

AMR 200 TEST PROCEDURE

13-7-44. Eclipse Radio.

Standard Power Supply:

Output Voltage : + or - 5%.

250 Volts D.C. at pin No 6 of Cable.

165 " " "	8
Minus 50 Volts	7
12.6 Volts A.C.	5

Connect "Hot" output lead of 455 Kc through .01 uf cond. to grid of Freq Changer. Leave grid cap in place. Set receiver controls _2.5

Crystal Selectivity Switch	1.
Bandwidth Control	3
A.V.C.	ON
Sensitivity Control	10
Signal Switch	MOD.
Band Spread Dial	100

- (a) Adjust trimmer on each I.F. transformer and on Crystal Filter for ~~MAX.~~ resonance (Max. on Output Meter).
- (b) Adjust trimmer on A.V.C. transformer for Max. Deflection on S Meter.
- (c) Throw switch to C.W. and adjust trimmer on B.F.O. transformer until Beat Note is heard. Return Signal switch to Modn.
- (d) Throw Crystal Selectivity switch to off position and turn B'Width to 16. Signal output should increase. Return Width to 3 Kc.
- (e) Turn Sensitivity Control to 0. Audio output should be reduced considerably but should not cease. Throw A.V.C. switch to "OFF" position. Audio output should now cease. Turn sensitivity control to position 10, audio output should increase smoothly provided signal input is kept at a low level.
- (f) Disconnect 455 Kc signal source and connect signal modulated at 500 c.p.s.

VOLTAGE ANALYSIS 2.6

Turn A.V.C. switch to "OFF", Signal Switch to C.W.; Sensitivity and Audio Gain controls to minimum. Measure voltages. Set meter to 250 mils D.C. and measure current across the relay terminals. Plug 20,000 ohm speaker to one phone jack and output meter into other. For alignment of R.F. section connect a Signal Generator to Antenna terminals through a 100 ohm resistive dummy antenna.

I.F. ALIGNMENT 3.5

Adjust each I.F. trimmer and plate circuit trimmer of Crystal Filter unit to resonance.

ALIGNMENT OF A.V.C. AMPLIFIER. 3.6

- (a) Adjust 455 Kc signal to obtain a sensible reading on receiver "S" meter. Turn adjusting screw on A.V.C. transformer (T 22) to obtain maximum signal reading.

SETTING OF B.F.O. PITCH CONTROL AND ADJUSTING OF B.F.O. 3.7

Set to C.W. switch - cut back Audio gain to safeguard output meter. Connect 455 Kc signal ; adjust B.F.O. trimmer to obtain beat note. Loosen grub screws on coupling, connecting metal portion of pitch control (C64) so that frequency of beat note increases. Continue until highest (audible) frequency is reached and pitch begins to fall. The pitch control is now either in maximum or minimum capacity position and is to be set 90° from this position. Set B.F.O. oscillator knob on panel at centre scale and tighten grub screws in coupling. Now adjust trimmer on B.F.O. transformers until zero beat is obtained. When pitch control is rotated fully to right or left pitch of heterodyne note should progress smoothly in either case from zero to about 3000c.p.s.

I.F. AND CRYSTAL FILTER ALIGNMENT USING SWEEP OSCILLATOR & C.R.O. 3.8

- (a) Crystal Selectivity switch at 1 and phasing control at centre scale.
- (b) Connect sweep oscillator as in above.
- (c) Connect input terminals (Y Plate) of C.R.O. across diode load R38 in receiver detector circuit.
- (d) Adjust linear time base of C.R.O. to produce a single image on its screen.

NOTE: This single image will actually consist of two images one superimposed upon the other. Until the I.F. channel is in exact alignment with the mean frequency produced by the sweep oscillator,

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12.6 Volts A.C. 5

Connect "Hot" output lead of 455 Kc through .01 uf cond. to grid of Freq Changer. Leave grid cap in place. Set receiver controls 2.5

Crystal Selectivity Switch	1.
Bandwidth Control	3
A.V.C.	ON
Sensitivity Control	10
Signal Switch	MOD.
Band Spread Dial	100

(a) Adjust trimmer on each I.F. transformer and on Crystal Filter for ~~Max.~~ resonance (Max. on Output Meter).

(b) Adjust trimmer on A.V.C. transformer for Max. Deflection on S Meter.

(c) Throw switch to C.W. and adjust trimmer on B.F.O. transformer until Beat Note is heard. Return Signal switch to Modn.

(d) Throw Crystal Selectivity switch to off position and turn B'Width to 16. Signal output should increase. Return Width to 3 Kc.

(e) Turn Sensitivity Control to 0. Audio output should be reduced considerably but should not cease. Throw A.V.C. switch to "OFF" position. Audio output should now cease. Turn sensitivity control to position 10, audio output should increase smoothly provided signal input is kept at a low level.

(f) Disconnect 455 Kc signal source and connect signal modulated at 500 c.p.s.

VOLTAGE ANALYSIS 2.6

Turn A.V.C. switch to "OFF", Signal Switch to C.W.; Sensitivity and Audio Gain controls to minimum. Measure voltages.

Set meter to 250 mils D.C. and measure current across the relay terminals

Plug 20,000 ohm speaker to one phone jack and output meter into other.

For alignment of R.F. section connect a Signal Generator to Antenna terminals through a 100 ohm resistive dummy antenna.

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SETTING OF B.F.O. PITCH CONTROL AND ADJUSTING OF B.F.O. 3.7

Set to C.W. switch - cut back Audio gain to safeguard output meter.

Connect 455 Kc signal ; adjust B.F.O. trimmer to obtain beat note.

Loosen grub screws on coupling, connecting metal portion of pitch control

(C64) so that frequency of beat note increases. Continue until highest

(audible) frequency is reached and pitch begins to fall. The pitch

control is now either in maximum or minimum capacity position and is

to be set 90° from this position.

Set B.F.O. oscillator knob on panel at centre scale and tighten grub

screws in coupling. Now adjust trimmer on B.F.O. transformers until

zero beat is obtained. When pitch control is rotated fully to right

or left pitch of heterodyne note should progress smoothly in either

case from zero to about 3000c.p.s.

I.F. AND CRYSTAL FILTER ALIGNMENT USING SWEEP OSCILLATOR & C.R.O. 3.8

(a) Crystal Selectivity switch at 1 and phasing control at centre scale.

(b) Connect sweep oscillator as in above.

(c) Connect input terminals (Y Plate) of C.R.O. across diode load R38

in receiver detector circuit.

(d) Adjust linear time base of C.R.O. to produce a single image on its

screen.

NOTE: This single image will actually consist of two images one super-

imposed upon upon the other. Until the I.F. channel is in exact

alignment with the mean frequency produced by the sweep oscillator,

two images will appear. Exact alignment is achieved when these two images appear as one.

(e) Adjust all trimmer screws in the I.F. channel in the following order:- T26, T25, T23 and Plate circuit (lower) trimmer on T21 to achieve result described above.

(f) Adjust grid circuit (upper) trimmer at T21 for a symmetrical image on C.R.O. screen.

(g) When these adjustments are completed, the phasing control should be rotated first one way and then the other. This should produce a pronounced dip first in one side and then the other of the C.R.O. image. If it is not so the trimmer condenser C45 will have to be adjusted and the grid circuit trimmer of T21 readjusted once again to obtain a symmetrical image.

R.F. ALIGNMENT 3.9

(a) Turn audio gain to maximum.

(b) Set main tuning dial to H.F. alignment point of band to align.

(c) Connect Signal Generator and set to H.F. alignment point.

(d) Use sufficient output from Sig. Gen. to produce reasonable reading on output meter.

(e) Adjust trimmers for maximum deflection of Output Meter needle.

(f) Set dial of Receiver to L.F. alignment point.

(g) Adjust oscillator inductance trimmer (slug) for Maximum reading.

NOTE: (e) and (g) may have to be repeated several times as they are inter-dependent. Correct band coverage has been achieved when these two trimmers cease to react.

(h) Set receiver dial and Sig. Gen. to H.F. alignment point and adjust 2nd R.F., 1st R.F. and Antenna capacity trimmers in order named to obtain maximum deflection of Output Meter.

(i) Set receiver dial and Sig. Gen. to L.F. point and adjust slugs of 2nd., 1st R.F., and Antenna coils. (h) and (i) may have to be repeated several times to get exact alignment.

Having achieved exact alignment at each frequency, set output attenuator of Sig. Gen. to 2u.V and adjust audio gain control of receiver to produce 500m.W. When 400 c.p.s. Sig. Gen. Modulation is switched off, the output should fall below the noise level indication of Output Meter.

RANGE MC.	FREQ MC.	OSC	2RF	1RF	ANT	FREQ	OSC	2RF	1RF	ANT
		Adjust capacity trimmers						Adjust Induct Slugs		
1.25-2.5	2.5	C41	C27	C19	C9	1.25	T20	T15	T10	T5
2.5- 5.0	5.0	C38	C26	C17	C8	2.5	T19	T14	T9	T4
5.0-10.0	10.0	C36	C25	C16	C6	5.0	T18	T13	T8	T3
10 -20.0	20.0	C33	C22	C13	C2	10.0	T17	T12	T7	T2
15 -30.0	30.0	C30	C20	C11	C1	15.0	T16	T11	T6	T1

Test with Coil Cover on.

I.F. Amplifier to check:- Connect Sig. Gen. "Hot" lead to grid cap of Freqcy changer tube and connect cold lead to chassis. Leave grid cap on. Short circuit grid of H.F. oscillator tube to Chassis.

SENSITIVITY AND SIGNAL TO NOISE RATIO 4.7

(a) Operate receiver with A.V.C. on.

(b) Connect Signal Generator and adjust to test frequency.

(c) Set Sig. Gen. output attenuator to anticipated sensitivity in uV.

(d) Adjust receiver tuning for maximum audio power output.

(e) Switch off modulation from signal and adjust audio gain control (receiver) so that 8.7 volts of noise is indicated on output meter scale.

(f) Turn modulation on and adjust Sig. Gen. output attenuator for 19.3 volts of audio output (signal and noise).

(g) Switch modulation off again. Noise indicated on output meter should still read 8.7 volts and if this is not so, (e) and (f) will have to be repeated.

(h) When noise level with modulation switch "off" equals 8.7 volts and signal plus noise level with modulation "on" equals 19.5 volts, the signal to noise voltage ratio is set at 2-1 and the micro-volts output from Sig. Gen. as indicated on its attenuator is to be recorded as number of micro-volts required to produce 500 mW output under the above conditions.

(i) Measure MCW sensitivity at 3 points.

4.8 A.V.C. TEST.

(1) A.V.C. on.

(b) Connect Sig. Gen. (at 2.5 Mc) and set its output to 50,000uV. Tune receiver to resonance and adjust audio gain control to produce 17.3 V output (500mW)

- (c) Reduce output from Sig Gen. to 500uV and note power output.
(d) Reduce output " " " " 5uV " " " "

4.9 B.F.O. TEST.

- (a) Connect Sig. Gen. at 2.5 Mc and its output at 100uV.
(b) Tune receiver to resonance and switch off Sig. Gen. 400 cps Modn.
(c) Throw switch to C.W. position.
(d) Zero beat shall occur when BFO control is in zero position. When pitch control is rotated fully to right or to left, pitch of heterodyne note should increase smoothly in either case from zero to about 3000 cps.

4.10 SIGNAL METER TEST.

- (a) A.V.C. ON.
(b) Connect Sig. Gen. to 2.5 Mc. Tune receiver to resonance using "S" meter as indicator.
(c) Adjust attenuator of Sig. Gen. so that that meter reads S 2. Record output from Sig. Gen. as indicated by its attenuator as input required to produce S meter reading of S3.
(d) Repeat (c) for S meter reading of S6 and S9.

4.11 BANDWIDTH.

- (a) Audio Gain Control in Maximum position.
(b) Connect Sig. Gen. at 1.3Mc.
(c) Tune receiver to resonance using a small output from Sig. Gen.
(d) Increase Sig. Gen output to 100uV and adjust sensitivity control on receiver to produce power of 500mW.
(e) Increase output of Sig. Gen. to 200uV.
(f) Adjust tuning dial of Sig. Gen. until receiver power output as indicated by output meter is once again 500mW. Note freqcy setting of Sig. Gen dial.
(g) Now rotate Sig. Gen. dial in opposite direction. The receiver power output will increase to some level above 500mW. Continue this adjustment of Sig. Gen. frequency until the power output of receiver is once again 500mW.
(h) Note frequency indicated by position of Sig. Gen. dial. Difference between 2 frequencies noted is the band width of receiver for a decrease in power output of 6dB (W2)
(i) Record this as Band width at W2.
(j) Increase output of Sig. Gen. to 1000uV and repeat f. g. h. Record result as Band width at W 10.
(k) Increase output of Sig. Gen. to 10,000uV and repeat f.g.h. Record result as Band width at W 100.
(l) Increase output of Sig. Gen. to 100,000uV and repeat f.g.h. Record result as Band width at W 1000.
(m) Turn Band width control to Broad Position -16 and repeat (c) to (l)

4.12. CALIBRATION ACCURACY.

- (a) Operate receiver A.V.C. to "ON".
(b) Connect composite signal to Antenna of set.
(c) Rotate Main Tuning dial of receiver over each Band in entire tuning range. A signal bearing 500 cps modulation should be heard every 100 Kc and should correspond within + or - 1% with 100 Kc dial calibrations e.g. 500 cycle note should be heard at 1.3mc., 1.4mc, 1.5mc., etc. A signal bearing 1000 cps modulation should be heard every 1000Kc and should correspond within + or - 1% with 1000Kc dial calibration e.g. 5.0Mc., 6.0Kc., 7.0Kc. etc.

4.13. BANDSPREAD TEST.

- (a) A.V.C. on.
(b) Connect Sig. Gen. to 10Mc.
(c) Tune receiver accurately to Resonance at this Frequency.
(d) Rotate receiver bandspread dial to "0" and adjust Sig. Gen. until Signal is once again heard in receiver.
(e) Note new frequency to which Sig. Gen. is tuned and subtract it (it will be a lower frequency) from 10Mc. The difference will represent Bandspread coverage at H.F. end of this band.
(f) Repeat (b) to (e) for H.F. end of 10-20Mc and 15-30MC Band.
(g) Bandspread coverage is set out in table under 6 - 1(i).

4.14. CRYSTAL FILTER TESTS.

- (a) Operate receiver, crystal filter to position 1 and phasing control set at "centre" scale.
- (b) Connect sweep oscillator as in section 3.3e.
- (c) Connect input terminals (Y-plate) of C.R.O. across diode load R 18 in receiver detector circuit and having switched sweep oscillator on, adjust linear time base of C.R.O. to produce single image on its screen.
- (d) If 2 images are visible, one partly super-imposed upon the other, the I.F. channel is not in exact alignment with the mean frequency produced by the Sweep Oscillator and adjustments must be carried out on I.F. channel until images are completely super-imposed.
- (e) Phasing control should be rotated first one way and then the other. This should produce a pronounced dip, first in one side and then the other of the C.R.O. image. If it is not so the trimmer condenser C45 will have to be adjusted and grid circuit trimmer T21 re-adjusted once again to obtain the symmetrical image.
- (f) As the Crystal Selectivity switch is turned into Positions 2,3, 4,5 respectively the band width of image should become correspondingly narrower.

4.15. ADDITIONAL TESTS.

- (a) MAINS SWITCH: See it is working correctly.
- (b) SEND RECEIVE SWITCH: Remove H.T. and Bias Supply and leave Heaters on. Relay heard.
- (c) SENSITIVITY CONTROL: With audio control set at approx. half scale and AVC "off", a signal of approx. 20uV at any Freqcy. is to be applied to Ant.,. The sensitivity control is to be operated several times from its full off to its full on position. The audio power output from receiver must increase and decrease smoothly and cut off when the control is turned to zero. AVC Switch is turned to "ON" and Sensitivity control knob turned to zero. Output of receiver will be reduced smoothly but will not necessarily cut off when control knob is in "zero" position.
- (d) AUDIO GAIN CONTROL: With AVC off and sensitivity control at zero, turn audio gain control several times through its entire range. Should be no noise. Turn sensitivity control to Max.; connect Sig. Gen. to approx. 5uV. Operate Audio Gain Control several times to determine that increase and decrease in Power Output is smooth and that receiver output is cut off when control knob is in zero position.
- (e) BANDWIDTH CONTROL: Band-width control set to 16 position, AVC "ON" Audio Gain Control adjusted so that when signal of approx. 20uV modulated 30% at 400 cps is accurately tuned, output of receiver is indicated by Output Meter as 500mW. Turn band-width control to "3" position. Power output of receiver should be reduced by 8 - 10 dB and random noise should be considerably reduced. (No noise when operated)
- (f) HUM LEVEL: Operate receiver with Sensitivity control in minimum position and AVC off. Connect internal 600 ohm load and listen using a pair of high impedance headphones to check hum level.
- (g) MICROPHONY: Connect Sig. Gen. to Ant. Terminals of receiver, adjust frequency to 20Mc. Tune receiver to this freqcy. in 10 - 20Mc range, increase output of Sig Gen. to 10,000uV and switch off Sig Gen modulation. Connect 600 ohm internal load and listen with a pair of high impedance phones to determine that gang condenser, tubes, etc. are not unduly microphonic. A distinct ring will be heard when receiver is tapped but this should not develop into a continuous oscillation. Also listen for hum.
- (h) REGENERATION: Operate receiver as for Maximum sensitivity and with AVC "off" but no antenna on. Rotate tuning dial over each Band to cover entire range. Listen that there is no undesired oscillation or regeneration. Excessive regeneration will be revealed by unusually high noise spots at points where regeneration exists.

5. POWER SUPPLIES.

Equipment to Check. Multimeter, 20,000 ohm Monitoring Speaker, Output Meter, 12V Accumulator, 0 - 10 Amp. D.C. Meter.

5.4 POWER TESTS TO BE MADE WITH POWER SUPPLIES CONNECTED TO RECEIVER. Receiver operated as Section 3.3 except (a) Ant, terminals connected together and grounded.

- (b) Sensitivity and Audio Gain Controls to be turned to Minimum, AVC

"OFF". During tests on A.C. supply, see voltages are 110V or 220V or 240V A.C. On 12V D.C. 12Volts D.C. + or - 0.5V applied to Unit. Multimeter 1000 ohm per volt, Correct scale for each voltage measurement.

5.6 A.C. SUPPLY.

- Set tapping on Power Transformer primary to 240V and adjust Auto Transformer to 240V.
- Operate Power Supply upside down to expose wiring etc.
- Throw selector switch of Output Meter to receiver to Maximum sensitivity and note level of 50 cycle hum.
- Check relay R11 - contact surfaces must present maximum area each to the other. Throw Send-Receive Switch to "Send" position. Voltage from Pin 6 of 8 Pin plug is zero.
- Turn both Sensitivity and Audio Gain Controls to Maximum. Tune receiver over entire band on search for "Hash" (Vibrator Unit) must be negligible. On Send voltage from Pin 11 of 12 Pin Plug is zero. All Voltages measured with respect to Earth.

6. TOLERANCES.

6.1 RECEIVER

- Sensitivity Section 4.6
I.F. MCW Better than 60uV ; CW Better than 30uV.
- Audio Output: MCW (4.6) not less than 2.5 watts. CW not less than 1.25 watts.
- Sensitivity and Signal to Noise Ratio: as Section 4.7.
1.25 - 20 Mc MCW Better than 2.0uV.
CW " " 1.0uV.
15 - 30 Mc. MCW " " 5.0uV.
CW " " 2.5uV.
- AVC Operation: Section 4.8.
50,000uV 500mW
500uV 220mW All + or - 10%
5uV 20mW
- BFO Operation: Section 4.9.
When CW is being received and receiver accurately tuned, zero beat shall occur when BFO control is at zero position. When control is advanced either side of zero, pitch is at least 3000 cycles per sec.
- Signal Meter Operation: Section 4.10.
S3 1.0uV; S6 3.0uV; S9 7.0uV. All + or - 20%.
- Band-width. Section 4.11.

Band-width in "3" Position,		Band-width in "16" Position.	
W2	2.5Kc Min. 5Kc Max.	W2	10Kc Min. 14Kc Max.
W10	3.9Kc " 9Kc "	W10	15Kc " 17Kc "
W100	" 15 Kc "	W100	" 24Kc "
W1000	" 22Kc. "	W1000	" 32Kc "
- Calibration Accuracy: Section 4.12
Within 1%.
- Band-spread Coverage: Section 4.13.

Band 3 5 - 10Mc.	110Kc L.F. end	1100Kc H.F. end.
4 10 - 20Mc.	150Kc "	1200Kc "
5 15 - 30 Mc.	200Kc "	1600Kc "
- Voltage Analysis. Within 10% of:-

TUBE	D.C. Volts on Pin No.	
	Pin 3	Pin 4
V1	250	170
V2	250	170
V3	245	115
V4	140	140
V5	250	170
V6	250	170
V7	-2.5	-2.3
V8	160	50
V9	250	110
V10	100	100
V11	-0.75	...
V12	225	250
V13	225	110

Junction R18 and R41 -50V

AMR200 Contd.

- 6 -

Junction R39 and R41-12.5V
 " R39 and R35-3.0V
 Pin 2 of V126.3V A.C.

POWER SUPPLIES.

110 - 220 - 240 A.C. Power Supply.

When connected to artificial load or receiver. + or - 10%.

Supply Voltage	Transformer Primary tapping
50 cycles	
110V A.C.	110V
220 "	220V
240 "	240V

Pin 8 of 8 pin plug	
7	170V D.C.
6	- 50V D.C.
5	250V D.C.
	12.6V A.C.

(B) 12 Volt D.C. Vibrator Supply.

12V D.C. + or - 0.5V.	
Pin 12 of 12 pin plug.	-50V D.C.
11	170V D.C.
9	250V D.C.
6	12.0V D.C.

Total Battery Consumption: 9.0 amps D.C.

Typical Sheet 5.6

110 - 220 - 240V A.C. Supply.

Outlet Plug	Tube	Socket		
Pin No.	Volts	Pin No to Earth	V 1	V 2
5	13.0 A.C.	3	...	- 215 D.C.
6	260 D.C.	4	320 A.C.	...
7	-45 D.C.	5	...	-215 D.C.
8	185 D.C.	6	320 A.C.	...
		8	...	260 A.C.
		Pin 2 to Pin 7	4.8 A.C.	6.3 A.C.

12 VOLT D.C. POWER SUPPLY. Section 5.7

Outlet Plug	Tube Sockets			
Pin No.	Volts	Pin No	V 1	V 2
4	11.6 D.C.	2	..	5.7
6	11.3 D.C.	3	300 A.C.	300 A.C.
9	250 D.C.	5	300 A.C.	300 A.C.
11	175 D.C.	7	5.7	11.3
12	-49 D.C.	8	270	270
				160 A.C.

Total Battery Consumption: 7.8 Amps.

SECTION 2.6

TUBE Voltage Analysis
 D.C. Volts on Pin No.

	3	4
V1	245	175
V2	245	175
V3	240	125
V4	140	140
V5	245	175
V6	245	175
V7	- 3.5	- 3.3
V8	150	50
V9	225	120
V10	100	100
V11	- 0.75	..
V12	220	250
V13	225	120

Junction R18 & R41-48V
 R39 & R 41-12.75V
 R39 & R35-3.3V
 Pin 2 of V126.4V A.C.
 H.T. Current: 110 mA D.C.

Section 4.7

Freq Mc	Sensity. uV
1.25	1.6
1.85	1.5
2.5	1.6
2.5	1.6
3.75	1.8
5.0	1.7
7.5	1.7
10.0	1.6
10.0	1.6
15.0	1.5
20.0	1.5
15.0	2.2
22.5	1.5
30.0	1.5

Section 4.6

I.F. Sensity.MCW.	
Input	Output
uV	mW
60	500
CW	500

Section 4.9

B.F.O. Range.	
+	-
3000cps	3000cps

Section 4.6

Power Output	
MCW	3.0 Watts
CW	3.0 Watts

Section 4.10

Signal Meter	
Reads	uV Input
S3	0.6
S6	1.8
S9	5.0

Section 4.8A.V.C.

Input	Output
uV	mW
50,000	500
500	220
5	24

Section 4.11

Bandwidth. Kc.	
W2	3 16
W10	4.0 8.2
W100	8.1 13.8
W1000	14.6 21.2
	21.2 28.0

TUBE LINE-UP

V1	6 K 7
V2	6 K 7
V3	6 J 8 G
V4	6 J 7 G
V5	6 K 7 G
V6	6 K 7 G
V7	6 H 6
V8	6 K 7 G
V9	6 K 7 G
V10	6 J 7 G
V11	6 H 6
V12	6 V 6
V13	6 K 7 G

In My AMR200:-

V1	EF 39	V10	6SJ7
V2	EF39	V11	6H6
V3	6AC7	V12	6V6
V4	6J7G	V13	6SK7
V5	6SK7		
V6	6SK7		
V7	6H6		
V8	6SK7		
V9	6SK7		

Components.

R1	1/2 meg	R34	2K	C13	Trimmer	C47	.0001uf
R2	10K	R35	300	C14	510pf	C48	.0001uf
R3	2K	R36	2000	C15	.01uf	C49	Xtal PHasg
R4	2K	R37	.01 meg	C16	Trimmer	C50	Trimmer
R5	1/2 meg	R38	1/2 meg	C17	"	C51	.01uf
R6	10K	R39	1000	C18	.01uf	C52	85pf
R7	2K	R40	1/2 meg	C19	Trimmer	C53	.01uf
R8	14 ohms	R41	4000	C20	"	C54	.05uf
R9	2K	R42	1/2 meg	C21	.01uf	C55	.05uf
R10	1/2 meg	R43	.05 meg	C22	Trimmer	C56	Trimmer
R11	15K	R44	1/2 meg	C23	510pf	C57	.01uf
R12	30K	R45	.05 meg	C24	.01uf	C58	.05uf
R13	50K	R46	5000	C25	Trimmer	C59	.005uf
R14	50K	R47	.05 meg	C26	"	C60	.01uf
R15	10K	R48	2000	C27	"	C61	3-30pf
R16	2K	R49	.1 meg	C28	.25uf	C62	Trimmer
R17	2 meg	R50	1/2 meg	C29	.01uf	C63	.05uf
R18	50K	R51	.05 meg	C30	Trimmer	C64	Trimmer BFO
R19	25ohm	R52	600	C31	95pf	C65	95pf
R20	10K	R53	21	C32	.0034uf	C66	Across BFO
R21	250ohm	R54	21	C33	Trimmer	C67	.0001uf
R22	300ohm	C1	Trimmer	C34	50pf	C68	.05uf
R23	2500	C2	"	C35	.0025uf	C69	Trimmer
R24	2K	C3abcd	180pfd	C36	Trimmer	C70	.05uf
R25	1 meg	C4	510pf	C37	.00112uf	C71	Trimmer
R26	2000	C5	.01uf	C38	Trimmer	C72	.05uf
R27	25K	C6	Trimmer	C39	.25uf	C73	.25uf
R28	2K	C7abcd	BSpread	C40	.00049uf	C74	.05uf
R29	5K	C8	Trimmer	C41	Trimmer	C75	.02uf
R30	.01 meg	C9	"	C42	.01uf	C76	.05uf
R31	5K	C10	.01uf	C43	.05uf	C77	.05uf
R32	1000	C11	Trimmer	C44	125pf	C78	5.5pf
R33	.1 meg	C12	.01uf	C45	1.5-5pf	C79	Trimmer
				C46	.05uf		

COMPONENTS Ctd.

C80	.01uf	T21	Crystal Assembly 455Kc
C81	.05uf	T22	PT678 AVC unit
C82	.00005uf	T23	1st I.F.
C83	.00005uf	T24	B.F.O. unit
C84	.05uf	T25	PT676 2nd I.F.
C85	.25uf	T26	PT677 Detector
C86	.02uf		
C87	.25uf		

Components in Power Supply Unit

A.C. Unit.

R1	250 ohms	C1	16uf Electro	Outlet Pin Nos.
R2	"	C2	25uf 40V Electro.	Pin1 Earth
R3	6K	C3	16uf 525V	2 A.C. to switch
R4	6K	C4	" "	3 B- C.T.
R5	6K	C5	" "	4 A.C. to switch
R6	12K	C6	" "	5 12.6V A.C.
R7	5K	C7	" "	6 B+ Max.
		C8	" "	7 C- AVC.
				8 H.T. Screens.

Components for Vibrator Power Supply Unit.

R1	10K	C1	.01uf	<u>Pin Connections</u>
R2	6K	C2	200uf Electro	Pin 1 Earth
R3	10.5ohms	C3	.25uf	2 To 12V+ Battery
R4	6K	C4	.008uf	3 Earth
R5	6K	C5	.008uf	4 As Pin 2
R6	12K	C6	.004uf	5 Earth or 12V-
R7	5K	C7	16uf Electro	6 To RL2
		C8	.002uf	7 Earth
		C9	16uf Electro	8 To On-Off Switch
		C10	16uf "	9 Max H.T.
		C11	16uf "	10 Send Receive Sw.
		C12	16uf "	11 Minor H.T.
		C13	16uf "	12 C- Bias
		C14	16uf "	
		C15	16uf "	
		C16	.01uf	

CONDENSERS

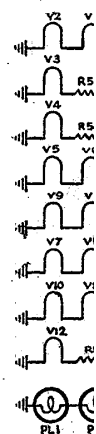
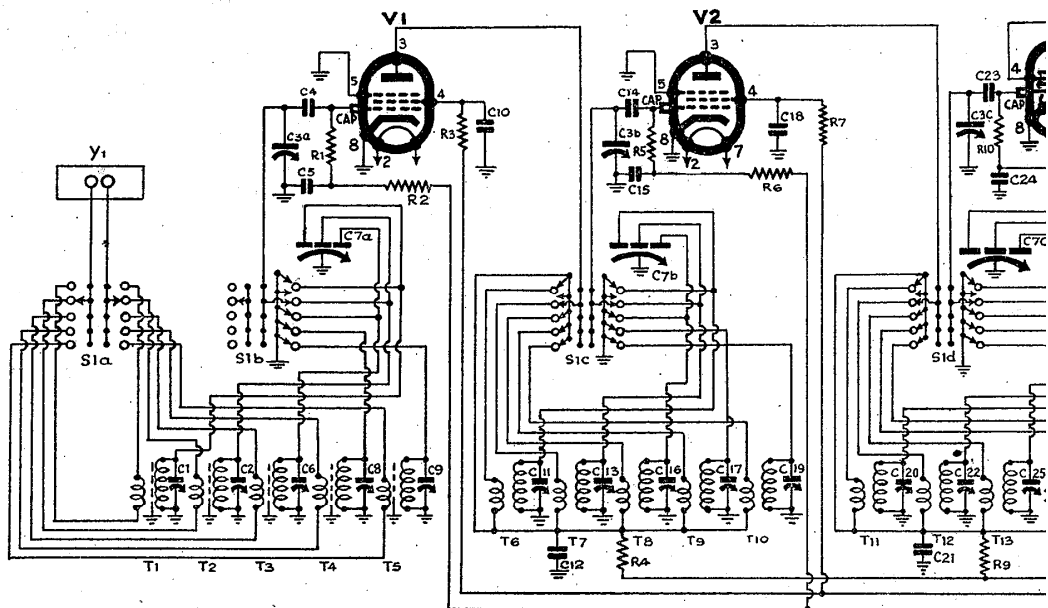
C1 C2 C3 C4 C5 C6 C7a C8 C9 C10 C11 C12 C13 C14 C15 C16 C17 C18 C19 C20 C21 C22 C23 C24 C25 C7c

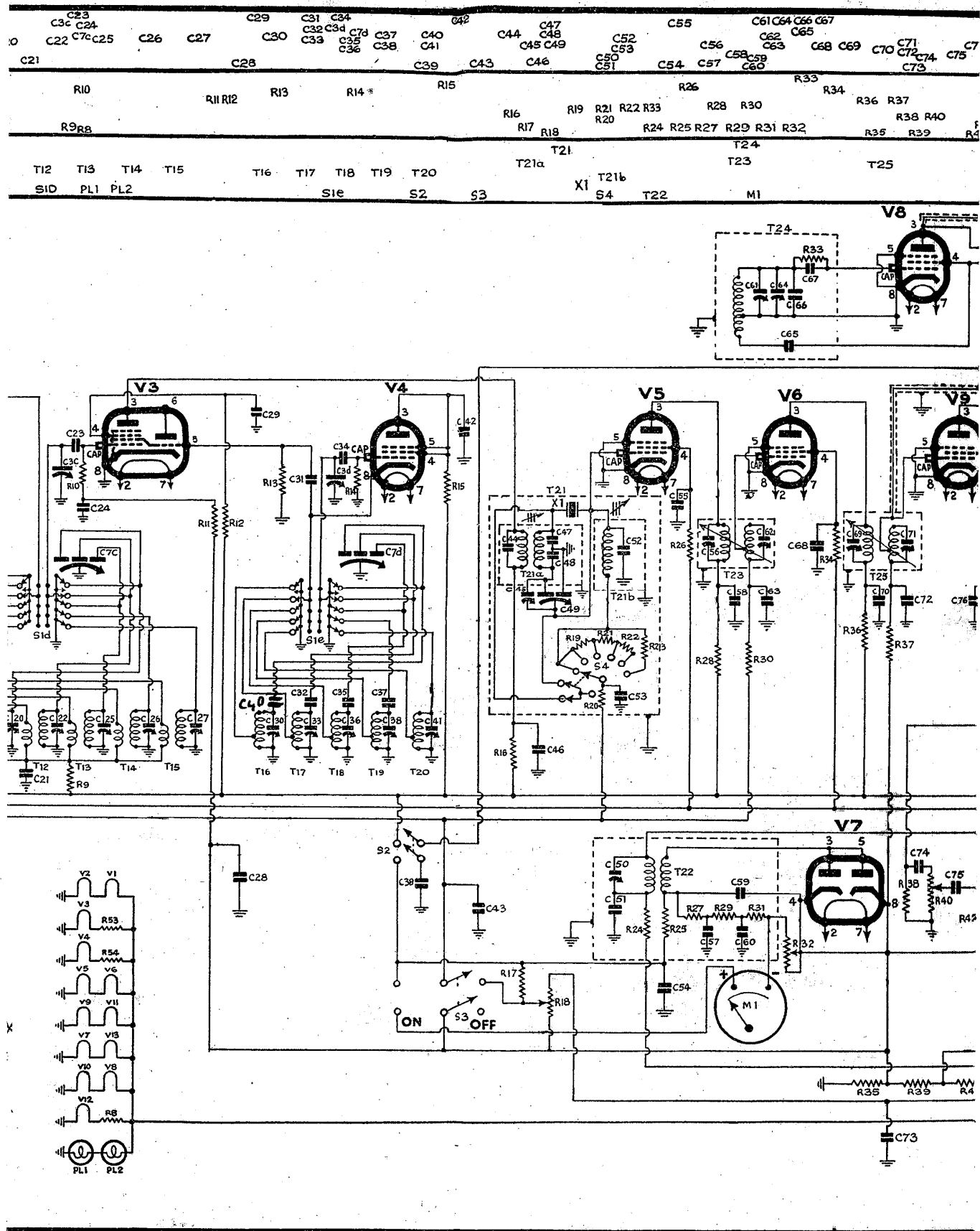
RESISTORS

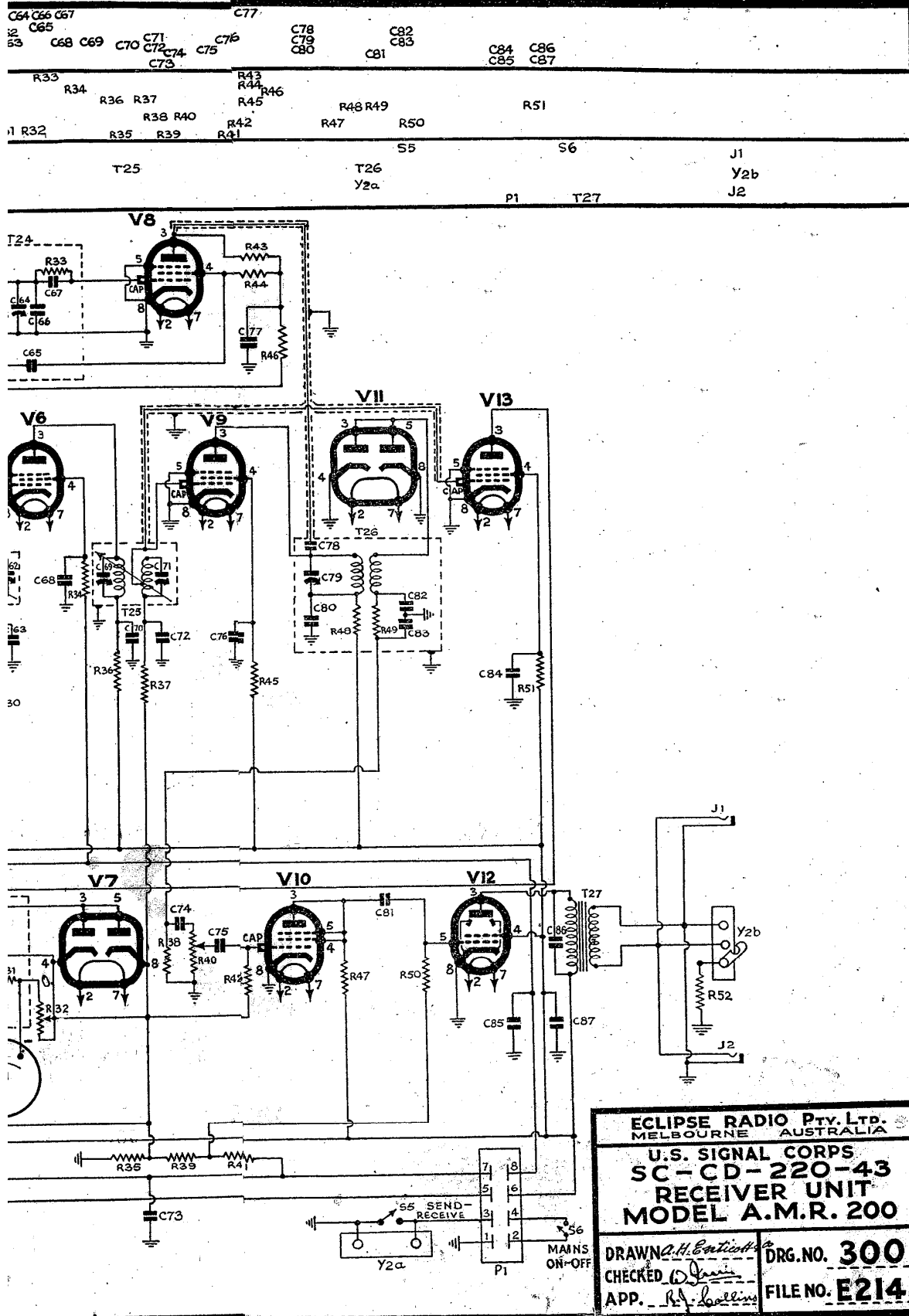
R1 R2 R3 R4 R5 R6 R7 R8 R9 R10

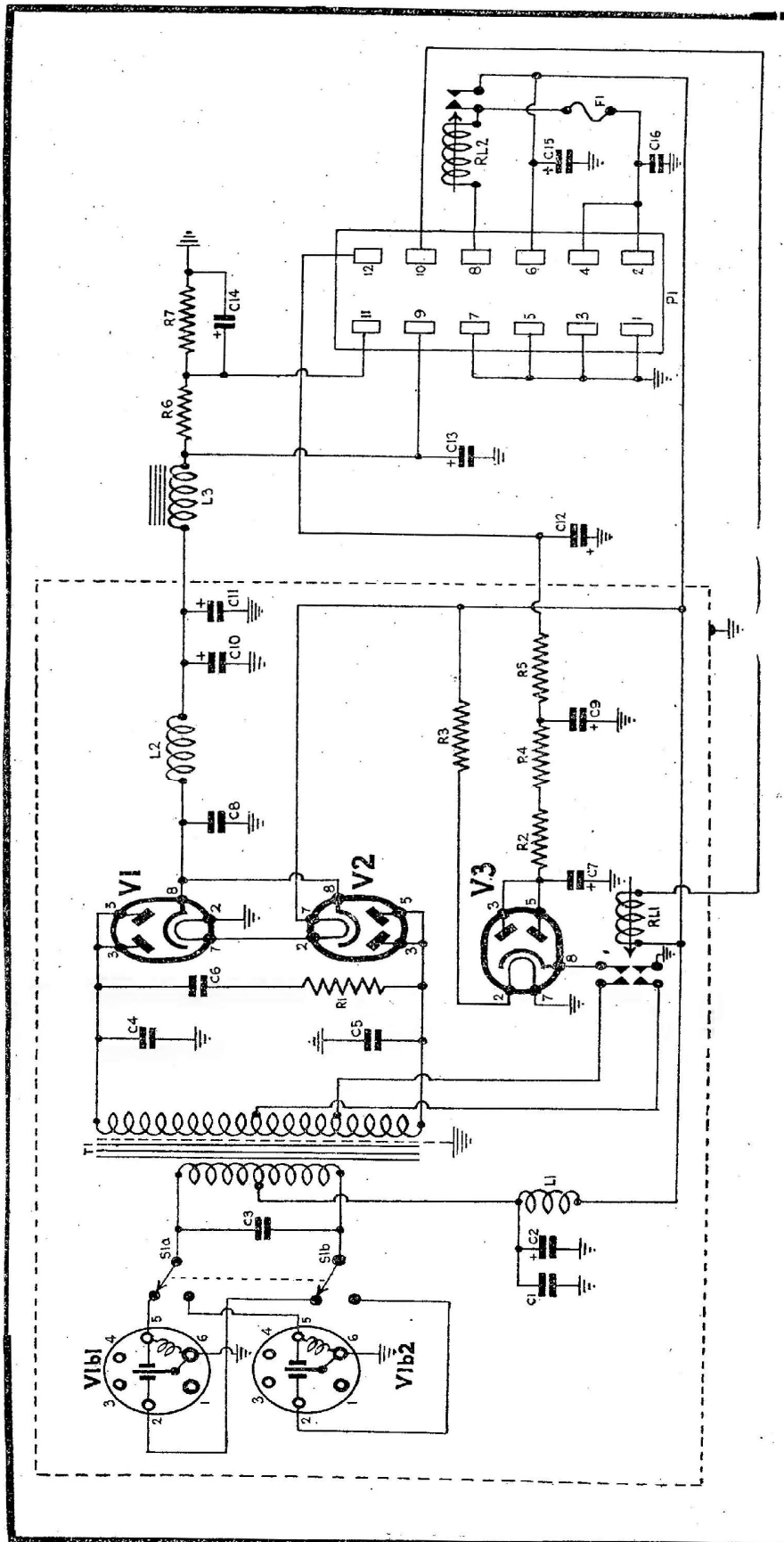
MISC.

Y1 S1a S1b S1c S1d T1 T2 T3 T4 T5 T6 T7 T8 T9 T10 T11 T12 T13 PL1 P









ECLIPSE RADIO PTY. LTD. MELBOURNE AUSTRALIA	
U.S. SIGNAL CORPS SC-CD-220-43 12 V D.C. SUPPLY MODEL A.M.R. 200	
DRAWN: H. B. Tuck CHECKED: W. J. Tuck APP. R. J. Tuck	DRG. NO. 71 FILE NO. E220