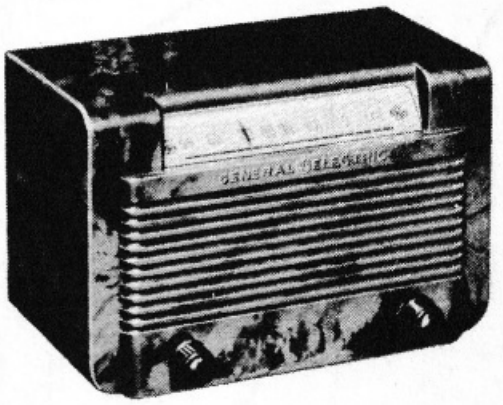
MODEL CL-500

5-TUBE, SINGLE BAND, A-C/D-C RADIO RECEIVER



MODEL CL-500

SERVICE DATA

Physical Dimensions

Height	6	inches
Width	9 1/4	inches
Depth	5 1/2	inches

Tuning Control Drive Ratio 7:1

Electrical Specifications

Rating ..... 105-117 volts, 25-60 cycles or 105-117 volts D-c; 30 watts.

Tuning Frequency Range ..... 540-1670 KC

Intermediate Frequency ..... 460 KC

Maximum Power Output ..... 1.5 watts

Loud-speaker - PM Dynamic

Outside cone diameter ..... 4 inches
Voice coil impedance (400 cycles) ..... 3.5 ohms

Tubes

Converter and oscillator GE-12SA7
IF Amplifier GE-12SK7
Detector, AVC, audio GE-12SQ7
Power output GE-50L6GT
Rectifier GE-35Z5GT
Dial lamp ..... Mazda No. 47

General Information

Model CL-500 is a five tube A-c/D-c superheterodyne receiver, housed in rich brown and onyx plastic cabinets.

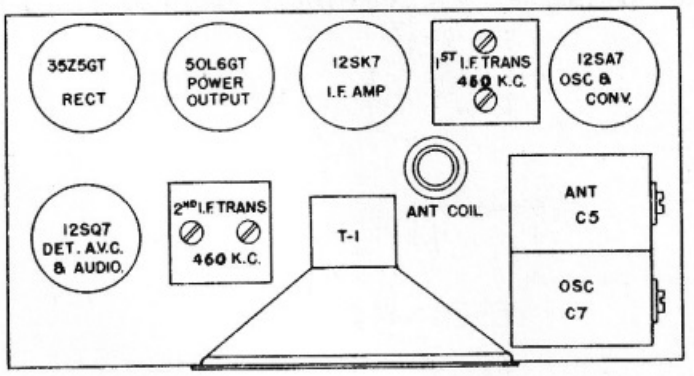


Fig. 1. Tube and Trimmer Location

ALIGNMENT PROCEDURE

Alignment Frequencies

IF	460 KC
RF	1500 KC

The location of all trimmers is shown in Fig. 1.

IF Alignment

Connect an output meter across the voice coil. Turn the volume control to maximum. Set test oscillator to 460 KC and keep the oscillator output as low as a readable meter reading will permit.

Apply signal to the converter grid through a .05 mfd. capacitor and align progressively the trimmers in the 2nd and 1st IF transformer cans.

RF Alignment

Close the gang condenser by rotating the tuning control. Slide the pointer along the cord until it lines up with the first dial marking on the left. Now rotate the tuning control until the pointer is over the 1500 KC dial mark. Apply a 1500 KC signal to the receiver antenna post through a standard I.R.E. dummy antenna. Align the oscillator trimmer (C-7) to bring in the signal and peak the signal by adjusting the antenna trimmer (C-5). (See Fig. 1 for trimmer locations.)

Precaution

If the signal generator is A-c operated, use an isolating transformer between the power supply and the radio receiver power input. The use of an isolating capacitor is not recommended as A-c current through the capacitor will introduce hum modulation and/or create the possibility of a burned-out signal generator attenuator.

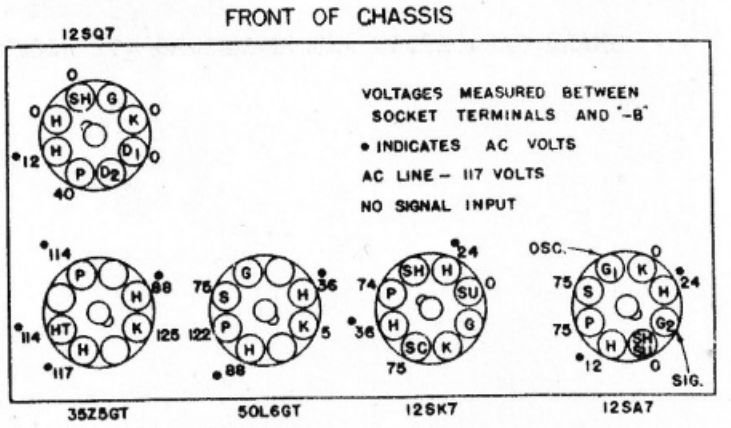


Fig. 2. Socket Voltages

SPECIAL SERVICE INFORMATION

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

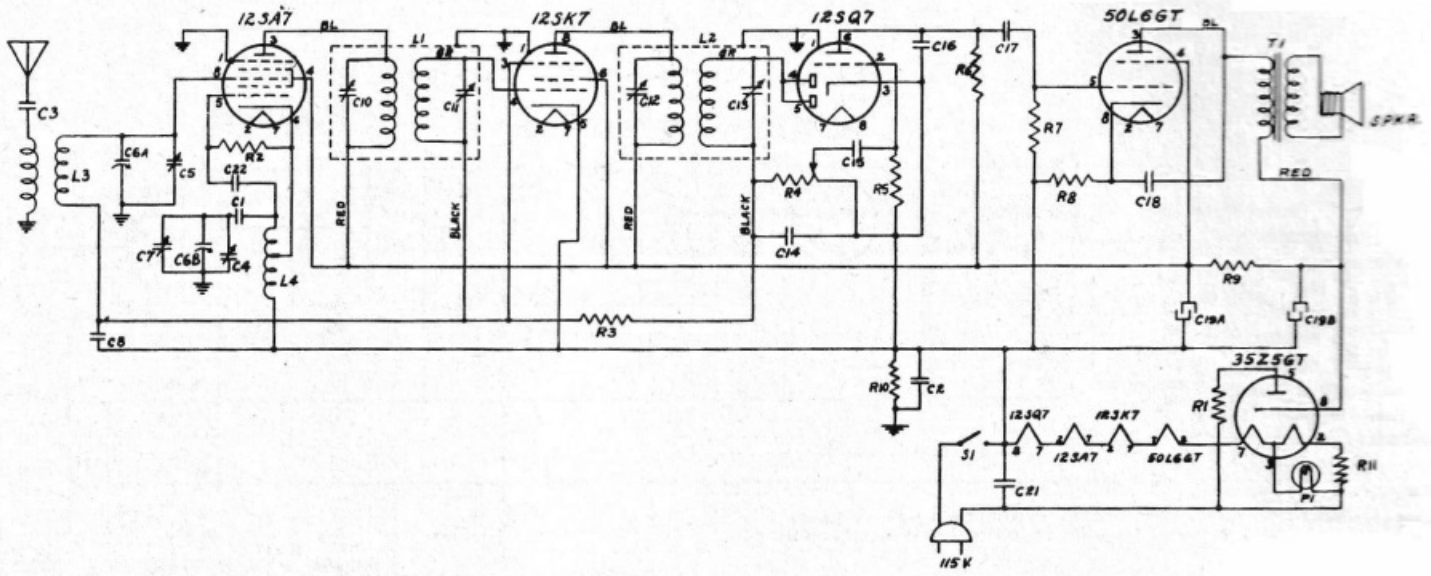
(1) Stage Gains*
Antenna post to 12SA7 grid, 4.0 at 1000 KC
12SA7 grid to 12SK7 grid.....50 at 460 KC
12SK7 grid to 12SQ7 diode plate.....45 at 460 KC

(2) o.20-volt, 400-cycle signal across the volume control will give 1/2-watt speaker output*. (Volume control turned to maximum.)

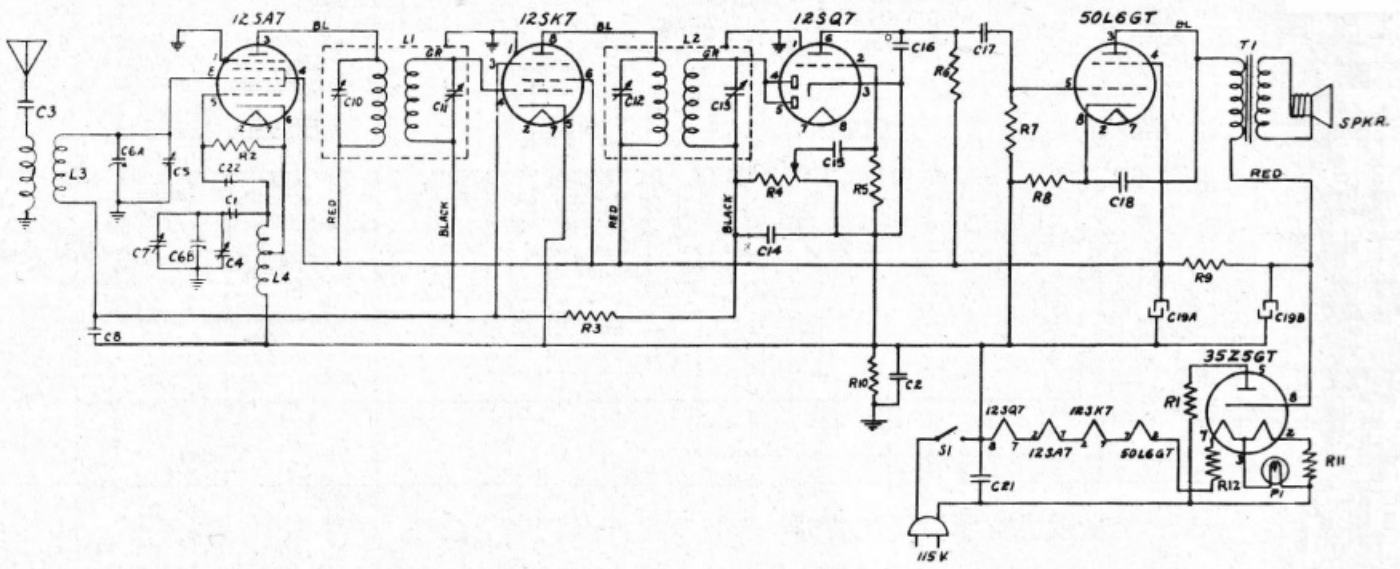
(3) Average D-c voltage developed across oscillator grid leak ..... 6 volts

*Variations of ±20% permissible. All readings obtained with enough signal input to give 1/2- watt speaker output.

DURING THE COURSE OF MANUFACTURE OF THIS MODEL RECEIVER, CHANGES AS COVERED BY THE FOLLOWING DIAGRAMS AND PARTS LISTS WERE INCORPORATED AND THIS INFORMATION SUPERSEDES ALL PREVIOUS INSTRUCTIONS ON MODEL CL-500.



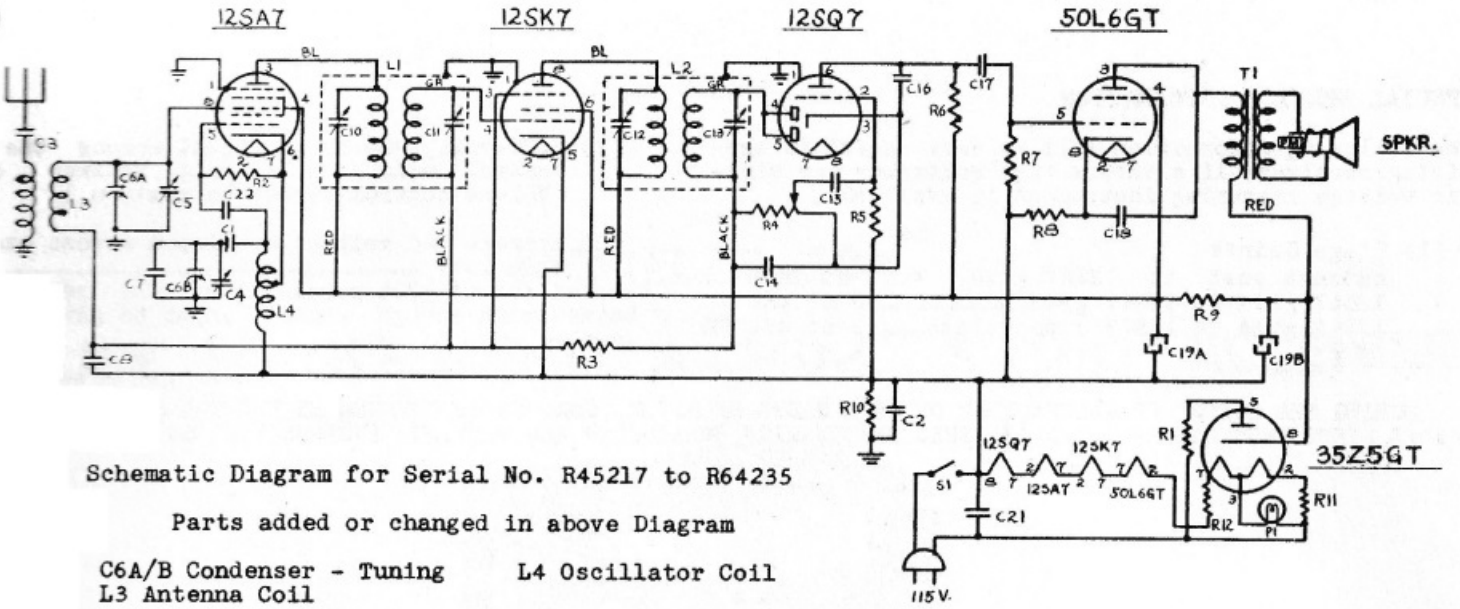
Schematic Diagram for Serial No. R19851-R29113



Schematic Diagram for Serial No. R44377 to R45216

Parts added or changed in above Diagram

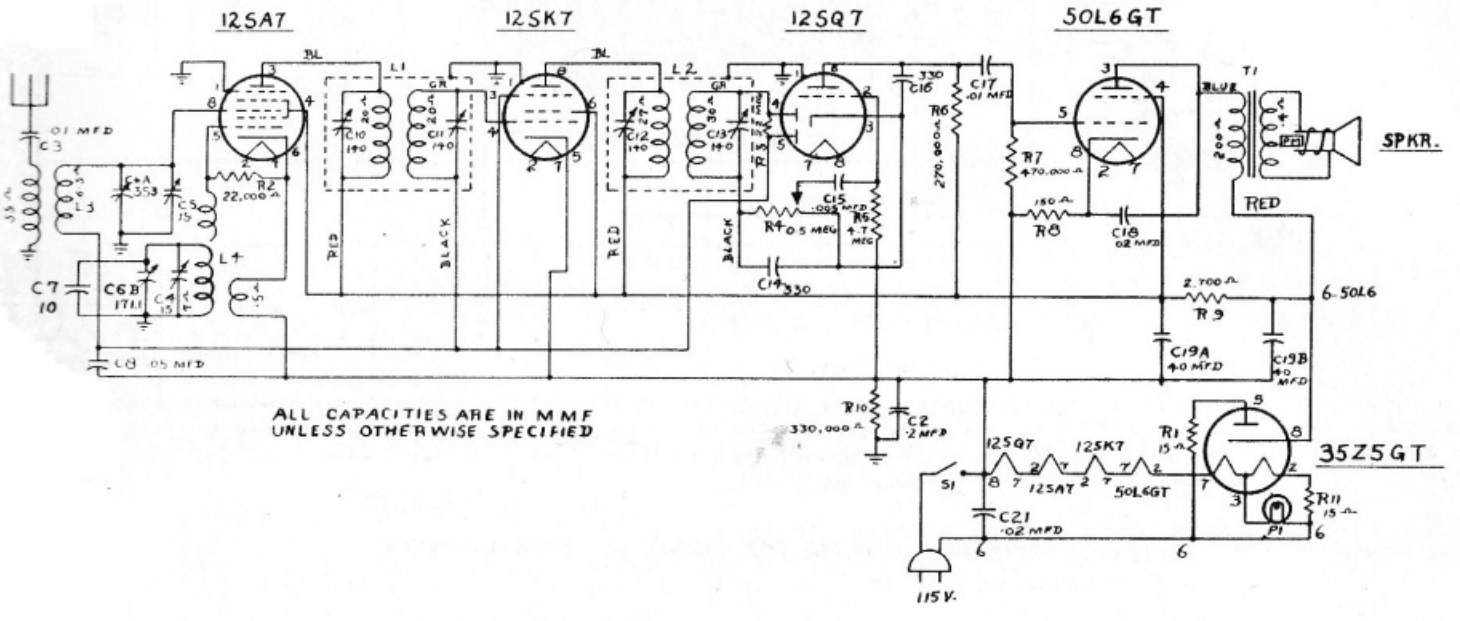
R12 Resistor Dial Scale



Schematic Diagram for Serial No. R45217 to R64235

Parts added or changed in above Diagram

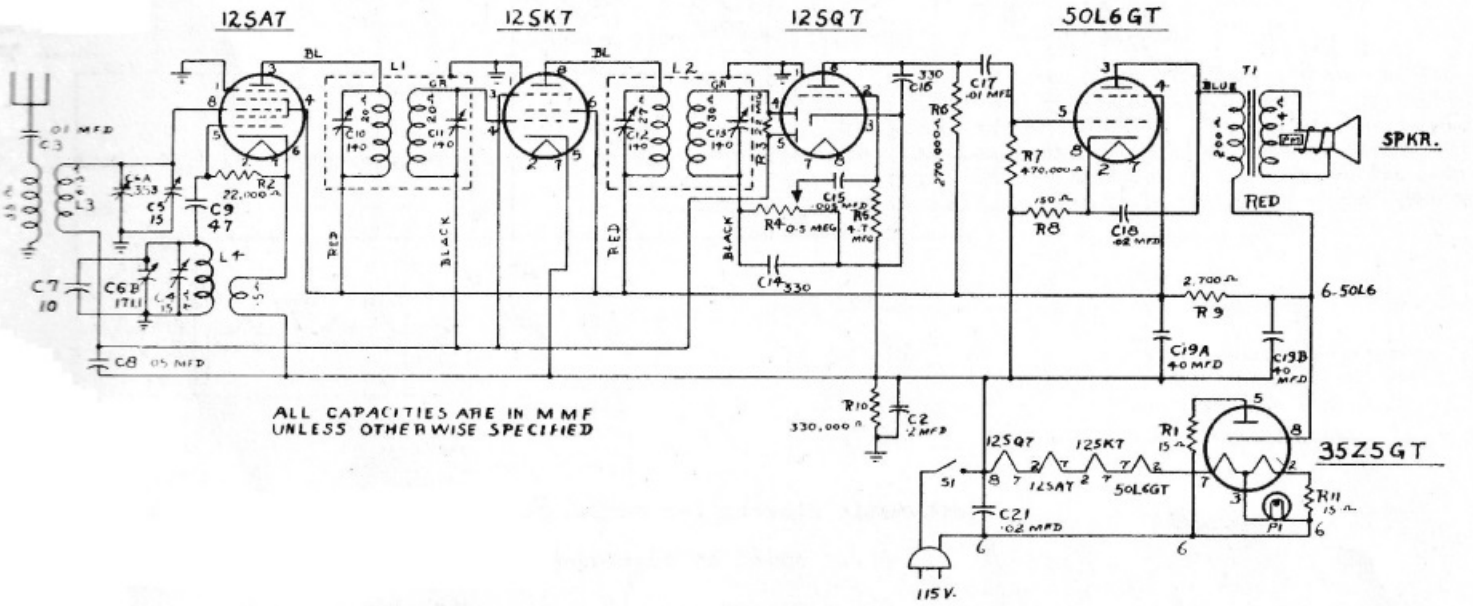
C6A/B Condenser - Tuning
L3 Antenna Coil
L4 Oscillator Coil



Schematic Diagram for Serial No. R119680 to R159660

Parts added or changed in above Diagram

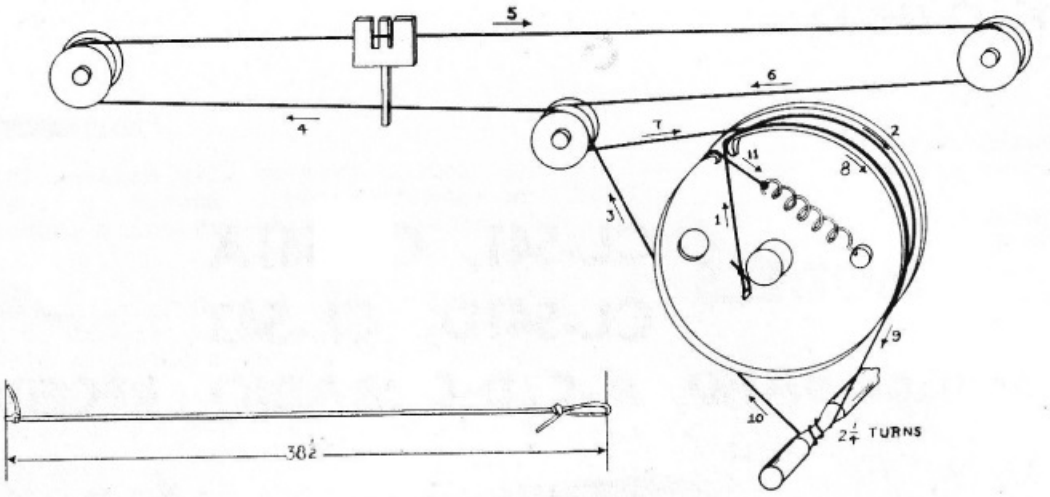
R12 Resistor removed
C22 Capacitor removed
C6A/B Condenser - Tuning
Drive Cord
Dial Scale
L4 Coil - Oscillator
L3 Coil - Antenna



Schematic Diagram for Serial No. R148448 to R150447 and R159661 to R117040

Parts added or changed in above Diagram

C9 Capacitor
L4 Coil - Oscillator
Dial Scale Support added at Ser. No. R176741



Dial Stringing Diagrams

Dial Stringing as used on Late Production Receivers

REPLACEMENT PARTS LIST
MODEL CL-500

PART NO.	SYMBOL	DESCRIPTION
	C1,8	Capacitor - .05 mfd 600 V. Paper
	C2	" - .2 " " "
	C3	" - .01 " " "
	C15	" - .005 " " "
	C17	" - .01 " " "
	C18	" - .02 " " "
	C21	" - .02 " " "
	C22	" - 100 mmf. mica
	C14	" - 330 " "
	C16	" - 330 " "
V8530045-1	C6A,B	Condenser - tuning
K8531607-1	C19A	Capacitor - Electro 40/40 mfd.
	C19B	150 V.
V8530029	L3	Coil - antenna
V8530038	L4	Coil - oscillator
	R1	Resistor - 15 ohms ½ W.
	R2	" - 22,000 ohms ½ W.
	R3	" - 2.2 meg. ½ W.
	R5	" - 4.7 " "
	R6	" - 270,000 ohms ½ W.
	R7	" - 470,000 " "
	R8	" - 150 " "
	R9	" - 2700 " 2 W.
	R10	" - 330,000 " ½ W.
	R11	" - 15 " "
UCF60894		Socket - lamp
UCF62064		" - tube socket
K26J675-9	L1	Transf. - 1st I.F.
K26J171-9	L2	" - 2nd I.F.
K8531617	T1	" - output
S400D-5		Speaker - 4" PM.
K26J621	R4	Vol. control .5 meg with switch

*These parts carried through to end of production.

PART NO.	SYMBOL	DESCRIPTION
		MISCELLANEOUS PARTS
T18J992-1		Cabinet - brown
T18J992-2		" - onyx
M8533512-1		" back cover
P8534011-2		Dial scale for brown cabinet
P8534011-1		" " " onyx "
K26J615-1		Dial pointer
M29J106		Dial window
V8530036		Dial Drive Shaft
HPC-119		Drive shaft pin
V24J101		Drive cord
K8531822		Dial lamp bracket
TM8540718-1		Knobs - brown
V23J562-1		Spring for drive cord
V22J870		Spring for knobs
UCF49382		Dot fastener for dial window
		Parts added for Serial No. R44377 to R64235
	R12	Resistor - 33 ohms
	C7	Capacitor - 10 mmf mica
V8530029-5	L3	Coil - antenna
*M8533523-1	C6A/B	Condenser - tuning
V8530058-1		Coil - oscillator
*P8534022-1		Dial scale
		Parts added for Serial No. R119680 to R177040
K8531778	L3	Coil - antenna
M8533606	L4	Coil - oscillator
K8531666		Drive cord
	C9	Capacitor - 47 mmf mica
		Parts added for Serial No. R176741 to R177040
K831855		Dial scale support

IMPORTANT - Always state Model No. of Radio when ordering parts.

Data subject to change without notice.

NOTE. The small capacitors and resistors listed above can be readily purchased from your Local Radio Parts Jobber.