

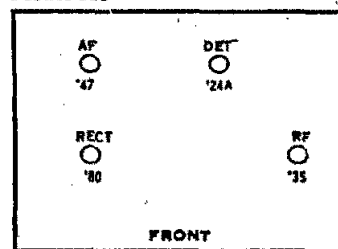
Sentinel Model-111

FOUR TUBE TUNED RADIO FREQUENCY
WITH
VARIABLE-MU AND PENTODE TUBES

ALIGNMENT OF RECEIVER:
To align receiver it is recommended that an oscillator and output meter be used, as much better results can be obtained than by aligning on a broadcast signal. However, in either case the procedure is the same. To align the variable condensers connect the high side of the test oscillator to the antenna lead and the low side of the oscillator to the ground lead and tune the oscillator to 1500 kilocycles, adjusting the output of the oscillator so that a convenient reading is obtained on the output meter. If during the alignment the meter goes off scale, adjust the output of the test oscillator or reduce the output by adjusting the receiver volume control. It is important that the receiver be tuned to minimum capacity stop. Then track the variable condensers at this point by adjusting the trimmer condensers, which are mounted on top of the variable condensers, to maximum reading on the output meter in the following order: Antenna, Coupling Stage and Radio Frequency Stage. The variable condenser sections are: (Antenna, Coupling Stage, and Radio Frequency Stage looking at the receiver from the front, reading toward the back.)

After the variable condensers are properly aligned at 1500 kilocycles by adjusting the trimmer condensers, adjust the oscillator to 1295 kilocycles. Tune the receiver to this frequency, making sure that the receiver is tuned exactly in resonance with the incoming signal, and check alignment of the condensers at this point by bending the end plate of the rotors on the antenna coupling stage and radio frequency stage in the order named, noting the change in reading on the output meter. If when the plates are bent in the reading is increased, it is an indication that that particular section requires more capacity at that point of the variable condenser and the end plate should be permanently bent; or if when the end plate is bent away the reading is increased, that section requires less capacity at that particular point, and the end plate should be permanently bent away from the stator. Each section of the variable condenser should be checked in this manner at 1295, 800, 750 and 550 kilocycles. These frequencies have been chosen so as to take advantage of the slots in the end plates of the variable condenser.

Model 111



ELECTRO DYNAMIC SPEAKER:

The electro dynamic speaker has a tapped winding, one section of which is 1320 ohms and the other section 300 ohms is used to obtain the proper bias for the 247 tube. The field winding is used as the filter choke.

Tube Voltage

Type of Tube	Position of Tube	Filament Volts	Plate Volts	C Volts	Normal Plate M.A.	Space Charge Grid	Screen Volts
235	Radio Frequency	2.4	250	2.5	4		90
224	Detector	2.4	65*	2.5*	.4		37.5*
247	Output	2.4	230	16.5*	35	250	
280	Rectifier	5.			30 M.A.		

115 V. Line Volume Control Full On

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