

SECTION VI REPLACEMENT PARTS LIST

6.1 INTRODUCTION

This section contains a complete listing of all replaceable parts contained in the RA6790/GM receiver. The parts list tables are arranged in sequence by unit designation.

Since electromechanical equipment undergoes periodic changes over time, due to factors such as operational time, environmental conditions, etc., degradation of individual subassemblies and parts occur. Replacement Parts Lists act as reference guides for users and must be consulted to identify and locate parts. To be able to identify and locate parts the user must be familiar with the unit designation method, reference designator prefixes, illustrations and schematics. The unit designation is a method of assigning reference designations (electrical symbol numbers to identify assemblies or modules, subassemblies or submodules). This method is composed of assigning a class letter such as R for resistor or C for capacitor followed by an identifying number -1, -2, -3, -4, etc.

This partial reference designation must be further identified by including a reference designator prefix, such as A1A6, which classes the item by assembly (A1) and subassembly (A6). The composite alphanumeric code then becomes the complete reference designation. For example A4C1 would be identified as the first (1) capacitor (C) of the fourth (4) assembly (A).

A detail part of subassembly A1A6 such as a resistor or capacitor would be numbered R1 or C1, resulting in a full reference designation number of A1A6C1.

If components on an assembly, module or subassembly need to be replaced, the following parts list information will provide the user with the proper ordering information. Pictures of assemblies and subassemblies along with component location diagrams are shown for ease of physically locating the desired components.

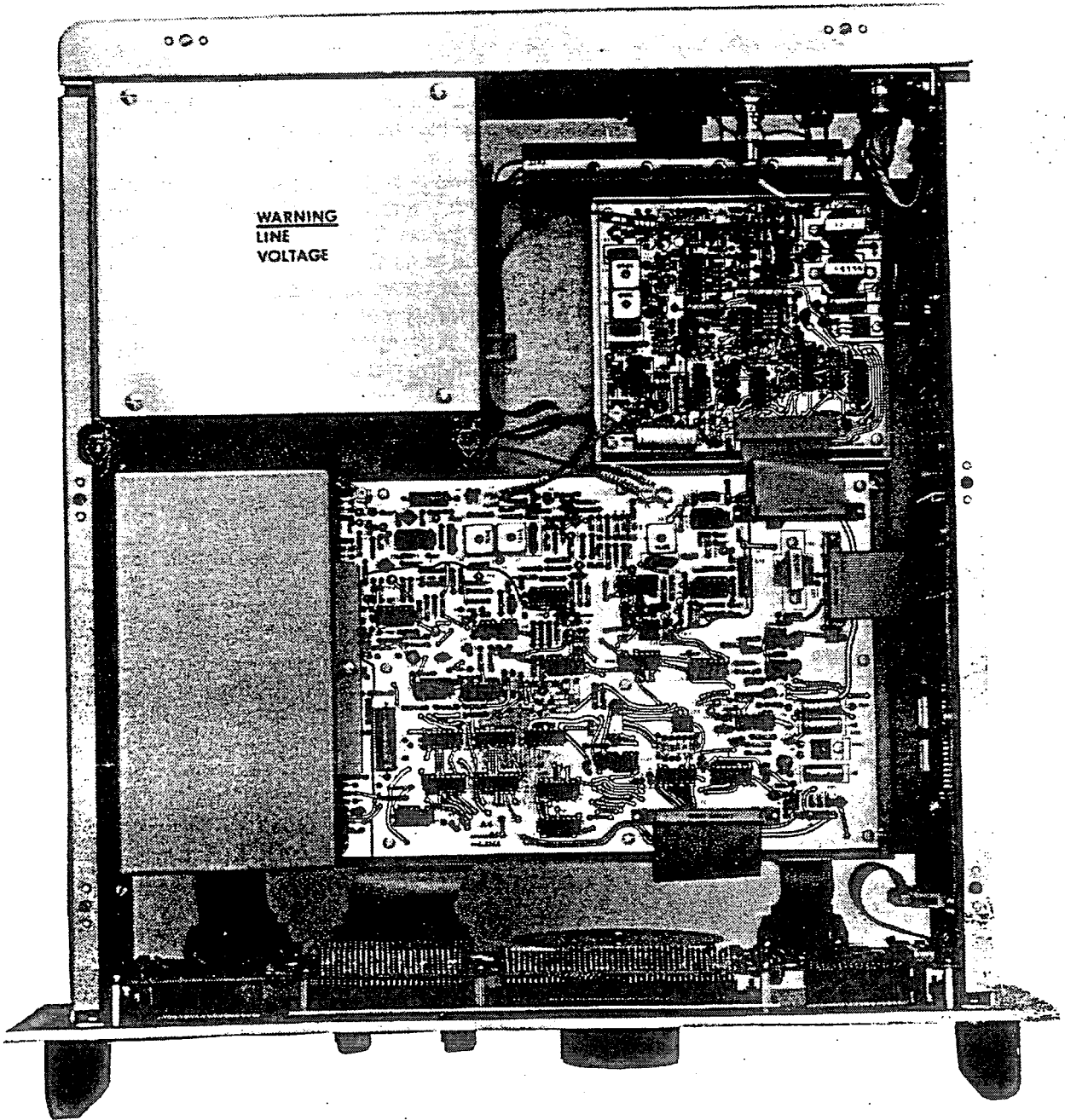


Figure 6-1. RA6790/GM Receiver, Top View

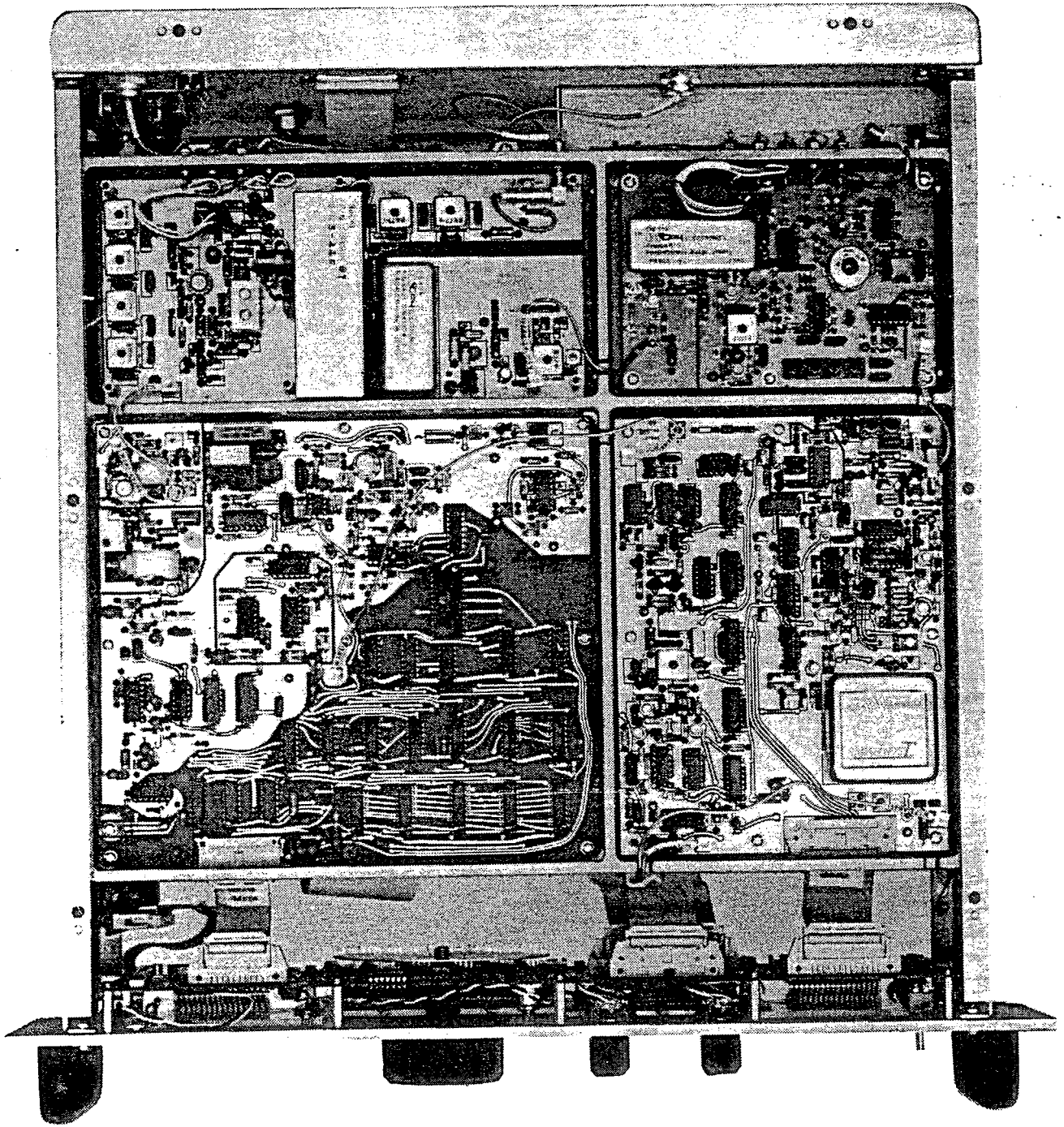


Figure 6-2. RA6790/GM Receiver, Bottom View

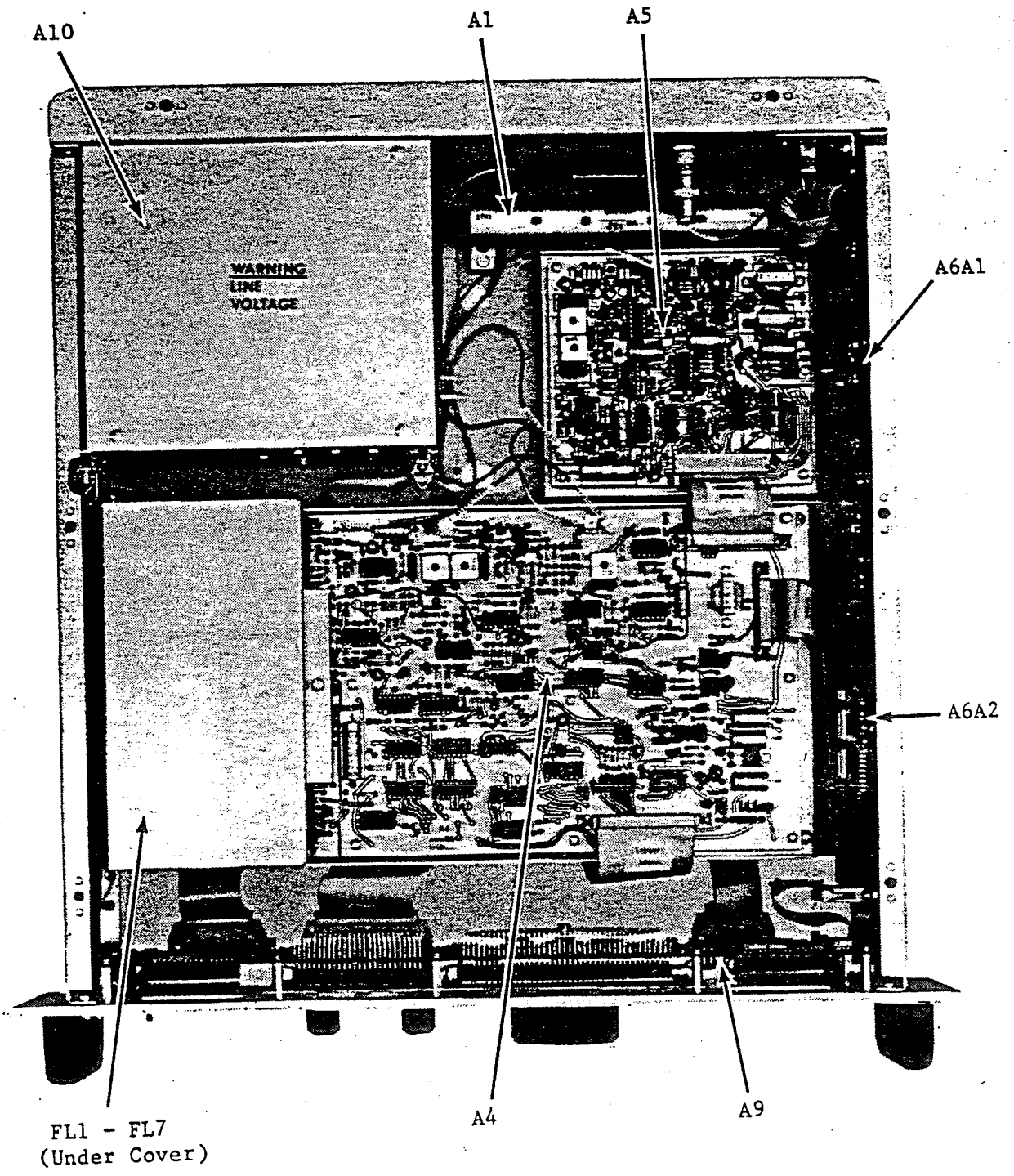


Figure 6-3. Location of Modules, Top View

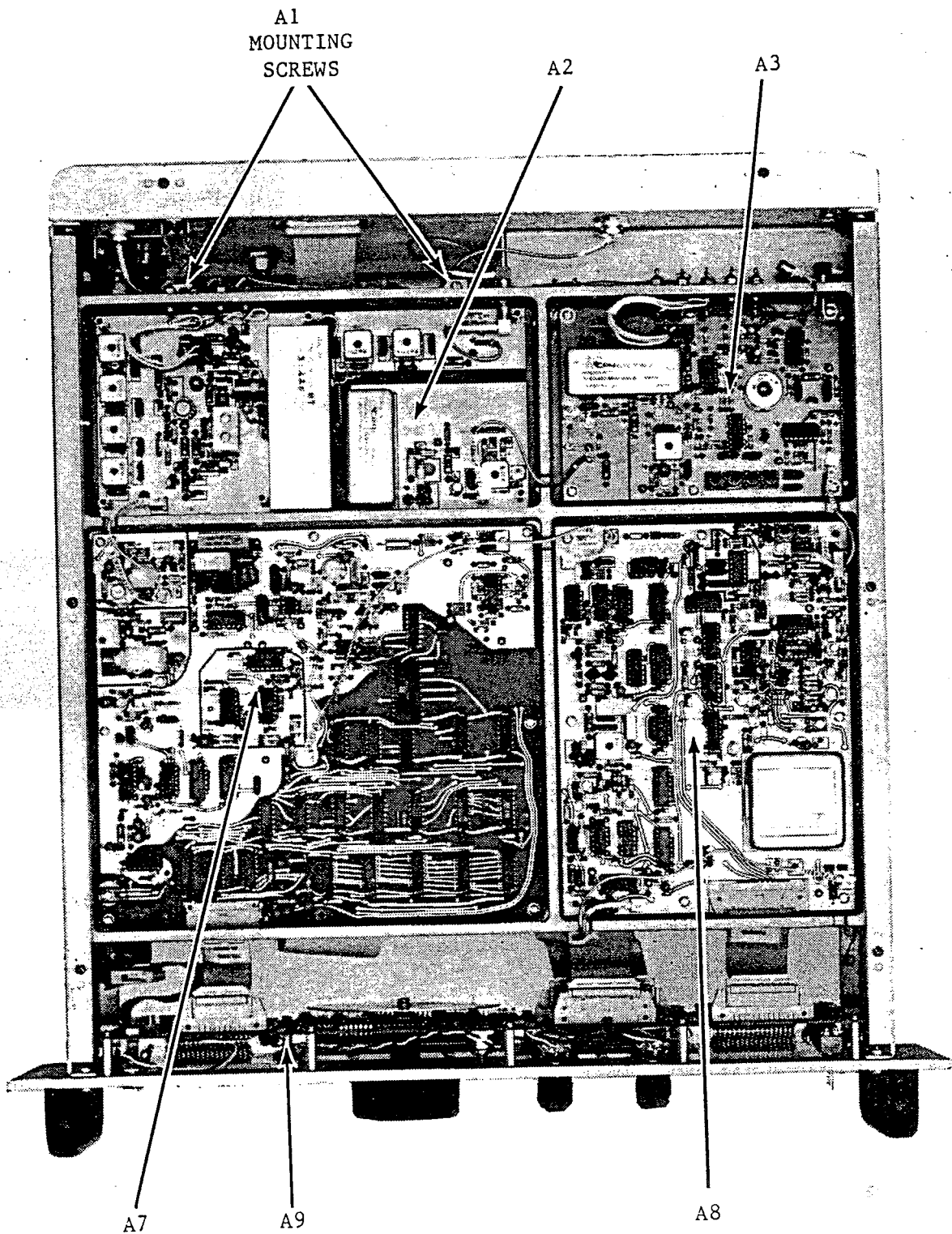


Figure 6-4. Location of Modules, Bottom View

TABLE 6-1. PARTS LIST, RA6790/GM RECEIVER COMPONENTS

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
A1	RF Low Pass Filter Module Assembly (see Table 6-2 for further breakdown)	08385	
A2	First Mixer Circuit Card Assembly (see Table 6-4 for further breakdown)	09635	
A3	Second Mixer Circuit Card Assembly (see Table 6-5 for further breakdown)	08191	
A4	Main IF/AF Circuit Card Assembly (see Table 6-6 for further breakdown)	08465	
A5 (optional)	ISB Circuit Card Assembly (see Table 6-7 for further breakdown)	08390-2	
A6	Microcomputer Assembly (see Table 6-8 for further breakdown)	08397-2	
A7	First LO Synthesizer Circuit Card Assembly (see Table 6-11 for further breakdown)	09134	
A8	Second LO/BFO Synthesizer Circuit Card Assembly (see Table 6-12 for further breakdown)	09632	
-	Front Panel Assembly	08935	
A9	Receiver Control Assembly (p/o Front Panel Assembly) (see Table 6-13 for further breakdown)	08388	
A10	Power Supply Module Assembly (see Table 6-15 for further breakdown)	08389	
C1-C9	Capacitor, Feed-thru, .001 uF, +20%	26406	BSF-1BBGP102M
C10	Capacitor, Ceramic, .01 uF, 50 WVDC +20% (Erie)	21733	C320C103M1U1C1
J1	Connector, N-BNC, Bulkhead RF In	60063	
J2	Connector, BNC, Bulkhead IF Out (Part of Cable W12)	60046	
J3	Connector, 25-Pin, D Subminiature AF Out, (Part of Cable W16)	61248	
J4	Connector, Phone Jack	61502	JJ-034
J5, J6	Connector, SMB-SMB, Bulkhead	60057	
J7	Connector, BNC, Bulkhead Reference In/Out (Part of Cable W7)	60046	
L1	Inductor, 1000 uH, +5%	43038	MS90539-15
R1	Potentiometer, IF Gain, 50K ohms	08552	
R2	Potentiometer, AF Gain, 25K ohms	08551	
S1	Switch, Toggle, DPDT, Miniature, Power ON (Part of Cable W20)	52424	
S2	Switch, Slide, DPDT, Reference, In/Out	52425	
S3	Switch, 16 Pushbutton, Frequency Keyboard	C09078	
S4	Switch, 16 Pushbutton, Mode Keyboard	08498-2	
W1	Cable, RF Coax	08555-1	
W2	Cable, RF Coax	08555-2	
W3	Cable, RF Coax	08555-3	
W4	Cable, RF Coax	08555-4	
W5	Not used		
W6	Cable, RF Coax	08555-5	
W7	Cable, RF Coax, Ref In/Out	08556-1	
W8, W9	Not used		

TABLE 6-1. PARTS LIST, RA6790/GM RECEIVER COMPONENTS (Cont)

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
W10	Cable, RF Coax	08555-6	
W11	Cable, RF Coax	08555-7	
W12	Cable, RF Coax, Main IF Out	08556-2	
W13	Cable, Control	08376	
W14	Cable, Control	08558	
W15	Cable, Control	08563	
W16	Cable, AF output	08568	
W17	Not Used		
W18	Cable, Power Input	57035	
W19	Cable, DC Power	08569	
W20	Cable, AC Line Switching	08570	
W21	Cable, DC Supply, A2	08561	
W22	Cable, DC Supply, A3	08560	
-	Filter, Mech, Symmetrical, 0.3 kHz	07883-1	
-	Filter, Mech, Symmetrical, 1.0 kHz	07883-2	
-	Filter, Mech, Symmetrical, 3.2 kHz	07883-3	
-	Filter, Mech, Symmetrical, 6.0 kHz	07883-4	
-	Filter, Mech, USB, 450 Hz to 3000 Hz	07883-5	
-	Filter, Mech, LSB, 450 Hz to 3000 Hz	07883-6	
A4C1, A4C2	Capacitor, Mica, 270 F, +2%	22103	
A4C3	Capacitor, Mica, 270 pF, +2%	22118	
A4C4	Capacitor, Mica, 110 pF, +2%	22139	
A4C5	Capacitor, Mica, 360 pF, +2%	22173	
A4C6, A4C12	Capacitor, Mica, 750 pF, +2%	22172	
A4C7, A4C8	Capacitor, Mica, 240 pF, +2%	22170	
A4C9	Capacitor, Mica, 150 pF, +2%	22101	
A4C10	Capacitor, Mica, 82 pF, +2%	22108	
A4C11	Capacitor, Mica, 330 pF, +2%	22117	
A4C109	Capacitor, optional depending upon FL7 filter selection; not used when link installed		
A4C110	Diffuser, Light	09500	
	LCD/LED Board Assembly	A09501	
	See Table 6-14 for further breakdown		

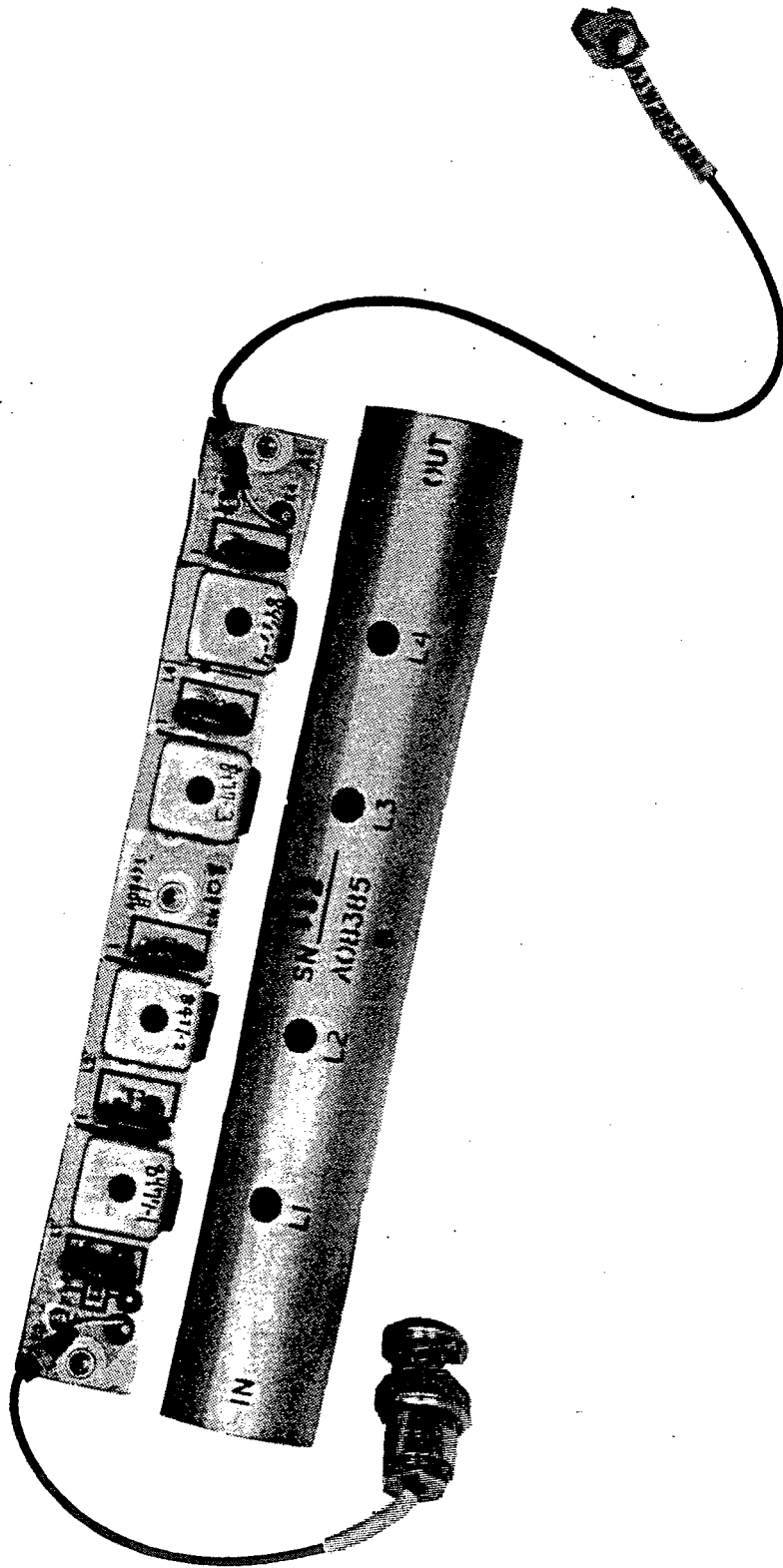


Figure 6-5. Low Pass Filter Assembly, Al

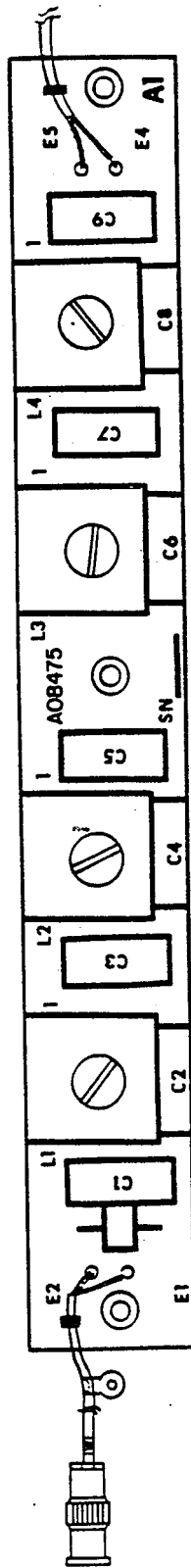


Figure 6-6. Component Location Diagram, A1

TABLE 6-2. PARTS LIST, RF LOW PASS FILTER MODULE ASSEMBLY, A1

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
A1A1	RF Low Pass Filter Circuit Card Assembly (see Table 6-3 for further breakdown)	08475	

TABLE 6-3. PARTS LIST, RF LOW PASS FILTER CIRCUIT CARD ASSEMBLY, A1A1

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
C1, C5	Capacitor, Mica, 110 pF, 500 WVDC, <u>+2%</u>	22139	CMR05F111GODR
C2	Capacitor, 10 pF, 500 WVDC, <u>+5%</u>	22161	CMR05C100DODR
C3	Capacitor, Mica, 150 pF, 500 WVDC, <u>+2%</u>	22101	CMR05F151GODR
C4	Capacitor, Mica, 75 pF, 500 WVDC, <u>+5%</u>	22020	CMR05E750GODR
C6	Capacitor, Mica, 91 pF, 500 WVDC, <u>+2%</u>	22123	CMR05F910GODR
C7	Capacitor, Mica, 120 pF, 500 WVDC, <u>+2%</u>	22113	CMR05F121GODR
C8	Capacitor, Mica, 43 pF, 500 WVDC, <u>+2%</u>	22137	CMR05E430GODR
C9	Capacitor, Mica, 82 pF, 500 WVDC, <u>+2%</u>	22108	CMR05E820GODR
L1	Coil, RF Variable	08477-1	
L2	Coil, RF Variable	08477-2	
L3	Coil, RF Variable	08477-3	
L4	Coil, RF Variable	08477-4	
W1	Cable Assembly	08480	
W2	Cable Assembly	08479-4	

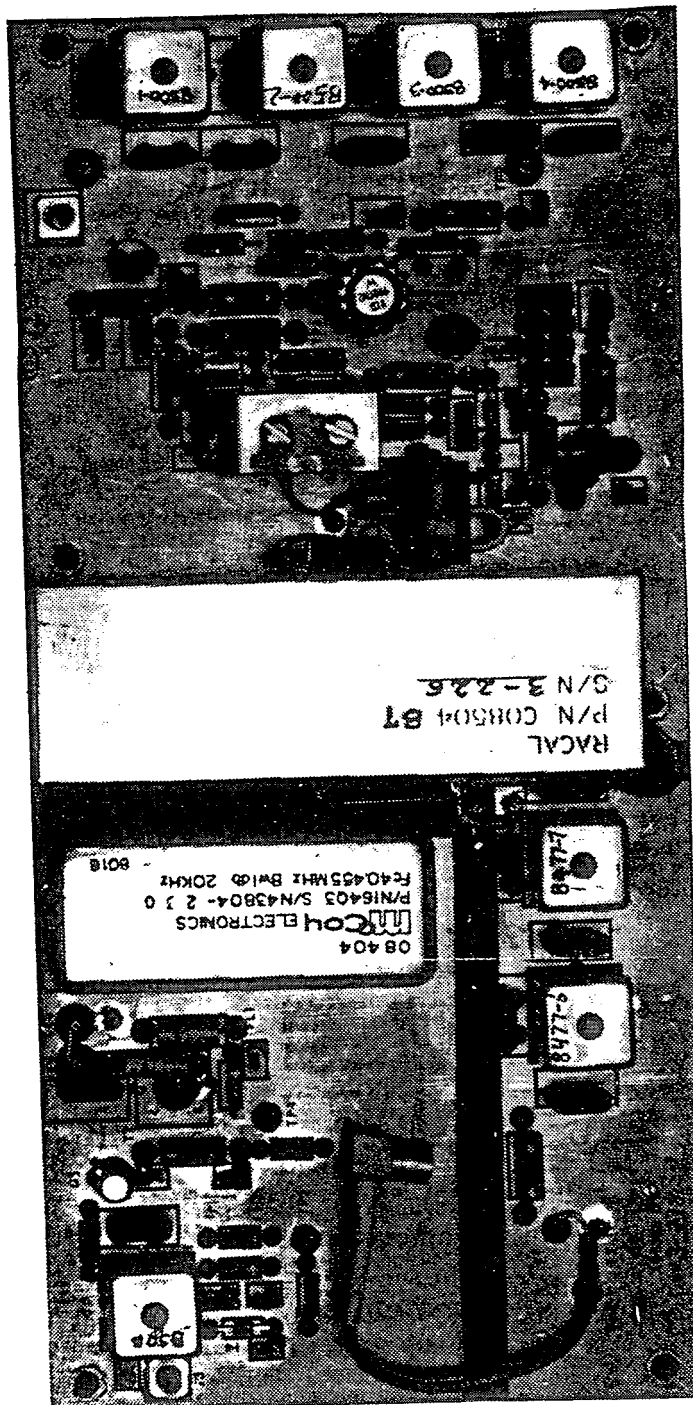


Figure 6-7. First Mixer Assembly, A2

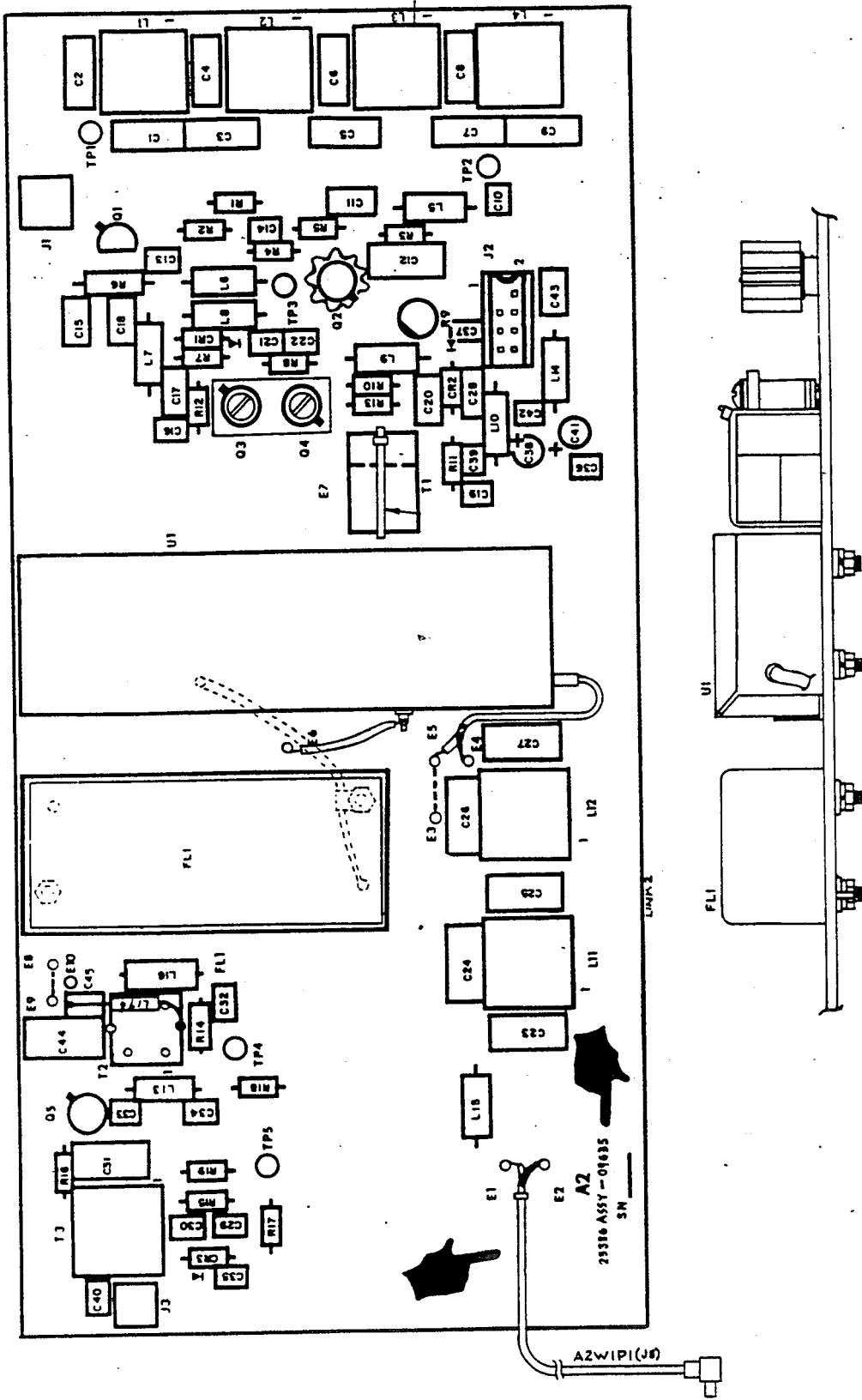


Figure 6-8. Component Location, A2

TABLE 6-4. PARTS LIST, FIRST MIXER CIRCUIT CARD ASSEMBLY, A2

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
A2	First Mixer, Circuit Card Assembly	09635	
C1, C3	Capacitor, Mica, 82 pF, 500 WVDC, $\pm 2\%$	22108	CMR05E820G0DR
C2, C7	Capacitor, Mica, 150 pF, 500 WVDC, $\pm 2\%$	22101	CMR05F151G0DR
C4	Capacitor, Mica, 18 pF, 500 WVDC, $\pm 2\%$	22129	CM05CD180G0DR
C5	Capacitor, Mica, 270 pF, 500 WVDC, $\pm 2\%$	22103	CMR05F271G0DR
C6	Capacitor, Mica, 10 pF, 500 WVDC, $\pm 2\%$	22161	CMR05C100G0DR
C8	Capacitor, Mica, 30 pF, 500 WVDC, $\pm 2\%$	22160	CMR05E300G0DR
C9	Capacitor, Mica, 240 pF, $\pm 2\%$	22170	
C10, C13, C14, C21, C22, C29, C34, C36, C37, C39, C42	Capacitor, Ceramic, 0.02 uF, 50 WVDC, $\pm 20\%$	21733	C320C103M1U1C1
C11, C15, C18, C28, C43	Capacitor, Ceramic, 0.1 uF, 50 WVDC, $\pm 20\%$	21732	MS39014/01-1593
C12, C45	Capacitor, Not Used		
C16, C19, C30, C32, C33, C35, C40, C45	Capacitor, Ceramic, 0.001 uF, 18 WVDC, $\pm 20\%$ (Centralab)	21756	CY15C102M
C17, C20	Capacitor, Ceramic, 1 uF, 500 WVDC, $\pm 20\%$	21748	MS39014/02-1419
C23, C25	Capacitor, Mica, 100 pF, 500 WVDC, $\pm 2\%$	22109	CM05ED101J03
C24	Capacitor, Mica, 91 pF, 500 WVDC, $\pm 2\%$	22123	CMR05F910G0DR
C26	Capacitor, Mica, 43 pF, 500 WVDC, $\pm 2\%$	22137	CMR05E430G0DR
C27	Capacitor, Mica, 68 uF, 500 WVDC, $\pm 2\%$	22107	CMR05E680G0DR
C31	Capacitor, Mica, 33 pF, 500 WVDC, $\pm 2\%$	22106	CMR05E330G0DR
C38, C41	Capacitor, Tantalum, 15 uF, 20 WVDC, $\pm 20\%$ (Union Carbide)	25062-156	T362B156K1020A8
C44	Capacitor, Mica, 27 pF, 500 WVDC, $\pm 2\%$	22119	CMR05E270G0DR
CR1, CR2	Diode, Silicon	35514	1N916B
CR3	Diode, Pin (Motorola)	35557	KS8379
FL1	Filter, 40.455 MHz	08404	
J1, J3	Connector, SMB	60044	051-351-0000-220
J2	Connector, Control	08499-4	
L1	Coil Assembly, RF, Variable	08500-1	
L2	Coil Assembly, RF, Variable	08500-2	
L3	Coil Assembly, RF, Variable	08500-3	
L4	Coil Assembly, RF, Variable	08500-4	
L5, L7-L10	Choke, RF, 10 uH, $\pm 10\%$	43029	MS14046-4
L6	Choke, RF, 2.2 uH, $\pm 10\%$	43025	MS18130-12
L11	Coil Assembly, RF, Variable	08477-6	
L12	Coil Assembly, RF, Variable	08477-7	
L13, L14	Choke, RF, 15 uH, $\pm 10\%$	43030	MS14046-6
L15	Choke, RF, 0.27 uH, $\pm 10\%$	43051	MS75087-6
L16, L17	Choke, RF, 0.56 uH, $\pm 10\%$	43052	MS18130-5
Q1	Transistor, Silicon, PNP (Motorola)	31508	2N4126
Q2, Q4	Transistor, Silicon, High Power, NPN	32046	2N3866

TABLE 6-4. PARTS LIST, FIRST MIXER CIRCUIT CARD ASSEMBLY, A2 (Cont)

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
Q3	Transistor, Silicon, High Power, PNP (Motorola)	32027	2N5160
Q5	Transistor, Field Effect (National)	32507	U310
R1, R5, R17	Resistor, Film, 1K, +2%, 1/4W	12161-102	RLR07C102GR
R2	Resistor, Film, 5.6K, +2%, 1/4W	12161-562	RLR07C562GR
R3	Resistor, Film, 47 ohms, +2%, 1/4W	12161-470	RLR07C470GR
R4	Resistor, Film, 2.2K, +2%, 1/4W	12161-222	RLR07C222GR
R6	Resistor, Composition, 15 ohms, +5%, 1/2W	10919	RCR20G150JS
R7, R11, R14, R15	Resistor, Film, 220 ohms, +2%, 1/4W	12161-221	RLR07C221GR
R8, R10	Resistor, Film, 1.2K, +2%, 1/4W	12161-122	RLR07C122GR
R9	Resistor, Trimmer, 5K, +10%	16090-502	RJ50FP502
R12, R13, R16	Resistor, Film, 10 ohms, +2%, 1/4W	12161-100	RLR07C100GR
R18	Resistor, Film, 100 ohms, +2%, 1/4W	12161-101	RLR07C101GR
R19	Resistor, Film, 10K, +2%, 1/4W	12161-103	RLR07C103GR
T1	Transformer, RF, Wideband	08501	
T2	Transformer, Not used		
T3	Transformer, RF, Variable	08503	
U1	Assembly, Mixer Box	08504	
W1	Mixer Box Assembly	A08504	
-	Cable, RF Coax	B08479-1	69011-1058
-	Pad, Transistor, Q2, Q3, Q4 (Garlock)	70750	7717-N WHT
-	Pad, Transistor, Q5 (Thermalloy)	70752	2257R
-	Heat Sink, Q2	70801	J25-1104
-	Heat Sink, Q3, Q4 (Jermyn)	70784	
-	Plate, Heat Sink, Q3, Q4	B09226	

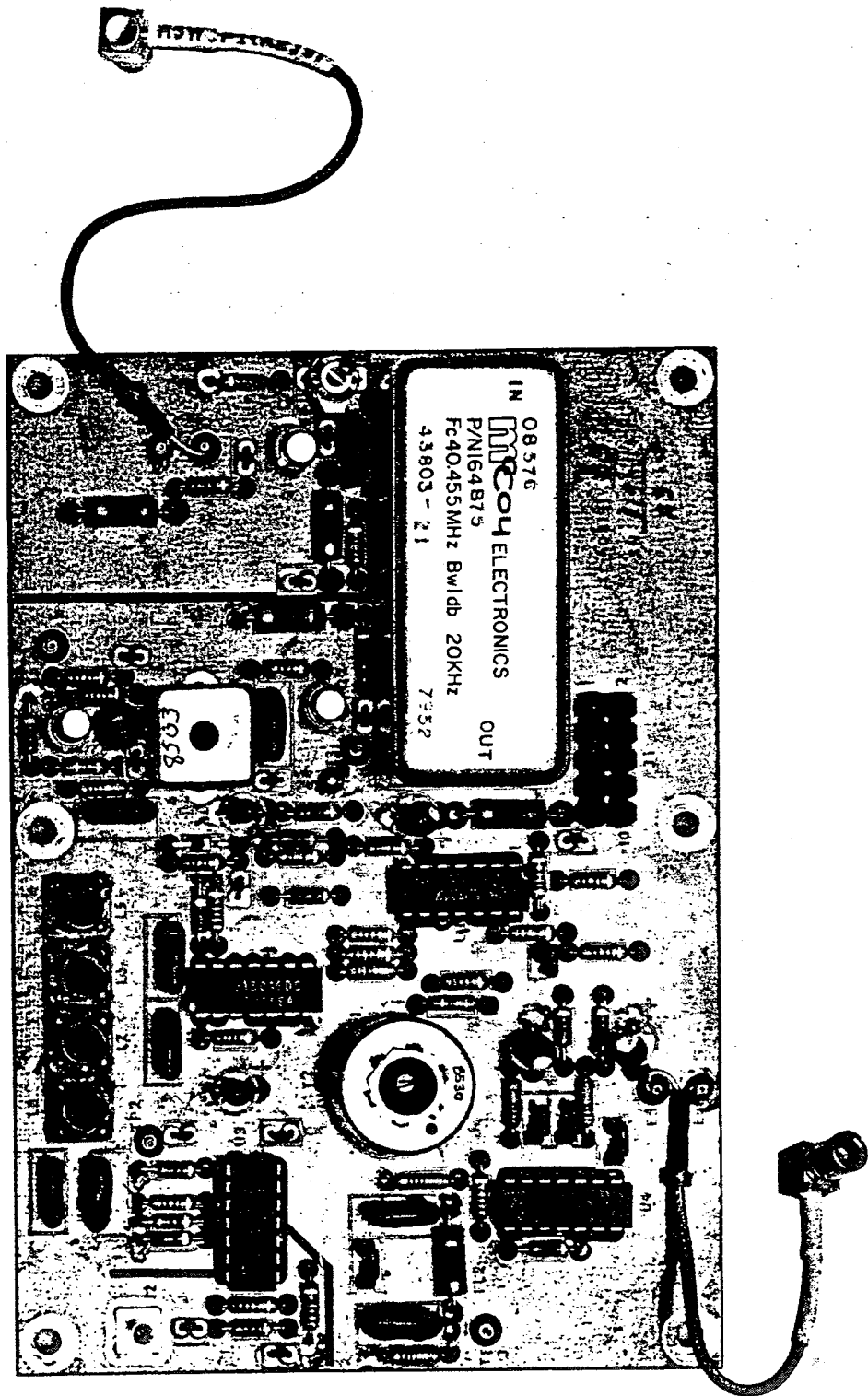


Figure 6-9. Second Mixer Assembly, A3

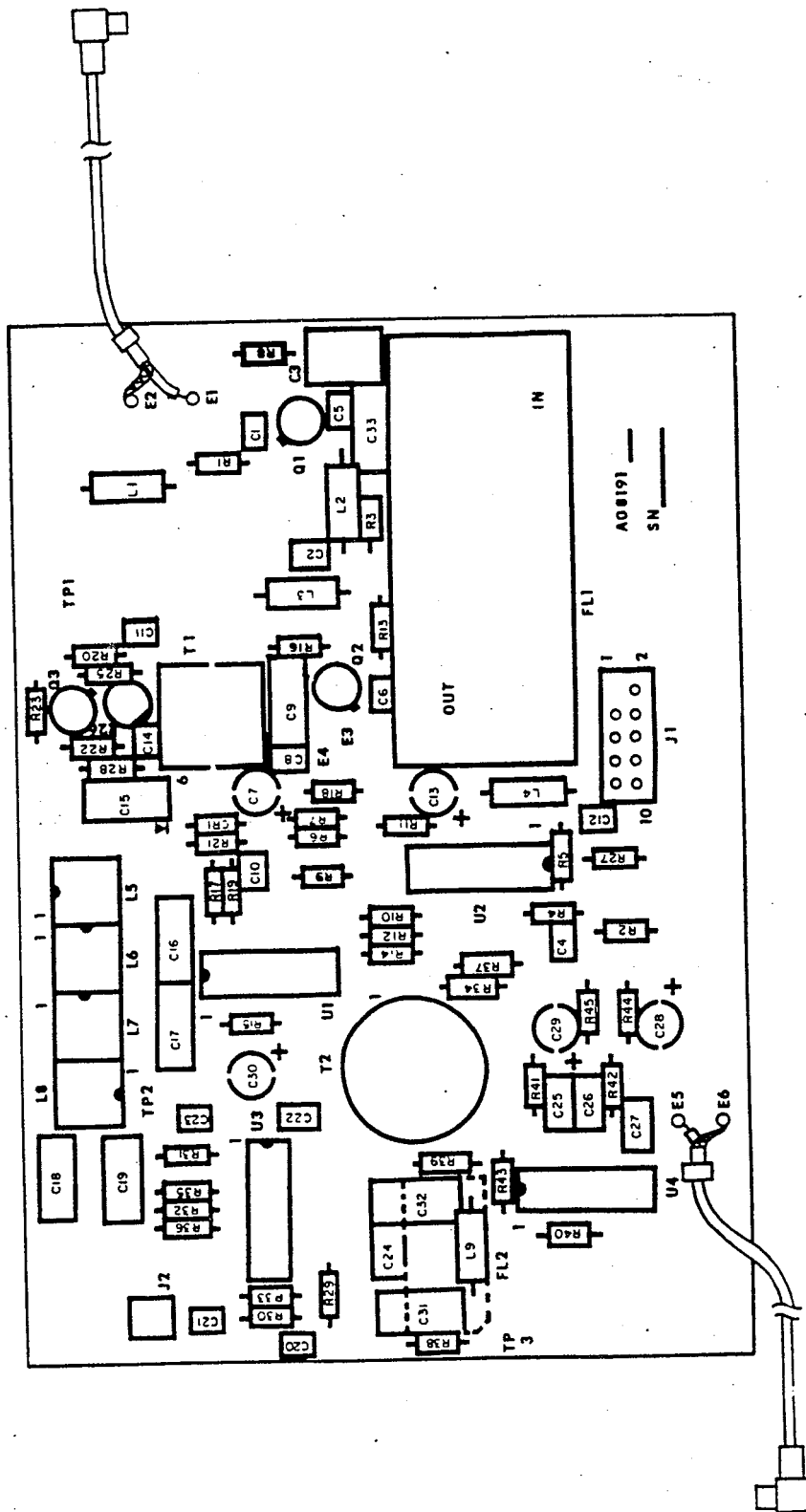


Figure 6-10. Component Location Diagram, A3

TABLE 6-5. PARTS LIST, SECOND MIXER CIRCUIT CARD ASSEMBLY, A3

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
A3	Second Mixer, Circuit Card Assembly	08191	
C1, C2, C5, C6, C8, C10, C11, C12, C14, C20, C21, C22, C23	Capacitor, Ceramic, 1000 pF, 500 WVDC, $\pm 20\%$ (Centralab)	21756	CY15C102M
C3	Capacitor, Variable, 5-50 pF (Johanson)	28037	9311
C4	Capacitor, Ceramic, 0.01 μ F, 50 WVDC, $\pm 20\%$ (Union Carbide)	21733	C320C103M1U1C1
C7, C30	Capacitor, Tantalum, 1 μ F, 35 WVDC, $\pm 20\%$ (Union Carbide)	25060-105	T362A105M035AS
C9	Capacitor, Mica, 33 pF, 50 WVDC, $\pm 2\%$	22106	CMR05E330GODR
C13, C28, C29	Capacitor, Tantalum, 15 μ F, 20 WVDC, $\pm 20\%$	25062-156	T362B156K020AS
C15, C16, C17	Capacitor, Mica, 68 pF, 500 WVDC, $\pm 2\%$	22107	CMR05E680GODR
C18	Capacitor, Mica, 82 pF, 500 WVDC, $\pm 2\%$	22108	CMR05E820GODR
C19	Capacitor, Mica, 330 pF, 500 WVDC, $\pm 2\%$	22117	CMR05F331GODR
C24 thru C27	Capacitor, Ceramic, 0.1 μ F, 500 WVDC, $\pm 20\%$	21732	M39014/01-1593
C31, C32	Capacitor, Mica, 22 pF, 500 WVDC, $\pm 2\%$	22171	CM05ED220D03
C33	Capacitor, Mica, 15 pF, 500 WVDC, $\pm 2\%$	22116	CMR05C150GODR
CR1	Diode, Pin (Motorola)	35557	KS8379
FL1	Filter, 40.455 MHz	08576	
J1	Connector, RF In	08499-5	
J2	Connector, RF, SMB (Sealectro)	60044	051-851-0000-220
L1, L3, L9	Choke, RF, 15 μ H, $\pm 10\%$	43030	MS14046-6
L2	Choke, RF, 0.56 μ H	43052	MS18130-5
L4	Choke, RF, 100 μ H, $\pm 5\%$	43033	MS90538-12

TABLE 6-5. PARTS LIST, SECOND MIXER CIRCUIT CARD ASSEMBLY, A3 (Cont.)

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
L5 thru L8	Coil, RF, Variable	08522	
Q1, Q2	Transistor, Field Effect (National)	32507	U310
Q3	Transistor, NPN	31500	2N918
R1, R10, R13, R18	Resistor, Film, 220 ohms, $\pm 2\%$, 1/4W	12161-221	RLR07C221GR
R2, R3, R20, R21, R27, R35	Resistor, Film, 100 ohms, $\pm 2\%$, 1/4W	12161-101	RLR07C101GR
R4	Resistor, Film, 220K, $\pm 2\%$, 1/4W	12161-224	RLR07C224GR
R5, R6, R11	Resistor, Film, 22K, $\pm 2\%$, 1/4W	12161-223	RLR07C223GR
R7, R23	Resistor, Film, 4.7K, $\pm 2\%$, 1/4W	12161-472	RLR07C472GR
R8, R12, R28	Resistor, Film, 2.2K, $\pm 2\%$, 1/4W	12161-222	RLR07C222GR
R9	Resistor, Film, 100K, $\pm 2\%$, 1/4W	12161-104	RLR07C104GR
R14	Resistor, Film, 27 ohms, $\pm 2\%$, 1/4W	12161-270	RLR07C270GR
R15	Resistor, Film, 560 ohms, $\pm 2\%$, 1/4W	12161-561	RLR07C561GR
R16, R37	Resistor, Film, 10 ohms, $\pm 2\%$, 1/4W	12161-100	RLR07C100GR
R17, R36	Resistor, Film, 10K, $\pm 2\%$, 1/4W	12161-103	RLR07C103GR
R19, R29, R33	Resistor, Film, 1K, $\pm 2\%$, 1/4W	12161-102	RLR07C102GR
R22	Resistor, Film, 39K, $\pm 2\%$	12161-393	RLR07C393GR
R24	Resistor, not used		
R25	Resistor, Film, 56 ohms, $\pm 2\%$, 1/4W	12161-560	RLR07C560GR
R26	Resistor, Trimmer, 500 ohms, $\pm 20\%$	16090-501	RJ50FP501
R30, R31, R32, R40, R44, R45	Resistor, Film, 47 ohms, $\pm 2\%$, 1/4W	12161-470	RLR07C470GR
R34	Resistor, Film, 39 ohms, $\pm 2\%$, 1/4W	12161-390	RLR07C390GR
R38, R39	Resistor, Film, 1.2K, $\pm 2\%$, 1/4W	12161-122	RLR07C122GR

TABLE 6-5. PARTS LIST, SECOND MIXER CIRCUIT CARD ASSEMBLY, A3 (Cont.)

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
R41, R42	Resistor, Film, 330 ohms, <u>+2%</u> , 1/4	12161-331	RLR07C331GR
R43	Resistor, Film, 1.5K, <u>+2%</u> , 1/4W	12161-152	RLR07C152GR
T1	Transformer, RF, Variable	08503	
T2	Transformer Assembly	08530	
U1	IC, Transistor Array (RCA)	36785	CA3046F
U2	IC, Quad Op-Amp (RCA)	36784	CA324E
U3	IC, Second Mixer (Motorola)	36748	MC1496L
U4	IC, Op-Amp (Motorola)	36747	MC1733L
W1	Cable, 40.455 MHz Input	08479-2	
W2	Cable, 455 kHz Output	08479-3	
-	Pad, Transistor, Q1, Q2, Q3 (Thermalloy)	70752	7717-7N WHT*

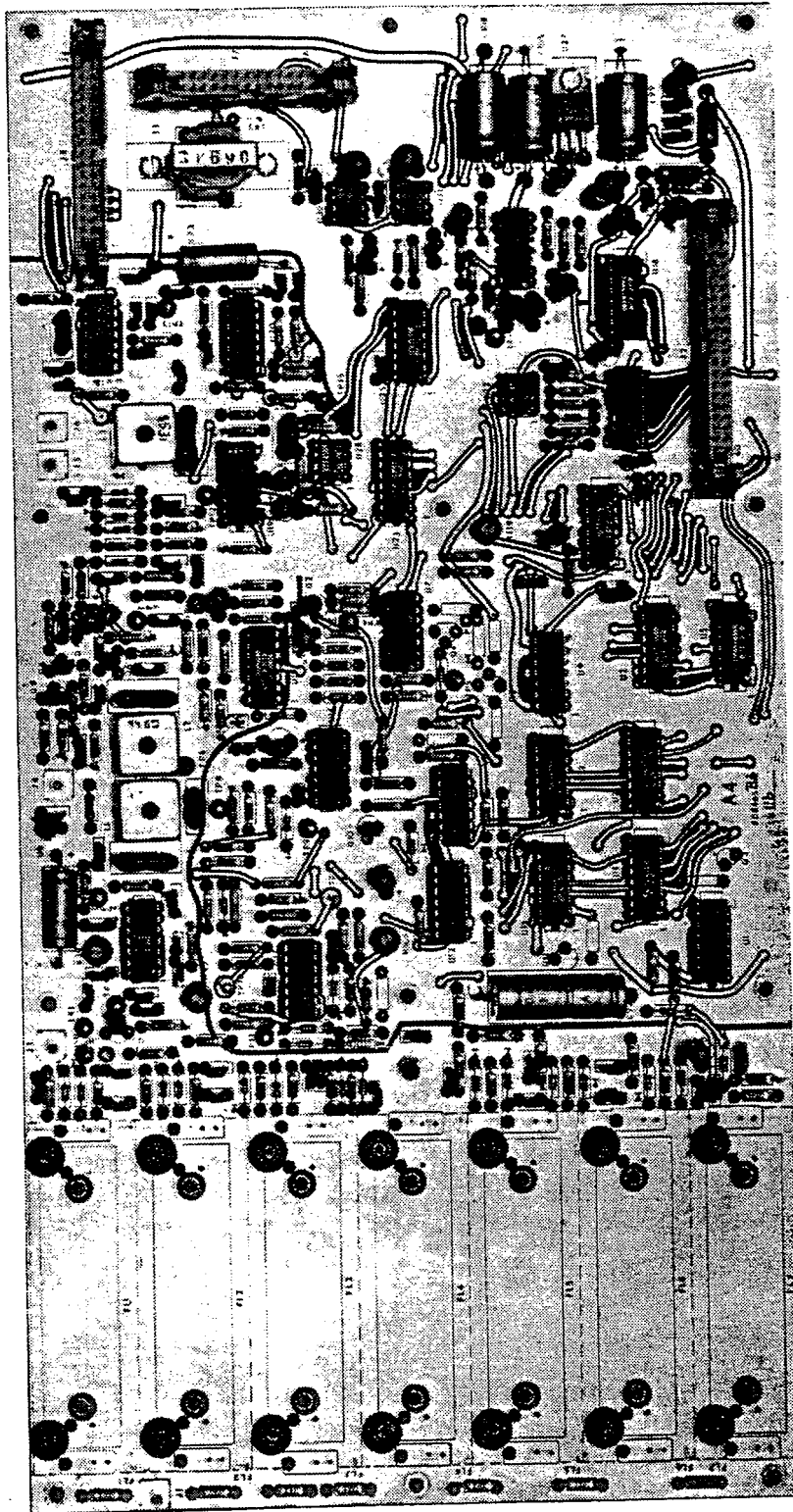


Figure 6-11. Main IF/AF Assembly, A4

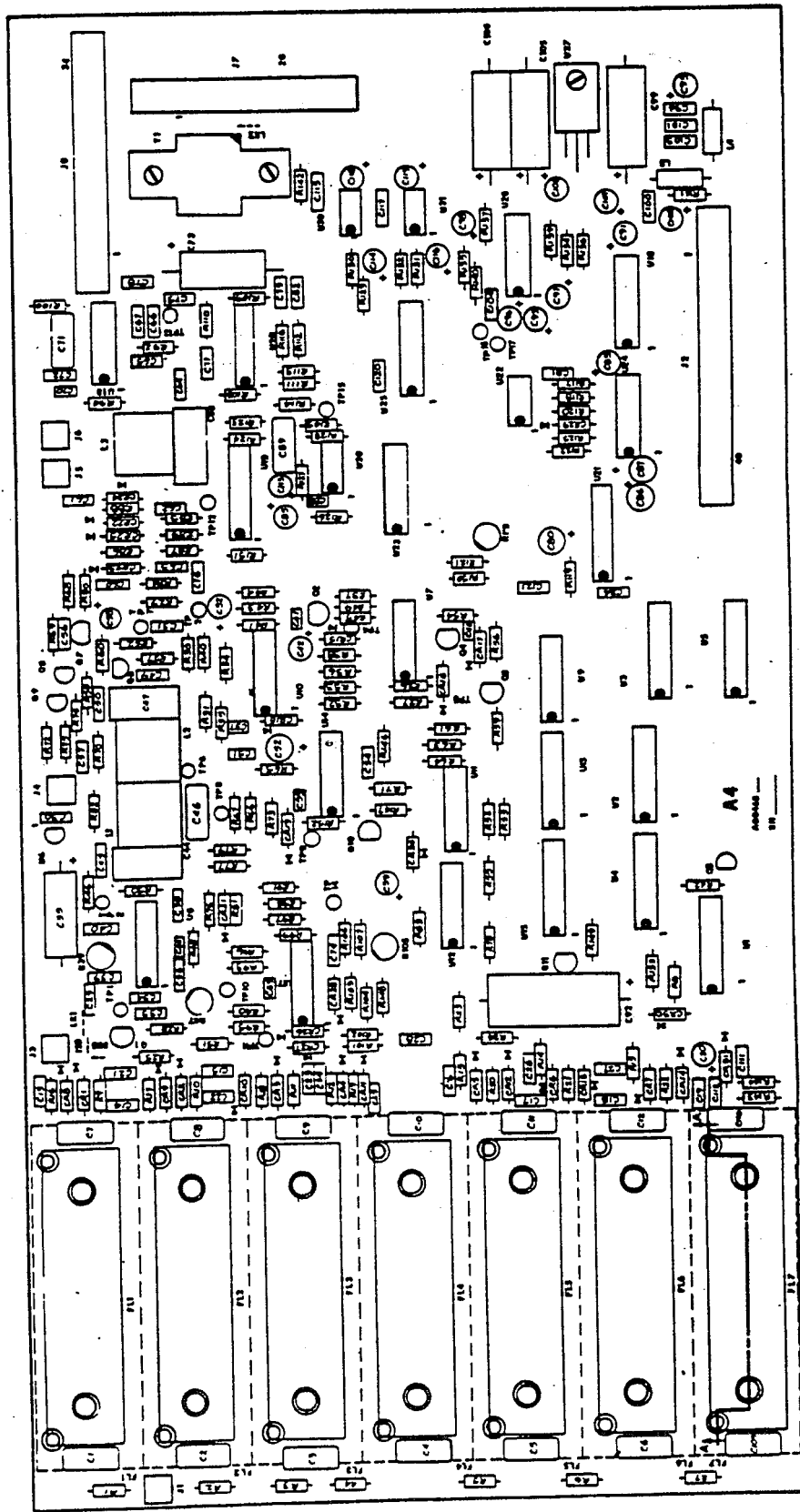


Figure 6-12. Component Location, A4

TABLE 6-6. MAIN IF/AF CIRCUIT CARD ASSEMBLY, A4

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
A4	Main IF/AF Circuit Card	08465	
C1 thru C12, C109, C110	Capacitor, used with Mechanical Filters 07883-1 to 07883-6. (See Table 6-1.)		
C13 thru C19, C21 thru C31, C33, C34, C36, C38, C39, C40, C45, C49, C50, C54, C56, C57, C60 thru C67, C72, C75 thru C79, C81 C82, C94, C100, C101, C103, C104, C111, C112, C120, C121	Capacitor, Ceramic, 0.1 uF, 50 WVDC, <u>+20%</u>	21732	M39014/01-1593
C20, C32, C52, C58, C80, C93, C102, C113	Capacitor, Tantalum, 15 uF, 20 WVDC, <u>+20%</u> (Union Carbide)	25062-156	T362B156K020AS
C35, C73	Capacitor, Electrolytic, 100 uF, 25 WVDC, -10 +50% (Electra)	24066	ET101X025A5
C37	Capacitor, Ceramic, 1000 pF, 50 WVDC, <u>+20%</u> (Union Carbide)	21756	8101-050-651-102M
C41	Capacitor, Ceramic, 0.022 uF, 50 WVDC, <u>+20%</u> (Union Carbide)	21762	8121
C42, C59, C83, C85, C91, C95 thru C98, C106	Capacitor, Tantalum, 6.8 uF, 35 WVDC, <u>+20%</u> (Union Carbide)	25060-685	T362A685M035AS
C43, C51, C53, C69, C70	Capacitor, Ceramic, 0.01 uF, 50 WVDC, <u>+20%</u>	21733	8121-050-651-103M
C44, C47	Capacitor, Mica, 1500 pF, 500 WVDC, <u>+2%</u>	22174	CMR06F152GODR

TABLE 6-6. MAIN IF/AF CIRCUIT CARD ASSEMBLY, A4 (Cont.)

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
C46	Capacitor, Mica, 82 pF, 500 WVDC, <u>+2%</u>	22108	CMR05E820GODR
C48, C55, C90	Capacitor, not used		
C68	Capacitor, Mica, 3300 pF, 500 WVDC, <u>+2%</u>	22145	CMR06F332GODR
C71	Capacitor, Mica, 100 pF, 500 WVDC, <u>+2%</u>	22109	CM05D101JGODR
C74	Capacitor, Ceramic, 1 uF, 50 WVDC, <u>+20%</u>	21748	8131-050-652-105M
C84	Capacitor, Ceramic, 10 pF, <u>+5%</u>	21347	831-000-COHO-100C
C86, C87, C114, C116	Capacitor, Tantalum, 1.0 uF, 35 WVDC, <u>+10%</u> (Union Carbide)	25060-105	T362A105M035AS
C88	Capacitor, Ceramic, 1500 pF, 100 WVDC, <u>+10%</u> (Union Carbide)	21735	C320C152K2R5C1
C89	Capacitor, Ceramic, 820 pF, 300 WVDC, <u>+5%</u> (Cornell)	22156	CD15FC821G03
C92	Capacitor, Electrolytic, 470 uF, 25 WVDC, (Electra)	24058	ET471X025A01
C99, C105, C108	Capacitor, Electrolytic, 220 uF, 16 WVDC, -10 +50% (Electra)	24067	3071FE221T016SF
C107, C118, C119	Capacitor, Tantalum, 68 uF, 15 WVDC, <u>+20%</u> (Union Carbide)	25063-686	T362C686M015AS
C109, C110	Capacitor, see Table 6-1.		
C115, C117	Capacitor, Ceramic, 390 pF, 500 WVDC, <u>+20%</u> (Erie)	21765	831-000-X5F0391K
CR1 thru CR16, CR18 thru CR31	Diode, Silicon	35514	1N916B
CR17	Diode, not used		
J1, J3 thru J6	Connector, RF (Seaelectro)	60044	051-851-0000-220
J2	Connector, Ribbon, 40-way (3M)	61271	3432-2003
J7	Connector, Ribbon, 26-way (3M)	61269	3429-2003
J8	Connector, Ribbon, 34-way (3M)	61270	3431-2003

TABLE 6-6. MAIN IF/AF CIRCUIT CARD ASSEMBLY, A4 (Cont.)

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
L1, L2	Coil Assembly, RF	08485	
L3	Coil Assembly, RF	08531	
L4, L5	Choke, 100. uH, <u>+5%</u>	43033	MS90538-12
Q1, Q2, Q6 thru Q10	Transistor, NPN, High Power (Motorola)	32021	2N5089
Q3, Q4, Q5, Q11	Transistor, not used		
R1 thru R7, R50, R92, R126, R136, R137	Resistor, Film, 4.7K, <u>+2%</u> , 1/4W	12161-472	RLR07C472GR
R8, R29, R46, R80 R82, R115	Resistor, Film, 47 ohms, <u>+2%</u> , 1/4W	12161-470	RLR07C470GR
R9 thru R15, R23, R28, R55, R62, R66, R68, R70, R72, R77, R78, R79, R85, R87, R102, R144, R145	Resistor, Film, 1K, <u>+2%</u> , 1/4W	12161-102	RLR07C102GR
R16 thru R22, R24, R33, R36, R40, R53, R57, R58, R71, R86, R88, R89, R130, R132, R135	Resistor, Film, 10K, <u>+2%</u> , 1/4W	23262-103	RLR07C103GR
R25, R60, R141	Resistor, Film, 100 ohms, <u>+2%</u> , 1/4W	12161-101	RLR07C101GR
R26, R30, R49, R61, R73, R83, R91, R124, R147	Resistor, Film, 22K, <u>+2%</u> , 1/4W	12161-223	RLR07C223GR

TABLE 6-6. PARTS LIST, MAIN IF/AF CIRCUIT CARD ASSEMBLY, A4 (Cont.)

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
R27, R44, R64, R94, R113, R143	Resistor, Film, 1.5K, <u>+2%</u> , 1/4W	12161-152	RLR07C152GR
R31, R84, R109, R111, R112, R114, R116, R121	Resistor, Film, 3.3K, <u>+2%</u> , 1/4W	12161-332	RLR07C332GR
R32, R38, R41, R52, R90, R93, R103	Resistor, Film, 47K, <u>+2%</u> , 1/4W	12161-473	RLR07C473GR
R34, R51, R101, R128	Resistor, Film, 2.2K, <u>+2%</u> , 1/4W	12161-222	RLR07C222GR
R35, R75, R110	Resistor, Film, 470 ohms, <u>+2%</u> , 1/4W	12161-471	RLR07C471GR
R37, R95, R96, R117, R122, R123, R125, R139, R140, R150, R151	Resistor, Film, 100K, <u>+2%</u> , 1/4W	12161-104	RLR07C104GR
R39	Resistor, Trimmer, 2K	16090-202	RJ50FP202
R42, R54, R56, R59, R63, R138, R148, R149	Resistor, not used		
R43, R48	Resistor, Film, 680 ohms, <u>+2%</u> , 1/4W	12161-681	RLR07C681GR
R45	Resistor, Film, 330K, <u>+2%</u> , 1/4W	12161-334	RLR07C334GR
R47	Resistor, Trimmer, 50K	16090-503	RJ50FP503
R65, R69, R97, R107, R129, R131, R134	Resistor, Film, 15K, <u>+2%</u> , 1/4W	12161-153	RLR07C153GR
R67, R104	Resistor, Film, 18K, <u>+2%</u> , 1/4W	12161-183	RLR07C183GR
R74, R81, R108	Resistor, Film, 6.8K, <u>+2%</u> , 1/4W	12161-682	RLR07C682GR
R76, R98	Resistor, Film, 12K, <u>+2%</u> , 1/4W	12161-123	RLR07C123GR

TABLE 6-6. PARTS LIST, MAIN IF/AF CIRCUIT CARD ASSEMBLY, A4 (Cont.)

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
R99, R146	Resistor, Film, 27K, <u>+2%</u> , 1/4W	12161-273	RLR07C273GR
R100, R133	Resistor, Film, 10 ohms, <u>+2%</u> , 1/4W	12161-100	RLR07C100GR
R105	Resistor, Trimmer, 10K	16090-103	RJ50FP103
R106	Resistor, Film, 180K, <u>+2%</u> , 1/4W	12161-184	RLR07C184GR
R118	Resistor, Film, 39K, <u>+2%</u> , 1/4W	12161-393	RLR07C393GR
R119	Resistor, Trimmer, 5K	16090-502	RJ50FP502
R120	Resistor, Film, 68K, <u>+2%</u> , 1/4W	12161-683	RLR07C683GR
R127	Resistor, Film, 8.2K, <u>+2%</u> , 1/4W	12161-822	RLR07C822GR
R142	Resistor, Film, 140 ohms, <u>+2%</u> , 1/4W	12138	RN55D1400F
R152	Resistor, Film, 1 Meg., <u>+2%</u> , 1/4W	12161-105	RLR07C105GR
T1	Transformer Assembly	08535	
U1	IC, BCD Decoder (National)	36575	CD40N28BCN
U2, U4, U13, U15, U23	IC, Quad Latch (RCA)	36613	4042B
U3, U5, U16	IC, Level Translator (RCA)	36790	CD40109BEX
U6	IC, 12 Volt dc Regulator (National)	36760	LM78L12AWC
U7, U14, U17	IC, Operational Amplifier (RCA)	36784	CA324E
U8	IC, IF Amplifier	36541	UA757DMQB
U9	IC, Dual D Flip-flop	36588	CD4013BE
U10	IC, Transistor Array (RCA)	36785	CA3046F
U11, U12	IC, Quad Bilateral Switch (RCA)	36792	CD4066BE
U18	IC, FM Detector and Limiting Amplifier (Motorola)	36631	MC1357L
U19	IC, Multiplexer/Demultiplexer (RCA)	36801	CD4053BEX
U20	IC, Product Detector (Motorola)	36748	MC1496L
U21	IC, Eight Bit Buffer, Multiplying (Analog Devices)	36803	AD7524JN

TABLE 6-6. PARTS LIST, MAIN IF/AF CIRCUIT CARD ASSEMBLY, A4 (Cont.)

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
U22, U28	IC, Dual Operational Amplifier (RCA)	36673	CA1458E
U24	IC, Quad Voltage Comparator	36693	LM339
U25	IC, 4x4 Crosspoint Switch (RCA)	36802	CD22100EX
U26	IC, Audio Amplifier, 2 Watt (National)	36777	LM377N
U27	IC, Voltage Regulator, +15 Volts	36708	M38510/10708BEA
U29	IC, not used		
U30, U31	IC, Electronic Attenuator (Motorola)	36763	MC3340L

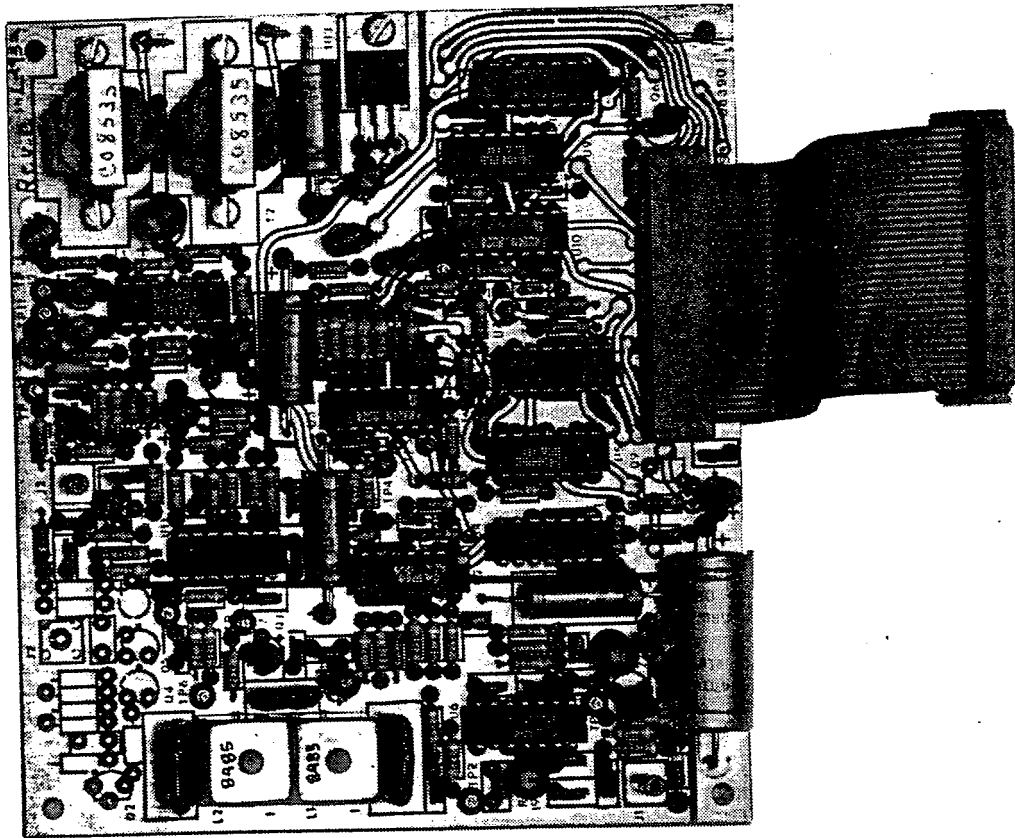


Figure 6-13. ISB Assembly, A5 (Optional)

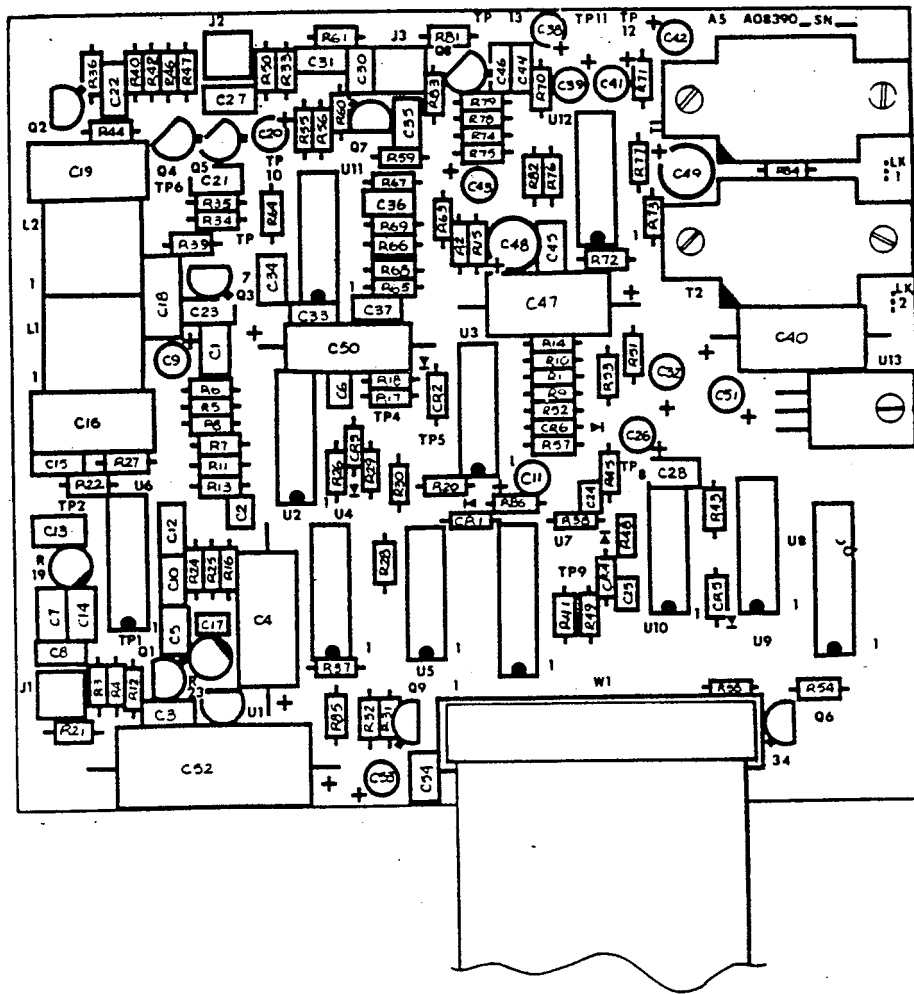


Figure 6-14. Component Location Diagram, A5

TABLE 6-7. PARTS LIST, ISB CIRCUIT CARD ASSEMBLY, A5

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
A5	ISB Circuit Card Assembly	08390	
C1, C3, C5, C7, C8, C10, C12 thru C15, C21, C23, C28, C30, C31, C33 thru C37, C45, C54	Capacitor, Ceramic, 0.1 uF, 50 WVDC, $\pm 20\%$	21732	M39014/01-1593
C2	Capacitor, Ceramic, 1000 pF, 18 WVDC, $\pm 20\%$ (Centralab)	21756	CY15C102M
C4, C50	Capacitor, Electrolytic, 100 uF, 25 WVDC, -10 +50% (Electra)	24066	ET101X025AS
C6	Capacitor, Ceramic, 0.022 uF, 50 WVDC, $\pm 20\%$ (Union Carbide)	21762	C320C223M1U1CA
C9, C26, C53	Capacitor, Tantalum, 15 uF, 20 WVDC, $\pm 20\%$ (Union Carbide)	25062-156	T362B156K020AS
C11, C32, C38, C39, C41, C42, C43, C51	C41 Capacitor, Tantalum, 6.8 uF, 35 WVDC, $\pm 20\%$ (Union Carbide)	25060-685	T362A685M035AS
C16, C19	Capacitor, Mica, 1500 pF, 500 WVDC, $\pm 2\%$	22174	CMR06F152GODR
C17, C24, C25	Capacitor, Ceramic, 0.01 uF, 50 WVDC, $\pm 20\%$ (Union Carbide)	21733	C320C103M1U1C1
C18	Capacitor, Mica, 82 pf, 500 WVDC, $\pm 2\%$	22108	CMR05E820GODR
C20, C22, C27, C29	Capacitor, not used		
C40, C47	Capacitor, Electrolytic, 220 uF, 16 WVDC, -10 +50% (Electra)	24067	3071FE221T016SF
C44	Capacitor, Ceramic, 4700 pF, 50 WVDC, $\pm 5\%$	21778	CCR06CG472GR
C46	Capacitor, Ceramic, 2200 pF, 50 WVDC, $\pm 5\%$	21779	CCR06CG222GR
C48, C49	Capacitor, Tantalum, 68 uF, 15 WVDC, $\pm 20\%$ (Union Carbide)	25063-686	T362C686M015AS
C52	Capacitor, Electrolytic, 470 uF, 25 WVDC, -10 +100% (Electra)	24058	ET471X025A01

TABLE 6-7. PARTS LIST, ISB CIRCUIT CARD ASSEMBLY, A5 (Cont.)

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
CR1 thru CR6	Diode, Silicon	35514	1N916B
J1, J3	Connector, RF (Seaelectro)	60044	051-351-0000-220
J2	Connector, not used		
L1, L2	Coil, RF, Variable	08485	
Q1, Q3, Q6, Q7, Q8	Transistor, NPN, High Power	32021	2N5089
Q2, Q4, Q5, Q9	Transistor, not used		
R1, R5, R26, R32, R37, R41, R54, R58	Resistor, Film, 22K, $\pm 2\%$, 1/4W	12161-223	RLR07C223GR
R2, R18, R38	Resistor, Film, 1.5K, $\pm 2\%$, 1/4W	12161-152	RLR07C152GR
R3	Resistor, Film, 56K, $\pm 2\%$, 1/4W	12161-563	RLR07C563GR
R4, R52	Resistor, Film, 12K, $\pm 2\%$, 1/4W	12161-123	RLR07C123GR
R6, R65, R66, R67, R69	Resistor, Film, 3.3K, $\pm 2\%$, 1/4W	12161-332	RLR07C332GR
R7, R25, R81	Resistor, Film, 2.2K, $\pm 2\%$, 1/4W	12161-222	RLR07C222GR
R8, R64	Resistor, Film, 470 ohms, 2%, 1/4W	12161-471	RLR07C471GR
R9, R13, R15, R28	Resistor, Film, 47K, $\pm 2\%$, 1/4W	12161-473	RLR07C473GR
R10, R11, R14, R29, R34, R35, R43, R56, R63	Resistor, Film, 10K, $\pm 2\%$, 1/4W	12161-103	RLR07C103GR
R12, R30, R39, R48, R51, R53, R59	Resistor, Film, 1K, $\pm 2\%$, 1/4W	12161-102	RLR07C102GR
R16, R22	Resistor, Film, 47 ohms, $\pm 2\%$, 1/4W	12161-470	RLR07C470GR

TABLE 6-7. PARTS LIST, ISB CIRCUIT CARD ASSEMBLY, A5 (Cont.)

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
R17, R24	Resistor, Film, 680 ohms, <u>+2%</u> , 1/4W	12161-681	RLR07C681GR
R19	Resistor, Trimmer, 2K	16090-202	RJ50FP202
R20	Resistor, Film, 330K, <u>+2%</u> , 1/4W	12161-334	RLR07C334GR
R21	Resistor, Film, 100 ohms, <u>+2%</u> , 1/4W	12161-101	RLR07C101GR
R23	Resistor, Trimmer, 50K	16090-503	RJ50FP503
R27, R72, R73, R78	Resistor, Film, 4.7K, <u>+2%</u> , 1/4W	12161-472	RLR07C472GR
R31, R33, R36, R40, R42, R44, R46, R47, R50, R62, R80	Resistor, not used		
R45, R70, R71	Resistor, Film, 15K, <u>+2%</u> , 1/4W	12161-153	RLR07C153GR
R49	Resistor, Film, 18K, <u>+2%</u> , 1/4W	12161-183	RLR07C183GR
R55	Resistor, Film, 33K, <u>+2%</u> , 1/4W	12161-333	RLR07C333GR
R57	Resistor, Film, 6.8K, <u>+2%</u> , 1/4W	12161-682	RLR07C682GR
R60	Resistor, Film, 33 ohms, <u>+2%</u> , 1/4W	12161-330	RLR07C330GR
R61	Resistor, Film, 390 ohms, <u>+2%</u> , 1/4W	12161-391	RLR07C391GR
R68	Resistor, Film, 1.2K, <u>+2%</u> , 1/4W	12161-122	RLR07C122GR
R74	Resistor, Film, 39K, <u>+2%</u> , 1/4W	12161-393	RLR07C393GR
R75	Resistor, Film, 68K, <u>+2%</u> , 1/4W	12161-683	RLR07C683GR
R76, R77	Resistor, Film, 100K, <u>+2%</u> , 1/4W	12161-104	RLR07C104GR
R79	Resistor, Film, 8.2K, <u>+2%</u> , 1/4W	12161-822	RLR07C822GR
R82, R84	Resistor, Film, 140 ohms, <u>+2%</u> , 1/4W	12138	RN55D1400F
R83	Resistor, Film, 22 ohms, <u>+2%</u> , 1/4W	12161-220	RLR07C220GR
R85	Resistor, Film, 10 ohms, <u>+2%</u> , 1/4W	12161-100	RLR07C100GR
R86	Resistor, Film, 1 Meg., <u>+2%</u> , 1/4W	12161-105	RLR07C105GR

TABLE 6-7. PARTS LIST, ISB CIRCUIT CARD ASSEMBLY, A5 (Cont.)

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
T1, T2	Transformer Assembly, Audio	08535	
U1	IC, +12 Volt Regulator (National)	36760	LM78L12AWC
U2	IC, Transistor Array (RCA)	36785	CA3046F
U3, U10	IC, Quad Operational Amplifier (RCA)	36784	CA324E
U4	IC, Dual D Flip-flop	36588	CD4013BE
U5, U9	IC, Quad Bilateral Switch (RCA)	36792	CD4066BE
U6	IC, Operational Amplifier	36541	UA757DMGB
U7, U8	IC, Quad Latch (RCA)	36613	4042B
U11	IC, Product Detector (Motorola)	36748	MC1496L
U12	IC, Dual Audio Amplifier, 2 Watt (National)	36777	LM377N
U13	IC, +15 Volt Regulator (Fairchild)	36708	7815UC
W1	Cable, Ribbon	08486	
W10	Cable Assembly	08555-6	
W11	Cable Assembly, Coaxial	08555-7	

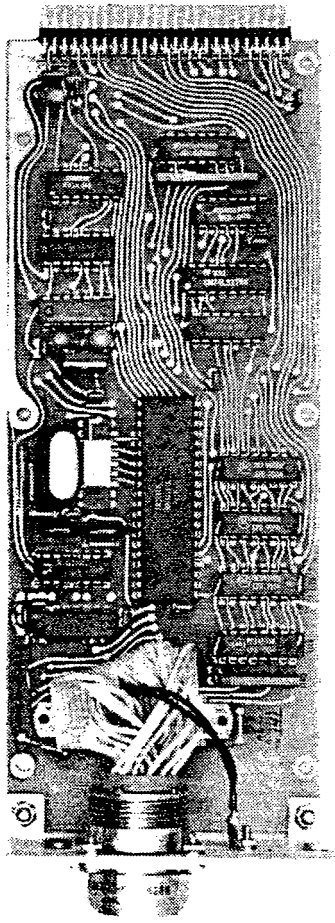
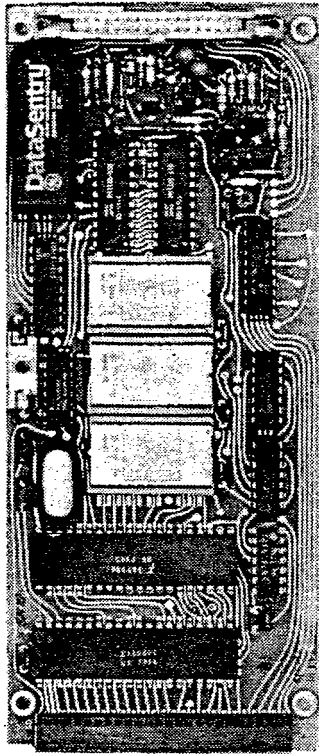


Figure 6-15. Microcomputer Assembly, A6

TABLE 6-8. PARTS LIST, MICROCOMPUTER ASSEMBLY, A6

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
A6	Microcomputer Assembly	08397	
A6A1	Serial Asynchronous Interface Assembly (see Table 6-9 for further breakdown)	08391	
A6A2	Microprocessor Assembly (see Table 6-10 for further breakdown)	08392	
-	ROM Set, R79NRM	08449	

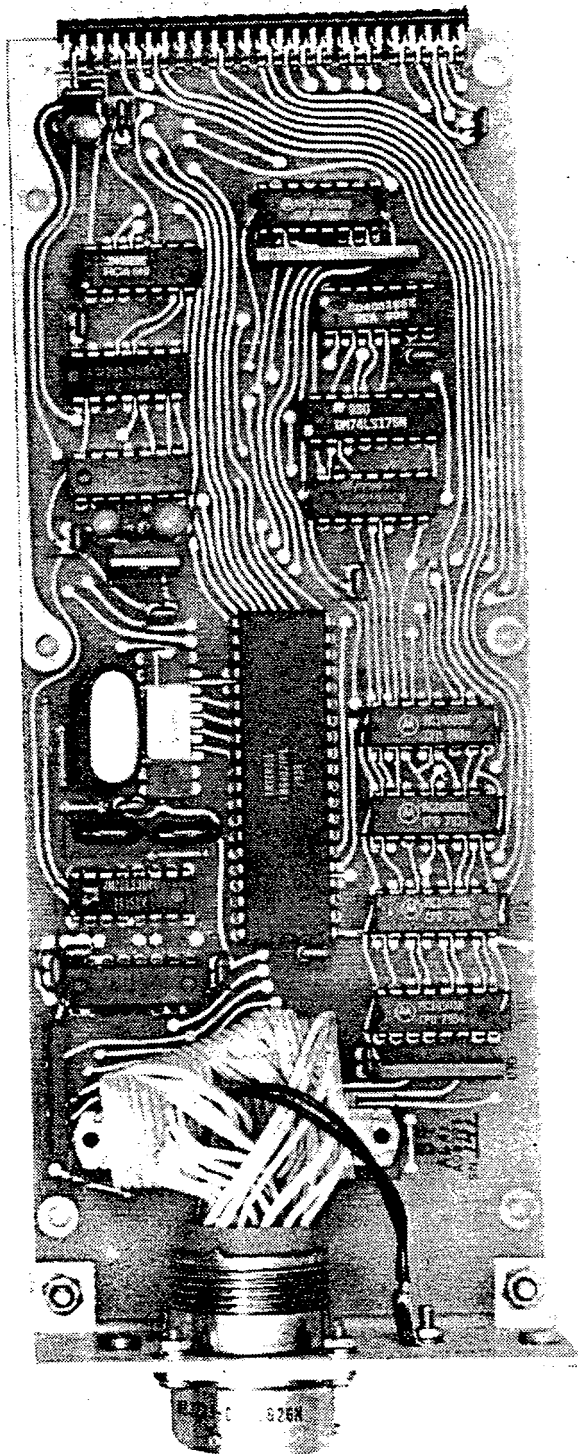


Figure 6-16. Asynchronous Interface Assembly, A6A1

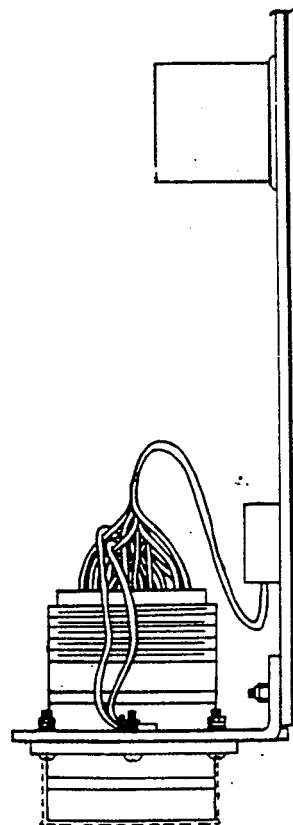
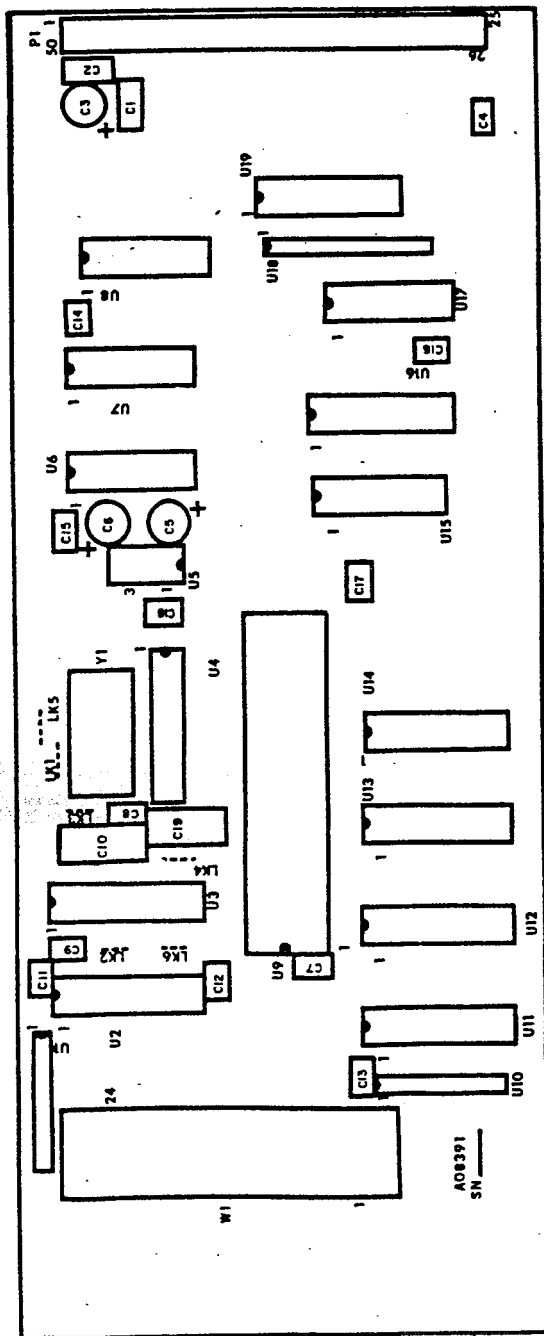


Figure 6-17. Component Location Diagram, A6A1

TABLE 6-9. PARTS LIST, SERIAL ASYNCHRONOUS INTERFACE ASSEMBLY, A6A1

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
A6A1	Serial Asynchronous Interface Assembly	08391	
C1	Capacitor, Ceramic, 0.1 uF, 50 WVDC, <u>+20%</u>	21732	M39014/01-1593
C2	Capacitor, Ceramic, 0.22 uF, 50 WVDC, <u>+20%</u>	21742	M39014/02-1356
C3	Capacitor, Tantalum, 22 uF, 15 WVDC, <u>+10%</u> (Union Carbide)	25063-226	T362B226K015AS
C4, C7, C8, C9, C11 thru C18	Capacitor, Ceramic, 0.01 uF, 50 WVDC, <u>+20%</u> (Union Carbide)	21733	C320C103M1U1C1
C5, C6	Capacitor, Tantalum, 6.8 uF, 35 WVDC, <u>+20%</u> (Union Carbide)	25060-685	T362A685MO35AS
C10, C19	Capacitor, Mica, 300 pf, 500 WVDC, <u>+5%</u>	22035	CMR05F301GODR
P1	Connector, 50-Pin, 2 Section	08491	
U1, U10	Resistor, Network, 22K, 8-Pin, S1P (Dale)	19321-223	S1P-8-223
U2	IC, Quad Differential Line Receiver (Texas Instrument)	36798	AM26LS32CN
U3	IC, Quad RS-423 Line Driver (Advanced Micro)	36797	AM26LS30PC
U4	IC, Baud-Rate Generator (National)	36719	AH5016C-5
U5	IC, -5 Volt Regulator (National)	36704	LM7905CN
U6, U15	IC, Quad 2-Input NAND Gate (Motorola)	36571	MC14011
U7	IC, Hex Inverter	36676	74LS04J
U8	IC, Dual AOI Gates (RCA)	36781	CD4085BF
U9	IC, UART (Siliconix)	36667	JM6402
U11 thru U14	IC, Hex Tri-state Buffer (National)	36694	MC14503BCL
U16	IC, Quad D F/F	36675	74LS175J
U17	IC, Dual 4-Input NOR Gate	36587	MC14002BCL
U18	Resistor Network, 22K, 10-Pin S1P (Bovins)	19323-223	4310R-101-223
U19	IC, Dual 4-Channel Data Select (National)	36650	CD4529BCN

TABLE 6-9. PARTS LIST, SERIAL ASYNCHRONOUS INTERFACE ASSEMBLY, A6A1 (Cont.)

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
W1	Cable Assembly	08493	
W1J1	Connector, 26-Pin, Male, Part of W1	61091	M83723-02R-1626M
-	Connector, 26-Pin, Female, Mates with J1	61092	M83723-13R-1626M
Y1	Crystal, 4.9152 MHz	08490	
-	Plate, Connector Mounting	08471	
-	Dust Cover	64012	MS90376-16Y

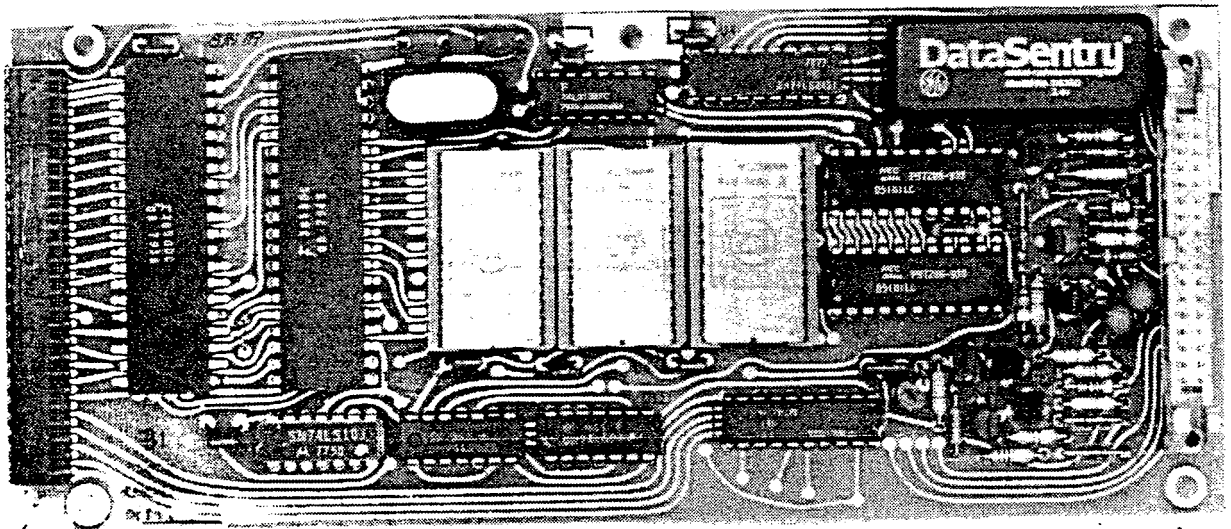


Figure 6-18. Microprocessor Assembly, A6A2

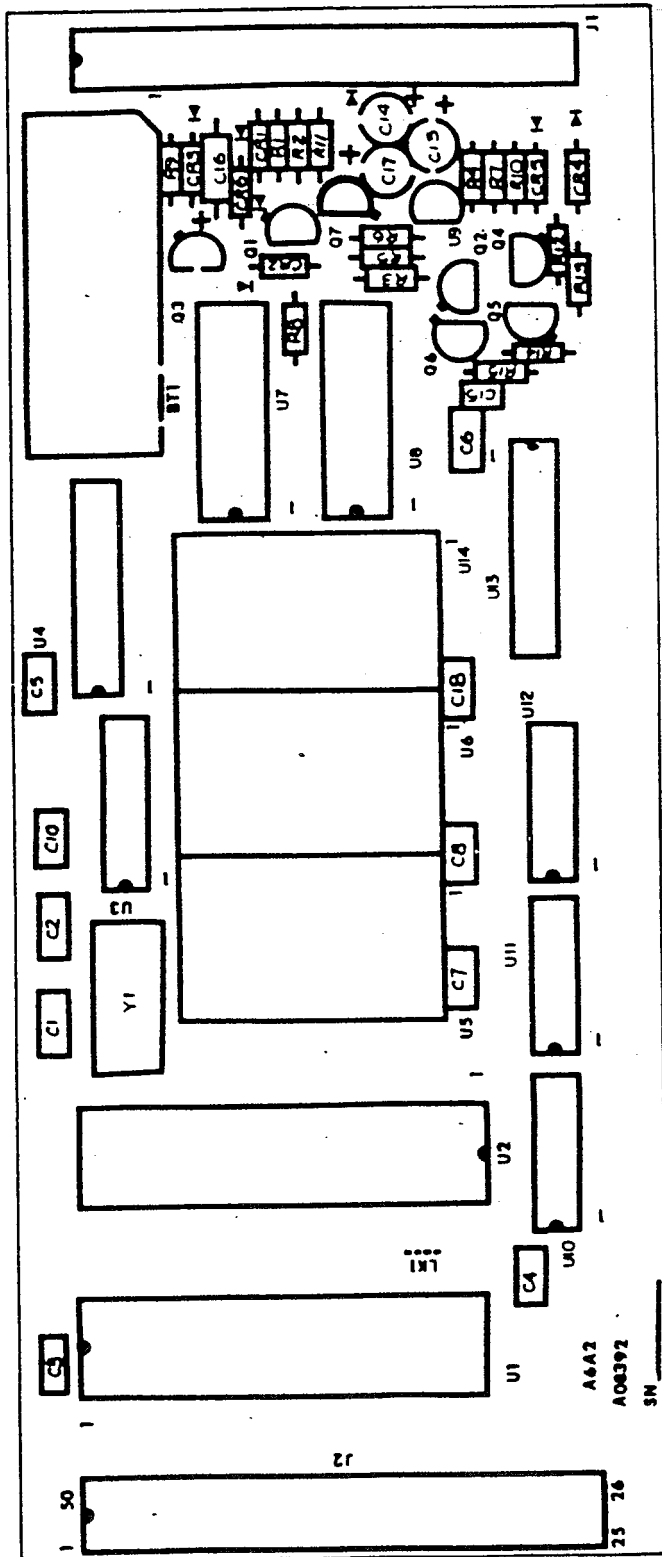


Figure 6-19. Component Location Diagram, A6A2

TABLE 6-10. PARTS LIST, MICROPROCESSOR ASSEMBLY, A6A2

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
A6A2	Microprocessor Assembly	08392	
BT1	Battery, Ni-Cad, 2.4V dc (GE)	42517	DS2SD
C1, C2	Capacitor, Ceramic, 15 pF, Nonpolarized, <u>+5%</u> (Centralab)	21351	DTZ-15
C3 thru C8, C10, C18	Capacitor, Ceramic, 0.1 uF, 50 WVDC, <u>+20%</u>	21732	M39014/01-1593
C9	Not used		
C13, C14	Capacitor, Tantalum, 6.8 uF, 35 WVDC, <u>+20%</u> (Union Carbide)	25060-685	T362A685M035AS
C15	Capacitor, Ceramic, 0.001 uF, 50 WVDC, <u>+20%</u> (Centralab)	21756	CY15C102M
C16	Capacitor, Tantalum, 4.7 uF, 10 WVDC, <u>+2%</u> (Union Carbide)	25059	T210A475M0L0MS
C17	Capacitor, Tantalum, 15 uF, 20 WVDC, <u>+20%</u> (Union Carbide)	25062-156	T362B156K020AS
CR1	Diode, Zener, 5.6V dc	33543	1N752A
CR2, CR4, CR5, CR6	Diode, Silicon	35514	1N916B
CR3	Diode, Germanium	35538	1N270
J1	Connector, 34-Pin (3M)	61200	3431-2002
J2	Connector, 50-Pin (Berg)	61225	65000-036
Q1, Q4	Transistor, PNP, Low Power (Motorola)	32037	2N3906
Q2, Q3, Q5	Transistor, NPN, Low Power (Motorola)	32036	2N3904
Q6, Q7	Transistor, Field Effect (Texas Instrument)	32518	TIS74
R1, R7	Resistor, Film, 1K, <u>+2%</u> , 1/4W	12161-102	RLR07C102GR
R2	Resistor, Film, 39K, <u>+2%</u> , 1/4W	12161-393	RLR07C393GR
R3, R8	Resistor, Film, 10K, <u>+2%</u> , 1/4W	12161-103	RLR07C103GR
R4, R12	Resistor, Film, 47K, <u>+2%</u> , 1/4W	12161-473	RLR07C473GR
R5	Resistor, 120K, <u>+2%</u> , 1/4W	12161-124	RLR07C124GR

TABLE 6-10. PARTS LIST, MICROPROCESSOR ASSEMBLY, A6A2 (Cont.)

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
R6	Resistor, Film, 82K, <u>+2%</u> , 1/4W	12161-823	RLR07C823GR
R9	Resistor, 270 ohms, <u>+2%</u> , 1/4W	12161-271	RLR07C271GR
R10, R15	Resistor, Film, 33K, <u>+2%</u> , 1/4W	12161-333	RLR07C333GR
R11	Resistor, Film, 47 ohms, <u>+2%</u> , 1/4W	12161-470	RLR07C470GR
R13	Resistor, Film, 10 ohms, <u>+2%</u> , 1/4W	12161-100	RLR07C100GR
R14	Resistor, Film, 100K, <u>+2%</u> , 1/4W	12161-104	RLR07C104GR
U1	IC, Central Processor Unit (Mostek)	36710	MK3850
U2	IC, System Memory Interface (Mostek)	36712	MK3853
U3	IC, Dual 1-of-4 Decoder	36671	74LS139
U4	IC, Octal 3-State Transceiver	36741	74LS245
U5, U6, U14	ROM Set, Firmware	08449	2716-2KX8
U7, U8	IC, Random Access Memory (Intel)	36713	P5101L
U9	IC, +12V Regulator, TO-92 (National)	36760	LM78L12AWC
U10	IC, Triple 3-Input NAND Gate	36633	74LS10J
U11	IC, Quad 2-Input NOR Gate	36660	74LS02J
U12	IC, Hex Inverter	36676	74LS04J
U13	IC, Octal D Tri-State F/F	36703	SN74LS374N
XU5, XU6, XU14	IC, Socket, 24-Pin, DIP (Jermyn)	70620	A23-2023Z
Y1	Crystal, 2 MHz	08487	

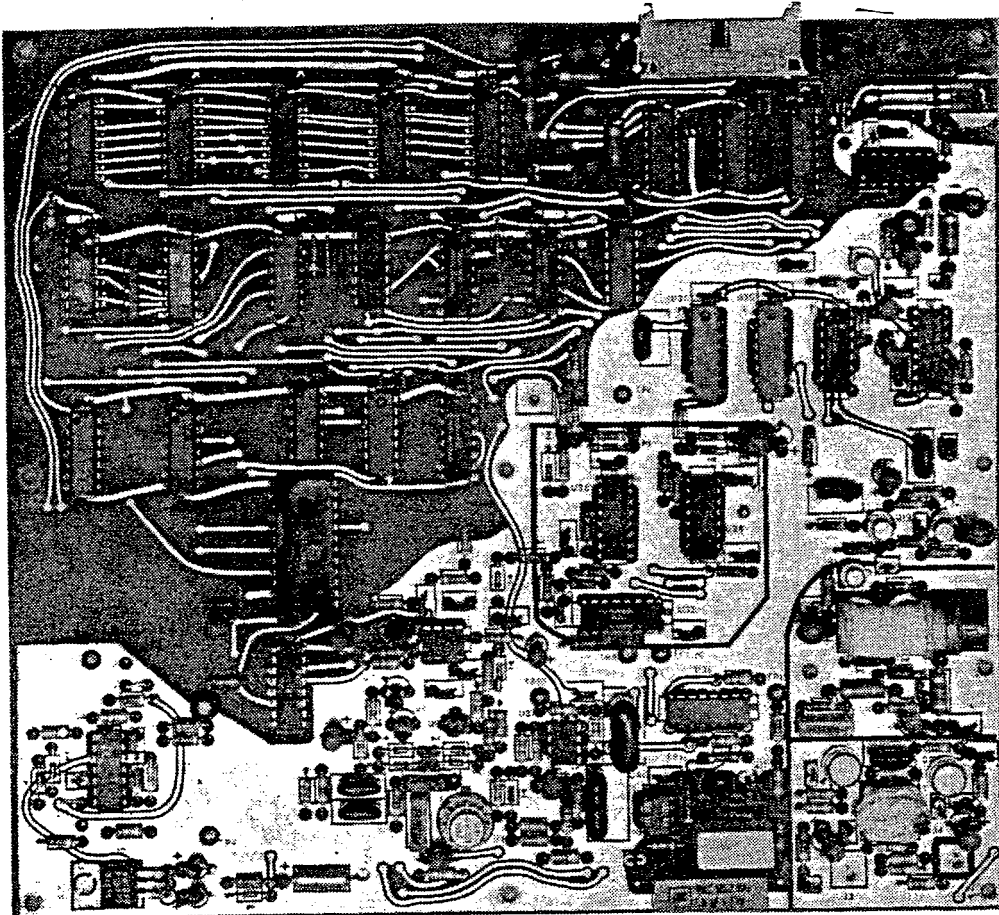


Figure 6-20. First LO Synthesizer Assembly, A7

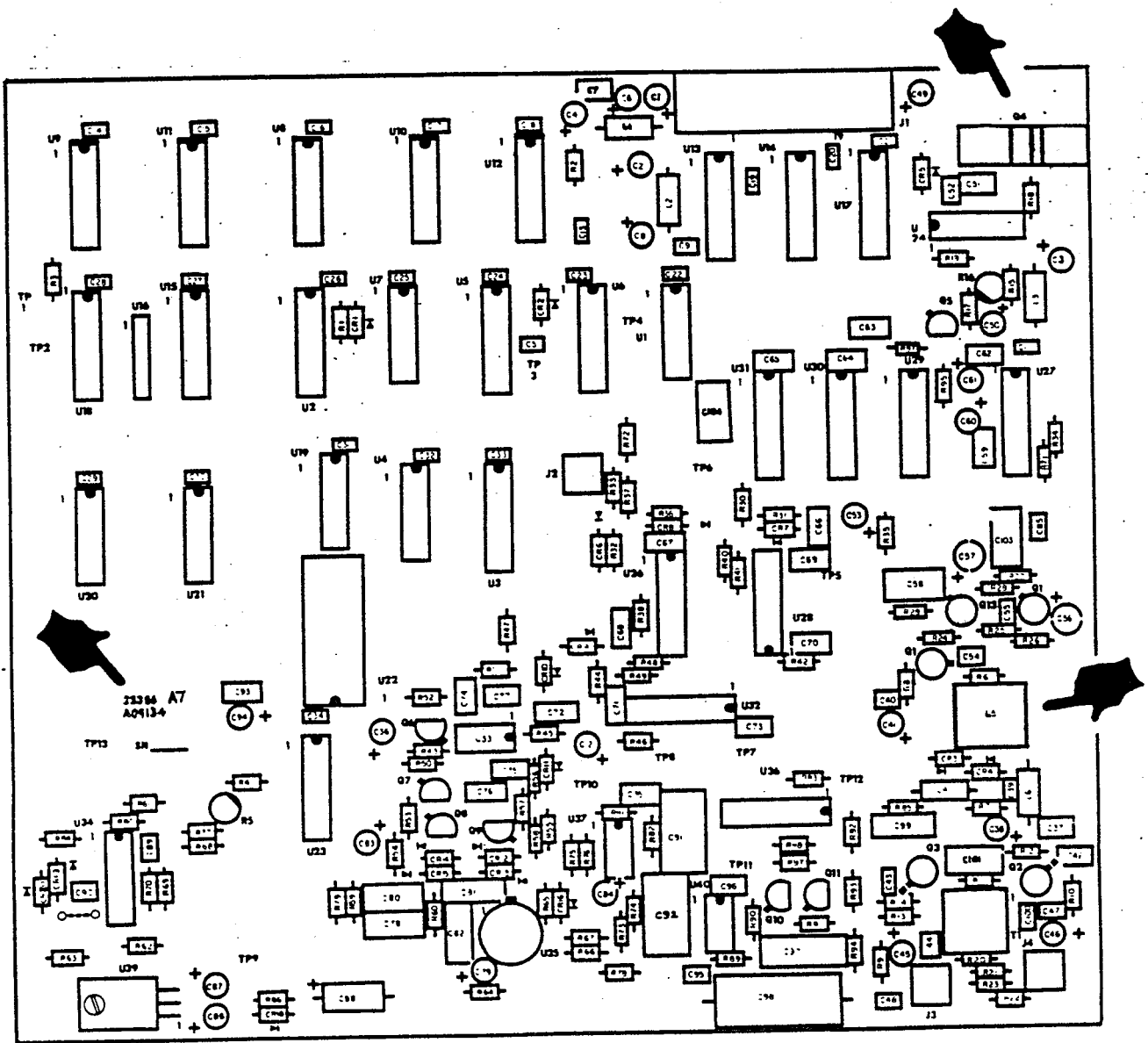


Figure 6-21. Component Location, A7

TABLE 6-11. PARTS LIST, FIRST LO SYNTHESIZER CIRCUIT CARD ASSEMBLY A7

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
A7	First LO Synthesizer Circuit Card Assembly	09134	
C1-C4, C6	Capacitor, Tantalum, 6.8 uF, 35 WVDC, $\pm 20\%$ (Union Carbide)	25060-685	T362A685M035AS
C8, C12, C36, C38, C45, C46, C49, C50, C57, C60, C61, C79, C83, C84, C94			
C5, C7, C9, C11, C13-C34, C39, C44, C47, C48, C55, C85	Capacitor, Ceramic, 0.01 uF, 100 WVDC, $\pm 20\%$ (Union Carbide)	21733	8121-050-651-103M
C10, C102	Not Used		
C35, C37, C42, C51, C49, C62 C63-C77, C93, C96	Capacitor, Ceramic, 0.1 uF, 100 WVDC, $\pm 20\%$	21732	8121-050-651-104M
C40, C43, C52, C54, C95	Capacitor, Ceramic, 0.001 uF, 100 WVDC, $\pm 20\%$ (Centralab)	21756	8101-050-651-102M
C41, C56	Capacitor, Tantalum, 33 uF, 25 WVDC, $\pm 10\%$ (Union Carbide)	25061-336	T362C336M025AS
C53	Capacitor, Tantalum, 150 uF, 6 WVDC, $\pm 20\%$ (Union Carbide)	25065-157	T362C157K006AS
C58	Capacitor, Mica, 10 pF, 500 WVDC, $\pm 5\%$	22001	CMR05D100G0DR
C78	Capacitor, Mica, 100 pF, 100 WVDC, $\pm 5\%$	22023	CMR05F101G0DR
C80	Capacitor, Mica, 27 pF, 100 WVDC, $\pm 5\%$	22119	CMR05E270G0DR
C81	Capacitor, Polyester, 0.001 uF, 400 WVDC, $\pm 10\%$ (Stettner Trush)	26899	KT1806-210/01
C82	Capacitor, Polycarbonate, 0.047 uF, 100 WVDC, $\pm 10\%$ (Electra)	26896	MKC-1862-347/01
C86, C87	Capacitor, Tantalum, 1 uF, 35 WVDC, $\pm 20\%$	25060-105	T362A105M035AS
C88	Capacitor, Tantalum, 15 uF, 20 WVDC, $\pm 20\%$	25035	CS13BE156M
C89	Capacitor, Ceramic, 0.047 uF, 100 WVDC, $\pm 20\%$	27159	8121-050-651-473M
C90	Capacitor, Ceramic, 2200 pF, 100 WVDC, $\pm 20\%$	21780	8111-100-651-22M
C91	Capacitor, Mica, 4700 pF, 100 WVDC, $\pm 5\%$	22066	CMR06F472G0DR
C92	Capacitor, Mica, 2200 pF, 100 WVDC, $\pm 5\%$	22057	CMR06F222G0DR
C97	Capacitor, Polycarbonate, 1.0 uF, 100 WVDC, $\pm 10\%$ (Electra)	26875	C280MCH/ALM
C98	Capacitor, Polycarbonate, 3.3 uF, 63 WVDC, $\pm 10\%$ (Stettner Trush)	26897	MKC-1862-533/06
C99	Capacitor, Polycarbonate, 0.068 uF, 100 WVDC, $\pm 10\%$ (Electra)	26898	MKC-1862-368/01
C100	Capacitor, Ceramic, 4.7 pF (Union Carbide)	21783	8101-100-COH0479D

TABLE 6-11. PARTS LIST, FIRST LO SYNTHESIZER CIRCUIT CARD ASSEMBLY A7 (Cont)

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
C101	Capacitor, Mica, 82 pF, 500 WVDC, $\pm 2\%$	22108	
C103, C104	Capacitor, Mica, 47 pF, 500 WVDC, $\pm 5\%$	22014	CMR05E470G0DR
CR1, CR2	Diode, Silicon	35514	1N916
CR5-CR16, C19, C20			
CR3, CR4	Diode, Varactor (KSW)	29016	KV2201
CR17, CR21	Diode, Not Used		
CR18	Diode, Zener, 9.1 V	33544	1N757A
J1	Connector, PCB, Right Angle, 20-Way (3M)	61276	3492-1002
J2, J3, J4	Connector, PCB, Coaxial, SMB, Male (Sealectro)	60044	051-851-0000-91
L1-L4	Choke, Fixed, RF, 6.8 uH, $\pm 10\%$	43028	LT10K129
L5	Coil Assembly, Air-Wound LO Coil, Variable	D09255	
L6	Choke, Fixed, RF, 15 uH, $\pm 10\%$	43040	LT10K133
Q1	Transistor, Field Effect	32508	2N4416
-	Pad, Transistor, Q1, Q5, Q12, Q13	70752	7717-7NWHT
Q2, Q3	Transistor, NPN, RF High Power	32044	MRF517
-	Pad, Transistor, Q2, Q3	70764	N88226
Q4	Transistor, NPN, High Power (Motorola)	30239	2N4921
-	Pad, Transistor, Q4	70770	RC-T05140-8A
Q5, Q13	Transistor, NPN, Silicon	32255	2N2369
Q6, Q7, Q8, Q11	Transistor, PNP, Silicon (Motorola)	31508	2N4126
Q9, Q10	Transistor, NPN, Low Power (Motorola)	32035	2N4124
Q12	Transistor, NPN, Low Power, Silicon	31500	2N918
R1, R87, R89	Resistor, Film, 47K, $\pm 2\%$, $\frac{1}{4}W$	12161-471	RL407C473GR
R2, R12, R28, R72, R92, R94	Resistor, Film, 10 ohms, $\pm 2\%$, $\frac{1}{4}W$	12161-100	RLR07C100GR
R3, R50, R62, R73, R81, R82, R83	Resistor, Film, 10K, $\pm 2\%$, $\frac{1}{4}W$	12161-103	RLR07C103GR
R4, R91	Resistor, Film, 150 ohms, $\pm 2\%$, $\frac{1}{4}W$	12161-151	RLR07C151GR
R5	Resistor, Variable, 200 ohms	16090-201	RJR50FP201
R6, R29, R85	Resistor, Film, 100 ohms, $\pm 2\%$, $\frac{1}{4}W$	12161-101	RLR07C101GR
R7, R8, R14, R23	Resistor, Film, 68 ohms, $\pm 2\%$, $\frac{1}{4}W$	12161-680	RLR07C680GR
R9, R22, R60	Resistor, Film, 22 ohms, $\pm 2\%$, $\frac{1}{4}W$	12161-220	RLR07C220GR
R10, R26	Resistor, Film, 1.5K, $\pm 2\%$, $\frac{1}{4}W$	12161-152	RLR07C152GR
R11, R93	Resistor, Film, 680 ohms, $\pm 2\%$, $\frac{1}{4}W$	12161-681	RLR07C681GR
R13	Resistor, Film, 390 ohms, $\pm 2\%$, $\frac{1}{4}W$	12161-391	RLR07C391GR
R15, R30, R33, R37, R47	Resistor, Film, 820 ohms, $\pm 2\%$, $\frac{1}{4}W$	12161-821	RLR07S821GR
R16	Resistor, Variable, 500 ohms	16090-501	RJR50FP501

TABLE 6-11. PARTS LIST, FIRST LO SYNTHESIZER CIRCUIT CARD ASSEMBLY A7 (Cont)

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
R17, R52, R56	Resistor, Film, 2.2K, $\pm 2\%$, $\frac{1}{4}W$	12161-222	RLR07C222GR
R18	Resistor, Film, 47 ohms, $\pm 2\%$, $\frac{1}{4}W$	12161-470	RLR07C470GR
R19	Resistor, Composition, 1 ohm, $\pm 5\%$ (Stettner Trush)	12153	SK2-2/4-1R0J
R20	Resistor, Film, 39 ohms, $\pm 2\%$, $\frac{1}{4}W$	12161-390	RLR07C390GR
R21, R27	Resistor, Film, 330 ohms, $\pm 2\%$, $\frac{1}{4}W$	12161-331	RLR07C331GR
R24, R34, R35, R38, R40-R44, R46, R48, R49, R55, R58, R86	Resistor, Film, 470 ohms, $\pm 2\%$, $\frac{1}{4}W$	12161-471	RLR07C471GR
R25, R61, R63, R68, R70, R90, R95, R97	Resistor, Film, 1K, $\pm 2\%$, $\frac{1}{4}W$	1216-102	RLR07C102GR
R31, R32, R36	Resistor, Film, 220 ohms, $\pm 2\%$, $\frac{1}{4}W$	12161-221	RLR07C221GR
R39	Resistor, not used		
R45	Resistor, Film, 56K, $\pm 2\%$, $\frac{1}{4}W$	12161-563	RLR07C563GR
R51	Resistor, Film, 4.7K, $\pm 2\%$, $\frac{1}{4}W$	12161-472	RLR07C472GR
R53, R54, R59, R69, R84	Resistor, Film, 3.3K, $\pm 25\%$, $\frac{1}{4}W$	12161-332	RLR07C332GR
R57	Resistor, Film, 3.9K, $\pm 2\%$, $\frac{1}{4}W$	12161-392	RLR07C392GR
R64	Resistor, Film, 39K, $\pm 2\%$, $\frac{1}{4}W$	12161-393	RLR07C393GR
R65, R74, R75, R76	Resistor, Film, 15K, $\pm 2\%$, $\frac{1}{4}W$	12161-153	RLR07C153GR
R66	Resistor, Film, 8.2K, $\pm 2\%$, $\frac{1}{4}W$	12161-822	RLR07C822GR
R67, R79	Resistor, Film, 12K, $\pm 2\%$, $\frac{1}{4}W$	12161-123	RLR07C123GR
R71	Resistor, Film, 82 ohms, $\pm 2\%$, $\frac{1}{4}W$	12161-820	RLR07C820GR
R77	Resistor, Film, 100K, $\pm 2\%$, $\frac{1}{4}W$	12161-104	RLR07C104GR
R78	Resistor, Film, 2.7K, $\pm 2\%$, $\frac{1}{4}W$	12161-272	RLR07C272GR
R80	Resistor, Film, 150K, $\pm 2\%$, $\frac{1}{4}W$	12161-154	RLR07C154GR
R88	Resistor, Film, 120K, $\pm 2\%$, $\frac{1}{4}W$	12161-124	RLR07C124GR
T1	Transformer, Wideband	08502-1	
U1	IC, Quad 2-Input NOR Gate (Motorola)	36569	M38510/0520BCB
U2	IC, Hex 3-State Buffer (Motorola)	36694	MC14503BCL
U3, U5, U6	IC, 6-Bit D Flip-Flop	36715	M38510/30106BEB
U4	IC, Quad 2-Input NOR Gate	36660	M38510/30301BCB
U7	IC, Quad Exclusive NOR Gate (Motorola)	36653	4070BCL
U8-U14	IC, 8-Bit Register, Shift and Store (RCA)	36767	CD4094BE
U15	IC, 4-Bit BCD Adder (Signetics)	36768	N82S83N
U16	IC, Resistor Array, 6-Pin, 10K (Bovins)	19324-103	4306R-101-103
U17	IC, 4-Bit Full Adder (Motorola)	36570	M38510/05401BCB
U18	IC, Hex D Flip-flop (RCA)	36766	40/74B
U19	IC, Dual D Flip-flop	36636	M38510/30102BCB

TABLE 6-11. PARTS LIST, FIRST LO SYNTHESIZER CIRCUIT CARD ASSEMBLY A7 (Cont)

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
U20, U21	IC, 18 Bit Static Shift Register (Motorola)	36769	M38510/05710BCB
U22	IC, 4x4 Multiport Register (RCA)	36770	CD40108BE
U23	IC, Digital to Analog Converter (PMI)	36771	DAC20CQ
U24	IC, Voltage Regulator (Fairchild)	36728	M38510/10201BEA
U25, U38	IC, not used		
U26, U28	IC, Dual D Flip-flop (Fairchild)	36774	10231DC
U27	IC, Divide by 10/11 Prescaler (Fairchild)	36745	11C90
U29	IC, Binary Up-Down Counter	36772	M38510/31506BEA
U30, U31	IC, Decode, Up-Down Counter	36773	M38510/31506BEA
U32	IC, Dual 2-Input NOR Gate (Fairchild)	36775	10211DC
U33, U37	IC, Dual Operational Amplifier (National)	36776	LM1458N
U34	IC, Quad Voltage Comparator	36693	M38410/11201BCB
U35	IC, Operation Amplifier (Analog Device)	36765	AD518JH
U36	IC, Analog Switch (Analog Device)	36815	DG201
U39	IC, +12 Volt Regulator (Fairchild)	36707	M38510/1070BYB
U40	IC, Operational Amplifier (Intersil)	36817	CA3140E

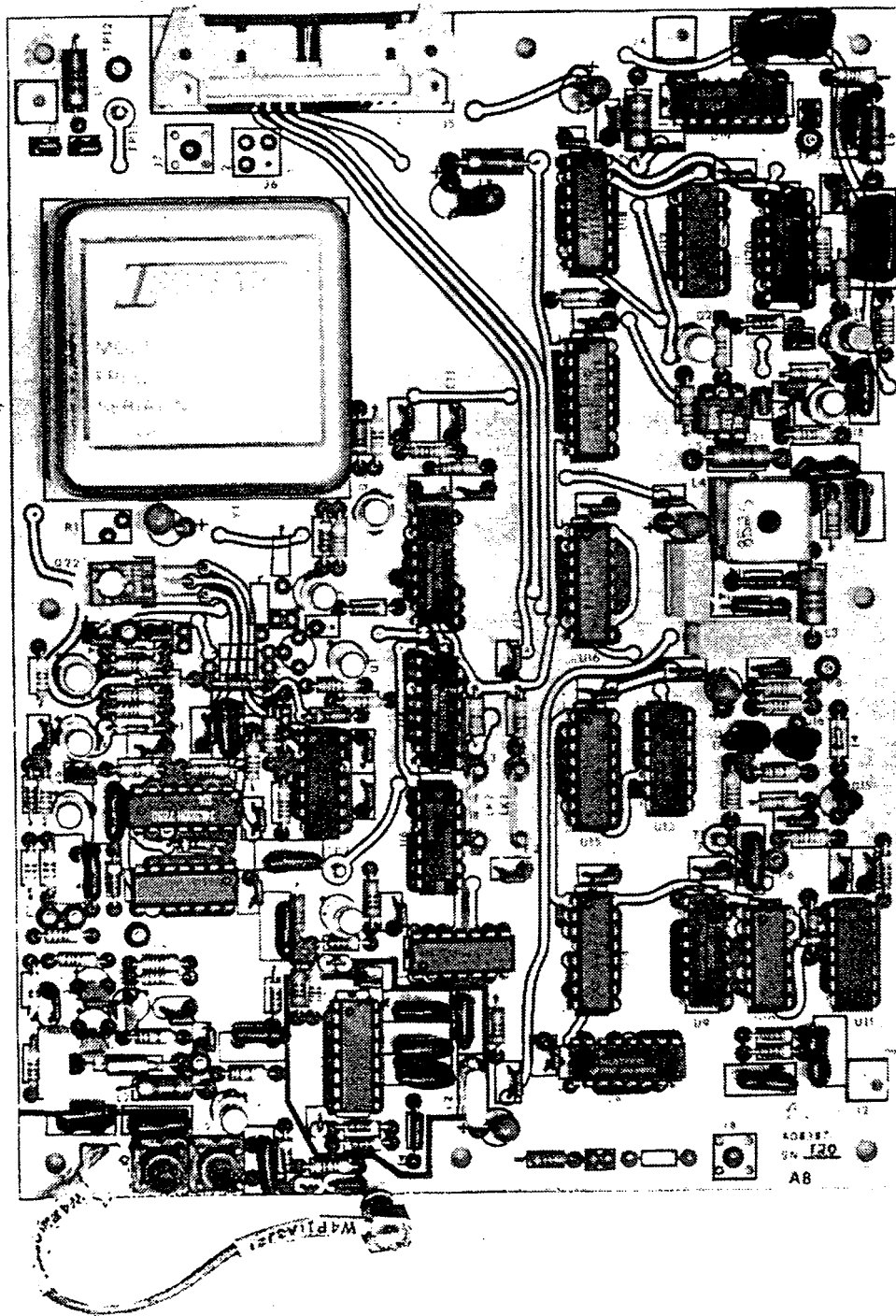


Figure 6-22. Second LO/BFO Synthesizer, A8

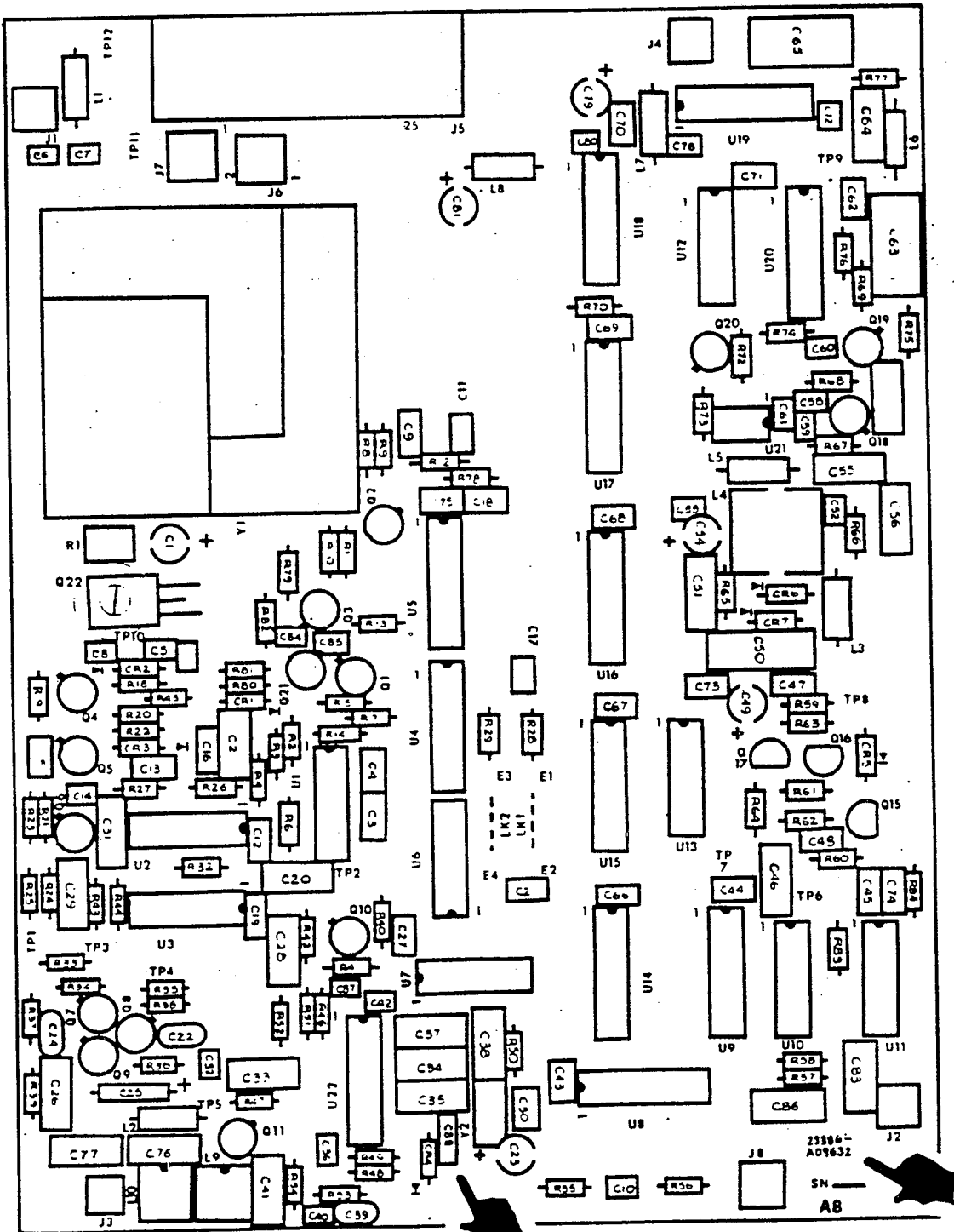


Figure 6-22. Component Location, A8

TABLE 6-12. PARTS LIST, SECOND LO/BFO SYNTHESIZER CIRCUIT CARD ASSEMBLY, A8

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
A8	Second LO/BFO Synthesizer Assembly	09632	
C1, C23	Capacitor, Tantalum, 6.8 uF, 35 WVDC, (Union Carbide)	25060-685	T362A685M035AS
C49, C54, U79, C81	Capacitor, Mica, 100 pF, 500 WVDC, <u>+5%</u>	22023	CMR05F101G0DR
C2, C34, C35, C37, C46, C56, C57	Capacitor, Ceramic, 0.1 uF, 50 WVDC, <u>+20%</u>	21732	M39014/01-1593
C3, C4, C9, C11, C12, C13, C15-C19, C21, C22, C24, C27, C30, C39, C43, C44, C45, C47, C48, C62, C66-C71, C73, C74	Capacitor, Ceramic, 0.01 uF, 50 WVDC, <u>+20%</u> (Union Carbide)	21733	C320C103M1U1C1
C5, C8, C32, C42, C52, C53, 58-C61, C72, C78, C80, C14	Capacitor, Ceramic, 0.047 uF, 50 WVDC, <u>+20%</u> (Union Carbide)	21759	C320C473M5U1CA
C6, C7	Capacitor, not used		
C82, C84, C85	Capacitor, Mica, 12 pF, 500 WVDC, <u>+10%</u>	22002	CMR05C120G0DR
C20	Capacitor, Tantalum, 3.3 uF, 15 WVDC, <u>+20%</u>	25066	CS13BE335M
C25	Capacitor, Polycarbonate, 0.1 uF, 100 WVDC, <u>+10%</u> (Electra)	26871	C280MCH/A100K
C26, C51	Capacitor, Mica, 150 pF, 500 WVDC, <u>+2%</u>	22101	CMR05F151G0DR
C28, C64	Capacitor, Mica, 39 pF, 500 WVDC, <u>+2%</u>	22100	CMR05F301G0DR
C29, C31, C83, C86	Capacitor, Mica, 68 pF, 500 WVDC, <u>+2%</u>	22107	CMR05E680G0DR
C33, C41	Capacitor, Ceramic, 0.001 uF, 50 WVDC, <u>+20%</u> (Centralab)	21756	CY15C102M
C36, C40, C87, C10	Capacitor, Mica, 5 pF, 500 WVDC, <u>+1/2</u> pF	22175	CMR05C5R0D0DR
C38, C88	Capacitor, Polycarbonate, 0.47 uF, 100 WVDC, <u>+20%</u> , (Electra)	26874	C280MCH/A470K
C50	Capacitor, Mica, 56 pF, 500 WVDC, <u>+5%</u>	22017	CMR05E560J03
C55	Capacitor, Mica, 820 pF, 500 WVDC, <u>+5%</u>	22047	CMR06F821J0DR
C63, C65	Capacitor, Ceramic, 1.0 uF, 50 WVDC, <u>+2%</u>	21748	M39014/02-1419
C75	Capacitor, Mica, 82 pF, 500 WVDC, <u>+2%</u>	22108	CMR05E820G0DR
C76	Capacitor, Mica, 330 pF, 500 WVDC, <u>+2%</u>	22117	CMR05F331G0DR
C77	Diode	35525	1N4001
CR1			

TABLE 6-12. PARTS LIST, SECOND LO/BFO SYNTHESIZER CIRCUIT CARD ASSEMBLY, A8 (Cont)

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
CR2, CR3, CR5	Diode, Silicon	35514	1N916B
CR4	Diode, Varicap (Motorola)	29013	MV1634
CR6, CR7	Diode, Varicap (Motorola)	29006	MV1650
J1-J4	Connector, SMB, Push-on (Sealectro)	60044	051-851-0000-220
J8, J9			
J5	Connector, 26-Pin, Right-Angle Control/ Power (3M)	61228	3429-1002
J6, J7	Connector, not used		
L1	Inductor, RF, 100 uH, $\pm 10\%$	43033	LT19K012
L2	Inductor, RF, 1 uH, $\pm 10\%$	43024	LT4K081
L3, L5	Inductor, RF, 33 uH, $\pm 10\%$	43031	LT10K138
L4	Inductor, Variable	08525	
L6	Inductor, RF, 220 uH, $\pm 10\%$	43034	LT10K020
L7, L8	Inductor, RF, 5.6 uH, $\pm 20\%$	43027	LT10K128
L9, L10	Inductor, Variable	08522	
Q1-Q6	Transistor, NPN	32255	2N2369
Q10, Q11, Q20			
-	Switching Pad, Transistor, Q1-Q6, Q10, Q11, Q18, Q19, Q20	70752	
Q7, Q9, Q15, Q17	Transistor, NPN, Low Power (Motorola)	32036	2N3904
Q8, Q16	Transistor, PNP, Low Power (Motorola)	31508	2N4126
Q18, Q19	Transistor, Field Effect	32524	2N4416A
Q22	Transistor, NPN, High Power (Motorola)	32039	2N4921
-	Pad, Transistor, Q22	70793	
Q12, Q13, Q14, Q21	Transistor, not used		
R1, R15, R16, R17, R30, R31, R71, R79, R80, R81, R82, R70	Resistor, not used		
R2	Resistor, Film, 1 ohm, $\pm 5\%$, $\frac{1}{4}$ W (Gyrex)	12153	SK2-1/4-1R0J
R3	Resistor, Film, 3.9K, $\pm 2\%$, $\frac{1}{4}$ W	12161-392	RLR07C392GR
R4	Resistor, Film, 6.8K, $\pm 2\%$, $\frac{1}{4}$ W	12161-682	RLR07C682GR
R5, R39, R60, R64	Resistor, Film, 2.2K, $\pm 2\%$, $\frac{1}{4}$ W	12161-222	RLR07C222GR
R6, R33, R34, R38, R59, R63, R67	Resistor, Film, 680 ohms, $\pm 2\%$, $\frac{1}{4}$ W	12161-681	RLR07C681GR
R7, R24, R25, R72	Resistor, Film, 4.7K, $\pm 2\%$, $\frac{1}{4}$ W	12161-472	RLR07C472GR
R8, R14, R32, R83, R56	Resistor, Film, 47 ohms, $\pm 2\%$, $\frac{1}{4}$ W	12161-470	RLR07C470GR

TABLE 6-12. PARTS LIST, SECOND LO/BFO SYNTHESIZER CIRCUIT CARD ASSEMBLY, A8 (Cont)

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
R9	Resistor, Film, 33 ohms, +2%, 1/4W	12161-330	RLR07C330GR
R10, R13, R23, R41, R43, R44, R45, R48, R49, R54, R57, R58, R74, R84	Resistor, Film, 1K, +2%, 1/4W	12161-102	RLR07C102GR
R11, R27, R69	Resistor, Film, 330 ohms, +2%, 1/4W	12161-331	RLR07C331GR
R12, R26	Resistor, Film, 10 ohms, +2%, 1/4W	12161-100	RLR07C100GR
R18, R20, R37, R62	Resistor, Film, 3.3 K, +2%, 1/4W	12161-332	RLR07C332GR
R19, R21, R75	Resistor, Film, 1.8K, +2%, 1/4W	12161-182	RLR07C182GR
R22, R35, R76, R77	Resistor, Film, 820 ohms, +2%, 1/4W	12161-821	RLR07C821GR
R28, R29, R36, R47, R61, R73, R78	Resistor, Film, 10K, +2%, 1/4W	12161-103	RLR07C103GR
R40, R42, R50, R51, R55	Resistor, Film, 470 ohms, +2%, 1/4W	12161-471	RLR07C471GR
R46	Resistor, Film, 56 ohms, +2%, 1/4W	12161-560	RLR07C560GR
R52	Resistor, Film, 220 ohms, +2%, 1/4W	12161-221	RLR07C221GR
R53	Resistor, Film, 100 ohms, +2%, 1/4W	12161-101	RLR07C101GR
R65	Resistor, Film, 18K, +2%, 1/4W	12161-183	RLR07C183GR
R66, R68	Resistor, Film, 560K, +2%, 1/4W	12161-564	RLR07C564GR
U1	IC, Voltage Regulator (Fairchild)	36728	UA723
U2	IC, Quad 2-Input NAND Gate	36632	74LS00
U3, U7	IC, Dual D Flip-flop	36636	74LS74
U10	IC	36884	MS38510
U4, U5	IC, Data Selector	36743	74LS151
U6	IC, Decade Counter (Fairchild)	36637	74LS90
U8, U9, U20	IC, Dual Decade Counter (National)	36744	74LS390
U11	IC, Quad 2-Input NAND Gate (National)	36809	DM74LS00NAT
U12	IC, Quad 2-Input NOR Gate	36660	74LS02
U13	ID, Quad 2-Input NAND Gate	36734	74LS08
U14-U18	IC, Synchronous 4-Bit Counter	36702	74LS160
U19	IC, Divide by 10/11 Prescaler (Fairchild)	36745	11C90DCQR
U21	IC, not used		
U22	IC, ECL Line Receiver (National)	36805	DM10115N
Y1	Oscillator, OCXO	08289	
Y2	Crystal, 20 MHz	37039	PEL-18PCR 78/U

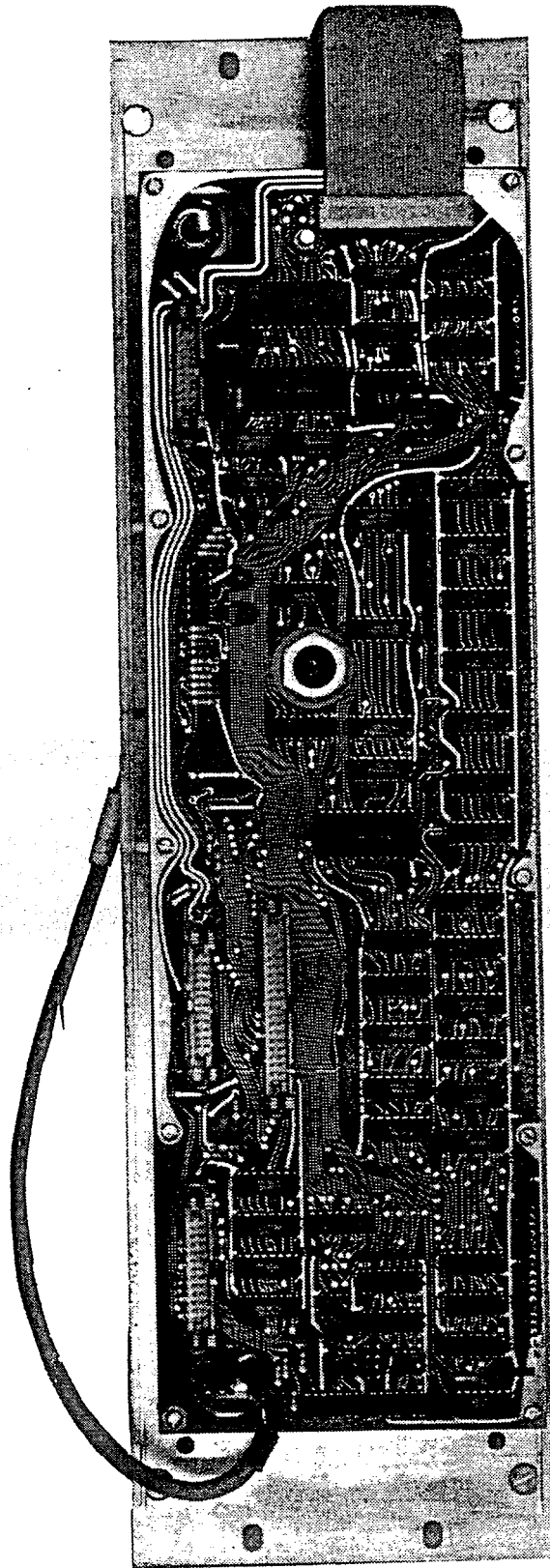


Figure 6-24. Receiver Control Assembly, A9

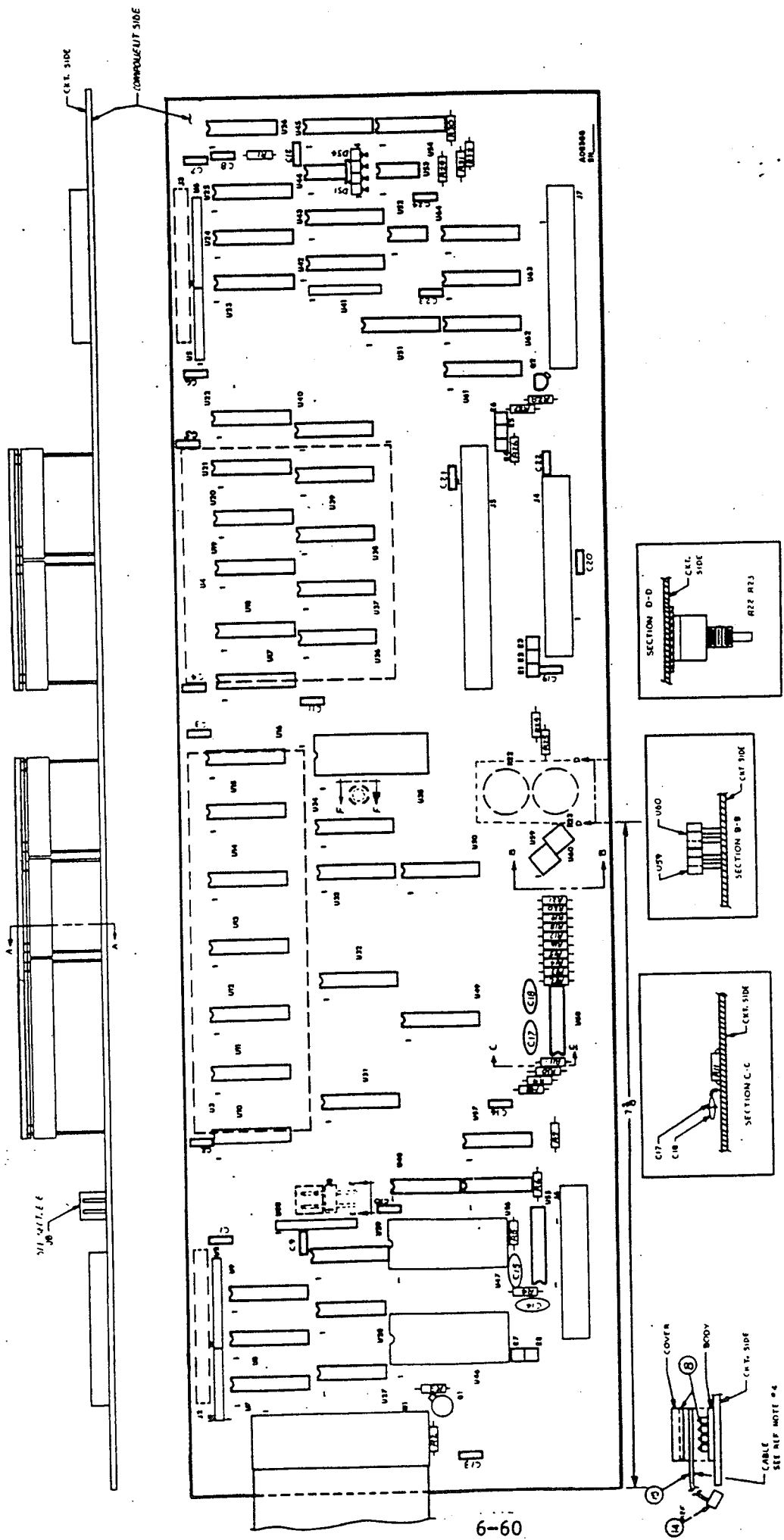


Figure 6-25. Component Location, A9

TABLE 6-13. PARTS LIST, RECEIVER CONTROL ASSEMBLY, A9

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
A9	Receiver Control Assembly	08388	
C1 thru C7, C9 thru C13 C16, C19 thru C24	Capacitor, Ceramic 0.01 uF, 50 WVDC, <u>+20%</u> (Union Carbide)	21733	8121-050-651-103M
C8	Capacitor, Ceramic, 0.1 uF, 50 WVDC, <u>+20%</u>	21732	8131-050-651-104M
C14, C15	Capacitor, Ceramic, 20 pF, Nonpolarized, <u>+5%</u> (Centralab1)	21352	DTZ-20
C17, C18	Capacitor, Ceramic, 100 pF, Nonpolarized, <u>+10%</u>	21763	831-000-X5F0-101K
DS1 thru DS4	LED/Resistor Assembly (HP)	41018	HLMP6620
DS5	LED/Resistor Assembly (HP)	41026	HP5082-4468
J2, J3	Connector, 17 Contact, Switch Panel (Burndy)	61240	HPLB17S-5
J4, J7	Connector, 26 Contact, BFO, Power (3M)	61231	3429-2002
J5	Connector, 40 Contact, IF (3M)	61230	3432-2002
J6	Connector, 20 Contact, Synthesizer (3M)	61213	3428-2002
J8	Connector, 4 Contact	08573	
P1	Connector, 34 Contact, P/O W1 (3M)	61246	3402-0000T
Q1	Transistor, NPN, Switching	32255	2N2369
-	Pad, Transistor, Q1	70752	7177-7N WHI
Q2	Transistor, PNP, Low Power (Motorola)	32037	2N3906
R1	Resistor, Film, 20K, <u>+2%</u> , 1/4W	12161-203	RLR07C203GR
R2, R6, R27, R28	Resistor, Film, 10K, <u>+2%</u> , 1/4W	12161-103	RLR07C103GR
R3, R14, R15	Resistor, Film, 1K, <u>+2%</u> , 1/4W	12161-102	RLR07C102GR
R4, R5	Resistor, Film, 33K, <u>+2%</u> , 1/4W	12161-333	RLR07C333GR
R7	Resistor, Film, 100 ohms, <u>+2%</u> , 1/4W	12161-101	RLR07C101GR

TABLE 6-13. PARTS LIST, RECEIVER CONTROL ASSEMBLY, A9 (Cont.)

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
R8, R9, R24, R25	Resistor, Film, 3.9K, <u>+2%</u> , 1/4W	12161-392	RLR07C392GR
R10, R11	Resistor, Film, 11K, <u>+2%</u> , 1/4W	12161-113	RLR07C113GR
R12, R13	Resistor, Film, 1 Meg. ohm, <u>+2%</u> , 1/4W	12161-105	RLR07C105GR
R16, R17	Resistor, Film, 100K ohm, <u>+2%</u> , 1/4W	12161-104	RLR07C104GR
R18, R19, R29 thru R32	Resistor, Film, 22K ohm, <u>+2%</u> , 1/4W	12161-223	RLR07C223GR
R20, R21	Resistor, Film, 180 ohms, <u>+2%</u> , 1/4W	12161-181	RLR07C181GR
R22, R23	Potentiometer, 25K, audio Line	08473	
R26	Resistor, Film, 15K ohm, <u>+2%</u> , 1/4W	12161-153	RLR07C153GR
U1, U5	IC, Resistor Array, 10K	19321-103	750-81-R10K
U2, U6, U30	IC, Resistor Array, 10K (Bovins)	19323-103	4310R-101-103
U3	IC, LCD, Frequency	08270	
U4	IC, LCD, Function	08526	
U7, U8, U9, U23, U24, U25, U42, U43	IC, Hex 3-State Buffer (Motorola)	36694	MC14503BCL
U10 thru U18, U31 thru U34	IC, Display Drivers, 7 Segment (RCA)	36752	4056B
U19 thru U22, U36 thru U40, U49	IC, Display Drivers, 4 Line (RCA)	36750	4054B
U26	IC, Monstable/Astable Multivibrator	36786	4047B
U27, U28	IC, Quad Bilateral Switch (RCA)	36792	CD4066BE
U29	IC, 8-Channel Analog Multiplexer (Motorola)	36687	4051B
U35, U47	IC, Address Decoder (RCA)	36751	4514B
U41	IC, Resistor Array, 22K (Dale)	19321-223	SIP-8-223

TABLE 6-13. PARTS LIST, RECEIVER CONTROL ASSEMBLY, A9 (Cont.)

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
U44, U52, U53	IC, Dual 2-Input NAND Buffer/Driver (RCA)	36795	40107B
U45, U54	IC, Dual D Flip-flop (RCA)	36588	M38510/05101BCA
U46	IC, Dual 4-Bit Latch (RCA)	36810	4508B
U48	IC, Triple 3-Input NOR Gate	36649	M38510/05204BCB
U50	IC, Decimal Decoder (Motorola)	36575	MC14028BCL
U51	IC, Up-Down Counter (National)	36583	MC14516BCL
U55	IC, One-Shot Multivibrator (RCA)	36611	4528
U56	IC, Hex Inverter (RCA)	36685	MC14069BCL
U57	IC, Quad 2-Input AND Gate (Motorola)	36677	M38150/17001BCD
U58	IC, Quad Voltage Comparator	36693	M38510/11201BCB
U59, U60	IC, Optical Transducer (Optron)	36754	OPB706A
U61 thru U64	IC, 8-Bit Addressable Latch	36808	4099B
W1	Cable Assembly	08536	
-	Connector, 34 Contact, P/O W1 (3M)	61197	3414-6034
-	Socket, SIP, 11 Contact (Robinson Nugent)	61296	CA-11-STL-T3WW
-	Socket, SIP, 20 Contact (Robinson Nugent)	61299	CA-20-STL-T3WW
-	Socket, SIP, 12 Contact (Robinson Nugent)	61297	
-	Socket, SIP, 14 Contact (Robinson Nugent)	61298	

TABLE 6-14. PARTS LIST LCD-LED CIRCUIT CARD ASSEMBLY

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
DS1-DS8, DS17-DS32	LCD-LED Circuit Card Assembly LED (Data Display Products SP811211-Y)	09501 09806	
DS9-DS16	Not Used		
E1, E2	Terminal	70028	
R1-R4,	Resistor, Fixed, Comp., 180 ohm, $\frac{1}{4}$ WVDC,	10945	
R6, R7	5%		
R5, R8	Resistor, Not Used	08320	
W1	Cable Assembly	09502	
-	Printed Circuit Card		

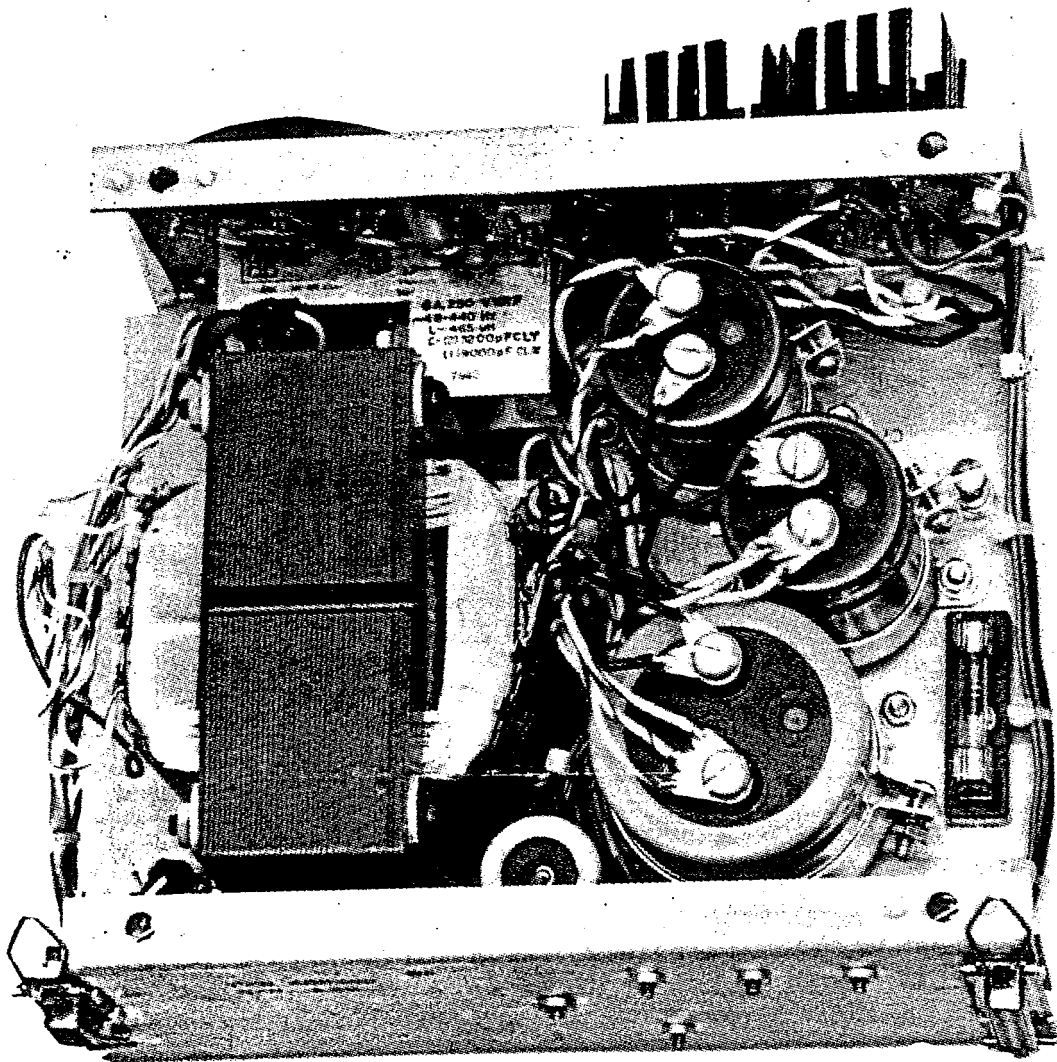


Figure 6-26. Power Supply Assembly, A10, Top View

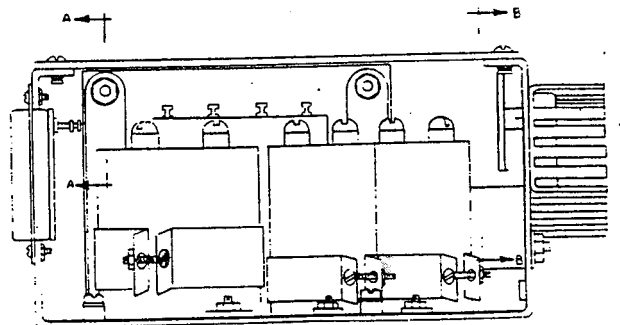
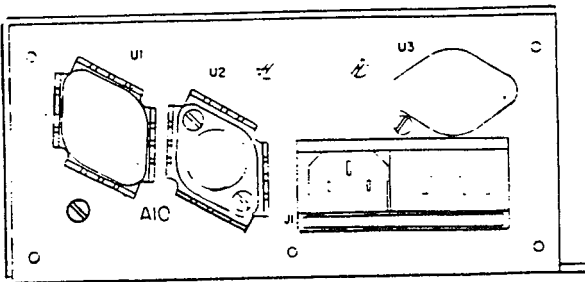
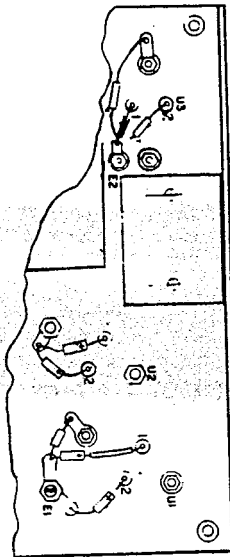
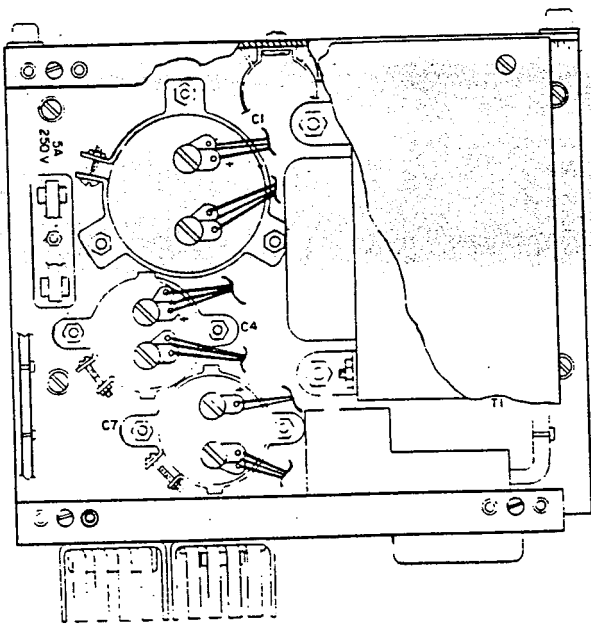
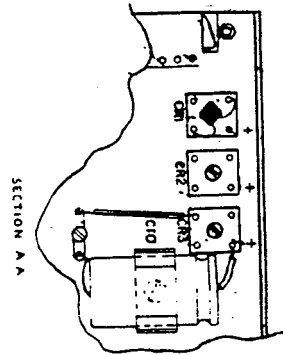
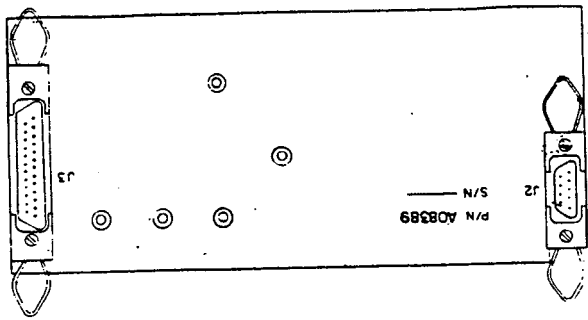


Figure 6-27. Component Location Diagram, A10

TABLE 6-15. PARTS LIST, POWER SUPPLY MODULE ASSEMBLY, A10

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
A10	Power Supply Assembly	08389	
A10A2	+20V Reg. Ckt. Card Assy. (see Table 6-16)	08593	
C1	Capacitor, Electrolytic, 12500 uF, 25 WVDC, -10 +75% (Electra)	24063	3186EA123UQ25AMA2
C2, C3, C5, C6, C8	Capacitor, Tantalum, 1 uF, 35 WVDC, +20% (Union Carbide)	25068	T310A105M035AS
C4, C7	Capacitor, Electrolytic, 5200 uF, 40 WVDC, -10 +75% (Electra)	24070	3186BA522U040AM
C9	Capacitor, Tantalum, 6.8 uF, 35 WVDC, +20% (Union Carbide)	25069	T310B685M035AS
C10	Capacitor, Electrolytic, 1200 uF, 50 WVDC, -10 +75% (Electra)	24071	3050HJ122U050JM
C11	Capacitor, Ceramic, 0.22 uF, 50 WVDC, +20%	21742	M39014/02-1356
CR1	Diode, Rectifier (Varo)	35561	VH148X
CR2, CR3	Diode, Rectifier (Varo)	35560	VS148X
F1	Fuse, 1 amp., Slo-Blo, 125V	40012	F02B250V1-2A
J1	Connector, Power Input, Filter and Fuse (Components Corp.)	61236	6J4
J2	Connector, ac, Switched Power	61166	M24308/2-1
J3	Power Supply Connector Assembly	08516-1	
R1	Resistor, Metal Film, 33 ohms, +2%, 1/4W	12161-330	RLR07C330GR
T1	Transformer, Power	08517	
U1	IC, Regulator, +5 V, 5 amp.	36627	UA78H05KC
U2	IC, Regulator, +15 V, 1 amp. (Fairchild)	36755	UA7815KC
U3	IC, Regulator, -15 V, 1 amp.	36756	LM7915C
-	Fuse, 1/2 amp., Slo-Blo, 250V, 3AG	40028	F02B250V1-1A
-	Fuseholder, Clip Type, Spare for 220 V (Littlefuse)	40503	350244
-	Wiring Harness No. 1 Assembly	08513	
-	Wiring Harness No. 2 Assembly	08515	

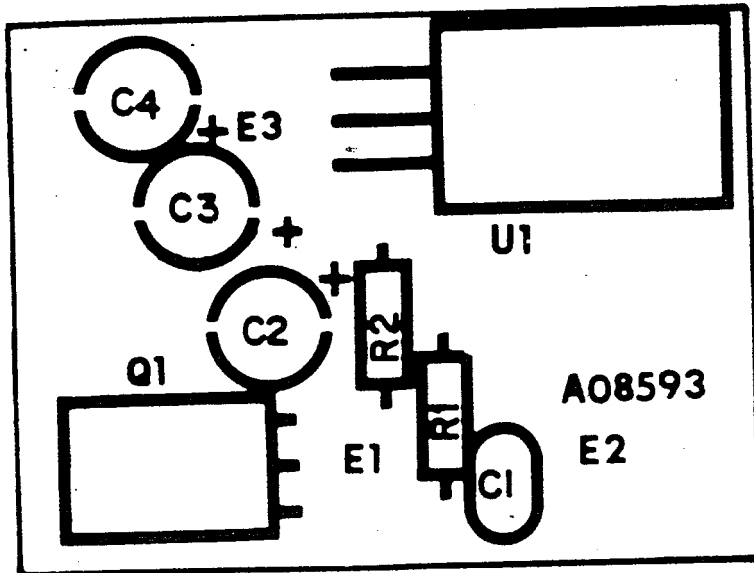


Figure 6-28. Component Location Diagram, A10A2

TABLE 6-16. PARTS LIST, 20 VOLT REGULATOR ASSEMBLY, A10A2

Reference Designation	Description	RACAL Number	Manufacturer/ MIL Part No.
A10A2	20 Volt Regulator Circuit Card Assembly	08593	
C1	Capacitor, Ceramic, 0.01 μ F, 50 WVDC, <u>+20%</u> (Erie)	21733	8121-050-651-103M
C2, C4	Capacitor, Tantalum, 6.8 μ F, 35 WVDC, <u>+20%</u> (Union Carbide)	25060-685	T362A685M035AS
C3	Capacitor, Tantalum, 1 μ F, 50 WVDC, <u>+20%</u> (Union Carbide)	25078-105	T362A105M035AS
Q1	Transistor, Voltage Regulator (Motorola)	32519	MJE800
R1	Resistor, Film, 4.7K, <u>+2%</u> , 1/4W	12161-472	RLR07C472GR
R2	Resistor, Film, 47K, <u>+2%</u> , 1/4W	12161-473	RLR07C473GR
U1	IC, +20 Volt DC Regulator (Motorola)	36819	MC78M20CT