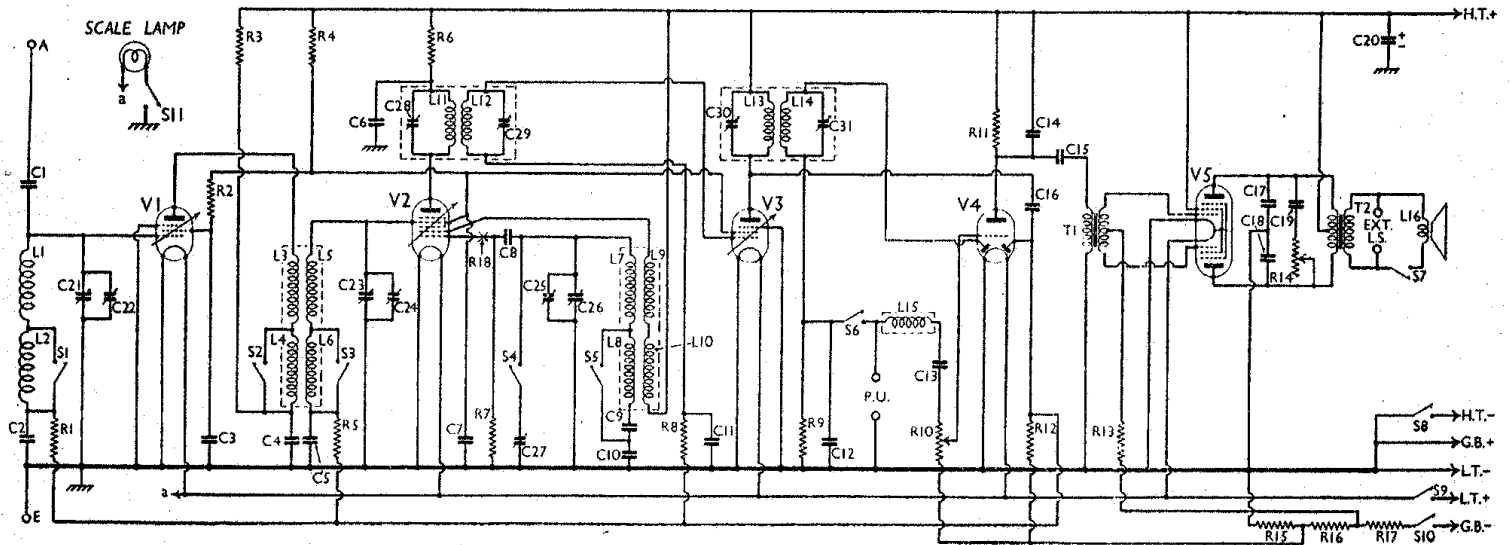


# McMichael - 335



Circuit diagram of the McMichael Model 335. The battery voltages are : H.T., 120 V ; G.B., -9 V ; L.T., 2 V.

## COMPONENTS AND VALUES

Resistances		Values (ohms)
R1	V1 cont. grid decoupling ..	500,000
R2	V1 S.G. decoupling ..	5,000
R3	V1 anode decoupling ..	5,000
R4	V1, V2, and V3 S.G.'s H.T. feed	50,000
R5	V2 tet. cont. grid decoupling	500,000
R6	V2 tet. anode decoupling ..	5,000
R7	V2 osc. grid resistance ..	20,000*
R8	V3 cont. grid decoupling ..	500,000
R9	V4 rect. diode load ..	250,000
R10	Manual volume control ..	500,000
R11	V4 anode resistance ..	50,000
R12	V4 A.V.C. diode load ..	2,000,000
R13	V5 grid anti-parasitic resistance	100,000
R14	Variable tone control ..	100,000
R15		350
R16	G.B. potential divider ..	2,000
R17		350
R18†	V2 osc. grid series resistance ..	1,000

\* 30,000 Ω with FC2 valve.

† Used with FC2 only.

Other Components		Values (ohms)
L1	Frame aerial ..	215
L2		210
L3	H.F. transformer primary	33
L4		9.7
L5	H.F. transformer secondary	115
L6		11.7
L7	Oscillator grid tuning coils	3.8
L8		11.4
L9	Oscillator anode coils ..	1.8
L10		2.5
L11	1st I.F. trans. ..	420
L12		420
L13	2nd I.F. trans. ..	420
L14		420
L15	I.F. choke ..	1,000
L16	Speaker speech coil ..	20
T1	Intervalve trans. { Pri. .. 720	
	{ Sec. total 0.500	
	{ Pri. total 1.200	
	{ Sec. .. 0.3	
T2	Speaker input trans. { Pri. .. 720	
	{ Sec. .. 0.3	
S1-S5	Waveband switches ..	—
S6*	Gram. pick-up switch ..	—
S7*	Internal speaker switch ..	—
S8	H.T. switch ..	—
S9	Filament switch ..	—
S10	G.B. switch ..	—
S11	Scale lamp switch ..	—

\* Operated by special plug.

## VALVE ANALYSIS

Valve	Anode Volts	Anode Current (mA)	Screen Volts	Screen Current (mA)
V1 VP215 ..	115	1.3	50	0.3
V2 FC2*† ..	118	0.5	53	0.8
V3 VP215 ..	123	1.45	53	0.4
V4 HL21/DD ..	85	0.6	—	—
V5 6P21 ..	123‡	2.0‡	123	1.25

\* 210 PG heptode will give slightly different readings.

† Osc. anode (G2) 124 V, 1.2 mA.

‡ Each anode.

Above is a table giving the valve voltages and currents as measured in our chassis. These readings were taken with

no signal input and the volume control at minimum, and voltages were read on the 1,200 V scale of an Avometer, the chassis being negative. New batteries were used.

## GENERAL NOTES

**Switches.**—S1-S5 are the waveband switches, and S8-S10 are the battery switches, all being ganged on a single spindle. They are indicated in our under-chassis view. S8-S10 are all open in the "off" position, and closed in the M.W. and L.W. positions. The positions for S1-S5 are given in col. 3, O indicating open and C, closed.

Position	S1	S2	S3	S4	S5
M.W.	C	C	C	O	C
L.W.	O	O	O	C	O

S6 is the pick-up jack switch, at the rear of the chassis, which opens when the pick-up plug is inserted. S7 is the internal speaker switch, normally closed, which opens when an external speaker plug is pushed fully in.

S11 is the scale lamp switch, which closes when the tuning knob is pushed in. It is indicated in our under-chassis view.

Condensers		Values (μF)
C1	External aerial coupling ..	0.00001
C2	V1 cont. grid decoupling ..	0.1
C3	V1 S.G. by-pass ..	0.1
C4	V1 anode decoupling ..	0.1
C5	V2 tet. cont. grid decoupling	0.1
C6	V2 tet. anode decoupling ..	0.1
C7	V2 S.G.'s by-pass ..	0.1
C8	V2 osc. grid condenser ..	0.002
C9†	Oscillator L.W. tracker ..	0.001258
C10†	Oscillator M.W. tracker ..	0.0023
C11	V3 cont. grid decoupling ..	0.1
C12	I.F. by-pass ..	0.0001
C13	L.F. coupling to V4 triode ..	0.1
C14	V4 anode I.F. by-pass ..	0.001
C15	L.F. coupling to T1 ..	0.5
C16	Coupling to V4 A.V.C. diode ..	0.0001
C17	V5 anode tone compensators	0.002
C18		0.002
C19	Variable tone control condenser	0.01
C20*	H.T. reservoir ..	4.0
C21	Frame aerial tuning ..	—
C22†	Frame aerial trimmer ..	—
C23	H.F. transformer tuning ..	—
C24†	H.F. transformer trimmer ..	—
C25	Oscillator tuning ..	—
C26†	Oscillator main trimmer ..	—
C27†	Oscillator L.W. trimmer ..	—
C28†	1st I.F. trans. pri. tuning ..	—
C29†	1st I.F. trans. sec. tuning ..	—
C30†	2nd I.F. trans. pri. tuning ..	—
C31†	2nd I.F. trans. sec. tuning ..	—

† Two condensers in parallel.

\* Dry electrolytic.

‡ Pre-set condenser.