

AIRCASTLE  
MODEL 5002



AIRCASTLE MODEL 5002

AIRCASTLE  
MODEL 5002

TRADE NAME Aircastle, Model 5002  
 SUPPLIER Spiegel, Inc., 1061 W. 35th St., Chicago, Ill.  
 TYPE SET AC-DC Operated Superheterodyne Receiver-Self Contained Loop Antenna  
 TUBES(SIX) Types, 12SK7 or 12BA6 RF Amp., 12SA7 Converter, 12SK7 or 12BA6 IF Amp., 12SQ7 or 12AT6 Det.-AVC-AF, 35L6GT Power Output, 35Z5GT or 35W4 Rectifier.

POWER SUPPLY 110-125 Volts AC-DC  
 TUNING RANGE—BROADCAST 540-1720KC RATING .220 Amp. @ 117 Volts AC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer turn variable fully closed and set pointer parallel to horizontal line on dial plate at low frequency end. Volume control should be at maximum and output of signal generator no higher than necessary to obtain output reading. Use isolation transformer if available. If not connect a capacitor in series with low side of signal generator and B-. Use insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.1 MFD.	High side to stator of rear section of variable. Low side to B-.	455KC	Variable fully open.	Across voice coil.	A1,A2, A3,A4.	Adjust for maximum output. If isolation transformer is not used reduce dummy ant. to .001 MFD. to reduce hum modulation.
2	.1 MFD.	"	1720KC	"	"	A5	Adjust for maximum output.
3	200 MMFD	High side to ext. ant. lead. Low side to B-.	1400KC	Tune for maximum output.	"	A6	"

HOWARD W. SAMS & CO., INC. • 2924 East Washington Street • Indianapolis 6, Indiana

"The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed."  
 "Reproduction or use, without express permission, of editorial or pictorial con-

tent, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. Copyright 1947 by Howard W. Sams & Co., Inc., Indianapolis, Indiana, U. S. A. Copyright under International Copyright Union. All rights reserved under Inter-American Copyright Union (1910) by Howard W. Sams & Co., Inc."

# PARTS LIST AND DESCRIPTIONS

AIRCASTLE  
MODEL 5002

# CHASSIS—TOP VIEW

## TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	INSTALLATION NOTES
		AIRCASTLE PART No.	STANDARD REPLACEMENT		
1A	RF Amp.	12SK7GT	12SK7GT	8N	
B	RF Amp.	12BA6	12BA6	70C	
2	Converter	12SA7GT	12SA7GT	8AD	
3A	IF Amp.	12SK7GT	12SK7GT	8N	
B	IF Amp.	12BA6	12BA6	70C	
4A	Det.-AVC-AF	12SQ7GT	12SQ7GT	8Q	
B	Det.-AVC-AF	12AT5	12AT6	7BT	
5	Power Output	35L5GT	35L6GT	7AC	
6A	Rectifier	35Z5GT	35Z5GT	6AD	
B	Rectifier	35W4	35W4	5BQ	

## 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		REPLACEMENT DATA					IDENTIFICATION CODES AND INSTALLATION NOTES	
	CAP.	VOLT	AIRCASTLE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.		SPRAGUE PART No.
7A	50	150		PRSA150-40	BRD3515	2N520	DSB-5030-150	TA-530	Filter - Red
B	30	150							- Blue
8	.05	400		494-05	DT4S5	TP426	S-4-05	TC-15	Line Filter
9	.01	400		494-01	DT4S1	TP421	S-4-01	TC-11	Output Plate Bypass
10	.01	400		494-01	DT4S1	TP421	S-4-01	TC-11	Audio Coupling
11	.01	400		494-01	DT4S1	TP421	S-4-01	TC-11	
12	.05	400		494-05	DT4S5	TP426	S-4-05	TC-15	AVC Filter
13	.1	400		494-.1	DT4P1	TP428	S-4-1	TC-1	Line Isolation
14	.05	400		494-05	DT4S5	TP426	S-4-05	TC-15	AVC Filter *
15	.01	400		494-01	DT4S1	TP421	S-4-01	TC-11	Ant. Coupling
16	500	500		1468-0005	5W5T5	MC245	MO.5-35	1FM-35	Audio Plate Bypass
17	150	500		1468-00015	5W5T15	MC236	MO.5-315	1FM-315	IF Bypass Diode
18	47	500		1468-00005	5W5Q5	MC225	MO.5-45	1FM-45	Osc. Grid Capacitor
19	150	500		1468-00015	5W5T15	MC236	MO.5-315	1FM-315	RF Coupling

\*Not used in all models.

## CONTROLS

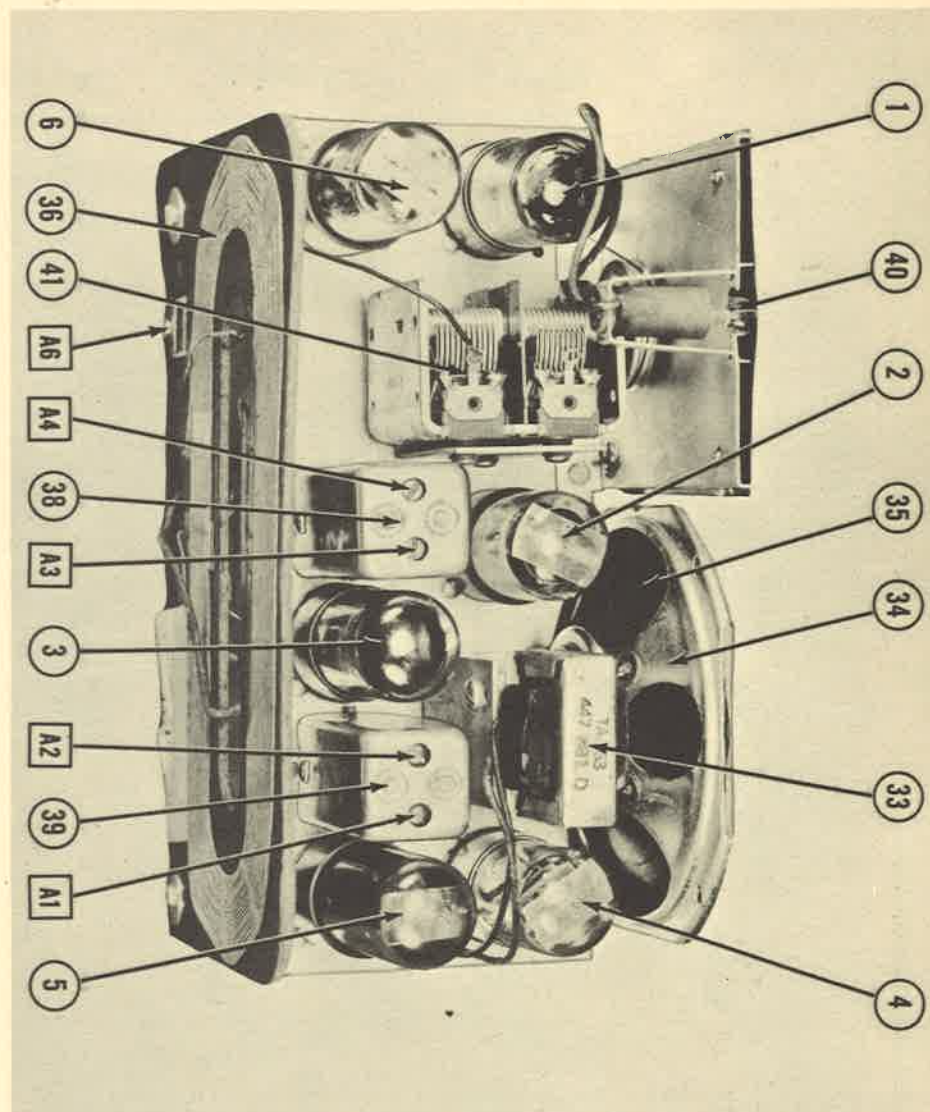
ITEM No.	RATING		REPLACEMENT DATA				INSTALLATION NOTES
	RESISTANCE	WATTS	AIRCASTLE PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	
20A	1 Meg.	1	VC-3	MK402	D13-137	AM-63-Z	Volume Control Attach to 20A per instruction
B	Shaft		Not Req.	Not Req.	E	KSS-3	
C	Switch			M26	41	SW-A	

## RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	AIRCASTLE PART No.	IRC PART No.	
21	2200Ω	1/2	IR-7	BTS-2200	Red-Red-Red RF Plate Load
22	47KΩ	1/2	IR-10	BTS-47K	Y1.-V1.-Or. Converter Grid
23	33KΩ	1/2	IR-16	BTS-33KΩ	Or.-Or.-Or. Oscillator Grid
24	1 Meg.	1/2	IR-12	BTS-1 Meg.	Br.-Blk.-Grn. AVC Network-See Note 1
25	3.9 Meg.	1/2		BTS-3.9 Meg.	Or.-White-Grn. 2
26	2 Meg.	1/2		BTS-2.2 Meg.	Red-Blk.-Grn. AF Grid
27	560KΩ	1/2	IR-13	BTS-560K	Grn.-Blue-Y1. AF Plate Load
28	560KΩ	1/2		BTS-560K	Grn.-Blue-Y1. Output Grid
29	220Ω	1/2	IR-5	BW-2-220	Red-Red-Br. Output Cathode
30	2200Ω	1/2	IR-15	BTS-2200	Red-Red-Red Filter
31	47Ω	1/2	IR-4	BW-2-47	Y1.-V1.-Blk. Rectifier Ballast
32	50KΩ	1/2		BTS-47K	Grn.-Blk.-Or. Diode RF Filter

Note 1 - Not used in all models.

Note 2 - Models using Item #24 use 2 Meg. resistor in this application.



## PARTS LIST AND DESCRIPTIONS (Continued)

### TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA			INSTALLATION NOTES
	IMPEDANCE		DC RES.		AIRCATTLE	STANCOR	THORDAR'N	
	PRI.	SEC.	PRI.	SEC.	PART No.	PART No.	PART No.	
33	2040Ω	2.8Ω	150Ω	.6Ω	Part of SPK-4	A-3876 #	T22S45 #	# Bend mounting tabs down, file out slots and mount on original bracket.

### SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA		INSTALLATION NOTES
	FIELD	VC IMP.	AIRCATTLE	JENSEN	
	PM	2.8Ω	PART No.	PART No.	
34			SPK-4	ST-1051 Mod. P5-X	# Fabricate new mounting bracket.
35	CONE DIA. 4-9/16"	VC DIA. 1/2"	NOT READILY REPLACEABLE—USE COMPLETE SPEAKER UNIT.		

### R F COILS

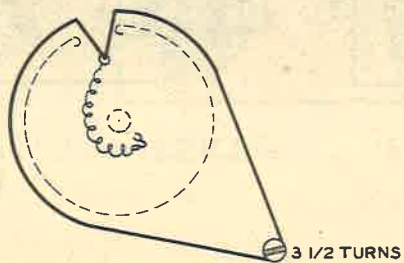
ITEM No.	USE	DC RES.		REPLACEMENT DATA		INSTALLATION NOTES
		PRI.	SEC.	AIRCATTLE	MEISSNER	
		PART No.	PART No.	PART No.	PART No.	
36	Loop	.1Ω	1.5Ω	LL-1		
37	Osc. Coil		7.8	LO-2	.14-1040	
38	Input IF	19Ω	19Ω	LI-1	16-6686	
39	Output IF	20.5Ω	19Ω	LI-2	16-6667	

### DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					AIRCATTLE	PART No.	
40	Bayonet	6-8	0.15	Brown			Type 47

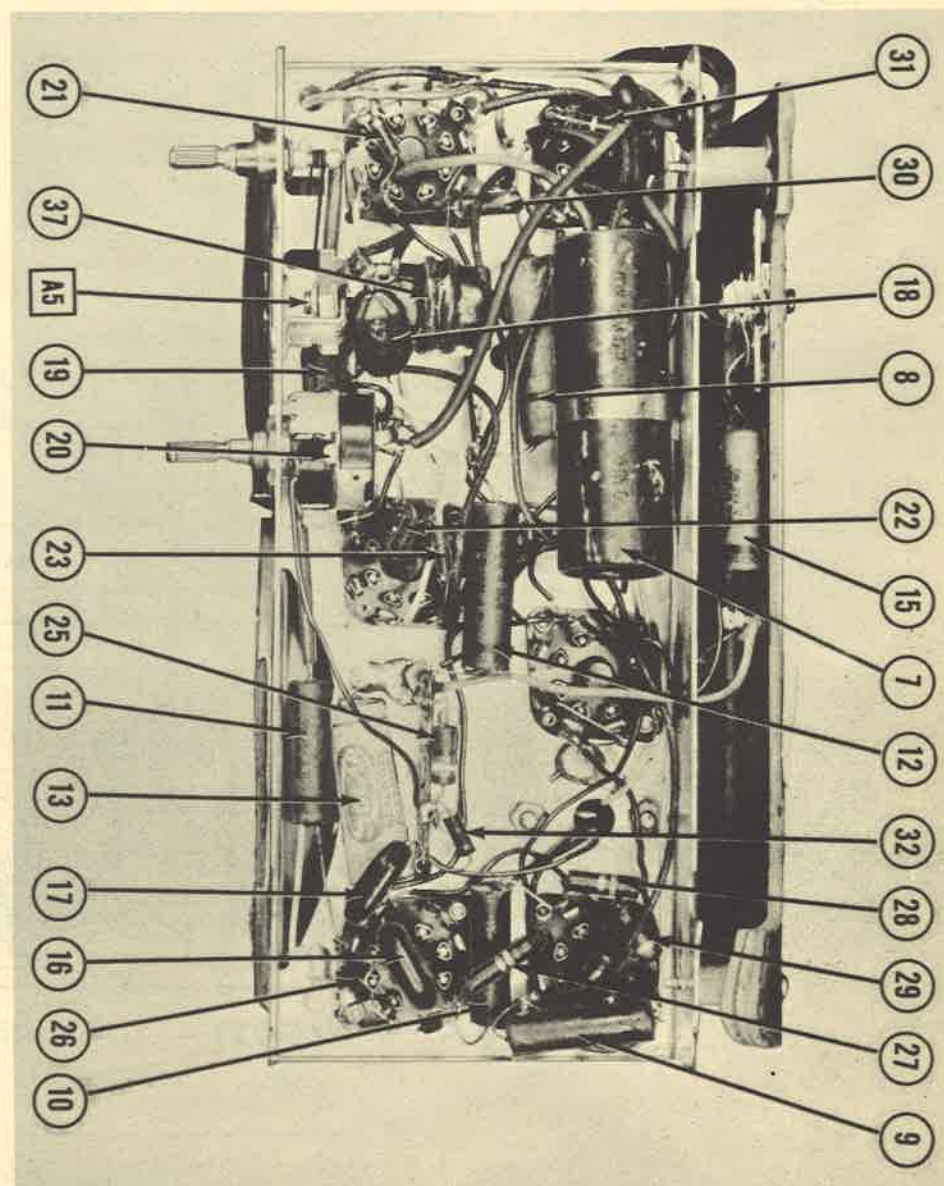
### MISCELLANEOUS

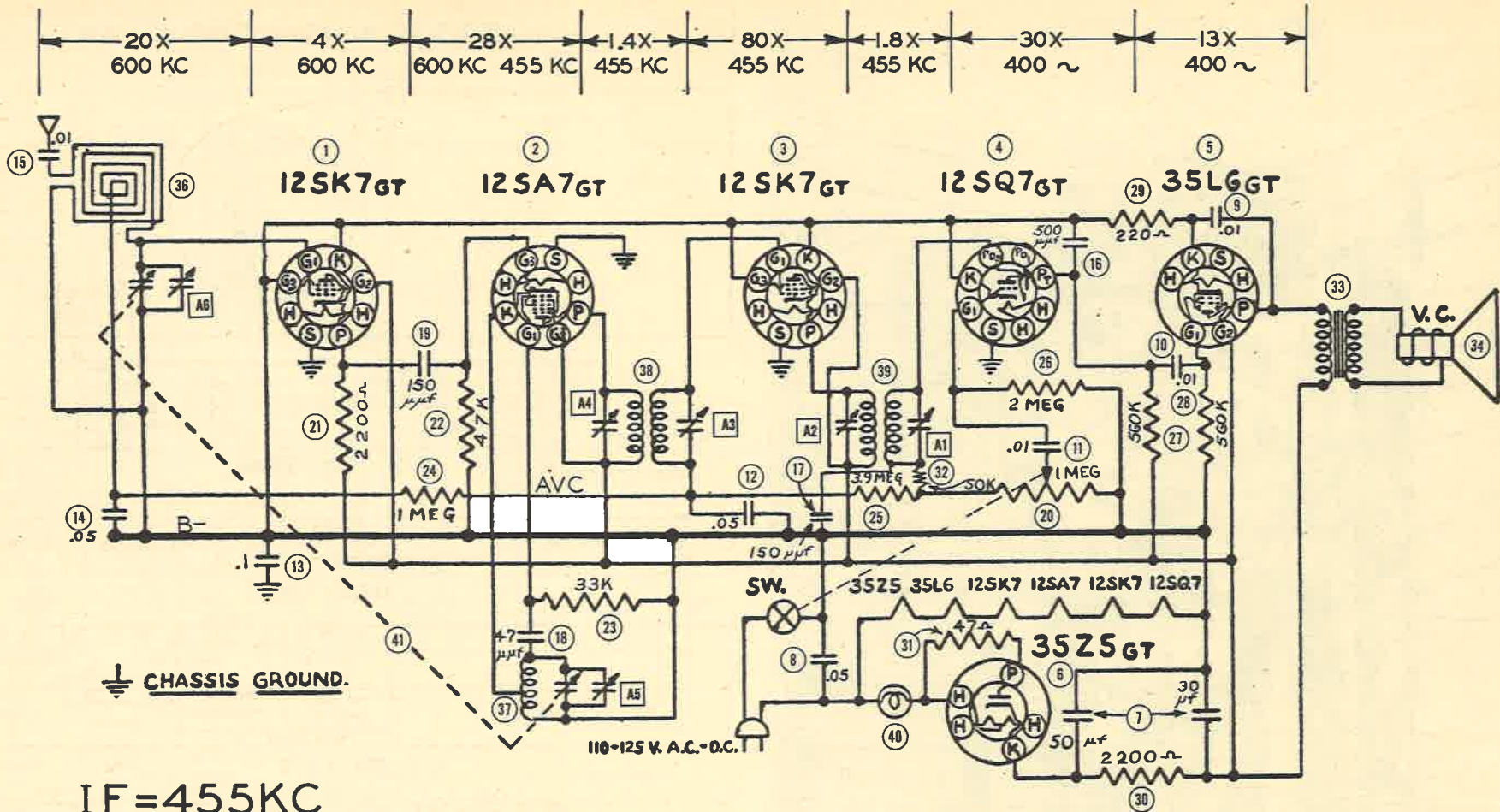
ITEM No.	PART NAME	AIRCATTLE PART No.	NOTES
41	2 Gang Var. Cap	GC-2	(12-176 MMF, 16-385 MMF)
A5	Trimmer	TC-6	Osc. Trimmer
A5	Trimmer	TC-7	Ant. Trimmer



DIAL CORD DRIVE

## CHASSIS—BOTTOM VIEW





**CHASSIS GROUND.**

110-125 V. A.C.-D.C.

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	12SK7GT	0v.	36 V.AC	0v.	-9 V.DC	0v.	67 V.DC	25 V.AC	52 V.DC
2	12SA7GT	0v.	25 V.AC	67 V.DC	67 V.DC	-3.9 V.DC	0v.	13 V.AC	0v.
3	12SK7GT	0v.	51 V.AC	0v.	-9 V.DC	0v.	67 V.DC	36 V.AC	67 V.DC
4	12SQ7GT	0v.	-1 V.DC	0v.	-4 V.DC	-4 V.DC	33 V.DC	13 V.AC	0v.
5	35L6GT	0v.	87 V.AC	121 V.DC	67 V.DC	0v.	0v.	51 V.AC	4.1 V.DC
6	35Z5GT	0v.	117 V.AC	113 V.AC	0v.	112 V.AC	0v.	87 V.AC	124 V.DC

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	12SK7GT	INF.	33 Ω	0 Ω	4 MEG.	0 Ω	65 KΩ	23 Ω	66 KΩ
2	12SA7GT	0 Ω	23 Ω	55 KΩ	55 KΩ	30 KΩ	.5 Ω	12 Ω	37 KΩ
3	12SK7GT	INF.	43 Ω	INF.	4 MEG.	0 Ω	55 KΩ	33 Ω	55 KΩ
4	12SQ7GT	0 Ω	1.7 MEG.	0 Ω	470 KΩ	INF.	580 KΩ	12 Ω	0 Ω
5	35L6GT	INF.	71 Ω	55 KΩ	55 KΩ	480 KΩ	0 Ω	43 Ω	180 Ω
6	35Z5GT	INF.	95 Ω	93 Ω	INF.	130 Ω	INF.	71 Ω	55 KΩ

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

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

479-1

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.