Supplement to Electrical and Electronic Trader
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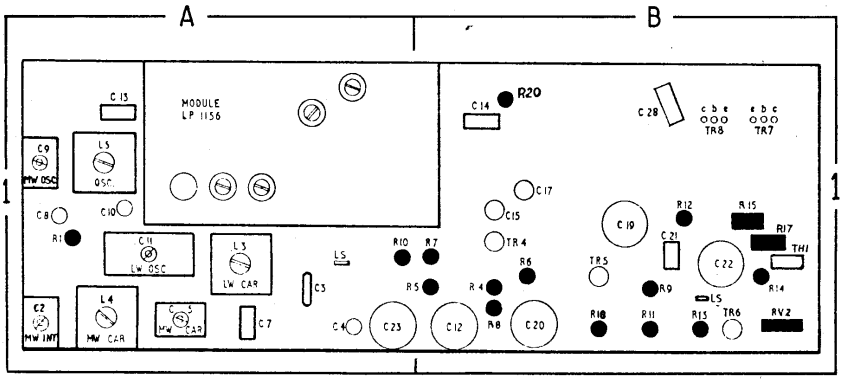
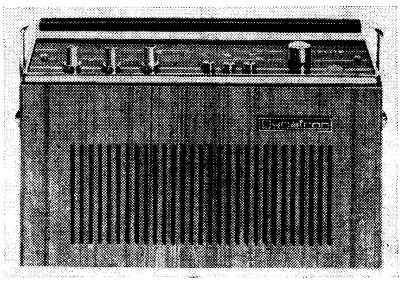
Dynatron 'Elite' TP40 & TP41 1935

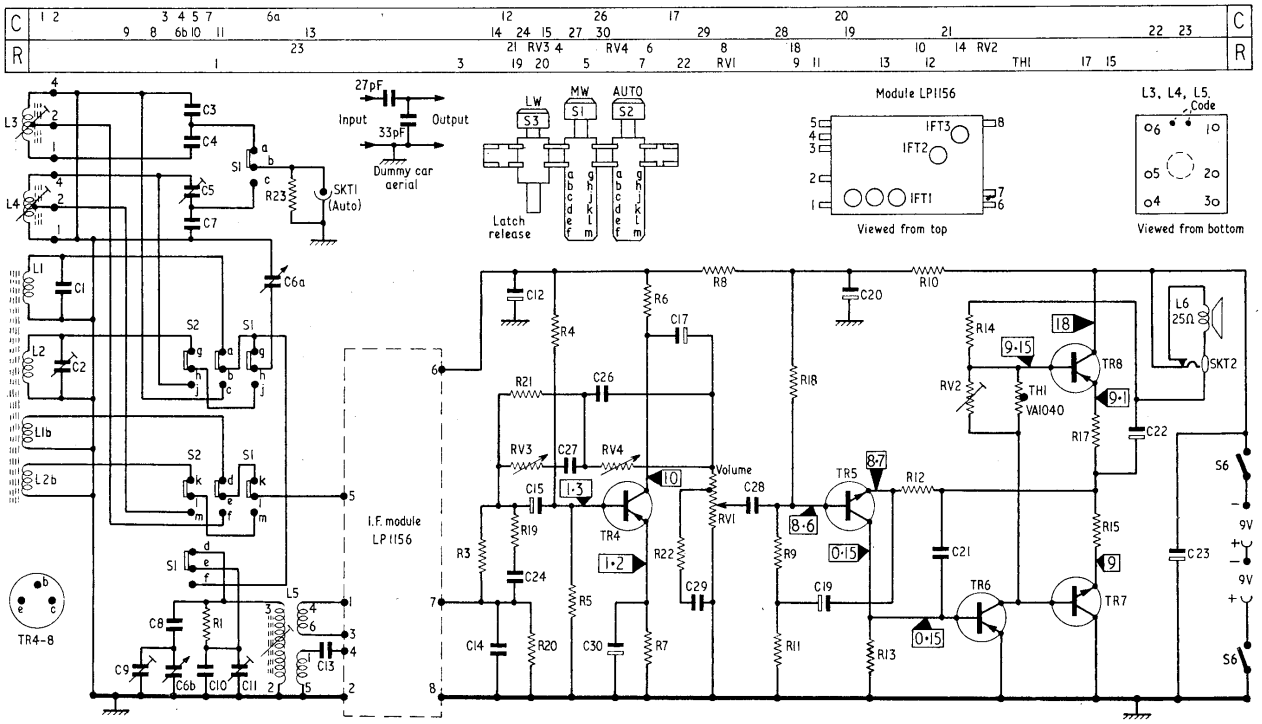
Battery operated portable radio receivers



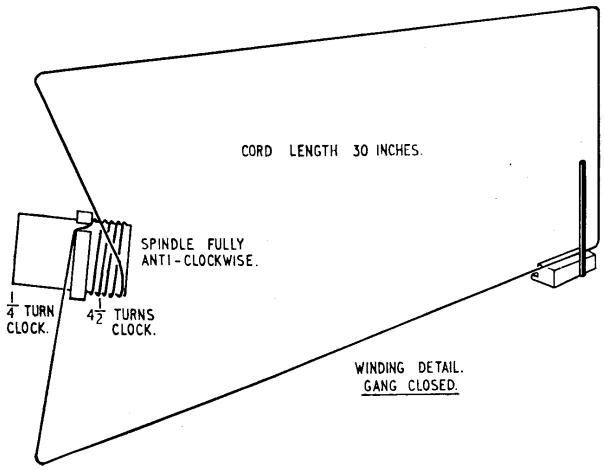


Above: Appearance of Dynatron 'Elite' TP41.
Left: Layout viewed from component side of panel.
Below: Circuit diagram for both models.

Resistors			R14	2·2kΩ	B1	**Capacitors**			C13	0·02μF	A1	C29	0·1μF	—	TR5	NKT775	B1
R1	150kΩ	A1	R15	4·7Ω	B1	C1	130pF	—	C14	0·01μF	B1	C30	100μF	—	TR6	NKT272A	B1
R3	47kΩ	—	R17	4·7Ω	B1	C2	40pF	A1	C15	4μF	B1				TR7	NKT773	—
R4	330kΩ	B1	R18	15kΩ	—	C3	150pF	A1	C17	4μF	B1	**Inductors**			TR8	NKT271A	—
R5	33kΩ	B1	R19	10kΩ	—	C4	290pF	A1	C19	125μF	B1	L1	—	—			
R6	22kΩ	B1	R20	5·6kΩ	B1	C5	40pF	A1	C20	80μF	B1	L2	—	—	**Miscellaneous**		
R7	4·7kΩ	B1	R21	47kΩ	—	C6	—	—	C21	1,000pF	B1	L3	—	A1	S1	—	—
R8	1·5kΩ	B1	R22	2·2kΩ	—	C7	33pF	A1	C22	125μF	B1	L4	—	A1	S2	—	—
R9	22kΩ	B1	R23	470kΩ	—	C8	390pF	A1	C23	80μF	A1	L5	—	A1	S3	—	—
R10	820Ω	A1	RV1	50kΩ	—	C9	40pF	A1	C24	5,000pF	—	L6	25Ω	—	S6	—	—
R11	10Ω	B1	RV2	500Ω	B1	C10	250pF	A1	C26	6,800pF	—				SKT1	—	—
R12	1kΩ	B1	RV3	250kΩ	—	C11	80pF	A1	C27	0·005μF	—	**Transistors**			SKT2	—	—
R13	470Ω	B1	RV4	250kΩ	—	C12	200μF	B1	C28	0·2μF	B1	TR4	NKT275P	B1	TH1	VA1040	B1



1935 Dynatron 'Elite' TP40 & TP41



Introduction

Dynatron Elite, models TP40 and TP41, are eight transistor two waveband portable radio receivers. A special feature is the inclusion of switched aerial matching sections when reception is via a car aerial.

An internal ferrite rod aerial assembly is used for normal portable reception and the wavebands covered are: l.w. 1,100-2,000m (270-150kHz) and m.w. 185-570m (1,620-525kHz). Selection is by means of press-button operated switches.

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 TP40 is finished in black rexine and the TP41 is teak veneered.

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.

Circuit alignment

Equipment required. – An am 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 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.

General notes

Chassis removal – Disconnect battery, tags to earphone socket, and external aerial socket connection. Unscrew and remove the Phillips screws from each end of scale plate. The chassis may now be withdrawn through the top of the cabinet.

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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