

ALIGNMENT

I.F. Alignment

1. Set the Waveband Switch to M.W., the Volume control fully clockwise and the Gang Capacitor to minimum capacity.
2. Inject a 470 kc/s modulated signal into the grid of V1 (Pin 6) and chassis.

3. Adjust cores of L8, L7, L4 and L3 consecutively for maximum output.

R.F. Alignment

Connect a few turns of wire to the output leads of the signal generator and inductively couple the turns to the M.W. or L.W. coils (L1 or L2) on the Ferrite Rod.

Medium Wave

Set Volume Control to Maximum and Waveband Switch to M.W.

Operation No.	Set Signal metres	Generator. kc/s	Set Gang Capacitors.	Operation.
1	574	522	Maximum	Adjust core of L5 for maximum output
2	187	1602	Minimum	Adjust TC2 for maximum output Repeat operations 1 & 2.
3	510	588	Tune in	Adjust L1 for maximum output
4	210	1427	Tune in	Adjust TC1 for maximum output Repeat operations 3 and 4

Long Wave

Set Volume Control to Maximum and Waveband Switch to L.W.

Operation No.	Set Signal metres	Generator. kc/s	Set Gang Capacitors.	Operation
1	1852	162	Tune in	Adjust L2 for maximum output

N.B. L1 and L2 are adjusted in the factory and do not require re-adjustment, but if it found necessary to re-adjust these, they should be loosened with cellulose thinners.

VOLTAGE TABLE

The following table indicates the approximate static voltage and current readings obtained on each valve. Variations of $\pm 15\%$ may be anticipated between models. A meter having a resistance of 20,000 Ω per volt should be used to measure voltages.

VALVE	ANODE Volts to Chassis		SCREEN Volts to Chassis
V1 (DK96)	MX. (Pin 2) 67	OSC. (Pin 3) 30	67.5
V2 (DF96)	67		67.5
V3 (DAF96)	65		50

Transistors

TRA1 } See Transistor Bias Chart for current check.
TRA2 }

TOTAL H.T. CURRENT. 4.5 mA.
TOTAL L.T. CURRENT. 40 mA.

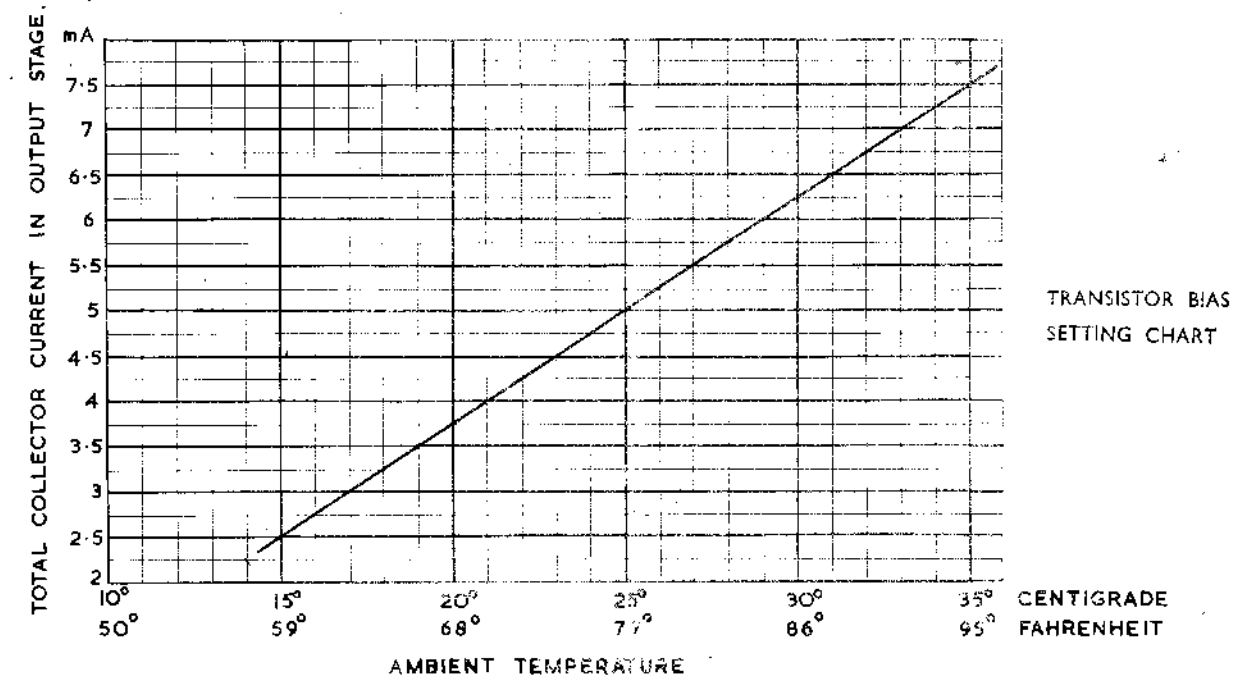
TRANSISTORS BIAS ADJUSTMENT

The preset Bias control (RV2) is adjusted at the factory and should not require further adjustment. If, however, replacement of the transistors becomes necessary, RV2 should be adjusted in accordance with the Transistor Bias Setting Chart. The adjustment should be carried out as follows :-

Remove the radio chassis as described under "Dismantling". Unsolder one side of the test point link and connect in series

ies a C-10 mA meter. Switch the receiver on and position the tuner to a no-signal condition and volume control to minimum. The ambient temperature should now be taken.

Adjust sliding resistor RV2 for a current reading to correspond with the Bias Chart, e.g., if the ambient temperature is 20°C centigrade the corresponding current reading for correct quiescent transistor bias should be 3.75 mA.



HINTS ON SERVICING TRANSISTORS

Normal methods may be used for checking the part of the circuit incorporating thermionic valves. Care should, however, be taken not to short circuit L.T. or H.T. with the meter probe.

The output stage should preferably be tested under dynamic conditions. If this is not possible, the stage may be checked under static conditions, i.e., with no signal.

A faulty transistor will result in bad distortion of the output, in which case a current check is permissible and if the current is approximately equal to half of the total current through the collectors, then it is most probable that one of the transistors is faulty. As already mentioned in the "Specification", the transistors are of matched pairs, therefore, it is suggested that both transistors should be replaced with a new matched pair.

It is not recommended to use any continuity test meter on circuits incorporating transistors.

Excessive heating either by a soldering iron or due to excess current can cause a transistor to become faulty.

It is not recommended to disconnect the transistor leads for checking, but points which can be broken for test purposes are incorporated in the circuitry.

Should occasion arise for replacement of a transistor, heat shunts must be used, i.e., the leads of the transistor must be held with a pair of pliers and after soldering, the pliers must still be held in position until there is no danger of heat transference to the junction of the transistor and its leads (these junctions have extremely low temperature melting point).

In general, transistors are more rugged than normal thermionic valves but can be more prone to damage if handled carelessly. It can be emphasised however, that transistors be regarded as a reliable component and when a faulty receiver is being examined, the transistors should not be unduly suspected.

PART No.	DESCRIPTION	No. INST.	PER FIN-ISH	PART No.	DESCRIPTION	No. INST.	PER FIN-ISH
INSTRUCTIONS				See RV1 SW2 - ON/OFF Switch - -			
96317	Instruction Card	1	00	96057	Wire Switch - operating link for S.W.1	1	689
96314	Cabinet Label	1	00	96058	Washer on Switch - operating link for S.W.1	1	689
96360	Guarantee Card	1	00	10048	Eyelet on Switch - operating link for S.W.1	1	00
96098A	Serial No. Label	1	00				
CABINET AND FITTINGS				VALVES, VALVEHOLDERS & TRANSISTORS			
96048A	Cabinet Body) Model 1410B	1	00	DK96	V1 - Frequency Changer	1	00
96049A	Cabinet Back) only	1	00	DF96	V2 - IF Amplifier	1	00
96048B	Cabinet Body)Model 1410G	1	00	DAF96	V3 - Detector, AGC & LF Amplifier	1	00
96049B	Cabinet Back) only	1	00		(TR1 (Matched pair)		
96067A	Handle Model 1410B only	1	00	96065A	{ Transistors }	1	00
96067B	Handle Model 1410G only	1	00		(TR2 (OC72)		
96068	Spring Clips on Handle	2	00	96051A	Valveholders for V1,2 & 3.	3	00
96069A	Wavechange Slider Knob	1	00				
96070	Metal Slider Link	1	689				
92362	Spire Nut securing Knob to Slider Link	1	00				
93991-	Rubber Band on Cabinet Back	1	00				
15159	Tags retaining Rubber Band	2	104				
96076	PK Screws securing Tags	2	689				
95896	HMV Emblem	1	00				
CONTROL KNOBS				BATTERIES			
See RV1				Ever Ready BL39	67.5v HT Battery	1	00
Assy.	"Volume" Knob	1	00	" "	U11 1.5v LT Cells	3	00
96077A	"Tune" "	1	00				
96069A	"Wavechange" Knob	1	00				
96079	Pin)securing Tuning	1	689				
96080	Spring) Knob	1	00				
92362	Spire Nut securing Wave-change Knob	1	00				
96229	Felt Washers on Tuning Spindle	2	00				
LOUDSPEAKER				BATTERY CONNECTORS, WIRING Etc.			
96072A	LOUDSPEAKER complete - 2 1/2" Round	1	00	96064	LT + Battery Contact	1	454
96073	Spire Nuts securing loudspeaker	4	00	96064A	LT - Battery Contact Spring Assembly	1	00
CHASSIS ASSEMBLIES				41232A	HT + Battery Connector Socket	1	00
96050B	Radio Unit complete	1	00	41229A	HT - Battery Connector Stud	1	00
96074	Clamp)securing Radio	1	689	143/404/	PVC covered connecting wire 1/024	-	-
96075	PK Screw)Unit in Cabinet	1	689	144/401/	Flexible PVC covered connecting wire 14/.0048 (Battery Leads, etc.)	-	-
SWITCHES				NB. For colour required change last figure as per Standard Colour Code.			
96059A	SW1 - Wavechange Switch	1	00	143/051/			
37465	PK Screw securing SW1	2	00	240	24 SWG Tinned Copper Wire		
				141/401/			
				024	1 mm Yellow PVC Sleeving	-	-
				141/403/			
				508	4 mm Clear Sleeving	-	-
INDUCTORS							
92780B	L1 - MW Aerial Coil	1	00				
92770D	L2 - LW Aerial Coil	1	00				
92690B	L3) 1st. IF Transformer	1	00				

