MODELS G-64 AND G-655

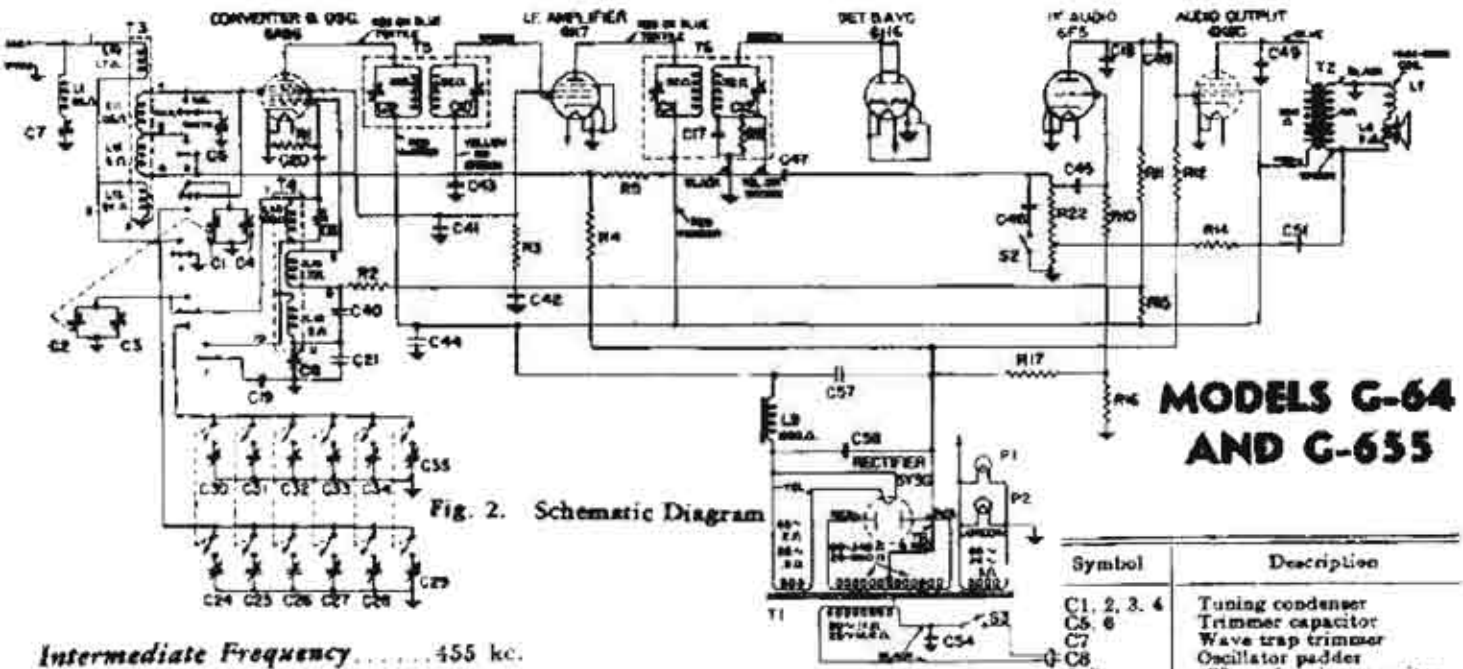

Fig. 2. Schematic Diagram

Intermediate Frequency.....455 kc.

Symbol	Description
C1, 2, 3, 4	Tuning condenser
C5, 6	Trimmer capacitor
C7	Wave trap trimmer
C8	Oscillator padder
C17	470 mmf., mica capacitor
C18	330 mmf., mica capacitor
C19	3900 mmf., mica capacitor
C20	47 mmf., mica capacitor
C21	370 mmf., mica capacitor
C24, 29	Antenna trimmer strip
C30, 35	Oscillator trimmer strip
C40	.001 mfd., paper capacitor
C41	.05 mfd., paper capacitor
C42	0.5 mfd., paper capacitor
C43, 44	.05 mfd., paper capacitor
C45	.01 mfd., paper capacitor
C46	.001 mfd., paper capacitor
C47, 48	.005 mfd., paper capacitor
C49	.012 mfd., paper capacitor
C51	0.1 mfd., paper capacitor
C54	.01 mfd., molded paper
C57	8 mfd., dry electrolytic
C58	8 mfd., dry electrolytic
R1	47,000 ohm, carbon resistor
R2	4,700 ohm, carbon resistor
R3	18,000 ohm, carbon resistor
R4	10.0 megohm, carbon resistor
R5	1.5 megohm, carbon resistor
R9	470,000 ohm, carbon resistor
R10	2.2 megohm, carbon resistor
R11, 12	330,000 ohm, carbon resistor
R14	33,000 ohm, carbon resistor
R15	3900 ohm, carbon resistor
R16	22 ohm, carbon resistor
R17	330 ohm, carbon resistor
R22	2.0 megohm, volume control
T1	Power transformer
T2	Output transformer
T3	Antenna transformer
T4	Oscillator transformer

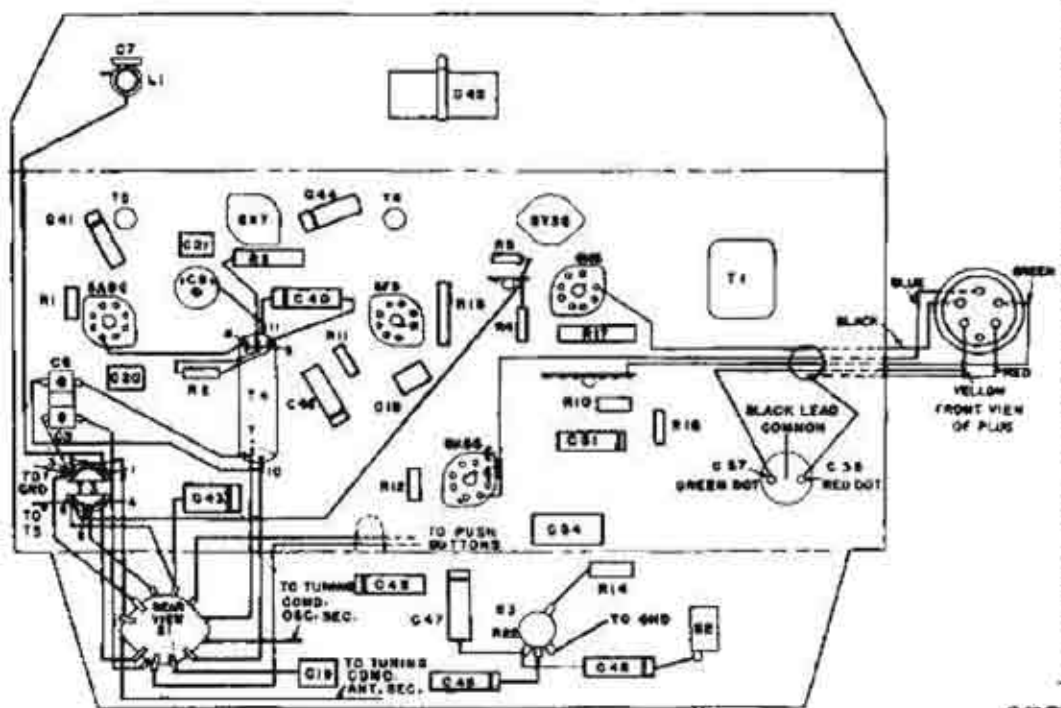

Fig. 3. Chassis Parts Layout

SERVICE DATA

Electrical Specifications

Rating Label	Power Supply (Volts)	Frequency (Cycles)	Power Consumption (Watts)
A	115–125	50–60	65
C	115–125	25–60	70
V	115–125 140–155 190–220 220–250	50–60	70

Tuning Frequency Range

Band "B".....540 to 1760 kc.
Band "D".....5700 to 18,300 kc.

Physical Specifications

	G-64	G-655
Model		
Height	11 inches	34 inches
Width	18⅛ inches	31 inches
Depth	7⅞ inches	11½ inches

Tuning Control Drive Ratio 10 to 1

Electrical Power Output

Undistorted.....2.0 watts
Maximum.....4.0 watts

Tone Control.....2 Point—
Bass and Normal

Loud-speaker—Electrodynamic

	G-655	G-64
Model		
Cone Diameter	12 inches	6.5 inches
Voice Coil Impedance (400 cycles)	3.5 ohms	3.5 ohms

KEYBOARD RADIOS

Models G-64 and G-655

MODELS G64, G65
Alignment, Voltage, Socket
Trimmers, Phono. Connections
Parts List, Dial Data

GENERAL ELECTRIC CO.

ALIGNMENT PROCEDURE

I.F. ALIGNMENT WITH OSCILLOSCOPE

Band Switch Setting	Input Freq.	Point of Input	Dummy Antenna	Trimmer	Comments
1. Band "B"	456 K.C. Sweep	I.F. Grid	06 Mfd. or Larger	2nd I.F. Sec. (C-12) 2nd I.F. Pri. (C-11)	Gang condenser plates wide open—connect audio input of oscilloscope to ground and to the junction of C-47 and R-8. Adjust trimmers in order mentioned for a single symmetrical curve of maximum amplitude. The resulting curve with input at converter grid is shown in Fig. 5
2. Band "B"	456 K.C. Sweep	Converter Grid	06 Mfd. or Larger	1st I.F. Sec. (C-10) 1st I.F. Pri. (C-9)	
3. Band "B"	456 K.C. Sweep	Antenna Post	250 Mmf. 200 Ohms	Wave Trap Trimmer (C-7)	Adjust trimmer for minimum amplitude.

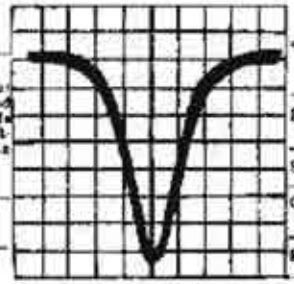

Fig. 5. Over-all I.F. Curve Taken on G-E Oscilloscope OPM-1

I.F. ALIGNMENT WITH OUTPUT METER

1. Band "B"	456 K.C. with Modulation	I.F. Grid	06 Mfd. or Larger	2nd I.F. Sec. (C-12) 2nd I.F. Pri. (C-11)	Gang condenser plates wide open—connect output meter across voice coil—keep input signal low and volume control on as far as possible. Adjust all trimmers for maximum output.
2. Band "B"	456 K.C. with Modulation	Converter Grid	06 Mfd. or Larger	1st I.F. Sec. (C-10) 1st I.F. Pri. (C-9)	
3. Band "B"	456 K.C. with Modulation	Antenna Post	250 Mmf. 200 Ohms	Wave Trap Trimmer (C-7)	Adjust trimmer for minimum output.

R.F. ALIGNMENT

1. Band "B"					Close gang condenser plates. Adjust pointer to first line at left end of tuning scale.
2. Band "B"	1500 K.C. with Modulation	Antenna Post	250 Mmf. 200 Ohms	Osc. (C-3) Ant. (C-4)	Connect output meter across voice coil—tone control on "bass" position—peak trimmers for maximum output with a low input signal.
3. Band "B"	580 K.C. with Modulation	Antenna Post	250 Mmf. 200 Ohms	Osc. Padder (C-8)	Adjust padder for a maximum output meter indication in vicinity of 580 kc. while rocking the gang condenser.
4. Band "B"	Repeat Operation 2				
5. Band "D"	18 M.C. with Modulation	Antenna Post	250 Mmf. 200 Ohms	Osc. (C-6) Ant. (C-5)	Peak C-6 for maximum output while rocking the gang condenser at the 18 mc. point. The image of any signal on "D" band should be heard 930 kc. below the input signal when proper peak is obtained on oscillator trimmer C-6. Example: 12 mc. image=11.09 mc.

Use a dummy antenna in making all alignments. The grid lead should not be removed from the tube to which the input signal is applied when aligning the I.F. amplifier.

GENERAL INFORMATION

Coil System

The "B" and "D" band antenna coils are wound on a single coil form (T-2) as shown in Fig. 2. T-1 is the oscillator transformer for both the "B" and "D" bands. All coil terminals are numbered in Fig. 2 and 3 to facilitate in service by showing common points on the schematic diagram, Fig. 9, and the pictorial wiring diagram, Fig. 2.

Phonograph Connections

Fig. 1 shows a simple sketch for connecting a crystal or high impedance magnetic pick-up into the receiver circuit for the reproduction of phonograph recordings. S-1 is either a rotary or toggle triple-pole, double-throw switch. A suitable loading circuit consisting of a resistor or resistor and capacitor network should be used across the pick up leads when using a crystal type unit. It is very important that the pick-up leads have a shield such as copper braid to prevent hum interference. This lead should be connected to the chassis ground.

The circuit should be opened between the top end of the volume control (R-22) and (C-47), and phonograph connections made as shown. This procedure requires removal of the chassis from the cabinet.

When the pick-up is connected as shown, the regular radio volume and tone controls work for both radio and phonograph reproduction. The parts suggested are:

Symbol	Description	Stock No.
Sp	Phono Switch	RS-366
Rp	350,000 Ohm Resistor	RQ-1319

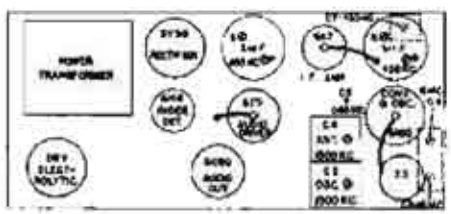

Fig. 4. Trimmer Locations

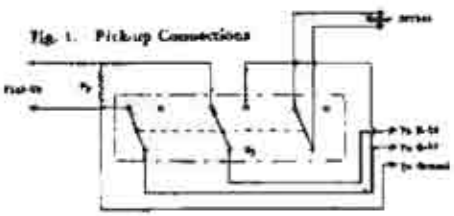

Fig. 1. Pickup Connections

VOLTAGE CHART

Tube No.	6A8G	6K7	6B6	6X5(G)	5T2G
Plate to -B volts	Conv.-230 Osc.-180	230	84 *	320	....
Screen to -B volts	95	95	....	225	....
Cathode to -B volts	0	0	0	0	350
Filament volts	6.6	6.6	6.6	6.6	5.2

A.C line voltage=120.
* Measured on 300 volt scale.

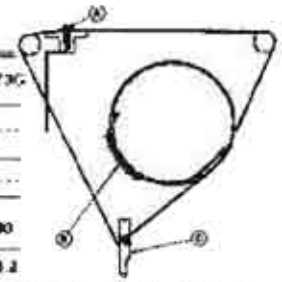

Fig. 6. Dial Drive Mechanism

REPLACEMENT PARTS LIST

MODELS G-64 AND G-655

Stock No.	Description	List Price
	CHASSIS ASSEMBLY	
*RB-008	BOARD—Terminal board (2 lug)	$0.10
RB-003	BOARD—Terminal board (6 lug)	.10
*RC-006	CAPACITOR—.001 mfd., 600 V. paper (C-46, 48)	.20
*RC-023	CAPACITOR—.005 mfd., 600 V paper (C-47, 48)	.25
*RC-030	CAPACITOR—.01 mfd., 200 V paper (C-45)	.25
RC-044	CAPACITOR—.012 mfd., 600 V paper (C-	.25
*RC-092	CAPACITOR—.05 mfd., 400 V paper (C-49) (1, 43, 44)	.30
*RC-304	CAPACITOR—0.1 mfd., 600 V paper (C-51)	.30
*RC-196	CAPACITOR—0.5 mfd., 600 V paper (C-49)	.75
RC-216	CAPACITOR—47 mmf., mica (C-20)	.25
*RC-274	CAPACITOR—330 mmf., mica (C-18)	.30
RC-285	CAPACITOR—370 mmf., mica (C-21)	.35
RC-294	CAPACITOR—470 mmf., mica (C-17)	.30
RC-390	CAPACITOR—3900 mmf., mica (C-19)	.35
RC-860	CAPACITOR—8 mfd., 450 V; 8 mfd., 450 V., dry electrolytic (C-37, 38)	1.40
RC-674	CAPACITOR—Wave trap trimmer (C-7)	.15
RC-698	CAPACITOR—Oscillator padder (C-8)	.40
RC-699	CAPACITOR—Trimmer capacitors "D" band (C-5, 6)	.80
RC-727	CONDENSER—Tuning condenser (C-1, 2, 3, 4)	2.25
RC-781	CAPACITOR—.01 mfd., 250 V. AC (C-54)	.80
RC-8103	CABLE—Speaker cable and plug	.80
*RC-868	CORD—Power cord	.60
RG-016	GRID CLIP—Control grid clip	.10
RK-027	KNOB—Winged control knob (Fig. 6)	.50
RK-028	KNOB—Plain control knob (Fig. 6)	.30
RL-051	COIL—Antenna coil bands "B & D"	1.15
RL-256	COIL—Oscillator coil bands "B & D"	.75
RL-600	COIL—Wave trap coil (L-1)	.60
*RQ-1318	RESISTOR—22 ohm, ½ W, carbon (R-18) (Fig. 5)	.70
*RQ-1275	RESISTOR—4,700 ohm, ½ W, carbon (R-3) (Fig. 5)	.70
*RQ-1295	RESISTOR—33,000 ohm, ½ W. carbon (R-14) (Fig. 5)	.70
*RQ-1299	RESISTOR—47,000 ohm, ½ W. carbon (R-1) (Fig. 5)	.70
*RQ-1319	RESISTOR—350,000 ohm, ½ W. carbon (R-11, 12) (Fig. 5)	.70
*RQ-1313	RESISTOR—470,000 ohm, ½ W. carbon (R-9) (Fig. 6)	.70
*RQ-1305	RESISTOR—1.5 megohm, ½ W. carbon (R-8) (Fig. 5)	.70
*RQ-1339	RESISTOR—2.2 megohm, ½ W. carbon (R-10) (Fig. 5)	.70
*RQ-1845	RESISTOR—10 megohm, ½ W. carbon (R-4) Fig. 5)	.70
*RQ-1447	RESISTOR—330 ohm, 1 W, carbon (R-17)	.30
*RQ-1473	RESISTOR—3900 ohm, 1 W. carbon (R-15)	.30
*RQ-1489	RESISTOR—18,000 ohm, 1 W carbon (R-3)	.30
*RS-200	SOCKET—Octal base tube socket (Fig. 6)	.75
*RS-204	SOCKET—Rectifier tube socket (Fig. 5)	.75
*RS-293	SOCKET—Socket for 6A8G (Fig. 5)	.80
RS-296	SOCKET—Lamp Socket Assembly	$0.10
RS-390	SWITCH—Tone control switch (S-2)	.35
RS-391	SWITCH—Band change switch (S-1)	.90
RT-0315	TRANSFORMER—Power transformer (50-60 cy.) (T-1)	4.30
RT-0317	TRANSFORMER—Power transformer (25 cy.) (T-1)	7.05
RT-0318	TRANSFORMER—Power transformer—Universal (T-1)	9.00
RT-280	TRANSFORMER—1st IF transformer (complete)	1.15
RT-285	TRANSFORMER—2nd IF transformer (complete)	1.40
RT-438	TRANSFORMER—Output transformer (T-2)	1.70
RV-040	VOLUME CONTROL—2 meg. volume control and power switch (R-22, S-3)	.95
*RW-102	WASHER—Felt washers for control knobs (Fig. 10)	.45
RX-046	ASSEMBLY—Gang condenser mounting assembly	.20
*RX-015	ASSEMBLY—Chassis mounting assembly	.10
	SPEAKER ASSEMBLY G-64	
RC-931	CONE—6½ inch cone and voice coil assembly	.50
RD-300	DUST CAP—6½ inch cone dust cap (Fig. 5)	.10
*RP-015	PLUG—Male speaker plug	.20
RS-998	SPEAKER—6½ inch speaker (less output trans.)	4.35
RX-047	ASSEMBLY—Speaker nuts and washers	.05
	SPEAKER ASSEMBLY G-655	
RC-932	CONE—12 inch cone and voice coil assembly	1.10
RD-301	DUST CAP—Speaker dust cap (Fig. 5)	.10
*RP-015	PLUG—Male speaker plug	.20
RS-999	SPEAKER—12 inch speaker (less output trans.)	6.00
RX-047	ASSEMBLY—Speaker nuts and washers	.05
	TOUCH-TUNING AND DIAL SCALE MECHANISM	
RB-817	BUTTON—Molded push button (Fig. 5)	.15
RC-8084	CORD—Drive cord (Fig. 5)	.70
RC-8033	CARD—Station letter card (set)	.45
RD-070	DRUM—Condenser drive drum	.20
RD-090	DIAL—Dial scale	1.35
RD-204	DRIVE—Drive shaft	.15
RE-088	ESCUTCHEON—Dial scale escutcheon	1.50
*RP-078	PULLEY—Pointer drive cord pulley (Fig. 6)	.20
RP-108	POINTER—Dial scale pointer	.15
RS-992	SWITCH—Touch-tuning switch (less trimmer strips)	2.25
*RS-422	SPRING—Drive cord tension spring (Fig. 5)	.20
RS-444	SPRING—Spring for molded push button (Fig. 10)	.10
RT-862	TRIMMER STRIP—Push button trimmer strip; osc. sec.	1.05
RT-863	TRIMMER STRIP—Push button trimmer strip; RF section	1.05
RW-027	WINDOW—Station letter windows (Fig. 23)	.40

* Used on previous productions.

(Prices subject to change without notice)