



Models 702 & 703

SPECIFICATIONS

TYPE OF CIRCUIT: Philco Models 702 & 703 are A.C. operated superheterodyne receivers with automatic volume control, pentode output and an electro-dynamic speaker. A phonograph unit is included in each cabinet consisting of a crystal pick-up and an induction motor, which is controlled by a special tone arm switch.

POWER SUPPLY: 115 volts 50-60 cycles.
115 volts 25-40 cycles.

POWER CONSUMPTION: 60 watts.

FREQUENCY TUNING RANGE: 540 to 1720 Kc.

INTERMEDIATE FREQUENCY: 460 Kc.

AUDIO OUTPUT: 1.5 watts.

PHILCO TUBES USED: 6A8EG Converter; 7A7E I.F., 7B6, 2nd detector, 1st audio and A.V.C.; 7B5E power output, 80 rectifier.

Cabinet Dimensions 702: 17 $\frac{1}{4}$ " x 11 $\frac{3}{8}$ " x 11 $\frac{1}{16}$ ".

Cabinet Dimensions 703: 24 $\frac{1}{2}$ " x 13" x 37".

ALIGNMENT OF COMPENSATORS

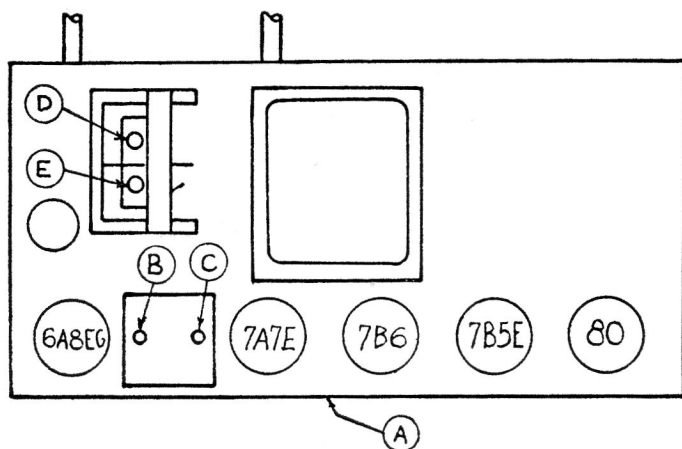
Equipment Required: To accurately adjust this receiver an accurately calibrated signal generator such as the Philco Model 177 is required. Maximum signal strength is shown by the use of a vacuum tube voltmeter and circuit tester such as the Philco Model 028. The vacuum tube voltmeter is connected in the output circuit by using an aligning adapter, Philco Part No. 45-2767. The output indicator is connected as follows: Remove the 7B5E tube from the socket, insert the aligning adapter in the tube socket, insert the tube in the top of the adapter, connect the light-coloured wire which protrudes from the side of the adapter to the negative (—) terminal of the vacuum tube voltmeter. Attach the black wire to the positive (+) terminal of the voltmeter. A fibre handle screw driver, Philco Part No. 45-2610 and fibre wrench, Philco Part No. 3164 are the necessary aligning tools.

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: (1) Turn the tuning condenser to maximum capacity position (plates fully meshed). (2) With the tuning condenser in this position turn the pointer until it is parallel with the dark horizontal stripe on the dial.

Intermediate Frequency Circuit: Connect the output lead from the high side of the signal generator through a 0.1 mfd. condenser to the grid of the 6A8EG converter tube and the ground connection of the signal generator to the chassis. Set the signal generator and receiver controls and adjust the I.F. compensators as follows.

(1) Set signal generator at 460 K.C. for maximum output. (2) Turn receiver dial to 580 Kc. and short out Osc. section of gang. (3) With receiver volume control maximum adjust compensators (a) (b) and (c) for maximum output. If the output meter goes off scale when adjusting the compensators, retard the signal generator attenuator.

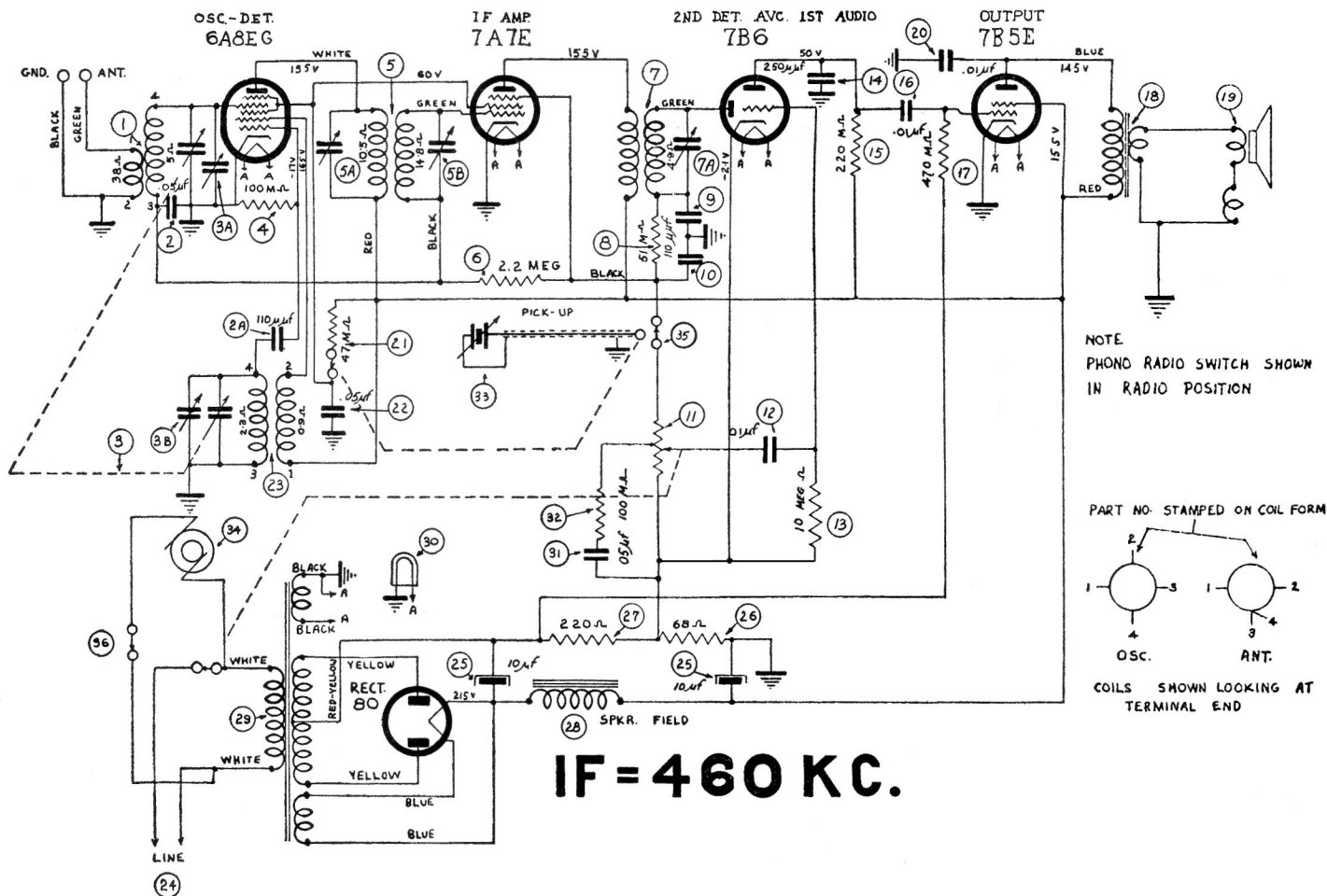


LOCATION OF COMPENSATORS

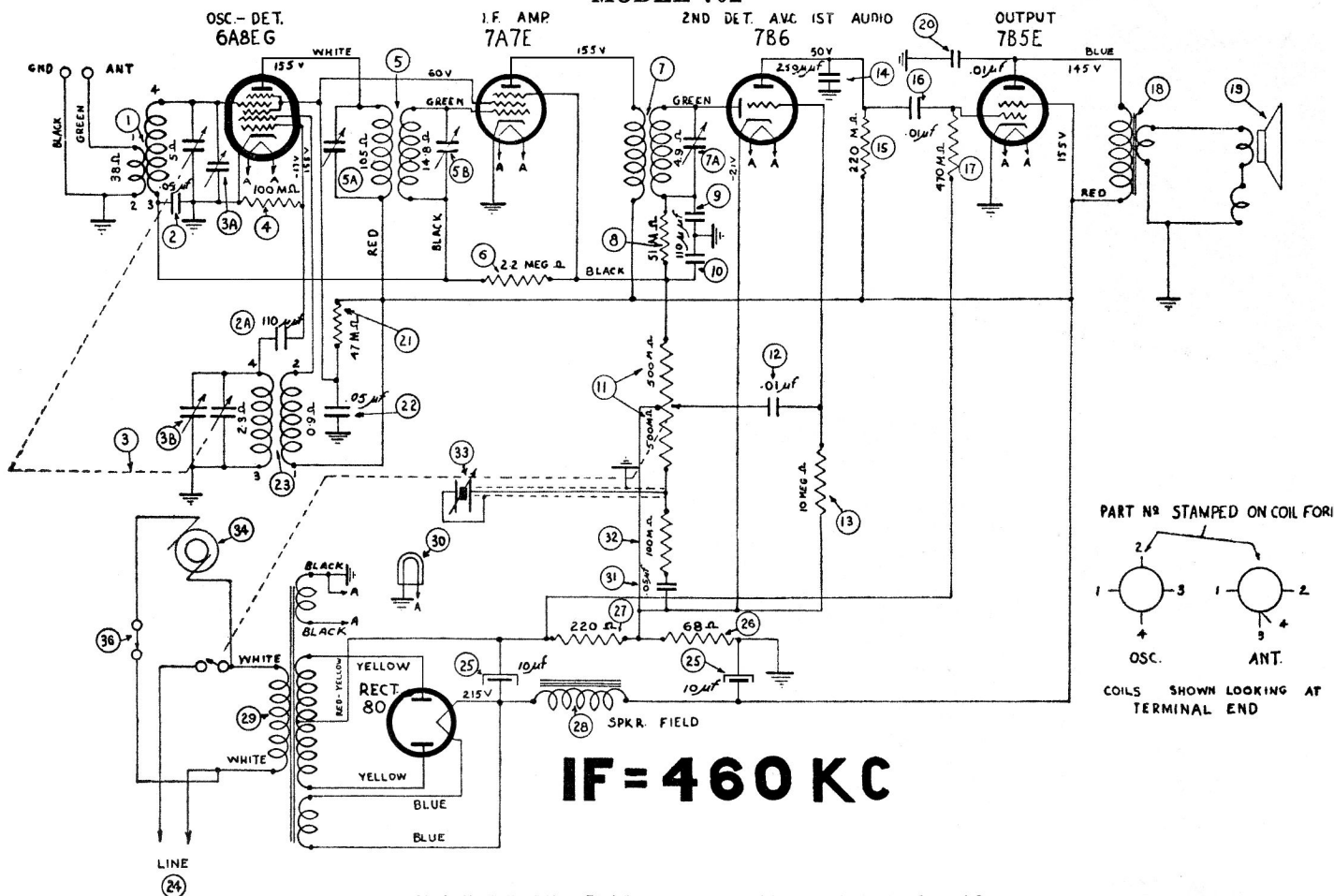
Radio Frequency Circuit. Connect the high side of the signal generator through a 100 mmfd. condenser to the green aerial wire which protrudes through the rear of the chassis, and the ground terminal of the signal generator to the chassis and proceed as follows:

- (1) With volume control maximum and signal generator and receiver both set to 1400 Kc. adjust compensators (D) and (E) in order for maximum output.
- (2) Check the calibration at 1000 and 600 Kc.

MODEL 703



MODEL 702



Schem. No.	Description	Part No.
1	Antenna Transformer	32-3045
2	Condenser .05-200v	30-4519
3	Tuning Condenser	11-0001
4	Resistor, 100,000 ohms	33-410244
5	1st I.F. Transformer	12-0003
6	Resistor 2.2 meg.	33-522244
7	2nd I.F. Transformer	32-2944
8	Resistor 51,000 ohms	Part of
9	Condenser 110 mmf	
10	Condenser 110 mmf	32-2944
11	Volume Control, Model 702	33-5430
12	Volume Control, Model 703	33-5336
13	Tubular Condenser .01-400v	30-4572
14	Resistor, 10 meg.	33-610244
15	Mica Condenser, 250 mmf.	60-125157
16	Resistor, 220,000 ohms	33-422244
17	Tubular Condenser, .01-400v	30-4572
18	Resistor, 470,000 ohms	33-447244
19	Output Transformer, Model 702	32-8105
20	Output Transformer, Model 703	32-8063
21	Cone and Voice Coil Assembly, Model 702	36-4098
22	Cone and Voice Coil Assembly, Model 703	36-4159
23	Tubular Condenser, .01-400v	30-4572
24	Resistor, 47,000 ohms	33-347344
25	Tubular Condenser, .05-200v	30-4519
26	Osc. Transformer	32-3049
27	Line Cord	03-0001
28	Electrolytic Condenser, 10-10 mf.	10-0001
29	Resistor, 68 ohms	33-068336
30	Resistor, 220 ohms	33-122336
31	Speaker Field Coil, Model 702	32-9556
32	Speaker Field Coil, Model 703	32-9580
33	Power Transformer, 25 cycle	12-0001
34	Power Transformer, 60 cycle	12-0002
35	Pilot Lamp	34-2064
36	Tubular Condenser, .05-200v	30-4519

Schem. No.	Description	Part No.
32	Resistor, 100,000 ohms	33-410244
33	Crystal pick-up	35-2169
34	Phono Motor, 25 cycle	35-1249
35	Phono Motor, 60 cycle	35-1248
36	Phono Radio Switch, Model 703	22-0006
37	Motor Switch	42-1536

MISCELLANEOUS PARTS

Motor Turntable	35-1217
Complete Speaker, Model 702	36-1429
Complete Speaker, Model 703	36-1513
Socket, 4 Prong	27-6044
Socket, Octal, 8 Prong	27-6058
Socket, Loktal	27-6131
Dial	07-0012
Motor Cable, Model 702	18-0028
Motor Cable, Model 703	18-0013
Pick-up Cable	18-0014
Pointer	27-4868
Coil Clip (Ant. Coil)	28-5002
Tuning Shaft	28-6938
Drive Cord	31-2292
Pilot Socket Assembly	38-9368
Speaker Cable, Model 703	41-3552
Instruction Sheet, Model 702	19-0020
Instruction Sheet, Model 703	19-0019
Motor Plug	27-4410
Knob	27-4604
Dial Window	27-5370
Screw (Motor Mtg.)	W-89FA4
Nut (Speaker Mtg.)	W-124FA3
Washer (Chassis Mtg.)	W-410FA3
Screw (Chassis Mtg.)	W-758FA3
Chassis Insulator Fibre	07-0002
Chassis Insulator Asbestos	07-0001