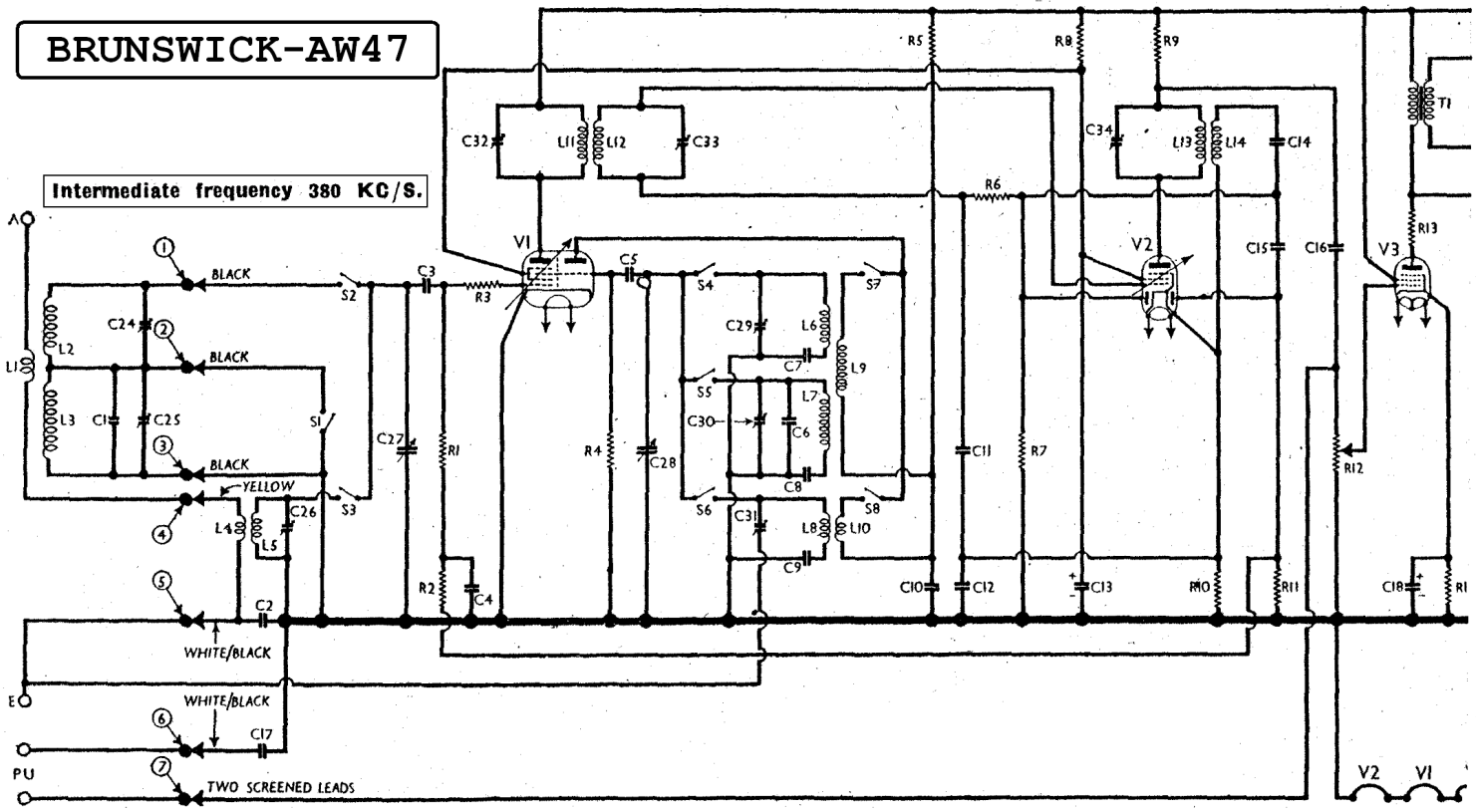
BRUNSWICK-AW47

Intermediate frequency 380 KC/S.



RESISTANCES		Values (ohms)
R1	V1 CG hex. resistance ...	470,000
R2	V1 CG hex. decoupling ...	470,000
R3	V1 grid stopper	40
R4	V1 osc. CG resistance ...	47,000
R5	V1 osc. anode HT feed ...	47,000
R6	AF coupling to V2 pentode	2,000,000
R7	V2 signal diode load ...	470,000
R8	V1, V2 SG's HT feed ...	120,000
R9	V2 pentode AF load ...	47,000
R10	V2 fixed GB resistance ...	300
R11	V2 AVC diode load ...	470,000
R12	Manual volume control ...	500,000
R13	V3 anode stopper ...	100
R14	V3 GB resistance... ...	140
R15	Heater circuit ballast ...	570*

CONDENSERS		Values (μF)
C1	Frame aerial LW fixed trimmer	0·000025
C2	Earth isolating condenser	0·01
C3	V1 hex. CG condenser ...	0·0001
C4	V1 hex. CG decoupling...	0·02
C5	V1 osc. CG condenser ...	0·0001
C6	Osc. circ. LW fixed trimmer	0·00015
C7	Osc. circ. MW tracker ...	0·000785§
C8	Osc. circ. LW tracker	0·000385§
C9	Osc. circ. SW tracker ...	0·004
C10	V1 osc. anode decoupling	0·1
C11	IF by-pass	0·0002
C12¶	V2 cathode by-pass ...	0·1
C13*	V1, V2 SG's decoupling ¶	8·0
C14	Coupling to V2 signal diode	0·0002
C15	Coupling to V2 AVC diode	0·0001
C16	V2 pentode to V3 AF coupling	0·001
C17	PU isolating condenser...	0·02
C18*	V3 cathode by-pass ...	50·0
C19	Fixed tone corrector ...	0·001
C20*	HT smoothing condensers	32·0
C21*		32·0
C22	Mains RF by-pass condensers	0·02
C23		0·02
C24‡	Frame aerial MW trimmer	—
C25‡	Frame aerial LW trimmer	—¶
C26‡	Aerial circ. SW trimmer	—
C27†	Aerial tuning condenser	—
C28†	Oscillator circuit tuning	—
C29‡	Osc. circ. MW trimmer...	—
C30‡	Osc. circ. LW trimmer ...	—
C31‡	Osc. circ. SW trimmer ...	—
C32‡	1st IF trans. pri. tuning	—
C33‡	1st IF trans. sec. tuning	—
C34‡	2nd IF trans. pri. tuning	—

* Electrolytic. † Variable. ‡ Pre-set.
§ 0·000685 μF + 0·0001 μF connected in parallel.
¶ Two trimmers connected in parallel.

OTHER COMPONENTS		Approx. Values (ohms)
L1	External aerial coupling	0·4
L2, L3	Frame aerial windings ...	2·3 / 5·5
L4	Aerial SW coupling coil	2·4
L5	Aerial SW tuning coil ...	Very low
L6	Osc. circ. MW tuning ...	2·4
L7	Osc. circ. LW tuning ...	5·2
L8	Osc. circ. SW tuning ...	Very low
L9	Osc. MW and LW reaction	7·2
L10	Osc. SW reaction ...	0·4
L11, L12	1st IF trans. Pri. ... Sec. ...	8·5 / 10·0
L13, L14	2nd IF trans. Pri. ... Sec. ...	19·0 / 6·0
L15	Speaker speech coil ...	2·5
L16	HT smoothing choke ...	400·0
T1	Speaker input trans. Pri. ... Sec. ...	330·0 / 1·0
S1-S8	Waveband switches ...	—
S9	Mains switch, ganged R12	—

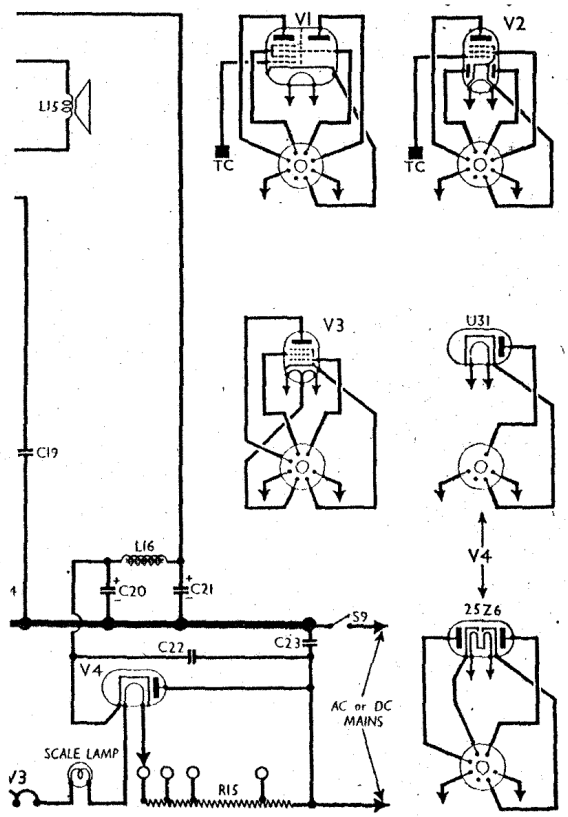
Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 X65	210	2·0	50	1·0
	Oscillator			
	80	2·5		
V2 6B8G	50	3·0	50	0·75
V3 KT35C	195	50·0	210	9·0
V4 U31	250†	—	—	—

† Cathode to chassis, DC.

Switch Table

Switch	SW	MW	LW
S1	—	C	—
S2	—	C	C
S3	C	—	—
S4	—	C	—
S5	—	—	C
S6	C	—	—
S7	—	C	C
S8	C	—	—

Switches.—S1-S8 are the waveband switches, in a single rotary unit fitted to the front member beneath the chassis. The unit is indicated in our under-chassis view, and shown in detail in the diagram in col. 4, where it is drawn as seen when viewed in the direction of the arrow in the under-chassis view. The table in col. 3 gives the switch positions for the three control settings, starting from the fully anti-clockwise position of the control. A dash indicates open, and **C**, closed.



S9 is the QMB mains switch, ganged with the volume control **R12.**

CIRCUIT ALIGNMENT

IF Stages.—Connect signal generator via a 0.0002 μF condenser to **A** and **E** sockets, switch the receiver to MW, turn the gang to minimum, and the volume control to maximum. Feed in a 380 KC/S (790 m) signal, and adjust **C34, C33** and **C32** in turn for maximum output.

RF and Oscillator Stages.—With the gang at maximum or minimum, the pointer should be horizontal. The signal generator should be connected as indicated for IF alignment.

MW.—Switch set to MW, tune to 200 m on scale, feed in a 200 m (1,500 KC/S) signal, and adjust **C29,** then **C24,** for maximum output. Check at 300 m (1,000 KC/S) and 500 m (600 KC/S).

LW.—Switch set to LW, tune to 1,000 m on scale, feed in a 1,000 m (300 KC/S) signal, and adjust **C30,** then **C25,** for maximum output. As **C25** consists of two condensers, one should be set to maximum or minimum, according to the capacity required, and the adjustment should then be carried out on the other. Check calibration at 1,500 m (200 KC/S) and 2,000 m (150 KC/S).

SW.—Switch set to SW, tune to 16 m on scale, feed in a 16 m (18.75 KC/S) signal, and adjust **C31,** then **C26,** for maximum output. Check calibration at 30 m (10 MC/S) and 50 m (6 MC/S).

Finally, readjust **C24** and **C25** while re-

Rectifier V4.—This may be an Osram U31, as in our chassis, or a Brimar 25Z6. The latter is of the voltage-doubler type with separate anodes and cathodes, and where it is used the two anode pins should be joined together, as should also the two cathode pins. When the holder is thus wired, either type of valve can be used as a direct replacement for the other. If the 25Z6 is used to replace a U31, the holder should be wired so that the two halves are in parallel, as otherwise, although the valve would work, only one half of it would be in operation.

It is advisable to include a resistance of 100 O in each anode lead to the 25Z6, as otherwise the surge current may damage the valve. The resistance should be rated at 1 watt. These resistances will already be fitted in chassis that were originally supplied with a 25Z6 valve. In other chassis, a single 100 O resistance may be found in series with the lead to pin 5, but there was none in our chassis.

The base connections of both types of valve are included in our base diagrams on the right of the circuit diagram.

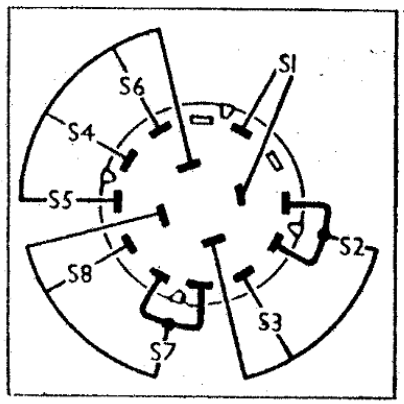


Diagram of the switch unit, as seen from the rear of the underside of the chassis.

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