

| Re- sistors | A.C. | | A.C./D.C. | |
|----------------|------------------|----------------|------------------|----------------|
| | Values (ohms) | Loca- tions | Values (ohms) | Loca- tions |
| R1 | 10,000 | H8 | — | — |
| R2 | 1,000,000 | H4 | 1,000,000 | H4 |
| R3 | 15,000 | H6 | 8,200 | H6 |
| R4 | 22,000 | I6 | 22,000 | H6 |
| R5 | 100,000 | H6 | 100,000 | H6 |
| R6 | 68 | F5 | 68 | E5 |
| R7 | 470 | G6 | 470 | G6 |
| R8 | 22,000 | G6 | 6,800 | G6 |
| R9 | 10,000 | G5 | — | — |
| R10 | 56,000 | F7 | 47,000 | F7 |
| R11 | 56,000 | E7 | 56,000 | E7 |
| R12 | 470,000 | E7 | 470,000 | E7 |
| R13 | 1,000,000 | C3 | 1,000,000 | C3 |
| R14 | 2,200 | E8 | 2,200 | D7 |
| R15 | 4,700 | E7 | 10,000 | F7 |
| R16 | 100,000 | E7 | 100,000 | E7 |
| R17 | 1,000,000 | E8 | 1,000,000 | E8 |
| R18 | 470,000 | E7 | 470,000 | E7 |
| R19 | 150,000 | E6 | 150,000 | E6 |
| R20 | 680,000 | E5 | 680,000 | E6 |
| R21 | 330,000 | E5 | 330,000 | E5 |
| R22 | 91 | D6 | 220 | C6 |
| R23 | 55,000 | A1 | 55,000 | A1 |
| R24 | 100 | D5 | 100 | D5 |
| R25 | 3,300 | D4 | — | — |
| R26 | 39 | D7 | 39 | D7 |
| R27 | — | — | 6,800 | E7 |
| R28 | — | — | 100 | D5 |

**G.E.C.
BC4850, BC4855**

G. E. C. BC4850, BC4855

Switch Table and Diagram

| Button Pressed | Switches closed | Switches open |
|----------------|-----------------|--------------------|
| OFF ... | S2, S5 | S1, S3, S4, S6 |
| L.W. ... | S1 | S2, S3, S4, S5, S6 |
| M.W. ... | S2, S5 | S1, S3, S4, S6 |
| S.W. & P.U. | S3, S4, S6 | S1, S2, S5 |

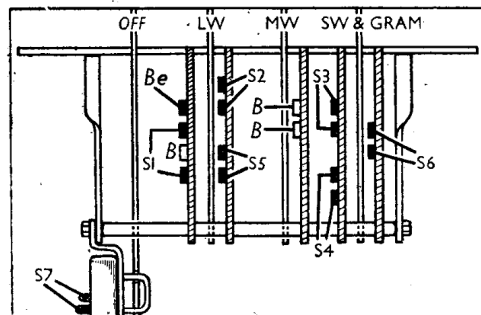


Diagram of the press-button waveband switch unit, drawn as seen between the two coil units in our under-chassis view. The "OFF" plunger operates S7. This diagram applies equally to the A.C. and A.C./D.C. models.

CIRCUIT ALIGNMENT

Access may be gained to all components involved in the following operations upon removal of the detachable bottom cover.

I.F. Stages.—Switch set to L.W., turn gang and volume control to maximum, connect signal generator (via an 0.1 μ F capacitor in the "live" lead) to control grid (top cap) of V2 and the E socket, feed in a 456 kc/s (657.8 m) signal, and adjust C39 (location reference E7) and C38 (F7) for maximum output.

Transfer "live" signal generator lead and isolating capacitor to control grid (top cap) of V1, feed in a 456 kc/s signal, and adjust C37 (H7) and C36 (H7) for maximum output.

R.F. and Oscillator Stages.—With the gang at minimum capacitance the cursor should be coincident with the vertical lines at the left-hand ends of the three scales. It may be adjusted in position by sliding the cursor carriage along the drive cord, after opening its clamping tongues. Transfer "live" signal generator lead to A2 socket, via a suitable dummy aerial.

S.W.—Switch set to S.W., tune to 16.67 m (spot on scale), feed in a 16.67 m (18 Mc/s) signal, and adjust C31 (E5) for maximum output, choosing the peak involving the least trimmer capacitance. Then adjust C26 (H5) for maximum output whilst rocking the gang slightly. Repeat these operations.

M.W.—Switch set to M.W., tune to 214 m (spot on scale), feed in a 214 m (1,400 kc/s) signal, and adjust C32 (E5), then C27 (H5) for maximum output. Tune to 500 m on scale, feed in a 500 m (600 kc/s) signal, and adjust C35 (G6 or A2) while rocking the gang, for maximum output. Repeat these operations until no improvement results.

VALVE ANALYSIS

L.W.—Switch set to L.W., tune to 1,000 m on scale, feed in a 1,000 m (300 kc/s) signal, and adjust C33 (E6), then C28 (H6) for maximum output. Tune to 1,818 m on scale, feed in a 1,818 m (165 kc/s) signal, and adjust C34 (G6 or A2) while rocking the gang, for maximum output. Repeat these operations until no improvement results.

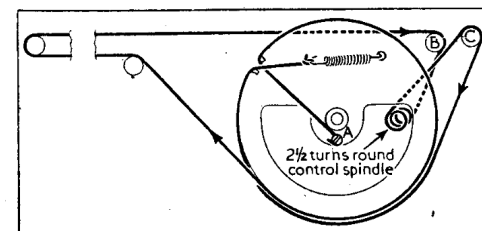
DRIVE CORD REPLACEMENT

To obtain access to the drive drum, run the cursor to the low wavelength end of the scale, remove the four cheese-head screws (with lock-washers) from the ends of the scale, and draw off the scale over the tuning control spindle.

Take 66 inches of drive cord, and thread one end of it into the drive drum, through the hole in its rim, and clamp the end under the screw. This is marked A in our sketch (col. 5) which shows the complete cord drive system as it should appear when viewed from the front when the gang is at maximum.

Pass the cord clockwise round the drum groove, and follow the direction indicated by the arrows in the sketch, making 2½ turns clockwise round the control spindle winding away from the chassis. The cord running down from pulley B to the control spindle should thus pass behind the length running up to pulley C, and the final half-turn round the drum should lie in the groove behind the former turn, as indicated in our sketch.

While running the upper horizontal length, upon which the cursor is clamped, a 1 in length of 2 mm sleeving should be threaded on to the cord. This is used in the cursor clamp to protect the cord from chafing.



Sketch showing the drive cord system as seen from the front, with the gang at maximum, after removal of the scale. Part of the horizontal run on the left has been cut out to shorten it.

Finally, slacken screw A, and pull up cord until the tension spring is extended to 1½ ins, and tighten screw. Then replace scale, and clamp up cursor to cord while it is in line with the two marker dots at the long wavelength ends of the M.W. and L.W. scales.

| Valve | Anode Voltage (V) | Anode Current (mA) | Screen Voltage (V) | Screen Current (mA) |
|------------------------|-------------------|--------------------|--------------------|---------------------|
| A.C. Model | | | | |
| V1 X61M | 140 | 2-2 | 65 | 2-2 |
| V2 KTW61 | 65 | 2-9 | | |
| V3 DH63 | 200 | 6-2 | 54 | 1-6 |
| V4 KT61 | 65 | 0-5 | 200 | 7-2 |
| V5 U50 | 260 | 32-0 | | |
| | 270† | — | — | — |
| A.C./D.C. Model | | | | |
| V1 X61M | 160 | 2-2 | 84 | 2-3 |
| V2 KWT61 | 103 | 4-0 | | |
| V3 DH63 | 212 | 7-0 | 62 | 2-1 |
| V4 KT33C | 80 | 0-6 | 212 | 7-5 |
| V5 U31* | 198 | 47-0 | | |
| | * | — | — | — |

* Cathode to chassis 247 V, D.C.

† Each anode, A.C.

| Capacitors | A.C. | | A.C./D.C. | |
|------------|-------------------|-----------|-------------------|-----------|
| | Values (μ F) | Locations | Values (μ F) | Locations |
| C1 | 0-000022 | I8 | 0-000022 | I8 |
| C2 | 0-003 | E4 | 0-003 | E4 |
| C3 | 0-0001 | H3 | 0-0001 | H3 |
| C4 | 0-05 | H8 | 0-05 | H8 |
| C5 | 0-05 | I6 | 0-05 | I6 |
| C6 | 0-0001 | G6 | 0-0001 | G6 |
| C7 | 0-05 | G8 | 0-05 | G8 |
| C8 | 0-0001 | G5 | 0-0001 | G5 |
| C9 | 0-000039 | G5 | 0-000039 | G5 |
| C10 | 0-00395 | G5 | 0-00395 | G5 |
| C11 | 0-005 | G7 | 0-005 | G7 |
| C12 | 0-05 | F8 | 0-05 | F8 |
| C13 | 0-0003 | E8 | 0-0003 | E8 |
| C14 | 0-02 | E8 | 0-02 | E8 |
| C15* | 4-0 | J5 | 4-0 | J5 |
| C16 | 0-0005 | D7 | 0-0005 | D7 |
| C17* | 25-0 | D8 | 25-0 | D8 |
| C18 | 0-000022 | E7 | 0-000022 | E7 |
| C19 | 0-02 | E6 | 0-02 | E6 |
| C20 | 0-0002 | E6 | 0-0002 | E6 |
| C21 | 0-0015 | F7 | 0-0015 | F7 |
| C22 | 0-05 | E4 | 0-1 | D5 |
| C23 | 0-005 | C5 | 0-01 | D4 |
| C24* | 16-0 | A2 | 16-0 | A2 |
| C25* | 20-0 | J4 | 32-0 | J4 |
| C26† | — | H5 | — | H5 |
| C27† | — | H5 | — | H5 |
| C28† | — | H6 | — | H6 |
| C29† | — | I4 | — | I4 |
| C30† | — | I5 | — | I5 |
| C31† | — | E5 | — | E5 |
| C32† | — | E5 | — | E5 |
| C33† | — | E6 | — | E6 |
| C34† | — | G6 | — | G6 |
| C35† | — | G6 | — | G6 |
| C36† | — | A2 | — | A2 |
| C37† | — | A2 | — | A2 |
| C38† | — | B2 | — | B2 |
| C39† | — | B2 | — | B2 |
| C40 | — | — | 0-001 | I8 |
| C41 | — | — | 0-04§ | I8 |
| C42* | — | — | 8-0 | J5 |
| C43 | — | — | 0-01 | E8 |
| C44 | — | — | 0-01 | E8 |
| C45 | — | — | 0-001 | C3 |
| C46* | — | — | 25-0 | C6 |
| C47 | — | — | 0-001 | E8 |
| C48 | — | — | 0-01 | C5 |

* Electrolytic. † Variable. ‡ Pre-set.
§ Two 0-02 μ F in parallel.

| OTHER COMPONENTS | | Approx. Values (ohms) | Locations |
|--------------------------|-------------------------------|-----------------------|-----------|
| L1 | Aerial coup. coils | Very low | G4 |
| L2 | | Very low | F4 |
| L3 | | Very low | F4 |
| L4 | | Very low | G4 |
| L5 | Aerial tun. coils ... | 2-2 | F4 |
| L6 | | 18-5 | F4 |
| L7 | Osc. tuning coils ... | Very low | G6 |
| L8 | | 2-7 | F6 |
| L9 | S.W. react. coil | 6-8 | F6 |
| L10 | | 0-1 | G6 |
| L11 | 1st I.F. trans. { Pri. | 6-8 | A2 |
| L12 | | 6-8 | A2 |
| L13 | 2nd I.F. trans. { Pri. | 3-6 | B2 |
| L14 | | 3-6 | B2 |
| L15 | Speech coil | 2-25 | — |
| T1 | Output trans. { Pri., b-c | 13-0 | D4 |
| | | 450-0 | D4 |
| | | 0-1 | D4 |
| | | 33-0 | B2 |
| T2 | Mains Heat. sec., Rect. heat. | 0-1 | B2 |
| | | Very low | B2 |
| S1-S6 | H.T. sec. total | 310-0 | B2 |
| S7 | W/band switches ... | — | — |
| | Mains switch | — | — |
| In A.C./D.C. Model Only. | | | |
| L16 | Aerial shunt ... | 47-0 | J6 |
| L17 | Smoothing choke ... | 410-0 | A2 |
| L18 | Mains R.F. filter { | 2-5 | C8 |
| L19 | | 2-5 | C8 |
| T1 | Output trans. { Pri. | 220-0 | D4 |
| | | 0-4 | D4 |