

Marconi Model 54 Alignment Procedure

Adjustment of Overload Indicator:—The procedure for adjusting the overload indicator is as follows:—First make sure that both 42 output tubes and the 89 relay tube are in O.K. condition, next, connect an output voltmeter across the speaker voice coil.

Supply a signal to the receiver from a modulated oscillator and turn the volume control up slowly until the indicator changes to red. The output meter should then read approximately 7.85 volts, if too high, turn down the volume control and turn the adjusting screw on the back of the indicator case, counter clockwise about half a turn. If too low, turn clockwise. Again increase the volume and note the voltage at which the light changes. Repeat this procedure until an adjustment is secured which allows the slide to change when the voltage reads approximately 7.85 volts A.C. R.M.S., which is equivalent to an output of 8 watts. Note that the change back from red to green takes place at a somewhat lower voltage. Care should be taken not to unscrew the adjustment too far or the spring retainer will drop down and it will be necessary to remove the indicator and re-assemble.

Before disassembling, remove the pilot light socket and rubber grommet from the top of the case. Two small screws on the back retain the mechanism.

Delay Relay: A thermostatic switch is connected to the filament of the rectifier tube and is used to prevent full voltage being applied to the filter condenser until the tubes in the receiver are sufficiently heated to draw plate current. About ten to fifteen seconds is required for the relay to heat up when it closes and shorts out the 5,000 ohm resistor R27. If the receiver is switched on shortly after turning it off, the relay will naturally operate somewhat more quickly.

ALIGNMENT:

- Always proceed in the following order:—(1) I.F. Trimmers
 - (2) Broadcast Band Trimmers and Oscillator Padding Condenser
 - (3) Short Wave Trimmers and S/W Oscillator Padding Condenser.
- Note that any alteration to the B.C. band trimmers will affect the alignment of the short wave circuits. Correct alignment can only be obtained by using a weak signal and measuring the output voltage with an output meter.

I.F. Trimmers:—Connect a 450 K.C. Test Oscillator to the grid cap of the 6A7 tube and to chassis, leaving the grid clip in place. If there is no blocking condenser in the Test Oscillator, a .1 Mf. condenser should be inserted in the lead to the grid cap. Adjust in order:—C29, C28, C27, C26.

Broadcast Band Trimmers:—First see that the dial pointer is set at maximum when the gang condenser plates are fully meshed.

Connect a Test Oscillator to the A and G terminals, adjust it to supply a 1,400 K.C. signal and set the receiver dial to 1,400 K.C. Adjust in order:—Oscillator, Detector and R.F. Trimmers. (See chassis diagram.)

Tune Test Oscillator and receiver to 600 K.C. and adjust Oscillator Padding Condenser C3.

Short Wave Trimmers:—Switch to the Red Band and connect a S/W Test Oscillator to A & G terminals using a 200 Mmf. condenser in series with the lead to the antenna terminal. The test oscillator should be set at 14,000 K.C. and the dial of the receiver at 21.4 metres. The Oscillator, Detector and R.F. S/W Trimmers (C45, C39 and C38) should now be adjusted. Make a careful adjustment of all three, using a very weak signal. Note the reading on the output meter, then make a slight readjustment of the Detector Trimmer (C39), carefully retune the receiver and again read the output meter. Proceed in this manner until the optimum adjustment is obtained. A final readjustment of the R.F. Trimmer may be required but *do not* touch the Oscillator Trimmer again.

Switch to the Purple Band, set the dial to 48 metres, adjust the Test Oscillator to give a 6,000 K.C. signal and carefully adjust S/W Oscillator Trimmer C44 for maximum output.

Switch to Green Band, set the dial to 100 metres, set the Test Oscillator to give a 3,000 K.C. signal and adjust S/W Oscillator Trimmer C40 for maximum output. Adjust the Test Oscillator to supply a 1,700 K.C. signal and turn the dial to 175 metres. Adjust S/W Oscillator Tracking Condenser C4 while rocking the dial back and forth.

