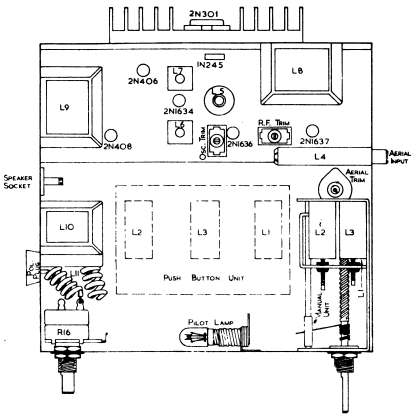
H.G.P. 4/04.

T50



CAR RADIO ALIGNMENT

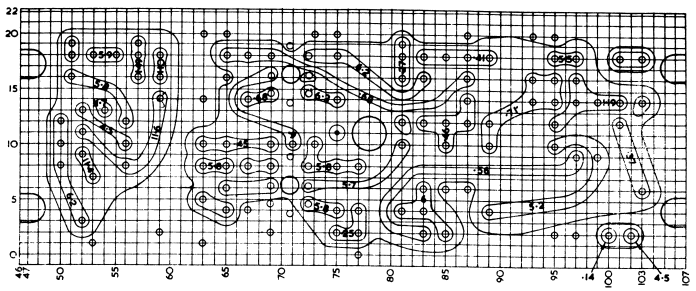
I.F.'s:— 455 KC

1. Connect generator through a .1 coupling capacitor to the base of the I.F. transistor. When aligned, sensitivity should be in the order of 400-600 microvolts for 1 watt out (3.9V @ 15 ohms).
2. Connect generator and capacitor to the base of the converter transistor and align the 1st I.F. — the 2nd I.F. should also be repeaked. Overall sensitivity should then be better than 10 microvolts for 1 watt out.

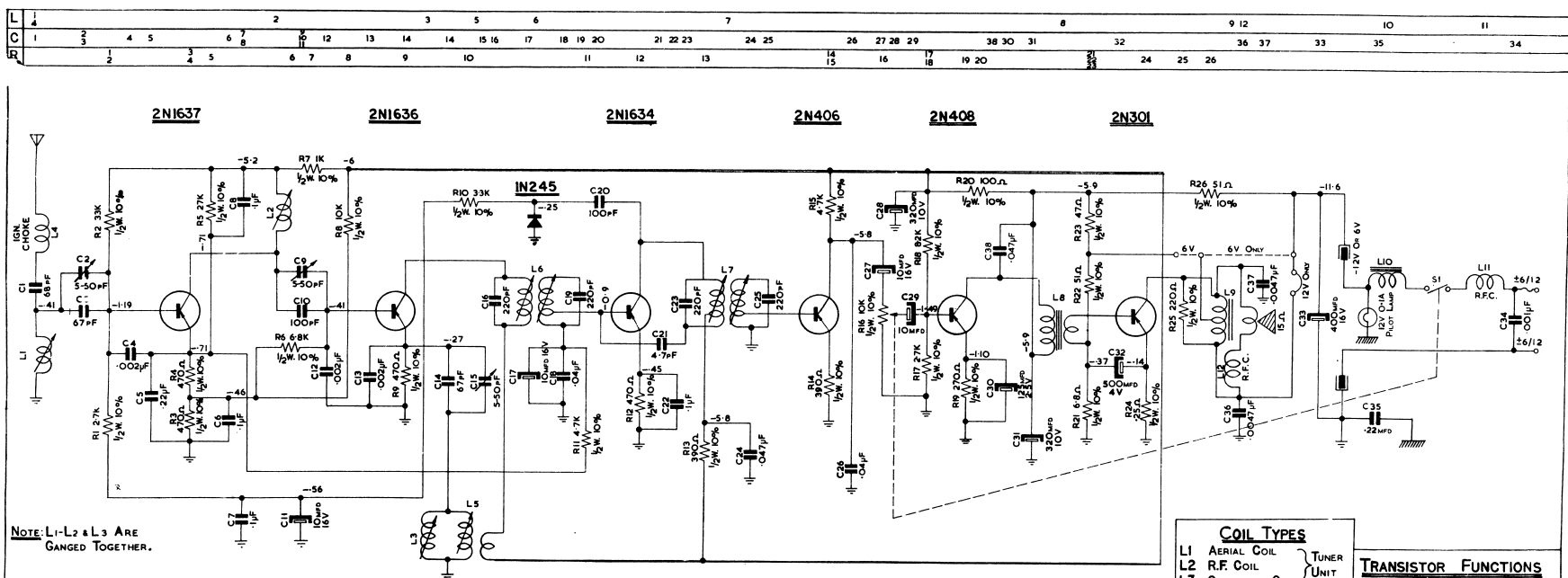
Broadcast Band:

1. Connect generator to the aerial input via a dummy load made up from a series 47PF capacitor and a shunt 33PF. Set the tuner carriage so that it is .5" from its closed position (low frequency). With the generator tuned to 1,000KC — align the oscillator core to this frequency and then peak the aerial and R.F. cores for maximum output. The tuner unit should then be opened to its maximum high frequency position and the oscillator trimmer set at 1650KC. Tune receiver to 1500KC and peak aerial and R.F. trimmers.
2. Retune to the 1,000KC position and repeat the alignment procedure.
3. Set generator to 600KC and tune the receiver to this frequency. The oscillator padder coil should then be tuned for maximum output at this frequency. As this procedure is being carried out, gently "rock" the tuning spindle to chase the desired frequency.
4. Repeat the R.F. alignment procedure as set out above.
5. Sensitivity to be better than 10 uv over whole band.
6. Broadcast frequency range — 535KC — 1,650KC.

Current Drain: 12 volts @ .95 amps. 6 volts @ 1½ amps.



ALL READINGS TAKEN ON A.W.A. VOLTOHMYST. SUPPLY VOLTAGE 12 VOLTS D.C.



NOTE: L1-L2 & L3 ARE GANGED TOGETHER.

COIL TYPES

L1	AERIAL COIL	TUNER UNIT
L2	R.F. COIL	TUNER UNIT
L3	OSCILLATOR COIL	TUNER UNIT
L4	R.F. CHOKE	
L5	OSCILLATOR PADDER COIL	
L6	1ST I.F. TRANSFORMER	
L7	2ND I.F. TRANSFOPMER	
L8	AUDIO DRIVER TRANSFORMER	
L9	SPEAKER CHOKE	
L10	L.T. CHOKE	L12 R.F. CHOKE
L11	R.F. CHOKE	

TRANSISTOR FUNCTIONS

2N1637	R.F. STAGE.
2N1636	OSCILLATOR & CONV.
2N1634	455 KC. I.F.
2N406	DETECTOR.
2N408	AUDIO DRIVER.
2N301	AUDIO OUTPUT.
IN245	A.G.C. DETECTOR.

SPECIAL NOTE: ⏚ = EARTHED TO PRINTED BOARD.

⏚ = EARTHED TO CHASSIS FRAME.

ALL VOLTAGES MEASURED WITH NO SIGNAL INPUT.

ALL READINGS TAKEN ON A.W.A. VOLTOHMYST.

SUPPLY VOLTAGE 12 VOLTS OR 6 VOLTS D.C.

NOTE: ALL VOLTAGE READINGS RECORDED UNDER 12 VOLT CONDITIONS.

CAR TRANSISTOR BROADCAST RECEIVER
CHASSIS 4/04
FREQUENCY RANGE
535 - 1650 KC'S/S

ISSUE Nº 0,1		
DRAWN	11-4-1963	O.R.
CHECKED		
APPROVED	31-4-63	
PART Nº 4/04/252		

MODIFICATION SHEET No.1

FOR CAR RADIO CR-1M - 2M - 3M - and 4M.

4/04 CHASSIS

1. 2N301 Output Transistor Circuit:

Remove R21 = 4.7 ohms ½W resistor and
Replace with the original 6.8Ω ½W. 10%
Add a Thermistor type A/T 33Ω ± 10% in parallel with the above 6.8Ω½ resistor.
Reason: To safeguard O/P Transistor for overheating
Note:

a) With this modification output will remain undistorted = 2.2 Watts
with 10% distortion = 2.0 -"-

b) Collector I should be around 600 mA
Total I " " " 800 mA

c) Make sure that O/P transistor 2N301. very tightly screwed to the heatsink

d) Above resistors and thermistors have been posted to all H.G.P. Service Divisions

2. Modification in O/P transistor type 2N301 emitter circuit by our Bankstown's Service Division:

R24= 0.25 ohms replaced with 0.5 ohms ½W. 10% resistor

measured Collector I = about 400 m Amps
Total I = about 500 m Amps
undistorted output = about 1 watt.

Reason:
Further reduction in Total I draw

Note:
We find that about I Watt output not enough for a car radio. However we are forwarding to you the above information to use it where this application may prove to be successful.

H.G.PALMER

MODIFICATION SHEET NO. 2

FOR CAR RADIOS CR1M, 2M, 3M AND 4M.
4/04 AND 4/05 CHASSIS

COMPLAINTS: Dropping out of oscillation on 6 Volts.

MODIFICATION: A 100K ½ Watt 10% Resistor should be connected from the Negative-rail to the base connection of the Converter transistor 2N1639 - (Prev. 2N1636). The receiver will then oscillate down to 3 Volts on the 6 Volts connection, and down to 8 Volts on the 12 Volts connection.