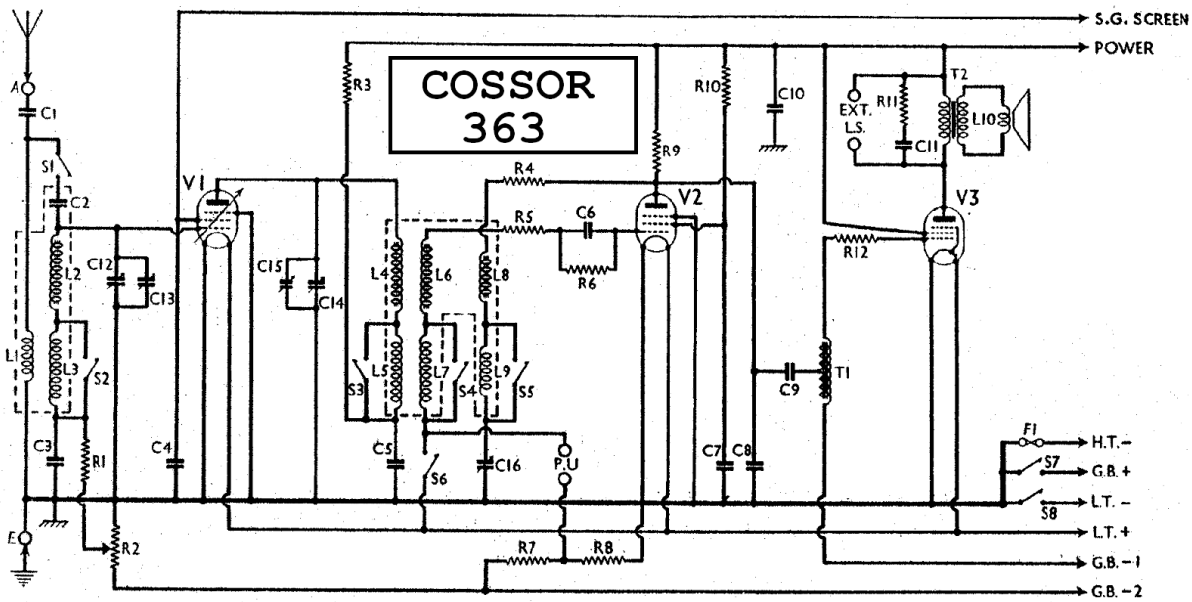

Circuit diagram of the Cossor Model 363 battery receiver. The M.W. coils are iron-cored. The circuit is quite straightforward, volume being controlled by varying the bias of V1.

COMPONENTS AND VALUES

	Resistances	Values (ohms)
R1	V1 cont. grid decoupling	2,000,000
R2	V1 gain control pot.	50,000
R3	V1 anode decoupling	10,000
R4	Reaction circuit stabiliser	200
R5	V2 grid circuit stabiliser	200
R6	V2 grid leak	2,000,000
R7	G.B. pot. divider for P.U.	500,000
R8	G.B. pot. divider for P.U.	100,000
R9	V2 anode resistance	50,000
R10	V2 S.G. H.T. feed	500,000
R11	Part of tone comp. filter	30,000
R12	V3 grid H.F. stopper	100,000

	Condensers	Values (μF)
C1	Aerial series condenser	0·0005
C2	Aerial coupling (M.W.)	0·000015
C3	V1 cont. grid decoupling	0·1
C4	V1 S.G. by-pass	0·1
C5	V1 anode decoupling	0·1
C6†	V2 grid condenser	0·0001
C7	V2 S.G. by-pass	0·1
C8	V2 anode H.F. by-pass	0·0001
C9	L.F. coupling to T1	0·1
C10	H.T. reservoir	2·0
C11	Part of tone comp. filter	0·005
C12	Aerial circuit tuning	0·0005
C13	Aerial circuit trimmer	—
C14	H.F. transformer tuning	0·0005
C15‡	H.F. transformer trimmer	—
C16	Reaction control	0·0005

† Embodies R6. ‡ Pre-set condenser.

	Other Components	Values (ohms)
L1	Aerial coupling coil	9·0
L2	Aerial tuning coils	1·5
L3	Aerial tuning coils	13·0
L4	H.F. transformer primary	1·5
L5	H.F. transformer primary	12·5
L6	H.F. transformer secondary	1·5
L7	H.F. transformer secondary	13·0
L8	Reaction coils	0·8
L9	Reaction coils	5·5
L10	Speaker speech coil	2·0
T1	Intervalve auto-transformer, total	3,000·0
T2	Speaker input trans. Pri.	800·0
T2	Speaker input trans. Sec.	0·2
S1-S5	Waveband switches	—
S6	Radio-gram. switch	—
S7	G.B. switch	—
S8	L.T. switch	—
F1	H.T. circuit fuse	—

VALVE ANALYSIS

Valve voltages and currents given below are those taken by Cossor, with the volume control at maximum. Voltages were measured with a meter having a resistance of 1,000 O per V, chassis being negative.

Valve	Anode Volts	Anode Current (mA)	Screen Volts	Screen Current (mA)
V1 210VPT	95	1·6	45	0·5
V2 210SPT	70	0·6	20	0·2
V3 220HPT	117	4·0	120	0·8

GENERAL NOTES

Switches.—All the switches are in one unit, which stretches completely across the chassis. It is seen in our underchassis view, and the individual switches are indicated. The table below gives the switch positions for the various settings, O indicating open, and C closed.

Switch	M.W.	L.W.	Gram
S1	C	O	C
S2	C	O	C
S3	C	O	O
S4	C	O	C
S5	C	O	C
S6	C	C	O
S7	C	C	C
S8	C	C	C

To clean the switches, the easiest method is to remove the switch and spindle and moving contacts. Behind the front of the chassis will be found a flat spring holding the spindle in place, the front of the chassis being slotted. The spring is held under two lugs, and by depressing its ends, it can be slid out, allowing the switch spindle to be lifted out and the various contacts to be easily cleaned. When replacing the spring, note that it has a hole at one end, into which fits a small projection under one lug.

Coils.—All the coils are in two screened units on the chassis deck. It is a little difficult to remove the screens without removing the coils as well. Coils **L2, L4, L6** and **L8** are of the iron-cored type, while for the remainder ordinary air-cored types are used.

Fuse F1.—For this an Osram M.E.S. flash lamp bulb is used. The rating is 3.5 V, 0.15 A. The bulb is screwed into the holder at the rear of the chassis.

External Speaker.—This should be of the high resistance type (about 15,000-20,000 O), and should be plugged into the sockets at the rear of the chassis.

Battery Leads and Voltages.—The two L.T. leads are of similar colour, but are fitted with red and black coded tags. The H.T. and G.B. leads are in a cable. The colour coding is: Black, H.T. –; Yellow, S.G. screen, +45 V; Green, H.T. power, +120 V; Red, G.B.+; Blue, G.B.–1, –4.5 V; Red and Mauve, G.B.–2, –9 V.

Components C6, R6.—These are in a single tubular unit, beneath the chassis. The condenser and resistance are in parallel, and therefore only two connections emerge.

Transformer T1.—This is an auto-transformer, with only three connections. The centre tag is the tapping point to which the coupling condenser is connected.

Condenser C2.—This is a special low value type (15 $\mu\mu$F), and is included inside the screened coil unit housing **L1, L2** and **L3.**

Condenser C13.—This is an air dielectric trimmer, operated by a spindle concentric with the main tuning spindle. The condenser is between **C12** and **C14.**

Condenser C15.—This trimmer is mounted on the side of the casing of **C14,** and is normally sealed with red wax.