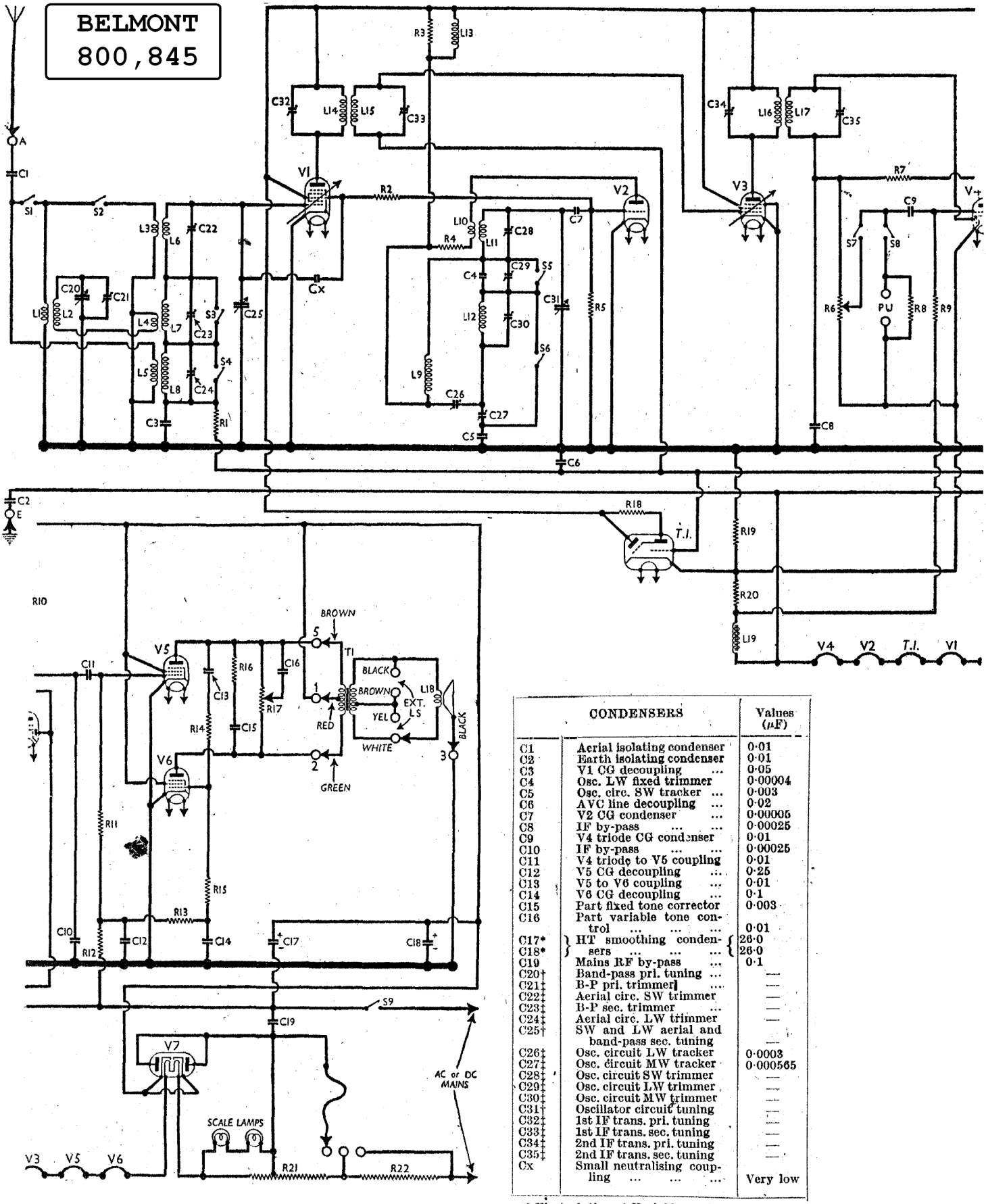
BELMONT 800,845



	CONDENSERS	Values (μF)
C1	Aerial isolating condenser	0·01
C2	Earth isolating condenser	0·01
C3	V1 CG decoupling ...	0·05
C4	Osc. LW fixed trimmer	0·00004
C5	Osc. circ. SW tracker ...	0·003
C6	AVC line decoupling ...	0·02
C7	V2 CG condenser ...	0·00005
C8	IF by-pass	0·00025
C9	V4 triode CG condenser	0·01
C10	IF by-pass	0·00025
C11	V4 triode to V5 coupling	0·01
C12	V5 CG decoupling ...	0·25
C13	V5 to V6 coupling ...	0·01
C14	V6 CG decoupling ...	0·1
C15	Part fixed tone corrector	0·003
C16	Part variable tone control	0·01
C17*	HT smoothing condensers	26·0
C18*		26·0
C19	Mains RF by-pass ...	0·1
C20†	Band-pass pri. tuning ...	—
C21‡	B-P pri. trimmer	—
C22‡	Aerial circ. SW trimmer	—
C23‡	B-P sec. trimmer ...	—
C24‡	Aerial circ. LW trimmer	—
C25†	SW and LW aerial and band-pass sec. tuning	—
C26‡	Osc. circuit LW tracker	0·0003
C27‡	Osc. circuit MW tracker	0·000565
C28‡	Osc. circuit SW trimmer	—
C29‡	Osc. circuit LW trimmer	—
C30‡	Osc. circuit MW trimmer	—
C31†	Oscillator circuit tuning	—
C32‡	1st IF trans. pri. tuning	—
C33‡	1st IF trans. sec. tuning	—
C34‡	2nd IF trans. pri. tuning	—
C35‡	2nd IF trans. sec. tuning	—
Cx	Small neutralising coupling	Very low

* Electrolytic. † Variable. ‡ Pre-set.

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	RESISTANCES	Values (ohms)
R1	V1 CG decoupling ...	100,000
R2	V1 injector grid stopper ...	100
R3	V2 anode HT feed ...	50,000
R4	Osc. SW reaction stabiliser	50
R5	V2 CG resistance ...	50,000
R6	Manual volume control; V4 diode load	1,000,000
R7	AVC line decoupling ...	3,000,000
R8	Pick-up shunt	100,000
R9	V4 triode CG resistance	3,000,000
R10	V4 triode anode load ...	150,000
R11	V5 CG resistance ...	500,000
R12	V5 CG decoupling ...	250,000
R13	V6 CG decoupling ...	250,000
R14	V5 to V6 coupling potential divider resistances	500,000
R15		75,000
R16	Part fixed tone corrector	10,000
R17	Variable tone control ...	300,000
R18	T.I. anode HT feed ...	1,000,000
R19	Auto GB resistances ...	50
R20		20
R21	260V heater circuit ballast	140*
R22	220V heater circuit ballast	250

* Tapped at 40 O from V7 heater to shunt scale lamps.

	OTHER COMPONENTS	Approx. Values (ohms)
L1	Aerial MW coupling coil ...	37·0
L2	Band-pass pri. coil ...	4·0
L3	Aerial SW coupling coil ...	0·7
L4	Band-pass coupling coil ...	0·4
L5	Aerial LW coupling coil ...	85·0
L6	Aerial SW tuning coil ...	Very low
L7	Band-pass sec. coil ...	4·0
L8	Aerial LW tuning coil ...	16·0
L9	Osc. LW tuning coil ...	22·0
L10	Oscillator SW reaction ...	50·0
L11	Osc. SW tuning coil ...	Very low
L12	Osc. MW tuning coil ...	12·0
L13	V2 anode HT feed choke	26·0
L14	1st IF trans. Pri. ...	9·0
L15	1st IF trans. Sec. ...	70·0
L16	2nd IF trans. Pri. ...	9·0
L17	2nd IF trans. Sec. ...	70·0
L18	Speaker speech coil ...	4·5
L19	HT smoothing choke ...	250·0
T1	Speaker input trans. Pri., total	490·0
	Speaker input trans. Sec., total	0·5
S1-S6	Waveband switches ...	—
S7, S8	Radio/gram switches ...	—
S9	Mains switch, ganged R6	—

When replacing, the transformer should be at the bottom.

VALVE ANALYSIS

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 6L7	93	3·4	93	3·8
V2 6C5	93	3·0	—	—
V3 6K7	93	5·2	93	1·5
V4 6Q7	46	0·32	—	—
V5 25A6	87	20·0	93	3·4
V6 25A6	87	20·0	93	3·4
V7 25Z6	93†	—	—	—

† Cathode to chassis, DC.

Switch Table

Switch	LW	MW	SW
S1	—	C	C
S2	—	—	C
S3	—	—	C
S4	—	C	C
S5	—	C	C
S6	—	—	C

CIRCUIT ALIGNMENT

IF Stages.—Switch set to MW, tune to 214 m on scale, and turn the volume control to maximum. Connect signal generator via a 0.1 μF condenser to control grid (top cap) of **V3** and chassis. Feed in a 465 KC/S (645.16 m) signal, and adjust **C35** and **C34** for maximum output. Transfer signal generator lead from **V3** to control grid (top cap) of **V1** and adjust **C33** and **C32** for maximum output. Then readjust **C34** and **C35** if necessary.

RF and Oscillator Stages.—With the gang at minimum and maximum, the pointer should cover the unnumbered horizontal lines at both ends of the three scales. The pointer can be adjusted if the small knurled retaining screw at its centre is slackened. Transfer signal generator leads to the aerial and earth leads, via a suitable dummy aerial; this may consist of a 0.1 μF condenser in series with a 400 O resistance for the SW band, and of a 0.0002 μF condenser in series with a 20 O resistance for the MW and LW bands.

SW.—Switch set to SW, and turn the gang to minimum capacity. Feed in a 16.5 m (18.2 MC/S) signal, and adjust **C28** for maximum output, taking care that the peak involving the lesser trimmer capacity is selected. Feed in a 17.6 m (17 MC/S) signal, tune it in, and adjust **C22** for maximum output. Check calibration and sensitivity at 50 m (6 MC/S).

MW.—Switch set to MW, and turn the gang to minimum capacity. Feed in a 187 m (1,600 KC/S) signal, and adjust **C30** for maximum output. Feed in a 214 m (1,400 KC/S) signal, tune it in, and adjust **C23,** then **C21,** for maximum output. Feed in a 500 m (600 KC/S) signal, tune it in, and adjust **C27** for maximum output while rocking the gang for optimum results.

Readjust **C30** at 187 m, and **C23, C21** at 214 m, in turn, until no improvement can be obtained, and then check the sensitivity at 300 m (1,000 KC/S).

LW.—Switch set to LW, and turn the gang to minimum capacity. Feed in an 860 m (350 KC/S) signal, and adjust **C29** for maximum output. Feed in a 925 m (325 KC/S) signal, tune it in, and adjust **C24** for maximum output. Feed in a 2,000 m (150 KC/S) signal, tune it in, and adjust **C26** for maximum output while rocking the gang for optimum results. Readjust **C29** at 860 m, and **C24** at 925 m, until no further improvement can be obtained.

Now repeat the whole of the MW procedure as previously outlined, and then repeat the LW adjustments. The two circuits are somewhat interdependent, and each must be checked after any adjustment to the other.