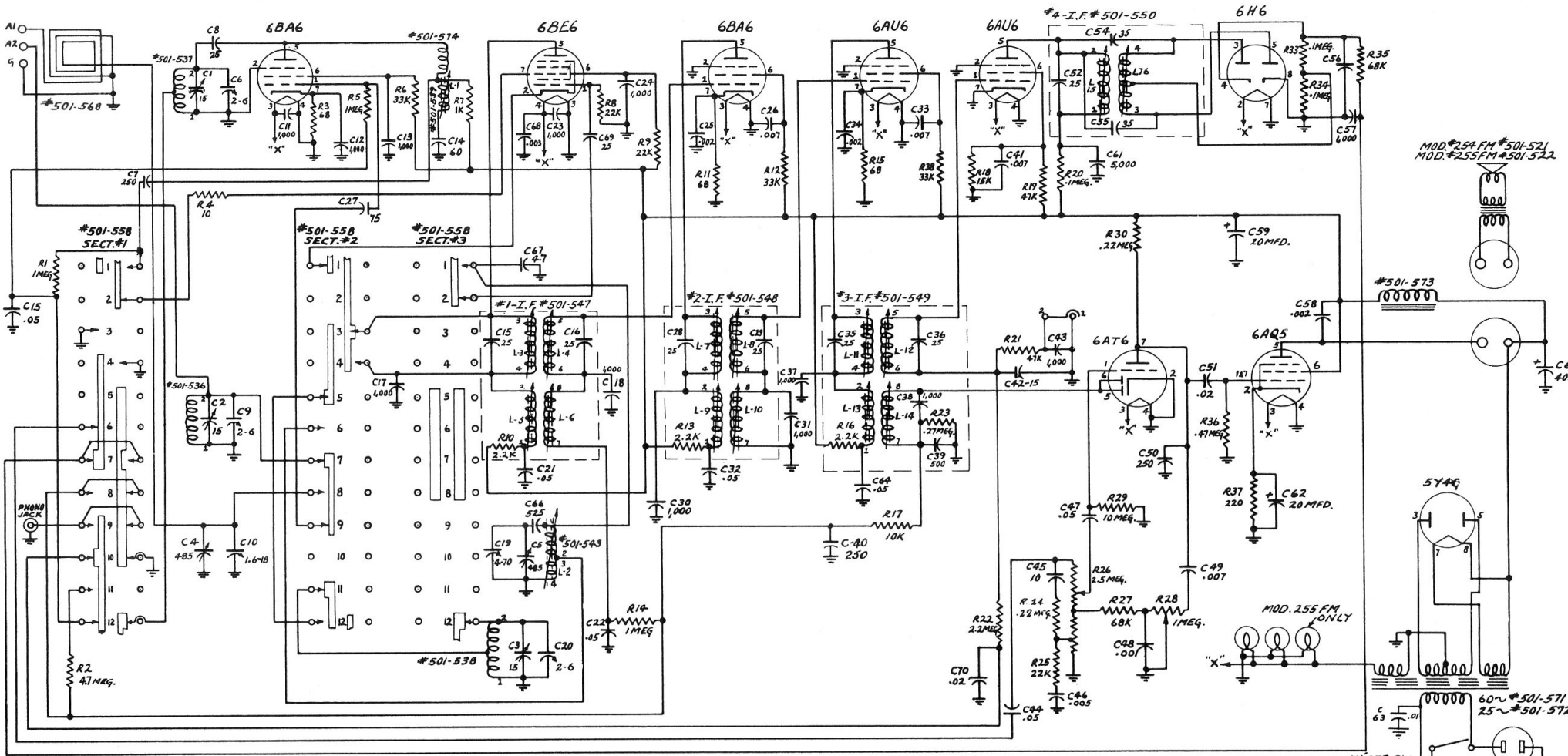
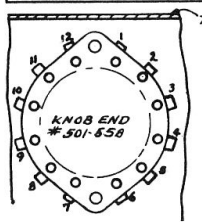




NOTES

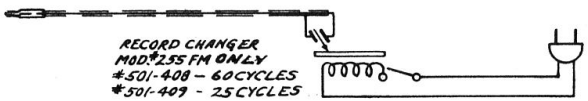
(1) ALL CAPACITANCE IN WHOLE NOS. ARE IN MMF. THOSE IN DECIMAL NOS. ARE IN MF.

(2) ALL RESISTANCE IN OHMS, UNLESS OTHERWISE NOTED. "K" = 1000

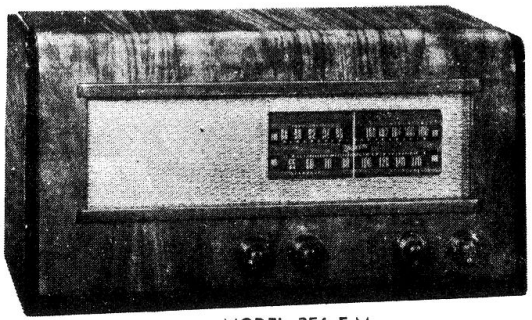
3 POSITION WAVE CHANGE SW. SHOWN IN FULL COUNTER-CLOCKWISE POSITION & IS ON FM. SECTIONS NUMBERED FROM FRONT OF CHASSIS, FRONT OF WAFER SHOWN ON LEFT SIDE.

VOLTAGE AND CURRENT DATA:

Rectifier Voltage	AM	265V	FM	265V
High Tension Voltage	AM	245V	FM	245V
6BAL Screen Voltage	AM	105V	FM	113V
Beam Power Bias Voltage	AM	11V	FM	11V
Total Current		104.5 M.A.		
Choke Current		58 M.A.		



Marconi Models 254-FM, 255-FM



MODEL 254 F.M.

MODEL 255 F.M.

Marconi Models 254-FM, 255-FM Alignment Procedure

In order to realign F.M. receivers properly, the service man should have available the following testing instruments:-

(a) An FM-AM signal generator with a frequency coverage from 455 K.C. to at least 110 M.C., and capable of supplying a variable frequency sweep of 0 K.C. to 450 K.C.

(b) A vacuum tube voltmeter or high resistance-high sensitivity D.C. voltmeter.

(c) An oscilloscope with synchronizing adjustment.

ADJUSTMENT OF INTERMEDIATE FREQUENCY AMPLIFIER F.M. CHANNEL

(1) Set W.C. switch in F.M. position and tuning control at maximum frequency.

(2) For alignment using a sawtooth sweep generator and oscilloscope, disconnect shorting link from panel on rear of chassis, connect a 5000 Ohm resistor across terminals, and connect vertical input of oscilloscope across this resistor.

(3) For alignment with fixed frequency generator, connect a 0-50 microammeter between terminals of rear panel.

(4) Apply a 10.7 M.C. signal to the 6AU6 IF. amplifier and adjust L12 and L11.

(5) Apply a 10.7 M.C. signal to the 6BA6 I.F. amplifier and adjust L8 and L7.

(6) Apply a 10.7 M.C. signal to the 6BE6 1st detector and adjust L4 and L3.

Connecting points for applying signal in operation #4, #5, and #6 are provided in the form of short leads protruding through the holes in top of chassis next to stage under adjustment. Output signal from S.G. to be as low as is consistent with serviceable meter reading or oscilloscope picture.

(7) With a frequency modulated signal of 10.7 M.C. ±200 K.C. linear deviation applied to the 6AU6 I.F. amplifier and a synchronized oscilloscope connected to the junction of C-57 and R-35, adjust L15 and L16 for S shaped curve centered about axis and crossing axis at 10.7 M.C., L16 adjusts the location of the curve while L15 adjusts the linearity. In making these two adjustments, L15 should be located in the "Close to terminal panel" position and L16 in the "Far from panel" position.

(8) Check crossover by removing modulation of input signal and connect high resistance-high sensitivity D.C. voltmeter at the junction of C57/R35 and ground. Adjust L16 for zero reading. Junction of C57/R31 is in the form of a short lead protruding through an opening located between power transformer and front edge of chassis.

NOTE:- While accurate alignment of the discriminator can be assured only by the use of a sawtooth sweep generator and oscilloscope, an approximate adjustment using a fixed frequency generator can be achieved by the following procedure:

NOTE: Cont'd. Connect a D.C. vacuum tube voltmeter to the junction of C57 and R35. Detune L16 as much as possible by screwing core tight up against the terminal panel of the transformer with a signal input of 10.7 MC., Adjust L15 for maximum reading of V.T.V.M., and L16 for zero reading of V.T.V.M. The linearity of response should then be checked by point by point measurement.

ADJUSTMENT OF INTERMEDIATE FREQUENCY AMPLIFIER, A.M. CHANNEL

(1) Set W.C. switch on broadcast band and gang capacitor at minimum capacity and connect output meter across speaker voice coil.

(2) Apply a 462.5 K.C. signal to the 6AU6 I.F. amplifier and adjust L14 and L13.

(3) Apply a 462.5 K.C. signal to the 6BA6 I.F. amplifier and adjust L10 and L9.

(4) Apply a 462.5 K.C. signal to the 6BE6 1st detector and adjust L6 and L5.

(5) Apply a 462.5 K.C. signal to the A.M. antenna terminal and adjust L1 for minimum output.

R.F. ALIGNMENT - A.M. CHANNEL

(1) With gang capacitor plates fully meshed set cursor to last graduation mark on left hand side of 88 on F.M. band scale.

(2) Set W.C. switch to B.C. band and cursor to 58 on dial. Apply a 580 K.C. signal to antenna terminals and adjust L2, rocking gang capacitor for maximum output.

(3) Set cursor to 150 on dial, apply a 1500 K.C. signal to antenna terminals and adjust C19 and C10 for maximum output.

(4) Repeat operation No. 2 with best compromise between sensitivity and calibration.

R.F. ALIGNMENT - F.M. CHANNEL

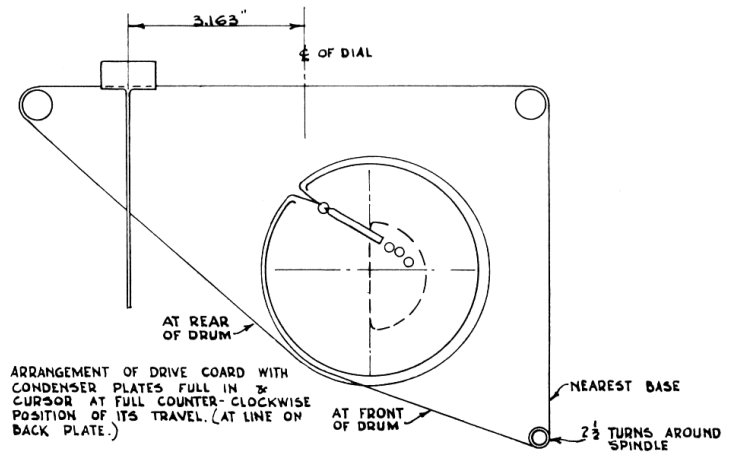
(1) Set cursor to 98 M.C. on dial and W.C. switch to F.M. Band.

(2) Connect a 50 microamp. meter across terminals of rear panel, having first disconnected shorting link.

(3) Apply a 98 M.C. unmodulated signal to antenna terminals through a 300 ohm dummy antenna balanced to ground.

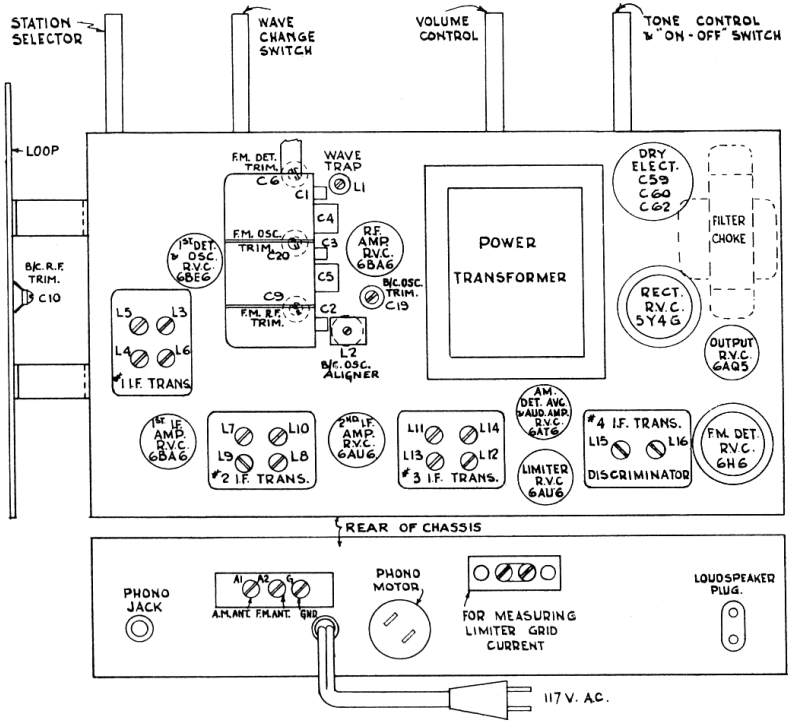
(4) Tune in signal by adjusting C9, C6, and C20, rocking gang capacitor in process. Check overall performance on at least one F.M. broadcast station.

DRIVE CORD ARRANGEMENT.
MODELS 254 FM. & 255 FM.



ARRANGEMENT OF DRIVE COARD WITH CONDENSER PLATES FULL IN & CURSOR AT FULL COUNTER-CLOCKWISE POSITION OF ITS TRAVEL. (AT LINE ON BACK PLATE.)

VALVE LOCATION CHART
MODELS 254 FM. & 255 FM.



CIRCUIT:

9 Tube superheterodyne, consisting of an R.F. stage tuned on F.M., impedance coupled on A.M., a self-exited converter, a dual two stage I.F. amplifier, a diode detector for A.M. and one limiter and discriminator for F.M., a triode driver and beam power amplifier feeding a P.M. dynamic speaker. An I.F. wave trap is provided in the R.F. stage on A.M.

FREQUENCY COVERAGE:

Broadcast Band	540-1720 K.C.
F.M. Band	88-108 M.C.

POWER OUTPUT:

Undistorted	2.75 WATTS
Maximum	5 WATTS

POWER RATING:

117 Volts 60 Cycles M254/255	Radio operation	.57 AMP
117 Volts 25 Cycles M254/255	Radio operation	.66 AMP.
117 Volts 60 Cycles M255	Phono operation	.87 AMP.
117 Volts 25 Cycles M255	Phono operation	1.01 AMP.

Marconi Models 254-FM, 255-FM