

General Description: A 24-hour digital clock radio operating from mains supplies and covering Medium and V.H.F. wavebands. The receiver features:

(1) 24-hour alarm setting. TIME SET control sets figures on digital clock. Every two clicks advances time setting by one minute. Anti-clockwise rotation of ALARM SET knob sets time alarm will call (against red pointer)—every click of knob retards time setting by ten minutes.

(2) Call setting by either buzzer or radio. Set WAKE switch to MUSIC (radio) or ALARM (buzzer). RADIO switch should be set to OFF and AUTO/MANUAL switch to AUTO. To switch off call, set to MANUAL, otherwise it will continue for approximately one hour. At a given call setting, the call will sound once every 24 hours unless cancelled.

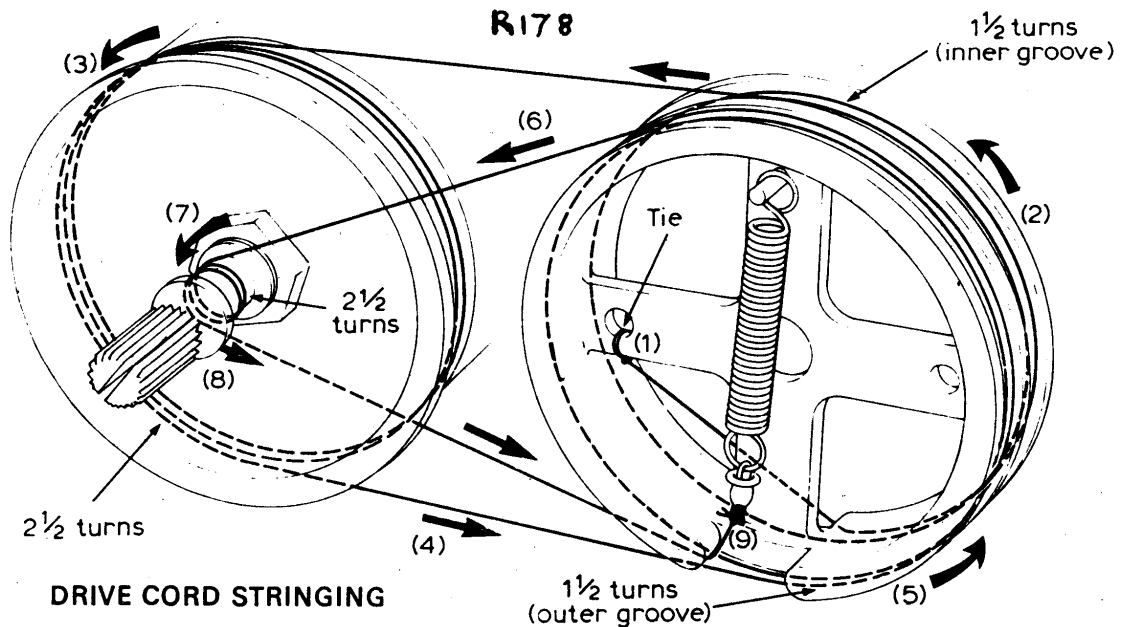
(3) 60-minute sleep delay. Set SLEEP TIMER to delay required (0–60 minutes) and set RADIO switch to OFF.

Note: For normal radio operation, AUTO/MANUAL switch should be set to MANUAL and WAKE switch to MUSIC.

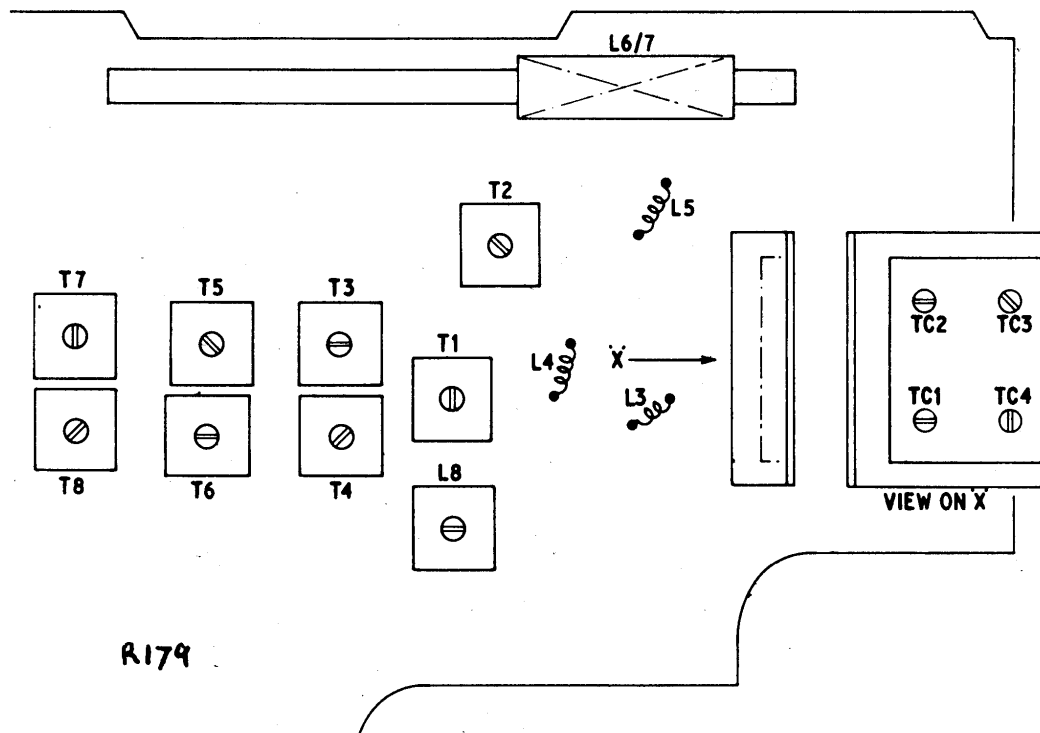
Mains Supply: 240 V, 50 Hz.

Wavebands: M.W. 185–566 kHz; F.M. 87–109 MHz.

Dismantling: Pull off VOLUME and BAND knobs, pull off tuning control knob. Remove the hardboard back by taking out the three retaining screws and easing it out from the slots which locate it into the cabinet moulding.



(R178) DRIVE CORD—MODEL C1



R179

(R179) ALIGNMENT ADJUSTMENTS—MODEL C1

To remove the printed circuit panel, it is necessary first to remove the loudspeaker. This is secured by two plastics wedges, one on each side, located in tapered channels in the cabinet moulding. Tap each wedge towards the front of the cabinet until they become free. Then lift the loudspeaker upwards so that it clears the white plastics block at the rear of the cabinet, and remove it from the cabinet.

The P.C.B. assembly is secured to the bottom of the cabinet by two x-head screws, removal of which will enable the complete P.C.B. assembly to be removed from the cabinet to the extent of the various connecting leads.

Transistor Voltages:

	<i>Tr1</i>	<i>Tr2</i>	<i>Tr3</i>	<i>Tr4</i>	<i>Tr5</i>	<i>Tr6</i>	<i>Tr7</i>	<i>Tr8</i>	<i>Tr9/10</i>
B	4.0 V	4.2 V	4.6 V	5.5 V	4.1 V	3.9 V	6.1 V	5.2 V	6.0 V
E	4.7 V	4.9 V	5.3 V	6.2 V	4.8 V	4.6 V	6.8 V	5.9 V	6.6 V
C	0	0	0	0.15 V	0.45 V	1.0 V	5.2 V	2.0 V	0

Alignment (see Fig. R179)

A.M. Alignment: Connect high impedance voltmeter to junction of C37/S1b and earth. Connect A.M. signal generator output to radiating loop, place near to, and coaxial with, the ferrite rod. Switch to M.W. and turn volume control to minimum. The following adjustments are all for maximum reading on the output voltmeter and the signal generator output should be adjusted as alignment proceeds to the minimum consistent with readable indications.

Tune receiver to the extreme low frequency end of the scale. Inject a signal of 470 kHz and adjust the cores of T1, T4 and T6. Repeat these adjustments.

Inject signal of 530 kHz and adjust the core of L8. Retune receiver to the extreme high frequency end of scale, inject a signal of 1,625 kHz and adjust trimmer TC4. Repeat the L8 and TC4 adjustments until no further improvement can be obtained.

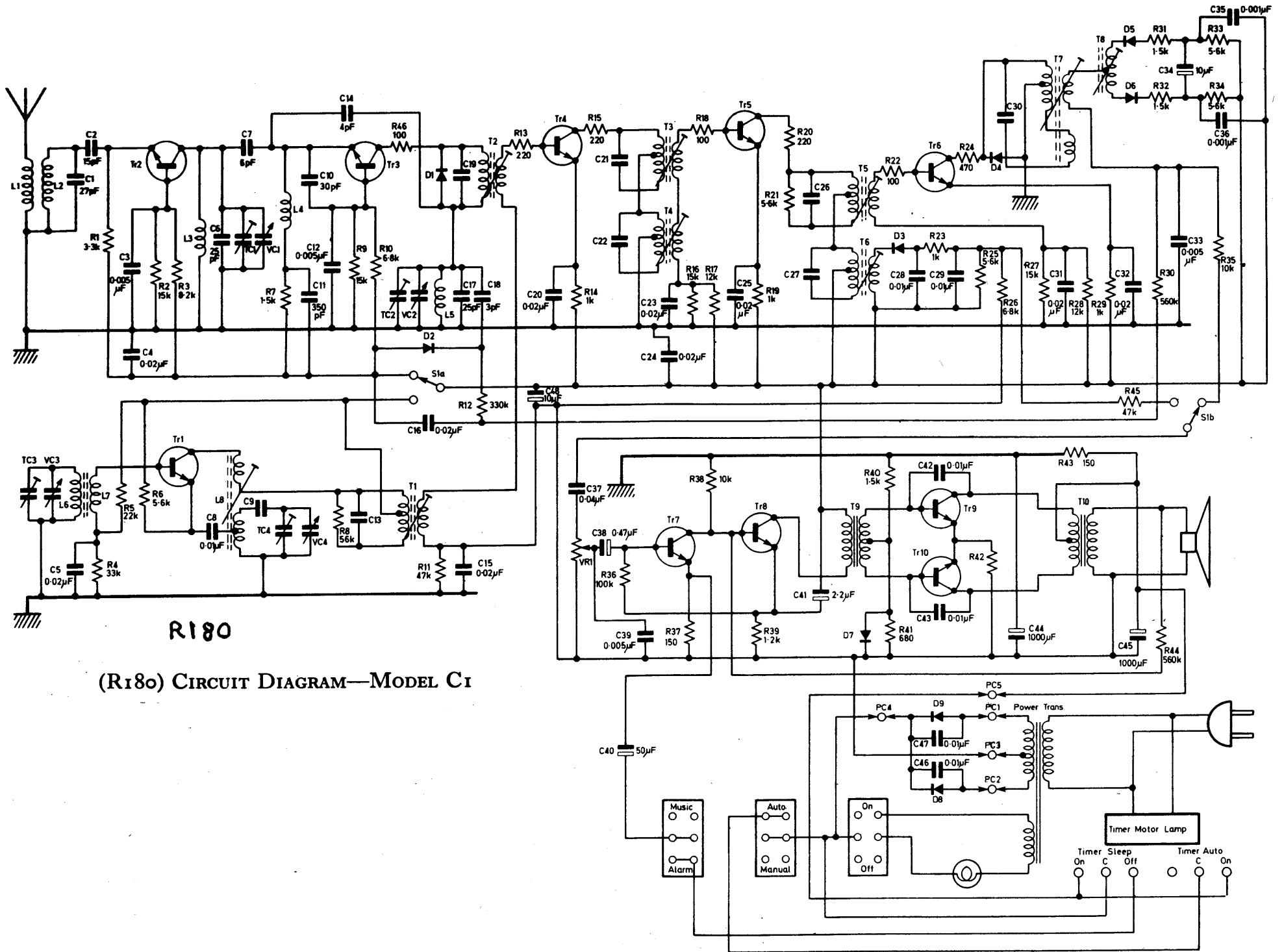
Tune receiver to 500m, inject signal of 600 kHz and adjust L6/7 on ferrite rod. Retune receiver to 200m, inject signal of 1,500 kHz and adjust trimmer TC3. Repeat L6/7 and TC3 adjustments until no further improvement can be obtained.

F.M. Alignment: Connect oscilloscope across the high impedance voltmeter. Connect output of sweep generator, via isolating network, to Tr3 base. Connect output of marker generator to sweep generator marker input. Switch receiver to F.M. and tune to a signal-free point around 98 MHz.

Inject signals of 10.7 MHz (sweep generator 250 kHz deviation, marker unmodulated) and adjust the cores of T2, T3, T5, T7 and T8 to obtain maximum gain and symmetry of S-curve centred on 10.7 MHz.

Remove oscilloscope and sweep/marker generators. Connect F.M. generator via 75 Ω matching pad to F.M. aerial. Tune receiver to extreme low frequency end of scale, inject signal of 87 MHz dev. 22.5 kHz and adjust L5 (by altering spacing of coil turns) for maximum output on voltmeter. Retune receiver to extreme high frequency end of scale, inject signal of 109 MHz dev. 22.5 kHz and adjust trimmer TC2 for maximum output on voltmeter. Repeat L5 and TC2 adjustments until no further improvement can be obtained.

Inject signal of 90 MHz dev. 22.5 kHz, tune in signal on receiver, then adjust L3 (by altering spacing of coil turns) for maximum output. Inject signal of 106 MHz dev. 22.5 kHz, tune in signal on receiver, then adjust trimmer TC1 for maximum output. Repeat the L3 and TC1 adjustments until no further improvement can be obtained.



R180
 (R180) CIRCUIT DIAGRAM—MODEL C1