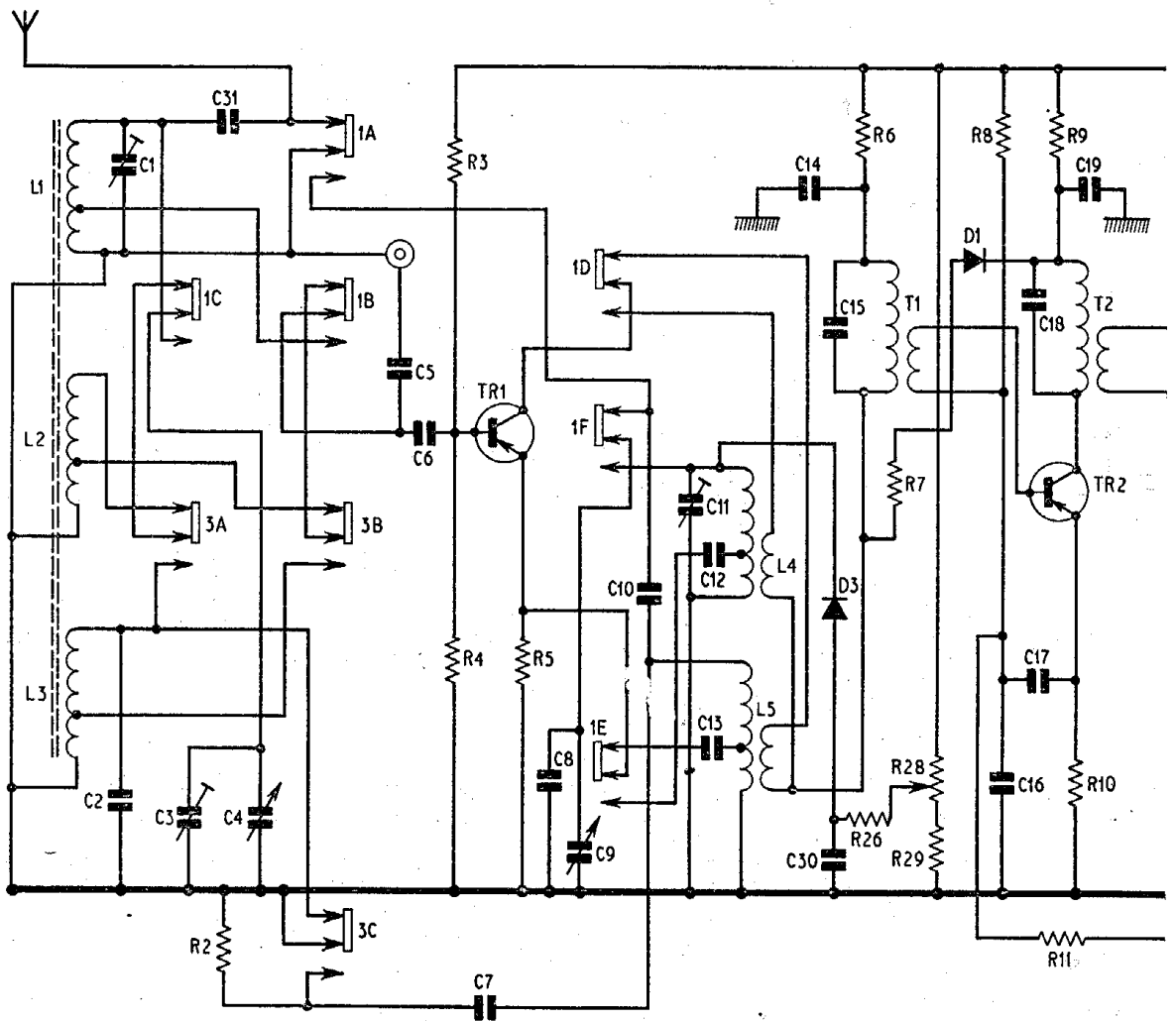


## PORTADYNE

## Model S3B



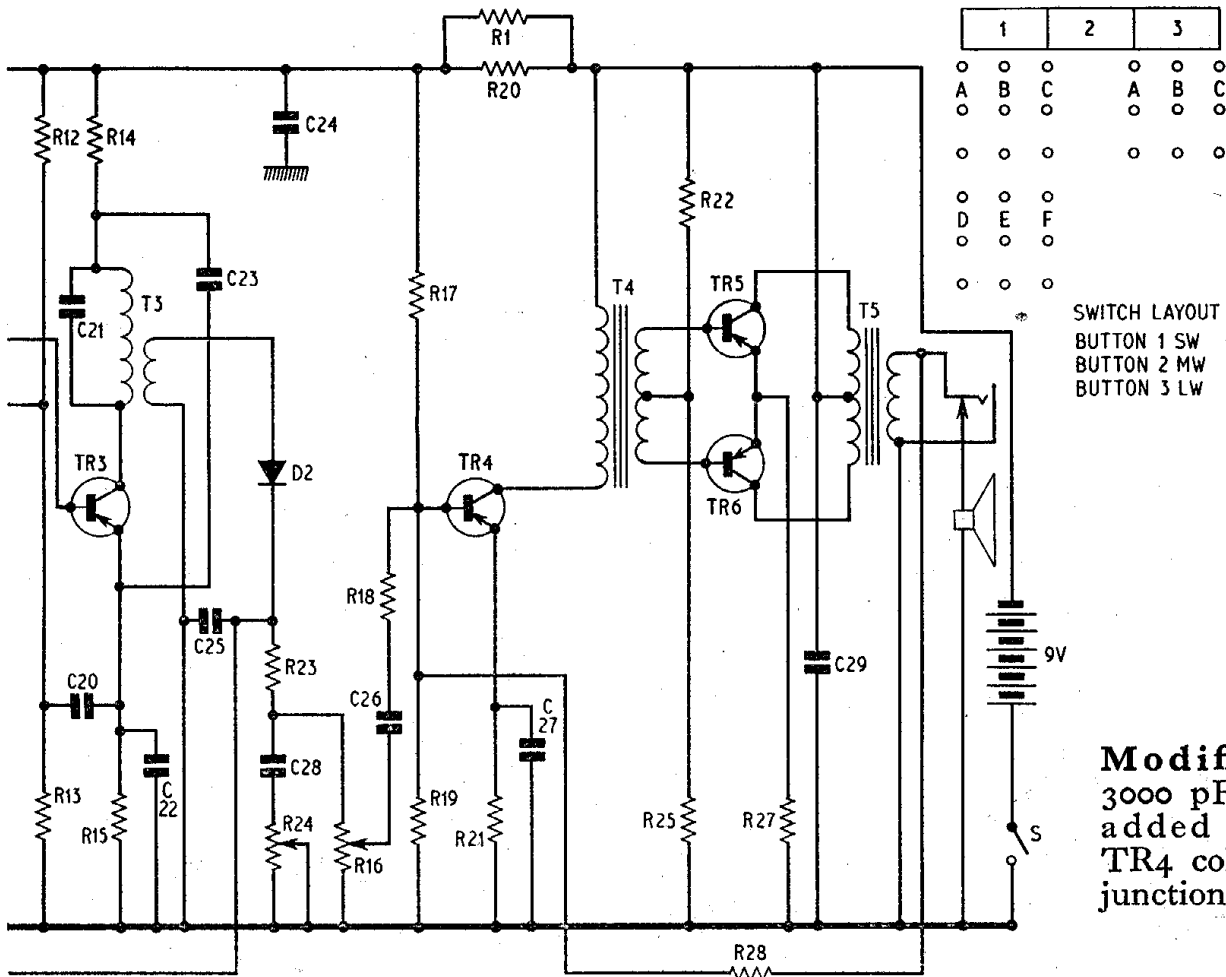
CIRCUIT DIAGRAM—

**General Description:** Six-transistor (plus three crystal diodes), three-band L.W./M.W./S.W. portable receiver with telescopic aerial, for operation from 9-volt battery.

**Semiconductors:** (TR<sub>1</sub>) AF115 (frequency converter); (TR<sub>2</sub>) AF117 (I.F.); (TR<sub>3</sub>) AF117 (I.F.); (TR<sub>4</sub>) OC81D (A.F. driver); (TR<sub>5, 6</sub>) OC81 (output). Transistors TR<sub>4-6</sub> are Mullard LFH<sub>3</sub> package. (D<sub>1</sub>) OA70 (A.G.C. damping diode); (D<sub>2</sub>) OA70 (detector/A.G.C.); (D<sub>3</sub>) OA70.

**Alignment:** L.F. 470 kc/s. (inject via external aerial socket). Peak T<sub>3</sub>, T<sub>2</sub>, T<sub>1</sub>. M.W./L.W. inject signals via coupling loop to rod aerial. M.W. 535 kc/s. (L<sub>5</sub>); 1620 kc/s. (C<sub>8</sub>); 600 kc/s. (L<sub>2</sub>); 1450 kc/s. (C<sub>3</sub>). S.W. (inject signal via telescopic aerial) 5.9 Mc/s. (L<sub>4</sub>); 16.5 Mc/s. (C<sub>11</sub>, lower capacitance peak); 6.5 Mc/s. (L<sub>1</sub>, by moving shorting washer); 15 Mc/s. (C<sub>1</sub>, higher capacitance peak). L.W. 180 kc/s. (L<sub>3</sub>).

**Circuit Note:** The action of the crystal diode D<sub>3</sub> is to provide fine tuning on the S.W. band (5.9–16.5 Mc/s.). The level of the voltage supplied by R<sub>28</sub> varies the capacitance of D<sub>3</sub> which, being connected across the tuning gang, varies the oscillator frequency by a few kc/s., giving a fine tuning effect on S.W. only.



**Modification:**  
 3000 pF. capacitor  
 added between  
 TR4 collector and  
 junction R17/R20.

PORTADYNE MODEL S3B

- Capacitors.*
- C1 15 pF. (max.)
  - C2 56 pF. (1%)
  - C4 250 pF. (swing)
  - C5 4700 pF.
  - C6 0.01
  - C7 265 pF. (1%)
  - C9 250 pF. (swing)
  - C10 290 pF. (2½%)
  - C11 15 pF. (max.)
  - C12 2200 pF.
  - C13 0.01 pF.
  - C14 0.01 pF.
  - C15 1000 pF. (2½%)
  - C16 8

- C17 0.047
- C18 2700 pF. (2½%)
- C19 0.01
- C20 0.047
- C21 2700 pF. (2½%)
- C22 0.047
- C23 0.01
- C24 100
- C25 0.047
- C26 1
- C27 100
- C28 0.1
- C29 100
- C30 100 pF.
- C31 5 pF.

- Resistors.*
- R1 1k
  - R2 150k
  - R3 33k
  - R4 6.8k
  - R5 1k
  - R6 100
  - R7 390
  - R8 56k
  - R9 2.2k
  - R10 680
  - R11 8.2k
  - R12 22k
  - R13 4.7k
  - R14 1k

- R15 1k
- R16 5k
- R17 68k
- R18 2.2k
- R19 22k
- R20 470
- R21 820
- R22 2.2k
- R23 470
- R24 10k
- R25 47
- R26 47k
- R27 4.7
- R28 10k
- R29 1.2k