

# TECHNICAL SERVICE INFORMATION

ISSUED BY

## KRIESLER AUSTRALASIA PTY. LIMITED

12-30 Cawarra Road, Caringbah. P.O. Box 107, Caringbah. Telephone 5-2044

**Description.** Model CA 41-33 is an 8 transistor, 3 diode Broadcast portable receiver designed for use as a car radio when connected to the Power Amplifier Cradle 90-4560, or as a self-contained portable receiver when removed from the cradle.

**Dial Scales.** Four dial scales are provided to cover all Australian Broadcast stations. To change scales, wind the pointer to one end of the scale, remove the two screws on the front of the dial and detach the clear dial lens. Take note of the way the scale is fitted before removing it and replacing with the required scale. Centralise the scale on the backing plate then replace the lens and screws.

**Earphone Sockets.** An earphone and/or extension speaker may be plugged into either of the two sockets provided. When plugged into the socket nearest the volume knob, the internal speaker will be switched off. When plugged into the other socket, both earphone and internal speaker will operate. Both outlets may be used simultaneously. The extension speaker used should have an impedance of 3.5 ohms. NOTE: The speaker used with the Power Amplifier Cradle must have an impedance of 15 ohms.

### Aerials.

**TELESCOPIC WHIP AERIAL.** This aerial is used when the receiver is operated as a portable unit. Best performance is obtained when fully extended; however, if required to be shortened for operation in a confined space, lower from the top, leaving the bottom section fully extended.

**CAR RADIO AERIAL.** (with Power Amplifier Cradle). A conventional car radio type aerial is used in this application. Plug into the socket on the cradle via a suitable plug (Walbar BT32). The total capacitance of the aerial and cable should not exceed 70 pF. Adjust the aerial trimmer for maximum gain at approximately 1500 Kc/s.

### Battery Supply.

**INTERNAL BATTERY.** 9 volts. Eveready Type 2362 or equivalent.

**CAR BATTERY.**

12 volts. Positive or Negative ground.

For Positive ground operation, insert the polarity plug with the + sign pointing to the earth symbol on heat sink. For Negative ground operation, insert the polarity plug with the - sign pointing to the earth symbol on heat sink.

### Alignment Procedure.

See Page 4 and 5.

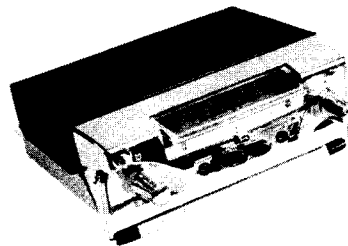
### Tuning Range.

525 to 1620 Kc/s.

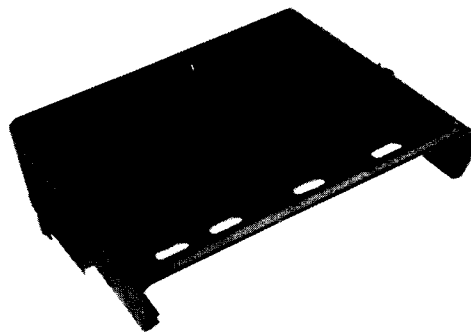
### Intermediate Frequency.

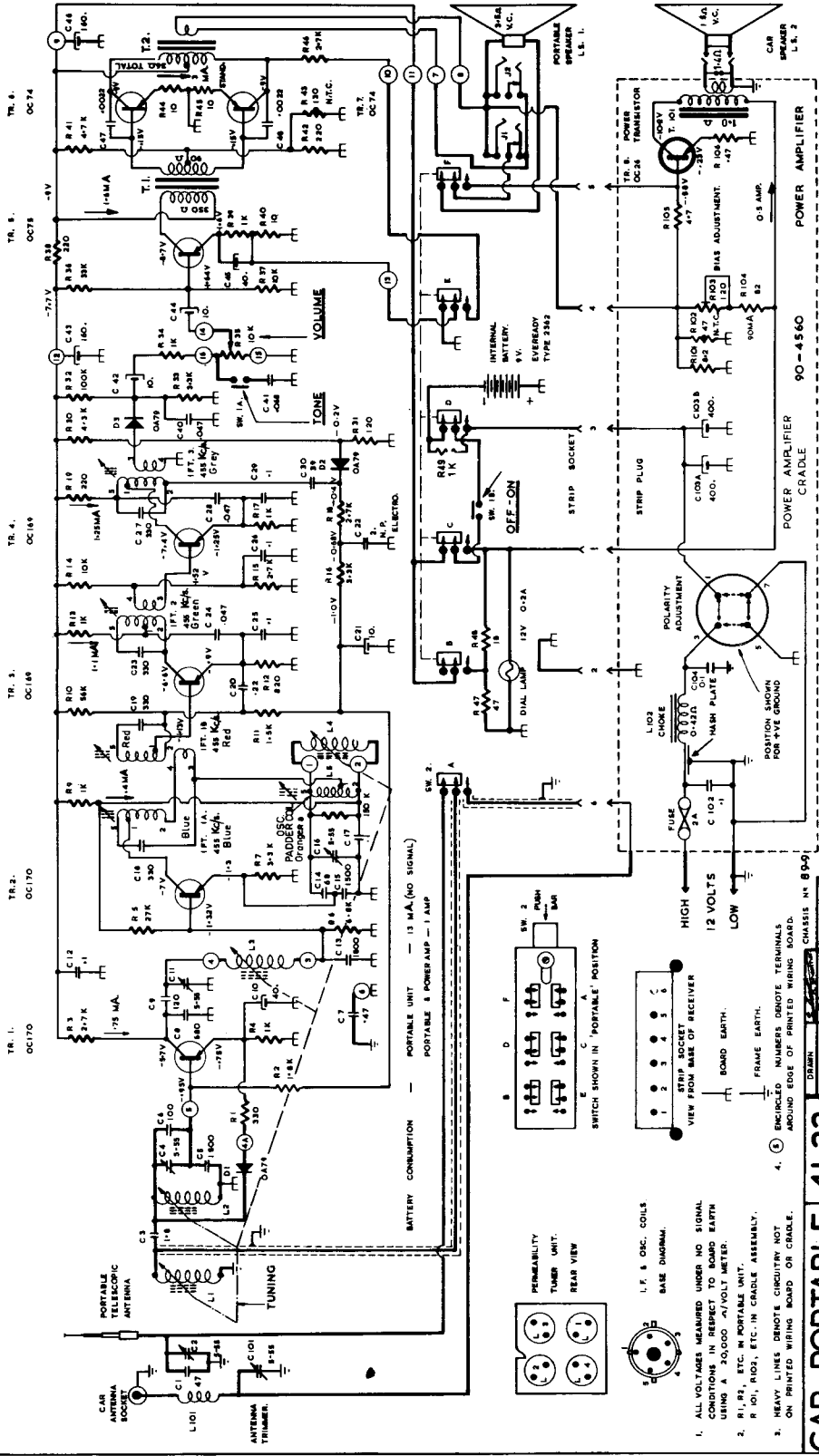
455 Kc/s.

### Model CA 41-33. Car-Portable Receiver.



### 90-4560. Power Amplifier Cradle.





1. ALL VOLTAGES MEASURED UNDER NO SIGNAL. CHECKING SHOULD BE DONE WITH KEYS USING A 50000 OHM VOLT METER.

2. R 1, R 2, ETC. IN PORTABLE UNIT.

3. HEAVY LINES DENOTE CIRCUITRY NOT ON PRINTED WIRING BOARD OR CRADLE.

4. ( ) ENCLOSED NUMBERS DENOTE TERMINALS AROUND EDGE OF PRINTED WIRING BOARD.

**CAR-PORTABLE 41-33**

DRYER:  CHECKED:  DATE: 3-13-52

APPROVED:

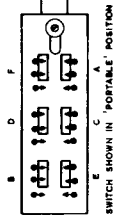
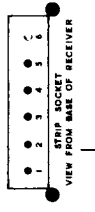
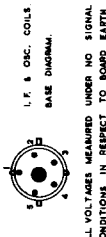
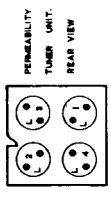
CHASSIS NO. B 949

POWER AMPLIFIER CRADLE 90-4580

POWER AMPLIFIER

CAR SPEAKER L.S. 2

PORTABLE SPEAKER L.S. 1



VIEW FROM BASE OF RECEIVER

SWITCH SHOWN IN 'PORTABLE' POSITION

STRIP SOCKET

BOARD EARTH.

FRAME EARTH.

POSITION SHOWN FOR +VE GROUND

1/4M PLATE

COIL

LI03 CHOK

POLARITY ADJUSTMENT

STRIP PLUG

CON. 400.

CO03

R 103 R 102

R 101 R 100

R 104 R 105

BIAS ADJUSTMENT

T. 101

POWER TRANSISTOR

TE. 5

90-4580

POWER AMPLIFIER

CRADLE

90-4580

POWER AMPLIFIER

CRADLE

90-4580

POWER AMPLIFIER

CRADLE

90-4580

POWER AMPLIFIER

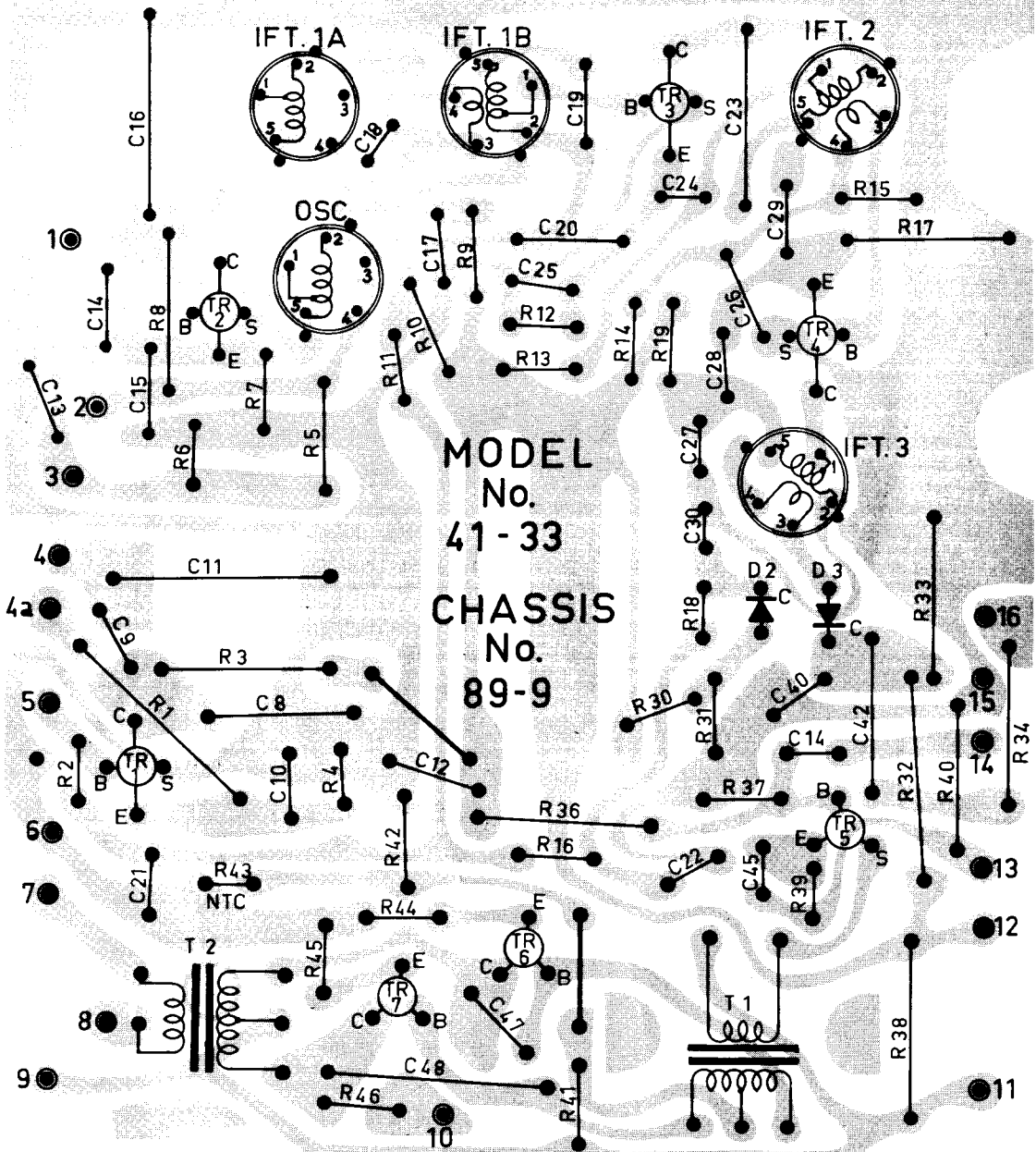
CRADLE

90-4580

POWER AMPLIFIER

CRADLE

# COMPONENT LAYOUT



VIEW FROM CONDUCTOR SIDE OF PRINTED BOARD

● EXTERNAL CONNECTIONS TO P.W. BOARD AS SHOWN ON CIRCUIT DIAGRAM.

# **ALIGNMENT PROCEDURE.**

## **I.F.**

1. Connect signal generator to base of TR 2 (Terminal Pin 3 on P. W. Board) via a 100 pF capacitor.
2. Connect an output voltmeter to the earphone socket or between terminal pins 7 and 8 on P. W. Board.
3. Set tuner to extreme high frequency end of band (cores fully out). Set Volume control to maximum and Tone control at minimum top cut (switch button up). Tune signal generator to 455 Kc/s.
4. Align I. F. transformers in turn beginning with IFT 3 and finishing at IFT 1A. Repeat until alignment of all transformers is correct. Note that two peaks will be found. The peak which occurs with the cores nearest the transformer bases is the correct one. It is important to progressively reduce output from the generator as the circuits are brought into alignment so that the output voltage does not exceed 0.5V.

## **R.F.**

1. Extend base section only of whip aerial out of the cabinet and connect signal generator via a 15 pF capacitor to the base of the aerial.
2. Set tuner to high frequency end of band (cores fully out).
3. Tune signal generator to 1620 Kc/s and adjust Oscillator Trimmer for maximum output.
4. Tune signal generator and receiver to 1500 Kc/s and adjust 3 R. F. Trimmers for maximum output.
5. Tune signal generator and receiver to 600 Kc/s and rock tuner whilst adjusting core of Oscillator Padder Coil on P. W. Board.
6. Repeat steps 1 to 5 until no further improvement in alignment is obtained.

## **Aerial.**

1. Remove generator connections and, with receiver standing vertically, fully extend the whip aerial, making sure that it is not in proximity to any earthed objects.
2. Tune signal generator and receiver to 1500 Kc/s and radiate the signal into the aerial. Adjust aerial trimmer C2 for maximum output. This operation should be carried out with the lowest input signal necessary to give a reading on the output voltmeter.

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### **Portable Unit.**

NETT WEIGHT. 4lbs. 8oz.  
DIMENSIONS. 7 $\frac{3}{4}$ "W, 2 x 3/8"H, 6 $\frac{1}{2}$ "D.  
BATT. CONSUMPTION. 13 mA. (no signal).  
POWER OUTPUT. 180 mW.

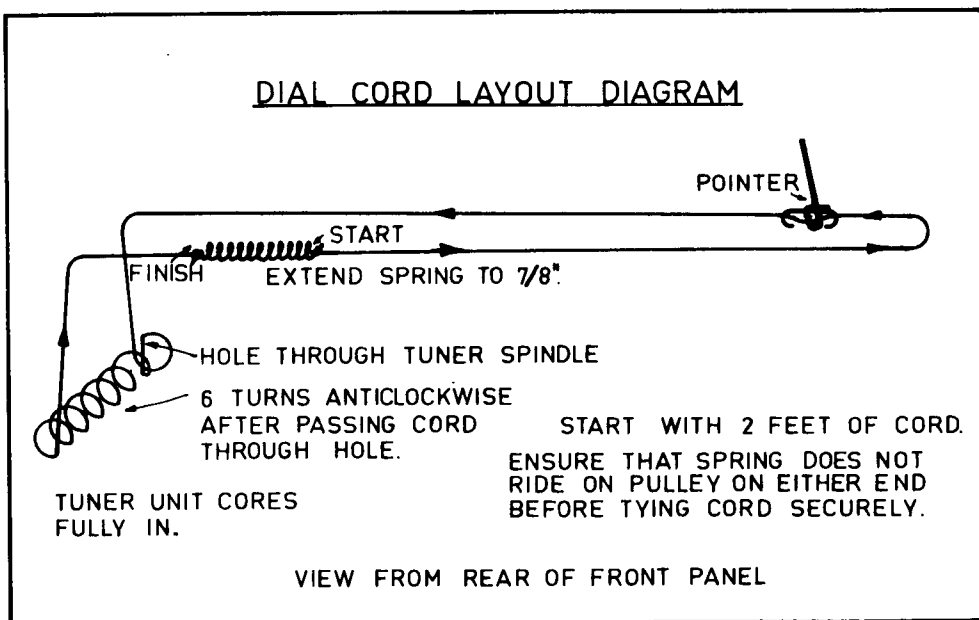
### **Cradle.**

4lbs. 2oz.  
8 $\frac{1}{2}$ "W, 2 $\frac{3}{4}$ "H, 7 $\frac{1}{2}$ "D.  
0.9 Amp. (incl. receiver).  
2 Watts.

**Parts List.**

**Power Amplifier Cradle 90-4560.**

No.	DESCRIPTION.				No.	DESCRIPTION.	
R101	8.2 ohm	$\frac{1}{2}$ W	BW $\frac{1}{2}$	10%	L101	R. F. Choke.	I. R. C. CL
R102	47 ohm	Thermistor 90-4567			L102	Filter Choke.	28-4537
R103	120 ohm	Variable RSW3 I. R. C.			T101	Speaker Trans.	18-4888
R104	82 ohm	1W	BW1	10%	FUSE	2 Amp. U. I. C. or Astralite.	
R105	4.7 ohm	$\frac{1}{2}$ W	BW $\frac{1}{2}$	"		Polarity Plug.	90-4305
R106	47 ohm	"	"	"		Polarity Socket.	Carr Fastener. 733-2-15
C101	6-55pF	Mica	Trimmer. MSP.			Speaker.	To suit car. 15 ohm V. C.
C102	.1uF	25V	Ceramic.			Speaker Socket.	90-4320
C103	400/400uF	16V	Electros.			Speaker Plug.	90-4319
C104	.1uF	25V	Ceramic.				



## Parts List.

## Model No. 41-33.

## Chassis No. 89-9.

No.	DESCRIPTION	No.	DESCRIPTION	No.	DESCRIPTION
R1	330 ohm	R43	130 ohm Thermistor AT/130	C36	.1uF 25V Ceramic.
R2	1.8K	R44	10 ohm $\frac{1}{2}$ W BW $\frac{1}{2}$ 10%	C27	330pF 600V Styroseal.
R3	2.7K	R45	10 ohm " " "	C28	.047uF 25V Ceramic.
R4	1K	R46	2.7K " " BTS	C29	.1uF 25V Ceramic.
R5	27K	R47	47 ohm 5W PW5	C30	39pF 600V Styroseal.
R6	6.8K	R48	18 ohm 1W BW1	C40	.047uF 25V Ceramic.
R7	3.3K			C41	.068uF 125V Polyester.
R8	150K			C42	10uF 16V Electro.
R9	1K	C1	47 pF 600V Styroseal 10%	C43	160uF 16V Electro.
R10	56K	C2	6-55pF Mica Trimmer MSP 35130	C44	10uF 16V Electro.
R11	1.5K	C3	1.8pF NPO Ceramic CDS	C45	40uF 4V Electro.
R12	820 ohm	C4	6-55pF Mica Trimmer MSP 35130	C46	160uF 16V Electro.
R13	1K	C5	1800pF 400V Polyester.	C47	.0022uF 400V Polyester.
R14	10K	C6	100pF 600V Styroseal.	C48	.0022uF 400V Polyester.
R15	2.7K	C7	.47uF 125V Polyester.		
R16	3.3K	C8	680pF 600V Styroseal.	L1234	Permeability Tuner 90-4547
R17	1K	C9	120pF 600V Styroseal.	L5	Oscillator Padder Coil
R18	2.7K	C10	40uF 4V Electro.	IFT1A	I. F. Transformer. Blue
R19	220 ohm	C11	5-55pF Mica Trimmer Ducon CWA	IFT1B	I. F. Transformer. Red
R30	4.3K	C12	.1uF 25V Ceramic.	IFT2	I. F. Transformer. Green
R31	120 ohm	C13	1800pF 400V Polyester.	IFT3	I. F. Transformer. Grey
R32	100K	C14	68pF N750 Ceramic. CDS		
R33	3.3K	C15	1500pF 400V Polyester.	T1	Driver Transformer.
R34	1K	C16	5-55pF Mica Trimmer Ducon CWA	T2	Output Transformer.
R35	10K	C17	.1uF 25V Ceramic.	SW1	OFF/ON Tone switch.
R36	33K	C18	330pF 600V Styroseal.	SW2	Slide Switch Assembly.
R37	10K	C19	330pF 600V Styroseal.		
R38	220 ohm	C20	.22uF 25V Ceramic.	AERIAL	
R39	1K	C21	10uF 16V Electro.	SPKR.	Loudspeaker 4" Round
R40	10 ohm	C22	2uF 3V Electro. Non-polar	STRIP SOCKET.	6 Pm.
R41	4.7K	C23	330pF 600V Styroseal.	DIAL LAMP.	12V 2 2W Bc643
R42	220 ohm	C24	.047uF 25V Ceramic.		
		C25	.1uF 25V Ceramic.		