

of maximum selectivity (ability of the set to separate adjacent stations). In the absence of a signal, oscillations in the receiver make themselves known by a soft hiss or a "thud" in the speaker, or earphones, as the regeneration control is rotated from "off" to maximum.

The proper adjustment of the antenna trimmer capacitor greatly influences the performance of the set. If the trimmer is fully closed, you will be unable to make the set oscillate, regardless of the setting of the regeneration control. The broadcast stations will come in with good volume but you will be unable to separate one station from the other. With the trimmer capacitor fully open, the set will oscillate and you can separate stations, but the volume will not be as loud. The best compromise setting of the trimmer, therefore, is that where the capacitor is closed as far as possible but you can still make the set oscillate over the whole range of the bandspread capacitor, with the regeneration control. Proper setting of the trimmer capacitor will vary with each coil and will be more critical on short wave than on broadcast stations.

Having experimented with the broadcast coil, you are now ready to explore the short waves. Plug in a short wave coil and proceed exactly as before. You will now find, however, that you can not tune to the "null" point of a signal with the handset condenser because the signal

occupies only a very small portion of the band. Here the advantage of the band-spread capacitor will make itself felt. This capacitor makes tuning much easier by literally "spreading out" a small portion of the band. On short waves, therefore, the handset capacitor is used to tune to the proximity of signal, as indicated by a whistle, while the band spread capacitor is used for fine tuning for the "null" point.

RECEPTION OF CODE (CW) SIGNALS

Unlike the broadcast band, where all stations carry voice or music, many short wave stations send only the dots and dashes of Morse Code. These stations can be heard with your receiver only when the set is oscillating. Best sensitivity and selectivity for code stations will be obtained with the regeneration control set in such a way that the set barely oscillates. On code stations the band spread capacitor can be used to change the pitch of the signal for the most pleasing tone.

CAUTION

Never touch any part of the under-chassis wiring while the line plug is connected to the wall outlet. Always remove the plug from the power line receptacle when working on the set.

Never use the receiver on or near a grounded metal bench, radiator, sink, or other grounded metal object.

LIST OF MATERIAL

- | | |
|--|--|
| 1 12AT6 tube | 1 .00025 mfd. mica capacitor |
| 1 50C5 tube | 1 .0001 mfd. mica capacitor |
| 1 35W4 tube | 2 .1 mfd. tubular capacitors |
| 1 2-gang variable "bandset" capacitor (superhet type) | 2 .05 mfd. tubular capacitors |
| 1 15mmf. variable "bandspread" capacitor | 1 .02 mfd. tubular capacitors |
| 1 3-30mmf. "antenna trimmer" capacitor | 1 .005 mfd. tubular capacitors |
| 1 Output transformer | 1 Chassis |
| 1 Filter choke | 1 Panel |
| 1 10,000 ohm potentiometer, with switch regeneration control | 1 Line cord and plug |
| 1 30-30-20 mfd. 1150-350-25V electrolytic capacitor | 3 7-pin miniature sockets |
| 1 200 ohm, 10 watt resistor | 1 Dual pin jack (headphone jack) |
| 1 1 megohm, $\frac{1}{2}$ watt resistor | 1 2-term. output strip (speaker strip) |
| 1 470,000 ohm, $\frac{1}{2}$ watt resistor | 1 Fahnestock clip (antenna clip) |
| 1 270,000 ohm, $\frac{1}{2}$ watt resistor | 1 Round transparent knob |
| 1 82,000 ohm, $\frac{1}{2}$ watt resistor | 1 5-prong wafer socket |
| 1 150 ohm, $\frac{1}{2}$ watt resistor | 1 Circular dial scale |
| | 2 Pointer knobs |

83 5 740 Complete with Tubes. Shipping Weight 5 lbs.

ACCESSORIES YOU MAY NEED

- | | |
|------------------------------|--------------------------------|
| 59 J 110 Headphones | 83 5 742 Coil, 1.650MC - 4.1MC |
| 81 B 323 Speaker | 83 5 743 Coil, 2.9 MC - 7.3 MC |
| 83 C 100 Antenna Kit | 83 5 745 Coil, 7 MC - 17.5 MC |
| 83 5 741 Coil, 155KC - 470KC | 83 5 744 Coil, 15.5MC - 35 MC |

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