

E R T SERVICE CHART 1831 MARGONIPHONE 4174 ULTRA 6174

MODELS 4174 and 6174 are electrically identical medium and long waveband radio receivers.

They feature push-button wave-band selection and off-on switching and tone control.

Battery. 9V type PP9 or equivalent.

Consumption. Quiescent current 16mA.

Wavebands. LW, MW.

Transistors. TR1 mixer/oscillator BF194, TR2 IF amplifier BF194, TR3 IF amplifier BF194, TR4 AF amplifier BC154, TR5 AF amplifier U3540, TR6 driver 2N3702, TR7 AC142 and TR8 AC141 complementary output pair.

Diodes. W1 AGC OA90, W2 detector OA90, W3 bias stabiliser D3.

IF. 472kHz.

Aerials. Internal ferrite rod. External car type aerial via Skt. 1.

Speaker. 5in. diameter impedance 10ohm.

Output. 600mW.

Outlet. Miniature normally closed jack, J1, for earphone.

Dimensions. 6½ × 12½ × 3½in.

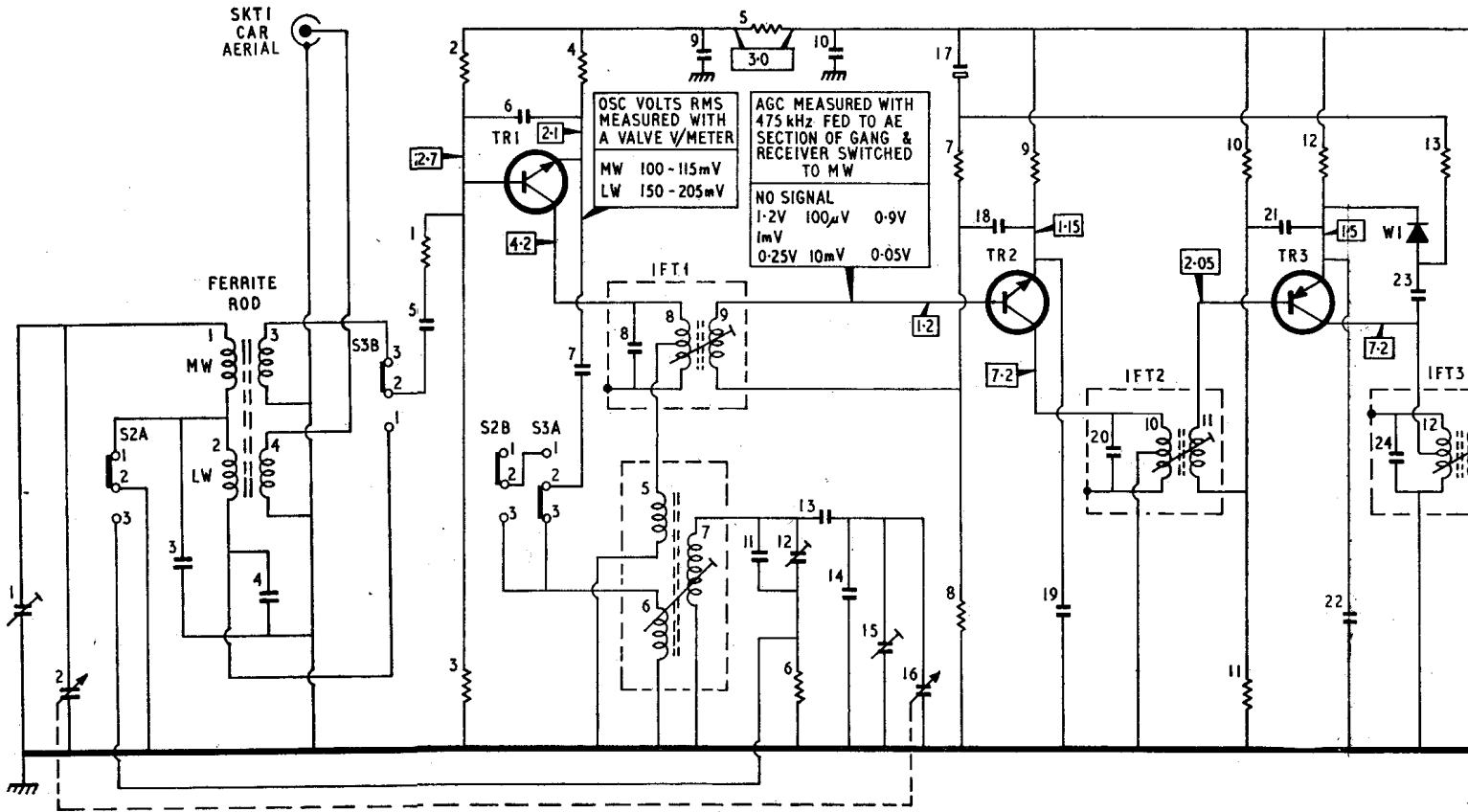
Price. Both models: £16-90.

Manufacturer. British Radio Corporation Ltd.

Service department. London—PO Box No. 121, Lea Valley Trading Estate, Angel Road, Edmonton, London N18 3BP. Tel: 01-807 3060. Spare parts Tel: 01-807 0791, or answering service: 01-807 6332. Manchester—Thorn House, Derby Street, Cheetham, Manchester 8. Tel: 061-832 2499. Glasgow—155 Shieldhall Road, Glasgow SW1. Tel: 041-882 4512.

RESISTORS													
R1	100	A2	R10	5K6	B2	R20	330	A1	R30	330	A2	C8	
R2	2K7	B2	R11	12K	B2	R21	5K6	A1				C9	
R3	1K5	B2	R12	1K	B2	R22	680	B1	CAPACITORS		B2	C10	
R4	2K2	B2	R13	18K	B2	R23	33K	A1	C1	5pF	B2	C11	
R5	1K5	B2	R14	5K6	B2	R24	68K	A1	C2	266pF	B2	C12	
R6	68K	B2	R15	22K	B2	R25	39K	A1	C3	60pF	A2	C13	
R7	5K6	B2	R16	22K	A1	R26	10	A1	C4	2KpF	A2	C14	
R8	220K	B2	R17	4K7	A1	R27	1K5	A1	C5	5KpF	A2	C15	
R9	1K	B2	R18	100K	B1	R28	680	A2	C6	100pF	B2	C16	
			R19	22K	A1	R29	680	B1	C7	10KpF	B2	C17	

R				1	2		4		5	6		7	9		10	12	13						
C	1	2	3	4	5	6	7	8	9	11	12	13	14	15	16	17	18	19	20	21	22	24	25
L			1	3				5	8	9									10	11			12
			2	4				6	7														

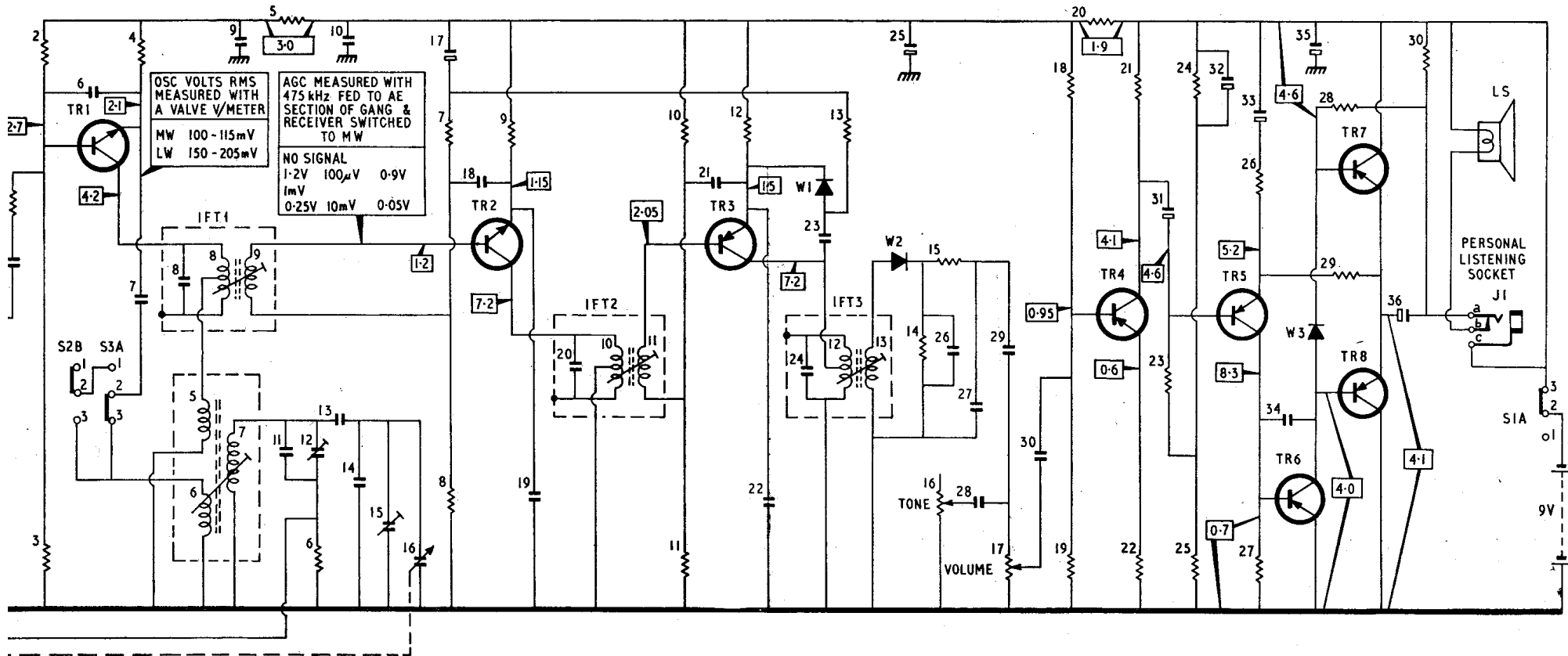


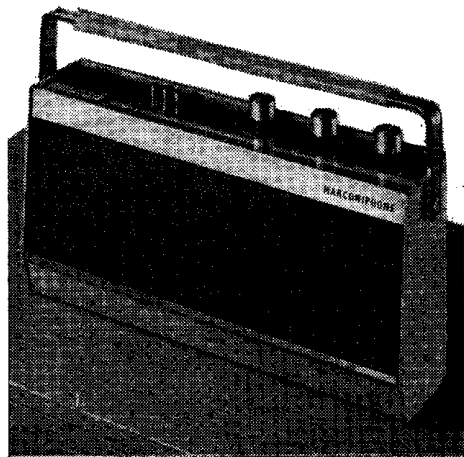
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MARCONIPHONE 4174 ULTRA 6174

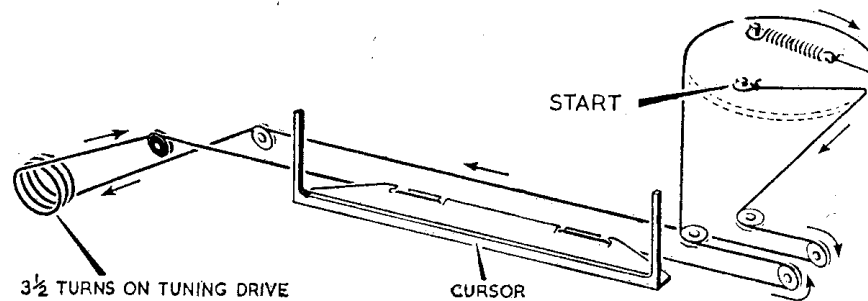
5K6	B2	R20	330	A1	R30	330	A2	C8	180pF	B2	C18	20KpF	B2	C28	50KpF	A2
12K	B2	R21	5K6	A1	CAPACITORS			C9	10KpF	B2	C19	20KpF	B2	C29	220KpF	A2
1K	B2	R22	680	B1	C1	5pF	B2	C10	20KpF	B2	C20	180pF	B2	C30	220KpF	B1
18K	B2	R23	33K	A1	C2	266pF	B2	C11	230pF	B2	C21	20KpF	B2	C31	8μF	B1
5K6	B2	R24	68K	A1	C3	60pF	A2	C12	25pF	B2	C22	20KpF	B2	C32	8μF	A1
22K	B2	R25	39K	A1	C4	2KpF	A2	C13	290pF	B2	C23	100pF	B2	C33	300μF	A1
22K	A1	R26	10	A1	C5	5KpF	A2	C14	9pF	B2	C24	180pF	B2	C34	2KpF	A1
4K7	A1	R27	1K5	A1	C6	100pF	B2	C15	5pF	B2	C25	150μF	A2	C35	300μF	A1
100K	B1	R28	680	A2	C7	10KpF	B2	C16	266pF	B2	C26	10KpF	B2	C36	300μF	A1
22K	A1	R29	680	B1				C17	8μF	B2	C27	5KpF	B1		B1	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30			
5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	
			5	8	9																											
			6	7						10	11																					LS





Appearance of Marconiphone 4174



Drive cord assembly. Use approximately 40in. of nylon braided cord—actual length between knots 35½in. Rotate drive drum fully clockwise and route cord as illustrated

DISMANTLING

Remove battery cover and battery. The wrap-round case back can be separated from the front assembly by first removing handle fixing studs, spacers and washers. Then unscrew and remove four screws—one at top centre back and three along the base.

To remove chassis complete with drive cord assembly unscrew and remove five fixing screws (A). Fifth screw is located by C30.

SERVICE NOTES

All voltages on circuit diagram were measured under quiescent conditions with a 20,000ohm/V meter and are with respect to the emitter supply line of each transistor, except where otherwise shown.

ALIGNMENT

Equipment required. An AM signal generator, a 10ohm impedance output meter, a 100KpF capacitor and an RF coupling coil.

Terminate output meter in a miniature jack plug and insert plug into earphone jack, J1. Rotate volume control to maximum and maintain the audio output at approximately 50mW by attenuating input signal as required.

IF. Switch receiver to MW and rotate tuning to maximum capacitance. Feed in a 472kHz AM signal via a 100KpF capacitor to junction C2/L1. Adjust L12, L10 and L8 in that order for maximum output. Repeat in same order for optimum results.

RF. With tuning gang at maximum capacitance, check and if necessary, adjust cursor to coincide with zero marker, notch at left-hand end of calibration strip or dot on tuning scale. MW must be aligned first.

Terminate signal generator output in an RF coupling coil and loosely couple to ferrite rod aerial assembly.

Switch receiver to MW, tune to centre of 500m on scale and feed in a 600kHz AM signal. Adjust L7 and position of L1 on ferrite rod for maximum output.

Tune receiver to centre of 200m on scale and feed in a 1500kHz AM signal. Adjust C15 and C1 for maximum output.

Switch receiver to LW, tune to centre of 1400m on scale and feed in a 214kHz AM signal. Adjust C12 and position of L2 on ferrite rod for maximum output.

Repeat RF adjustments as necessary for optimum output and calibration.

