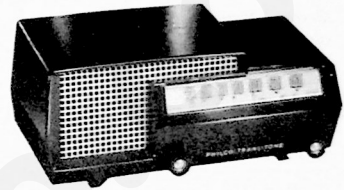


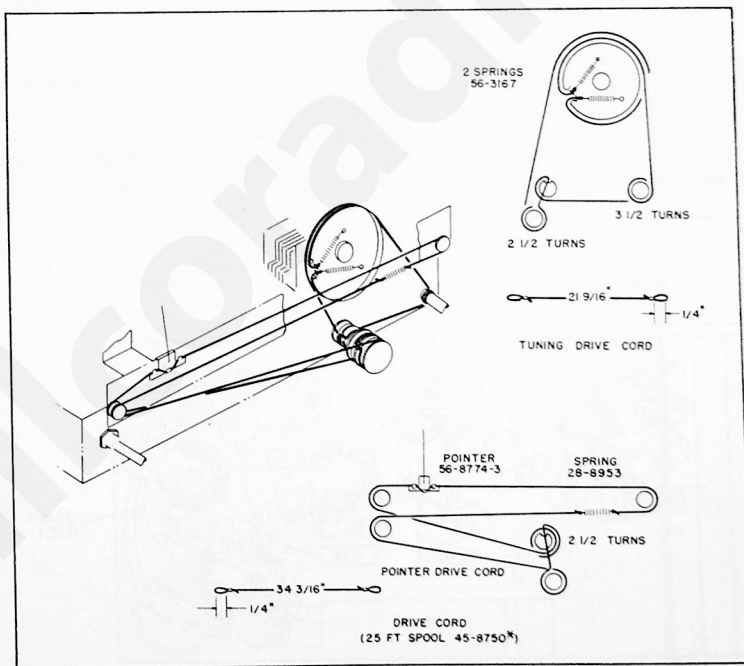
PHILCO RADIO MODEL 53-563

SPECIFICATIONS

| | |
|-------------------------------|---|
| CABINET MODEL 53-563 | Molded plastic, ebony or Swedish red |
| CIRCUIT | Four-tube superheterodyne (plus rectifier) |
| FREQUENCY RANGE | |
| Standard Broadcast | 540 kc. to 1620 kc. |
| Special Services | 1700 kc. to 3400 kc. |
| AUDIO OUTPUT | |
| | 1 watt |
| OPERATING VOLTAGE | |
| | 105 to 120 volts, a.c. or d.c. |
| POWER CONSUMPTION | |
| | 30 watts |
| AERIAL | |
| | High-impedance loop |
| INTERMEDIATE FREQUENCY | |
| | 455 kc. |
| PHILCO TUBES | |
| 12BE6 | converter, 12BA6 i-f amplifier, 12AV6 det.— |
| | a.v.c.-1st audio, 35C5 output, 35W4 rectifier |



MODEL 53-563



TP2-1371

Figure 1. Dial-Cord Installation Details

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ALIGNMENT PROCEDURE

RADIO CONTROLS—Set volume control to maximum. Set tuning control and band switch, SW1, as indicated in chart.

OUTPUT METER—Connect across voice-coil terminals.

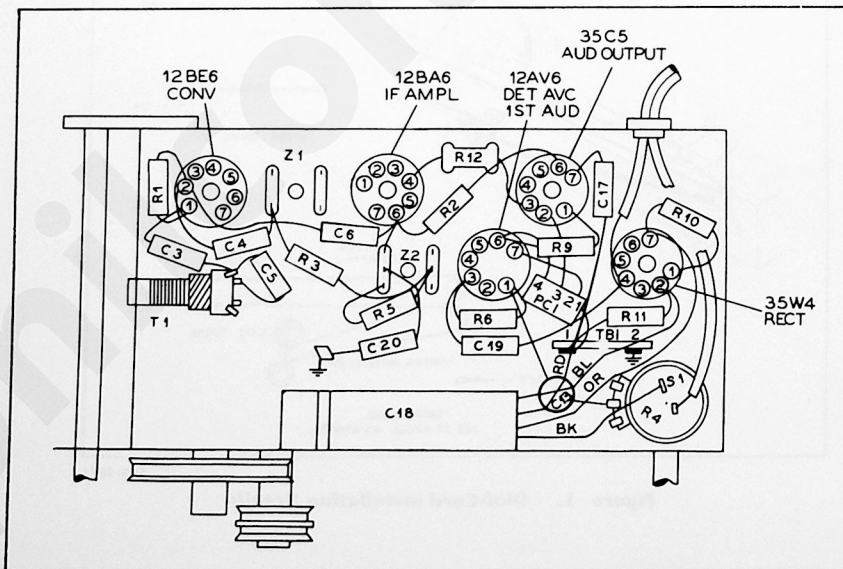
SIGNAL GENERATOR—Connect generator and set frequency as indicated in chart. Use modulated output.

OUTPUT LEVEL—During alignment, adjust signal-generator output to hold output-meter reading below 1.25 volts.

| STEP | SIGNAL GENERATOR | | RADIO | | | ADJUST |
|------|---|--------------|------------------------|---------------------|--|--|
| | CONNECTION TO RADIO | DIAL SETTING | DIAL SETTING | BAND SWITCH SETTING | SPECIAL INSTRUCTIONS | |
| 1 | Ground lead to B-; output lead through a .1- μ f. condenser to grid (pin 7) of 12BE6. | 455 kc. | Tuning gang fully open | Broadcast | Adjust tuning cores, in order given, for maximum output. TC1 and TC4 are located at top of transformers. | TC4—2nd i-f sec. TC3—2nd i-f pri. TC2—1st i-f sec. TC1—1st i-f pri. |
| 2 | Radiating loop (See note below). | 1620 kc. | *1620 kc. | Broadcast | Adjust trimmer for maximum output. | C1-B—osc. |
| 3 | Same as step 2. | 1500 kc. | 1500 kc. | Broadcast | Adjust trimmer for maximum output. | C1-A—aerial (broadcast) |
| 4 | Same as step 2. | 3200 kc. | 3200 kc. | Special Services | Adjust trimmer for maximum output. | C21—aerial (special services). |

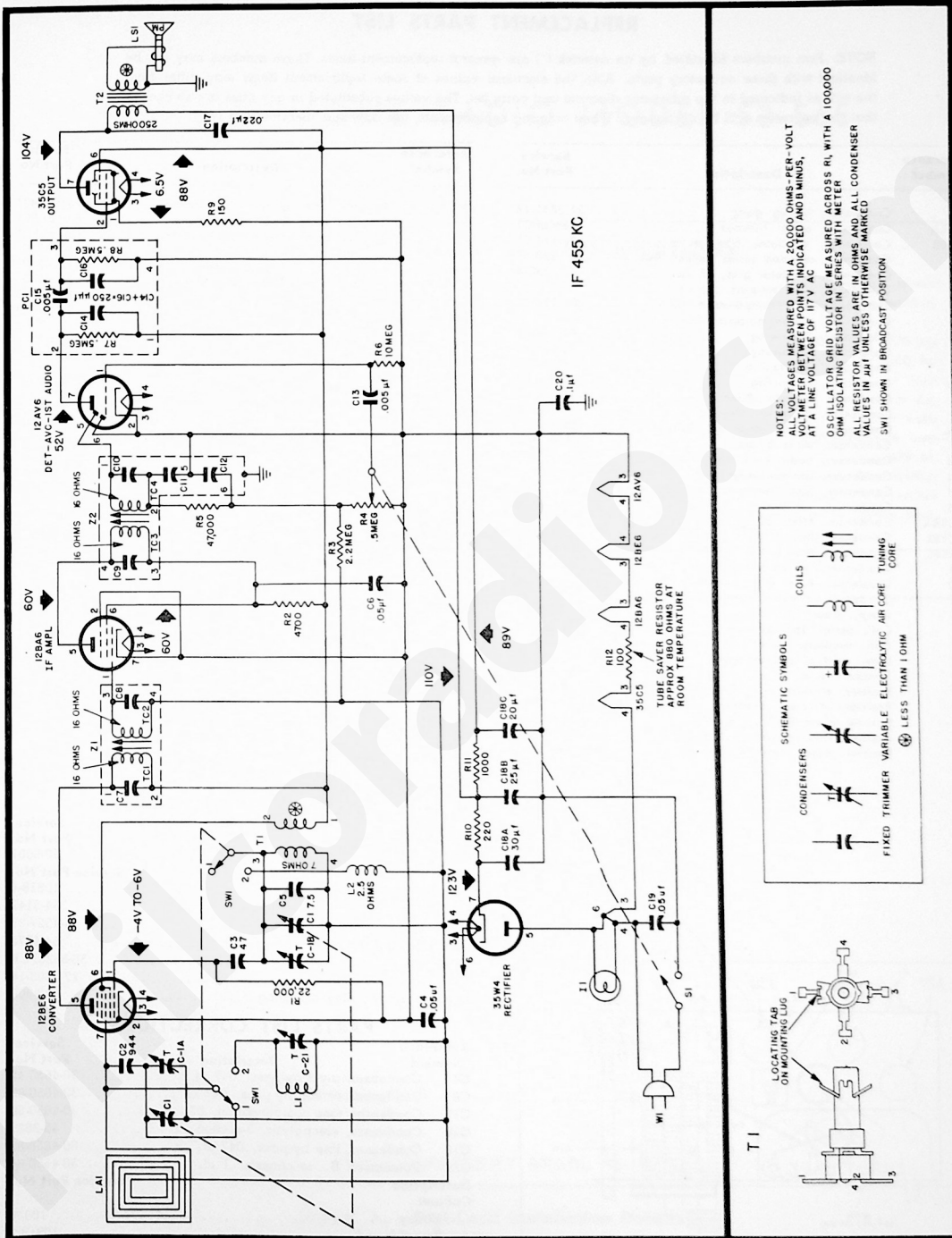
NOTE: Make up a 6—8 turn, 6-inch-diameter loop from insulated wire, connect to signal-generator leads, and place near radio loop. The 1620-kc. index mark is located on the pointer rail, to the extreme right side as viewed from the front.

*For proper adjustment of the oscillator trimmer, fully open the tuning gang and insert a .006-inch non-metallic shim between the heel of the rotor and the top of the stator plates. Close the tuning gang sufficiently to hold the shim in place, and then remove the shim without disturbing the gang setting.



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Figure 2. Base View, Showing Symbolized Chassis



NOTES:
 ALL VOLTAGES MEASURED WITH A 20000 OHMS-PER-VOLT
 VOLTMETER BETWEEN POINTS INDICATED AND MINUS,
 AT A LINE VOLTAGE OF 117 V AC
 OSCILLATOR GRID VOLTAGE MEASURED ACROSS R1, WITH A 100000
 OHM ISOLATING RESISTOR IN SERIES WITH METER
 ALL RESISTOR VALUES ARE IN OHMS UNLESS ALL CONDENSER
 VALUES IN μM UNLESS OTHERWISE MARKED
 SW1 SHOWN IN BROADCAST POSITION

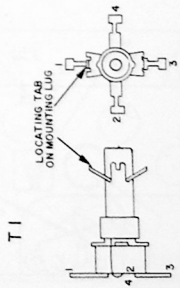
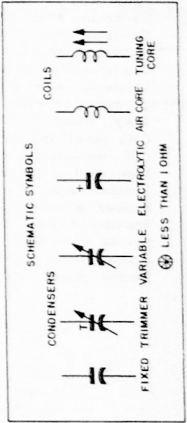


Figure 3. Philco Radio Model 53-563, Schematic Diagram

REPLACEMENT PARTS LIST

NOTE: Part numbers identified by an asterisk (*) are general replacement items. These numbers may not be identical with those on factory parts. Also, the electrical values of some replacement items may differ from the values indicated in the schematic diagram and parts list. The values substituted in any case are so chosen that the operation will be unchanged. When ordering replacements, use only the "Service Part No."

| Reference Symbol | Description | Service Part No. |
|------------------|---|------------------|
| C1 | Condenser, tuning gang | 31-2751-14 |
| C1A | Condenser, aerial trimmer | Part of C1 |
| C1B | Condenser, oscillator trimmer | Part of C1 |
| C2 | Condenser, antenna series tracker, 944 $\mu\text{f.}$ | 30-1220-65 |
| C3 | Condenser, oscillator grid, 47 $\mu\text{f.}$ | 30-1230-4 |
| C4 | Condenser, a-v-c by-pass, .05 $\mu\text{f.}$ | |
| C5 | Condenser, drift compensation, 7.5 $\mu\text{f.}$ | 30-1224-83 |
| C6 | Condenser, screen by-pass, .05 $\mu\text{f.}$ | |
| C7 | Condenser, i-f tuning | Part of Z1 |
| C8 | Condenser, i-f tuning | Part of Z1 |
| C9 | Condenser, i-f tuning | Part of Z2 |
| C10 | Condenser, i-f tuning | Part of Z2 |
| C11 | Condenser, detector filtering | Part of Z2 |
| C12 | Condenser, detector filtering | Part of Z2 |
| C13 | Condenser, audio coupling, .005 $\mu\text{f.}$ | 30-1238-1 |
| C14 | Condenser, plate by-pass | Part of PC1 |
| C15 | Condenser, audio coupling, .005 $\mu\text{f.}$ | Part of PC1 |
| C16 | Condenser, compensating | Part of PC1 |
| C17 | Condenser, tone compensation, .022 $\mu\text{f.}$ | |
| C18 | Condenser, electrolytic, 3-section | |
| C18A | Condenser, filter, 30 $\mu\text{f.}$, 150v | Part of C18 |
| C18B | Condenser, filter, 25 $\mu\text{f.}$, 150v | Part of C18 |
| C18C | Condenser, filter, 20 $\mu\text{f.}$, 150v | Part of C18 |
| C19 | Condenser, line by-pass, .05 $\mu\text{f.}$ | |
| C20 | Condenser, B minus to chassis, .1 $\mu\text{f.}$ | |
| C21 | Condenser, trimmer, special services | 31-6473-29 |
| I1 | Lamp, pilot | 34-2068 |
| L1 | Coil, aerial, special services | 32-4561-3 |
| L2 | Coil, oscillator shunt | 32-4562-2 |
| LA1 | Loop, part of cabinet back | |
| LS1 | Speaker, p-m | 36-1627-5 |
| R1 | Resistor, oscillator grid, 22,000 ohms | 66-3228340* |
| R2 | Resistor, i-f screen dropping, 4700 ohms | 66-2748340* |
| R3 | Resistor, a-v-c filter, 2.2 megohms | 66-5228340* |
| R4 | Resistor, volume control, .5 megohm | 33-5566-41 |
| R5 | Resistor, diode load, 47,000 ohms | 66-3478340* |

| Reference Symbol | Description | Service Part No. |
|------------------|-------------------------------------|------------------|
| R6 | Resistor, grid return, 10 megohms | 66-6108340* |
| R7 | Resistor, plate load, 500,000 ohms | Part of PC1 |
| R8 | Resistor, grid return, 500,000 ohms | Part of PC1 |
| R9 | Resistor, cathode bias, 150 ohms | 66-1158340* |
| R10 | Resistor, B plus filter, 220 ohms | 66-1224340* |
| R11 | Resistor, B plus filter, 1000 ohms | 66-2108340* |
| R12 | Resistor, tube saver, 100 ohms | 33-1343-3 |
| S1 | Switch, off-on | Part of R4 |
| SW1 | Switch, broadcast-special services | 42-1796-2 |
| T1 | Transformer, oscillator | 32-4453-6 |
| T2 | Transformer, output | 32-8384* |
| W1 | Line cord | L-2183* |
| Z1 | Transformer, 1st i-f | 32-4161A |
| Z2 | Transformer, 2nd i-f | 32-4240A |

MISCELLANEOUS

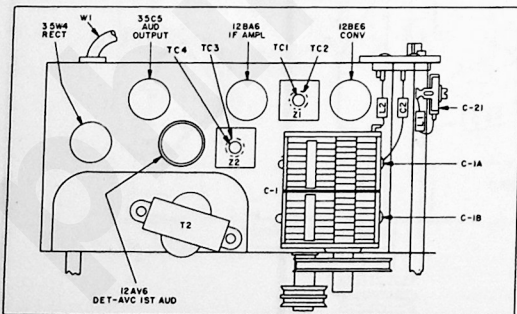
| Description | Service Part No. |
|---|------------------|
| Cabinet, ebony | |
| Cabinet, Swedish red | |
| Back and-loop assembly | 76-7764 |
| Grille (plastic) | 54-4966 |
| Dial backplate (plastic) | 54-4968 |
| Drive cord, 25-foot spool | 45-8750 |
| Knob, red | 54-4527-38 |
| Knob, ebony | 54-4527-37 |
| Pointer, dial | 56-8774-3 |
| Pointer rail, bracket-and-pulley assembly | 76-7767 |
| Shaft, tuning | 56-9807 |
| Socket assembly, pilot lamp | 27-6233-6* |
| Socket, 7-pin miniature | 27-6265* |
| Spring, retaining | |
| Spring | |
| Spring | |

PARTS LIST ADDITIONS

| Reference Symbol | Description | Service Part No. |
|---------------------------------|-----------------|------------------|
| PC1 | Printed circuit | 30-6001 |
| Description | | Service Part No. |
| Cabinet, spruce green | | 10918-4 |
| Dial scale | | 54-5142 |
| Knob, spruce green (2 required) | | 54-4527-39 |
| Pulley, double fiber | | 54-4975 |
| Shield, tube | | 56-5629FCP |
| Socket, tube (12AV6) | | 27-6203-14 |
| Stud, bearing, pulley mounting | | 56-9806 |

PARTS LIST CORRECTIONS

| Reference Symbol | Description | Service Part No. |
|--------------------------------|---|------------------|
| C4 | Condenser, a-v-c by-pass, .047 $\mu\text{f.}$ | 30-4650-45 |
| C6 | Condenser, screen by-pass, .047 $\mu\text{f.}$ | 30-4650-62 |
| C17 | Condenser, tone compensation, .022 $\mu\text{f.}$ | 30-4650-60 |
| C18 | Condenser, electrolytic, 3-section | 45-3037 |
| C19 | Condenser, line by-pass, .047 $\mu\text{f.}$ | 30-4650-62 |
| C20 | Condenser, B ₋ to chassis, .1 $\mu\text{f.}$ | 30-4650-64 |
| Description | | Service Part No. |
| Cabinet | | |
| Ebony | | 10918 |
| Swedish red | | 10918-2 |
| Spring, tuning-shaft retaining | | 28-8610 |
| Spring, drive cord | | 56-2617 |
| Spring, drive cord | | 28-8953 |



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Figure 4. Top View, Showing Trimmer Locations