

From the Workbench

By Chris Ratcliff

Fault-finding in a Kreisher 11-81 Valve Mantle Radio



The Kriesler Model 11-81 is a 5-valve mantle radio, that uses a ferrite rod aerial.

The valve line up is:

1. ECH80(6AN7) frequency converter
2. EBF80(6N8) intermediate frequency amplifier & demodulation
3. EBC80(6BD7) audio frequency amplifier
4. EL90(6AQ5) power amplifier
5. EZ80(6V4) full wave rectifier

The Job completed so far:

All went well in capacitor replacement, including all the electrolytic capacitors.



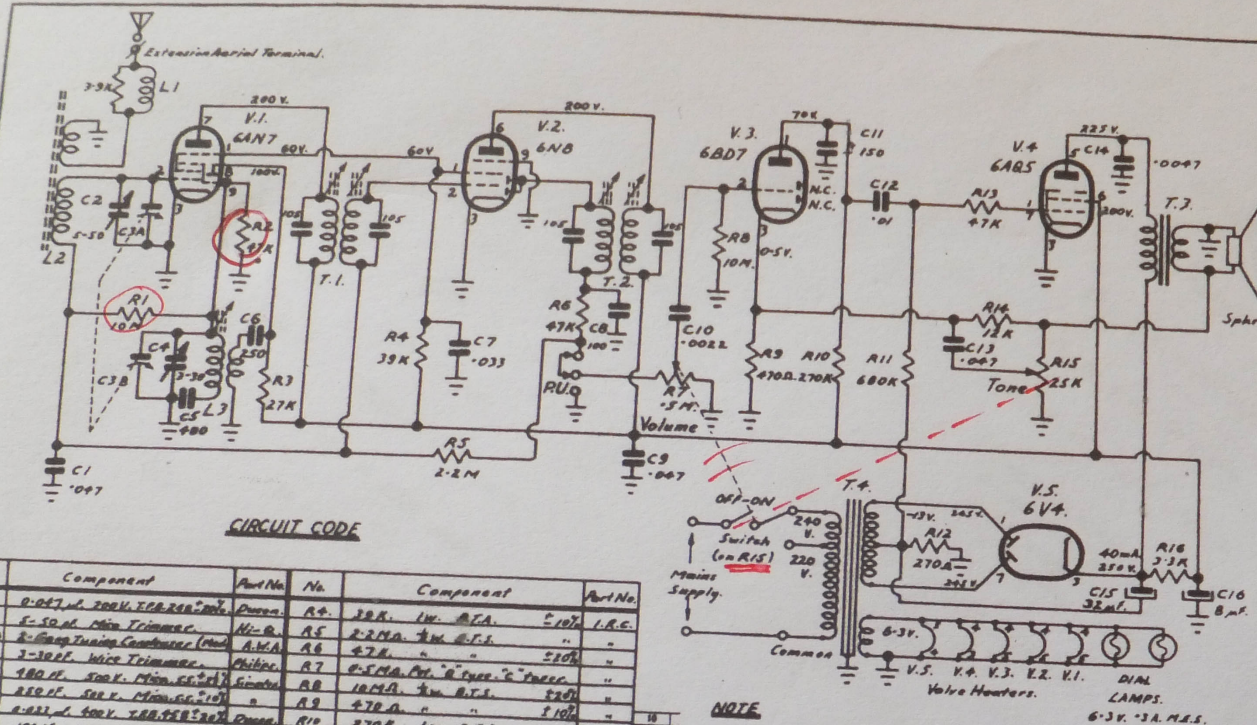
This model and its variants are reliable and are very good performers. But there is a check list that must be followed in reference to the circuit diagram:

- R1 must read 47K.
- R2 must read 10M.

K22

KRIESLER AC BROADCAST 5 VALVE MANTLE MODEL 11-81

K22



CIRCUIT CODE

No.	Component	Part No.	No.	Component	Part No.
C1	0.001µF 200V. E.P.C. 200V. 200V.	Dura. A4	R4	22K 1W. A.T.A.	510K 1/2W.
C2	5-50µF. Min. Trimmer.	M-2	R5	2.2M 1/2W. A.T.A.	"
C3	5-50µF. Min. Trimmer. (M.A.)	A.M.A.	R6	47K 1/2W. A.T.A.	510K
C4	2-10µF. Wire Trimmer.	Chilp.	R7	0.5M 1/2W. A.T.A.	"
C5	100µF. 500V. Min. 50V. 50V.	Simco	R8	10M 1/2W. A.T.A.	250K
C6	250µF. 500V. Min. 50V. 50V.	Simco	R9	47K 1/2W. A.T.A.	510K
C7	0.001µF 500V. T.C.B. 50V. 50V.	Dura.	R10	270K 1W. A.T.A.	"
C8	100µF. 500V. Min. 50V. 50V.	Simco	R11	680K 1/2W. A.T.A.	520K
C9	0.001µF 500V. T.C.B. 50V. 50V.	Dura.	R12	270K 1W. A.T.A.	520K
C10	0.001µF 500V. T.C.B. 50V. 50V.	Dura.	R13	47K 1/2W. A.T.A.	520K
C11	100µF. 500V. Min. 50V. 50V.	Simco	R14	1K 1/2W. A.T.A.	"
C12	0.001µF 500V. T.C.B. 50V. 50V.	Dura.	R15	25K 1/2W. A.T.A.	520K
C13	0.001µF 500V. T.C.B. 50V. 50V.	Dura.	R16	250K 1/2W. A.T.A.	520K
C14	0.001µF 500V. T.C.B. 50V. 50V.	Dura.	R17	25K 1/2W. A.T.A.	520K
C15	100µF. 500V. Min. 50V. 50V.	Simco	R18	25K 1/2W. A.T.A.	520K
C16	100µF. 500V. Min. 50V. 50V.	Simco	R19	25K 1/2W. A.T.A.	520K
A1	10M 1/2W. A.T.A.	510K 1/2W.	L1	Compensating Coil	K 18-28
A2	47K 1/2W. A.T.A.	"	L2	Ferrite-Rod Aerial	K 18-31
A3	27K 1W. A.T.A.	"	L3	Resistor Coil	K 18-37
A4	27K 1W. A.T.A.	"	Spr.	547H. P.B. Cone	"

NOTE

All voltage measurements taken in respect to chassis with a 1000Ω/Volt meter.

ORIGINAL		CHANGE		DATE	
MATERIAL	CHANGE	PLANNED	PROJECT QTY.	PROJECT QTY.	PROJECT QTY.
DRAWN	FINISH	CHECKED	PROJECT QTY.	PROJECT QTY.	PROJECT QTY.
APPROVED	APPROVED	APPROVED	PROJECT QTY.	PROJECT QTY.	PROJECT QTY.
RECEIVER A.C. MANTLE		11-81		Work to Discontinue only. Unless otherwise specified, Tolerances to be read as: ± on Precision, ± on Discontinuity.	
Before production, 2 samples must be submitted to Drawing Office for approval. This Drawing must be returned to KRIESLER AUSTRALIA PTY/LTD. 6 ALICE STREET, MELBOURNE.					

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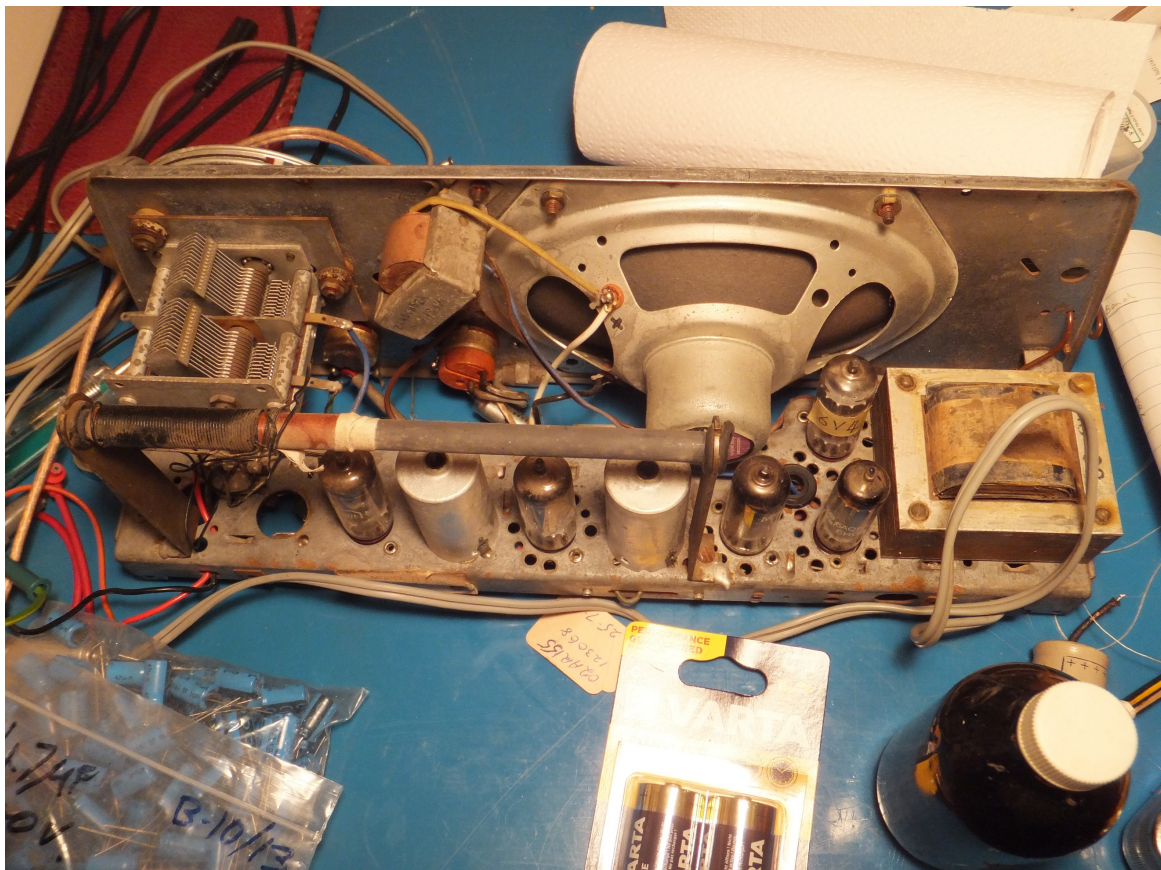
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R2 Must Be 47k
R1 10M Must be checked
IT sets the Max gain as
6mg with No signal
without going into overload
CORRECTION switch on/off
is on R15 (tone control)
Not R7 as indicated

C14 connect across
The primary of T3
NOT to chassis as in
CCT

1. These resistors set the maximum gain of the I.F. amplifier at no, or minimal signal without valve EBF80 going into overload.
2. This negative bias voltage is obtained from the grid-leak bias from the local oscillator (which is the triode of the ECH80.)
3. Normally this voltage is applied from the back-bias resistor labelled R12 in the circuit diagram.
4. Check that R12 is of the correct value, as R12 sets the bias of the P.A. EL90.
5. C14 connect across the primary of T.3. which is the audio output transformer.
6. If C14 shorts out, nothing will happen, except a loss of sound. But in its present connection, anode to chassis, such a fault would place the anode at chassis potential. V4 screen(G2) would take all of high-tension (H.T.) current, burning out the PA.
7. Meanwhile T3 primary is also across the H.T. also burning out the primary, with the possibility of taking out both the rectifier & the mains transformer. This would create a nightmare situation!

A small note: The power switch is mounted on the Tone control R15. not on the Volume control as shown in the circuit diagram.



TECHNICAL SERVICE INFORMATION
ISSUED BY
KRIESLER AUSTRALASIA PTY. LTD.
43 ALICE ST. NEWTOWN. Phone: LA 0400

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K21 & 22.

DESCRIPTION.

Model 11-80 is a four valve, mains-operated, Broadcast Band, mantel receiver housed in a moulded polystyrene cabinet. Pick-up terminals are provided at the rear of the cabinet.

DIMENSIONS. 16 1/2" x 6 1/4" x 6".

AERIAL AND EARTH.

Leads are provided at the rear of the cabinet for the connection of an aerial and earth. (Red lead is aerial). All electrical appliances are required to be fitted with an approved earth. Where the chassis is not grounded, this may be minimised by correct 'phasing' of the mains lead.

OPERATING VOLTAGE.

This receiver is factory adjusted for 240 volt operation at 50-60 c.p.s. For 220 volts operation, connect mains lead from switch to 220 volt tap.

TO REMOVE CHASSIS FROM CABINET.

Remove the two control knobs, four screws in back of cabinet, and four screws in base of cabinet. Remove loose back of cabinet and slide out the chassis.

VALVE COMPLEMENT.

V1. Mixer-Oscillator 6AN7
V2. Det./ I.F. Amplifier .. 6NS
V3. A.F. Amplifier/ Output. 6BMS
V4. Rectifier 6V4

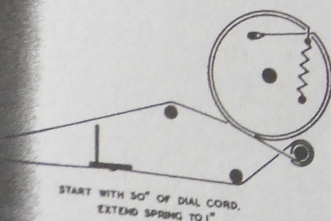
TUNING FREQUENCY RANGE.

535 - 1650 Kc/s.

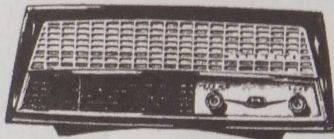
ALIGNMENT PROCEDURE.

Conventional. (Refer Series "C" Radio Handbook.)

DIAL CORD LAYOUT



11-80 MANTEL RECEIVER A.C.



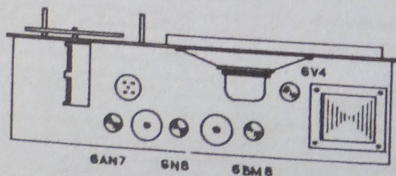
REPLACEMENT PARTS.

Knobs Part No. 90-647
Screws, cabinet back ... 3/8" No. 8 P.K. Binding Hd.
Screws, chassis mtg. ... 1/4" No. 8 P.K. Binding Hd.
Dial Scale Part No. 69-28 (Phillips)

INTERMEDIATE FREQUENCY.

455 Kc/s.

VALVE LAYOUT



DESCRIPTION.

Model 11-81 is a five-valve mains-operated Broadcast Band mantel receiver housed in a moulded polystyrene cabinet. Pick-up terminals are provided at the rear of the cabinet.

DIMENSIONS. 16 1/2" x 6 1/4" x 6".

AERIAL AND EARTH.

An inbuilt ferrite-rod aerial is provided. All electrical appliances are required to be fitted with an approved earth. Where the chassis is not grounded, hum may be minimised by correct phasing of the mains lead.

OPERATING VOLTAGE.

This receiver is factory adjusted for 240 volt operation at 50-60 c.p.s. For 220 volt operation, connect mains lead from switch to 220 volt tap.

TO REMOVE CHASSIS FROM CABINET.

Remove the three control knobs, four screws in back of cabinet and four screws in base of cabinet. Remove loose back of cabinet and slide out the chassis.

VALVE COMPLEMENT.

V1. Mixer-Oscillator 6AN7
V2. I.F. Amplifier/ Det. .. 6NS
V3. A.F. Amplifier 6BD7
V4. A.F. Output 6AQ5
V5. Rectifier 6V4

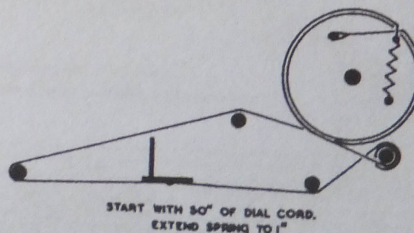
TUNING FREQUENCY RANGE.

535-1650 Kc/s.

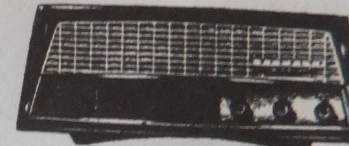
ALIGNMENT PROCEDURE.

Conventional. (Refer Series "C" Radio Handbook.)

DIAL CORD LAYOUT.



11-81 MANTEL RECEIVER A.C.



REPLACEMENT PARTS.

Knobs Part No. 90-647
Screws, cabinet back ... 3/8" No. 8 P.K. Binding Hd.
Screws, chassis mtg. ... 1/4" No. 8 P.K. Binding Hd.
Dial Scale Part No. 69-27 (A.V.A.)

INTERMEDIATE FREQUENCY.

455 Kc/s.

VALVE LAYOUT.

