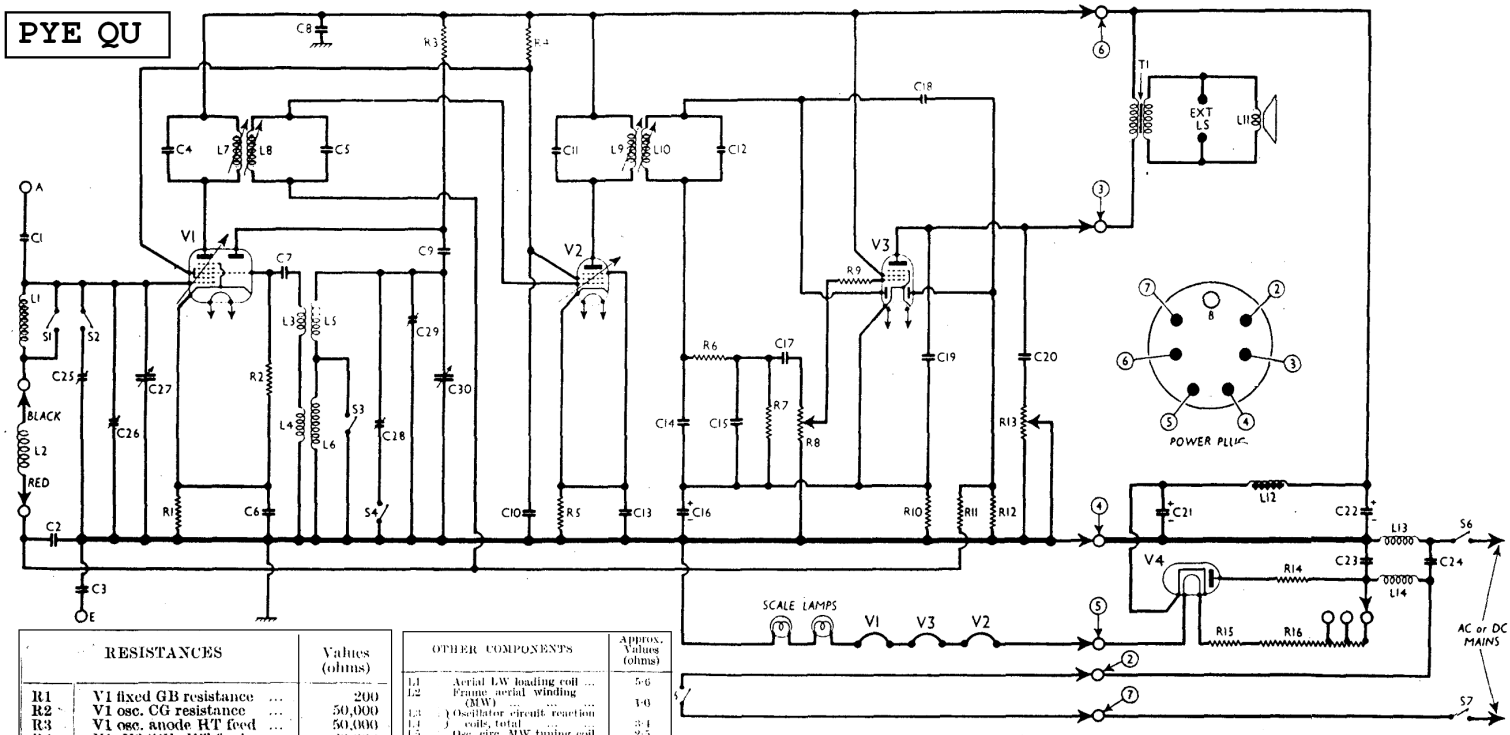
PYE QU



RESISTANCES		Values (ohms)
R1	V1 fixed GB resistance ...	200
R2	V1 osc. CG resistance ...	50,000
R3	V1 osc. anode HT feed ...	50,000
R4	V1, V2 SG's HT feed ...	20,000
R5	V2 fixed GB resistance ...	200
R6	IF stopper	110,000
R7	V3 signal diode load ...	510,000
R8	Manual volume control ...	1,000,000
R9	V3 pentode grid stopper ...	50,000
R10	V3 GB ; AVC delay ...	250
R11	AVC line decoupling ...	1,000,000
R12	V3 AVC diode load ...	1,000,000
R13	Variable tone control ...	20,000
R14	V4 anode surge limiter ...	100
R15, R16	Heater circuit ballast resistances	50* 780†

* Made up of two 100 Ω 1 watt resistances in parallel.

† Tapped at 580 Ω + 100 Ω + 100 Ω from R15 end.

CONDENSERS		Values (μF)
C1	Ext. aerial series	0·000005
C2	AVC line decoupling ...	0·1
C3	Earth isolating condenser	0·05
C4, C5	1st IF transformer tuning condensers	0·00008§ 0·00007
C6	V1 cathode by-pass ...	0·1
C7	V1 osc. CG condenser ...	0·00015
C8	HT circuit RF by-pass ...	0·1
C9	V1 osc. anode coupling ...	0·0001
C10	V1, V2 SG's decoupling ...	0·1
C11, C12	2nd IF transformer tuning condensers	0·00009 0·00009
C13	V2 cathode by-pass ...	0·1
C14, C15	IF by-pass condensers ...	0·0001 0·0001
C16*	V3 cathode by-pass	25·0
C17	AF coupling to V3 pentode	0·005
C18	Coupling to V3 AVC diode	0·00002
C19	Fixed tone corrector ...	0·003
C20	Part of variable tone control	0·025
C21*, C22*	HT smoothing condensers	24·0¶ 16·0¶
C23, C24	Mains RF filter condensers	0·1 0·1
C25‡	Aerial LW trimmer ...	—
C26‡	Aerial MW trimmer ...	—
C27†	Aerial circuit tuning ...	—
C28‡	Osc. circuit LW trimmer ...	—
C29‡	Osc. circuit MW trimmer	—
C30†	Oscillator circuit tuning ...	—

* Electrolytic.
† Variable.
‡ Pre-set.
§ 0·00007 μF and 0·00001 μF in parallel.
‖ 16 μF and 8 μF in parallel.
¶ 12 μF and 4 μF in parallel.

OTHER COMPONENTS		Approx. Values (ohms)
L1	Aerial LW loading coil ...	5·6
L2	Frame aerial winding (MW)	1·0
L3, L4	Oscillator circuit reaction coils, total	3·4
L5	Osc. circ. MW tuning coil	2·5
L6	Osc. circ. LW tuning coil	0·5
L7, L8	1st IF trans. { Pri. ... Sec. ...	8·5 8·5
L9, L10	2nd IF trans. { Pri. ... Sec. ...	8·5 8·5
L11	Speaker speech coil ...	2·4
L12	HT smoothing choke ...	400·0
L13, L14	Mains RF filter chokes ...	1·8 1·8
T1	Output trans. { Pri. ... Sec. ...	345·0 0·3
S1-S4	Waveband switches ...	—
S5	Mains switch, ganged R13	—
S6, S7	Mains safety switches ...	—

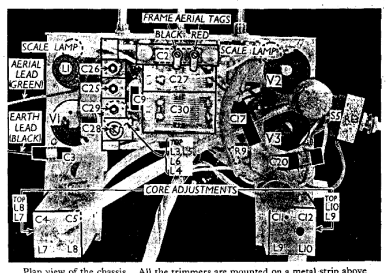
CIRCUIT ALIGNMENT

IF Stages.—Connect signal generator leads via a 0.01 μF non-inductive condenser to control grid (top cap) of **V1** and AVC line, leaving existing top cap connector in place, and turn volume control to maximum. Feed in a 467 KC/S signal, and adjust the cores of **L10, L9, L8** and **L7** for maximum output. Re-check these settings.

RF and Oscillator Stages.—With the gang at maximum, the pointer should be horizontal. If it is not, it can be adjusted by pushing its clip, which is a sliding fit, round the control spindle. Connect signal generator to **A** and **E** sockets, keeping volume control at maximum.

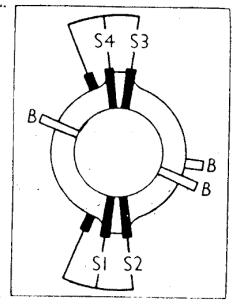
MW.—Switch set to MW, tune to 210 m on scale, feed in a 210 m (1,430 KC/S) signal, and adjust **C29,** then **C26,** for maximum output. Check calibration at 520 m (577 KC/S), readjusting **C29** and **C26** if necessary.

LW.—Switch set to LW, tune to 1,300 m on scale, feed in a 1,300 m (230 KC/S) signal, and adjust **C28,** then **C25,** for maximum output. Check calibration at 1,800 m (166 KC/S), readjusting **C28** and **C25** if necessary.



Plan view of the chassis. All the trimmers are mounted on a metal strip above the oscillator coil unit **L3, L5, L6, L4**, which is indicated by a dotted outline through the trimmer assembly. The core adjustments of the IF transformers are indicated to left and right of the chassis.

Diagram of the switch unit, viewed from the rear of the underside of the chassis.



VALVE ANALYSIS

Valve voltages and currents given in the table below are those measured in our receiver when it was operating on AC mains of 235 V, using the 235 V tapping on the mains resistance.

The receiver was tuned to the lowest wavelength on the medium band, and the frame aerial terminals were short-circuited so that there should be no signal input. The volume control was at maximum.

Voltages were measured on the 400 V scale of a model 7 Universal Avometer, chassis being negative.

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 CCH35	242 (Oscillator) 90	2·8 2·3	95	4·0
V2 EF39	242	7·0	95	2·2
V3 CBL31	230	37·5	242	6·0
V4 CY31	260†	—	—	—

† Cathode to chassis, DC.