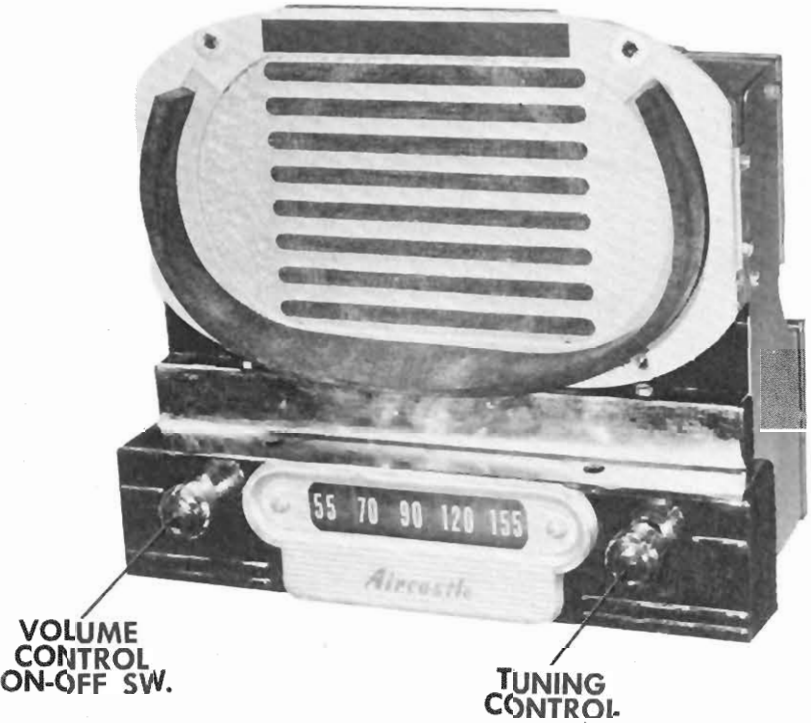


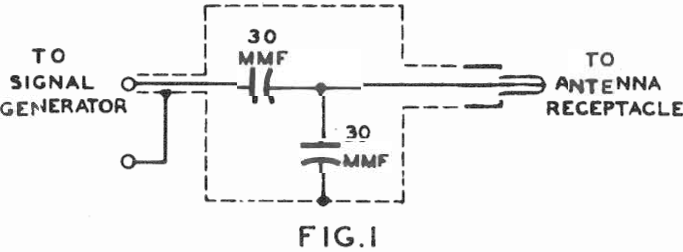


AIRCASTLE
MODEL 610.S500

AIRCASTLE
MODEL 610.S500



TRADE NAME	Aircastle Model 610.S500 (For 1950-1951 Studebaker Automobiles)					
SUPPLIER	Spiegel, Inc., 1061 W. 35th.St., Chicago 9, Ill.					
TYPE SET	Battery Operated Custom Built Automobile Superheterodyne Receiver					
TUBES	(Six)	Types 6BA6 RF Amp., 6BE6 Conv., 6BA6 IF Amp., 6AT6 Det.-AVC-AF Amp., 6AQ5 Audio Output, 6X4 Rectifier				
POWER SUPPLY	6 Volt Storage Battery			RATING 5.8 Amp. @ 6.3 Volts DC		
TUNING RANGE—BROADCAST	538-1600 KC					
ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT						
Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.						
DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1MFD	High side to pin 7 (grid) of 6BE6 (V2) Low side to chassis.	455 KC (400% Mod)	Tuning gang fully open	Across voice coil	A1, A2 A3, A4	Adjust for maximum output.
"	"	1600 KC	"	"	A5	Adjust for maximum output. If A5 shows insufficient range, set in middle of range and adjust trimmer on opposite end of same section of tuning gang.
Fig. 1	Thru dummy to antenna receptacle	600 KC	Tune to 600 KC signal	"	A6, A7	"
"	"	1400 KC	Tune to 1400 KC signal	"	A8, A9	"
Turn tuning gang fully open and set pointer 3/8" from right hand end of dial background plate.						

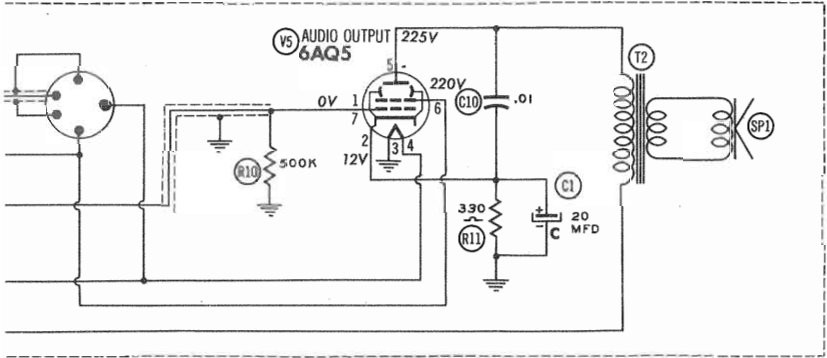
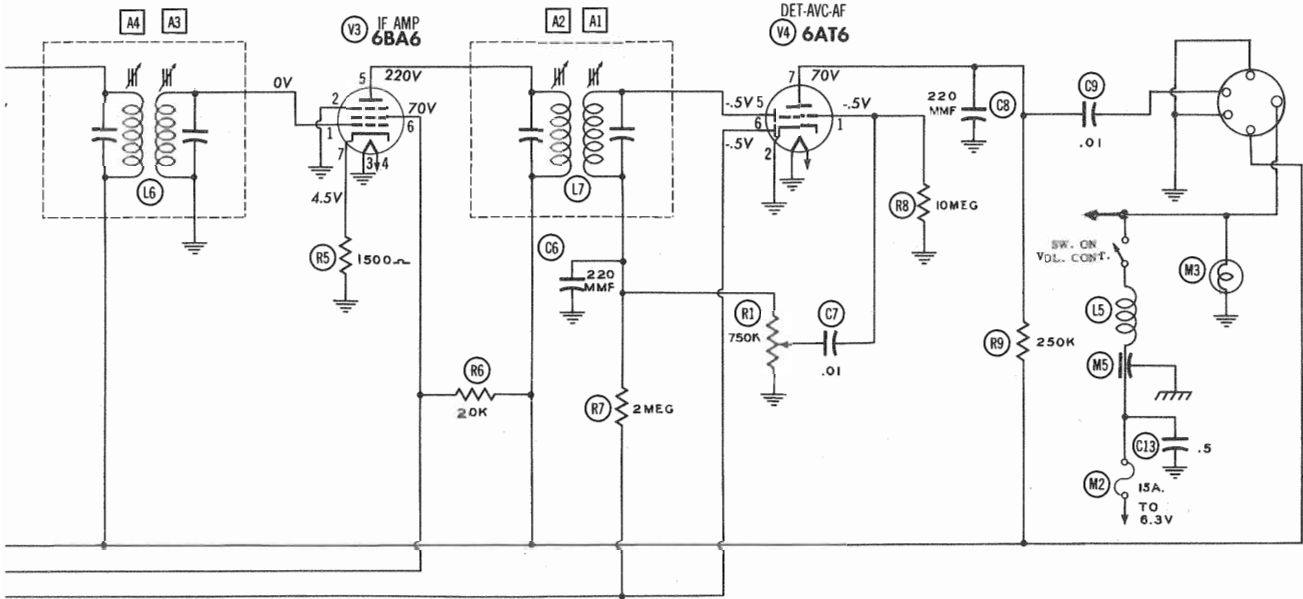


HOWARD W. SAMS & CO., INC. • Indianapolis 5, Indiana

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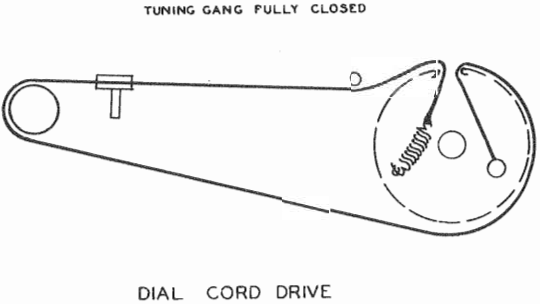
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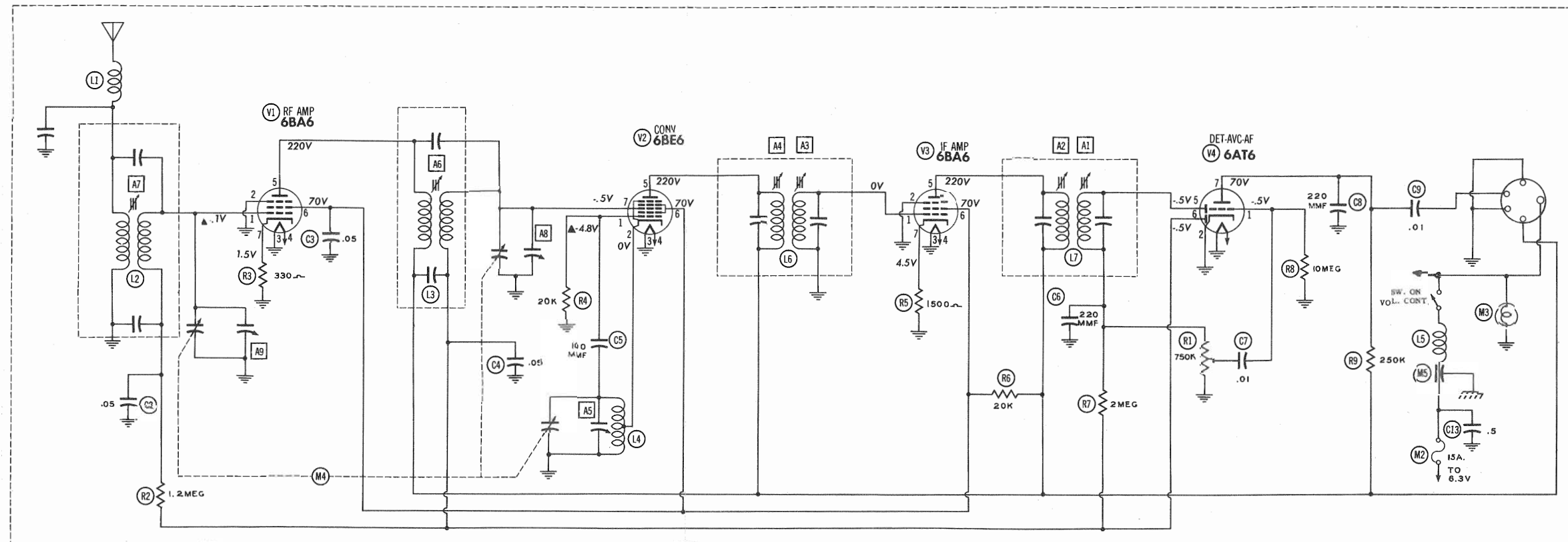
IF=455KC

Pin 6	Pin 7
†23KΩ	330Ω
†23KΩ	2.7Meg
†23KΩ	1.5KΩ
2.7Meg	†270KΩ
†1KΩ	470KΩ
260Ω	40KΩ

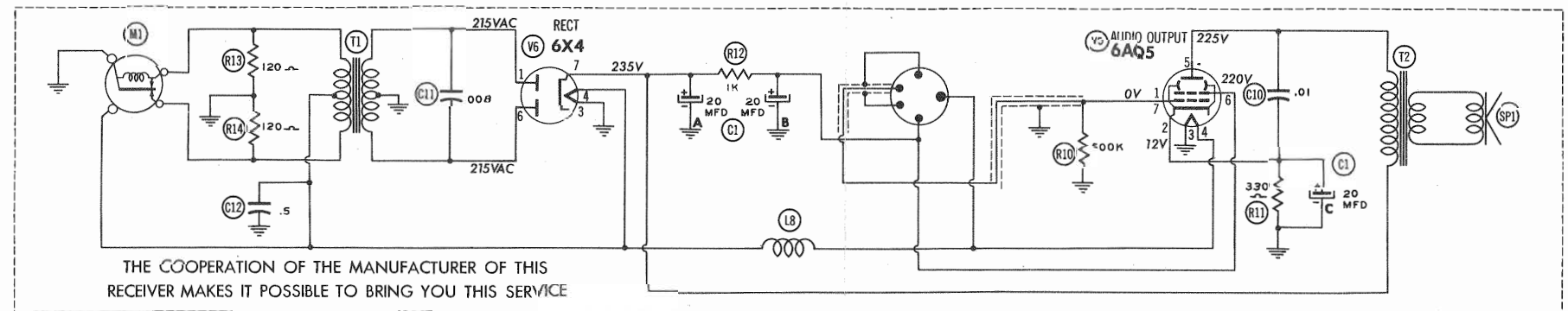
1-DC Voltage measurements are at 20,000 ohms per volt, AC Voltages measured at 1000 ohms per volt.
2-Socket connections are shown as bottom views.
3-Measured values are from socket pin to common negative.
4-Battery voltage maintained at 6.3 volts for voltage readings.
5-Nominal tolerance on component values makes possible a variation of ±15% in voltage and resistance readings.
6-Volume control at maximum, no signal applied for voltage measurements.



AIRCATTLE
MODEL 610.S500



IF = 455 KC

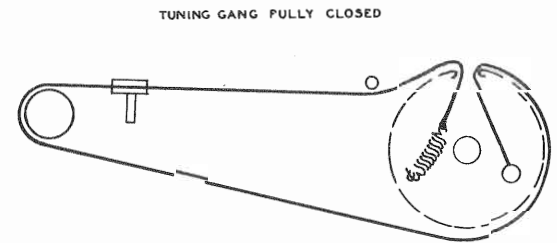


THE COOPERATION OF THE MANUFACTURER OF THIS
RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
V 1	6BA6	3.9Meg	0Ω	0Ω	.4Ω	†1KΩ	†23KΩ	330Ω
V 2	6BE6	22KΩ	.7Ω	0Ω	.4Ω	†1KΩ	†23KΩ	2.7Meg
V 3	6BA6	19Ω	0Ω	0Ω	.4Ω	†1KΩ	†23KΩ	1.5KΩ
V 4	6AT6	10Meg	0Ω	0Ω	.4Ω	750KΩ	2.7Meg	†270KΩ
V 5	6AQ5	470KΩ	330Ω	0Ω	.4Ω	†260Ω	†1KΩ	470KΩ
V 6	6X4	250Ω	INF	0Ω	.4Ω	INF	260Ω	40KΩ

† MEASURED FROM PIN 7 OF V6
▲ TAKEN WITH VACUUM TUBE VOLTMETER



- 1-DC Voltage measurements are 40,000 ohms per volt, AC Voltages measured at 1000 ohms per volt.
- 2-Socket connections are shown in bottom views.
- 3-Measured values are from socket pin to common negative.
- 4-Battery voltage maintained at 6.3 volts for voltage readings.
- 5-Nominal tolerance on component values makes possible a variation of ± 15% in voltage and resistance readings.
- 6-Volume control at maximum, no signal applied for voltage measurements.

TRADE NAME SUPPLIER TYPE SET TUBES (Six)	
POWER SUPPLY TUNING RANGE	
Volume control sh output reading. U	
DUMMY ANTENNA	SI GEN CO
1. .1MFD	High sk (grid) o Low sic
2. "	"
3. Fig. 1	Thru d antenna
4. "	"
Turn tuning gang	

PARTS LIST AND DESCRIPTIONS
TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		NOTES
		AIRCRAFTLE PART No.	STANDARD REPLACEMENT TYPE	
V1	RF Amplifier	6BA6	7BK	
V2	Converter	6BE6	7CH	
V3	IF Amplifier	6BA6	7BK	
V4	Det.-AVC-AF Amp	6AT6	7BT	
V5	Audio Output	6AQ5	7B2	
V6	Rectifier	6X4	5B5	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING CAP. VOLT	REPLACEMENT DATA				NOTES
		AIRCRAFTLE PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	
C1A	#20	CE-86	AFH3-107		UP2235C	
C1B	20			DF-503	P28S	
C2	.05			DF-503	P28S	
C3	.05			DF-503	P28S	
C4	.05			DF-503	P28S	
C5	.05			DF-503	P28S	
C6	.05			DF-503	P28S	
C7	.01			DF-503	P28S	
C8	.01			DF-503	P28S	
C9	.01			DF-503	P28S	
C10	.01			DF-503	P28S	
C11	.008			DF-503	P28S	
C12	.5			DF-503	P28S	
C13	100			DF-503	P28S	

Note 1. Some Models use 200MMF in this application (Part #C203)

Note 2. Some Models use .002MFD in this application (Part #C203)

CONTROLS

ITEM No.	RATING RESIST. WATTS	REPLACEMENT DATA			INSTALLATION NOTES
		AIRCRAFTLE PART No.	IRC PART No.	CLOARSTAT PART No.	
R1A	750KΩ	RV-57	Q13-137	B-70-S	Volume - See Note
R1B	Shaft	Not Req.	FS-3	Not Req.	Attach to R1A
R1C	Switch	Not Req.	76-1	Not Req.	Attach to R1A

Note: Some Models may use Alternate Control (Part #RV-570)

RESISTORS

ITEM No.	RATING OHMS WATT	REPLACEMENT DATA			NOTES
		AIRCRAFTLE PART No.	IRC PART No.	ITEM No.	
R2	1.2Meg			R9	
R3	330Ω	R303	BTS-1.2Meg	R10	
R4	20KΩ	R306	BTS-330	R11	
R5	1500Ω	R314	BTS-1500	R12	
R6	20KΩ	R313		R13	
R7	2MΩ	R310		R14	
R8	10Meg	R311			

Note 1. Some Models use a 1Meg resistor in this application.

Note 2. Some Models use a 100Ω resistor in this application.

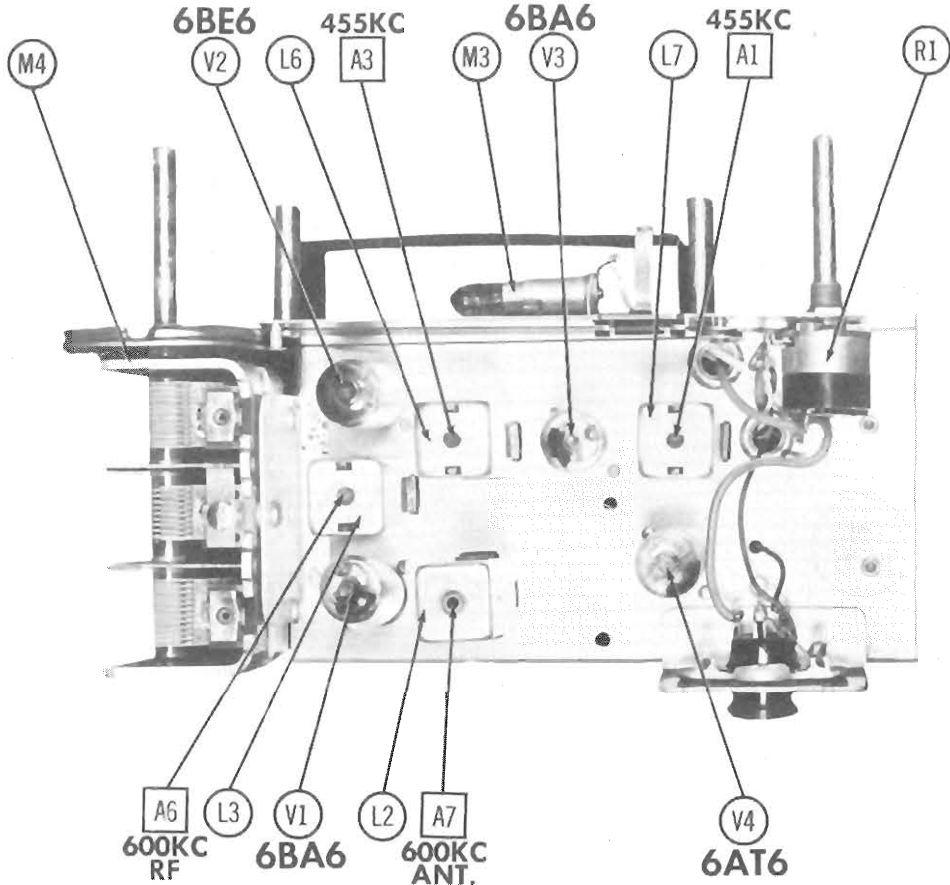
TRANSFORMER (VIBRATOR)

ITEM No.	RATING			REPLACEMENT DATA			
	PRI.	SEC. 1	SEC. 2	AIRCRAFTLE PART No.	STANCOR PART No.	CHICAGO PART No.	TRIAD PART No.
T1	6.3VAC 430VCT			TV-100			
	5.8ADC			3187-2			

① Alternate trans.

② Drill new mtg. holes

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)
TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING IMPEDANCE PRI. SEC.	DC RES. PRI. SEC.	REPLACEMENT DATA				NOTES
			AIRCRAFTLE PART No.	STANCOR PART No.	CHICAGO PART No.	TRIAD PART No.	
T2	2.7KΩ 3.1Ω 260Ω	.5Ω	Part of Spkr.	A-3332	RO-2	S-1X	① Bend mtr. tabs down, file out slots, mount on original mounting bracket.

SPEAKER

ITEM No.	RATINGS SIZE FIELD V. C. IMP. PM	REPLACEMENT DATA			NOTES
		AIRCRAFTLE PART No.	JENSEN PART No.	QUAM PART No.	
SP1	5"	PM-710	ST-105	5A15	

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			NOTES
		DC RES. PRI. SEC.	AIRCRAFTLE PART No.	MERIT PART No.	
L1	Noise Eliminator				
L2	Ant. Coil	230	L200		
L3	RF Coil	220	15053 *		
L4	RF Coil	100Ω	15054 †		
L5	RF Coil	8.7Ω	L203		
L6	Line Choke	0Ω	L203		
L7	Input IF	190	14977	BC-352	
L8	Hash Choke	0Ω	14977	BC-353	

VIBRATOR

ITEM No.	TYPE	INPUT VOLTS/QUANTITY	REPLACEMENT DATA			NOTES
			AIRCRAFTLE PART No.	CORNELL-DUBILIER PART No.	MALLOY PART No.	
M1	Interrupter	6.3V 118*	V-83	5301	859	① Alternate Vibrator

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA			
			AIRCRAFTLE PART No.	LITTELFUSE PART No.	BUSS PART No.	
M2	3AG	15A 32V				

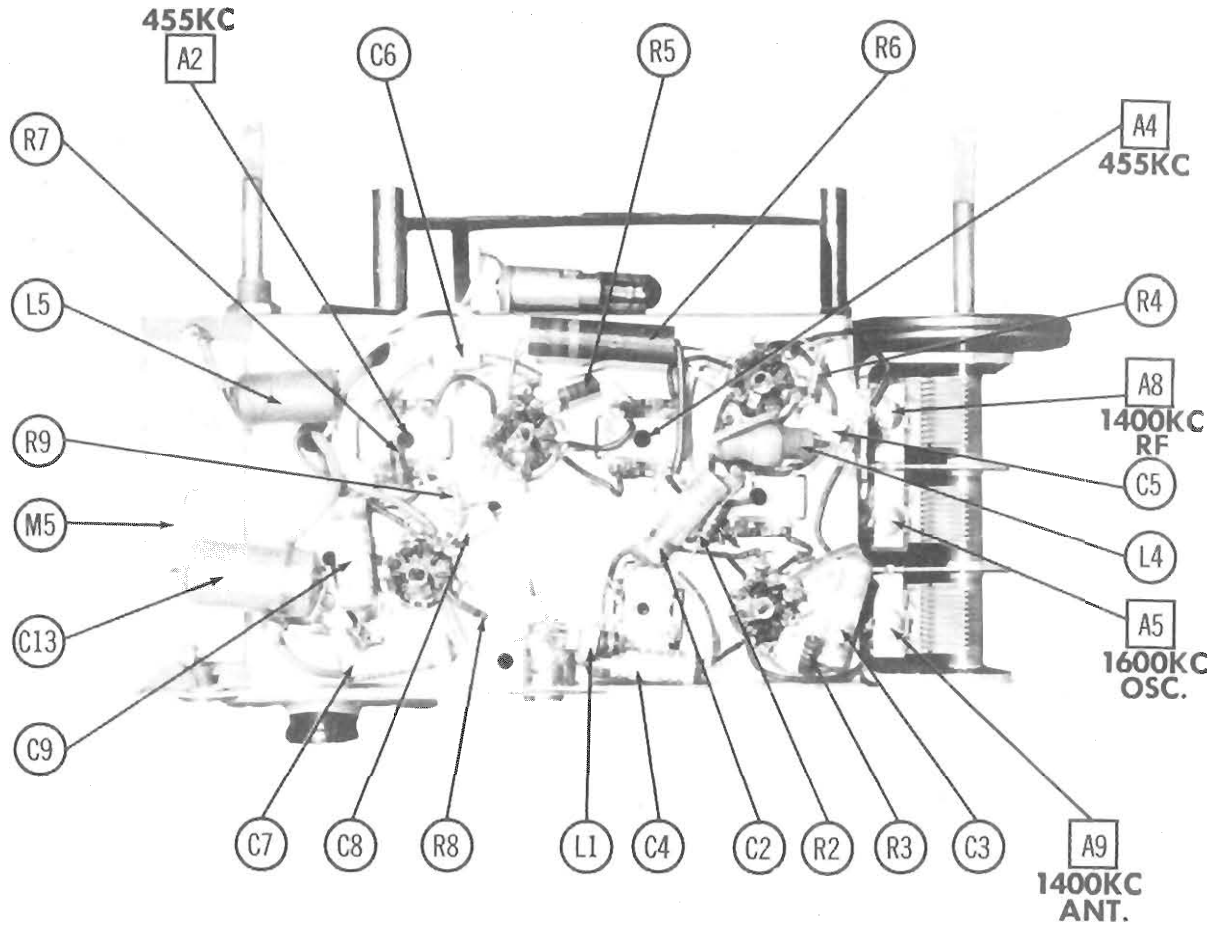
DIAL LIGHTS

ITEM No.	BASE TYPE	VOLTS	AMPS	REPLACEMENT DATA		NOTES
				BEAD COLOR	AIRCRAFTLE PART No.	
M3	Bayonet	6-8	.15	Brown	T47	Type #47

MISCELLANEOUS

ITEM No.	PART NAME	AIRCRAFTLE PART No.	NOTES
M4	3 Gang Var. Cap	CY-400	(25-307MMF, 27-306MMF, 24-201MMF)
M5	Spark Plate Knob Escutcheon	H310 H523	Dial Scale
	Dial Pointer	PS100	

CHASSIS—BOTTOM VIEW



TRANSFORMER (VIBRATOR)

ITEM No.	RATING			REPLACEMENT DATA			
	PRI.	SEC. 1	SEC. 2	SEC. 3	AIRCASTLE PART No.	STANCOR PART No.	MERIT PART No.
T1	6-3VAC	430VCT			TV-100	38Y-2 ①	
	5.8ADC	.046ADQ					

① Alternate trans.

② Drill new mtg. holes

PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA					NOTES	
	IMPEDANCE		DC RES.		AIRCASTLE PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	TRIAD PART No.		
	PRI.	SEC.	PRI.	SEC.							
T2	2.7KΩ	3.1Ω	260Ω	.5Ω		Part of Spkr.	A-3332 ①	A-3025 ①	RO-2 ①	S-IX ①	① Bend mtg. tabs mount on or-ignal mounting bracket.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA				NOTES
	SIZE	FIELD	V.	C.	IMP.	JENSEN PART No.	QUAM PART No.
SP1	5"	PM	3.1Ω			ST-105 Mod. PS-1	5A15

COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	AIRCASTLE PART No.	MERIT PART No.	
L1	Noise Elimin-ator	230		L200		Includes 10MMF Capacitor
L2	Ant. Coil	220	6.5Ω	15053		* Alternate part #57FB-3
L3	RF Coil	200	6.5Ω	15054		† Alternate part #57FB-4
L4	Sec. Coil	8.7Ω		L201		Tapped @ 8Ω
L5	Line Choke	180		14977		■ Alternate part #1655-16
L6	Input IF	180		14977		
L7	Output IF	180		14977		
L8	Hash Choke	0Ω		L202		

VIBRATOR

ITEM No.	TYPE	INPUT VOLTS	FREQUENCY	REPLACEMENT DATA				NOTES
				AIRCASTLE PART No.	CORNELL-DUBILER PART No.	MALLORY PART No.	RADIART PART No.	
M1	Interrupter	6.3V	11Φ	V-94 ①	5301	859	5301	① Alternate Vibrator

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA				NOTES
			AIRCASTLE PART No.	LITTELFUSE PART No.	FUSE HOLDER	FUSE HOLDER	
M2	3AG	15A 32V			311015	155020	AGC-15 HDJ-B

DIAL LIGHTS

ITEM No.	BASE TYPE	VOLTS	AMPS.	REPLACEMENT DATA		NOTES
				BEAD COLOR	AIRCASTLE PART No.	
M3	Bayonet	6-8	.15	Brown	T47	Type #47

MISCELLANEOUS

ITEM No.	PART NAME	AIRCASTLE PART No.	NOTES
M4	3 Gang Var. Cap	CV-400	(25-397MMF, 27-386MMF, 24-201MMF)
M5	Spark Plate Knob Escutcheon	H310 H523	Dial Scale
	Dial Pointer	PS100	

CHASSIS—BOTTOM VIEW

