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698 8/28/90
ROBERT W. BULL

PERKIN ELMER

SALES AND SERVICE SECTOR
SUPPORT ENGINEERING
761 Main Avenue
Norwalk, CT 06859-0572

SERVICE DATA BULLETIN

NO: 7195-6

SUBJECT: TAC 7/DX Technical Information

DISTRIBUTION: Worldwide

INTERNAL DIST. ONLY: [X] YES [ ] NO

PREPARED BY: T. Gresik DATE: 07-25-90 PAGE 1 OF 22 PAGES

PROBLEM:

The field lacks information on the TAC7/dx.

PURPOSE:

For information only.

MATERIALS REQUIRED:

N/A

GENERAL:

This SDB contains information on the new TAC7/DX.

The TAC7/DX has been shipping with all 7series and PCseries systems since approximately April 1990.

The TAC7/DX is currently not compatible with DELTA systems. An inventory of TAC7/3 PCBs will be maintained.

The most obvious difference from the previous TAC7/x is the addition of a second EPROM. The processor pcb now has 2 EPROMS in location U35 and U36. (refer to ASM TEA #111 for firmware part numbers).

The power supply, chassis and rear connector orientation are identical to the previous TAC7/x.

Attached is the TAC 7/X and TAC7/DX Illustrated parts list, schematics, and miscellaneous information.

PROCEDURE:

N/A

0993-8592

TAC 7/7 TO TAC 7/DX CONVERSION INSTRUCTIONS
N519-0737

These instructions describe the installation procedure for the TAC 7/7 to TAC 7/DX Conversion Kit (N519-0737). The following parts are included in the kit:

N519-9407 TAC 7/DX Microprocessor PC Board
Includes:
- N519-1928 TAC 7/DX U35 EPROM
- N519-1929 TAC 7/DX U36 EPROM

N519-1926 CSA Label
N519-1990 TAC 7/DX Nameplate

NOTES:

This installation procedure should be performed by a Perkin-Elmer Service Representative. If you elect to perform the procedure, any damage or injury that may occur due to user error or misunderstanding is not the responsibility of the Perkin-Elmer Corporation.

A TAC 7/DX Thermal Analysis Controller and TAS 7 Software V3.0 or higher are required to operate the DMA 7.

Revised February 1990

PERKIN ELMER
NORWALK, CONNECTICUT U.S.A.
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Follow the procedure below to convert the TAC 7/7 to a TAC 7/DX:

1. Turn the power off. The power switch is located on the front panel of the TAC 7/7.
2. Remove the AC line cord from the rear panel.
3. Disconnect all cables from the rear connectors.
4. Remove the six screws accessible from the bottom of the TAC that secure the top cover to the chassis. Slide the top cover off.
5. Remove the three screws on the back panel above the rear connectors (Figure 1).
6. Disconnect connectors J1 and J2 (Figure 2).
7. Remove the nine screws securing the TAC 7/7 Microprocessor PC Board (N519-9364) to the chasis (Figure 2) and remove the board.
8. Install the TAC 7/DX Microprocessor PC Board (N519-9407).
9. Replace the nine screws on the PC board.
10. Replace the three screws on the back panel.

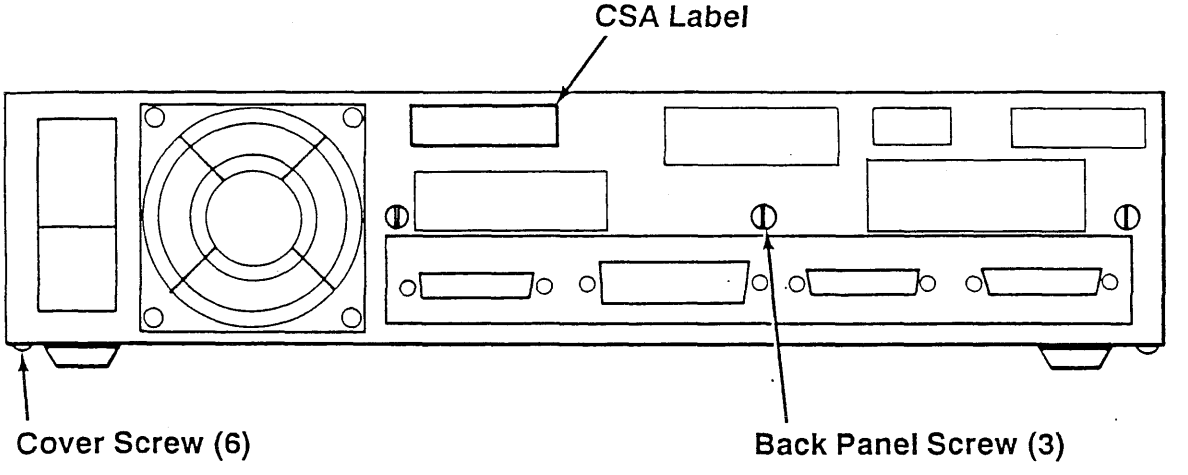


Figure 1. Back Panel

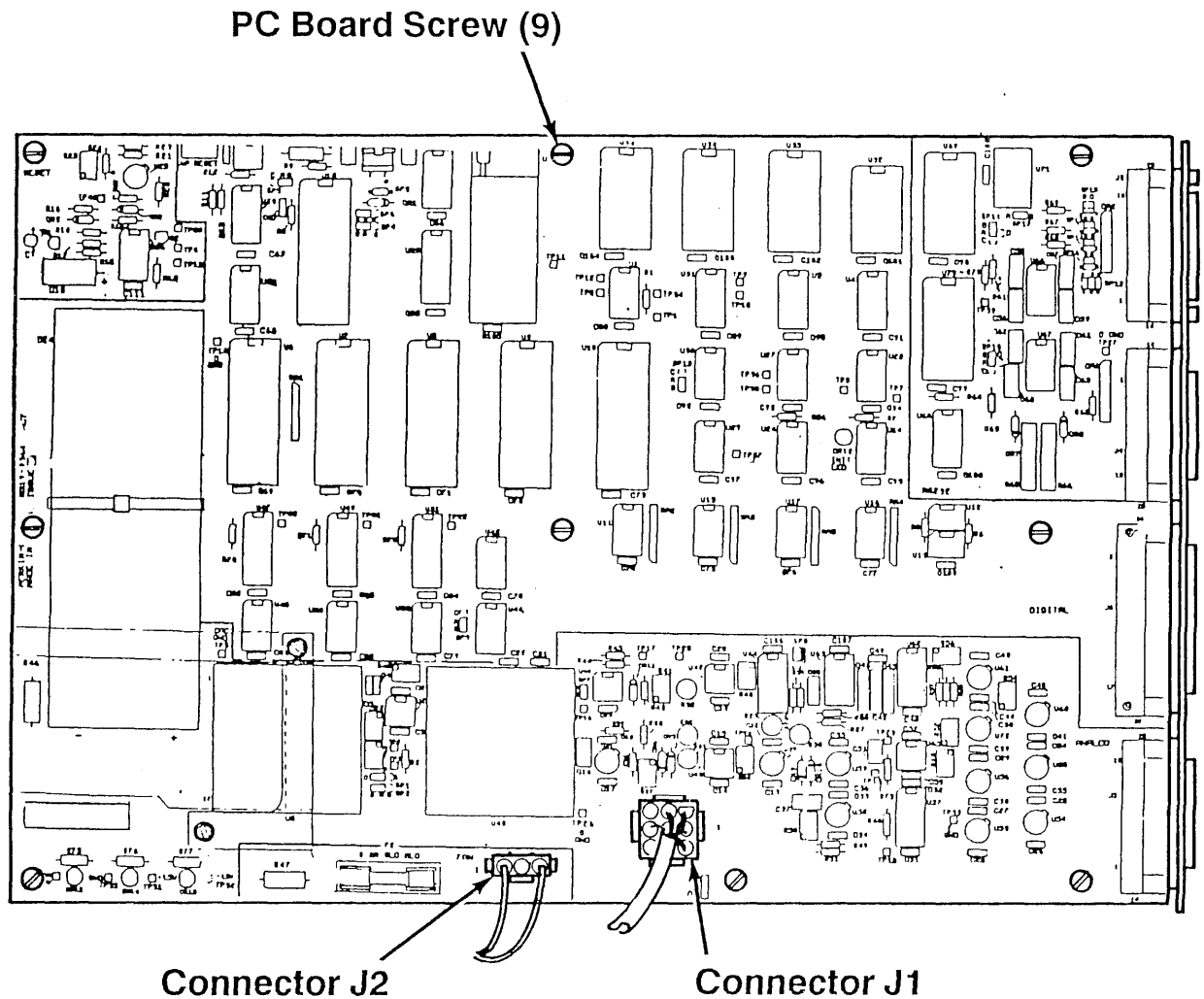


Figure 2. TAC 7/7 Microprocessor PC Board

11. Reconnect connectors J1 and J2.

12. Check that EPROMs U35 (N519-1928) and U36 (N519-1929) are oriented properly and the levers are secured (Figure 3).

13. Install the new CSA label (N519-1926) on the back panel over the original label (Figure 1).

14. Install the TAC 7/DX nameplate (N519-1990) on the front panel.

15. Slide the top cover back on and replace the six screws.

16. Reconnect all cables and the AC line cord.

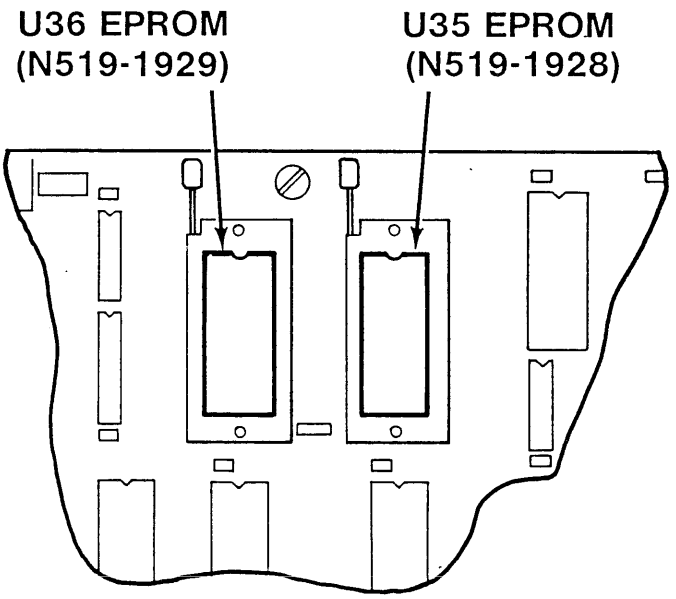
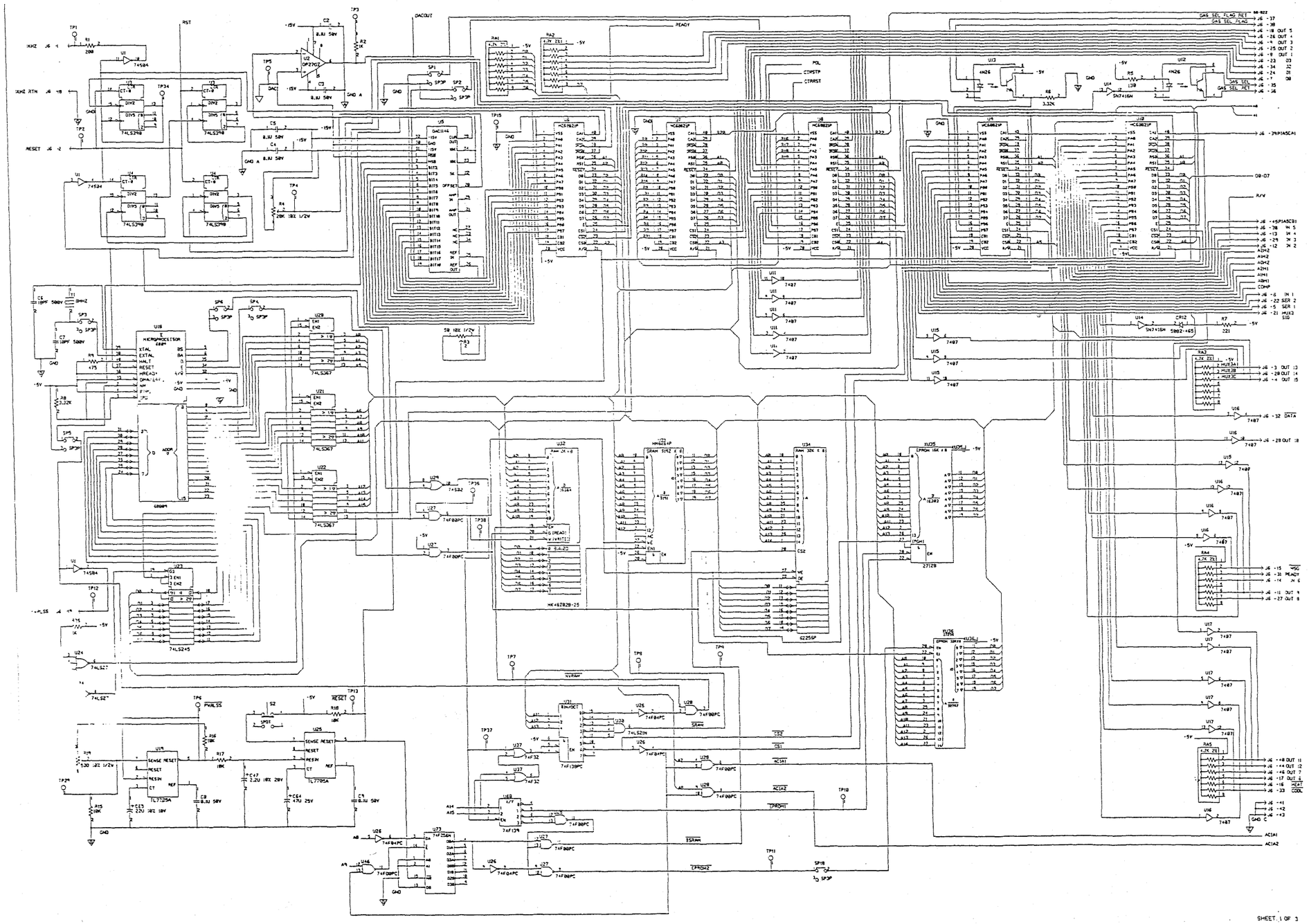


Figure 3. U35 and U36 EPROMs on the TAC 7/DX Microprocessor PC Board



A	DR+ 20321	5-8-84
5	5TH ISSUE	13-12-89
4	4TH ISSUE	12-13-89
3	3RD ISSUE	11-21-89
2	2ND ISSUE	11-10-89
1	1ST ISSUE	10-19-89

DWG	DESCRIPTION	DATE

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SHEET 1 OF 3

REF DRAWING

DO NOT SCALE DRAWING

COMPUTER GENERATED DRAWING

PERKIN ELMER

MATERIAL N/A

FINISH N/A

DRAWN J. VASS. DATE 8-8-88

CHECKED DATE

PROJ ENGR DATE

APPROVED DATE

SCALE NONE

SCHEMATIC - TAC7/DX

E IN519-9400 A

DWG	DESCRIPTION	DATE
6	OR# 28321	11-8-89
5	6TH ISSUE	9-22-89
5	5TH ISSUE	3-14-89
4	4TH ISSUE	12-15-88
3	3RD ISSUE	1-31-88
2	2ND ISSUE	1-18-88
1	1ST ISSUE	12-11-86

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SHEET 2 OF 3

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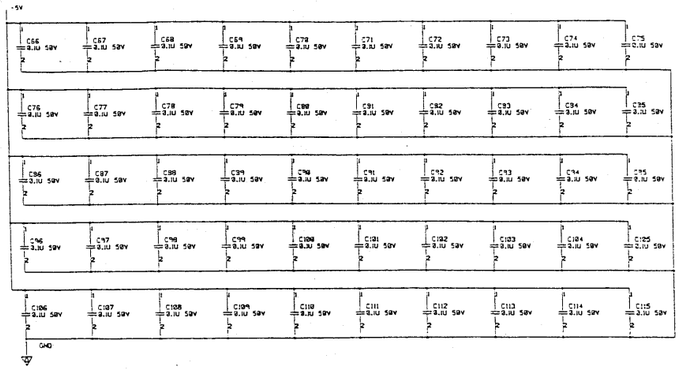
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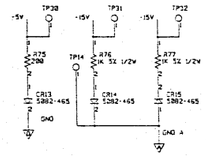
PERKIN ELMER

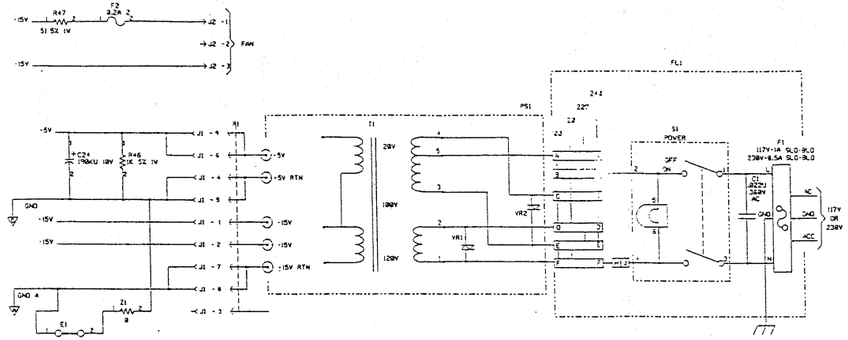
MATERIAL	N/A
FINISH	N/A
NEXT ASSY	N519-9402
QTY	USED ON
DRAWN & PASS.	DATE 9-18-89
CHECKED	DATE
PROJ. ENGR	DATE
IC	00012-16-90
APPROVED	DATE
SCALE NONE	

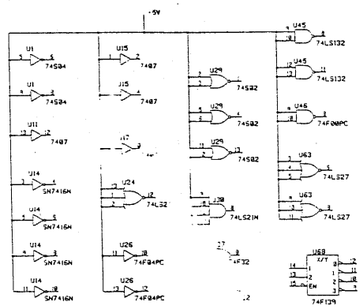
SCHEMATIC - TAC7/DX

E N519-9400 A



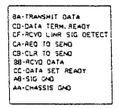


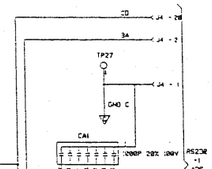


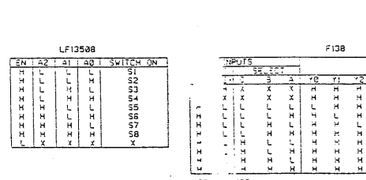


ADDRESS SCHEME

DEVICE	A15	A14	A13	A12	A11	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1	A0	ADDRESS RANGE
NVRAM	0	0	0	0	0	X	X	X	X	X	X	X	X	X	X	X	0000-07FF 2K
SRAM	0	0	0	0	1	X	X	X	X	X	X	X	X	X	X	X	0800-0FFF 2K
	/CS2	CS1													RS2	RS1	RS0	
PIA 1	0	0	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	3004-3007
PIA 2	0	0	1	1	1	0	0	0	0	0	0	0	1	0	0	0	1	3008-300B
PIA 3	0	0	1	1	1	0	0	0	0	0	0	0	1	0	1	1	0	3010-3013
PIA 4	0	0	1	1	1	0	0	0	0	0	0	1	0	0	0	0	0	3020-3023
PIA 5	0	0	1	1	1	0	0	0	0	0	0	1	1	0	0	0	1	3040-3043
ACIA1	0	0	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	3080-3083
ACIA2	0	0	1	1	1	0	0	0	0	0	1	0	0	0	0	0	1	3100-3103
SELECT SSRAM	0	0	1	1	1	0	0	0	0	0	1	0	0	0	1	0	0	3200
DESELECT SSRAM	0	0	1	1	1	0	0	0	0	0	1	0	0	0	1	0	1	3201
SSRAM 2	1	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	4000-7FFF 16K
SRAM 3	1	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	8000-FFFF 32K
SSRAM	1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	8000-FFFF 32K







A1	DR* 38321	15-8-89
5 1	6TH ISSUE	3-22-89
5 1	5TH ISSUE	3-14-89
4 1	4TH ISSUE	2-15-89
3 1	3RD ISSUE	1-31-89
2 1	2ND ISSUE	11-18-88
1 1	1ST ISSUE	10-15-88

NO.	DESCRIPTION	DATE

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SHEET 3 OF 3

REF DRAWING

DO NOT SCALE DRAWING

COMPUTER GENERATED DRAWING

PERKIN ELMER

MATERIAL	N/A	DRAWN J. YAMS.	DATE 8-8-88
		CHECKED	DATE
		PROJ. ENGR.	DATE
FINISH	N/A	APPROVED	DATE
SCALE: NONE			

SCHEMATIC-
TAC7/DX

E N519-9400 A

UNLESS OTHERWISE SPECIFIED					
DECIMALS		FRACTIONS	ANGLES	SURFACE ROUGHNESS	DIMENSIONS ARE IN INCHES
2 PLACE	3 PLACE	± 1/32	± /		ALL DIAS ON SAME AXIS CONC WITHIN .006 T I R
± /	± /			√ AA MAX	BREAK SHARP EDGES .01R OR .01 x 45° MAX
					ALL DIMENSIONS AND TOL APPLY BEFORE FINISH

MATERIALS LIST

ITEM	DWG SIZE	P-E NO.	DESCRIPTION	QTY
1	D	N519-0724	CABLE ASSY-TAC7/7-3 MAIN POWER	1
2	C	N519-0727	CABLE ASSY-TAC7/7-3 LOW VOLTAGE	1
3				
4	VR1,2	0997-2956	LIMIT-VCLT VP130A10	2
5		0998-5382	SLEEVING-SHRINK	.300
6		0998-5513	TUBING-SUL .040 FEB BLK	.300
7	PS1	0999-8013	POWER SUPPLY	1

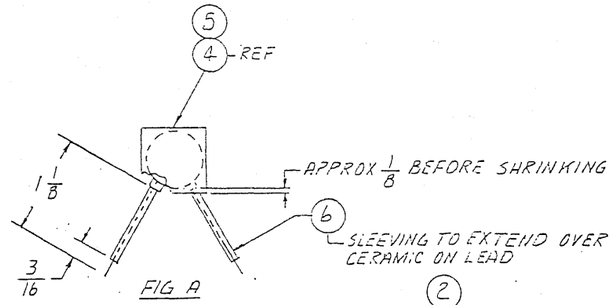
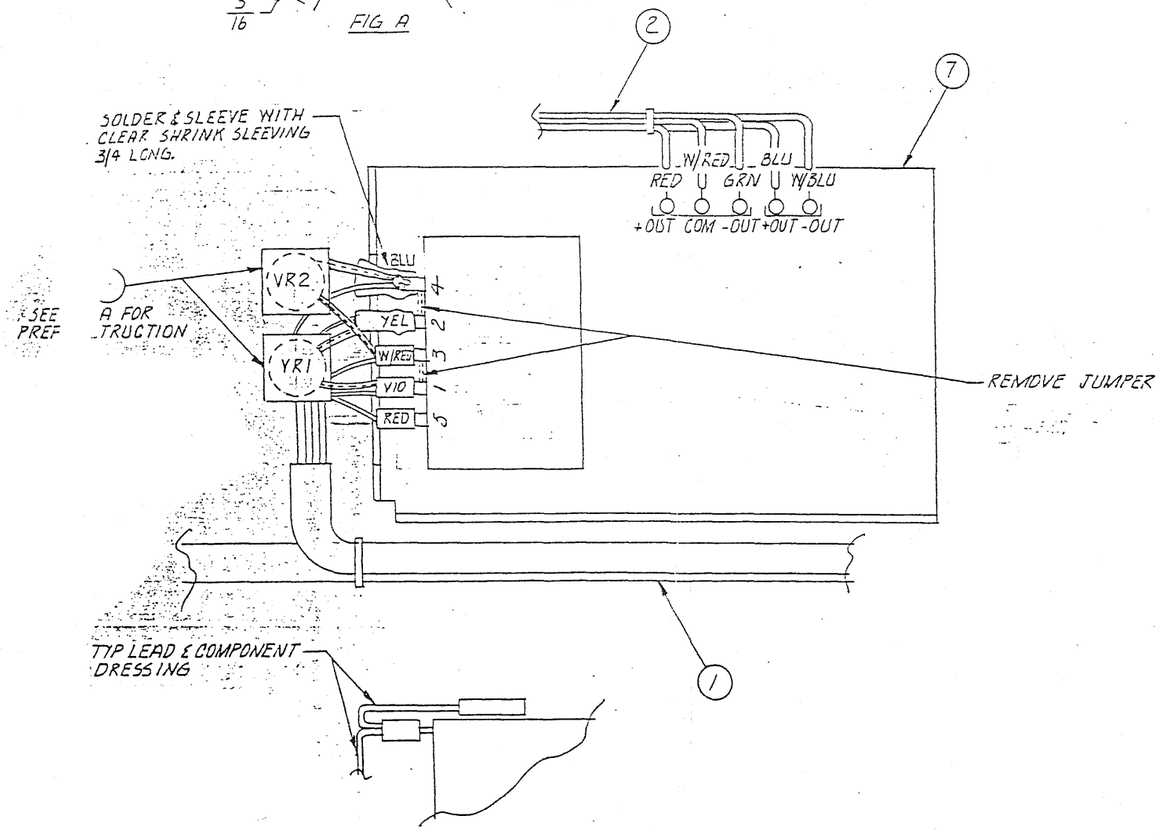
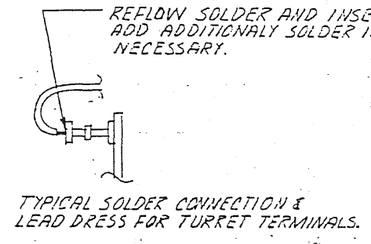


FIG A





TYPICAL SOLDER CONNECTION & LEAD DRESS FOR TURRET TERMINALS.

CHG	DESCRIPTION	DATE
A	DR# 18437	7/15/84

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QTY	USED ON
1	N519-0719
1	N519-0718
1	N519-0717
1	N519-0120
1	N519-0113
1	N519-0112

MATERIAL: SEE M/L

FINISH: —

DO NOT SCALE DRAWING

DRAWN J.W. DATE 3-11-84

CHECKED: W.E. GOLDEN DATE 7/16/84

PROJ ENGR: S.P. DALY, JR. DATE 7-15-84

APPROVED DATE

SCALE 1:1

PERKIN-ELMER
CONNECTICUT INSTRUMENT OPERATIONS

POWER SUPPLY ASSY-TAC7/7-3

C N519-0723 A CHG

TAC 7/7 - 7/3, TAC 7/DX ILLUSTRATED PARTS LIST

TABLE OF CONTENTS

Description	Page
TAC 7/7 FINAL ASSEMBLY N519-0112, 120 VAC Version N519-0113, 240 VAC Version N519-0120, 100 VAC Version	4-1
TAC 7/3 FINAL ASSEMBLY N519-0717, 100 VAC Version N519-0718, 120 VAC Version N519-0719, 240 VAC Version	4-1
TAC 7/7-3 POWER SUPPLY ASSEMBLY, N519-0723	4-2
TAC 7/7-3 MAIN POWER CABLE ASSEMBLY, N519-0724	4-3
TAC 7/7-3 LOW VOLTAGE CABLE ASSEMBLY, N519-0727	4-4
CONTROL P.C. BD. ASSEMBLY, N519-9364	4-5
7 SERIES SYSTEM CABLE ASSEMBLY, N519-0310	4-6
RS232/COMM CABLE ASSEMBLY, 0419-0226	4-8
TAC 7/7 TO TAC 7/3 UPGRADE KIT, N519-9373	4-9
TAC 7/3 TO TAC 7/7 UPGRADE KIT, N519-9374	4-9
TAC 7/3 Recommended Spare Parts Kit (Spark) N519-0849	4-9
TAC 7/DX P.C. BD. ASSEMBLY, N519-9404	4-10
TAC 7/DX CONVERSION KIT, N519-0737	4-12
TAC 7/DX SPARK KIT, N519-0849	4-12

TAC 7/7 FINAL ASSEMBLY
N519-0112, 120 VAC VERSION
N519-0113, 240 VAC VERSION
N519-0120, 100 VAC VERSION

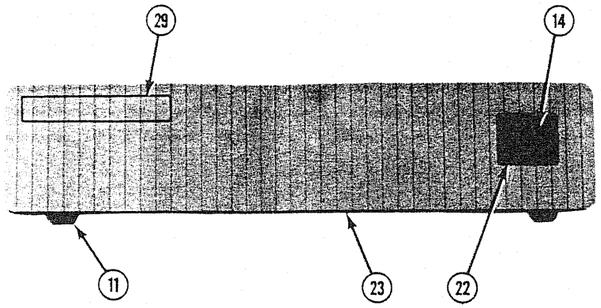
TAC 7/3 FINAL ASSEMBLY
N519-0717, 100 VAC VERSION
N519-0718, 120 VAC VERSION
N519-0719, 240 VAC VERSION

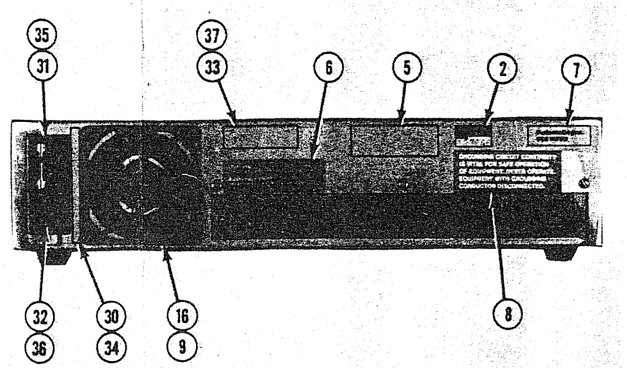
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1	0009-2041	Danger High Voltage Label	1
2	0211-1988	Serial Number Tag	1
3	0211-2893	Safety GND Label	1
4	0211-3039	Fuse Warning Label	1
5	0211-3045	FCC Peripheral Label	1
6	0211-3094	Power Disconnect Warning Label	1
7	0211-3135	VDE 0871 Label	1
8	0330-2241	Circuit Ground Label	1
9	0994-0429	Fan Guard	1
10	0998-0793	Rocker DPDT ILL15A240 Switch	1
11	0998-4835	Rubber Foot	4
12	0998-7106	Cable 3/4 DIA Tie	5
13	0998-7474	Cable Tie (Adhesive Back) Mount	5
14	0999-4037	Rocker Switch (Power) Operator	1
15	N519-0723	TAC 7 Power Supply Assembly	1
16	N519-0725	TAC 7 Fan Assembly	1
17	N519-0726	TAC 7 P.C. Bd. Ground Wire Assembly	1
18	N519-0728	TAC 7 Line Filter Assembly	1
19	N519-1012	TA 5 Cover	1
20	N519-1078	DSC 5 Front Panel Clamp	2
21	N519-1091	TA 5 Front Panel Plate	1
22	N519-1092	TA 5 Front Panel Laminate	1
23	N519-1163	TA 5 Front (Finished) Panel	1
24	N519-1680	TAC 7 7/3 Chassis	1
25	N519-9364	TAC 7 Control (PCB (B/T)	1
*25	N519-9367	(System Tested) TAC 7 Control PCB	1
26	N519-1728	TAC 7/3 3700 Compatible EPROM	1
26	N519-1729	TAC 7/7 7700 Compatible EPROM	1
27	N519-0310	DMA 7 Cable Assembly	1
28	0419-0226	RS232/Comm Cable Assembly	1
29	N519-1735	TAC 7/7 Nameplate	1
30	0211-3148[1]	100/120 VAC 50/60 Hz 0.5A Decal	1
31	0998-1610[1]	0.5A 250V 3A Slow Fuse	1
32	0999-1330[1]	Line Shielded 10A 125V Cord	1
33	N519-1737[3]	TAC 7/7 CSA Label	1
34	0211-3149[2]	220/240 VAC 50 Hz 0.25 A Decal	1
35	0998-1609[2]	0.25A 250V 3A Slow Fuse	1
36	0999-1329[2]	Line Shielded 6A 250V Cord	1
37	0519-1736[3]	TAC 7/3 CSA	1

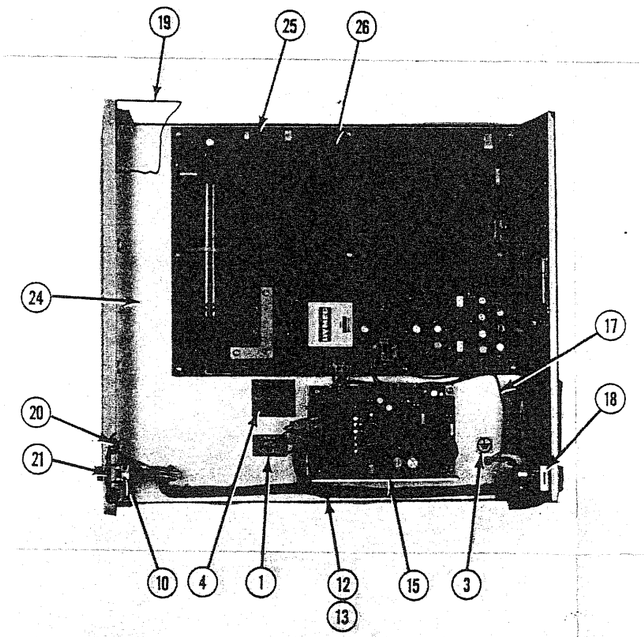
*Recommended Field replacement.

Notes:

1) Used on 100V and 120V instruments.
2) Used on 240V instruments only.
3) Used on 120V instruments only.

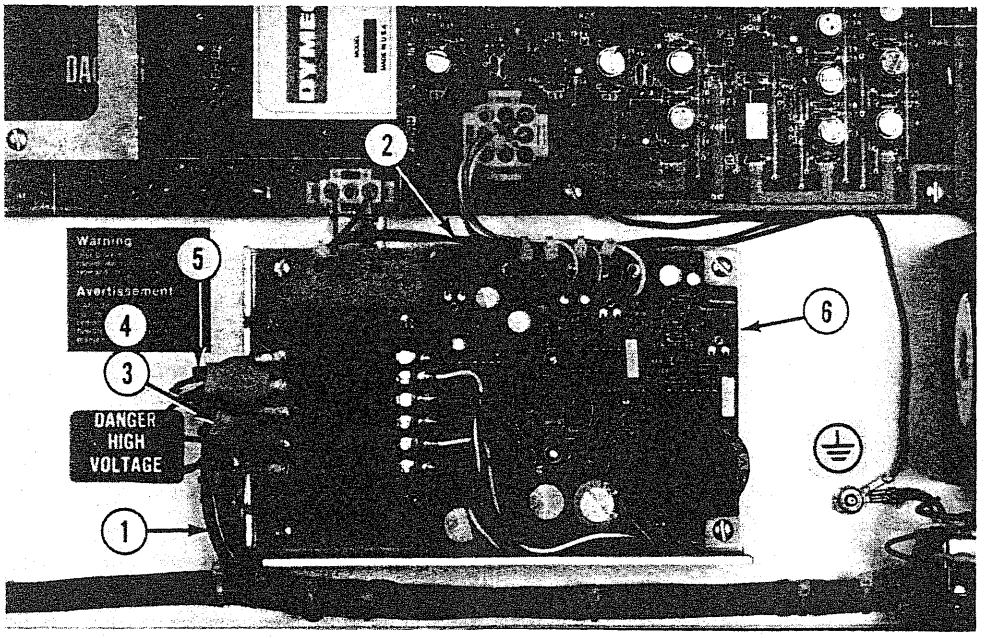






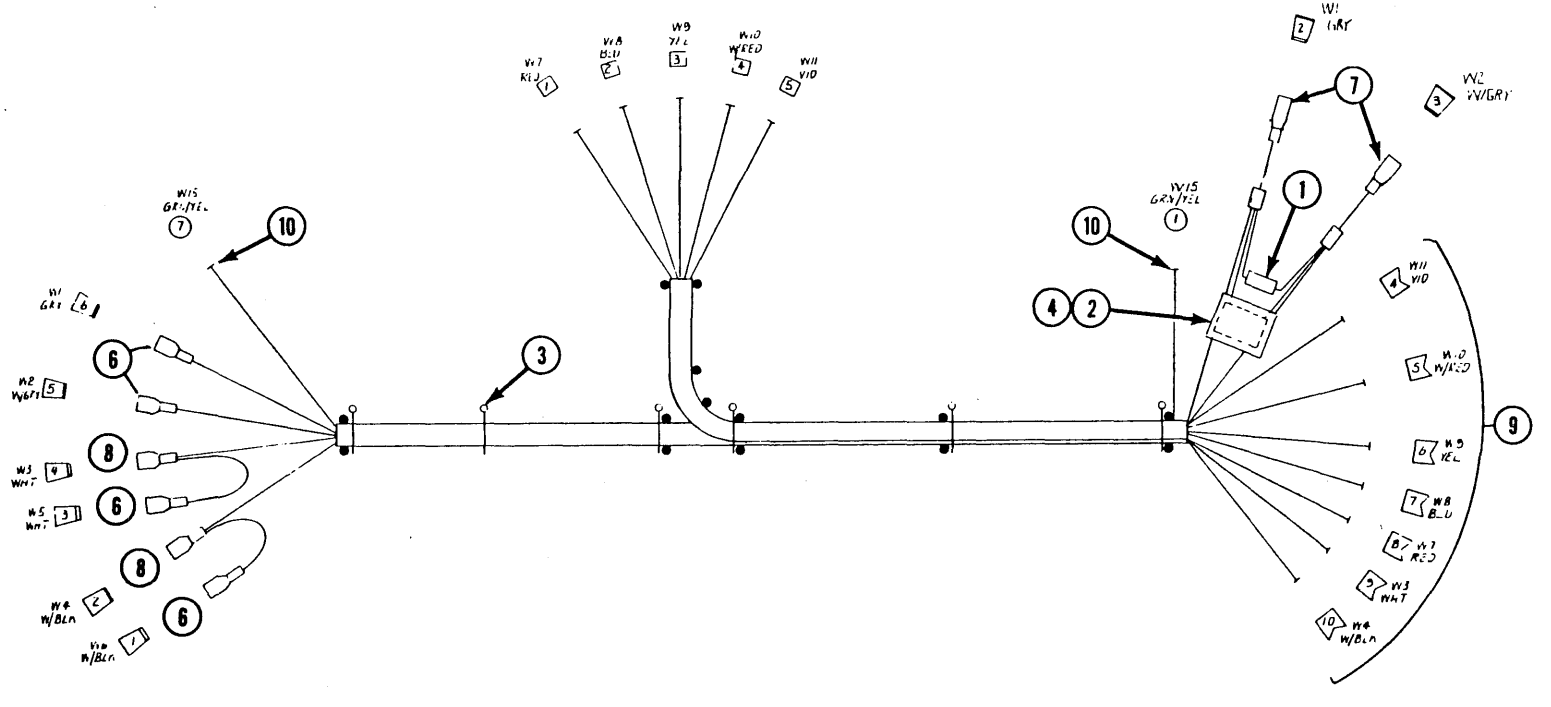
TAC 7/7-3 POWER SUPPLY ASSEMBLY
N519-0723

Item	Part No.	Description	Quantity
1	N519-0724	TAC 7/7-3 Main Power Cable Assembly	1
2	N519-0727	TAC 7/7-3 Low Voltage Cable Assembly	1
3	0997-2956	Limiter VCLT VP130A10 (VR1,2)	2
4	0998-5382	Shrink Sleeving	3
5	0998-5513	Tubing Insulation,.040 FBG,Black	3
6	0999-8013	Power Supply	1



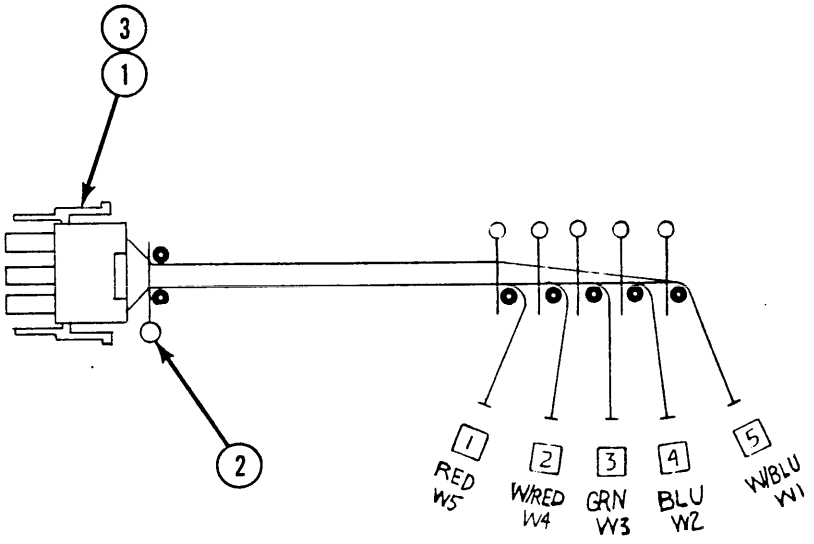
CABLE ASSEMBLY - TAC 7/7-3 MAIN POWER
N519-0724

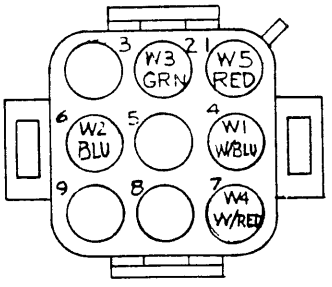
Item	Part No.	Description	Quantity
1	0995-0496	Resistor - 100K 5% 1W Comp.	1
2	0996-2778	Cap. - 0.22M 10% 360V Polye	1
3	0998-7106	Tie - Cable 3/4 DIA	4
4	0998-5387	Tubing - Shrink 0.75D PDF CLR	.120
5	0998-5513	Tubing - Insul .04D FBG BLK	.300
6	0098-9406	Insul Faston .187 22-18	4
7	0998-9423	Faston - .110	2
8	0998-9427	Faston - Fully Insul 3/16	2
9	0998-9430	Contact - Female (Wrap Post)	7
10	0998-9432	Lug - Ring #6	2



TAC 7/7-3 LOW VOLTAGE CABLE ASSEMBLY N519-0727

Item	Part No.	Description	Quantity
1	0998-3176	Male 9-Position Connector	1
2	0998-7106	Cable Tie 3/4-in. Diameter	6
3	0999-6833	Male 18 - 24 AWG Contact	5

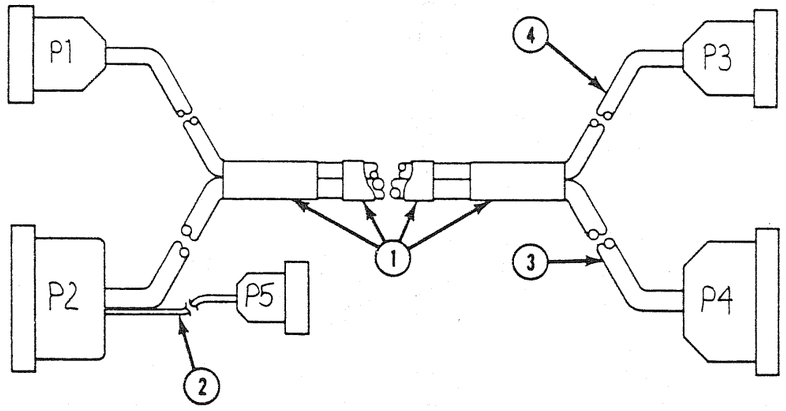


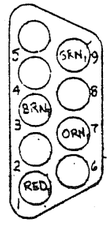


WIRING VIEW

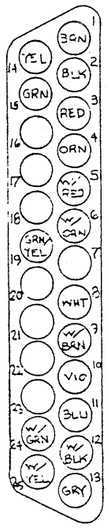
7 SERIES SYSTEM CABLE ASSEMBLY
N519-0310

Item	Part No.	Description	Quantity
1	N519-1186	Cable Band Marker	4
P1	0998-8803	25-Pin Recep Connector	1
P2	0998-8820	50-Pin Plug Connector	1
P3	0998-8800	25-Pin Plug Connector	1
P4	0998-8802	37-Pin Plug Connector	1
P5	0998-3067	9-Pin Recep Connector	1
P1,P3	0998-9218	Hood, 25-Pin Connector	2
P2	0998-9312	Hood, 50-Pin Connector	1
P4	0998-9219	Hood, 37-Pin Connector	1
P5	0998-9320	Hood, 9-Pin Connector	1
2	0998-4054	Cable, 4-Cond Shld #22 (Ft)	.5 Ft.
3	0999-1352	Cable, 37-Cond Shld #24 (Ft)	8 Ft.
4	0999-1310	Cable, 20-Cond Shld #24 (Ft)	8 Ft.
5	0998-9216	Contact, Pin	96
6	0998-9217	Contact, Socket	21
7	0998-9221	Jackscrew Set (P1-P5)	5





WIRING VIEW P5

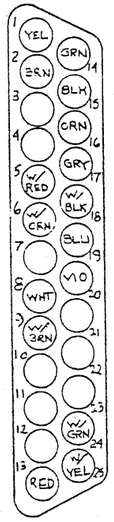


WIRING VIEW P1



WIRING VIEW P2

WIRING VIEW P3





WIRING VIEW P4

WIRING TABLE

WIRE #	FROM	COLOR	TO	WIRE #	FROM	COLOR	TO
1	P2-1	BLK	P4-34	39	P1-2	BLK	P3-15
2	P2-2	WHT	P4-14	40	P1-1	BRN	P3-2
3	P2-3	RED	P4-32	41	P1-3	RED	P3-13
4	P2-4	GRN	P4-36	42	P1-4	ORN	P3-16
5	P2-5	ORN	P4-3	43	P1-14	YEL	P3-1
6	P2-6	BLU	P4-1	44	P1-15	GRN	P3-14
7	P2-7	WHT/BLK	P4-23	45	P1-11	BLU	P3-19
8	P2-8	RED/BLK	P4-26	46	P1-10	VIO	P3-20
9	P2-9	GRN/BLK	P4-37	47	P1-13	GRY	P3-17
10	P2-10	ORN/BLK	P4-8	48	P1-8	WHT	P3-8
11	P2-12	BLU/BLK	P4-12	49	P1-12	WHT/BLK	P3-18
12	P2-13	BLK/WHT	P4-13	50	P1-9	WHT/BRN	P3-9
13	P2-15	RED/WHT	P4-28	51	P1-5	WHT/RED	P3-5
14	P2-16	GRN/WHT	P4-29	52	P1-6	WHT/ORN	P3-6
15	P2-17	BLU/WHT	P4-16	53	P1-25	WHT/YEL	P3-25
16	P2-18	BLK/RED	P4-4	54	P1-24	WHT/GRN	P3-24
17	P2-19	WHT/RED	P4-19				
18	P2-20	ORN/RED	P4-33	59	P1-9	GRN/YEL	SHLD
19	P2-21	BLU/RED	P4-31				
20	P2-22	RED/GRN	P4-22	60	P2-38	RED	P5-1
21	P2-23	ORN/GRN	P4-6	61	P2-37	BRN	P5-3
22	P2-24	BLK/WHT/RED	P4-24	62	P2-35	ORN	P5-7
23	P2-25	WHT/BLK/RED	P4-17	63	P2-36	GRN	P5-9
24	P2-26	RED/BLK/WHT	P4-25				
25	P2-28	GRN/BLK/WHT	P4-30	64	P2-43	GRN/YEL	SHLD
26	P2-31	ORN/BLK/WHT	P4-9				
27	P2-33	BLU/BLK/WHT	P4-11				
28	P2-34	BLK/RED/GRN	P4-5				
29	P2-32	WHT/RED/GRN	P4-10				
30	P2-46	RED/BLK/GRN	P4-35				
31	P2-27	GRN/BLK/ORN	P4-2				
32	P2-11	ORN/BLK/GRN	P4-7				
33	P2-40	BLU/WHT/ORN	P4-15				
34	P2-44	BLK/WHT/ORN	P4-18				
35	P2-29	WHT/RED/ORN	P4-20				
36	P2-30	ORN/WHT/BLU	P4-21				
37	P2-14	WHT/RED/BLU	P4-27				
38	P2-41	GRN/YEL	SHLD				

TAC 7/7-3 CONTROL P.C. BD. ASSEMBLY
N519-9364
N519-9367, System Tested

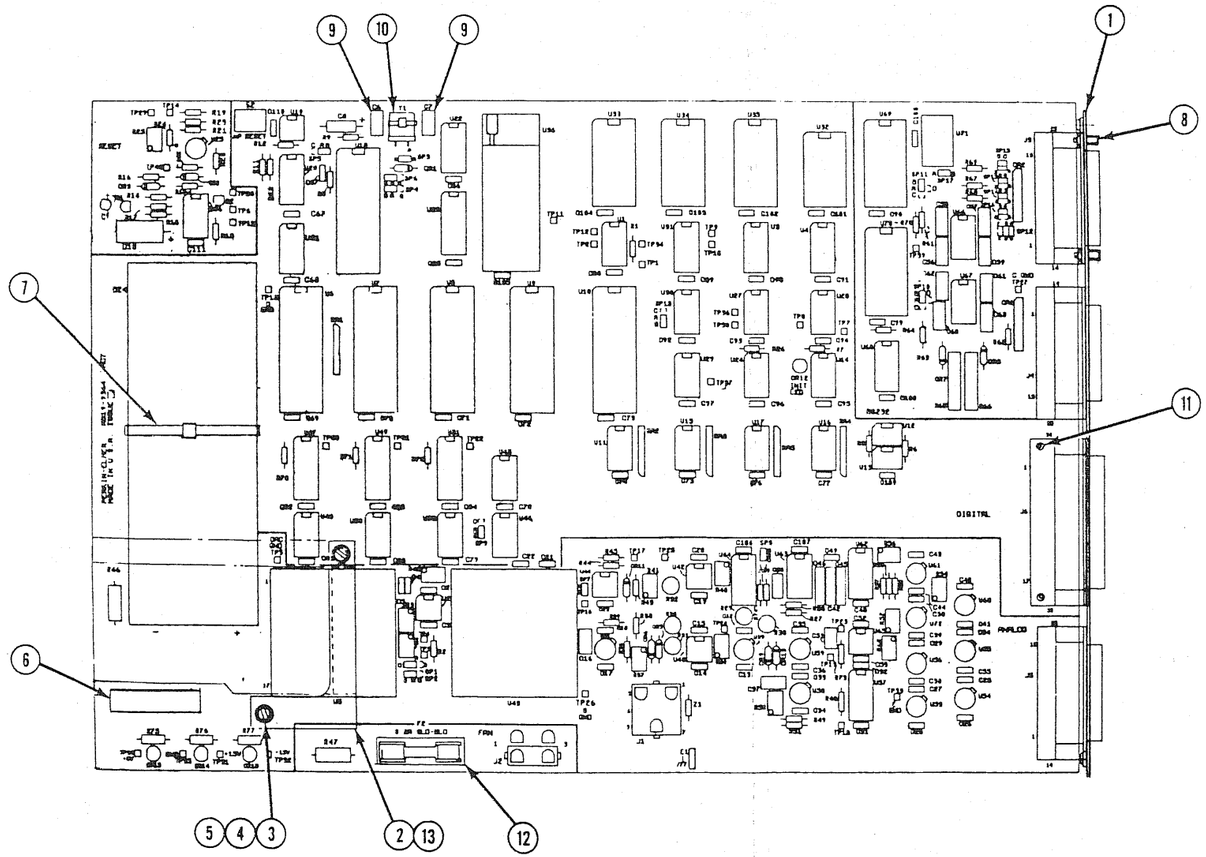
Item	Part No.	Description	Quantity
1	N519-1681	Plate - TAC 7 Connector (Slkscrn)	1
2	N519-1710	Brace - TAC 7 Component	1
3	0991-0023	Screw - Bdhm 6-32 x 5/16 STL CAD	2
4	0991-1276	Washer - SPL LK 6 STL CAD	2
5	0994-0140	Standoff - 1/4 RD 7/8L 632T SW BR	2
6	0994-0243	Label - Bar Code (P.C. Bds.)	1
7	0994-0294	Tie - Cable 3-in. Diameter	1
R76,77	0995-0048	Resistor, 1K, 5%, 1/2W, Comp	2
R47	0995-0417	Resistor, 51, 5%, 1W, Comp	1
R46	0995-0448	Resistor, 1K, 5%, 1W, Comp	1
R12	0995-1284	Resistor, 10, 5%, 1/4W, Comp	1
R11,22	0995-1308	Resistor, 100, 5%, 1/4W, Comp	2
R5	0995-1311	Resistor, 130, 5%, 1/4W, Comp	1
R1,75	0995-1315	Resistor, 200, 5%, 1/4W, Comp	2
R7,70,71,72	0995-1316	Resistor, 220, 5%, 1/4W, Comp	4
R9,16	0995-1324	Resistor, 470, 5%, 1/4W, Comp	2
R44	0995-1326	Resistor, 560, 5%, 1/4W, Comp	1
R43	0995-1327	Resistor, 620, 5%, 1/4W, Comp	1
R58	0995-1330	Resistor, 820, 5%, 1/4W, Comp	1
(A)	0995-1332	Resistor, 1K, 5%, 1/4W, Comp	13
R24	0995-1338	Resistor, 1.8K, 5%, 1/4W, Comp	1
R53,55, 57	0995-1339	Resistor, 2K, 5%, 1/4W, Comp	3
R13,20,23	0995-1340	Resistor, 2.2K, 5%, 1/4W, Comp	3
R38	0995-1343	Resistor, 3K, 5%, 1/4W, Comp	1
R6,8	0995-1344	Resistor, 3.3K, 5%, 1/4W, Comp	2
R27, 64	0995-1348	Resistor, 4.7K, 5%, 1/4W, Comp	2
R49,51	0995-1352	Resistor, 6.8K, 5%, 1/4W, Comp	2
R14,17,18,36	0095-1356	Resistor, 10K, 5%, 1/4W, Comp	4
R10	0995-1363	Resistor, 20K, 5%, 1/4W, Comp	1
R15	0995-1296	Resistor, 33K, 1/4W, 5%	1
R21	0995-1380	Resistor, 100K, 5%, 1/4W, Comp	1
R59	0995-1387	Resistor, 200K, 5%, 1/4W, Comp	1
R41	0995-4174	Resistor Var, 200 Lin, 1/2W, WW	1
R37	0995-4178	Resistor Var, 5K Lin, 1/2W, Cermet	1
R52,54,56	0995-4179	Resistor Var, 10K Lin, 1/2W, Cermet	3
R42	0995-4181	Resistor Var, 100K Lin, 1/2W, Cermet	1
R4,34,40	0995-4183	Resistor Var, 20K Lin, 1/2W, Cermet	3
R50	0995-4185	Resistor Var, 2K Lin, 1/2W, Cermet	1
R25	0995-4191	Resistor Var, 1K Lin, 1/2W, WW	1
R60	0995-4269	Resistor Var, 25K Lin, 1/2W, Cermet	1
R3	0995-4303	Resistor Var, 50 Lin, 1/2W, Cermet	1
Z1	0995-6909	Resistor, 0 Ohms, 1/4W, Carbon Film	1
R35	0995-7519	Resistor, 5K, .01%, 1/4W, WW	1
R29,30,31,32	0995-7520	Resistor, 10K, .01%, 0.25W, WW	4
R65,66	0995-7717	Resistor, 62, 5%, 5W, WW	2
RA1,2,3,4,5	0995-8023	Resistor Assembly, 4.7K, 2%, 1.1W	5
R48,73	0995-8850	Resistor, 4.02K, 1%, 1/4W, MF	2
C6,7	0996-1987	Capacitor, 22P, 5%, 100V, Mica	2
C16	0996-1991	Capacitor, 300P, 5%, 300V, Glass	1
C37	0996-1996	Capacitor, 100P, 5%, 500V, Mica	1
C56 thru 63	0996-2427	Capacitor, 300P, 10%, 500V, Mica	8
C50	0996-2521	Capacitor, .22U, 50V, Ceramic	1
C51	0996-2666	Capacitor, 2200P, 5%, 50V, Paper	1
C42,45,46	0996-2716	Capacitor, 0.22U, 5%, 50V, (Mylar)	3
(B)	0996-2880	Capacitor, 0.1U, 50V, Cermet	82
C23	0996-2881	Capacitor, .01U, 50V, Cermet	1
C8	0996-3262	Capacitor, 10U, 10%, 20V, Tant	1
C10	0996-3290	Capacitor, 47U, 10%, 35V, Tant	1
C24	0996-5062	Capacitor, 190KU, 10V, Electro (P.C.)	1
CA1,2	0996-6010	Capacitor Assembly, 1000 PF, 20%, 100V, CE	2
C9	0996-6226	Capacitor, 15U, 10V, Electro	1
CR5,6	0997-2432	Diode, Silicon, IN482B	2
CR1	0997-2496	Diode, Silicon, 1N4004	1

(Continued)

TAC 7/7-3 CONTROL P.C. BD. ASSEMBLY
N519-9364

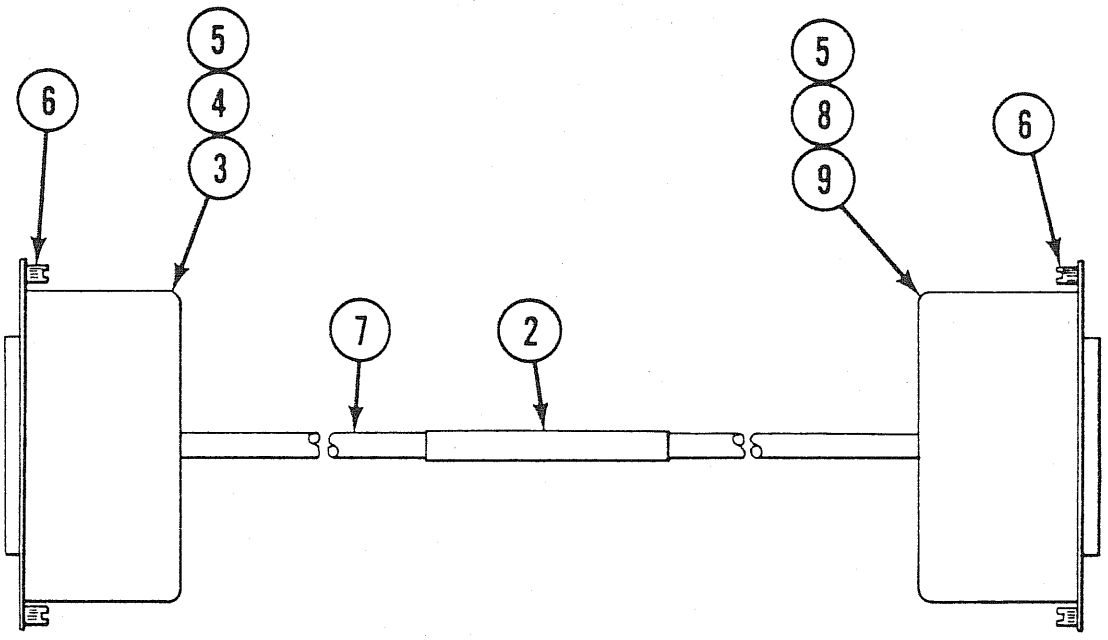
Item	Part No.	Description	Quantity
Q1,2	0997-2563	Transistor, 2N5088	2
CR2	0997-2872	Diode, Zener 2.4V, 5%, IN5221B	1
CR3,9,10	0997-2874	Diode, Silicon, 1N914A	3
CR11	0997-2897	Diode, Zener, 5.1V, 5%, IN5231B	1
CR7,8	0997-2902	Diode, Zener, 12V, 5%, IN4742A	2
XU32	0997-3154	Socket, I.C. Dip 24 Pin	1
(C)	0997-3155	Socket, I.C. Dip 28 Pin	5
XU6-10,18	0997-3156	Socket, I.C. Dip 40 Pin	6
CR12	0997-3220	Diode, Led 5082-4655 (H-P)	4
XU36	0997-3762	Socket, I.C. Dip 28 Pin	1
XU5	0997-3772	Socket Strip 17-Pos P.C.	2
U60,61,72	0997-4027	I.C., Op Amp M310H (NS)	3
U58	0997-4054	I.C., Op Amp LM321H (NS)	1
(D)	0997-4060	I.C., Op Amp 3627AM (Burr-Brown)	5
U65	0997-4085	I.C., Op Amp LF 356-BN (NS)	1
U2,40,42	0997-4091	I.C., Op Amp OP-07CP (PMI)	3
U27,28,46	0997-4277	I.C., Nand Gate 74LS00	3
U29	0997-4286	I.C., Nor Gate SN74LS02N (TI)	1
U30	0997-4288	I.C., And Gate SN74LS21N (TI)	1
U24,63	0997-4295	I.C., Nor Gate SN74LS27N (TI)	2
U4	0997-4336	I.C., Dec Counter SN74LS390N (TI)	1
U48,50,52	0997-4348	I.C., Counter SN74LS393N (TI)	3
U3	0997-4349	I.C., Dec Counter SN74LS193N (TI)	1
U26	0997-4408	I.C., Hex Inverter SN74S04N (TI)	1
U20,21,22	0997-4509	I.C., Hex Buffer 74LS367 (FS)	3
U67	0997-4810	I.C., Line Driver 75188N	1
U11,15-17	0997-4813	I.C., Buffer Driver SN7407N	4
U14	0997-4829	I.C., Driver SN7416N-10 (TI)	1
U47,49,51	0997-4839	I.C., Line Driver SN 74LS244N (TI)	3
U19	0997-4842	I.C., And Driver SN75461N (TI)	1
U64	0997-5108	I.C., Multivib SN 74LS123N (TI)	1
U43	0997-5261	Converter, V/F 8612 (DMC)	1
U5	0997-5262	I.C., D/A Converter DAC 1146 (AD)	1
U31	0997-5606	I.C., Decoder SN74LS138N-10 (TI)	1
U66	0997-5801	I.C., Line Receiver SN75189AN-10 (TI)	1
U25,41,59	0997-5908	I.C., Volt Comparator LM311H (NS)	3
U1	0997-6207	I.C., Trigger SN74LS14 (TI)	1
U45	0997-6208	I.C., Nand Trigger SN74LS132N (TI)	1
U57,62	0997-6312	I.C., Multiplexer LF13508 (NS)	2
U71	0997-7405	I.C., Oscillator MXO-50-3	1
U12,13	0997-7701	I.C., Opto Coupler 4N26	2
U44	0997-7708	I.C., Opto Iso Gate 6N137 (H-P)	1
U6-10	0997-7872	I.C., LSI PIA MC68A21 (MOT)	5
U68	0997-8005	I.C., Decod/Demult SN74LS139N (TI)	1
U23	0997-8902	I.C., Transceiver SN74LS245 (TI)	1
U69,70	0997-9008	I.C., EPCI SCN2661C (SIG)	2
U18	0997-9528	I.C., MPU MC68A09 (MOT)	1
U33-35	0997-9533	I.C., LSI Ram HM6264P (HIT J)	3
U32	0997-9577	I.C., Ram MK48Z02-25	1
F2	0998-1608	Fuse, 0.2A, 250V, 3AG, Slow	1
XF2	0998-1679	Clip, Fuse, 3AG, 15A, P.C.	2
J1	0998-3175	Connector, Female 9 Pos P.C.	1
S2	0998-6696	Switch, PB, 1PDT, 0.25A, MOM P.C.	1
J6	0998-8827	Connector, Male 50 Pos (P.C. Mtg)	1
SP1-18	0998-9104	Jumper, P.C. Bd., .025 SOC, 0.100 Space	22
8	0998-9222	Connector Retainer (Female)	4
(E)	0998-9305	Test Pin Berg 75401-001	96
E1	0998-9456	Tab, Disconnect, 1/4W, .032T P.C.	1
Y1	0998-9940	Crystal, 6.00 MHZ L015%	1
J3,5	0999-2193	Connector, Male 25 Pos. P.C. Mtg.	2
J4	0999-2198	Connector, Female 25 Pos., R/A (P.C.)	1
J2	0999-7244	Connector, Male 3 Pos. P.C.	1
9	0997-3178	Component Pad, 2 Lead	2
10	0998-7106	Cable Tie 3/4-in. Diameter	1
11	0991-1876	Pop Rivet 3/32-in. Diameter	2
12	0994-0431	Fuse Cover 3AG	1
13	0250-6374	Neoprene, 1/8 x 3/8	2-in.

(A) R2,19,26,39,45,61,62,63,67,68,78, R69,74
(B) C2,3,4,5,12 thru 15,17 thru 22,25 thru 36,38,39,40,41,43,44,48,49,52,53,54,55,67 thru 114
(C) XU33,34,35,69,70
(D) U39,53,54,55,56
(E) TP1-40,SP1-18



RS232/COMMUNICATIONS CABLE ASSEMBLY 0419-0226

Item	Part No.	Description	Quantity
(1)	0419-0226	Wire Prep Sheet	A/R
(2)	0419-1456	Cable Band Marker, RS232/Comm.	1
(3)	0998-8800	Connector, 25-Pin, Plug, (J1)	1
(4)	0998-9216	Contact, Male	9
(5)	0998-9218	Hood, 25-Pin	2
(6)	0998-9221	Jackscrew Set	2
(7)	0999-1023	Cable, 9-Cond., Shielded	8-ft.
(8)	0998-9217	Contact, Female	9
(9)	0998-8803	Connector, 25-Pin, Female, (J2)	1



WIRING TABLE

WIRE #	FROM	COLOR	TO
1	J1-2	WHT	J2-2
2	J1-3	RED	J2-3
3	J1-4	GRN	J2-4
4	J1-5	ORN	J2-5
5	J1-6	BLU	J2-6
6	J1-7	BLK	J2-7
7	J1-8	YEL	J2-8
8	J1-20	VIO	J2-20
9	J1-1	BRN	J2-1
10	J1-1	GRN/YEL	SHIELD

TAC 7/7 to TAC 7/3 UPGRADE KIT
N519-0845

Part No.	Description	Quantity
N519-1810	EPROM, TAC 7/3 Compatible	1
N519-1734	TAC 7/3 Nameplate	1
0993-7228	Instruction Sheet	1
0990-8545	Plastic Box	1
0998-9898	Antistatic Label	1
0330-2330	Antistatic Foam	2

TAC 7/3 to TAC 7/7 UPGRADE KIT
N519-0846

Part No.	Description	Quantity
N519-1811	EPROM, TAC 7/7 Compatible	1
N519-1735	TAC 7/7 Nameplate	1
0993-7227	Instruction Sheet	1
0990-8545	Plastic Box	1
0998-9898	Antistatic Label	1
0330-2330	Antistatic Foam	2

TAC 7/7-3 SPARK KIT
N519-0849
(Recommended Spare Parts Kit)

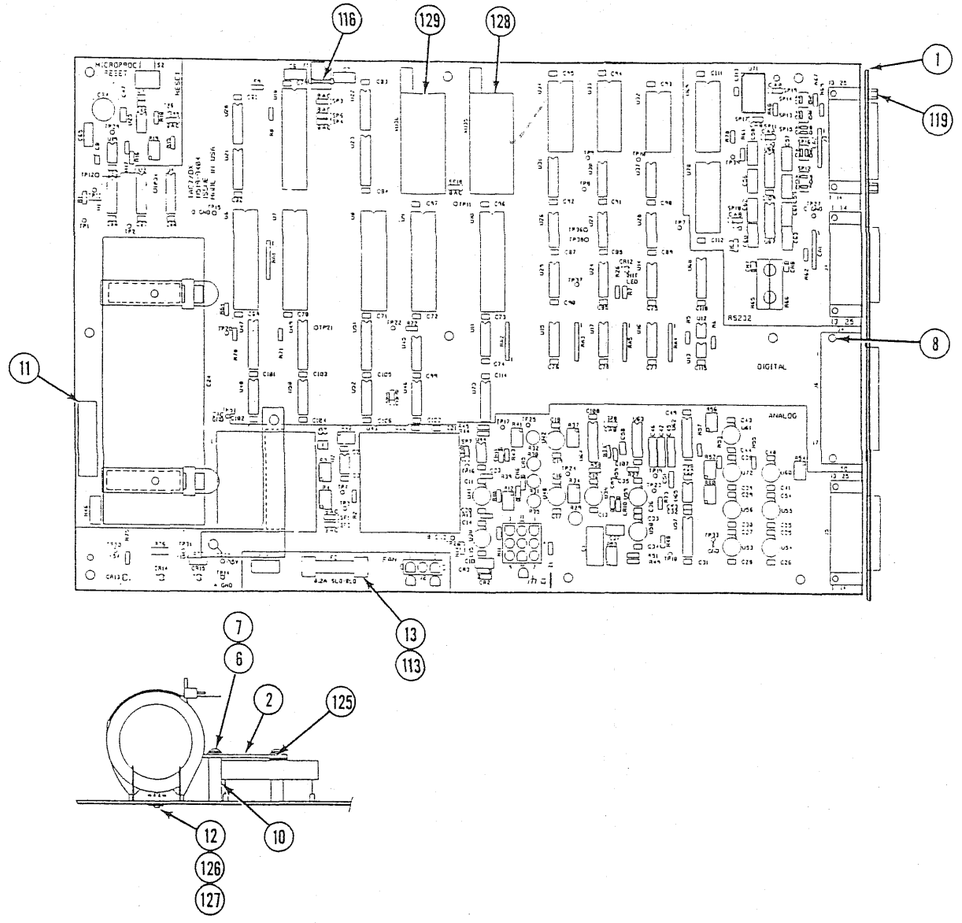
Part No.	Description	Quantity
N519-9364	TAC 7/7-3 Control P.C. Bd.	1
N519-0723	TAC 7/7-3 Power Supply Assembly	1
N519-1810	EPROM, TAC 7/3 Compatible	1
N519-1811	EPROM, TAC 7/7 Compatible	1

TAC 7/DX P.C. BD. ASSEMBLY
N519-9404

Item	Part No.	Description	Qty.
(1)	N519-1681	Plate, TAC7 Connector (Silkscreen)	1
(2)	N519-1710	Brace, TAC7 Component	1
R30	0995-3065	Resistor, 2K 0.01% 1/4 WW	1
(6)	0991-0023	Screw, BDHM, 6-32x5/16 Stl Cad	2
(7)	0991-1276	Washer, #6, Int Th Lk	2
(8)	0991-1876	Rivet, Pop 3/32 Dia.	2
Y1	0994-0040	Oscillator, Crystal, 8 MHz	1
(10)	0994-0140	Standoff, Swage, #6-32x7/8L	2
(11)	0994-0243	Label, Bar Code (PC-BDS)	1
(12)	0991-1629	Rivet, Pop, 1/8 Dia x 3/16 LG	2
(13)	0994-0431	Cover, Fuse, 3AG	1
R76,77	0995-0048	Resistor, 1K, 5%, 1/2 W Comp	2
R47	0995-0417	Resistor, 51, 5%, 1W Comp	1
R46	0995-0448	Resistor, 1K, 5%, 1W Comp	1
R29	0995-3027	Resistor, 40K, 0.1%, 1/4W WW	1
R41	0995-4174	Resistor, Var, 200 Lin, 1/2W WW	1
R19	0995-4177	Resistor, Var, 500 Lin, 1/2W Cermet	1
R52,54,56	0995-4179	Resistor, Var, 10K Lin, 1/2W Cermet	3
R42	0995-4181	Resistor, Var, 100K Lin, 1/2W Cermet	1
R4,34,37	0995-4183	Resistor, Var, 20K Lin, 1/2W Cermet	3
R12,50	0995-4185	Resistor, Var, 2K Lin, 1/2W Cermet	2
R60	0995-4269	Resistor, Var, 25K Lin, 1/2W Cermet	1
R3	0995-4303	Resistor, Var, 50 Lin, 1/2W Cermet	1
Z1	0995-6909	Jumper, Lead (0 Ohm)	1
R31	0995-3066	Resistor, 1K, 0.01%, 1/4W WW	1
R32,35	0995-7520	Resistor, 10K, 0.01%, 0.25W WW	2
R65,66	0995-7717	Resistor, 62, 5%, 5W WW	2
RA1-5	0995-8023	Resistor Assembly, 4.7K, 2%, 1.1W	5
R5	0995-8707	Resistor, 130, 1%, 1/4W MF	1
R1,75	0995-8725	Resistor, 200, 1%, 1/4W MF	2
R7, R70-72	0995-8729	Resistor, 221, 1%, 1/4W MF	4
R9	0995-8761	Resistor, 475, 1%, 1/4W MF	1
R44	0995-8768	Resistor, 562, 1%, 1/4W MF	1
R43	0995-8772	Resistor, 619, 1%, 1/4W MF	1
R58	0995-8784	Resistor, 825, 1%, 1/4W MF	1
(A)	0995-8792	Resistor, 1K, 1%, 1/4W MF	12
R53,55,57	0995-8821	Resistor, 2K, 1, 1/4W MF	3
R6,8	0995-8842	Resistor, 3.32K, 1%, 1/4W MF	2
R13,14,48,73	0995-8850	Resistor, 4.02K, 1%, 1/4W MF	4
R27,64	0995-8857	Resistor, 4.75K, 1%, 1/4W MF	2
R10,11,49,51	0995-8872	Resistor, 6.81K, 1%, 1/4W MF	4
R15-18	0995-8888	Resistor, 10K, 1%, 1/4W MF	4
R59	0995-9013	Resistor, 200K, 1%, 1/4W MF	1
C10,37	0996-1996	Capacitor, 100P, 5%, 500V Mica	2
C56-63	0996-2427	Capacitor, 300P, 10%, 500V Mica	8
C50	0996-2521	Capacitor, 0.22U, 50V Ceramic	1
C51	0996-2666	Capacitor, 2200P, 5%, 50V Paper	1
C42,45,46	0996-2716	Capacitor, 0.22U, 5%, 50V Mylar	3
(B)	0996-2880	Capacitor, 0.1U, 50V Ceramic	92
C23	0996-2881	Capacitor, 0.01, 50V Ceramic	1
C1	0996-3092	Capacitor, 5U, 35V, 5%	1
C6,7	0096-3094	Capacitor, 18PF, 500V	2
C65	0996-3217	Capacitor, 22U, 10%, 10V Tant	1
C47	0996-3260	Capacitor, 2.2U, 10%, 20V Tant	1
C24	0996-5062	Capacitor, 190KU, 10V Electrolytic	1
C64	0996-5533	Capacitor, 47U, 25V Electrolytic	1
CA1;2	0996-6010	Capacitor Assy, 1000PF, 20%, 100V Ceramic	2
CR10,2,3,9	0997-2874	Diode-Silicon, 1N914A	4
CR11	0997-2897	Diode, Zener, 5.1V, 5%, 1N5231B	1
CR7,8	0997-2902	Diode, Zener, 12V, 5%, 1N4742A	2
XU32	0997-3154	Socket, IC Dip, 24 PIN	1
XU33,34,69,70	0997-3155	Socket, IC Dip, 28 PIN	4
XU6-10,18	0997-3156	Socket,IC Dip, 40 PIN	6
C12-15	0997-3220	Diode, LED, 5082-4655	4
CR5,6	0997-2432	Diode, Silicon 1N482B	2

Item	Part No.	Description	Qty.
XU35,36	0997-3762	Socket, IC Dip, 18 PIN	2
XU5	0997-3772	Socket, Strip, 17 POS PC	2
U60,61,72	0997-4027	IC, OP Amp, LM310H	3
U38,58	0997-4054	IC, OP Amp, LM321H	2
U39,53-56	0997-4060	IC, OP Amp, 3627AM (Burr Brown)	5
U65	0997-4085	IC, OP Amp, LF356BN	1
U40,42	0997-4034	IC, OP Amp, OP-05CJ	2
U29	0997-4263	IC, NOR Gate, SN74S02-10 (TI)	1
U30	0997-4288	IC, AND Gate, SN74LS21N	1
U24,63	0997-4295	OC, NOR Gate, SN74LS27N (TI)	2
U3,4	0997-4336	IC, DEC Counter, SN74LS390N (TI)	2
U48,50,52	0997-4348	IC, DEC Counter 74LS393N	3
U26	0997-4419	IC, HEX Inverter, 74F04PC	1
U20,21,22	0997-4509	IC, HEX Buffer, 74LS367	3
U67	0997-4810	IC, Line Driver, 75188N	1
U11,15-17	0997-4813	IC, Buffer Driver, SN7407N (TI)	4
U14	0997-4829	IC, Driver, SN7416N-10	1
U47,49,51	0997-4839	IC, Line Driver, SN74LS244N (TI)	3
U64	0997-5108	IC, Multivibrator, SN74LS123N (TI)	1
U43	0997-5261	IC, Converter, V/F 8612	1
U5	0997-5262	IC, D/A Converter, DAC1146	1
U68	0997-5615	IC, Multiplexer, 74F139	1
U66	0997-5801	IC, Line Receiver, SN75189AN-10 (TI)	1
U41,59	0997-5908	IC, Volt Comparator, LM311H	2
U1	0997-4408	IC, Trigger, SN74S04 (TI)	1
U45	0997-6208	IC, NAND Trigger, SN74LS132N	1
U57,62	0997-6312	IC, Multiplexer, LF13508	2
U73	0997-7119	IC, Latch, 74F256N	1
U71	0997-7405	IC, Oscillator, MX0-50-1 (CTS)	1
U12,13	0997-7701	IC, Opto Coupler, 4N26	2
U44	0997-7708	IC, Opto ISO Gate, 6N137	1
U6-10	0997-7889	IC, PIA, MC68B21P (MOT)	5
U18	0997-7892	IC, MOS MPU, MC68B09P (MOT)	1
U31	0997-8012	IC, Demultiplexer, 74F138	1
U23	0997-8902	IC, Transceiver, SN74LS245 (TI)	1
U69,70	0997-9008	IC, EPCI, SCN2661C (SIG)	2
U19,25	0997-9155	IC, LSI Supervisor SV, TL7705ACP	2
U37	0997-9219	IC, OR Gate, 7432PC (FSC)	1
U27,28,46	0997-9224	IC, NAND Gate, 74F00PC	3
U33	0997-9533	IC, LSI RAM, HM6264P (HITJ)	1
U32	0997-9577	IC, RAM MK 48Z02B-25 (MOS)	1
U2	0997-9700	IC, OP AMP, OP27GZ (PMI)	1
U34	0997-9871	IC, LSI RAM, HM62256P-15 (HIT)	1
F2	0998-1608	Fuse, 0.2A, 250V, 3AG Slow	1
(113)	0998-1679	Clip, Fuse, 3AG-15A PC	2
J1	0998-3175	Connector, Female, 9 POS	1
S2	0998-6696	Switch, PB, 1 PDT, 0.25A MOM PC	1
(116)	0998-7106	Tie, Cable, 3/4 Dia.	1
J6	0998-3827	Connector, Female, 50 POS	1
SP1-19	0998-9104	Jumper, PCBD 0.025SOC, 0.100 Space	22
(119)	0998-9222	Retainer, Conn. (Female)	4 Sets
(C)	0998-9305	Test Pin, Berg 75401-001	103
E1	0998-9456	Tab, Disconnect 1/4W, 0.032T (PC)	1
J3,5	0999-2193	Connector, Male, 25 POS PC MTG	2
J4	0999-2198	Connector, Female, 25 POS RT/ANG	1
J2	0999-7244	Connector, Male, 3 POS PC	1
(125)	0250-6374	Neoprene, 1/8 x 3/8 x 2IN	A/R
(126)	0998-6069	Clamp, Adj., 2" Dia.	2
(127)	0991-1268	Washer, Flat, #6-32	4
(128)	**N519-1924**	**EPROM, TAC 7/DX (4000-7FFF) U35**	1
(129)	**N519-1925**	**EPROM, TAC 7/DX (8000-FFFF) U36**	1

(A) R2,26,39,45,61,62,63,67,68,69,74,78
(B) C2-5,8,9,11-22,25-36,38-41,43,44,48,49,52-55,66-115
(C) TP1-27,29-34,36-39, SP1-19



TAC 7/7 to TAC 7/DX CONVERSION KIT
N519-0737

Part No.	Description	Qty
N519-1926	CSA Label	1
N519-1990	TAC 7/DX Nameplate	1
N519-9407	TAC 7/DX Microprocessor P.C. Board Assembly	1
Includes:		
N519-1924	TAC 7/DX EPROM (U35)	
N519-1925	TAC7/DX EPROM (U36)	

TAC 7/DX SPARK KIT
N519-0849

Part No.	Description	Qty
N519-9407	TAC 7/DX Microprocessor P.C. Board Assembly	1
N519-0723	TAC 7/DX Power Supply Assembly	1

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