

Galvin Mfg. Co.

Model: 5A7A

Chassis:

Year: Pre 1949

Power:

Circuit:

IF:

Tubes:

Bands:

Resources

[Riders Volume 17 - MOTOROLA 17-18](#)

[Riders Volume 17 - MOTOROLA 17-19](#)

[Riders Volume 17 - MOTOROLA 17-20](#)

[Riders Volume 17 - MOTOROLA 17-22](#)

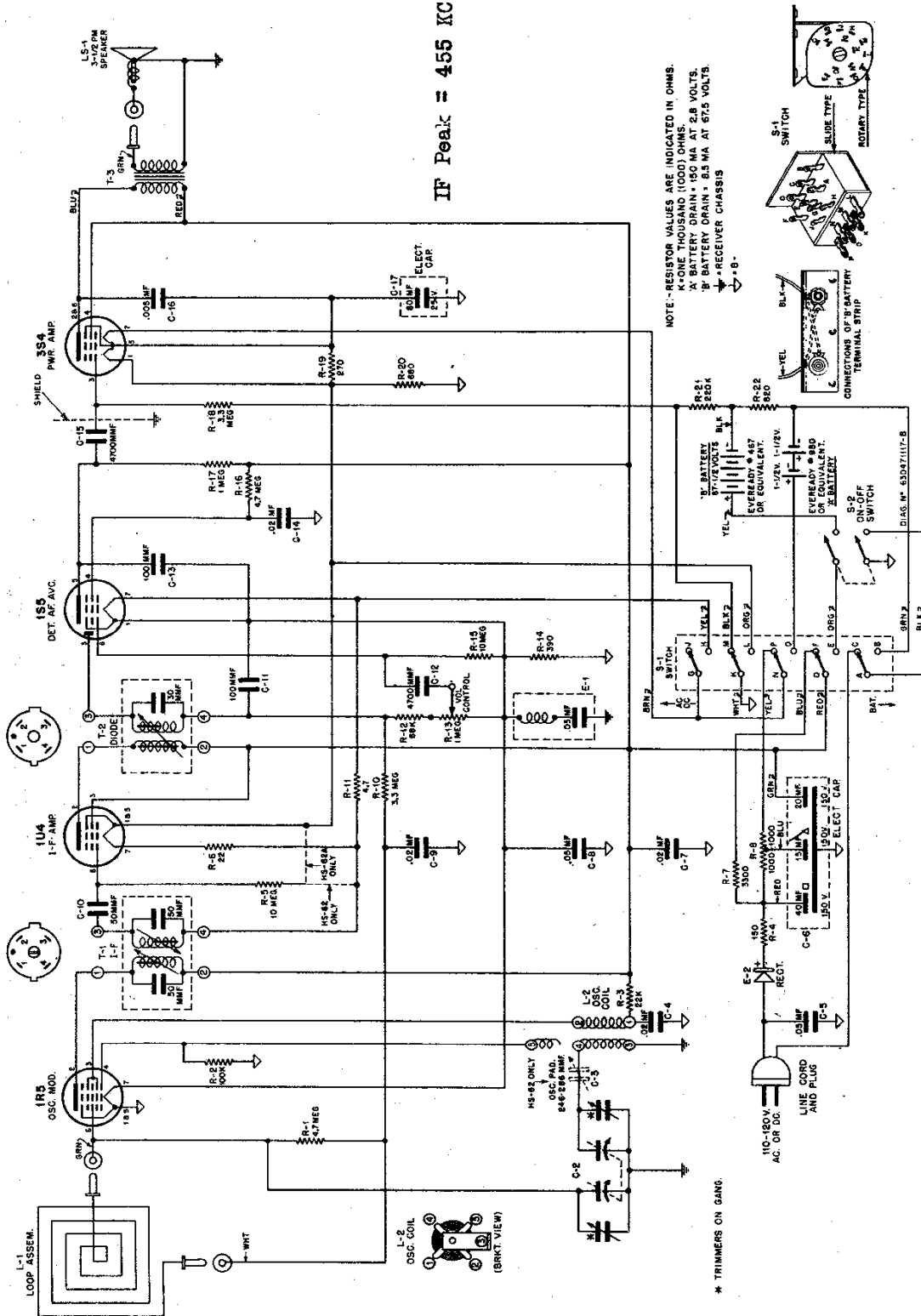
[Riders Volume 17 - MOTOROLA 17-24](#)

[Riders Volume 17 - MOTOROLA 17-25](#)

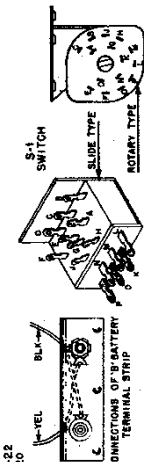
[Riders Volume 17 - MOTOROLA 17-26](#)

IF Peak = 455 KC

NOTE: RESISTOR VALUES ARE INDICATED IN OHMS.
K=ONE THOUSAND (OOD) OHMS.
M=ONE MILLI OHMS.
R=RESISTOR DRAIN = 8.5 MA AT 67.5 VOLTS.
* RECEIVER CHASSIS



* TRIMMERS ON GANG.



MOTOROLA INC.

MODEL 5A7
MODEL 5A7A

SERVICE NOTES

Placement of the four tubes (1R5, 1U4, 1S5 and 3S4) is such that they may be easily removed for servicing by opening the back cover of the set. To reduce microphonic howl, rubber shock mounting is provided for the small chassis holding the tubes and coils. A thin piece of braid serves to bond the two chassis. This braid, as well as all leads connecting the small chassis wiring to the large chassis, should be carefully dressed and free in movement to insure a good floating action of the small chassis.

Insulation between the cabinet (front, back and wrap-around) and chassis is provided for by the bakelite bushing mountings on the sides and by a wrap of armite riveted to the inside of the cabinet.

The chassis itself is isolated from the line and power circuit by a capacitor-choke assembly which eliminates shock hazard. To further guarantee any annoyance from a minor shock the chassis is insulated from the cabinet.

To remove the chassis from the cabinet, remove the two 4-40 screws (one on each side of the cabinet), pull off the tuning knobs, remove the front panel, disconnect the two loop leads from the pin receptacles, and slide the chassis out of the cabinet.

To remove the chassis cover plate, remove the two slotted screws holding the plate to the edge of the large chassis and with the set lying with the speaker cone down, lift the plate up from the chassis.

To remove the gang condenser, the screws holding the small chassis to the large chassis should be removed. This makes it possible to pull the small chassis strip out of the way so that access can be had to the screws holding the gang.

For access to some of the wiring, the "A" battery boxes may have to be removed. To do this, remove the two hex-headed screws over the slide switch leaving the center screw in. The two boxes and the connecting bracket may now be separated from the chassis. The bottom plates of the battery boxes are wired to the set, but the plates may be removed by bending the ears on the boxes outward.

The speaker is held in place by one screw located in the back of the 1S5 tube and a locating ear under the diode coil can. To replace the speaker remove the 8-32 hex-headed screw, disconnect the voice coil lead from the pin receptacle on the speaker and pull the speaker out from the front of the set.

Turning the set on or off is accomplished by opening or closing the front cover which actuates a push rod connected to a switch. Overthrow has been provided in the switch so that the switch is open circuited before the cover is completely closed. This prevents tolerance between the cover and front panel from causing switch failure. Inserting the line cord plug into the two slots between the battery boxes operates a slide switch which changes the circuit wiring to battery operation.

The oscillator coil and tuning capacitor leads should be dressed close to the chassis. This will minimize shifting of oscillator frequency when chassis is installed in its cabinet.

GENERAL INFORMATION

TYPE - Models 5A7 and 5A7A are three power (AC/DC-Battery) portable radio receivers of the personal type. Four miniature type tubes and a selenium rectifier are used in a superheterodyne circuit.

Chassis HS-62 is used in Model 5A7; Chassis HS-62A is used in Model 5A7A.

Models 5A7 (Chassis HS-62) and 5A7A (Chassis HS-62A) differ as follows:

Model 5A7 uses a tuning capacitor having same shaped plates in both sections and an oscillator padding capacitor. Model 5A7A uses a tuning capacitor having a cut plate oscillator tuning section and, therefore, an oscillator paddler is not required. The tuning capacitors, oscillator coils, loop antennas, and front panels are, therefore, unique for each model. The front panels differ because of differences in calibration curves between the cut plate and full plate tuning capacitors.

TUNING - 5A7 - 535 to 1600 Kc

5A7A - 535 to 1620 Kc

IF FREQUENCY - 455 Kc

TUBE COMPLEMENT - 1R5 - Oscillator-Modulator

1U4 - IF Amplifier

1S5 - Detector, AVC & 1st AF Amplifier

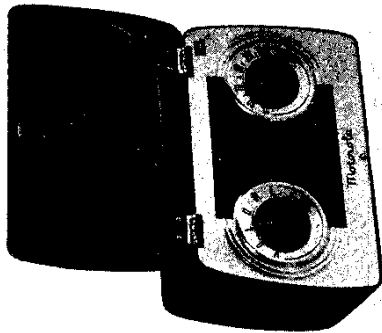
3S4 - Power Amplifier

Rect. - Selenium type - for AC/DC operation

POWER SUPPLY - Operates from 110-120V AC/DC (15 watts) or from the following batteries:

2 - 1-1/2V flashlight cells (Eveready #950 or equivalent)

1 - 67-1/2 "B" battery (Eveready #467 or equivalent)



MODEL 5A7
MODEL 5A7A

MOTOROLA INC.

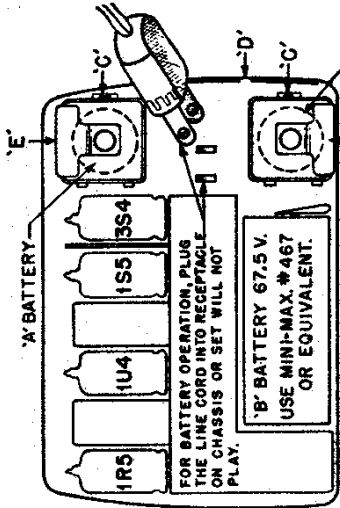


FIGURE 1. BATTERY INSTALLATION DETAIL

'A' Batteries: 1 1/2 V. flashlight cells. Use Eveready No. 950 or equiv. Install with Center Terminal facing back of set. 2 used.

To open 'A' Battery Compartments push Catches 'C' to the right.

When playing from house current, pass Line Cord through Slot 'D' in cabinet.

When line cord is not in use, wind it around Cord Clamps 'E'.

BATTERY REPLACEMENT. When low volume or fuzzy tone is noticed, replace the flashlight cells. Normally, the 67-1/2 "B" battery will last for 3 or 4 changes of the flashlight cells.

NOTE: The condition of the batteries will not affect operation of receiver from 110-120 volts AC or DC. Complete battery replacement instructions will be found inside the receiver back cover (or see Figure 1).

BOTTOM VIEW OF CHASSIS

- VOLTAGE MEASUREMENTS.
- RESISTANCE MEASUREMENTS.
- T.L. = TIE LUG.
- * MEASUREMENTS MAY VARY DEPENDING ON CONDITION OF ELECTROLYTIC CAPACITORS.

CONDITIONS OF MEASUREMENTS.

A VTVM WAS USED TO MAKE ALL VOLTAGE MEASUREMENTS. LOOP IS DISCONNECTED AND NO STATION IS TUNED IN. MEASUREMENTS ARE MADE FROM TUBE BASE PIN TO B-(↔) SET IS OPERATED FROM FRESH BATTERIES DURING VOLTAGE MEASUREMENTS. SET IS IN BATTERY POSITION AND BATTERIES ARE REMOVED DURING RESISTANCE MEASUREMENTS. VOLTAGE TOLERANCE ± 10%. RESISTANCE TOLERANCE ± 20%.

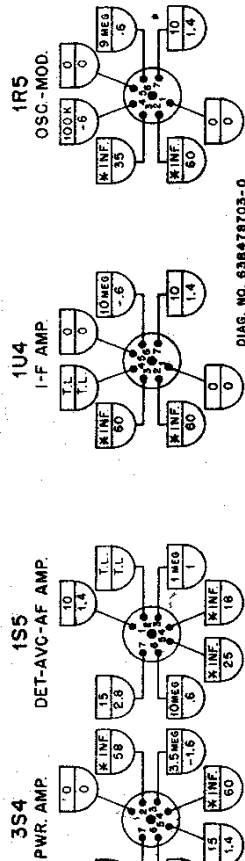


FIGURE 9. VOLTAGE & RESISTANCE DIAGRAM-CHASSIS HS-62 & HS-62A-BATTERY OPERATED

BOTTOM VIEW OF CHASSIS

- VOLTAGE MEASUREMENTS.
- RESISTANCE MEASUREMENTS.
- T.L. = TIE LUG.

CONDITIONS OF MEASUREMENTS

A VTVM WAS USED TO MAKE ALL VOLTAGE MEASUREMENTS. LOOP IS DISCONNECTED AND NO STATION TUNED IN. MEASUREMENTS ARE MADE FROM TUBE BASE PINS TO B-(↔) SET IS OPERATED FROM 117 V. AC DURING VOLTAGE MEASUREMENTS. SET IS IN AC/DC POSITION AND BATTERIES ARE REMOVED DURING RESISTANCE MEASUREMENTS. VOLTAGE TOLERANCE ± 10%. RESISTANCE TOLERANCE ± 20%.

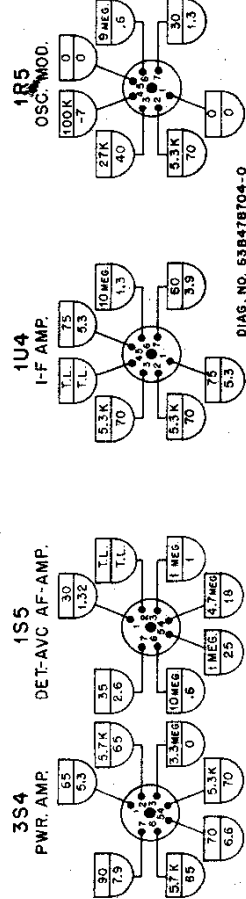


FIGURE 10. VOLTAGE & RESISTANCE DIAGRAM-CHASSIS HS-62 & 62A-AC OPERATED

CHART II. MODEL 5A7A (CHASSIS HS-62A) ALIGNMENT PROCEDURE

(Refer to Figure 3 for location of all alignment trimmers and cores).

STEP	DIAL SET TO	DUMMY	SIGNAL GENERATOR CONNECTED TO	SIGNAL GENERATOR SET AT	ADJUST TRIMMER OR CORE	REMARKS
IF ALIGNMENT						
1.	Gang fully opened	.1 mf	Osc-Mod grid & B- *	455 Kc	1, 2 & 3	Adjust for maximum.
RF ALIGNMENT						
2.	Gang fully opened	.1 mf	Osc-Mod grid & B- *	1620 Kc	4	This sets oscillator to dial scale.
3.	-	-	-	-	-	Install chassis in cabinet, leaving output meter connected to speaker.
4.	1400 Kc	None	Radiation loop **	1400 Kc	5	Tune signal in on receiver, then adjust loop trimmer (5) for maximum. Loop trimmer is reached through hole under plug button on side of cabinet.

* A convenient point for these connections is the stator of the loop section of the tuning capacitor and the rear left hand lug on the power switch. See Figure 3.

** 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 (.40 V) on output meter. Vary distance between loops to maintain this output during alignment. Minimum distance between loops should never be less than 12".

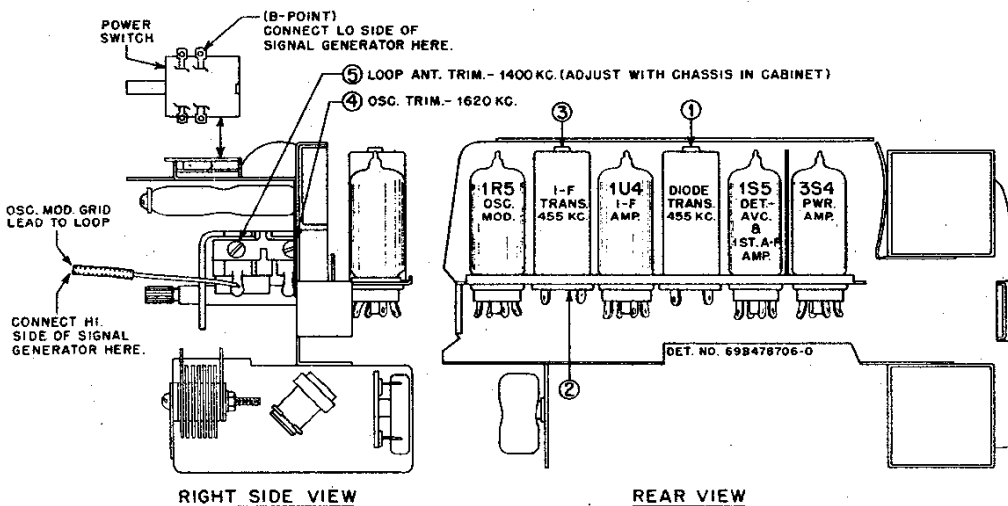


FIGURE 3. CHASSIS HS-62A TUBE & TRIMMER LOCATIONS

MODEL 5A7A

MOTOROLA INC.

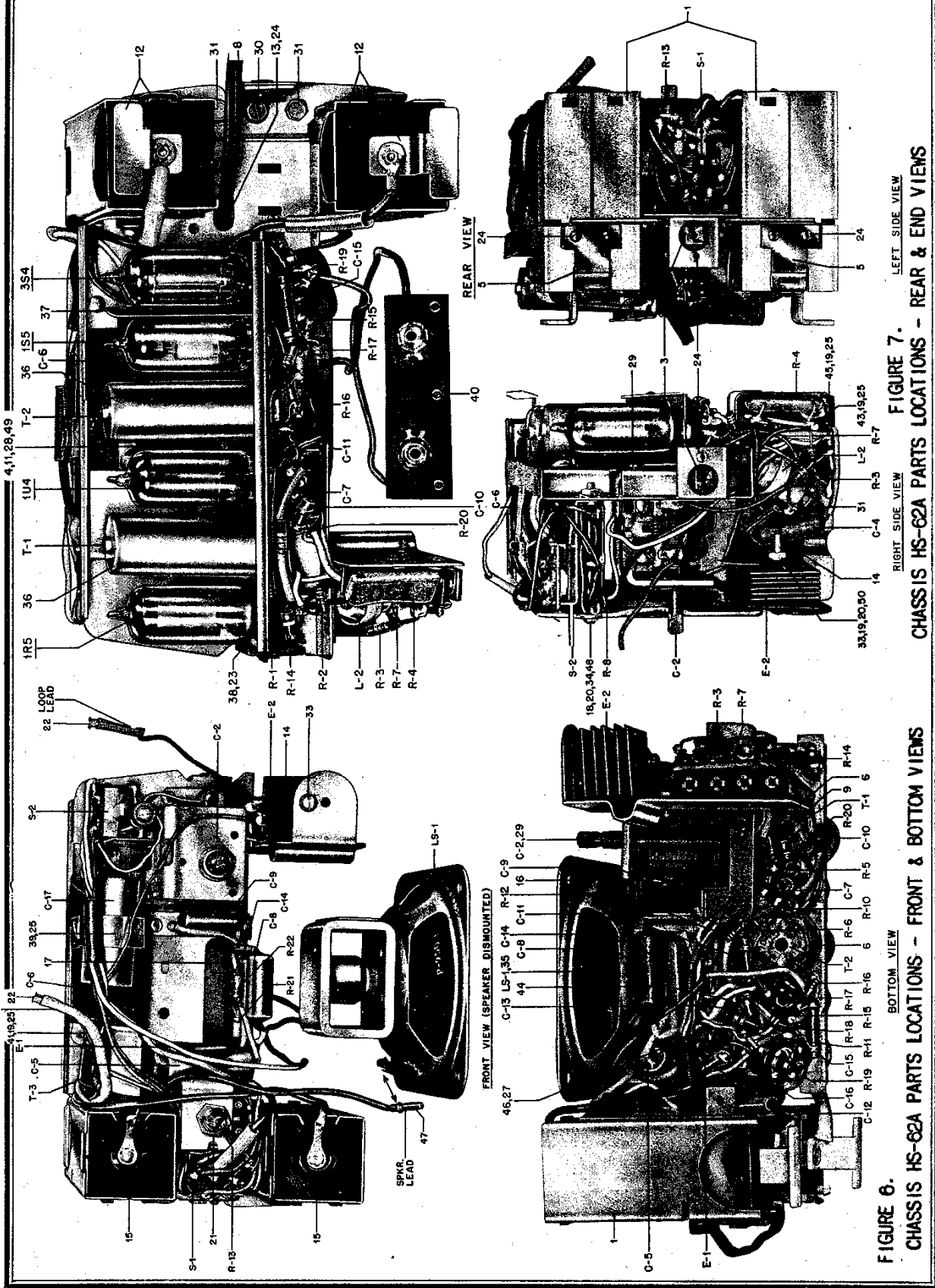


FIGURE 6. CHASSIS HS-62A PARTS LOCATIONS - FRONT & BOTTOM VIEWS

FIGURE 7. CHASSIS HS-62A PARTS LOCATIONS - REAR & END VIEWS

MOTOROLA INC.

MODEL 5A7
MODEL 5A7A

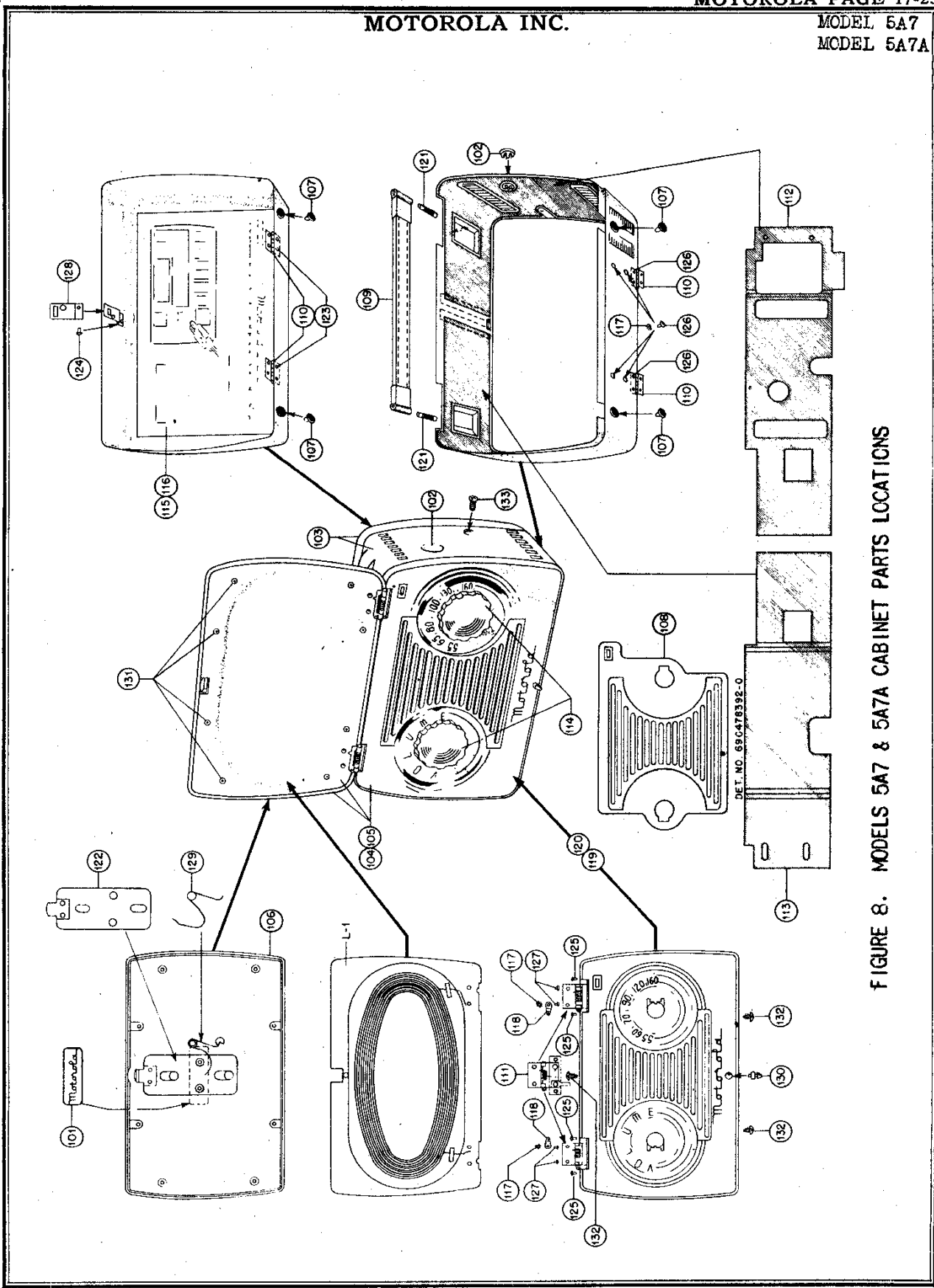


FIGURE 8. MODELS 5A7 & 5A7A CABINET PARTS LOCATIONS

MODEL 5A7
MODEL 5A7A

MOTOROLA INC.

REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
C-2	19A70023	Variable, 2, 8 ohms, full plates (HS-62 only)	24	597770	Rivet: .068 x 5/32 steel; nickel plated	104	1A79827	Cover, Loop & Front Panel Assembly: In-
C-3	19A70024	Variable, 2 ohms, 2 gang out coillector plates (HS-62A only)	25	597709	Slide switch: SPDT 40C-30/Battery selec-	107	55A27113	cluser: satin-finished chrome front
C-4	58A71855	Trimmer, mica: 246 to 286 mm range (5cc, pad - HS-62 only)	26	597707	tive selector-interchangeable with 40A71827-10	108	55A27115	panels, latch retainer stud, two inser-
C-5	58A70836	Paper: .02 mf 400V	27	597701	Rotary change-over switch: RPT 16-3C	109	55A27119	latched hinges, molded speaker grille,
C-6	58A71856	Paper: .02 mf 100V	28	597704	40A70913) selector-interchangeable with 40A70913) switch (30-0-30) (30-0-30)	110	55A27120	loop hinges and loop cover with latch
C-7	58A71857	Paper: .02 mf 100V	29	352941	Head thread cutting screw; cadmium plated (sub-chassis msg)	111	1A79824	loop cover only with chassis
C-8	5A71513	Paper: .02 mf 100V	30	357942	Locking type machine screw; cadmium plated (3/16 msg)	112	1A79825	loop cover only with chassis
C-9	5A71513	Paper: .02 mf 100V	31	357943	Locking type machine screw; cadmium plated (3/16 msg)	113	1A79826	Cover, Loop & Front Panel Assembly: same as above except for 5A7A only - use only with chassis HS-62A
C-10	21K77375	Carbonic: 50 mf 500V	32	357940	Chrome .49 x 1/4 slotted blindhead (chassis cover msg)	114	1A79827	Cover & Latch Assembly: loop antenna
C-11	21K77376	Carbonic: 100 mf 500V	33	359685	Screw: #6 x 3/16 slotted hex head	115	58A71078	Foot, felt
C-12	21K70687	Carbonic: 4700 mf 500V	34	354451	Screw: #8-32 x 2" slotted round head	116	58A71079	Post, felt
C-13	21K77268	Carbonic: 100 mf 500V	35	357926	Ins type machine screw; cadmium plated (speaker msg)	117	54A71979	Head, springs: complete
C-14	21K77269	Carbonic: 100 mf 500V	36	357926	Ins type machine screw; cadmium plated (speaker msg)	118	439406	Hinge: back cover (loop cover)
C-15	21K77270	Carbonic: 100 mf 500V	37	357926	Ins type machine screw; cadmium plated (speaker msg)	119	2985399	Hinge: back cover (loop cover)
C-16	21K77271	Carbonic: 100 mf 500V	38	357926	Ins type machine screw; cadmium plated (speaker msg)	120	15K79617	Hinge & Insulator Assembly (front loop)
C-17	23A70063	Electrolitic: 50 mf 25V	39	1A70925	Shield & Base Assembly (for T-1 & T-2)	121	4A70927	Panel, front metal; satin chrome finish (5A7 only)
D-1	24A70829	Choke & Tubular Capacitor (.46 mf 500V capacitor)	40	31A79890	Strip, terminal: 1 insulated lug, end msg (3/16 spacing)	122	1A70928	Panel, front metal; satin chrome finish (5A7 only)
D-2	48A78111	Selenium Rectifier: half-wave	41	31A79890	Strip, terminal: 2 insulated lugs, 42 msg (3/16 spacing)	123	58A8487	Plate & Latch Assembly
D-3	58A70835	Loop Antenna & Panel Assembly (HS-62 only)	42	31A79890	Strip, terminal: 2 insulated lugs, 42 msg (3/16 spacing)	124	592831	finish (housings rear cover to hinges)
L-1	24A79008	Loop Antenna & Panel Assembly (HS-62A only)	43	31A79891	Strip, terminal: 2 insulated lugs, 42 msg (1/4" spacing)	125	532839	finish (rear cover catch msg)
L-2	24A32540	Oscillator (HS-62 only)	44	31A79891	Strip, terminal: 2 insulated lugs, 42 msg (1/4" spacing)	126	589490	finish (housings hinge to front panel)
L-3	24A79022	Oscillator (HS-62 only)	45	31A79891	Strip, terminal: 2 insulated lugs, 42 msg (1/4" spacing)	127	532827	housings & housing insulator msg)
S-1	50A70660	Speaker: 5-1/2" PH: 3.2 ohm W. (HS-62 & HS-62A)	46	31A79891	Strip, terminal: 2 insulated lugs, 42 msg (1/4" spacing)	128	1A70983	finish (loop door catch)
S-2	52A70823	Speaker: 5-1/2" PH: 3.2 ohm W. (HS-62A only)	47	31A79891	Strip, terminal: 2 insulated lugs, 42 msg (1/4" spacing)	129	41A70909	Spring, loop door catch
R-1	63E122	4.7 meg	48	31A79891	Strip, terminal: 2 insulated lugs, 42 msg (1/4" spacing)	130	48A70961	Stud, latch retainer (loop cover)
R-2	63E122	4.7 meg	49	487954	Washer: 3/8 x 1/8 x .003 thick, steel	131	388269	Sheet metal screw: stationary bronze
R-3	63E122	4.7 meg	50	497552	Washer: 7/16 x 9/64 x .002 thick, cad-	132	353390	Sheet metal screw: stationary bronze
R-4	63E122	4.7 meg			mium plated (rectifier msg)			finish (mount loop to loop cover)
R-5	63E122	4.7 meg						head sheet metal screw; stationary bronze
R-6	63E122	4.7 meg						finish (mount front panel to housing)
R-7	63E122	4.7 meg						Screw: 4-40 x 1/4 Phillips blindhead
R-8	63E122	4.7 meg						machine screw; stationary bronze finish
R-9	63E122	4.7 meg						(chassis to cabinet msg)
R-10	63E122	4.7 meg						
R-11	63E122	4.7 meg						
R-12	63E122	4.7 meg						
R-13	63E122	4.7 meg						
R-14	63E122	4.7 meg						
R-15	63E122	4.7 meg						
R-16	63E122	4.7 meg						
R-17	63E122	4.7 meg						
R-18	63E122	4.7 meg						
R-19	63E122	4.7 meg						
R-20	63E122	4.7 meg						
R-21	63E122	4.7 meg						
R-22	63E122	4.7 meg						

CABINET PARTS - MODELS 5A7 & 5A7A

REF. NO.	PART NO.	DESCRIPTION
101	58A70976	Burton, loop cover: plastic
102	38A70999	Burton, loop wire: wrinkle maroon finish (cover for loop ant. crim. hole)
103	1A79833	Cabinet, complete: Includes: dip cast housing, rear cover with catch, felt feet and arnie housing insulators; does not include carrying handle, handle retaining plate on front cover and loop assembly