.

General: The Plan is a defined contribution plan that was adopted January 1, 1987 and covers substantially all employees of Applied Signal Technology, Inc. ("the Company") as defined in the plan document who are not covered by a collective bargaining agreement. It is subject to the provisions of the Employee Retirement Income Security Act of 1974 ("ERISA"). Effective July 1, 2009, a new prototype plan document was adopted to incorporate recent amendment and legislative changes.

Administration: The Company has appointed an Administrative Committee ("the Committee") to control the operation and administration of the Plan. The Company has contracted with TransAmerica Financial Life Insurance Company, Inc. ("TFLIC") to act as the custodian and State Street Bank and Trust Company (SSBT), to act as the trustee and its affiliate, Diversified Investors Advisors Inc., to process and maintain the records of participant data. Certain professional fees related to plan administration are paid by the Company.

Contributions: Each year, participants may contribute, on a pretax basis, a portion of their eligible compensation to the Plan, as defined in the plan document. Participants may also elect to make voluntary after-tax contributions from 1 to 6 percent of compensation. In addition, the Plan accepts transfers and rollovers from other tax-qualified employer-sponsored retirement plans.

The Company may contribute a discretionary non-elective contribution up to 4% of eligible compensation, as defined in the plan document and approved by the Board of Directors. The Plan sponsor elected not to make a discretionary non-elective contribution for the Plan year ended December 31, 2009. The Plan also permits the Company to make a discretionary match contribution each plan year. For the Plan year ended December 31, 2009, the Company elected to make a matching contribution of 75% of elective deferrals on the first 8% of elective deferrals up to 6% of eligible compensation, as defined in the Plan document and approved by the Board of Directors.

Investments: Participants may direct the investment of their accounts into various investment options offered by the Plan on a daily basis. Currently, the Plan offers a guaranteed pooled separate account, a guaranteed investment contract, mutual funds, as well as a personal choice account that allows participants to invest in various other mutual funds, bonds, common stocks, and other investments. The Plan's guaranteed pooled separate account and guaranteed investment contract are held and managed by TFLIC, and the mutual funds and the personal choice accounts are held by SSBT.

Participant Accounts: Each participant's account is credited with the participant's own contributions, an allocation of earnings, and the Company's contribution, if any. Allocations are based on participants' earnings or account balances, as defined in the plan document. The benefit to which a participant is entitled is the benefit that can be provided from the participant's vested account.

Retirement: A participant is entitled to 100% of his or her account balance upon retirement, death, or disability.

Vesting: Participants are immediately vested in their own contributions plus actual earnings thereon. Vesting in employer contributions plus earnings thereon is based on years of continuous service. A participant is 100 percent vested after four years of credited service.

(Continued)

APPLIED SIGNAL TECHNOLOGY, INC. 401(k) RETIREMENT PLAN
NOTES TO FINANCIAL STATEMENTS
December 31, 2009 and 2008

NOTE 1 - DESCRIPTION OF PLAN (Continued)

Payment of Benefits: Upon separation of service due to termination, death, disability, or retirement, a participant or beneficiary, if applicable, may elect to receive either a lump-sum amount equal to the value of the participant's vested interest in his or her account, installment payments, or various forms of annuities. The Plan may make automatic rollovers of vested account balances that are greater than \$1,000 but not more than \$5,000. Upon attainment of age 59½, participants may also elect to receive pre-retirement distributions from all vested accounts or from employee funds for reasons of hardship. In addition, after-tax contributions may be withdrawn once per plan year.

Participant Loans: Participants may borrow from \$1,000 to a maximum of the lesser of \$50,000 or 50 percent of their vested account balance from employee source accounts. The loans are secured by the balance in the participant's account and bear an interest rate that is commensurate with prevailing rates. Principal and interest are repaid ratably through payroll deductions. The maximum loan term is five years, unless the loan is used for the purchase of a principal residence, in which case, the maximum repayment period is ten years. Outstanding loans at December 31, 2009 carry interest rates ranging from 3.25% to 9.64%.

Forfeitures: As of December 31, 2009 and 2008, the Plan had \$35,269 and \$8,941, respectively, of forfeited nonvested funds available to reduce future employer contributions to the Plan. During 2009, \$31,900 of forfeitures were used to reduce the Company contribution.

NOTE 2 - SUMMARY OF ACCOUNTING POLICIES

Basis of Accounting: The financial statements of the Plan are prepared under the accrual basis of accounting in accordance with accounting principles generally accepted in the United States of America.

Investment Valuation: The Plan's investments, excluding participant loans, are reported at fair value. Purchases and sales of securities are recorded on a trade-date basis. Interest income is recorded on the accrual basis. Dividends are recorded on the ex-dividend date.

Fully Benefit-Responsive Investment Contracts: While Plan investments are presented at fair value in the statement of net assets available for benefits, any material difference between the fair value of the Plan's direct and indirect interests in fully benefit-responsive investment contracts and their contract value is presented as an adjustment line in the statement of net assets available for benefits, because contract value is the relevant measurement attribute for that portion of the Plan's net assets available for benefits. Contract value represents contributions made to a contract, plus earnings, less participant withdrawals and administrative expenses. Participants in fully benefit-responsive contracts may ordinarily direct the withdrawal or transfer of all or a portion of their investment at contract value. The Plan holds a direct interest in fully benefit-responsive contract as well as an indirect interest in such contracts through its investment in a guaranteed pooled separate account. No adjustments from fair value to contract value are presented in the statements of net assets available for benefits, as the amounts of the adjustments have been determined to be immaterial.

Estimates: The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires the plan administrator to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of income and expenses during the reporting period. Actual results may differ from those estimates.

(Continued)

APPLIED SIGNAL TECHNOLOGY, INC. 401(k) RETIREMENT PLAN
NOTES TO FINANCIAL STATEMENTS
December 31, 2009 and 2008

NOTE 2 - SUMMARY OF ACCOUNTING POLICIES (Continued)

Risks and Uncertainties: The Plan provides for various investments. The underlying investment securities are exposed to various risks, such as interest rate, market, liquidity and credit risks. Due to the level of risk associated with certain investment securities and the level of uncertainty related to changes in the value of investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect the amounts reported in the statement of net assets available for benefits and participants' individual account balances.

Payment of Benefits: Benefits are recorded when paid.

NOTE 3 - PLAN TERMINATION

Although it has not expressed any intent to do so, the Company has the right under the Plan to discontinue its contributions at any time and to terminate the Plan subject to the provisions of ERISA. In the event of the Plan's termination, participants would become 100 percent vested in their accounts.

NOTE 4 - INVESTMENTS - UNAUDITED INFORMATION

TFLIC and SSBT hold investment assets and execute transactions therein. Substantially all information pertaining to investments included in the financial statements has been certified by them. This information has not been audited by independent accountants.

The following table presents the fair value of investments that represent 5 percent or more of the Plan's net assets.

	December 31,	
	<u>2009</u>	<u>2008</u>
Transamerica Partners Mutual Funds		
Money Market Fund	\$ 8,840,486	\$ 9,550,299
Growth & Income Fund	5,276,610	3,844,770#
Special Equity Fund	8,182,786	6,261,879
Equity Growth Fund	10,944,842	4,067,459
Value and Income Fund	7,423,448	5,918,704
Stock Index Fund	5,506,795	3,620,168#
Other Mutual Funds		
Vanguard 500 Index Fund	5,827,688	2,939,497#

Investment does not represent 5% or more of Plan's net assets but is shown for comparative purposes.

During 2009, the Plan's investments (including gains and losses on investments bought and sold, as well as held during the year) appreciated in value by \$15,293,791 as follows:

Mutual funds	\$ 14,678,868
Common stock	604,133
Other	<u>10,790</u>
	<u>\$ 15,293,791</u>

During 2009, the Plan's investments earned dividend and interest income of \$1,840,708.

(Continued)

NOTE 5 – FAIR VALUE MEASUREMENTS

Fair value is the price that would be received by the Plan for an asset or paid by the Plan to transfer a liability (an exit price) in an orderly transaction between market participants on the measurement date in the Plan's principal or most advantageous market for the asset or liability. Fair value measurements are determined by maximizing the use of observable inputs and minimizing the use of unobservable inputs. The hierarchy places the highest priority on unadjusted quoted market prices in active markets for identical assets or liabilities (level 1 measurements) and gives the lowest priority to unobservable inputs (level 3 measurements). The three levels of inputs within the fair value hierarchy are defined as follows:

Level 1: Quoted prices (unadjusted) for identical assets or liabilities in active markets that the Plan has the ability to access as of the measurement date.

Level 2: Significant other observable inputs other than level 1 prices such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data.

Level 3: Significant unobservable inputs that reflect the Plan's own assumptions about the assumptions that market participants would use in pricing an asset or liability.

In some cases, a valuation technique used to measure fair value may include inputs from multiple levels of the fair value hierarchy. The lowest level of significant input determines the placement of the entire fair value measurement in the hierarchy.

The following descriptions of the valuation methods and assumptions used by the Plan to estimate the fair values of investments apply to investments held directly by the Plan.

Mutual funds and common stocks: The fair values of mutual fund and common stock investments are determined by obtaining quoted prices on nationally recognized securities exchanges (level 1 inputs).

Collective trusts: The fair values of participation units held in collective trusts are based on the net asset values reported by the fund managers as of the financial statement dates and recent transaction prices (level 2 inputs).

Guaranteed pooled separate account: The fair values of participation units held in the guaranteed pooled separate account are based on the net asset values reported by the fund managers after an adjustment for a determination penalty under contract termination provisions for the single sum transfer option (level 3 inputs). There are no audited financial statements available. The guaranteed pooled separate account is provided under a group annuity contract issued by TFLIC which provides a guarantee of contract value for participant transactions. The guaranteed pooled separate accounts invests solely in cash, U.S. treasury bills, notes and bonds, Government National Mortgage Association (GNMA) Certificates, Federal Home Loan Mortgage Corporation (FHLMC) Certificates, and Federal National Mortgage Association (FNA) Certificates, and strip payments derived from GNMA, FHLMC, and FNMA Certificates. Participants are generally permitted to make benefit distributions and transfers from the guaranteed pooled separate account to non-competing funds at contract value with transfers not permitted from the guaranteed pooled separate account to the investment contract or fixed income funds. Generally, amounts transferred to a non-fixed income fund may not thereafter be transferred to a fixed income fund for at least three months.

Investment contracts: The fair value of the investment contract has been determined to approximate contract value, based upon their lack of contractual maturities, the frequency of the re-setting of contractual interest rates to market rates, the credit quality of the issuer(s), and the liquidity of the contract (level 3 inputs).

(Continued)

APPLIED SIGNAL TECHNOLOGY, INC. 401(k) RETIREMENT PLAN
NOTES TO FINANCIAL STATEMENTS
December 31, 2009 and 2008

NOTE 5 – FAIR VALUE MEASUREMENTS (Continued)

Fixed Income: Fixed income investments include U.S. treasuries and corporate bonds. Fair values of the U.S. treasuries and corporate bonds reflect the closing price reported in the active market in which the securities are traded (level 1 inputs).

Money market deposit accounts: Fair values are estimated to approximate deposit account balances, payable on demand, as no discounts for credit quality or liquidity were determined to be applicable (level 2 inputs). The Plan's investments in money market deposit accounts occasionally exceed federally insured balances.

Certificates of deposit: Certificates of deposit are highly liquid securities with a maturity of less than 3 months. These securities are priced using models that incorporate market-based inputs (level 2 inputs).

Participant loans: Participant loans are reported at their outstanding balances, as the fair value of the loans is not practicable to estimate due to restrictions placed on the transferability of the loans.

The methods described above may produce a fair value calculation that may not be indicative of net realizable value or reflective of future fair values. Furthermore, while the Plan believes its valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement at the reporting date.

Fair Value Measurements at December 31, 2009 Using			
	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Investments other than participant loans:			
Mutual funds, categorized by nature of underlying investments:			
Money market funds	\$ 8,840,486	\$ -	\$ -
Corporate bond funds	15,206,618	-	-
Domestic equity funds – small cap	9,152,936	-	-
Domestic equity funds – large cap	34,979,383	-	-
Blended funds	14,710,884	-	-
International equity funds	8,461,411	-	-
Personal choice account			
Common stock	3,259,571	-	-
Mutual funds	3,184,373	-	-
Fixed income	76,047	-	-
Collective trust	-	257,347	-
Certificates of deposit	-	111,046	-
Money market deposit account	-	2,574,100	-
Guaranteed investment contracts	-	-	40,058
Guaranteed pooled separate account	-	-	1,509,929

(Continued)

APPLIED SIGNAL TECHNOLOGY, INC. 401(k) RETIREMENT PLAN
NOTES TO FINANCIAL STATEMENTS
December 31, 2009 and 2008

NOTE 5 – FAIR VALUE MEASUREMENTS (Continued)

	Fair Value Measurements at December 31, 2008 Using		
	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Investments, excluding participant loans	\$ 71,136,538	\$ 3,867,620	\$ 1,845,793

The table below presents a reconciliation of Plan investments measured at fair value on a recurring basis using significant unobservable inputs (level 3) for the year ended December 31, 2009, including the reporting classifications for the applicable gains and losses included in the statement of changes in net assets available for benefits:

	Fair Value Measurements Using Significant Unobservable Inputs (Level 3)
	Guaranteed pooled separate account and Investment contract
Beginning balance, January 1, 2009	\$ 1,845,793
Total gains or losses included in change in net assets available for benefits:	
Interest income	53,589
Net realized and unrealized appreciation	-
Purchases, sales, issuances and settlements (net)	(349,395)
Transfers in and/or out of Level 3	-
Ending balance, December 31, 2009	<u>\$ 1,549,987</u>

NOTE 6 - INVESTMENT CONTRACT WITH INSURANCE COMPANY

The Plan holds two fully benefit-responsive investment contracts with TFLIC, of which one of the holdings is through units of participation in a guaranteed pooled separate account. The guaranteed pooled separate account is not audited by an independent auditor. TFLIC maintains the contributions in its general account for the investment contract for the investment contract and in a separate account for the guaranteed separate account. TFLIC's general account is credited with earnings on the underlying investments and is charged for participant withdrawals and administrative expenses. Participants may ordinarily direct the withdrawal or transfer of all or a portion of their investments at contract value. There are no reserves against contract value for credit risk of the Issuer or otherwise.

The Plan's investment contracts specifies certain conditions under which distributions from the contracts would be payable at amounts below contract values. Such circumstances include Plan termination, Plan merger, premature contract termination initiated by the Company, and certain other Company-initiated events that result in distributions exceeding a set amount. The contracts limit the circumstances under which the Issuer may terminate the contracts. Examples of circumstances which would allow the Issuer to terminate the contracts include the Plan's loss of its qualified status, uncured material breaches of responsibilities, or material and adverse changes to the provisions of the Plan. If one of these events were to occur, the Issuer could terminate the contracts at an amount less than contract value. Currently, management believes that the occurrence of an event that would cause the Plan to transact contract distributions at less than contract value is not probable.

(Continued)

APPLIED SIGNAL TECHNOLOGY, INC. 401(k) RETIREMENT PLAN
NOTES TO FINANCIAL STATEMENTS
December 31, 2009 and 2008

NOTE 6 - INVESTMENT CONTRACT WITH INSURANCE COMPANY (Continued)

The crediting interest rate of the contracts is based on an agreed-upon formula with the Issuer, as defined in the contract agreement, but cannot be less than 2 percent. Such interest rates are reviewed on a semi-annual [annual; quarterly] basis for resetting. The key factors that influence future interest crediting rates could include the following: the level of market interest rates; the amount and timing of participant contributions, transfers and withdrawals into/out of the contracts; and the duration of the underlying investments backing the contracts. The resulting gain or loss in the fair value of the investment contracts relative to its contract value, if any, is reflected in the Statement of Net Assets Available for Benefits as *Adjustment from fair value to contract value for fully benefit-responsive investment contracts*.

	<u>2009</u>	<u>2008</u>
Average yields:		
Based on annualized earnings ⁽¹⁾	2.35%	2.65%
Based on interest rate credited to participants ⁽²⁾	2.35%	2.65%

- (1) Computed by dividing the annualized one-day actual earnings of the contract on the last day of the Plan year by the fair value of the contract investments on the same date.
- (2) Computed by dividing the annualized one-day earnings credited to participants on the last day of the Plan year by the fair value of the contract investments on the same date.

NOTE 7 - PARTY-IN-INTEREST TRANSACTIONS

Parties-in-interest are defined under Department of Labor Regulations as any party providing fiduciary services for the Plan, any party rendering services to the Plan, the employer and certain others.

Certain plan investments in mutual funds, guaranteed pooled separate account, and a guaranteed investment contract are managed by TFLIC or an affiliate of TFLIC. TFLIC is the custodian of the Plan, and therefore, these transactions qualify as party-in-interest transactions. Certain investments of the Plan are in funds managed by Transamerica Asset Management, Inc., an affiliate of Diversified Investment Advisors ("DIA"), which shares common ownership with SSBT, the trustee, and therefore those are considered party in interest investments. In addition, some participants have loans from their accounts in the Plan; therefore, these investments also qualify as party-in-interest. Party-in-interest investments are listed below:

	December 31,	
	<u>2009</u>	<u>2008</u>
TFLIC guaranteed pooled separate account	\$ 1,509,929	\$ 1,836,853
TFLIC guaranteed investment contract	40,058	8,941
Participant loans	949,871	851,067
Mutual funds	73,756,403	59,003,019

Such transactions, while considered party-in-interest transactions under ERISA regulations, are permitted under the provisions of the Plan and are specifically exempt from the prohibition of party-in-interest transactions under ERISA. Certain professional fees were paid by the Company on behalf of the Plan. The following fees were paid by participants for loan and brokerage account administration from the Plan during 2009:

<u>Identity of Party</u>	<u>Relationship</u>	<u>Amount</u>
Diversified Investment Advisors	Recordkeeper	\$ 7,130

(Continued)

APPLIED SIGNAL TECHNOLOGY, INC. 401(k) RETIREMENT PLAN
NOTES TO FINANCIAL STATEMENTS
December 31, 2009 and 2008

NOTE 8 - TAX STATUS

The Internal Revenue Service issued an opinion letter dated March 31, 2008 indicating that the prototype adopted by the Plan, as then designed, was in compliance with applicable requirements of the Internal Revenue Code. Although the Plan has been amended from the original prototype document, Plan management believes that the Plan is currently being operated in accordance with the Internal Revenue Code.

NOTE 9 – RECONCILIATION BETWEEN FINANCIAL STATEMENTS AND FORM 5500

The following is a reconciliation of Plan net assets available for benefits per the financial statements at December 31, 2009 and 2008 to the Form 5500:

	<u>2009</u>	<u>2008</u>
Net assets available for benefits per the financial statements	\$ 103,565,212	\$ 77,823,764
Receivables		
Employer contributions	<u>(251,152)</u>	<u>(122,746)</u>
Net assets available for benefits per the Form 5500	<u>\$ 103,314,060</u>	<u>\$ 77,701,018</u>

The following is a reconciliation of the change in net assets available for benefits for the year ended December 31, 2009 per the financial statements to the Form 5500:

Increase in net assets available for benefits per the financial statements	\$ 25,741,448
Plus: 2008 contributions receivable	122,746
Less: 2009 contributions receivable	<u>(251,152)</u>
Net income per the Form 5500	<u>\$ 25,613,042</u>

NOTE 10 – SUBSEQUENT EVENTS

Plan management has evaluated subsequent events for recognition and disclosure through August 19, 2010, which is the date the financial statements were available to be issued.

SUPPLEMENTAL SCHEDULE

APPLIED SIGNAL TECHNOLOGY, INC. 401(k) RETIREMENT PLAN
SCHEDULE H, LINE 4i - SCHEDULE OF ASSETS (HELD AT END OF YEAR)
December 31, 2009

Name of Plan Sponsor:	Applied Signal Technology, Inc.
Employer Identification Number:	77-0015491
Three-Digit Plan Number:	001

(a)	(b) Identity of Issue, Borrower, Lessor, or Similar Party	(c) Description of Investment Including Maturity Date, Rate of Interest, Collateral, Par or Maturity Value	(d) Cost	(e) Current Value
		Guaranteed Pooled Separate Accounts		
*	TransAmerica Financial Life Insurance Co., Inc.	Government Fixed Fund	#	\$ 1,509,929
		Mutual Funds		
*	TransAmerica Partners Fund Group	Money Market Fund	#	8,840,486
*	TransAmerica Partners Fund Group	Value and Income Fund	#	7,423,448
*	TransAmerica Partners Fund Group	Growth and Income Fund	#	5,276,610
*	TransAmerica Partners Fund Group	Special Equity Fund	#	8,182,786
*	TransAmerica Partners Fund Group	Balanced Fund	#	3,950,753
*	TransAmerica Partners Fund Group	Equity Growth Fund	#	10,944,842
*	TransAmerica Partners Fund Group	Short Horizon Strategic Allocation Fund	#	1,363,140
*	TransAmerica Partners Fund Group	Core Bond Fund	#	2,801,708
*	TransAmerica Partners Fund Group	Quality Bond Fund	#	3,569,333
*	TransAmerica Partners Fund Group	Hi Yield Bond Fund	#	1,757,319
*	TransAmerica Partners Fund Group	Stock Index Fund	#	5,506,795
*	Transamerica Asset Management, Inc.	Inflation Protected Securities Fund	#	2,409,890
*	Transamerica Asset Management, Inc.	Intermediate Horizon Strategic Allocation Fund	#	3,020,869
*	Transamerica Asset Management, Inc.	Intermediate/ Long Horizon Strategic Allocation Fund	#	4,275,525
*	Transamerica Asset Management, Inc.	International Equity Fund	#	4,432,899
	Dimensional Fund Advisors	Global 25/75 I Fund	#	97,693
	Dimensional Fund Advisors	Global 60/40 I Fund	#	1,055,429
	Dimensional Fund Advisors	Global Equity I Fund	#	947,475

(Continued)

APPLIED SIGNAL TECHNOLOGY, INC. 401(k) RETIREMENT PLAN
SCHEDULE H, LINE 4i - SCHEDULE OF ASSETS (HELD AT END OF YEAR)
December 31, 2009

Name of Plan Sponsor:	Applied Signal Technology, Inc.
Employer Identification Number:	77-0015491
Three-Digit Plan Number:	001

(a)	(b) Identity of Issue, Borrower, Lessor, or Similar Party	(c) Description of Investment Including Maturity Date, Rate of Interest, Collateral, Par or Maturity Value	(d) Cost	(e) Current Value
	Dimensional Fund Advisors	Global RE Security I Fund	#	\$ 970,150
	PIMCO	RI Return Institution Fund	#	1,904,136
	PIMCO	Total Return Institution Fund	#	2,764,232
	Vanguard Group, Inc.	500 Fund	#	5,827,688
	Vanguard Group, Inc.	Total International Stock	#	4,028,512
				91,351,718
		Guaranteed Investment Contracts		
*	TransAmerica Financial Life Insurance Co., Inc.	Stable Fund	#	40,058
		Participant Individual Brokerage Accounts		
	Charles Schwab Institutional	Personal Choice Retirement Accounts	#	9,462,484
		Participant Notes		
*	Participant notes	Various interest rates ranging from 3.25% to 9.64%	#	949,871
				\$ 103,314,060

* Denotes party-in-interest.

Investment is participant-directed; therefore, historical cost is not required.

Applied Signal Technology, Inc. 401(k) Retirement Plan

EIN No.: 77-0015491, Plan No. 001

Schedule H, Line 4i - Schedule of Assets

Plan Year Ending: 12/31/2009

(a)	(b) Identity of Issue, Borrower, Lessor or Similar Party	(c) Description of Investment, Including Maturity Date, Rate of Interest, Par or Maturity Value	(e) CURRENT VALUE
	Transamerica Financial Life Ins. Co.	Insurance Company/General Account	\$ 40,058
	Dimensional Fund Advisors	DFA Global 25/75 I	\$ 97,693
	Dimensional Fund Advisors	DFA Global 60/40 I	1,055,429
	Dimensional Fund Advisors	DFA Global Equity I	947,475
	Dimensional Fund Advisors	DFA Real Estate Securities I	970,150
	PIMCO Funds	PIMCO Real Return Instl	1,904,136
	PIMCO Funds	PIMCO Total Return Instl	2,764,232
	Transamerica Partners Funds Group	Institutional Balanced Fund	3,950,753
	Transamerica Partners Funds Group	Institutional Core Bond Fund	2,801,708
	Transamerica Partners Funds Group	Institutional High Quality Bond Fund	3,569,333
	Transamerica Partners Funds Group	Institutional High Yield Bond Fund	1,757,319
	Transamerica Partners Funds Group	Institutional Inflation-Protected Securities Fund	2,409,890
	Transamerica Asset Allocation Funds	Inst Intermediate/Long Horizon Asset Allocation Fund	4,275,525
	Transamerica Asset Allocation Funds	Institutional Intermediate Horizon Asset Allocation Fund	3,020,869
	Transamerica Partners Funds Group	Institutional International Equity Fund	4,432,899
	Transamerica Partners Funds Group	Institutional Large Core Fund	5,276,610
	Transamerica Partners Funds Group	Institutional Large Growth Fund	10,944,842
	Transamerica Partners Funds Group	Institutional Large Value Fund	7,423,447
	Transamerica Partners Funds Group	Institutional Money Market Fund	8,840,486
	Transamerica Asset Allocation Funds	Institutional Short Horizon Asset Allocation Fund	1,363,140
	Transamerica Partners Funds Group	Institutional Small Core Fund	8,182,787
	Transamerica Partners Funds Group	Institutional Stock Index Fund	5,506,795
	Vanguard	Vanguard 500 Index Signal	5,827,688
	Vanguard	Vanguard Total Intl Stock Index	4,028,512
		Mutual Fund Total	\$ 91,351,718
	Transamerica Financial Life Ins. Co.	Government Fixed Fund	\$ 1,509,929
		Separate Account Total	\$ 1,509,929
	Charles Schwab Institutional	Personal Choice Retirement Account (Other Funds)	\$ 9,462,484
*	Participants	Notes Receivable with interest rates of 3.25% to 9.65%	\$ 949,871
		TOTAL PLAN ASSETS	\$ 103,314,060

* Indicates Party-In-Interest to the Plan