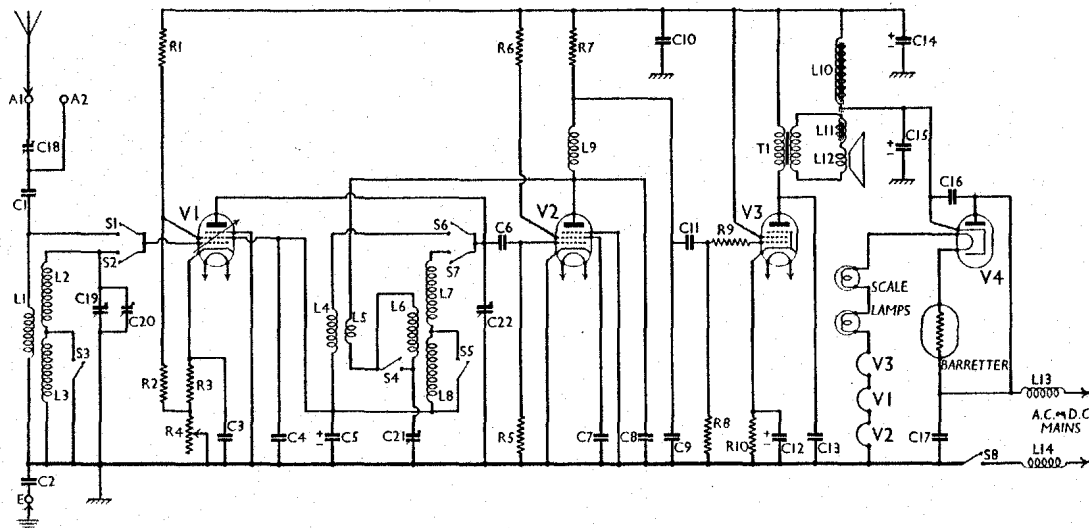


BURNDEPT - CN 230



Circuit diagram of the Burndept Model CN230 all-wave universal. L4 and L5 are the S.W. coils, V1 not being used as an amplifier on this waveband.

COMPONENTS AND VALUES

Resistances	Values (ohms)
R1 } V1 S.G. and anode pot. {	5,000
R2 } divider {	50,000
R3 } V1 fixed G.B. resistance {	150
R4 } V1 gain control {	10,000
R5 } V2 grid leak {	1,000,000
R6 } V2 S.G. H.T. feed {	1,000,000*
R7 } V2 anode resistance {	250,000
R8 } V3 grid resistance {	250,000
R9 } V3 grid H.F. stopper {	100,000
R10 } V3 G.B. resistance {	150

* In our chassis. May be 750,000 Ω.

Condensers	Values (μF)
C1 } Aerial series condenser, fixed {	0.0005
C2 } Earth blocking condenser {	0.02
C3 } V1 cathode by-pass {	0.1
C4 } V1 S.G. by-pass {	0.1
C5* } V1 S.G. and anode decoupling {	8.0
C6 } V2 grid condenser {	0.0001
C7 } V2 S.G. by-pass {	0.1
C8 } V2 anode H.F. by-passes {	0.0001
C9 } {	0.0002
C10 } H.T. line by-pass {	0.5
C11 } L.F. coupling to V3 {	0.01
C12* } V3 cathode resistor by-pass {	25.0
C13 } V3 anode tone compensator {	0.005
C14* } H.T. smoothing {	24.0
C15* } {	16.0
C16 } V4 anode-cathode by-pass {	0.02
C17 } Mains by-pass {	0.01
C18 } Aerial series condenser, pre-set {	—
C19 } Aerial circuit tuning {	—
C20 } Aerial circuit trimmer {	—
C21 } Reaction condenser {	0.0005
C22 } V1 anode circuit tuning {	—

* Dry electrolytics.

Other Components	Values (ohms)
L1 } Aerial coupling coil {	3.7
L2 } {	2.2
L3 } Aerial tuning coils {	22.0
L4 } Short-wave tuning coil {	0.05
L5 } Short-wave reaction coil {	0.25
L6 } M.W. and L.W. reaction coil {	3.7
L7 } {	2.2
L8 } V1 anode tuning coils {	22.0
L9 } V2 anode H.F. choke {	165.0
L10 } Speaker field winding {	820.0
L11 } Hum neutralising coil {	0.1
L12 } Speaker speech coil {	2.4
L13 } Mains filter chokes {	6.0
L14 } {	6.0
T1 } Speaker input trans. { Pri. {	700.0
S1-S7 } Waveband switches, ganged { Sec. {	0.5
S8 } Mains switch, ganged R4 {	—

VALVE ANALYSIS

The voltage and current readings listed in the table are those given by Burndept for an average chassis working on 230 V 50 c.p.s. A.C. mains under "no signal" conditions, with the gain control **R4** at maximum and reaction at minimum.

All voltages were measured on the 1,200 V scale of an Avometer, chassis being negative in each case.

Valve	Anode Volts	Anode Current (mA)	Screen Volts	Screen Current (mA)
V1 VP1321	140	5.4	140	1.5
V2 SP13C	48	0.5	32	0.15
V3 Pen 3520	170	40.0	200	8.0
V4 1D5*	—	—	—	—

* Cathode to chassis 250 V D.C.

Switches.—The wavechange switches, **S1-S7**, are in one unit, seen in the under-chassis view, where each switch is clearly marked. Note that although the unit fitted has eight switches, only seven are actually used, the blank one being next to **S3**. The table below gives the switch positions for the various wavebands. O signifies open, and C, closed.

Switch	S.W.	M.W.	L.W.
S1	C	O	O
S2	O	C	C
S3	O	C	O
S4	C	O	O
S5	O	C	O
S6	C	O	O
S7	O	C	C

S8 is the Q.M.B. mains switch, ganged with the volume control **R4**.