

BOX 107 P.O.CARINGBAH N.S.W. 524-044

PLEASE CIRCULATE TO YOUR SERVICE DEPARTMENT

41-49 SERVICE SHEET

Description: Model 41-49 is a six-transistor single-unit car radio incorporating a five push-button operated permeability tuner.

Frequency Range: 525 to 1620 Kc/s.
Intermediate Frequency: 455 Kc/s.

Supply Voltage: 12 volts D.C. An external polarity plug provides operation with either negative or positive ground electrical system.

Consumption: 183 mA. at 12 volts (no signal condition).

Speaker: 15 ohms impedance at 400 c.p.s. Size and type dependent on installation requirements; universal installation kit speaker is 7" x 5" M.S.P. type 750A/15.

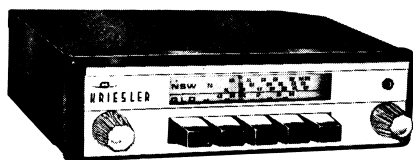
Power Output: 2 watts at 400 c.p.s. (14 volts supply).

Transistor and Diode Complement:

TR1	BF 115	NPN	silicon transistor	Tuned R.F. amplifier
TR2	BF 115	NPN	silicon transistor	Converter
TR3	BF 115	NPN	silicon transistor	I.F. amplifier
TR4	BC 108	NPN	silicon transistor	A.F. amplifier
TR5	AC 128	PNP	Germanium transistor	} Class B power amplifier
TR6	AC 128	PNP	Germanium transistor	
D1	OA 90		Germanium diode	Demodulator
D2	OA 90		Germanium diode	A.G.C.

High Capacity Aerial System: Inability to peak the aerial trimmer after installation could indicate that the aerial feeder capacitance is excessively high. To overcome this—

1. Remove the 27pF aerial shunt capacitance C1; or
2. Reduce the feeder cable length; or
3. Insert a series capacitor in the aerial circuit; however, this will reduce the signal input to the receiver.



MODEL 41-49 CAR RADIO

Controls: 1. On-Off switch combined with volume control. 2. Manual tuning control. 3. Press-button tuning controls.

Dimensions: Width 7", height 2", depth 5 $\frac{5}{8}$ ".

Weight: 4 lb. 2 oz.

ALIGNMENT PROCEDURE

Sig. Generator connected to	Sig. Generator Frequency	Align for Max. Output	Remarks
Converter base through 0.1 uF	455 Kc/s	IFT 2 IFT 1B IFT 1A	Tuner core carriage fully out
REPEAT UNTIL MAXIMUM OUTPUT IS OBTAINED			
Aerial socket through dummy aerial	1620 Kc/s	Osc. Trimmer C12	Tuner core carriage fully out
Aerial socket through dummy aerial	1500 Kc/s	R.F. Trimmer C6 Aerial Trimmer C2	
Aerial socket through dummy aerial	600 Kc/s	Padder Coil L3	Rock tuner
REPEAT UNTIL CORRECT ALIGNMENT IS OBTAINED			

Two dial scales are supplied with this receiver. They may be changed by removing knobs and escutcheon, then attaching required scale to recess in escutcheon back. Position scale to centre of reference "diamonds" within escutcheon aperture.

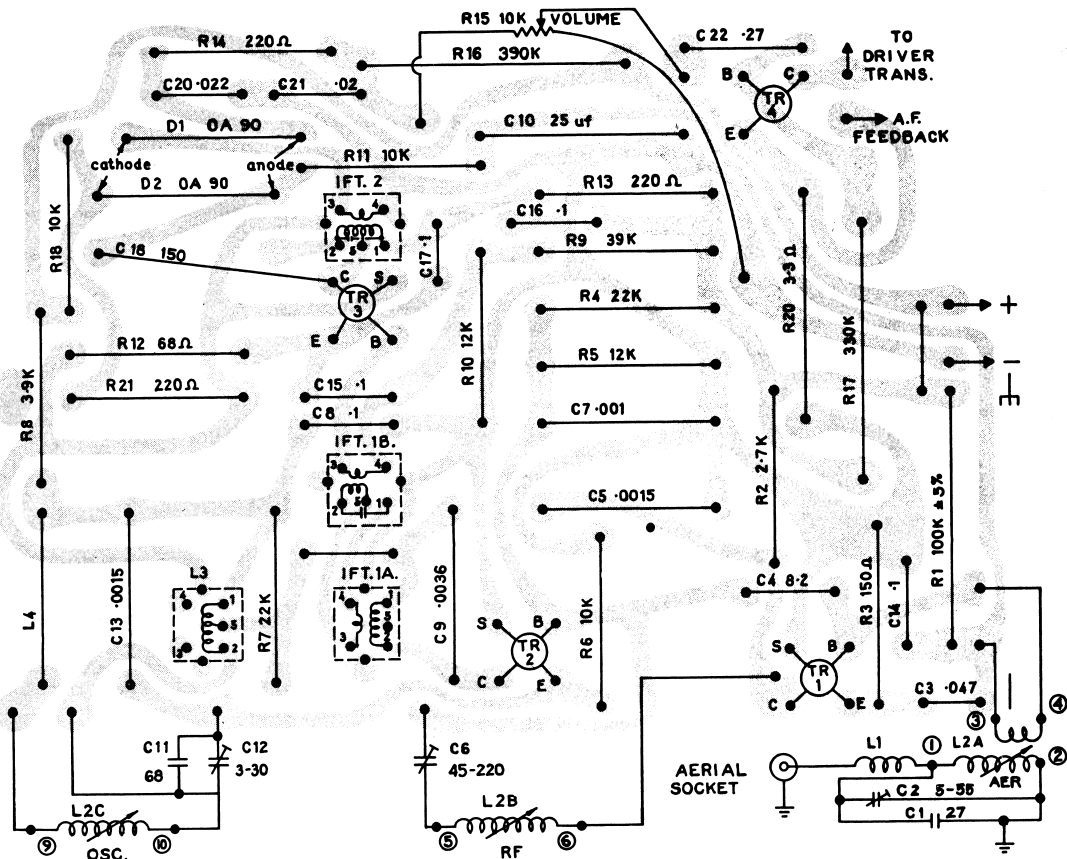
Note: The aerial trimmer should be finally peaked on a weak transmission around 1500 Kc/s with the receiver installed in the car and the aerial fully extended.

Driver Transformer or Output Transformer Replacement: The transformer is best removed as an assembly with its mounting bracket. Disconnect leads and remove the two self-tapping screws on the chassis exterior.

Remove the transformer with its mounting bracket; detach bracket and fit to replacement transformer. Reverse the above procedure to re-install.

Power Transistor Replacement: Should the power transistors TR5 or TR6 require replacing, always use a matched pair and adjust the standing collector current at the output transformer centre tap to 12 mA \pm 2 mA (no signal condition) by connecting an appropriate value of resistance (R23A) in the bias circuit.

MODELS 41-49

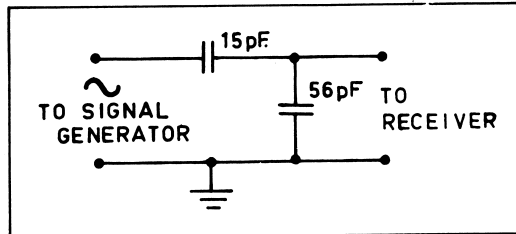


VIEW FROM CONDUCTOR SIDE OF PRINTED WIRING BOARD

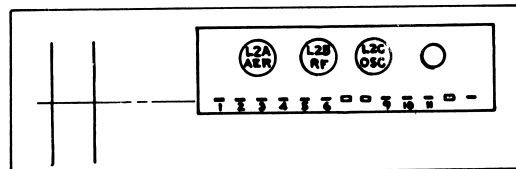
IFT & OSC COLOUR CODE

FOUR COLOUR COIL	D				TWO COLOUR COIL
	A	B	C	D	
IFT 1A	BROWN or ORANGE	BLACK	BLACK	BLACK	CZ-651-000
IFT 1B	BROWN or ORANGE	BLACK	BLACK	BLUE	CZ-651-006
IFT 2	BROWN	BLACK	BLACK	VIOLET	CZ-651-007
OSC SHUNT PADDER L3	RED	BLACK	BLACK	GREEN	CZ-652-005

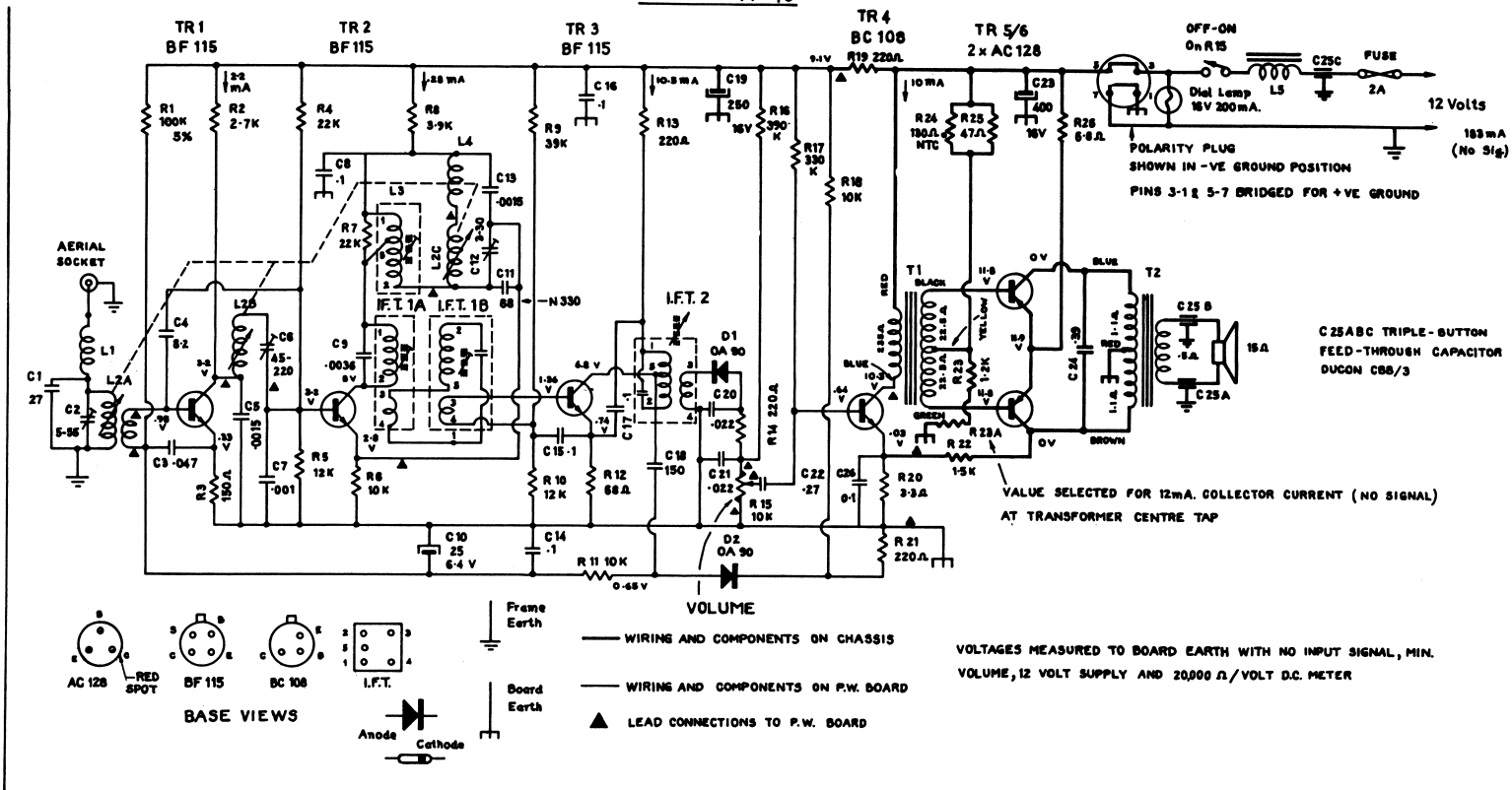
DUMMY AERIAL



TUNER



MODELS 41-49



No.	Description	No.	Description	No.	Description	No.	Description	
R1	100 K	1W	±5%	Ducon	R25	47Ω	±10%	Ducon
R2	2.7 K	±10%	Ducon	R26	6.8Ω	BW	±10%	Ducon
R3	150Ω	±10%	Ducon	C1	27 pf	N.P.O. Disc Ceramic		
R4	22 K	±10%	Ducon	C2	5-55 pf	Mica Trimmer 35130		
R5, 10	12 K	±10%	Ducon	C3	.047 uf 25V	Ceramic		
R6, 11, 18	10 K	±10%	Ducon	C4	8.2 pf	N.P.O. Ceramic		
R7	3.9 K	±10%	Ducon	C5, 13	.0015uf 200V	Styroseal ±10%	Ducon	
R8	39 K	±10%	Ducon	C6	45-220pf	Mica Trimmer Type CWA		
R9	39 K	±10%	Ducon	C7	.001 uf 200V	Styroseal ±10%	Ducon	
R12	68Ω	±10%	Ducon	C8, 14, 15,	.1 uf 25V	Ceramic ±10%	Ducon	
R13, 14,	220Ω	±10%	Ducon	C9	.0036uf 50V	Styroseal		
R15, 21	10 K	Off-On Volume 32-7058	I.R.C.	C10	25 uf 6.4V	Electrolytic ±5%	Ducon	
R16	390 K	1W	±10%	Ducon	C11	68 pf	Ceramic Type N330 ±5%	Ducon
R17	330 K	1W	±10%	Ducon				
R20	3.3Ω	BW	±10%	I.R.C.				
R22	1.5 K	±10%	Ducon					
R23	1.2 K	±10%	Ducon					
R23A	See Note on Circuit Diagram							
R24	130Ω	Thermistor B8/320/01/A130E	Philips					
C12	3-30 pf	N.P.O. Trimmer Type CW	Ducon	L4	Osc. Series Padder Coil	14-7648		
C18	150 pf 630V	Styroseal ±10%	Ducon	L5	Filter Choke	28-4537		
C19	250 uf 16V	Electrolytic	Ducon	I.F.T. 1A	I.F. Transformer	CZ-651-000	M.S.P.	
C20, 21	.022 uf 25V	Ceramic	Philips	I.F.T. 1B	I.F. Transformer	CZ-651-006	Philips	
C22	.27 uf 25V	Ceramic	Ducon	I.F.T. 2	I.F. Transformer	CZ-651-007	Philips	
C23	400 uf 16V	Electrolytic	Philips	T1	Driver Transformer	18-6194		
C24	.39 uf 125V	Polyester	Ducon	T2	Output Transformer	18-6193	M.S.P.	
C25, A B C	3 x .001 uf	Triple Button Feed through Capacitor Type CBB/3	Philips	Fuse	Australux 2 Amp.	Type 3AG/2A	M.S.P.	
C26	0.1 uf	Ceramic, Red Cap	Ducon	Dial Lamp Knob	Philips 16V .2A	BA9S-10PC5		
L1	4.7 uH R.F. Choke	Type CLA	Ducon	Volume Tuning	20-4531			
L2, A B C	Permeability Tuner	90-7064	I.R.C.	Polarity	90-7655			
L3	Osc. Shunt Padder Coil	CZ-652-005	Philips	Dial Scale	69-7062			
				Escutcheon	16-7051			

AMENDMENT TO PARTS LIST

Please note the following changes:—

R15 is now 10K On-Off Volume Control Part No. 32-7642

C6 is type CWA/2.

L2, ABC is Part No. 90-7640.

L5 is Part No. 4048-025-02 Radio Corp.

T2 is Part No. 18-7644

Dial Scale (set of two) is Part No. 69-7630

Escutcheon is Part No. 16-7621