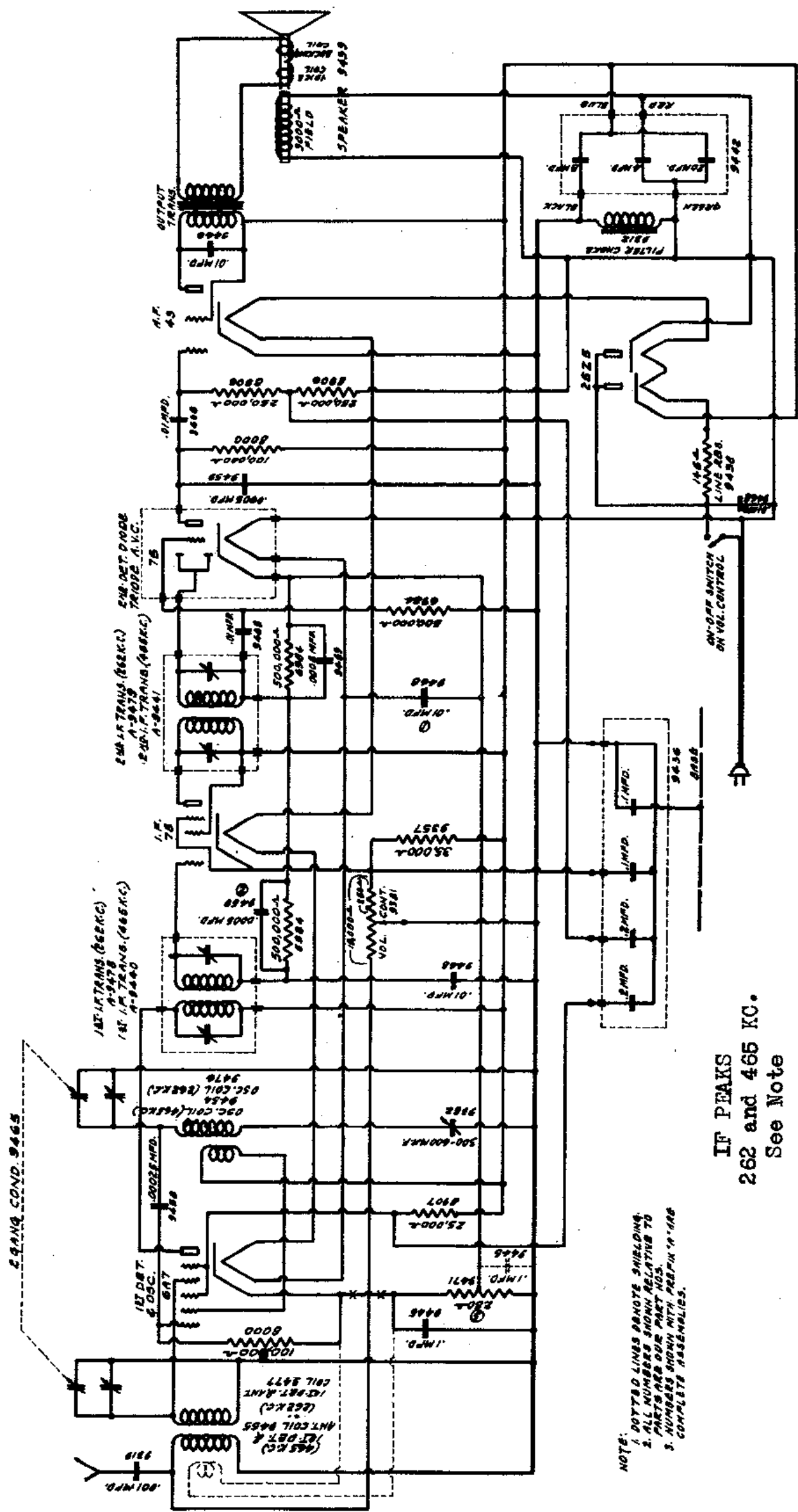


MODEL 570
Schematic
Circuit notes

SENTINEL RADIO CORP.



NOTE:
1. DOTTED LINES SHOW SHIELDING.
2. ALL NUMBERS SHOW RELATIVE TO PARTS LIST.
3. NUMBERS SHOW WITH PART NUMBER COMPLETE ASSEMBLIES.

IF PEAKS
262 and 465 KC.
See Note

These service notes are for two receivers which are practically identical but having different I.F. frequencies. Referring to the circuit diagram it will be noted that two part numbers are given for the first and second I.F. transformers, also for the first detector and antenna coil and oscillator coil. The receiver which uses an intermediate frequency of 265 K.C. can be readily identified by the red paint mark on top of each of the I.F. transformer shields. The additional parts used in the 265 K.C. I.F. receiver are the .1 MFD condenser, Part No. 9445, indicated by the dotted line in the drawing. The .1 MFD 9445 condenser shown by the unbroken lines, is replaced with a .05 MFD condenser, Part No. 9457, and the .0005 MFD condenser, Part No. 9459, by a .0025 MFD condenser, Part No. 9458. The only other circuit changes on the 265 K.C. I.F. receiver are indicated by the dotted line showing the image suppression coil, in which case the connections marked "X" are omitted in this type set. In the 465 K.C. I.F. receiver the image coil is not used, that is, the cathode of the 6A7 tube is connected directly to the 280 ohm resistor instead of to the image suppression winding as in the 465 K.C. receiver. The voltage table as given, and the alignment procedure, are the same for each receiver. When ordering parts be sure to specify the part number and the frequency of the I.F. transformer used in the receiver.

SENTINEL RADIO CORP.

MODEL 570
Voltage, Alignment

| TYPE | POSITION | TUBE VOLTAGES | | | | | | | | |
|------|-------------|-------------------|----------------|-----------------|------------------|------------|------------|------------|------------|------------|
| | | Filament Volts | Plate Volts | Screen Volts | Cathode Volts | Grid #1 | Grid #2 | Grid #3 | Grid #4 | Grid #5 |
| 6A7 | Osc-Mod. | 5.2 | 128 | | 2.0 | 1.5 | 125 | 76 | 2 | 76 |
| 78 | I.F. | 5.1 | 128 | 128 | 2.25 | | | | | |
| 75 | 2nd Det.AVC | 5.0 | 82.5* | | 2.0 | | | | | |
| 43 | Output | 25 | 115 | 128 | 20.0** | | | | | |
| 25Z5 | Rect. | 25 | | | | | | | | |

* These readings are only comparative and not true voltages applied. The Voltmeter, when readings are taken at these points, is in series with a very high resistance.

** Bias for the 43 output tube is obtained by the voltage drop across the filter choke. Read bias voltage from cathode to negative side of filter choke.

INTERMEDIATE FREQUENCY ALIGNMENT: Only when an intermediate transformer has become defective, due to an open or burned-out winding, should it be necessary to readjust the intermediate stages. Should this occur it is necessary that an oscillator be used with some type of output measuring device so as to tune the transformers correctly. To align the intermediate transformers connect the high side of the oscillator output to the control grid cap (Grid #4) of the 6A7 oscillator-modulator tube, leaving the grid cap disconnected from the control grid (Grid #4) of the 6A7 tube. CONNECT A 50,000-OHM RESISTOR FROM THE CONTROL GRID CAP OF THE 6A7 TUBE TO THE ROTOR FRAME OF THE VARIABLE CONDENSER AND PLACE A METAL SHIELD BETWEEN THE SECOND IF TRANSFORMERS AND THE 78 IF TUBE. FAILURE TO USE A SHIELD AND THE 50,000-OHM RESISTOR WILL CAUSE THE IF AMPLIFIER TO OSCILLATE AND THE ALIGNMENT WILL NOT BE CORRECT. The ground side of the test oscillator should be connected to the gang condenser frame and MUST NOT OTHERWISE BE GROUNDED. Set the oscillator for the proper IF signal frequency (265 or 465 KC., this must be accurate) and adjust the output of the oscillator so that a convenient reading is obtained on the output meter. Align the first intermediate transformer by turning the intermediate frequency trimmer screw up and down until maximum reading is obtained on the output meter. Both the primary and secondary trimmer screws should be adjusted in this manner. It is always best to recheck the grid side of the intermediate frequency transformer adjustment to make certain the alignment of the secondary has not been changed by the adjustment of the primary. The same procedure is followed in aligning the second intermediate transformer. After both intermediate transformers are adjusted, the alignment of the intermediate stage is complete. The trimmer should not be further disturbed. The grid cap should be connected to the grid of the 6A7 tube and the metal shield removed from between the IF transformer and the 78 tube.

VARIABLE CONDENSER ALIGNMENT: If the intermediate frequency stage has been realigned or if an antenna or oscillator coil requires replacement, it will be necessary to realign the variable condenser. The front section of the variable condenser (looking at the front of the receiver) is the oscillator section, the other section tunes the antenna stage. Tune the receiver to 1720 kilocycles on the dial (minimum capacity) and set the oscillator at this frequency. Next adjust the trimmer screws of the oscillator and antenna sections, which are mounted on top of the variable condensers, so as to obtain maximum output reading. It will be found that the oscillator section trimmer condenser will in most cases have to be adjusted to minimum capacity and in some instances it may be necessary to remove the trimmer screw entirely.

After the trimmers have been correctly adjusted at this frequency, tune the receiver to 600 kilocycles and adjust the oscillator to 600 kilocycles. Next, adjust the oscillator padding condenser (which is located directly below the variable condenser and is accessible through the hole in the front of the chassis) to obtain maximum reading on the output meter. If the above is correctly followed, the receiver will now track correctly over the entire band from 1720 KC. to 550 KC. It is always advisable to align the receiver, whenever possible, with the tubes that are to be used in the set.