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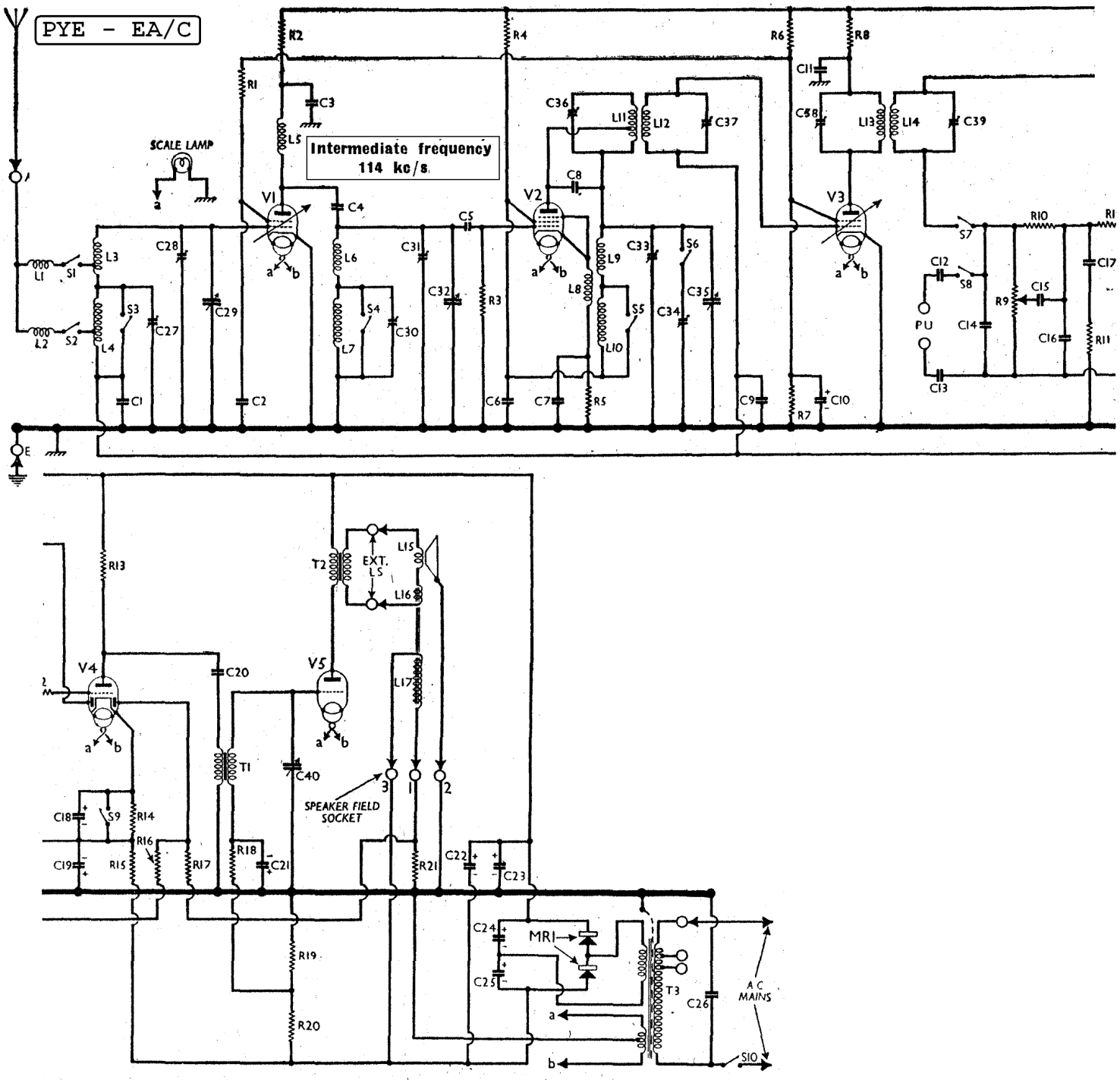

CAPACITORS		Values (μF)
C1	V1 CG decoupling ...	0·25
C2	V1 SG decoupling ...	0·1
C3	V1 anode decoupling ...	0·1
C4	V1–V2 RF coupling ...	0·0002
C5	V2 CG capacitor ...	0·00002
C6	V2 HT decoupling ...	0·1
C7	V2 cathode by-pass ...	0·01
C8	Oscillator coupling ...	0·001
C9	V3 CG decoupling ...	0·25
C10*	V3 SG decoupling ...	4·0
C11	V3 anode decoupling ...	0·1
C12, C13	PU isolating capacitors...	0·25, 0·25
C14	IF by-pass	0·0002
C15	AF coupling	0·25
C16	IF by-pass	0·001
C17	Part of tone corrector ...	0·01
C18*, C19*	V4 cathode by-pass capacitors	25·0, 4·0
C20	AF coupling to T1 ...	0·25
C21*	V5 CG decoupling ...	4·0
C22*, C23*	HT smoothing capacitors	16·0, 8·0
C24*, C25*	Voltage doubler capacitors	4·0, 4·0
C26	Mains RF by-pass ...	0·01
C27†	Aerial LW trimmer ...	—
C28†	Aerial MW trimmer ...	—
C29†	Aerial circuit tuning ...	—
C30†	V2 CG LW trimmer ...	—
C31†	V2 CG MW trimmer ...	—
C32†	V2 CG circuit tuning ...	—
C33†	Osc. circ. MW trimmer...	—
C34†	Osc. circ. LW trimmer...	—
C35†	Oscillator circuit tuning ...	—
C36†	1st IF trans. pri. tuning ...	—
C37†	1st IF trans. sec. tuning ...	—
C38†	2nd IF trans. pri. tuning ...	—
C39†	2nd IF trans. sec. tuning ...	—
C40†	Variable tone control ...	—

* Electrolytic. † Variable. ‡ Pre-set.

RESISTORS		Values (ohms)
R1	V1 SG HT feed	8,500
R2	V1 anode HT feed ...	20,000
R3	V2 CG resistor	50,000
R4	V2 HT feed resistor ...	20,000
R5	V2 GB resistor	2,000
R6, R7	V1, V3 SG's HT feed potential divider ...	25,000, 12,500
R8	V3 anode HT feed ...	15,000
R9	Manual volume control; V4 signal diode load...	40,000
R10	V4 triode CG resistor ...	2,000,000
R11	Part tone corrector ...	2,000,000
R12	V4 triode grid stopper ...	5,000
R13	V4 triode anode load ...	15,000
R14	GB resistor (gram) ...	500
R15	AVC delay resistor ...	25,000
R16	AVC line decoupling ...	250,000
R17	V4 AVC diode load ...	500,000
R18	V5 CG decoupling ...	100,000
R19, R20	V5 GB potential divider	28,000, 40,000
R21	V1, V3 fixed GB resistor	64

VALVE ANALYSIS

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 AC SGVM	145	6·65	45	1·95
V2 ACS2 Pen	185	3·0	186	1·8
V3 AC S1VM	200	5·3	63	2·0
V4 AC HLDD	146	7·7	—	—
V5 PP3/250	275	24·7	—	—

OTHER COMPONENTS		Approx. Values (ohms)
L1, L2	Aerial equalising coils ...	3·6, 23·0
L3, L4	Aerial tuning coils ...	4·0, 33·0
L5	V1 anode RF choke ...	230·0
L6, L7	V2 CG tuning coils ...	4·0, 33·0
L8	Oscillator reaction coil ...	0·2
L9	Osc. MW tuning coil ...	2·25
L10	Osc. LW tuning coil ...	9·0
L11	1st IF trans. Pri., total	160·0
L12	1st IF trans. Sec. ...	122·0
L13	2nd IF trans. Pri. ...	122·0
L14	2nd IF trans. Sec. ...	122·0
L15	Speaker speech coil ...	1·23
L16	Hum neutralising coil ...	0·1
L17	Speaker field coil ...	1,650·0
T1	Intervalve trans. Pri. ...	550·0
	Intervalve trans. Sec. ...	2,350·0
T2	Output trans. Pri. ...	380·0
	Output trans. Sec. ...	0·25
T3	Mains trans. Pri., total	28·0
	Mains trans. Heater sec.	0·1
	Mains trans. HT sec. ...	32·0
S1–S6	Waveband switches	—
S7–S9	Radio/gram. change switches	—
S10	Mains switch	—

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Switch Table

Switch	MW	Gram	LW
S1	C	—	—
S2	—	—	C
S3	C	—	—
S4	C	—	—
S5	C	—	—
S6	—	—	C
S7	C	—	C
S8	—	C	—
S9	C	—	C

Chassis Divergencies.—After the first 3,000 E/AC chassis had been made, the design was slightly modified to include certain improvements, so that there are actually two distinct versions. Our sample was of the later type, and represents the majority by far. The differences in the earlier type are as follows :

C17 and **R11** were omitted, but a 0.00005 μF was connected between **V4** triode control grid and chassis. **R13** was then 10,000 Ω, instead of 15,000 Ω, and between it as HT positive was inserted a decoupling circuit comprising a 5,000 Ω resistor and a 2 μF capacitor.

Some components, although their position was unchanged, suffered a change in value. **R10** (now 2,000,000 Ω) was then 1,000,000 Ω; **C15** (now 0.25 μF) was 0.01 μF; and **C19** (now 4 μF) was 8 μF.

In early chassis, too, **C21** was a moulded TCC 4 μF electrolytic, mounted on the bottom flange outside the chassis, near the front, on the left as seen from the front, instead of a tubular type mounted beneath the deck as seen in our front view. In some cases, **C26** may be mounted in this compartment, instead of in the rear one as shown in our illustration.

Alternative Rectifier.—Where difficulty is experienced in obtaining or replacing the electrolytic voltage doubler capacitors **C24, C25** with the correct capacitance of 4 μF each, either several 2 μF paper insulated capacitors of suitable working voltage may be used, if they can be accommodated, or a thermionic valve rectifier must be substituted for the metal one.

The second alternative involves the replacement of the mains transformer by one with suitable windings for the conventional valve, which the makers suggest should be a Mazda UU4 or its equivalent. They make a suitable mains transformer (part No. 77001) which is available only to Pye dealers.

CIRCUIT ALIGNMENT

IF Stages.—The IF adjustments can be carried out without removing the chassis from the cabinet, although usually, if the IF circuits are readjusted, the RF and oscillator circuits will also require readjustment.

Connect the signal generator leads via a 0.002 μF non-inductive capacitor to control grid of **V2** and chassis. The most convenient point at which to connect the control grid clip is the soldering tag of that socket on the valve holder. This is the rearmost tag, and is almost level with the rear edge of the chassis deck.

Short-circuit **L8** to stop the oscillator from working. The most convenient way to do this is to make up a piece of flexible cable with a crocodile clip at each end and clip one end to **V2** cathode, on the valve holder, and the other end to chassis.

Feed in a 114 kc/s (2,631.5 m) signal, and adjust **C36, C37, C38** and **C39** for maximum output, reducing input as circuits come into line to avoid AVC action. Now remove the short-circuit from **V2** cathode.

RF and Oscillator Stages.—For this operation the chassis must be removed from the cabinet, and it will be necessary to extend the speech coil and field coil leads from the speaker in order to connect up the two units.

To set the drum, turn the gang to maximum, slacken the fixing screw in the boss on the chain wheel on the gang spindle, and turn the tuning control until the scale drum reaches its stop at the low wavelength end of the scale. Now slacken the two screws holding the scale escutcheon to the front of the chassis, and adjust it so that the two pointers cover the red line across the scale, then tighten up the escutcheon screws.

Turn the gang to maximum again, and then back a little; with the flat end of a metal bar press the edges of the rotor vanes of the gang level with those of the stators, and while holding the vanes steady, adjust the drum so that the pointers are level with the 560 m mark on the MW scale and the black dot at the end of the LW scale. Then tighten up the chain wheel boss screw. A slot in the boss permits adjustment over quite a wide range.

Finally, transfer signal generator leads to **A** and **E** sockets, via a suitable dummy aerial.

MW.—Switch set to MW, slacken **C28** adjustment to minimum capacitance and **C31** to maximum. Turn the scale to minimum (red line), feed in a weak 196 m (1,530 kc/s) signal, and adjust **C33** for maximum output. If two peaks are found, select that involving the lesser trimmer capacitance. Then adjust **C28** and **C31** for maximum output, reducing input if necessary to avoid AVC action. Finally, readjust **C33** for maximum output.

LW.—Switch set to LW, and leave tuning control as already set at minimum wavelength. Set **C27** to minimum capacitance, and screw up **C30** almost to maximum. Feed in a 775 m (387.1 kc/s) signal, and adjust **C34** for maximum output; but if two peaks are found here, that involving the **greater** trimmer capacitance must be used. Now adjust **C27** and **C30** for maximum output, again reducing input if necessary. Feed in a strong 775 m signal, and readjust **C34** for maximum output. Do not disturb **C27** and **C30.**

Radiogram Models

The radiogramophone versions of the E/AC employ a chassis which is almost identical with that in the table model.

Model E/RG/AC is fitted with a Collaro combined gramophone motor and pick-up unit, and is housed in a pedestal cabinet. The cabinet is available in oak or walnut, the walnut model being two guineas dearer than the oak.

The E/RG/AC/Auto is similar to the ordinary RG model except that it is fitted with an automatic record changer which handles eight 10in. or eight 12in. records at one loading. It is made in the same two finishes at 10 guineas extra in each case.