

Marconi Models 117, 118

## ALIGNMENT INSTRUCTIONS

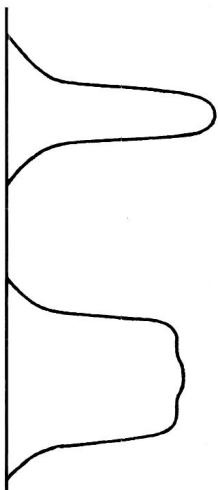
In order to ensure correct alignment of this receiver the radioelectrician should have available an accurate well attenuated signal generator and a means indicating the output. An output meter is satisfactory, but for I.F. alignment, a Cathode Ray Oscilloscope is preferable. The Oscilloscope should be connected across the volume control R16.

The Signal Generator should be capable of supplying the following frequency fundamentals.

- 462.5 K.C. .... For B.C. I.F. alignment.
- 5065 K.C. .... For 2nd Converter Circuit.
- 1500 & 580 K.C. .... For B.C. band alignment.
- 6000 K.C. .... For 49 Metre band alignment.
- 9600 K.C. .... For 31 Metre band alignment.
- 11700 K.C. .... For 25 Metre band alignment.
- 15300 K.C. .... For 19 Metre band alignment.
- 18000 K.C. .... For 16 Metre band alignment.

### PROCEDURE FOR REALIGNING I.F. TRANSFORMERS

- (1) Short oscillator section of gang capacitor through a 0.1 mfd. capacitor.
- (2) Apply a 462.5 K.C. signal to the control grid of the 6L7 first converter leaving the grid connector in place.
- (3) Set selectivity switch to "SHARP" (I.E., to right).
- (4) Adjust in order C46, C45, C44 and C43 for maximum output. (This alignment should produce a sharply peaked image as shown in Figure 1).
- (5) Turn selectivity switch to "BROAD" (I.E., to left), and adjust C46 so that a symmetrical image similar to that shown in Figure 2 is obtained.



1

2

Note:- On all subsequent alignment the "A1" terminal should be shorted to the "G" terminal with the link provided.

### PROCEDURE FOR REALIGNING B.C. BAND

- (1) Check setting of dial cursor. With gang capacitor at maximum, the line on the dial cursor should be set over the last line of the broadcast calibration.
- (2) Rotate tuning control until cursor is at 1500 K.C. marking on dial.
- (3) Apply a 1500 K.C. signal to the "A" and "G" terminals.
- (4) Adjust B.C. osc. trimmer C27 to tune in the 1500 K.C. signal.
- (5) Adjust B.C. R.F. trimmers C21 and C15 for maximum output.

### Procedure for Realigning B.C. Band-Cont'd.

- (6) Rotate tuning control until cursor is at 580 K.C.
- (7) Shift S.C. to 580 K.C.
- (8) Adjust B.C. oscillator pedder C28 while rocking the gang capacitor to and fro past the signal until the combination of adjustments giving the greatest output is obtained.
- (9) Recheck 1500 K.C. alignment.

### PROCEDURE FOR REALIGNING 2nd CONVERTER CIRCUIT

- (1) Short oscillator section of gang capacitor through a 0.1 mfd. capacitor.
- (2) Apply a 5065 K.C. signal to control grid of the 6A8 second converter tube and adjust C35 for maximum output.
- (3) Remove S.C. leads from 6A8 second converter and apply the 5065 K.C. signal to the control grid cap of the 6L7 first converter and adjust short wave I.F. trimmers C34 and C33 for maximum output. The frequency used when making this adjustment may be plus or minus 15 K.C.

### PROCEDURE FOR REALIGNING 49 METRE BAND

- (1) Turn wave band switch to 49 metre band.
- (2) Set dial cursor to 585 K.C. marking in broadcast scale.
- (3) Apply a 6000 K.C. signal to the A and G terminals.
- (4) Adjust 49K. osc. trimmer C26 to tune in the 6000 K.C. signal.
- (5) Adjust 49 K. R.F. trimmers C20 and C14 for maximum output.

### PROCEDURE FOR REALIGNING 31 METRE BAND

- (1) Turn wave band switch to 31 metre band.
- (2) Set dial cursor to 790 K.C. marking in broadcast scale.
- (3) Apply a 9600 K.C. signal to the A and G terminals.
- (4) Adjust 31K. osc. trimmer C25 to tune in the 9600 K.C. signal.
- (5) Adjust 31 K. R.F. trimmers C19 and C13 for maximum output.

### PROCEDURE FOR REALIGNING 25 METRE BAND

- (1) Turn wave band switch to 25 metre band.
- (2) Set dial cursor to 540 K.C. marking on broadcast scale.
- (3) Apply a 11700 K.C. signal to the A and G terminals.
- (4) Adjust 25 K. osc. trimmer C24 to tune in the 11700 K.C. signal.
- (5) Adjust 25K. R.F. trimmers C18 and C12 for maximum output.

### PROCEDURE FOR REALIGNING 19 METRE BAND

- (1) Turn wave band switch to 19 metre band.
- (2) Set dial cursor to 770 K.C. marking on broadcast scale.

### Procedure for Realigning 19 Metre Band-Cont'd.

- (3) Apply a 15300 K.C. signal to the A and G terminals.
- (4) Adjust 19 metre osc. trimmer C23 to tune in the 15300 K.C. signal.
- (5) Adjust 19 M. band R.F. trimmers C17 and C11 for maximum output.

### PROCEDURE FOR REALIGNING 16 METRE BAND

- (1) Turn wave band switch to 16 metre band.
- (2) Set dial cursor to 1350 K.C. marking on broadcast scale.
- (3) Apply a 18000 K.C. signal to the A and G terminals.
- (4) Adjust 16 K. osc. trimmer C22 to tune in the 18000 K.C. signal.
- (5) Adjust 16 K. R.F. trimmers C16 and C10 for maximum output.

## Voltage Chart Models 117 and 118

RADIOTRON	CAP	PIN 2	PIN 3	4	5	9	7	8
6K7 R.F. Amp....	** 0	255	75	0	0	6.3 AC	0	0
6L7 Mixer.....	** 0	255	160	0	0	6.3 AC	3.5	0
6C5 Osc.....	- 0	180	0	0	-14	6.3 AC	0	0
6A8 2nd Conv....	** 0	250	85	0	0	150	6.3 AC	0
6K7 I.F. Amp....	** 0	255	75	0	0	6.3 AC	0	0
6V7 Diode.....	** 0	90	**	0	0	6.3 AC	0	0
6V6 Rect.....	- 0	240	260	0	0	6.3 AC	15	0
5Y4 Rect.....	- 0	350 AC	-	350 AC	-	320	320	0

All readings with the exception of the 2nd converter were taken with receiver on Broadcast Band, Volume Control at maximum, Gang Capacitor at maximum and Selectivity switch in "Sharp" position. 2nd Converter readings taken with receiver on 16 metre band. \*\*These readings should only be taken with a no-current voltmeter in order to avoid shorting the bias cells.

