

PHILCO CAR RADIO



Service Bulletin No. 35.



MODEL 803T [12 volt]

THE Philco car Radio, Model 803T, is a dual wave, highly developed super-heterodyne single-unit type Receiver. The receiver, speaker and full-wave Philco Vibrator are housed in a single rugged, compact, fully shielded container, which is designed for quick and easy installation on the dash of all cars. When installed in the car, the loud speaker faces the front seat so that the Philco electro-dynamic speaker, concealed behind an artistic grille, delivers its full-toned reproduction towards the occupants of the car with utmost fidelity. Bass compensation gives full, rounded tone at all volume levels, while retaining "top."

All valves used are the latest Philco high-efficiency valves, designed especially for car radio: 1, 39 44E as Radio Frequency Amplifier; 1, 6A7 as Detector Oscillator; 1, 39 44E as Intermediate Frequency; 1, 75 as 2nd Detector, A.V.C. and 1st L.F.; 1, 84 as Rectifier; 1, 42E as Output.

Philco's system of automatic volume control used in this Receiver not only gives that smooth, elastic control which counteracts fading while driving along and prevents blasting of local stations, but also subdues the harsh interference usually present between stations.

The new Receiver is ALL-ELECTRIC, operating entirely from the car battery system.

Interference filters to cut out engine interference set up by the car ignition system and specially designed shielding make the Receivers especially easy to install.

To obtain best results on all aerial installations the aerial trimmer should be "padded" to obtain maximum volume on a weak station, first at the low frequency end of the dial and then at the high frequency end, generating signal from 088 and radiating by means of wire attached to aerial terminal of signal generator. No direct connection should be made. If this is carefully carried out the maximum sensitivity will be obtained for any aerial.

This model covers both the Long and Medium wavebands, the coverage being:—
 Long-wave 150-300 Kcs. (2000-1000 metres).
 Medium-wave 550-1500 Kcs. (545-200 metres).

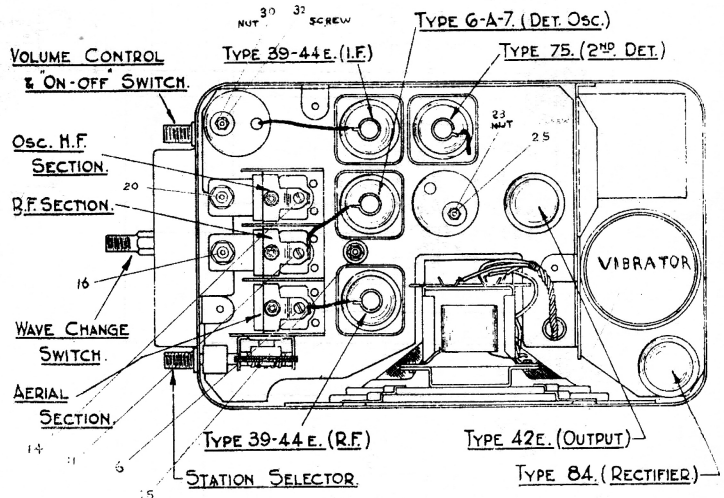
I. F. TRANSFORMER AND PADDERS

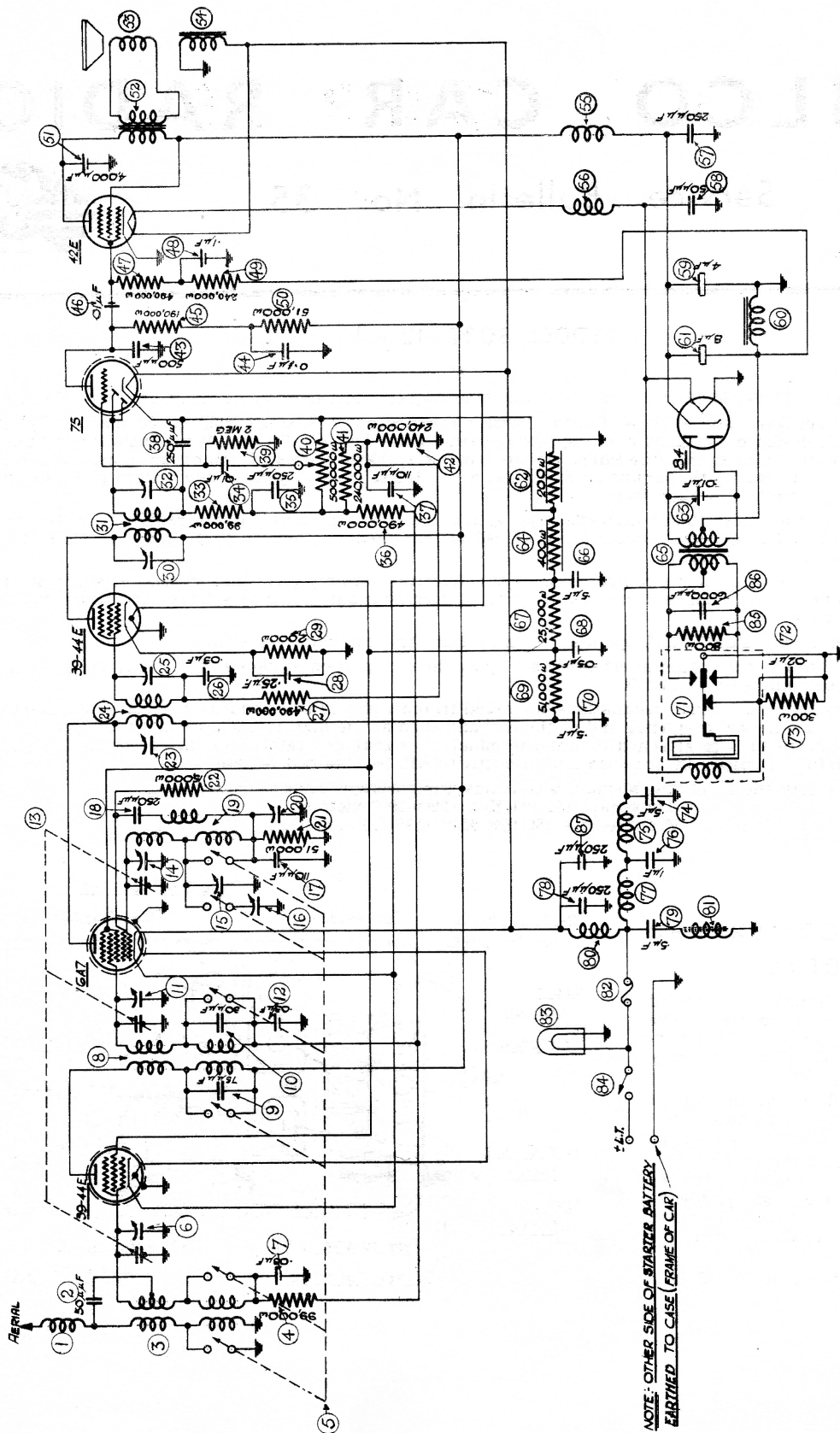
The first I.F. transformer is assembled complete with padding condensers. The second I.F. transformer is assembled complete with padding condensers, two resistors and two mica condensers.

The padders are placed in the top of the screened can, one above the other.

The primary padder is adjusted by means of the screw slot, accessible through the hole in the top of the screened can. The secondary padder is adjusted by means of the small hex nut, also accessible through the hole in the top of the shield.

The Intermediate frequency is 125 Kc.





This diagram is for Model 803T only.

PADDING PROCEDURE ON THE MODEL 803T

All adjustments have been carefully checked at the factory. If at any time it is found necessary to readjust the padding condensers, the following procedure must be carefully followed. Do not attempt to make any adjustments until the procedure is clearly understood or without the use of a good signal generator and output meter. The Philco Set Tester Model 099 is highly recommended for this purpose and for all service work.

The receiver must be connected to a suitable storage battery and turned on for reception. It is assumed that valves have been checked and that the receiver is in good condition except for the padding adjustments.

Remove the lid from the receiver and disconnect the aerial.

Remove the grid cap from the 6A7 valve.

Set up the signal generator and adjust to exactly 125 Kcs. Connect the signal generator lead to the cap of the 6A7 valve. Connect the output meter in circuit by attaching one lead to the plate of the output valve and the other lead to the receiver housing. Adjust signal generator attenuator to give approximately a half scale reading on the output meter.

The receiver volume control must be turned on to approximately full volume, and the wave switch set to broadcast position (clockwise).

The Padders, 23 and 25, are first adjusted, until maximum reading is obtained in the output meter, the adjustment being made very carefully.

Repeat this procedure for adjusting Padders 30 and 32

After padding the first I.F. reconnect the grid clip to the 6A7 valve. Connect the signal generator to the aerial terminal. Set the gang condenser to 1,400 Kcs. Apply a signal of 1,400 Kcs. by means of the signal generator. Adjust padders 11, 14 and 6 in this order, until no further improvement is obtainable.

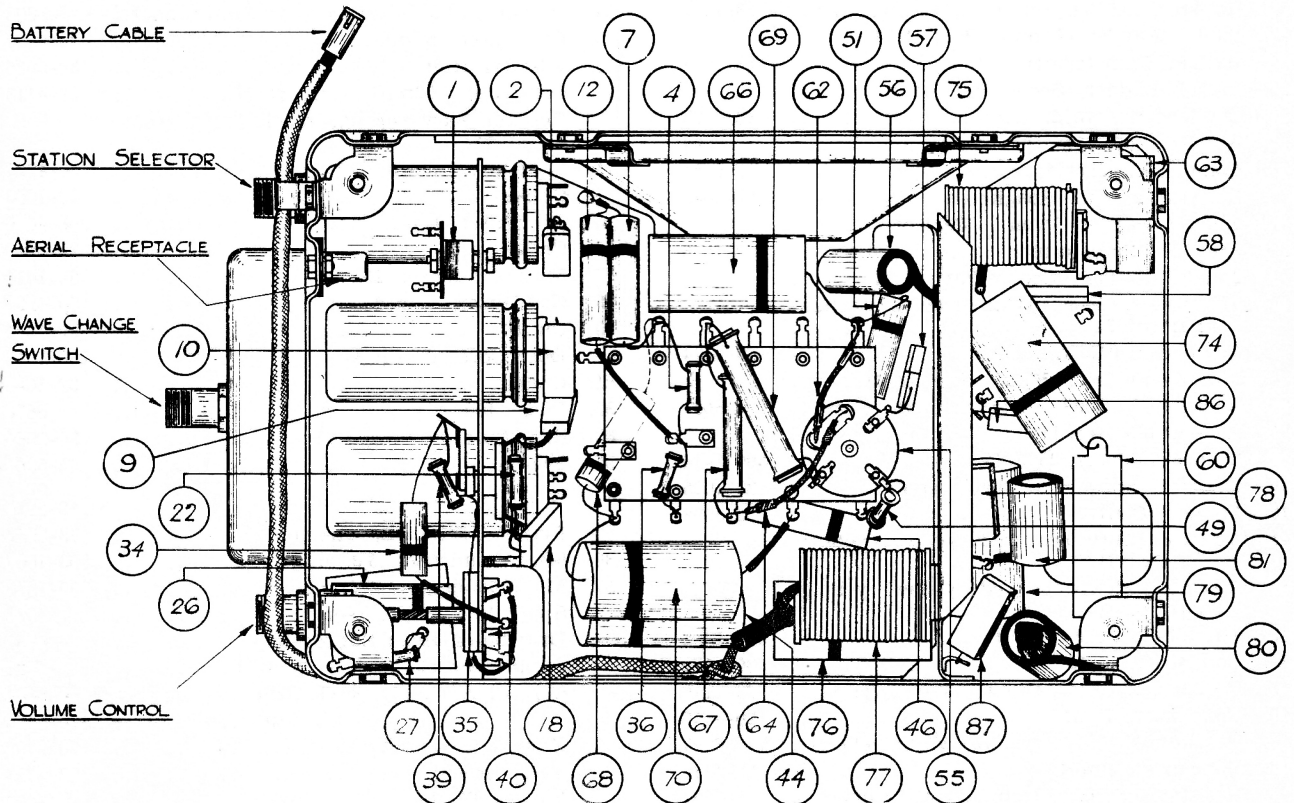
Now turn the dial to 600 Kcs., set signal generator at 600 Kcs. and adjust padder 16 for maximum reading on output meter. Roll gang for maximum sensitivity.

Check padding at 1,400 Kcs.

Set waveband switch at long-wave position. Set dial at 290 Kcs. and signal generator at 290 Kcs. Adjust Padder 15 for maximum reading. Roll gang for sensitivity.

Now turn dial to 160 Kcs. and signal generator to 160 Kcs. Adjust Padder 20. Roll gang for sensitivity, as for 600 Kcs.

Check Padding for 290 Kcs.



UNDER CHASSIS DIAGRAM.

PARTS LIST—MODELS 803 T

1. Choke Coil.	32-1372	50. Resistor, 51,000w. (green, brown, orange) ..	6098
2. Mica Condenser, 50uuf.	300-1003	51. Condenser, 4,000uuf.	30-4185
3. Aerial Transformer	32-1594	52. Output Transformer. Part of 53	
4. Resistor, 99,000w. (white, white, orange) ..	6099	53. Speaker, Complete, 803T Model	360-1003
5. Wavechange Switch	42-1103	1803T Model	360-1015
6. Aerial Padder (part of Gang)		54. Field Coil. Part of 53 t	
7. Condenser, .03mfd.	30-4025	55. Choke	32-1281
8. R.F. Transformer	32-1613	56. Choke, 803T only	32-1606
9. Mica Condenser, 75uuf.	300-1025	57. Mica Condenser 250uuf.	300-1014
10. Mica Condenser, 30uuf.	300-1024	58. Mica Condenser, 50uuf.	300-1003
11. R.F. Padder (part of Gang)		59. Electrolytic Condenser, 4mfd. Part of 61	
12. Condenser, .03mfd.	30-4025	(black lead)	30-2109
13. Gang Condenser	31-1340	60. Smoothing Choke	32-7351
14. Oscillator Padder (part of Gang)		61. Electrolytic Condenser, 8mfd. Part of 59	
15. Long Wave Oscillator Trimmer.	04000 E.	(red common +, green lead)	30-2109
16. Medium Wave Oscillator Trimmer on		62. Resistor, 200w. (Spaghetti)	7217
Gang Condenser		63. Condenser, .01mfd.	30-4051
17. Mica Condenser, 110uuf.	300-1020	64. Resistor, 400w. (Spaghetti)	33-3016
18. Mica Condenser, 250uuf.	300-1014	65. Vibrator Transformer, 12v.	32-7375
19. Oscillator Transformer	32-1595	66. Condenser, .5mfd.	30-4227
20. Padding Condenser.		67. Resistor, 25,000w. (red, green, orange)	3656
21. Resistor, 51,000w. (green, brown, orange) ..	6098	68. Condenser, .05mfd.	30-4020
22. Resistor, 15,000w. (brown, green, orange) ..	33-1177	69. Resistor, 51,000w. (green, brown, orange) ..	5868
23. 1st I.F. Padder (Prim.) Part of 24		70. Condenser, .5mfd.	30-4227
24. 1st I.F. Transformer	32-1614	71. Vibrator Unit	38-5036
25. 1st I.F. Padder (Sec.) Part of 24		72. Condenser, .02mfd. (part of 71)	30-4113
26. Condenser, .03mfd.	30-4025	73. Resistor, 300w. (orange, black, brown) (part	
27. Resistor, 490,000w. (yellow, white, yellow) ..	6097	of 71)	
28. Condenser, .25mfd.	30-4134	74. Condenser, .5mfd	30-4227
29. Resistor, 2,000w. (Spaghetti)	33-3048	75. Choke	32-1658
30. 2nd I.F. Padder (Prim.) Part of 31.		76. Condenser, 1mfd.	300-4006
31. 2nd I.F. Transformer	32-1615	77. Choke	32-1658
32. 2nd I.F. Padder (Sec.) Part of 31		78. Mica Condenser, 250uuf.	300-1014
33. Resistor, 99,000w. (white, white, orange) ..		79. Condenser, .5 mfd.	30-4227
Part of 31		80. Choke	32-1644
34. Condenser, .01mfd.	30-4124	Dust Core for Choke	280-1013
35. Mica Condenser, 250uuf. Part of 31.		81. Choke	32-1644
36. Resistor, 490,000w. (yellow, white, yellow) ..	6097	82. Fuse (10amp.)	5676
37. Mica Condenser, 110uuf. Part of 31.		83. Pilot Bulb	34-2064
38. Mica Condenser, 250uuf.	300-1014	84. Switch	42-5361
39. Resistor, 2meg. (red, black, green)	33-1025	or	
40. Volume Control	33-5098	42-5336	
41. Resistor, 240,000w. (red, yellow, yellow) ..		85. Resistor, 800w. (Spaghetti)	33-3022
Part of 31		86. Mica Condenser, 6,000uuf.	300-1007
42. Resistor, 240,000w. (red, yellow, yellow) ..		87. Mica Condenser, 250uuf.	300-1014
Part of 31		Spark Plug Suppressor	4531
43. Mica Condenser, 500uuf.	300-1006	Distributor Head Suppressor	4851
44. Condenser, 1mfd.	30-4170	Suppressor Condenser, 0.5mfd.	4522
45. Resistor, 190,000w. (brown, white, yellow) ..	33-1116	Control Assembly, 803T, 32in.	420-5004
46. Condenser, .01mfd.	30-4145	21in.	420-5005
47. Resistor, 490,000w. (yellow, white, yellow) ..	6097	Key	28-2782
48. Condenser, 1mfd.	30-4170	Valve Shield	28-2726
49. Resistor, 240,000w. (red, yellow, yellow) ..	33-1097	Battery Cable	L. 1836