

R.C.A. Victor Co., Inc.

Model: 35X

Chassis:

Year: Pre March 1942

Power:

Circuit:

IF:

Tubes:

Bands:

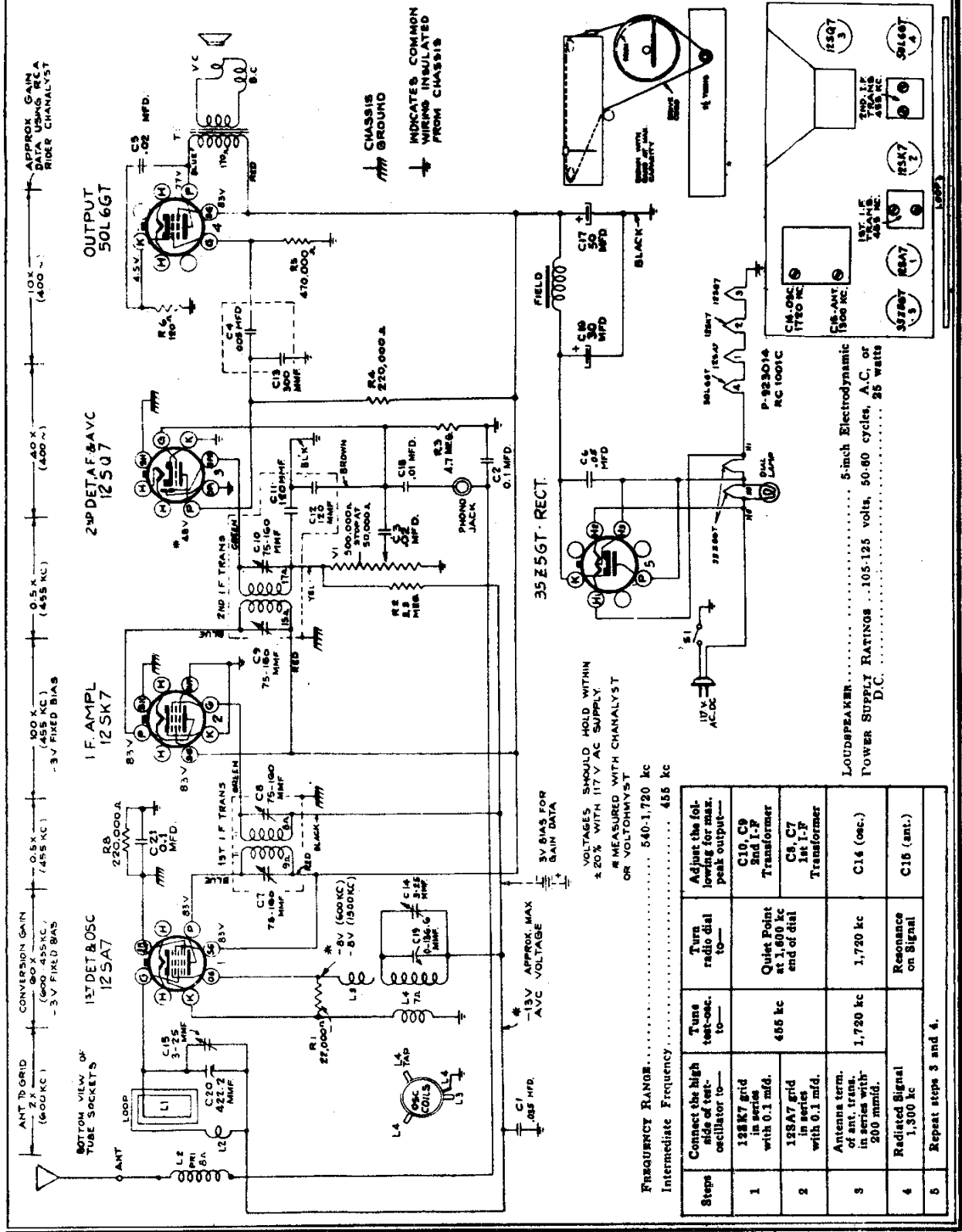
Resources

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RCA MFG. CO., INC.



APPROX GAIN DATA USING RCA RIDER CHANALYST

10X (400-)

0.5X (455 KC) (-3V FIXED BIAS)

0.5X (455 KC)

100 X (455 KC)

0.5X (455 KC)

10X (400-)

OUTPUT 50L6GT

2ND DET & AVC 12SK7

1F. AMPL 12SK7

1ST DET & OSC 12SA7

35Z5GT-RECT.

3V BIAS FOR GAIN DATA

VOLTAGES SHOULD HOLD WITHIN ±20% WITH 117V AC SUPPLY OR VOLTOHMYST

FREQUENCY RANGE..... 540-1,720 kc
Intermediate Frequency..... 455 kc

| Steps | Connect the high side of test-oscillator to— | Tune test-osc. to— | Turn radio dial to— | Adjust the following for max. peak output— |
|-------|---|---------------------|-------------------------------------|--|
| 1 | 12SK7 grid in series with 0.1 mfd. | 455 kc | Quiet Point at 1,600 kc end of dial | C10, C9 2nd I-F Transformer |
| 2 | 12SA7 grid in series with 0.1 mfd. | 1,720 kc | 1,720 kc | C8, C7 1st I-F Transformer |
| 3 | Antenna term. of ant. trans. in series with 200 mmfd. | 1,720 kc | 1,720 kc | C16 (osc.) |
| 4 | Radiated Signal 1,300 kc | Resonance on Signal | Resonance on Signal | C15 (ant.) |
| 5 | Repeat steps 3 and 4. | | | |

LOUDSPEAKER..... 5-inch Electrodynamic
POWER SUPPLY RATINGS... 105-125 volts, 50-60 cycles, A.C., or D.C.

CHANGES, NOTES

RCA MFG. CO., INC.

25X, 34X, 35X

Speakers RL-86-B1, RL-86-B4, 92379-1:

Three different speakers have been used on these models. The replacement parts are listed below:

| Stock No. | Description |
|-----------|------------------------------------|
| | (RL-86-B1, RL-86-B4) |
| 32907 | Cap—Dust cap |
| 39448 | Coil—Field coil—450 ohms. |
| 39447 | Cone—Cone complete with voice coil |

| Stock No. | Description |
|-----------|------------------------------------|
| | (92379-1) |
| 39995 | Coil—Field coil—350 ohms. |
| 39994 | Cone—Cone complete with voice coil |

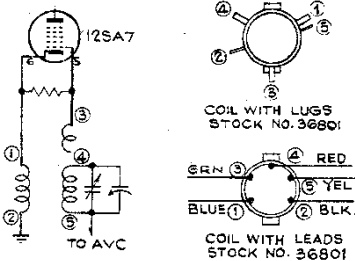
NOTE: If number stamped on your speaker frame does not appear on above list, order part required by description giving number stamped on your speaker and receiver model.

11X1, 35X

Oscillator Coil Connections:

The oscillator coil (Stock No. 36801) drawing, as shown in the service notes of Models 11X1 and 35X, is incorrect.

Two types of Stock No. 36801 coils are in use. One type has terminal lugs, the other has leads. Both types are shown in the accompanying sketch.



Oscillator Coil—Stock No. 36801

36X

Speakers RL-86-B1, RL-86-B4:

Two different speakers have been used on these models. The replacement parts are listed below:

| Stock No. | Description |
|-----------|------------------------------------|
| | (RL-86-B1, RL-86-B4) |
| 32907 | Cap—Dust cap |
| 39448 | Coil—Field coil—450 ohms. |
| 39447 | Cone—Cone complete with voice coil |

NOTE: If number stamped on your speaker frame does not appear on above list, order part required by description giving number stamped on your speaker and receiver model.

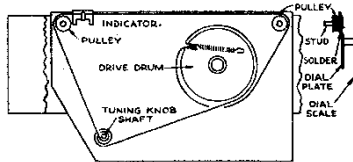
BT-42

Replacement Dial, Pulley, and Shaft:

A complete Dial Assembly (Stock No. 38781) consisting of dial plate, dial scale, pulleys, drive drum, drive cord and spring, shaft, lamp bracket, and terminal strip is available for replacement on the Model BT-42 receiver. However, the original assembly may be brought up to date by replacing the studs and shaft as follows:

File off the two old studs on the dial plate. Tin with solder, the surface (between dial and plate) around the stud holes, and insert the new pulley studs with the heads against the plate. Solder the studs so their heads are flat against the plate and the shanks are at right angles to the plate. The pulleys can now be slipped over the studs with the bearing surface toward the plate. Apply a drop of oil on each stud. Thread the drive cord as shown in the drawing.

| Stock No. | Description | Unit List Price |
|-----------|--|-----------------|
| 38781 | Dial assembly complete (New type, including Stock No. 38783 and 34124) | 2.50 |
| 38783 | Pulley (2 pulleys, 2 studs) | .25 |
| 34124 | Shaft (Shaft and spring washer) | .35 |



Dial Drive, Model BT-42

45X1, 45X2

Cabinet Replacement:

In order to use wooden cabinet Stock Number X912 as an alternate for plastic cabinets Y806 (Model 45X1) or Y807 (Model 45X2), the following is necessary:

- Remove the baffle and grille by removing three screws.
- Separate the grille from the baffle.
- Fasten the grille to the cabinet.
- Remove the two "L" shaped clamps from the wood blocks.
- Insert chassis and fasten by means of two wood screws screwed to blocks.

45X-1, 45X-2

Changes in 2nd Production:

The AVC filter resistor R4 is changed from 2.2 to 3.3 megs, Stock No. 12928. The output tube bias resistor, R8, is changed from 150 to 120 ohms, Stock No. 30189.

46X SERIES

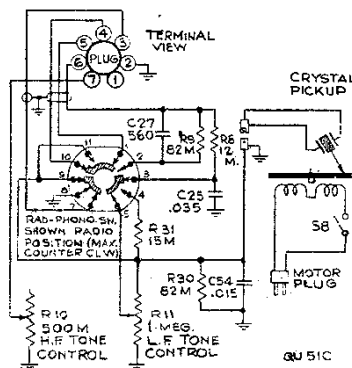
Dial Lamp Burnout:

In Models 46X-1, -2, -3, -11, -12, -13, -21, -23, -24, the dial lamp is Mazda No. 47 (1.5 amp.). In case of frequent burnout, Mazda No. 51 (2 amp.) can be used for replacement.

QU51C

Crystal Pickup Connections:

The schematic "Crystal Pickup Connections (QU51C)" in the QU51C service note is in error in the connections to switch terminals 7, 9, and 11. The correct schematic is shown in the accompanying sketch.



Crystal Pickup Connections, QU51C

QU52C, QU52M

Power Transformer:

Power transformer, Stock No. 32852, is incorrectly described in the Replacement Parts List of the QU52C, QU52M service note. The correct listing is as follows:

| Stock No. | Description | Unit List Price |
|-----------|---|-----------------|
| 32852 | Transformer—Power transformer, 105-125/200-240 volts, 50-60 cycle | 4.50 |

55X

"PM" Speaker 92388-1:

The cone and voice coil for this speaker is Stock No. 39572.

U-123 (TWO BAND TYPE)

Knob Stock Numbers:

In the Service Note for U-123, No. 81855 knob should read "Range-switch or radio-record switch knob." No. 14559 knob should read "tuning knob."

V-100

Phono Compensation Change:

Capacitor C17 across the pickup is changed from .015 to .01 mfd., Stock No. 4937.

V-105

Phono Compensation Change:

C17 and R16, shunted across the pickup are changed from .015 to .01 mfd. (Stock No. 4937), and from 47,000 to 68,000 ohms (Stock No. 13716).

Speaker No. 92322-2:

In some production of V-105, the speaker is stamped 92322-2. The cone and voice coil for this speaker is Stock No. 39536.

V-175

Motorboard Mounting:

In the Replacement Parts, under "Miscellaneous Assemblies," change the Stock No. of mounting spring hardware from 81470 to 39563.

V-175

Low Output and/or Distortion:

- Check the following—
- Rectifier tube 25Z6GT (slow in coming up to full plate voltage).
 - Output tube 25L6GT (usually accompanied by high hum).
 - Bias cell reversed. The negative side should connect to the grid of the 6SQ7. See accompanying sketch of bias-cell polarity.



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RCA MFG. CO., INC.

Q27

Capacitor C33:

C33 is changed from 18 to 15 mmfd., Stock No. 12896.

28T

C13 Connections Changed:

In some production, C13, from the plate of the RF tube, is connected to the switch, side of C8 instead of to the grid side of C8.

C51 Deleted:

In 2nd production, C51 (22 mmfd.), Stock No. 14021, connected from antenna terminal to chassis, is omitted.

28X

Change in 2nd Production:

In 1st production, a capacitor C47 is connected from chassis to the junction of R1 and R27 in the RF plate circuit. In 2nd production, C47 is omitted, and terminal 11 on the oscillator coil is connected to the junction of R1 and R27 instead of to the "plus B" bus.

28X, 28X-5

C4 Changed to 47 mmfd:

The oscillator grid capacitor is changed from 28 to 47 mmfd., Stock No. 18141.

28X, 28X-5

Hum Modulation:

This form of hum becomes evident when a station's carrier is tuned in, and disappears when the set is tuned between stations. The hum may be present on only a few locals, or on many stations, depending, among other things, on the type and installation of the a-c supply line.

If hum modulation exists, check to see that there is an .05 mfd., 400-volt capacitor connected from the plate of the 25Z6GT rectifier to -B. Add this capacitor if necessary. The capacitor acts to by-pass RF signals around the rectifier tube.

25X, 34X, 35X

Electrolytic Capacitor:

Under "Chassis Assemblies," in the Replacement Parts Lists of the above models, delete Stock No. 36301 Capacitor and add:

| Stock No. | Description | Unit List Price |
|-----------|---|-----------------|
| 35848 | Capacitor—Electrolytic comprising 1 section of 30 mfd., 150 volts (C19-25X; C16-34X, 35X) and 1 section of 20 mfd., 150 volts (C20-25X; C-17-34X, 35X)..... | .95 |

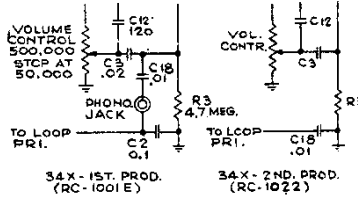
34X—2ND PROD. (RC-1022)

Service Data:

Model 34X—2nd Production (RC-1022) is similar to the 34X—1st Production (RC-1001-E) except as follows:

The phonograph jack has been omitted in 2nd production as shown in the accompanying sketches.

A different loop is used.



Circuit Changes, 2nd Production 34X

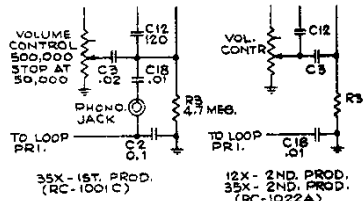
**35X—2ND PROD. (RC-1022-A)
12X—2ND PROD. (RC-1022-A)**

Service Data:

Models 12X—2nd Production and 35X—2nd Production are identical except for cabinet design. The RC-1022-A chassis used in both these receivers is similar to the RC-1001-C chassis used in Model 35X—1st Production, except that the phonograph jack of the 1st Production 35X has been omitted in the RC-1022-A chassis, as shown in the accompanying sketches.

For replacement parts list for both receivers, refer to the Service Notes for 35X (RC-1001-C) with the exception of the following parts used in the 12X—2nd Production and 35X—2nd Production:

| Stock No. | Description | Unit List Price |
|-----------|--|-----------------|
| 35348 | Capacitor — Electrolytic, comprising 1 section of 20 mfd., 150 volts (C17), and 1 section of 30 mfd., 150 volts (C16)..... | .95 |
| 36248 | Capacitor—.02 mfd..... | .20 |
| 34298 | Capacitor—.01 mfd..... | .30 |
| 34662 | Cord—Drive cord (approx. 33-in. overall length)..... | .25 |
| 39823 | Loop—Antenna loop..... | 1.43 |
| 31251 | Socket—Tube socket—wafer..... | .25 |
| 37605 | Socket—Tube socket—moulded..... | .25 |
| 37364 | Transformer—Second I. F. transformer..... | 1.35 |



Circuit Changes, 2nd Production 12X and 35X

29K2 (RC-570-D)

With 5-inch "EM" Speaker:

In 2nd production, the 5-inch speaker is changed from "PM" to "EM," as listed below:

SPEAKER ASSEMBLIES (RL-86B-5)

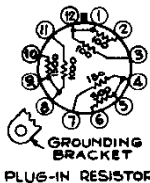
| Stock No. | Description |
|-----------|------------------------------------|
| 39543 | Coil—Field coil—450 ohms |
| 39587 | Cone—Cone complete with voice coil |
| 30870 | Plug—2-prong male plug for speaker |
| 5118 | Plug—3-prong male plug for speaker |

Q31, 5Q66

Ballast Resistor Correction:

In the Service Data for Q31, the resistance between terminals 6 and 7 of the ballast resistor M-91462-8 should be 480 ohms instead of 580 ohms.

In the Service Data for 5Q66, the connections inside the ballast resistor M-91462-1 should be as shown in the accompanying drawing.



Ballast M-91462-1 in 5Q66.

For replacement parts list, refer to the Service Notes for 34X (RC-1001-E) with the exception of the following parts used in the 34X—2nd Production (RC-1022):

| Stock No. | Description | Unit List Price |
|-----------|--|-----------------|
| 35348 | Capacitor—Electrolytic, comprising 1 section of 20 mfd., 150 volts (C17), and 1 section of 30 mfd., 150 volts (C16)..... | .95 |
| 12723 | Capacitor—.56 mmf..... | .35 |
| 39628 | Capacitor—.100 mmf..... | .35 |
| 36248 | Capacitor—.02 mfd..... | .20 |
| 34298 | Capacitor—.01 mfd..... | .30 |
| 34662 | Cord—Drive cord (approx. 33-in. overall length)..... | .25 |
| 35078 | Knob—Range switch knob..... | .15 |
| 39822 | Loop—Antenna loop..... | 1.70 |
| 31251 | Socket—Tube socket—wafer..... | .25 |
| 37605 | Socket—Tube socket—moulded..... | .25 |
| 37364 | Transformer—Second I. F. transformer..... | 1.35 |

SPEAKER ASSEMBLIES (RL-86B-1)

| | | |
|-------------------|---|------|
| 32907 | Cap—Dust cap..... | .02 |
| 39448 | Coil—Field coil—350 ohms..... | 1.30 |
| 39447 | Cone—Cone complete with voice coil..... | 1.20 |
| (RL-86B-4) | | |
| 32907 | Cap—Dust cap..... | .02 |
| 39448 | Coil—Field coil—350 ohms..... | 1.30 |
| 39447 | Cone—Cone complete with voice coil..... | 1.20 |
| (92379-1) | | |
| 39995 | Coil—Field coil—350 ohms..... | 1.50 |
| 39994 | Cone—Cone complete with voice coil..... | 1.20 |

NOTE: If the stamping on speaker in instrument does not agree with above speaker number, order replacement parts by referring to model number of instrument, number stamped on speaker, and full description of part required.

SPEAKER ASSEMBLIES (RL-86B-3)

| | | |
|-------------------|---|------|
| 32907 | Cap—Dust cap..... | .02 |
| 39448 | Coil—Field coil—350 ohms..... | 1.30 |
| 39447 | Cone—Cone complete with voice coil..... | 1.30 |
| (RL-86B-4) | | |
| 32907 | Cap—Dust cap..... | .02 |
| 39448 | Coil—Field coil—350 ohms..... | 1.30 |
| 39447 | Cone—Cone complete with voice coil..... | 1.30 |
| (92379-1) | | |
| 39995 | Coil—Field coil—350 ohms..... | 1.50 |
| 39994 | Cone—Cone complete with voice coil..... | 1.20 |

NOTE: If the stamping on speaker in instrument does not agree with above speaker number, order replacement parts by referring to model number of instrument, number stamped on speaker, and full description of parts required.

MISCELLANEOUS ASSEMBLIES

| | | |
|-------|---|------|
| 37906 | Back—Cabinet back (12X—2nd Prod.)..... | .35 |
| 39775 | Back—Cabinet back (35X—2nd Prod.)..... | .30 |
| 37362 | Clamp—Dial clamp (12X—2nd Prod.)..... | .20 |
| 37363 | Dial—Glass dial scale (12X—2nd Prod.)..... | .75 |
| 39780 | Dial—Glass dial scale (35X—2nd Prod.)..... | 1.50 |
| 37831 | Fastener—Push fastener (12X—2nd Prod.)..... | .10 |
| 37907 | Handle—Carrying handle (12X—2nd Prod.)..... | .30 |
| 35078 | Knob—Volume or tuning knob (12X—2nd Prod.)..... | .15 |
| 36722 | Knob—Volume or tuning knob (35X—2nd Prod.)..... | .20 |
| 37909 | Mounting—Carrying handle mounting hardware (12X—2nd Prod.)..... | .10 |