

ALIGNMENT

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

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 such as Motorola part number 66A71008.

If receiver is operated from AC line during alignment, it is suggested that an isolating 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 to B- instead of the receiver chassis.

Refer to Figure 1 for location of all adjustments.

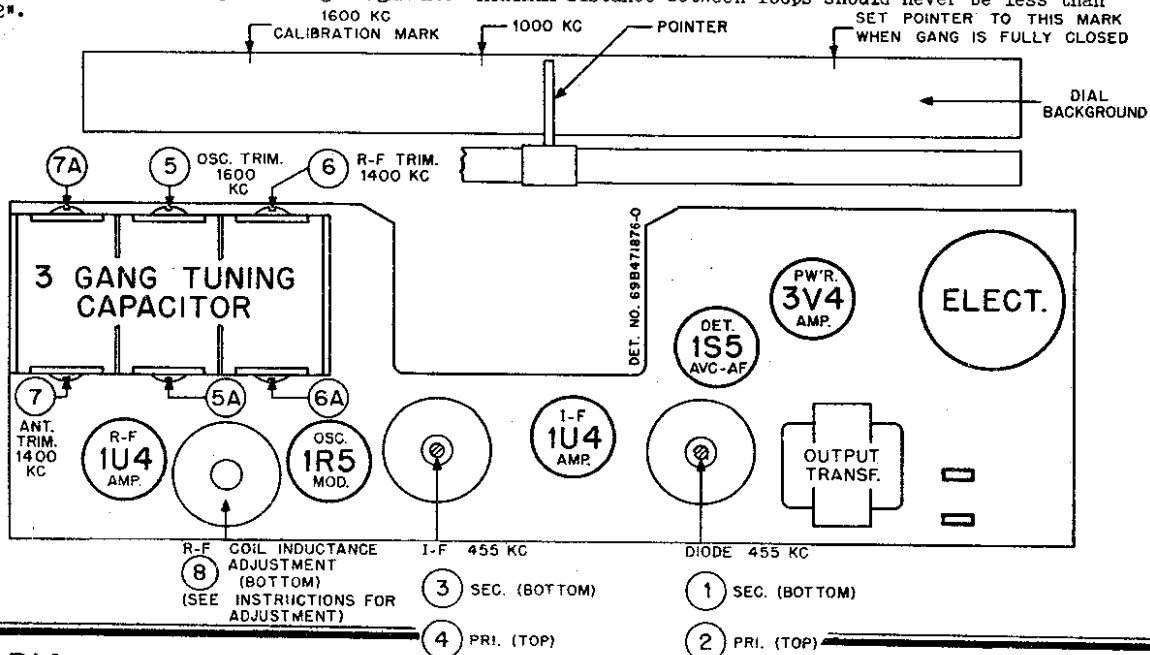
Normally, alignment can be made with trimmers 5, 6 and 7. However, if range of these trimmers is insufficient to obtain peak, adjustment can be made with trimmers 5A, 6A and 7A.

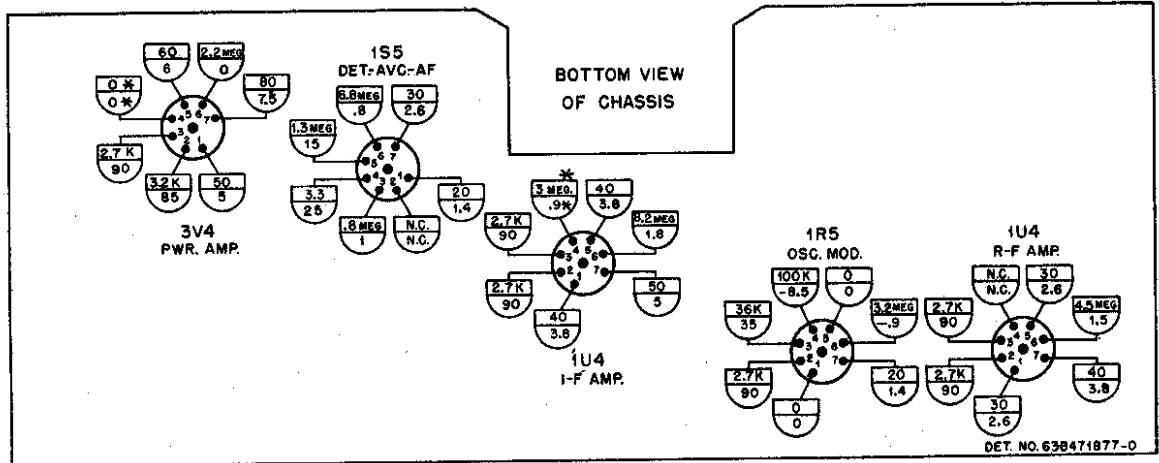
R.F. COIL. The inductance of this coil is set at time of manufacture by adjusting the iron core. No resetting of this core should be made unless it has been tampered with. If so, readjustment can be made by proceeding as follows:

Tune in 600 Kc signal and peak Padder Adj. (8). Next tune in 1400 Kc signal and peak trimmer (6). Repeat both adjustments until maximum response is obtained at both ends; the last adjustment should be trimmer (6).

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	OSC-MOD grid*	455 Kc	1,2,3 & 4	Adjust for maximum output
RF ALIGNMENT 2.	1600 Kc**	-	Radiation loop***	1600 Kc	5	This sets osc. to dial scale.
3.	1400 Kc	-	Radiation loop***	1400 Kc	6 & 7	Tune signal for max. with receiver tuning knob, then peak trimmers 6 & 7.
4.	1400 Kc	-	Radiation loop***	1400 Kc	7	With chassis assembled into cabinet, repeat antenna trimmer. Loop should be in upright position.

- * A convenient point is the stator of the tuning capacitor. Close gang fully and set pointer to calibration mark at left hand side of dial background, then set to 1600 Kc by setting pointer at right hand calibration mark.
- ** Connect output of signal generator to a 5" diameter, 3 turn loop and bring loop 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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NOTE: A VTVM WAS USED TO MAKE MEASUREMENTS. MEASUREMENTS ARE MADE FROM TUBE BASE PIN TO B-(↔)

SET WAS OPERATED FROM 117 V. AC LINE FOR VOLTAGE MEASUREMENTS.

SET WAS IN AC POSITION AND POWER SWITCH WAS 'ON' FOR RESISTANCE MEASUREMENTS.

K = 1000 (ONE THOUSAND) OHMS.

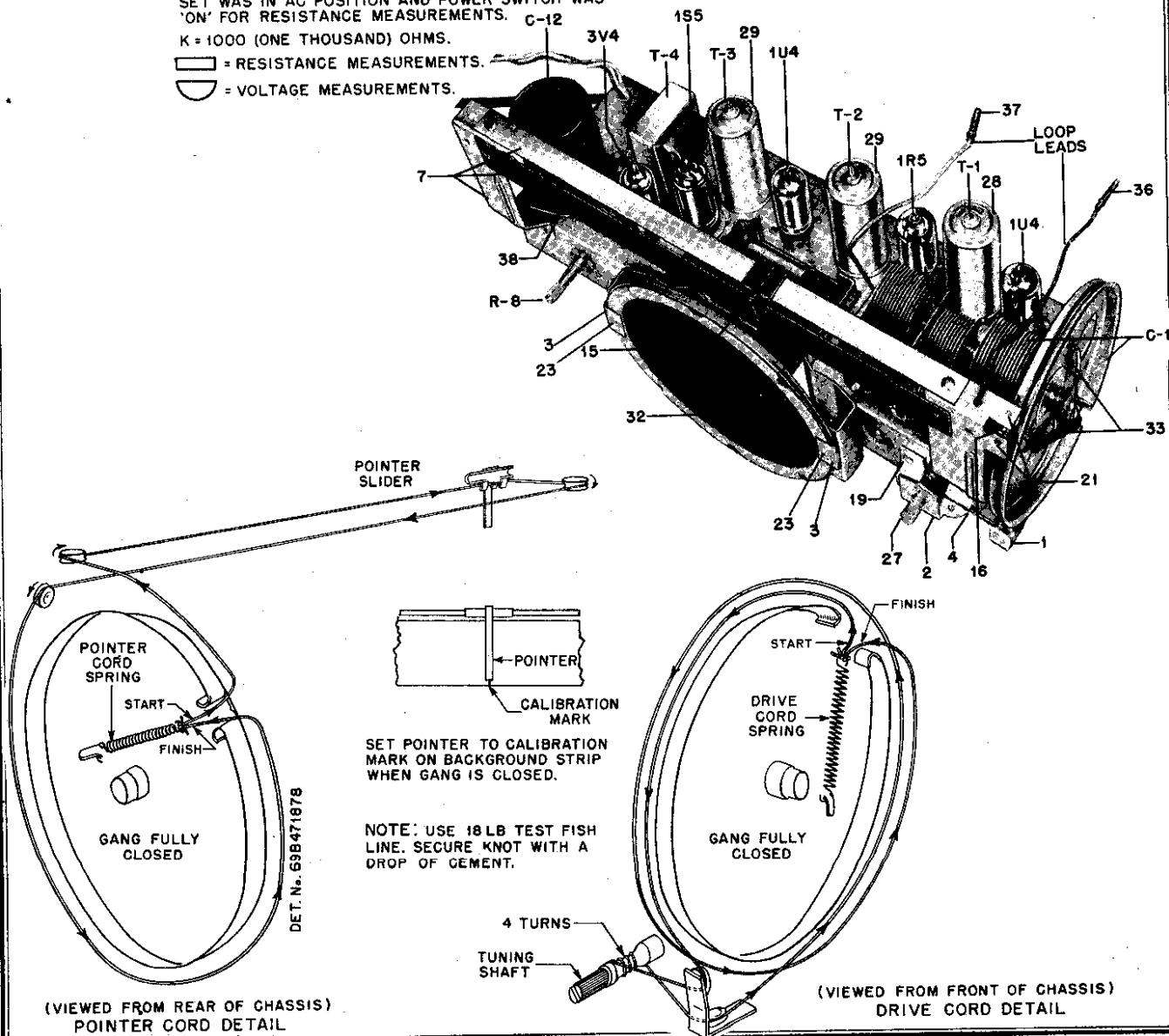
▭ = RESISTANCE MEASUREMENTS.

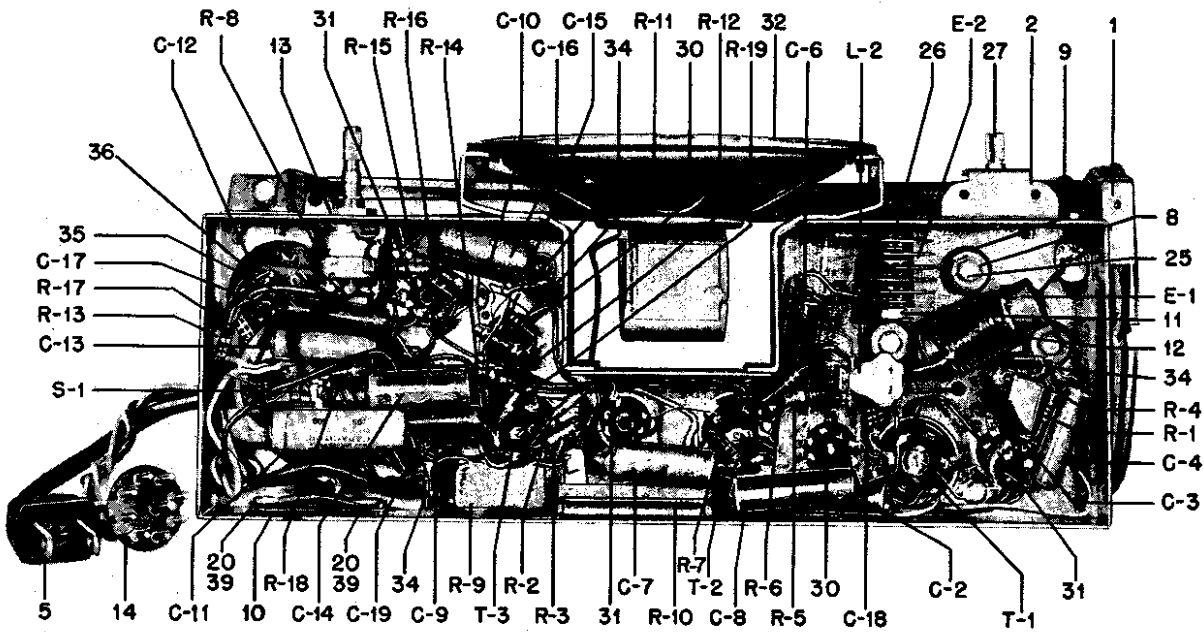
◐ = VOLTAGE MEASUREMENTS.

VOLTAGE TOLERANCE = ±10%.

RESISTANCE TOLERANCE = ±20%.

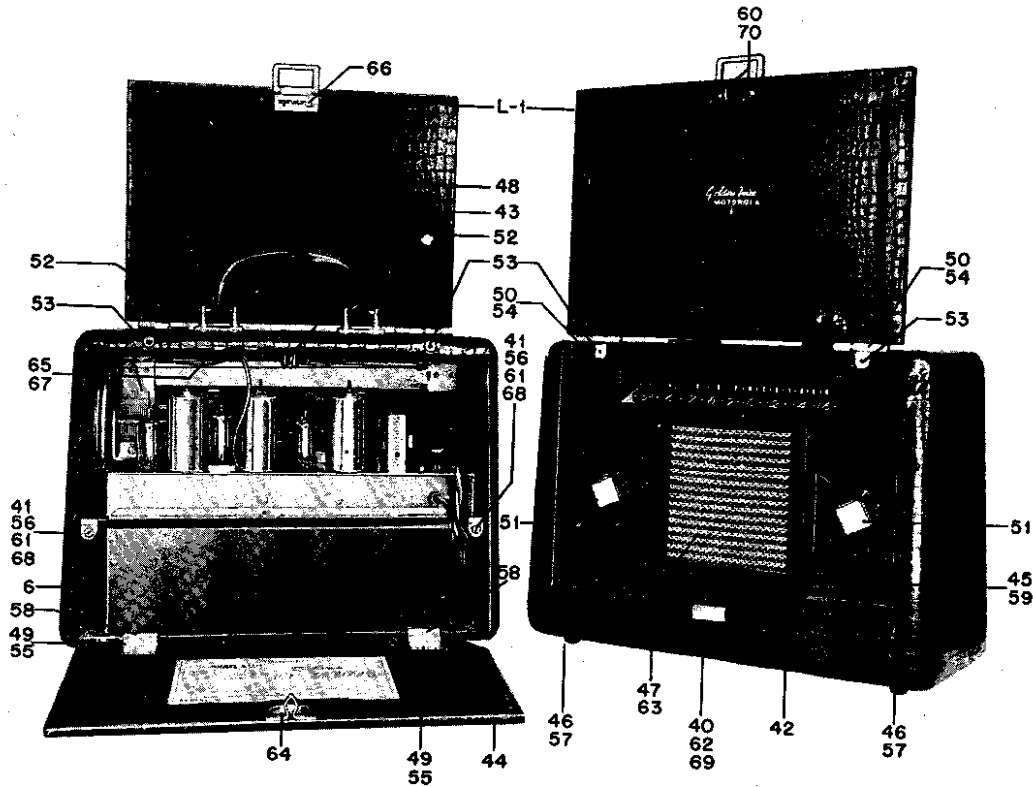
* = T/E LUG.





TYPE- 5 tube, three power portable, with a selenium rectifier for house current operation. Loop antenna is housed in detachable front cover.

POWER SUPPLY - Operates from 117V AC or DC (15 watts), or self-contained battery pack. Use Eveready No. 754 or Ray-O-Vac No. AB-878 Battery Pack.



MOTOROLA INC.

MODEL 67L11

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
CHASSIS PARTS					
CAPACITORS					
C-1	1W7283	Variable, 3 gang, includes pulley ..	39	461719	Washer, steel: 3/8 x .140 x .030; nickel plated (line cord lock mtg)
C-2	6S9805	Paper: .05 mf 100V	CASINET PARTS		
C-3	218648	Mica: 250 mf 500V	40	46877059	Block, brass (front cover bottom catch).
C-4	6S9805	Paper: .05 mf 100V	41	7A76832	Bracket, chassis mtg.
C-5	21K7288	Molded 3.3 mf	42	1X7364	Cabinet (67L11); complete, but less plastic escutcheon, grille and loop antenna.
C-6	6S9805	Paper: .05 mf 100V	43	55A77005	Catch, strips (rear panel)
C-7	6S9805	Paper: .05 mf 100V	44	16A78048	Cover & Hinge Assembly: rear cover
C-8	6S9805	Paper: .05 mf 100V	45	13D470217	Escutcheon, front panel: plastic; includes dial crystal
C-9	6S9805	Mica: 100 mf 500V	46	37A16614	Foot, rubber
C-10	6S9813	Paper: .05 mf 400V	47	35A71002	Grille Cloth and Speaker Baffle Assembly
C-12	23K76885	Electrolytic: 40-40-80 mfd. (includes black fibre cover)	48	55B71030	Handle, carrying: molded
C-13	6S9805	Paper: .05 mf 100V	49	55A77006	Hinge, brass (rear panel)
C-14	6S9805	Paper: .05 mf 100V	50	55A77049	Hinge and Pin, brass (front cover)
C-15	21B7286	Ceramic: 100 mf 500V	51	36A470823	Knob, control: volume and tuning
C-16	6S9813	Paper: .05 mf 400V	52	55K77281	Post and Bottom Plate: brass (carry- ing handle mtg)
C-17	6S9824	Paper: .02 mf 400V	53	1A7286	Receptacle and Eyelet Assembly (loop receptacle)
C-18	21B7287	Molded: 1.5 mf	54	557701	Rivet, steel: .122 x 3/16; nickel plated (front panel hinge mtg)
C-19	6S9805	Paper: .05 mf 100V	55	558479	Rivet: .122 x 9/32; nickel plated (rear panel hinge mtg)
CAPACITOR & CHOKE ASSEMBLY					
E-1	1A7283	Capacitor and Choke Assembly (includes .15 mf 200V paper capacitor and coil)	56	558612	Rivet: .122 x 7/16; nickel plated (chassis mtg, bracket mtg)
RECTIFIER					
R-2	4B7063	Rectifier, selenium	57	557757	Rivet: .122 x 1/2 split; nickel plated (rubber foot mtg)
COILS					
L-1	15C7704	Loop & Cover Assembly: includes front cover, loop, catch & hinges	58	638805	Rivet: .122 x 1/2; nickel plated (rear panel hinge mtg)
L-2	2A47684	Oscillator	59	363359	Screw: #6 x 3/8 PWA slotted hex head wood screw; antique copper finish (escutcheon mtg)
RESISTORS					
Note: All resistors 20% insulated carbon type unless specified otherwise.					
R-1	6R2118	3.3 meg 1/2W	60	358978	Screw: 6-32 x 1/2 slotted oval head; black nickel plated (front panel top catch mtg)
R-2	6R5927	2.2 meg 1/2W	61	352978	Screw: 6-32 x 3/8 slotted hex head machine screw; cadmium plated (mounts chassis to cabinet)
R-3	6R5928	5.6 meg 1/2W	62	387239	Screw: 6-32 x 1 plain hex head machine screw; cadmium plated (front cover bottom catch mtg)
R-4	6R6004	1 meg 1/2W	63	357959	Speednut, baffle mtg
R-5	6R6075	100,000 1/2W	64	55A76999	Striker, rear panel: cadmium plated
R-6	6R6012	33,000 1/2W	65	31K77361	Strip, terminal: 2 receptacle
R-7	6R5585	8.2 meg 1/2W	66	1X7283	Top Catch Assembly, brass: front cover.
R-8	1B47848	Volume control: 1 meg; with DPST switch.	67	4A13240	Washer, fibre (terminal strip mtg)
R-9	17A7686	Wirewound: 150 10K 2-1/2W	68	457569	Washer: 5/16 x .045 x .007; cadmium plated (chassis mtg, bracket mtg)
R-10	17K75249	Wirewound: 2080 5K 5W	69	457568	Washer: 3/8 x 5/32 x .038; cadmium plated (front cover bottom catch mtg)
R-11	6R3987	6.8 meg 1/2W	70	451782	Washer: 3/8 x .140 x .030; nickel plated (front cover top catch mtg)
R-12	6R2118	3.3 meg 1/2W			
R-13	6R6269	820 10K 1/2W			
R-14	6R6004	1 meg 1/2W			
R-15	6R3927	2.2 meg 1/2W			
R-16	6R5088	250 10K 1/2W			
R-17	6R5632	500 10K 1/2W			
R-18	6R5621	10 10K 1/2W			
R-19	6R6015	220,000 1/2W			
SWITCHES					
S-1	4A4244	Switch, changeover: triple pole, double throw			
TRANSFORMERS					
T-1	24B7688	RF: broadcast band; complete with iron tuning core and C-5 (3.3 mf) coupling capacitor; less shield can.			
T-2	24B7680	IF: 455 Kc; complete with iron tuning cores and padding capacitors, but less shield			
T-3	24B77284	Diode: 455 Kc; complete with iron tuning cores and padding capacitors but less shield can			
T-4	25B76852	Output			
1	71A77010	Bracket & Pulley Assembly (cord guide)			
2	7A14684	Bracket, tuning shaft mtg			
3	7A76839	Bracket, speaker mtg, plate			
4	11B9844	Cord, dia: 1/4 black			
5	50B20229	Cord: 6 ft. line cord with plug			
6	16C76864	Cover, chassis bottom			
7	1A77281	Dial Background, nail and Bracket Assem- bly			
8	5A19658	Eyelet, spacer (gang mtg)			
9	5A70404	Grommet, rubber (gang mtg)			
10	32A24915	Lock, line cord: fibre			
11	457660	Lockwasher, steel: 46 internal; cadmium plated (rectifier mtg)			
12	257002	Nut, steel: 6-32 x 5/16 hex; cadmium plated (rectifier mtg)			
13	257061	Nut, steel: 3/8-32 x 9/16 hex; Painted; cadmium plated (volume control mtg)			
14	23K7272	Plug, 9 pin (on battery cable)			
15	1K76846	Pointer and Slider Assembly			
16	49A12446	Pulley, drive cord guide			
17	55A487	Rivets: .088 x 1/2; nickel plated (tube socket mtg)			
18	557707	Rivet: .122 x 5/32; nickel plated (termi- nal strip mtg)			
19	537701	Rivet: .122 x 3/16; nickel plated (elec- trolytic mtg & tuning shaft mtg)			
20	557706	Rivet: .122 x 9/32; nickel plated (line cord lock mtg)			
21	5A12446	Rivet, shoulder: 1/8" lg (pulley mtg)			
22	5A13896	Cadmium plated (speaker mtg)			
23	532974	Screw: #6 x 1/4 PHZ plain hex head; cad- mium plated (slider switch mtg and dial background mtg)			
24	357506	Screw: 6-32 x 1/2 plain hex head, lock- ing type machine screw; cadmium plated (gang mtg)			
25	332294	Screw: 6-32 x 1-1/8 slotted round head machine screw; cadmium plated (recti- fier mtg)			
26	339683	Shaft, tuning control			
27	47A76837	Shield, (RF coil)			
28	24B70107	Shield and Sleeve Assembly (IF and Diode shield can)			
29	1A71049	Socket, tube: miniature; 7 prong; cushioned			
30	9A77088	Speaker, PH 5"; 3.2 ohms V.C.			
31	9A70485	Spring, tension coil			
32	50C76853	Strip, terminal: 2 insulated lugs, 1 mtg.			
33	41A4244	Strip, terminal: 3 insulated lugs, 1 mtg.			
34	31A4795	Terminal, plain pin: .156 diam.			
35	31A76856	Terminal, plain pin: .156 diam.			
36	29A5400	Water, beryllite (electrolytic mtg)			
37	29A5401	Water, beryllite (electrolytic mtg)			
38	9A22056	Water, beryllite (electrolytic mtg)			