

PHILIPS

Model I3RN268

General Description: A two waveband (M.W. and L.W.) push-button car radio designed for operation from a 12 volt positive or negative earth supply. Five rotatable push-buttons are provided for tuning. The black and white scale is housed in a black box-type moulding with overall black escutcheon and a black and silver insert. Two additional glossy black and silver inserts are provided to enable the customer to alter the appearance of the front of the radio to suit the car. The loudspeaker required for use with this receiver should have an impedance of $5\ \Omega$.

Output Power: 3 W.

Consumption: 1 amp at 14.5 volts.

Fuse: 2 amps.

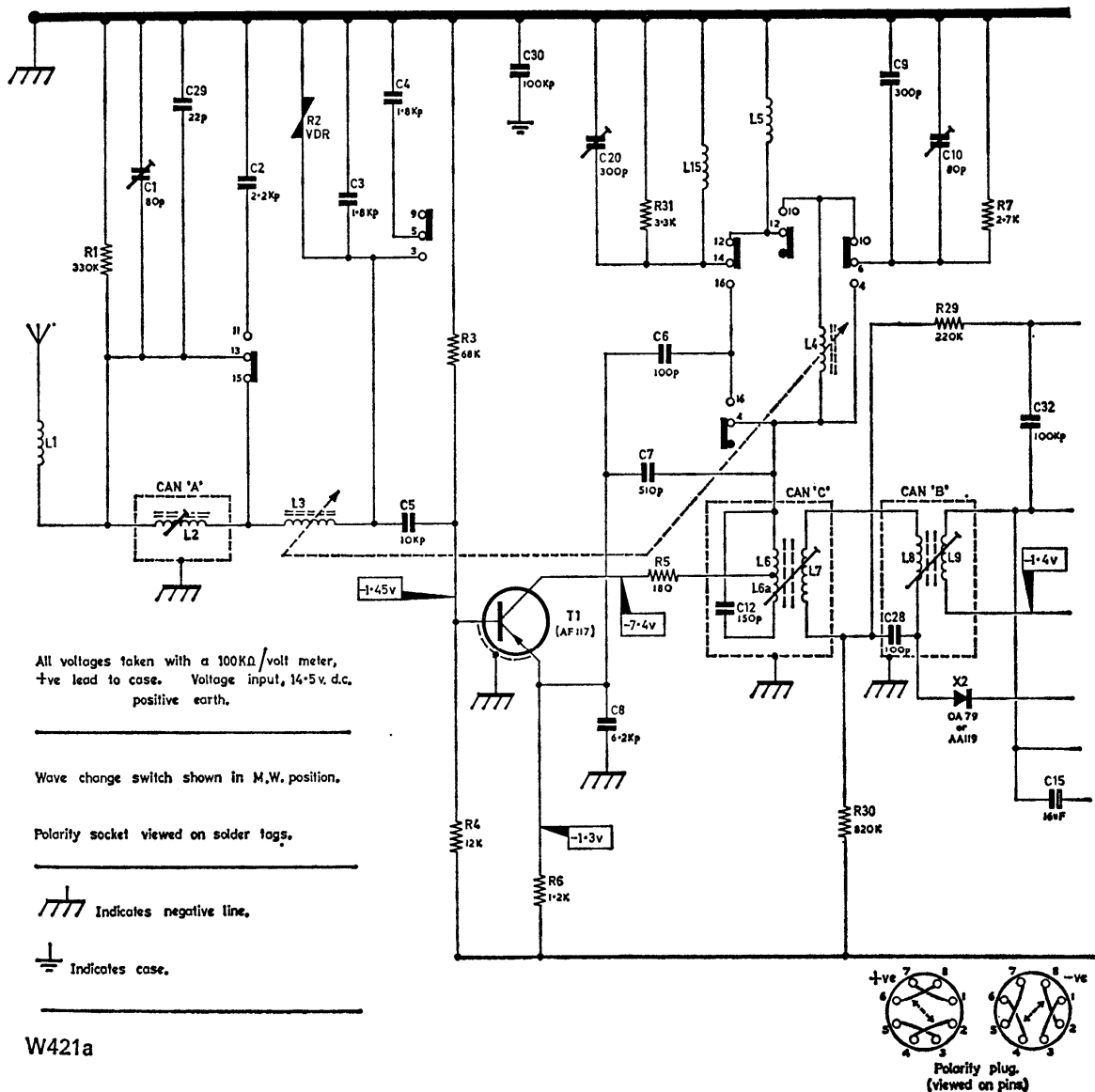
Wavebands: L.W. 1200-2000 metres. M.W. 185-585 metres.

Adjustments

Push-Buttons: To pre-set the push-buttons, first set the wavechange switch to the appropriate waveband, then depress one of the push-buttons and tune in the desired station by rotating the depressed button. The remaining four buttons may be pre-set in the same way.

Polarity Adjustment: To adjust the receiver for positive earth operation, insert the polarity plug with the arrow on the back of the plug pointing towards the + sign. For negative earth operation, remove the polarity plug, rotate it anticlockwise through 90 degrees, then reinsert with the arrow pointing to the - sign.

Adjustment of T₅ Collector Current (R₂₁): Connect the receiver to a 14.5 volt D.C. supply, no signal input. Insert a milliammeter in series with the collector of T₅ and adjust R₂₁ to obtain a collector current of 630mA.



(W421a) CIRCUIT DIAGRAM—MODEL 13RN268 (PART)

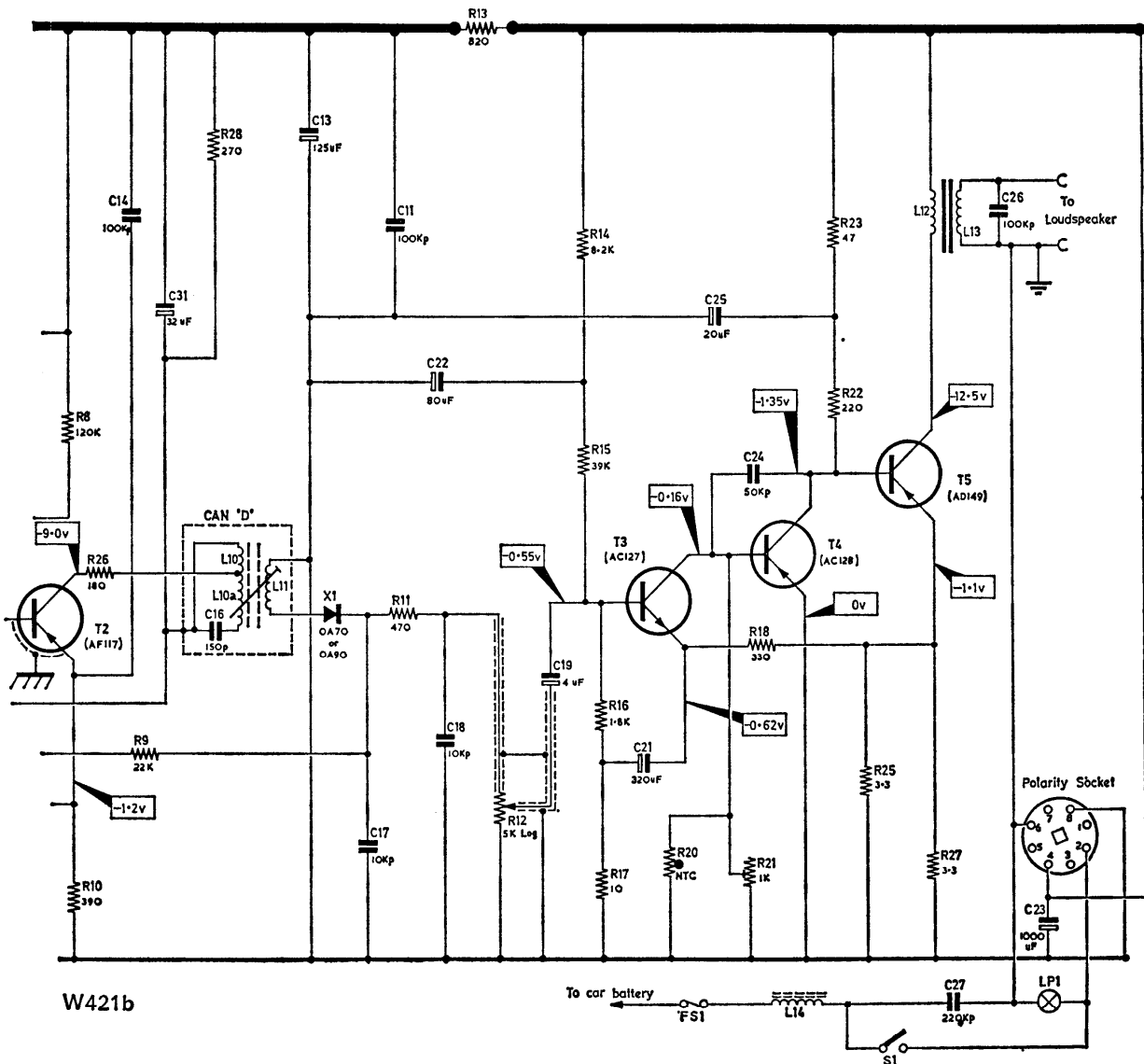
Dismantling

Removal of Cover Plates: To remove the top cover plate, withdraw four countersunk screws from the top of the plate which may then be lifted off. The bottom cover plate is removed in the same way.

Removal of the Escutcheon and Scale Assembly: Pull off the volume and wavechange knobs, remove the ornamental bushes (pull and unscrew action) and unscrew the nuts from each spindle. The escutcheon and scale assembly may now be withdrawn.

Scale Lamp Replacement: Remove the escutcheon and scale assembly and detach the scale backplate to gain access to the lamp.

Removal of the Push-Button Unit: Remove the escutcheon and scale assembly, unsolder four wires from the unit, pull off the five push-button knobs and unclip the pointer. Withdraw two screws and spacers which secure the unit to the rear of the case, and the two screws securing the front of the unit. The push-button unit complete may now be withdrawn from the case. Reassemble in the reverse order.



(W421b) CIRCUIT DIAGRAM—MODEL 13RN268 (CONTINUED)

Printed Panel: To gain access to components on the printed panel, remove the push-button unit as described above.

Wavechange Mechanism: To remove the wavechange moulded link, gently unclip the link from the wavechange switch slider. Remove the circlip from the rear end of the operating spindle, and withdraw the two rear bracket securing screws. Pull the spindle forward $\frac{1}{4}$ in. and move the bracket sideways $\frac{1}{8}$ in., allowing the moulded link to disengage the moulded cam (care should be taken to ensure that the two steel balls in the cam do not drop out). The moulded links may now be removed. Reassemble in the reverse order.

Replacing the Output Transistor T5: When replacing the output transistor T5, a coating of silicone grease (DP2623) should be applied to both sides of the mica insulating washer.

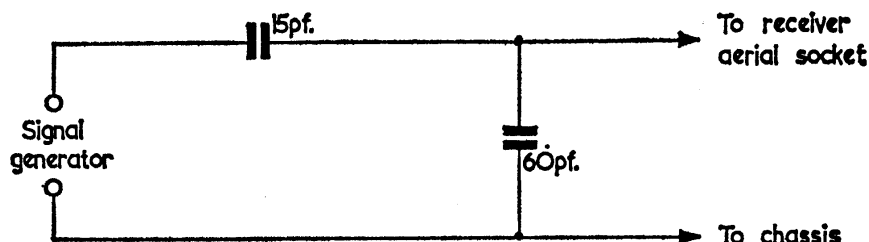
Alignment

General: Output should be observed with an output meter set for 5Ω load, trimming level of 500mW. Disconnect the loudspeaker and set the volume control to maximum.

Adjustment of C20: To decrease the capacity of C20, carefully unwind the wire from the ceramic tube until the correct tuning point is reached, then cut off the surplus wire (capacity should not be increased by rewinding the wire). If more capacity is required, C20 must first be replaced with a new capacitor of the same type (see spare parts list). With C20 fully wound (maximum capacity) proceed as above.

I.F. Alignment: Switch to L.W. and tune to maximum inductance. Connect the signal generator to the base of T2 via a 470kpF capacitor. Inject a signal of 470kHz 30 per cent modulated, and trim L10/11 for maximum output. Reconnect the generator to the junction of C5/L3 and trim L8/9 and L6/7 in that order for maximum output.

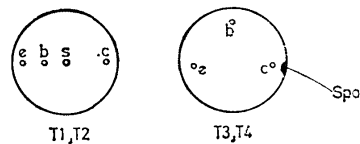
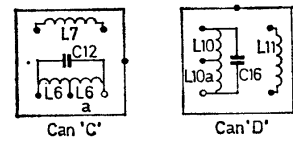
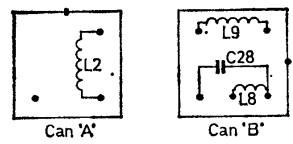
R.F. Alignment: Switch to M.W. and tune to minimum inductance. Inject a signal of 1620kHz to the junction of C5/L3 via a 470kpF capacitor, and trim C10 for maximum output. Switch to L.W. and tune to maximum inductance. Reset the generator to 148kHz and trim C20 for maximum output (see para. above). Reconnect the generator to the aerial socket via the dummy aerial. Switch to M.W. and feed in a 1500kHz signal, tune in the receiver and trim C1 for maximum output. Switch to L.W. and reset the generator to 190kHz, tune in the receiver and trim L2 for maximum output.



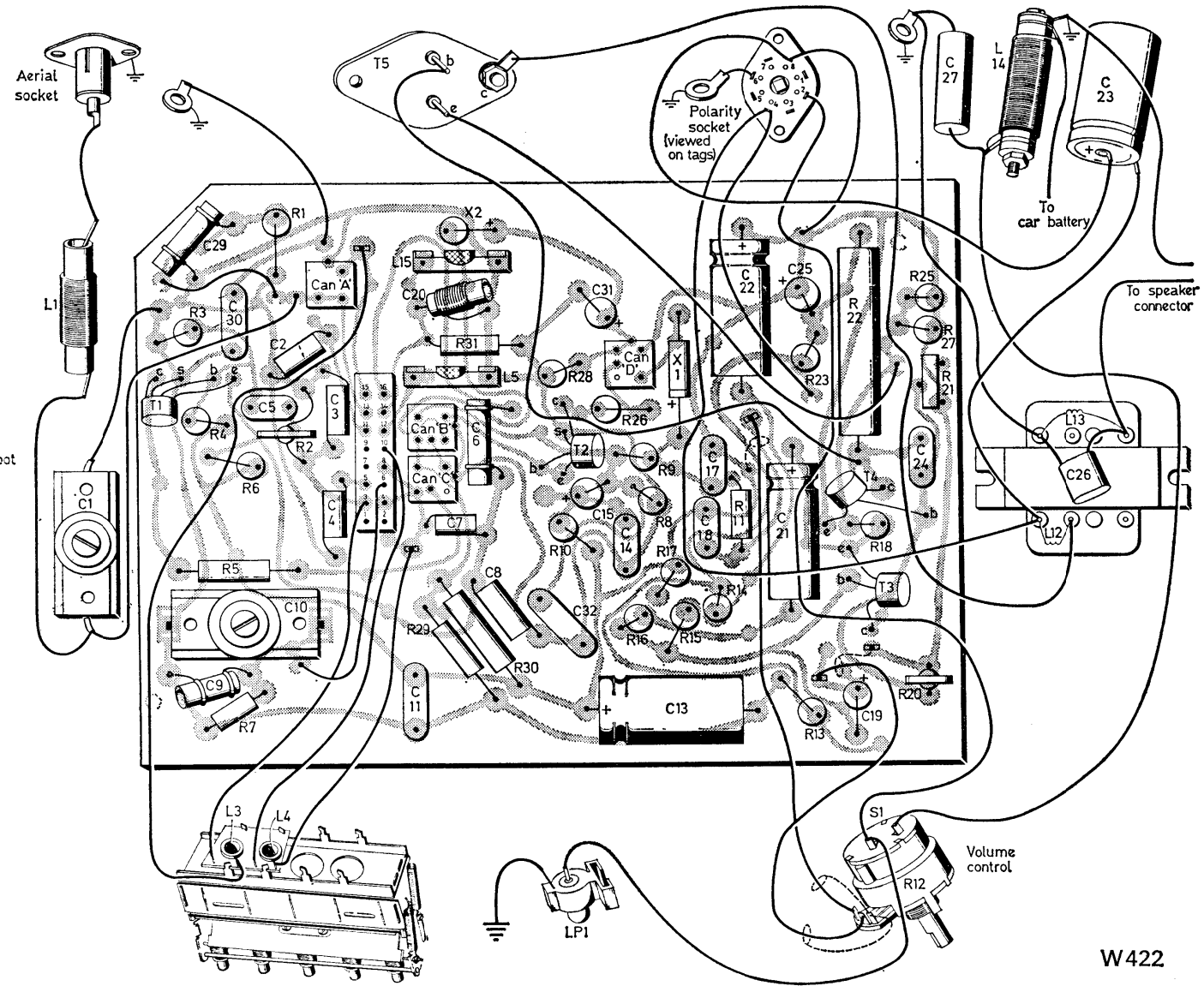
W437

(W437) DUMMY AERIAL—MODEL 13 RN268

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D.C. RESISTANCE OF COILS.			
Coil No	Ohms	Coil No	Ohms
L1	1	L8	16.5
L2	6	L9	1
L3	8.5	L10	2.2
L4	5	L10a	8
L5	4.8	L11	1.4
L6	5.2	L12	1.6
L6a	5.5	L13	<1
L7	<1	L14	<1
		L15	4.8



RADIO SERVICING

W422

(W422) COMPONENT LAYOUT—MODEL 13 RN268