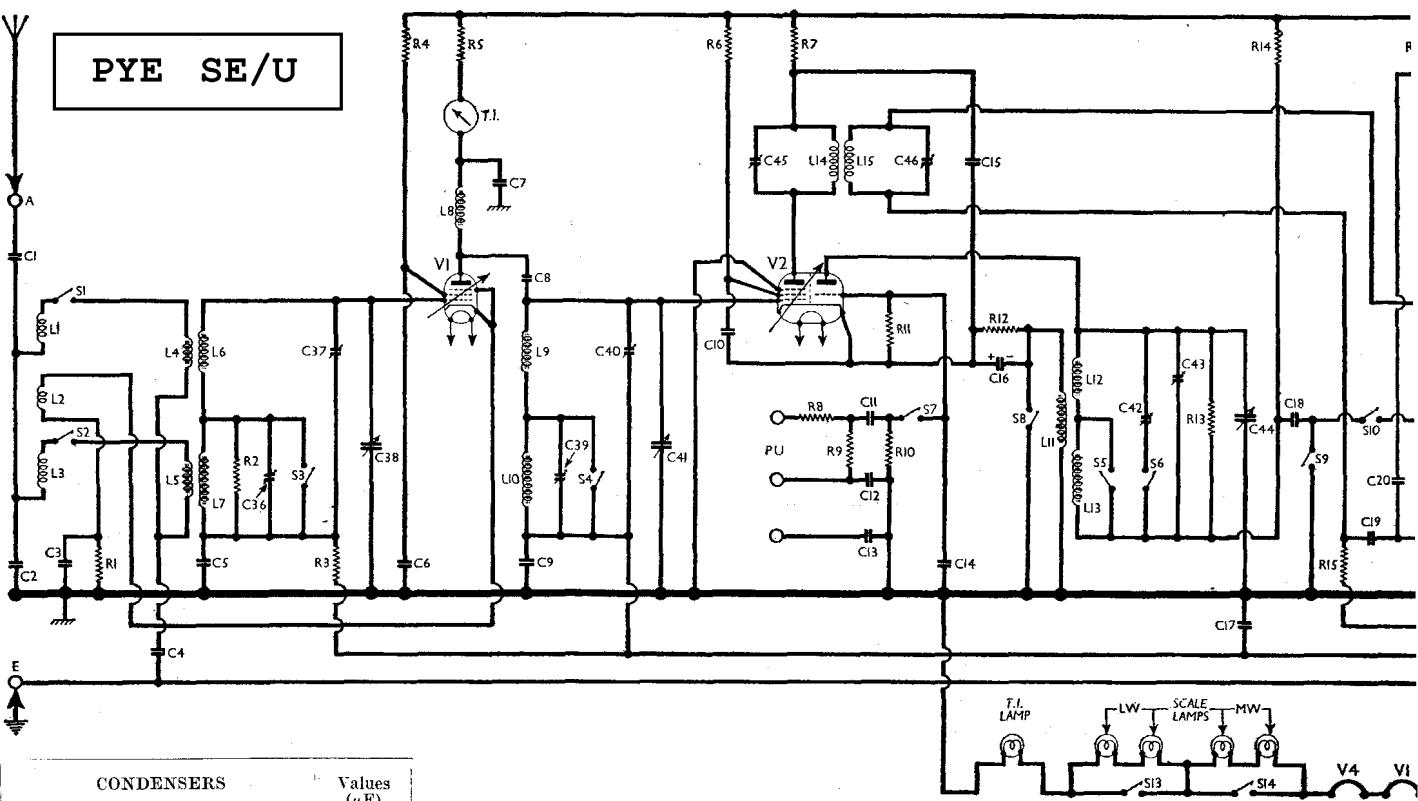


PYE SE/U

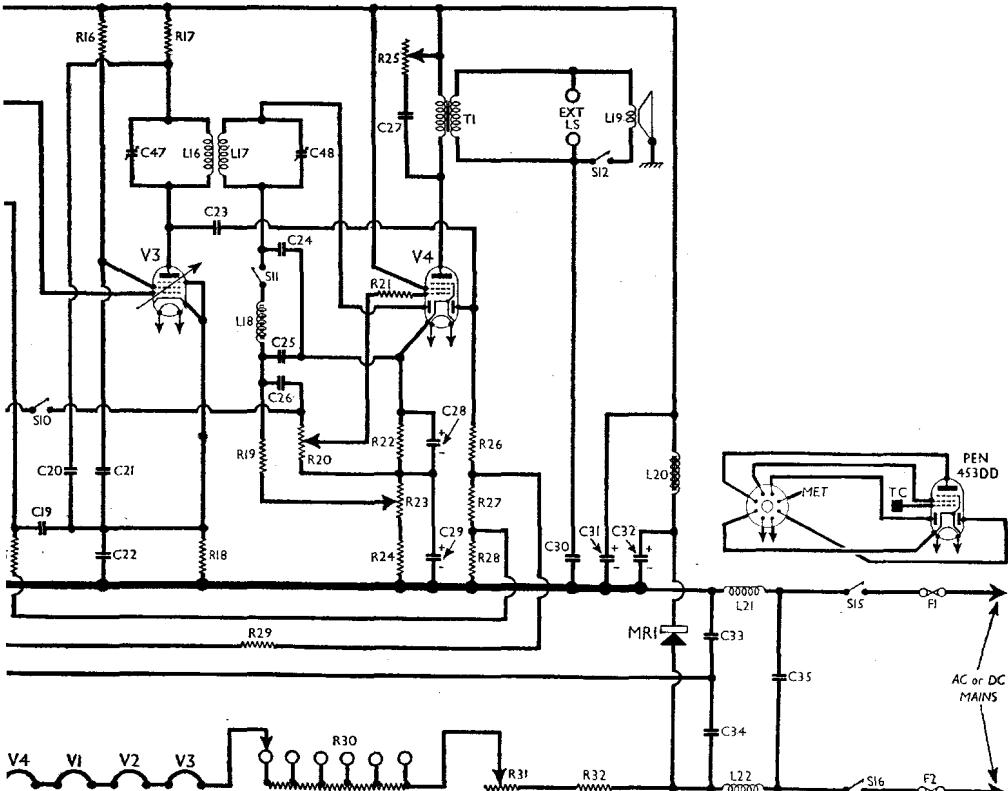


CONDENSERS

Values (μF)

C1	Aerial coupling condensers	0.0001
C2	V1 cathode by-pass	0.0001
C3	Earth isolating condenser	0.1
C4	V1 CG decoupling	0.002
C5	V1 SG decoupling	0.25
C6	V1 anode decoupling	0.1
C7	V1 to V2 RF coupling	0.000025
C8	V1 to V2 pent. CG coupling	0.25
C9	V2 pent. CG decoupling	0.25
C10	V2 SG decoupling	0.1
C11	Pick-up isolating condensers	0.25
C12	...	0.25
C13	...	0.1
C14	V2 osc. CG shunt	0.0002
C15	V2 pent. anode decoupling	0.1
C16*	V2 cathode by-pass	25.0
C17	AVC line decoupling	0.25
C18	V2 osc. anode decoupling (radio); AF coupling ("gram")	0.25
C19	V3 CG decoupling	0.25
C20	V3 anode decoupling	0.1
C21	V3 SG decoupling	0.1
C22	V3 GB decoupling	0.1
C23	Coupling to V4 AVC diode	0.0002
C24	IF by-pass condensers	0.0001
C25	AF coupling to V4 pent.	0.0001
C26	Part variable tone control	0.01
C27	V4 cathode by-pass condensers	0.025
C28*	V4 cathode by-pass condensers	50.0
C29*	V4 cathode by-pass condensers	20.0
C30	Speaker isolating condenser	0.01
C31*	HT smoothing condensers	24.0
C32	...	8.0
C33	Parts of mains input filter circuit	0.025
C34	...	0.025
C35	...	0.025
C36†	Aerial circuit LW trimmer	—
C37†	Aerial circuit MW trimmer	—
C38†	Aerial circuit tuning	—
C39†	RF coupling LW trimmer	—
C40†	RF coupling MW trimmer	—
C41†	RF coupling tuning	—
C42†	Osc. circuit LW trimmer	—
C43†	Osc. circuit MW trimmer	—
C44†	Oscillator circuit tuning	—
C45†	1st IF trans. pri. tuning	—
C46†	1st IF trans. sec. tuning	—
C47†	2nd IF trans. pri. tuning	—
C48†	2nd IF trans. sec. tuning	—

* Electrolytic. † Variable. ‡ Pre-set.



VALVE ANALYSIS

Valve voltages and currents given in the table below have been taken from the valve data manual. Measurements were made while the receiver was connected to AC mains of 200V, with no signal input, and voltages were measured with the negative meter lead connected to the control grid of the valve under test. In the cases of V1 and V3, a 0.25 μF condenser was connected between anode and chassis, and for V2, between control grid and chassis.

Valve	Anode Voltage (V)	Anode current (mA)	Screen Voltage (V)	Screen current (mA)
V1 VP1321	160	3.6	160	0.8
V2 TP2620	190	3.5	163	1.2
V3 VP1321	190	1.2	164	1.5
V4 Pcu DD 4020	152	29.0	175	0.3

CIRCUIT ALIGNMENT

IF Stages.—While the secondary trimmer of an IF transformer is being adjusted, a damping resistance of 20,000 Ω must be connected across the primary, and it must be transferred to the secondary while the primary is being adjusted. On each transformer, small tags are provided on each trimmer condenser, and the resistance may be connected to these.

Connect a 0.25 μF condenser across C44, turn the volume control to maximum, and the "Mute" control fully anti-clockwise. Connect signal generator via a 0.02 μF condenser to control grid (top cap) of V2 and the earth socket.

Feed in a 127 KC/S (2,562.2 m) signal, connect the damping resistance to the tags of C45, and, using an insulated tool, adjust C46 for maximum output; transfer damping resistance to C46, and adjust C45 for maximum output. Transfer damping resistance to C47, and adjust C48 for maximum output. Remove the 0.25 μF condenser and damping resistance.

RF and Oscillator Stages.—With the gang at maximum, the pointer should coincide with the indentations in the "H" marks at the high wavelength ends of the scales. If it does not, see that the scale glass fits squarely in its clamps. If a small amount of correction is re-

quired, it can be obtained by slackening the three screws in the pointer drive drum, when the slotted holes permit a certain amount of movement. If a greater amount is required, it can be obtained by releasing the screw holding the drum base to the gang spindle. Transfer signal generator leads to A and E sockets, via a suitable dummy aerial, and turn gang to minimum. Leave volume and muting controls as set previously.

MW.—Switch set to MW, feed in a 196 m (1,530 KC/S) signal, and adjust C43 for maximum output. If two peaks are found, select that involving the lesser trimmer capacity. Then adjust C40 and C37 for maximum output. Repeat these adjustments. Tune to 500 m on scale, feed in a 600 m (600 KC/S) signal, and check calibration. If incorrect, readjust C43, and return to 196 m adjustments.

LW.—Switch set to LW, and turn gang to minimum. Feed in a 775 m (388 KC/S) signal, and adjust C42, then C38 and C36 for maximum output. Feed in an 846 m (355 KC/S) signal, and readjust C42 for maximum output, using the peak requiring the greater trimmer capacity if two peaks are found.

Switch Table

Switch	LW	MW	Gram
S1	—	○	—
S2	○	—	—
S3	—	○○	—
S4	—	—	—
S5	○	—	—
S6	○	—	—
S7	—	—	—
S8	—	—	—
S9	○	○	—
S10	○	○	—
S11	○	○	—
S12	—	—	—
S13	—	—	—
S14	—	—	—

* Tapped at each end and at every 50 ohms.

† With slider adjustment.