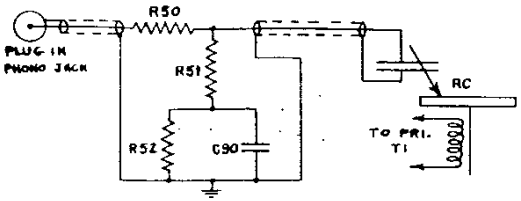
General Electric Co.

	Model: 35	Chassis:	Year: Pre March 1942
	Power:	Circuit:	IF:
	Tubes:		
	Bands:		

Resources
Riders Volume 13 - GE 13-81, 82
Riders Volume 13 - GE 13-83
Riders Volume 13 - GE 13-84



Symbol	Description	Symbol	Description
R50	100,000 ohms, carbon	R52	220,000 ohms, carbon
R51	150,000 ohms, carbon	C90	.002 mfd., paper

Fig. 4. Phonograph Schematic

ALIGNMENT PROCEDURE

The location of trimmers is shown in Fig. 3 and alignment procedure is given in table form below.

Before making the R.F. alignment make sure the pointer is set to the line at the extreme low frequency end of the dial scale when the gang condenser plates are closed. Output meter alignment is preferable and the meter may be connected across the voice coil leads, then turn volume control partially up. Keep the signal input as low as possible to avoid AVC action. NOTE—the wave trap trimmer C-12 is aligned to give minimum output.

Alignment Chart

Step	Connect Test—Osc. to	Test—Osc. Setting	Pointer Setting	Adjust Trimmers for Max. Output
1	1F grid in series with .05 mfd.	455 KC	Band "B" 550 KC	2nd IF primary and secondary
2	Conv. grid in series with .05 mfd.	455 KC	Band "B" 550 KC	1st IF primary and secondary
3	Ant. post in series with 200 mmf.	455 KC	Band "B" 550 KC	C-12 *
4	Ant. post in series with 200 mmf.	21 MC	Band "D" 21 MC	Osc. (C-8)** R.F. (C-5)*** Ant. (C-2)
5	Ant. post in series with 200 mmf.	6 MC	Band "C" 6 MC	Osc. (C-9)** R.F. (C-6) Ant. (C-3)
6	Ant. post in series with 200 mmf.	1500 KC	Band "B" 1500 KC	Osc. (C-10) R.F. (C-7) Ant. (C-4)
7	Ant. post in series with 200 mmf.	580 KC	Band "B" 580 KC	Osc. paddel (C-11)***
8	Repeat operation 6			

* Peak for minimum output
** Use minimum capacity peak
*** Rock gang condenser when making alignment

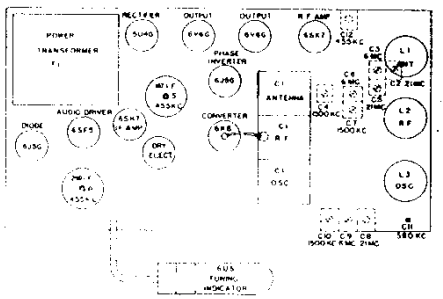


Fig. 3. Trimmer Location

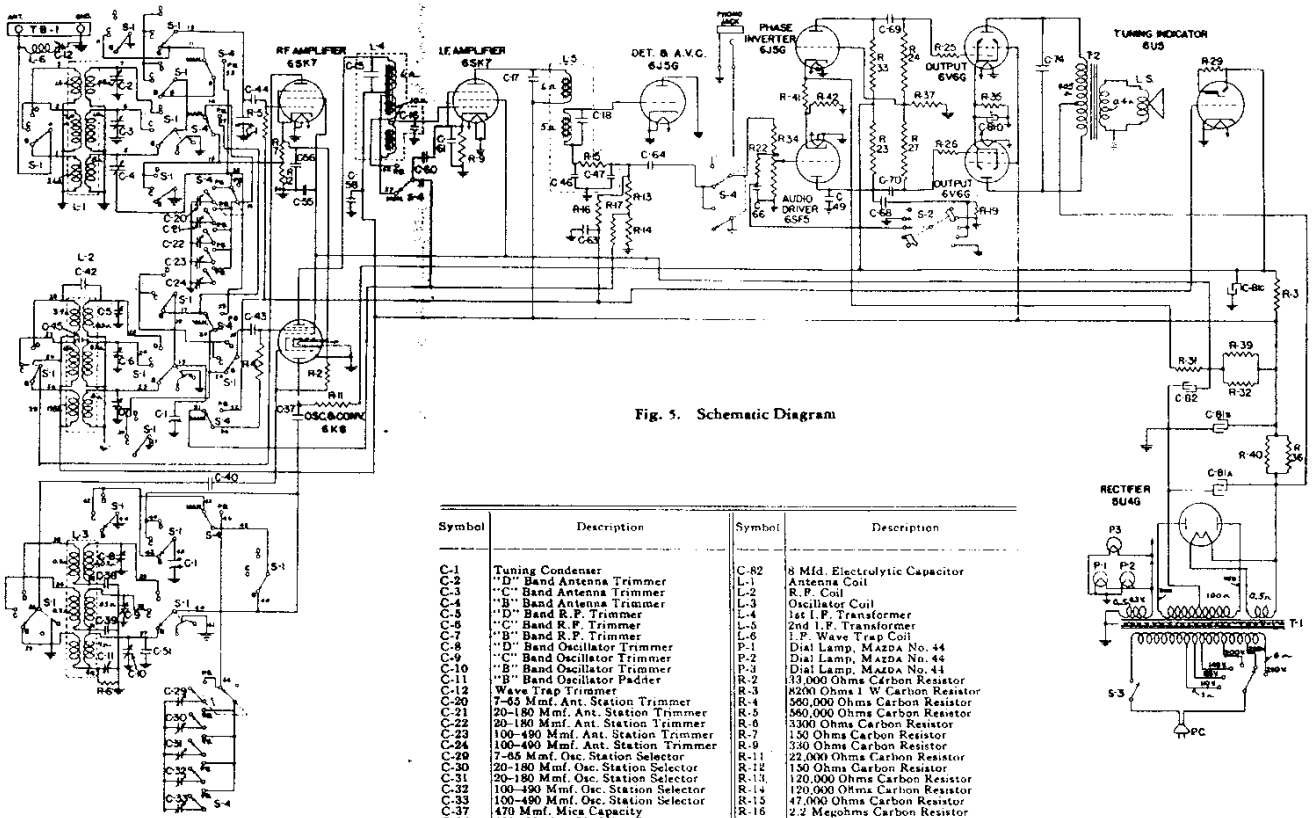


Fig. 5. Schematic Diagram

Symbol	Description	Symbol	Description
C-1	Tuning Condenser	C-82	8 Mfd. Electrolytic Capacitor
C-2	"D" Band Antenna Trimmer	L-1	Antenna Coil
C-3	"C" Band Antenna Trimmer	L-2	R. F. Coil
C-4	"B" Band Antenna Trimmer	L-3	Oscillator Coil
C-5	"D" Band R.F. Trimmer	L-4	1st I.F. Transformer
C-6	"C" Band R.F. Trimmer	L-5	2nd I.F. Transformer
C-7	"B" Band R.F. Trimmer	L-6	I.F. Wave Trap Coil
C-8	"D" Band Oscillator Trimmer	P-1	Dial Lamp, MAZDA No. 44
C-9	"C" Band Oscillator Trimmer	P-2	Dial Lamp, MAZDA No. 44
C-10	"B" Band Oscillator Trimmer	P-3	Dial Lamp, MAZDA No. 44
C-11	"B" Band Oscillator Padder	R-2	33,000 Ohms Carbon Resistor
C-12	Wave Trap Trimmer	R-3	8200 Ohms 1 W Carbon Resistor
C-20	7-65 Mmf. Ant. Station Trimmer	R-4	560,000 Ohms Carbon Resistor
C-21	20-180 Mmf. Ant. Station Trimmer	R-5	560,000 Ohms Carbon Resistor
C-22	20-180 Mmf. Ant. Station Trimmer	R-6	3300 Ohms Carbon Resistor
C-23	100-490 Mmf. Ant. Station Trimmer	R-7	150 Ohms Carbon Resistor
C-24	100-490 Mmf. Ant. Station Trimmer	R-9	330 Ohms Carbon Resistor
C-29	7-65 Mmf. Osc. Station Selector	R-11	22,000 Ohms Carbon Resistor
C-30	20-180 Mmf. Osc. Station Selector	R-12	150 Ohms Carbon Resistor
C-31	20-180 Mmf. Osc. Station Selector	R-13	120,000 Ohms Carbon Resistor
C-32	100-490 Mmf. Osc. Station Selector	R-14	120,000 Ohms Carbon Resistor
C-33	100-490 Mmf. Osc. Station Selector	R-15	47,000 Ohms Carbon Resistor
C-37	470 Mmf. Mica Capacity	R-16	2.2 Megohms Carbon Resistor
C-38	4300 Mmf. ±5% Mica Capacitor	R-17	1.5 Megohms Carbon Resistor
C-39	1600 Mmf. ±5% Mica Capacitor	R-19	1.0 Megohms Carbon Resistor
C-40	47 Mmf. Mica Capacitor	R-22	82,000 Ohms Carbon Resistor
C-42	22 Mmf. Mica Capacitor L. P. F.	R-23	100,000 Ohms Carbon Resistor
C-43	470 Mmf. Mica Capacitor	R-24	220,000 Ohms Carbon Resistor
C-44	470 Mmf. Mica Capacitor	R-25	10,000 Ohms Carbon Resistor
C-45	6 Mmf. Mica Capacitor L. P. F.	R-26	1000 Ohms Carbon Resistor
C-46	100 Mmf. Mica Capacitor	R-27	150,000 Ohms Carbon Resistor
C-47	100 Mmf. Mica Capacitor	R-29	1.0 Megohm Carbon Resistor
C-49	330 Mmf. Mica Capacitor	R-31	10,000 Ohms 2 W Carbon Resistor
C-51	10 Mmf. Compensating Capacitor	R-32	15,000 Ohms 2 W Carbon Resistor
C-55	.05 Mfd. Paper Capacitor	R-33	68,000 Ohms Carbon Resistor
C-56	.05 Mfd. Paper Capacitor	R-34	.2 Megohm Volume Control, ½ Megohm Tap
C-58	.05 Mfd. Paper Capacitor	R-35	180 Ohms 2 W Carbon Resistor
C-60	.05 Mfd. Paper Capacitor	R-36	4700 Ohms 2 W Carbon Resistor
C-61	.05 Mfd. Paper Capacitor	R-37	56,000 Ohms Carbon Resistor
C-63	.05 Mfd. Paper Capacitor	R-39	15,000 Ohms 2 W Carbon Resistor
C-64	.02 Mfd. Paper Capacitor	R-40	3300 Ohms 2 W Carbon Resistor
C-66	.003 Mfd. Paper Capacitor	R-41	330 Ohms Carbon Resistor
C-68	.008 Mfd. Paper Capacitor	R-42	82 Ohms Carbon Resistor
C-69	.05 Mfd. Paper Capacitor	S-1	Band Change Switch
C-70	.05 Mfd. Paper Capacitor	S-2	Tone Control Switch
C-74	.001 Mfd. 1500 V. Paper Capacitor	S-3	Power Switch
C-81A	40 Mfd. Electrolytic Capacitor	S-4	Touch Tuning Switch
C-81B	20 Mfd. Electrolytic Capacitor	T-1	Power Transformer
C-81C	5 Mfd. Electrolytic Capacitor	T-2	Output Transformer
C-81D	40 Mfd. Electrolytic Capacitor		

IMPORTANT

Although the schematic diagram indicates that this model is adaptable to line-voltages up to 250 volts, do not attempt to operate it from any power source other than 105-125 volts, 60 cycles as so doing will result in damage to the record changer.

MODEL 35

GENERAL ELECTRIC CO.

Musaphonic

RADIO-PHONOGRAPH COMBINATION

MODEL 35

SERVICE DATA

Cabinet Dimensions

Height ..... 41¾ in
Depth ..... 18 in.
Width ..... 23½ in.

Electrical Rating

Rating "A-6"—105–125 volts, 60 cycles, AC, 125 watts

Tuning Frequency Range

Band "B" ..... 540–1600 KC
Band "C" ..... 2200–7000 KC
Bnad "D" ..... 7000–22,000 KC

Intermediate Frequency ..... 455 KC

Electrical Power Output

Undistorted ..... 8 watts
Maximum ..... 12 watts

Loud-speaker—Permanent Magnet

Cone Diameter ..... 14 inches
Voice Coil Impedance (400 cycles) ..... 3.5 ohms

Tubes

R.F. Amplifier GE-6SK7
Converter-Oscillator GE-6K8
I.F. Amplifier GE-6SK7
Detector-AVC GE-6J5G/6J5GT
Audio Driver GE-6SF5
Audio Phase Inverter GE-6J5G/6J5GT
Power Output ..... (2) GE-6V6G
Rectifier GE-5U4G
Tuning Indicator GE-6U5
Dial Lamp ..... (3) MAZDA No. 44

FOR DATA COVERING RECORD CHANGER SIMILAR TO G.E. LRP-158, SEE RIDER'S "AUTOMATIC RECORD CHANGERS AND RECORDERS"

All antenna, R.F. and oscillator transformer switch terminals are numbered in the chassis parts layout drawing to facilitate the location of these common points on the schematic diagram.

Loud-speaker

The voice coil on the speaker is accurately and permanently centered at the factory and should seldom give trouble. In case a voice coil needs recentering it will be necessary to replace the entire cone and voice coil assembly. Assembly instructions accompany each replacement cone.

NOTE: In no case should the magnet be removed from the assembled position as it will lose magnetism.

SPECIAL SERVICE INFORMATION

The following information will be found very useful in servicing receivers if a vacuum tube voltmeter or similar voltage measuring instrument is available.

1. Stage Gains *
   a. Antenna Post to R.F. Amplifier Grid at
      1000 KC 5.0
      4000 KC 3.7
      18,000 KC 2.6
   b. R.F. Amplifier Grid to Converter Grid at
      1000 KC 14.0
      4000 KC 10.0
      18,000 KC ..... 10.0 **
   c. R.F. on Converter Grid to I.F. on 1st I.F. Grid at
      1000 KC ("B" Manual) 16.0
      4000 KC 30.0
      18,000 KC 34.0
   d. I.F. on Converter Grid to I.F. on 1st I.F. Grid at 455 KC ("B" Manual—Gang Closed) 24.0
   e. I.F. Amplifier Grid to Detector Grid at 455 KC 112.0
2. Voltage Across Volume Control to Give ½-watt Speaker Output at
   400 Cycles 0.05*
3. D.C. Voltage Developed Across Oscillator Grid Resistor (R-2) with gang closed
   "B" Band 6.2*
   "C" Band 7.8*
   "D" Band 4.8*

* Variations of +10%, −20% are permissible.
** On "D" band, stray oscillator voltage may upset reading.

VOLTAGE CHART

Tubes	Plate to Gnd. Volts	Screen to Gnd Volts	Cathode to Gnd. Volts	Filament Volts
6SK7 (R.F.)	235	95	4.7	6.3
6K8	Con.–235 Osc.–105	95	4.7	6.3
6SK7 (I.F.)	235	95	3	6.3
6J5G (Det.)	0		0	6.3
6SF5	120		1	6.3
6J5G (Inverter)	90		4	6.3
6V6G	290	230	12.5	6.3
5U4G	277 a.c.		300	5.1
6U5	170			6.3

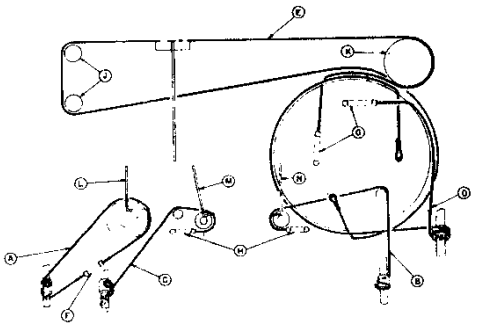


Fig. 1. Stringing Diagram

MODEL 35

GENERAL ELECTRIC CO.

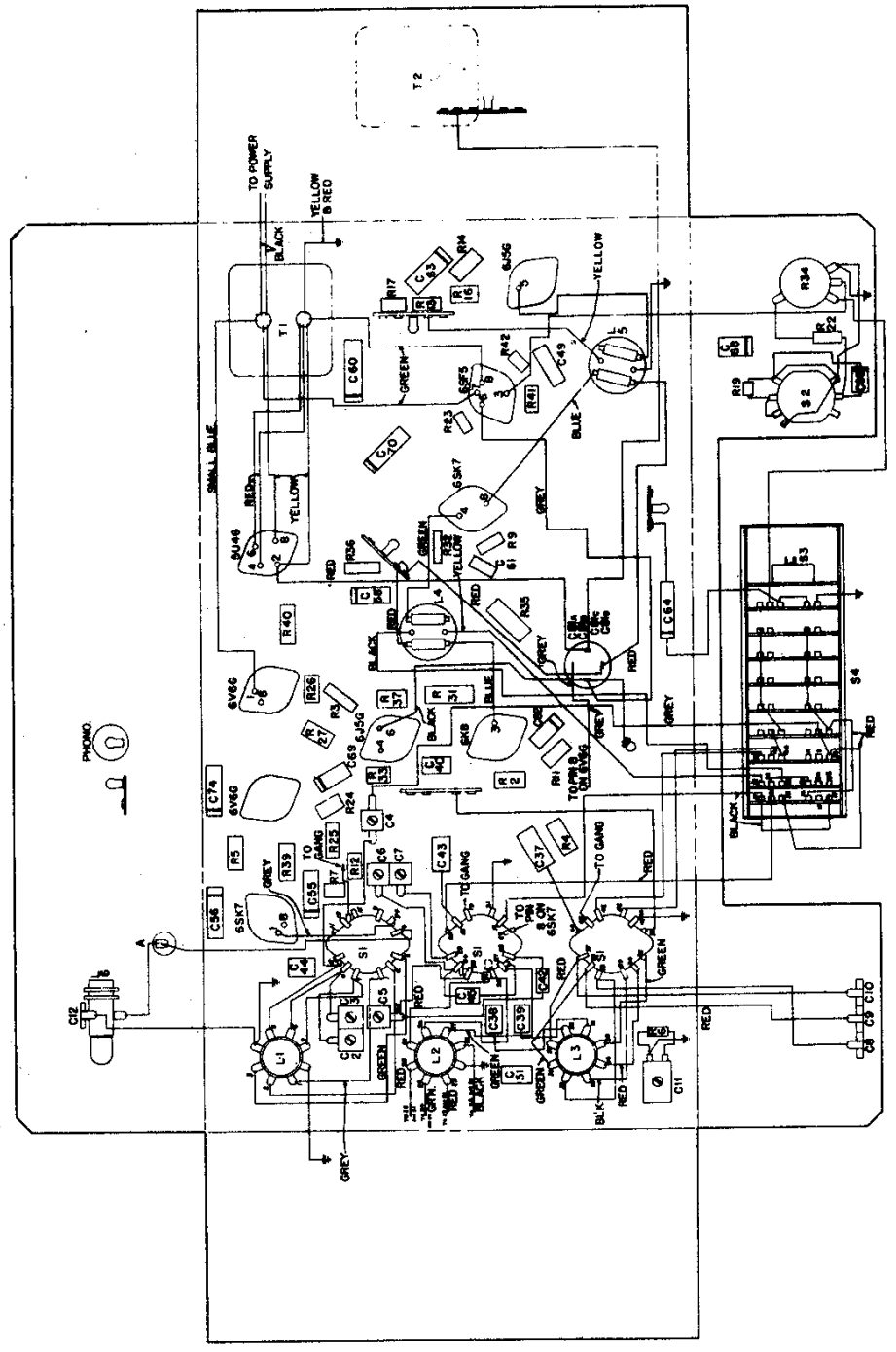


Fig. 2. Chassis Parts Layout