LEKMEK RADIO LABORATORIES

TECHNICAL DATA

SERVICE NOTES

MODEL 58EM ELECTRIC

INTRODUCTION. The policy of the Lekmek Radio Laboratories has always been to stand solidly behind the dealer and to provide him with circuit diagrams, illustrated folders, and a series of service notes, with suggestions for facilitating the servicing of Lekmek Receivers. Careful reading of the service Bulletins will enable our Distributors and Dealers fully to understand the products which they are marketing, and therefore be in a position to offer authoritative information and reliable service to the owner of a Lekmek.

Dealers' problems have been carefully studied, and the information contained herein is the result of these investigations. We therefore recommend that these service bulletins be filed for reference in the covers supplied, in order to preserve them for future use.

TYPES 58EM AND 58EC

The Lekmek Model 58EM is a 5-valve Chassis in a table or mantel cabinet. The 58EC has a similar chassis fitted to a floor model consolette cabinet. Both receivers have full sized 8" Amplion Dynamic speakers. Two controls are used, a station selector and volume control.

The 58E has good sensitivity and selectivity, and the majority of interstate stations are easily tuned in. The volume control is continuously variable from full volume to zero, a special system being used whereby the resistance between aerial and earth is decreased concurrently as the grid bias is increased to the I.F. amplifier.

CIRCUIT. The valves used in this receiver are 2/57, 1/58, 1/2A5, 1/80, arranged in the following manner.

The signal passes from the aerial through the aerial coil to the first type 57 valve, which functions both as a detector and autodyne oscillator. The resultant signal at 465kc is fed through an intermediate frequency transformer to a type 58 valve. This is also I.F. Transformer coupled to the type 57 valve, which is the second detector. The plate circuit is especially decoupled to improve tone. The output from the second detector stage is resistance coupled to a type 2A5 power Output valve, which feeds an 8" Amplion Dynamic Speaker fitted with a plug to fit a speaker socket at the back of the chassis. The Power Transformer has the primary tapped for operation on 200-220V, 230-240V and 250-260V. The plate supply uses a type 80 valve for full wave rectification.

VOLTAGES. A Chart, Fig. 1, showing voltages, measured with a 1000 ohm per volt voltmeter, under normal working conditions, is attached. These voltages may vary slightly either side of the value given, but if any large discrepancies show up it is advisable to check the associated equipment

through which the current passes. When checking voltages, all plates should be taken first, and where absence of voltage at a plate contact on the valve socket is noted, refer to circuit diagram where it will be found simple to trace the defective part by eliminating each resistor or primary of transformers by checking for voltage immediately below the component suspected.

58

Valve Function	Valve Type	Plate Volts	Screen Volts	Bias Volts	Fil Volts
Det. Osc.	57	250	100	6	2.5
I.F. Amp.	58	250	100	3 to 50	2.5
2nd Det.	57	100	100	6	2.5
Power Output	2A5	250	250	16	2.5
Rectifier	80	385 V ea Plate	-	-	5

FIG. I

REMOVING CHASSIS FROM CABINET. Remove all knobs, by releasing small set-screw in the side of the knob, using a suitable screwdriver. Secondly, unscrew the two holding down bolts, which are located immediately beneath the baseboard on which the chassis rests. The speaker is fitted with a plug which fits into a socket on the chassis (see Fig. 2). This speaker plug must also be removed. However, when making voltage tests the speaker must be connected to the chassis.

COILS. In the event of either of the intermediates or the coils proving faulty, or requiring testing reference to circuit diagram (Fig. 2) will clearly show the colour code adopted.

SPEAKER. Speaker connections are also shown on Fig. 2. An open circuit of the field coil will cause total stoppage of voltage to all valves. An open circuit in the primary of the input transformer prevents voltage supply to the plate of the 2A5. An open circuit voice coil or secondary of input transformer will result in either cessation or partial cessation of signals altogether, although all voltages will appear correct. If the speaker is rattling, the following procedure is advisable. This rattling is usually

occasioned by the centering screw being loose or by the moving coil touching the pole piece, and may be adjusted by loosening the centre screw and cutting three or more strips of fine card and inserting them at equal distances around the pole piece between the latter and the moving coil, thus ensuring centralisation of the moving coil. The centre screw should now be tightened, care being taken that the screw driver does not slip through and damage the cone. The earlier 58 models had midget speakers fitted. If these prove faulty, return them to your Distributor for replacement.

VOLUME CONTROL. A faulty volume control usually results in a sudden burst of volume as the control is advanced past a certain point. This effect is due to an open circuit in its windings. The only method when servicing this trouble is to replace the volume control. The volume control is secured by means of a nut to a bracket on the chassis. Carefully unsolder the wires noting the respective lugs from which they were taken. Then fit the new control and resolder the wires into exactly the same position as they were before.

MICROPHONIC HOWL. If a microphonic howl sets up in the 58 receiver, it is usually due to a microphonic 57 type valve in the second detector socket. Interchanging the first 57 detector and the second detector type 57 valve will overcome the trouble.

GRID CLIPS. At time of installation make sure that all grid clips are making good connection to the cap of valves, and that they are not shorting to the side of valve cover. If subsequent service calls are necessary always inspect the grid clips before checking anything else.

LOW VOLUME DISTORTION. This type of distortion is generally caused by a faulty 58 type valve in the intermediate stage. Replacement of this valve will usually overcome the trouble. However, low volume distortion is sometimes apparent when the receiver is installed in close proximity to a Broadcasting Station. In this case reduce the length of the aerial.

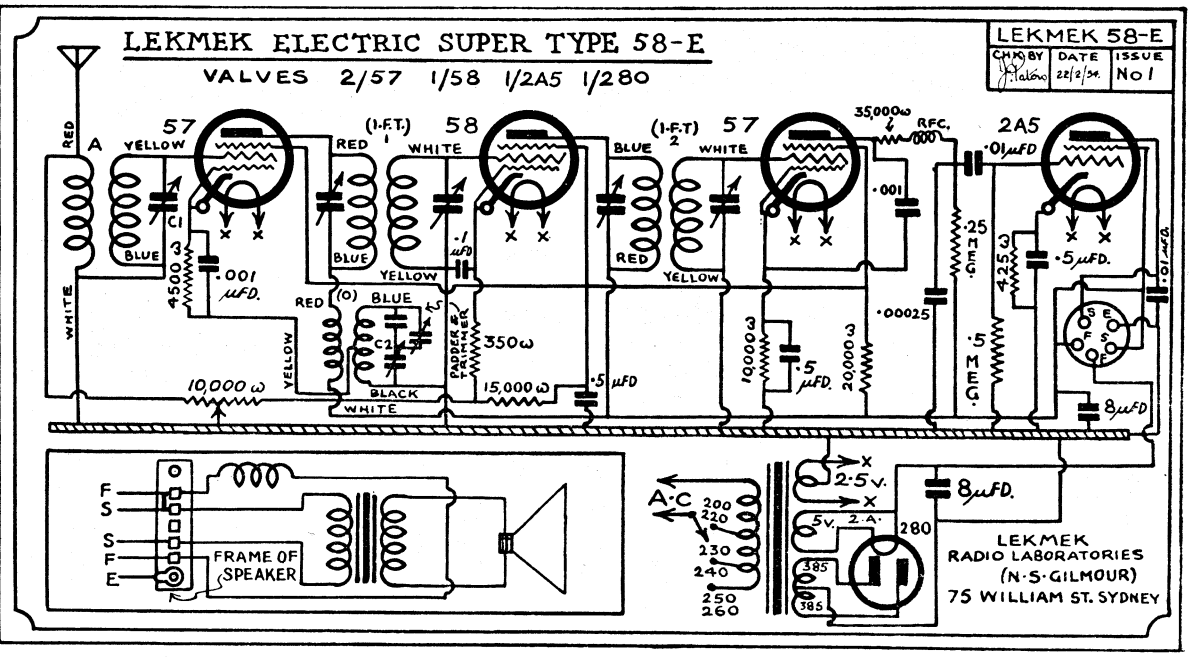
AERIAL. An aerial is supplied with the receiver and is of correct length for normal operation of the receiver. The aerial may be neatly stapled around either the picture rail or skirting board.

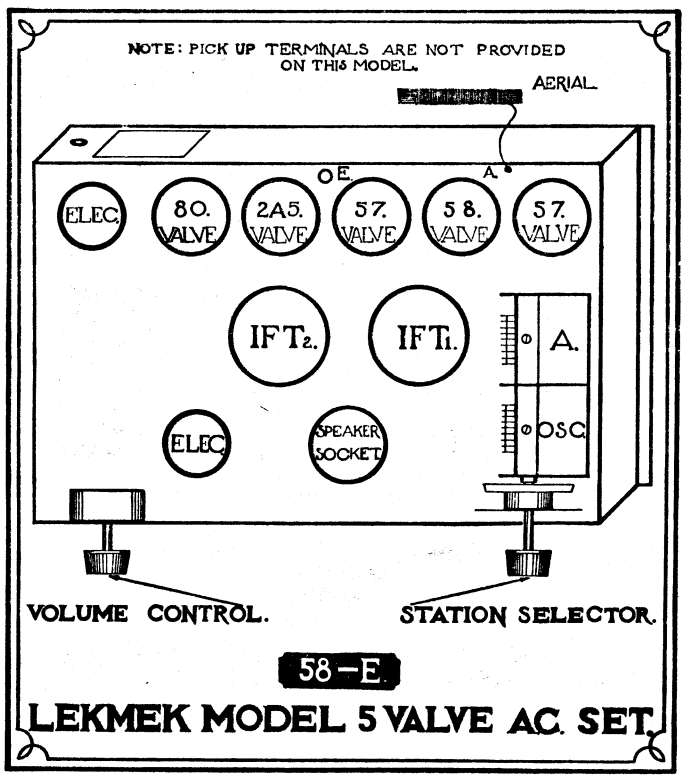
EARTH. An earth wire is usually found to be unnecessary, although this point may be left to the dealer making the installation.

LEKMEK RADIO LABORATORIES

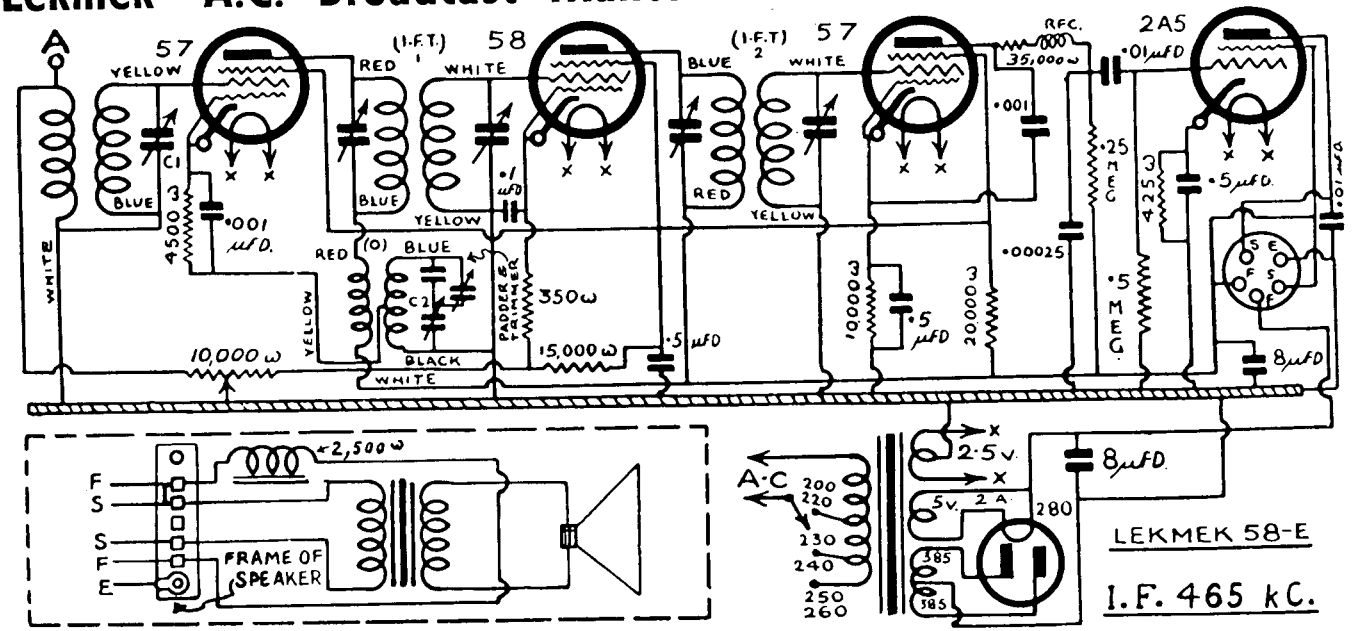
TECHNICAL DATA

Model No.
(Sheets)
Sheet No.





"Lekmek" A.C. Broadcast Mantel Model 58EM, Console 58EC



1934 MODELS

Both mantel and console use 8-inch, 2,500 ohms field, loudspeakers.

OPERATING VOLTAGES

The following measurements were made with a "1,000 ohms per volt" meter, and voltages are those existing between the socket contact indicated and chassis.

57, Autodyne Frequency Converter: Plate, 250 v.; screen, 100 v.; cathode, 6 v.

58, 465 kC. I.F. Amplifier: Plate, 250 v.; screen, 100 v.; cathode, varies from 3 v. to 50 v., according to the position of the volume.

57, "Anode-Bend" Detector: Plate, 100 v.; screen, 100 v.; cathode, 6 v.

2A5, Output Pentode: Plate, 250 v.; screen, 250 v.; cathode, 16 v.

80, Rectifier: A.C. volts per plate, 385 v.