INVICTA

MODEL 55 PORTABLE RECEIVER FOR MAINS OR BATTERY OPERATION

Service Notes

The Invicta Model 55 is a 2 waveband universal superheterodyne portable.

MAINS VOLTAGE . .	200–250 A.C. or D.C. or Battery.
POWER CONSUMPTION	70 watts.
I.F.	470 kcs.
TUNING RANGES . .	1000–2000 m. (300–150 kcs.). 200–550 m. (1500–545 kcs.).
VALVES	V1. Frequency Changer. Mullard DK91. V2. I.F. Amplifier. Mullard DF91. V3. Diode Pentode. 2nd Detector and 1st L.F. Amplifier, A.V.C. Mullard DAF91. V4. Pentode Output. Mullard DL92.

TRIMMING PROCEDURE

I.F. 470 kcs.

Connect Sig. Gen. to G1 of DK91 and

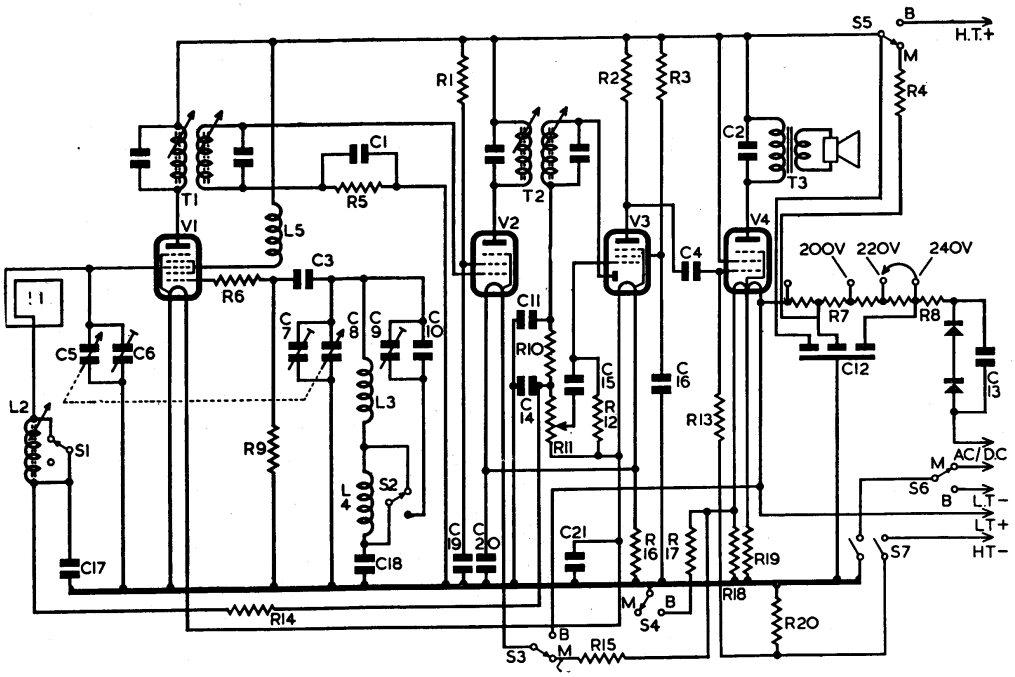
Adjust cores of T1 and T2 for maximum output.

Lay Sig. Gen. lead about 6″ from frame aerial.

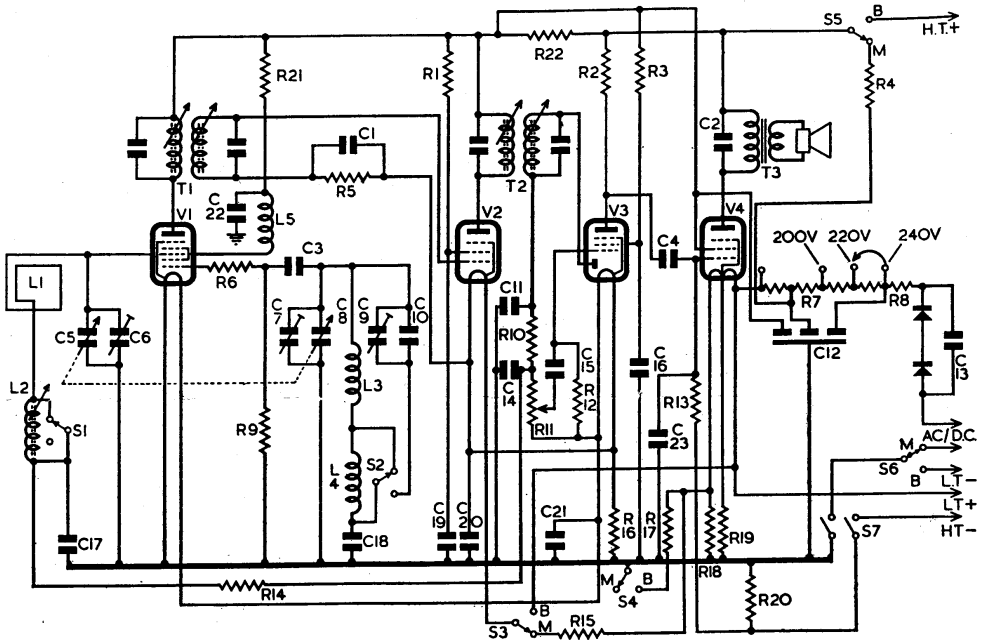
Adjust each waveband as follows:—

	SIG. GEN.	ADJUST OSC.	ADJUST PRESELECTOR	CHECK AT
M.W.	210 metres	C7	C6	540 metres
L.W.	1250 metres	C9	L2	1950 metres

MODEL 55 MK I



MODEL 55 MK II



CONDENSERS

Circuit Indication	Specification
C1	·01μF
C2	·01μF
C3	140μμF
C4	·01μF
C5	Gang
C6	50μμF
C7	50μμF
C8	Gang
C9	170μμF
C10	300μμF
C11	100μμF integral with C14 & R10
C12	30 + 40 + 40μF (left to right)
C13	·05μF
C14	100μμF integral with C11 & R10
C15	·01μF
C16	·01μF
C17	·1μF
C18	500μμF
C19	0·05μF
C20	100μF
C21	·05μF

RESISTORS

Circuit Indication	Specification
R1	10K
R2	390K
R3	3·3M
R4	3·3K
R5	2·2M
R6	10K
R7	2200 + 1150 + 400 + 400
R8	39
R9	110K
R10	47K integral with C11 & C14
R11	1M + Switch S.7
R12	4·7M
R13	1M
R14	2·2M
R15	47
R16	1K
R17	27
R18	1K
R19	2·2K
R20	560

ADDITIONS AND ALTERATIONS IN THE TWINVICTA MARK II

ADDED: **R21** 15K **R22** 2·2K **C22** ·05μF **C23** 100μμF

ALTERED: **R3** to 10M **R4** to 1K **R20** to 620Ω **R1** to 270K

FIG. A. UNDER SIDE OF CHASSIS

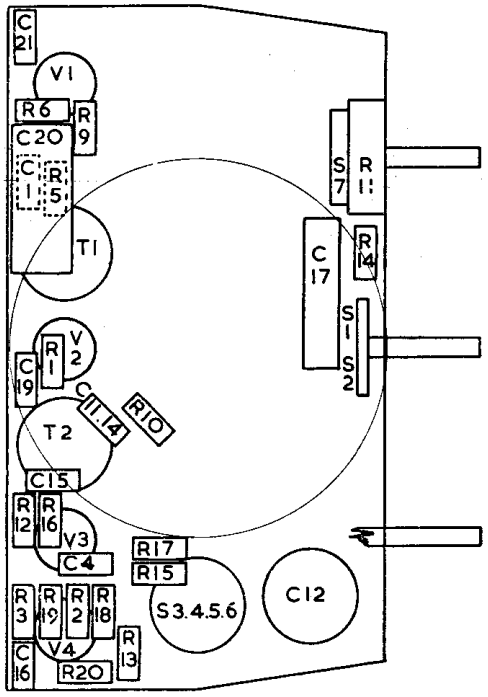
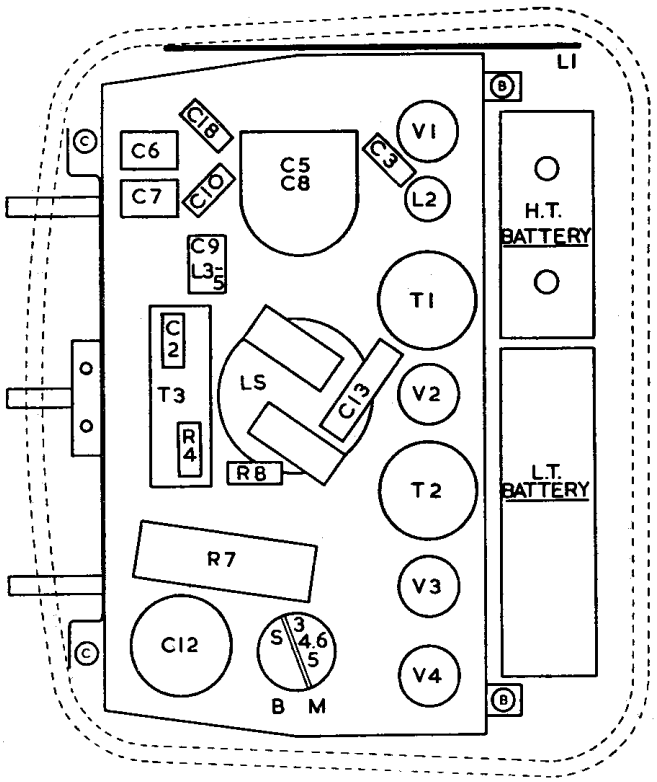


FIG. B. UPPER SIDE OF CHASSIS



CORD TO SPRING SHOULD ENTER BOTTOM SLOT

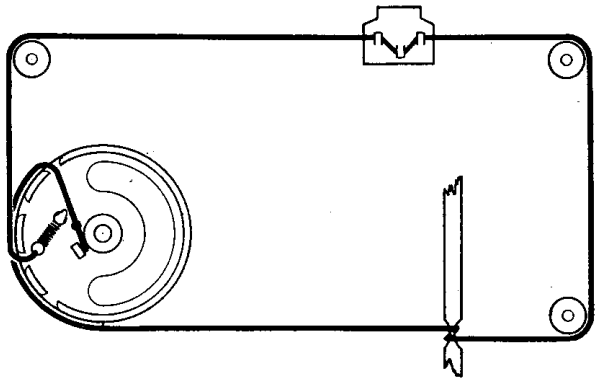


FIG. C. DRIVE CORD ARRANGEMENT

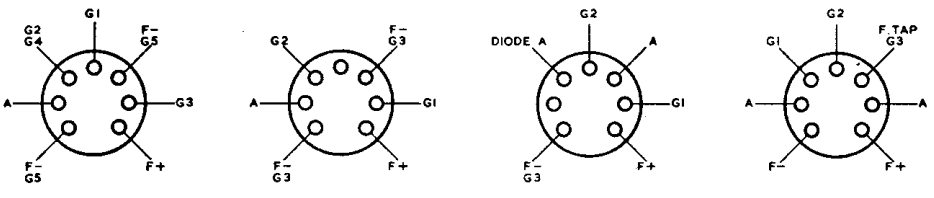


FIG. D. VALVE BASE CONNECTIONS

CIRCUIT ANALYSIS

Approximate voltage readings to be obtained at valve electrodes with an AVO Model 40.

The following conditions should be observed:—

1. Mains input 200 volt 50 cycle A.C.
2. Mains dropping resistor adjusted to 200 volt.
3. No signal condition in receiver.

VALVE	ELECTRODE	VOLTS
V1. DK91	Anode	82
	G2, G4	87
V2. DF91	Anode	82
	G2	20
V3. DAF91	Anode	10
	G2	2
V4. DL92	Anode	76
	G2	82

Current through oscillator grid leak R9 in microamps.

GANG CONDENSER		MAINS
M.W.	Min.	90
	Max.	100
L.W.	Min.	210
	Max.	100

INDUCTANCES AND TRANSFORMERS

	SPECIFICATION	APPROX. D.C. RESISTANCE	PART NO.
L1	Frame Aerial	1·75	78507
L2	L.W. Preselector Coil	26	78061
L3	M.W. Oscillator Coil	2	78004
L4	L.W. Oscillator Coil	2½	
T1	1st I.F. Transformer	P. 12 / S. 12	77028
T2	2nd I.F. Transformer	P. 12 / S. 12	77028
T3	Output Transformer	P. 700	77034

REMOVING CHASSIS FROM CABINET

Disconnect and remove batteries.
Unscrew and remove battery clip.
Remove knobs.
Unscrew two wood screws retaining rear chassis flange to cabinet.
Unscrew two 4BA nuts retaining front of chassis to cabinet.
Chassis can then be slid back and removed complete with frame aerial and speaker.

REMOVING SPEAKER

Remove chassis from cabinet.
Unscrew two 6BA bolts holding speaker to chassis bottom flange.
Unsolder two wires.
Speaker can then be removed.

REPLACING DRIVE CORD

Remove chassis from cabinet and remove speaker.
Take 2 ft. 6 in. length of drive cord.
Thread through drive drum, round drive spindle and pulleys as per diagram.

CORRECTIONS AND CHANGES

An additional condenser value 100$\mu\mu$F is connected between V4 grid and chassis.
In MK I circuit C1/R5 should return to filament of V2. Not to earth.

MADE IN ENGLAND BY INVICTA RADIO LTD., RADIO WORKS, PARKHURST ROAD, LONDON, ENGLAND