General Electric Co.

	Model: 106	**Chassis:**	**Year:** Pre 1948
	Power:	**Circuit:**	**IF:**
	Tubes:		
	Bands:		

Resources

- Riders Volume 21 - CHANGES 21-2
- Riders Volume 15 - GE 15-9
- Riders Volume 15 - GE 15-10

General Electric 50

This model appears on *pages 15-1 through 15-4 of Rider's Manual Volume XV*. The following items should be added to the parts list:

Symbol Part No.	*Description*
R4 RRC-013	1.0-megohm volume control
RJS-060	Tube socket, miniature tube socket for 35W4 rectifier
RJX-010	Assembly, tube socket and mounting plate assembly for 35W4 rectifier.
RHH-004	Snapfastener, for mounting cabinet-back.

General Electric 106

This model appears on *pages 15-9 through 15-10 of Rider's Manual Volume XV*. Part no. RJX-005 should be changed to read RJX-007. Delete part no. ROP-006. Add part no. UOX-001, cone, replacement speaker cone.

General Electric 115, 115W

These models appear on *page 18-13 of Rider's Manual Volume XVIII*. The following changes have been made in the parts list.

Delete catalogue numbers and parts RDK-121 and RDK-122.

Add the following:

RAG-019	Grille, for Model 115 and 115W
RDK-150	Knob and bezel, brown, for Model 115
RDK-151	Knob and bezel, white, for Model 115W.

General Electric 118, 119

These models appear on *pages 19-8 through 19-10 of Rider's Manual Volume XIX*. The following changes should be made in the parts list. RLC-001 should be changed to RLC-061, T4, coil, oscillator coil. RAY-054 should be RAV-054.

Add:

RAV-056	Cabinet, Model 119 (oak)
RDK-037	Knob, plain, fawn colored
RDK-040	Knob, with arrow, fawn colored
RHH-004	Snapfastener, holds cabinet back to cabinet on Model 118

General Electric 123, 124

These models appear on *pages 20-13 through 20-15 of Rider's Manual Volume XX*. The following changes should be noted in the replacement parts list. Item RDS-083 is a metal dial scale, tan color, with red and white figures. Later production receivers use the same type scale except for color. The later scale, cat. no. RDS-091, is gold in color, with brown and white figures.

The following catalogue numbers have been changed: URD-127 should read URD-137, R5, Resistor, 4.7 megohms, ½ w, carbon; RAU-037 should read RAU-307, Cabinet, Model 124 plastic cabinet (ivory).

General Electric 303

This model appears on *pages 15-37 through 15-39 of Rider's Manual Volume XV*. The symbol for RSW-019, switch, tone control switch, should read S4. Stock no. RMX-013 should be changed to read stock no. RMX-079.

General Electric 125

This model is identical mechanically and electrically to the late production Model 123 and 124 receivers, which appear on *pages 20-13 through 20-15 of Rider's Manual Volume XX*. Model 125 is identified by its maroon color plastic cabinet. The cabinet replacement is listed as: RAU-321, Cabinet, plastic, for Model 125.

General Electric 123, 124, 125, 135, 136, 226

Models 123, 124, and 125 appear on *pages 20-13 through 20-15 of Rider's Manual Volume XX*. Models 135 and 136 appear on *pages 20-16 through 20-18 of the same Volume*. Model 226 appears on *pages 20-27 through 20-29 of the same Volume*.

The grid resistor, URD-113, 470,000 ohms, ½ watt, carbon, has been changed in later production receivers to URD-121, 1 megohm. This change improved the audio gain.

General Electric 135, 136, 226

Models 135 and 136 appear on *pages 20-16 through 20-18 of Rider's Manual Volume XX*. Model 226 appears on *pages 20-27 through 20-29 of the same Volume*.

Late production receivers use a new type output transformer having a tapped primary. The tapped section to the B+ lead is connected in series with the power-supply filter resistor at the input filter capacitor. B+ ripple current through this winding is out of phase with ripple current to the receiver tubes, thus producing bucking voltage and reducing hum. The transformer leads are connected as follows: yellow to input filter capacitor, red to filter resistor, blue to plate of input tube, and secondary leads to speaker voice coil.

The new transformer, catalogue number RTO-078, will be carried in replacement stock in place of the original early production items RTO-063 and RTO-075 for the Models 135, 136, and 226, respectively.

General Electric 141, 143

Instability on the high end of the broadcast band might be caused by an oscillator coil whose coupling winding has changed its coupling capacitance. This defect can be corrected by replacing the coupling winding with a capacitor C15 of the value 56 $\mu\mu f$, catalogue number UCG-022. This capacitor connects the "high" side of the tuning capacitor C2 with the oscillator grid, pin 4, of the tube V1, 1R5.

Late production receivers always use capacitor C15 in conjunction with a new type of oscillator coil, RLC-101. This item replaces coil formerly catalogued RLC-089.

The hinge used in these receivers can easily be removed and replaced in the plastic cabinet or cover by the application of heat. To remove the hinge from the back cover or cabinet proper, heat the hinge at the half to be removed from the cabinet with a soldering iron. The hinge may then be pulled out of the groove of the plastic hinge recess. Since the cabinet plastic softens at a relatively low temperature, it will be unnecessary to apply the heat very long. To replace the hinge into the new unit, first start the hinge into the slotted recess in the plastic, then heat the hinge with the soldering iron and gently push the hinge into place.

General Electric 124, 135, 136

Model 124 appears on *pages 20-13 through 20-15 of Rider's Manual Volume XX*; Models 135 and 136 appear on *pages 20-16 through 20-18 of the same Volume*.

Where speakers have broken loose from cabinet mountings, or damage occurs when servicing receiver, the speaker can be remounted using screws in place of the original clips where the mounting bosses are broken. It is suggested that all four bosses be reworked to use screws for mounting, since the operation of removing the speaker may result in the breaking of additional bosses. The repair procedure is outlined as follows:

1. Cut off speaker mounting bosses and file flat to the level of the speaker baffle ring.
2. Drill hole 5/16-inch deep in each boss with #42 or 3/32-inch diameter drill.
3. Mount speaker with self-tapping screws #4 x ¼ inch long, Shakeproof Type 25, catalogue number RHS-044.

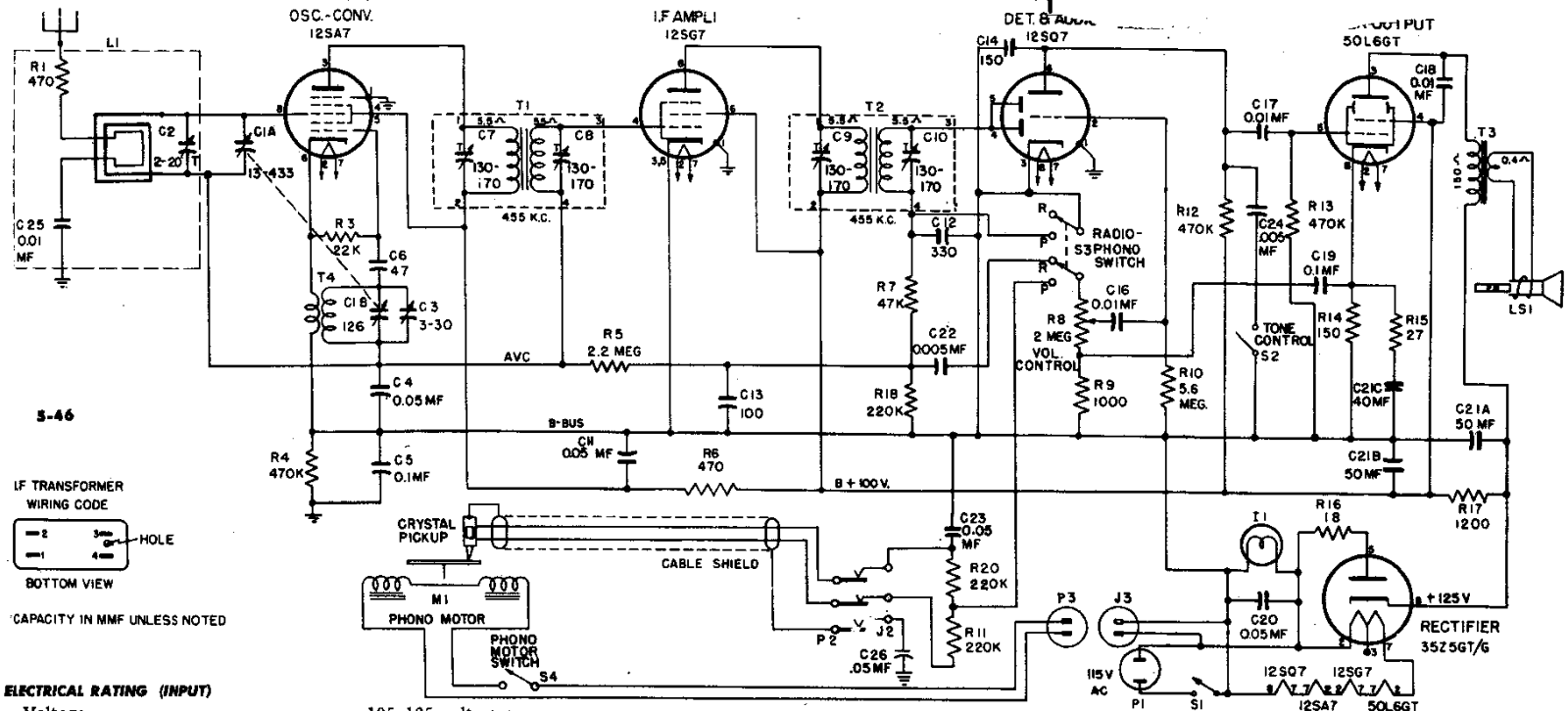
General Electric 233 Kaiser-Frazer

This model appears on *pages 18-29 through 18-36 of Rider's Manual Volume XVIII*. Noise in the form of rattle can be attributed to mechanical insecurity of parts, loose fittings, and screw fastenings, etc. Some of these are:

1. Loose tone control knobs and loose tone and volume control shafts may rattle against the cast grille. The keyway in the tone control shaft may be spread slightly to provide a tighter fit to the control knob.
2. If the shaft assembly seems loose or tends to rattle within the grille mounting hole, a ¾-inch length of #1 spaghetti (fabric or cambric tubing) may be slipped over the shaft assembly and into the bushing. This will displace the loose fitting and cushion against rattle.
3. Vibration of the screen which is set behind the case instrument panel grille causes a buzz sound when loose. The screen may be shimmed at its four corners to stabilize its mounting.

Suggestions for improving circuit and pick-up noise are as follows:

1. The former condition can be improved by antenna selection and careful peaking of the antenna trimmer to increase sensitivity and reduce noise. For metropolitan areas, a 62-inch antenna is quite adequate, while in outlying country areas the antenna length of 93 inches is recommended. Adjustment of the antenna trimmer is important and should not be overlooked. Every receiver installation should be adjusted for normal operation after the receiver has been operating approximately 15 minutes to reach normal operating temperatures, and with antenna fully extended. Tune in one of the weakest stations at approximately 1,200 kc, or near the higher-frequency end of the dial scale. Adjust trimmer for minimum noise level and maximum clarity on station used for test.
2. Noise pick-up may come from various sources, chiefly from ignition circuits of the car. The recommended noise suppressor and noise filter capacitor units should be checked. To eliminate wheel static insert about ½ ounce of powdered graphite through the valve of all four tire tubes. This will provide a ground leakage path to dampen static radiation.



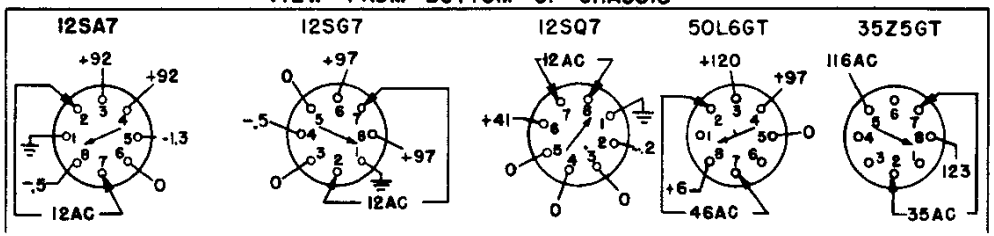
ELECTRICAL RATING (INPUT)

Voltage	105–125 volts a-c
Frequency	60 cycles
Wattage (Including Phonograph)	55 watts

OPERATING FREQUENCIES

Broadcast Band	540–1600 kilocycles
I-F Amplifier	455 kilocycles

VIEW FROM BOTTOM OF CHASSIS



CONDITION OF TEST

MEASUREMENTS TAKEN ON 20,000 OHMS PER VOLT-METER
MEASURED FROM PIN TO B- BUS UNLESS SHOWN OTHERWISE
117 VOLTS LINE
VOLUME CONTROL – CLOCKWISE
NO SIGNAL INPUT

STAGE GAIN AND VOLTAGE CHECKS

Stage gain measurements by vacuum tube voltmeter or similar measuring devices may be used to check circuit performance and isolate trouble. The gain values listed may have tolerances of 20 per cent. Readings taken with low signal input so that AVC is not effective.

(1) R-f Stage Gains.

Antenna post to 12SA7 grid	4 @ 1000 kc
12SA7 grid to 12SG7 grid	30 @ 455 kc
12SG7 grid to 12SQ7 diode plate	150 @ 455 kc

(2) Audio Gain.

0.06 volts at 400 cycles across volume control (R8) with control set at maximum will give approximately ½ watt output across speaker voice coil.

(3) Oscillator Grid Bias.

D-c voltage developed across the oscillator grid leak (R3) averages 7.7 volts at 1000 kc.

(4) Socket Pin Voltages.

Fig. 4 shows voltages from all tube pins to B—unless otherwise specified. Voltage readings much lower than those specified may help localize defective components or tubes.

PART NO.	SYMBOL	DESCRIPTION
UNIVERSAL G-E REPLACEMENT PARTS		
UCC-039	C22	CAPACITOR—0.005 mfd., 600 v., paper
UCC-040	C25	CAPACITOR—0.01 mfd., 600 v., paper
UCC-045	C4, 11, 23, 26	CAPACITOR—0.05 mfd., 600 v., paper
UCC-048	C5	CAPACITOR—0.1 mfd., 600 v., paper
UDL-018	I1	PILOT LAMP—115 v., 10 watt, candelabra base
UIC-001		CEMENT—Thermoplastic Cement
UOP-625	LS1	LOUDSPEAKER—6½" PM Speaker
URD-011	R15	RESISTOR—27 ohms, ½ w., carbon
URD-029	R14	RESISTOR—150 ohms, ½ w., carbon
URD-041	R1, 6	RESISTOR—470 ohms, ½ w., carbon
URD-049	R9	RESISTOR—1000 ohms, ½ w., carbon
URD-081	R3	RESISTOR—22,000 ohms, ½ w., carbon
URD-089	R7	RESISTOR—47,000 ohms, ½ w., carbon
URD-105	R18, 11, 20	RESISTOR—220,000 ohms, ½ w., carbon
URD-113	R4, 12, 13	RESISTOR—470,000 ohms, ½ w., carbon
URD-129	R5	RESISTOR—2.2 megohms, ½ w., carbon
URD-139	R10	RESISTOR—5.6 megohms, ½ w., carbon
URE-007	R16	RESISTOR—18 ohms, 1 w., carbon
URF-051	R17	RESISTOR—1200 ohms, 2 w., carbon
SPECIALIZED G-E REPLACEMENT PARTS		
RAA-002		ARM—Switch Arm
RAA-003		ARM—Tone Control Switch Arm
RAD-003		BRACKET—Top Bracket Support for Back Plate
RAD-004		BRACKET—Bottom Bracket Support for Back Plate
RAX-002		ASSEMBLY—Idler Pulley Assembly
RAX-003		BRACKET ASSEMBLY—Dial Drum Support
RBH-001	M1	ASSEMBLY—Phono-motor Assembly
RBK-004		ARMATURE—Motor Armature
RBX-001		ASSEMBLY—Phono-motor, Drive Wheel, and Mounting Plate Assembly
RCC-013	C19	CAPACITOR—0.1 mfd., 200 v., paper
RCC-039	C24	CAPACITOR—0.005 mfd., 600 v., paper
RCC-040	C16, 17, 18	CAPACITOR—.01 mfd., 600 v., paper
RCC-045	C20	CAPACITOR—.05 mfd., 600 v., paper
RCE-001	C21A, 21B, 21C	CAPACITOR—50 mfd., 150 v., 50 mfd., 150 v., 40 mfd., 25 v., dry electrolytic
RCT-002	C1A, 1B, 3	CAPACITOR—Tuning Capacitor
RCU-110	C6	CAPACITOR—47 mmf., 500 v., mica
RCU-112	C13	CAPACITOR—100 mmf., 500 v., mica
RCU-113	C14	CAPACITOR—150 mmf., 500 v., mica
RCU-115	C12	CAPACITOR—330 mmf., 500 v., mica
RCY-005	C2	CAPACITOR—2-20 mmf. trimmer
RDC-002		CORD—Dial Drive Cord and Spring
RDD-002		DRUM—Dial Drive Drum
RDE-002		ESCUTCHEON—Dial Scale Escutcheon

PART NO.	SYMBOL	DESCRIPTION
SPECIALIZED G-E REPLACEMENT PARTS (CONT'D)		
RDF-002		WASHER—Felt Washer for Control Knob
RDK-002		KNOB—Radio-phono Knob
RDK-003		KNOB—Volume Control Knob
RDK-005		KNOB—Tone Switch Wafer Knob
RDK-006		KNOB—Tuning Knob
RDP-001		POINTER—Dial Scale Pointer
RDS-003		SCALE—Dial Scale
RDX-025		ASSEMBLY—Back Plate Weld Assembly
RHC-003		PIN—Hairpin Cotter (Fan)
RHC-004		PIN—Hairpin Cotter (Spindle)
RHG-001		GROMMET—Tuning Capacitor Mounting Grommet
RHM-001		RING—Pointer Shaft Retaining Ring
RHM-006		CLIP—Speed Clip (Motor Board)
RHQ-001		TIRE—Rubber Tire (Phono-motor Idler)
RHU-001		SPACER—Scale Back Plate Spacer
RHU-002		SPACER—Tuning Capacitor Mounting Spacer
RIT-001		COVER—Electrolytic Capacitor Cover
RJP-003	P3	PLUG—Phono Power Plug
RJS-002		SOCKET—Pilot Light Socket
RJS-003		SOCKET—Octal Tube Socket
RJS-004		SOCKET—Electrolytic Capacitor Mounting Socket
RJS-049	J3	SOCKET—Phono Power Socket
RJX-005	P2	PLUG AND SOCKET—Phono Plug and Socket
RLC-018	T4	COIL—Oscillator Coil Assembly
RLL-002	L1	BEAM-A-SCOPE—Loop Antenna Assembly
RMM-008		SHIELD—Pilot Lamp Shield
RMS-006		SPRING—Idler Wheel Spring
RMT-001		TURNTABLE—9-inch diameter Turntable
RMU-002		SHAFT—Tuning Shaft
RMU-007		SPINDLE—Turntable Spindle
RMW-005		WHEEL—Phono Idler Wheel (with Rubber Gasket)
ROP-006	LS1	LOUDSPEAKER—6½-inch Permanent Magnet
RPC-014		PICK UP—Crystal Cartridge Pick-up
RPX-012		ARM—Tone Arm Assembly with Pick-up
RRC-001	R8, S1	VOLUME CONTROL—2.0 megohm Potentiometer (includes power switch)
RSS-001	S4	SWITCH—Phono Motor Switch
RSX-001		ASSEMBLY—Phono-motor Switch Assembly
RSX-002		ASSEMBLY—Phono-switch Arm Assembly
RSW-001	S3	SWITCH—Phono radio Switch
RSW-002	S2	SWITCH—Tone Control Switch
RTL-001	T1	TRANSFORMER—1st I-f Transformer
RTL-002	T2	TRANSFORMER—2nd I-f Transformer
RTO-001	T3	TRANSFORMER—Output Transformer
RWL-004		CORD—Power Cord and Plug

Part No. RJX-005 should be changed to read RJX-007. Delete Part No. ROP-006. Add Part No. UOX-001, CONE-Replacement speaker cone.

POWER OUTPUT

Undistorted	1.25 watts
Maximum	2.0 watts

LOUDSPEAKER

Type	Alnico P.M.
Outside Cone Diameter	6½ in.
Voice Coil Impedance (400 cycles)	3.5 ohms

PHONOGRAPH MECHANISM

Type	Manual
Pick-up	Crystal
Needle	Permanent Type
Turntable Speed	78 rpm

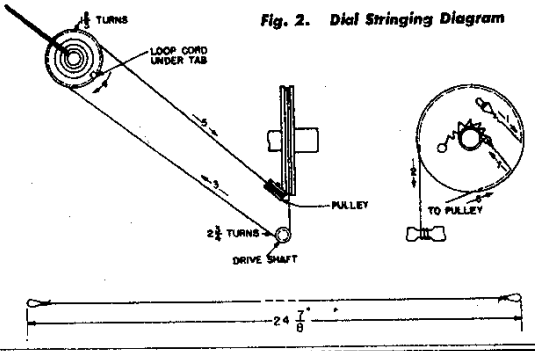


Fig. 2. Dial Stringing Diagram

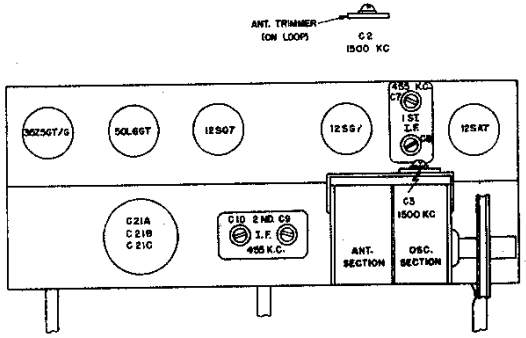


Fig. 1. Tube and Trimmer Location

ELECTRICAL CIRCUIT ALIGNMENT

EQUIPMENT REQUIRED

1. Test oscillator with audio tone modulation
2. A-c output meter, 1½ volts, full scale
3. 0.05 mf paper capacitor
4. 50 mmf mica capacitor
5. Insulated screwdriver

PROCEDURE—GENERAL 1. Turn dial scale pointer as far counterclockwise as possible. The pointer should coincide with the first marking at the left of the scale. If it doesn't, remove chassis and slip pointer on drum until pointer is under reference mark when chassis is bolted in place.

2. For i-f and r-f alignments, the output meter is connected across the loudspeaker voice coil terminals.
3. Keep radio volume control at maximum and attenuate test oscillator signal output so that the output meter reading never exceeds 1¼ volts.
4. The chassis must be removed from the cabinet during i-f alignment. For r-f alignment, bolt the chassis in the cabinet securely. The r-f trimmer is then available through the hole in the Beam-a-Scope assembly (back cover). The Osc. Trimmer can be reached when the back cover is tilted back.
5. Connect the capacitor as listed in column 2 between the output "High Side" of test oscillator and the point of input specified.

ALIGNMENT CHART

Step	Connect test oscillator to	Test osc. setting	Pointer setting on radio	Adjustment for maximum output
1	12SG7 grid in series with 0.05 mf. cap.	455 kc	1500 kc	2nd I-F Trans. Trimmers
2	12SA7 grid in series with 0.05 mf. cap.	455 kc	1500 kc	1st and 2nd I-F Trans. Trimmers
3	Ant. Post in series with 50 mmf.	1500 kc	1500 kc	C3 (Osc.)
4	Ant. Post in series with 50 mmf.	1500 kc	1500 kc	C2 (R-F)