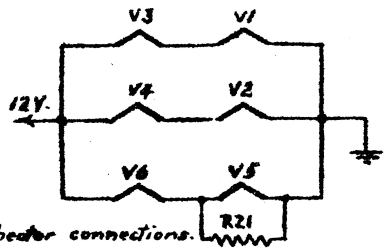
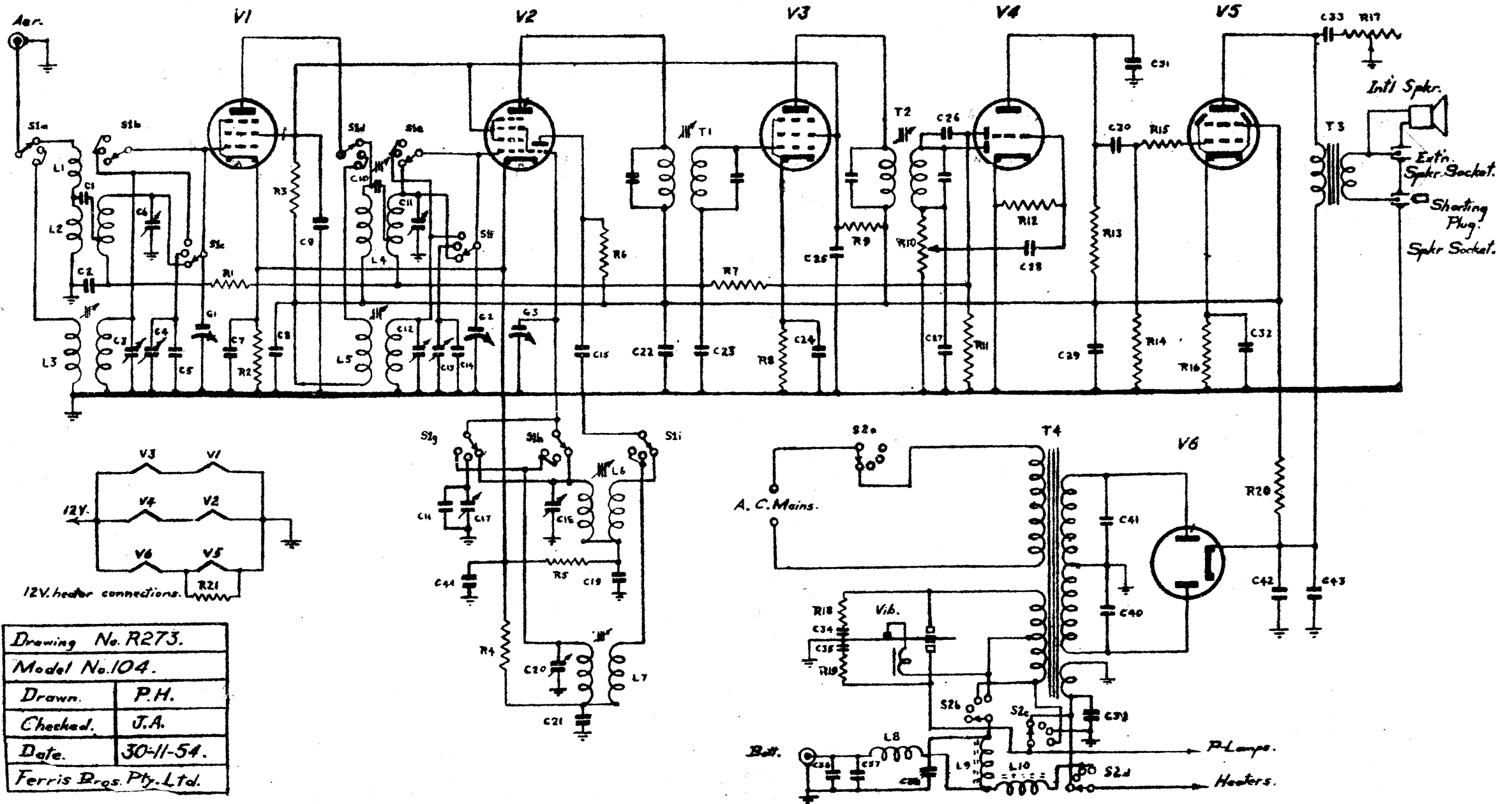


# FERRIS CAR RADIO MODEL N° 104



Drawing No. R273.	
Model No. 104.	
Drawn.	P.H.
Checked.	J.A.
Date.	30-11-54.
Ferris Bros. Pty. Ltd.	

SERVICE INSTRUCTIONS

Parts List Model 104

Condensers

- G1 100PF Mica
- G2 0.05uF, 200V Paper
- G3 Mica Compression Trimmer
- G4 Mica Compression Trimmer
- G5 430PF Mica
- G6 Mica Compression Trimmer
- G7 0.01uF Tubular
- G8 0.01uF Tubular
- G9 0.01uF Tubular
- G10 50PF Mica
- G11 Mica Compression Trimmer
- G12 Mica Compression Trimmer
- G13 Mica Compression Trimmer
- G14 430PF Mica
- G15 100PF Mica
- G16 430PF Mica
- G17 Mica Compression Trimmer
- G18 Concentric Air Trimmer
- G19 475PF Mica
- G20 Concentric Air Trimmer
- G21 0.006uF Tubular
- G22 0.01uF Tubular
- G23 0.05uF Tubular
- G24 0.1uF Tubular
- G25 0.05uF Tubular
- G26 100PF Mica
- G27 100PF Mica
- G28 0.005uF Tubular
- G29 16uF, 300V Electrolytic
- G30 0.01uF Tubular
- G31 100PF Mica
- G32 25uF, 40V Electrolytic
- G33 0.05uF Tubular
- G34 0.1uF Tubular
- G35 0.1uF Tubular
- G36 0.001uF Mica
- G37 0.5uF Tubular
- G38 0.5uF Tubular
- G39 0.005uF Tubular
- G40 0.03uF, 600V Tubular
- G41 0.03uF, 600V Tubular
- G42 16uF, 300V Electrolytic
- G43 16uF, 300V Electrolytic
- G44 0.05uF Tubular
- G1) 3-gang tuning condenser
- G2)
- G3)

Resistors

- R1 0.27 Meg.  $\frac{1}{2}$ watt
- R2 125 Ohms,  $\frac{1}{2}$ watt
- R3 47,000 Ohms, 1watt
- R4 27,000 Ohms,  $\frac{1}{2}$ watt
- R5 47,000 Ohms,  $\frac{1}{2}$ watt
- R6 33,000 Ohms,  $\frac{1}{2}$ watt
- R7 1 Meg.  $\frac{1}{2}$ watt
- R8 300 Ohms,  $\frac{1}{2}$ watt
- R9 47,000 Ohms, 1watt
- R10 0.5 Meg. Carbon Potentiometer
- R11 1 Meg.  $\frac{1}{2}$ watt
- R12 10 Meg.  $\frac{1}{2}$ watt
- R13 0.27 Meg.  $\frac{1}{2}$ watt
- R14 0.47 Meg.  $\frac{1}{2}$ watt
- R15 47,000 Ohms,  $\frac{1}{2}$ watt
- R16 300 Ohms, 1watt
- R17 50,000 Ohms Carbon Potentiometer
- R18 20 Ohms,  $\frac{1}{2}$ watt
- R19 20 Ohms,  $\frac{1}{2}$ watt
- R20 1,000 Ohms, 1watt
- R21 40 Ohms, 1watt (12 volt sets only)

Valves

- V1 6BH5 Valve
- V2 6AN7 Valve
- V3 6BH5 Valve
- V4 6BD7 Valve
- V5 6BW6 Valve
- V6 6V4 Valve

Vibrator - 6 or 12V Non-synch.  
"Oak" Vibrator

- S1a-i 9 Pole, 3 position,  
3 Deck Rotary Switch
- S2a-d 4 Pole, 4 position,  
2 Deck Rotary Switch

- L1 Aerial Filter Choke
- L2 Broadcast Aerial Coil
- L3 Slug Tuned Short-Wave Aerial Coil
- L4 Slug Tuned Broadcast R.F.Coil
- L5 Slug Tuned Short-Wave R.F.Coil
- L6 Slug Tuned Broadcast Osc.Coil
- L7 Slug Tuned Short-Wave Osc.Coil.
- L8 Air Cored L.T. Choke
- L9 Potted L.T. Choke
- L10 Potted L.T. Choke

- T1 455 K.C.Slug Tuned I.F.Transformer
- T2 455 K.C.Slug Tuned I.F.Transformer
- T3 Speaker Transformer
- T4 Vibrator/Power Transformer

CIRCUIT VOLTAGES

Valve	Anode			Screen			Cathode			Osc. Anode		
	Hi.	Lo.	A.C.	Hi.	Lo.	A.C.	Hi.	Lo.	A.C.	Hi.	Lo.	A.C.
6BH5 (R.F)	185V.	100V.	135V.	65V.	40V.	50V.	1.4V.	.8V.	1.0V.	-	-	-
6AN7	185V.	100V.	135V.	65V.	40V.	50V.	1.4V.	.8V.	1.0V.	80V.	50V.	63V.
6BH5 (I.F)	185V.	100V.	135V.	65V.	40V.	50V.	1.7V.	.9V.	1.2V.	-	-	-
6BD7	55V.	38V.	46V.	-	-	-	-	-	-	-	-	-
6BW6	190V.	105V.	140V.	185V.	100V.	135V.	9.4V.	4.8V.	6.7V.	-	-	-
6V4	225V.	120V.	145V.	-	-	-	205V.	110V.	150V.	-	-	-

Note: All above voltages taken under "no signal" conditions with 1,000 Ohms per volt Multimeter, and with the wavechange switch set at the "broadcast" position.

Battery drain of 6 volt Models:-

- On high drain setting -- 5.7 amps.
- On low drain setting -- 2.7 amps.

Battery drain of 12 volt Models:-

- On high drain setting - 2.8 amps
- On low drain setting - 1.3 amps

Battery volts measured at receiver input terminal

Intermediate frequency:- 455 Kc/s.

Tuning Ranges:-

- Broadcast band - 525Kc/s to 1620 Kc/s.
- Short-Wave band 1 (SW1) - 3.35 mc/s to 4.55 mc/s
- Short-Wave band 2 (SW2) - 4.65 mc/s to 15.6 mc/s

ALIGNMENT INSTRUCTIONS

Broadcast Band

1. Align I.F. Stages in normal manner to 455 Kc/s.
2. R.F. alignment;- Turn gang fully into mesh. With signal generator, set oscillator coil slug to 525 Kc/s.
3. Turn gang fully out of mesh and set oscillator trimmer to 1620 Kc/s.
4. Turn gang fully into mesh. Check band limit of 525 Kc/s. and readjust oscillator coil slug if necessary.
5. Tune receiver to approximately 550 Kc/s. Adjust R.F. coil slug approximately for maximum output indication.
6. Tune receiver to 1620 Kc/s and recheck band limit.
7. Tune receiver to 1400 Kc/s. Adjust aerial and R.F. trimmers for maximum output indication.
8. Tune receiver to 900 Kc/s. Adjust I.F. coil slug for maximum output indication.