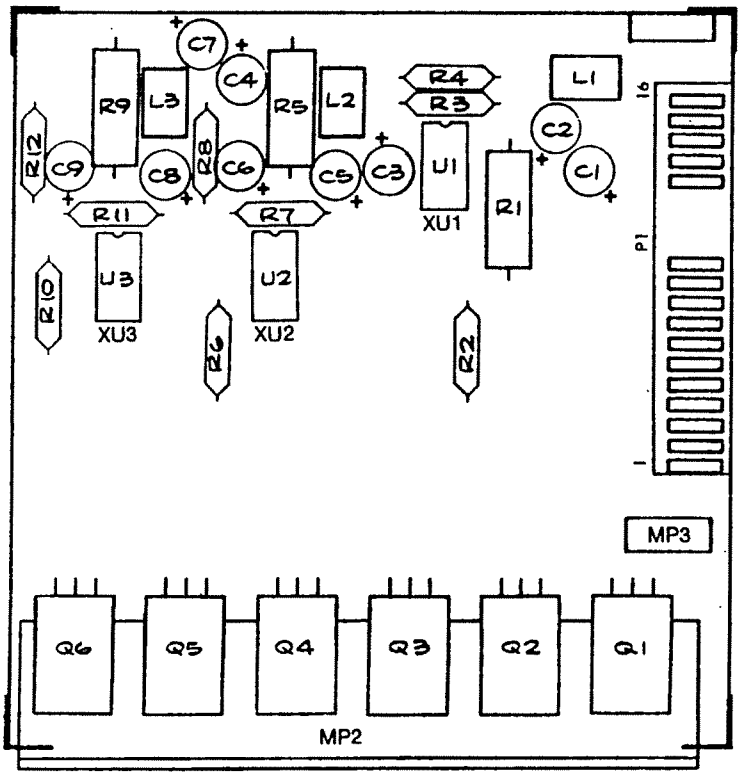
Table 6-37. A6A3 +5V Series Pass PCB Assembly

REF DES	DESCRIPTION	FLUKE STOCK NO.	MFG SPLY CODE	MFG. PART NO.	TOT QTY	REC QTY	NOTE
A6A3	+5V SERIES PASS PCB ASSEMBLY FIGURE 6-37 (6070A-4031T)	489625	89536	489625	REF		
C1	CAP, TA, 10 UF +/-20%, 20V	330662	56289	196D106X0020KA1	6		
C2	CAP, TA, 10 UF +/-20%, 20V	330662	56289	196D106X0020KA1	REF		
C3	CAP, TA, 2.2 UF +/-20%, 15V	364216	56289	196D225X0015HA1	2		
C4	CAP, TA, 10 UF +/-20%, 20V	330662	56289	196D106X0020KA1	REF		
C5	CAP, TA, 10 UF +/-20%, 20V	330662	56289	196D106X0020KA1	REF		
C6	CAP, TA, 2.2 UF +/-20%, 15V	364216	56289	196D225X0015HA1	REF		
C7	CAP, TA, 10 UF +/-20%, 20V	330662	56289	196D106X0020KA1	REF		
C8	CAP, TA, 10 UF +/-20%, 20V	330662	56289	196D106X0020KA1	REF		
C9	CAP, TA, 1 UF +/-20%, 35V	161919	56289	196D105X0035JA1	1		
H1	SCREW, PHP, 4-40 X 5/16 (W/Q1-Q4)	152116	89536	152116	6		
H2	WASHER, #4 (W/Q1-Q4)	110395	89536	110395	6		
H3	WASHER, SHOULDER (W/Q1-Q4)	485417	89536	485417	6		
H4	P-NUT, #4-40 (W/Q1-Q4)	380196	24347	KF2-440	6		
L1	INDUCTOR, COIL, 6-TURN	320911	89536	320911	3		
L2	INDUCTOR, COIL, 6-TURN	320911	89536	320911	REF		
L3	INDUCTOR, COIL, 6-TURN	320911	89536	320911	REF		
MP1	INSULATOR, MICA (W/Q1-Q4)	412809	89536	412809	6		
MP2	HEAT SINK	510529	89536	510529	1		
MP3	CONNECTOR, TEST JACK	149112	74970	105-0753	2		
P1	CONNECTOR, AMP	520593	00779	85863-2	16		
Q1	TRANSISTOR, SI, PNP	504944	04713	2N6107	3	1	
Q2	TRANSISTOR, SELECTED	576306	89536	576306	2	1	
Q3	TRANSISTOR, SI, PNP	504944	04713	2N6107	REF		
Q4	TRANSISTOR, SELECTED	576298	89536	576298	1	1	
Q5	TRANSISTOR, SI, PNP	504944	04713	2N6107	REF		
Q6	TRANSISTOR, SELECTED	576306	89536	576306	REF		
R1	RES, COMP, 33 +/-10%, 1W	109660	01121	GB3301	3		
R2	RES, MTL. FILM, 2.26K +/-1%, 1/8W	328294	91637	CMF552261F	3		
R3	RES, MTL. FILM, 2.21K +/-0.1%, 1/8W	501338	89536	501338	3		
R4	RES, MTL. FILM, 1.65K +/-0.1%, 1/8W	501346	89536	501346	3		
R5	RES, COMP, 33 +/-10%, 1W	109660	01121	GB3301	REF		
R6	RES, MTL. FILM, 2.26K +/-1%, 1/8W	328294	91637	CMF552261F	REF		
R7	RES, MTL. FILM, 2.21K +/-0.1%, 1/8W	501338	89536	501338	REF		
R8	RES, MTL. FILM, 1.65K +/-0.1%, 1/8W	501346	89536	501346	REF		
R9	RES, COMP, 33 +/-10%, 1W	109660	01121	GB3301	REF		
R10	RES, MTL. FILM, 2.26K +/-1%, 1/8W	328294	91637	CMF552261F	REF		
R11	RES, MTL. FILM, 2.21K +/-0.1%, 1/8W	501338	89536	501338	REF		
R12	RES, MTL. FILM, 1.65K +/-0.1%, 1/8W	501346	89536	501346	REF		
U1	IC, LINEAR OP-AMP	413740	12040	LM307N	3	1	
U2	IC, LINEAR OP-AMP	413740	12040	LM307N	REF		
U3	IC, LINEAR OP-AMP	413740	12040	LM307N	REF		
XU1	SOCKET, IC, 8-PIN	478016	91506	30B-AG39D	3		
XU2	SOCKET, IC, 8-PIN	478016	91506	30B-AG39D	REF		
XU3	SOCKET, IC, 8-PIN	478016	91506	30B-AG39D	REF		



6070A-1631

Figure 6-37. A6A3 +5V Series Pass PCB Assembly

Table 6-38. A6A4 +12V, -12V, +24V Series Pass PCB Assembly

REF DES	DESCRIPTION	FLUKE STOCK NO.	MFG SPLY CODE	MFG. PART NO.	TOT QTY	REC QTY	NOTE
A6A4	+12V,-12V, +24V SERIES PASS PCB ASSEMBLY FIGURE 6-38 (6070A-4032T)	489658	89536	489658	REF		
C1	CAP, MYLAR, 0.022 UF +/-10%, 250V	234484	73445	C280MAE/A22K	2		
C2	CAP, TA, 6.8 UF +/-20%, 35V	363713	56289	196D685X0035KA1	2		
C3	CAP, MYLAR, 0.0068 UF +/-10%, 50V	342881	80031	75F1R5A682	1		
C4	CAP, TA, 68 UF +/-20%, 15V	193615	56289	196D686X0015LA3	1		
C5	CAP, MYLAR, 0.22 UF +/-10%, 100V	436113	73445	C280MAH/A220K	1		
C6	CAP, MYLAR, 0.01 UF +/-10%, 50V	309906	80031	75F1R5A100	1		
C7	CAP, TA, 6.8 UF +/-20%, 35V	363713	56289	196D685X0035KA1	REF		
C8	CAP, TA, 2.2 UF +/-20%, 20V	161927	56289	196D225X0020HA1	1		
C9	CAP, MYLAR, 0.022 UF +/-10%, 250V	234484	73445	C280MAE/A22K	REF		
C10	CAP, TA, 10 UF +/-20%, 20V	330662	56289	196D106X0020KA1	3		
C11	CAP, TA, 10 UF +/-20%, 20V	330662	56289	196D106X0020KA1	REF		
C12	CAP, CER, 0.001 UF +/-20%, 500V	402966	72982	8121-A100-W5R-102M	1		
C13	CAP, TA, 10 UF +/-20%, 20V	330662	56289	196D106X0020KA1	REF		
CR1	DIODE, ZENER	357848	04713	SZG2011B	1	1	
CR2	DIODE, SI RECTIFIER	343491	01295	1N4002	1	1	
CR3	DIODE, SI, HIGH SPEED SWITCHING	203323	07910	1N4448	4	1	
CR4	DIODE, SI, HIGH SPEED SWITCHING	203323	07910	1N4448	REF		
CR5	DIODE, SI, HIGH SPEED SWITCHING	203323	07910	1N4448	REF		
CR6	DIODE, SI, HIGH SPEED SWITCHING	203323	07910	1N4448	REF		
H1	SCREW, PHP, 4-40 X 5/16 (W/Q1, 2, 3, 5)	152116	89536	152116	4		
H2	LOCKWASHER, SPLIT, #4 (W/Q1, 2, 3, 5)	110395	89536	110395	4		
H3	P-NUT, #4-40 <W/Q1, 2, 3, 5)	380196	24347	KF2-440	4		
H4	WASHER, SHOULDER (W/Q1, 2, 3, 5)	485417	89536	485417	4		
K1	RELAY, SPST, 3W, 28VDC	461434	15636	R7254-1	1	1	
L1	INDUCTOR, COIL, 6-TURN	320911	89536	320911	4		
L2	INDUCTOR, COIL, 6-TURN	320911	89536	320911	REF		
L3	INDUCTOR, COIL, 6-TURN	320911	89536	320911	REF		
L4	INDUCTOR, COIL, 6-TURN	320911	89536	320911	REF		
MP1	INSULATOR, MICA	412809	89536	412809	4		
MP2	HEAT SINK	510529	89536	510529	1		
MP3	CONNECTOR, PCB MOUNT TEST JACK	149112	74970	105-0753	2		
P1	CONNECTOR	520593	0079	85863-2	13		
Q1	TRANSISTOR, SELECTED	576298	89536	576298	2	1	
Q2	TRANSISTOR, SI, PNP	504944	04713	2N6107	2	1	
Q3	TRANSISTOR, SELECTED	576298	89536	576298	REF		
Q4	TRANSISTOR, SI, PNP	229898	04713	MPS6522	1	1	
Q5	TRANSISTOR, SI, PNP	504944	04713	2N6107	REF		
Q6	TRANSISTOR, SI, NPN, POWER (SELECT)	343970	89536	343970	1	1	
R1	RES, COMP, 300 +/-5%, 2W	603241	01121	HB3015	1		
R2	RES, DEP. CAR, 47 +/-5%, 1/42	441592	80031	CR251-4-5P47E	1		
R3	RES, MTL. FILM, 1K +/-1%, 1/8W	168229	91637	CMF551001F	1		
R4	RES, MTL. FILM, 6.04K +/-0.1%, 1/8W	512301	89536	512301	1		
R5	RES, VAR, 500 +/-10%, 1/2W	291120	89536	291120	1		
R6	RES, MTL. FILM, 2.26K +/-0.1%, 1/8W	501320	89536	501320	1		
R7	RES, MTL. FILM, 8.87K +/-1%, 1/8W	294967	91637	CMF558871F	1		
R8	RES, COMP, 100 +/-10%, 2W	109934	01121	HB1011	1		
R9	RES, DEP. CAR, 15 +/-5%, 1/4W	348755	80031	CR251-4-5P15E	2		

Table 6-38. A6A4 +12V, -12V, +24V Series Pass PCB Assembly (cont)

REF DES	DESCRIPTION	FLUKE STOCK NO.	MFG SPLY CODE	MFG. PART NO.	TOT QTY	REC QTY	NOTE
R10	RES, MTL. FILM, 20K +/-1%, 1/8W	291872	91637	CMF552002F	2		
R11	RES, MTL. FILM, 20K +/-0.1%, 1/8W	340620	89536	340620	4		
R12	RES, MTL. FILM, 20K +/-0.1%, 1/8W	340620	89536	340620	REF		
R13	RES, DEP. CAR, 15 +/-5%, 1/4W	348755	80031	CR251-4-5P15E	REF		
R14	RES, COMP, 390 +/-10%, 1W	109561	01121	GB3911	1		
R15	RES, MTL. FILM, 20K +/-1%, 1/8W	291872	91637	CMF552002F	REF		
R16	RES, MTL. FILM, 20K +/-0.1%, 1/8W	340620	89536	340620	REF		
R17	RES, MTL. FILM, 20K +/-0.1%, 1/8W	340620	89536	340620	REF		
R18	RES, DEP. CAR, 1.8K +/-5%, 1/8W	441444	80031	CR251-4-5P1K8	1		
R19	RES, COMP, 1.5K +/-5%, 1/2W	266353	01121	EB1525	1		
U1	IC, LINEAR OP-AMP	402750	12040	LM741CN	1	1	
U2	IC, LINEAR OP-AMP	413740	12040	LM307N	2	1	
U3	IC, LINEAR OP-AMP	413740	12040	LM307N	REF		
XU1	SOCKET, IC, 8-PIN	478016	91506	308-AG39D	3		
XU2	SOCKET, IC, 8-PIN	478016	91506	308-AG39D	REF		
XU3	SOCKET, IC, 8-PIN	478016	91506	308-AG39D	REF		

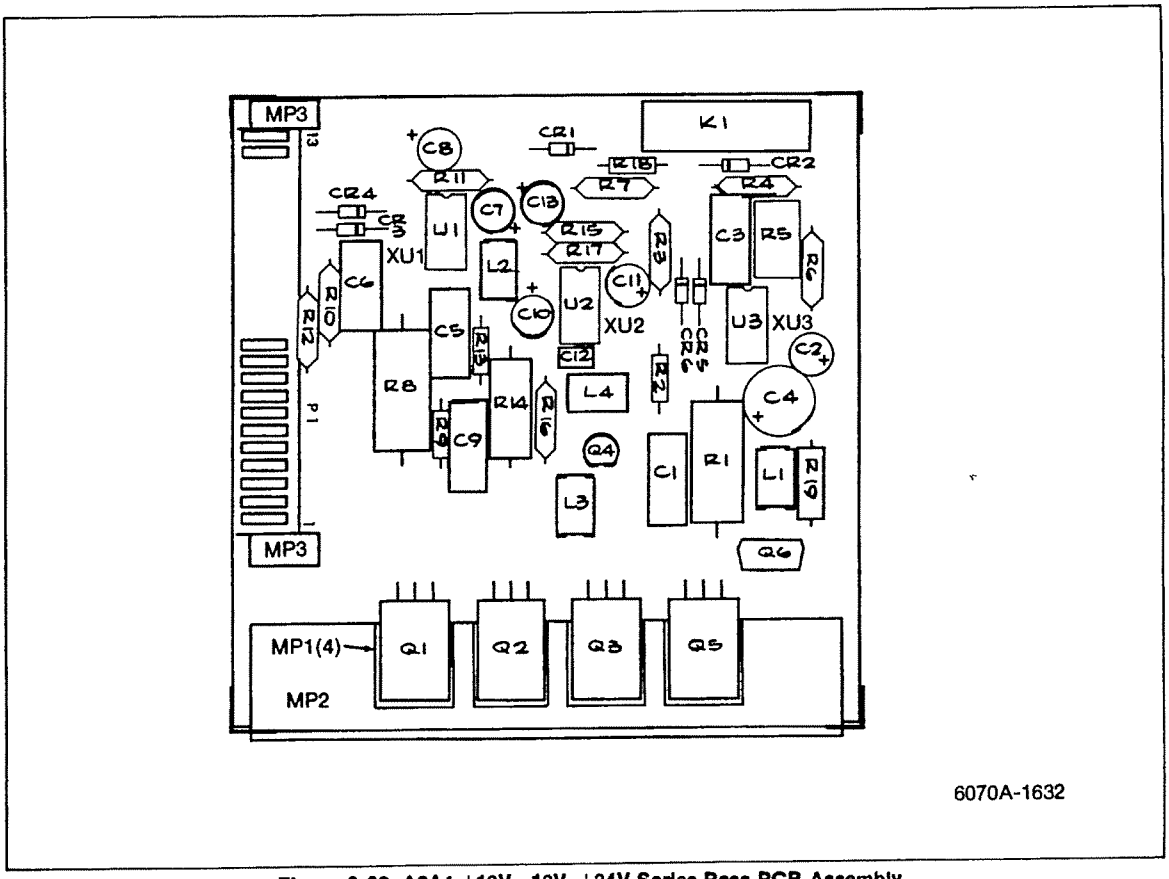


Figure 6-38. A6A4 +12V, -12V, +24V Series Pass PCB Assembly

Table 6-39. A7 Delay Cable Assembly

REF DES	DESCRIPTION	FLUKE STOCK NO.	MFG SPLY CODE	MFG PART NO.	TOT QTY	REC QTY	NOTE
A7	DELAY CABLE ASSEMBLY FIGURE 6-39 (6070A-4205)	527457	89536	527457	REF		1
H1	SCREW, FHP, 6-32 X 1/4	320093	89536	320093	12		
MP1	DELAY CABLE	524116	89536	524116	1		
MP2	DELAY CABLE SUPPORT	496489	89536	496489	1		
MP3	DELAY CABLE SUPPORT COVER	496463	89536	496463	1		

1 USED ON NEXT HIGHER ASSEMBLY, A3

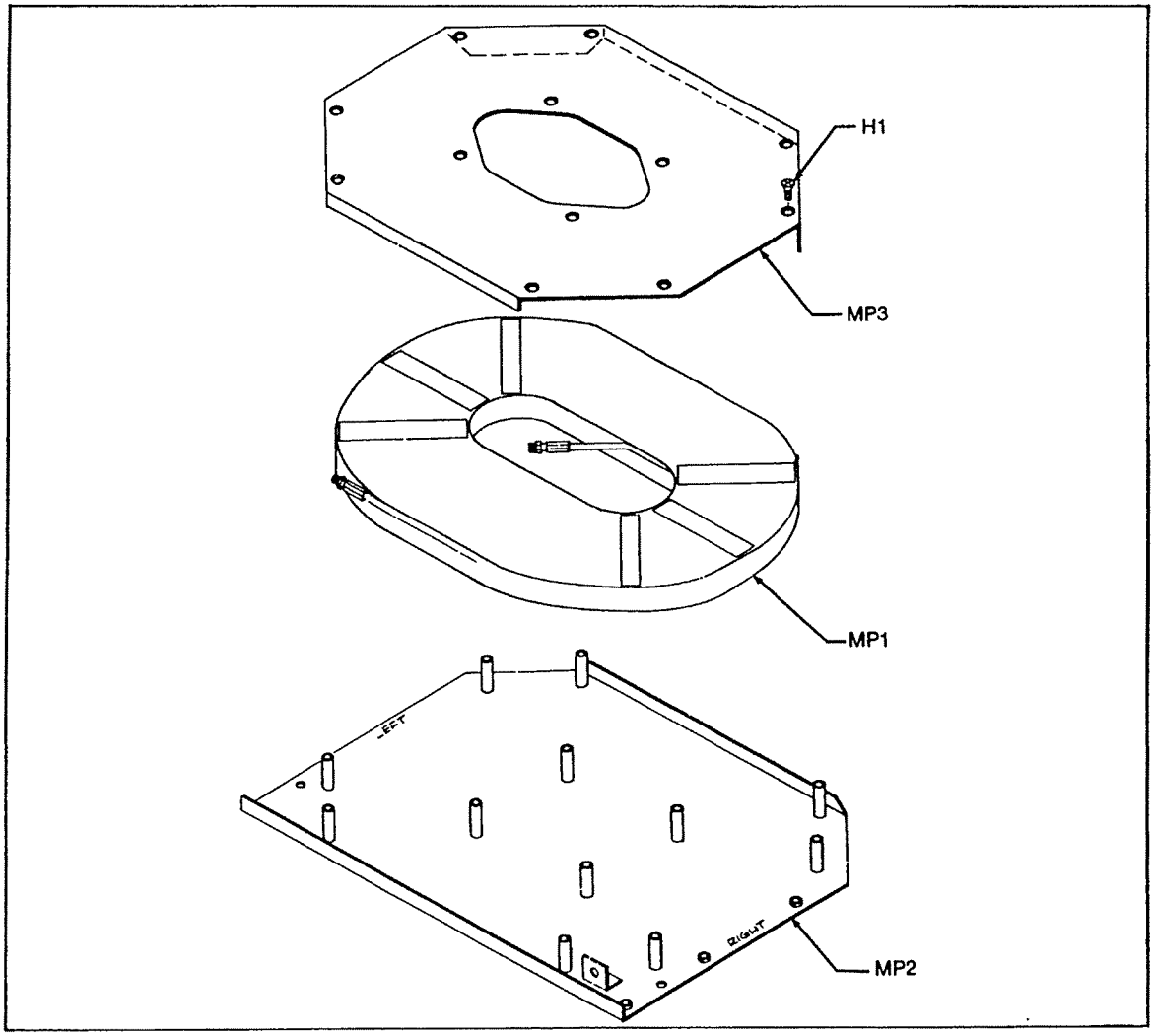


Figure 6-39. A7 Delay Cable Assembly

Section 7
Option Information

7-1. INTRODUCTION

7-2. The information in this section describes service information for the options that can be used with the 6070A and 6071A Synthesized Signal Generators. The options are listed in Table 7-1. Service information for each option is described in an individual subsection. For example, service information for the 607XA-130 Oven Reference is described in subsection 7A and information about option 607XA-570 is located in subsection 7B.

Table 7-1. 6070A/6071A Options

OPTION NO.	NAME	SECTION
607XA-130	Oven Reference	7A
607XA-570	Non-volatile Memory	7B
607XA-830	Rear Panel RF Output	7C
607XA-870	Reverse Power Protection	7D

Section 7A
607XA Oven Reference

7A-1. INTRODUCTION
7A-2. The information in this section describes service information for this option.

7A-3. THEORY OF OPERATION
7A-4. The theory of operation for this option is described in the appropriate place(s) in Section 2 of this manual to provide an integrated view of how this option works with the rest of the instrument.

7A-5. ACCESS PROCEDURES
7A-6. Introduction
7A-7. The 607XA-130 Oven Reference Option Assembly is attached to the right rear corner bracket adjacent to the power supply. The access procedure allows access to the Oven Reference Option Assembly.

7A-8. Disassembly Procedure
7A-9. Complete the following procedure to gain access to the 607XA-130 Oven Reference Option Assembly.

1. Set the front panel POWER control to STBY. Set the rear panel MAIN POWER to OFF. Remove line power from the instrument.

2. Remove the top and bottom covers to gain access to the interior of the instrument.

3. Disconnect cable W8 from Series-Pass Motherboard J7.

4. Disconnect the 10 MHz out cable (W19) from J1 on the Oven ReferenceOption.

5. Disconnect the ON/OFF cable (W18) from J2 on the Oven Reference Option.

6. Remove the four screws that secure the Oven Reference Option to the bracket and lift the assembly out of the instrument.

7A-10. Assembly Procedure
7A-11. Complete the following steps to assemble the instrument:

1. Make sure that the front panel POWER control is in the STBY position, that the rear panel MAIN switch is in the OFF position, and that the instrument is disconnected from line power.

2. Insert the 607XA-130 Oven Reference Option into the instrument between the power supply and the right rear bracket.

3. Align the oven option mounting holes with the bracket screw holes and secure the Oven Reference Option to the bracket with the four screws removed during disassembly.

4. Connect cable W19 to Oven Reference Option J1 and connect cable W18 to Oven Reference Option J2.

5. Connect cable W8 to Series-Pass Motherboard J7.

6. Install the top and bottom covers of the instrument.

7A-12. TROUBLESHOOTING
7A-12. The troubleshooting procedures in Section 4 of this manual should allow fault isolation in this option.

7A-13. NON-ROUTINE ADJUSTMENTS
7A-14. There are no non-routine adjustments for this option.

Section 7B
607XA-570 Non-volatile Memory

7B-1. INTRODUCTION
7B-2. The information in this section describes service information for this option.

7B-3. THEORY OF OPERATION
7B-4. The theory of operation for this option is described in the appropriate place(s) in Section 2 of this manual to provide an integrated view of how this option works with the rest of the instrument.

7B-5. ACCESS PROCEDURES
7B-6. Introduction
7B-7. The 607XA-570 Nonvolatile Memory Printed Circuit (A2A2 PCB) is located in the Controller Assembly (Figure 3-9). The access procedure allows access to the printed circuit board. Figure 3-9 and 3-16 illustrate the disassembly and assembly procedures.

7B-8. Disassembly Procedure
7B-9. Complete the following procedure to gain access to the A2A2 Nonvolatile Memory PCB.

1. Complete the disassembly portion of the Front Panel/Controller Assembly Access Procedure. (Refer to this titled paragraph in Section 3.)

2. Remove the eight screws (four from each side) that secure the Controller Assembly to the Front Panel Assembly (Figure 3-9).

3. Disconnect the cables from J3 and J4 on the Controller Assembly.

4. Remove the RF OUTPUT connector from the Controller Assembly chassis.

5. Remove the six screws from the shield and lift the shield away from Controller Assembly Chassis

6. Remove the five screws that secure the A2A2 Nonvolatile Memory PCB to the chassis and remove the PCB.

7B-10. Assembly Procedure
7B-11. Complete the following Procedure to assemble the instrument.

1. Install the Nonvolatile Memory PCB in the Controller Assembly and secure it using the five screws that were removed in the disassembly procedure (Figure 3-16).

2. Install the shield and secure it using the six screws removed during disassembly.

3. Install the RF OUTPUT connector to the Controller Assembly chassis and secure it using the two screws removed during disassembly.

4. Connect cables to J3 and J4 then assemble Controller Assembly to the Front Panel Assembly.

5. Secure the units using the eight screws removed during disassembly (Figure 3-9).

7B-12. TROUBLESHOOTING
7B-13. The troubleshooting procedures in Section 4 of this manual should allow fault isolation in this option.

7B-14. NON-ROUTINE ADJUSTMENTS
7B-15. There are no non-routine adjustments for this option.

7B-16. LIST OF REPLACEABLE PARTS
7B-17. Table 7B-1 lists all replaceable parts for this option. Figure 7B-1 shows the location of each component.

7B-18. SCHEMATIC DIAGRAMS

7B-19. The schamatic diagram for this option is located in the 6070A/6071A Scematic Manual.

Table 7B-1. Non-Volatile Memory Option Assembly

REF DES	DESCRIPTION	FLUKE STOCK NO.	MFG SPLY CODE	MFG PART NO.	TOT QTY	REC QTY	NOTE
	Ⓟ NON-VOLATILE MEMORY OPTION ASSEMBLY FIGURE 7B (6070A-4027T)	ORDER	BY	OPTION 607XA-570			
BT1	BATTERY, PRIMARY, 2.9V LITHIUM	519249	90303	LO-37-305154	1	1	
C1	CAP, TA, 5.6 UF +/-20%, 25V	368969	56289	196D565X0025KA1	4		
C2	CAP, TA, 5.6 UF +/-20%, 25V	368969	56289	196D565X0025KA1	REF		
C3	CAP, TA, 5.6 UF +/-20%, 25V	368969	56289	196D565X0025KA1	REF		
C4	CAP, TA, 5.6 UF +/-20%, 25V	368969	56289	196D565X0025KA1	REF		
C5	CAP, CER, 0.22 UF +/-20%, 50V	309849	71590	CW30C224K	15		
C6	CAP, CER, 0.22 UF +/-20%, 50V	309849	71590	CW30C224K	REF		
C7	CAP, CER, 0.22 UF +/-20%, 50V	309849	71590	CW30C224K	REF		
C8	CAP, CER, 0.22 UF +/-20%, 50V	309849	71590	CW30C224K	REF		
C9	CAP, CER, 0.22 UF +/-20%, 50V	309849	71590	CW30C224K	REF		
C10	CAP, CER, 0.22 UF +/-20%, 50V	309849	71590	CW30C224K	REF		
C11	CAP, CER, 0.22 UF +/-20%, 50V	309849	71590	CW30C224K	REF		
C12	CAP, CER, 0.22 UF +/-20%, 50V	309849	71590	CW30C224K	REF		
C13	CAP, CER, 0.22 UF +/-20%, 50V	309849	71590	CW30C224K	REF		
C14	CAP, CER, 0.22 UF +/-20%, 50V	309849	71590	CW30C224K	REF		
C15	CAP, CER, 0.22 UF +/-20%, 50V	309849	71590	CW30C224K	REF		
C16	CAP, CER, 0.22 UF +/-20%, 50V	309849	71590	CW30C224K	REF		
C17	CAP, CER, 0.22 UF +/-20%, 50V	309849	71590	CW30C224K	REF		
C18	CAP, CER, 0.22 UF +/-20%, 50V	309849	71590	CW30C224K	REF		
C19	CAP, CER, 0.22 UF +/-20%, 50V	309849	71590	CW30C224K	REF		
C20	CAP, TA, 150 UF +/-20%, 20V	422576	56289	196D157X0020TA1	2		
C21	CAP, CER, 100 PF +/-2%, 100V	512848	89536	512848	4		
C22	CAP, CER, 100 PF +/-2%, 100V	512848	89536	512848	REF		
C23	CAP, CER, 100 PF +/-2%, 100V	512848	89536	512848	REF		
C24	CAP, CER, 100 PF +/-2%, 100V	512848	89536	512848	REF		
C26	CAP, TA, 150 UF +/-20%, 20V	422576	56289	196D157X0020TA1	REF		
C27	CAP, TA, 22 UF +/-20%, 10V	474288	56289	195D223X0010TE4	2		
C28	CAP, TA, 22 UF +/-20%, 10V	474288	56289	195D223X0010TE4	REF		
CR1	DIODE, SI, CONTROLLER FWD VOL	234468	07910	TD9039	4	1	
CR2	DIODE, SI, CONTROLLER FWD VOL	234468	07910	TD9039	REF		
CR3	DIODE, ZENER, 4.3V +/-5%	180455	04713	1N749A	1		
CR4	DIODE, SI, CONTROLLER FWD VOL	234468	07910	TD9039	REF		
CR5	DIODE, SI, CONTROLLER FWD VOL	234468	07910	TD9039	REF		
CR6	DIODE, ZENER, 3.9V +/-10%	113316	04713	1N748	1	1	
J1	CONNECTOR, 50 PIN	519538	00779	86418-8	1		
J2	CONNECTOR, 12 PIN	530261	00779	87334-4	1		
L1	INDUCTOR, 50 MH	540823	89536	540823	2		
L2	INDUCTOR, 50 MH	540823	89536	540823	REF		
MP1	COMPONENT TIE DOWN (NOT SHOWN)	422857	89536	422857	1		
MP2	SPACER, PCB STANDOFF (NOT SHOWN)	520205	89536	520205	5		
Q1	TRANSISTOR, SI, NPN, POWER (SELECT)	343970	89536	343970	1	1	
Q2	TRANSISTOR, SI, NPN	218081	04713	MPS6520	1	1	

Table 7B-1. Non-Volatile Memory Option Assembly (cont)

REF DES	DESCRIPTION	FLUKE STOCK NO.	MFG SPLY CODE	MFG PART NO.	TOT QTY	REC QTY	NOTE
R2	RES, DEP. CAR, 3.9K +/-5%, 1/4W	342600	80031	CR251-4-5P3K9	1		
R3	RES, MTL. FILM, 1K +/-1%, 1/8W	168229	91637	CMF551001F	1		
R4	RES, DEP. CAR, 10K +/-5%, 1/4W	348839	80031	CR251-4-5P10K	5		
R5	RES, DEP. CAR, 10K +/-5%, 1/4W	348839	80031	CR251-4-5P10K	REF		
R6	RES, MTL. FILM, 10 +/-1%, 1/8W	268789	91637	CMF550100F	2		
R7	RES, DEP. CAR, 10K +/-5%, 1/4W	348839	80031	CR251-4-5P10K	REF		
R8	RES, DEP. CAR, 10K +/-5%, 1/4W	348839	80031	CR251-4-5P10K	REF		
R9	RES, DEP. CAR, 68 +/-5%, 1/4W	414532	80031	CR251-4-5P68E	1		
R10	RES, MTL. FILM, 10 +/-1%, 1/8W	268789	91637	CMF550100F	REF		
R11	RES, DEP. CAR, 10K +/-5%, 1/4W	348839	80031	CR251-4-5P10K	REF		
S1	SWITCH, SLIDE, SPDT	386813	89536	386813	1	1	
TP1	CONNECTOR, TEST POINT	512889	00779	62395-1	3		
TP2	CONNECTOR, TEST POINT	512889	00779	62395-1	REF		
TP3	CONNECTOR, TEST POINT	512889	00779	62395-1	REF		
U1	IC, TTL, POS NAND GATES AND INVERTERS	394205	01295	SN74LS03N	1	1	
U2	IC, TTL, LO-PWR, 3-8 LINE DECODER	407585	01295	SN74LS138N	2	1	
U3	IC, TTL, HEX INVERTER	393058	01295	SN74LS04N	1	1	
U4	IC, LO-PWR, SCHOTTKY TRI-ST OCTAL BFR.	429902	12040	DMB1LS95N	5	1	
U5	IC, TTL, LO-PWR, 3-8 LINE DECODER	407585	01295	SN74LS138N	REF		
U6	IC, LO-PWR, SCHOTTKY TRI-ST OCTAL BFR.	429902	12040	DMB1LS95N	REF		
U7	IC, LO-PWR, SCHOTTKY TRI-ST OCTAL BFR.	429902	12040	DMB1LS95N	REF		
U8	IC, LO-PWR, SCHOTTKY TRI-ST OCTAL BFR.	429902	12040	DMB1LS95N	REF		
U9	IC, LO-PWR, SCHOTTKY TRI-ST OCTAL BFR.	429902	12040	DMB1LS95N	REF		
U10	RESISTOR NETWORK	461038	89536	461038	3		
U11	RESISTOR NETWORK	412726	89536	412726	1		
U12	RESISTOR NETWORK	461038	89536	461038	REF		
U13	RESISTOR NETWORK	461038	89536	461038	REF		
U14Ø	IC, C-MOS, 1024 BIT STATIC RAM	429860	34649	P5101L	16	4	
U15Ø	IC, C-MOS, 1024 BIT STATIC RAM	429860	34649	P5101L	REF		
U16Ø	IC, C-MOS, 1024 BIT STATIC RAM	429860	34649	P5101L	REF		
U17Ø	IC, C-MOS, 1024 BIT STATIC RAM	429860	34649	P5101L	REF		
U18Ø	IC, C-MOS, 1024 BIT STATIC RAM	429860	34649	P5101L	REF		
U19Ø	IC, C-MOS, 1024 BIT STATIC RAM	429860	34649	P5101L	REF		
U20Ø	IC, C-MOS, 1024 BIT STATIC RAM	429860	34649	P5101L	REF		
U21Ø	IC, C-MOS, 1024 BIT STATIC RAM	429860	34649	P5101L	REF		
U22Ø	IC, C-MOS, 1024 BIT STATIC RAM	429860	34649	P5101L	REF		
U23Ø	IC, C-MOS, 1024 BIT STATIC RAM	429860	34649	P5101L	REF		
U24Ø	IC, C-MOS, 1024 BIT STATIC RAM	429860	34649	P5101L	REF		
U25Ø	IC, C-MOS, 1024 BIT STATIC RAM	429860	34649	P5101L	REF		
U26Ø	IC, C-MOS, 1024 BIT STATIC RAM	429860	34649	P5101L	REF		
U27Ø	IC, C-MOS, 1024 BIT STATIC RAM	429860	34649	P5101L	REF		
U28Ø	IC, C-MOS, 1024 BIT STATIC RAM	429860	34649	P5101L	REF		
U29Ø	IC, C-MOS, 1024 BIT STATIC RAM	429860	34649	P5101L	REF		
U30	IC, LINEAR, OP-AMP	418566	12040	LM358N	1	1	
XU1	SOCKET, IC, 14-PIN	370304	12040	MM74C906M	2		
XU2	SOCKET, IC, 16-PIN	370312	91506	316-AG39D	2		
XU3	SOCKET, IC, 14-PIN	370304	12040	MM74C906M	REF		
XU4	SOCKET, IC, 20-PIN	454421	01295	C932002	5		
XU5	SOCKET, IC, 16-PIN	370312	91506	316-AG39D	REF		
XU6	SOCKET, IC, 20-PIN	454421	01295	C932002	REF		

Table 7B-1. Non-Volatile Memory Option Assembly (cont)

REF DES	DESCRIPTION	FLUKE STOCK NO.	MFG SPLY CODE	MFG PART NO.	TOT QTY	REC QTY	NOTE
XU7	SOCKET, IC, 20-PIN	454421	01295	C932002	REF		
XU8	SOCKET, IC, 20-PIN	454421	01295	C932002	REF		
XU9	SOCKET, IC, 20-PIN	454421	01295	C932002	REF		
XU14	SOCKET, IC, 22 PIN	453126	91506	322-AG39D	16		
XU15	SOCKET, IC, 22 PIN	453126	91506	322-AG39D	REF		
XU16	SOCKET, IC, 22 PIN	453126	91506	322-AG39D	REF		
XU17	SOCKET, IC, 22 PIN	453126	91506	322-AG39D	REF		
XU18	SOCKET, IC, 22 PIN	453126	91506	322-AG39D	REF		
XU19	SOCKET, IC, 22 PIN	453126	91506	322-AG39D	REF		
XU20	SOCKET, IC, 22 PIN	453126	91506	322-AG39D	REF		
XU21	SOCKET, IC, 22 PIN	453126	91506	322-AG39D	REF		
XU22	SOCKET, IC, 22 PIN	453126	91506	322-AG39D	REF		
XU23	SOCKET, IC, 22 PIN	453126	91506	322-AG39D	REF		
XU24	SOCKET, IC, 22 PIN	453126	91506	322-AG39D	REF		
XU25	SOCKET, IC, 22 PIN	453126	91506	322-AG39D	REF		
XU26	SOCKET, IC, 22 PIN	453126	91506	322-AG39D	REF		
XU27	SOCKET, IC, 22 PIN	453126	91506	322-AG39D	REF		
XU28	SOCKET, IC, 22 PIN	453126	91506	322-AG39D	REF		
XU29	SOCKET, IC, 22 PIN	453126	91506	322-AG39D	REF		
XU30	SOCKET, IC, 8-PIN	478016	91506	308-AG39D	1		

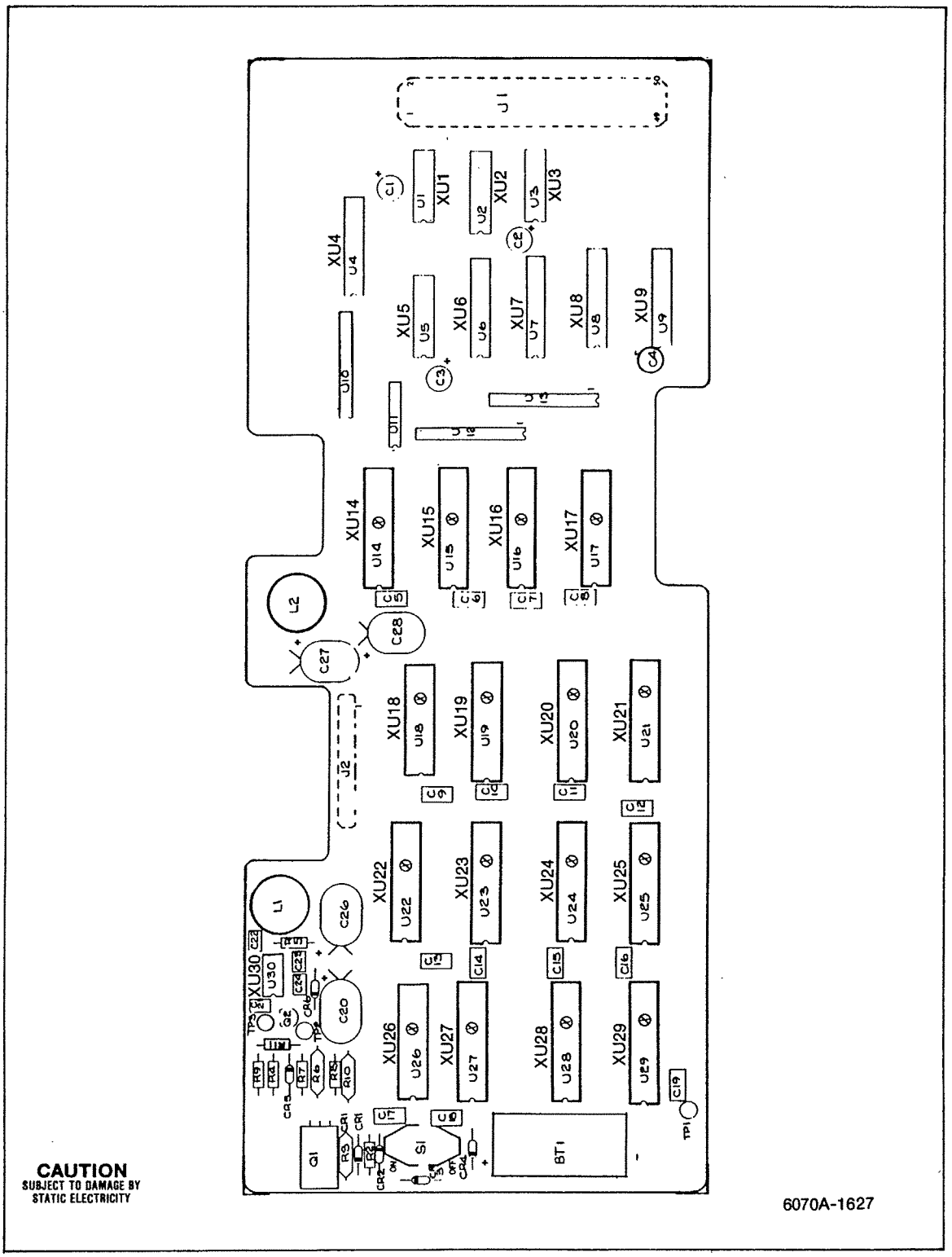


Figure 7B-1. Non-Volatile Memory Option Assembly

Section 7C
607XA-830 Rear Panel RF Output Option

7C-1. INTRODUCTION

7C-2. The information in this section describes service information for this option.

7C-3. THEORY OF OPERATION

7C-4. The theory of operation for this option is described in the appropriate place(s) in Section 2 of this manual to provide an integrated view of how this option works with the rest of the instrument.

7C-5. ACCESS PROCEDURES

7C-6. Introduction

7C-7. The 607XA-830 Rear Panel RF Output Option consists of a type N connector and cable W51 connected to the output module. This option provides RF output at the rear panel instead of the front panel.

7C-8. Disassembly Procedure

7C-9. Complete the following procedure to gain access to the Type N connector.

1. Set the front panel POWER control to STBY. Set the rear panel MAIN POWER to OFF. Remove line power from the instrument.

2. Remove bottom cover to gain access to the interior of the instrument.

3. Disconnect the cable from the rear RF OUT connector.

4. Remove the Hex nut from the type N connector and remove the connector from the instrument.

7C-10. Assembly Procedure

7C-11. Complete the following procedure to assemble the instrument.

1. Insert the type N connector in the rear panel and secure it with the Hex nut.

2. Connect cable W51 to the type N connector.

3. Replace bottom cover.

7C-12. TROUBLESHOOTING

7C-13. This option requires no troubleshooting procedure.

7C-14. NON-ROUTINE ADJUSTMENTS

7C-15. There are no non-routine adjustments for this option.

Section -7D
607XA-870 Reverse Power Protection

7D-1. INTRODUCTION
7D-2. The information in this section describes service information for this option.

7D-3. THEORY OF OPERATION
7D-4. The theory of operation for this option is described in the appropriate place(s) in Section 2 of this manual to provide an integrated view of how this option works with the rest of the instrument.

7D-5. ACCESS PROCEDURES
7D-6. Introduction
7D-7. The 607XA-870 Reverse Power Protection Option consists ofthe A4A5 Printed Circuit Board located in the top of the Output Module (Figure 3-4). This procedure allows access to the printed circuit board for maintenance procedures. After the cover has been removed, the cover screws must be torqued back in place to insure specific RF integrity. Section 3 Figures 3-4, 3-8, 3-9, and 3-13 illustrate the following disassembly and assembly procedures.

CAUTION

To prevent damage to the coaxial cables and connectors, observe the following cautions when connecting the cables and connectors.

1. Do not bend the cables.

2. Do not place excessive strain between the cables and connectors.

3. Start SMA connectors carefully, keep the connector straight with respect to the jack.

7D-8. Disassembly Procedure
7D-9. Complete the following procedure to gain access to the A4A5 Reverse Power Protect printed circuit board.

1. Set the front panel POWER control to STBY. Set the rear panel MAIN POWER control to OFF. Remove line power from the instrument.

2. Remove the bottom cover from the instrument.

3. Complete the following steps to swing out the Output Module:

   a. Refer to Figure 3-8 and disconnect J1, J4, J5, J13, and J14.

   b. Remove the four screws and washers (H1 and H2) and the two screws (H3) shown in Figure 3-9.

   c. Lift the Output Module until J10, J11, and J12 can be reached. Disconnect J10, J11, and J12.

   d. Swing the module out 90 degrees and lock it in this position by installing the two screws (H3) in position B (Figure 3-9). Remove the A4A5 cover screws (Figure 3-13).

4. Carefully lift the cover off; do not disturb the RF gasket under the cover.

7D-10. Assembly Procedure
7D-11. Complete the following procedure to assemble the instrument:

1. Remove the jumper cables that have been installed.

2. Make sure the RF gasket is in place (Figure 3-4) and inspect the RF gasket for damage (areas that are folded over, worn, or pinched).

3. If required, use the following steps to properly install the RF gasket.

a. Start the gasket at the START GASKET point (Figure 3-4).

b. Traveling in the direction indicated, press the gasket into the groove.

c. The end of the gasket should be at the TERMINATE GASKET point shown in Figure 3-4.

4. Lower the cover carefully in place and start all the screws through the washers. Do not tighten any of the screws.

5. Use the Electric Torque Screwdriver to tighten all the screws according to the following procedure.

a. Torque all screws to 3 inch-pounds in the numerical sequence as shown in Figure 3-13.

b. Torque all screws to 7 to 9 inch-pounds in the numerical sequence shown in Figure 3-13. Torque value should be the same for all screws.

6. Swing the Output Module back into place using the following procedures:

a. Remove the two screws (H3) from position B.

b. Swing the Output Module partially back into position.

c. Refer to Figure 3-8 and connect J10, J11, and J12.

d. Fasten the two screws (H3) into Position A (Figure 3-9) and fasten the four washers and screws (H1 and H2) back in place.

e. Refer to Figure 3-8 and connect J1, J4, J5, J13, and J14.

7. Install the bottom cover on the instrument.

7D-12. TROUBLESHOOTING

7D-13. The troubleshooting procedures in Section 4 of this manual should allow fault isolation in this option.

7D-14. NON-ROUTINE ADJUSTMENTS

7D-15. There are no non-routine adjustments for thisoption.

7D-16. LIST OF REPLACEABLE PARTS

7D-17. Table 7D-1 lists all replaceable parts for this option. Figure 7D-1 shows the location of each component.

7D-18. SCHEMATIC DIAGRAMS

7D-19. The schematic diagram for this option is located in the 6070A/6071A Schematic Manual.

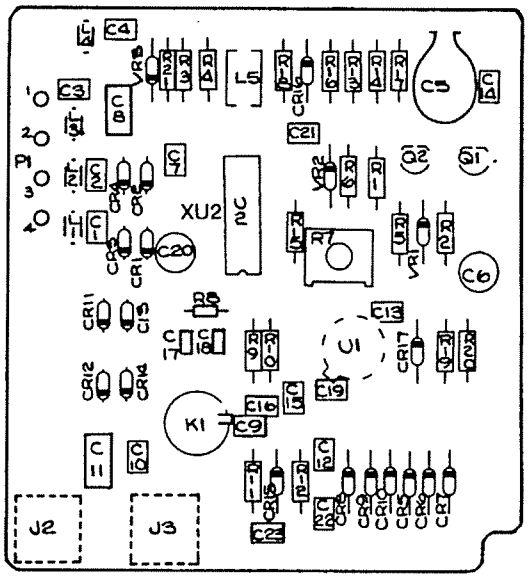
Table 7D-1. Reverse Power Protection Option Assembly

REF DES	DESCRIPTION	FLUKE STOCK NO.	MFG SPLY CODE	MFG PART NO.	TOT QTY	REC QTY	NOTE
	REVERSE POWER PROTECTION OPTION ASSEMBLY FIGURE 7D-1 (6070A-4024T)	ORDER	BY	OPTION 607XA-870			1
C1	CAP, CER, 47 PF +/-2%, 100V	512368	89536	512368	4		
C2	CAP, CER, 47 PF +/-2%, 100V	512368	89536	512368	REF		
C3	CAP, CER, 47 PF +/-2%, 100V	512368	89536	512368	REF		
C4	CAP, CER, 47 PF +/-2%, 100V	512368	89536	512368	REF		
C5	CAP, TA, 22 UF +/-20%, 35V	394775	56289	196D226X0035TE4	1		
C6	CAP, TA, 22 UF +/-20%, 15V	423012	56289	196D226X0015KA1	2		
C7	CAP, CER, 0.005 UF +/-20%, 50V	255471	51642	200-050-601-502M	3		
C8	CAP, ELECT, TA, 4.7 UF +/-1%, 15/18V	519363	56289	193D475X9015C2	2		
C9	CAP, CER, 0.001 UF +/-20%, 500V	402966	72982	8121-A100-W5R-102M	8		
C10	CAP, CER, 0.005 UF +/-20%, 50V	255471	51642	200-050-601-502M	REF		
C11	CAP, ELECT, TA, 4.7 UF +/-1%, 15/18V	519363	56289	193D475X9015C2	REF		
C12	CAP, CER, 0.005 UF +/-20%, 50V	255471	51642	200-050-601-502M	REF		
C13	CAP, CER, 0.001 UF +/-20%, 500V	402966	72982	8121-A100-W5R-102M	REF		
C14	CAP, CER, 0.001 UF +/-20%, 500V	402966	72982	8121-A100-W5R-102M	REF		
C15	CAP, CER, 0.001 UF +/-20%, 500V	402966	72982	8121-A100-W5R-102M	REF		
C16	CAP, CER, 2.2 PF +/-0.25 PF, 100V	362731	89536	362731	1		
C17	CAP, CER, 0.22 UF +/-20%, 50V	309849	71590	CW30C224K	2		
C18	CAP, CER, 0.22 UF +/-20%, 50V	309849	71590	CW30C224K	REF		1
C19	CAP, CER, 0.001 UF +/-20%, 500V	402966	72982	8121-A100-W5R-102M	REF		
C20	CAP, TA, 22 UF +/-20%, 15V	423012	56289	196D226X0015KA1	REF		
C21	CAP, CER, 0.001 UF +/-20%, 500V	402966	72982	8121-A100-W5R-102M	REF		
C22	CAP, CER, 0.001 UF +/-20%, 500V	402966	72982	8121-A100-W5R-102M	REF		
C23	CAP, CER, 0.001 UF +/-20%, 500V	402966	72982	8121-A100-W5R-102M	REF		
CR1	DIODE, SMALL SIGNAL	454181	03508	1N4606	8		1
CR2	DIODE, SMALL SIGNAL	454181	03508	1N4606	REF		1
CR3	DIODE, SMALL SIGNAL	454181	03508	1N4606	REF		1
CR4	DIODE, SMALL SIGNAL	454181	03508	1N4606	REF		1
CR5	DIODE, HI-SPEED SWITCHING	203323	04713	1N4448	6	2	
CR6	DIODE, HI-SPEED SWITCHING	203323	04713	1N4448	REF		
CR7	DIODE, HI-SPEED SWITCHING	203323	04713	1N4448	REF		
CR8	DIODE, HI-SPEED SWITCHING	203323	04713	1N4448	REF		
CR9	DIODE, HI-SPEED SWITCHING	203323	04713	1N4448	REF		
CR10	DIODE, HI-SPEED SWITCHING	203323	04713	1N4448	REF		
CR11	DIODE, SMALL SIGNAL	454181	03508	1N4606	REF		1
CR12	DIODE, SMALL SIGNAL	454181	03508	1N4606	REF		1
CR13	DIODE, SMALL SIGNAL	454181	03508	1N4606	REF		1
CR14	DIODE, SMALL SIGNAL	454181	03508	1N4606	REF		1
CR15	DIODE, LO-CAP, LO-LEAK	369595	07263	FH1100	1	1	
CR16	DIODE, LO-CAP, LO-LEAK	375907	07263	FD7222	2	1	
CR17	DIODE, LO-CAP, LO-LEAK	375907	07263	FD7222	REF		
H1	WASHER, CRESCENT SPRING (NOT SHOWN)	544239	89536	544239	1		
J2	CONNECTOR, RF, SMA	512087	16733	705147-001	2		
J3	CONNECTOR, RF, SMA	512087	16733	705147-001	REF		
K1	RELAY, ARMATURE	528638	11532	712-26	1		1
L1	INDUCTOR, 10-TURN	496448	89536	496448	4		
L2	INDUCTOR, 10-TURN	496448	89536	496448	REF		
L3	INDUCTOR, 10-TURN	496448	89536	496448	REF		

Table 7D-1. Reverse Power Protection Option Assembly (cont)

REF DES	DESCRIPTION	FLUKE STOCK NO.	MFG SPLY CODE	MFG PART NO.	TOT QTY	REC QTY	NOTE
L4	INDUCTOR, 10-TURN	496448	89536	496448	REF		
L5	INDUCTOR, 6-TURN	320911	89536	320911	1		
P1	COMPONENT LEAD, SPRING TYPE	544056	00779	50871-1	4		
Q1	TRANSISTOR, SI, PNP, SMALL SIGNAL	418707	04713	MPS56562	1	1	
Q2	TRANSISTOR, SI, NPN	218081	04713	MPS6520	1	1	
R1	RES, DEP. CAR, 1K +/-5%, 1/4W	343426	80031	CR251-4-5P1K	5		
R2	RES, DEP. CAR, 560 +/-5%, 1/4W	385948	80031	CR251-4-5P560E	1		
R3	RES, DEP. CAR, 470 +/-5%, 1/4W	343434	80031	CR251-4-5P470E	2		
R4	RES, DEP. CAR, 470 +/-5%, 1/4W	343434	80031	CR251-4-5P470E	REF		
R5	RES, DEP. CAR, 100 +/-5%, 1/4W	248771	80031	CR251-4-5P100E	1		
R6	RES, DEP. CAR, 2K +/-5%, 1/4W	441469	80031	CR251-4-5P2K	2		
R7	RES, VAR, 500 +/-10%, 1/2W	325613	89536	325613	1	1	
R8	RES, DEP. CAR, 300 +/-5%, 1/4W	512772	80031	CR251-4-5P300E	1		
R9	RES, DEP. CAR, 1K +/-5%, 1/4W	343426	80031	CR251-4-5P1K	REF		
R10	RES, DEP. CAR, 2K +/-5%, 1/4W	441469	80031	CR251-4-5P2K	REF		
R11	RES, DEP. CAR, 1K +/-5%, 1/4W	343426	80031	CR251-4-5P1K	REF		
R12	RES, DEP. CAR, 10K +/-5%, 1/4W	348839	80031	CR251-4-5P10K	2		
R13	RES, DEP. CAR, 1.5K +/-5%, 1/4W	343418	80031	CR251-4-5P1K5	1		
R14	RES, DEP. CAR, 680 +/-5%, 1/4W	368779	80031	CR251-4-5P680E	1		
R15	RES, DEP. CAR, 1K +/-5%, 1/4W	343426	80031	CR251-4-5P1K	REF		
R16	RES, DEP. CAR, 1.8K +/-5%, 1/4W	441444	80031	CR251-4-5P1K8	1		
R17	RES, DEP. CAR, 7.5K +/-5%, 1/4W	441667	80031	CR251-4-5P7K5	1		
R18	RES, DEP. CAR, 510 +/-5%, 1/4W	441600	80031	CR251-4-5P510E	1		
R19	RES, DEP. CAR, 10K +/-5%, 1/4W	348839	80031	CR251-4-5P10K	REF		
R20	RES, DEP. CAR, 1K +/-5%, 1/4W	343426	80031	CR251-4-5P1K	REF		
R21	RES, DEP. CAR, 3.9K +/-5%, 1/4W	342600	80031	CR251-4-5P3K9	1		
U1	IC, LINEAR DIFFERENTIAL COMPARATOR	343343	12040	LM/UA710CH	1	1	
U2	IC, TTL, QUAD S-R LATCH	404210	01295	SN74LS279N	1	1	
VR1	DIODE, ZENER, 4.7V +/-10%	387084	07910	1N750	1	1	
VR2	DIODE, ZENER, 12.0V +/-10%	159780	04713	1N759	1	1	
VR3	DIODE, ZENER, 5.1V +/-5%	159798	04713	1N751A	1	1	
XU2	SOCKET, IC, 16-PIN	276535	91506	316-AG39D	1		

1 BEFORE ORDERING SPARE PARTS OR SPARE PCB ASSEMBLIES, PLEASE CONTACT YOUR NEAREST JOHN FLUKE SERVICE CENTER FOR INFORMATION



6071A-1624

Figure 7D-1. Reverse Power Protection Option Assembly

Appendix A

Manual Change Information

INTRODUCTION

This appendix contains information necessary to backdate the 6070A/6071A Service and Schematic Manuals to conform with the actual pcb configuration of your instrument. To identify the configuration of the pcbs used in your instrument, refer to the revision letter marked in ink on the component side of each pcb assembly. Table A-1 defines the assembly revision levels documented in this manual.

NEWER INSTRUMENTS

As changes and improvements are made to the instrument, they are identified by incrementing the revision letter marked on the affected pcb assembly. These changes are documented on a supplemental change/errata sheet which, when applicable, is inserted at the front of the manual(s).

OLDER INSTRUMENTS

To backdate this manual to conform with earlier assembly revision levels, perform the changes indicated in Table A-1.

CHANGES

The following changes, unless otherwise noted, affect only Section (parts list and component location drawings) of this manual and the 6070A/6071A Schematic Manual. The material affected is easily determined by the type of change. See Table A-2.

Table A-1. Manual Status and Backdating Information

Ref Or Option No.	Assembly Name	Fluke Part No.	* To adapt manual to earlier rev configurations perform changes in desending order (by no.), ending with change under desired rev letter																					
			—	A	B	C	D	E	F	G	H	J	K	L	M	N	P								
A1A1	FRONT PANEL PCB ASSEMBLY	462390		●	●	●	●	●	●	X															
A2A1	CONTROLLER PCB ASSEMBLY	462424		●	●	●	●	●	●	●	X														
A2A4	CONTROLLER MOTHER BOARD	489674		●	●	●	●	X																	
A3A1	PHASE DETECTOR PCB ASSEMBLY	463521		+	+	+	+	3	X																
A3A2	10 MHz REFERENCE PCB ASSEMBLY	463646		●	●	●	X																		
A3A3	DELAY DISCRIMINATION PCB ASSEMBLY	463653		+	+	+	+	+	1	X															
A3A4	N/1 DIVIDER PCB ASSEMBLY	463547		●	●	●	X																		
A3A5	VCO RESONATOR PCB ASSEMBLY	463364		●	●	●	●	●	●	X															
A3A6	SINGLE SIDEBAND MIXER PCB ASSEMBLY	463513		●	●	●	●	X																	
A3A7	SUB SYNTHESIZER PCB ASSEMBLY	463554		●	●	●	X																		
A3A8	SYNTHESIZER CONTROL PCB ASSEMBLY	463638		●	●	●	●	●	●	●	X														
A3A9	SYNTHESIZER DISTRIBUTION PCB ASSEMBLY	463562		●	●	●	●	●	●	X															
A3A10	MODULATION DISTRIBUTION PCB ASSEMBLY	463570		●	●	●	●	●	X																
A4A2	MODULATION OSCILLATOR PCB ASSEMBLY	469593		●	●	●	X																		
A4A3	ATTENUATOR PCB ASSEMBLY	462432		X																					
A4A4	MODULATOR DIVIDER PCB ASSEMBLY	463596		●	●	●	●	X																	
A4A6	X2 OUTPUT AMPLIFIER PCB ASSEMBLY	546465		●	●	●	●	●	●	X															
A4A7	OUTPUT AMPLIFIER PCB ASSEMBLY	463505		●	●	●	●	X																	
A4A8	HETRODYNE OSCILLATOR PCB ASSEMBLY	463588		●	●	●	●	●	●	●	X														
A4A9	HETRODYNE CONVERTER PCB ASSEMBLY	463562		●	●	●	●	●	●	X															
A4A10	MODULATION DISTRIBUTION PCB ASSEMBLY	463570		+	+	+	+	2	X																

* X = The PCB revision levels documented in this manual.
● = These revision letters were never used in the instrument.
— = No revision letter on the PCB.
\+ = Change did not affect manual.

E-1

Table A-1. Manual Status and Backdating Information (cont)

Ref Or Option No.	Assembly Name	Fluke Part No.	* To adapt manual to earlier rev configurations perform changes in desending order (by no.), ending with change under desired rev letter																					
			–	A	B	C	D	E	F	G	H	J	K	L	M	N	P							
A5A1	POWER SUPPLY PCB ASSEMBLY	457747		•	•	•	X																	
A5A2	POWER SUPPLY REGULATOR PCB ASSEMBLY	457739		•	•	X																		
A5A3	AUXILIARY XFORMER PCB ASSEMBLY	489005		•	X																			
A5A4	INPUT RECTIFIER PCB ASSEMBLY	488486		•	•	X																		
A5A5	SWITCHING XSTR ASSEMBLY	521385		•	X																			
A5A6	POWER SUPPLY CAPACITOR PCB ASSEMBLY	520957		•	•	•	X																	
A6A1	IEEE CONNECTOR PCB ASSEMBLY	457903		X																				
A6A2	SERIES PASS MOTHER BOARD ASSEMBLY	489591		•	•	X																		
A6A3	+5V SERIES PASS PCB ASSEMBLY	489617		•	X																			
A6A4	+12V, -12V, +24V SERIES PASS PCB ASSY.	489641		•	•	X																		
-570	NON VOLATILE PCB ASSEMBLY	463349		•	•	•	X																	
-870	RESERVE POWER PROTECTION PCB ASSEMBLY	463489		•	•	•	•	•	•	•	X													

* X = The PCB revision levels documented in this manual.
• = These revision letters were never used in the instrument.
– = No revision letter on the PCB.
+ = Change did not affect manual.

Table A-2. Material Affected By a Change

TYPE OF CHANGE	MATERIAL AFFECTED = •		
	Parts List	Schematic	Component Location
Electrical Value	•	•	
Part Number	•		
Hardware	•		•
Size/Location (physical)			•
Addition/Deletion (electrical)	•	•	•

Change #1 19195
A3A3 Delay Discriminator PCB Assembly

Change C92
FROM: 234492/ 73445/ C280MAE/A33K
TO: 357954/ 73445/ C280MAE/A610K

Change #2 15207
A4A10 Modulation Distribution PCB Assembly

Change R30 and R32
FROM: RES, MTL. FILM, 7.68k ±1%, 1/8W/ 370999/ 91637/ CMF557681F
TO: RES, MTL. FILM, 10k ±1%, 1/8W / 168260/ 91637/ CMF551002F

Change #3 15390
A3A1 Phase Detector PCB Assembly

Change R7
FROM: RES, MTL. FILM, 2.00k ±1%, 1/8W/ 235226/ 91637/ CMF552001F
TO: RES, MTL. FILM, 2.15k ±1%, 1/8W/ 293712/ 91637/ CMF552151F

Change R6
FROM: RES, DEP. CAR., 220k ±5%, 1/4W/ 348953/ 80031/ CR251-4-5P220K
TO: RES, COMP, 100k ±5%, 1/4W / 348920/ 01121/ CB1045

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TLX: 22404/42634

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Jay-Es Electronics
160 Poorvarama Mawatha
Colombo 5, Sri Lanka
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182 04 Vallingby, Sweden
Tel: (8) 380370, TLX: 11347

Switzerland ■
Traco Electronic AG
Jenatschstrasse 1
8002 Zurich, Switzerland
Tel: (1) 2010711, TLX: 54318

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Mabek (Electronic Division)
P.O. Box 4238
Damascus, Syria

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96, Chung Shan N. Rd., Sec. 2
Taipei, Taiwan,
Tel: 5817393/5814978
TLX: 11111

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1899/10 Ramkamhaeng Rd.
Huamark, Bangkok, Thailand
Tel: 3143369, TLX: 81143

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Necatibey Cad 92/3
Karakoy, Istanbul, Turkey
Tel. (1) 5461
TLX: 23353

United Arab Emirates ■
Al-Sanani Ge. Trad. Est.
P.O. Box 7187
Abu-Dhabi, United Arab Emirates
Tel: 828428/821370/821371/
TLX: 23966

United Kingdom ■
Fluke (Great Britain) Ltd.
Colonial Way
Watford, Herts, WD2 4TT
United Kingdom
Tel: (0923) 40511, TLX: 934583
Rapifax: (0923) 25067

Uruguay ●
Coasin Uruguaya S.R.L.
Cuareim 2196
Casilla de Correos 1400
Correo Central
Montevideo, Uruguay
Tel: 29-31-95, TLX: UY5871

U.S.S.R. ■
Amtest Associates Ltd.
P.O. Box 55
Addlestone, Surrey KT15 1DU
United Kingdom
Tel: Weybridge (932) 52121
TLX: 928855

Venezuela ●
Coasin, C.A.
Calle 9 Con Calle 4, Edif. Edinurbi
Piso 3, La Urbina
Apartado De Correos
NR-70.136 Los Ruices
Caracas 1070A, Venezuela
Tel: 36-78-42, TLX: 21027 Emven Ve

Yemen ■
Fluke (Holland) B.V.
P.O. Box 5053, 5004 EB Tilburg
Zevenheuvelenweg 53, 5048 AN Tilburg
The Netherlands
Tel: (013) 673973, TLX: 52237

Yugoslavia ■
Amtest Associates Ltd.
P.O. Box 55
Addlestone, Surrey KT 15 1DU
United Kingdom
Tel: Weybridge (932) 52121
TLX: 928855

■ Supplied and Supported by —
Fluke (Holland) B.V.
P.O. Box 5053, Zevenheuvelenweg 53
5004 EB Tilburg, Netherlands
Tel: (013) 673973, TLX: 52237

● Supplied and Supported by —
Fluke International Corporation
P.O. Box C9090
Everett, WA 98206 U.S.A.
Tel: (206) 356-5500
TLX: 152662 JOHN FLUKE EVT

John Fluke Mfg. Co., Inc., P.O. Box C9090, Everett, WA 98206. Phone (206) 342-6300
Fluke (Holland) B.V., P.O. Box 5053, 5004 EB, Tilburg, The Netherlands. Phone (013) 673973
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Burbank, CA 91504
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Santa Clara, CA 95050
(408) 727-8121

CO, Denver
Fluke Technical Center
1980 S. Quebec St., Unit 4
Denver, CO 80231
(303) 750-1228

FL, Orlando
Fluke Technical Center
940 N. Fern Creek Avenue
Orlando, FL 32803
(305) 896-2296

IL, Rolling Meadows
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Rolling Meadows, IL 60008
(312) 398-5800

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Fluke Technical Center
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Burlington, MA 01803
(617) 273-4678

MD, Rockville
Fluke Technical Center
5640 Fishers Lane
Rockville, MD 20852
(301) 770-1576

NJ, Paramus
Fluke Technical Center
West 75th Century Road
Paramus, NJ 07652
(201) 262-9550

TX, Dallas
Fluke Technical Center
14400 Midway Road
Dallas, TX 75240
(214) 233-9945

WA, Everett
Fluke Technical Center
6920 Seaway Blvd.
Everett, WA 98206
(206) 356-5560

ALB, Calgary
Allan Crawford Assoc., Ltd.
#14 1935 30th Ave. N.E.
Calgary, Alberta T2E 6Z5
(403) 230-1341

ONT, Misalssauga
Allan Crawford Assoc., Ltd.
6503 Northam Drive
Mississauga, Ontario 1.4V IJ2
(416) 678-1500

QUE, Montreal
Allan Crawford Assoc., Ltd.
7018 Cote de Liesse
Montreal, Quebec H4T IE7
(514) 731-8564

B.C., Burnaby
Allan Crawford Assoc. Ltd.
3795 William St.
Burnaby, B.C. V5C 3H3
(604) 294-1326

Other Areas

Argentina
Coasin S.A.
Virrey del Pino 4071
Buenos Aires, Argentina
Tel: 522-5248

Australia
Elmeasco Instruments Pty Ltd.
P.O. Box 30
Concord, N.S.W.
Australia 2137
Tel: (02) 736-2888

Australia
Elmeasco Instruments Pty. Ltd.
P.O. Box 107
Mr. Waverly, VIC 3149
Australia
Tel: (03) 2334044

Australia
Elmeasco Instruments Pty. Ltd.
GPO Box 2360
Brisbane, Queensland 4001
Australia
Tel: (07) 229-3161

Austria
Walter Rekirsch
Elektronische Gerate GmbH & Co.
Vertriebs-KG., Obachgasse 28
A-1220 Vienna, Austria
Tel: (0222) 235555

Belgium
Fluke (Belgium) S.A./N.V.
6, Rue de Geneve
1140 Brussels, Belgium
Tel: 09-32-2-2164090

Brazil
Fluke Brasil-Industria e Comercio Ltda.
Al. Amazonas 422, Alphaville, Barueri
CEP 06400 Sao Paulo, Brazil
Tel: (011) 421-3603

Chile
Intronica Chile Ltda.
Casilla 16228
Santiago 9, Chile
Tel: 44940

China, Peoples Republic of
Beijing Radio Research Institute
Dianmen East Avenue 89
Beijing, China
Tel: 445612

Colombia
Sistemas E Instrumentacion, Ltda.
Carrera 13, No. 37-43, Of. 401
Ap. Aero 29583
Bogota DE, Colombia S.A.
Tel: 232-45-32

Denmark
Tage Olson A/S
Ballerup Byvej 222
DK-2750 Ballerup
Denmark
Tel: 09-45-2-656111

Ecuador
Proteco Coasin Cia., Ltda.
Edificia "Jerico"
Ave. 12 de Octubre #2265 y
Ave. Orellana (Planta Baja)
Quito, Ecuador
Tel: 526759

Egypt and Sudan
Electronic Engineering Liaison Office
11 Ahmed Khashaba Street
Hegas Square
Heliopolis, Cairo, Egypt
Tel: 691588

Finland
Oy Findip AB
Teollisuustie 7
02700 Kauniainen
Finland
Tel: 09-358-0-502255

France
M.B. Electronique S.A.
Rue Fourny
ZAC de BUC
B.P. No. 31
78530 BUC, France
Tel: 09-33-1-9568131

Greece
Hellenic Scientific
Representations Ltd.
11, Vrassida Street
Athens 612, Greece
Tel: 09-30-1-711140

Hong Kong
Schmidt & Co (H.K.) Ltd.
28th Fl. Wing On Centre
111 Connaught Road
Central Hong Kong
Tel: 5-455644

India
Hinditron Services Pvt. Ltd.
Field Service Centre
8th Main Road
33/44-A Raj Mahal Vilas Extn.
Bangalore 560 080, India
Tel: 33139

India
Hinditron Services Pvt. Ltd.
69/A.L. Jagmohandas Marg
Bombay 400 006, India
Tel: 811316

India
Hinditron Services Pvt. Ltd.
15, Community Centre
Panchshila Park
New Dalhi, India 110-017
Tel: 619118

Israel
R.D.T. Electronics Engineering Ltd.
P.O. Box 75
46, Sokolov Street
Ramat Hasharon 47235
Israel
Tel: 09-972-3-483211

Italy
Sistrel S.p.A.
Via Pelizza da Volpedo 59
20092 Cinisello Besamo
Milan, Italy
Tel: (2) 6181893

Italy
Sistrel S.p.A.
Via Giuseppe Armellini No. 37
00143 Rome, Italy
Tel: 09-39-6-5915551

Japan
John Fluke Mfg. Co., Inc.
Japan Branch
1 Higashikata-machi
Midori-ku
Yokohama 226, Japan
Tel: (045) 473-5428

Korea
Electro-Science Korea Co.
C.P.O. Box 8446
Room 201, Boondo Bldg.
56-12, Gangchung-1 Ka
Gung-Ku
Seoul, Korea
Tel: 281-7702

Malaysia
Rank O'Connor's (Malaysia) SDN. BHD.
P.O. Box 91
Petaling Jaya, Selangor
West Malaysia
Tel: 566599

Mexico
Christensen S.A.
Guillermo Prieto 76-304
Col. San Rafael
Delegacion Cuahutemoc
06470-Mexico, D.F.
Tel: 546-25-95

Netherlands
Fluke (Nederland) B.V.
Zonnebaan 39
3606 CH Maarssen, The Netherlands
P.O. Box 225
3600 AE Maarssen, The Netherlands
Tel: (030) 436514

New Zealand
McLean Information Technology Ltd.
P.O. Box 18065
Glen Innes
Auckland 6, New Zealand
Tel: 587-037

Norway
Morgenstierne & Co. A/S
Konghellegate 3
P.O. Box 6688, Rodelokka
Oslo 5, Norway
Tel: 09-47-2-356110

Pakistan
Pak International Operations
505 Muhammadi House
I.I. Chundrigar Road
P.O. Box 5323
Karachi-2 Pakistan
Tel: 221127/239052

Peru
Importaciones Y Representaciones
Electronicas S.A.
Avda. Franklin D. Roosevelt 105
Lima 1, Peru
Tel: 288650

Philipines
Spark Radio and Electronics Corp.
P.O. Box 610 Greenhills
Metro Manila, Philippines 3113
Tel: 78-78-16

Portugal
Equipamentos de Laboratorio, Ltda.
P.O. Box 1128
Lisbon 1000, Portugal
Tel: 09-351-19-574984

Republic of Singapore
Rank O'Connor's (PTE) Ltd.
98 Pasir Panjang Road
Singapore 0511
Republic of Singapore
Tel: 637944

Republic of South Africa
Fluke S.A. (Pty) Ltd.
P.O. Box 39797
Bramley 2018
Republic of South Africa
Tel: (011) 788-3170

Spain
Hispano Electronics S.A.
Apartado de Correos 48
Alcorcon (Madrid)
Spain
Tel: 09-34-1-8184106

Sweden
Teleinstrument AB
P.O. Box 4490
S-162 04 Vallingby 4
Swaden
Tel: -09-46-8-360370

Switzerland
Traco Electronic AG
Jenatschstrasse 1
8002 Zurich
Switzerland
Tel: 09-41-1-2010711

FLUKE®

John Fluke Mfg. Co., Inc., P.O. Box C9090, Everett, WA 98206. Phone (206) 342-6300
Fluke (Holland) B.V., P.O. Box 5053, 5004 EB, Tilburg, The Netherlands. Phone (013) 673973

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CHANGE/ERRATA INFORMATION
ISSUE: 3 11/87

This change/errata contains information necessary to ensure the accuracy of the following manual. Enter the corrections in the manual if either one of the following conditions exist:

1. The revision letter stamped on the indicated PCB is equal to or higher than that given with each change.

2. No revision letter is indicated at the beginning of the change/errata.

MANUAL

Title:	6070A/6071A Service Manual
Print Date:	January 1982
Rev. and Date:	---

On page 2-1, paragraph 2-11,
Reverse the order of the words, RAM and ROM, to ROM and RAM.

On page 2-5, paragraph 2-52, change the last sentence,
FROM: ...programming can cause up to 6-dB undershoot (...), but no overshoot.
TO: ...programming can cause up to 6-dB overshoot (...), but no undershoot.

Paragraph 2-63, change the first sentence,
FROM: ...programming of frequency modulation.
TO: ...programming of frequency.

On page 2-10, paragraph 2-110, change the last word,
FROM: synthesizers.
TO: generators.

On page 2-26, replace Figure 2-7 with Figure 1.

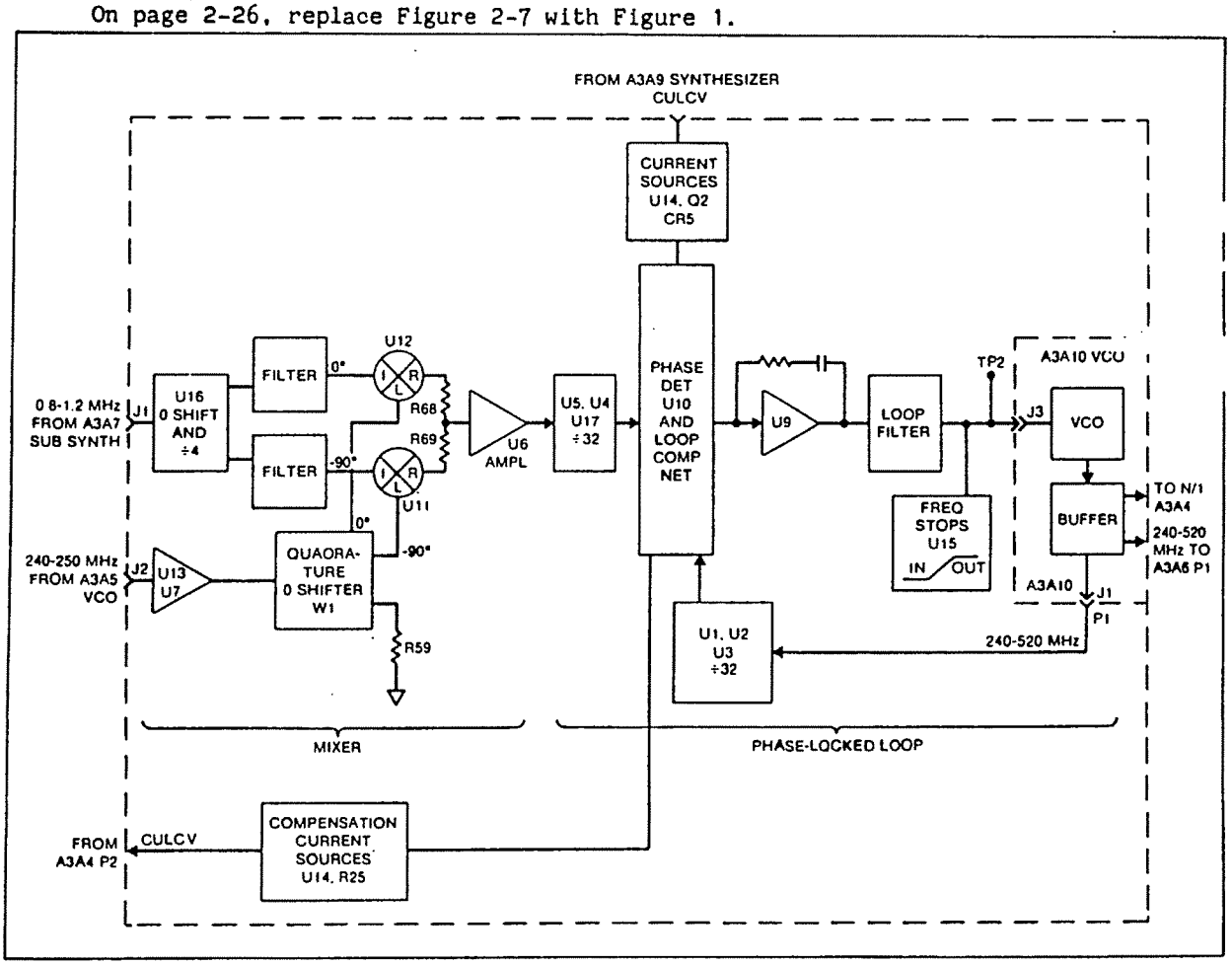


Figure 1.

On page 2-42, replace Figure 2-12B with Figure 2.

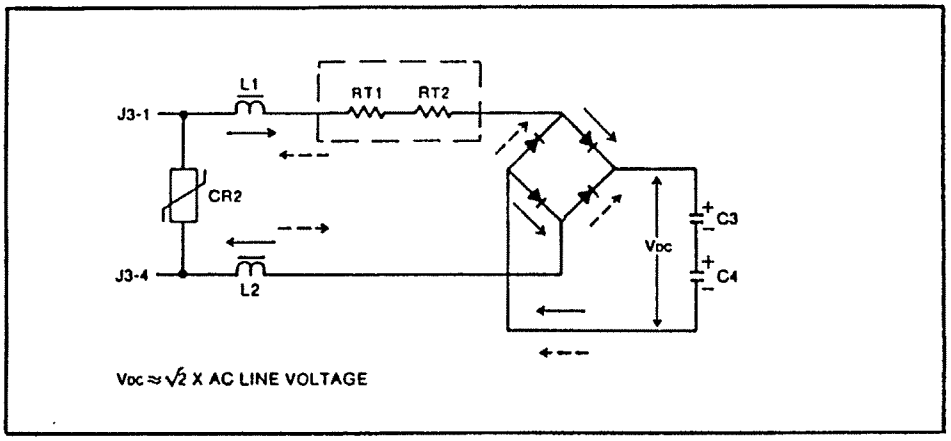


Figure 2.

On page 2-45/2-46, replace Figure 2-17 with Figure 3.

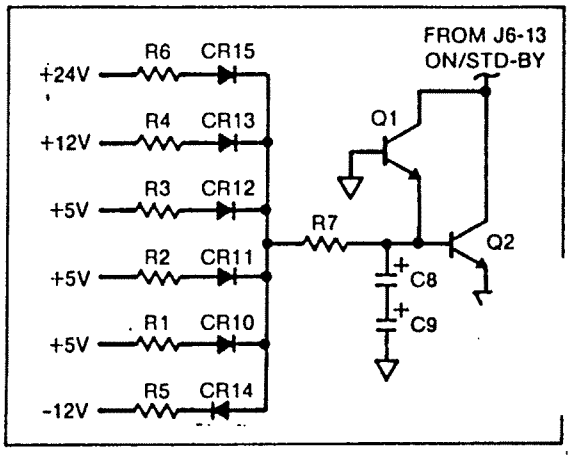


Figure 3.

On page 3-3, Figure 3-1:
CHANGE: OUTPUT MODULE (TOP)
TO: OUTPUT MODULE (BOTTOM)

CHANGE: SYNCHRONIZER MODULE (BOTTOM)
TO: SYNTHESIZER MODULE (TOP)

On page 4-2, Table 4-1:

ADD: 0200 Frequency Modulation test failed.

On page 4-3, add Table 4-3A.

Table 4-3A. Amplitude Display UNCAL Error Code

SYMPTOM	PROBABLE CAUSE	PROBABLE FAULT LOCATION
004	ALC unleveled or RF OFF	Fault in A4A4, A4A6 or A4A7

On pages 4-5 thru 4-10, Table 4-6:

For A3A1:

CHANGE:	R2	Equilization Network Offset Voltage	Factory Adjust Only
TO:	R2	Equilization Network Offset Voltage	See Section 5 for non-routine Adjustment Procedure.

Delete the repeated entry for R10.

For A3A3, change the REFERENCE column for R146,
FROM: See Section 5 for non-routine Adjustment Procedure.
TO: Factory Adjust only when Q4, 5 or 9 is replaced.

For A4A4, change the REFERENCE column for R24 thru R47,
FROM: Factory Adjust Only.
TO: See Section 5 for non-routine Adjustment Procedure.

For A4A6:
Change the REFERENCE column for R20 and R35,
FROM: Requires EPROM Reprogramming.
TO: See Section 5 for non-routine Adjustment Procedure.

Change the REFERENCE column for R60 and R75,
FROM: See Section 5 for non-routine Adjustment Procedure.
TO: See Calibration Manual for Adjustment Procedure.

Change the REFERENCE column for R89,
FROM: See Section 5 for non-routine Adjustment Procedure.
TO: Requires EPROM Reprogramming.

For A4A7:
Change the REFERENCE column for R24,
FROM: See Section 5 for non-routine Adjustment Procedure.
TO: See Calibration Manual for Adjustment Procedure.

Delete the entire entry for R25.

Change the REFERENCE column for R36,
FROM: See Section 5 for non-routine Adjustment Procedure.
TO: See Calibration Manual for Adjustment Procedure.

Change the REFERENCE column for R48,
FROM: Requires EPROM Reprogramming.
TO: See Calibration Manual for Adjustment Procedure.

Change the REFERENCE column for R56,
FROM: Requires EPROM Reprogramming.
TO: See Section 5 for non-routine Adjustment Procedure.

CHANGE: R58
TO: R57

For A4A9,

ADD:	C22	Matching Capacitor	See Section 5 for non-routine Adjustment Procedure.

For A4A10, change R13 and R14, to R14 and R13.

Change the REFERENCE column for R48,
FROM: See Section 5 for non-routine Adjustment Procedure.
TO: See Calibration Manual for Adjustment Procedure.

Change the REFERENCE column for R55,
FROM: See Section 5 for non-routine Adjustment Procedure.
TO: See Calibration Manual for Adjustment Procedure.

On page 5-1, paragraph 5-2, add the following between the first and second sentence:

Normally these adjustments are not required during the life of the instrument unless parts of the circuit associated with the adjustment are replaced.

Paragraph 5-10, replace the first sentence, with:

The non-routine adjustments given below normally are required only if parts are replaced which affect the associated parameter. These adjustments can be made without affecting the Calibration EPROM.

On page 5-2, paragraph 5-16, step 2, replace substep a, with:

a. Recall 96. Press SHIFT, FREQ STEP. Frequency step size appears in the FREQUENCY Display (typically, 1.0XXX MHz) and is used in the following procedural steps.

Delete paragraph 5-18 and the following steps 1 thru 10.

On page 5-3, paragraph 5-21, step 4, substep 8,
CHANGE: ... Synthesized Signal Generator to kHz.
TO: ... Synthesized Signal Generator to 3 kHz.

On page 5-4, paragraph 5-24, step 3,
CHANGE: ... A3A2 Nonvolatile Memory PCB ...
TO: ... A3A2 10 MHz Reference PCB ...

On page 5-6, paragraph 5-35:
Replace the PURPOSE: paragraph, with:

Adjustment of modulator bias controls for serviceable operation after modulator replacement. Optimum performance requires factory adjustment.

Paragraph 1 of the REMARKS:, make the following changes:

In the third line,
TO: ... factory adjustment procedure for each RF frequency ...

In the sixth line,
CHANGE: ... R28, R32, R39, R47, R24, and by ...
TO: ... R28, R30, R32, R39, R47, R24, and by ...

In the last two lines of the left column, and the first line of the right column on the page, make the following change:
CHANGE: ... if a modulator PCB is replaced and should not be used as a routine calibration procedure.

TO: ... if a modulator PCB is replaced. However, if only a modulator is replace, the alignment procedure associated with that modulator given below will restore serviceable, although not optimum, operation.

On page 5-8, para. 5-40,
CHANGE: ... U2 and U9 Amplifier ...
TO: ... U2 Amplifier ...

Step 2,
CHANGE: ... +13 dBm, Shift 81, Shift 31.
TO: ... +13 dBm, Shift 31.

Add the following to the end of step 8:

If the harmonics exceed these limits, then R89 requires adjustment which requires EPROM reprogramming.

On page 5-9, para. 5-44, step 11,
CHANGE: ... variation is +10 dB.
TO: ... variation is +1.0 dB.

On page 5-10, paragraph 5-47, step 4,
CHANGE: ... (>30V DC).
TO: ... (>3V DC).

Paragraph 5-48,
CHANGE: ... U2 and the U6 Amplifier ...
TO: ... U2 Amplifier ...

Step 2,
CHANGE: ... +13 dBm, Shift 81, Shift 31.
TO: ... +13 dBm, Shift 31.

Step 4,
CHANGE: Adjust R20 to minimize ...
TO: Adjust R56 to minimize ...

On page 5-11, paragraph 5-48, step 8,
REPLACE: Adjust R57 if necessary.
WITH: If the harmonics exceed these limits, then R57 requires adjustement, which requires reprogramming the calibration EPROM.

Following paragraph 5-50,

ADD: C11 Coupling Capacitor

Paragraph 5-51, step 8,
CHANGE: ... 17.2V +9.7 volts.
TO: ... 17.2V +0.7 volts.

On page 5-12, para. 5-54, step 6,
CHANGE: ... 199.9 kHz. Adjust R12 for 4.20V rms.
TO: ... 199 kHz. Adjust R12 for 3.36V rms.

The changes on the following pages apply to the parts list. Make sure condition 1 exists (see title page) before changing the manual. The correct version of the reference designator drawings and schematics can be found in the 6070A/6071A Schematic Manual, Rev. 1.

A1A1 Front Panel PCB Assembly (6070A-4001T)

On pages 6-12 thru 6-17, make the following changes:
Rev.-H, 16212, 16373
Change the TOT QTY and the REC QTY of DS1,
FROM: 17 and 4
TO: 9 and 2

Change the TOT QTY and the REC QTY of DS2,
FROM: 7 and 2
TO: 15 and 3

Change DS24 thru DS30 and DS32,
FROM: LIGHT EMITTING DIODE|504761|14936|MV57124|REF
TO: LED, LIGHT BAR MODULE|534834|28480|HLMP2300|REF

Change R24, R25, R27 and R28,
FROM: R24|RES, DEP. CAR, 10 +5%, 1/4W|340075|80031|CR251-4-5P10E|
TO: R24|RES, DEP. CAR, 2 +5%, 1/4W |442053|80031|CR251-4-5P2E|

Change the TOT QTY of XDS2,
FROM: 5
TO: 4

Change the TOT QTY of XDS11,
FROM: 1
TO: 4

ADD: XDS25,XDS32|SOCKET, 8-POS, SIP|512293|00779|1-583773-5|REF

ADD: XDS30|SOCKET, CONNECTOR, 12-PIN|478610|89536|478610|1

Change the FLUKE STOCK NO.'s of XU2-XU6, 8-10,13-20,23,27,30-32 and 34,
FROM: 370312
TO: 276535

Rev.-J, 18302
CHANGE: C9-C19|CAP,CER,0.22 UF 20%, 50V|309849|71590|CW30C224K
TO: C9-C19|CAP,CER,0.22UF+20%,100V|714030|04222|SR301E224MAAFLUKE

Rev.-K, 18686
CHANGE: C9-C19|CAP,CER,0.22UF+20%,100V|714030|04222|SR301E224MAAFLUKE
TO: C9-C19|CAP,CER,0.22 UF +20%, 50V|309849|71590|CW30C224K

A2A1 Controller PCB Assembly (6070A-4004T-25/25T)

On pages 6-20 thru 6-23, Table 6-5, make the following changes:
Rev.-J, 15952
Change the TOT QTY of R7,
FROM: 9
TO: 7

ADD: R32|RES,DEP.CAR, 10K +5%,1/4W|348839|80031|CR251-4-5P10K|REF

Rev.-K, 16982
Change U1-U4,
FROM: IC, MOS, SI, N-CHANNEL, GATE |472902|34649|P2114L
TO: IC, NMOS, 1K X 4-BIT STATIC ROM|483479|34649|P2114A-5

Rev.-L, 17725
CHANGE: L3|INDUCTOR, 0.27 UH|313031|24759|MR0.27|1
TO: L3|INDUCTOR, 2.7 UH |320978|24759|MR2.7 |1

Rev.-M, 20586
CHANGE: U25|IC,HEAT SINK ASSY. |527390|89536|1|1
TO: U25|IC,LSTTL,9900 CLOCK GEN.|642900|89536|1|1

A3A1, Phase Detector PCB Assembly (6070A-4008T)

On pages 6-29 thru 6-31, Table 6-8, make the following changes:

Rev.-G, 18302
Change C5, 6, 9, 10, 16, 17, 20, 27, 31 and 35,
FROM: CAP,CER,0.22 UF +20%, 50V|309849|71590|CW30C224K
TO: CAP,CER,0.22 UF +20%,100V|714030|04222|SR301E224MAAFLUKE

Rev.-H, 18686
Change C5, 6, 9, 10, 16, 17, 20, 27, 31 and 35,
FROM: CAP,CER,0.22 UF +20%,100V|714030|04222|SR301E224MAAFLUKE
TO: CAP,CER,0.22 UF +20%, 50V|309849|71590|CW30C224K

Rev.-J, 28032
CHANGE: Q1,Q2|TRANSISTOR,PNP,HI-SPEED SWITCHING|369629|07263|543576|2
TO: Q1,Q2|TRANSISTOR,PNP,HI-SPEED SWITCHING|343012|07263|ZN4258|2

A3A2, 10 MHz Reference PCB Assembly (6070A-4021T)

On pages 6-34 thru 6-36, Table 6-9, make the following changes:
Rev.-E, 18147
CHANGE: C9|CAP, VAR, 22 PF 100V |369207|80031|C10KA/20E|1
TO: C9|CAR, VAR, 0.8-10 PF, 200V|229930|91293|JMC5201 |1

Change the TOT QTY of C10,
FROM: 1
TO: 2

CHANGE: C10
TO: C10,C11

DELETE: C11|.....

CHANGE: C12|CAP, CER, 15 PF +2%, 100V|369074|89536|369074|1
TO: C12|CAP, CER, 68 PF +2%, 100V|362756|89536|362756|1

A3A3, Delay Discriminator PCB Assembly (6070A-4022T)

On pages 6-38 thru 6-45, Table 6-10, make the following changes:

Rev.-H, 16004

```
CHANGE:   Q6|TRANSISTOR, DUAL, NPN     |478009|12040|LM3940M|1|1
TO:       Q6|TRANSISTOR, SI, DUAL, NPN|640656|27014|LM394C|1|1
```

Change Q4, Q5 and Q9,

```
FROM:     TRANSISTOR, D-MOS|507905|18324|SD305EE|
TO:       TRANSISTOR, D-MOS|639724|89536|639724|
```

Change the TOT QTY of R29,

```
FROM:     2
TO:       1
```

```
CHANGE:   R119|RES,DEP.CAR,150K+5%,1/4W|348938|80031|CR251-4-5P150K|REF
TO:       R119|RES,DEP.CAR,120K+5%,1/4W|441386|80031|CR251-4-5P120K|1

ADD:      R150|RES,DEP.CAR,360K +5%, 1/4W|442467|80031|CR251-4-5P360K|1

ADD:      R151|RES,DEP.CAR, 1.8M +5%,1/4W|442574|80031|CR251-4-5P1M8 |1

CHANGE:   R106|RES, MTL.FILM, 1.00K +1%, 1/8W|168229|91637|CMF551001F|4
TO:       R106|RES, MTL.FILM, 1.27K +1%, 1/8W|267369|91637|CMF55127F |1
```

Rev.-J, 16255

```
DELETE:   R150|...

DELETE:   R151|...

CHANGE:   R146|RES,VAR.50K +10%, 1/2W          |335778|11236|360T-503A|1
TO:       R146|RES,VAR,CERMET, 100K +10%, 1/2W|369520|11236|360T-104A|1
```

Rev.-K, 16259

```
CHANGE:   K1|RELAY, DPDT           |407536|71482|HFW1230K05|1
TO:       K1|RELAY, TELEPHONE TYPE|641670|71482|HFW1230K08|1
```

Change XU9, XU15, XU18 and XU21,

```
FROM:     SOCKET, IC, 16-PIN|370312|91506|316-AG39D|
TO:       SOCKET, IC, 16-PIN|276535|91506|316-AG39D|
```

Change XU16, XU20 and XU22,

```
FROM:     SOCKET, IC, 14-PIN     |370304|12040|MM74C906N
TO:       SOCKET, IC, 14-PIN DIP|276527|09922|DILB8P-108
```

Rev.-L, 16838

```
DELETE:   C15|...

CHANGE:   C16|CAP, CER, 4.7 PF +0.25 PF, 100V|362772|89536|362772|2
TO:       C16|CAP, CER, 12 PF +2%, 100V      |376871|89536|376871|3
```

Change the TOT QTY of C17,
FROM: 2
TO: REF

Change the TOT QTY of C19,
FROM: REF
TO: 5

Rev.-M, 18302
Change C9,C26,C27,C30,C31,C33,C34,C38,C44,C45,C49,C51,C52,C54,C55, C61,C62,C87,C88,C93 and C94,

FROM: CAP,CER,0.22 UF +20%, 50V|309849|71590|CW30C224K
TO: CAP,CER,0.22 UF +20%,100V|714030|04222|SR301E224MAAFLUKE

Rev.-N, 18480
Change the TOT QTY of R7,
FROM: 3
TO: 2

CHANGE: R108| RES, DEP. CAR, 10 +-5%, 0.25W| 340075| 80031| CR251-4-5P10E|1

TO: R108| RES, cf, 3.3, +-5%, 0.25W|348730|89536|34873O|1

Rev.-P, 18686
Change C9,C26,C27,C30,C31,C33,C34,C38,C44,C45,C49,C51,C52,C54,C55, C61,C62,C87,C88,C93 and C94,
FROM: CAP,CER,0.22 UF +20%,100V|714030|04222|SR301E224MAAFLUKE
TO: CAP,CER,0.22 UF +20%, 50V|309849|71590|CW30C224K

Rev.-U, 23893
CHANGE: CR3| DIODE,RF ATTENUATING |508077|26629|KS8379|6
TO: CR3| DIODE,SI,PI,RF,CURCONTR,EPXY STRPLN|773234|89536|77323A|6

A3A5, VCO Resonator PCB Assembly (6070A-4012T)

On page 6-50, Table 6-12:
Rev.-H, 16560
Change C7 and C8,
FROM: CAP, CHIP, 330 PF +5%, 50V |512038|89536|512038
TO: CAP, CHIP, 330 PF +20%, 50V|650093|89536|650093

A3A6, Single Sideband Mixer PCB Assembly (6070A-4007T)

On pages 6-52 thru 6-55, Table 6-13, make the following changes:
Rev.-G, 17117
CHANGE: L6|INDUCTOR 1000 UH +5%|461541|24759|MP-1000|1
TO: L6|INDUCTOR 1000 UH +5%|147819|72259|WEE1000|1

Rev.-H, 18302
Change C18, C19, C41 and C45,
FROM: CAP,CER,0.22 UF +20%, 50V|309849|71590|CW30C224K
TO: CAP,CER,0.22 UF +20%,100V|714030|04222|SR301E224MAAFLUKE

Rev.-J, 18686
Change C18, C19, C41 and C45,
FROM: CAP,CER,0.22 UF +20%,100V|714030|04222|SR301E224MAAFLUKE
TO: CAP,CER,0.22 UF +20%, 50V|309849|71590|CW30C224K

A3A7, Sub Synthesizer PCB Assembly (6070A-4011T)

On pages 6-57 thru 6-61, Table 6-14, make the following changes:
Rev.-E, 16739
CHANGE: U5|IC,TTL,50MHZ,PRESET,DECODED BINARY|320770|01295|SN74197N|1
TO: U5|IC,TTL,50 MHZ,PRESET,DECODED BINARY
|659375|01295|SN74S197N|1

Rev.-F, 18302
Change C7, C28, C29, C32, C53, C61 and C64,
FROM: CAP,CER,0.22 UF +20%, 50V|309849|71590|CW30C224K
TO: CAP,CER,0.22 UF +20%,100V|714030|04222|SR301E224MAAFLUKE

Rev.-G, 18686
Change C7, C28, C29, C32, C53, C61 and C64,
FROM: CAP,CER,0.22 UF +20%,100V|714030|04222|SR301E224MAAFLUKE
TO: CAP,CER,0.22 UF +20%, 50V|309849|71590|CW30C224K

A3A8, Synthesizer Control Buffer PCB Assembly (6070A-4020T)

On pages 6-63 and 6-64, Table 6-15, make the following changes:
Rev.-J, 18302
Change C1, C2, C3, C5 and C6,
FROM: CAP,CER,0.22 UF +20%, 50V|309849|71590|CW30C224K
TO: CAP,CER,0.22 UF +20%,100V|714030|04222|SR301E224MAAFLUKE

Rev.-K, 18686
Change C1, C2, C3, C5 and C6,
FROM: CAP,CER,0.22 UF 20%,100V|714030|04222|SR301E224MAAFLUKE
TO: CAP,CER,0.22 UF +20%, 50V|309849|71590|CW30C224K

A4A2, Modulation Oscillator PCB Assembly (6070A-4026T)

On pages 6-73 thru 6-75, Table 6-19, make the following changes:
Rev.-E, 17595
ADD: C30|CAP, TA, 10 UF +20%, 15V|193623|56289|196D106X0015A1|1

Rev.-F, 18302
Change C5, C6, C8, C10, C17, C19, C20, C21, C27 and C29,
FROM: CAP,CER,0.22 UF +20%, 50V|309849|71590|CW30C224K
TO: CAP,CER,0.22 UF +20%,100V|714030|04222|SR301E224MAAFLUKE

Rev.-G, 18686
Change C5, C6, C8, C10, C17, C19, C20, C21, C27 and C29,
FROM: CAP,CER,0.22 UF +20%,100V|714030|04222|SR301E224MAAFLUKE
TO: CAP,CER,0.22 UF +20%, 50V|309849|71590|CW30C224K

A4A4, Modulator Divider PCB Assembly (6070A-4016T)

On pages 6-80 thru 6-85, Table 6-21, make the following changes:
Rev.-F, 15485
Change the TOT QTY of R75,
FROM: 3
TO: 4

ADD: R90|RES, COMP, 4.7K +5%, 1/4W|348821|01121|CB4725|REF

Rev.-G, 16723
Change the TOT QTY of XQ1,
FROM: 3
TO: 1

DELETE: XU5|...

DELETE: XU6|...

Change XU2 and XU16,
FROM: SOCKET, IC, 16-PIN|370312|91506|316-AG39D
TO: SOCKET, IC, 16-PIN|276535|91506|316-AG39D

CHANGE: XU3|SOCKET, IC, 14-PIN |370304|12040|MM74C906N |1
TO: XU3|SOCKET, IC, 14-PIN DIP|276527|09922|DILB8P-108|1

Rev.-H, 18275
Change the TOT QTY of R1,
FROM: 1
TO: 2

CHANGE: R13|RES,DEP.CAR, 2.7K +5%, 1/4W|386490|80031|CR251-4-5P2K7|2
TO: R13|RES,DEP.CAR, 100 +5%,1/4W|348771|80031|CR251-4-5P100E|REF

Change the TOT QTY of R71,
FROM: REF
TO: 7

Change R85 and R86,
FROM: RES, COMP, 6.8 +5%, 1/8W|528349|01121|BB6R85
TO: RES, COMP, 12 +5%, 1/8W |714451|01121|BB1205

ADD: R87|RES, CC, 100, +-5%, 0.125W| 714469| 89536| 714469| 1

A4A6, X2 Output Amplifier PCB Assembly (6071A-4017T)

On pages 6-87 thru 6-93, make the following changes:
Rev.-H, 15920, 16195
CHANGE: R90|RES, COMP, 510 +5%, 1/2W|157578|01121|GB5115|1

Rev.-J, 16236
NO ACTION REQUIRED

Rev.-K, 16692
CHANGE: XU10|SOCKET, IC, 16-PIN|370312|91506|316-AG39D
TO: XU10|SOCKET, IC, 16-PIN|276535|91506|316-AG39D

CHANGE: XJ1|SOCKET, IC, 14-PIN |370304|12040|MM74C906N |1
TO: XJ1|SOCKET, IC, 14-PIN DIP|276527|09922|DILB8P-108|1

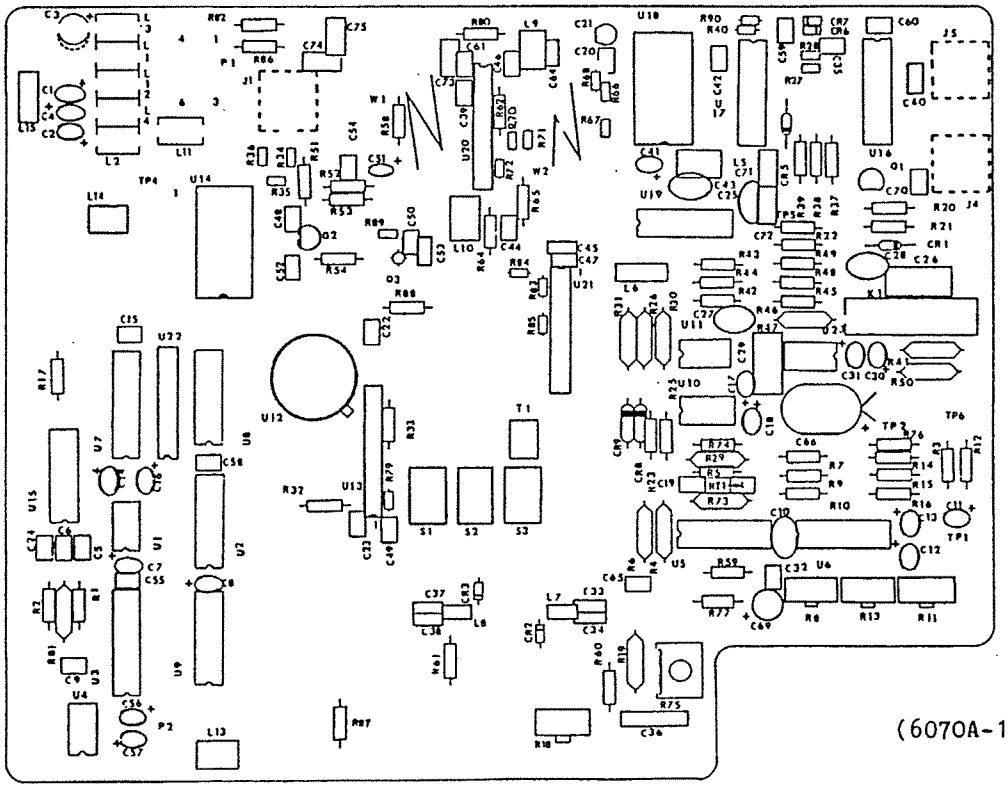
Rev.-L, 18302
Change C27, C28, C39, C40, C76 and C87,
FROM: CAP,CER,0.22 UF +20%, 50V|309849|71590|CW30C224K
TO: CAP,CER,0.22 UF +20%,100V|714030|04222|SR301E224MAAFLUKE

Rev.-M, 18686
Change C27, C28, C39, C40, C76 and C87,
FROM: CAP,CER,0.22 UF +20%,100V|714030|04222|SR301E224MAAFLUKE
TO: CAP,CER,0.22 UF +20%, 50V |309849|71590|CW30C224K

A4A8, Hetrodyne Oscillator PCB Assembly (6070A-4056T)

Replace pages 6-100 through 6-104, Table 6-24, with the new Table 6-24 included in this Change/Errata.

Replace Figure 6-24 with Figure 4.



(6070A-1656)

Figure 4.

Table 6-24. A4A8 Hetrodyne Oscillator PCB Assembly
(See Figure 6-24.)

REFERENCE DESIGNATOR -A>-NUMERICS---->	S	DESCRIPTION	FLUKE STOCK --NO--	MFRS SPLY -CODE-	MANUFACTURERS PART NUMBER -OR GENERIC TYPE-----	TOT QTY-	R S -Q	N O T -E-
C 1, 7, 8,		CAP,TA,39UF,+-20%,6V	163915	56289	196D394X0020KA1	5		
C 14, 16			163915					
C 2, 4		CAP,TA,22UF,+-20%,15V	423012	56289	196D226X0015KA1	2		
C 3		CAP,TA,10UF,+-20%,35V	417683	56289	196D106X0035KA1	1		
C 5, 6, 15,		CAP,CER,1000PF,+-20%,100V,X7R	816181	89536	816181	17		
C 19, 23, 24,			816181					
C 42, 44, 47,			816181					
C 52, 54, 55,			816181					
C 58- 61, 70			816181					
C 9, 65		CAP,CER,100PF,+-2%,100V,COG	812115	89536	812115	2		
C 10, 25, 27,		CAP,CER,0.05UF,+80-20%,25V,Y5U	148924	72982	5855-000-Y5U0-503Z	5		
C 28, 43			148924					
C 11		CAP,TA,10UF,+-20%,15V	193623	56289	196D106X0015A1	1		
C 12, 13, 17,		CAP,TA,0.47UF,+-20%,35V	161349	56349	196D474X0035HA1	8		
C 18, 30, 31,			161349					
C 56, 57			161349					
C 20, 39		CAP,CER,1.5PF,+-0.25PF,100V,COK	812164	89536	812164	2		
C 21		CAP,VAR,1.5-4PF,100V,CER	529925	91293	S9410-OPC	1	1	
C 22		CAP,CER,3.9PF,+-0.25PF,100V,COJ	812149	89536	812149	1		
C 26, 29, 36		CAP,POLYES,0.1UF,+-10%,100V	393439	80031	719A1	3		
C 32- 35, 37,		CAP,CER,39PF,+-2%,100V,COG	816207	89536	816207	9		
C 38, 40, 46,			816207					
C 50			816207					
C 41		CAP,TA,6.8UF,+-20%,35V	363713	56289	196D685X0035KA1	1		
C 45, 49, 64		CAP,CER,1.8PF,+-0.25PF,100V,COK	512897	89536	512897	3		
C 48		CAP,CER,0.047UF,+-20%,50V,Z5U	460733	71590	CW20C473M	1		
C 51		CAP,TA,2.2UF,+-20%,20V	161927	56289	196D225X0020HA1	1		
C 53		CAP,CER,18PF,+-2%,100V,COG	512335	51406	RD870-100V	1		
C 66		CAP,TA,82UF,+-20%,20V	357392	12954	D82GS2D20M	1		
C 69		CAP,TA,1UF,+-10%,35V	161919	56289	196D010X0035G	1		
C 71, 72, 75		CAP,CER,1000PF,+-5%,50V,COG	528539	51406	RPE113	3		
C 73, 74		CAP,CER,430PF,+-5%,50V,COG	528489	89536	528489	2		
CR 1	*	DIODE,SI,400 PIV,1.0 AMP	368738	04713	1N4004	1	1	
CR 2, 3	*	DIODE,SI,VARACTOR,PIV- 30V	508010	89536	508010	2		
CR 5	*	DIODE,SI,BV- 75.0V,IO-150MA,500 MW	203323	07910	1N4448	1		
CR 6, 7	*	DIODE,SI,SCHOTTKY BARRIER,SMALL SIGNL	313247	28484	HP5082-6264	2	1	
E 1, 2, 4-		TERM,FASTON,TAB,SOLDR,0.110 WIDE	512889	02660	62395	5	1	
E 6			512889					
J 1, 2		SOCKET,SINGLE,PWB,FOR .042-.049 PIN	544056	89536	544056	7		
J 3		CONN,COAX,SMB(M),PWB OR PANEL	512095	16733	702033	1	1	
J 4, 5		CONN,COAX,SMA(M),PWB OR PANEL	512087	16733	705147-001	2		
J 13, 14, 16-		SOCKET,SINGLE,PWB,FOR 0.012-0.022 PIN	376418	22526	75060-005	94		
J 18, 20, 21			376418					
K 1- 6, 11,		CHOKE, TURN	320911	89536	320911	8		
K 12			320911					
K 1		RELAY,REED,1 FORM A,5VDC	461434	15636	R7254-1	1	1	
K 7, 8		INDUCTOR,0.036UH-0.051UH,>700 MHZ	528943	89536	528943	2		
K 9, 10, 13,		INDUCTOR 10 TURNS ON BASE	496448	89536	496448	4		
K 14			496448					
L 15		CORE,TOROID,FERRITE,.047X.138X.118	321182	89536	321182	1	1	
MP 1		SHIELD,SOLDER,TO-8,CAN,12 PIN	536631	89536	536631	1		
MP 2		SLEEV,TEFLON,0.027ID,NATURAL	196717	89536	196717			
Q 1	*	TRANSISTOR,SI,NPN,SMALL SIGNAL	218396	04713	2N3904	1		
Q 2	*	TRANSISTOR,SI,PNP,SMALL SIGNAL	195974	64713	2N3906	1	1	
Q 3	*	TRANSISTOR,SI,NPN,SMALL SIGNAL	483156	89536	483156	1	1	
R 1, 2		RES,CF,47K,+-5%,0.25W	348896	80031	CR251-4-5P47K	2		
R 3, 76		RES,CF,6.8K,+-5%,0.25W	368761	80031	CR251-4-5P6K8	2		
R 4		RES,MF,1.87K,+-1%,0.125W,100PPM	267229	91637	CMF551871F	1		
R 5		RES,CF,24K,+-5%,0.25W	442384	80031	CR251-4-5P24K	1		
R 6		RES,MF,7.15K,+-1%,0.125W,100PPM	260356	91637	CMF557151F	1		
R 7, 16, 17,		RES,CF,10K,+-5%,0.25W	348839	80031	CR251-4-5P10K	4		
R 64			348839					
R 8, 11		RES,VAR,CERM,50K,+-10%,0.5W	288290	89536	288290	2		
R 9, 14, 23,		RES,CF,1K,+-5%,0.25W	343426	80031	CR251-4-5P1K	6		
R 25, 59, 77			343426					
R 10, 51, 52		RES,CF,2.4K,+-5%,0.25W	441493	80031	CR251-4-5P2K4	3		
R 12, 15		RES,CF,30K,+-5%,0.25W	368753	80031	CR251-4-5P30K	2		
R 13, 18		RES,VAR,CERM,10K,+-10%,0.5W	285171	89536	285171	2		
R 19		RES,MF,140K,+-1%,0.125W,100PPM	289439	91637	CMF551403F	1		

An * in 'S' column indicates a static-sensitive part.

Table 6-24. A4A8 Hetrodyne Oscillator PCB Assembly (cont)

REFERENCE DESIGNATOR -A>-NUMERICS---->	S	DESCRIPTION	FLUKE STOCK --NO--	MFRS SPLY -CODE-	MANUFACTURERS PART NUMBER -OR GENERIC TYPE-	TOT QTY-	R S -Q	N O T -E-
R 21		RES,MF,3.74K,+-1%,0.125W,100PPM	272096	91637	CMF553741F	1		
R 22		RES,CF,5.1K,+-5%,0.25W	368712	80031	CR251-4-5P5K1	1		
R 26, 29		RES,MF,69.8K,+-0.1%,0.125W,25PPM	346825	89536	346825	2		
R 27		RES,CC,2K,+-5%,0.125W	246959	01121	BB2025	1		
R 28, 40, 90		RES,CC,100,+-10%,0.125W	261826	01121	BB1011	3		
R 30		RES,MF,10,+-1%,0.125W,100PPM	268789	91637	CMF5510R0F	1		
R 31		RES,MF,340K,+-1%,0.125W,100PPM	375949	91637	CMF553403F	1		
R 32		RES,CF,5.1,+-5%,0.25W	441287	80031	CR251-4-5P5R1	1		
R 33		RES,CF,180,+-5%,0.25W	441436	80031	CR251-4-5P180E	1		
R 34, 36, 68		RES,CC,180,+-5%,0.125W	512756	01121	BB1815	3		
R 35		RES,CC,30,+-5%,0.125W	512723	01121	BB3005	1		
R 37- 39, 42-		RES,CF,510,+-5%,0.25W	441600	80031	CR251-4-5P510E	10		
R 44, 46, 48,			441600					
R 49, 74			441600					
R 41, 47		RES,MF,15.4K,+-1%,0.125W,100PPM	261651	91637	CMF551542F	2		
R 45		RES,CF,6.2K,+-5%,0.25W	442368	80031	CR251-4-5P6K2	1		
R 50		RES,MF,26.1K,+-1%,0.125W,100PPM	246165	89536	246165	1		
R 53		RES,CF,160,+-5%,0.25W	441410	80031	CR251-4-5P160E	1		
R 54, 65, 80		RES,CF,100,+-5%,0.25W	348771	80031	CR251-4-5P100E	3		
R 58, 60, 61,		RES,CF,51,+-5%,0.25W	414540	80031	CR251-4-5P51E	6		
R 86- 88			414540					
R 62		RES,CF,330,+-5%,0.25W	368720	80031	CR251-4-5P330E	1		
R 66		RES,CC,18,+-5%,0.125W	500397	01121	BB1805	1		
R 67		RES,CC,300,+-5%,0.125W	512772	01121	BB3015	1		
R 70, 79, 83		RES,CC,24,+-5%,0.125W	681932	89536	681932	3		
R 71, 72, 84,		RES,CC,220,+-10%,0.125W	153957	01121	BB2211	4		
R 85			153957					
R 73		RES,MF,102K,+-1%,0.125W,100PPM	291286	91637	CMF551023F	1		
R 75		RES,VAR,CERM,200,+-10%,0.5W	275743	89536	275743	1		
R 81		RES,MF,3.32K,+-1%,0.125W,100PPM	312652	91637	CMF553321F	1		
R 82		RES,CF,30,+-5%,0.25W	442228	80031	CR251-4-5P30E	1		
R 89		RES,CC,330,+-5%,0.125W	643965	01121	BB3315	1		
RT 1		THERMISTOR,DISC,NEG.,10K,+-10%,25C	104596	73168	JA41J1	1	1	
S 1- 3		SWITCH,SLIDE,DPDT	393629	10389	23-021-114	3		
T 1		TRANSFORMER 5 TURNS BIFILAR	660324	89536	660324	1		
U 1	*	IC,BPLR,TIMER,8 PIN DIP	402610	18324	LM555CN	1	1	
U 2	*	IC,TTL,DIV BY 2,DIV BY 8 COUNTER	320739	01295	SN7493N	1	1	
U 3	*	IC,BPLR 10BIT DAC,10BIT ACCUR,CUR OUT	477760	24355	AD561J	1	1	
U 4	*	IC,OP AMP,JFET INPUT,8 PIN DIP	472779	12040	LF386N	1	1	
U 5	*	IC,VOLT REG,ADJ,2 TO 37 VOLT,0.15 AMP	379420	04713	MC1723CL	1	1	
U 6	*	IC,OP AMP,QUAD,JFET INPUT,TO-5 CASE	483438	89536	483438	1	1	
U 7	*	IC,LSTTL,RETRG MONOSTAB MULTIVB W/CLR	404186	01295	SN74LS123N	1	1	
U 8	*	IC,LSTTL,QUAD 2 INPUT NOR GATE	393041	01295	SN74LS02N	1	1	
U 9	*	IC,LSTTL,DUAL DIV BY 16 BINARY CNTR	483578	01295	SN74LS393N	1	1	
U 10	*	IC,COMPARATOR,8 PIN DIP	352195	01295	SN72311P	1	1	
U 11	*	IC,BPLR,2 CHNL,5 VOLT,CURRENT SWITCH	508036	17856	S13705-193K	1	1	
U 13, 20, 21	*	10DB AMPLIFIER TESTED 6070A	492710	89536	492710	3		
U 14, 18	*	6DB ISOLATION AMPL.TESTED 6070A	492819	89536	492819	2	1	
U 15	*	IC,TTL,QUAD 2 INPUT NOR GATE	288845	01295	SN7402N	1	1	
U 16	*	IC,ECL,DIV BY 2,DIV BY 5 COUNTER	525337	04713	MC10138L	1	1	
U 17	*	IC,ECL,DIV BY 10,DIV BY 11 COUNTER	454900	89536	454900	1	1	
U 19	*	IC,ECL,PHASE FREQUENCY DETECTOR	525311	04713	MC12040L	1	1	
U 23	*	IC,OP AMP,DUAL,LO-NOISE,8 PIN DIP	504720	18324	NE5532FE	1	1	
VR 8, 9	*	ZENER,UNCOMP,6.2V,5%,20.0MA,0.4W	325811	07910	1N753A	2	1	
W 1, 2		HYBRID COUPLER LT ASSY	526509	89536	526509	2		
W 3		WIRE,BUS,22 AWG,TINNED COPPER	115469	89536	115469	1		
X 1, 4, 10,		SOCKET,IC,8 PIN	478016	91506	308-AG39D	5		
X 11, 23			478016					
X 2, 5, 6,		SOCKET,IC,14 PIN	276527	09922	DILB8P-108	7		
X 8, 9, 15,			276527					
X 19			276527					
X 3, 7		SOCKET,IC,16 PIN	276535	91506	316-AG39D	2		
Z 12	*	520 MHZ SAW DELAY LINE TESTED-6070	429662	89536	429662	1		
Z 22		RES,NET,SIP,8 PIN,7 RES,10K,+-2%	412924	80031	95081002CL	1		

An * in 'S' column indicates a static-sensitive part.

A4A10, Modulator Distribution PCB Assembly (6070A-4014T)

On pages 6-110 thru 6-114, Table 6-26, make the following changes:
Rev.-G, 15910
CHANGE: R17|RES, MTL. FILM, 10.0K +1%, 1/8W|168260|91637|CMF551002F|3
TO: R17|RES, MTL. FILM, 9.76K +1%, 1/8W|241489|91637|CMF559761F|1

Change the TOT QTY of R18,
FROM: REF
TO: 2

CHANGE: R44|RES, VAR, 200 +10%, 1/2W|275743|89536|275743|1
TO: R44|RES, VAR, 500 +10%, 1/2W|325613|89536|325613|1

Rev.-H, 16254
Change the TOT QTY of C3,
FROM: 11
TO: 23

Rev.-J, 18302
Change C3, C4, C6, C10, C18, C20, C21, C26 thru C30,
FROM: CAP,CER,0.22 UF +20%, 50V|309849|71590|CW30C224K
TO: CAP,CER,0.22 UF +20%,100V|714030|04222|SR301E224MAAFLUKE

Rev.-K, 18686
Change C3, C4, C6, C10, C18, C20, C21, C26 thru C30,
FROM: CAP,CER,0.22 UF +20%,100V|714030|04222|SR301E224MAAFLUKE
TO: CAP,CER,0.22 UF +20%, 50V|309849|71590|CW30C224K

A5 Power Supply Assembly

On page 6-117, Table 6-27,
CHANGE: L102
TO: L103

On page 6-118, replace page 1 of Figure 6-27, with Figure 5.

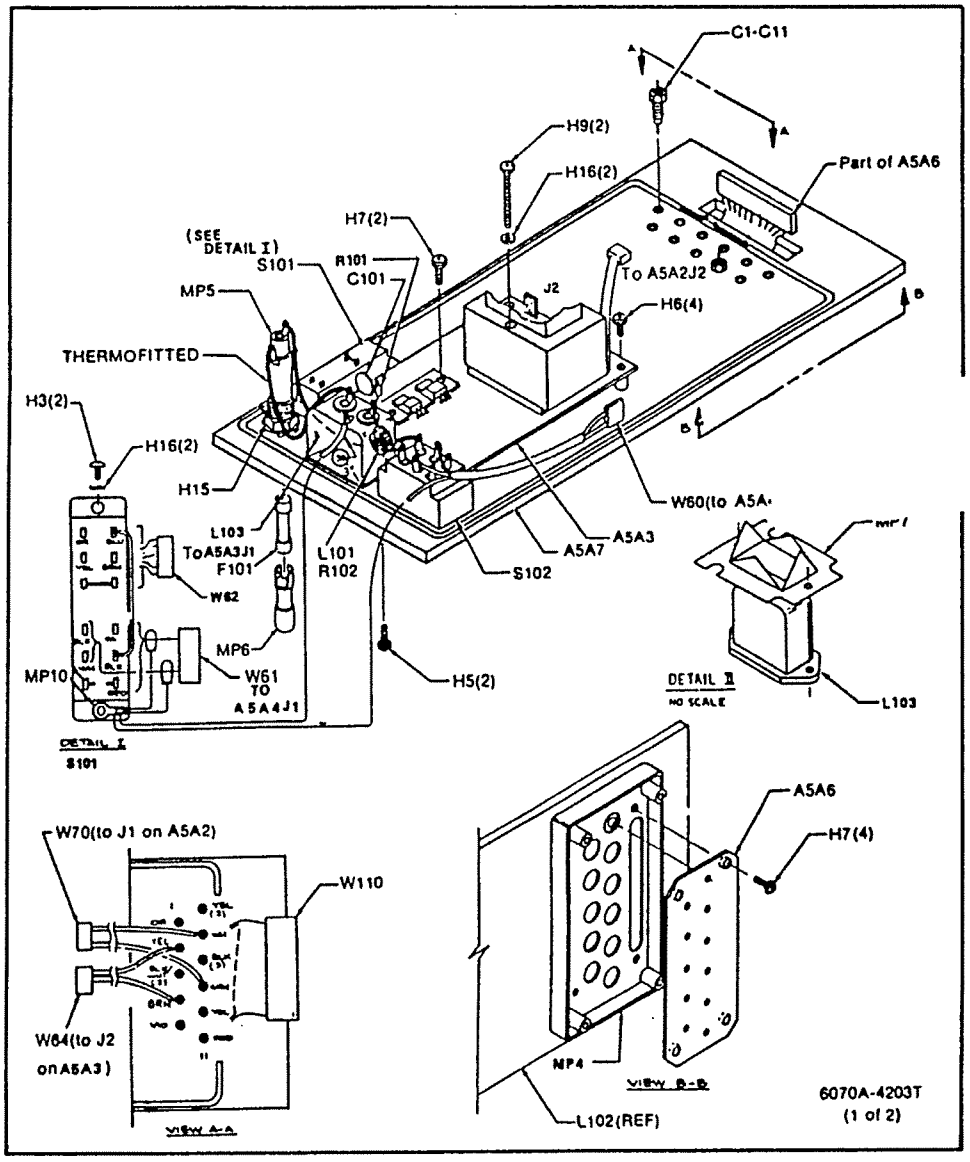


Figure 5.

```
Rev.-E 16357,
  CHANGE:   L101      |.........|1
  TO:       L101,L102|.........|2

  CHANGE: R102     | RES,DEP.CAR,100+/-5% 1/4W|348771|80031|CR251-4-5P100E|1
  TO:     R102,103| RES,DEP.CAR,470+/-5% 1/4W|343434|89536|343434         |2
```

On page 6-118, correct Figure 6-27 to show the changes in Figure 6.

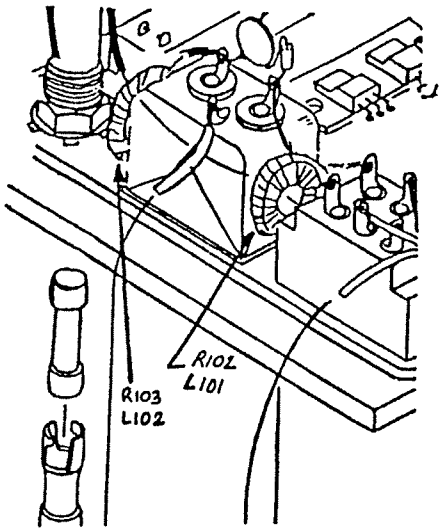


Figure 6.

A5A1, Power Supply PCB Assembly (6070A-4003T)

On pages 6-120 and 6-121, Table 6-28, make the following changes:
Rev.-E, 16357

```
CHANGE:   R2|RES, DEP. CAR, 15K +5%, 1/4W |348854|80031|CR251-4-5P15K|1
TO:       R2|RES, DEP. CAR, 5.1K +5%, 1/4W|368712|80031|CR251-4-5P5K1|1
```

Rev.-H, 22214 and 22364

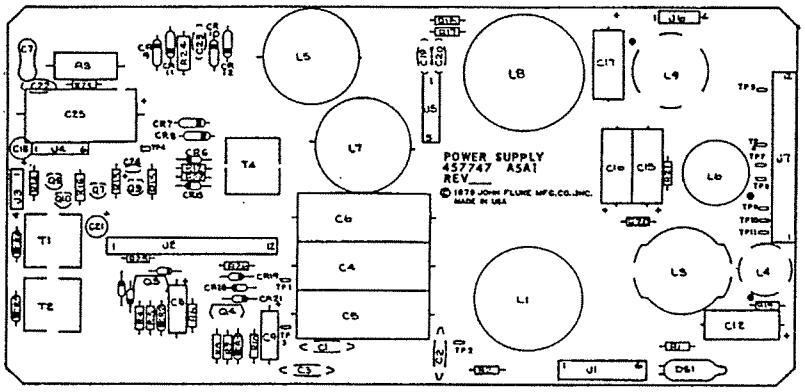
```
ADD:      C24|CAP,TA,5.6UF +/-20%,25V|368969|89536|368969|1

ADD:      C25|CAP,AL,220UF,+75 -20%,16V|364182|89536|364182|1

ADD:      Q7,Q8|TRANSISTOR,SI,NPN,SMALL SIGNAL|218396|89536|2

ADD:      Q9,Q10|TRANSISTOR,SI,NPN,SMALL SIGNAL|441600|89536|2

DELETE:   Q5,Q6|...

CHANGE:    R2|.........................|1
TO:        R2,R15,R16|.................|3

CHANGE:    R5,R9|RES,CAR.DEP,15+/-5%, 1/4W|348755|80031|CR251-4-5P15E|2
TO:        R5,R9|RES,CAR.DEP,120+/-5%,1/4W|442293|89536|442293       |2

CHANGE:    R4,R8|RES,CAR.DEP,24+/-5%,1/4W|442210|80031|CR251-4-5P24E|2
TO:        R4,R8|RES,CAR.DEP,30+/-5%,1/4W|442228|89536|442228       |2

CHANGE:    R6,R10|RES,COMP,6.2+/-10%,1/2W|218750|01121|EB6225|2
TO:        R6,R10|RES,COMP,1.6+/-10%,1/2W|442038|89536|442038|2
```

DELETE: R7,R11|...

ADD: R13,R14|RES,CF,510+/-5%,0.25W|441600|89536|441600|2

CHANGE: R20,21|.....|4
TO: R20,21|.....|2

On page 6-122, replace Figure 6-28 with Figure 7. Also, the schematic for the A5A1 Power Supply PCB Assembly (Figure A), is located at the end of this Change/Errata.



(6070A-1603)

Figure 7.

A5A3, Auxiliary Transformer PCB Assembly, (6070A-4028T)

On page 6-126, Table 6-30, make the following change:
Rev.-C, 18195
CHANGE: MP2|INSULATOR, MICA (W/U1, Q1)|412809|89536|412809|1
TO: MP2|INSULATOR, RUBBER |534453|89536|534453|1

A5A4, Input Rectifier PCB Assembly (6070A-4029T)

On page 6-128, Table 6-31, make the following changes:
Rev.-D, 16357
CHANGE: C5|CAP, CER, 0.010 UF -20/+80%, 250VAC|520254|89536|520254|1
TO: C5|CAP, CER, 0.022 UF 1 |529651|89536|529651|1

Change the TOT QTY of L1,
FROM: 2
TO: 3

ADD: L3|CHOKE, LINE, 0.018 MH|429090|89536|429090|REF

Change the TOT QTY of MP1,
FROM: 2
TO: 3

DELETE: R3|...

DELETE: R4|...

CHANGE: R5|RES, DEP. CAR, 82 +5%, 1/4W|442277|80031|CR251-4-5P82E|1
TO: R5|RES, DEP. CAR, 22 +5%, 1/4W|381145|80031|CR251-4-5P22E|1

A5A5, Switching Transistors Assembly (6070A-4034T)

On page 6-129, Table 6-32, make the following changes:
Rev.-C, 16257
ADD: H4|P-NUT, 4-40|380196|24347|KF2-440|1

Rev.-D, 17956
Change Q1 and Q2,
FROM: TRANSISTOR, SI, NPN|495705|04713|MJ10007
TO: TRANSISTOR, SI, NPN|686261|04713|MJ10007

A6A3, +5V Series Pass PCB Assembly (6070A-4031T)

On page 6-137, Table 6-37, make the following change:
Rev.-C, 17155
Change R1, R5 and R9,
FROM: RES, COMP, 33 +10%, 1W|109660|01121|GB3301
TO: RES, COMP, 33 +5%, 1W |163063|01121|GB3305

A6A4, +12V, -12V, +24V Series Pass PCB Assembly (6070A-4032T)

On pages 6-139 and 6-140, Table 6-38, make the following change:
Rev.-D, 17340
CHANGE: R4|RES,MTL.FILM, 6.04K +0.1%, 1/8W|512301|89536|12301 |1
TO: R4|RES,MTL.FILM, 6.65K +0.1%, 1/8W|696872|91637|CMF556652F|1

-570, NON-VOLATILE MEMORY OPTION ASSEMBLY (6070A-4027T)

On pages 7B-2 thru 7B-4, Table 7B-1, make the following changes:
Rev.-E, 18302
Change C5 thru C20,
FROM: CAP,CER,0.22 UF +20%, 50V|309849|71590|CW30C224K
TO: CAP,CER,0.22 UF +20%,100V|714030|04222|SR301E224MAAFLUKE

Rev.-F, 18686
Change C5 thru C20,
FROM: CAP,CER,0.22 UF +20%,100V|714030|04222|SR301E224MAAFLUKE
TO: CAP,CER,0.22 UF +20%, 50V|309849|71590|CW30C224K

-870, REVERSE POWER PROTECTION OPTION ASSEMBLY (6070A-4024T)

On pages 7D-3 and 7D-4, Table 7D-1, make the following changes:

Rev.-J, 15909, 16232
Change the TOT QTY of C7,
FROM: 3
TO: 2

Change the TOT QTY of C9,
FROM: 8
TO: 7

CHANGE: C12|CAP, CER, 0.005 UF +20%, 50V
|255471|51642|200-050-60-502M |REF
TO: C12|CAP, CER, 0.001 UF +20%, 500V
|402966|72982|8121-A100-W5R-102M|REF

DELETE: C15|...

DELETE: C16|...

CHANGE: C23|CAP, CER, 0.001 UF +20%, 500V
|402966|72982|8121-A100-W5R-102M|REF
TO: C23|CAP, CER, 39 PF +2%, 100V
|512962|89536|512962|1

Change the TOT QTY of CR5,
FROM: 6
TO: 4

CHANGE: CR6|DIODE, HI-SPEED SWITCHING|203323|04713|1N4448|REF
TO: CR6|DIODE, SI 2-PELLET |375477|09214|MPD200|2 |1

CHANGE: CR9|DIODE, HI-SPEED SWITCHING|203323|04713|1N4448|REF
TO: CR9|DIODE, SI 2-PELLET |375477|09214|MPD200|REF

CHANGE: CR15|DIODE, LO-CAP, LO-LEAK|369595|07263|FH1100|1|1
TO: CR15|DIODE, LO-CAP, LO-LEAK|375907|07263|FD7222|3|1

Change the TOT QTY and the REC QTY of CR16,
FROM: 2 and 1
TO: REF and -

Change the TOT QTY of R1,
FROM: 5
TO: 3

CHANGE: R5|RES, DEP. CAR, 100 +5%, 1/4W|248771|80031|CR251-4-5P100E|1
TO: R5|RES, DEP. CAR, 390 +5%, 1/4W|441543|80031|CR251-4-5P390E|1

Change the TOT QTY of R6,
FROM: 2
TO: 1

```
CHANGE:   R7|RES, VAR, 500 +10%, 1/2W      |325613|89536|325613    |1|1
TO:       R7|RES,VAR,CERMET,100 +10%, 1/2W|275735|11236|360T-101A|1|1

CHANGE:   R8|RES,DEP.CAR, 300, +5%, 1/4W|512772|80031|CR251-4-5P300E|1
TO:       R8|RES,DEP.CAR, 16K, +5%, 1/4W|442376|80031|CR251-4-5P16K|1

CHANGE:   R9|RES, DEP. CAR, 1K +5%, 1/4W|343426|80031|CR251-4-5P1K|REF
TO:       R9|RES, DEP. CAR, 7.5K +5%, 1/4W|441667|80031|CR251-4-57K5|2

CHANGE:   R10|RES, DEP. CAR, 2K +5%, 1/4W|441469|80031|CR251-4-5P2K|REF
TO:       R10|RES, DEP. CAR, 15K +5%, 1/4W|348854|80031|CR251-4-5P15K|1

DELETE:   R11|...

CHANGE:   R12|RES,DEP.CAR, 10K +5%, 1/4W|348839|80031|CR251-4-5P10K|2
TO:       R12|RES,DEP.CAR, 1.8K +5%, 1/4W|441444|80031|CR251-4-5P1K8|2

Change the TOT QTY of R16 and R17,
 FROM:    1
 TO:      REF

Change the TOT QTY of R19,
 FROM:    REF
 TO:      1

Rev.-K, 18302
 Change C17 and C18,
  FROM:   CAP,CER,0.22 UF +20%, 50V|309849|71590|CW30C224K
  TO:     CAP,CER,0.22 UF +20%,100V|714030|04222|SR301E224MAAFLUKE

Rev.-L, 18686
 Change C17 and C18,
  FROM:   CAP,CER,0.22 UF +20%,100V|714030|04222|SR301E224MAAFLUKE
  TO:     CAP,CER,0.22 UF +20%, 50V|309849|71590|CW30C224K

Rev.-M, 19533
 Change TOT QTY of C17
  FROM:   2
  TO:     4
```

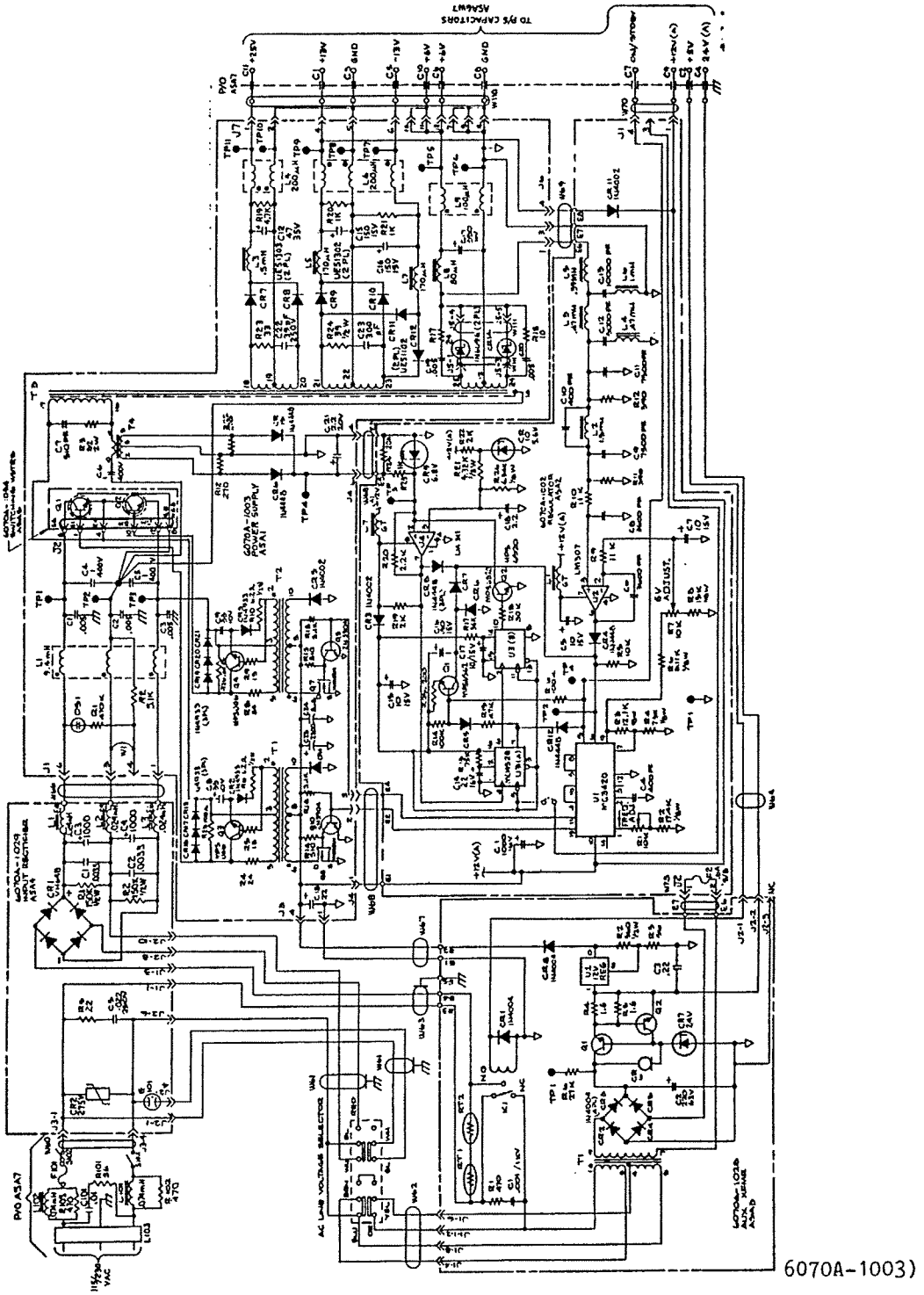


Figure A.