THE

RME-84

COMMUNICATIONS RECEIVER

OPERATING and SERVICE MANUAL

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RADIO MFG. ENGINEERS, INC.

PEORIA 6, ILLINOIS

I

GENERAL DESCRIPTION

1.1 Introduction

The RME-84 is an eight tube superheterodyne communication type receiver. It has a continuous tuning range from .54 megacycles to 44 megacycles in four overlapping bands. The bandspread dial provides 1000 arbitrary divisions on each range.

1.2 Specifications

Power Supply: 115 volts, 60 cycle, single phase (Also see Par. 2.2)
Power Consumption: 62 watts at 117 volts
Audio Output: 1.1 watts
Audio Frequency Response: 100 to 3,500 cycles ±3 db
Overall Cabinet Dimensions:

Height	Depth	Length
9-3/8"	9-3/4"	18"

Weight: 28 pounds

1.3 Tube Complement

	Type	Use	Schematic Circuit Symbol
1.	7B7	R.F. Amplifier	V1
2.	7S7	Mixer and Oscillator	V2
3.	7B7	1st I.F. Amplifier	V3
4.	7B7	2nd I.F. Amplifier	V4
5.	7K7	Detector, AVC, and 1st Audio	V5
6.	7K7	Noise Limiter and Beat Freq. Osc.	V6
7.	6G6G	Output Amplifier	V7
8.	5Y3G	Rectifier	V8

II

INSTALLATION

2.1 Inspection

The receiver should be carefully checked upon receipt for any mechanical damage that may have resulted in transit. If any such damage is found, a claim should be filed immediately with the carrier. No claim can be filed at the shipping point and Radio Mfg. Engineers, Inc. cannot be responsible for any damage incurred while in the hands of the carrier.

2.2 External Connections

The antenna and power supply connections are all that are required to place the RME-84 in operation. The standard receiver operates on 115 volts 50-60 cycles only. A universal model RME-84 may be obtained on special order. This model may be operated on either 115 or 230 volts, 25 to 60 cycles. See paragraphs 4.2 and 4.3 for other power supply provisions.

II

2.3 Precautions:

IMPORTANT

ATTEMPTED OPERATION ON ANY VOLTAGE OR FREQUENCY OTHER THAN THAT FOR WHICH THE EQUIPMENT IS DESIGNED WILL RESULT IN SERIOUS DAMAGE TO THE RECEIVER. THE OPERATOR MUST BE SURE THAT THE SUPPLY IS CORRECT BEFORE PLUGGING IN THE RECEIVER.

2.4 Antenna

The terminals on the rear apron (Fig. 2) 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.

III

OPERATION AND CIRCUIT DETAILS

3.1 Introduction

The purpose of this book is to familiarize the operator with the RME-84, that he may realize the maximum results and enjoyment from his receiver. Each control on the RME-84 has a definite function. The following paragraphs briefly describe them. Figure 1 shows the front of the receiver and the nomenclature of the controls.

3.2 Tuning Dial

The RME-84 tuning mechanism features a spring loaded gear, engaged by a planetary driven pinion. The pre-loading eliminates backlash. Bandspread logging is obtained by using the figures on the illuminated translucent dial visible through the window in the center of the megacycle scale. The 200 divisions on this dial are calibrated from zero to 100. The dial makes 5 complete revolutions as the megacycle pointer travels from one end of the scale to the other. This dial is used in conjunction with the innermost half circle, calibrated from 0 to 4, on the megacycle scale. While the red pointer is covering one of the megacycle scale sections the bandspread dial makes one complete revolution. After a station has been heard it can be logged accurately by using the two sets of figures.

For example, if a station is heard on band II with the pointer in section 3 of the megacycle scale and with the bandspread dial at 28, that station is definitely logged as 328 because it will always be found at 328 on band II. Or, if a station is logged at 173 on band III, it is always tuned in on band III by turning the tuning knob until the red pointer is in section 1 of the megacycle scale and until 73 comes upon the bandspread dial.

This method of logging enables the operator to return to a station quickly and since there is no other dial to pre-set the station is always found at the same place.

Elimination of the bandspread condenser necessary in an electrical bandspread system lowers the losses in the R.F. circuit and gives greater gain and stability.

3.3 Phone Jack

At the left end of the control panel is a jack marked "Phones". Any pair of good headphones of 50 to 30,000 ohms impedance may be plugged into this jack for headphone reception. When the phones are plugged in the speaker is automatically cut out.

3.4 Standby Switch

The second control from the left is the standby switch, used to make the receiver inoperative without turning off the line switch. It also turns on the beat frequency oscillator for CW reception. There are three positions and reading clockwise they are marked CW, TR, and PH. The first position makes both receiver and beat frequency oscillator operative for CW reception. The second position makes the set inoperative while leaving it warmed up, as during a transmitting period, by disabling the RF and IF stages of the receiver. The third position provides for phone reception without the beat frequency oscillator.

3.5 Beat Oscillator PITCH Control

The pitch of the beat frequency may be varied by means of the control labeled B.O. Pitch. The beat frequency oscillator is indispensible in the reception of CW signals and is an aid in locating weak phone carriers.

3.6 AUDIO GAIN

The AUDIO GAIN Control in the center of the control panel adjusts the audio volume to the desired level.

Best CW reception is usually obtained with this control well advanced (clockwise) and the gain of the receiver controlled by the RF gain control. See paragraph 3.11.

3.7 LINE Switch and TONE Control

The LINE TONE Control turns the receiver on and off. As the control is turned clockwise the line switch will close. Continued turning of the knob controls the tone by increasing the high frequency response.

3.8 Band Selector Switch

The BAND SELECTOR Switch selects the frequency range desired. The range of the receiver is divided into 4 bands. The range covered by each band is as follows:

Band I	.540	to	1.65	MC (American Broadcast)
Band II	1.65	to	5.	MC
Band III	5.	to	15.	MC
Band IV	15.	to	44.	MC

Actually these figures do not represent the full range of each band since there is considerable overlap between the end of one band and the start of the next.

3.9 Radio Frequency GAIN Control

Counter clockwise rotation of this control reduces the gain of the receiver manually. Automatic control of the receiver gain is fully effective only when the R.F. GAIN control knob is rotated to and set at its maximum clockwise position.

3.10 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.

<u>IMPORTANT</u>

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.

3.11 Automatic Volume Control

AVC is obtained by feeding a portion of the signal rectified by the 7K7 tube back to the grids of the RF and IF tubes. As the RF gain is rotated counter-clockwise the AVC action becomes subordinate to the bias developed in the cathodes by this control. The AVC is fully effective only when the RF gain control is in the extreme clockwise position. AVC is removed when the standby switch (3.4) is turned to CW.

3.12 Power Supply

The RME-84 is provided with very flexible power requirements. The standard receiver operates from 115 volts AC, 50-60 cycles. On special order it may be had for 115 or 230 volts, 25 to 60 cycle operation. All models may be operated from A and B batteries, or vibropack. (See paragraph 4.2 and 4.3) The octal plug on the rear apron <u>must</u> be in place for AC operation. It is removed and replaced by a battery cable for battery operation. The 5Y3G rectifier supplies current through pi-section filter. This filter is also in the circuit when the battery cable is used, simplifying convertor or vibropack requirements.

IV

OPTIONAL EQUIPMENT (ACCESSORIES)

4.1 A CARRIER LEVEL meter is available for the RME-84. This meter indicates the average value of the carrier being received. The meter is calibrated in db as well as in conventional R numbers. As in other RME models a signal difference of one R is equivalent to 6 db, and R-9 is equivalent to 100 microvolts input to the receiver. A phone or broadcast signal should always be tuned so as to give maximum reading on the meter. The meter should be adjusted to zero on the "R" scale with the antenna disconnected. Adjustment is accomplished by means of the screw on the rear of the case (See Fig. 2). With the set turned off the meter should rest at the line on the extreme left side of the meter scale. The resting position may be adjusted by means of the screw on the front of the meter. It should be noted here that the accurate functioning of the CARRIER LEVEL meter depends on the setting of the R.F. GAIN control. The R.F. GAIN control must always be rotated to the maximum clockwise position and left there when it is desired to use the CARRIER LEVEL METER readings.

The meter is in a gray wrinkle finish case which matches the receiver cabinet, and is complete with cord and plug, ready for connection to the 4 prong socket on the rear apron. The 3 foot cord and rubber mounting feet on the case permit the meter to be placed either on top of or beside the cabinet.

4.2 Battery Operation

The RME-84 is designed for economical battery operation. The standard RME-84 has an octal socket on the rear apron (Fig. 2) into which is inserted a shorting plug when operating on AC. For battery operation the shorting plug is removed and battery cable is plugged into the socket. The battery cable is not supplied with the 84 but may be purchased separately or made up from the schematic diagram (Fig.5).

Battery requirements are as follows: "A" battery 6V at 1.5 amperes. "B" battery, 135 volts with a tap at 90 volts. The "B" battery drain is 32 milliamperes. The "A" battery drain may be reduced to 1.2 amperes by removing the dial lamps.

When operating on batteries all of the controls function normally. The receiver is turned on and off by means of the power switch on the LINE TONE Control.

IMPORTANT

THE LINE CORD MUST BE DISCONNECTED FROM THE AC SUPPLY BEFORE ATTEMPTING TO CONNECT FOR BATTERY OPERATION.

4.3 Six Volt Power Supply

A vibrator power supply enabling the operation of the receiver from a 6 volt DC source may be obtained on special order.

MAINTENANCE AND SERVICE

5.1 Introduction

No maintenance work of importance is required on this unit. It is suggested that periodic cleaning of the equipment be done, including blowing out any accumulated dust with a suitable air stream.

The owner may, if he has an accurate signal generator available, re-align and re-calibrate his receiver by following the steps outlined in succeeding paragraphs. If a signal generator is not available he may take the receiver to a reputable service man to have the work done. UNLESS IT IS DEFINITELY ESTABLISHED THAT ALIGNMENT IS INCORRECT, NO ADJUSTMENTS OF THE TUNED CIRCUITS SHOULD BE MADE.

Other equipment required is an INSULATED screwdriver, and an output meter unless the receiver has an "R" meter.

In this paragraph, and following paragraphs on alignment the "meter" referred to is either the output meter or the "R" meter, whichever is used. A difference in procedure required is as follows:

When the R meter is used, the R.F. gain is turned full clockwise, all other operating conditions are normal.

When using an audio output meter it is necessary to ground the AVC line, and it may be necessary to reduce the R.F. gain control setting to avoid overloading the first stages of the receiver with strong signal inputs. The meter may be clipped across the voice coil windings of the speaker, both terminals of which are accessible through the lid of the cabinet. The AVC may be removed from the receiver by turning the STANDBY switch (3.8) to CW. This will also turn on the beat frequency oscillator. Since it is undesirable to have the BFO on while aligning the receiver, the BFO tube (V6) should be removed from the socket. It must, of course, be replaced while aligning the BFO (5.3).

5.2 I.F. Alignment

The I.F. frequency of the RME-84 is 455 KC. The bandswitch should be turned to band I. The tuning dial should be turned to the low frequency end (.55 MC) and the hot lead from the signal generator clipped to the lug on the detector (center) section of the tuning condenser. With the signal generator set at 455 KC each padder on the 1st, 2nd and 3rd I.F. transformers (see Fig. 3) is carefully adjusted for maximum responde as indicated on the meter.

5.3 B.F.O. Alignment

With the signal generator connected as for aligning I.F. circuits, turn the stand-by switch to CW and set "B.O. PITCH" control pointer vertical. With an insulated screwdriver adjust BFO padder (see Fig. 3) until zero beat is obtained.

5.4 R.F. Alignment

Alignment of the radio frequency section of the receiver will affect, principally, the calibration of the receiver. Within certain limits this, of course, will also affect the sensitivity. Small variations in frequency (up to 2%) will not materially reduce the sensitivity of the receiver although they will, of course, show up as variations in the calibration as indicated by the setting of the MAIN TUNING DIAL. Correction of any variation of calibration can be made by followint the suggestions outlined in the following paragraphs.

All adjustments are made from the top of the chassis. The proper points for each band are marked on figure 3. There are 18 of them, plus one used only on band IV and accessible from the rear apron.

High frequency beat is used on all bands, that is, the oscillator is 455 KC higher in frequency than the signal received.

If sufficient input is used, a given signal can be received at two points on the tuning dial. There is 910 KC difference in frequency between these points. The true signal is the one received at the higher frequency dial reading while the image or "low-beat" signal is received with the dial reading 910 KC lower in frequency. The circuits must be aligned to the true signal.

When using a signal generator or test oscillator to align the receiver, a resistor of about 300 ohms should be inserted between the signal generator and the antenna terminal. This will prevent misaligning of the RF stage caused by connecting the receiver input, the low impedance output of the signal generator.

Band I includes frequencies between 540 and 1650 KC. For Band I there are two frequency adjustments for adjusting the dial to the proper calibration.

The first step is to choose a station or a signal of accurately known frequency on the low frequency end of the range (for example 600 KC.) and set the main tuning scale to read this frequency. If the signal is not tuned in when the scale indicates its frequency it may be brought in by adjusting the oscillator coil core. This may be done with a small screwdriver at the point marked "BAND I OSC. Lo" on Fig. 3. Another station or signal is now selected near the high frequency end of the range (for example 1400 KC). If this signal is not heard when the dial is accurately set to its frequency it may be brought in by adjusting the padder under the large hole marked "BAND I OSC. Hi" by means of an insulated trimmer tool. When this signal is accurately brought in as indicated by a maximum reading on the meter, the low frequency test point should be readjusted if it has changed. It may be necessary to go back and forth several times until both frequencies are accurately calibrated.

When the calibration is correct the R.F. circuits can be aligned. The two marked "Band I Mixer Lo" and "Band I RF Lo" are adjusted for maximum meter reading on the low frequency end of the band (such as 600 KC); and the trimmers marked "Band I Mixer Hi" and "Band I RF Hi" are used to obtain maximum output at the high frequency end, such as 1400 KC. It may be necessary to repeat these adjustments for perfect alignment. The oscillator calibration of any band must be done first, and should not be changed while making the other adjustments.

The procedure on Band II is the same as for Band I. Adjust "Band II Osc.Lo" at approximately 1.9 MC and "Band II Osc. Hi" around 4.5 to 5 MC; then tune the mixer and RF stages.

Band III and IV differ in that there is no "Lo" end adjustment, the inductance of the coils being accurately adjusted at the factory. Band III is therefore set at only one frequency, preferably near the high end. Band IV may be adjusted at about 30 MC.

The trimmer accessible through the hole in the rear of the chassis affects only the extreme low end of Band IV and should not be disturbed unless absolutely necessary. It will determine calibration only between 14 and 17 MC, and will also affect sensitivity of the set through that region of Band IV.

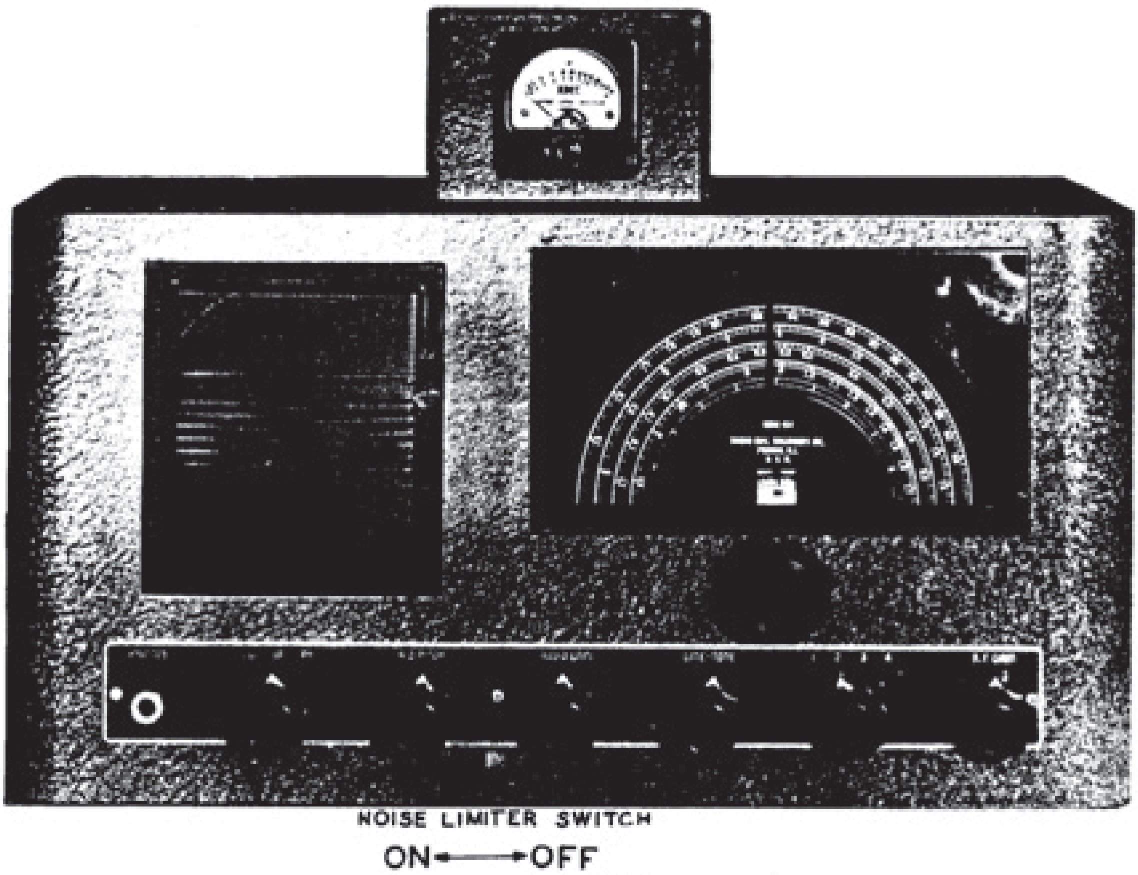


FIGURE I

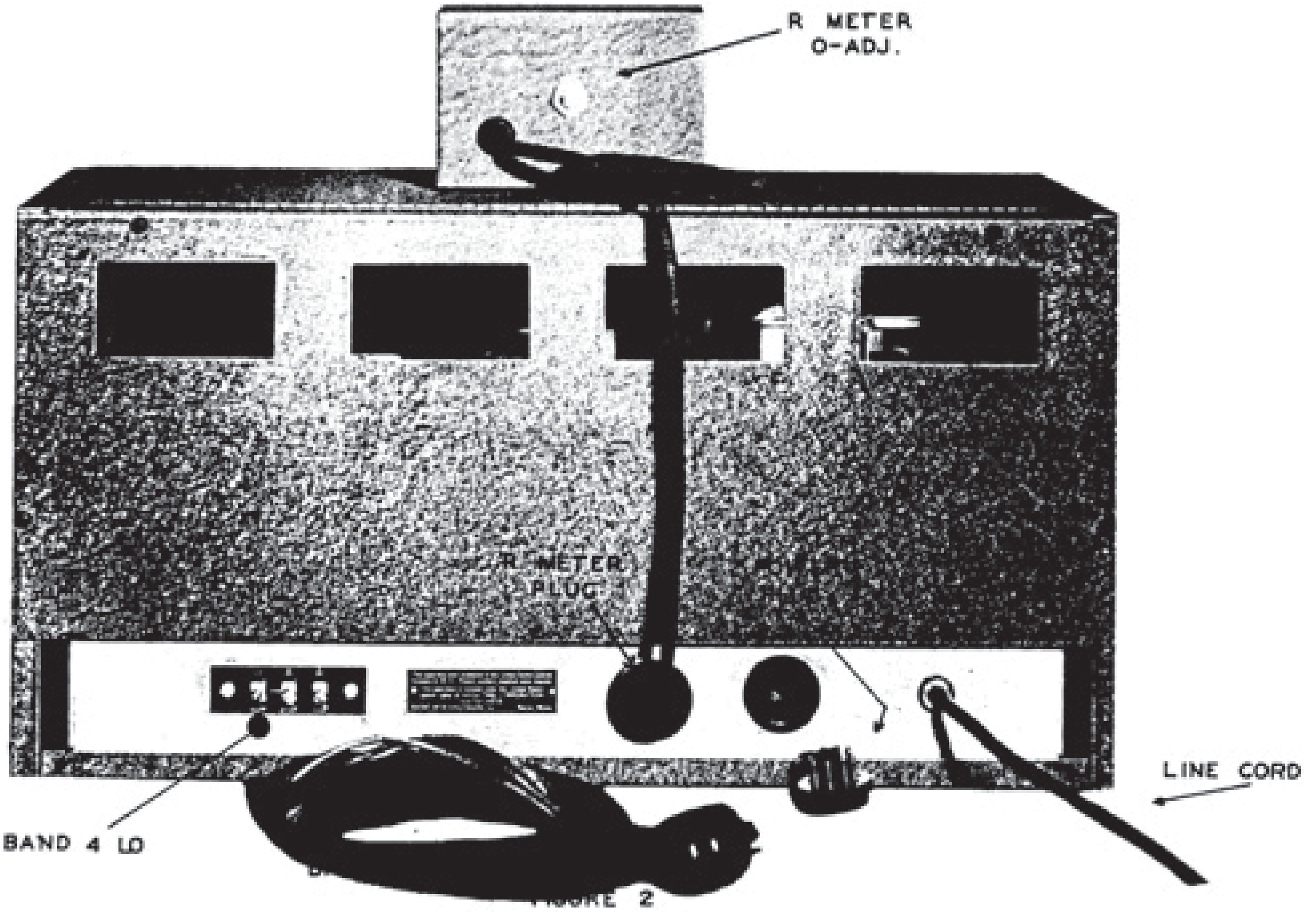


FIGURE 2

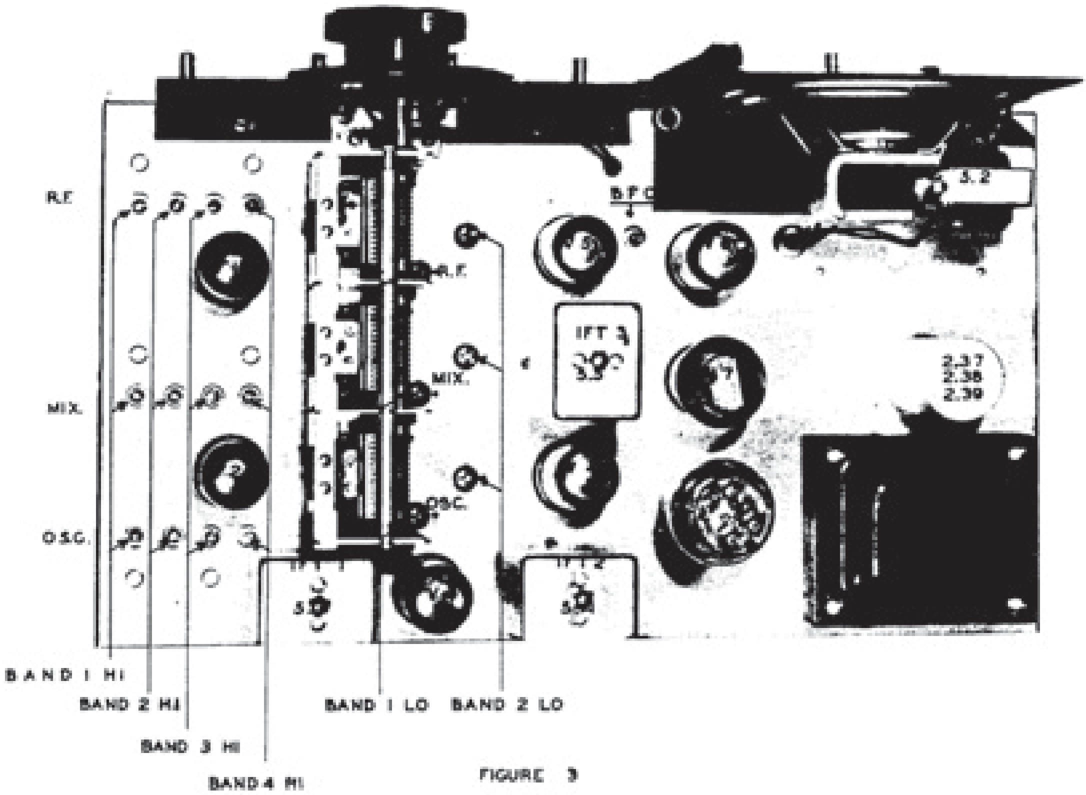


FIGURE 3

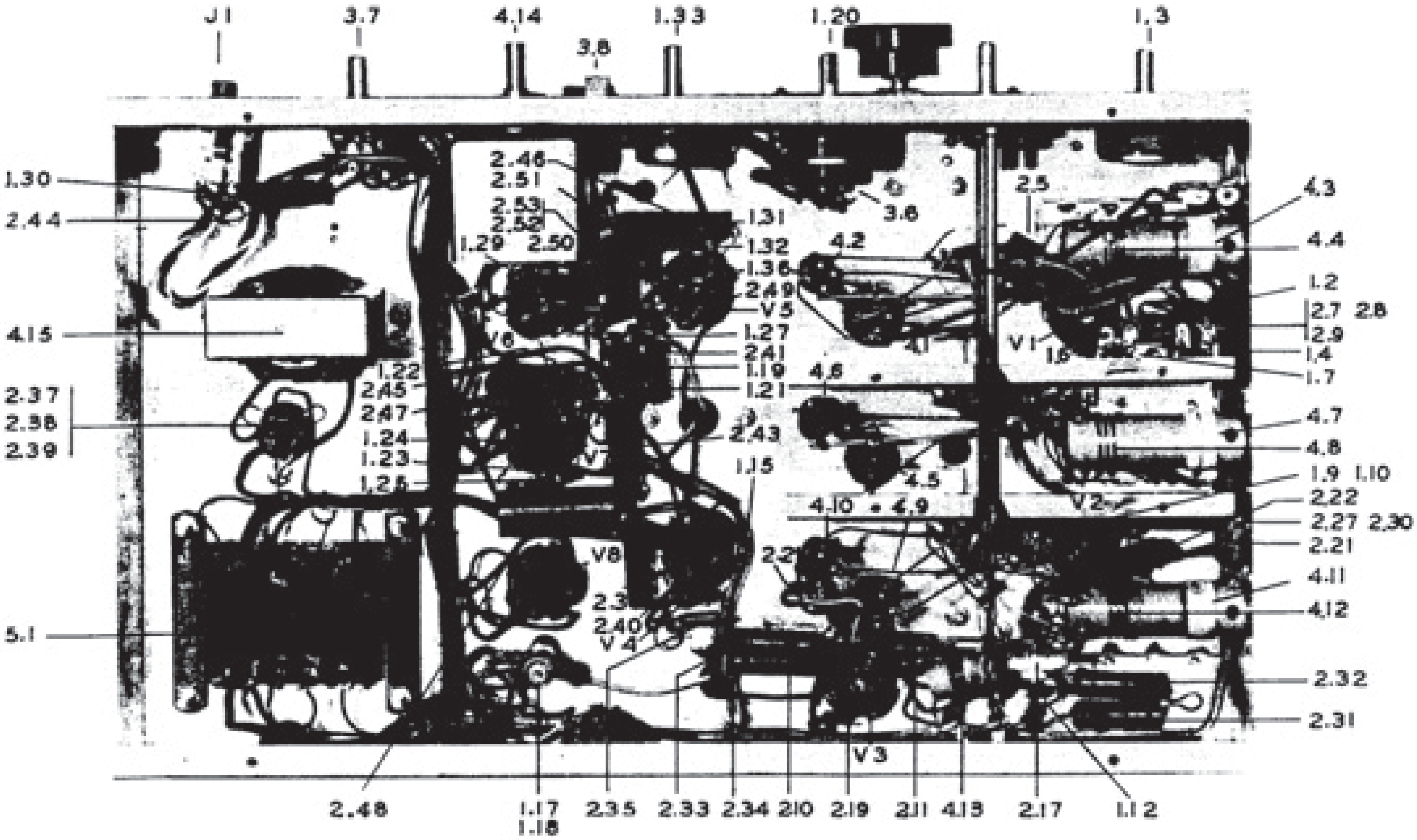


FIG. 4

5.7 Parts List

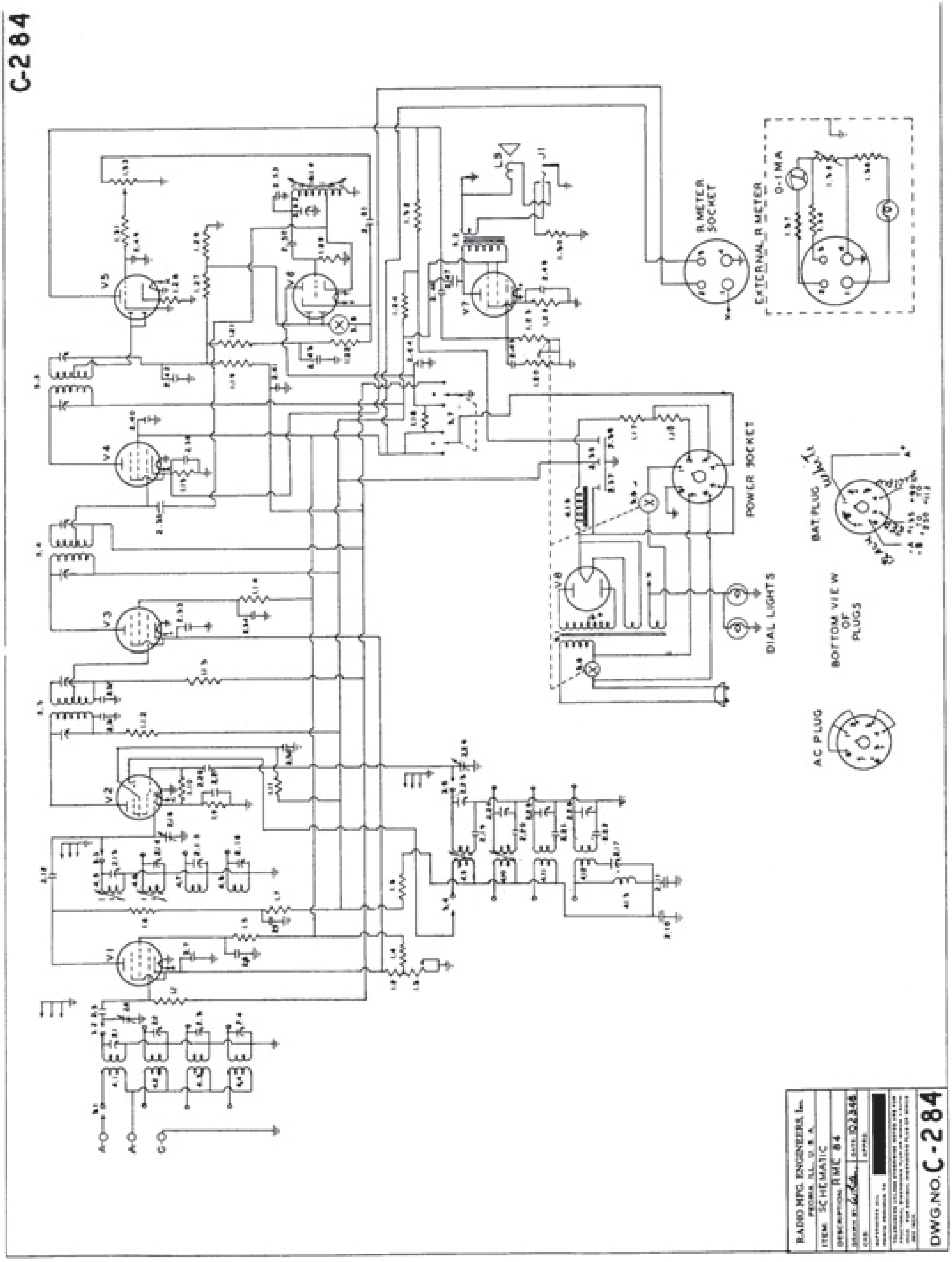
Schematic Symbol	Function	Specification
1.1	R.F. Grid Resistor	220 K ±20% 1/2 Watt Carbon
1.2	R.F. & 1st I.F. Cathode Resistor	150 ohms ±20% 1/2 Watt Carbon
1.3	R.F. Gain Control	30 K Variable
1.4	R.F. Gain Bleeder	47 K ±20% 1/2 Watt Carbon
1.5	R.F. Screen Filter Resistor	4700 ohms ±20% 1/2 Watt Carbon
1.6	R.F. Plate Resistor	22 K ±20% 1/2 Watt Carbon
1.7	R.F. Plate Decoupling Resistor	4700 1/2 Watt 20% Carbon
1.8	Oscillator Plate Filter Resistor	22 K ±20% 1/2 Watt Carbon
1.9	Mixer Cathode Resistor	220 ohms ±20% 1/2 Watt Carbon
1.10	Oscillator Grid Leak	47 K ±20% 1/2 Watt Carbon
1.11	Mixer Screen Filter Resistor	220 K ±20% 1/2 Watt Carbon
1.12	Mixer Plate Filter Resistor	22 K ±20% 1/2 Watt Carbon
1.13	1st I.F. AVC Resistor	220 K ±20% 1/2 Watt Carbon
1.14	1st I.F. Screen Filter Resistor	4700 ohms ±20% 1/2 Watt Carbon
1.15	2nd I.F. Cathode Resistor	470 ohms ±20% 1/2 Watt Carbon
1.16	B.F.O. Plate Dropping Resistor	100 K ±20% 1/2 Watt Carbon
1.17	Part of Bleeder Resistor	10,000 ohms 10 Watt Tapped at 5500 wire wound
1.18	Part of Bleeder Resistor	
1.19	AVC Filter Resistor	1 meg ±20% 1/2 Watt Carbon
1.20	Tone Control	1 meg Variable with switch
1.21	ANL Decoupling Resistor	1 meg ±20% 1/2 Watt
1.22	Noise Limitor Bias Resistor	680 K ±10% 1/2 Watt Carbon
1.23	Output Amp. Grid Resistor	220 K ±20% 1/2 Watt Carbon
1.24	First AF Plate Filter Resistor	22 K ±20% 1/2 Watt Carbon
1.25	Output Amp. Cathode Resistor	470 ohms ±20% 1/2 Watt Carbon
1.26	1st Audio Cathode Resistor	820 ohms ±10% 1/2 Watt Carbon
1.27	Part of Diode Load	220 K ±20% 1/2 Watt Carbon
1.28	Part of Diode Load	220 K ±20% 1/2 Watt Carbon
1.29	B.F.O. Grid Leak	47 K ±20% 1/2 Watt Carbon
1.30	Phono Shunt Resistor	33 ohms ±20% 1/2 Watt Carbon
1.31	1st AF Grid Filter Resistor	22 K ±20% 1/2 Watt Carbon
1.32	1st AF Plate Resistor	100 K ±20% 1/2 Watt Carbon
1.33	Audio Gain Control	250 K Variable
1.34	Meter Bleeder	68 K ±20% 1/2 Watt Carbon
1.35	Meter Zero Adjustment	5 K Variable WW Screw Driver Slot
1.36	Pilot Lamp Dropping Resistor	18 ohms ±20% 1/2 Watt Carbon
2.1	Band I RF Trimmer	40 mmfd Mica Variable
2.2	Band II RF Trimmer	40 mmfd Mica Variable
2.3	Band III RF Trimmer	40 mmfd Mica Variable
2.4	Band IV RF Trimmer	40 mmfd Mica Variable
2.5	RF Grid Blocking Condenser	250 mmfd ±20% 600 V Mica
2.6	RF Tuning Condenser	Part of Gang Condenser
2.7	RF Cathode Bypass Condenser	.01 mfd ±20% 600 V Paper
2.8	RF Screen Bypass Condenser	.01 mfd ±20% 600 V Paper
2.9	RF Plate Decoupling Condenser	.01 mfd ±20% 600 V Paper
2.10	Oscillator Plate Bypass Cond.	.01 mfd ±20% 600 V Paper
2.11	Oscillator Plate Filter Cond.	.001 mfd ±20% 600 V Mica
2.12	RF Plate Coupling Condenser	250 mfd ±20% 600 V Mica

5.7 Parts List (Continued)

Schematic Symbol	Function	Specification
2.13	Band I Mixer Trimmer	40 mmfd Mica Variable
2.14	Band II Mixer Trimmer	40 mmfd Mica Variable
2.15	Band III Mixer Trimmer	40 mmfd Mica Variable
2.16	Band IV Mixer Trimmer	40 mmfd Mica Variable
2.17	Band IV Osc. Series Trimmer	70 mmfd Mica Variable
2.18	Mixer Tuning Condenser	Part of Gang Condenser
2.19	Band I Series Pad	.0005 mfd ±5% 600 Volt Mica
2.20	Band II Series Pad	.0015 mfd ±5% 600 Volt Mica
2.21	Band III Series Pad	.004 mfd 5% 600 Volt Mica
2.22	Band IV Series Pad	.015 600 Volt Paper
2.23	Band I Osc. Trimmer	40 mmfd Mica Variable
2.24	Band II Osc. Trimmer	40 mmfd Mica Variable
2.25	Band III Osc. Trimmer	40 mmfd Mica Variable
2.26	Band IV Osc. Trimmer	40 mmfd Mica Variable
2.27	Mixer Cathode Bypass Condenser	.01 mfd ±20% 600 V Paper
2.28	Osc. Grid Condenser	50 mmfd ±20% 600 V Mica
2.29	Osc. Tuning Condenser	Part of Gang Condenser
2.30	Mixer Screen Bypass Condenser	.01 mfd ±20% 600 V Paper
2.31	Mixer Plate Filter Condenser	.01 mfd ±20% 600 V Paper
2.32	First I.F. Grid Filter Condenser	.01 mfd ±20% 600 V Paper
2.33	1st I.F. Cathode Bypass Condenser	.01 mfd ±20% 600 V Paper
2.34	1st I.F. Screen Bypass Condenser	.01 mfd ±20% 600 V Paper
2.35	B.F.O. Coupling Condenser	5 mmfd ±20% Mica
2.36	2nd I.F. Cathode Bypass Cond.	.01 mfd ±20% 600 V Paper
2.37		
2.38	Power Supply Filter Condenser	10-10-15 mfd Electrolytic
2.39		
2.40	2nd I.F. Screen Bypass Cond.	.01 mfd ±20% 600 V Paper
2.41	AVC Bypass Condenser	.01 mfd ±20% 600 V Paper
2.42	Diode Load Filter Condenser	50 mmfd ±20% 600 V Mica
2.43	ANL Bias Filter Condenser	.01 mfd ±20% 600 V Paper
2.44	B.F.O. Plate Bypass Condenser	.01 mfd ±20% 600 V Paper
2.45	Tone Control Condenser	.01 mfd ±20% 600 V Paper
2.46	First Audio Plate Coupling Cond.	.01 mfd ±20% 600 V Paper
2.47	Output Plate Loading Condenser	.01 mfd ±20% 600 V Paper
2.48	Output Cathode Bypass Condenser	20 mfd 25 V Tubular Electrolytic
2.49	1st Audio Grid Decoupling Cond.	250 mmfd ±20% 600 V Mica
2.50	B.F.O. Grid Condenser	100 mmfd ±20% 600 V Mica
2.51	1st Audio Grid Coupling Cond.	.01 mfd ±20% 600 V Paper
2.52	B.F.O. Trimmer Condenser	70 mmfd Mica Variable
2.53	B.F.O. Grid Condenser	100 mmfd ±20% 600 V Mica
3.1	RF Coil Switch	Primary Section, part of Bandswitch
3.2	RF Coil Switch	Grid Section, part of Bandswitch
3.3	Mixer Coil Switch	Part of Bandswitch
3.4	Osc. Coil Switch	Plate Section, part of Bandswitch
3.5	Osc. Coil Switch	Grid Section, part of Bandswitch
3.6	Off-On Switch	2 pole, single throw on tone control
3.7	Stand-by Switch	2 pole, 3 throw rotary
3.8	Noise Limiter Switch	SPST Slide Switch

5.7 Parts List (Continued)

Schematic Symbol	Function	Specification
4.1	Band I R.F. Coil Assembly	
4.2	Band II R. F. Coil Assembly	
4.3	Band III R.F. Coil Assembly)	Wound on same form
4.4	Band IV R. F. Coil Assembly)	
4.5	Band I Mixer Coil assembly	
4.6	Band II Mixer Coil assembly	
4.7	Band III Mixer Coil Assembly)	Wound on same form
4.8	Band IV Mixer Coil Assembly)	
4.9	Band I Osc. Coil Assembly	
4.10	Band II Osc. Coil Assembly	
4.11	Band III Osc. Coil Assembly)	Wound on same form
4.12	Band IV Osc. Coil Assembly)	
4.13	Band IV Oscillator Series Coil	
4.14	B.F.O. Coil	
4.15	Filter Choke	
5.1	Power Transformer	
5.2	Output Transformer	
5.3	1st I.F. Transformer	
5.4	2nd I.F. Transformer	
5.5	3rd I.F. Transformer	


C-284
R METER SOCKET
EXTERNAL R METER
0-1 MA
POWER SOCKET
DIAL LIGHTS
BAT. PLUG
BOTTOM VIEW OF PLUGS
AC PLUG
RADIO MFG. ENGINEERS, Inc.
SCHEMATIC
RME 84
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