

## Galvin Mfg. Co.

**Model: 67X13**

**Chassis:**

**Year: Pre 1949**

**Power:**

**Circuit:**

**IF:**

**Tubes:**

**Bands:**

### Resources

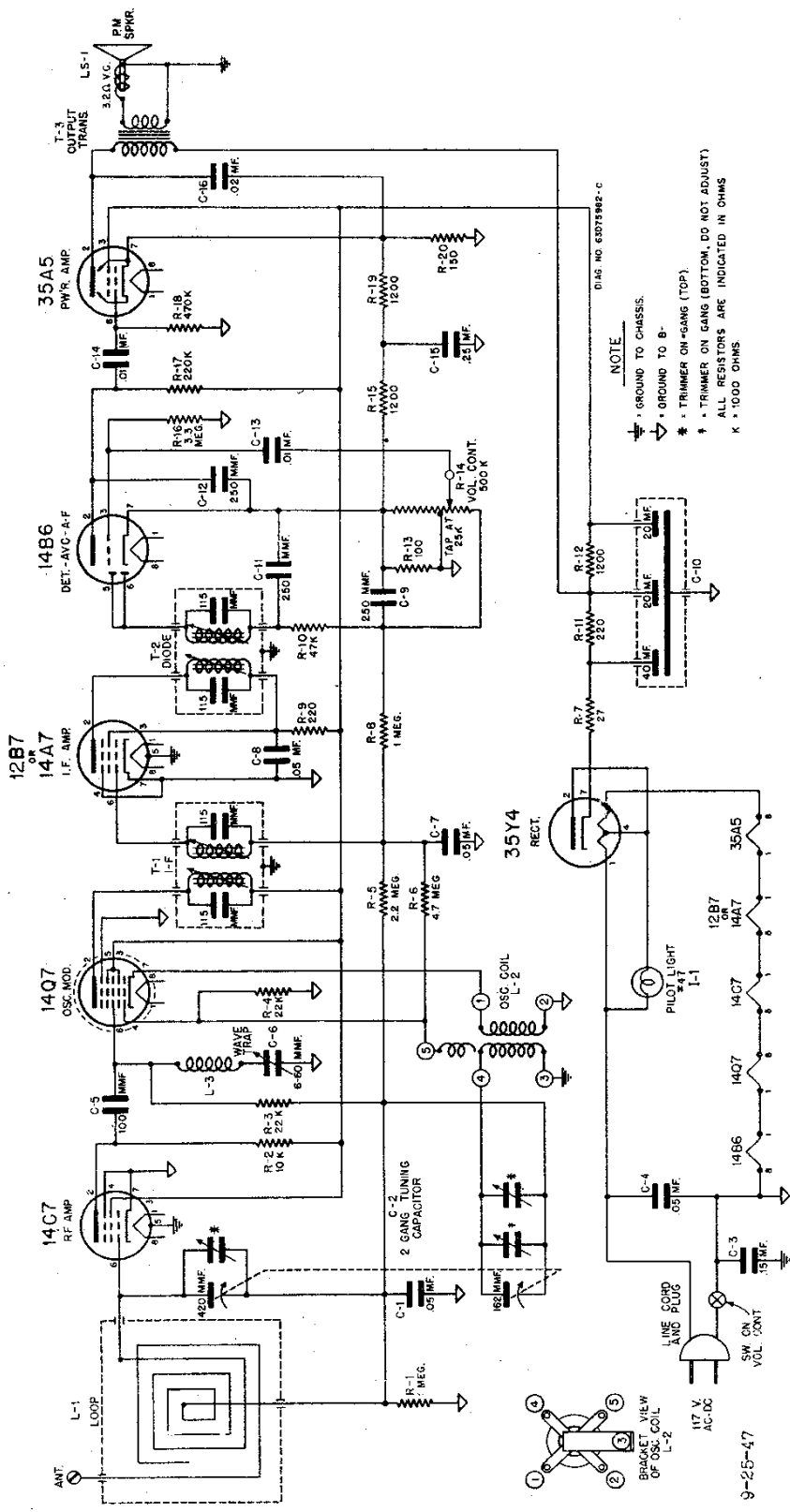
[Riders Volume 17 - MOTOROLA 17-80](#)

[Riders Volume 17 - MOTOROLA 17-81](#)

[Riders Volume 17 - MOTOROLA 17-82](#)

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**CAUTION:** Never connect antenna or chassis to water pipe, radiator or other ground.

FREQUENCY RANGE: 535 KC-1620 KC  
I-F = 455 KC

**SPEAKER**  
LS-1 50B76196 P.M.: 5"; 3.2 ohm V.C. .... Exchange

**TRANSFORMERS**  
T-1 24B470058 I.F.: 455 Kc; includes cores and padding capacitors but less shield ..  
T-2 24B75487 Diode: 455 Kc; includes cores and padding capacitors but less shield  
T-3 25B76117  
OT 25B76118 Output .....

**COILS**  
L-1 24K77523 Loop: winding only .....  
L-2 24A76192 Oscillator .....  
L-3 24A77536 Wave Trap .....  
**DIAL LIGHT**  
I-1 65X11854 Bulb: 6.3V .15A; tubular; bayonet base

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MODELS 67X11,  
67X12, 67X13

Maximum performance can only be obtained if extreme care is exercised during alignment. Follow the procedure carefully.

such as Motorola part number 66A71008.

A low range output meter should be connected across the speaker voice coil. Set receiver volume control to maximum; for greatest accuracy keep output of receiver at approximately .05 watt throughout alignment by reducing generator output (not receiver volume control) as stages are brought into alignment. (.05 watt = .40 volt on output meter) The alignment tool should be of an insulated type

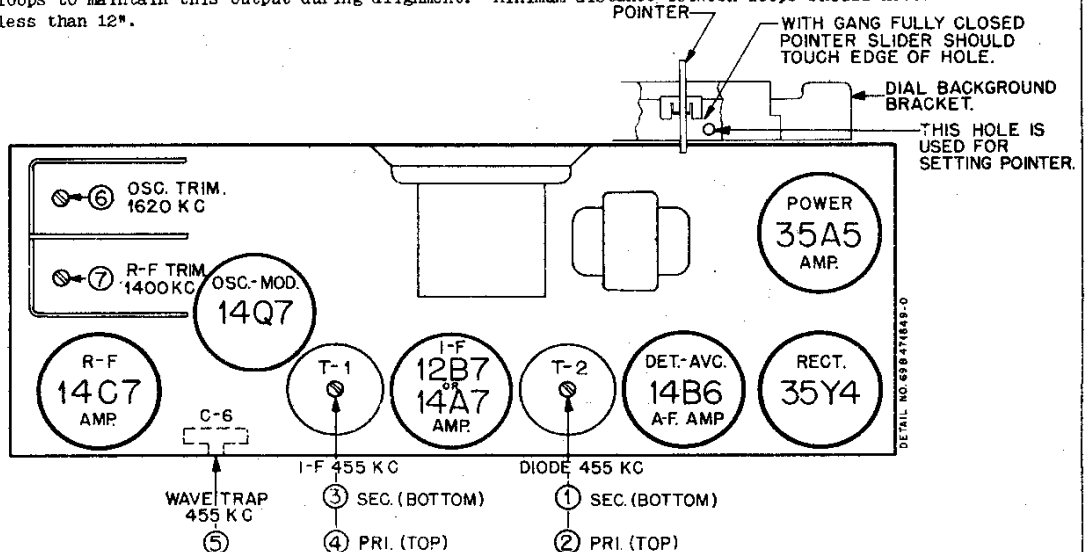
If receiver is operated from AC line during alignment, it is suggested that an isolation transformer be used between receiver and power line. If no isolation transformer is used and hum is encountered during alignment, connect the ground side of the signal generator output to receiver B- instead of the receiver chassis.

STEP	DIAL SET TO	DUMMY	SIGNAL GENERATOR CONNECTED TO	SIGNAL GENERATOR SET TO	ADJUST TRIMMER OR CORE	REMARKS
IF ALIGNMENT						
1.	Gang fully opened	.1 mf	RF Amp. grid*	455 Kc	1,2,3 & 4	Adjust for maximum output.
WAVE TRAP ADJUSTMENT						
2.	Gang fully opened	.1 mf	RF Amp. grid*	455 Kc	5	Adjust for minimum response.
3.**	Gang fully opened	.1 mf	RF Amp. grid*	1620 Kc	6	Adjust for maximum output; this sets osc. to dial scale
4.	1400 Kc		Radiation loop***	1400 Kc	7	Tune signal for max. with receiver tuning knob, then peak trimmer 7.

\* A convenient point for this connection is the stator of the RF section of the tuning capacitor.

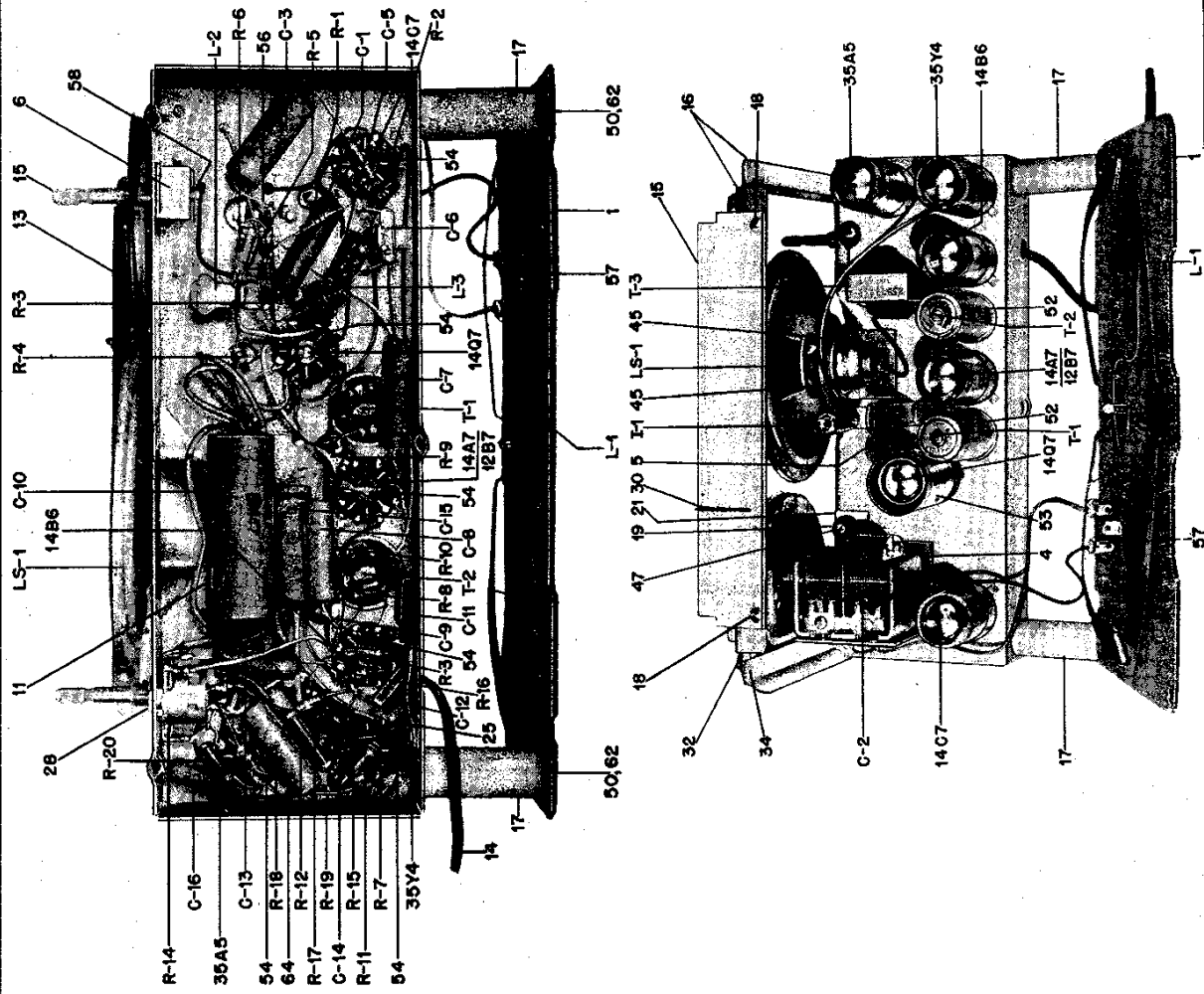
\*\* First close gang fully and set pointer to calibration mark as shown in Figure 1, then proceed with Step 3.

\*\*\* Connect output of signal generator to a 5" diameter, 3 turn loop and bring close enough to receiver loop to obtain output of .50 milliwatts (.40V) on output meter. Vary distance between loops to maintain this output during alignment. Minimum distance between loops should never be less than 12".

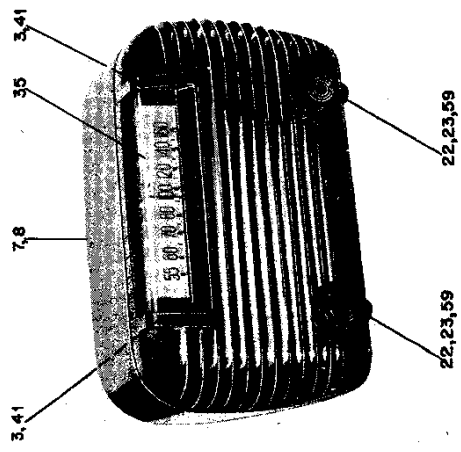


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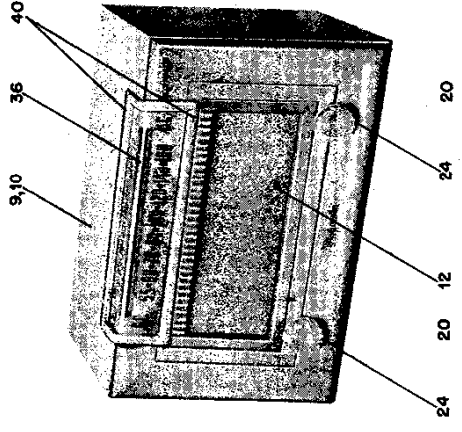
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67X11 Walnut, 67X12 Ivory

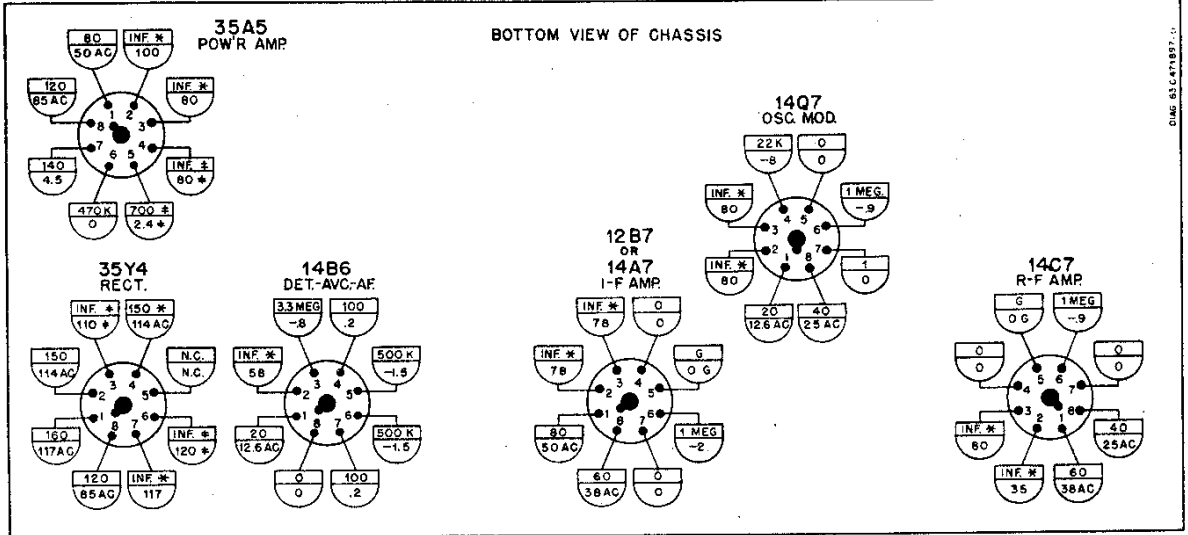


67X13 Blonde or Toast



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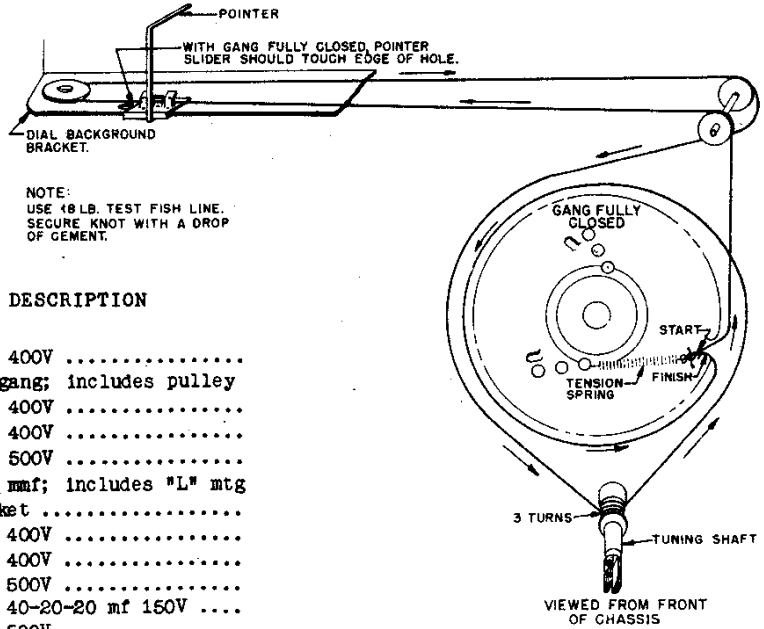
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□ = RESISTANCE READINGS.  
 ◐ = VOLTAGE READINGS.

G = GROUND TO CHASSIS.  
 N.C. = NO CONNECTION.  
 \* = MAY VARY, DEPENDING ON CONDITION OF ELECTROLYTIC CAPACITORS.  
 ± = TIE POINT.

NOTE: A VTVM WAS USED TO MAKE VOLTAGE MEASUREMENTS. VOLUME CONTROL SET AT MINIMUM AND NO SIGNAL TUNED IN. MEASUREMENTS TAKEN FROM TUBE SOCKET TERMINALS INDICATED TO B-(↖). ALL VOLTAGE MEASUREMENTS TAKEN WITH 117V. AC INPUT TO SET. ALL VOLTAGE MEASUREMENTS DC UNLESS OTHERWISE SPECIFIED. ALL MEASUREMENTS ± 10%.



NOTE:  
 USE 18 LB. TEST FISH LINE.  
 SECURE KNOT WITH A DROP OF CEMENT.

REF. NO.	PART NO.	DESCRIPTION
<b>CAPACITORS</b>		
C-1	8S9816	Paper: .05 mf 400V .....
C-2	1X77339	Variable: 2 gang; includes pulley
C-3	8A75566	Paper: .15 mf 400V .....
C-4	8S9816	Paper: .05 mf 400V .....
C-5	21R6641	Mica: 100 mmf 500V .....
C-6	20A26941	Trimmer: 6-60 mmf; includes "L" mtg bracket .....
C-7	8S9816	Paper: .05 mf 400V .....
C-8	8S9816	Paper: .05 mf 400V .....
C-9	21R6648	Mica: 250 mmf 500V .....
C-10	23B75808	Electrolytic: 40-20-20 mf 150V .....
C-11	21R6648	Mica: 250 mmf 500V .....
C-12	21R6648	Mica: 250 mmf 500V .....
C-13	8S9809	Paper: .01 mf 400V .....
C-14	8S9809	Paper: .01 mf 400V .....
C-15	8S9810	Paper: .25 mf 100V .....
C-16	8S9802	Paper: .02 mf 400V .....

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REF.	NO.	PART NO.	DESCRIPTION	REF.	NO.	PART NO.	DESCRIPTION	
<b>RESISTORS</b>								
All resistors carbon -20%-insulated unless specified otherwise								
R-1	6R6004	1 meg 1/2 W	.....					
R-2	6R6054	10,000 1/2 W	.....			34K478005	Scale, dial and escutcheon (toast color) (67X13 only) .....	
R-3	6R6028	22,000 1/2 W	.....					
R-4	6R6028	22,000 1/2 W	.....	37		5S7707	Rivet: .122 x 5/32; nickel plated (pilot light mounting bracket mounting, trimmer mounting and terminal strip mounting) .....	
R-5	6R3927	2.2 meg 1/2 W	.....					
R-6	6R2122	4.7 meg 1/2 W	.....					
R-7	6R5683	27 10% 1/2 W	.....					
R-8	6R6004	1 meg 1/2 W	.....	38		5S7701	Rivet: .122 x 3/16; nickel plated (tuning shaft mounting bracket mounting) .....	
R-9	6R3933	220 1/2 W	.....					
R-10	6R6056	47,000 1/2 W	.....	39		5S7708	Rivet: .122 x 9/32; nickel plated (line cord lock mounting) .....	
R-11	6R6152	220 1W NI	.....					
R-12	6R3972	1200 1W NI	.....			40	3S1328	Screw: #2 x 3/8 Phillips ovalhead wood screw; brass plated (67X13 dial scale and escutcheon mounting)...
R-13	6R6326	100 10% 1/2 W	.....	41		3S7155	Screw: 6-32 x 3/16 slotted hex head; cadmium plated (dial mounting) (67X11 and 67X12 only) .....	
R-14	18A76191	Volume Control: 500,000 ohms; includes on-off switch .....						
R-15	6R6393	1200 10% 1/2 W	.....doz	42		3S7506	Screw: #6 x 1/4 PKZ plain hex head sheet metal screw; cadmium plated (oscillator coil mounting) .....	
R-16	6R2118	3.3 meg 1/2 W	.....doz					
R-17	6R6015	220,000 1/2 W	.....doz					
R-18	6R6032	470,000 1/2 W	.....doz	43		3S7350	Screw: 6-32 x 1/4 slotted hex head locking type machine screw; cadmium plated (lug mtg) .....	
R-19	6R6393	1200 10% 1/2 W	.....doz					
R-20	6R6392	150 10% 1/2 W NI	.....doz					
1	1X77347	Back Assembly: cabinet back with antenna terminal and terminal strip; less loop .....		44		3S1339	Screw: #6 x 5/8 flat head wood screw; (baffle mtg) (67X13 only) ....	
2	32A471517	Baffle, speaker (67X13 only) .....		45		3S7205	Screw: 8-32 x 1/4 slotted hex head locking type machine screw; cadmium plated (speaker mtg) ..	
3	7A77382	Bracket, dial mounting (67X11 & 67X12) ..						
4	7B18748	Bracket, gang mounting .....		46		3S7454	Screw: #8 x 1/4 PKZ plain hex head cadmium plated (dial background bracket assembly mtg) .....	
5	7A77303	Bracket, pilot light mounting.....doz						
6	7A77337	Bracket, tuning shaft mounting .....						
7	16E77648	Cabinet, table model: plastic walnut (67X11 only) .....		47		3S7507	Screw: #8 x 5/8 PKZ plain hex head sheet metal screw; cadmium plated (gang mtg).....	
8	16K77649	Cabinet, table model: plastic ivory .....						
9	16D470664	Cabinet, table model: wood; blonde finish (67X13 only) .....		48		3S8117	Screw: #8 x 1" PKZ slotted hex head sheet metal screw; antique copper finish (chassis mtg) (67X11 and 67X12 only) .....	
10	16K478003	Cabinet, table model: wood; toast finish (67X13 only) .....						
11	42K75626	Clip, electrolytic mounting .....	doz	49		3S7526	Screw: #8 x 1-1/8 PKA slotted hex head; cadmium plated (chassis mtg) (67X13 only) .....	
12	13K470665	Cloth, grille (67X13 only) .....						
13	1M6944	Cord, dial: 18'; black .....	yd					
14	3A470651	Cord, line: 6 ft. long; with plug ..		50		3S3364	Screw: #8 x 2-1/4 PKZ slotted hex head sheet metal screw cadmium plated (back mtg) .....	
15	35B77311	Dial Background .....						
16	1X77344	Dial Background Bracket and Support Assembly: includes shoulder rivets and pulleys .....		51		1X77363	Shaft Assembly, tuning .....	
17	37K77085	Dowel, wood (loop antenna mounting) ..		52		1X71049	Shield and Iron Core Sleeve Assembly (IF and Diode shield can).....	
18	587805	Eyelet, snap-in (dial background mounting)		53		26A72635	Shield, tube .....	
19	5A19658	Eyelet, spacer (gang mounting) .....		54		9A76185	Socket, tube: octal .....	
20	37K15841	Foot, rubber: 1/2 diameter (cabinet foot) (67X13 only) .....				9A72549	Socket, tube: octal; mounts with rivets (Use this socket to replace 9A76185 socket when mounting ears on chassis, break off) .....	
21	37A12691	Grommet, rubber (gang mounting) .....						
22	36B77659	Knob, control: Walnut (67X11 only) .....						
23	36K77660	Knob, control: Ivory (67X12 only) .....						
24	36K478004	Knob, control: Tan (67X13 only) .....		55		41A14244	Spring, tension coil .....	
25	32A24815	Lock, line cord: fibre .....		56		31A76184	Strip, terminal: #1 ground 2 insulated; .....	
26	457666	Lockwasher: #8 external; cadmium plated (oscillator coil mounting) .....		57		31K15028	Strip, terminal: 2 insulated lugs, center mtg (on cabinet back) .....	
27	29R5227	Lug, soldering: #6 .....		58		4A70015	Washer "C" (tuning shaft mtg) .....	
28	257051	Nut: 3/8-32x9/16; Painut; cadmium plated (volume control mounting) .....		59		4K19943	Washer, paper (used between control knobs and cabinet 67X11 & 12 only) ...	
29	38A25507	Plug, split (cabinet back mounting) ....		60		32A20575	Washer: 3/8 x .171 x .062 (chassis mtg) 67X11 & 12 only .....	
30	52A77307	Pointer and Slider Assembly .....						
31	49A12646	Pulley, cord: idler (cord guide) .....		61		4S1719	Washer: 3/8 x .140 x .030; nickel plated (line cord lock mtg) .....	
32	49A71078	Pulley, cord: 1/2" groove (cord guide) .						
33	5A71246	Rivet, shoulder: .187" long .....		62		4S7563	Washer: 5/8 x .203 x .033; cadmium plated (cabinet back mtg) .....	
34	5A75045	Rivet, shoulder: .437" long .....						
35	34D77647	Scale, dial (67X11 and 67X12 only) .....		63		4S8204	Washer: 1" x .203 x .067; copper plated (chassis mtg) 67X13 only .....	
36	34D470662	Scale, dial and escutcheon (tan color) (67X13 only) .....						