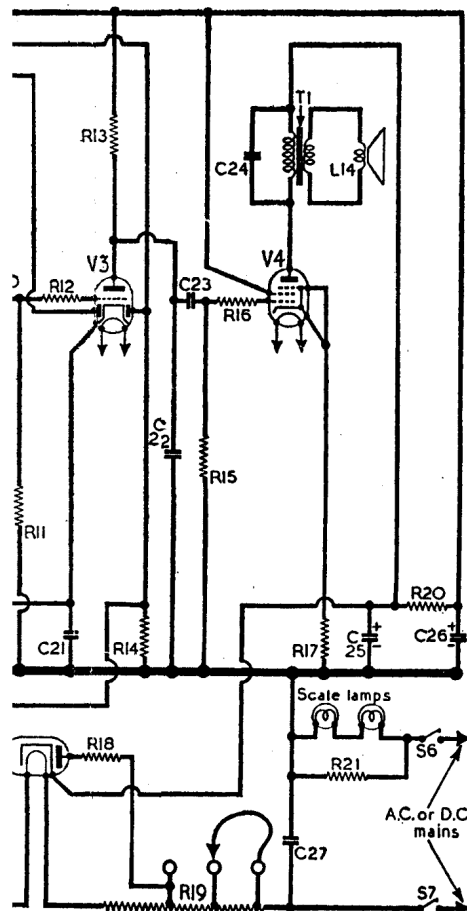
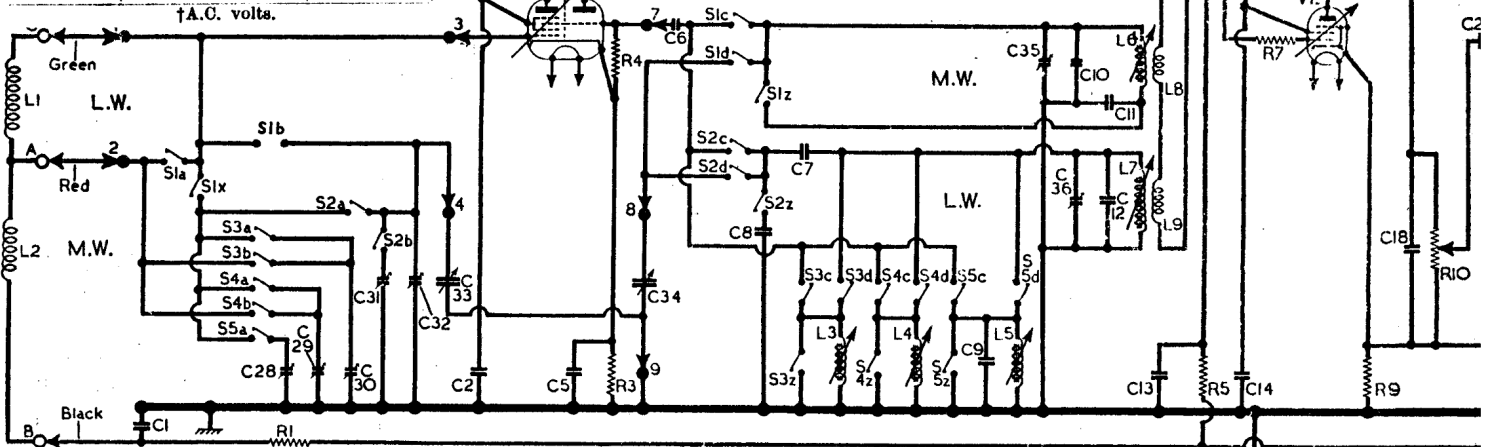


BUSH - DAC10

Valves	Anode		Screen		Cath.
	V	mA	V	mA	
V1 UCH42	98	1.5	47	—	—
V2 UF41	47	0.5	—	—	—
V3 UBC41	74	2.5	57	0.8	0.8
V4 UL41	74	0.2	—	—	1.3
V5 UY41	190	27.5	98	4.0	5.0
	†220	—	—	—	205.0



RESISTORS		Values	Locations
R1	A.G.C. decoupling	1MΩ	E4
R2	V1 H.T. feed	15kΩ	G4
R3	V1 G.B.	220Ω	G4
R4	V1 osc. C.G.	47kΩ	G4
R5	A.G.C. decoupling	1MΩ	F4
R6	V2 S.G. feed	47kΩ	F4
R7	V2 C.G. stopper	220Ω	F4
R8	V2 H.T. decoupling	10kΩ	F4
R9	V2 G.B.	330Ω	F4
R10	Volume control	500kΩ	D4
R11	V3 C.G.	2.2MΩ	D4
R12	V3 C.G. stopper	100kΩ	E4
R13	V3 anode load	150kΩ	D4
R14	A.G.C. diode load	1MΩ	E4
R15	V4 C.G.	470kΩ	E4
R16	V4 C.G. stopper	47kΩ	D4
R17	V4 G.B.	150Ω	D4
R18	V6 surge limiter	250Ω	C1
R19	Ballast resistor	1.25kΩ†	C1
R20	H.T. smoothing	10kΩ	D4
R21	Scale lamp shunt	250Ω	B1

† Tapped at 950Ω + 150Ω + 150Ω from V5 heater.

OTHER COMPONENTS		Approx. Values (ohms)	Locations
L1	Frame aerial coils	4.25	A1
L2	Oscillator pre-set tuning coils	3.0	A1
L3	Oscillator tuning coils	2.0	F4
L4	Oscillator reaction coils	2.0	E4
L5	Oscillator tuning coils	4.5	E4
L6	Oscillator reaction coils	3.0	F4
L7	Oscillator tuning coils	4.0	F4
L8	Oscillator reaction coils	0.5	F4
L9	Oscillator tuning coils	1.0	F4
L10	1st I.F. trans.	12.5	B2
L11	2nd I.F. trans.	12.5	B2
L12	Speech coil	12.5	B2
L13	Primary	3.0	B2
L14	Secondary	1.0	B2
T1	Waveband switches	570.0	—
S1-S5	Mains sw., g'd	0.75	—
S6, S7	Scale lamps	—	D4

CAPACITORS		Values	Locations
C1	A.G.C. decoupling	0.05μF	F4
C2	V1 S.G. decoupling	0.05μF	G4
C3	1st I.F. trans.	110pF	B2
C4	tuning	110pF	B2
C5	V1 cath. by-pass	0.05μF	G4
C6	V1 osc. C.G.	50pF	G4
C7	L.W. tracker	300pF	F4
C8	Pre-set osc. trim.	200pF	G3
C9	Pre-set osc. trim.	340pF	D3
C10	M.W. osc. trim.	33pF	G3
C11	M.W. osc. tracker	605pF	G3
C12	L.W. osc. trim.	200pF	D3
C13	A.G.C. decoupling	0.05μF	F4
C14	V2 S.G. decoupling	0.05μF	F4
C15	V2 anode decoupling	0.05μF	F4
C16	2nd I.F. trans.	110pF	B2
C17	tuning	110pF	B2
C18	I.F. filter	100pF	E4
C19	A.G.C. feed	50pF	E4
C20	A.F. coupling	0.01μF	D4
C21	V2, V3 cath. by-pass	0.05μF	F4
C22	I.F. filter	0.004μF	E4
C23	A.F. coupling	0.01μF	E4
C24	Tone corrector	0.01μF	—
C25	H.T. smoothing	32μF	B1
C26	R.F. filter	16μF	B1
C27	Pre-set arial tuning	0.1μF	D3
C28	L.W. aerial trim.	450pF	E3
C29	M.W. aerial tuning	150pF	E3
C30	Oscillator tuning	40pF	F3
C31	M.W. osc. trimmer	40pF	F3
C32	L.W. osc. trimmer	528pF	A1
C33	Oscillator tuning	528pF	B1
C34	M.W. osc. trimmer	—	F4
C35	L.W. osc. trimmer	—	F4

* Electrolyte. † Variable. ‡ Pre-set.

CIRCUIT ALIGNMENT

I.F. Stages.—These may be adjusted without removing the chassis from its cabinet. Switch set to M.W., tune to approximately 300 m and unscrew the cores fully of coils **L13**, **L12**, **L11** and **L10** (location reference B2). Connect the output of the signal generator to control grid (pin 6) of **V2** and chassis, feed in a 465 kc/s (645.16 m) signal and adjust the cores of **L13** and **L12**, in that order, for maximum output. Transfer "live" signal generator lead to control grid (pin 6) of **V1** and adjust the cores of **L11** and **L10** in that order for maximum output. Do not re-adjust the cores of **L13**, **L12**. Reduce the input as the circuits come into line to avoid A.G.C. action.

R.F. and Oscillator Stages.—Remove chassis from cabinet and feed the output of the signal generator into a single loop of wire approximately 10in by 8in, placed about 12in to 18in away from the frame aerials and parallel to them. A sensitive output meter should be used as a visual indicator.

As the tuning scale remains fixed in the cabinet when the chassis is removed, reference must be made to the substitute tuning scale printed on the chassis flange just above the press-button unit. Check that with the gang at maximum capacitance, the pointer on the bottom of the cursor carriage coincides with the "Max." mark on the substitute tuning scale.

M.W.—Switch set to M.W., tune to 0.6 on the substitute scale, feed in a 500 m (600 kc/s) signal and adjust the core of **L6** (F4) for maximum output. Tune set to 1.5 on substitute scale, feed in a 200 m (1,500kc/s) signal and adjust **C35** (F4) and **C32** (F3) for maximum output. Check calibration at 500 m, and repeat the foregoing adjustments if necessary.

L.W.—Switch set to L.W., tune to 0.15 on substitute scale, feed in an 1,800 m (150 kc/s) signal and adjust the core of **L7** (F4) for maximum output. Tune set

to 0.3 on substitute scale, feed in a 1,000 m (300 kc/s) signal and adjust **C36** (F4) and **C31** (F3) for maximum output. Check calibration at 1,800 m, and repeat the foregoing adjustments if necessary.

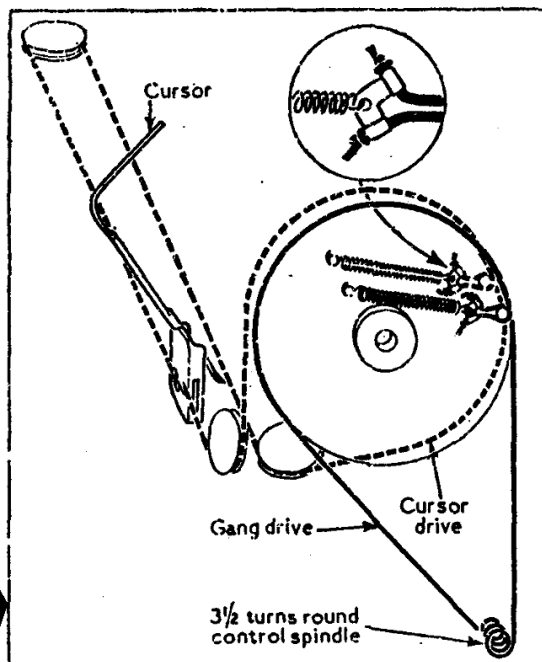
Pre-set Stations

A signal generator may be used to set these adjustments roughly, but they should be subsequently adjusted on the stations they are intended to receive.

Numbering from right to left (looking at front of chassis) the press-buttons are : 1, M.W. manual; 2, L.W. manual; 3, 200-350 m pre-set; 4, 325-550 m pre-set; 5, 1,100-1,875 m pre-set.

The adjustments for press-buttons 3, 4 and 5 are as follows : 3, **L3** (F4), **C30** (E3); 4, **L4** (E4), **C29** (E3); 5, **L5** (E4), **C28** (E3). The receiver should be allowed to warm up for fifteen minutes at the user's house before final adjustments are made.

Note.—Adjustment of the L.W. oscillator circuit **L7** will affect the tuning of the pre-set stations, so the cores of **L3**, **L4** and **L5** should be reset after any readjustment of **L7**.



Sketch of the tuning drive system, which employs separate cords for gang drive and cursor drive. It is drawn as seen when viewed from the front right-hand corner of the chassis. Inset is shown the method of fixing the cord to the anchor plates.

Diagrams of the press-button switch unit. Above is the upper side as seen in our sketch of the tuning unit, where it is marked "Front." Below is the rear side. Both sides are viewed from the ends of the press-button plungers.

