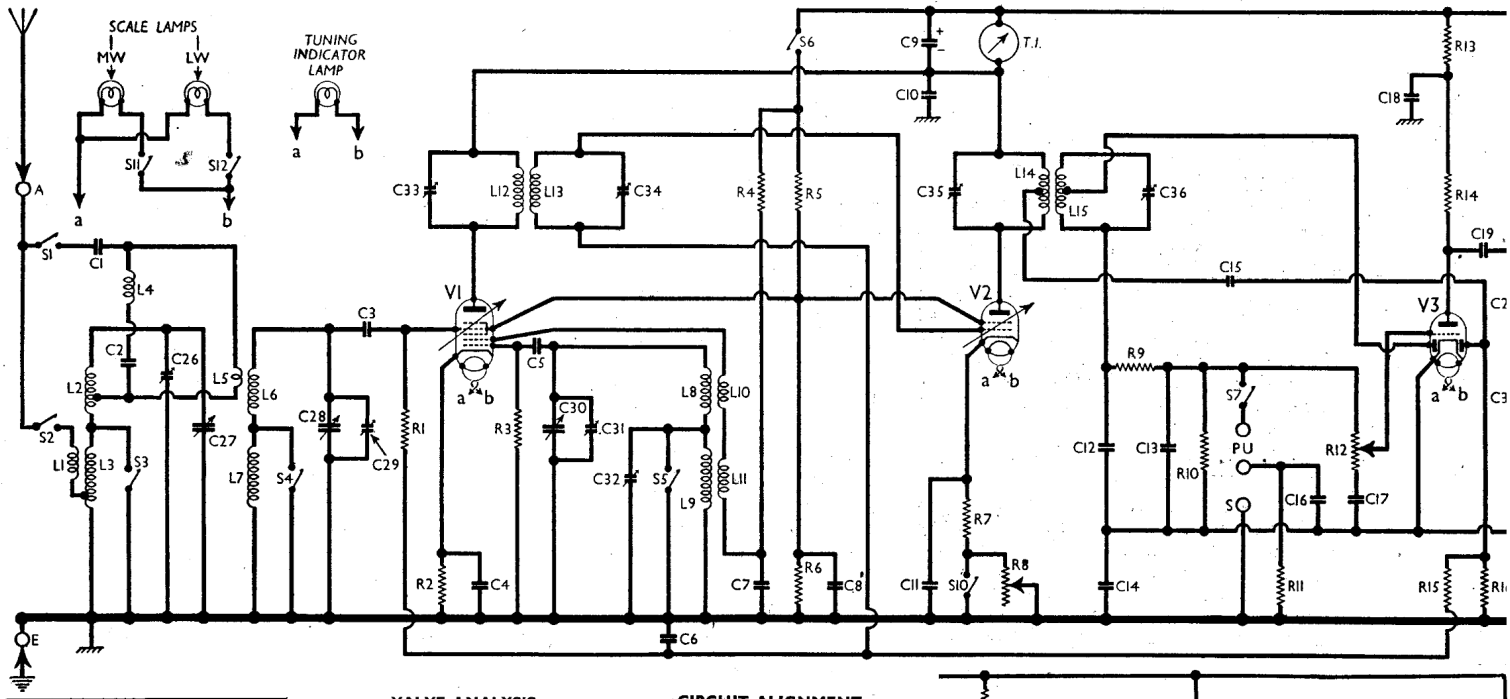

RESISTANCES		Values (ohms)
R1	V1 pentode CG resistance	1,000,000
R2	V1 fixed GB resistance ...	1,000
R3	V1 osc. CG resistance ...	50,000
R4	V1 osc. anode HT feed ...	50,000
R5	V1 and V2 SG's HT feed potential divider	23,000
R6		23,000
R7	V2 fixed GB resistance ...	230
R8	Noise suppressor	14,000
R9	IF stopper	50,000
R10	V3 signal diode load ...	230,000
R11	V3 triode CG decoupling	100,000
R12	Manual volume control ...	200,000
R13	V3 triode anode decoupling	23,000
R14	V3 triode anode load ...	50,000
R15	AVC line decoupling ...	1,000,000
R16	V3 AVC diode load ...	500,000
R17	Part AVC delay	23,000
R18	V4 CG decoupling ...	230,000
R19	V4 GB resistance	500
R20	Heater circuit pot.	48

CONDENSERS		Values (μF)
C1	Part MW coupling ...	0·0005
C2	Part image suppressor ...	0·002
C3	V1 pentode CG condenser	0·0003
C4	V1 cathode by-pass ...	0·1
C5	V1 osc. CG condenser ...	0·0001
C6	AVC line decoupling ...	0·1
C7	V1 osc. anode decoupling	0·1
C8	V1, V2 SG's decoupling...	1·0
C9*	T.I. by-pass	25·0
C10	V1, V2 anodes decoupling	1·0
C11	V2 cathode by-pass ...	0·1
C12	IF by-pass condensers ...	0·0002
C13		0·0001
C14	V3 cathode by-pass ...	3·0
C15	Coupling to V3 AVC diode	0·00005
C16	V3 triode CG decoupling	1·0
C17	condensers	0·5
C18	V3 triode anode decoupling	2·0
C19	AF coupling to T1 ...	0·1
C20	Part of tone filter ...	0·001
C21	V4 CG decoupling ...	0·5
C22	Fixed tone corrector ...	0·7
C23*	HT smoothing condensers	8·0
C24*		8·0
C25	Mains aerial coupling ...	0·0003
C26†	Band-pass pri. MW trimmer	—
C27†	Band-pass pri. tuning ...	—
C28†	Band-pass sec. tuning ...	—
C29†	Band-pass sec. MW trimmer ...	—
C30†	Oscillator circuit tuning ...	—
C31†	Osc. circ. MW trimmer ...	—
C32†	Osc. circ. LW trimmer ...	—
C33†	1st IF trans. pri. tuning...	—
C34†	1st IF trans. sec. tuning...	—
C35†	2nd IF trans. pri. tuning...	—
C36†	2nd IF trans. sec. tuning...	—
C37†	Tone correction control...	—
C38†	Variable tone control ...	—

* Electrolytic. † Variable. ‡ Pre-set.

OTHER COMPONENTS		Approx. Values (ohms)
L1	Aerial LW coupling coil	72·0
L2	Band-pass primary coils	3·5
L3		13·0
L4	Image suppressor coils	0·3
L5	Band-pass secondary coils	0·75
L6		3·5
L7		13·0
L8	Osc. circ. MW tuning coil	4·0
L9	Osc. circ. LW tuning coil	6·0
L10	Oscillator MW reaction	4·0
L11	Oscillator LW reaction	2·5
L12	1st IF trans. Pri. ...	85·0
L13	Sec. ...	85·0
L14	2nd IF trans. Pri., total	85·0
L15	Sec., total	85·0
L16	Tone filter coil ...	900·0
L17	Speaker speech coil ...	8·0
L18	Hum neutralising coil...	2·5
L19	Speaker field coil ...	2,000·0
T1	Intervalve trans. Pri.	750·0
	Sec.	8,000·0
T2	Speaker input trans Pri.	150·0
	Sec.	0·3
T3	Mains trans. Pri., total ...	28·0
	Heater sec.	0·1
	Rect. heat. sec.	0·1
	HT sec., total	550·0
T.I.	Tuning indicator winding	3,500·0
S1-S5	Waveband switches ...	—
S6	Radio muting switch ...	—
S7	Gram pick-up switch ...	—
S8	Tone corrector switch...	—
S9	Wavechange muting ...	—
S10	Noise suppressor switch	—
S11, S12	Scale lamp switches ...	—
S13	Mains switch	—

VALVE ANALYSIS

Valve voltages and currents given in the table below have been copied from the makers' service manual.

The values given are those to be expected in the average receiver, when the volume control knob is pushed in and turned to maximum, but with no signal input.

Voltages were measured with a 200 ohms-per-volt meter, chassis being negative. Tolerances are given as being with ± 10 per cent.

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 MX40	200	1·0	70	2·0
	Oscillator			
	90	2·0		
V2 VMS4B	200	3·0	70	0·7
V3 MHD4	70	1·7	—	—
V4 PX4	210	43·0	—	—
V5 U12	225†	—	—	—

† Heater to chassis, DC.

Switch Table

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

* Closed between settings only.

CIRCUIT ALIGNMENT

IF Stages.—Connect signal generator leads to control grid (top cap) of **V1** and chassis. Adequate coupling will be obtained if the grid lead from the generator is clipped on to the insulated portion of the cap. Push volume control inwards and turn it to maximum. Feed in a 127 KC/S (2,362.2 m) signal, and adjust **C36** and **C34** for maximum output. Feed in a 123 KC/S (2,440 m) signal, and adjust **C35** and **C33** for maximum output. Repeat these adjustments, always in the same order, until no improvement can be obtained.

RF and Oscillator Stages.—Transfer signal generator to **A** and **E** sockets, via a suitable dummy aerial. Keep volume control in and at maximum.

MW.—Switch set to MW, and adjust gang so that there is exactly ¼ inch between the moving vanes and the gang frame. Check that the pointer registers with 200 m mark on scale. Unscrew **C26** to minimum capacity. Feed in a 200 m (1,500 KC/S) signal, and adjust **C31** for maximum output. If two peaks are found, choose that involving the lesser trimmer capacity.

Feed in a 250 m (1,200 KC/S) signal, tune it in, and adjust **C29** while rocking the gang for optimum results. Now adjust **C26** for maximum output.

LW.—Switch set to LW, tune to 1,000 m on scale, feed in a 1,000 m (300 KC/S) signal, and adjust **C32** for maximum output while rocking the gang for optimum results. Repeat MW and LW adjustments.

C26 must be adjusted finally while the receiver is connected to the aerial with which it will normally operate.

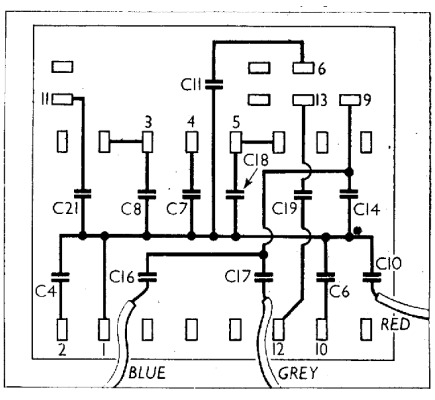

Diagram showing the connections of the condenser block. It is drawn as seen when viewed from the rear of the underside of the chassis, and is so indicated in our under-chassis view.

H.M.V. 442, 443, 570

RADIOGRAM MODIFICATIONS

The HMV 570 and 570A, and Marconiphone 289 autoradiograms employ a modified version of the chassis used in the HMV 442. The chief electrical difference is to be found in the pick-up circuit, where a filter circuit is introduced, and the input is fed via an independent volume control directly to the control grid of the triode section of **V3.**

The tone filter is fitted externally to the chassis, and consists of a 2,300 Ω resistance, a 0.3 μF condenser, and a filter choke whose DC resistance is 114 Ω, connected in series with one another. This network is then connected across the pick-up. It is enclosed in a metal screening case, which is connected to the metal braid screening the pick-up leads, and so via the **S** pick-up socket to chassis.