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 .620 Amps. @ 117V AC or 1.5 Amps. @ 6.V DC and 32MA @ 135V DC
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

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	INSTALLATION NOTES
		RME PART No.	STANDARD REPLACEMENT		
1	RF Amp.	7B7	7B7	8V	
2	Converter	7S7	7S7	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

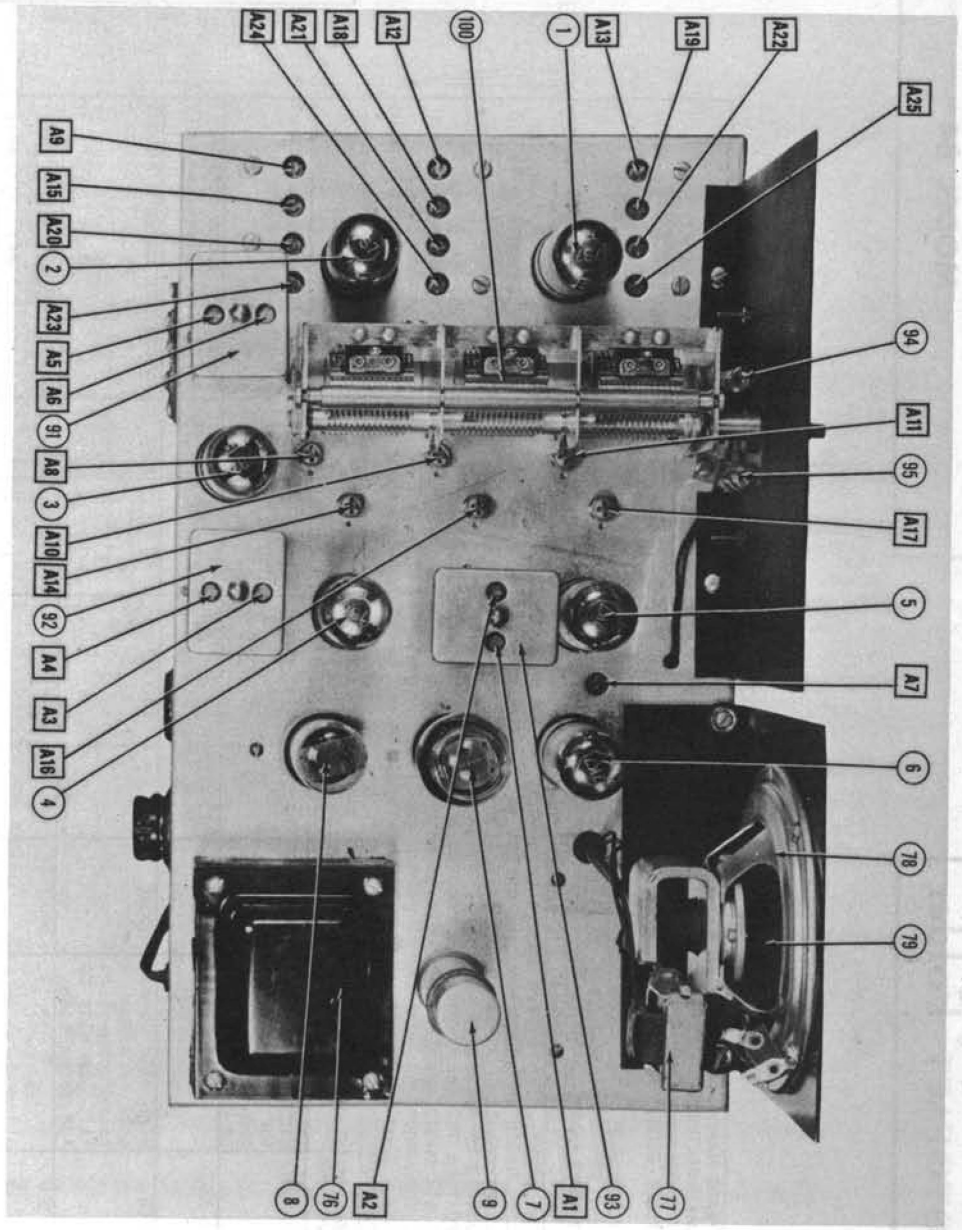
Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA						IDENTIFICATION CODES AND INSTALLATION NOTES
	CAP.	VOLT	RME PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SOLAR PART No.	
9A	15	450		EL-344	AF44J	UP6CJ47	FP390	DY-3x15-450	■ Filter
B	10	450							"
C	15	450			PRS450-10				▲ "
10	20	25		TA-25	PRS25-25	BR202A	TC26	M-25-25	Output Cath. Bypass
11	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	Tone Compensation
12	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	Output Plate Bypass
13	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	Audio Coupling
14	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	BFO Plate Bypass
15	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	Audio Coupling
16	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	N.L. Bias Filter
17	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	AVC Filter
18	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	2nd IF Screen Bypass
19	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	2nd IF Cath. Bypass
20	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	1st IF Screen Bypass
21	.1	600		TC-1	684-.1	DT6P1	TP418	S-6-1	1st IF Cath. Bypass
22	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	AVC Filter
23	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	Conv. Plate Decoup.
24	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	Conv. Screen Bypass
25	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	Conv. Cath. Bypass
26	.015	600		TC-11	684-015	DT6S15	TP411	S-6-01	Fixed Padder
27	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	Osc. Plate Decoupling
28	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	RF Plate Decoupling
29	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	RF Screen Bypass
30	.01	600		TC-11	684-01	DT6S1	TP410	S-6-01	RF Cath. Bypass
31	100	500		1FM-31	1468-0001	5W5T1	MC235	M0.5-31	BFO Fixed Trimmer
32	100	500		1FM-31	1468-0001	5W5T1	MC235	M0.5-31	BFO Grid Capacitor
33	250	500		1FM-325	1468-00025	5W5T25	MC240	M0.5-325	Audio Grid Capacitor
34	50	500		1FM-45	1468-00005	5W5Q5	MC225	M0.5-45	Diode
35	5								BFO Coupling Cer.
36	500	500		1FM-35	1468-0005	5W5T5	MC245	M0.5-35	Fixed Padder
37	150	500		1FM-315	1468-00015	5W5T15	MC236	M0.5-315	" "
38	4000	300		1FM-24	1467-004	1D5D4	MC463	MW.5-24	" "
39	250	500		1FM-325	1468-00025	5W5T25	MC240	M0.5-325	RF Coupling
40	250	500		1FM-325	1468-00025	5W5T25	MC240	M0.5-325	" "
41	1000	500		1FM-21	1467-001	1W5D1	MC255	MW.5-21	Osc. Plate Decoupling
42	50	500		1FM-45	1468-00005	5W5Q5	MC225	M0.5-45	Osc. Grid Capacitor

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA				INSTALLATION NOTES
	RESISTANCE	WATTS	RME PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	
43A	1 Meg.	1		MR53	D13-137	M-63-Z	Tone Control
B	Shaft			Not Req.	A	Not Req.	Attach to 43A per instructions
C	Switch			M27	42	SW-A2	" " " " "
44A	30KΩ	1		MR28	D14-120		RF Gain Control
B	Shaft			Not Req.	A		Attach to 44A per instructions
45A	500KΩ	1		MR48	D13-133	M-60-Z	Audio Gain Control-Late Production
B	Shaft			Not Req.	A	Not Req.	Attach to 45A per instructions
45A	250KΩ	1		MR44	D13-130	M-64-Z	Audio Gain Control-Early Production
B	Shaft			Not Req.	A	Not Req.	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	220KΩ	½		BTS-220K	Red-Red-Yl. RF Grid
47	150Ω	½		BW-½-150	Br.-Grn.-Br. RF Cathode
48	47KΩ	½		BTS-47K	Yl.-Vi.-Or. Bleeder
49	4700Ω	½		BTS-4700	Yl.-Vi.-Red RF Screen Dropping
50	22KΩ	½		BTS-22K	Red-Red-Or. RF Plate Load
51	4700Ω	½		BTS-4700	Yl.-Vi.-Red RF Plate Decoupling
52	22KΩ	½		BTS-22K	Red-Red-Or. Oscillator Plate Decoupling
53	220Ω	½		BW-½-220	Red-Red-Br. Converter Cathode
54	47KΩ	½		BTS-47K	Yl.-Vi.-Or. Oscillator Grid
55	220KΩ	½		BTS-220K	Red-Red-Yl. Converter Screen Dropping
56	4700Ω	½		BTS-4700	Yl.-Vi.-Red Converter Plate Decoupling-See Note 1
57	220KΩ	½		BTS-220K	Red-Red-Yl. AVC Network
58	4700Ω	½		BTS-4700	Yl.-Vi.-Red 1st IF Screen Dropping
59	470Ω	½		BTS-470	Yl.-Vi.-Br. 2nd IF Cathode
60	100KΩ	½		BTS-100K	Br.-Blk.-Yl. BFO Plate Dropping
61	1 Meg.	½		BTS-1 Meg.	Br.-Blk.-Grn. AVC Network
62	1 Meg.	½		BTS-1 Meg.	Br.-Blk.-Grn. Noise Limiter Network
63	680KΩ	½		BTS-680K	Blue-Gray-Yl. Noise Limiter Network
64	47KΩ	½		BTS-47K	Yl.-Vi.-Or. BFO Grid
65	220KΩ	½		BTS-220K	Red-Red-Yl. Diode Load
66	220KΩ	½		BTS-220K	Red-Red-Yl. Diode Load
67	22KΩ	½		BTS-22K	Red-Red-Or. AF Grid
68	220KΩ	½		BTS-220K	Red-Red-Yl. Output Grid
69	500Ω	½		BTS-470	Grn.-Blk.-Br. Output Cathode
70	12Ω	½		BW-½-12	Br.-Red-Blk. Headphone Shunt-See Note 2
71	22KΩ	½		BTS-22K	Red-Red-Or. AF Plate Decoupling
72	100KΩ	½		BTS-100K	Br.-Blk.-Yl. AF Plate Load
73A	4500Ω	10		ABA-10,000	Voltage Dropping-See Note 3
B	5500Ω				Bleeder
74	820Ω	½		BTS-820	Gray-Red-Br. AF Cathode

Note 1 - Some models use 22KΩ in this application
Note 2 - Some models use 33Ω in this application
Note 3 - On IRC replacement set slider @ 4500Ω from one end.

FILTER CHOKE

ITEM NO.	RATINGS			REPLACEMENT DATA			INSTALLATION NOTES
	TOTAL DIRECT CURRENT	D.C. RESISTANCE	INDUCTANCE (0 CURRENT 1000~)	RME PART NO.	STANCOR PART NO.	THORDARSON PART NO.	
75	.084A	570Ω	13 Henries		C-1709	T20C53	

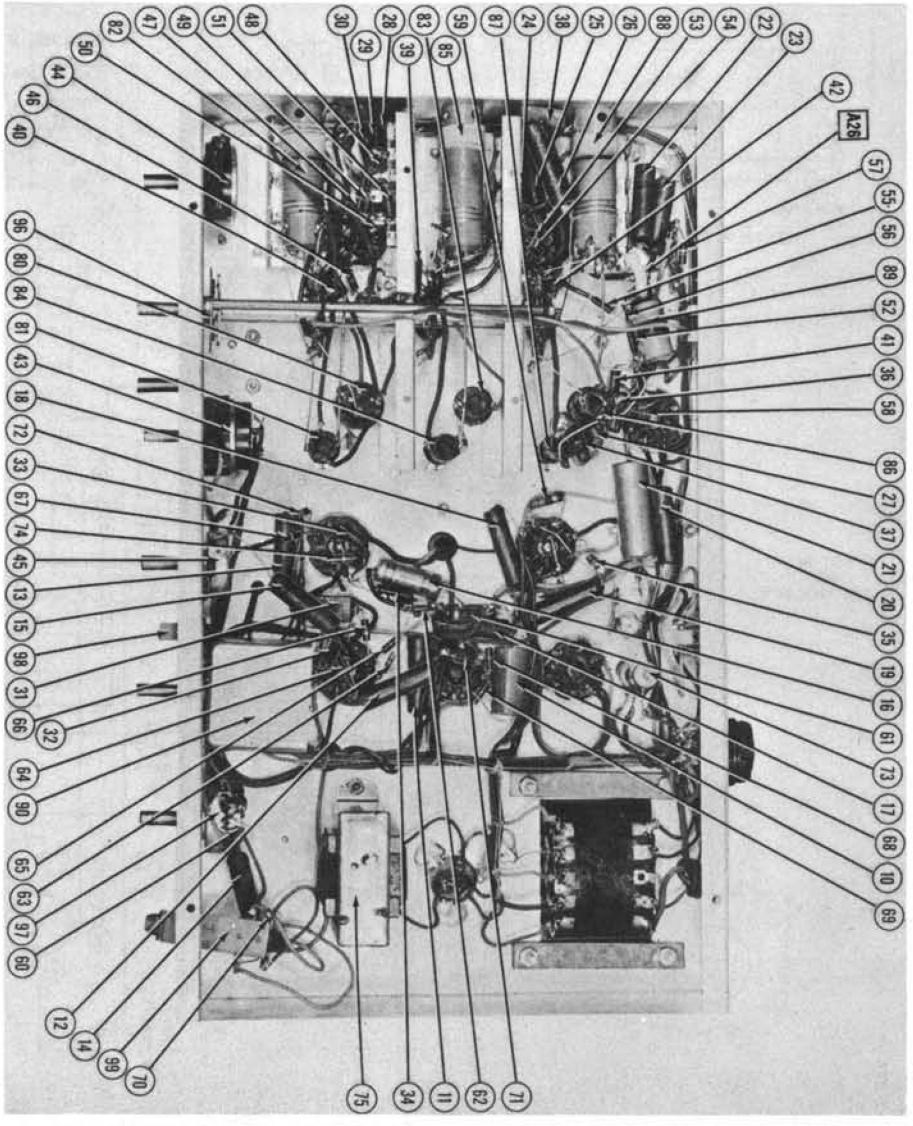
TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA			
	PRI.	SEC. 1	SEC. 2	SEC. 3	RME PART No.	STANCOR PART No.	THORDARSON PART No.	
76	117V AC @ .62A	660V CT @ .084A	5.2V AC @ 1.8A	6.5V AC @ 1.7A		P-8013	T22R05	

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		RME PART No.	STANCOR PART No.	THORDAR'N PART No.		
	PRI.	SEC.	PRI.	SEC.					
77	7200Ω	3.4Ω	700Ω	.7Ω		A-38781	T22S471		†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: RME PART No.	JENSEN PART No.		INSTALLATION NOTES
	FIELD	VC IMP.		ST-105		
78	PM	3.4Ω		Mod. P5-X		
	CONE DIA.	VC DIA.				
79	4-3/4"	1/2"	NOT READILY	REPLACEABLE-USE COMPLETE SPEAKER UNIT.		

R F COILS

ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA: RME PART No.	MEISSNER PART No.	
	(Band)					
80	Ant. Coil 1	1.1Ω	2.7Ω			
81	" " 2	.3Ω	.8Ω			
82A	" " 3	0Ω	0Ω			82A & 82B wound on same form
B	" " 4	0Ω	0Ω			
83	RF Coil 1		3.5Ω			
84	" " 2		.8Ω			
85A	" " 3		0Ω			85A & 85B " " " "
B	" " 4		0Ω			
86	Osc. Coil 1	.4Ω	1.8Ω			
87	" " 2	.3Ω	.7Ω			
88A	" " 3	0Ω	0Ω			88A & 88B " " " "
B	" " 4	0Ω	0Ω			
89	Osc. Series Coil		0Ω			
90	BFO Coil		5.8Ω			
91	Input IF	8Ω	3.6Ω*	B190B-2		
92	Inter. IF	8Ω	3.6Ω*	B190B-2		
93	Output IF	8Ω	3.6Ω*	B190B-2		*Measured from tap

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA: RME PART No.		INSTALLATION NOTES
94	Bayonet	6-8	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		2 Pole, 3 throw rotary
98	N.L. Switch		SPST Slide
99	Phone Jack		
100	3 Gang Var. Cap.		(11-469 MMF 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 autometically 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 & R F GAIN AT MAXIMUM, C W SWITCH "ON" FOR NO. 6 TUBE READINGS.

VOLTAGE READINGS

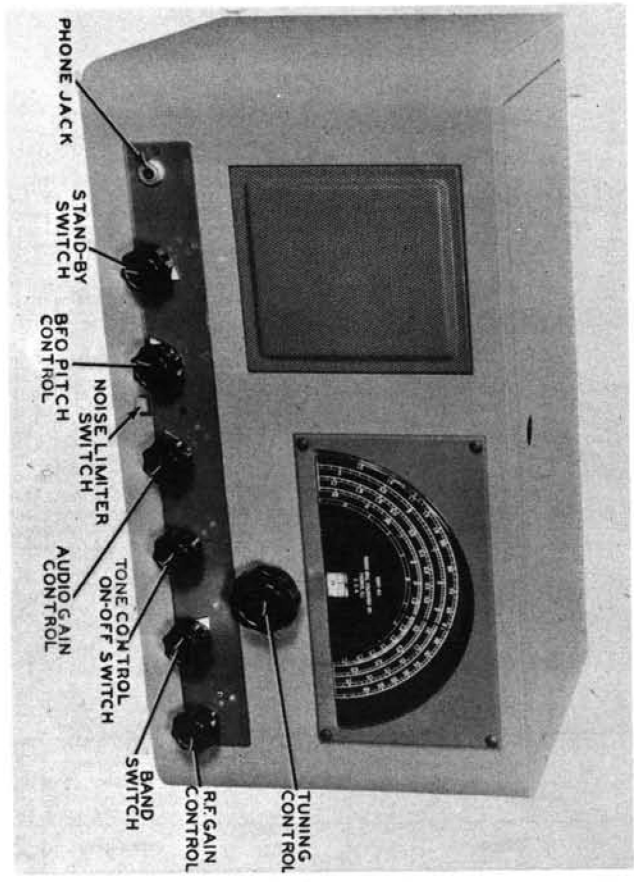
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	7B7	6.5 V.AC	110 V.DC	110 V.DC	2.9 V.DC	0V.	-.6 V.DC	2.9 V.DC	0V.
2	7S7	6.5 V.AC	300 V.DC	165 V.DC	-2.1 V.DC	60 V.DC	0V.	2 V.DC	0V.
3	7B7	6.5 V.AC	300 V.DC	110 V.DC	2.9 V.DC	0V.	0V.	2.9 V.DC	0V.
4	7B7	6.5 V.AC	300 V.DC	120 V.DC	3.6 V.DC	0V.	0V.	3.6 V.DC	0V.
5	7K7	6.5 V.AC	1.1 V.DC	135 V.DC	0V.	-.45 V.DC	-.45 V.DC	0V.	0V.
6	7K7	6.5 V.AC	0V.	68 V.DC	-.8 V.DC	-.75 V.DC	-.75 V.DC	-.75 V.DC	0V.
7	6G6G	0V.	6.5 V.AC	285 V.DC	300 V.DC	0V.	275 V.DC	0V.	15 V.DC
8	5Y3GT	0V.	360 V.DC	0V.	330 V.AC	0V.	330 V.AC	0V.	360 V.DC

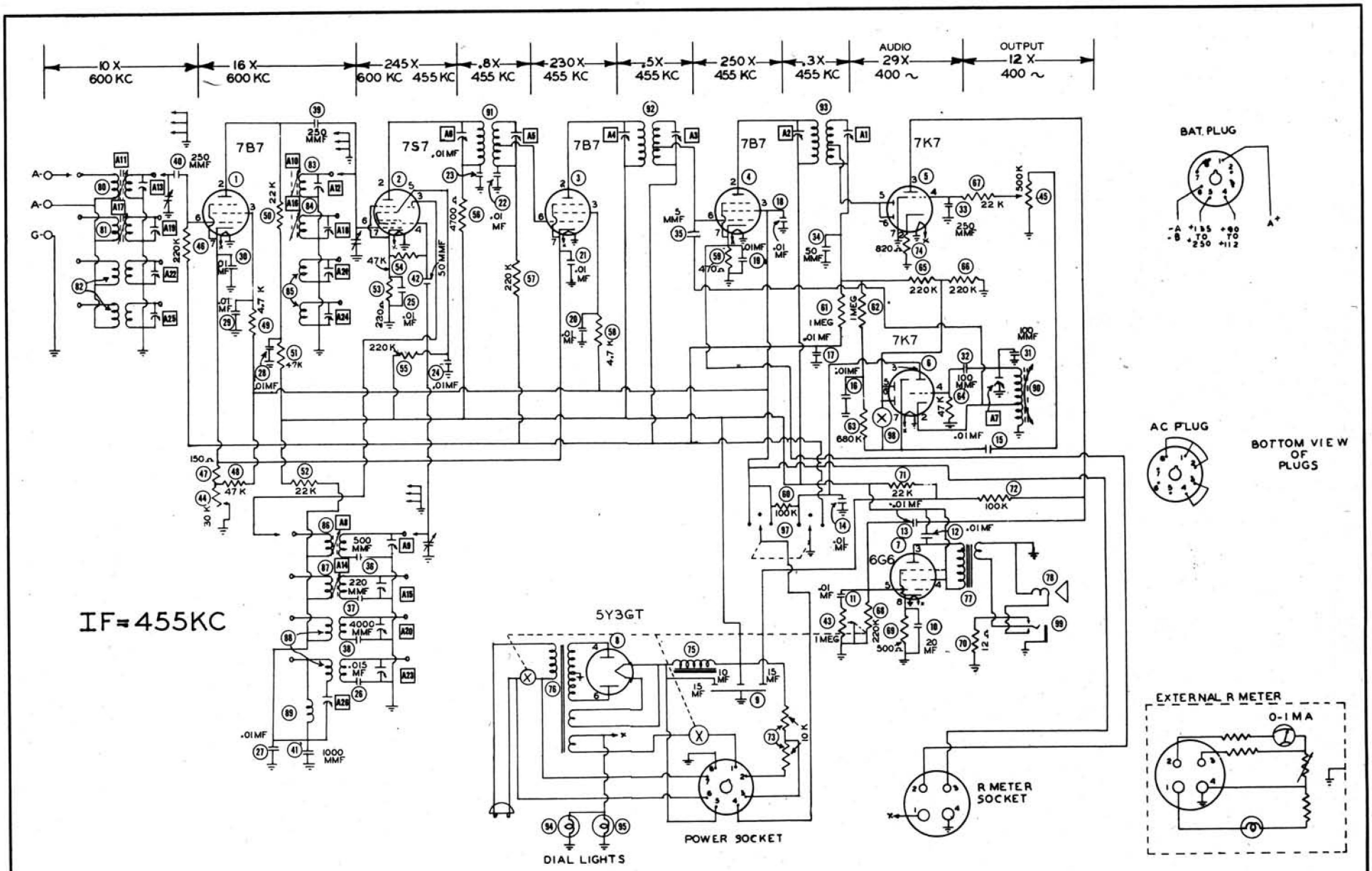
RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	7B7	.2 Ω	36 KΩ	14 KΩ	140Ω	0Ω	1.6 MEG.	140Ω	0Ω
2	7S7	.2 Ω	14 KΩ	31 KΩ	55 KΩ	185 KΩ	2.9 Ω	220Ω	0Ω
3	7B7	.2 Ω	9.5 KΩ	8 KΩ	140Ω	0Ω	1.6 MEG.	140Ω	0Ω
4	7B7	.2 Ω	9.5 KΩ	4 KΩ	450Ω	0Ω	1.3 MEG.	450Ω	0Ω
5	7K7	.2 Ω	800Ω	132 KΩ	460 KΩ	350 KΩ	350 KΩ	0Ω	0Ω
6	7K7	.2 Ω	.5Ω	110 KΩ	55 KΩ	168 KΩ	168 KΩ	1.6 MEG.	0Ω
7	6G6G	870 KΩ	.2 Ω	9.5 KΩ	9 KΩ	172 KΩ	28 KΩ	0Ω	450Ω
8	5Y3GT	INF.	9.5 KΩ	INF.	100Ω	INF.	92Ω	INF.	9.5 KΩ

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

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. Line voltage maintained at 117 volts for voltage measurements.
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.





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 impractical. AVC is made inoperative and 3-volt battery bias substituted for