MODELS 40-725, Code 121; and 40-755, Code 121

SPECIFICATIONS

Model 40-725

TYPE CIRCUIT: Model 40-725, code 121, is a six (6) tube A. C. operated receiver employing a superheterodyne circuit with three tuning ranges for reception of Standard, Police and Shortwave Broadcast Stations. Connections are also provided for attaching a high impedance Electric Phonograph pick-up. In addition other features of design are: Automatic Volume Control; Continuously Variable Tone Control; Bass Compensation, and special compensation for reducing frequency drift to a minimum.

POWER SUPPLY: 100-130 or 200-260 volt, 50-60 cycle, 60 watts. The voltage ranges are selected by inserting the plug as indicated on top of the power transformer.

TUNING RANGES:
530 to 1720 K. C. 2.3 to 7.4 M. C. 7.3 to 22 M. C.

I. F. FREQUENCY: 455 K. C.

PHILCO TUBES: 78E, R. F. Amplifier; 6J8EG, Converter-Oscillator: 78E, I. F. Amplifier; 75, Second Detector, First Audio, and A. V. C.; 41E, Pentode Audio Output; 84, Rectifier.

AUDIO OUTPUT: 2.5 watts.

AERIAL AND GROUND: To obtain maximum performance from this receiver, the Philco Safety Aerial, Part No. 40-6370 should be used and a good ground connection to the nearest water pipe or any other good ground.

CABINET DIMENSIONS:
Height, 14⅛". Width, 18⅛". Depth, 10¼".

Model 40-755

TYPE CIRCUIT: Model 40-755, code 121, is an eight (8) tube A. C. operated receiver employing a superheterodyne circuit with three tuning ranges for reception of Standard, Police and Shortwave Broadcast Stations. Connections are also provided for attaching a high impedance Electric Phonograph pick-up. Other features of design are: Automatic Volume Control; Continuously Variable Tone Control; Bass Compensation; Push-Pull Pentode Audio Output; Tuning Resonance Indicator, and special compensation for reducing frequency drift to a minimum.

POWER SUPPLY: 100-130 or 200-260 volt, 50 to 60 cycle, 83 watts. The voltage ranges are selected by inserting the plug as indicated on top of the power transformer.

TUNING RANGES:
530 to 1720 K. C. 2.3 to 7.4 M. C. 7.3 to 22 M. C.

I. F. FREQUENCY: 455 K. C.

PHILCO TUBES: 78E, R. F. Amplifier; 6J8EG, Converter-Oscillator; 78E, I. F. Amplifier; 75, Second Detector, First Audio, and A. V. C.; 76, Inverter; two 42E, Pentode Audio Output; 80, Rectifier.

AUDIO OUTPUT: 6 watts.

AERIAL AND GROUND: Same as Model 40-725.

CABINET DIMENSIONS:
Height, 14⅝". Width, 20". Depth, 10¼".

ALIGNING COMPENSATING CONDENSERS

EQUIPMENT REQUIRED

(1) **Signal Generator.** In order to properly adjust this receiver a calibrated signal generator such as Philco Model 077 A. C. or Model 177 battery operated are required. These signal generators cover a frequency range of 540 to 36,000 K. C.

(2) **Indicating Device.** To obtain maximum signal strength and accurate adjustment of the padders a vacuum tube voltmeter and circuit tester such as Philco Models 027 and 028 is recommended. These testers also contain an audio output meter which may be used as an indicating device.

(3) **Aligning Tools.** Fiber handle screw driver, Philco Part No. 45-2610.

CONNECTING ALIGNING INSTRUMENTS

Vacuum Tube Voltmeter: To use the vacuum tube voltmeter as an aligning indicator it should be connected to the A. V. C. circuit as follows:

1. Connect the negative (—) terminal of the voltmeter through a 2 meg. resistor to the converter grid (6J8G). The resistor must be connected directly to the grid of the tube and the voltmeter wire attached to the resistor.

2. Connect the positive (+) terminal to the chassis ground terminal.

Audio Output Meter: If this type of meter is used as an aligning indicator, it should be connected to the plate and screen terminals of the 41 tube. Adjust the meter for the 0 to 30 volt A. C. scale.

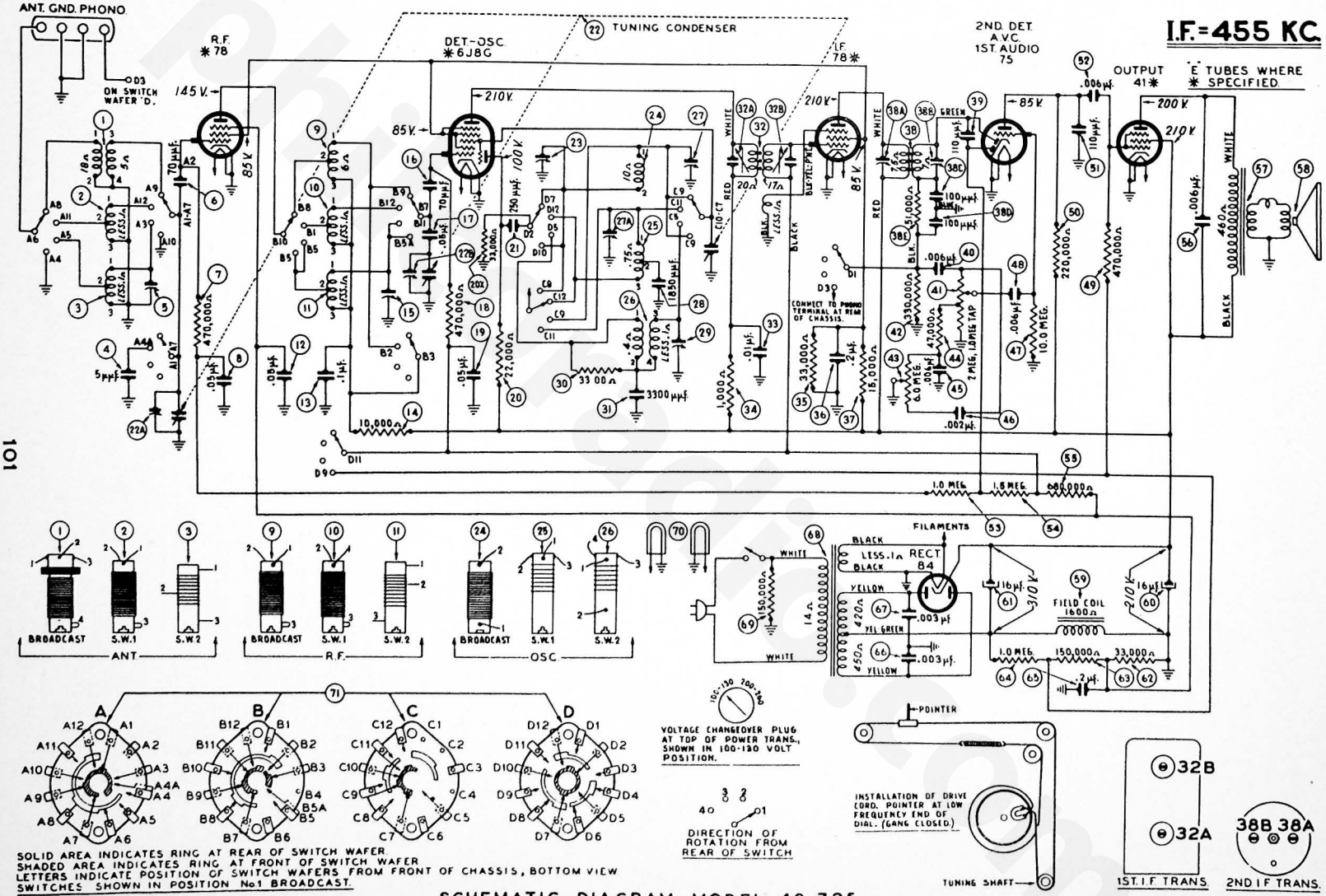
After connecting the aligning meter, adjust the compensators in the order as shown in the tabulation below. Locations of the compensators are shown in Fig. 1. If the output meter pointer goes off scale when adjusting the compensators, reduce the strength of the signal from the generator.

Operations in Order	SIGNAL GENERATOR			RECEIVER				SPECIAL INSTRUCTIONS
	Output Connections to Receiver	Dummy Antenna Note A	Dial Setting	Dial Setting	Control Settings	Adjust Compensators		
						Model 40-725	Model 40-755	
1	6J8G Grid and Ground	.1 mfd.	455 K. C.	580 K. C.	Vol. Max. Tone Treble	38B, 38A, 32B, 32A	39B, 39A, 33B, 33A	
2	Ant. & Grnd.	200 mmfd.	1500 K. C.	1500 K. C.	Vol. Max. Range Switch "Brdcst"	27, 22B, 22A	27, 32B, 32A	Note B
3	Ant. & Grnd.	200 mmfd.	580 K. C.	580 K. C.	Vol. Max.	23	23	Roll Gang
4	Ant. & Grnd.	200 mmfd.	1500 K. C.	1500 K. C.	Vol. Max.	27, 22B, 22A	27, 32B, 32A	
5	Ant. & Grnd.	400 ohms	6.0 M. C.	6.0 M. C.	Vol. Max. Tone Treble Range Switch "S.W.1"	27A	27A	Roll Gang
6	Ant. & Grnd.	400 ohms	20 M. C.	20 M. C.	Vol. Max. Tone Treble Range Switch "S.W.2"	29, 15, 5	29, 16, 5	Note C

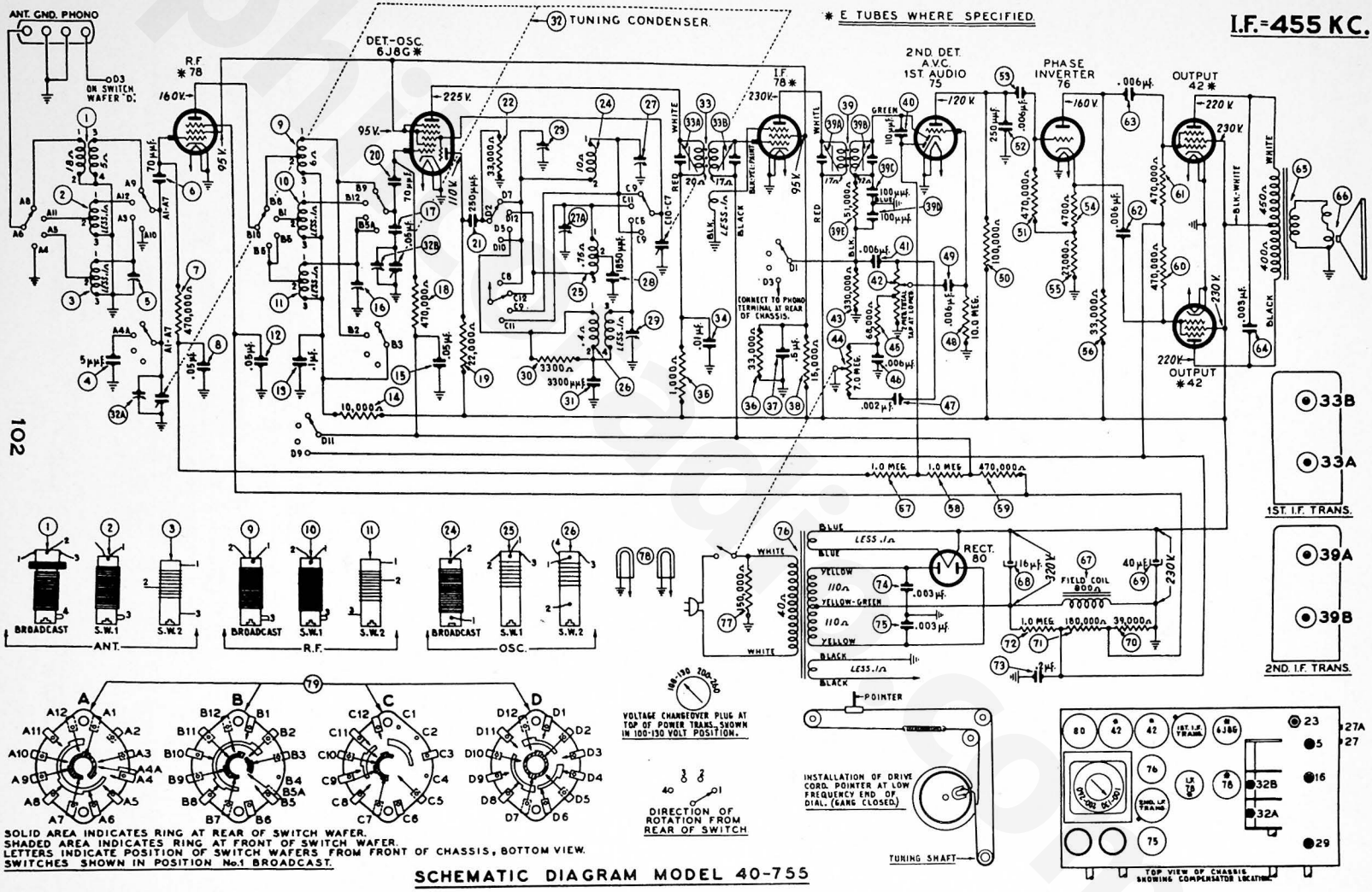
NOTE A — The "Dummy Antenna" consists of a condenser or resistance connected in series with the signal generator output lead (high side). Use the capacity or resistance as specified in each step of the above procedure.

NOTE B — DIAL CALIBRATION: In order to adjust the receiver correctly the dial must be aligned to track properly with the tuning condenser. To adjust the dial, proceed as follows: With the tuning condenser closed (maximum capacity), set the dial pointer on the first mark on the left edge (low frequency end) of the broadcast scale.

NOTE C — When adjusting compensator (29) be sure to tune in the fundamental signal (20 M. C.) instead of the image signal. If the compensator is correctly adjusted, the image signal will be 910 K. C. below the fundamental signal, which will be 19.090 M. C.



SCHEMATIC DIAGRAM MODEL 40-725



SCHEMATIC DIAGRAM MODEL 40-755

MODELS 40-725, Code 121; and 40-755, Code 121

Model 40-725, Code 121 Replacement Parts

SCHE. No.	DESCRIPTION	PART No.
1	Antenna Transformer (Broadcast)	32-2588
2	Antenna Transformer (S. W. 1)	32-3191
3	Antenna Transformer (S. W. 2)	32-3196
4	Tubular Condenser (5 mmfd.)	30-1120
5	Compensator (Antenna S. W. 2)	31-6288
6	Mica Condenser (70 mmfd.)	30-1117
7	Resistor (470,000 ohms, ½ watt)	33-447339
8	Tubular Condenser (.05 mfd.)	30-4609
9	R. F. Transformer (Broadcast)	32-3189
10	R. F. Transformer (S. W. 1)	32-3190
11	R. F. Transformer (S. W. 2)	32-3197
12	Tubular Condenser (.05 mfd.)	30-4519
13	Tubular Condenser (.1 mfd.)	30-4611
14	Resistor (10,000 ohms, 1 watt)	33-310439
15	Compensator (R. F., S. W. 2)	31-6288
16	Mica Condenser (70 mmfd.)	30-1117
17	Tubular Condenser (.05 mfd.)	30-4519
18	Resistor (470,000 ohms, ½ watt)	33-447339
19	Tubular Condenser (.05 mfd.)	30-4609
20	Resistor (22,000 ohms, ½ watt)	33-322339
20X	Resistor (33,000 ohms, ½ watt)	33-333339
21	Mica Condenser 250 mmfd.)	30-1119
22	Tuning Condenser Assembly	31-2386
23	Compensator (Broadcast series)	31-6289
24	Oscillator Transformer (Broadcast)	32-3254
25	Oscillator Transformer (S. W. 1)	32-3094
26	Oscillator Transformer (S. W. 2)	32-3102
27	Compensator (Broadcast shunt)	
27A	Compensator (S. W. 1)	31-6287
28	Tracking Condenser (1850 mmfd.)	31-6310
29	Compensator (S. W. 2)	31-6288
30	Resistor (3300 ohms, ½ watt)	33-233339
31	Tracking Condenser (3300 mmfd.)	31-6311
32	1st I. F. Transformer Assembly	32-3187
33	Tubular Condenser (.01 mfd.)	30-4572
34	Resistor (1,000 ohms, ½ watt)	33-210339
35	Resistor (33,000 ohms, ½ watt)	33-333339
36	Tubular Condenser (.2 mfd.)	30-4587
37	Resistor (15,000 ohms, 1 watt)	33-315439
38	2nd I. F. Transformer Assemvly.	32-3133
39	Mica Condenser (110 mmfd.)	30-1118
40	Tubular Condenser (.006 mfd.)	30-4583
41	Volume Control (2 meg.)	33-5298
42	Resistor (330,000 ohms, ½ watt)	33-433339
43	Tone Control and On-Off Switch	33-5299
44	Resistor (47,000 ohms, ½ watt)	33-347339
45	Tubular Condenser (.008 mfd.)	30-4583
46	Tubular Condenser (.002 mfd.)	30-4579
47	Resistor (10.0 meg., ½ watt)	33-610339
48	Tubular Condenser (.006 mfd.)	30-4583
49	Resistor (470,000 ohms, ½ watt)	33-447339
50	Resistor 220,000 ohms, ½ watt)	33-422339
51	Mica Condenser (110 mmfd.)	30-1118
52	Tubular Condenser (.006 mfd.)	30-4610
53	Resistor (1.0 meg., ½ watt)	33-510339
54	Resistor (1.5 meg., ½ watt)	33-515339
55	Resistor (680,000 ohms, ½ watt)	33-468339
56	Tubular Condenser (.008 mfd.)	30-4591
57	Output Transformer	32-8018
58	Cone and Voice Coil Assembly (Speaker Part No. 36-1452-2)	36-4103
59	Field Coil (Replace Spkr. Part No. 36-1452)	
60	Electrolytic Condenser (16 mfd., 300 V.)	30-2319
61	Electrolytic Condenser (16 mfd. 400 V.)	30-2364
62	Resistor (33,000 ohms, ½ watt)	33-333339
63	Resistor (150,000 ohms, ½ watt)	33-415339
64	Resistor (1.0 meg., ½ watt)	33-510339
65	Tubular Condenser (.2 mfd.)	30-4587
66	Tubular Condenser (.003 mfd.)	30-4608

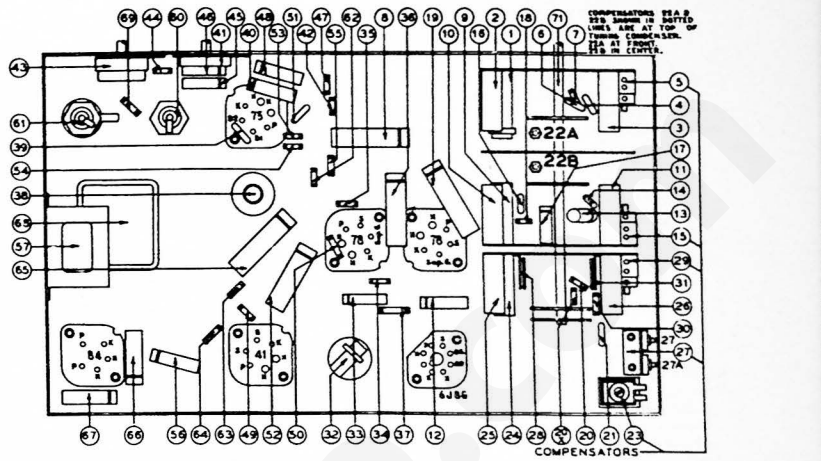


FIG. 1. MODEL 40-725 PART LOCATIONS, UNDERSIDE OF CHASSIS.

SCHE. No.	DESCRIPTION	PART No.
67	Tubular Condenser (.003 mfd.)	30-4608
68	Power Transformer (100-130 V., 200-260 V., 50-60 cycles)	32-8006
69	Resistor (150,000 ohms, ½ watt)	33-415339
70	Pilot Lamps	34-2064E
71	Wave Switch	42-1504

MISCELLANEOUS PARTS

Bezel		56-1222
Cable and Plug (Power Supply)		L-2289
Special Export Power Plug		L-1367
Cabinet		10417A
Dial		27-5544
Drive Cord Assembly		31-2330
Felt Strip (Bezel Mounting)		27-8225
Knob (Tuning)		27-4330
Knob (Tuning)		27-4862
Knob (Tone Control)		27-4872
Knobs (Volume and Wave Switch)		27-4332
Pilot Lamp Socket Assembly		38-9796
Pointer		56-1276
Screws (Bezel Mounting)		W-2071
Spring (Drive Cord)		28-8013
Spring Clip (Coil Mounting)		28-5002
Socket (5 prong, type 84 tube)		27-4038
Socket (6 prong, type 78, 41, 75 tubes)		27-6036
Socket (Octal, type 6J8G tube)		27-6088
Speaker		36-1452
Tuning Drum and Coupling		31-2327
Vernier Drive (Tuning)		31-2329

Model 40-755, Code 121 Replacement Parts

SCHE. No.	DESCRIPTION	PART No.
1	Antenna Transformer (Broadcast)	32-2588
2	Antenna Transformer (S. W. 1)	32-3191
3	Antenna Transformer (S. W. 2)	32-3196
4	Mica Condenser (5 mmfd.)	30-1120
5	Compensator	31-6288
6	Mica Condenser (70 mmfd.)	30-1117
7	Resistor (470,000 ohms, ½ watt)	33-447339
8	Tubular Condenser (.05 mfd.)	30-4609
9	R. F. Transformer (Broadcast)	32-3189
10	R. F. Transformer (S. W. 1)	32-3190
11	R. F. Transformer (S. W. 2)	32-3197
12	Tubular Condenser (.05 mfd.)	30-4519
13	Tubular Condenser (.1 mfd.)	30-4611
14	Resistor (10,000 ohms, 1 watt)	33-310439
15	Tubular Condenser (.05 mfd.)	30-4609
16	Compensator	31-6288
17	Tubular Condenser (.05 mfd.)	30-4519
18	Resistor (470,000 ohms, ½ watt)	33-447339
19	Resistor (22,000 ohms, ½ watt)	33-322339
20	Mica Condenser (70 mmfd.)	30-1117
21	Mica Condenser 250 mmfd.)	30-1119
22	Resistor (33,000 ohms, ½ watt)	33-333339
23	Compensator	31-6288
24	Oscillator Transformer (Broadcast)	32-3254
25	Oscillator Transformer (S. W. 1)	32-3094
26	Oscillator Transformer (S. W. 2)	32-3102
27	Compensator (2 sections)	31-6287
28	Tracking Condenser (1850 mmfd.)	31-6310
29	Compensator	31-6288
30	Resistor (3300 ohms, ½ watt)	33-233339
31	Tracking Condenser (3300 mmfd.)	31-6311
32	Tuning Condenser Assembly	31-2386
33	1st I. F. Transformer Assembly	32-3187
34	Tubular Condenser (.01 mfd.)	30-4572
35	Resistor (1,000 ohms, ½ watt)	33-210339
36	Resistor (33,000 ohms, ½ watt)	33-333339
37	Tubular Condenser (.2 mfd.)	30-4587
38	Resistor (15,000 ohms, 1 watt)	33-315439
39	2nd I. F. Transformer Assembly	32-3188
40	Mica Condenser (110 mmfd.)	30-1118
41	Tubular Condenser (.006 mfd.)	30-4583
42	Volume Control (2.0 meg.)	33-5588
43	Resistor (330,000 ohms, ½ watt)	33-433339
44	Tone Control and On-Off Switch	33-5299
45	Resistor (68,000 ohms, ½ watt)	33-368339
46	Tubular Condenser (.006 mfd.)	30-4583
47	Tubular Condenser (.002 mfd.)	30-4579
48	Resistor 10.0 meg., ½ watt)	33-610339
49	Tubular Condenser (.006 mfd.)	30-4583
50	Resistor (100,000 ohms, ½ watt)	33-410339
51	Resistor (470,000 ohms, ½ watt)	33-447339
52	Mica Condenser (250 mmfd.)	30-1119
53	Tubular Condenser (.006 mfd.)	30-4610
54	Resistor (4,700 ohms, ½ watt)	33-247339
55	Resistor (27,000 ohms, ½ watt)	33-327339
56	Resistor (33,000 ohms, ½ watt)	33-333339
57	Resistor (1.0 meg., ½ watt)	33-510339
58	Resistor (1.0 meg., ½ watt)	33-510339
59	Resistor (47,000 ohms, ½ watt)	33-347339
60	Resistor (470,000 ohms, ½ watt)	33-447339
61	Resistor (470,000 ohms, ½ watt)	33-447339
62	Tubular Condenser (.006 mfd.)	30-4610
63	Tubular Condenser (.006 mfd.)	30-4610
64	Tubular Condenser (.003 mfd.)	30-4582
65	Output Transformer	32-8058
66	Cone and Voice Coil Assembly (Speakker Part No. 36-1453-4)	36-4104
	(Speaker Part No. 36-1460-3)	36-4105
67	Field Coil Replace Spkr. Part No. 36-1453 (T Cabinet) Replace Spkr. Part No. 36-1460 (XX Cabinet)	
68	Electrolytic Condenser (16 mfd., 400 V.)	30-2364

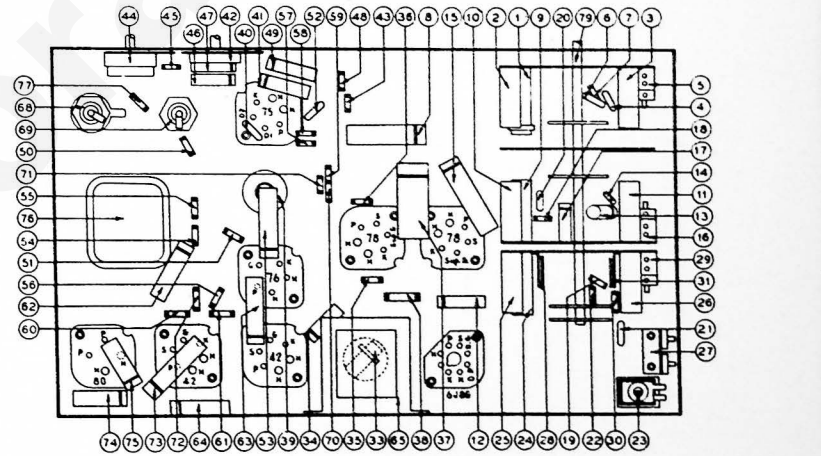


FIG. 2. MODEL 40-755 PART LOCATIONS, UNDERSIDE OF CHASSIS

SCHE. No.	DESCRIPTION	PART No.
69	Electrolytic Condenser (40 mfd., 300 V.)	30-2366
70	Resistor (39,000 ohms, ½ watt)	33-339339
71	Resistor (180,000 ohms, ½ watt)	33-418339
72	Resistor (1.0 meg., ½ watt)	33-510339
73	Tubular Condenser (.2 mfd.)	30-4587
74	Tubular Condenser (.003 mfd.)	30-4608
75	Tubular Condenser (.003 mfd.)	30-4608
76	Power Transformer (100-130 V., 200-260 V., 50-60 cycles)	32-8007
77	Resistor (150,000 ohms, ½ watt)	33-415339
78	Pilot Lamps	34-2064E
79	Wave Switch	42-1504
	Bezel	56-1222
	Cable and Plug (Power Supply)	L-2289
	(Special A. C. Export Plug)	L-1367
	Cabinet (40-755T)	10418A
	Cabinet (40-755XX)	10420A
	Dial	27-5544
	Drive Cord	31-2330
	Felt Strip (Bezel Mounting)	27-8225
	Knob (Tuning)	27-4330
	Knob (Tuning)	27-4862
	Knob (Volume and Wave Switch)	27-4332
	Knob (Tone Control)	27-4872
	Pointer	56-1276
	Socket (5 prong, 76 tube)	27-4038
	Socket (6 prong, type 78, 42, 75 tubes)	27-6036
	Socket (4 prong, type 80 tube)	27-4044
	Socket (Octal, type 6J8G tube)	27-6058
	Speaker (Model 40-755T)	36-1453
	Speaker (Model 40-755XX)	36-1460
	Spring Clip (Coil Mounting)	28-5002
	Spring (Drive Cord)	28-8913
	Station Card Holder	56-1273
	Tuning Drum and Coupling Assembly	31-2327
	Vernier Drive (Tuning)	31-2329