

RME MODEL 84

TRADE NAME RME Model 84
MANUFACTURER Radio Mfg. Engineers, Inc., Peoria (6), Ill.
TYPE SET AC Operated Multiband Communications Superheterodyne Receiver
TUBES (EIGHT) Types, 7B7 RF Amp., 7S7 Converter, 7B7 1st IF Amp., 7B7 2nd IF Amp., 7K7 Det.-AVC-AF, 7K7 N.L.-BFO, 6G6G Power Output, 5Y3G Rectifier.
POWER SUPPLY RATING 110-120 Volts AC or 6V "A" Battery and 135V "B" Battery tapped at 90 Volts
TUNING RANGE BAND 1, 540-1650KC; BAND 2, 1.65-5MC; BAND 3, 5-15MC; BAND 4, 15-44MC.

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

"CW", "TR", "PH" switch should be on "CW", Noise Limiter off. Audio gain should be at maximum. RF Gain should be at maximum and output of signal generator no higher than necessary to obtain an output reading. On Bands III & IV it may be necessary to reduce RF Gain in order to prevent overloading by signal generator.
 BFO Tube 7K7 (#6) should be removed on all adjustments except when adjusting A7 for zero beat. On all bands oscillator should be working above the incoming signal. To check this, leave receiver at frequency and tune signal generator 910KC above the alignment frequency. The image signal should then be heard. If this image signal is not heard re-adjust oscillator and repeat the remaining adjustments for that band. Use insulated alignment screwdriver for adjusting.

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1 MFD.	High side to stator of tuning cap. Low side to chassis.	455KC	I	Tuning cap. closed.	Across voice coil	A1,A2, A3,A4, A5,A6.	Adjust for maximum output.
.1 MFD.	"	"	"	"	"	A7	Turn B.O. pitch control vertical. Adjust for zero beat.
300Ω	High side to ext. ant. terminal board connection "A". Low side to "G" connection.	600KC	"	600KC	"	A8	Adjust for maximum output.
300Ω	"	1400KC	"	1400KC	"	A9	Adjust for maximum output. Repeat last two steps until no further improvement can be made.
300Ω	"	600KC	"	Tune for maximum output.	"	A10,A11	Adjust for maximum output.
300Ω	"	1400KC	"	"	"	A12,A13	Adjust for maximum output. Repeat last two steps until no further increase can be obtained.
300Ω	"	1.9MC	II	1.9MC	"	A14	Adjust for maximum output.
300Ω	"	5MC	"	5MC	"	A15	Adjust for maximum output. Repeat last two steps until no further improvement can be made.
300Ω	"	1.9MC	"	Tune for maximum output.	"	A16,A17	Adjust for maximum output.
300Ω	"	5MC	"	"	"	A18,A19	Repeat last two steps until no further increase can be obtained.
300Ω	"	10MC	III	10MC	"	A20	Adjust for maximum output.
300Ω	"	"	"	Tune for maximum output.	"	A21,A22	Rock variable and adjust for maximum output.
300Ω	"	30MC	IV	30MC	"	A23	Adjust for maximum output.
300Ω	"	"	"	Tune for maximum output.	"	A24,A25	Rock variable and adjust for maximum output.
THE FOLLOWING ADJUSTMENT SHOULD ONLY BE MADE WHEN ABSOLUTELY NECESSARY.							
300Ω	High side to ext. ant. terminal board connection "A". Low side to "G" connection.	15MC	IV	15MC	Across voice coil	A26	Adjust for maximum output. Repeat last three steps until no further improvement can be made.

RME
MODEL 84

RME
MODEL 84

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

TUBES

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	INSTALLATION NOTES
		RCE PART No.	STANDARD REPLACEMENT		
1	RF Amp.	7B7	7B7	8V	
2	Converter	7B7	7B7	8BL	
3	1st IF Amp.	7B7	7B7	8V	
4	2nd IF Amp.	7B7	7B7	8V	
5	Det., AVC-AF	7K7	7K7	8BF	
6	N.-L., -BFO	7K7	7K7	8BF	
7	Power Output	6Q6G	6Q6G	7S	
8	Rectifier	5Y3G	5Y3G	5T	

CAPACITORS

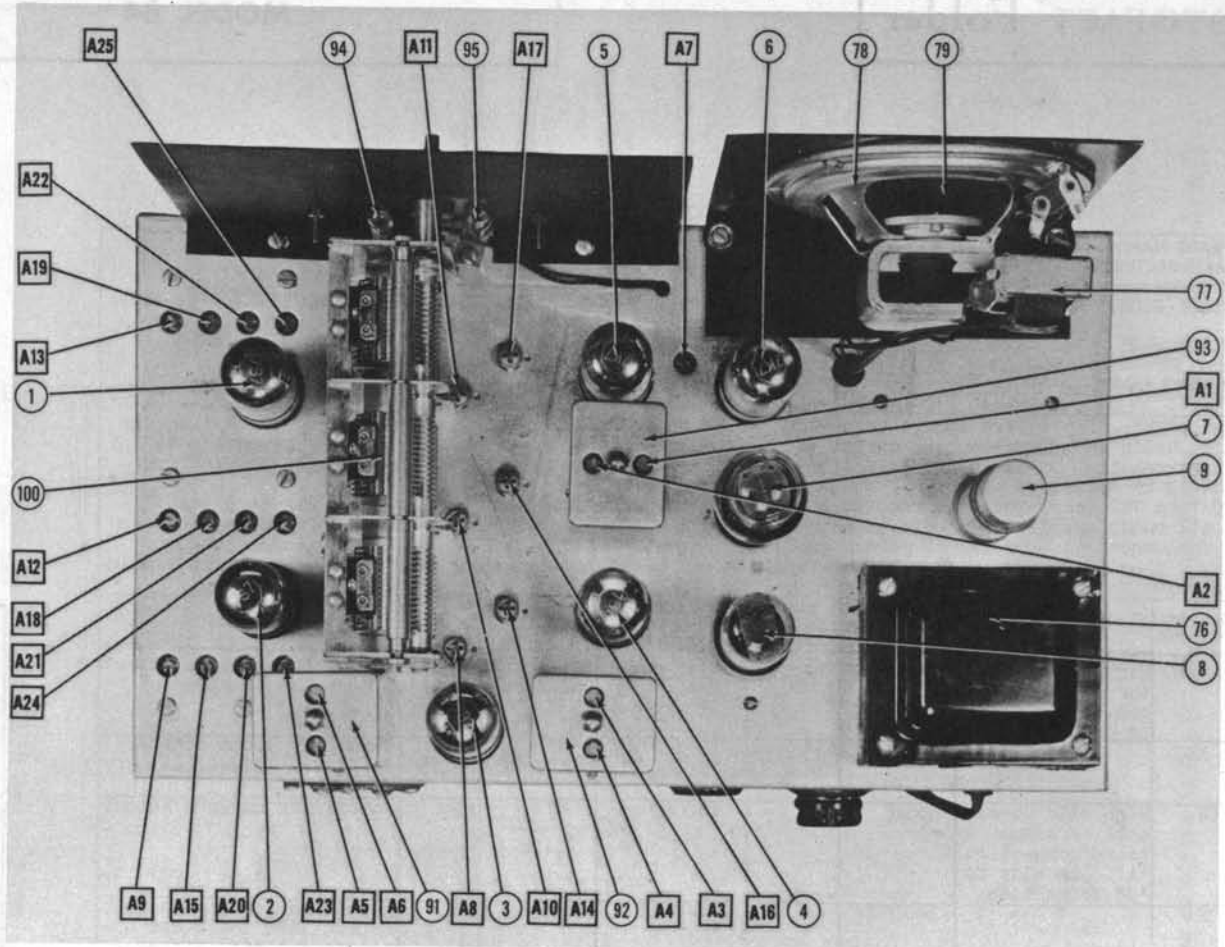
Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING CAP.	VOLT	REPLACEMENT DATA				CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
			RME PART No.	SPRAGUE PART No.	AEROVOX PART No.	FR390				
9A	15	450	EL-344	AF44J	UP8CJ47	FR390	FR390	DY-3X15-450	Filter	
B	10	450							"	
C	15	450							"	
10	20	25		TA-25	FR5450-110	BR202A	TC26	M-25-25	Output Cath. Bypass	
11	.01	600		TC-11	684-01	DT8S1	TP410	S-6-01	Tone Compensation	
12	.01	600		TC-11	684-01	DT8S1	TP410	S-6-01	Output Plate Bypass	
13	.01	600		TC-11	684-01	DT8S1	TP410	S-6-01	Audio Coupling	
14	.01	600		TC-11	684-01	DT8S1	TP410	S-6-01	EFO Plate Bypass	
15	.01	600		TC-11	684-01	DT8S1	TP410	S-6-01	Audio Coupling	
16	.01	600		TC-11	684-01	DT8S1	TP410	S-6-01	N.-L. Bias Filter	
17	.01	600		TC-11	684-01	DT8S1	TP410	S-6-01	AVC Filter	
18	.01	600		TC-11	684-01	DT8S1	TP410	S-6-01	2nd IF Screen Bypass	
19	.01	600		TC-11	684-01	DT8S1	TP410	S-6-01	2nd IF Cath. Bypass	
20	.01	600		TC-11	684-01	DT8S1	TP410	S-6-01	1st IF Screen Bypass	
21	.1	600		TC-1	684-1	DT8P1	TP418	S-6-1	1st IF Cath. Bypass	
22	.01	600		TC-11	684-01	DT8S1	TP410	S-6-01	AVC Filter	
23	.01	600		TC-11	684-01	DT8S1	TP410	S-6-01	Conv. Plate Decoupl.	
24	.01	600		TC-11	684-01	DT8S1	TP410	S-6-01	Conv. Screen Bypass	
25	.01	600		TC-11	684-01	DT8S1	TP410	S-6-01	Conv. Cath. Bypass	
26	.015	600		TC-11	684-015	DT8S15	TP411	S-6-01	Fixed Padder	
27	.01	600		TC-11	684-01	DT8S1	TP410	S-6-01	Osc. Plate Decoupling	
28	.01	600		TC-11	684-01	DT8S1	TP410	S-6-01	RF Plate Decoupling	
29	.01	600		TC-11	684-01	DT8S1	TP410	S-6-01	RF Screen Bypass	
30	.01	600		TC-11	684-01	DT8S1	TP410	S-6-01	RF Cath. Bypass	
31	100	500		LFM-31	1468-0001	5MST1	MC235	MO.5-31	EFO Fixed Trimmer	
32	250	500		LFM-32	1468-0002	5MST2	MC240	MO.5-32	EFO Grid Capacitor	
33	250	500		LFM-33	1468-00025	5MST25	MC240	MO.5-325	Diode	
34	5	500		LFM-45	1468-00005	5M5Q5	MC225	MO.5-45	Audio Grid Capacitor	
35	5	500		LFM-35	1468-0005	5MST5	MC245	MO.5-35	EFO Coupling Cer.	
36	500	500		LFM-315	1468-00015	5MST15	MC226	MO.5-315	Fixed Padder	
37	150	500		LFM-24	1467-004	1DS4A	MC483	MO.5-24	"	
38	4000	300		LFM-325	1468-00025	5MST25	MC240	MO.5-325	"	
39	250	500		LFM-325	1468-00025	5MST25	MC240	MO.5-325	RF Coupling	
40	250	500		LFM-21	1467-001	1WS1	MC255	FM.5-21	Osc. Plate Decoupling	
41	1000	500		LFM-45	1468-00005	5M5Q5	MC225	MO.5-45	Osc. Grid Capacitor	
42	50	500								

CONTROLS

ITEM No.	RATING RESIST. ANCE	WATTS	REPLACEMENT DATA				INSTALLATION NOTES
			RME PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	
43A	1 Meg.	1		MR53	D13-137	M-53-2	Tone Control
B	Shaft		Not Req.	127	A	Not Req.	Attach to 45A per instructions
C	Switch		MR2B	D14-120	SW-12		RF Gain Control
44A	50K Ω	1		Not Req.	D13-133	M-50-2	Attach to 44A per instructions
B	Shaft		MR4B	D13-133	Not Req.	Not Req.	Audio Gain Control-Late Production
45A	500K Ω	1		MR44	D13-130	M-54-2	Attach to 45A per instructions
B	Shaft		MR44	D13-130	Not Req.	Not Req.	Audio Gain Control-Early Production
E	Shaft		Not Req.	A			Attach to 45A per instructions

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	RME PART No.	IRC PART No.	
46	220K Ω	1/2	ETS-220K	ETS-220K	Red-Red-V1. RF Grid
47	150 Ω	1/2	BA-#-150	BA-#-150	Br.-Grn.-Br. RF Cathode
48	47K Ω	1/2	ETS-47K	ETS-47K	V1.-V1.-Or. Bleeder
49	4700 Ω	1/2	ETS-4700	ETS-4700	V1.-V1.-Red RF Screen Dropping
50	22K Ω	1/2	ETS-22K	ETS-22K	Red-Red-Jr. RF Plate Load
51	4700 Ω	1/2	ETS-4700	ETS-4700	Red-Red-Jr. RF Plate Decoupling
52	22K Ω	1/2	ETS-22K	ETS-22K	Red-Red-Or. Oscillator Plate Decoupling
53	220 Ω	1/2	BA-#-220	BA-#-220	Red-Red-Br. Converter Cathode
54	47K Ω	1/2	ETS-47K	ETS-47K	V1.-V1.-Or. Oscillator Grid
55	220K Ω	1/2	ETS-220K	ETS-220K	Red-Red-V1. Converter Screen Dropping
56	4700 Ω	1/2	ETS-4700	ETS-4700	Red-Red-V1. AVC Network
57	220K Ω	1/2	ETS-220K	ETS-220K	V1.-V1.-Red 1st IF Screen Dropping
58	4700 Ω	1/2	ETS-4700	ETS-4700	V1.-V1.-Br. 2nd IF Cathode
60	100K Ω	1/2	ETS-100K	ETS-100K	Br.-Blk.-Yl. BFO Plate Dropping
61	1 Meg.	1/2	ETS-1 Meg.	ETS-1 Meg.	Br.-Blk.-Grn. AVC Network K
62	1 Meg.	1/2	ETS-1 Meg.	ETS-1 Meg.	Blue-Gray-Yl. Noise Limiter Network
63	680K Ω	1/2	ETS-680K	ETS-680K	Yl.-V1.-Or. BFO Grid
64	47K Ω	1/2	ETS-47K	ETS-47K	Red-Red-V1. Diode Load
65	220K Ω	1/2	ETS-220K	ETS-220K	Red-Red-V1. Diode Load
66	220K Ω	1/2	ETS-220K	ETS-220K	Red-Red-Or. AF Grid
67	220K Ω	1/2	ETS-220K	ETS-220K	Red-Red-V1. Output Grid
68	220K Ω	1/2	ETS-220K	ETS-220K	Grn.-Blk.-Br. Output Cathode
69	500 Ω	1/2	BA-#-12	BA-#-12	Br.-Red-Blk. Headphone Shunt-See Note 2
70	12 Ω	1/2	ETS-12 Ω	ETS-12 Ω	Red-Red-Or. AF Plate Decoupling
71	22K Ω	1/2	ETS-22K	ETS-22K	Br.-Blk.-Yl. AF Plate Load
72	100K Ω	1/2	ETS-100K	ETS-100K	Voltage Dropping-See note 3
73A	4500 Ω	10	ABA-10,000	ABA-10,000	Bleeder
74	620 Ω	1/2	ETS-620	ETS-620	Gray-Red-Br. AF Cathode

Note 1 - Some models use 22K Ω in this application

Note 2 - Some models use 33 Ω in this application

Note 3 - On IRC replacement set slider @ 4500 Ω from one end.

FILTER CHOKE

ITEM No.	RATINGS		REPLACEMENT DATA		INSTALLATION NOTES
	TOTAL DUAL CURRENT	D. C. RESISTANCE	RME PART NO.	STANCOR PART NO.	
75	.084A	570 Ω	13 Henries	C-1709	T20C53

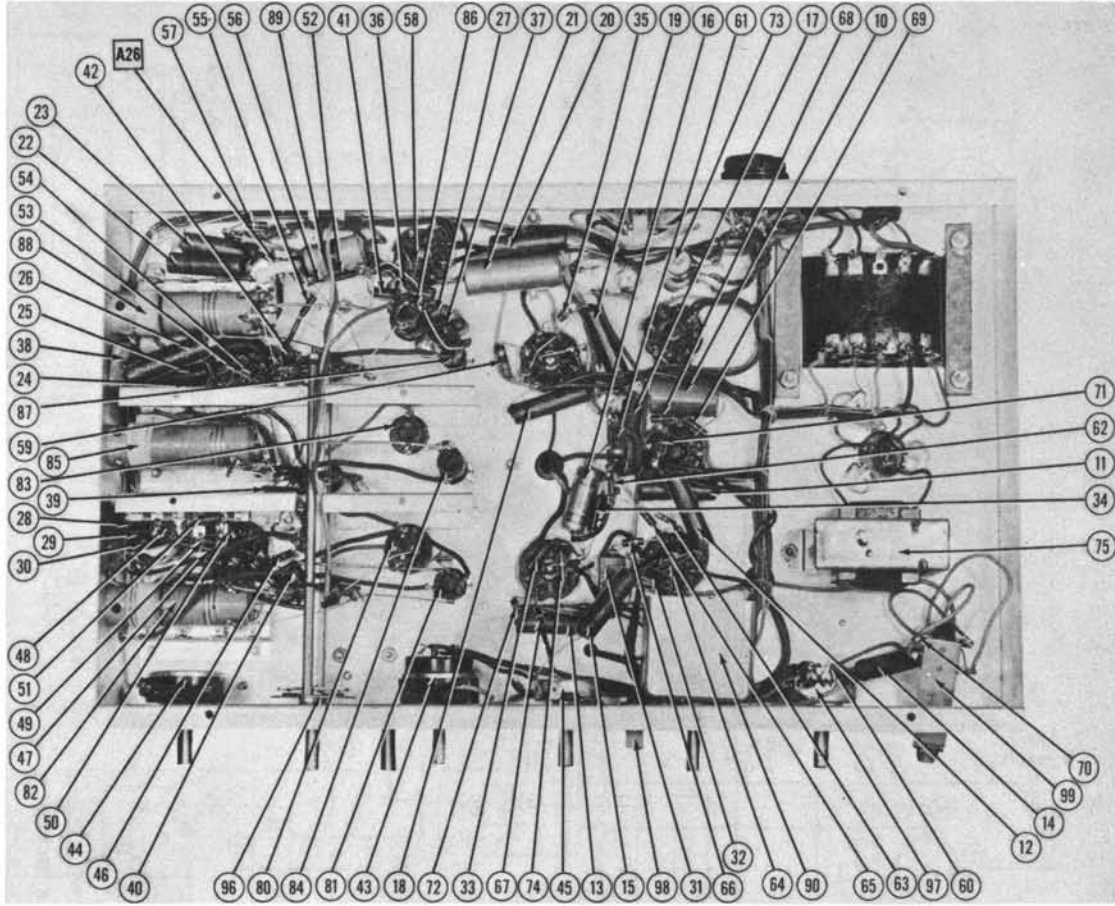
TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA	
	PRI.	SEC. 1	SEC. 2	RME PART No.	THORDARSON PART No.
76	117V AC @ .62A	180V CT @ 1.6A	5.2V AC @ 1.7A	P-6013	T22E05

TRANSFORMER (OUTPUT)

ITEM No.	RATING		REPLACEMENT DATA		INSTALLATION NOTES
	IMPEDANCE	DC RES.	RME PART No.	THORDARSON PART No.	
77	720 Ω	3.4 Ω	700 Ω	T22E471	† Bend mounting tabs down. file out slots and mount on original bracket.

CHASSIS - BOTTOM VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	RATINGS	REPLACEMENT DATA		INSTALLATION NOTES
		RME PART No.	JENSEN PART No.	
78	FIELD PRI VC IMP. 3.4Ω		ST-105	
79	CONE DIA. 4-3/4" VC DIA. 1/2"		MOD. PS-X	

NOT READILY REPLACEABLE—USE COMPLETE SPEAKER UNIT.

R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		MEISSNER PART No.	INSTALLATION NOTES
		PRI.	SEC.	RME PART No.			
80	Ant. Coil 1	1.1Ω	2.7Ω				
81	" "	.3Ω	.8Ω				
82A	" "	0Ω	0Ω				82A & 82B wound on same form
B	" "	0Ω	0Ω				
83	RF Coil 1	0Ω	3.5Ω				
84	" "	0Ω	.8Ω				
85A	" "	0Ω	0Ω				
B	" "	0Ω	0Ω				
86	Osc. Coil 1	.4Ω	1.8Ω				
87	" "	.3Ω	.7Ω				
88A	" "	0Ω	0Ω				
B	" "	0Ω	0Ω				
89	Osc. Series Coil						
90	BFO Coil		5.8Ω				
91	Input IF		8Ω		B190B-2		
92	Inter. IF		8Ω		B190B-2		
93	Output IF		8Ω		B190B-2		*Measured from tap

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					RME PART No.		
94	Bayonet	6-6	0.15	Brown			Type 47
95	" "	6-8	0.15	" "			" "

MISCELLANEOUS

ITEM No.	PART NAME	RME PART No.	NOTES
96	Band Switch		
97	Standby Switch		
98	N.L. Switch		2 Pole, 3 throw rotary SPST Slide
99	Phone Jack		
100	B Gang Var. Cap.		(11-469 MFJ each section.)

ANTENNA

The terminals on the rear of chassis marked "A-A-G" are for the antenna and ground connections. When the receiver leaves the factory there is a jumper between the ground post (Marked G) and the adjacent antenna post. Good results may be obtained by connecting a wire 50 to 75 feet long to the other "A" post. If a 2 wire feeder system is used, the jumper is removed and the two feeders are connected to "A" and "A". The input impedance between these points is approximately 300 ohms. A ground may be connected to the "G" post if it improves reception. For antennas designed to favor certain frequencies, the owner is referred to the various amateur radio handbooks available.

NOISE LIMITER

An AUTOMATIC NOISE LIMITER is incorporated in the receiver circuit. No adjustment is required. The circuit is of a type that automatically adjusts itself to maximum effectiveness.

IMPORTANT

The action of the noise limiter is such that a slight amount of distortion is introduced on the signal. Therefore, when it is desirable to do so the noise limiter may be switched out of the circuit. This is controlled by the slide switch just below the control panel. When the switch is to the left the limiter is out of the circuit.

NOTE: CONTROLS AS FOLLOWS: PHONE, NOISE LIMITER, OFF, AUDIO GAIN MAXIMUM, TONE CONTROL AT "TREBLE", BAND SWITCH AT "NO. 1" & RF GAIN AT MAXIMUM, C W SWITCH ON FOR "NO. 6" TUBE READINGS.

VOLTAGE READINGS

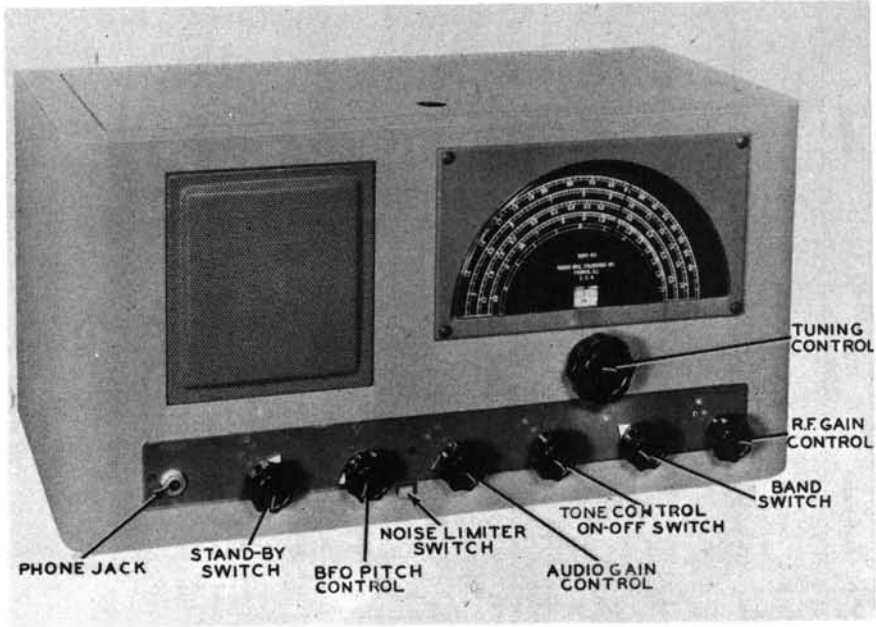
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	7B7	6.5 VAC	110 VDC	110 VDC	2.9 VDC	0V.	-6 VDC	2.9 VDC	0V.
2	7S7	6.5 VAC	300VDC	165VDC	2.1 VDC	80VDC	0V.	2 VDC	0V.
3	7B7	6.5 VAC	300VDC	110 VDC	2.9 VDC	0V.	0V.	2.9 VDC	0V.
4	7B7	6.5 VAC	300 VDC	120VDC	3.6 VDC	0V.	0V.	3.6 VDC	0V.
5	7K7	6.5 VAC	1 1/2 VDC	135VDC	0V.	45VDC	45VDC	0V.	0V.
6	7K7	6.5 VAC	0V.	68 VDC	-8 VDC	-75VDC	-75VDC	0V.	15 VDC
7	6G6G	0V.	6.5 VAC	285VDC	300VDC	0V.	275VDC	0V.	15 VDC
8	5Y3GT	0V.	360VDC	0V.	330VAC	0V.	330VAC	0V.	360VDC

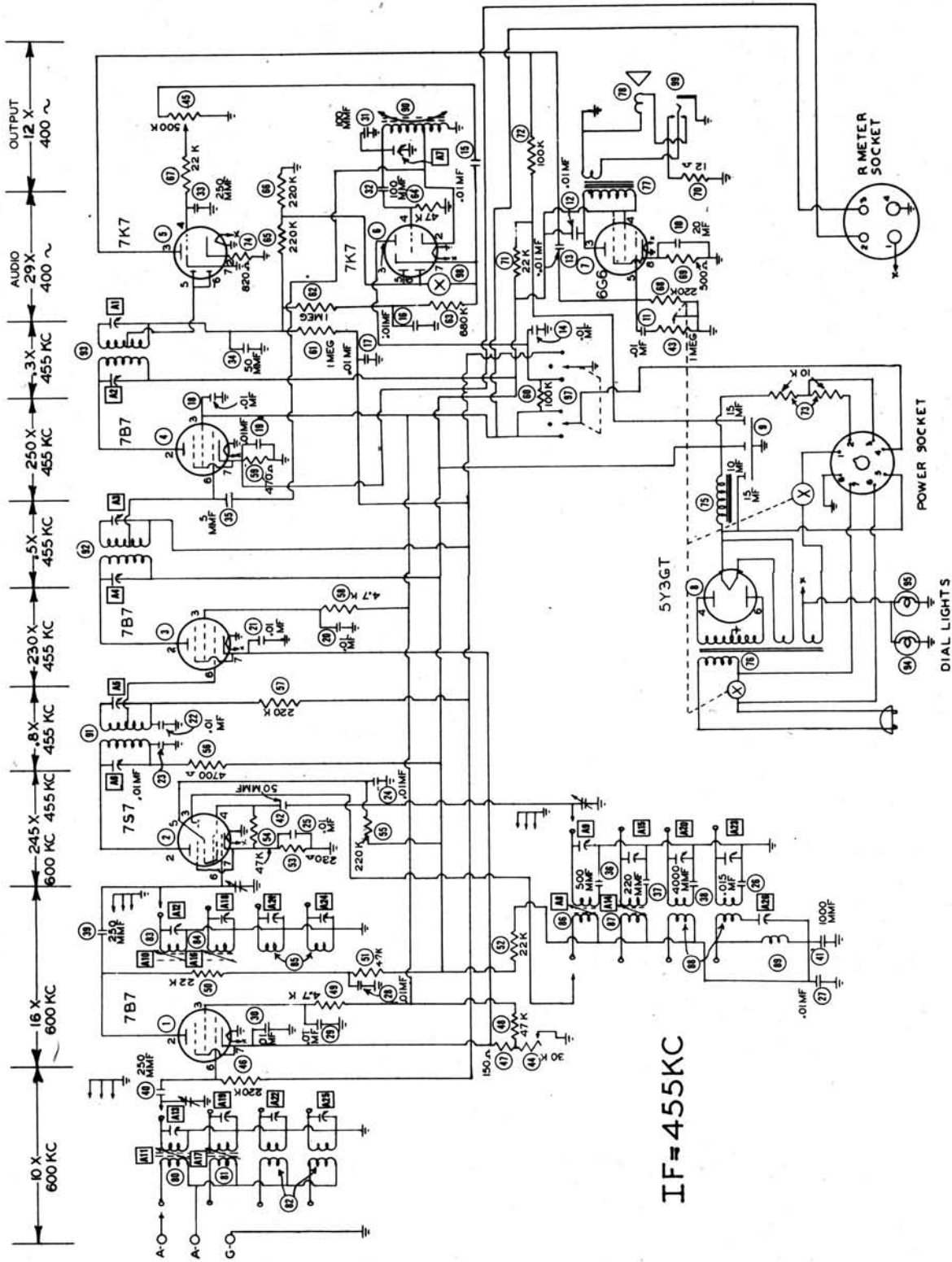
RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	7B7	.2 Ω .	36 K Ω .	14 K Ω .	140 Ω .	0 Ω .	1.6 MEG.	140 Ω .	0 Ω .
2	7S7	.2 Ω .	14 K Ω .	31 K Ω .	55 K Ω .	185 K Ω .	2.9 Ω .	2.20 Ω .	0 Ω .
3	7B7	.2 Ω .	9.5 K Ω .	8 K Ω .	140 Ω .	0 Ω .	1.6 MEG.	140 Ω .	0 Ω .
4	7B7	.2 Ω .	9.5 K Ω .	4 K Ω .	450 Ω .	0 Ω .	1.3 MEG.	450 Ω .	0 Ω .
5	7K7	.2 Ω .	800 Ω .	132 K Ω .	460 K Ω .	350 K Ω .	350 K Ω .	0 Ω .	0 Ω .
6	7K7	.2 Ω .	.5 Ω .	110 K Ω .	55 K Ω .	168 K Ω .	168 K Ω .	1.6 MEG.	0 Ω .
7	6G6G	870K Ω .	.2 Ω .	9.5 K Ω .	9 K Ω .	172K Ω .	28 K Ω .	0 Ω .	450 Ω .
8	5Y3GT	INF.	9.5 K Ω .	INF.	100 Ω .	INF.	92 Ω .	INF.	9.5 K Ω .

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

- DC Voltage measurements are at 20,000 ohms per volt, AC Voltages measured at 1000 ohms per volt.
- Socket connections are shown as bottom views.
- Measured values are from socket pin to 6. Volume control at maximum, no signal common negative.
- Line voltage maintained at 117 volts for voltage measurements.
- Nominal tolerance on component values makes possible a variation of $\pm 10\%$ in voltage and resistance readings.





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

474-13

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 impossible. The "cal." AVC is made inoperative and 3-volt battery bias substituted for alignment.