

# TECHNICAL SERVICE INFORMATION

## ISSUED BY

# KRIESLER AUSTRALASIA PTY. LTD.

43 ALICE ST. NEWTOWN. Phone: LA 0400

Series "A" Radio Handbook

### DESCRIPTION

41-21.SIX TRANSISTOR BATTERY PORTABLE

Six Transistor Broadcast Battery portable receiver with reflexed 2nd I.F. stage.

### WEIGHT

Packed 7 lbs. Nett 4 $\frac{1}{4}$  lbs.

### BATTERY

Eveready Type 2364 (9 Volt) or equivalent.

### AERIAL

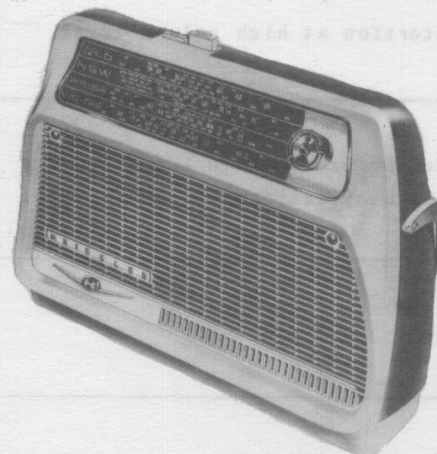
Inbuilt ferrite-rod.

### EXTENSION AERIAL AND EARTH CONNECTIONS

Refer label on base plate.

### CHASSIS REMOVAL

Refer instructions on base plate.



TUNING RANGE 535-1650 Kc/s.

INTERMEDIATE FREQUENCY 455 Kc/s.

BATTERY CONSUMPTION  
Min. Volume (no sigal) .... 12 mA.  
Max. Volume (350 mW. at V.C.) 100 mA.

### TRANSISTOR COMPLEMENT

TR 1 - OC44. Mixer-oscillator	TR 4 - OC75. A.F. ampl.
TR 2 - OC45 1st I.F. ampl.	TR 5 - OC74)
TR 3 - OC44 2nd I.F. ampl.	TR 6 - OC74) A.F. output

### GERMANIUM DIODE COMPLEMENT

D 1 - OA70 - A.G.C. Limiter      D 2 - OA79 - Detector/A.G.C.

### SPECIAL ALIGNMENT INSTRUCTIONS.

Connect signal generator to the base of TR3 via a .05uF, isolating capacitor. Peak primary of IFT 3 at 455Kc/s. with a 22K damping resistor across the full secondary. Transfer the damping resistor to the full primary and peak secondary at 455Kc/s. In both cases, the peak which occurs with the cores nearest the end of the former is the correct one. Remove damping resistor.

IFT 1 and IFT 2 should be aligned "straight through" at 455Kc/s., with the signal generator connected to the base of TR1 via a .05uF isolating capacitor. The core of IFT 2 will peak in two positions. Provided there is no tendency towards instability, the peak which occurs with the core nearest the printed board is the correct one. IFT 1 should be tuned to the peak which occurs with the cores near the top of the formers.

For oscillator and aerial alignment, the signal should be radiated into the aerial. Alignment procedure is conventional. It is advisable to "rock" the tuning gang when adjusting the aerial trimmer. Check calibration upon completion.

# SERVICING TIPS

Symptoms	Possible cause
Distortion at low volume level.	<ol style="list-style-type: none"> <li>1. Check battery voltage.</li> <li>2. Check standing collector current of O/P transistors (3 - 3.5 mA.).</li> <li>3. Check secondary of T1 for open circuits.</li> <li>4. Check OC74 leads for shorts.</li> <li>5. Replace output transistors.</li> </ol>
Distortion at high volume level.	<ol style="list-style-type: none"> <li>1. Check battery</li> <li>2. Check collector currents of OC74's.</li> <li>3. Check match of OC74's.</li> </ol>
Receiver breaks into low frequency audio oscillations at full volume.	<p>Probably due to reflex stage overloading.</p> <ol style="list-style-type: none"> <li>1. Check D1 (OA70).</li> <li>2. Check A.G.C. (See section below)</li> <li>3. Check battery voltage.</li> </ol>
Sideband whistle.	<ol style="list-style-type: none"> <li>1. Re-align as described in this Handbook.</li> <li>2. Make sure that the small ferrite sticks are mounted across IFT 3.</li> </ol>
Receiver inoperative at L.F. end but O.K. at H.F. end of dial.	<ol style="list-style-type: none"> <li>1. Check battery.</li> <li>2. Check oscillator gang for leakage.</li> <li>3. Check TR 1. (OC44)</li> </ol>
Sensitivity down at H.F. end of dial.	<ol style="list-style-type: none"> <li>1. Check adjustment of aerial coil/loopstick.</li> <li>2. Check adjustment of aerial trimmer.</li> </ol> <p>NOTE. Take care that the aerial trimmer is not displaced in cabinet/chassis assembly.</p>

When soldering on printed circuits, use a low power iron (15-35 Watts) otherwise the printed wiring may lift from the base material.

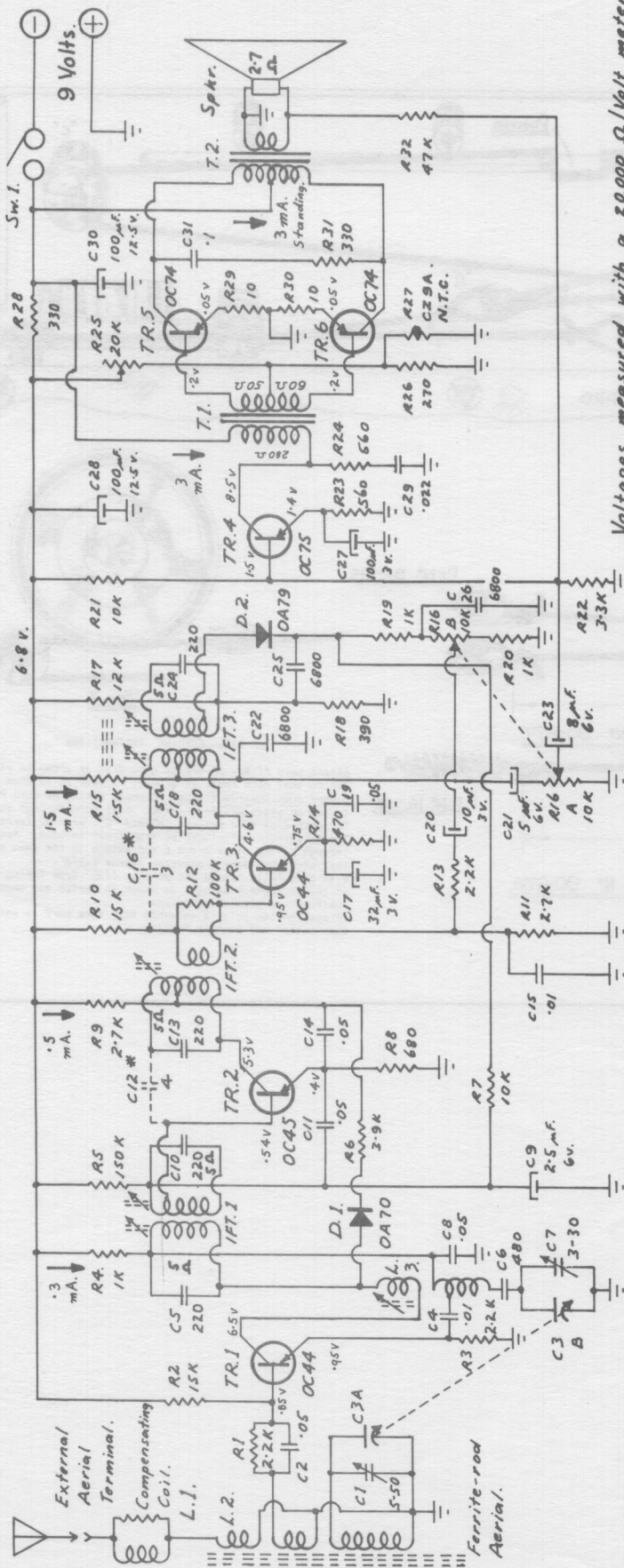
## Production Changes.

1. On some early receivers, an OA79 diode was connected across the collector winding of the oscillator coil with the cathode to collector.
2. On some receivers, R12 (100K) was not fitted. If I.F. regeneration is evident after replacing an I.F. transistor, R12 should be fitted as shown on the circuit diagram.

## Replacement Parts.

Identity	Part No.	Identity	Part No.
Tuning knob .....	90-678	Dial drum .....	20-368
Volume knob .....	20-451		(90-676)
Switch assembly .....	90-675	Dial cord assembly .....	(90-677)
Dial pointer .....	20-358		(90-746)
Screws-Chassis mounting, etc. ....	No.4 Self-tapping.		
Screws-Cabinet front .....	No.6 Self-tapping Philips Hd. Gold Pl.		
	3 x 1", 1 x ¾".		





Voltages measured with a 20,000  $\Omega$ /Volt meter.

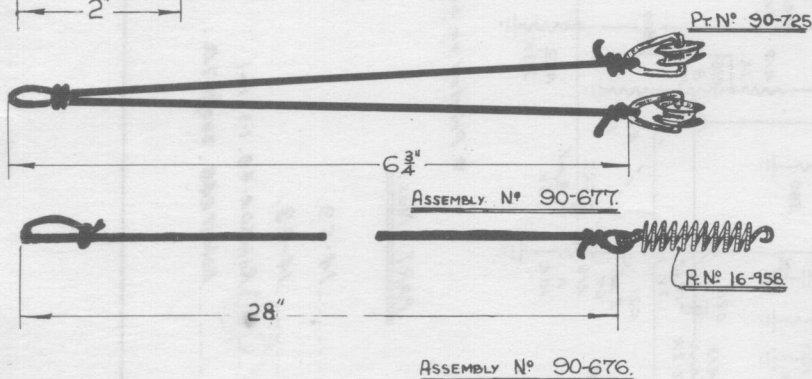
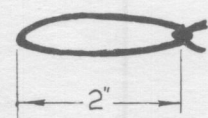
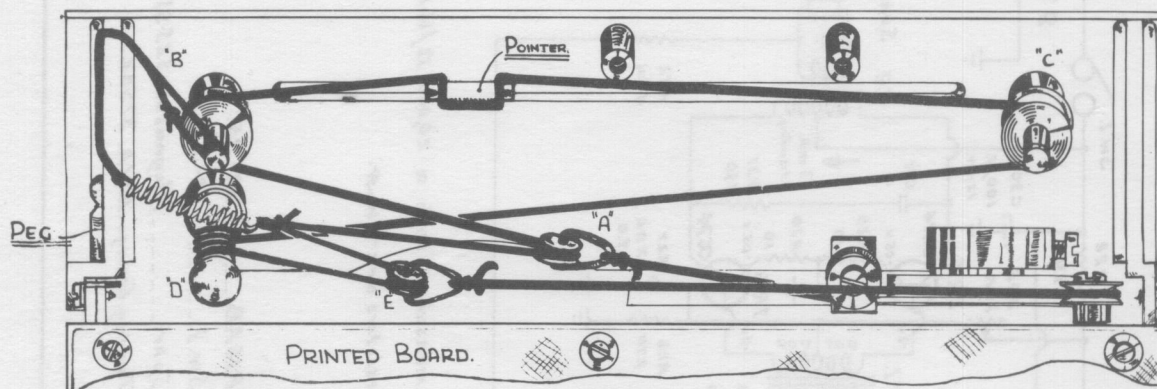
\* Printed on board. All resistors are  $\frac{1}{2}$  watt.

# PART Nos.

IFT. 1 ----- 24-29.  
 IFT. 2 ----- 24-30.  
 IFT. 3 ----- 24-31.  
 L. 1 ----- 34-2.

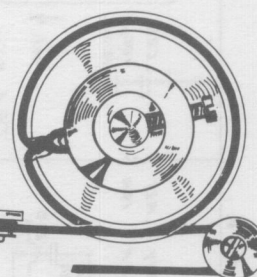
L. 2 ----- 14-59.  
 L. 3 ----- 14-49.  
 T. 1 ----- RolasDR-49, 1:3:1+1  
 T. 2 ----- RolasTR46, 300 $\mu$ z-7 $\Omega$ .

R16AB ----- 32-76.  
 Sw. 1 ----- 17-54.  
 Spkr. ----- Magnavox 525S1.  
 Tuning Gang ----- A.W.A. 375B2.



ASSEMBLY No. 90-676

LENGTH OF DIAL CORDS.



VIEW X

DIAL CORDING INSTRUCTIONS

Attach cord Pt.No. 90-677 to gang drum as shown in view X, ensuring that cord rests in groove, at opening in drum and is pushed down towards flange. Connect spring of cord Pt.No.90-676 to peg on plastic side bracket. Pass cord through pulley block "A" over dial cord pulleys "B" and "C", wind  $3\frac{1}{2}$  turns around tuning spindle "D" clockwise from front to back. Pass cord through pulley block block E and attach to the same spring, so that stretched spring measures approx  $1\frac{3}{8}$ ". With gang fully opened and pointer  $\frac{1}{32}$ " from tuning spindle end of travel, attach pointer as shown in sketch and secure with "GRIPLAC" or similar adhesive. If push button unit is attached make sure cord is passed between push button and pointer backing.



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MODEL 41-21 A.

March. 1960

DESCRIPTION.

Model 41-21 A is identical to Model 41-21 except for the following details:

1. The third I.F. Transformer has been changed to a single-tuned type (Part No. 24-33). The D.C. resistance of the single secondary winding is approximately 1.3 Ohms.
2. The third I.F. may now be aligned "straight through" at 455 Kc/s., in the same manner as I.F.T.2. The core will peak in two positions. The peak which occurs with the core nearest the printed board is the correct one.
3. The Oscillator Coil L3 has been changed (New Part No. 14-63) eliminating the need for the OA79 diode connected across the collector winding on some 41-21's.

A new dial drive mechanism is soon to be fitted to Model 41-21.

This model will then be known as 41-21B. Please be sure of the correct model number when ordering replacement cabinets.