

MODELS 3132, 3134, 3140

Continuity or resistance tests on various receiver circuits provide a rapid and simple method of locating practically all defects with the possible exception of open condensers. A direct reading ohmmeter, either as a separate instrument, or as incorporated in the usual set analyzer is necessary in making such tests. It should have a sufficiently wide range to allow for accurately reading such low resistances as R. F. or I. F. Coils as well as being capable of indicating the resistance of the highest resistance circuit which may be encountered in the receiver.

The continuity chart given in this manual shows the correct circuit resistance for all receiver circuits as well as some of the more common incorrect readings, which may be obtained due to various defects. In each case the cause for each incorrect reading is listed in the continuity chart. The resistance values given in the chart are the nominal ratings for each circuit, but it must be taken into consideration that manufacturing tolerance allows a variation in resistance of as high as twenty percent in certain circuits. Accordingly, if a reading is slightly at variance with the chart value is obtained in some circuits do not immediately assume that the defect has been located but make such further tests as may be necessary to isolate the cause of the trouble. In the case of some items in the chassis a defective condition will affect several different circuits, as shown in the continuity chart. If a defect of one of these items is indicated by a continuity test of one circuit it can easily be checked by testing the other circuits which would be affected by the same defect.

In order to properly align the R. F. and I. F. circuits of the No. 511 and 515 Chassis, a signal generator will be necessary. This generator must produce I. F. signals at 427 K. C. and 455 K. C. as well as signals throughout the broadcast band of 540 to 1500 K. C. An output meter is essential for determining when the circuits are aligned accurately.

The need for realignment will usually be evidenced by low sensitivity accompanied by poor selectivity. Realignment should, however, not be attempted until all other causes for this same condition, such as defective tubes, weak batteries or inefficient antenna installation have been checked and eliminated as a possible cause of the trouble.

**All aligning adjustments are accessible from the top of the chassis making it unnecessary to remove it from the cabinet during alignment.**

**Aligning Intermediate Condensers**—During alignment of the intermediate condensers the oscillator tube should be removed from its socket and the filament voltage control turned in a counter clockwise direction until the filament voltage applied to the remaining four tubes is exactly 2 volts. Place the signal generator in operation at the proper intermediate frequency as determined by the serial number of the chassis. If the plate

the coil of the 34 tube has been replaced, align the I. F. at 455 K. C. regardless of serial number. Connect the signal lead to the control grid. Contact of the 32 first detector tube. The ground lead from the signal generator is connected to the chassis of the receiver.

The intermediate condenser adjusting screws are two in number and are located on the top of the oscillator-I.F. assembly. Adjust these two intermediate condenser screws until maximum output is indicated upon the output meter. The adjustment of each screw should be checked at least twice to determine that the proper setting has been made.

Replace the oscillator tube in its socket and advance the filament voltage control to give a filament voltage of 2 volts. Place the signal generator in operation at 1400 K. C. and connect the signal lead to the antenna lead from the chassis. Turn the tuning condenser rotor until the dial is set at exactly 1400 K. C. Then adjust the trimmer condensers which are located at the sides of the tuning condenser and mounted upon it. There are two such trimmer condensers on the oscillator section of the tuning condenser and one on the R. F. section. Adjust all three trimmers to give maximum output as indicated upon the output meter, adjusting first the two trimmers controlling the oscillator circuit. The oscillator tuning condenser is nearest the rear of the chassis.

Set the signal generator for a frequency of 600 K. C. and tune in this signal on the receiver. Then adjust the 500 K. C. trimmer condenser to give maximum deflection on the output meter. This condenser is located beneath the chassis with the adjusting screw accessible through a hole in the chassis immediately to the left of the tuning condenser as viewed from the rear. During adjustment of this condenser, it will be necessary to "Rock" the tuning condenser while varying the trimmer condenser. That is, the tuning condenser should be tuned back and forth through the resonant point, noting the deflection on the output meter for each setting of the trimmer condenser. The proper setting is that which gives greatest deflection on the output meter when the receiver is tuned through resonance.

Then set the signal generator for a signal of 1,000, 750 and 600 K. C. and check the R. F. 600 K. C. and again check the setting of the and oscillator condensers for resonance. Bend trimmer condensers on the tuning condenser, the slotted rotor plate sections of each condenser. Next, set the signal generator for signals of denser which are last in mesh in or out until maximum output is obtained at each of these settings. Do not readjust the oscillator 600 K. C. trimmer after it has been set as described above.

