

MODEL H500,  
Ch. 5H40

ALIGNMENT PROCEDURE

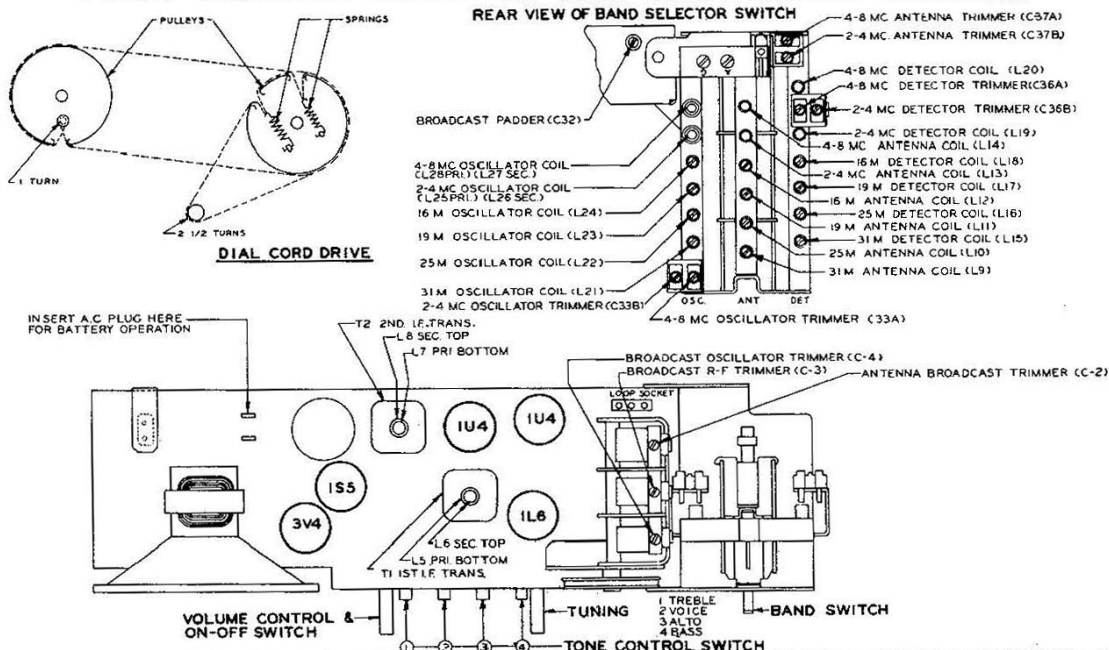
OPER.	CONNECT OSCILLATOR TO DUMMY ANTENNA	INPUT SIGNAL FREQ.	BAND	SET DIAL AT	TRIMMERS	PURPOSE
1	Positive lead of signal generator to converter grid through a .1 Mfd. condenser & negative lead to negative filament of 1L6 tube.	455 Kc	BC	600 Kc	L5, 6, 7, 8	Align I. F.
2	One turn loop coupled loosely to broadcast wavemagnet	1600 Kc	BC	1600 Kc	C4	Set oscillator to scale
3		1400 Kc	BC	1400 Kc	C3	Alignment of detector
4		1400 Kc	BC	1400 Kc	C2	Alignment of BC antenna
5*		600 Kc	BC	Rock at 600 Kc	C32	Alignment of BC at 600 Kc

\*Note: Rock Tuning Condenser When Making Alignment Under Operations 5, 7, 10, 12, 13, 14 & 15.

NOTE: If Trimmers C2, C3, C4 are adjusted after procedures #2 through #15 are completed, it will be necessary to repeat alignment procedures #2 through #15.

OPERATION	CONNECT OSCILLATOR TO DUMMY ANTENNA	INPUT SIGNAL FREQ.	BAND	SET DIAL AT	TRIMMERS	PURPOSE	
6	3 feet of wire approximately 1 foot from extended wave rod.	7.8 Mc	4-8 Mc	7.8 Mc	C33A, C36A, C37A	Alignment of S. W. Oscillator Detector and Antenna	
7*		4.2 Mc	4-8 Mc	Rock at 4.2 Mc	4-8 Mc Osc. slug		
8		Repeat Operations 6 & 7					
9		3.9 Mc	2-4 Mc	3.9 Mc	C33B, C36B, C37B		
10		2.1 Mc	2-4 Mc	Rock at 2.1 Mc	2-4 Mc Osc. slug		
11		Repeat Operation 9 & 10					
12		17.8 Mc	16 Meters	17.8 Mc	L24, L18, L12		
13		15.2 Mc	19 Meters	15.2 Mc	L23, L17, L11		
14		11.8 Mc	25 Meters	11.8 Mc	L22, L16, L10		
15		9.6 Mc	31 Meters	9.6 Mc	L21, L15, L9		

TUBE, TRIMMER LOCATION AND DIAL CABLE DRAWING



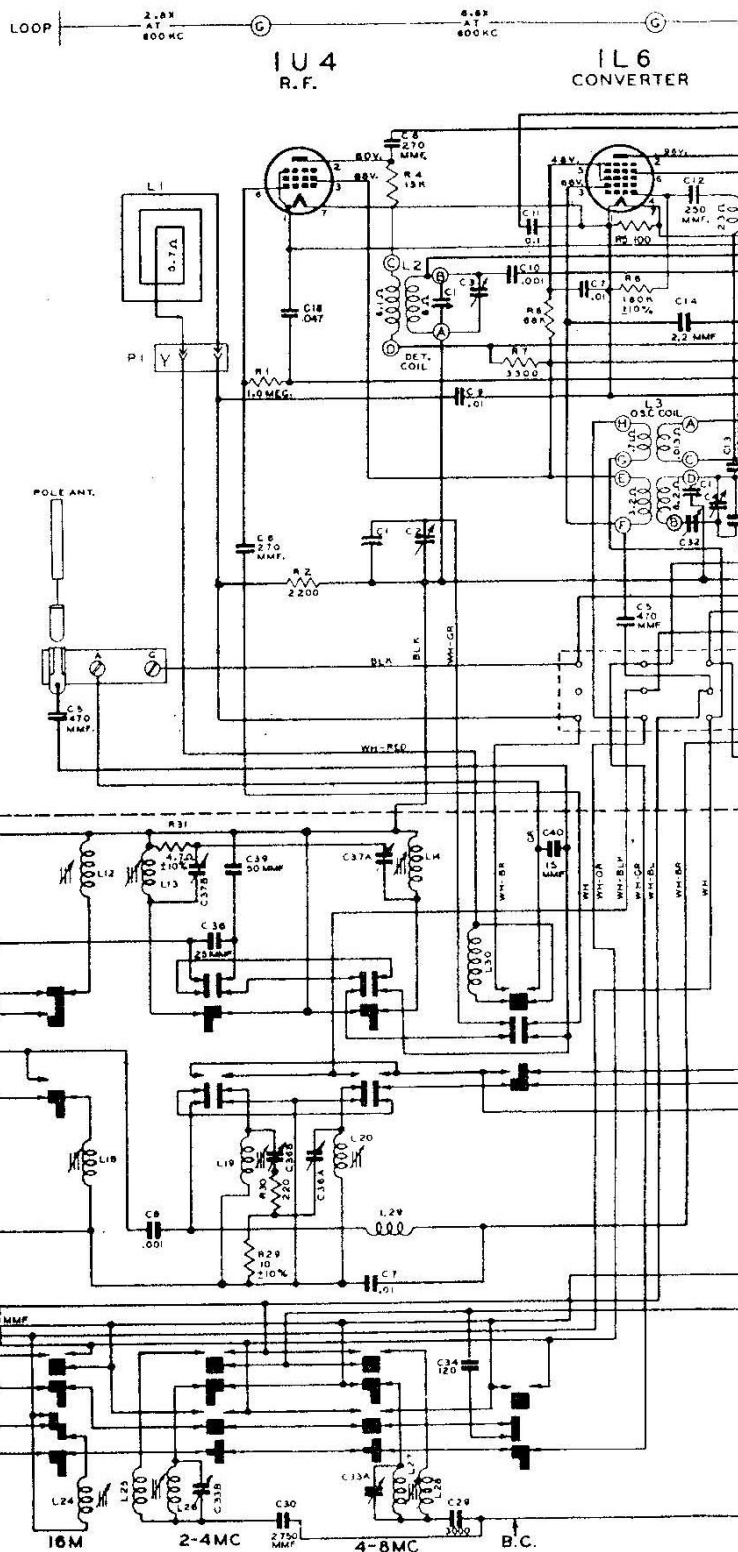
Chassis 5H40 features a high gain tuned RF stage ahead of a conventional superheterodyne circuit with band spread tuning on the 31, 25, 19 and 16 meter bands. There are two continuous coverage bands, one covering 2-4 megacycles and one covering 4-8 megacycles.

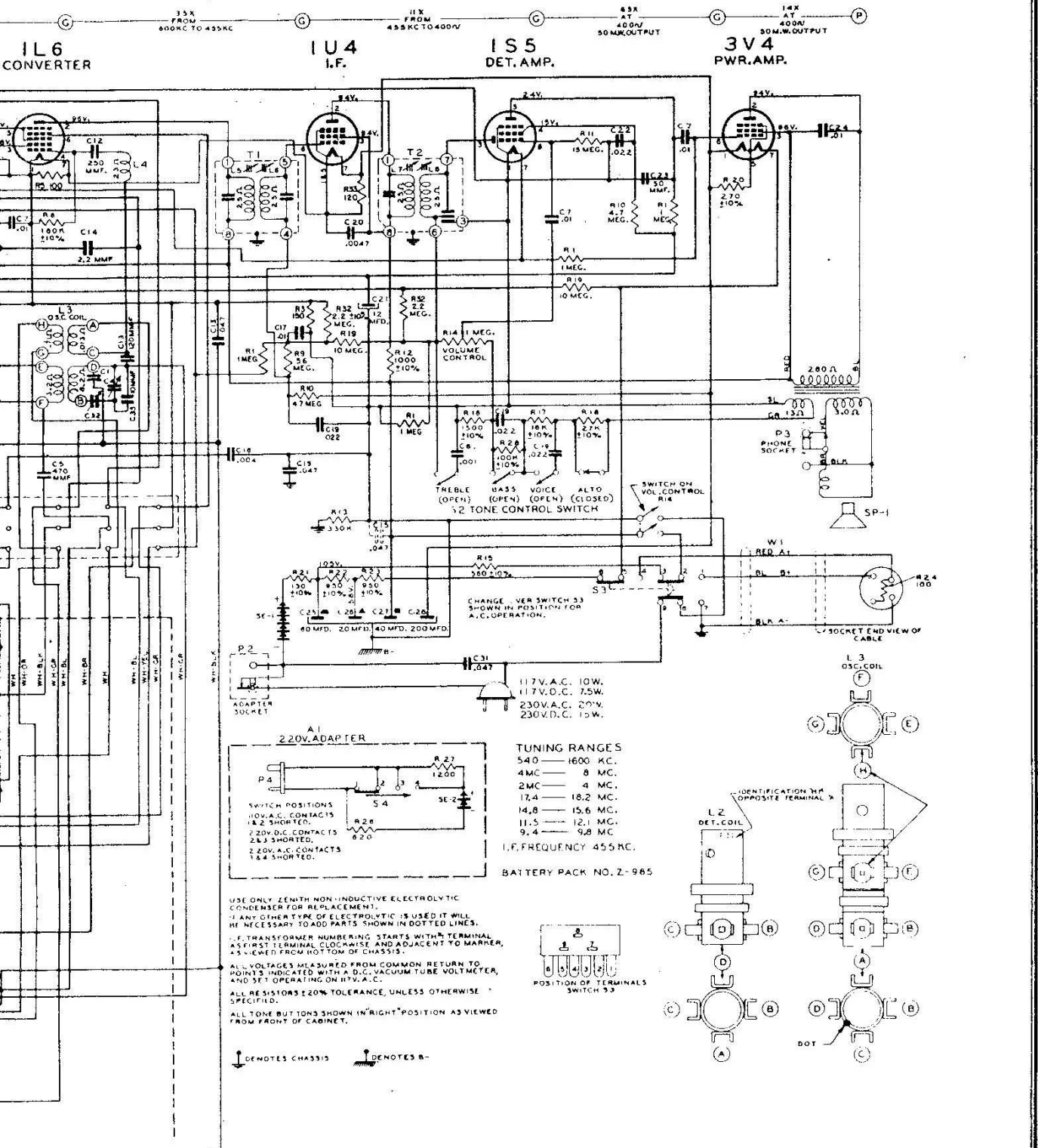
If removal of the chassis from the cabinet ever becomes necessary this should be done with care.

The alignment of chassis 5H40 is conventional. However, care must be exercised when making adjustments, and the alignment procedure must be followed exactly. Set the chassis over a metal plate approximately the same distance the battery pack is from the bottom of the chassis when it is in the cabinet. This procedure will introduce the approximate amount of metal in the field of the RF and oscillator coils as when the chassis is in the cabinet. A signal generator of reasonable accuracy and good attenuation must be used. An output meter (AC) of the copper oxide rectifier type with a range of 1 to 30 volts in several steps is necessary to get accurate output readings. Alignment wrenches should be of the non-metallic type, especially when making adjustments at the higher frequencies.

When reinstalling the chassis in the cabinet be careful not to disturb the cabling between the short wave coil assembly and chassis. Tune in a weak broadcast signal near 1400 Kc. and touch up trimmer C2. This will insure maximum performance after alignment.

The I.F. transformers incorporated in this receiver are of the new permeability tuned type. The advantage of an I.F. transformer of this type is its extreme stability under various humidity and temperature conditions. The upper coil is the secondary and the lower the primary. When adjusting these I.F. transformers the tuning wrench 68-19 can be inserted into the top slug, rotated until maximum output is obtained and then dropped down to the lower slug and the same operation repeated. The tuning wrench is so designed that turning one slug does not affect the adjustment of the other.





PART NO. DIAG. NO. DESCRIPTION

DIAL ASSEMBLY

12-1826		Pointer Shaft Bracket
26-457		Dial Scale
59-257		Dial Pointer
76-621		Tuning Control Shaft
80-69		Dial Cord Tension Spring (2 used)
83-1865		Dial Scale Support Strip
93-209		.031 x .140 x 7/16 Steel washer-Cad (2 used on 26-457)
114-157		6-32 x 1/2" Ig. x 1/4" Hex Hd. S.T. (2 used on 26-457)
114-248		6-20 x 5/16 Ig. x 1/4" Hex Hd. S. T. (used on 26-457)
188-128		Retaining Ring (1 ea. used on 76-621 & S-17798)
S-15781		Pointer Pulley Cord & Eyelet Assem. Short
S-15782		Pointer Pulley Cord & Eyelet Assem. Long
S-17798		Pointer Pulley & Shaft Assembly

COILS & CHOKES

95-1148	T1	1st. I. F. Transformer
95-1149	T2	2nd. I. F. Transformer
S-11952	L29	R. F. Shunt Coil Assembly
S-14403	L4	R. F. Choke Coil Assembly
S-17709	L3	Oscillator Coil Assembly (B. C.)
S-17710	L2	Detector Coil Assembly (B. C.)

CONDENSERS

22-3	C7	.01 Mfd. Ceramic (3 used)	500V
22-4	C16	.004 Mfd. Ceramic	500V
22-1390	C5	470 Mmfd. Mica	500V
22-1674	C23	50 Mmfd. Ceramic	500V
22-1741	C25,26, 27 & 28	Elect. Cond. 60 Mfd. -150V x 40 Mfd. 150V. 20 Mfd. -150V x 200 Mfd. 10V	
22-1763	C14	2.2 Mmfd. Molded	500V
22-1775	C15	.047 Mfd. (2 used)	400V
22-1777	C11	.1 Mfd.	200V
22-1778		.047 Mfd. (Molded)	200V
22-1779	C24	.01 Mfd.	600V
22-1783	C20	.0047 Mfd.	400V
22-1784	C9	.01 Mfd.	400V
22-1844	C31	.047 Mfd.	600V
22-1846	C17	.01 Mfd.	400V
22-1886	C10	.001 Mfd. Ceramic	500V
22-1953	C35	10 Mmfd. Ceramic	500V
22-2056	C21	Elect. Cond. 12 Mfd. 150V	
22-2058	C6	270 Mmfd. Mica (2 used)	500V
22-2071	C19	.022 Mfd. (3 used)	200V
22-2072	C22	.022 Mfd.	400V
22-2126	C12	250 Mmfd. Ceramic	500V
22-2127	C8	.001 Mfd. Ceramic	600V
22-2279	C13	120 Mmfd. Ceramic	500V
22-2282	C32	Single Section Trimmer	
22-2286	C1	Three Section Variable	

RESISTORS

63-1362	R22-R23	Two Section Candohm
63-1743		100 Ohm 1/2W 10% Ins. Res.
63-1744	R24	100 Ohm 1/2W 20% Ins. Res.
63-1747		120 Ohm 1/2W 10% Ins. Res.
63-1750		150 Ohm 1/2W 10% Ins. Res.
63-1761	R20	270 Ohm 1/2W 10% Ins. Res.
63-1785	H12	1000 Ohm 1/2W 10% Ins. Res.
63-1792	H16	1500 Ohm 1/2W 10% Ins. Res.
63-1800	H2	2200 Ohm 1/2W 20% Ins. Res.
63-1807	R7	3300 Ohm 1/2W 20% Ins. Res.
63-1835	R4	15K Ohm 1/2W 20% Ins. Res.
63-1838	R17	18K Ohm 1/2W 10% Ins. Res.
63-1842	R25	22K Ohm 1/2W 20% Ins. Res.
63-1845	J18	27K Ohm 1/2W 10% Ins. Res.
63-1863	H6	68K Ohm 1/2W 20% Ins. Res.
63-1869	R28	100K Ohm 1/2W 10% Ins. Res.
63-1880	H8	180K Ohm 1/2W 10% Ins. Res.
63-1891	R11	330K Ohm 1/2W 20% Ins. Res.
63-1912	R1	1 Megohm 1/2W(5 used)20% Ins. Res.
63-1926		2.2 Megohm 1/2W 20% Ins. Res.
63-1940	R10	4.7 " 1/2W(2 used)20% Ins. Res.
63-1943	R9	5.6 " 1/2W 10% Ins. Res.
63-1954	R19	10 " 1/2W(2 used)20% Ins. Res.
63-1961	R11	15 " 1/2W 20% Ins. Res.
63-2018	R21	130 Ohm 1W 2ipohm 10%
63-2276	R14	Volume Control & Switch

MISCELLANEOUS

11-104		Line Cord & Plug
15-57		Cap & Insulator (used on S-15785)
44-17	P3	Headphone Jack
49-668	SP-1	5 1/8" PM Speaker ZC4501 Cone
78-274		Elect. Cond. Socket
78-543		Four Contact Socket
78-802	P1	Wavemagnet Socket
78-806		Miniature Tube Socket
78-817		Miniature Tube Socket
78-844	P2	Adapter Socket (220V)
78-845		Miniature Tube Socket (3 used)
85-450	S3	Power Changerover Switch
85-503	S2	Band Switch
94-295		Gang Cond. & Spkr. Mtg. Bushing (6 used)
114-308		6-32 x 1 1/8" Ig. x 1/4" Fl. M.S. Steel (used on 212-10)
125-81		Strain Relief Grommet - Male
125-82		Strain Relief Grommet - Female

139-96  
149-86  
194-174  
212-5  
SE-2  
S-15785 W1  
S-15715 A1

Speaker Baffle  
Iron Core (16 used)  
Speaker Gasket  
Selenium Rectifier  
Battery Cable & Socket Assembly  
Voltage Adapter Assembly

CABINET PARTS

12-1082		Telescoping Ant. Mtg. Brkt.
14-1301		Cabinet for H500 Portable Model
16-676		Packing Carton - Complete
17-67		Telescoping Ant. Ret. Clamp
19-114		Wavemagnet Cable Ret. Clip
19-188		Cable Retaining Clip
36-46		Cabinet Handle
40-73		Cabinet Back Cover Hinge (2 used)
46-912		Band Switch Knob (7 used)
46-913		Tuning & Vol. Control Knobs (2 used)
54-295		Wavemagnet Ret. Nut (#6-32) (used on S-17747)
54-296		Wavemagnet Ret. Nut (#10-32) (used on S-17747)
57-1224		Front Panel Escutcheon
57-1225		Emblem Plate
58-179		Three Prong Plug (1 ea. used on S-15799 & S-15805)
70-122		#6 x 5/16 R.P.W.S. Steel (2 used on 19-188)
70-168		#4 x 1/2" Phill. R.H. Wood Screw Brass-Blk. Ox. (3 used on 57-1724)
70-169		#4 x 3/4" Phill. R.H. Wood Screw Brass-Blk. Ox. (4 used on 57-1724)
83-1876		Push Button Felt Strip
97-367		Handle Mtg. Stud (2 used)
114-197		Hexagon Washer Hd. S. T. Screw (2 used on Chassis Mtg.)
156-42		Door Latch (upper half)
156-43		Door Latch (lower half)
157-7		Strike Fastener (2 used)
157-8		Strike Fastener (2 used)
159-48		Snap Button (2 used on S-15805 & 2 used on S-17782)
159-49		Snap Button (4 used on S17747 & 2 used on 19-134 & S-17782)
199-119		Antenna, Insulating Sleeve
202-869		Instruction Book & Station Log
202-870		Service Notes
202-872		Weather Bureau Bulletin
202-880		Short Wave Station List
S-15635		Wavemagnet Suction Cup Assem. (2 used)
S-15722		Antenna Knob & Latch Spring Assembly
S-15799		Wavemagnet Cable Assembly
S-15802		Telescoping Antenna Assembly
S-15805		Wavemagnet Ext. Cable Assembly
S-15806		Eyelet & Wire Assembly
S-17743		Front Cover Hinge & Terminal Assem.(R.H.)
S-17744		Front Cover Hinge & Terminal Assem.(L.H.)
S-17747	L1	Wavemagnet Assembly
S-17782		Tube Holder Assembly

FREQUENCY BAND SWITCH ASSEMBLY

12-1825		Band Switch Mtg. Brkt.	
22-3	C7	.01 Mfd. Ceramic	500V
22-1390	C5	470 Mmfd. Mica	500V
22-1392	C3	25 Mmfd. Ceramic	500V
22-1433	C30	2750 Mmfd. Mica	500V
22-1761	C39	50 Mmfd. Ceramic	500V
22-1953	C35	10 Mmfd. Ceramic	500V
22-2127	C8	.001 Mfd.	600V
22-2279	C13	120 Mmfd. Ceramic	500V
22-2280	C34	120 Mmfd. Ceramic	500V
22-2281	C29	3000 Mmfd. Mica	500V
22-2283	C33A, 33B	Two Section Trimmer	
22-2284	C36A, 36B	Two Section Trimmer	
22-2285	C37A, 37B	Two Section Trimmer	
63-1581	R31	4.7 Ohm W.W. 1/2W 10% Ins. Res.	
63-1701	R29	10 Ohm 1/2W 10% Ins. Res.	
63-1758	R30	220 Ohm 1/2W 10% Ins. Res.	
85-502	S1	Band Switch	
149-96		Iron Core (1 used on S-17730 & S-17731)	
S-16047	L30	Antenna Loading Coil Assembly	
S-17688		Band Switch, Brkt. & Coil Assembly	
S-17714	L18	R.F. Coil Assembly (16M)	
S-17715	L17	R.F. Coil Assembly (19M)	
S-17716	L16	R.F. Coil Assembly (25M)	
S-17717	L15	R.F. Coil Assembly (31M)	
S-17718	L12	Ant. Coil Assembly (16M)	
S-17719	L11	Ant. Coil Assembly (19M)	
S-17720	L10	Ant. Coil Assembly (25M)	
S-17721	L9	Ant. Coil Assembly (31M)	
S-17722	L19	R.F. Coil Assembly (2-4 MC)	
S-17723	L20	R.F. Coil Assembly (4-8 MC)	
S-17724	L11	Ant. Coil Assembly (2-4 MC)	
S-17725	L14	Ant. Coil Assembly (4-8 MC)	
S-17726	L24	Osc. Coil Assembly (16M)	
S-17727	L21	Osc. Coil Assembly (19M)	
S-17728	L22	Osc. Coil Assembly (25M)	
S-17729	L21	Osc. Coil Assembly (31M)	
S-17730	L27,28	Osc. Coil Assembly (4-8 MC)	
S-17731	L25,26	Osc. Coil Assembly (2-4 MC)	

VOLTAGE ADAPTER

57-1564		Voltage Indicator Plate
58-182		Two Prong Plug
63-2155		Dual Resistor 620 Ohm 15W & 1200 Ohm - 7W
85-475		Three Position Switch
112-784		Thumb Screw
212-9		Selenium Rectifier
S-15715		Voltage Adapter Assem. (Complete)