



3PKR FIELD 1500 OHMS  
I.F. 456 KC.  
**SCHEMATIC DIAGRAM  
MODEL 8A**

**GENERAL DATA**

The alignment of this receiver requires the use of a test oscillator that will cover the frequencies of 456, 600, 1400, 1730, 1800, 4000, 5600, 6000, 16,000 and 18,100 KC and an output meter to be connected across the primary or secondary of the output transformers. If possible, all alignments should be made with the volume control on maximum and the test oscillator output as low as possible, to prevent the AVC from operating and giving false readings.

**CORRECT ALIGNMENT  
PROCEDURE**

The intermediate frequency (I.F.) stage should be aligned properly as the first step. After the I.F. transformers have been properly adjusted and peaked, the Broadcast Band should always be the next procedure, after which, either or both of the Short Wave Bands may be aligned.

**I.F. ALIGNMENT**

With the wave switch in the Broadcast Band and the gang condenser set at minimum, adjust the test oscillator to 456 KC and connect the output to the grid of the first detector tube (6A7) through a .05 or .1 mfd. condenser. The ground on the test oscillator can be connected to the chassis ground if the test oscillator is not grounded to one side of the power line. In case one side is connected to ground, connect a large condenser from ground on the test oscillator to ground of the chassis. Align all four I.F. trimmers to peak or maximum reading on the output meter.

**BROADCAST BAND  
ALIGNMENT**

Connect the output of the signal generator to the antenna lead (blue) through at .0002 mfd. mica condenser. Set the gang condenser to minimum and the oscillator to 1730 KC and adjust the "oscillator trimmer" to receive this signal. Make no other adjustments at this frequency. Then set the generator to 1400 KC and tune in this signal by rotating the gang to 1400 on the dial. Adjust the "preselector" and "antenna" trimmer to maximum signal. Set the signal generator to 600 KC and tune in the signal on the receiver. **Note:** approximately the same

sensitivity should be noted at this point as was at 1400 KC. The signal strength may sometimes be improved by padding the circuits. This is done by slowly increasing or decreasing the oscillator, padding condenser and, at the same time, continuously tuning back and forth across the signal with the receiver until the maximum reading is obtained on the output meter. This adjustment may seem a little complicated but is the easiest way to adjust the oscillator to the preselector of the R.F. section. Return to 1400 KC and again go over the adjustments of this frequency to be certain that they were not put slightly out of alignment when adjustment was made at 600 KC.

**POLICE BAND  
ALIGNMENT**

The police band is adjusted by first replacing the .0002 dummy with a 400 ohm resistor and setting the generator to 5600 KC. With the gang set at minimum, adjust the "police oscillator trimmer" to receive this signal, then set the signal generator to 4000 KC and adjust "police antenna trimmer" to give maximum output. Next, set the oscillator to 1800 KC and "pad" the circuit of this frequency as described in the instructions for padding the broadcast circuits.

**SHORT WAVE BAND  
ALIGNMENT**

The short wave band is adjusted by setting the generator to 18,100 KC and with the gang at minimum, adjust the "short wave oscillator trimmer" to receive the signal. Set the generator at 16,000 KC, tune in the signal and adjust the "short wave antenna" trimmer to give maximum output. As there is no variable low frequency padding condenser on this band, the sensitivity of the receiver should be checked at 6000 KC to determine whether the circuits are in line at this frequency. Should the receiver lack sensitivity at 6000 KC, the antenna and the oscillator coils, as well as the .004 mica padding condenser, should be tested for defects as sometimes these components become subject to mechanical or electrical injuries, despite their rugged construction and liberal ratings.