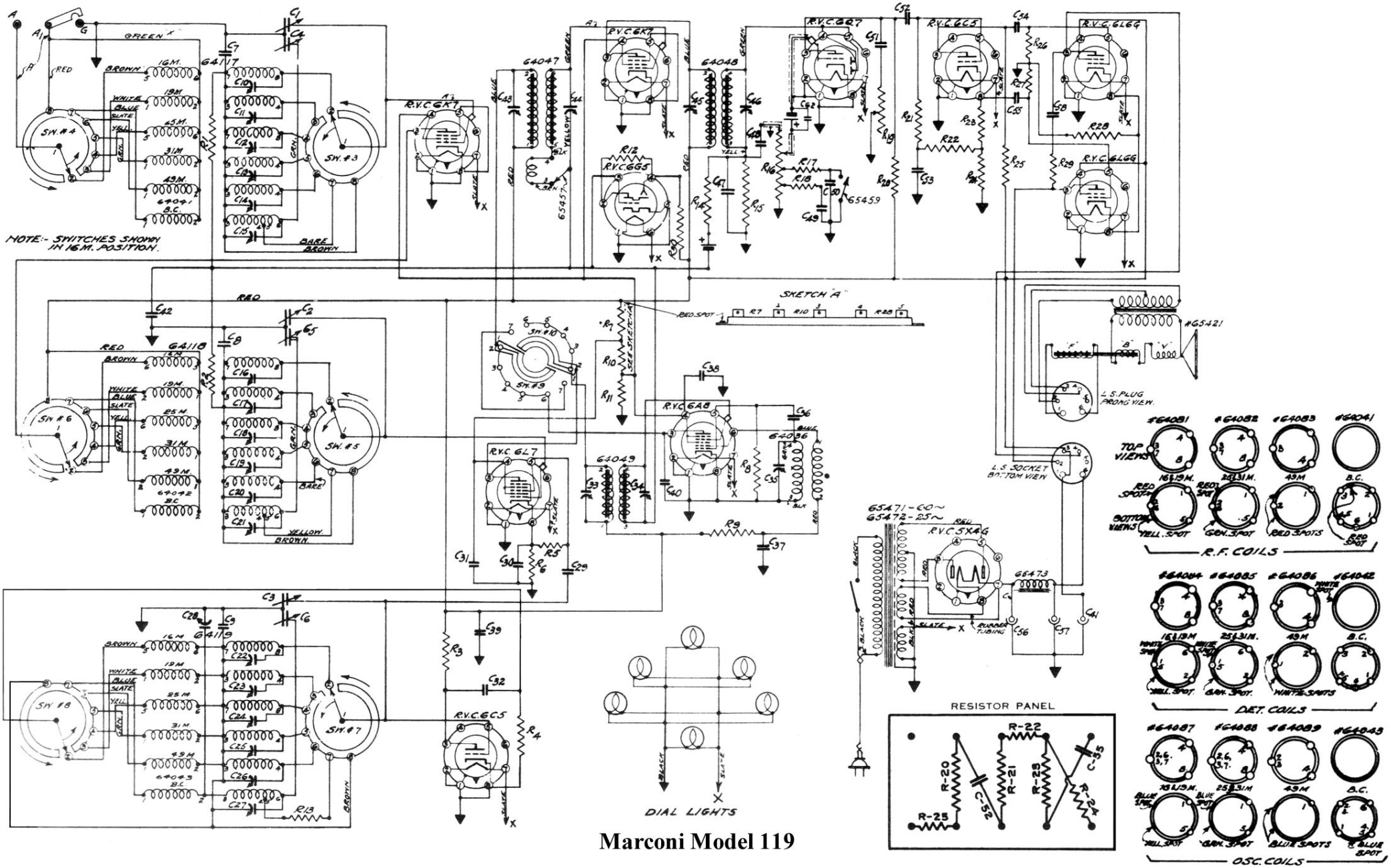


Marconi Model 119

Marconi 119 & 120
Alignment Instructions

In order to ensure correct alignment of this receiver the radiotrician should have available an accurate well attenuated signal generator and a means of indicating the output. An output meter is satisfactory, but for I.F. alignment, a Cathode Ray Oscillograph is preferable. The output should be measured across R18. The oscillograph may be conveniently connected to a bus-wire lead protruding through the chassis alongside the 6H6 tube.

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 S.W., I.F. alignment.
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-120

(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 C50, C47, 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 C47 so that a symmetrical image similar to that shown in Figure 2 is obtained.

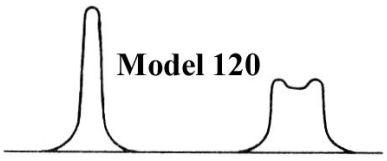


FIG.1 FIG.2

PROCEDURE FOR REALIGNING I.F. TRANSFORMERS-119

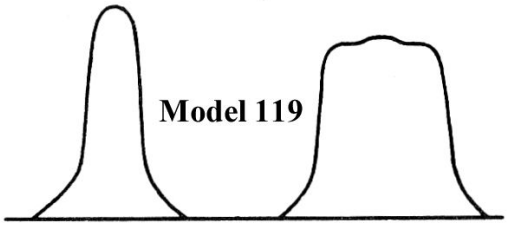
(1) Short oscillator section of gang capacitor through a 0.1 mfd. capacitor.

(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 ADJUSTING A.F.C.Discriminator

With the 462.5 K.C. still applied to the control grid of the 6L7 converter tube, and the selectivity switch in the broad position, proceed as follows:-

(1) Disconnect the green lead with spade lug attached, from the terminal plate which is mounted on top of the chassis just in front of the 6H6 tube.

(2) Connect oscillograph input to this green lead.

(3) Adjust C50 to produce an image showing two complete cycles 180 degrees out of phase (see Figure 3 below).

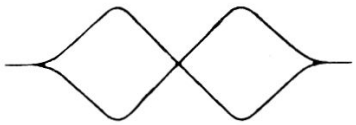


FIG.3

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

PROCEDURE FOR REALIGNING B.D. 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.

(6) Rotate tuning control until cursor is at 580 K.C.

(7) Shift S.G. to 580 K.C.

(8) Adjust B.C. oscillator padder 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 S.W. I.F. TRANSFORMER

(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.G. 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 49 M. osc. trimmer C26 to tune in the 6000 K.C. signal.

(5) Adjust 49 M. 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 31 M. osc. trimmer C25 to tune in the 9600 K.C. signal.

(5) Adjust 31 M. 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 M. osc. trimmer C24 to tune in the 11700 K.C. signal.

Procedure for Realigning 25 Metre Band-Cont'd.

(5) Adjust 25 M. 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.

(3) Apply a 15300 K.C. signal to the "A" and "G" terminals.

(4) Adjust 19 M. 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 M. osc. trimmer C22 to tune in the 18000 K.C. signal.

(5) Adjust 16 M. R.F. trimmers C16 and C10 for maximum output.

PROCEDURE FOR ADJUSTING AUTOMATIC UNIT UNIT Model 120

On the front panel of the receiver just above the dial, will be found eight push-buttons which permit the listener to select at will anyone of eight previously logged stations.

Before selecting the stations to be logged on the "Automatic Tuner", consideration should be given to the power of the station and the consistency with which it is received in the listener's locality.

The procedure for adjusting these stations is as follows:-

Set the "Automatic-Manual" tuning switch in the "Manual" position and tune in the desired station in the usual manner.

Then switch to "Automatic" and place the receiver so that the adjusting screws (trimmers) which are at the back of the receiver just above the main chassis are accessible.

The green lead located on top of the chassis should also be disconnected from the insulated terminal and connected under the binder lead screw alongside the terminal assembly. After adjustment has been completed this lead should be returned to the insulated terminal. This is necessary to release the automatic frequency control during trimmer adjustment.

The frequency covered is clearly marked underneath each set of trimmers. It will also be noticed that the rows of trimmers are marked "A", "B" and "C", Top row "A". Centre row "B". Bottom row "C".

Assuming that the desired station operates on a frequency of 1400 K.C. the group of trimmers on the extreme right looking at the back of the set marked C1, 1100-1500 K.C. would be the most suitable to select.

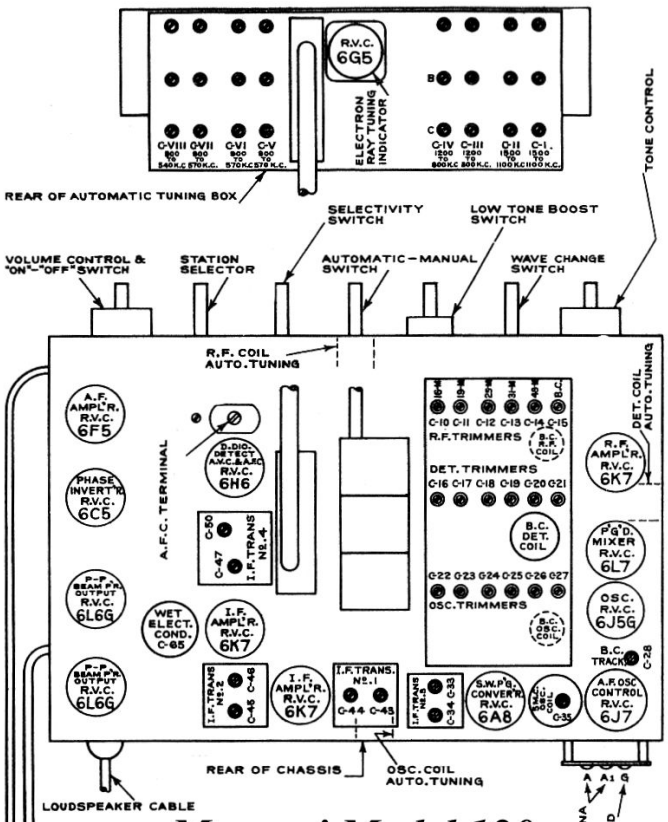
Before adjusting these trimmers the button opposite then should be depressed. In this case it would be the extreme left hand button looking from the front of the set.

Adjust the "B" (i.e., oscillator trimmer) to tune in the station. Then adjust the "A" and "C" trimmers for maximum output. The call letters of the station in question should then be removed from the list of stations supplied, inserted in the receptacle and should then be covered with one of the celluloid discs supplied.

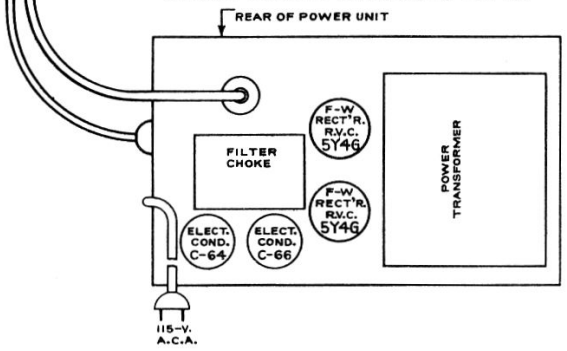
This procedure should be followed until all eight buttons have been utilized.

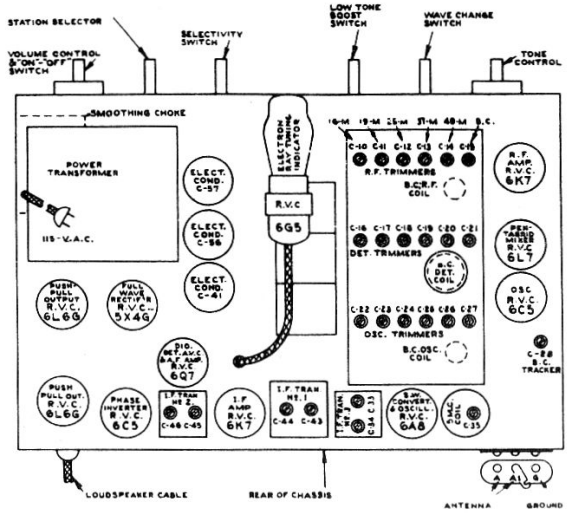
Voltage Chart 119, 120

RADIOTRON	CAP	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8
6K7 R.F.Amp...	**	0	215	75	0	-	6.3 AC	0
6L7 Mixer.....	**	0	215	125	0	-	6.3 AC	4
6C5 Ose.....	-	0	150	-	-10	-	6.3 AC	0
6A8 2nd Conv..	**	0	200	75	0	130	6.3 AC	0
6K7 I.F.Amp...	**	0	215	75	0	-	6.3 AC	0
6Q7 Diode.....	**	0	87.5	**	**	-	6.3 AC	0
6C5 Phase Inv.	-	0	160	-	25	-	6.3 AC	55
6L6G Output...	-	0	205	215	0	-	6.3 AC	7.5
6L6G Output...	-	0	205	215	0	-	6.3 AC	7.5
5Y4G Rect.....	-	-	310 AC	-	310 AC	-	300	300



Marconi Model 120





Marconi Model 119