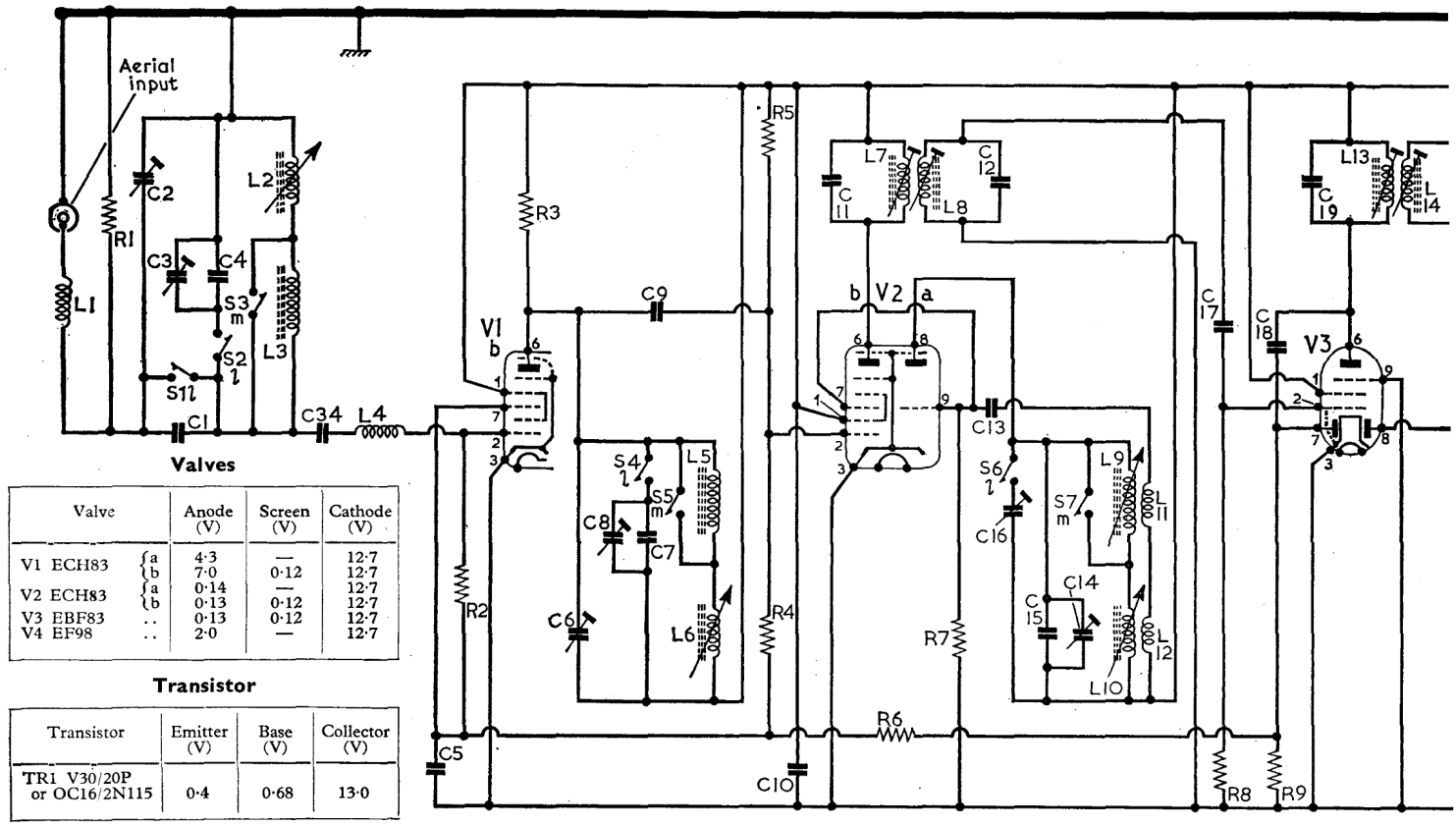


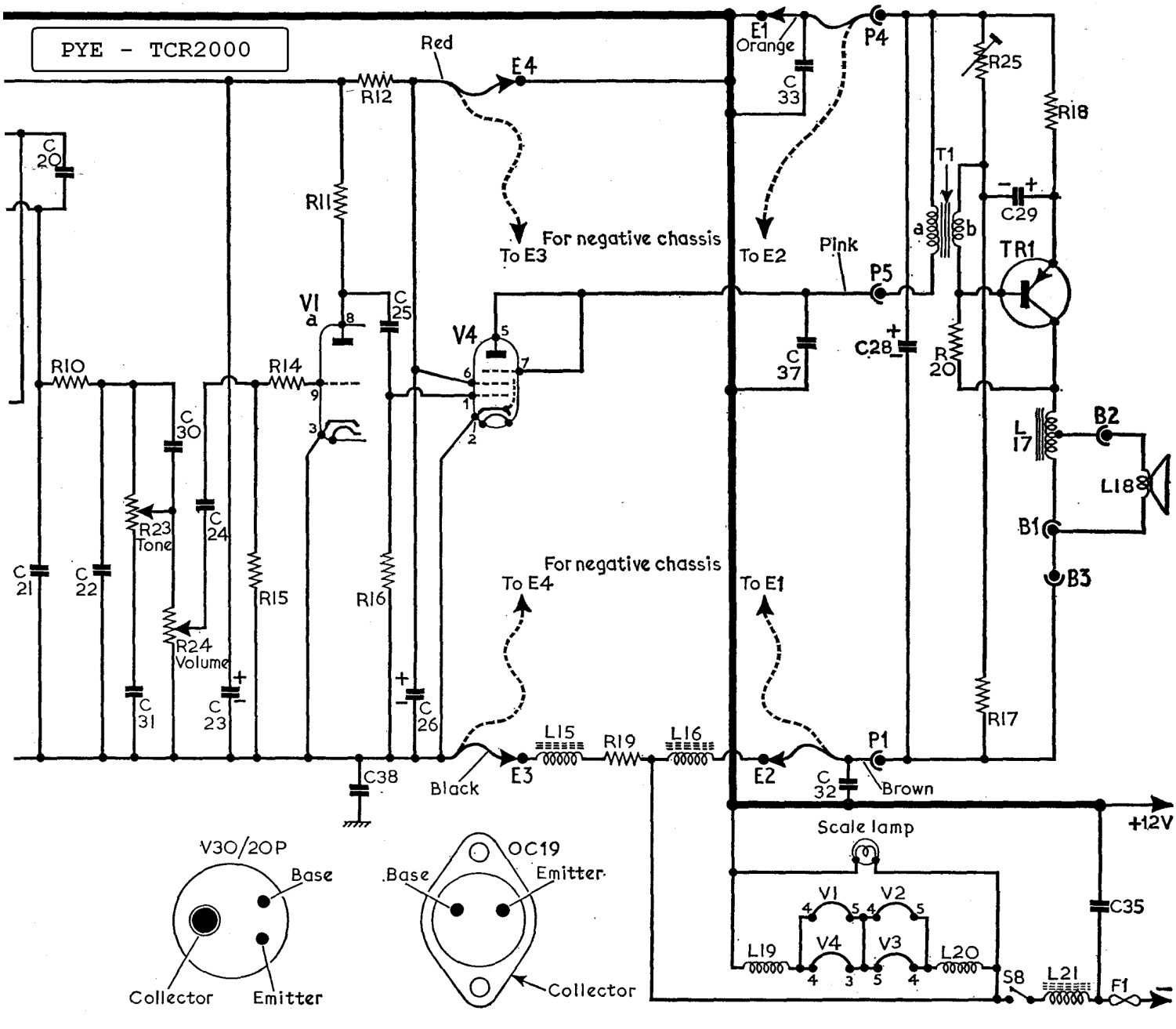
Valves

Valve		Anode (V)	Screen (V)	Cathode (V)
V1 ECH83	a	4·3	—	12·7
	b	7·0	0·12	12·7
V2 ECH83	a	0·14	—	12·7
	b	0·13	0·12	12·7
V3 EBF83	..	0·13	0·12	12·7
V4 EF98	..	2·0	—	12·7

Transistor

Transistor	Emitter (V)	Base (V)	Collector (V)
TR1 V30/20P or OC16/2N115	0·4	0·68	13·0

TR1 *Collector current 390mA.*



Resistors		
R1	1MΩ	D2
R2	2·2MΩ	C1
R3	100kΩ	C1
R4	2·2MΩ	B1
R5	22MΩ	C1
R6	2·2MΩ	A1
R7	47kΩ	B1
R8	1MΩ	B1
R9	2·2MΩ	A1
R10	100kΩ	A1
R11	47kΩ	C1
R12	100Ω	C1
R13†	—	—
R14	47kΩ	C1
R15	10MΩ	C1
R16	10MΩ	D1
R17	180Ω	E5
R18	1Ω	E5
R19	100Ω	A2
R20	1kΩ	E5
R21†	—	—
R22†	—	—
R23	1MΩ	A3
R24	500kΩ	A3
R25	25Ω	E5

Capacitors		
C1	56pF	C2
C2	150pF	D2
C3	80pF	C2
C4	450pF	C2
C5	0·04μF	C1
C6	40pF	C2
C7	560pF	C2
C8	80pF	C2
C9	10pF	C1
C10	0·04μF	C1
C11	100pF	B2
C12	100pF	B2
C13	100pF	B1
C14	40pF	C2
C15	39pF	C2
C16	40pF	C2
C17	0·001μF	B1
C18	32pF	A1
C19	100pF	A2
C20	100pF	A2
C21	100pF	A1
C22	100pF	A1
C23	25μF	B1
C24	0·01μF	C1
C25	0·01μF	C1
C26	200μF	C2
C27†	—	—
C28	500μF	E5
C29	1,000μF	E5
C30	0·001μF	A3
C31	0·001μF	A3
C32	0·01μF	A2
C33	0·01μF	B2
C34	100pF	C2
C35	1μF	A3
C36†	—	—
C37	0·01μF	B2
C38	0·01μF	§

Coils*		
L1	4·5	D2
L2	13·0	C3
L3	5·0	C2
L4	3·0	C1
L5	5·0	B2
L6	13·0	C3
L7	8·0	B2
L8	8·0	B2
L9	6·0	B2
L10	8·0	B3
L11	—	B2
L12	—	B3
L13	8·0	A2
L14	8·0	A2
L15	—	A2
L16	—	A2
L17	2·0	E5
L18	—	—
L19	—	D1
L20	—	A3
L21	—	B3

Miscellaneous*		
T1 {a	200·0	E5
T1 {b	—	E5
F1	3A	A4
S1-S7	—	B2
S8	—	A3

* Approximate D.C. resistance in ohms

† No component.

§ Behind printed panel.

Intermediate Frequency 480kc/s.

CIRCUIT ALIGNMENT

Equipment Required.—A signal generater modulated 30 per cent at 400 c/s; a 0.1μF and a 60pF capacitor, and a non-metallic screwdriver-type trimming tool.

1.—Select M.W. by pressing one of the four M.W. buttons. With the manual tuning control, adjust the cursor to the extreme low frequency (maximum wave length) end of the scale. With the 0.1μF capacitor in series connect the signal generator "live" output lead to **V2b** control grid (pin 2, location reference C1), and the earthy lead to chassis.

2.—Inject a modulated 480kc/s signal and adjust **L14** (A1), **L13** (A2), **L8** and **L7** (B1) in that order for maximum audio output.

3.—Tune the cursor to the extreme high frequency (minimum wavelength) end of the scale. Remove the signal generator lead from **V2b** control grid and connect it to the centre conductor of the aerial socket via the 60pF capacitor in place of the 0.1μF capacitor.

4.—Inject a 1,605kc/s modulated signal and adjust **C14** (C2), **C6** (C2) and **C2** (D2) for maximum output.

5.—Select L.W. by pressing the L.W. button. With the manual tuning control, adjust the cursor to the 1,800m mark on scale.

6.—Inject a modulated 167kc/s signal and adjust **C16** (C2), **C8** (C2) and **C3** (C2) for maximum output.

7.—Tune the cursor to the 1,200m mark on scale. Inject a 250kc/s modulated signal and adjust **L9** (B2) for maximum output.

8.—Repeat operations 5, 6 and 7 until balance is obtained.

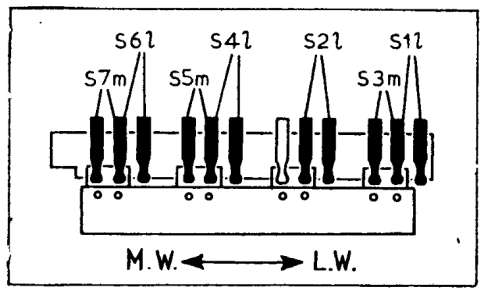
Aerial Trimmer C2.—Final adjustment to **C2** (shown in location reference D2), should be performed with the receiver fitted to the car and connected to the car aerial. Fully extend the aerial and switch on to allow the receiver to warm up. Tune to a weak signal in the 200m region and adjust **C2** through a hole in the side of the receiver casing, for maximum output. In the absence of a signal adjust for maximum background noise.

Press-Button Setting.—When viewed from the front of the receiver, the four press-buttons on the left-hand side are for M.W. stations, and one press-button on the right-hand side is for a L.W. station (shown in our plan location reference B4-C4). Select M.W. by pressing a M.W. button. Pull out the button to its full extent, which is beyond the normal rest position. By rotating the tuning control knob, tune in accurately the required station. Finally press the button fully in, thus locking it to the selected station. Repeat this operation for the three remaining M.W. buttons. For L.W. the same procedure is carried out, the receiver being switched to the L.W. band automatically when the L.W. press-button is operated.

Switches.—S1-S7 are the waveband switches mounted in a slide-type unit on the rear of the tuning mechanism. The sketch below shows the switch contacts as they appear when looking from above the receiver unit, with the controls pointing towards the observer. The suffix letter **m,** or **l,** in the sketch and on the circuit diagram denotes that the switch is closed on M.W. or L.W. respectively. **S8** is the battery supply switch and is ganged with the volume control **R24.**

Suppression Capacitor C35.—This capacitor, shown in location reference A3, is a "lead through" type with the battery supply connection running through its centre. The metal case of the capacitor makes the other connection. The internal connection is made to one end, and the flexible external lead connection is made to the other.

Modifications.—In some early production receivers the following differences may be encountered: **L15, L19, L20** and **C37** omitted; **C38** may be wired between chassis and the junction of **S8** and **L21.**



Di gram of the waveband switch unit.

PYE - TCR2000