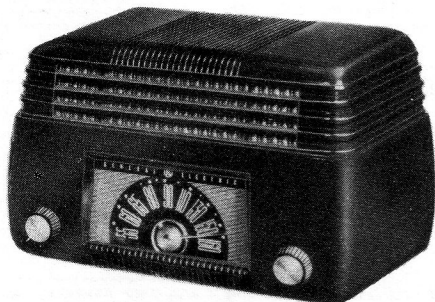
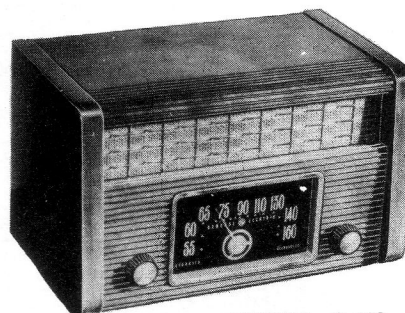


MODELS C-100, C-101, C-103, C-105

5-TUBE, SINGLE BAND, A-C D-C RADIO RECEIVERS



MODELS C-100 & C-101



MODELS C-103 & C-105

SPECIFICATIONS

CABINET

Model	100	101	103	105
Material	Plastic	Plastic	Wood	Wood
Color	Brown	Ivory	Mahogany	Maple
Height	7 1/2"	7 1/2"	8 1/4"	8 1/4"
Width	12"	12"	13"	13"
Depth	7 1/2"	7 1/2"	7 15/16"	7 15/16"

ELECTRICAL RATING (INPUT)

Voltage	105-117 volts a-c or d-c
Frequency on a-c	25 to 60 cycles
Wattage	40 watts

OPERATING FREQUENCIES

Broadcast Band	540-1600 kilocycles
I-F Amplifier	460 kilocycles

POWER OUTPUT (117 VOLTS LINE)

Undistorted	1.25 watts
Maximum	2.0 watts

LOUDSPEAKER

Type	Alnico P.M.
Outside Cone Diameter	5 1/4 in.
Voice Coil Impedance (400 cycles)	3.5 ohms

TUBE COMPLEMENT

Oscillator-Converter	Type 12SA7
I-F Amplifier	Type 12SG7
Detector-Audio	Type 12SQ7
Power Output	Type 50L6GT
Rectifier	Type 35Z5GT/G
Pilot Lamp	G-E, Type C7, 115-volt, 7-watt, clear, candelabra screw base

ELECTRICAL CIRCUIT ALIGNMENT

ALIGNMENT FREQUENCIES

R-F	1500 kilocycles
I-F	460 kilocycles

EQUIPMENT REQUIRED

1. Test oscillator with audio tone modulation
2. A-c voltmeter 1-1/2 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 counter-clockwise 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 drum on cord 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 1-1/4 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 rf and osc. trimmers are then available through the hole in the Beam-a-scope assembly when the back cover is removed.

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.	460 kc	1500 kc	2nd I-F Trans. Trimmers.
2	12SA7 grid in series with 0.05 mf. cap.	460 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)

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%. Readings taken with low signal input so that AVC is not effective.

(1) R-F Stage Gains.

Antenna post to 12SA7 grid 2.9 at 1000 c
12SA7 grid to 12SG7 grid 40 at 460 kc
12SG7 grid to 12SQ7 diode plate 120 at 460 kc

(2) Audio Gain.

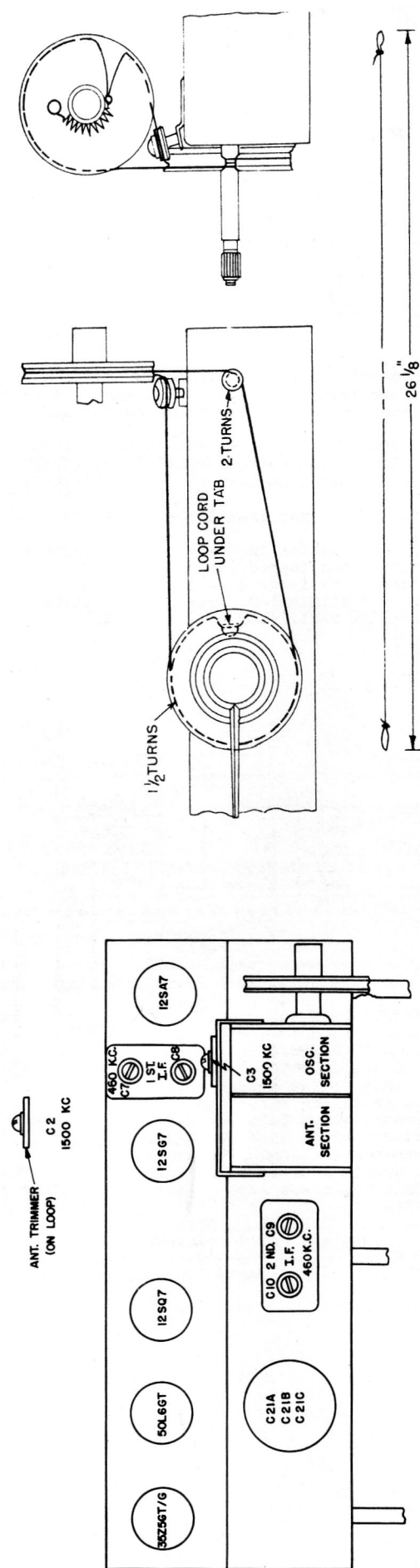
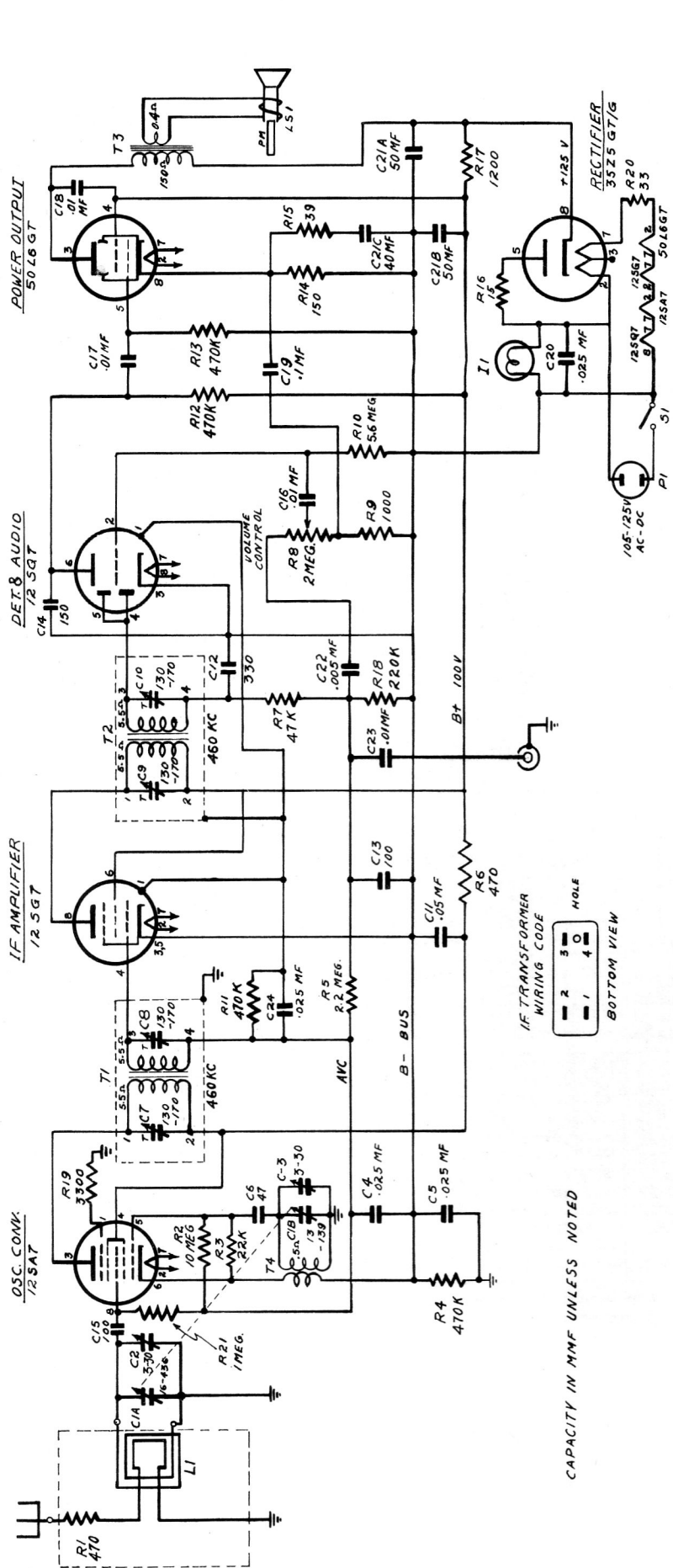
0.06 volts at 400 cycles across volume control (R8) with control set at maximum will give approximately 1/2 watt output across speaker voice coil.

(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.

Figure 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.



C-100
C-101
C-103
C-105

Fig. 2. Dial Stringing Diagram

The schematic diagram shown below should be referred to when servicing the C100, C103 and C105 radio receivers bearing serial numbers in the following blocks.

C100 serial numbers R98680 to R104679
C103 serial numbers R104680 to R107179.
C105 serial numbers R107180 to R108179

This series of machines incorporate the following changes.

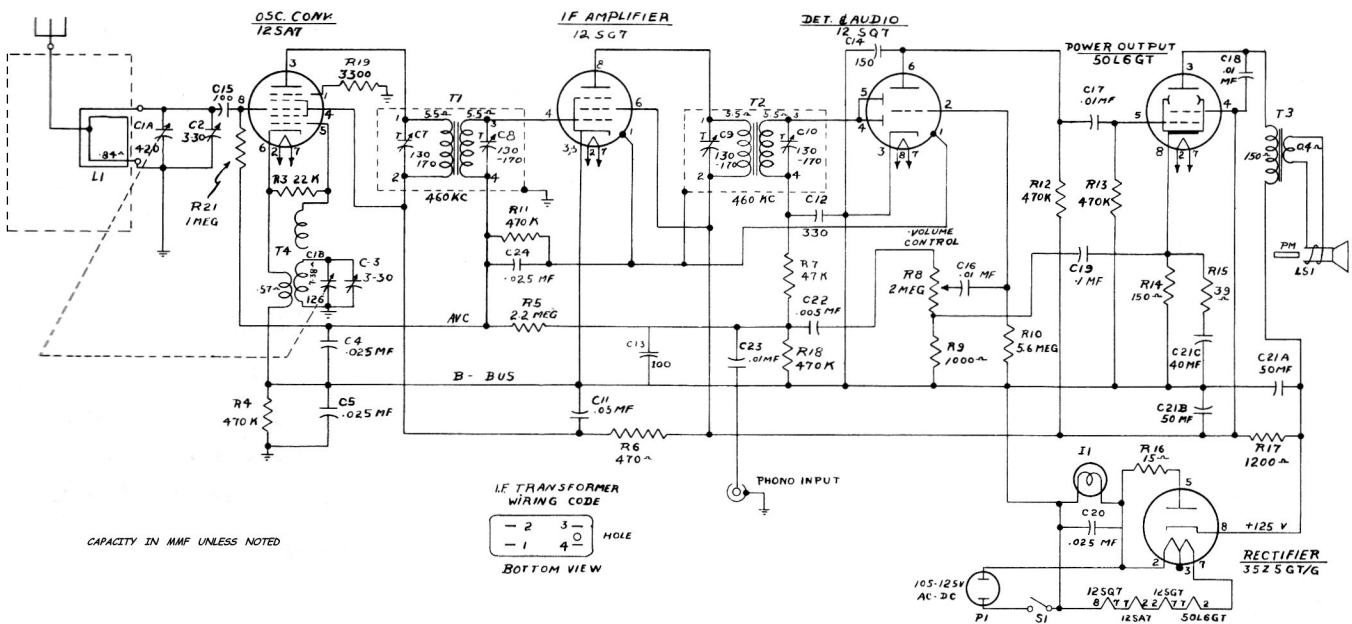
- R1 - 470 ohm resistor in the antenna circuit is eliminated and a tapped loop installed.
- R2 - 10 megohm resistor is eliminated.
- C6 - Has been eliminated from the oscillator circuit and a new oscillator coil is used.

A shorting bar has been added to the rotor of the oscillator section of the gang condenser to short out the oscillator when a record player is being used.

For alignment instructions and other data refer to C100, C101, C103, C105 Service instructions.

Special parts used on these receivers.

Part No.	Description
M8533559	Oscillator coil
M8533558-3	Loop & Back assembly (C100 only)
M8533558-4	Loop & Back assembly (C103 & C105)
P8534054-1	Tuning Capacitor
UCF 8134	Phono Socket
K8531689-1	Trimmer for tuning Capacitor



VIEW FROM BOTTOM OF CHASSIS

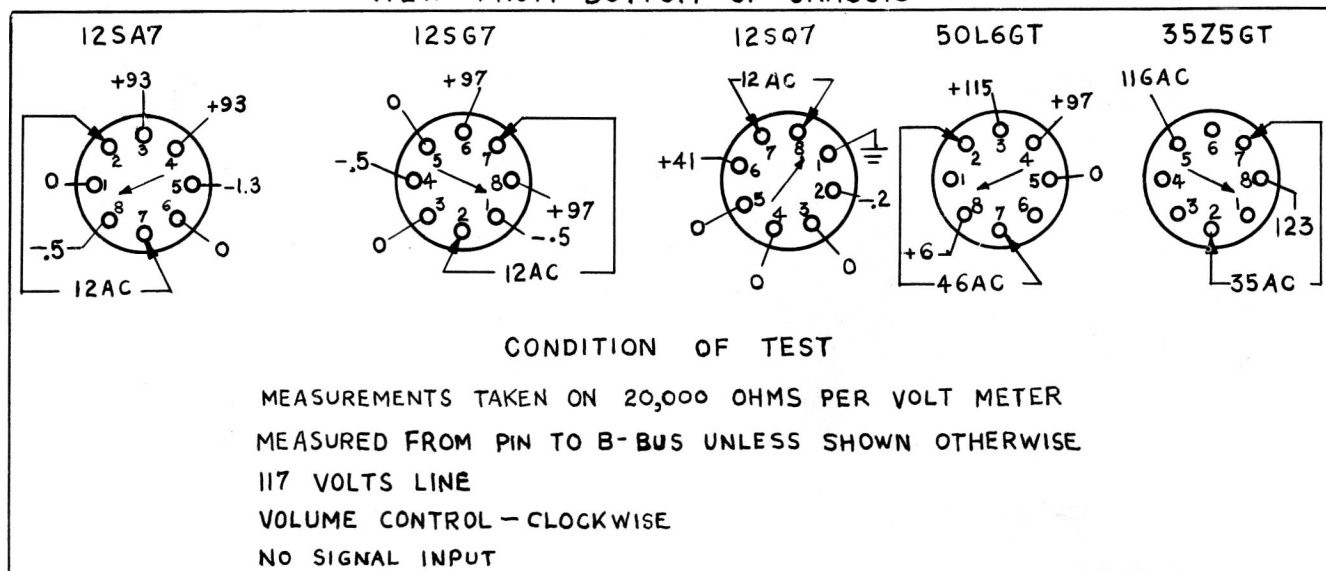


Fig. 3. Socket Voltage Diagram

REPLACEMENT PARTS LIST
Models C-100, C-101, C-103, C-105

Part No.	Symbol	Description	Part No.	Symbol	Description
Receiver Parts			P64J346-2	T-2	" - 2nd I.F.
M8533529-2	L-1	Beam-a-scope antenna and back assembly (C100)	K8531646-1	T-3	" - Output
M8533529-4	L-1	Beam-a-scope antenna and back assembly (C103 & C105)	K54J184-1	R-8,S-1	Volume Control- 2.0 meg. with power switch
K12J33-304	C-21-A, 21B, 21C	Capacitor-50 mf. 150v; 50 mf. 150v; 40 mf. 25v. dry electrolytic	Loudspeaker and Miscellaneous Parts		
P42J341-1	C1A,C1B, C-2,C-3	Capacitor Tuning	W49J140-1		Cabinet- Brown plastic for C100
K63J122		Clip- Speaker mounting clip " - Dial scale mounting clip for C100	V61J44-1		Cord- dial drive cord
V24J386		Clip- Dial scale mounting clip for C103, C105	K62J889-1		Drum- dial drive drum & shaft assembly
K63J250		Coil- Oscillator coil assm	P64J523		Escutcheon for dial scale for C103, C105
V8530055-1	T-4	Shaft-Tuning control shaft	M72J946-17		Knobs- for C103, C105
K65J158		Socket- for pilot lamp	M72J946-13		" " C100
V8530048-4		" - octal base	IRS525C-2	LS-1	Loudspeaker- 5-1/4" P.M.
C100-10		" - for electrolytic capacitor	K62J966		Pulley- idler pulley assm. ..
K62J179-5		Transformer- 1st I.F.	P64J571-1		Pointer- dial scale pointer
P64J346-1	T-1		K59J474-1		Ring- Pointer shaft retainer ring
			V23J562		Spring- dial cord spring
			K8531653-2		Scale- dial scale for C100 ..
			K8531653-1		" " " " C103, C105
			K47J454-3		Washer- felt- for knobs

IMPORTANT - Always quote model number of radio when ordering replacement parts.
Data subject to change without notice