

RADIO CORPORATION OF NEW ZEALAND LIMITED

Cables: "MARKSLIM"

Telegrams: "RADICENTRE"

RADIO MANUFACTURERS

Telephone 65-020

G.P.O. Box 696

80 COURTENAY PLACE, WELLINGTON, C3, N.Z.

SERVICE SUPPLEMENT.

Model 897P Transistor Portable

Alignment Procedure

1. Output Meter

Using a standard output meter, VO 12, on the 30 volt range, connect the leads across the two collectors of the output transistors OC 604. Meter reading of 5 volts for an output of 50 MV.

2. Audio Sensitivity

Connect generator across the Diode load and set volume control at maximum. Input of ~~0.1~~ 1 MV an output of 50 MV at 1000 c/sec.

3. I.F. Sensitivity

For an output of 50 MV., with the gang fully closed and the generator at 455 KC, connect the generator:

- (a) Through a .05mfd to Base of 2nd I.F. transistor and tune 3rd I.F. slugs. Input should read 400UV.
- (b) Through a .05mfd to Base of 1st I.F. transistor and tune 2nd I.F. slugs. Input should read 35UV.
- (c) Through a .05mfd to Base of Converter transistor and tune 1st I.F. slug. Input should read 8UV.
- (d) Directly to Primary of Aerial coil on Ferrite rod. Input should read 35UV.

4. Aerial Sensitivity

Connect the Generator directly across a 7" vertical loop consisting of 2 turns of 16 S.W.G. wire. The bottom of the loop should be mounted on a block of wood and be 2 $\frac{3}{4}$ " high from the bench. The loop is placed 11" from the gang end of the chassis, and at right angles to the Ferrite Rod.

For an output of 50MV at	600 KC	the input is 150 UV
	1000 KC	150 UV
	1500 KC	80 UV

N.B. It is not recommended that the Generator be connected through an isolating condenser, or on latter sets to the clip for an outside aerial. This has a detuning effect and will give misleading results.

pp current 7MA No Signal P.T.L

Telephone 44-033
P.O. Box 999

RADIO MANUFACTURERS

MARKET
ACCENTRES

RE SERVICE SUPPLEMENT

To gain Check 200v in E current of
1st IF Iama.

Alignment Procedure

Output stage
Using a standard output meter, 50 Ω on the 30 volt range,
connect the leads across the two collectors of the output transformer.
OO 504. Meter reading of 5 volts for an output of 50 MV.

Audio sensitivity
Connect generator across the Brown Lead and set volume
control at maximum. Input of 50 MV at output of 50 MV at 1000 cycles.

I.F. Sensitivity
For an output of 50 MV, with the gain fully closed and
the generator at 500 KC, connect the generator

(a) through a 0.001 μF to base of 2nd I.F. transformer and tune
the I.F. stages. Input should read 200V.

(b) through a 0.001 μF to base of 1st I.F. transformer and tune
the I.F. stages. Input should read 200V.

(c) through a 0.001 μF to base of Governor transformer and
tune the I.F. stages. Input should read 200V.

(d) directly to Primary of Aerial coil or Positive lead.
Input should read 200V.

Aerial Sensitivity
Connect the generator directly across a T vertical
loop consisting of 2 turns of 18 S.W.G. wire. The bottom of the
loop should be situated on a block of wood and be 2" high from
the bench. The loop is placed 1" from the gang and of the
chassis, and at right angles to the Positive lead.

For an output of 200V at 500 KC the input is 150 MV
1000 KC 100 MV
1500 KC 80 MV

It is not recommended that the generator be connected through an
inductive condenser, as an inductor adds to the slip for an aerial
coil. This has a detuning effect and will give misleading
results.

P.T.

SERVICE SUPPLEMENT

MODEL 897P PORTABLE
TRANSISTOR REPLACEMENTS

Original Compliment	Telefunken	General	Philips	R.C.A.	G.E.C.
<u>Output</u> Telefunken OC604 Special <i>OC72</i>	OC604	GT109	OC72	2N109 * 2N408 See footnote	
<u>Driver</u> Red end	Telefunken OC602	GT81	OC71	2N406	
<u>1st Audio</u> Red end	Telefunken OC602	GT81	OC71	2N406	
<u>2nd. I.F.</u> No colour	R.C.A. 2N218			2N410	
<u>1st. I.F.</u> Green end	R.C.A. 2N218			2N410	
<u>Converter</u> Yellow end	R.C.A. 2N219			2N412	
<u>Diode</u>	Telefunken OA150		0A85	1N34	GEX00 GEX35 GEX45

N.B. Where 2N408 output transistors are used it is necessary to parallel another 100 ohm resistor, across the 100 ohm (R27) in series with the N.T.C. resistor of 130 ohms. These resistors are in the centre lead of the Driver transformer, and control the voltage on the Base of the output transistors. Failure to make this alteration will result in excessive current drain on the 2N408^s.

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Telephone 55-020

G.P.O. Box 696

14th July, 1958.

SERVICE SUPPLEMENT

TRANSISTOR REPLACEMENT

RE recent Service Supplement on Model 897P Portable Transistor Replacements.

The circuit change for the 2N408 output transistors is also necessary for the 00604 standard (not the "specials.")

Painted Transistors:-

Where transistors are painted over a glass covering, care must be taken on fitting or removing from Heat Sinks, that the paint is not scratched. Light falling on the transistor will increase its current drain. If damaged it is necessary to repaint with an opaque paint. Tape is not recommended as a covering, as it will insulate the transistor from the Heat Sink.

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MEMO TO ALL RADIO CENTRES:

NO. 2486.

30th June, 1958.

EXTERNAL AERIAL CONNECTION

In the present production of model 897P being despatched from the factory, provision has been made for the connection of an external aerial of moderate length.

The connection for this will be found at the top of the chassis near the ferrite rod aerial, a fahnstock clip being provided for the external aerial lead.


L.W. HURRELL

LWH:ERP.

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RADIO MANUFACTURERS

80 COURTENAY PLACE, WELLINGTON, C3, N.Z.

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G.P.O. Box 696

10th July, 1958.

S.E.R.V.I.C.E S.U.P.P.L.E.M.E.N.T.

MODEL 897F

EXTERNAL AERIAL

On Transistor Portables from Serial No. 82801 onwards a Fahnstock clip is fitted for an external aerial connection.

The outside aerial is connected through a series 25 $\mu\text{mf.}$ condenser to the primary winding of the Ferrite Rod Antenna, that is, to the hot side of C4.

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RADIO MANUFACTURERS

80 COURTENAY PLACE, WELLINGTON, C3, N.Z.

Telephone 55-020

G.P.O. Box 696

30th October, 1958.
Memo No. 2594.

TO: ALL CENTRE MANAGERS & DEALERS.


SERVICE SUPPLEMENT
MODEL 897P PORTABLE

Reports have come into us from one or two Centres that some Model 897P receivers have shown faults of an intermittent nature.

This has been investigated by the Factory and we have found that a batch of Model 897P chasses was inadvertently lacquered on both sides. This means that where the earthing lugs on the terminal strips have been used as the sole earthing point, intermittent operation occurs because of the lacquer insulating the lug from the chassis.

The cure, of course, is to earth this mounting lug directly to one of the spot welded lugs on the chassis.

LWH/BMC.


L. W. Hurrell

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CIRCULAR NO. 2765

29th September, 1959.

TO ALL RADIO CENTRES

ATTACHMENT OF EARPHONES TO TRANSISTOR PORTABLES

MODELS 694P, 897P and 117P2

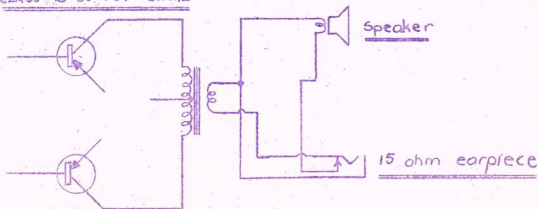
Earphones may be connected to any of the above transistor models by following the circuit printed below.

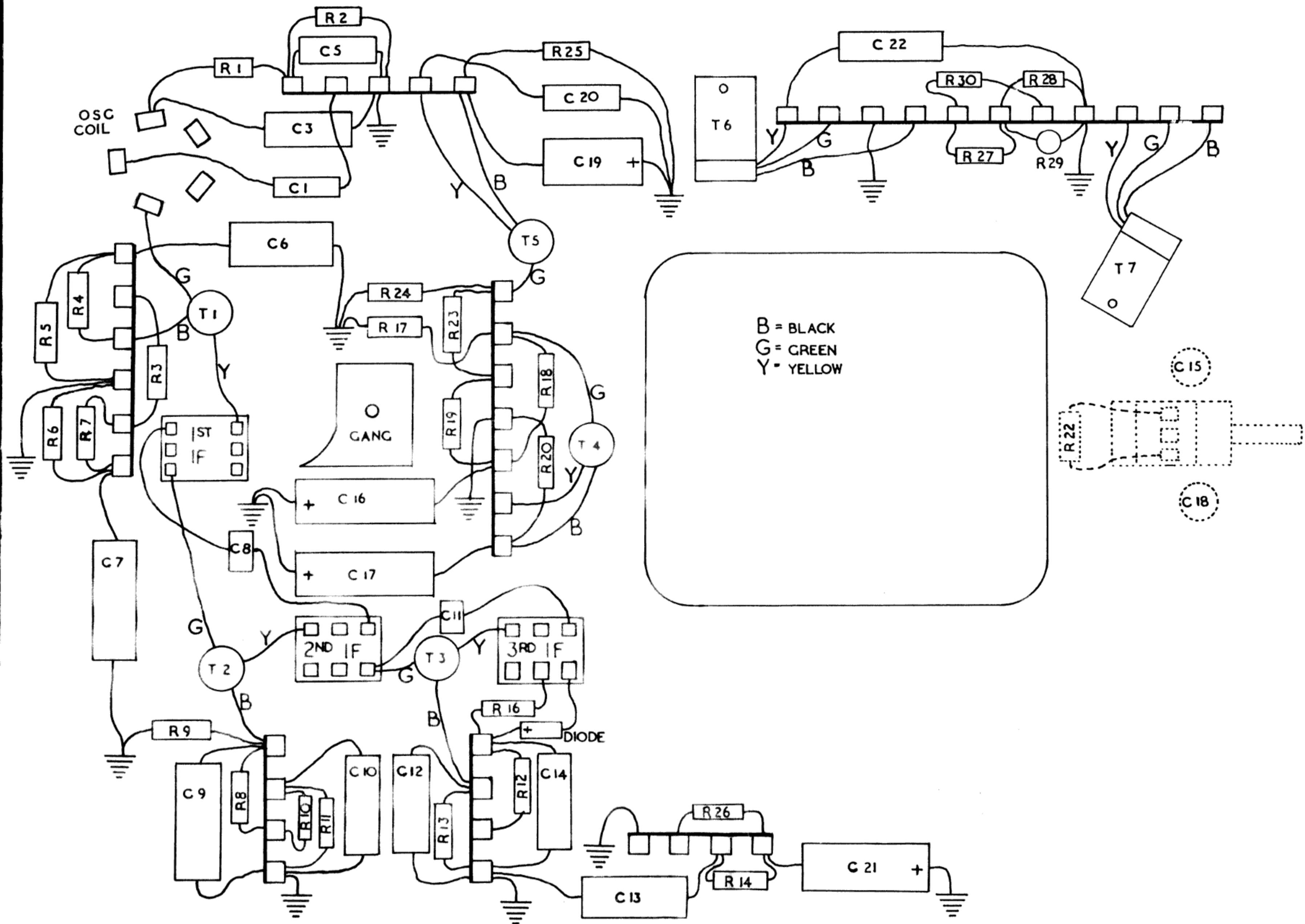
The most important fact to remember is that transistor output stages are very critical as to load impedance and it is essential that the load impedance value of 15 ohms. be maintained in as far as the above models are concerned.


B.W. Hurrell,
WORKS MANAGER.

CIRCUIT MODIFICATION - ATTACHMENT EARPHONE MODELS 897, 117P2 694 P.

CLASS B OUTPUT STAGE



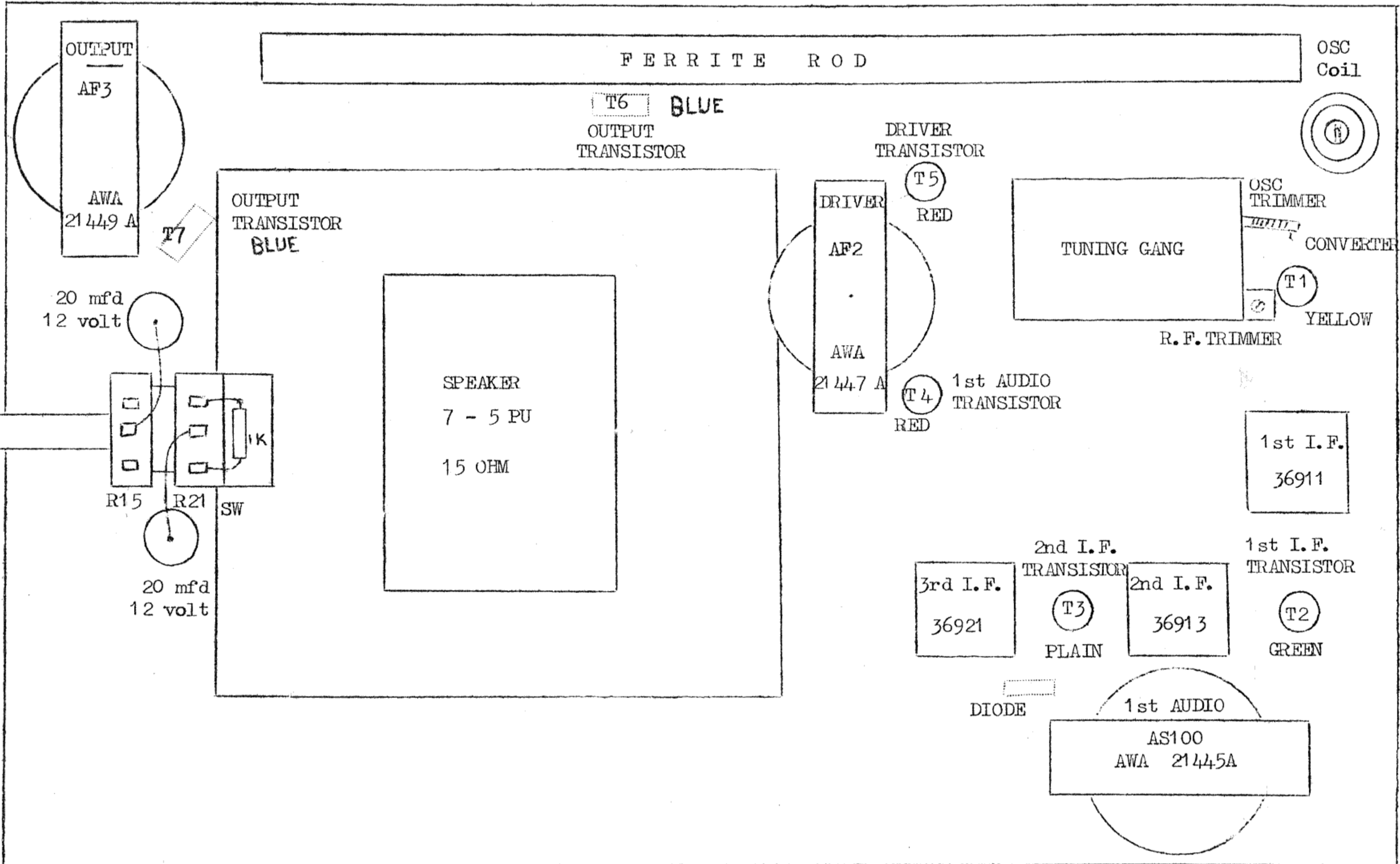


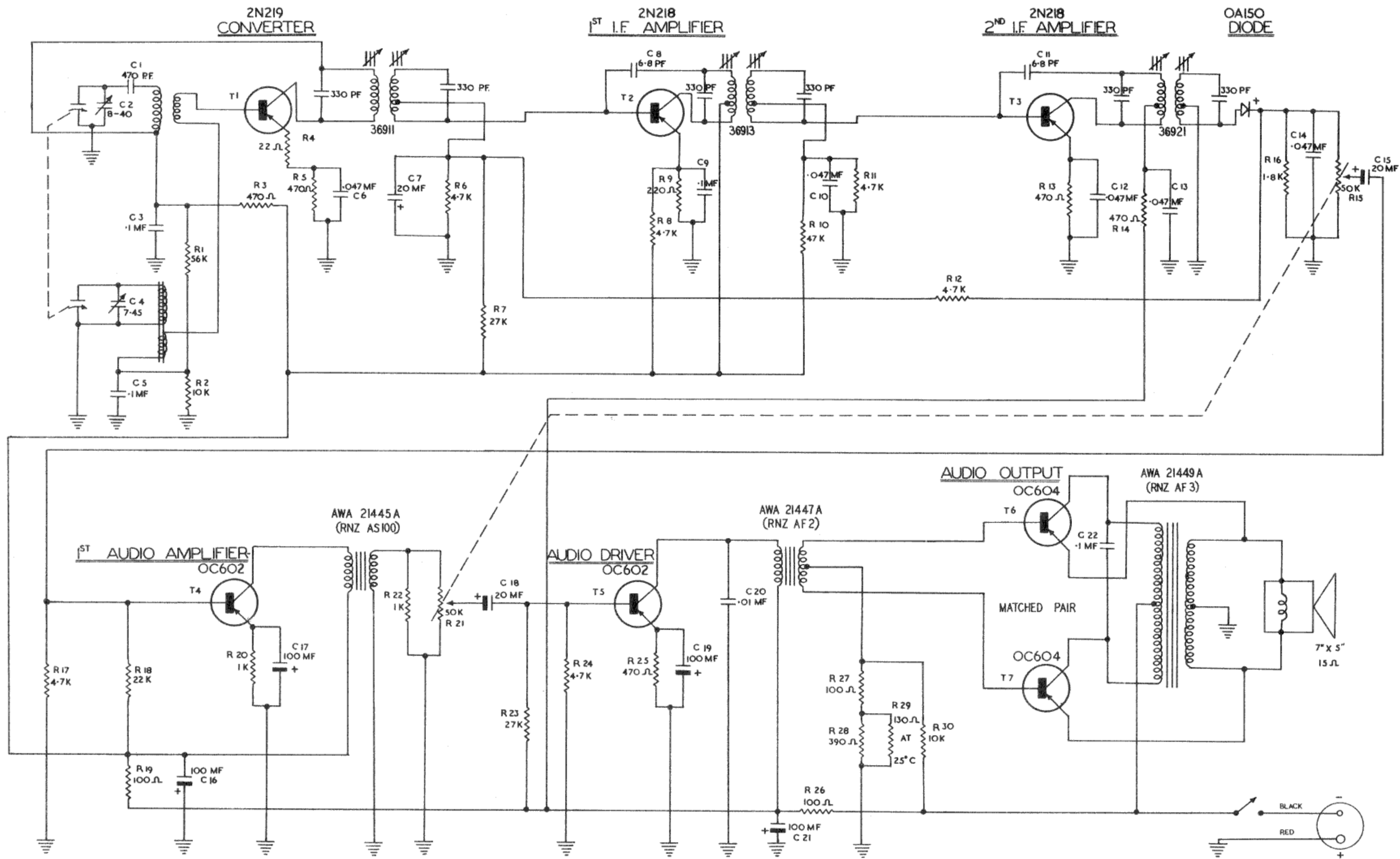
DESIGN	LAB	DATE
DRAWN	<i>L.G.H.</i>	26/6/58
CHECKED	<i>[Signature]</i>	27/6/58
APPROVED	<i>[Signature]</i>	1/7/58

MODEL 897 P UNDER-CHASSIS LAYOUT

MANUFACTURED BY RADIO CORPORATION OF NEW ZEALAND LIMITED

MODEL 897 P
TRANSISTOR PORTABLE





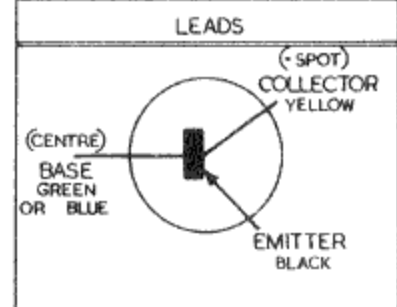
AERIAL SENSITIVITY.

FREQUENCY	INPUT VOLTAGE FOR OUTPUT OF 50mV	GENERATOR CONNECTION
600 KC/S	150 μV	GENERATOR CONNECTED ACROSS A 7" DIAMETER LOOP OF 2 TURNS 16 SW.G. BOTTOM OF LOOP 2-75" HIGH FROM BENCH AND SPACED 11" FROM GANG END OF CHASSIS, AND AT RIGHT ANGLES TO FERRITE ROD.
1000 KC/S	150 μV	
1500 KC/S	80 μV	

I.F. SENSITIVITY.

FREQUENCY	GENERATOR CONNECTION	INPUT VOLTAGE FOR OUTPUT OF 50mV
455 KC/S	THROUGH .05 μF TO BASE OF 2ND I.F. AMPLIFIER.	400 μV
455 KC/S	THROUGH .05 μF TO BASE OF 1ST I.F. AMPLIFIER	35 μV
455 KC/S	THROUGH .05 μF TO BASE OF CONVERTER	8 μV
455 KC/S	TO PRIMARY OF AERIAL COIL.	35 μV

AUDIO SENSITIVITY
 1 KC INPUT ACROSS DIODE LOAD, VOLUME CONTROL SET AT MAXIMUM, GENERATOR IMPEDANCE 600 OHMS. SENSITIVITY FOR 50 m.w. OUTPUT MEASURED AT PRIMARY OF OUTPUT STAGE = 1 m.v.



ALL VOLTAGES INDICATED ARE NEGATIVE TO CHASSIS AND VALUES ARE MEASURED WITH A 20,000 Ω/VOLT METER.
 ALL RADIO FREQUENCIES MODULATED 30% AT 400 C/S.
 VOLUME CONTROL FULL ON.
 N.B. ALL RADIO FREQUENCY TRANSISTORS ARE PRE-GRADED.
 HIGH GAIN — YELLOW SPOT
 MEDIUM GAIN — GREEN SPOT
 LOW GAIN — NO SPOT
 AND SHOULD NOT BE INTERCHANGED.

DESIGN	LAB	DATE	MODEL 897.P
DRAWN	<i>L.G.H.</i>	27/5/58	
CHECKED	<i>L.G.H.</i>	20/6/58	
APPROVED	<i>L.G.H.</i>	23/6/58	

AMENDMENTS	CHKD	DATE