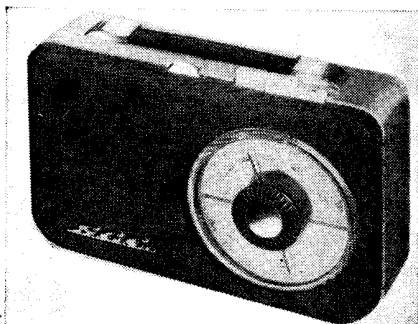


## "TRADER" SERVICE SHEET

1418

## G.E.C. BC4450

## 2-band Receiver for Mains/Battery Operation



Appearance of the G.E.C. BC4450.

THE G.E.C. 4450 is a 4-valve portable receiver, designed to operate from all-dry batteries or A.C./D.C. mains of 200-250V, 25-60c/s in the case of A.C. The waveband ranges are 187-572m (M.W.) and 1,130-2,000m (L.W.).

Release date and original price: August, 1958, £13 5s 4d. Purchase tax extra.

## CIRCUIT DESCRIPTION

Ferrite rod aerial coils L2 (M.W.) and L3, L4 (L.W.) are tuned by the R.F. section of the tuning gang C5, parallel trimmer C4, and C3 on M.W.; and additionally by C2 on L.W.

Heptode valve V1 is employed as frequency changer, oscillator grid coil L7 being tuned by C12-C15 on M.W., and in addition by C11 on L.W. C13 is formed by the oscillator section of the tuning gang. Reaction coupling from oscillator anode via C17, L8.

Variable-mu R.F. pentode V2 operates as intermediate frequency amplifier with tuned

transformer couplings L5, L6 and L9, L10. Neutralizing by C19.

## Intermediate frequency 470kc/s

Diode signal detector is part of diode-pentode valve V3. The audio frequency component in its rectified output is developed across the diode load formed by R13 and volume control R14, and is passed via C25 to the control grid of V3 pentode section, which operates as A.F. amplifier.

The D.C. component developed across R13, R14 is fed back as bias to V1 and V2, giving automatic gain control.

Resistance-capacitance coupling by R17, C29 and R20, between V3 pentode anode

and the control grid of pentode output valve V4. Tone correction by C30.

For mains operation, all switches indicated by the suffix (M) are closed. L.T. and H.T. current is obtained from half-wave rectifier MR1, L.T. current via R28-R32 and filament ballast resistors R24, R25 and R26. Filament current is adjusted by the pre-set variable resistance of R26 and the shorting link across R25, their adjustment being described under "General Notes" overleaf.

The centre-tap of V4 filament is positive with respect to its control grid, thus providing grid bias. The A.G.C. line is connected

(Continued overleaf, col. 1)

## Capacitors

C1	470pF	B1
C2	160pF	E4
C3	15pF	A1
C4	—	A2
C5	—	A2
C6	300pF	E4
C7	0.04μF	E3
C8	100pF	A2
C9	100pF	A2
C10	47pF	E3
C11	495pF	E3
C12	585pF	E3
C13	—	A2
C14	—	A2
C15	22pF	A1
C16	0.04μF	E4
C17	0.005μF	E3
C18	0.002μF	E4
C19	0.04μF	E4
C20	100pF	A2
C21	100pF	A2
C22	0.04μF	E4
C23	300pF	E4
C24	0.25μF	E4
C25	0.01μF	D4
C26	25μF	C2
C27	0.04μF	D4
C28	22pF	D4
C29	0.001μF	D4
C30	0.002μF	D4
C31	32μF	B1
C32	32μF	B1

## Resistors

R1	1.5MΩ	B1
R2	680Ω	D4
R3	1MΩ	E4
R4	120kΩ	E4
R5	27kΩ	E4
R6	1kΩ	E4
R7	33kΩ	E4
R8	6.8kΩ	E3
R9	2.2MΩ	E4
R10	39kΩ	E4
R11	2.7kΩ	E4
R12	2.2MΩ	D4
R13	68kΩ	D4
R14	1MΩ	D3
R15	10MΩ	D4
R16	3.3MΩ	D4
R17	1MΩ	D4
R18	6.8MΩ	E4
R19	33Ω	C2
R20	2.2MΩ	D4
R21	1.8kΩ	D4
R22	2.7kΩ	D4
R23	1.8kΩ	D4
R24	3.1kΩ	C1
R25	470Ω	C1
R26	500Ω	C1
R27	1.8kΩ	C1
R28	†1,603Ω	C1

R29	710Ω	C1
R30	710Ω	C1
R31	250Ω	B1
R32	82Ω	C1
R33	82Ω	C2

## Coils\*

L1	—	B1
L2	—	A1
L3	{ 1.35 }	B1
L4	{ (total) }	
L5	10.0	A2
L6	10.0	A2
L7	—	E3
L8	—	E3
L9	10.0	A2
L10	10.0	A2
L11	3.0	C2

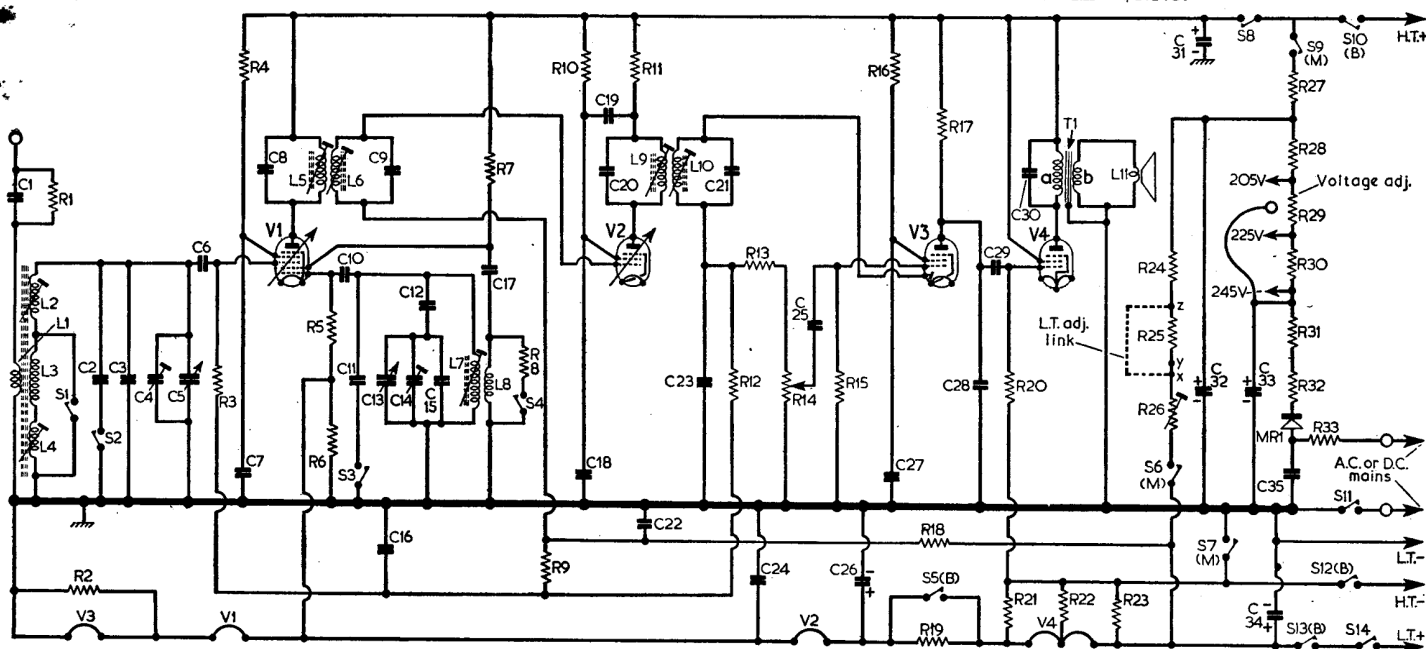
## Miscellaneous\*

T1	{ a 900-0 }	B2
	{ b — }	
MR1	C2D†	B2
S1-S4, S8	—	E3
S5, S12	—	C2
S6, S7, S9	—	
S10, S13	—	C1
S11, S14	—	B1

\*Approximate D.C. resistance in ohms.

†18kΩ and 1,760Ω in parallel.

‡S.T.C.



Circuit diagram of the G.E.C. BC4450. Valve base diagrams are given overleaf. The L.T. adjusting link may be connected from x to y as shown or, alternatively, from x to z. See "L.T. Adjustment" col. 3 overleaf.