

Hallicrafters, Inc.

	Model: EC-403	Chassis:	Year: Pre 1948
	Power:	Circuit:	IF:
	Tubes:		
	Bands:		

Resources

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MODELS EC-403,
EC-404, Rev.

GENERAL

- Tubes Fourteen plus rectifier
- Speaker. 15" PM or twin 10" PM
- Antennas Built-in loop, "AM"
Built-in dipole, "FM"
- Provision for external Antennas.
- Tuning Manual and mechanical push-
button 5 P.B. for "AM" and
5 P.B. for "FM".
- Tuning Range (BC) 540 kc - 1700 kc
(A) 15 mc - 18 mc
(B) 9 mc - 12 mc
(C) 5.8 mc - 18 mc
(FM) 88 mc - 108 mc
- Intermediate Frequency 455 kc/10.7 mc
- Power Supply 105-125 V. 60 cycle AC
- Power Consumption 180 watts

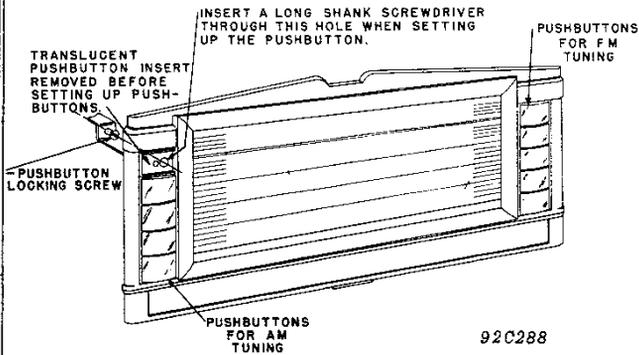
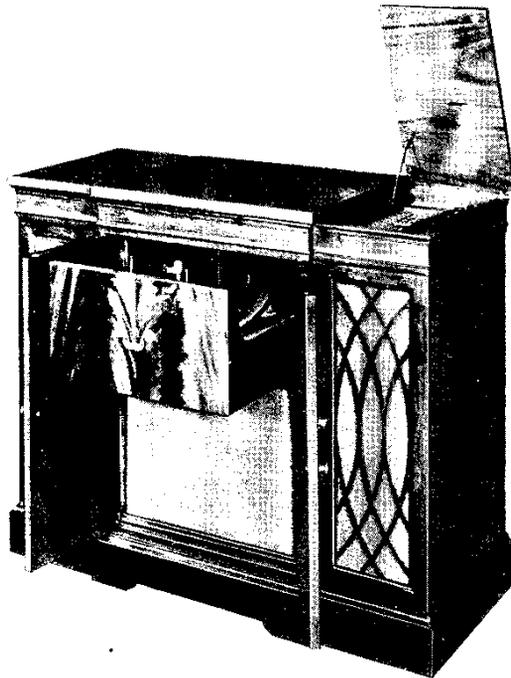


Fig. 1. View showing pushbutton setup.

INSERTING CALL LETTERS

1. Slide out metal insert from translucent insert assembly. (See Fig. 2).
2. Insert call letter tab.
3. Replace metal insert.
4. Replace translucent insert assembly into pushbutton.

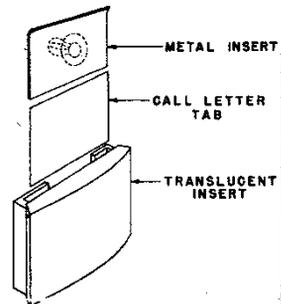


Fig. 2. Inserting call letters

BUTTON SETTING

Insulate the muting switch contacts before setting the lower group of AM pushbuttons. See Fig. 3.

1. Select any one pushbutton.
2. Pull translucent insert straight out.
3. Insert screw driver blade through large hole of pushbutton into slot of locking screw. (See Fig. 1).
4. Loosen locking screw about one-half turn. (Not more than one full turn.)
5. With pushbutton depressed, carefully tune in desired station with the manual control and tighten the locking screw.
6. Replace the translucent insert with the proper station call letters inserted.

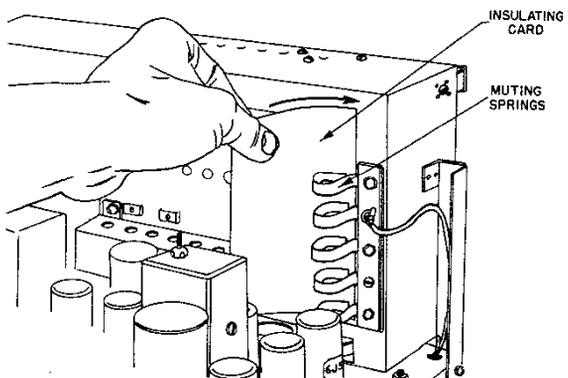
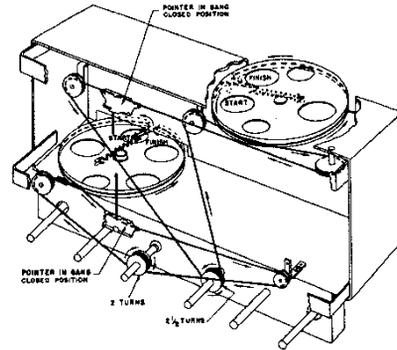


Fig. 3. Insulating the muting switch contacts.

DIAL CORD STRINGING INSTRUCTIONS

To restring either the "FM" or "AM" dial drive systems, cut a five foot length of 9 lb. test dial cord and follow the stringing procedure illustrated in Fig. 4. Note that the start and finish of both drives are located at the tension spring on the drum.



92C278

Fig. 4. Dial cable stringing procedure.

Index the pointer carriage as described under ALIGNMENT PROCEDURE.

ALIGNMENT PROCEDURE

Removal of the receiver chassis from the cabinet requires the use of other calibration means than the dial glass. Calibration strips mounted on the pointer rails are provided for alignment purposes.

To use these calibration strips, it is necessary to remove the dial plate (brown metal cover) in the following manner:

1. Remove dial pointers. Pull them straight out of their spring clips.
2. Remove the two dial lamp sockets.
3. Remove dial plate fastened to the chassis with seven sheet metal screws.

With the variable condensers fully meshed, the right hand side of the pointer carriage will be indexed to zero on the calibration strips. Refer to Fig. 5.

The receiver is equipped with AUTOMATIC FREQUENCY CONTROL on the FM band to compensate for mechanical variations in the pushbutton mechanism. The correction factor is approximately 5 times: AFC takes hold 100 kc be-

fore the station frequency is reached and releases before tuning 450 kc beyond the station frequency when receiving a 0.1 volt signal.

The standard RMA dummy specified in the alignment chart consists of a 200 mmf condenser in series with a 20 uh r-f choke which is shunted by a 400 mmf condenser in series with a 400 ohm carbon resistor.

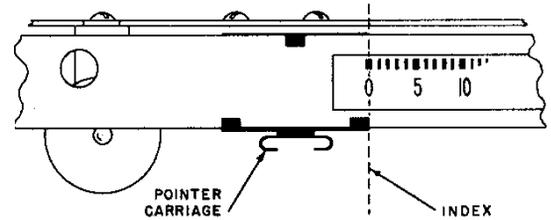


Fig. 5. Calibration strip detail.

ALIGNMENT CHART

Step	Dummy Antenna	Signal Generator Coupling	Signal Generator Frequency	Band Switch Pos.	Radio Tuned To	Cal. No.	Adjust	Remarks
1	0.01 mfd. cap.	To stator plates of center section of AM tuning cap.	455 kc	"BC"	1000 kc	55	S3, S6, S2, S5, S1 & S4	Adjust for max. output TREBLE tone control set at No. 1.
2	0.01 mfd. cap.	To stator plates of center section of FM tuning cap.	10.7 mc (No modulation)	"FM"	Mid-scale	55	S9, S12, S13, S8, S11, S7, & S10	Adjust for max. AVC voltage as measured between pin No. 7 of 6AL5 and ground with an electronic voltmeter.
3	0.01 mfd. cap.	To stator plates of center section of FM tuning cap.	10.7 mc (No modulation)	"FM"	Mid-scale	55	S14	Adjust for zero voltage as measured between junction L16 and C34 and ground with an electronic voltmeter.
4	Std. RMA dummy.	To terminals "A" and "G" on ant. term. strip. TS ₁ .	1500 kc	"BC"	1500 kc	82	F*, H, and I	Adjust for max. output as in step 1.
5	Std. RMA dummy	To terminals "A" and "G" on ant. term. strip. TS ₁ .	600 kc	"BC"	600 kc	15.5	G*	Adjust for max. output as in step 1.
6	Std. RMA dummy.	To terminals "A" and "G" on ant. term. strip. TS ₁ .	18 mc	"A"	18 mc	94.5	A*, O, and N	Adjust for max. output as in step 1.
7	Std. RMA dummy.	To terminals "A" and "G" on ant. term. strip. TS ₁ .	15 mc	"A"	15 mc	7.5	B*, P and Q	Adjust for max. output as in step 1.
8	Two 150 ohm carbon resistors.	To terminals "D" and "D" on ant. term. strip; one 150 ohm resistor in each lead.	12 mc	"B"	12 mc	91.5	C*, J, and K	Adjust for max. output as in step 1.
			9 mc	"B"	9 mc	6.5	D*, L	
			108 mc	"FM"	108 mc	83.5	T*, U, and V	Adjust for max. limiter grid voltage as measured between pin No. 4 of the 6SH7 and ground with a 100,000 ohm resistor in series with the voltmeter probe.

* Note— Calibration adjustments.

MODELS EC-403, EC-404, Rev.

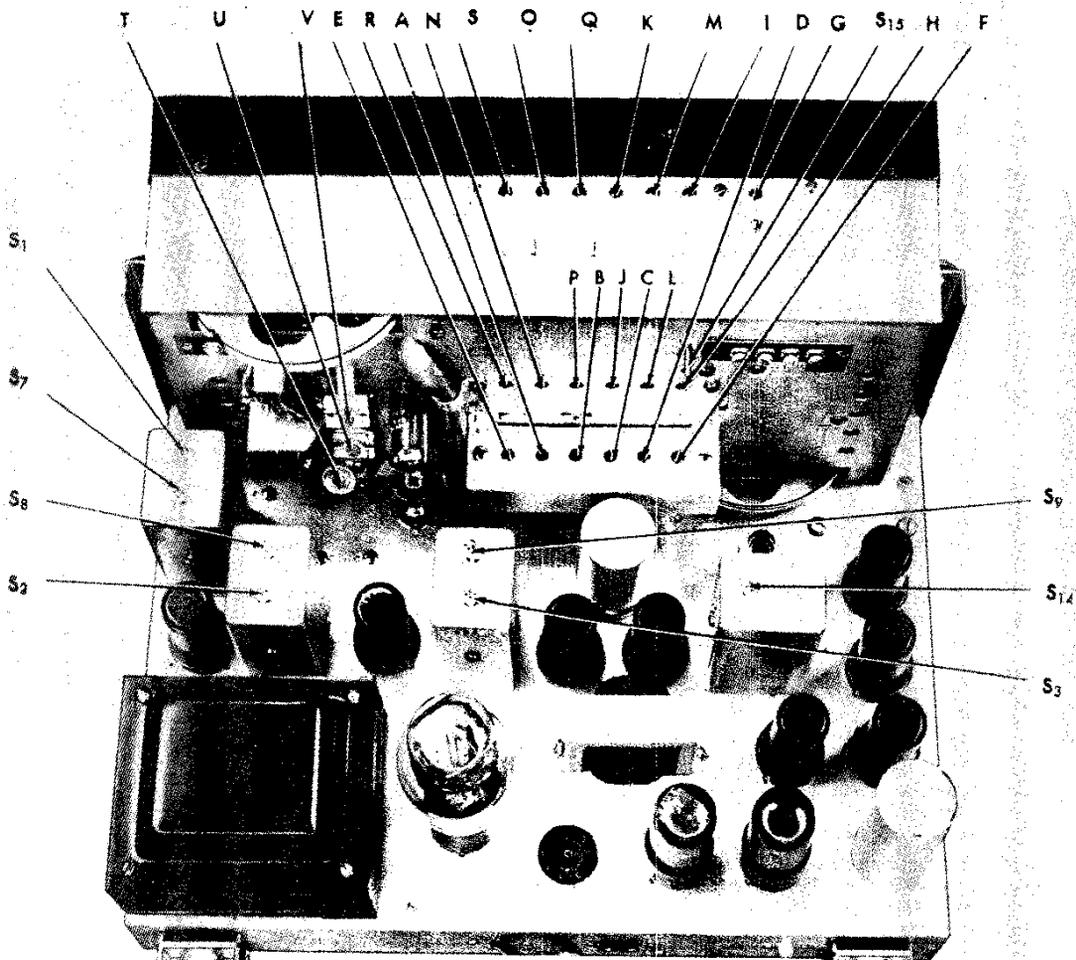


Fig. 6. Top view showing alignment points

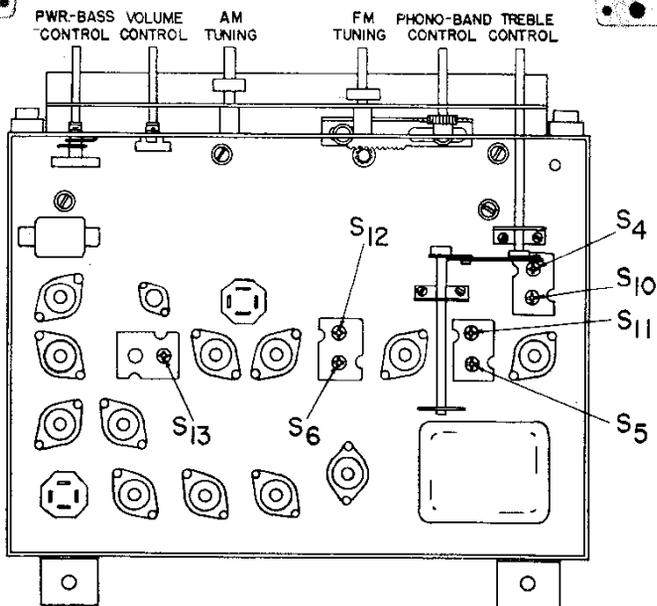


Fig. 7. Bottom view showing alignment points.

MODELS EC-403,
EC-404, Rev.

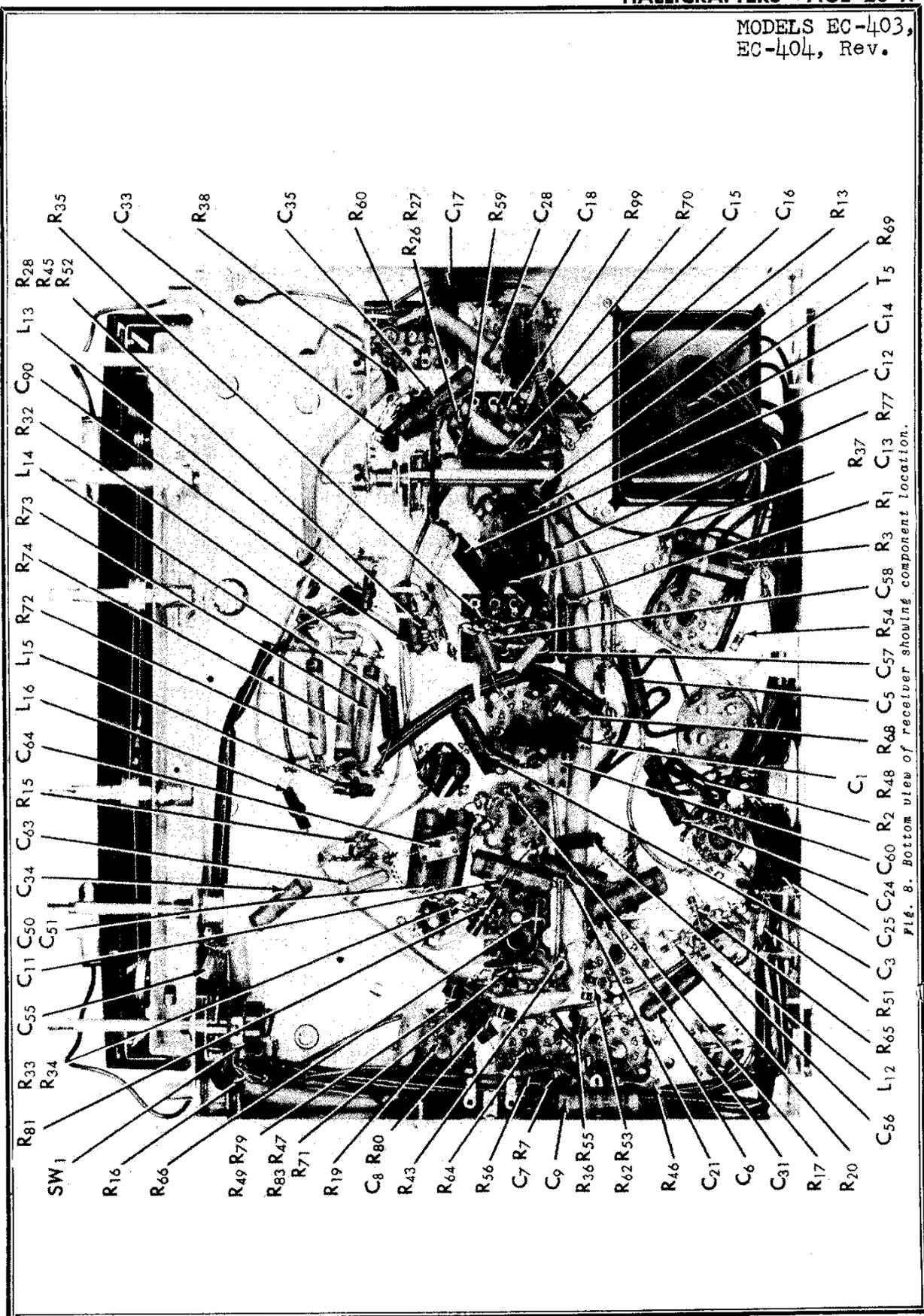


Fig. 8. Bottom view of receiver showing component location.

MODELS EC-403, EC-404, Rev.

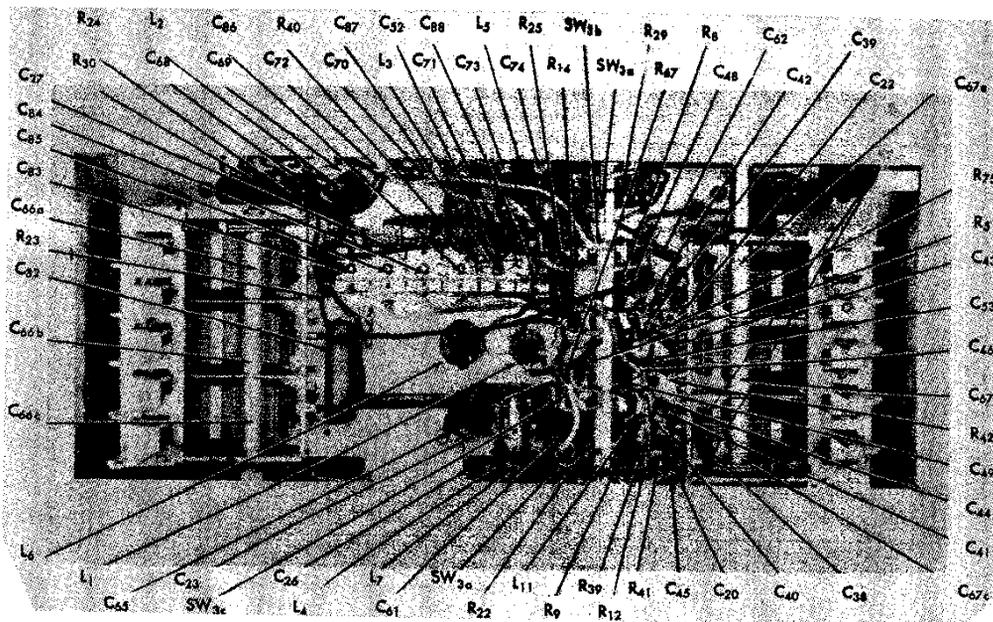
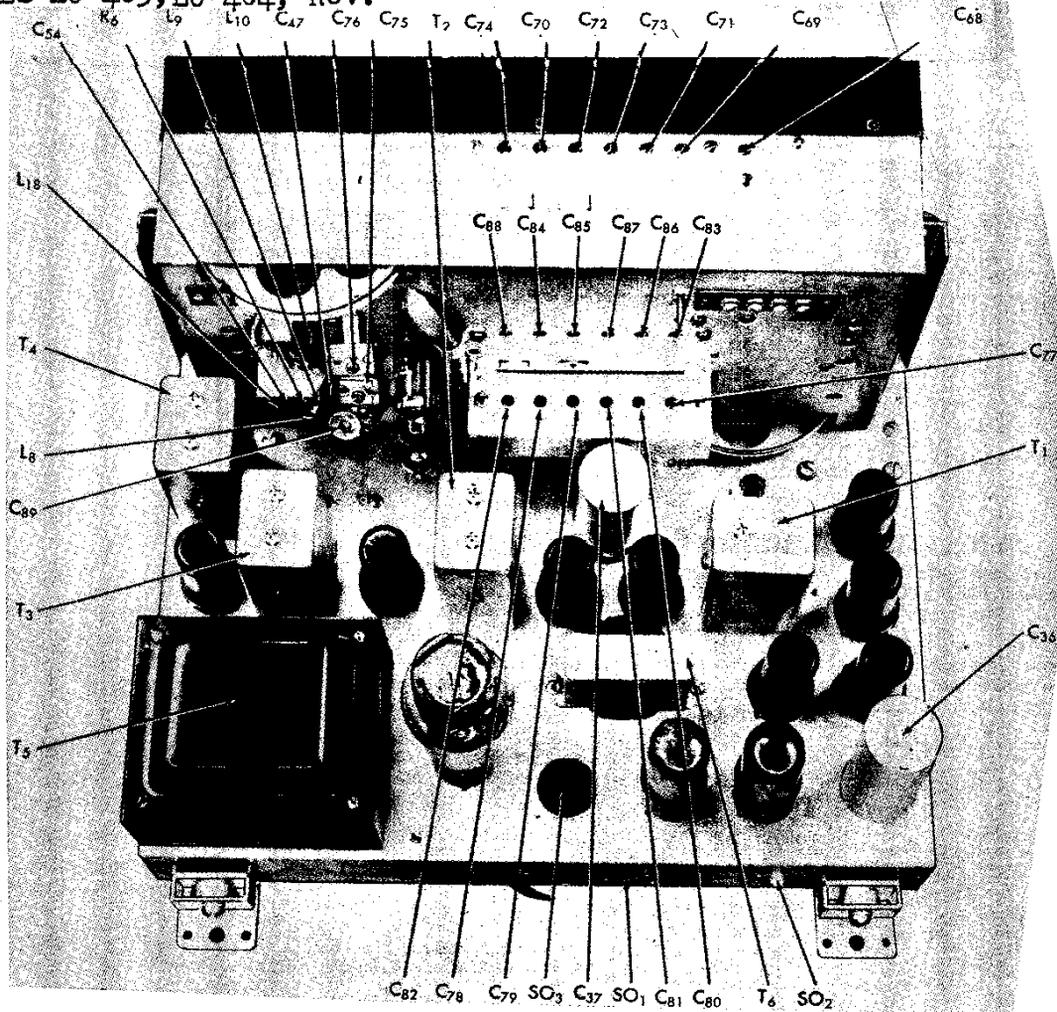


Fig. 10. Front view of R.F. chassis showing component location.

BOTTOM VIEW OF CHASSIS

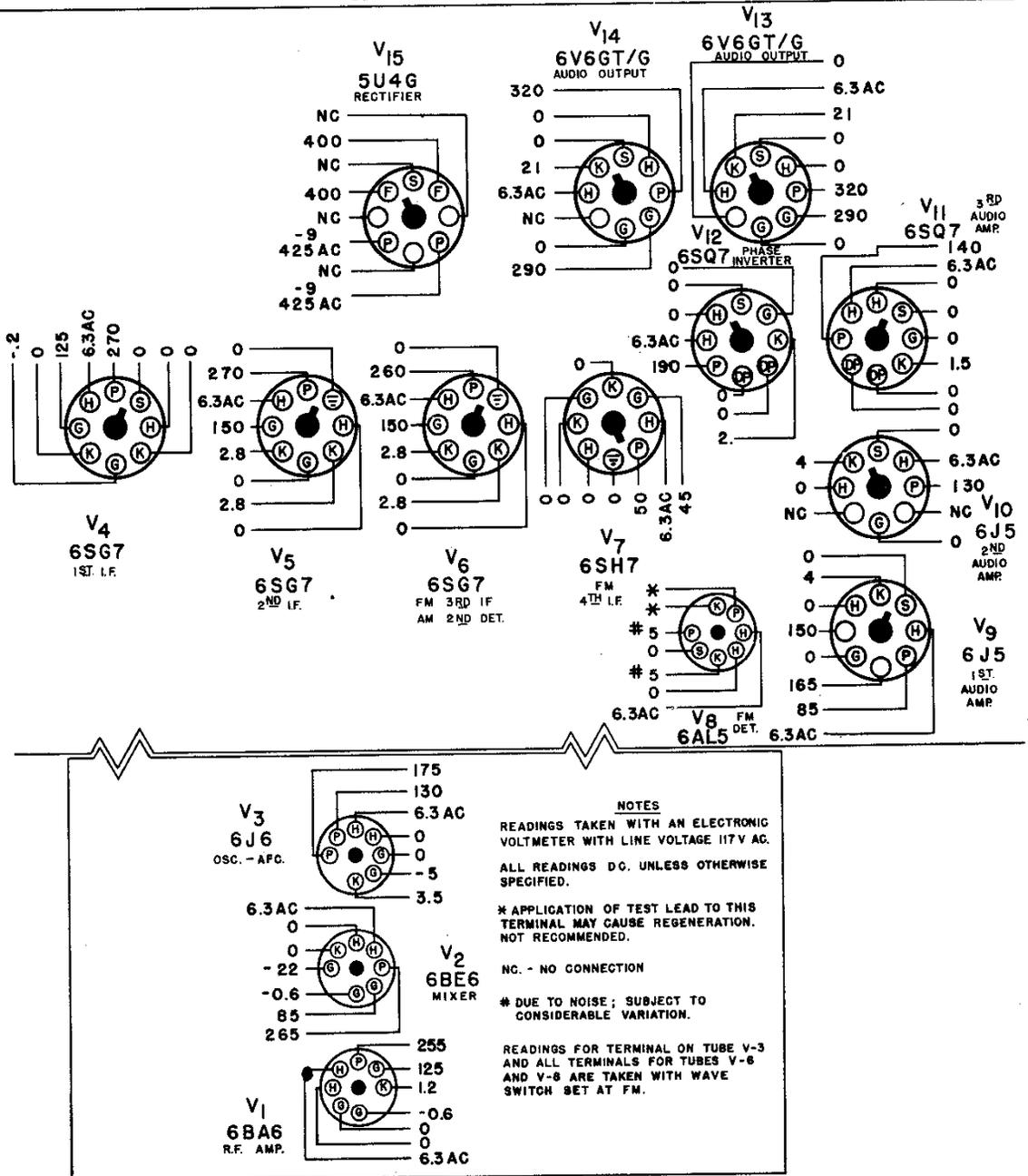


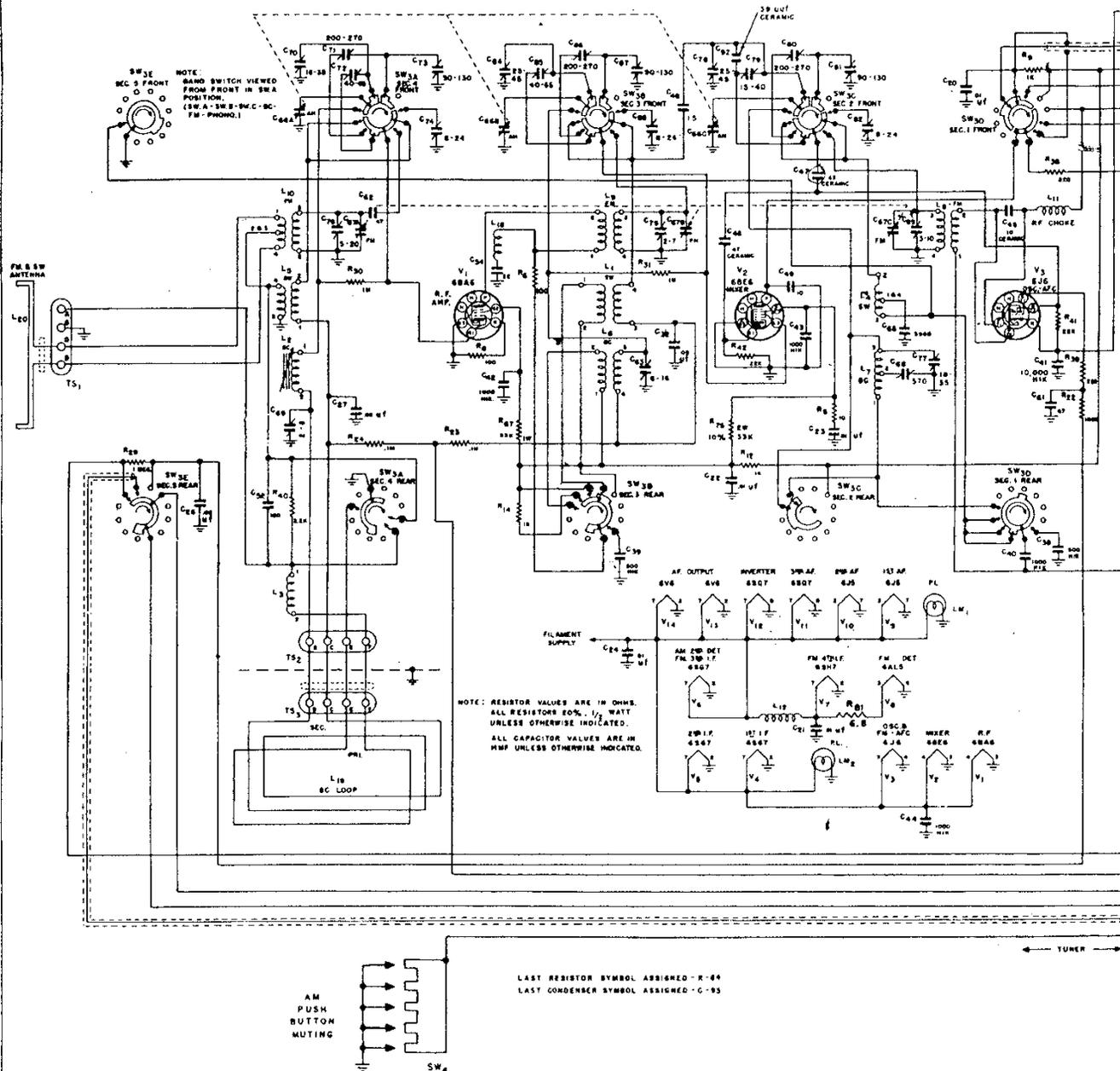
Fig. 11. Tube voltage chart.

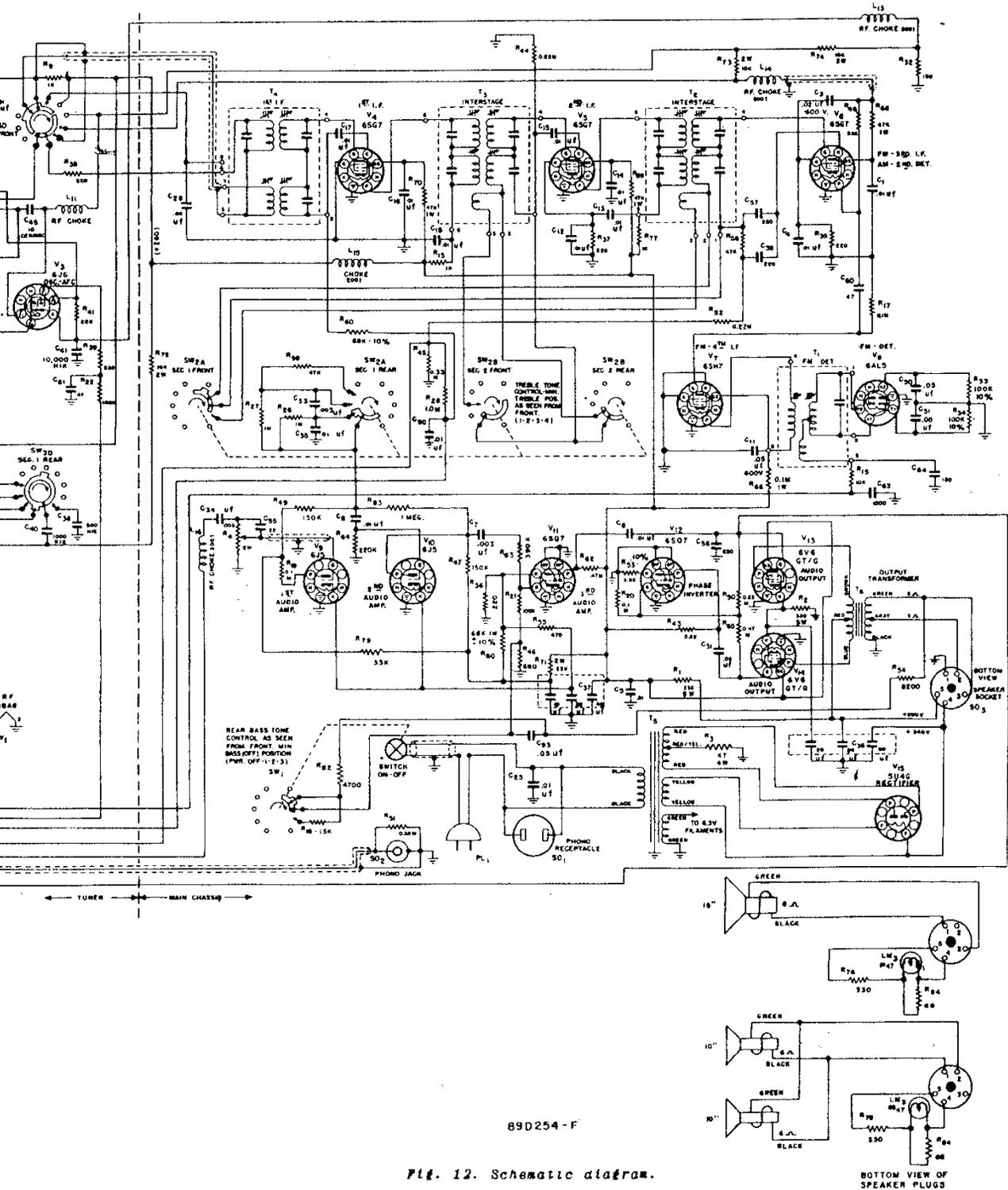
MODELS EC-403,
EC-404, Rev.

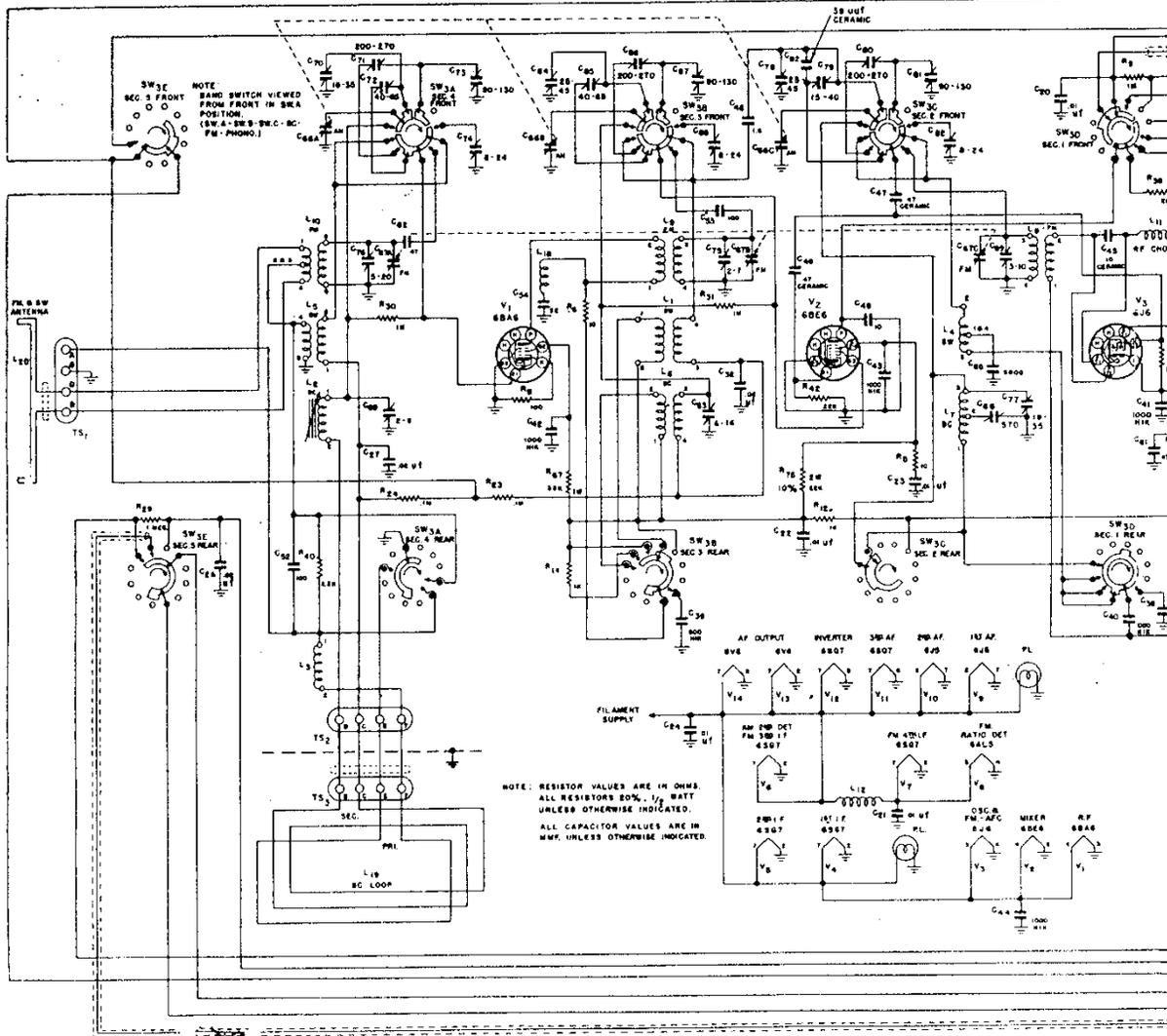
SERVICE PARTS LIST

Ref. No.	Description	Hallcrafters Part Number	Ref. No.	Description	Hallcrafters Part Number
CONDENSERS					
C-1.4.5.6.8.12, 13,14,15,16,17, 18,20,21,22,23, 24,35,90	.01 mfd. 600 V., tubular	46AZ103F	T-4	Transformer, 1st IF	50C210
C-3.26.27.28	.02 mfd. 600 V., tubular	46AY203F	T-5	Transformer, power	52C151
C-11.31.32,50, 51,93	.05 mfd. 600 V., tubular	46AY503F	T-6	Transformer, audio output	55B086
C-7.34	.003 mfd. 600 V., tubular	46AZ302J	L-1	Mixer coil, SW band	51B905
C-25	.01 mfd. 600 V., molded	46AG103J	L-2	Antenna coil, BC band	51B906
C-30	.1 mfd. 200 V., tubular	46AU104H	L-3	Loading coil, loop	51B907
C-33	.005 mfd. 600 V., tubular	46AZ502J	L-4	Oscillator coil, SW band	51B908
C-36	60-20 mfd. 450 V., 20 mfd. 30 V., electrolytic	45B099	L-5	Antenna coil, SW band	51B909
C-37	40-10 mfd. 450 V., 20 mfd. 30 V., electrolytic	45B100	L-6	Mixer coil, BC band	51B910
C-38,39	500 mmf. 500 V., ceramic	47A147	L-7	Oscillator coil, BC band	51B911
C-40,42,43,44	1000 mmf. 500 V., ceramic	47A148	L-8	Oscillator coil, FM band	51B914
C-41	10,000 mmf. 150 V., ceramic	47B32103N1	L-9	Mixer coil, FM band	51B915
C-45	10 mmf. 500 V., ceramic	47A149	L-10	Antenna coil, FM band	51B916
C-46,47	47 mmf. 500 V., ceramic	47A150	L-11	Plate choke, oscillator stage	53B008
C-48	1.5 mmf. ceramic	47A150-3	L-12	Filament choke	53B009
C-49	10 mmf. 500 V., mica	CM20A100K	L-13,14,15,16	RF choke	53A106
C-52,54	100 mmf. 500 V., mica	CM20A101M	L-18	RF choke antenna stage	53A115
C-54	22 mmf. 500 V., mica	CM20A220K	L-19	BC loop antenna	57C106
C-55	22 mmf. 500 V., mica	CM20A220M	L-20	FM folded doublet	57C108-1
C-56,57,58	220 mmf. 500 V., mica	CM20A221M	SWITCHES		
C-60,61,62	47 mmf. 500 V., mica	CM20A470M	SW-1	Power & bass tone switch assembly	60B265
C-63	1000 mmf. 500 V., mica	CM30A102M	SW-2	Treble switch assembly	60B264
C-65	3900 mmf. 500 V., mica	CM35A392J	SW-3	Band switch	60C266
C-66	Tuning condenser, AM	48C176	SW-4	Muting switch	18A092
C-67	Tuning condenser, FM	48C175	PLUGS AND SOCKETS		
C-68	570 mmf. trimmer	44A189	PL-1	Line cord and plug	87B1625
C-69,70,71,72, 73,74	Trimmer assembly, antenna stage	44B190	SO-1	Receptacle, phono motor	10A015
C-75	Trimmer, FM, mixer stage	44A192	SO-2	Jack, phono pick-up	36A034
C-76	Trimmer, FM, antenna stage	44A194	SO-3	Socket, speaker	6A277
C-77,78,79, 80,81,82	Trimmer assembly, oscillator stage	44B195		Socket, octal (tube)	6A190
C-83,84,85, 86,87,88	Trimmer assembly, mixer stage	44B196		Socket, octal (6V6GT tubes)	6A296
C-89	Trimmer, FM, oscillator stage	44A218		Socket, miniature (tube)	6B297
C-92	39 mmf. 500 V., ceramic	CC30SH390M		Socket & bracket, dial light, L.H.	86A046
				Socket & bracket, dial light, R.H.	86A047
				Socket, cabinet pilot light	86B050-1
TUBES, RECTIFIERS AND LAMPS					
R-1,2	330 ohms 5 watts WW	24A864	V-1	Type 6BA6, R.F. amp.	90X6BA6
R-3	47 ohms 4 watts, carbon	RC65CE470M	V-2	Type 6BE6, mixer stage.	90X6BE6
R-4	2 megohms, volume control	25A571	V-3	Type 6J6, oscillator AFC.	90X6J6
R-5	10 ohms 1/2 watt, carbon	RC20AE100M	V-4,5,6	Type 6SG7, 1st, 2nd IF, 3rd FM IF, 2nd detector stage.	90X6SG7
R-6,8	100 ohms 1/2 watt, carbon	RC20AE101M	V-7	Type 6SH7, 4th FM IF	90X6SH7
R-9,12,13,14,77	1000 ohms 1/2 watt, carbon	RC20AE102M	V-8	Type 6AL5, FM detector.	90X6AL5
R-15	10,000 ohms 1/2 watt, carbon	RC20AE103M	V-9,10	Type 6J5, 1st and 2nd audio amp.	90X6J5
R-16	15,000 ohms 1/2 watt, carbon	RC20AE153M	V-11,12	Type 6SQ7, 3rd audio amp, phase inverter	90X6SQ7
R-17,19,20,21, 22,23,24	100,000 ohms 1/2 watt, carbon	RC20AE104M	V-13,14	Type 6V6GT/G, audio output stage.	90X6V6GT/G
R-26,27,28,29, 30,31,83	1 megohm 1/2 watt, carbon	RC20AE105M	V-15	Type 5U4G, rectifier.	90X5U4G
R-32	150 ohms 1/2 watt, carbon	RC20AE151M	LM-1,2	Lamp, dial, GE #44.	39A003
R-33,34	100,000 ohms 1/2 watt, carbon	RC20AE104K	LM-3	Lamp, pilot, GE #47.	39A004
R-35,36,37,38,39	220 ohms 1/2 watt, carbon	RC20AE221M	MISCELLANEOUS		
R-40	2200 ohms 1/2 watt, carbon	RC20AE222M	TS-1	Terminal strip, antenna	88A277
R-41,42	22,000 ohms 1/2 watt, carbon	RC20AE223M	TS-2	Terminal strip, loop	88A278
R-43,44,52,64	220,000 ohms 1/2 watt, carbon	RC20AE224M		Shield, tube base	69A169
R-45,50,51	330,000 ohms 1/2 watt, carbon	RC20AE334M		Shield, tube	69A104
R-46	680 ohms 1/2 watt, carbon	RC20AE681K		Spring, tube retainer	75A076
R-47,49	150,000 ohms 1/2 watt, carbon	RC20AE154M		Shield, FM coil section	69C172
R-48	3300 ohms 1/2 watt, carbon	RC20AE332M		Shield, dial light	86A037
R-53	3900 ohms 1/2 watt, carbon	RC20AE392K		Carriage, pointer	67B645
R-54	8200 ohms 1/2 watt, carbon	RC20AE822K		Pointer, FM	82B139
R-55	470 ohms 1/2 watt, carbon	RC20AE471M		Pointer, AM	82B143
R-58,59	47,000 ohms 1/2 watt, carbon	RC20AE473M		Spring, pointer	75A132
R-60	68,000 ohms 1/2 watt, carbon	RC20AE683K		Push-button (brown)	17B028
R-62,65	470,000 ohms 1/2 watt, carbon	RC20AE474M		Insert, push-button, lucite	17A027
R-63	390,000 ohms 1/2 watt, carbon	RC20AE394K		Insert, push-button, metal	17A029
R-66	100,000 ohms 1 watt, carbon	RC30AE104M		Call letters	17A026
R-67	33,000 ohms 1 watt, carbon	RC30AE333M		Spring, dial, drive	75A006
R-68,69,70	47,000 ohms 1 watt, carbon	RC30AE473M		Cord, dial drive	38A017
R-71	22,000 ohms 1 watt, carbon	RC40AE223M		Escutcheon	7D039
R-72,73,74	10,000 ohms 2 watts, carbon	RC40AE103M		Dial glass (control)	22B177
R-75	33,000 ohms 2 watts, carbon	RC40AE333K		Dial glass (calibrated)	22D192
R-76	330 ohms 10 watts, WW	24BG331E		Knob (tuning and volume controls)	15B093
R-79	33,000 ohms 1/2 watt, carbon	RC20AE333M		Knob & pin ass'y (band switch and tone tone controls)	15A129
R-80	68,000 ohms 1 watt, carbon	RC30AE683K		Transmission line, loop	87A1615-1
R-81	6.3 ohms 1 watt, carbon	RC30AE068K		Jewel, pilot lamp	86A057
R-82	4700 ohms 1/2 watt, carbon	RC20AE472M		Bracket, pilot lamp	87A765
R-84	68 ohms 2 watts, carbon	RC40AE680M		Speaker, PM (model 403)	85C045
T-1	Transformer, FM detector	50C208		Speaker, PM (4 pin plug) (model 404)	85C043
T-2,3	Transformer, interstage IF	50C209		Speaker, PM (5 pin plug) (model 404)	85C047
				Record changer	115C002-3

20-21,22







NOTE: RESISTOR VALUES ARE IN OHMS
ALL RESISTORS 50%, 1/2 WATT
UNLESS OTHERWISE INDICATED.
ALL CAPACITOR VALUES ARE IN
MUF, UNLESS OTHERWISE INDICATED.

BUTTON SETTING:

1. Select any one pushbutton.
2. Pull translucent insert straight out.
3. Insert screw driver blade through large hole of pushbutton into slot of locking screw. (See Fig. 1).
4. Loosen locking screw about one-half turn. (Not more than one full turn.)
5. With pushbutton depressed, carefully tune in desired station with the manual control.
6. With the manual control held firm, tighten the locking screw.

Tuning Range.....(BC) 540 kc — 1700 kc
 (A) 15 mc — 18 mc
 (B) 9 mc — 12 mc
 (C) 5.8 mc — 18 mc
 (FM) 88 mc — 108 mc

Intermediate Frequency.....455 kc
 Intermediate Frequency.....10.7 mc
 Power Supply.....105-125 V. 60 cycle AC
 Power Consumption.....180 watts

RAFTERS CO.

MODELS EC-403, EC-404,
Echophone

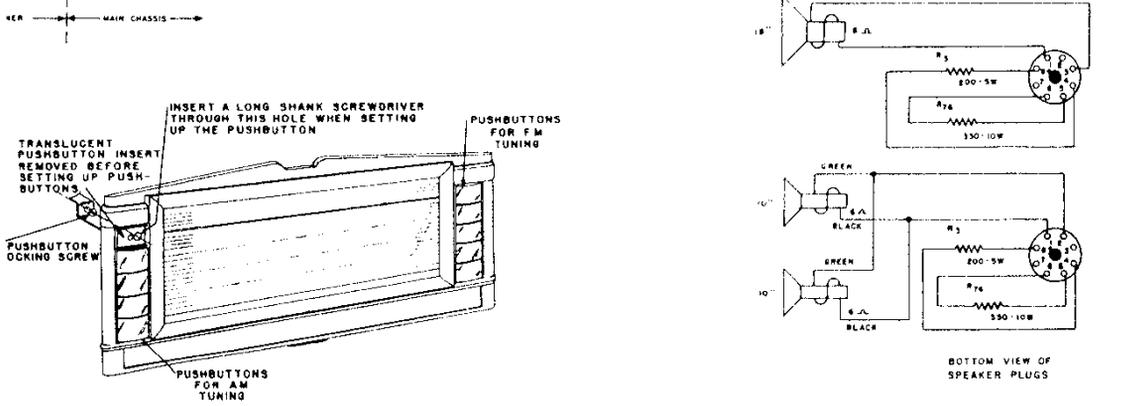
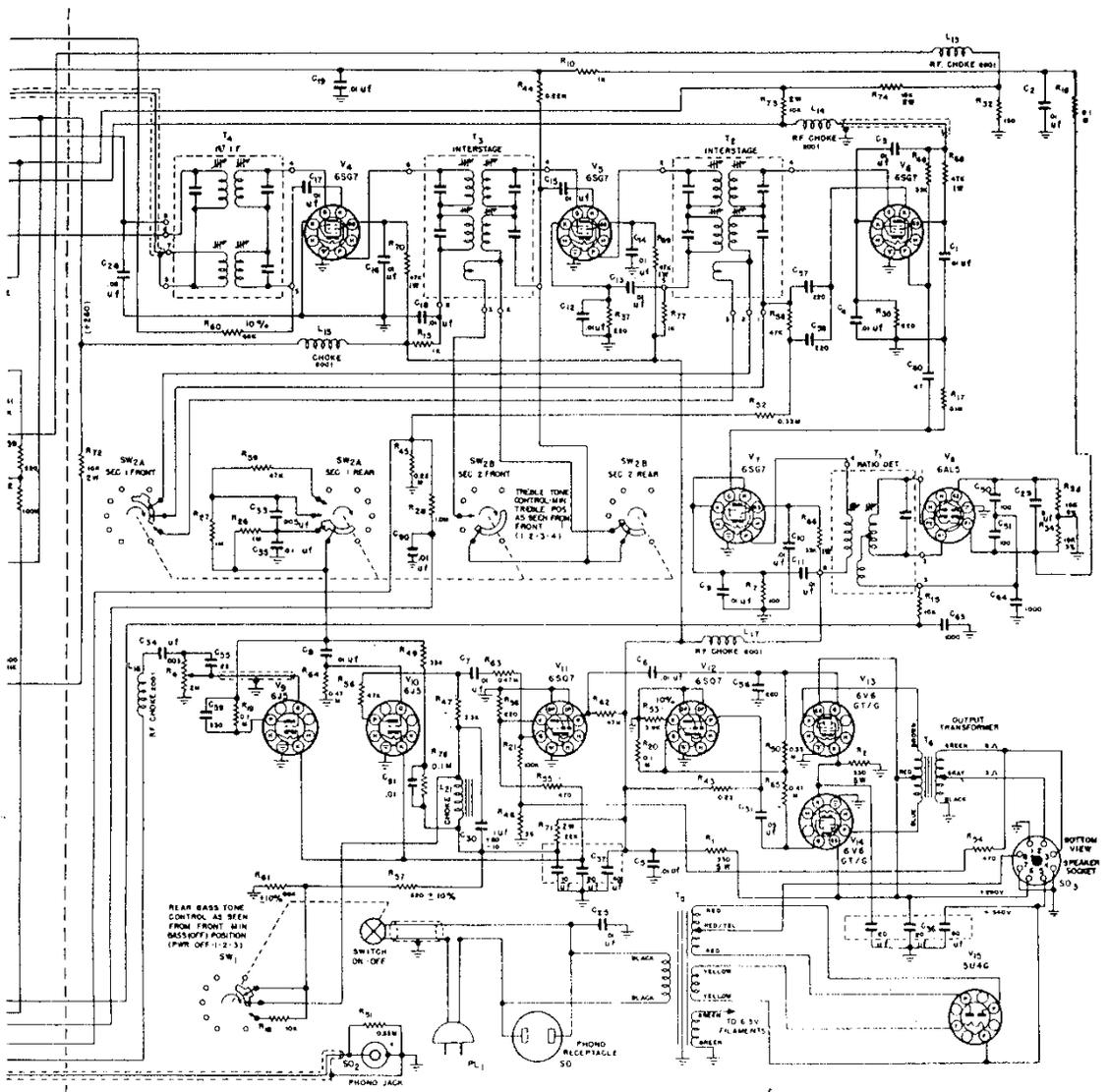
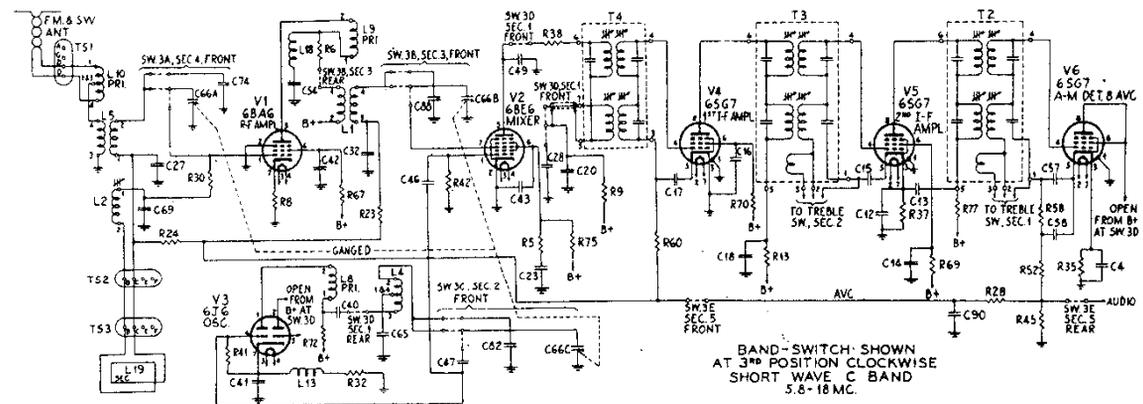
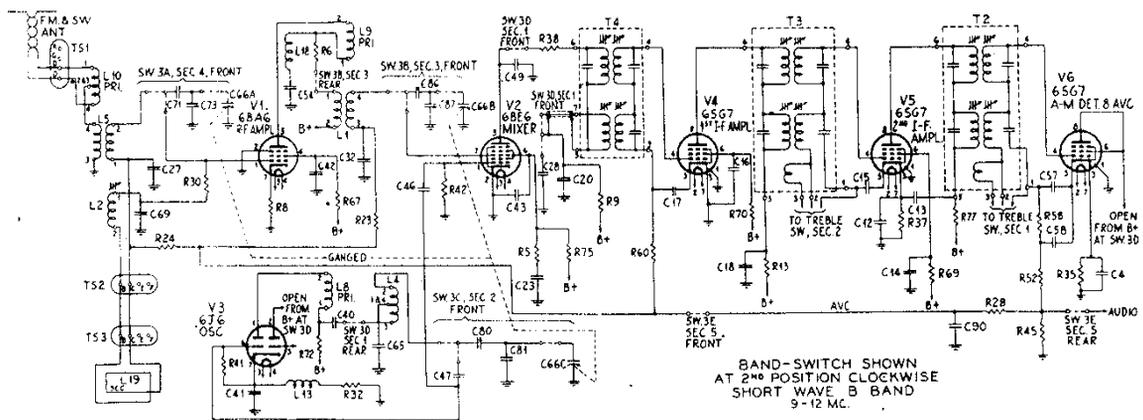
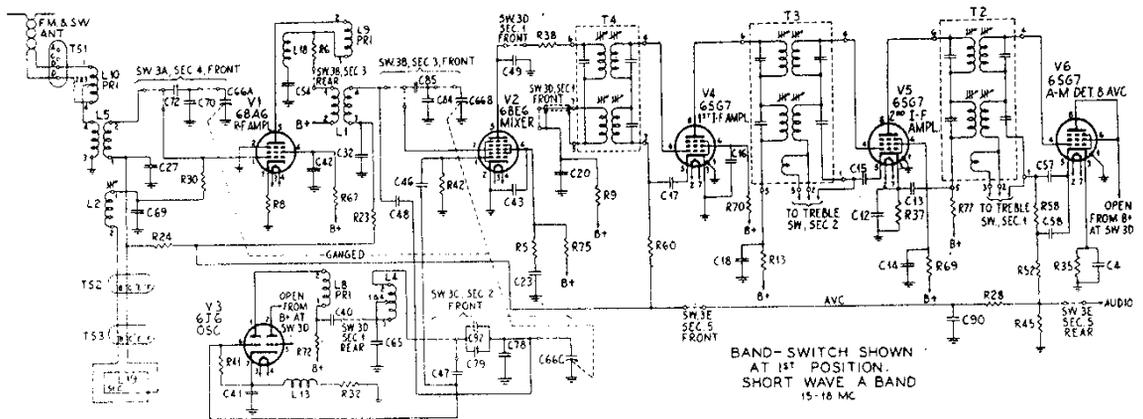


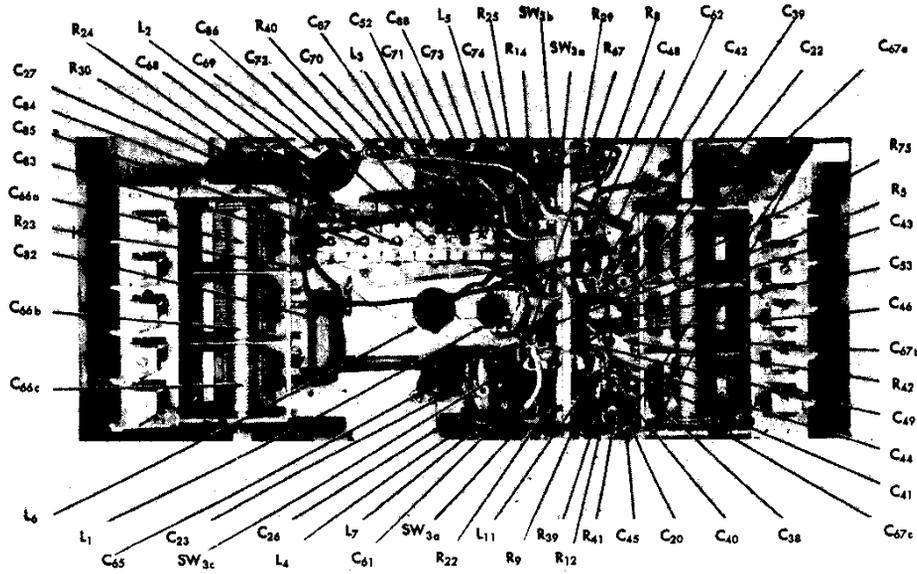
Fig. 1. View showing pushbutton setup.

THE HALLICRAFTERS CO. MODELS EC-403, EC-404, Echophone

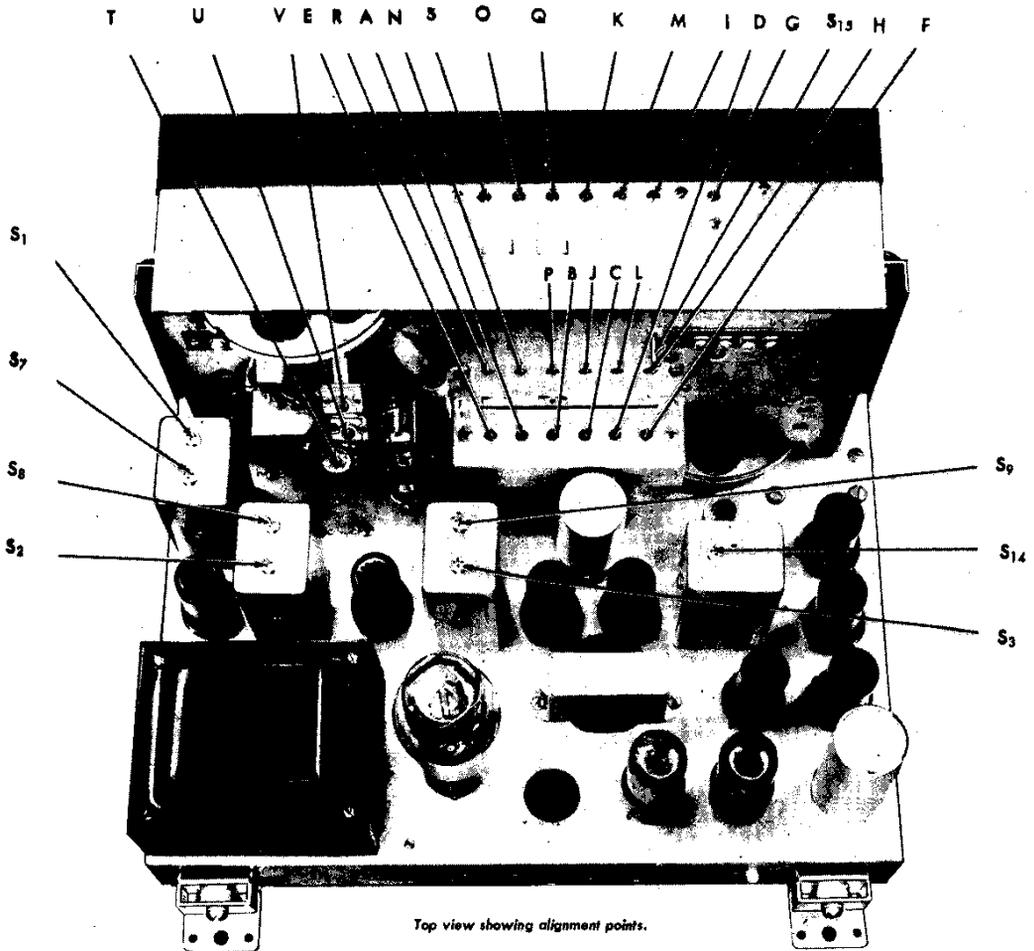


THE HALLICRAFTERS CO.

MODELS EC-403, EC-404,
Echophone



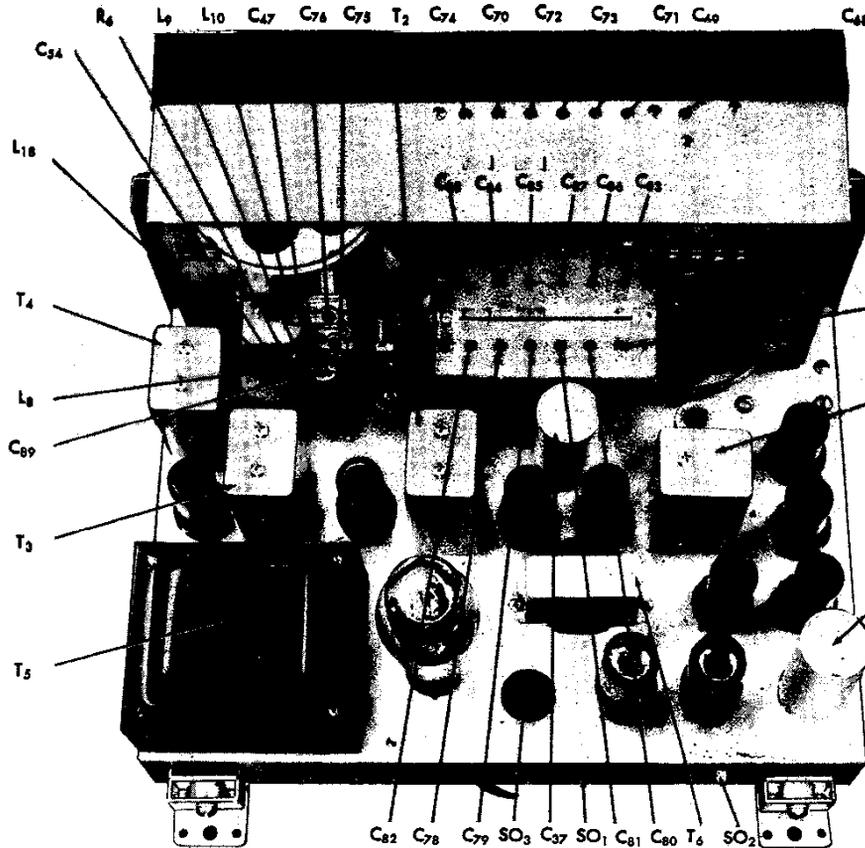
Back view of R.F. chassis showing component location.



Top view showing alignment points.

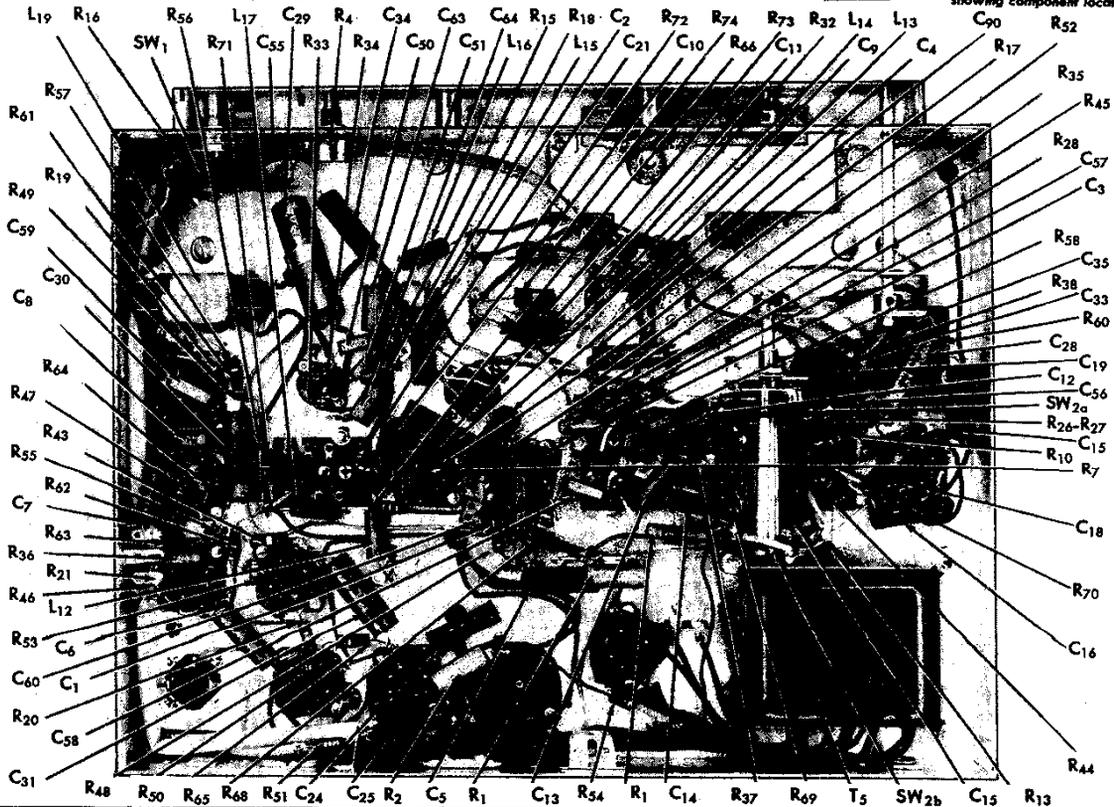
MODELS EC-403, EC-404,
Echophone

THE HALLICRAFTERS CO.



Top view showing component location.

Bottom view of receiver showing component location.



MODELS EC-403, EC-404,
Echophone

THE HALLICRAFTERS CO.

SERVICE PARTS LIST

Illustration No.	Description	Hallcrafters Part No.
CABINET PARTS		
	Mahogany, cabinet.....	66F341
	Walnut, cabinet.....	66F342
TRANSFORMERS AND COILS		
T1	Freq. detector trans. FM.....	50C208
T2, 3	Interstage I.F. trans.....	50C209
T4	1st I.F. trans.....	50C210
L1	R.F. Coil, short wave.....	51B905
L2	Loading coil, ant., BC.....	51B906
L3	Loop loading coil.....	51B907
L4	Osc. coil, short wave.....	51B908
L6	Ant. coil, short wave.....	51B909
L7	R.F. Coil, B.C.....	51B910
L8	Osc. coil, B.C.....	51B911
L9	Osc. coil, FM.....	51B914
L10	R.F. coil, FM.....	51B915
L11	Ant. coil, FM.....	51B916
L12	Plate choke.....	53B008
L13, 14, 15, 16, 17	Filament choke.....	53B009
L18	R.F. choke.....	53A106
L19	R.F. choke.....	53A115
L20	BC-SW loop ant.....	57C106
T5	FM dipole ant.....	57C108
T6	Power transformer.....	52C132
L21	Output transformer.....	55B086
	Audio choke.....	56B082

Illustration No.	Description	Hallcrafters Part No.
CONDENSERS		
C1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 30, 31	.01 mfd. 600 v. tubular.....	46A2103F
C26, 27, 28	.02 mfd 600 v. tubular.....	46AV203F
C30	.1 mfd 200 v. tubular.....	46AU104H
C31, 32	.05 mfd 600 v. tubular.....	46AY5c3F
C33	.002 mfd 600 v. tubular.....	46AZ202J
C34, 35	.003 mfd 600 v. tubular.....	46AZ202J
C38, 39	500 uuf ceramic.....	47A147
C40, 41, 42, 43, 44, 16	1000 uuf ceramic.....	47A148
C45	10 uuf ceramic.....	47A149
C46, 47	47 uuf ceramic.....	47A150
C48	1.5 uuf "Gimmick" wire.....	Not Supplied
C49	10 uuf 500 v. mica, 10%.....	CM20A100K
C50, 51, 52, 53	100 uuf 500 v. mica.....	CM20A101M
C54	22 uuf 600 v. mica, 10%.....	CM20A220K
C55	22 uuf 500 v. mica.....	CM20A220M
C56, 57, 58	220 uuf 500 v. mica.....	CM20A221M
C59	330 uuf 500 v. mica.....	CM20A331M
C60, 61, 62	47 uuf 500 v. mica.....	CM20A470M
C63, 64	1000 uuf 500 v. mica.....	CM30A102M
C65	3900 uuf 500 v. mica.....	CM35A392J
C36	60-20 mfd 450 v. electrolytic.....	45B099
	20 mfd 30 v. electrolytic.....	
C37	40-10 mfd 450 v. electrolytic.....	45B100
	20 mfd 30 v. electrolytic.....	
C29	5 mfd. 50 v. electrolytic.....	45A108
C68	570 uuf, trimmer.....	44A189
C78	Trimmer, FM, RF.....	44A192
C89	Trimmer, FM, Osc.....	44A193
C76	Trimmer, FM, Ant.....	44A194
C69, 70, 71, 72, 73, 74	Trimmer assembly, ant.....	44B190
C77, 78, 79, 80, 81, 82	Trimmer assembly, Osc.....	44B195
C83, 84, 85, 86, 87, 88	Trimmer assembly, RF.....	44B196
C67a-b-c	Variable condenser, "FM".....	48C175
C66a-b-c	Variable condenser, "AM".....	48C176
C92	39 uuf, Ceramic.....	CC30SH390M

Illustration No.	Description	Hallcrafters Part No.
RESISTORS		
R1, 2	330 ohm, 5W WW.....	24A864
R76	330 ohm 10 W WW.....	24BG331E
R3	200 ohm 5W WW.....	24A865
R4	2 meg. volume control.....	25A571
R5, 6	10 ohm, 1/2 W.....	RC20AE100M
R7, 8	100 ohm, 1/2 W.....	RC20AE101M
R9, 10, 11, 12, 13, 14, 17	1000 ohm, 1/2 W.....	RC20AE102M
R15, 18	10,000 ohm 1/2 W.....	RC20AE103M
R17, 18, 19, 20, 21, 22, 23, 24, 25, 78	100,000 ohm 1/2 W.....	RC20AE104M
R26, 27, 28, 29, 30, 31	1 meg. 1/2 W.....	RC20AR105M
R32	150 ohm 1/2 W.....	RC20AE151M
R33, 34	15,000 ohm 1/2 W.....	RC20AE153J
R35, 36, 37, 38, 39	220 ohm, 1/2 W.....	RC20AE221M
R40	2200 ohm, 1/2 W.....	RC20AE222M
R41, 42	22,000 ohm, 1/2 W.....	RC20AE223M
R43, 44, 45	220,000 ohm, 1/2 W.....	RC20AE224M
R46	33 ohm, 1/2 W.....	RC20AE330M
R47, 48	3300 ohm, 1/2 W.....	RC20AE332M
R49	33,000 ohm, 1/2 W.....	RC20AE333M
R50, 51, 52	330,000 ohm, 1/2 W.....	RC20AE334M
R53	3900 ohm, 1/2 W (10%).....	RC20AE392K
R54, 55	470 ohm, 1/2 W.....	RC20AE471M
R56	4700 ohm, 1/2 W.....	RC20AE472M
R57	820 ohm, 1/2 W.....	RC20AE821K
R58, 59	47,000 ohm, 1/2 W.....	RC20AE473M

SERVICE PARTS LIST (Continued)

Illustration No.	Description	Hallcrafters Part No.
RESISTORS (Continued)		
R60, 61	68,000 ohm, 1/2 W.....	RC20AE683K
R62, 63, 64, 65	470,000 ohm, 1/2 W.....	RC20AE474M
R66, 67	33,000 ohm, 1 W.....	RC30AE333M
R68, 69, 70	47,000 ohm, 1 W.....	RC30AE473M
R71	68,000 ohm, 1 W.....	RC30AE683M
R72, 73, 74	10,000 ohm, 2 W.....	RC40AE103M
R75	22,000 ohm, 2 W.....	RC40AE223K

Illustration No.	Description	Hallcrafters Part No.
MISCELLANEOUS		
SW1	Base, on and off, complete.....	60B265
SW2	Treble, complete.....	60B264
SW3	Band switch, 5 sec. 6 pos.....	60C266
	Phono motor receptacle.....	10A015
	Phono pick-up jack.....	36A034
	Speaker socket.....	6A190
	Octal socket, (tube).....	6A190
	Miniature socket.....	6A276
	Pilot light socket and bracket, L.H.....	86A046
	Pilot light socket and bracket, R. H.....	86A047
	Pointer carriage.....	67B645
	Tube shield spring retainer.....	69A104
	Shield base.....	69A169
	Dial cord.....	38A014
	Line cord and plug.....	87A157U
	Pilot lamp.....	39A004
	Pointer, FM.....	82A120
	Pointer, AM.....	82A121
	Insert, pointer, FM.....	17A022
	insert, pointer, AM.....	17A023
	Push-button.....	17B028
	Speaker, PM, 15".....	85C045
	Speaker, PM, 10".....	85C043 No. 1 85C047 No. 2
	Knob, with index.....	15B093
	Knob.....	15B096
	Push-button insert.....	17A027
	Call letters.....	17A025
	Record changer.....	115C002-2
	Dial glass, lower.....	22B179
	Dial glass, upper.....	22B178
	Escutcheon.....	7D039

Illustration No.	Description	Hallcrafters Part No.
TUBES		
V15	5U4G Rectifier.....	90X5U4G
V8	6AL5 FM Freq. detector.....	90X6AL5
V1	6BA6 RF amplifier.....	90X6BA6
V2	6BE6 1st detector.....	90X6BE6
V9, 10	6J5 1st and 2nd audio amp.....	90X6J5
V3	6J6 H.F. osc. and FM AFC.....	90X6J6
V4, 5, 6, 7	6SG7 1st and 2nd I.F., AM 2nd det., FM 3rd and 4th I.F.....	90X6SG7
V13, 14	6V5GT/G push pull audio amp.....	90X6V5GT
V12, 11	6S07 Inverter and 3rd audio amp.....	90X6S07

