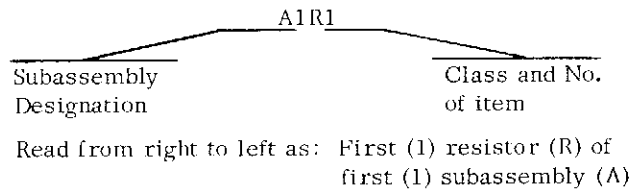


SECTION V  
REPLACEMENT PARTS LIST

5.1 UNIT NUMBERING METHOD

The unit numbering method of assigning reference designations (electrical symbol numbers) has been used to identify assemblies, subassemblies (and modules), and parts. An example of the unit method follows:



As shown on the main chassis schematic, components which are an integral part of the main chassis have no sub assembly designation.

5.2 REFERENCE DESIGNATION PREFIX

Partial reference designations have been used on the equipment and on the illustrations in this manual. The partial reference designations consist of the class letter(s) and identifying item number. The complete reference designations may be obtained by placing the proper prefix before the partial reference designations. Prefixes are provided on drawings and illustrations following the notation "REF DESIG PREFIX."

5.3 LIST OF MANUFACTURERS

<u>Mfr. Code</u>	<u>Name and Address</u>	<u>Mfr. Code</u>	<u>Name and Address</u>
01121	Allen-Bradley Company 1201 South 2nd Street Milwaukee, Wisconsin 53204	07387	The Bircher Corporation 4371 Valley Boulevard Los Angeles, California 90032
01281	TRW Semiconductors, Inc. 14520 Aviation Boulevard Lawndale, California 90260	14632	Watkins-Johnson Company CEI Division 6006 Executive Boulevard Rockville, Maryland 20852
04013	Taurus Corporation 1 Academy Hill Lambertville, New Jersey 08530	14949	Trompeter Electronics, Inc. 8936 Comanche Avenue Chatsworth, California 91311
04713	Motorola Semiconductor Products Inc. 5005 East McDowell Phoenix, Arizona 85008	17078	Novatronics, Incorporated Electronics Division Pompano Beach, Florida
06001	General Electric Company Capacitor Department P. O. Box 158 Irmo, South Carolina 29063	21604	The Buckeye Stamping Company 555 Marion Road Columbus, Ohio 43207
07263	Fairchild Camera & Instrument Corp. Semiconductor Division 313 Frontage Road Mountain View, California 94040	23783	British Radio Electronics, Ltd. 1742 Wisconsin Avenue, N. W. Washington, D. C. 20007

<u>Mfr. Code</u>	<u>Name and Address</u>	<u>Mfr. Code</u>	<u>Name and Address</u>
26655	Oster Tool & Die Corporation 5234 West 26th Street Cicero, Illinois 60650	73899	JFD Electronics Company Div. of Stratford Retreat House 15th at 62nd Street Brooklyn, New York 11219
27193	Cutler-Hammer, Inc. Special Products Division 4201 North 27th Street Milwaukee, Wisconsin 53216	74868	Amphenol Corporation Amphenol RF Division 33 East Franklin Street Danbury, Connecticut 06810
42190	The Muter Company 5655 West 73rd Street Chicago, Illinois 60638	75042	IRC Division of TRW Inc. 401 North Broad Street Philadelphia, Pennsylvania 19108
49956	Raytheon Company Lexington, Massachusetts 02173	75915	Littelfuse, Incorporated 800 East Northwest Highway Des Plaines, Illinois 60016
56289	Sprague Electric Company Marshall Street North Adams, Massachusetts 01247	76493	J. W. Miller Company 5915 South Main Street Los Angeles, California 90003
71279	Cambridge Thermionic Corp. 445 Concord Avenue Cambridge, Massachusetts 02138	76854	Oak Manufacturing Company Div. of Oak Electro/Netics Corp. South Main Street Crystal Lake, Illinois 60014
71400	Bussman Manufacturing Division of McGraw-Edison Co. 2536 West University Street St. Louis, Missouri 63107	79727	Continental-Wirt Electronics Corp. 26 West Queen Street Philadelphia, Pennsylvania 19144
71590	Globe-Union Incorporated Centralab Division P. O. Box 591 Milwaukee, Wisconsin 53201	80131	Electronic Industries Association 2001 Fye Street, N. W. Washington, D. C. 20006
71700	General Cable Corporation Cornish Wire Company Division 101 Water Street Williamstown, Massachusetts 01267	80223	United Transformer Company 150 Varick Street New York, New York 10013
71785	Cinch Manufacturing Company Howard B. Jones Division 1026 South Homan Avenue Chicago, Illinois 60624	80294	Bourns, Incorporated 1200 Columbia Avenue Riverside, California 92507
72136	Electro Motive Manufacturing Co., Inc. South Park & John Streets Willimantic, Connecticut 06226	81312	Winchester Electronics Division Litton Industries, Inc. Main Street & Hillside Avenue Oakville, Connecticut 06779
72982	Erie Technological Products, Inc. 644 West 12th Street Erie, Pennsylvania 16512	81349	Military Specifications

<u>Mfr. Code</u>	<u>Name and Address</u>	<u>Mfr. Code</u>	<u>Name and Address</u>
82389	Switchcraft, Incorporated 5527 North Elston Avenue Chicago, Illinois 60630	91418	Radio Materials Company 4242 West Bryn Mawr Avenue Chicago, Illinois 60646
83594	Burroughs Corporation Electronics Components Division P. O. Box 1226 Plainfield, New Jersey 07061	91506	Augat, Incorporated 33 Perry Avenue Attleboro, Massachusetts 02703
83781	National Electronics, Inc. P. O. Box 269 Geneva, Illinois 60134	99848	Wilco Corporation 4030 West 10th Street P. O. Box 22248 Indianapolis, Indiana 46222
88245	Litton Industries USECO Division 13536 Saticoy Street Van Nuys, California 91402		

#### 5.4 PARTS LIST

When ordering replacement parts from CEI, specify the type and serial number of the equipment, and the reference designation and description of each part ordered. The Manufacturers and Manufacturer Part Numbers listed are included as a guide to the user of the equipment in the field and do not necessarily agree with the parts installed in the equipment. Except in those cases specifically noted, the replacement part may be obtained from any manufacturer as long as the physical and electrical parameters of the part selected agree with the original part.

#### NOTE

As improved semiconductors become available it is the policy of CEI to incorporate them in proprietary products. For this reason some transistors and diodes installed in an equipment may not agree with those specified in the parts lists and schematic diagrams of this manual. However, the semiconductors designated in the manual may be substituted in every case with satisfactory results.

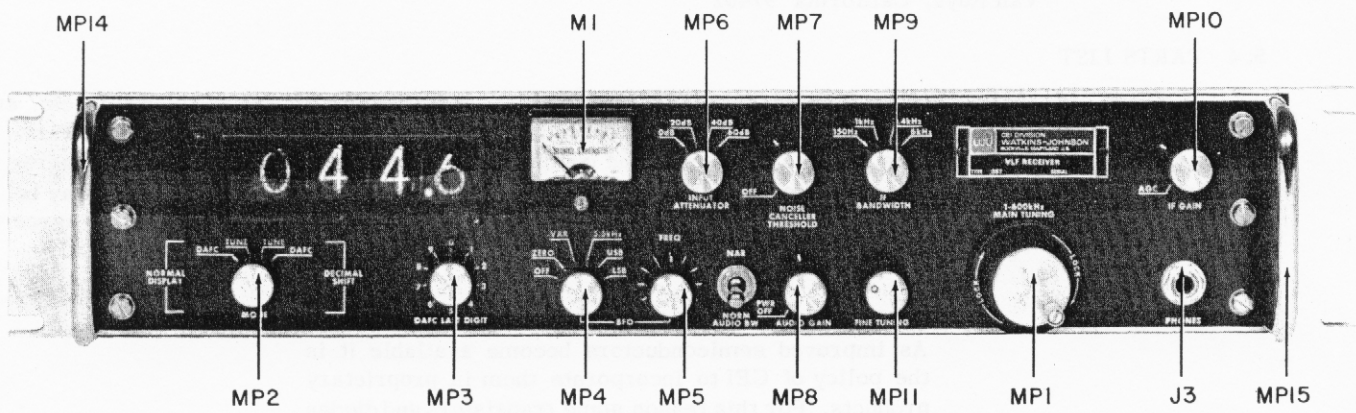


Figure 5-1. Type 357 VLF Receiver, Front View, Component Locations

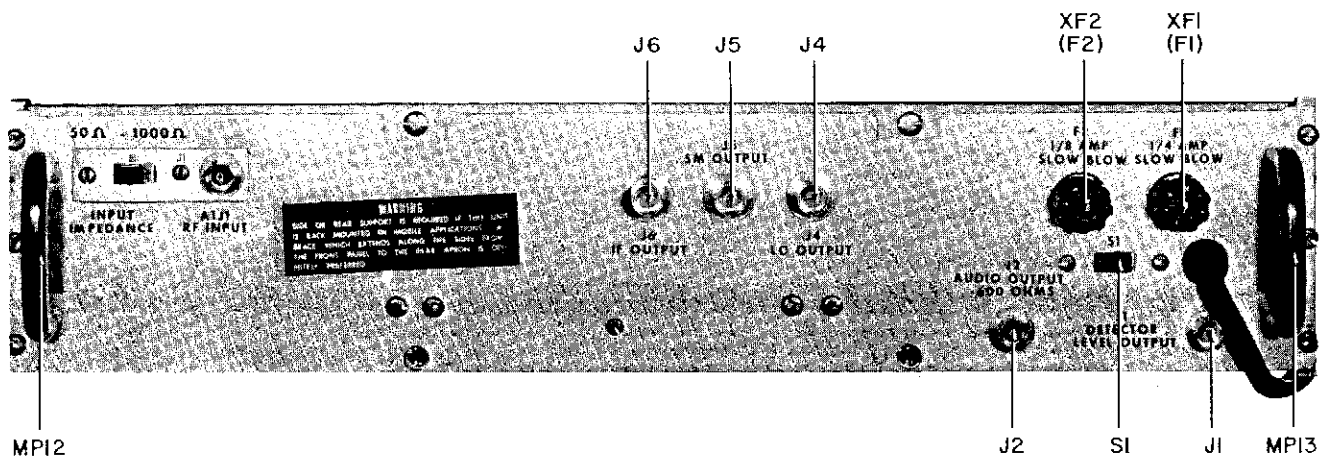


Figure 5-2. Type 357 VLF Receiver, Rear View, Component Locations

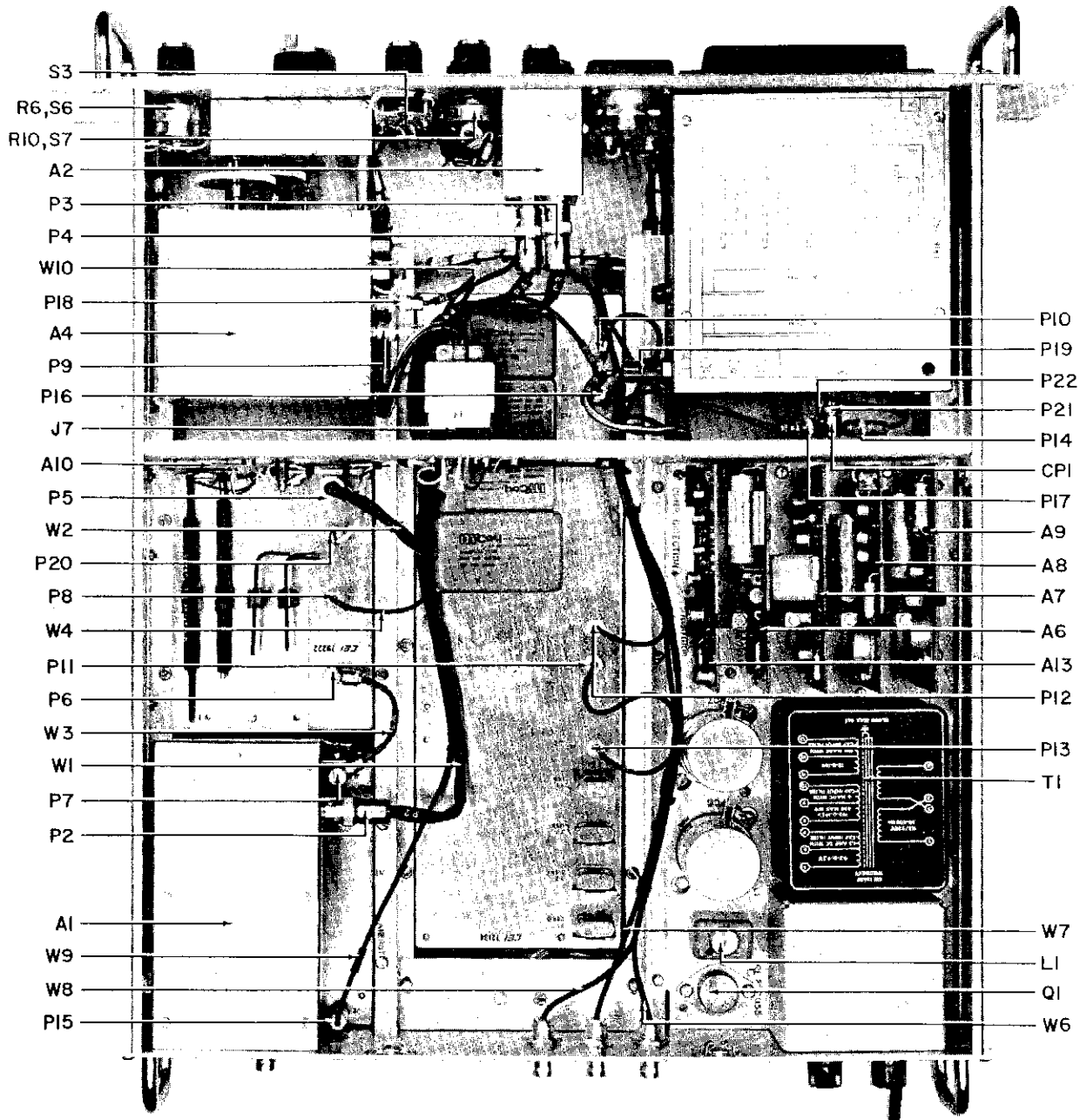


Figure 5-3. Type 357 VLF Receiver, Top View, Component Locations

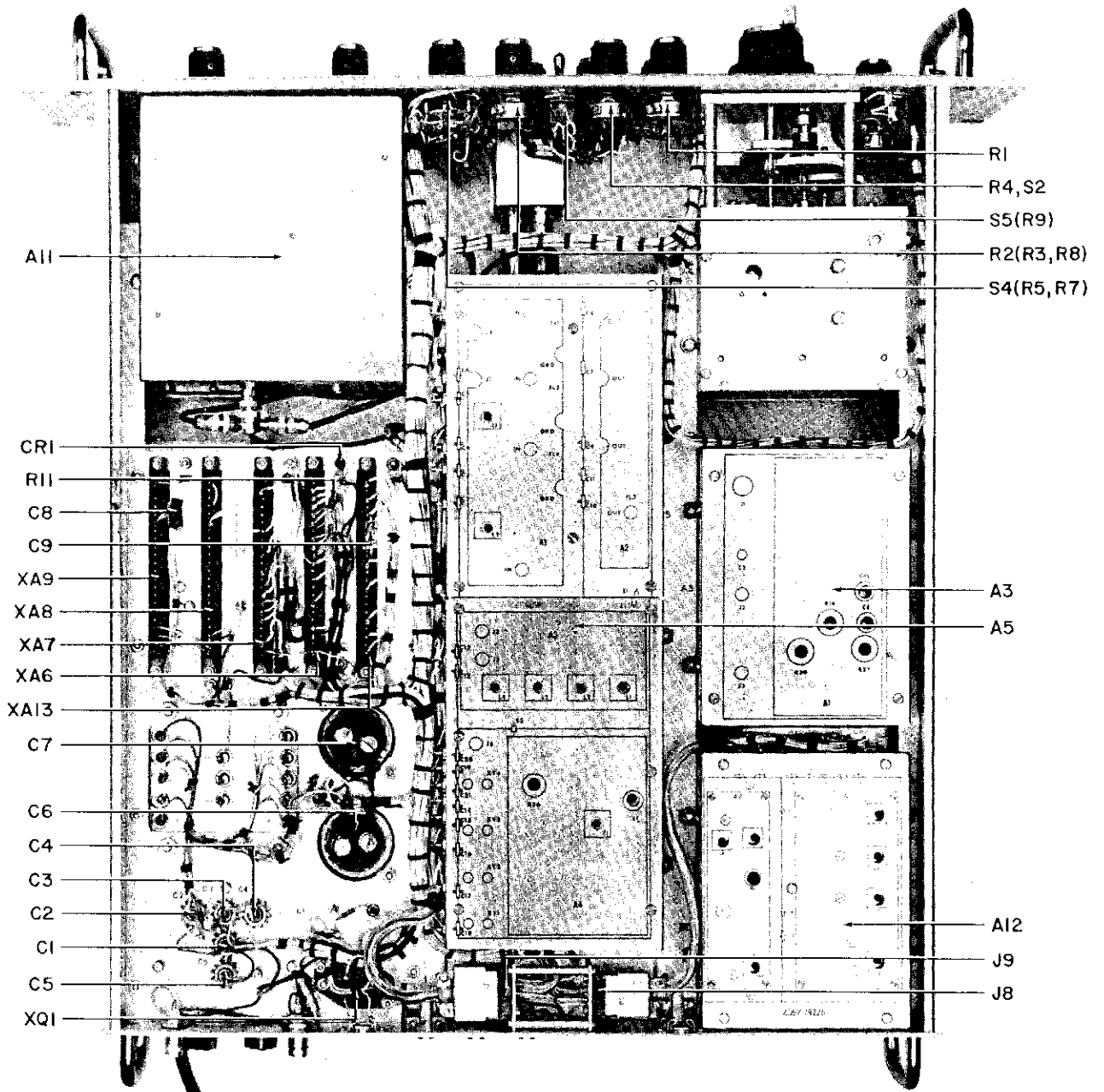


Figure 5-4. Type 357 VLF Receiver, Bottom View, Component Locations

## 5.4.1 357 VLF Receiver, Main Chassis

REF DESIG	DESCRIPTION	QTY. PER ASSY.	MANUFACTURER'S PART NO.	MFR. CODE
A1	INPUT TRANSFORMER AND FILTER	1	79224	14632
A2	INPUT ATTENUATOR	1	79223	14632
A3	INPUT AMPLIFIER AND BALANCED MIXER	1	79222	14632
A4	TUNING ASSEMBLY	1	71202	14632
A5	IF AND BFO ASSEMBLY	1	72134	14632
A6	AGC AMPLIFIER/POWER SUPPLY	1	79219/1	14632
A7	AUDIO AMPLIFIER	1	7411A	14632
A8	+12V POWER SUPPLY REGULATOR	1	76133	14632
A9	-12V POWER SUPPLY REGULATOR	1	7680A	14632
A10	FINE TUNING REGULATOR	1	79206	14632
A11	COUNTER ASSEMBLY	1	79189	14632
A12	NOISE IF AND GATE	1	79220	14632
A13	COMPENSATED $\pm 4.5$ V POWER SUPPLY	1	76101A	14632
C1	CAPACITOR, PAPER, THRU-PASS: 0.01 $\mu$ F, 20%, 600V	5	102P515	56289
C2	Same as C1			
C3	Same as C1			
C4	Same as C1			
C5	Same as C1			
C6	CAPACITOR, ELECTROLYTIC, ALUMINUM: 2500 $\mu$ F, -10+150%, 15V	2	43F3003CA4	06001
C7	Same as C6			
C8	CAPACITOR, CERAMIC, DISC: 0.1 $\mu$ F, 20%, 50V	1	33C41A3	56289
C9	CAPACITOR, ELECTROLYTIC, TANTALUM: 22 $\mu$ F, 10%, 35V	1	CS13BF226K	81349
CP1	ADAPTER, MB SERIES	1	47325	74868
CR1	DIODE	1	1N3015B	80131
F1	FUSE, 3AG, SLOW-BLOW: 1/4A	1	MDL-1/4	71400
F2	FUSE, 3AG, SLOW-BLOW: 1/8A	1	MDL-1/8	71400
J1	CONNECTOR, RECEPTACLE, BNC SERIES	1	UG-1094/U	81349
J2	CONNECTOR, RECEPTACLE, TWINAX	1	BJ-77	14949
J3	CONNECTOR, JACK, PHONE	1	L-11	82389
J4	CONNECTOR, JACK, BNC SERIES	3	17825	74868
J5	Same as J4			Part of W7
J6	Same as J4			Part of W8
J7	CONNECTOR, RECEPTACLE, MULTIPIN	1	MRE-9SG7	81312



REF DESIG	DESCRIPTION	QTY. PER ASSY.	MANUFACTURER'S PART NO.	MFR. CODE
J8	CONNECTOR, RECEPTACLE, MULTIPIN	1	SMRE-14SG	81312
J9	CONNECTOR, RECEPTACLE, MULTIPIN	1	SMRE-20SG	81312
J10	CONNECTOR, RECEPTACLE, MB SERIES	--		
	Part of CP1			
J11	CONNECTOR, RECEPTACLE, MB SERIES	--		
	Part of CP1			
L1	COIL, VARIABLE	1	HVC-8	80223
M1	METER, SIGNAL STRENGTH	1	1632	14632
MP1	CRANK ASSEMBLY	1	11755-4	14632
MP2	KNOB	9	PS70PL2	21604
MP3	Same as MP2			
MP4	Same as MP2			
MP5	Same as MP2			
MP6	Same as MP2			
MP7	Same as MP2			
MP8	Same as MP2			
MP9	Same as MP2			
MP10	Same as MP2			
MP11	KNOB	1	PS70D2	21604
MP12	HANDLE	2	1250-1	71279
MP13	Same as MP12			
MP14	HANDLE	2	1015-12	88245
MP15	Same as MP14			
MP16	EXTENDER CARD	1	79268-1	14632
MP17	EXTENDER CARD	1	79263-2	14632
MP18	EXTENDER CARD	1	79282-2	14632
MP19	EXTENDER CARD	1	79282-4	14632
MP20	EXTENDER CARD	1	79282-9	14632
MP21	EXTENDER CARD	1	79282-11	14632
MP22	COVER, TOP AND BOTTOM	2	30625-1	14632
MP23	Same as MP22			
P1	CONNECTOR, PLUG AND POWER CORD	1	01753-001	71700
P2	CONNECTOR, PLUG, TWINAX	4	PL-76	14949
P3	Same as P2			
	Part of W1			
P4	Same as P2			
	Part of W2			
P5	Same as P2			
	Part of W2			

REF DESIG	DESCRIPTION	QTY. PER ASSY.	MANUFACTURER'S PART NO.	MFR. CODE
P6	CONNECTOR, PLUG, MB SERIES Part of W3	2	45775	74868
P7	Same as P6 Part of W3			
P8	CONNECTOR, PLUG, MB SERIES Part of W4	13	44950	74868
P9	Same as P8 Part of W4			
P10	Same as P8 Part of W7			
P11	Same as P8 Part of W8			
P12	Same as P8			
P13	Same as P8			
P14	Same as P8 Part of W6			
P15	Same as P8 Part of W9			
P16	Same as P8 Part of W9			
P17	Same as P8 Part of W10			
P18	Same as P8 Part of W10			
P19	CONNECTOR, PLUG, MULTIPIN	1	M4S-LSH10C	81312
P20	Same as P8			
P21	CONNECTOR, PLUG, MB SERIES Part of CP1	--		
P22	Same as P8			
Q1	TRANSISTOR	1	2N3055	80131
R1	RESISTOR, VARIABLE, COMPOSITION: 50 k $\Omega$ , 10%, 2W	2	RV4NAYS503A	81349
R2	Same as R1			
R3	RESISTOR, FIXED, COMPOSITION: 39 k $\Omega$ , 5%, 1/4W	1	RCR07G393JS	81349
R4	RESISTOR, VARIABLE, COMPOSITION: 2.5 k $\Omega$ , 5%, 1/4W	1	RV4NBYS252A	81349
R5	RESISTOR, FIXED, COMPOSITION: 22 k $\Omega$ , 5%, 1/4W	2	RCR07G223JS	81349
R6	RESISTOR, VARIABLE, COMPOSITION: 100 k $\Omega$ , 5%, 1/4W	1	15061	14632
R7	Same as R5			
R8	RESISTOR, FIXED, COMPOSITION: 82 k $\Omega$ , 5%, 1/4W	1	RCR07G823JS	81349
R9	RESISTOR, FIXED, COMPOSITION: 100 k $\Omega$ , 5%, 1/4W	1	RCR07G104JS	81349
R10	RESISTOR, VARIABLE, COMPOSITION: 10 k $\Omega$ , 10%, 2W	1	RV4NBYS103A	81349
R11	RESISTOR, FIXED, COMPOSITION: 470 $\Omega$ , 5%, 1/2W	1	RCR20G471JS	81349
S1	SWITCH, SLIDE, DP-DT	1	4633	42190
S2	SWITCH, SPST Part of R4	--		
S3	SWITCH, ROTARY: 1 section, 1 pole, 2-12 position	1	1128-22	14632
S4	SWITCH, ROTARY: 2 section, 2 pole, 2-6 position	1	1128-03	14632
S5	SWITCH, TOGGLE, SPDT	1	8282-K14	27193

REF DESIG	DESCRIPTION	QTY. PER ASSY.	MANUFACTURER'S PART NO.	MFR. CODE
S6	SWITCH, SPDT Part of R6	--		
S7	SWITCH, SPST Part of R10	--		
T1	TRANSFORMER	1	13637	14632
W1	CABLE AND CONNECTOR ASSEMBLY	1	30020-476	14632
W2	CABLE AND CONNECTOR ASSEMBLY	1	30020-477	14632
W3	CABLE AND CONNECTOR ASSEMBLY	1	30020-478	14632
W4	CABLE AND CONNECTOR ASSEMBLY	1	30020-479	14632
W5	NOT USED			
W6	CABLE AND CONNECTOR ASSEMBLY	1	30020-480	14632
W7	CABLE AND CONNECTOR ASSEMBLY	1	30020-481	14632
W8	CABLE AND CONNECTOR ASSEMBLY	1	30020-482	14632
W9	CABLE AND CONNECTOR ASSEMBLY	1	30020-512	14632
W10	CABLE AND CONNECTOR ASSEMBLY	1	30020-484	14632
XA6	CONNECTOR, PRINTED CIRCUIT CARD	5	250-22-30-170	71785
XA7	Same as XA6			
XA8	Same as XA6			
XA9	Same as XA6			
XA13	Same as XA6			
XF1	FUSEHOLDER	2	342004	75915
XF2	Same as XF1			
XQ1	SOCKET, TRANSISTOR	1	8038-1G1	91506

5.4.2 Type 79224 Input Transformer and Filter Assembly

REF DESIG PREFIX A1

REF DESIG	DESCRIPTION	QTY. PER ASSY.	MANUFACTURER'S PART NO.	MFR. CODE
A1	FILTER BOARD	1	11922/1	14632
J1	CONNECTOR, RECEPTACLE, TWINAX	2	BJ-77	14949
J2	Same as J1			
MP1	COVER	1	20666	14632
S1	SWITCH, SLIDE, SP-DT	1	G326	79727
T1	TRANSFORMER	1	20021-3	14632

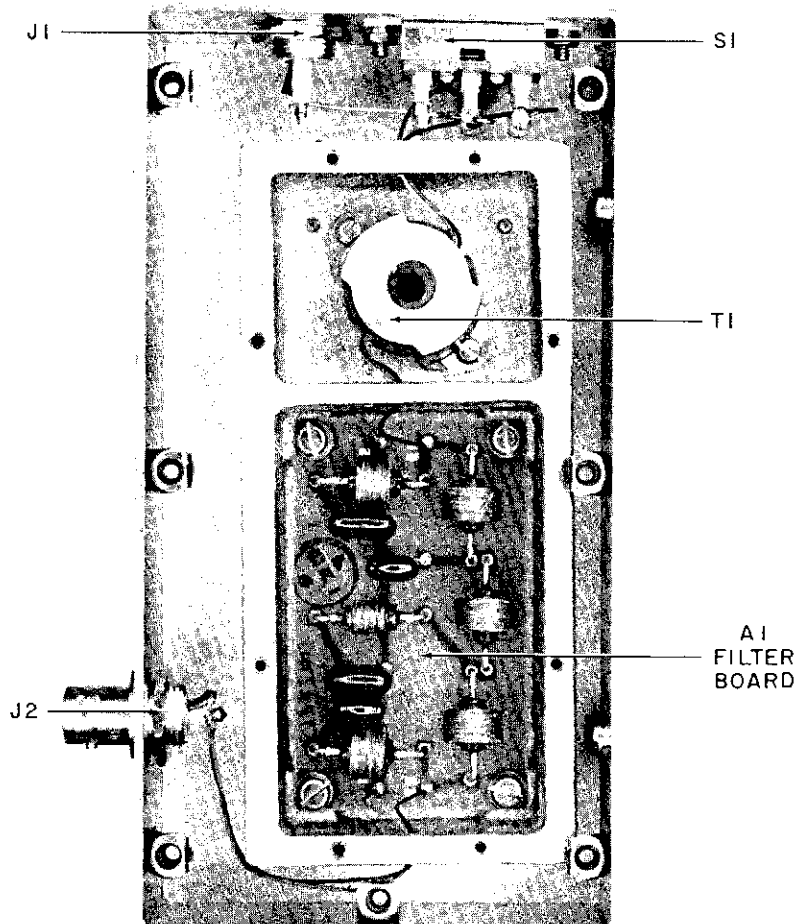


Figure 5-5. Type 79224 Input Transformer and Filter Assembly, Component Locations

## 5.4.2.1 Part 11922/1 Filter Board

REF DESIG PREFIX ALAI

REF DESIG	DESCRIPTION	QTY. PER ASSY.	MANUFACTURER'S PART NO.	MFR. CODE
C1	CAPACITOR, MICA, DIPPED: 150 pF, 5%, 500V	1	CM04FD151J03	81349
C2	CAPACITOR, MICA, DIPPED: 390 pF, 5%, 500V	2	CM05FD391J03	81349
C3	Same as C2			
C4	CAPACITOR, MICA, DIPPED: 100 pF, 5%, 500V	1	CM04FD101J03	81349
L1	COIL, FIXED: 200 $\mu$ H	2	1200-15	99848
L2	COIL, FIXED: 300 $\mu$ H	3	1300-15	99848
L3	Same as L2			
L4	COIL, FIXED: 15 $\mu$ H	1	1015-15	99848
L5	Same as L2			
L6	Same as L1			

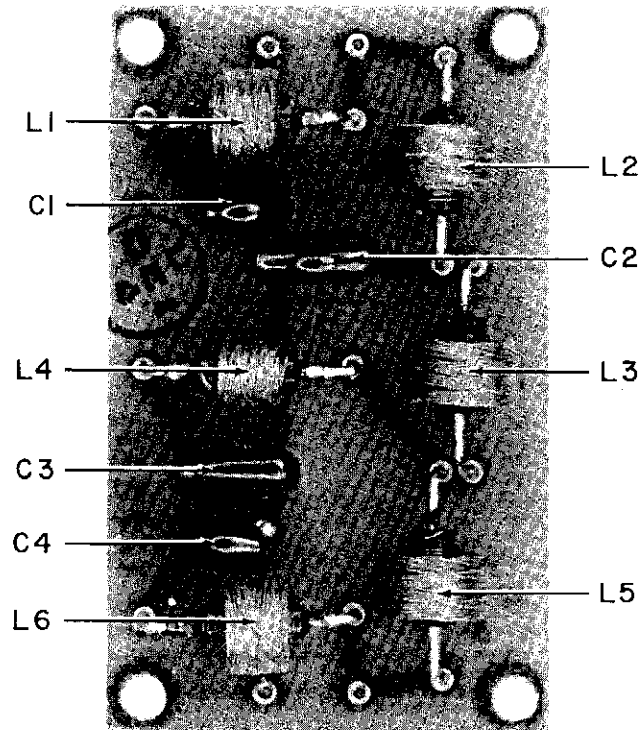


Figure 5-6. Part 11922/1 Filter Board,  
Component Locations

5.4.3 Type 79223 Input Attenuator

REF DESIG PREFIX A2

REF DESIG	DESCRIPTION	QTY. PER ASSY.	MANUFACTURER'S PART NO.	MFR. CODE
J1	CONNECTOR, RECEPTACLE, TWINAX	2	BJ-77	14949
J2	Same as J1			
MP1	COVER	1	12522	14632
R1	RESISTOR, FIXED, COMPOSITION: 820 $\Omega$ , 5%, 1/4W	1	RCR07G821JS	81349
R2	RESISTOR, FIXED, COMPOSITION: 120 $\Omega$ , 5%, 1/4W	1	RCR07G121JS	81349
R3	RESISTOR, FIXED, COMPOSITION: 12 $\Omega$ , 5%, 1/4W	1	RCR07G120JS	81349
R4	RESISTOR, FIXED, COMPOSITION: 10 $\Omega$ , 5%, 1/4W	1	RCR07G100JS	81349
R5	RESISTOR, FIXED, COMPOSITION: 100 $\Omega$ , 5%, 1/4W	1	RCR07G101JS	81349
S1	SWITCH, ROTARY: 1 section, 2 pole, 2-6 position	1	1128-39	14632

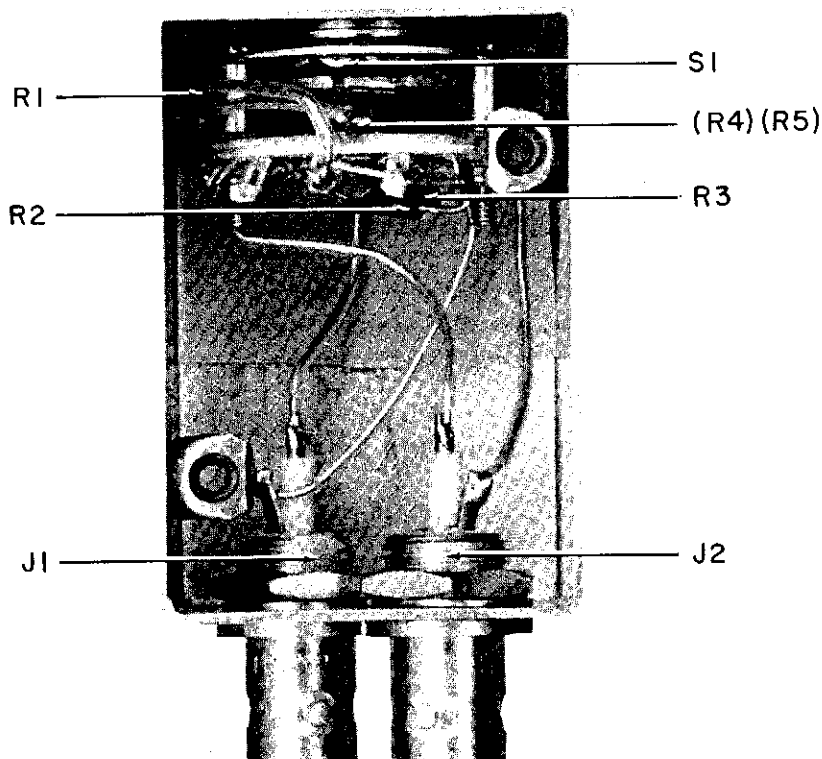


Figure 5-7. Type 79223 Input Attenuator, Component Locations

## 5.4.4 Type 79222 Input Amplifier and Balanced Mixer

REF DESIG PREFIX A3

REF DESIG	DESCRIPTION	QTY. PER ASSY.	MANUFACTURER'S PART NO.	MFR CODI
A1	INPUT AMPLIFIER AND BALANCED MIXER	1	12876	14632
C1	CAPACITOR, CERAMIC, DISC: .05 $\mu$ F, 20%, 50V	1	55C23A1	56289
J1	CONNECTOR, RECEPTACLE, TWINAX	1	BJ-77	14949
J2	CONNECTOR, JACK, MB SERIES	2	46625	74868
J3	Same as J2			
J4	CONNECTOR, RECEPTACLE, MB SERIES	1	46025	74868
MP1	COVER, TOP	1	21165-1	14632
MP2	COVER, BOTTOM	1	20628	14632

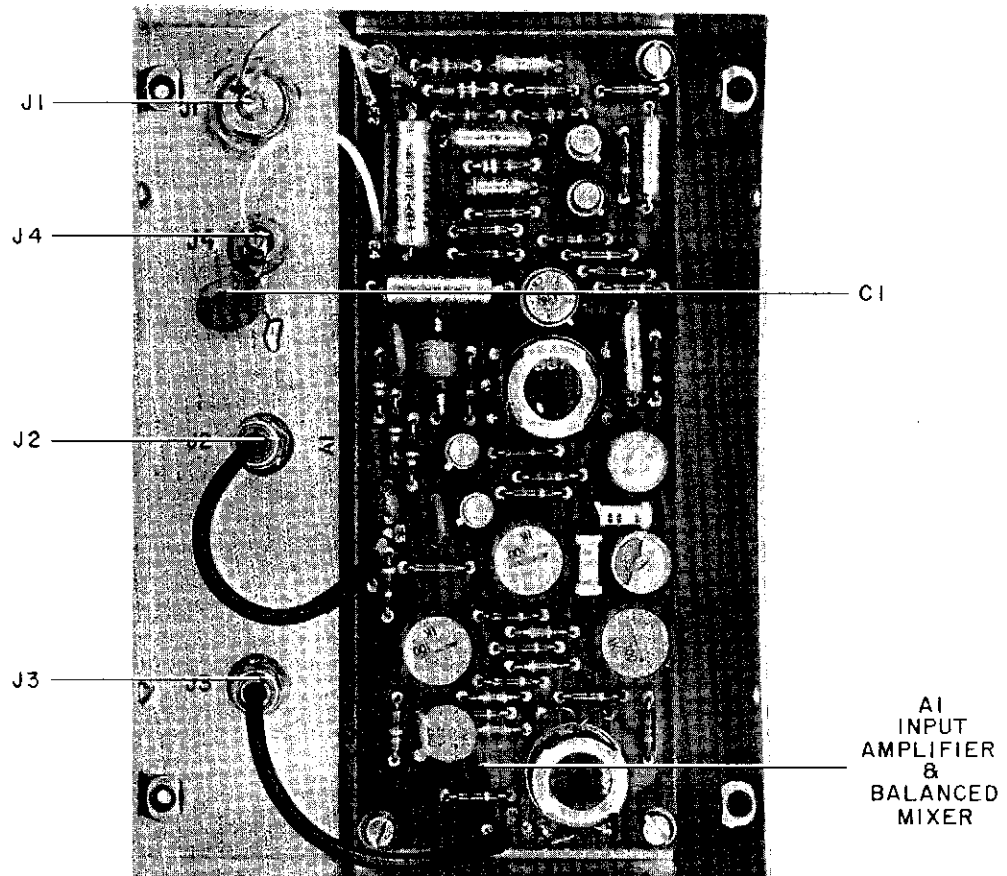


Figure 5-8. Type 79222 Input Amplifier and Balanced Mixer, Component Locations

REF DESIG PREFIX A3A1

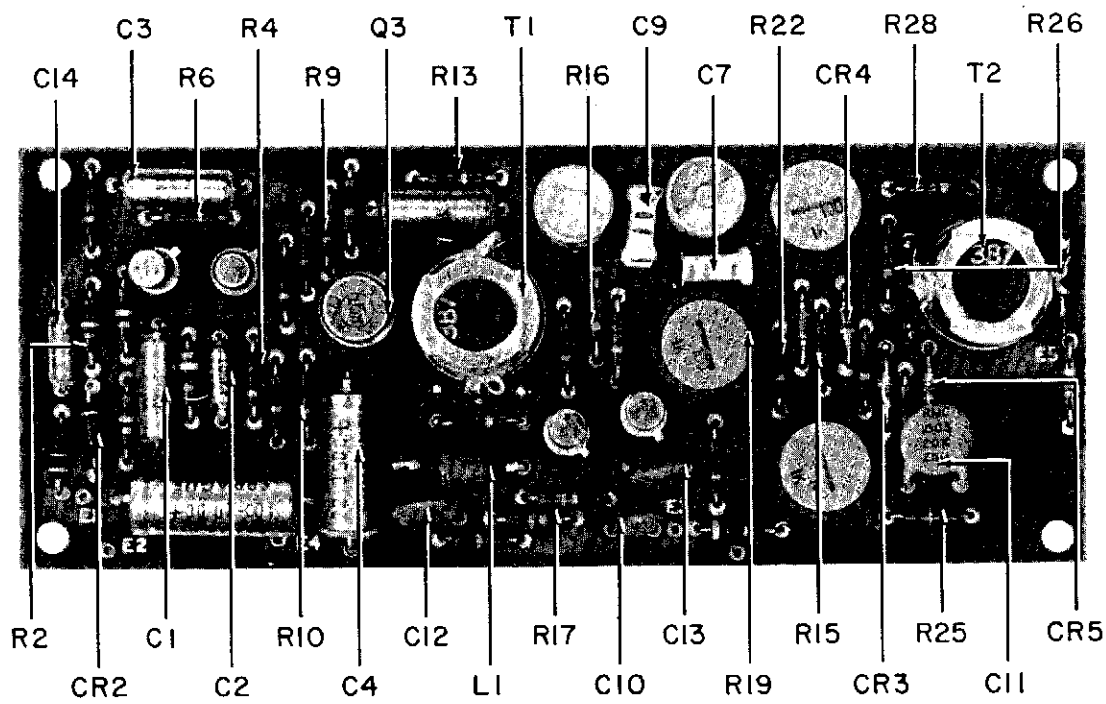
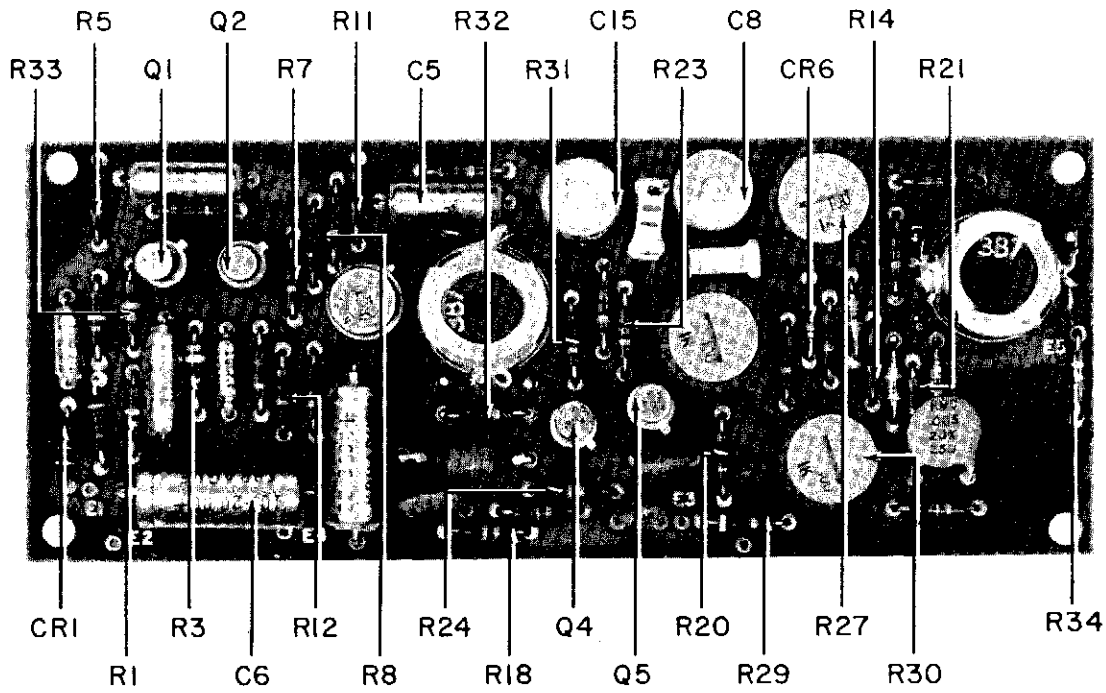


Figure 5-9. Part 12876 Input Amplifier and Balanced Mixer, Component Locations



## 5.4.4.1 Part 12876 Input Amplifier and Balanced Mixer

REF DESIG PREFIX A3A1

REF DESIG	DESCRIPTION	QTY. PER ASSY.	MANUFACTURER'S PART NO.	MFR. CODE
C1	CAPACITOR, ELECTROLYTIC, TANTALUM: 4.7 $\mu$ F, 10%, 35V	3	CS13BF475K	81349
C2	CAPACITOR, ELECTROLYTIC, TANTALUM: 1 $\mu$ F, 10%, 35V	2	CS13BF105K	81349
C3	Same as C1			
C4	CAPACITOR, ELECTROLYTIC, TANTALUM: 22 $\mu$ F, 10%, 35V	1	CS13BF226K	81349
C5	Same as C1			
C6	CAPACITOR, ELECTROLYTIC, TANTALUM: 100 $\mu$ F, 20%, 20V	1	CS13BE107M	81349
C7	CAPACITOR, CERAMIC, TUBULAR: 3.3 pF, $\pm$ .25 pF, 500V	1	301-000-C0H0-339C	72982
C8	CAPACITOR, VARIABLE, CERAMIC: 2.5-11 pF, 350V	1	538-002-90R	72982
C9	CAPACITOR, CERAMIC, TUBULAR: 5.6 pF, $\pm$ .5 pF, 500V	1	301-000-C0H0-569D	72982
C10	CAPACITOR, CERAMIC, DISC: 1000 pF, GMV, 500V	1	SM(1000pF, GMV)	91418
C11	CAPACITOR, CERAMIC, DISC: .005 $\mu$ F, 20%, 500V	1	SM(.005 $\mu$ F, 20%)	91418
C12	CAPACITOR, CERAMIC, DISC: .01 $\mu$ F, 20%, 50V	2	19C214A6	56289
C13	Same as C12			
C14	Same as C2			
C15	CAPACITOR, VARIABLE, CERAMIC: 9-35 pF	1	538-002-E2P0-94R	72982
CR1	DIODE	2	1N914	80131
CR2	Same as CR1			
CR3	DIODE	4	1N916B	80131
CR4	Same as CR3			
CR5	Same as CR3			
CR6	Same as CR3			
L1	COIL, FIXED: 120 $\mu$ H	1	1120-15	99848
Q1	TRANSISTOR	1	2N930	80131
Q2	TRANSISTOR	1	2N3251	80131
Q3	TRANSISTOR	1	2N2270	80131
Q4	TRANSISTOR	2	2N706	80131
Q5	Same as Q4			
R1	RESISTOR, FIXED, COMPOSITION: 120 k $\Omega$ , 5%, 1/4W	2	RCR07G124JS	81349
R2	Same as R1			
R3	RESISTOR, FIXED, COMPOSITION: 3.9 k $\Omega$ , 5%, 1/4W	1	RCR07G392JS	81349
R4	RESISTOR, FIXED, COMPOSITION: 5.6 k $\Omega$ , 5%, 1/4W	1	RCR07G562JS	81349

REF DESIG PREFIX A3A1

REF DESIG	DESCRIPTION	QTY. PER ASSY.	MANUFACTURER'S PART NO.	MFR. CODE
R5	RESISTOR, FIXED, COMPOSITION: 220 $\Omega$ , 5%, 1/4W	2	RCR07G221JS	81349
R6	RESISTOR, FIXED, COMPOSITION: 1.5 k $\Omega$ , 5%, 1/4W	5	RCR07G152JS	81349
R7	RESISTOR, FIXED, COMPOSITION: 200 $\Omega$ , 5%, 1/4W	1	RCR07G201JS	81349
R8	Same as R6			
R9	Same as R6			
R10	Same as R5			
R11	RESISTOR, FIXED, COMPOSITION: 1 k $\Omega$ , 5%, 1/4W	7	RCR07G102JS	81349
R12	Same as R11			
R13	Same as R11			
R14	Same as R11			
R15	Same as R11			
R16	RESISTOR, FIXED, COMPOSITION: 750 $\Omega$ , 5%, 1/4W	4	RCR07G751JS	81349
R17	RESISTOR, FIXED, COMPOSITION: 10 k $\Omega$ , 5%, 1/4W	4	RCR07G103JS	81349
R18	Same as R17			
R19	RESISTOR, VARIABLE, FILM: 200 $\Omega$ , 10%, 3/4W	2	150(200 $\Omega$ , 10%)	75042
R20	Same as R6			
R21	Same as R11			
R22	Same as R11			
R23	Same as R16			
R24	Same as R17			
R25	Same as R17			
R26	Same as R16			
R27	Same as R19			
R28	Same as R16			
R29	RESISTOR, FIXED, COMPOSITION: 91 $\Omega$ , 5%, 1/4W	1	RCR07G910JS	81349
R30	RESISTOR, VARIABLE, WIREWOUND: 1 k $\Omega$ , 5%, 1W	1	CT-100(1k $\Omega$ , 5%)	75042
R31	Same as R6			
R32	RESISTOR, FIXED, COMPOSITION: 2 k $\Omega$ , 5%, 1/4W	1	RCR07G202JS	81349
R33	RESISTOR, FIXED, COMPOSITION: 100 k $\Omega$ , 5%, 1/4W	1	RCR07G104JS	81349
R34	RESISTOR, FIXED, COMPOSITION: 100 $\Omega$ , 5%, 1/4W	1	RCR07G101JS	81349
T1	TRANSFORMER	1	30312-37	14632
T2	TRANSFORMER	1	30312-38	14632

## 5.4.5 Type 71202 Tuning Assembly

REF DESIG PREFIX A4

REF DESIG	DESCRIPTION	QTY. PER ASSY.	MANUFACTURER'S PART NO.	MFR. CODE
A1	LOCAL OSCILLATOR	1	7727	14632
A2	GEAR TRAIN, see exploded view, Figure 5-14	1	8525	14632
P1	CONNECTOR, PLUG, MULTIPIN Part of W1	1	MRE-9PG7	81312
W1	CABLE AND CONNECTOR ASSEMBLY	1	21327-1	14632

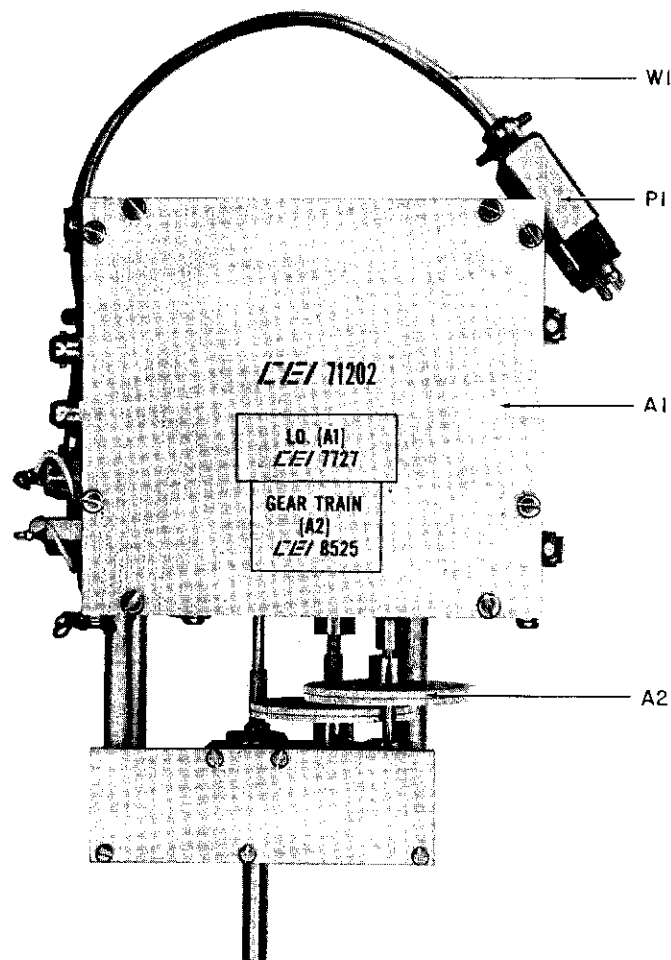


Figure 5-10. Type 71202 Tuning Assembly,  
Component Locations

5.4.5.1 Type 7727 Local Oscillator

REF DESIG PREFIX A4A1

REF DESIG	DESCRIPTION	QTY. PER ASSY.	MANUFACTURER'S PART NO.	MFR. CODE
A1	LOCAL OSCILLATOR BOARD	1	79283	14632
A2	INDUCTOR BOARD	1	12654	14632
C1	CAPACITOR, CERAMIC, FEED-THRU: 1000 pF, 20%, 500V	3	CK70AW102M	81349
C2	Same as C1			
C3	Same as C1			
C4	CAPACITOR, VARIABLE, GLASS: 1-28 pF, 1000V	1	MC-603	73899
C5	CAPACITOR, VARIABLE, AIR: 6.50-62.36 pF (single section)	1	C-28-341, 20/.012"	23783
C6	CAPACITOR, VARIABLE, AIR: 6.5 pF (Temp. Comp.)	1	TC	23783
J1	CONNECTOR, RECEPTACLE, MB SERIES	2	46025	74868
J2	Same as J1			
MP1	COVER	1	14041-1	14632

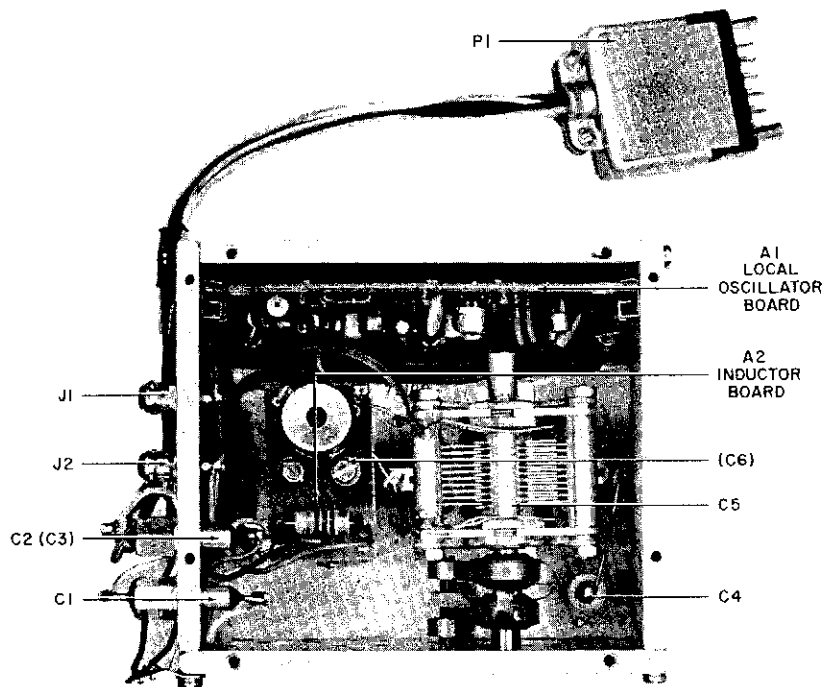


Figure 5-11. Type 7727 Local Oscillator Assembly, Component Locations

## 5. 4. 5. 1. 1 Type 79283 Local Oscillator Board

REF DESIG PREFIX A4A1A1

REF DESIG	DESCRIPTION	QTY. PER ASSY.	MANUFACTURER'S PART NO.	MFR. CODE
C1	CAPACITOR, CERAMIC, DISC: 0.05 $\mu$ F, 20%, 100V	3	55C23A7	56289
C2	CAPACITOR, MYLAR, TUBULAR: 0.01 $\mu$ F, 10%, 100V	1	663UW-103-9-1-W	26655
C3	CAPACITOR, MICA, DIPPED: 390 pF, 5%, 500V	2	CM05FD391J03	81349
C4	Same as C3			
C5	CAPACITOR, MICA, DIPPED: 33 pF, 5%, 500V	1	CM05ED330J03	81349
C6	CAPACITOR, CERAMIC, TUBULAR: 3 pF, $\pm$ .25 pF, 500V	1	301-000-C0J0-309C	72982
C7	CAPACITOR, CERAMIC, TUBULAR: 4.7 pF, $\pm$ .25 pF, (TC-N750)	1	301-000-U2J0-479C	72982
C8	CAPACITOR, MICA, DIPPED: 100 pF, 5%, 500V	1	CM05FD101J03	81349
C9	CAPACITOR, CERAMIC, DISC: 0.005 $\mu$ F, 20%, 100V	4	C023B101E502M	56289
C10	Same as C9			
C11	Same as C1			
C12	Same as C9			
C13	Same as C9			
C14	CAPACITOR, CERAMIC, DISC: 0.0015 $\mu$ F, 10%, 1000V	1	DD152	71590
C15	CAPACITOR, CERAMIC, TUBULAR: 4.7 pF, $\pm$ .25 pF, 500V	1	301-000-C0H0-479C	72982
C16	Same as C1			
CR1	DIODE	4	1N462A	80131
CR2	DIODE	2	V27E	01281
CR3	Same as CR1			
CR4	Same as CR1			
CR5	Same as CR2			
CR6	Same as CR1			
L1	COIL, FIXED	1	1131-123	14632
Q1	TRANSISTOR	3	2N3478	80131
Q2	TRANSISTOR	4	2N706	80131
Q3	Same as Q1			
Q4	Same as Q2			
Q5	TRANSISTOR	2	2N3251	80131
Q6	Same as Q2			
Q7	Same as Q1			
Q8	Same as Q2			
Q9	Same as Q5			
R1	RESISTOR, FIXED, COMPOSITION: 47 k $\Omega$ , 5%, 1/4W	2	RCR07G473JS	81349

REF DESIG PREFIX A4A1A1

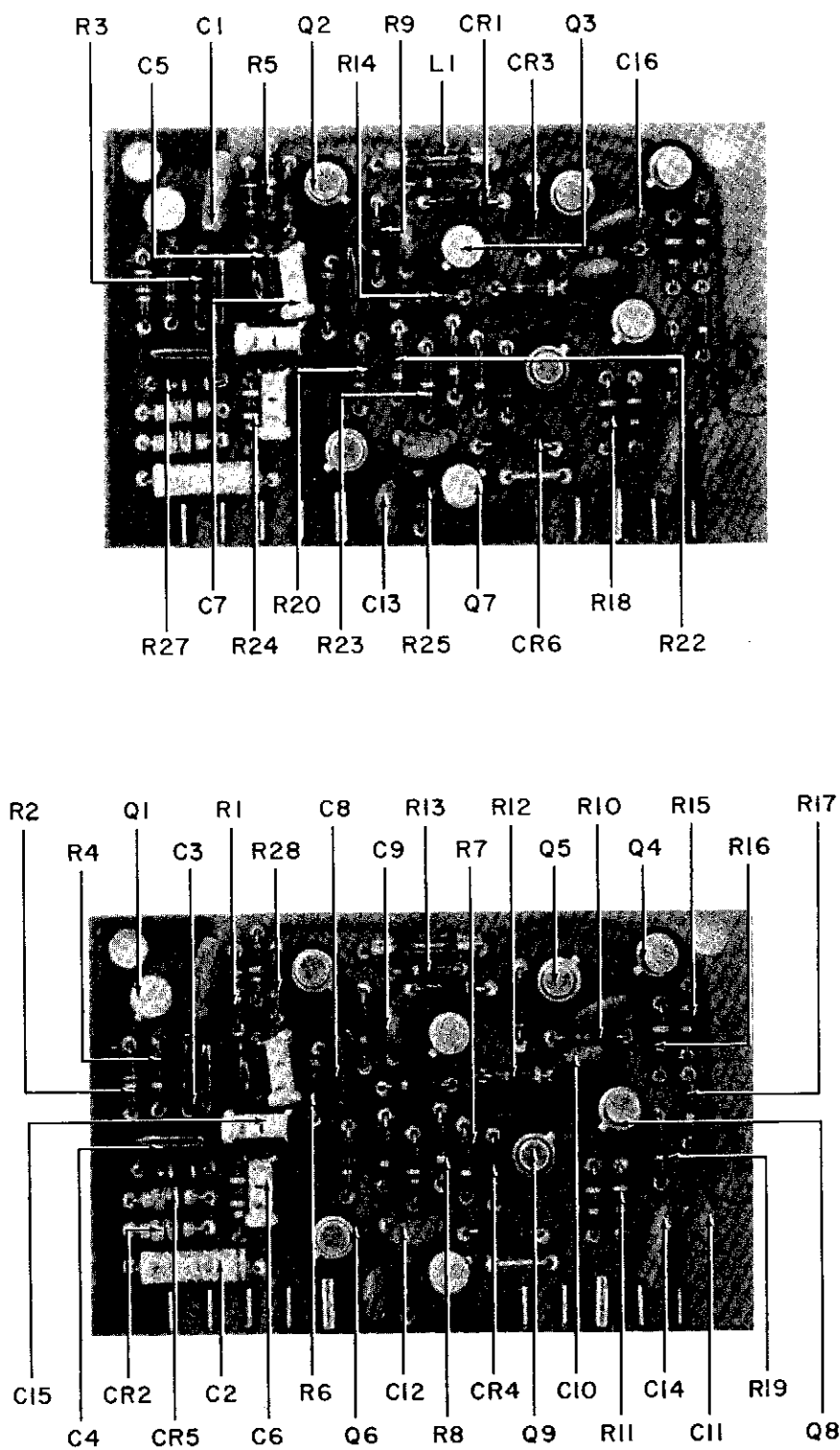


Figure 5-12. Type 79283 Local Oscillator Board, Component Locations

REF DESIG PREFIX A4A1A1

REF DESIG	DESCRIPTION	QTY. PER ASSY.	MANUFACTURER'S PART NO.	MFR. CODE
R2	Same as R1			
R3	RESISTOR, FIXED, COMPOSITION: 100 $\Omega$ , 5%, 1/4W	3	RCR07G101JS	81349
R4	RESISTOR, FIXED, COMPOSITION: 1 k $\Omega$ , 5%, 1/4W	3	RCR07G102JS	81349
R5	RESISTOR, FIXED, COMPOSITION: 10 k $\Omega$ , 5%, 1/4W	3	RCR07G103JS	81349
R6	RESISTOR, FIXED, COMPOSITION: 4.7 k $\Omega$ , 5%, 1/4W	3	RCR07G472JS	81349
R7	RESISTOR, FIXED, COMPOSITION: 1.5 k $\Omega$ , 5%, 1/4W	4	RCR07G152JS	81349
R8	Same as R7			
R9	Same as R4			
R10	Same as R5			
R11	RESISTOR, FIXED, COMPOSITION: 24 $\Omega$ , 5%, 1/4W	4	RCR07G240JS	81349
R12	Same as R6			
R13	Same as R7			
R14	Same as R4			
R15	Same as R11			
R16	Same as R11			
R17	RESISTOR, FIXED, COMPOSITION: 82 $\Omega$ , 5%, 1/4W	2	RCR07G820JS	81349
R18	Same as R11			
R19	Same as R17			
R20	Same as R3			
R21	NOT USED			
R22	Same as R7			
R23	Same as R5			
R24	RESISTOR, FIXED, COMPOSITION: 470 k $\Omega$ , 5%, 1/4W	2	RCR07G474JS	81349
R25	Same as R6			
R26	NOT USED			
R27	Same as R24			
R28	Same as R3			

5.4.5.1.2 Part 12654 Inductor Board

REF DESIG PREFIX A4A1A2

REF DESIG	DESCRIPTION	QTY. PER ASSY.	MANUFACTURER'S PART NO.	MFR. CODE
L1	COIL, VARIABLE	1	30312-58	14632
L2	COIL, FIXED: 1000 $\mu$ H	1	9220-28	76493

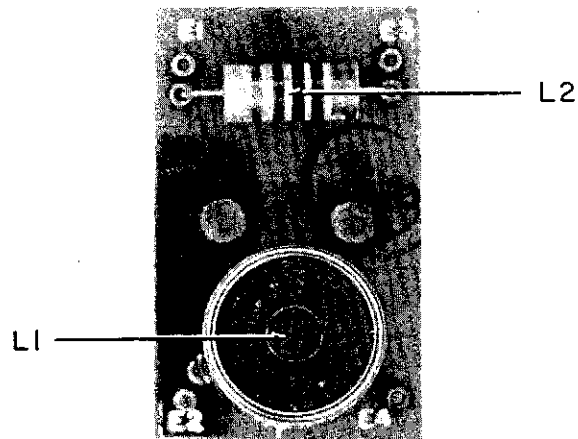
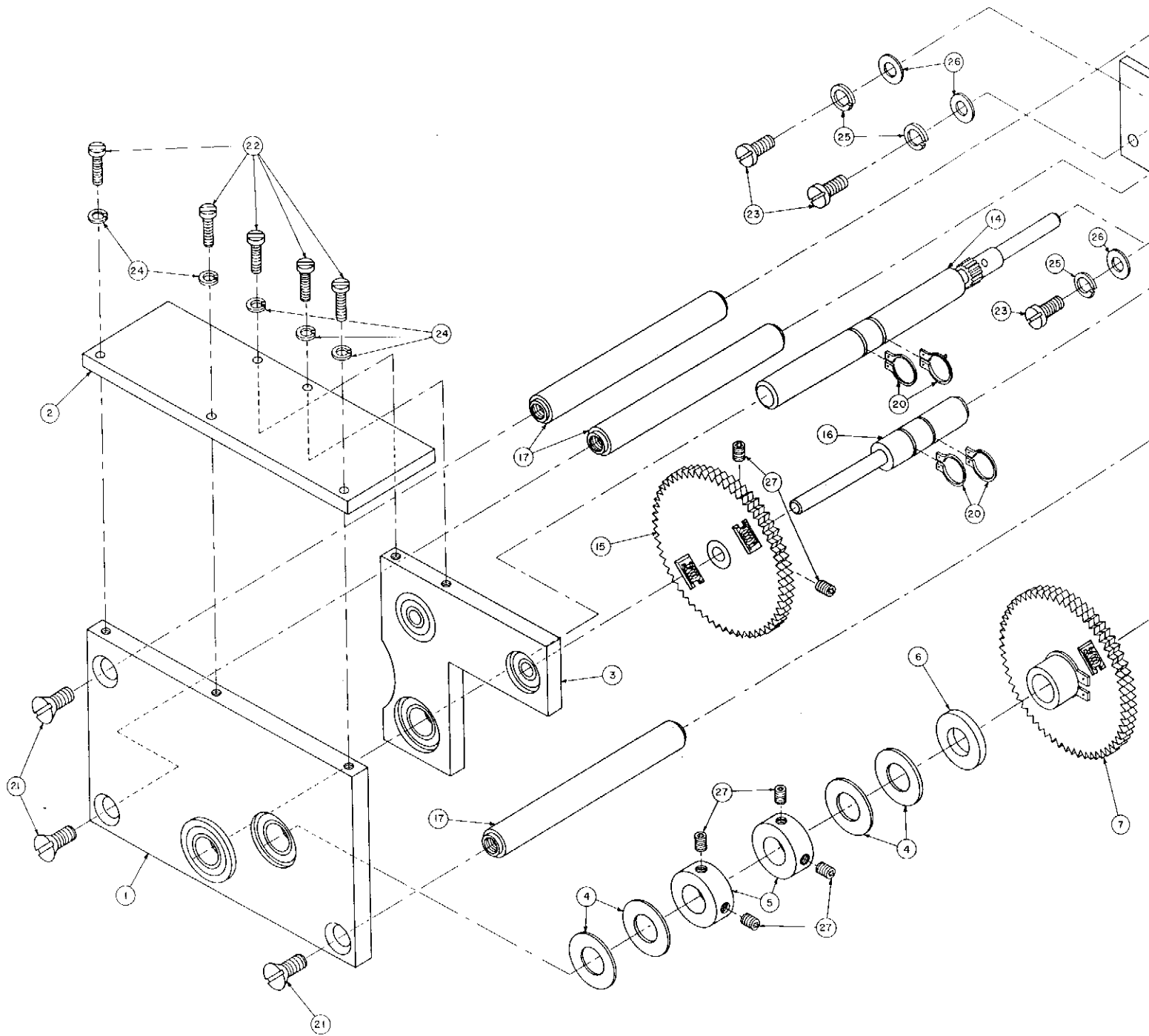
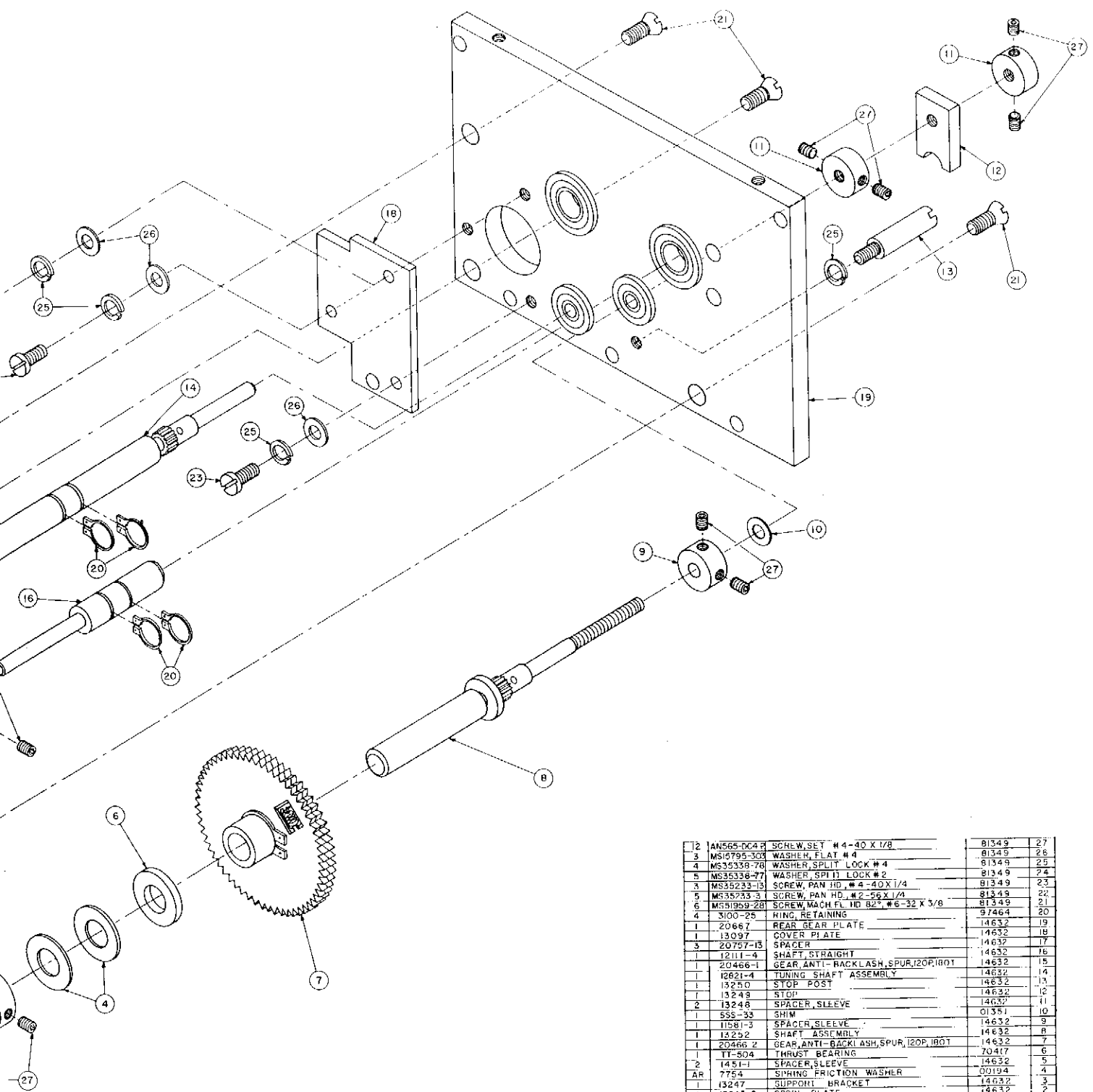


Figure 5-13. Part 12654 Inductor Board,  
Component Locations







12	AN565-DC4 P	SCREW, SET # 4-40 X 1/8	81349	27
3	MS1795-303	WASHER, FLAT # 4	81349	26
4	MS33336-76	WASHER, SPLIT LOCK # 4	81349	25
5	MS33336-77	WASHER, SPLIT LOCK # 2	81349	24
3	MS35233-13	SCREW, PAN HD, # 4-40 X 1/4	81349	23
5	MS35233-3	SCREW, PAN HD, # 2-56 X 1/4	81349	22
6	MS1959-28	SCREW, MACH FL HD B27, # 6-32 X 3/8	81349	21
4	3100-25	RING, RETAINING	97464	20
1	20667	REAR GEAR PLATE	14632	19
1	13097	COVER PLATE	14632	18
3	20757-13	SPACER	14632	17
1	12111-4	SHAFT, STRAIGHT	14632	16
1	20466-1	GEAR, ANTI-BACKLASH, SPUR, 120P, 180T	14632	15
1	12621-4	TUNING SHAFT ASSEMBLY	14632	14
1	13250	STOP POST	14632	13
1	13248	STOP	14632	12
2	13248	SPACER, SLEEVE	14632	11
1	555-33	SHIM	01351	10
1	11581-3	SPACER, SLEEVE	14632	9
1	13252	SHAFT ASSEMBLY	14632	8
1	20466-2	GEAR, ANTI-BACKLASH, SPUR, 120P, 180T	14632	7
1	TT-504	THRUST BEARING	70417	6
2	1451-1	SPACER, SLEEVE	14632	5
AR	7754	SINING FRICTION WASHER	00194	4
1	13247	SUPPORT BRACKET	14632	3
1	13245-2	SPOOL PLATE	14632	2
1	13821	FRONT PLATE	14632	1
QTY	PART NO.	DESCRIPTION	VENDOR NO	ITEM

LIST OF MATERIALS

Figure 5-14. Type 8525 Gear Train Assembly, Exploded View

## 5.4.6 Type 72134 IF and BFO Assembly

REF DESIG PREFIX A5

REF DESIG	DESCRIPTION	QTY. PER ASSY.	MANUFACTURER'S PART NO.	MFR. CODE
A1	IF BANDWIDTH, SWITCHING, AMPLIFIER A	1	12868	14632
A2	IF BANDWIDTH, SWITCHING, AMPLIFIER B	1	12865	14632
A3	IF AMPLIFIER AND AM DETECTOR	1	11937/3	14632
A4	BFO AND PRODUCT DETECTOR	1	12879	14632
C1	CAPACITOR, CERAMIC, FEEDTHRU: 1000 pF, GMV, 500V	21	FA5C-102W	01121
C2	Same as C1			
C3	Same as C1			
C4	Same as C1			
C5	Same as C1			
C6	Same as C1			
C7	Same as C1			
C8	Same as C1			
C9	Same as C1			
C10	Same as C1			
C11	Same as C1			
C12	Same as C1			
C13	Same as C1			
C14	Same as C1			
C15	Same as C1			
C16	Same as C1			
C17	Same as C1			
C18	Same as C1			
C19	Same as C1			
C20	Same as C1			
C21	Same as C1			
C22*	CAPACITOR, CERAMIC, TUBULAR: 5.0 pF, $\pm$ .25 pF, 500V	4	301-000-C0H0-509C	72982
C23*	Same as C22			
C24*	Same as C22			
C25*	Same as C22			
E1	TERMINAL, FEEDTHRU	2	SFU-16	04013
E2	Same as E1			
FL1	FILTER, BAND-PASS: 150 Cycle B-W	1	20810	14632
FL2	FILTER, BAND-PASS: 1 KC B-W	1	20811	14632
FL3	FILTER, BAND-PASS: 3 KC B-W	1	20812	14632

\* Nominal value. Final value selected at factory.

REF DESIG PREFIX A5

REF DESIG	DESCRIPTION	QTY. PER ASSY.	MANUFACTURER'S PART NO.	MFR. CODE
FL4	FILTER, BAND-PASS: 6 KC B-W	1	20813	14632
J1	CONNECTOR, RECEPTACLE, MB SERIES	5	46025	74868
J2	Same as J1			
J3	Same as J1			
J4	Same as J1			
J5	Same as J1			
MP1	COVER	1	20779	14632
MP2	COVER	1	20780	14632
P1	CONNECTOR, PLUG, MULTIPIN	1	SMRE-20PG	81312
Y1	CRYSTAL: 2,000.000 KC	1	91804-05	14632
Y2	CRYSTAL: 2,005.500 KC	1	91804-06	14632
Y3	CRYSTAL: 2,001.650 KC	1	91804-04	14632
Y4	CRYSTAL: 1,998.350 KC	1	91804-03	14632

## 5.4.6.1 Part 12868 IF Bandwidth Switching Amplifier A

REF DESIG PREFIX A5A1

REF DESIG	DESCRIPTION	QTY. PER ASSY.	MANUFACTURER'S PART NO.	MFR. CODE
C1	CAPACITOR, CERAMIC, DISC: 0.05 $\mu$ F, +80-20%, 20V	2	UK20-503	71590
C2	CAPACITOR, CERAMIC, DISC: .005 $\mu$ F, 20%, 500V	9	SM(.005 $\mu$ F, 20%)	91418
C3	CAPACITOR, MICA, DIPPED: 820 pF, 5%, 500V	2	DM15-821J	72136
C4	CAPACITOR, MICA, DIPPED: 1800 pF, 5%, 500V	2	DM19-182J	72136
C5	CAPACITOR, CERAMIC, DISC: 0.1 $\mu$ F, +80-20%, 10V	2	UK10-104	71590
C6	Same as C1			
C7	Same as C5			
C8	Same as C3			
C9	Same as C4			
C10	Same as C2			
C11	Same as C2			
C12	Same as C2			
C13	Same as C2			
C14	Same as C2			
C15	Same as C2			
C16	Same as C2			
C17	Same as C2			
C18	CAPACITOR, ELECTROLYTIC, TANTALUM: 10 $\mu$ F, 10%, 20V	1	CS13BE106K	81349
C19	CAPACITOR, ELECTROLYTIC, TANTALUM: .47 $\mu$ F, 10%, 35V	2	CS13BF474K	81349
C20	Same as C19			
L1	COIL, VARIABLE	2	3476-25	14632
L2	Same as L1			
Q1	TRANSISTOR	2	2N3478	80131
Q2	Same as Q1			
Q3	TRANSISTOR	4	2N706	80131
Q4	Same as Q3			
Q5	Same as Q3			
Q6	Same as Q3			
R1	RESISTOR, FIXED, COMPOSITION: 1 k $\Omega$ , 5%, 1/4W	14	RCR07G102JS	81349
R2	RESISTOR, FIXED, COMPOSITION: 15 k $\Omega$ , 5%, 1/4W	2	RCR07G153JS	81349
R3	RESISTOR, FIXED, COMPOSITION: 47 $\Omega$ , 5%, 1/4W	2	RCR07G470JS	81349
R4	RESISTOR, FIXED, COMPOSITION: 4.7 k $\Omega$ , 5%, 1/4W	6	RCR07G472JS	81349
R5	RESISTOR, FIXED, COMPOSITION: 3.0 $\Omega$ , 5%, 1/4W	2	RCR07G3R0JS	81349

REF DESIG PREFIX A5A1

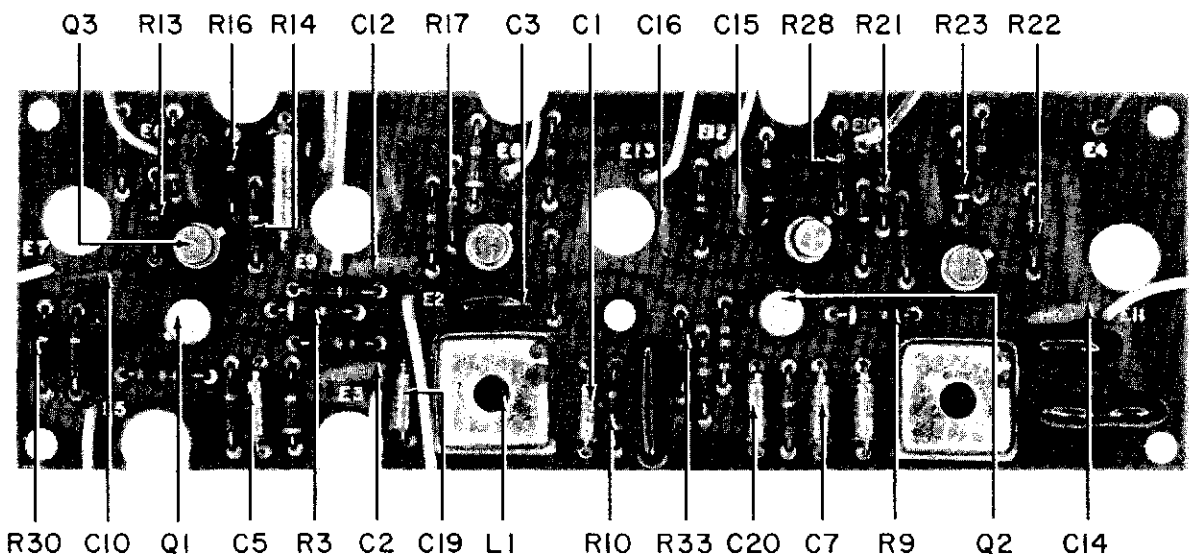
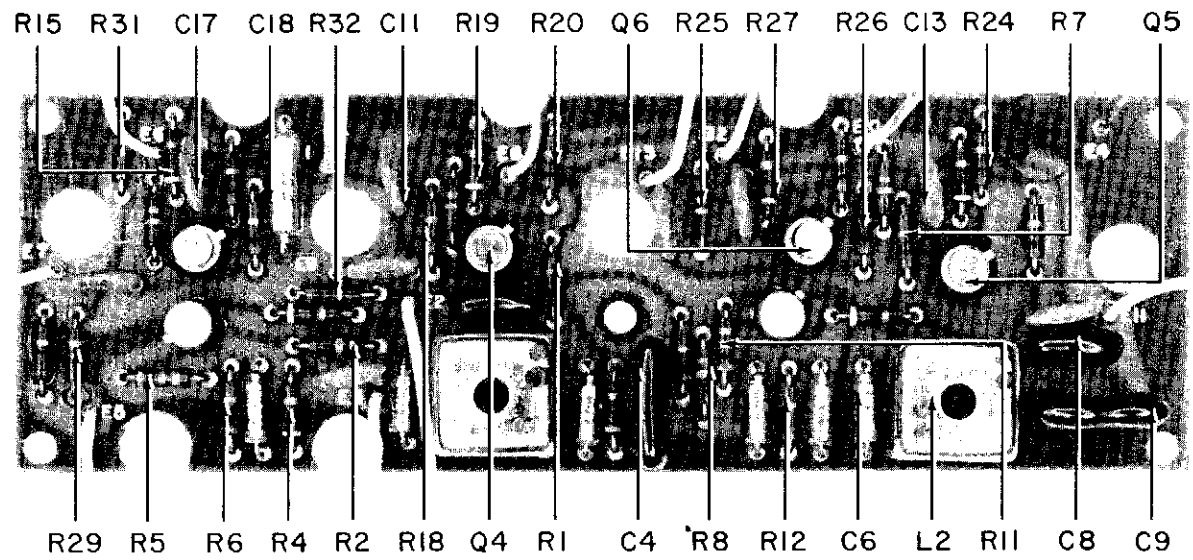


Figure 5-16. Part 12868 IF BW Switching Amplifier "A", Component Locations

REF DESIG PREFIX A5A1

REF DESIG	DESCRIPTION	QTY. PER ASSY.	MANUFACTURER'S PART NO.	MFR. CODE
R6	Same as R1			
R7	Same as R1			
R8	Same as R2			
R9	Same as R3			
R10	Same as R4			
R11	Same as R5			
R12	Same as R1			
R13	RESISTOR, FIXED, COMPOSITION: 27 k $\Omega$ , 5%, 1/4W	4	RCR07G273JS	81349
R14	Same as R1			
R15	Same as R4			
R16	Same as R1			
R17	Same as R13			
R18	Same as R1			
R19	Same as R4			
R20	Same as R1			
R21	Same as R13			
R22	Same as R1			
R23	Same as R4			
R24	Same as R1			
R25	Same as R13			
R26	Same as R1			
R27	Same as R4			
R28	Same as R1			
R29	RESISTOR, FIXED, COMPOSITION: 120 $\Omega$ , 5%, 1/4W	1	RCR07G121JS	81349
R30	RESISTOR, FIXED, COMPOSITION: 75 $\Omega$ , 5%, 1/4W	1	RCR07G750JS	81349
R31	RESISTOR, FIXED, COMPOSITION: 750 $\Omega$ , 5%, 1/4W	1	RCR07G751JS	81349
R32	Same as R1			
R33	Same as R1			

REF DESIG PREFIX A5A2

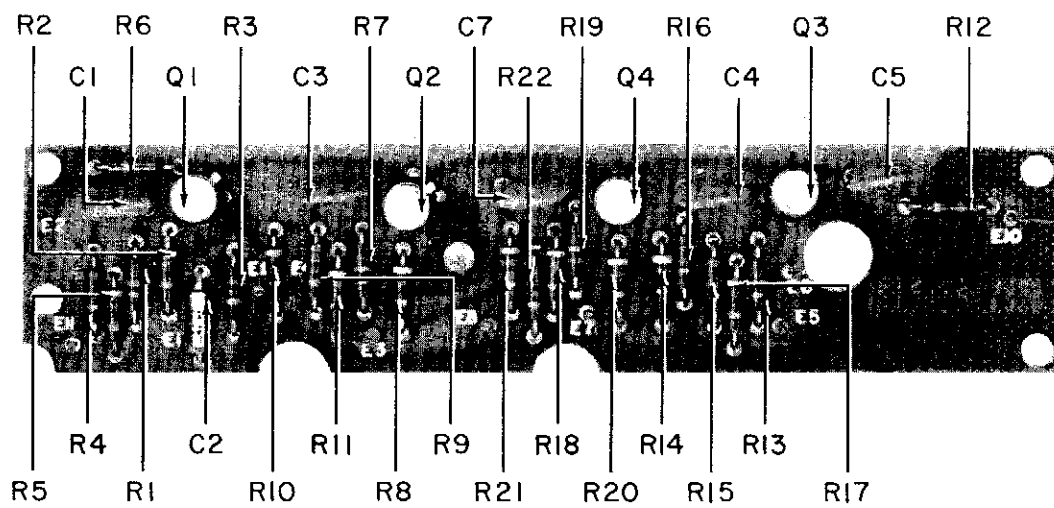


Figure 5-17. Part 12865 IF BW Switching Amplifier "B", Component Locations



## 5.4.6.2 Part 12865 IF BW Switching Amplifier B

REF DESIG PREFIX A5A2

REF DESIG	DESCRIPTION	QTY. PER ASSY.	MANUFACTURER'S PART NO.	MFR. CODE
C1	CAPACITOR, CERAMIC, DISC: .005 $\mu$ F, 20%, 500V	5	SM(.005 $\mu$ F, 20%)	91418
C2	CAPACITOR, ELECTROLYTIC, TANTALUM: .47 $\mu$ F, 10%, 35V	1	CS13BF474K	81349
C3	Same as C1			
C4	Same as C1			
C5	Same as C1			
C6	NOT USED			
C7	Same as C1			
Q1	TRANSISTOR	4	2N3478	80131
Q2	Same as Q1			
Q3	Same as Q1			
Q4	Same as Q1			
R1	RESISTOR, FIXED, COMPOSITION: 27 k $\Omega$ , 5%, 1/4W	4	RCR07G273JS	81349
R2	RESISTOR, FIXED, COMPOSITION: 47 $\Omega$ , 5%, 1/4W	4	RCR07G470JS	81349
R3	RESISTOR, FIXED, COMPOSITION: 510 $\Omega$ , 5%, 1/4W	2	RCR07G511JS	81349
R4	RESISTOR, FIXED, COMPOSITION: 1.5 k $\Omega$ , 5%, 1/4W	1	RCR07G152JS	81349
R5	RESISTOR, FIXED, COMPOSITION: 4.7 k $\Omega$ , 5%, 1/4W	4	RCR07G472JS	81349
R6	Same as R3			
R7	Same as R1			
R8	Same as R2			
R9	RESISTOR, FIXED, COMPOSITION: 300 $\Omega$ , 5%, 1/4W	1	RCR07G301JS	81349
R10	RESISTOR, FIXED, COMPOSITION: 680 $\Omega$ , 5%, 1/4W	1	RCR07G681JS	81349
R11	Same as R5			
R12	RESISTOR, FIXED, COMPOSITION: 51 $\Omega$ , 5%, 1/4W	1	RCR07G510JS	81349
R13	Same as R1			
R14	Same as R2			
R15	RESISTOR, FIXED, COMPOSITION: 750 $\Omega$ , 5%, 1/4W	1	RCR07G751JS	81349
R16	RESISTOR, FIXED, COMPOSITION: 270 $\Omega$ , 5%, 1/4W	1	RCR07G271JS	81349
R17	Same as R5			
R18	Same as R5			
R19	Same as R1			
R20	Same as R2			
R21	RESISTOR, FIXED, COMPOSITION: 820 $\Omega$ , 5%, 1/4W	1	RCR07G821JS	81349
R22	RESISTOR, FIXED, COMPOSITION: 180 $\Omega$ , 5%, 1/4W	1	RCR07G181JS	81349

REF DESIG PREFIX A5A3

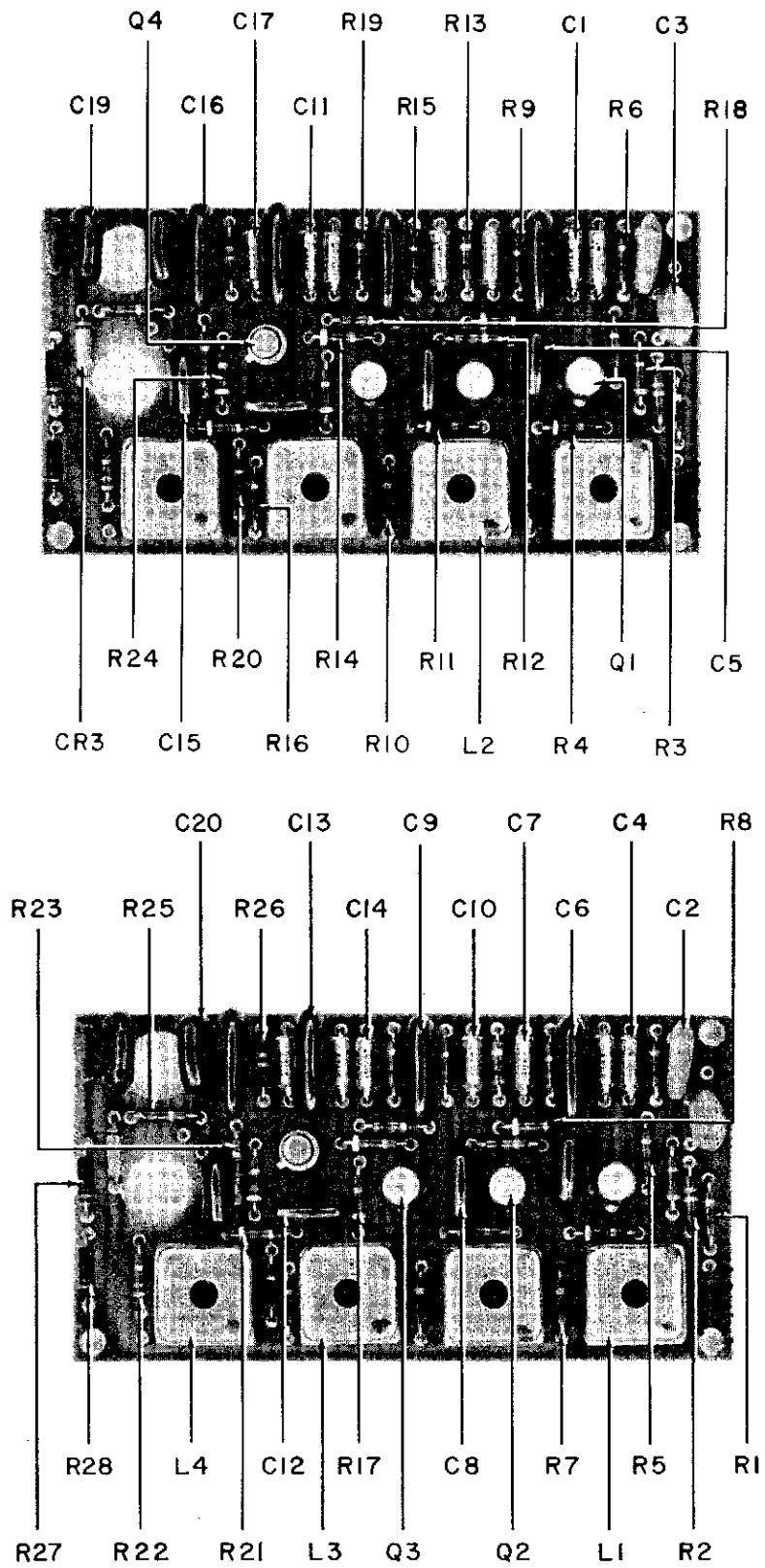


Figure 5-18. Part 11937 IF Amplifier and AM Detector, Component Locations

## 5.4.6.3 Part 11937/3 IF Amplifier and AM Detector

REF DESIG PREFIX A5A3

REF DESIG	DESCRIPTION	QTY. PER ASSY.	MANUFACTURER'S PART NO.	MFR. CODE
C1	CAPACITOR, CERAMIC, DISC: 0.05 $\mu$ F, +80-20%, 20V	3	UK20-503	71590
C2	CAPACITOR, CERAMIC, DISC: .05 $\mu$ F, 20%, 50V	1	55C23A1	56289
C3	CAPACITOR, CERAMIC, DISC: .005 $\mu$ F, 20%, 500V	1	SM(.005 $\mu$ F, 20%)	91418
C4	CAPACITOR, CERAMIC, DISC: 0.1 $\mu$ F, +80-20%, 10V	3	UK10-104	71590
C5	CAPACITOR, MICA, DIPPED: 820 pF, 5%, 500V	4	DM15-821J	72136
C6	CAPACITOR, MICA, DIPPED: 1800 pF, 5%, 500V	4	DM19-182J	72136
C7	Same as C1			
C8	Same as C5			
C9	Same as C6			
C10	Same as C4			
C11	Same as C1			
C12	Same as C5			
C13	Same as C6			
C14	Same as C4			
C15	Same as C5			
C16	Same as C6			
C17	CAPACITOR, ELECTROLYTIC, TANTALUM: .47 $\mu$ F, 10%, 35V	1	CS13BF474K	81349
C18	NOT USED			
C19	CAPACITOR, MICA, DIPPED: 470 pF, 5%, 500V	2	DM15-471J	72136
C20	Same as C19			
CR1	NOT USED			
CR2	NOT USED			
CR3	DIODE	1	1N270	80131
L1	COIL, VARIABLE	4	3476-25	14632
L2	Same as L1			
L3	Same as L1			
L4	Same as L1			
Q1	TRANSISTOR	3	2N3478	80131
Q2	Same as Q1			
Q3	Same as Q1			
Q4	TRANSISTOR	1	2N3251	80131
R1	RESISTOR, FIXED, COMPOSITION: 1 k $\Omega$ , 5%, 1/4W	7	RCR07G102JS	81349
R2	RESISTOR, FIXED, COMPOSITION: 15 k $\Omega$ , 5%, 1/4W	1	RCR07G153JS	81349
R3	RESISTOR, FIXED, COMPOSITION: 4.7 k $\Omega$ , 5%, 1/4W	1	RCR07G472JS	81349