Supplement to Electrical and Electronic Trader
20 February 1970

Dynatron "Rally" TP42

1927

Battery operated portable radio receiver

Introduction

Dynatron Rally, model TP42, is an eight transistor two waveband portable radio receiver. A special feature is the inclusion of switched aerial matching sections when reception is via a car aerial.

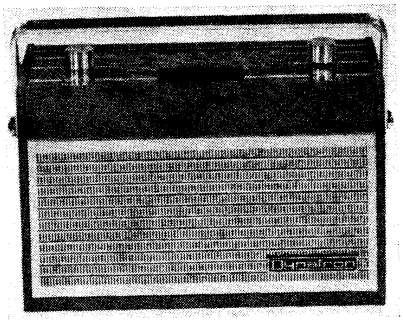
n internal ferrite rod aerial assembly is used for ɔrmal portable reception and the wavebands ɔvered are: l.w. 1,100-2,000m (270-150kHz) and ɯ.w. 185-570m (1,620-525kHz). Selection is by means of a press-button operated switch, three more press-buttons are incorporated for on/off, tone and auto.

Audio power output is 1W into a 7 x 4in elliptical loudspeaker of 25Ω impedance, and the power supply is provided by two 9V batteries type PP9 or their equivalent.

The case is rexine covered and may be in black green or red.

Transistor analysis

All voltages indicated on the circuit diagram are negative with respect to chassis and were measured under quiescent conditions, volume control at minimum, with a model 8 Avometer. Quiescent current 11mA.



Appearance of Dynatron "Rally" TP42

Resistors

R1	150kΩ	A2	R22	2·2kΩ	—	C15	4μF	B2
R2	1kΩ	A1	R23	470kΩ	B1	C17	4μF	B2
R3	47kΩ	A1	RV1	50kΩ	A1	C19	125μF	B2
R4	330kΩ	B2	RV2	500Ω	B2	C20	80μF	B2
R5	33kΩ	B2				C21	1,000pF	B2
R6	22kΩ	B2	**Capacitors**			C22	125μF	B2
R7	4·7kΩ	B2	C1	130pF	—	C23	80μF	A2
R8	1·5kΩ	B2	C2	40pF	A2	C24	5,000pF	A1
R9	22kΩ	B2	C3	150pF	A2	C26	6,800pF	A1
R10	820Ω	A2	C4	290pF	A2	C28	0·2μF	B2
R11	10Ω	B2	C5	40pF	A2	C29	0·1μF	—
R12	1kΩ	B2	C6	—	B1	C30	100μF	A1
R13	470Ω	B2	C7	33pF	A2	C31	0·04μF	A1
R14	2·2kΩ	B2	C8	390pF	A2	C32	5,000pF	—
R15	4·7Ω	B2	C9	40pF	A2			
R17	4·7Ω	B2	C10	250pF	A2	**Inductors**		
R18	15kΩ	A1	C11	80pF	A2	L1	—	—
R19	10kΩ	A1	C12	200μF	B2	L2	—	—
R20	5·6kΩ	B2	C13	0·02μF	A2	L3	—	A2
R21	47kΩ	A1	C14	0·01μF	B2	L4	—	A2

L5	—	A2
L6	25Ω	—

Transistors

TR4	NKT275P	B2
TR5	NKT775	B2
TR6	NKT272A	B2
TR7	NKT773	A1
TR8	NKT271A	A1

Miscellaneous

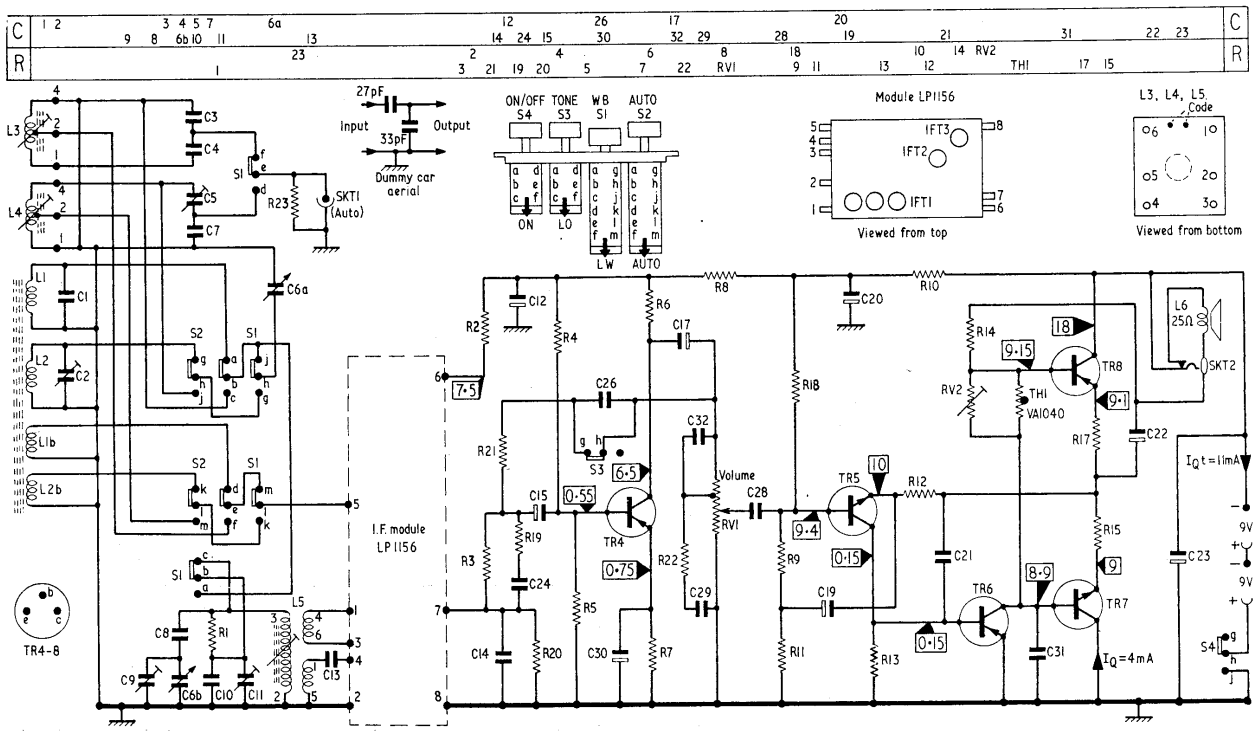
S1	—	B1
S2	—	B1
S3	—	A1
S4	—	A1
SKT1	—	—
SKT2	—	—
TH1	VA1040	B2

Circuit alignment

Equipment required. – An a.m. signal generator covering the range 100-3,000kHz; an r.f. coupling loop and a dummy car aerial made up as illustrated above the circuit diagram.

Note: The mixer and i.f. amplifiers are contained in a pre-tuned module (LP 1156) which will not require adjustment In the event of a component failure, including transistors, the module should be returned to Dynatron Spares Department for

(Continued overleaf col. 1)



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Continued from overleaf

replacement. When a replacement is fitted to a receiver the first i.f. transformer should be peaked for optimum gain at 470kHz. This is the only adjustment to be made.

Check that cursor coincides with end of scale aperture when the tuning gang is closed (maximum capacitance). Rotate volume control to maximum and maintain input signal at a level just adequate for an audible output so that the a.g.c. remains inoperative.

1. – Loosely couple signal generator via r.f. coupling loop to ferrite rod aerial assembly.

2. – Switch receiver to m.w. rotate tuning gang to maximum capacitance and feed in a 525kHz a.m. signal. Adjust **L5** for maximum output.

3. – Rotate tuning gang to minimum capacitance feed in a 1,630kHz a.m. signal and adjust **C9** for maximum output.

4. – Feed in a 560kHz a.m. signal and tune receiver to this signal then adjust position of **L2** on ferrite rod for maximum output.

5. – Feed in a 1,500kHz a.m. signal and tune receiver to this signal then adjust **C2** for maximum output.

6. – Repeat operations 4 and 5 for optimum results.

7. – Switch receiver to l.w. and tune to 1,600m on scale. Feed in a 187kHz a.m. signal and adjust **C11** for maximum output, then position **L1** on ferrite rod for maximum output.

8. – Check calibration and tracking of medium and long wavebands using known broadcast transmissions.

9. – Connect signal generator output to car aerial socket via dummy aerial and depress auto press-button. Switch receiver to m.w., feed in a 560kHz a.m. signal and tune receiver to this signal. Adjust **L4** for maximum output.

10. – Feed in a 1,500kHz a.m. signal and tune receiver to this signal. Adjust **C5** for maximum output.

11. – Repeat operations 9 and 10 for optimum results.

12. – Switch receiver to l.w., feed in a 187kHz a.m. signal and tune receiver to this signal. Adjust **L3** for maximum output.

Note: **C5** may need adjustment for optimum performance on a particular car aerial. In this case tune receiver to a station at the high frequency end of the medium waveband and adjust **C5** for maximum output of this signal.

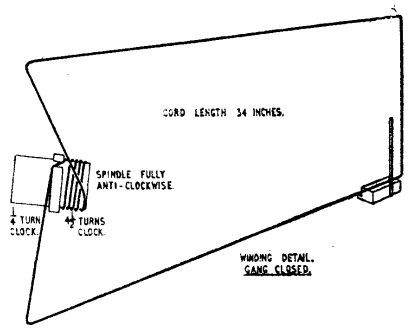
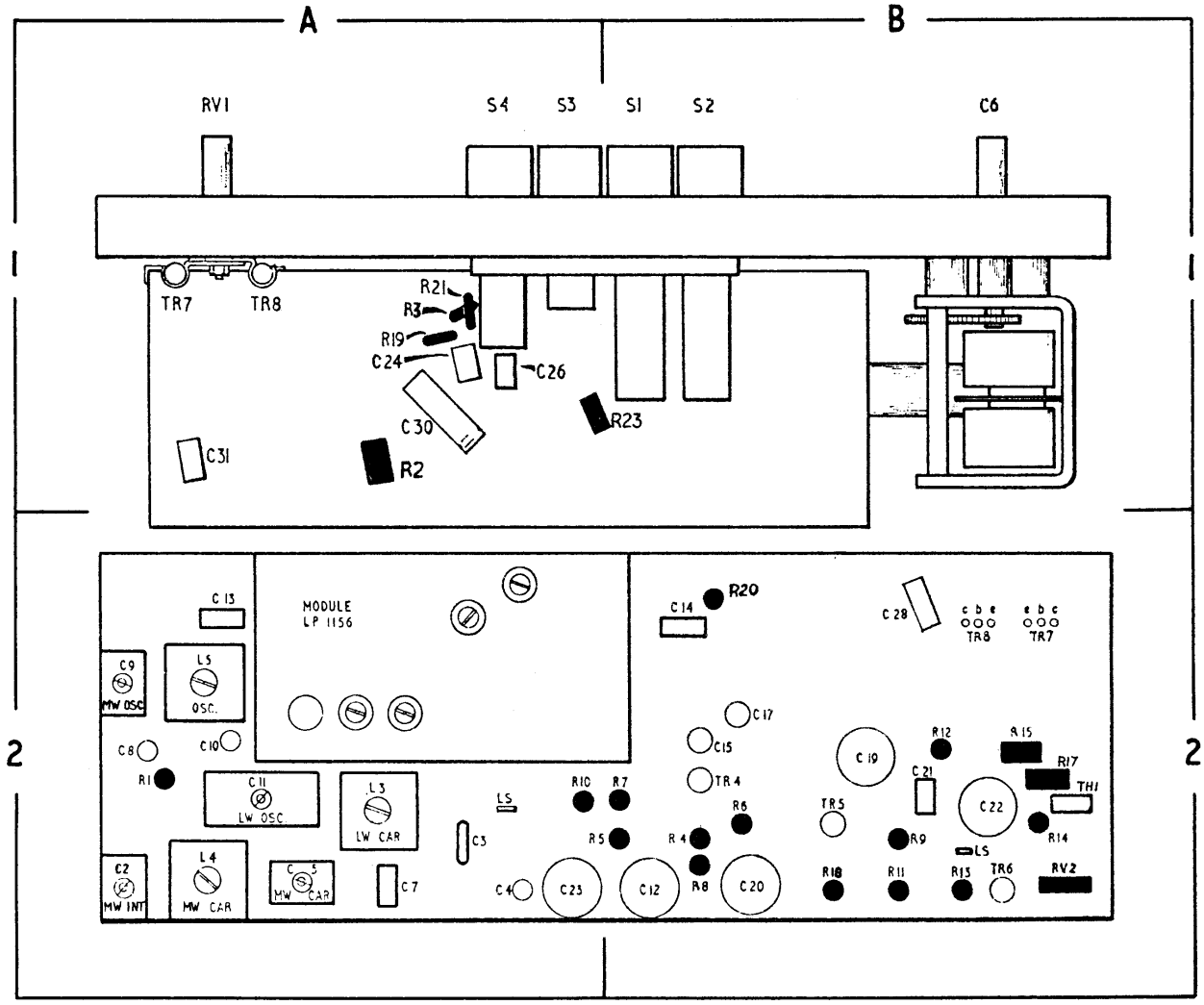


Illustration of drive cord assembly

General notes

Chassis removal. – Disconnect battery, tags to earphone socket, and external aerial socket connection. Remove control knobs and lift off scale. Unscrew and remove one each 4BA nuts from each end of scale plate. The chassis may now be withdrawn from case.

Adjustment of RV2. – Insert a 0-10mA meter in **TR7** collector circuit then with the volume control at minimum adjust **RV2** for 4mA reading on the meter. Remove meter, seal **RV2**, and reconnect **TR7** collector.



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