

RADIO CORPORATION OF NEW ZEALAND LTD.



1937

Courtenay

SERVICE SUPPLEMENT

Subject SPECIAL INSTRUCTIONS FOR MODEL 47
HIGH FIDELITY RECEIVER:

Date 15/7/37

Model 47 is a 13-valve Receiver designed to meet the demand for a "super" high-fidelity set; an instrument with which the dealer can successfully pursue this top grade class of business. Simplicity and flexibility of operation have been considered essential to enable this outstanding new Receiver to meet any local conditions. In this model a twin chassis system is used to divide the standard receiving side from the high power high-fidelity audio side. Each section is provided with its own separate rectifier and filter system. The result is a dual-audio channel, twin-speaker-system with extended frequency range.

The standard controls of the 43 model make for simple operation. A ^{single} twin speaker combination is employed comprising a 6" electro-dynamic Speaker to reproduce MIDDLE frequencies and a heavy duty oversize Permanent Magnet dynamic speaker for the HIGH and LOW frequencies. The tone compensation circuit of the 9-valve radio chassis operates so that as volume is reduced, high and low frequencies are emphasized at the expense of the middle range. The human ear which is normally more sensitive to these extreme frequencies at a low point of volume, notes a consequently more pleasant sense of balance in the reproduction at such volume. Now the provision of the 6" speaker prevents the over-accentuation of these high and low notes at the super volume of the Model 47 and, moreover, it increased the over-all efficiency of the system. The larger of the two speakers also responds with more even efficiency in the middle ranges at higher volumes. The practical result is a clean, clear reproduction of not only all types of music but also the human voice; usually particularly difficult to understand at great volume.

The high fidelity audio amplifier employs two of the new 6L6 tubes in a push-pull class "A" circuit. A 5Z5 rectifier with its associated filter system separately serves these tubes. A 605 phase-inverter drives these final tubes and draws its own driving voltage supply from the first chassis through a volume balancing control mounted on the amplifier chassis. It is very important to understand the correct setting of this amplifier control for if it is not operated properly, much of the advantage of this high-fidelity Receiver can be lost.

Every room has its own acoustic value and this variable control enables that value to be exactly matched. This essential procedure is carried out as follows:

INSTRUCTION FOR ADJUSTING SPECIAL ACOUSTIC-MATCHING CONTROL
SITUATED ON AMPLIFIER

1. Tune the Radio to local station which is known to have greatest BASS RESPONSE.
2. Turn the balancing control on the amplifier chassis full off i.e. completely clock-wise or to the right. This eliminates the large speaker for the time being.
3. Set the radio volume control to rather less than normal. The small speaker is now reproducing.
4. Turn up the balancing control in the amplifier chassis by rotating to the left or anti-clockwise, or until there is obtained a balance of reproduction to please the listener in the particular room in which the radio is being used. This control should be kept back to the right as far as possible. It should almost never be turned full to the left. This setting is now correct and no further adjustment should be necessary so long as the radio remains in the location for which it has been acoustically adjusted.

GENERAL NOTES ON HIGH-FIDELITY RECEIVERS: It is very important to know that there is considerable variation in the tone of different New Zealand stations. Some are using bass compensation at the transmitters. This manifests itself as unpleasant volume peaks and resonances on some recordings that are also actually made with bass emphasis. For this reason the amplifier balancing control must be kept as low, or turned to the right as much as possible. Further, some stations have no bass and in such cases no amount of bass compensation at the receiver can make it up so as to show any improvement.

True bass is best reproduced with absolute naturalness at good volume. This new model 47 has such great power that it can actually produce, through the walls and floors, a physical sensation of bass with the deepest notes. These notes also must be accompanied by the high audio frequencies, otherwise the true effect is lost: unnatural reproduction is the result. The same unnatural woolly reproduction would also be the result of using the radio tone control in the bass position and it is quite likely that even from this high-fidelity radio, complaints might be received of lack of clarity, particularly in the human voice. THE RADIO TONE CONTROL SHOULD BE KEPT FULLY TURNED TO THE TREBLE POSITION. This control is actually not required in this high-fidelity model as it may give the user an opportunity of actually spoiling the high-fidelity reproduction. It is, however, being provided for the listener who likes to emphasize the bass slightly more than is provided by some stations at the present time. Its use should, however, be discouraged as much as possible.