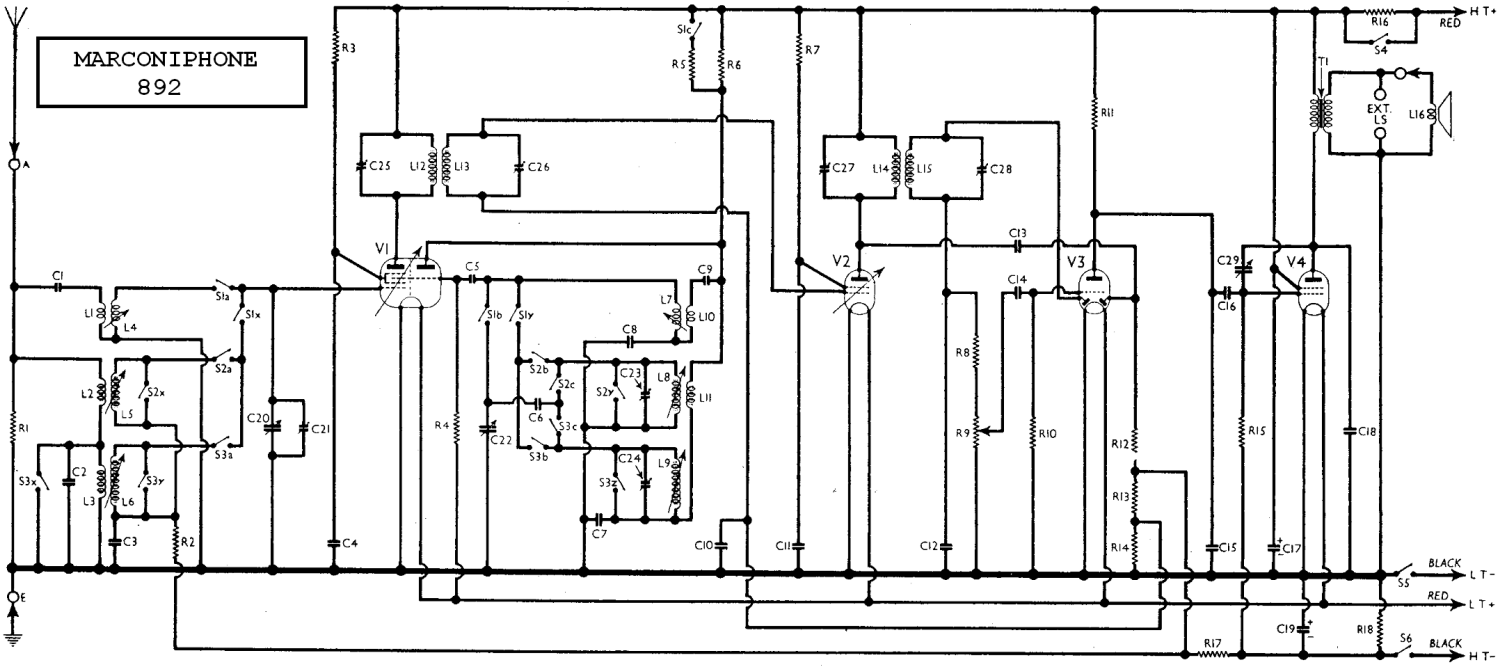


	RESISTANCES	Values (ohms)
R1	Aerial circuit shunt ...	10,000
R2	V1 hexode CG decoupling...	230,000
R3	V1 SG HT feed	50,000
R4	V1 osc. CG resistance ...	100,000
R5, R6	V1 osc. anode HT feed resistances	15,000 / 50,000
R7	V2 SG HT feed	75,000
R8	Volume control limiter ...	230,000
R9	Manual volume control; V3 signal diode load ...	500,000
R10	V3 triode CG resistance ...	2,300,000
R11	V3 triode anode load ...	150,000
R12	V3 AVC diode load resistances	230,000 / 2,300,000 / 350,000
R13, R14		
R15	V4 CG resistance	350,000
R16	Battery economiser resistance	10,000
R17	Part V1, V2 GB pot. divider	2,300,000
R18	Auto GB resistance ...	350

	CONDENSERS	Values (μF)
C1	Aerial SW series condenser...	0·000035
C2	Aerial LW shunt condenser ...	0·0005
C3	V1 hexode CG decoupling ...	0·05
C4	V1 SG decoupling	0·05
C5	V1 osc. CG condenser ...	0·000075
C6	Osc. circuit MW tracker ...	0·0005
C7	Osc. circuit LW tracker ...	0·00035
C8	Osc. circuit SW tracker ...	0·005
C9	V1 osc. anode SW coupling...	0·00005
C10	V2 CG decoupling	0·05
C11	V2 SG decoupling	0·05
C12	IF by-pass	0·0001
C13	Coupling to V3 AVC diode ...	0·0001
C14	AF coupling to V3 triode ...	0·01
C15	IF by-pass	0·00023
C16	V3 triode to V4 AF coupling	0·05
C17*	HT reservoir condenser ...	8·0
C18	Fixed tone corrector ...	0·001
C19*	Auto GB circuit by-pass ...	50·0
C20†	Aerial circuit tuning ...	—
C21‡	Aerial circuit MW trimmer...	—
C22†	Oscillator circuit tuning ...	—
C23‡	Osc. circuit MW trimmer ...	—
C24‡	Osc. circuit LW trimmer ...	—
C25‡	1st IF trans. pri. tuning ...	—
C26‡	1st IF trans. sec. tuning ...	—
C27‡	2nd IF trans. pri. tuning ...	—
C28‡	2nd IF trans. sec. tuning ...	—
C29†	Variable tone control ...	0·0001

* Electrolytic. † Variable. ‡ Pre-set.

VALVE ANALYSIS

Valve voltages and currents given in the table below are those measured in our receiver when it was operating with a new HT battery reading 120V on load.

The receiver was tuned to the lowest wavelength on the MW band. The volume control and battery economiser were at maximum, but there was no signal input.

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

	OTHER COMPONENTS	Approx. Values (ohms)
L1	Aerial SW coupling coil	0·7
L2	Aerial MW coupling coil	24·0
L3	Aerial LW coupling coil	59·0
L4	Aerial SW tuning coil...	Very low
L5	Aerial MW tuning coil...	2·25
L6	Aerial LW tuning coil...	17·5
L7	Osc. circuit SW tuning coil	Very low
L8	Osc. circuit MW tuning coil	3·0
L9	Osc. circuit LW tuning coil	7·5
L10	Oscillator SW reaction coil	0·8
L11	Oscillator MW reaction coil	1·75
L12, L13	1st IF trans. Pri. ... / Sec. ...	4·5 / 4·5
L14, L15	2nd IF trans. Pri. ... / Sec. ...	4·5 / 4·5
L16	Speaker speech coil ...	4·0
T1	Output trans. Pri. ... / Sec. ...	650·0 / 0·4
S1a, b, c, x, y to S3a, b, c x, y, z	Waveband switches ...	—
S4	Battery economiser switch	—
S5	LT circuit switch ...	—
S6	HT circuit switch ...	—

CIRCUIT ALIGNMENT

IF Stages.—Press MW button, turn volume control and economiser switch to maximum, and gang condenser to minimum. Connect signal generator, via a 0.1μF condenser to control grid (top cap) of **V1** and chassis, leaving existing top cap connection in position.

Feed in a 465 KC/S signal, and adjust **C28, C27, C26** and **C25** in turn for maximum output. Check these adjustments.

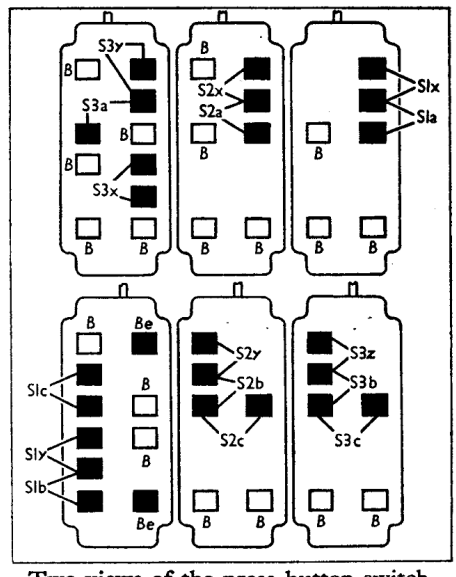
RF and Oscillator Stages.—With gang at minimum, pointer should coincide with the 192 m mark on the MW scale. If not, slide the pointer up or down the drive wire until it is in the correct position. Connect signal generator to **A** and **E** sockets, via a suitable dummy aerial. Volume control and economiser switch should be at maximum.

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 X24	117 / Oscill 50	0·7 ator 1·3	70	0·9
V2 Z21	117	0·9	83	0·35
V3 HD24	57	0·35	—	—
V4 KT2	112	4·6	117	0·9

MW.—Press MW button, turn gang to minimum, feed in a 192 m (1,562 KC/S) signal and adjust **C23** (through front of chassis) for maximum output. Tune to 220 m on scale, feed in a 220 m (1,364 KC/S) signal, and adjust **C21** (on gang) for maximum output. Tune to 530 m on scale, feed in a 530 m (566 KC/S) signal, and adjust cores of **L8** and **L5** for maximum output. Repeat these adjustments several times.

LW.—Press LW button, tune to 720m on scale, feed in a 720m (417 KC/S) signal, and adjust **C24** for maximum output. Tune to 1,750m on scale, feed in a 1,750m (171.4 KC/S) signal and adjust core of **L9** for maximum output. Tune to 1,400m on scale, feed in a 1,400m (214.3 KC/S) signal, and adjust core of **L6** for maximum output. Repeat the 720m adjustment.

SW.—Press SW button, tune to 50m on scale, feed in a 50m (6 MC/S) signal, and adjust the loops of wire inside the **L7** and **L4** coil formers, through holes in the front of the chassis. A special hooked tool of insulation material should be used, and the loops should be adjusted for maximum output. Repeat these adjustments several times, then check that the set will tune down to 16.8m.



Two views of the press-button switch unit. Top, the side seen from beneath the chassis; bottom, the side facing the chassis deck.