

MODELS 59X11,  
59X12I, Ch. HS-180

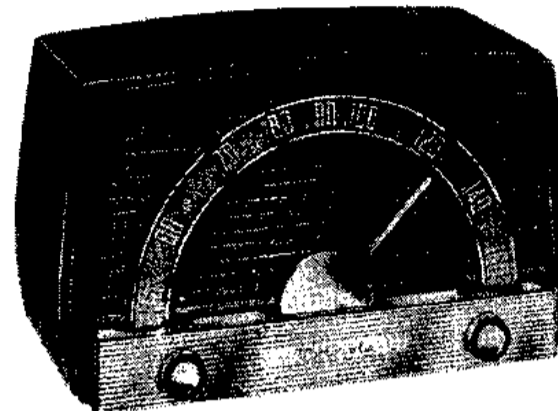
## GENERAL INFORMATION

TYPE - AC-DC table model superheterodyne receiver  
with loop antenna

TUNING RANGE - 535 to 1620 Kc IF - 455 Kc

TUBE COMPLEMENT - 12BE6 Converter  
12BA6 IF Amplifier  
12AT6 Detector, AVC & 1st AF Amp  
50C5 Power Amplifier  
35W4 Rectifier

POWER SUPPLY - 117 volts AC or DC, 35 watts



MODEL 59X11 (Mahogany Plastic Cabinet) MODEL 59X12I (Ivory Plastic Cabinet)

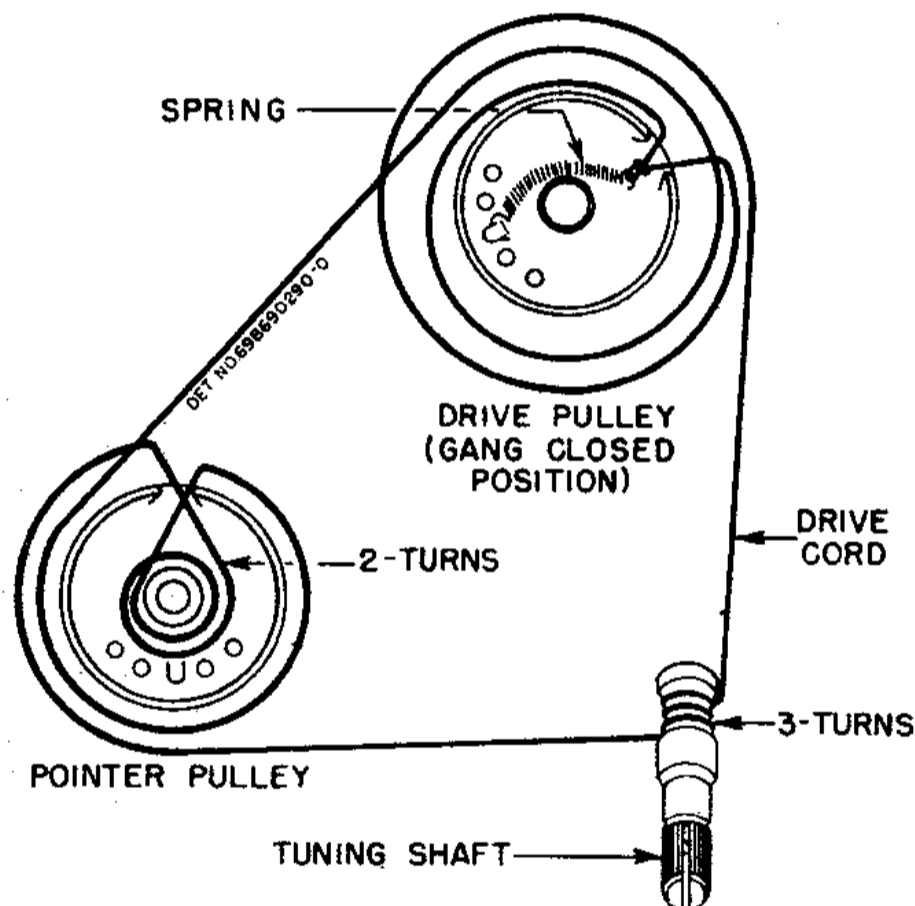


FIGURE 1. STRING DRIVE

## INSTALLATION & OPERATING INSTRUCTIONS

**POWER SWITCH AND VOLUME CONTROL.** Operated with the left-hand knob. NOTE: Reverse the line cord plug in the wall outlet if radio does not operate from DC. When operating from AC, reversing the line cord plug in the wall outlet may sometimes improve reception and reduce hum.

**TUNING.** Tune stations with right-hand knob.

**ANTENNA.** A loop antenna is built into this receiver, eliminating the need for an external antenna. Reception from some stations may be improved by

rotating the whole receiver; this is due to the slight directional characteristic of the loop antenna. In extremely noisy locations, rotate the entire receiver till minimum noise and maximum signal pickup are obtained. For additional pickup, an external antenna may be connected by winding lead-in wire in slots on radio back panel.

**GROUND.** Never connect antenna or chassis to water pipe, radiator or other ground, as one side of the power line is connected directly to chassis.

PART NO. 54P691612

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### SERVICE NOTES

The chassis of this receiver is connected directly to the power line. When operating chassis (from AC line) outside of its cabinet, use an isolation transformer between power line and receiver to reduce possibility of electrical shock. If

isolation transformer is not available, check the AC voltage between chassis and bench ground; if there is any indication of voltage, reverse the line plug before handling set.

### ALIGNMENT

If AC power is used, use an isolation transformer between power line and receiver. If isolation transformer is not available, connect low side of signal generator to chassis through .1 mf capacitor.

voice coil and set volume control at maximum. For greatest accuracy, keep output of receiver at approximately .05 watt (.05 watt = .40 volt on output meter) throughout alignment by reducing signal generator output as stages are brought into alignment. Use a small fibre screwdriver for aligning IF & diode transformers.

Connect low range output meter across speaker

STEP	DUMMY ANTENNA	GENERATOR CONNECTION	GENERATOR FREQUENCY	GANG SET TO	ADJUST	REMARKS
1.	.1 mf	Rear stator of tuning capacitor	455 Kc	Gang opened	1, 2, 3 & 4	Adjust for maximum.
2.	-	Radiation loop*	1620 Kc	Gang fully opened	5	Adjust for maximum
3.	-	Radiation loop*	1400 Kc	Tune for maximum	6	Adjust for maximum

\*Connect generator output to 5" diameter, 3 turn loop and couple to receiver loop. Keep loops at least 12" apart.

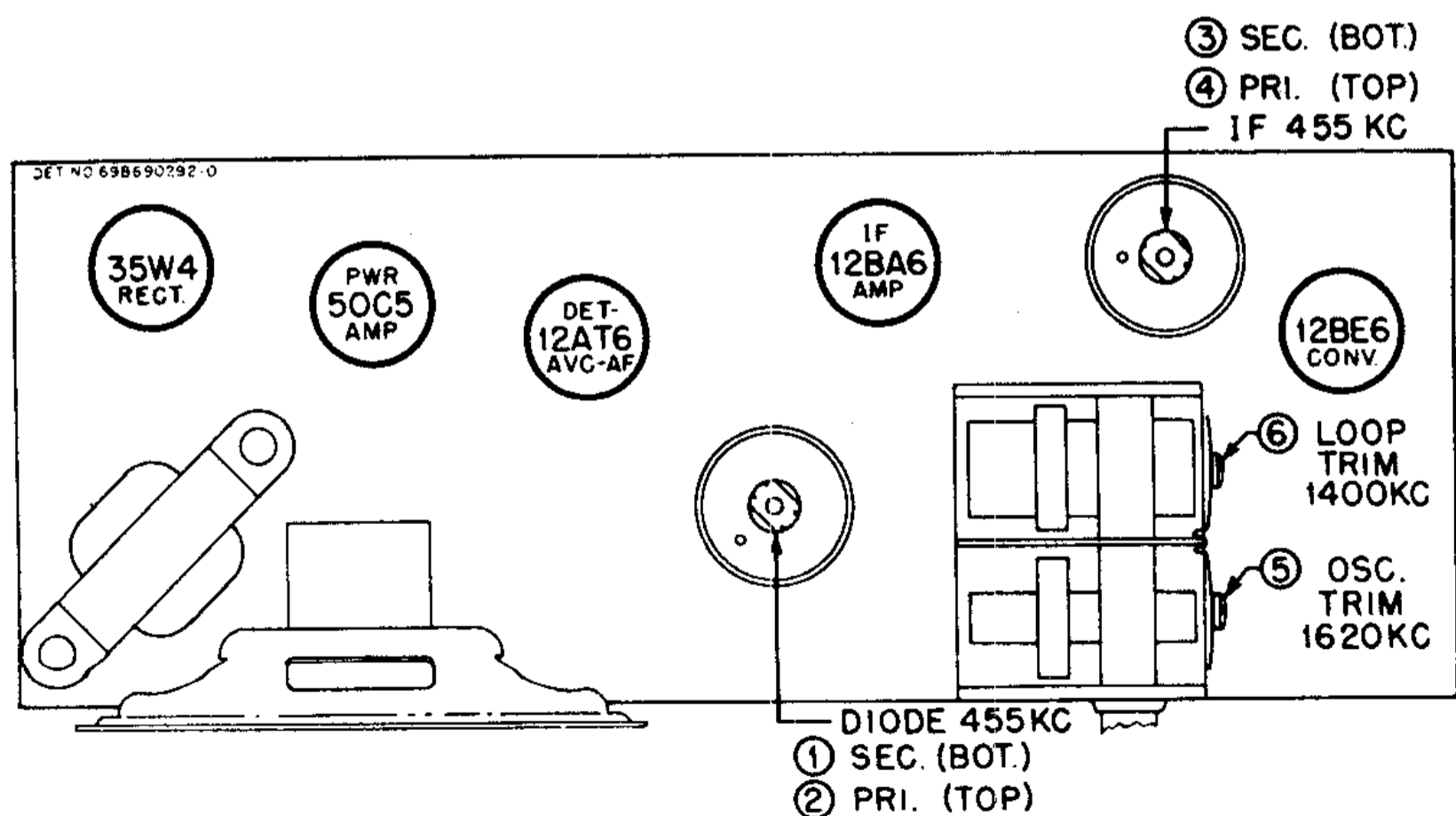
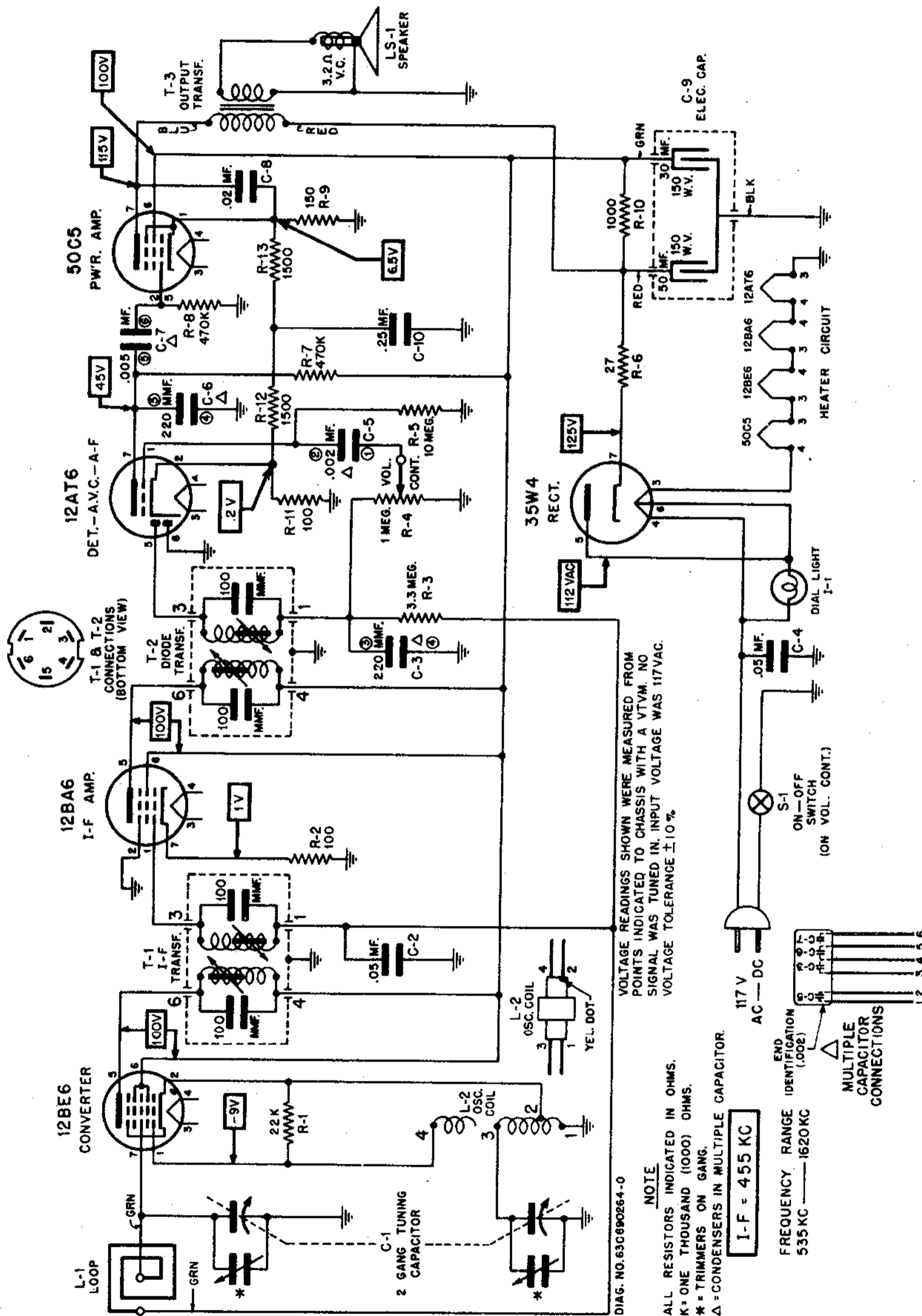


FIGURE 2. TUBE & TRIMMER LOCATIONS

MODELS 59X11,  
59X121, Ch. HS-180



VOLTAGE READINGS SHOWN WERE MEASURED FROM POINTS INDICATED TO CHASSIS WITH A VTVM. NO SIGNAL WAS TUNED IN. INPUT VOLTAGE WAS 117VAC. VOLTAGE TOLERANCE  $\pm 10\%$ .

DIAG. NO. 63C890264-0

**NOTE**

ALL RESISTORS INDICATED IN OHMS.  
K = ONE THOUSAND (1000) OHMS.  
\* = TRIMMERS ON GANG.  
Δ = CONDENSERS IN MULTIPLE CAPACITOR.

I-F = 455 KC

FREQUENCY RANGE IDENTIFICATION (.008)  
535 KC — 1620 KC



FIGURE 3. SCHEMATIC DIAGRAM

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REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
<b>CHASSIS PARTS - ELECTRICAL</b>			2S7051		Nut, hex: 3/8-32 x 9/16; stl; cad pl; Palnut (volume control mtg) .....
<b>CAPACITORS</b>			5S7771		Rivet: .088 x 3/16; stl; nkl pl (tube socket mtg) .....
C-1	1X690759	Variable: 2 gang; with pulley	5S7707		Rivet: .122 x 5/32; stl; nkl pl (output trans and tube shield mtg) .....
C-2	8S9821	Paper: .05 mf 200V .....	5S7701		Rivet: .122 x 3/16; stl; nkl pl (tuning shaft bracket and pointer bracket assembly mtg) .....
C-3,5,6,7	21B482847	Ceramic, multiple: includes 220 mmf (C-3), .002 mf (C-5) 220 mmf (C-6) & .005 mf (C-7)	3S7477		Screw, machine: 8-32 x 1/4; plain hex head; stl; cad pl (loop panel mtg) .....
C-4	8S9816	Paper: .05 mf 400V .....	3S2294		Screw, machine: 6-32 x 1/2; plain hex head locking type; stl; cad pl (gang mtg) .....
C-8	8S9802	Paper: .02 mf 400V .....	3S7454		Screw, sheet metal: #8 x 1/4; PKZ plain hex head; stl; cad pl (speaker mtg) .....
C-9	23K482857	Electrolytic: 50-30 mf 150V..	3S3398		Screw, sheet metal: #6 x 3/8; PKZ plain hex head; stl; cad pl (loop brkt and cord insulator mtg) .....
C-10	8A470504	Paper: .25 mf 50V .....	1X690775		Shaft and Pulley Assembly, pointer .....
<b>PILOT LIGHT</b>			1X690774		Shaft and Pulley Assembly, tuning .....
I-1	65K11854	Bulb: 6.3V-.15 amp; tubular, clear, #47 .....	26K485936		Shield, coil .....
<b>COILS</b>			26A470013		Shield, light .....
L-1	24K690657	Loop Antenna: includes back panel	26A481521		Shield, tube: spring .....
L-2	24K482855	BC Oscillator coil .....	9K690673		Socket, pilot light .....
<b>SPEAKER</b>			9A472534		Socket, tube .....
LS-1	50C478138	Speaker: 4" PM; 3.2 ohm voice coil .....	41A14244		Spring, pointer cord (tension) .....
<b>RESISTORS</b>			41A73996		Spring, tension (electrolytic mounting) .....
Note: All resistors are insulated carbon type, 20%, unless otherwise specified.			4A70015		Washer, 'C' (tuning shaft and pointer shaft retainer).....
R-1	6R6028	22,000 1/2 watt .....	4S7633		Washer, flat: 9/16 x 11/64 x .033 thick; stl; cad pl (loop panel mtg) .....
R-2	6R6018	100 1/2 watt .....	4K482859		Washer, shoulder (loop bracket and cord insulator mtg).....
R-3	6R2118	3.3 meg 1/2 watt .....	<b>CABINET PARTS</b>		
R-4	18A70032	Volume Control: 1 meg with SPST switch .....	16E690504		Cabinet, table model: molded; mahogany (59X11) .....
R-5	6R2109	10 meg 1/2 watt .....	or 16K690659		Cabinet, table model: molded; ivory (59X12I) .....
R-6	6R5683	27 10% 1/2 watt .....	36K690668		Knob, control: mahogany (59X11) .....
R-7	6R6032	470,000 1/2 watt .....	or 36K690669		Knob, control: ivory (59X12I) .....
R-8	6R6032	470,000 1/2 watt .....	64B690666		Plate, trim .....
R-9	6R3992	150 1/2 watt .....	38A25507		Plug, split (antenna panel to cabinet mtg) .....
R-10	6R3953	1000 1 watt .....	52K690744		Pointer and Hub .....
R-11	6R6028	100 1/2 watt .....	34C690662		Scale, dial .....
R-12	6R6161	1500 1/2 watt .....	3S7148		Setscrew: 6-32 x 1/8 Allen head; stl; cad pl (pointer and hub mtg) .....
R-13	6R6161	1500 1/2 watt .....	3S490381		Screw, drive: #00 x 1/4 PKU plain round head; brass (dial scale mtg) .....
<b>TRANSFORMERS</b>			3S488098		Screw, sheet metal: #8 x 3/8 type 25; plain hex head; stl; cad pl (chassis mtg) .....
T-1	24B482863	IF, 455 Kc: complete with tuning cores & padding capacitors but less shield .....	46K690772		Stud, trimount (trim plate mtg) .....
T-2	24B482865	Diode, 455 Kc: complete with tuning cores & padding capacitors but less shield .....	<b>CHASSIS PARTS - MECHANICAL</b>		
T-3	25K485973	Output Transformer .....	7K485971		Bracket, loop mtg .....
<b>CHASSIS PARTS - MECHANICAL</b>			7A77337		Bracket, tuning shaft mtg .....
	1X690679	Bracket and Insulator Assembly, pointer shaft mtg .....	1X690679		Bracket and Insulator Assembly, pointer shaft mtg .....
	46K680318	Core, iron (for T-1 & T-2) ...			Core, iron (for T-1 & T-2) ...
	11M8944	Cord, dial: 18#; blk .....			Cord, dial: 18#; blk .....
	30K482856	Cord, line & plug: 6 ft long..			Cord, line & plug: 6 ft long..
	5A19658	Eyelet, spacer (gang mtg).....			Eyelet, spacer (gang mtg).....
	5A70404	Grommet, spacer (gang mtg)....			Grommet, spacer (gang mtg)....
	14A482844	Insulator, cord outlet .....			Insulator, cord outlet .....
	29R3010	Lug, soldering: #6 hot-tinned.			Lug, soldering: #6 hot-tinned.