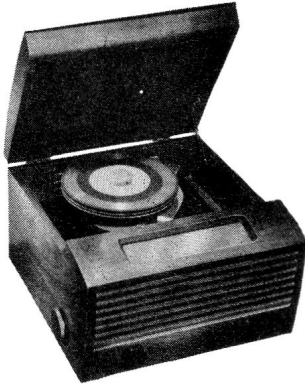




RCA VICTOR



RADIO PHONOGRAPH COMBINATION  
**MODELS 9Y5 & 9Y5S**  
SERVICE DATA

—1949 NO. 24—

GENERAL SERVICE DIVISION  
**RCA VICTOR COMPANY LIMITED**  
MONTREAL, QUE.

Models 9Y5 & 9Y5S  
For Record Changer Service Information—  
refer to RP168 Series Service Note.

### Electrical and Mechanical Specifications

#### TUNING RANGE (9Y5)

Standard Broadcast .....540-1600 KC

#### TUNING RANGE (9Y5S)

Standard Broadcast ..... 540-1600 KC

Short Wave ..... 5.8 - 18.2

INTERMEDIATE FREQUENCY .....455 KC

#### TUBE COMPLEMENT

(1) Type 12BE6 ..... Converter

(2) Type 12SF7 .....I.F. Amplifier Det. & A.V.C.

(3) Type 12SC7 ..... Audio Phase Inverter

(4) Type 35C5 ..... Output

(5) Type 35C5 ..... Output

A Selenium rectifier is used.

Dial Lamps (1) .....Mazda 1813

Tuning Drive Ratio.....19:1 (9½ turns of knob)

#### POWER SUPPLY RATING

Rating A.....105-125 Volts, 60 cycles, .40 amps., 46 watts

Rating B.....105-125 Volts, 25 cycles, .40 amps., 46 watts

#### LOUDSPEAKER

Size and type .....4 x 6 in. P.M. Elliptical

Voice Coil Impedance .....3.2 ohms at 400 cycles

#### POWER OUTPUT

Undistorted ..... 2.5 watts

Maximum ..... 3.5 watts

#### RECORD CHANGER (RP-168-1)

Turntable speed .....45 r.p.m.

Record Capacity .....Ten 7 in.

Pickup ..... Crystal (Medium output)

#### CABINET DIMENSIONS

Height .....8 in.

Width .....12¾ in.

Depth .....13½ in.



Fig. 1. The Dial Scale drawing shown is a full size reproduction. It can be used as a reference in alignment procedure. (9Y5)

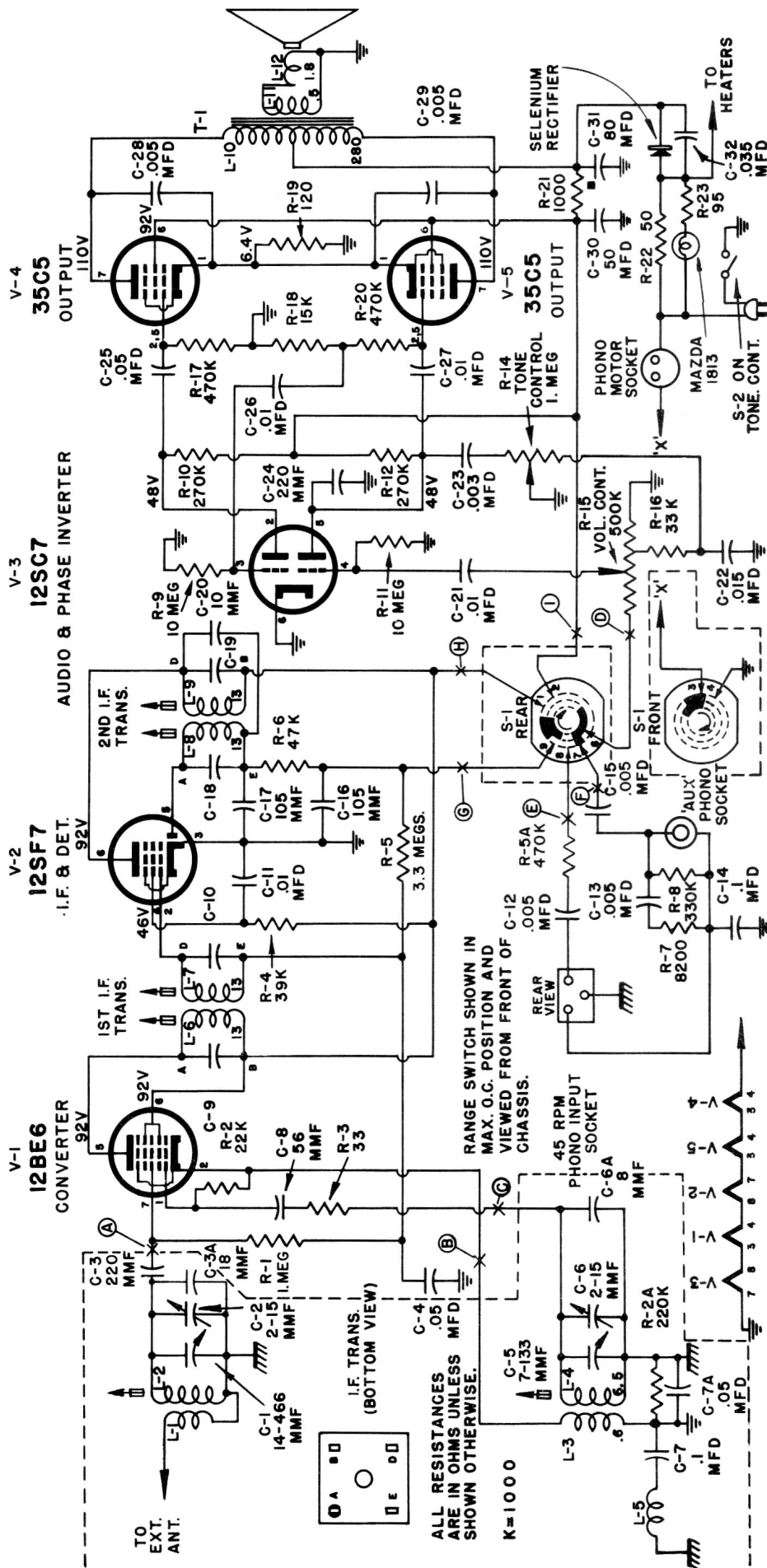


Fig. 2. Schematic Diagram. (9Y5).

**FO:**

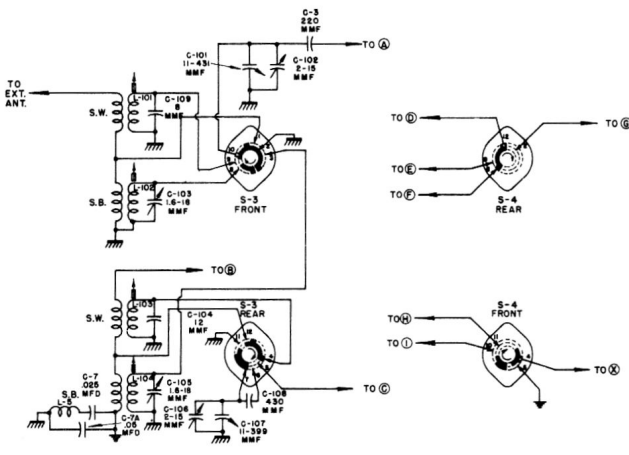


Fig. 3—Schematic outlining additions made to 9Y5 Schematic for 9Y5S Schematic.

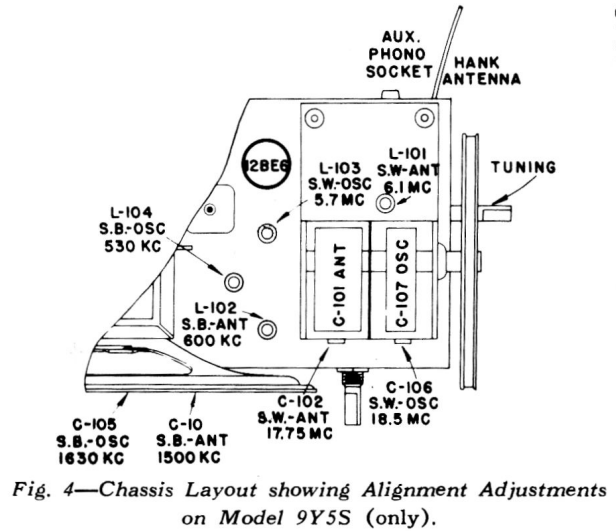


Fig. 4—Chassis Layout showing Alignment Adjustments on Model 9Y5S (only).

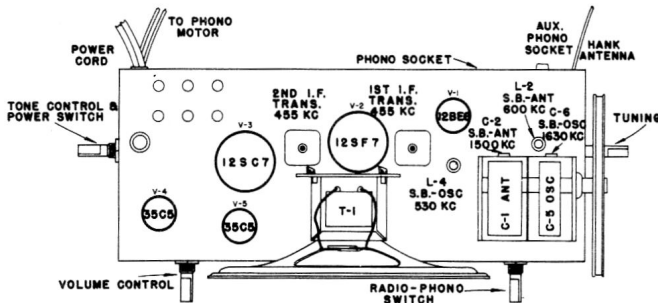


Fig. 5—Chassis Layout and Alignment Adjustments for Model (9Y5).

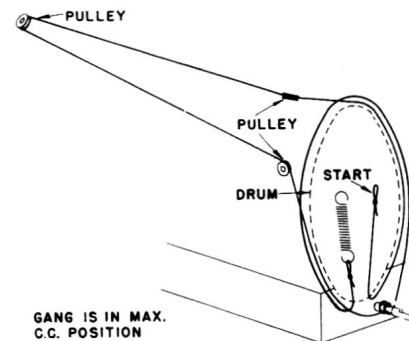


Fig. 6—Dial Cord Stringing

## CRITICAL LEAD DRESS

- (1) Dress A-C leads away from 12SC7 socket and associated components.
- (2) Dress output plate by-pass capacitors C-28 and C-29 close to chassis below the volume control and away from all audio leads.
- (3) Dress green lead from volume control away from chassis.

NOTE: C-7 & L-5 form a special capacitor which is resonant to the I.F. frequency. In the event that this capacitor be replaced, care should be taken so as to replace it with a similar type. If this is not done, the set may be subject to I.F. regeneration. (See parts list).

## ALIGNMENT PROCEDURE

Before aligning the receiver, set the gang condenser for maximum capacity and then set the dial cursor on the calibration point at the extreme left hand end of the dial. The dial scale may be readily removed from the cabinet and used as a reference during alignment.

When only a portion of the circuit is to be aligned select the required portion and perform all the remaining steps.

In order to obtain best results, it is advisable to align the 455 KC I.F.'s with the help of a cathode ray oscilloscope. The scope should be connected across the volume control. If this equipment is not available, use the method outlined below in the alignment chart.

It may be necessary to use an isolation transformer (117 V/117 V) during alignment, if the test oscillator is AC-DC operated.

## ALIGNMENT CHART

| Order of Alignment | TEST OSCILLATOR      |                       |               |                   | RECEIVER       |                       |                   |                    |                           |
|--------------------|----------------------|-----------------------|---------------|-------------------|----------------|-----------------------|-------------------|--------------------|---------------------------|
|                    | Connect "HI" Side To | Connect "LO" Side To  | Dummy Antenna | Frequency Setting | Range Selector | Receiver Dial Setting | Circuit To Adjust | Adjustment Symbols | Notes                     |
| I.F. Alignment     | 1                    | Pin #2 12SF7          | Common GND    | 455 KC            | S.B.           | "HI" End              | 2nd I.F. Trans.   | L-8, L-9           | Max. Out.                 |
|                    | 2                    | Pin #7 12BE6          | Same          | Same              | Same           | Same                  | 1st I.F. Trans.   | L-6, L-7           | Same                      |
|                    | 3                    | Repeat steps 1 and 2. |               |                   |                |                       |                   |                    |                           |
| S.W. Alignment     | 4                    | Ant Coil Terminal     | Same          | 300 OHMS          | 5.7 MC         | S.W.                  | "LO" End          | S.W. Osc.          | L-103 (9Y5S)              |
|                    | 5                    | Same                  | Same          | Same              | 18.5 MC        | Same                  | 18.5 MC           | S.W. Osc.          | C-106 "                   |
|                    | 6                    | Same                  | Same          | Same              | 6.1 MC         | Same                  | 6.1 MC            | S.W. Ant.          | L-101 "                   |
|                    | 7                    | Same                  | Same          | Same              | 17.75 MC       | Same                  | 17.75 MC          | S.W. Ant.          | C-102 (Rock In) "         |
| S.B. Alignment     | 8                    | Repeat steps 4 to 7.  |               |                   |                |                       |                   |                    |                           |
|                    | 9                    | Ant Coil Terminal     | Same          | 47 MHF            | 530 KC         | S.B.                  | "LO" End          | S.B. Osc.          | L-104 (9Y5S)<br>L-4 (9Y5) |
|                    | 10                   | Same                  | Same          | Same              | 1630 KC        | Same                  | 1630 KC           | S.B. Osc.          | C-105 (9Y5S)<br>C-6 (9Y5) |
|                    | 11                   | Same                  | Same          | Same              | 600 KC         | Same                  | 600 KC            | S.B. Ant.          | L-102 (9Y5S)<br>L-2 (9Y5) |
|                    | 12                   | Same                  | Same          | Same              | 1500 KC        | Same                  | 1500 KC           | S.B. Ant.          | C-10 (9Y5S)<br>C-2 (9Y5)  |
|                    | 13                   | Repeat steps 9 to 12. |               |                   |                |                       |                   |                    |                           |

NOTE: When aligning Model 9Y5 receiver, follow steps 1, 2, 3, 9, 10, 11, 12, and 13. When aligning Model 9Y5S receiver, follow steps 1 to 13 inclusive.



Fig. 7—The Dial Scale drawing shown is a full size reproduction. It can be used as a reference in alignment procedure. (9Y5S)

## REPLACEMENT PARTS FOR MODEL 9Y5-9Y5S

Insist on genuine factory tested parts, which are readily identified and may be purchased from authorized dealers.

| Stock No.               | Description                                                         | List Price | Stock No.                        | Description                                          | List Price |
|-------------------------|---------------------------------------------------------------------|------------|----------------------------------|------------------------------------------------------|------------|
| <b>CHASSIS ASSEMBLY</b> |                                                                     |            | <b>CHASSIS ASSEMBLY (Cont'd)</b> |                                                      |            |
| S-5460                  | Capacitor, cermaic 8MMF (C-109)                                     |            | .....                            | Resistor - 120 ohms $\pm$ 10% 1 watt (R19)           |            |
| S-5385                  | " 10 MMF. $\pm$ 10% (C-20)                                          |            | .....                            | " - 1000 ohms $\pm$ 10% $\frac{1}{2}$ watt (R21)     |            |
| S-5461                  | " ceramic 12 MMF. (C104)                                            |            | .....                            | " - 8200 ohms $\pm$ 10% $\frac{1}{2}$ " (R7)         |            |
| 39643                   | " mica 430 MMF. (C108)                                              |            | .....                            | " - 15,000 ohms $\pm$ 10% $\frac{1}{2}$ watt (R18)   |            |
| S-4523                  | Capristor, 56 MMF & 33 ohms (C-8, C-3)                              |            | .....                            | " - 22,000 " $\pm$ 20% $\frac{1}{2}$ watt (R2)       |            |
| S-4614                  | " 2 - 105 MMF. & 47,000 ohms (C-16, C-17, R-6)                      |            | .....                            | " - 33,000 " $\pm$ 10% " (R16)                       |            |
| S-4221                  | Capacitor, 220 MMF. $\pm$ 20% (C-3, C-24)                           |            | .....                            | " - 39,000 " $\pm$ 10% " (R4)                        |            |
| .....                   | " .003 Mfd. $\pm$ 10% (C-23)                                        |            | .....                            | " - 220,000 " $\pm$ 10% " (R2A)                      |            |
| .....                   | " .005 Mfd. $\pm$ 10% 200 V. (C-13)                                 |            | .....                            | " - 270,000 " $\pm$ 10% " (R10, R12)                 |            |
| .....                   | " .005 Mfd. 500 V. (C-12, C-15)                                     |            | .....                            | " - 330,000 " $\pm$ 10% " (R8)                       |            |
| .....                   | " .005 Mfd. $\pm$ 10%, 600 V. (C28, C29)                            |            | .....                            | " - 470,000 " $\pm$ 10% " (R5A)                      |            |
| .....                   | " .01 Mfd. $\pm$ 20%, 200 V. (C26)                                  |            | .....                            | " - 470,000 " $\pm$ 20% " (R17, R20)                 |            |
| .....                   | " Ceramic, .01 Mfd. 500 V. (C21-C27-C11)                            |            | .....                            | " - 1.0 Megohm $\pm$ 20% " (R1)                      |            |
| .....                   | " .015 Mfd. $\pm$ 10%, 200 V. (C22)                                 |            | .....                            | " - 3.3 " $\pm$ 20% " (R5)                           |            |
| S-5409                  | " .025 Mfd. (Resonant at 455 KC) (L5, C7)                           |            | .....                            | " - 10 " $\pm$ 20% " (R9, R11)                       |            |
| .....                   | " .035 Mfd. $\pm$ 10%, 400 V., (C32)                                |            | S-5306                           | Switch - range switch (9Y5S) (S3, S4)                |            |
| .....                   | " .05 Mfd. $\pm$ 20%, 200 V. (C4-C25)                               |            | S-5307                           | Switch - radio-phono switch (9Y5) (S1)               |            |
| .....                   | " .05 Mfd. $\pm$ 10%, 400 V., (C7A)                                 |            | S-5410                           | Selenium rectifier                                   |            |
| .....                   | " .1 Mfd. $\pm$ 10%, 400 V., (C14)                                  |            | S-5304                           | Transformer - 1st I.F. transformer (L6, L7, C9, C10) |            |
| S-5313                  | " Electrolytic, 50-80 Mfd. (C30, C31)                               |            | S-5305                           | " - 2nd I.F. " (L8, L9, C18, C19)                    |            |
| S-5311                  | Condenser - gang condenser (9Y5) (C1-C2-C5-C6)                      |            | S-5310                           | " - Output transformer (T1)                          |            |
| S-5312                  | " - gang condenser (9Y5S) (L01, C102, C106, C107)                   |            | <b>SPEAKER ASSEMBLY</b>          |                                                      |            |
| S-5308                  | Control - volume control 500,000 ohms (R15)                         |            | S-5315                           | Cone & voice coil assembly (L12)                     |            |
| S-5309                  | " - tone control & power switch (R14, S2)                           |            | <b>MISCELLANEOUS ASSEMBLY</b>    |                                                      |            |
| S-5299                  | Coil - ant. coil (9Y5) (L1-L2)                                      |            | S-4313                           | Cord - dial cord (standard)                          |            |
| S-5301                  | " - osc. coil (9Y5) (L3-L4)                                         |            | S-5397                           | Dial - dial scale (9Y5)                              |            |
| S-5298                  | " - coil S.B. ant. coil (9Y5S) (L102)                               |            | S-5296                           | Dial - dial scale (9Y5S)                             |            |
| S-5300                  | " - S.B. osc. coil (9Y5S) (L104)                                    |            | S-5293                           | Knob - (Radio-Phono, Sw. Knob) (9Y5)                 |            |
| S-5302                  | " - S.W. ant. coil (9Y5S) (L101)                                    |            | S-5294                           | " - (Volume control knob)                            |            |
| S-5303                  | " - S.W. osc. coil (9Y5S) (L103)                                    |            | S-5295                           | " - (Tone control & tuning)                          |            |
| S-5459                  | Resistor - 13.5 ohms at 104° C to 95 ohms at 38° C. $\pm$ 20% (R23) |            | S-5525                           | " - (Range switch knob) (9Y5S)                       |            |
| .....                   | " - 50 ohms (R22)                                                   |            | S-5314                           | Pointer - dial pointer                               |            |
|                         |                                                                     |            | S-5411                           | Decalcomania                                         |            |
|                         |                                                                     |            | S-5412                           | Lid support                                          |            |

Only items listed under stock numbers are available as Replacement Parts.

All parts and prices subject to change or withdrawal without notice.