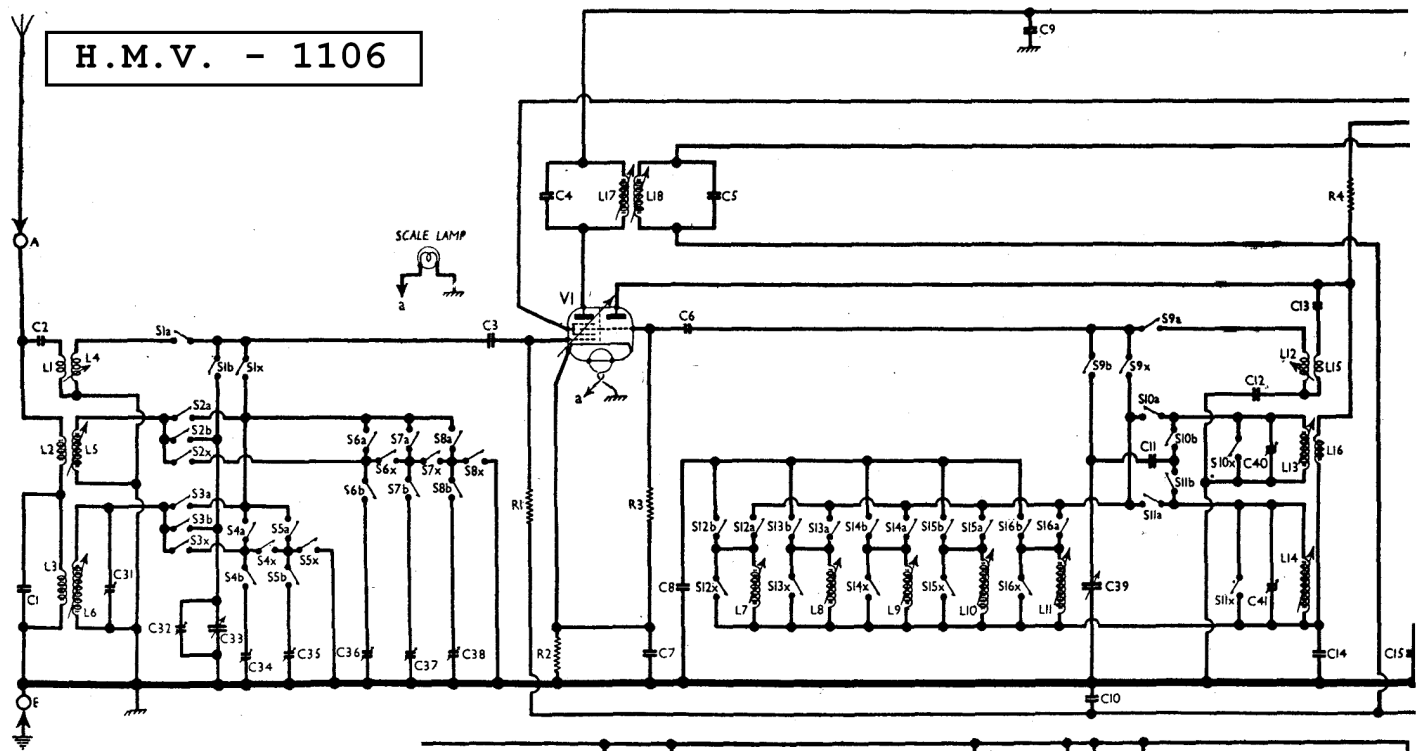


H.M.V. - 1106



RESISTANCES	Values (ohms)
R1	V1 herode CG resistance ... 600,000
R2	V1 fixed GB resistance ... 250
R3	V1 osc. CG resistance ... 50,000
R4	V1 osc. anode HT feed ... 25,000
R5	V1, V2, V3, V4 HT feed ... 15,000*
R6	Potential divider ... 500
R7	V2 fixed GB resistance ... 250
R8	V2 signal diode load ... 250,000
R9	Normal volume control ... 250,000
R10	V3 triode GB - AVC delay ... 2,300
R11	V1, osc. and V2 anodes decoupling ... 10,000
R12	V3 triode anode load ... 10,000
R13	V3 triode anode load ... 10,000
R14	V3 triode anode load ... 10,000
R15	V3 triode anode load ... 10,000
R16	V3 triode anode load ... 10,000
R17	V3 triode anode load ... 10,000
R18	V3 triode anode load ... 10,000
R19	V3 triode anode load ... 10,000
R20	V3 triode anode load ... 10,000

* Two 7,500 Ω resistances in series.

CONDENSERS	Values (μF)
C1	Image suppressor ... 0.0005
C2	Aerial SW series ... 0.0005
C3	V1 herode CG condenser ... 0.001
C4	1st IF transformer tuning ... 0.002
C5	V1, osc. CG condenser ... 0.002
C6	V1, osc. CG condenser ... 0.002
C7	V1 cathode by-pass ... 0.0005
C8	Osc. circuit auto fixed tuning capacity ... 0.0025
C9	HT circuit R1 by-pass ... 0.05
C10	AVC line decoupling ... 0.05
C11	Osc. circuit MW tracker ... 0.005
C12	V1 osc. anode SW coupling ... 0.0005
C13	Osc. circuit LW tracker ... 0.0005
C14	V1, V2, V3, V4 by-pass ... 0.05
C15	V1, V2, V3, V4 by-pass ... 0.05
C16	V1, V2, V3, V4 by-pass ... 0.05
C17	V1, V2, V3, V4 by-pass ... 0.05
C18	2nd IF transformer tuning ... 0.002
C19	Condensers ... 0.002
C20	IP by-pass ... 0.001
C21	AF coupling to V3 triode ... 0.05
C22	V1, osc. and V2 anodes decoupling ... 4.0
C23	Coupling to V3 AVC diode ... 0.001
C24	V3 cathode by-pass ... 0.05
C25	V3 triode to V4 AF coupling ... 0.05
C26	IP by-pass ... 0.0025
C27	Part variable tone control ... 0.05
C28	Fixed tone corrector ... 0.0025
C29	HT smoothing condenser ... 40
C30	HT smoothing condenser ... 80
C31	Aerial circ. LW trimmer ... —
C32	Aerial circ. MW trimmer ... —
C33	Aerial circ. manual tuning ... —
C34	Aerial circ. LW auto tuning condenser ... —
C35	Aerial circ. LW auto tuning condenser ... —
C36	Aerial circ. MW auto tuning condenser ... —
C37	Osc. circ. manual tuning ... —
C38	Osc. circ. MW trimmer ... —
C39	Osc. circ. LW trimmer ... —
C40	Osc. circ. LW trimmer ... —

* Electrolytic. † Variable. ‡ Pre-set.

OTHER COMPONENTS	Apex Value (ohms)
L1	Aerial SW coupling coil ... 0.7
L2	Aerial MW coupling coil ... 24.0
L3	Aerial LW coupling coil ... 60.0
L4	Aerial SW tuning coil ... 0.1
L5	Aerial MW tuning coil ... 1.5
L6	Aerial LW tuning coil ... 15.0
L7	Oscillator circuit MW auto tuning coil ... 5.5
L8	Oscillator circuit LW auto tuning coil ... 10.0
L9	Oscillator circuit MW auto tuning coil ... 10.0
L10	Oscillator circuit LW auto tuning coil ... 10.0
L11	Oscillator circuit MW auto tuning coil ... 10.0
L12	Oscillator circuit LW auto tuning coil ... 10.0
L13	Osc. circuit MW manual tuning ... 0.1
L14	Osc. circuit LW manual tuning ... 0.1
L15	Oscillator SW reaction coil ... 1.0
L16	Oscillator MW reaction coil ... 1.0
L17	1st IF trans. P. Pri. ... 5.0
L18	2nd IF trans. P. Pri. ... 5.0
L19	1st IF trans. S. Pri. ... 5.0
L20	2nd IF trans. S. Pri. ... 5.0
L21	Speaker speech coil ... 5.0
L22	Hum neutralizing coil ... 5.0
L23	Speaker field coil ... 5.0
T1	Output trans. (P. Pri.) ... 500
T2	Output trans. (S. Pri.) ... 500
S1a	Rect. best sec. trans. ... 0.1
S1b	Rect. best sec. trans. ... 0.1
S1c	Rect. best sec. trans. ... 0.1
S1d	Rect. best sec. trans. ... 0.1
S1e	Rect. best sec. trans. ... 0.1
S1f	Rect. best sec. trans. ... 0.1
S1g	Rect. best sec. trans. ... 0.1
S1h	Rect. best sec. trans. ... 0.1
S1i	Rect. best sec. trans. ... 0.1
S1j	Rect. best sec. trans. ... 0.1
S1k	Rect. best sec. trans. ... 0.1
S1l	Rect. best sec. trans. ... 0.1
S1m	Rect. best sec. trans. ... 0.1
S1n	Rect. best sec. trans. ... 0.1
S1o	Rect. best sec. trans. ... 0.1
S1p	Rect. best sec. trans. ... 0.1
S1q	Rect. best sec. trans. ... 0.1
S1r	Rect. best sec. trans. ... 0.1
S1s	Rect. best sec. trans. ... 0.1
S1t	Rect. best sec. trans. ... 0.1
S1u	Rect. best sec. trans. ... 0.1
S1v	Rect. best sec. trans. ... 0.1
S1w	Rect. best sec. trans. ... 0.1
S1x	Rect. best sec. trans. ... 0.1
S1y	Rect. best sec. trans. ... 0.1
S1z	Rect. best sec. trans. ... 0.1

VALVE ANALYSIS	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 6X1M	250	3.5	85	3.7
V2 6X2	250	3.5	85	3.7
V3 6X3	250	3.5	85	3.7
V4 6X4	250	3.5	85	3.7
V5 6X5	250	3.5	85	3.7
V6 6X6	250	3.5	85	3.7
V7 6X7	250	3.5	85	3.7
V8 6X8	250	3.5	85	3.7
V9 6X9	250	3.5	85	3.7
V10 6X10	250	3.5	85	3.7

† Each anode, A.C.
 was tuned to the lowest wavelength on the medium band and the volume control was at maximum, but there was no signal input.
 Voltages were measured on the 400 V scale of a model T Universal Avometer, chassis being negative.

CIRCUIT ALIGNMENT

IF Stages.—Switch set to MW, tune tone control fully clockwise, and gang condenser and volume control to maximum. Connect signal generator via a 0.1 μF condenser to grid (top cap) of V2, and chassis. Leave existing top cap connector in place.

Connect a damping shunt, consisting of a 35,000 Ω resistance and a 0.05 μF condenser in series, between V2 anode and chassis, feed in a 465 KC/S signal, and adjust the core of L20 (at top of can) for maximum output. Transfer damping shunt to connections of L20, and adjust L19 (beneath chassis) for maximum output.

Transfer signal generator lead to V1 top cap, leaving existing connector in place, and transfer damping shunt to V1 anode and chassis. Adjust L18 (at top of can) at the same frequency for maximum output. Transfer damping shunt to connections of L18, and adjust L17 (beneath chassis) for maximum output. Repeat if necessary in same order.

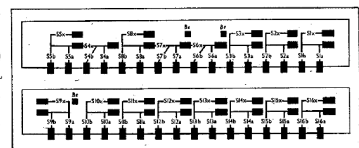
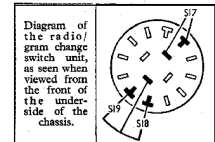
RF and Oscillator Stages.—Check that the pointer covers the 192 m mark on the MW scale, when the gang is at minimum. If adjustment is necessary, slide the pointer up or down the drive wire. Connect signal generator, via a suitable dummy aerial, to A and E sockets.

SW.—Switch set to SW, tune to 1,650 m on scale, and feed in a 50 m (6 MC/S) signal. Adjust loops of L4 and L5 for maximum output. Repeat until no further improvement results. Check sensitivity at 16.8 m (17.86 MC/S).

MW.—Switch set to MW, turn gang to minimum, and feed in a 192 m (1,562.5 KC/S) signal. Adjust C40 for maximum output. Tune to 210 m on scale, feed in a 210 m (1,429 KC/S) signal, and adjust C32 for maximum output. Tune to 510 m on scale, feed in a 510 m (588 KC/S) signal, and adjust cores of L13 and L5 for maximum output. Only slight adjustments should be necessary. Repeat the MW adjustments.

LW.—Switch set to LW, tune to 1,000 m on scale, feed in a 1,000 m (300 KC/S) signal, and adjust C41, then C31, for maximum output. Tune to 1,850 m on scale, feed in a 1,850 m (162.2 KC/S) signal, and adjust cores of L14 and L8 for maximum output. Repeat the 1,000 m adjustments.

Finally, check adjustments of all press-button trimmers.



Diagrams of the radio/gram change switch unit. The upper one is the view looking at the underside of the chassis, while the lower one shows the switches on the side facing the chassis deck.