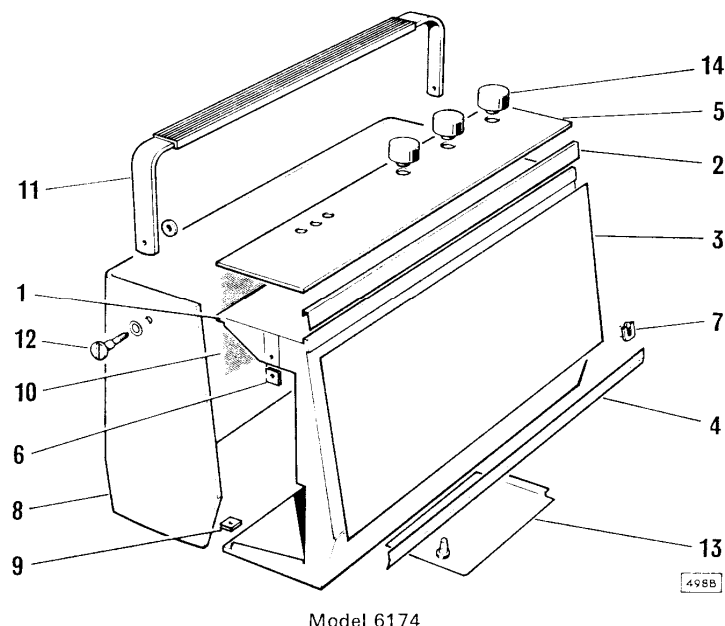


REPLACEMENT PARTS

When ordering replacement components, please quote Model number and include the description or function given with the part number. Unless otherwise stated, items listed are common to both models.



Model 6174

Cabinet Assembly

(1) Cabinet front (with items 2-7 inclusive)	(4174) ...	03M3-551
	(6174) ...	03M3-569
(2) Top trim	(4174) ...	03A2-307-003
	(6174) ...	03A2-307-001
(3) Front grille	(4174) ...	03A4-209-001
	(6174) ...	03A4-206-001
(4) Bottom trim	...	03A2-219
(5) Scale	(4174) ...	03A7-792
	(6174) ...	03A7-789
(6) 'U' clip securing handle	...	03L4-031
(7) Emblem	(4174) ...	03A6-042
	(6174) ...	00A6-217-002
(8) Cabinet back (including items 9 and 10)	(4174) ...	03M3-550
	(6174) ...	03M3-568
Screw (3 off)	...	SZ06KP08-N
Screw (1 off)	...	SB06KP10-C
(9) 'U' clip securing cabinet back	...	03L4-167
(10) Scrim on cabinet back	...	03B4-237
(11) Handle	(4174) ...	03A9-058-005
	(6174) ...	03A9-058-008
(12) Handle stud	...	03B3-119
Handle spacer	...	03L7-037
Handle washer	...	03L6-068
(13) Battery cover	...	03B1-280-001
Battery cover stud	...	03B3-019
Rubber washer	...	03L6-027
Battery cover clip (on cabinet front)	...	03L3-086
(14) Control knob	...	03C0-217-001
Control knob clip	...	03L3-111

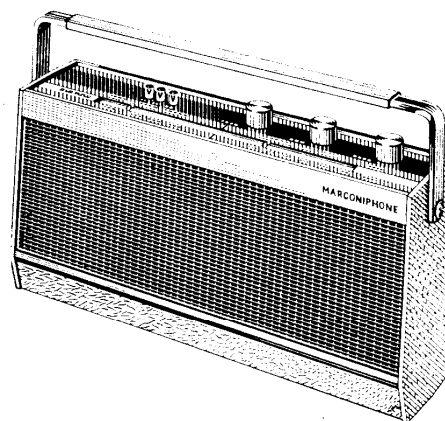
Chassis Assembly

Screw securing printed board (4BA)	...	SY06HP04
Clip securing printed board	...	03L4-169
PK screw securing printed board	...	SZ06HP04
SP washer	...	WSPB04
Ferrite rod cleat	...	03L3-084
'U' clip	...	03L4-167
Screw	...	SA06HH06
Chassis moulding assembly	...	03M3-095
Scale backing	...	03A7-578-001
Cursor	...	03B5-083-002
Tuning drive pulley assembly	...	03M3-420
Special nut	...	03L6-037
Small pulley (black); 3 off	...	00C8-121
Large pulley (black); 2 off	...	03C8-001
Circlip	...	03L3-039
Nylon pulley (white)	...	03C8-112-001
Pulley pivot (white)	...	03C8-119
Drive drum	...	03F5-031
Screw	...	03L6-110-002
Screw securing tuning gang	...	03L6-110-001
Push-button	...	03C0-226
Drive cord tension spring	...	00B5-068
J1/SKT1 bracket	...	03B1-282
Battery connector	...	03F6-031

BRC service manual

Price: 7½ p

MARCONIPHONE **4174**
ULTRA **6174**



4174
(6174 is similar)

Models 4174 and 6174 comprise two electrically identical receivers each providing reception in the Medium and Long wavebands, with earphone and car aerial sockets. Power source is a 9V battery, PP9 or equivalents.

The wrap-round cabinet back separates from the front assembly after removing carrying handle, one screw at top centre of back and three screws along the base. The five screws holding printed board and drive cord assembly to cabinet front are shown on back page.

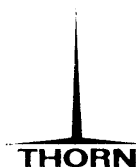
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Spares ordering only: 01-807 0791, or
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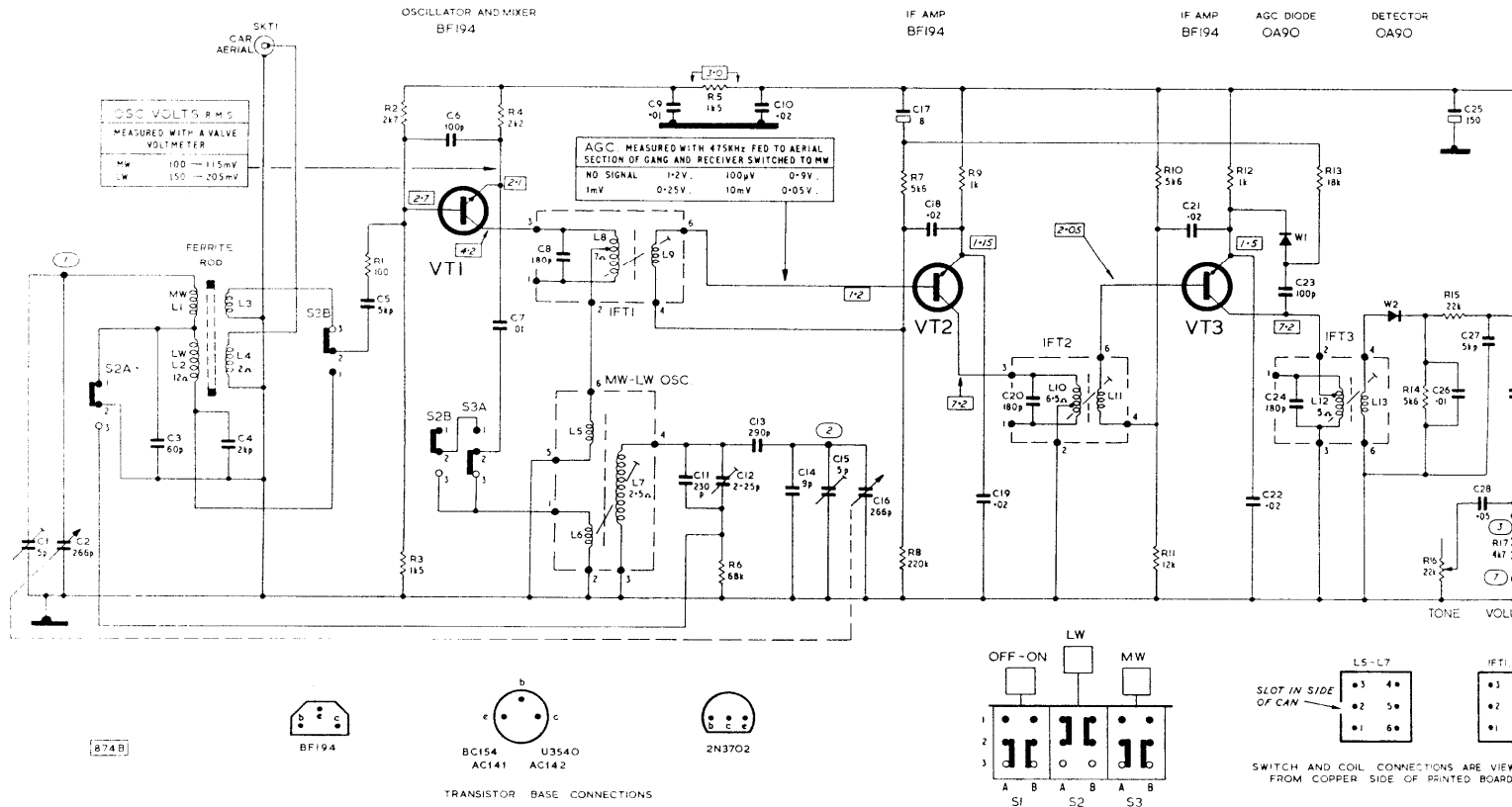
MANCHESTER:
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Manchester 8. Tel. 061-832 2499

GLASGOW:
155 Shieldhall Road, Glasgow, S.W.1.
Tel. 041-882 4512



THORN

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COMPONENT DETAILS

When ordering replacement capacitors and resistors for which no part numbers are given, please quote Model number and component details as stated below.

CAPACITORS

REF	DESCRIPTION & PART NO.	LOC
C1	5pF, Preset, MW aerial trimmer, Part tuning gang, 03E4-036 ...	G4
C2	266pF, Aerial tuning, Part tuning gang, 03E4-036 ...	F4
C3	60pF, 2 1/2%, 20V, LW aerial fixed trimmer ...	F1
C4	2000pF, 20%, 500V, LW aerial bottom end coupling ...	E2
C5	5000pF, 20%, 500V, VT1 signal coupling ...	D3
C6	100pF, 10%, 500V, VT1 stabilizing ...	E3
C7	0.1μF, -20 +80%, 50V, MW/LW oscillator emitter coupling ...	D3
C8	180pF, L8 tuning, Part IFT1 ...	D3,4
C9	0.1μF, -20, +80%, 50V, VT1 supply line RF decoupling ...	E3
C10	0.2μF, -20 +80%, 50V, Supply line RF decoupling ...	CD4
C11	230pF, 2%, 350V, LW oscillator fixed trimmer ...	D3
C12	2-25pF, Preset, LW oscillator trimmer, 03E4-015 ...	D3
C13	290pF, 2%, 350V, MW oscillator fixed padder ...	E3
C14	9pF, 5%, 500V, MW oscillator fixed trimmer ...	E3
C15	5pF, Preset, MW oscillator trimmer, Part tuning gang, 03E4-036 ...	G2
C16	266pF, Oscillator tuning, Part tuning gang, 03E4-036 ...	F4
C17	8μF, Elec., 18V, AGC decoupling, 00E0-222-13 ...	D4
C18	0.2μF, -20 +80%, 50V, VT2 base bias decoupling ...	DE4
C19	0.2μF, -20 +80%, 50V, VT2 emitter bypass ...	E3,4
C20	180pF, L10 tuning, Part IFT2 ...	E4
C21	0.2μF, -20 +80%, 50V, VT3 base bias decoupling ...	E4
C22	0.2μF, -20 +80%, 50V, VT3 emitter bypass ...	D4
C23	100pF, 10%, 500V, AGC signal coupling ...	D4
C24	180pF, L12 tuning, Part IFT3 ...	D4
C25	150μF, Elec., 9V, Supply line decoupling, 00E0-229-59 ...	CD3
C26	0.1μF, -20 +80%, 50V, Part IF filter ...	D4
C27	5000pF, 20%, 500V, Part IF filter ...	C4
C28	0.05μF, Part tone control ...	D2

REF	DESCRIPTION & PART NO.	LOC
C29	0.22μF, 10%, 250V, Detector output coupling ...	D2,3
C30	0.22μF, 20%, 250V, VT4 audio coupling ...	A3
C31	8μF, Elec., 18V, VT5 signal coupling, 00E0-222-13 ...	B3
C32	8μF, Elec., 18V, VT5 base bias decoupling, 00E0-222-13 ...	AB2
C33	300μF, Elec., 10V, NFB and DC blocking, 00E0-229-64 ...	B2
C34	2000pF, 20%, 500V, Tone correction ...	B2,3
C35	300μF, Elec., 9V, Battery decoupling, 00E0-229-59 ...	C2
C36	300μF, Elec., 9V, Audio output coupling, 00E0-229-59 ...	C3

INDUCTORS

REF	DESCRIPTION & PART NO.	LOC
L1	MW aerial coil	D1
L2	LW aerial coil	F1
L3	VT1 base coupling	DE1
L4	Car aerial coupling	EF1
L5-L7	MW-LW oscillator assembly, 03D1-302 ...	D3
L8-9	IFT1, 03D6-036 ...	D4
L10-11	IFT2, 03D0-037 ...	E4
L12-13	IFT3, 03D0-038 ...	C4

MISCELLANEOUS

REF	DESCRIPTION & PART NO.	LOC
J1	Personal listening socket, 03F6-037 ...	C3
LS	Loudspeaker, 10Ω, 03E3-044-003 ...	—
	Clip, 03L2-097 ...	—
	Washer, 03L6-017 ...	—
S1-3	Push-button Off/On and wavechange switch, 03E2-102 ...	DE2
SKT1	Car aerial socket, 03F6-025-002 ...	C2,3
	Clip, 03L2-089 ...	—

CIRCUIT DIAGRAM

All voltages were measured with a 20,000 Ω /volt meter and are with respect to the emitter supply line of each transistor, except where otherwise shown. Ringed figures indicate printed board connection points. DC resistances of inductors are shown where these exceed 1 Ω . Transistor types which are similar to those shown in the circuit diagram may be fitted during manufacture or supplied as replacements.

ALIGNMENT DATA

A signal from a suitable AM generator is required. Tuning indication is best obtained either with an output meter having an impedance of 10 Ω and connected in place of the loudspeaker, or a Model 8 Avometer, set to the 10V AC range, connected in parallel with the loudspeaker.

Throughout alignment the signal input level to the receiver should be adjusted to maintain the audio output at approximately 50mW with the volume control set at maximum in order to avoid alignment error due to AGC action.

Appropriate alignment markers are provided by notches in the scale backing plate but as these are not annotated they should be identified by comparison with readings on the tuning scale.

IF Circuits

Select MW and turn gang to maximum capacitance. Apply a 472 kHz modulated signal through a 0.1 μ F capacitor between tag 1 and frame of tuning gang. Adjust L12/13, L10/11 and L8/9 in that order for maximum output. Repeat in the same order until no further improvement is obtainable.

RF Circuits

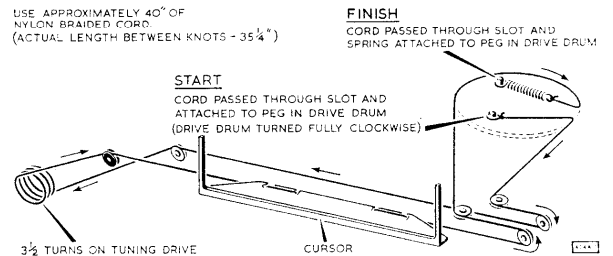
With gang fully closed, check and if necessary, adjust cursor to coincide with zero marker notch on left-hand end of calibration strip or dot on left-hand end of tuning scale. MW must be aligned first. Medium and Long wave signals should be injected via a loop loosely coupled to the ferrite rod aerial. Set signal generator and cursor as indicated in the table and make all adjustments for maximum output.

Range	Inject	Cursor Position	Adjust
MW	600 kHz	PAD marker notch or centre of 500 metres	L7, L1*
	1500 kHz	TRIM marker notch or centre of 200 metres	C15, C1
LW	220 kHz	LW calibration notch or centre of 1400 metres	C12, L2†

* Adjust by sliding ring along ferrite rod
† Adjust by sliding coil former along ferrite rod

Repeat adjustments as necessary to obtain maximum output.

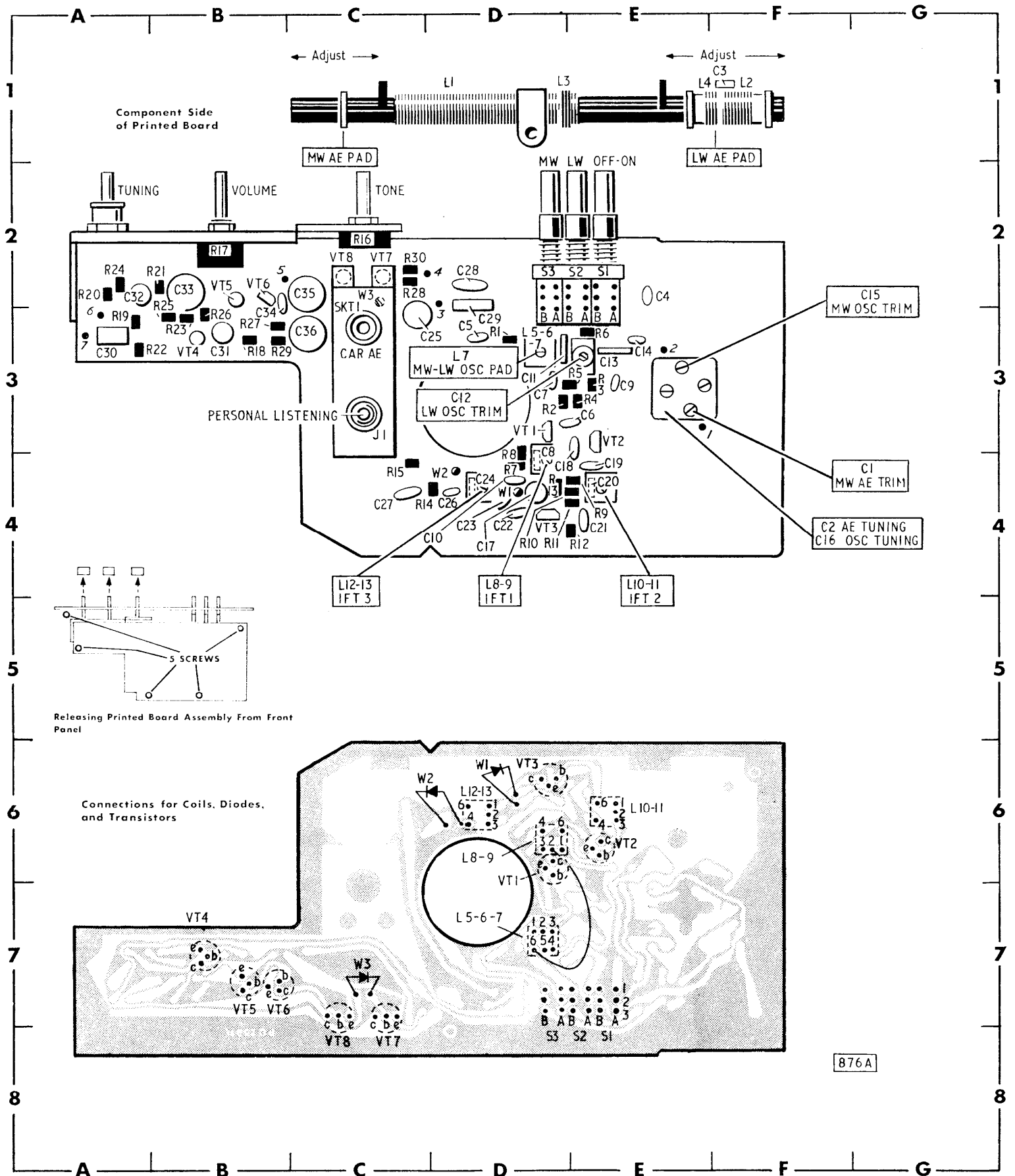
DRIVE CORD ARRANGEMENT



RESISTORS

REF	DESCRIPTION & PART NO.	LOC
R1	100 Ω , 10%, 1/4W, RF stopper ...	D3
R2	2.7k Ω , 10%, 1/4W, Part VT1 base bias pot. divider ...	D3
R3	1.5k Ω , 10%, 1/4W, Part VT1 base bias pot. divider ...	E3
R4	2.2k Ω , 10%, 1/4W, VT1 emitter stabilizing ...	E3
R5	1.5k Ω , 10%, 1/4W, VT1 supply dropper and decoupler ...	DE3
R6	68k Ω , 5%, 1/4W, MW oscillator damping ...	E3
R7	5.6k Ω , 10%, 1/4W, Part VT2 base bias pot. divider ...	D4
R8	220k Ω , 10%, 1/4W, Part VT2 base bias pot. divider ...	D3,4
R9	1k Ω , 10%, 1/4W, VT2 emitter stabilizing ...	E4
R10	5.6k Ω , 10%, 1/4W, Part VT3 base bias pot. divider ...	D4
R11	12k Ω , 10%, 1/4W, Part VT3 base bias pot. divider ...	D4
R12	1k Ω , 10%, 1/4W, VT3 emitter stabilizing ...	DE4
R13	18k Ω , 10%, 1/4W, AGC feed ...	D4
R14	5.6k Ω , 10%, 1/4W, W2 load ...	CD4
R15	22k Ω , 10%, 1/4W, Part IF filter ...	C4
R16	22k Ω , Log. pot. Tone control, 03E1-081-002 ...	C2
R17	4.7k Ω , Log. pot. Volume control, 03E1-077-003 ...	B2
R18	100k Ω , 10%, 1/4W, Part VT4 base bias pot. divider ...	B3
R19	22k Ω , 10%, 1/4W, Part VT4 base bias pot. divider ...	A2,3
R20	330 Ω , 10%, 1/4W, DC dropper and decoupler ...	A2
R21	5.6k Ω , 10%, 1/4W, VT4 collector load ...	AB2
R22	680 Ω , 10%, 1/4W, VT4 emitter stabilizing ...	AB3
R23	33k Ω , 10%, 1/4W, VT5 base bias feed ...	B3
R24	68k Ω , 10%, 1/4W, Part VT5 base bias pot. divider ...	A2
R25	39k Ω , 5%, 1/4W, Part VT5 base bias pot. divider ...	B2,3
R26	10 Ω , 10%, 1/4W, NFB current limiting ...	B2,3
R27	1.5k Ω , 10%, 1/4W, VT5 collector load ...	B3
R28	680 Ω , 10%, 1/4W, VT6 collector load ...	CD2
R29	680 Ω , 10%, 1/4W, VT5 emitter stabilizing ...	BC3
R30	330 Ω , 10%, 1/4W, Output transistors protective load ...	CD2

The manufacturers reserve the right to vary specifications or use alternative materials as may be deemed necessary or desirable at any time.



Note: Outline of printed panel may differ slightly from that shown