ALIGNMENT PROCEDURE

ALIGNMENT INDICATORS

An RCA "VoltOhmyst®" or equivalent VTVM is necessary for measuring developed d-c voltage during FM alignment. Connections are specified in the alignment tabulation. An output meter is also necessary to indicate maximum audio output during AM alignment. Connect the output meter across the speaker voice coil. The RCA "VoltOhmyst®" can also be used as an AM alignment indicator, either to measure audio output or to measure AVC voltage. When audio output is being measured, the volume control should be turned to maximum. Adjust tone control to mid-position.

SIGNAL GENERATOR

For all alignment operations, connect the low side of the signal generator to the receiver chassis, close to the point of signal injection. If output measurement is used for AM alignment the signal generator output should be kept as low as possible to avoid AVC action.

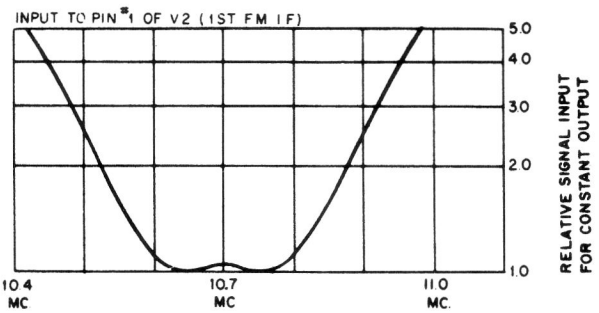
AM ALIGNMENT

Turn SELECTOR switch to AM position, and turn LOUDNESS control to maximum. Connect output meter across voice coil of speaker or to TAPE jack. Keep generator output low to avoid AVC action.

Step	Connect high side of signal generator to—	Set signal gen. to—	Set radio dial to—	Adjust for maximum
1	Pin #1 of V7 (6BA6) thru 0.01 capacitor	455 kc (modulated)	Quiet point near 1620 kc	T5 (2nd AM IF) top & bottom
2	Stator of antenna gang (C2A)			T4 (1st AM IF) top & bottom
3	Repeat steps 1 and 2.			
4	Short wire placed near AM antenna to radiate signal	1620 kc (modulated)	1620 kc	Osc. trimmer (C2BT)
5		1400 kc (modulated)	1400 kc	Ant. trimmer (C2AT)
6		600 kc (modulated)	600 kc signal (rock gang)	L2 (osc. coil)
7	Repeat steps 4, 5, and 6.			

ALTERNATE FM ALIGNMENT PROCEDURE

If an FM sweep generator is used for FM alignment, adjust for 10.7 mc, 0.4 mc sweep. Connect oscilloscope across C22, adjusting top core of T4 (discriminator transformer) for 10.7 mc crossover, and bottom core of T4 for balanced peaks. Peak separation should be approximately 330 kc. When aligning the other FM tuned circuits, connect oscilloscope lead across C16. Follow alignment table sequence, adjusting for maximum gain and symmetrical curves.



FM IF Transformer Response

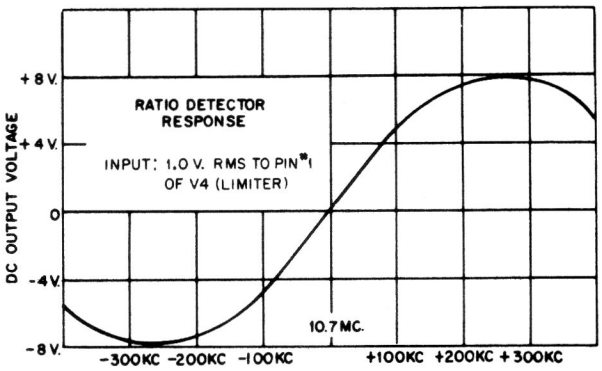
FM ALIGNMENT

Turn SELECTOR switch to FM position, turn LOUDNESS control to maximum, and set AFC-NORM switch to NORM.

Step	Connect high side of signal generator to—	Set signal gen. to—*	Set radio dial to—	Adjust for maximum
1	Pin #1 of V4 (6AU6) thru 0.01 mf capacitor	Connect "VoltOhmyst®" across C22.		
2		10.7 mc	Quiet point on dial near 108 mc	T3 top for ZERO voltage (cross-over)
3		Connect "VoltOhmyst®" across R21.		
4		10.7 mc	Quiet point on dial near 108 mc	T3 bottom
5		Repeat steps 2 and 4.		
6	Pin #1 of V3 (6BA6)	10.7 mc	Quiet point on dial	T2 top
7	Pin #1 of V2 thru 4700 mmf ceramic cap.			T1 top & bottom†
8	Antenna terminal board (thru matching network if required)			T102 primary†
9				T102 secondary†
10		Repeat steps 6, 7, 8, and 9.		
11		Connect output meter across voice coil of speaker.		
12		108.5 mc, 400 cycle mod.	108.5 mc	FM tuner string drive collar
13		87.5 mc, 400 cycle mod.	87.5 mc	C112 (osc. trimmer)
14		95 mc, 400 cycle mod.	95 mc (rock dial)	C107 (RF trimmer)
15		Repeat steps 12, 13, and 14.		

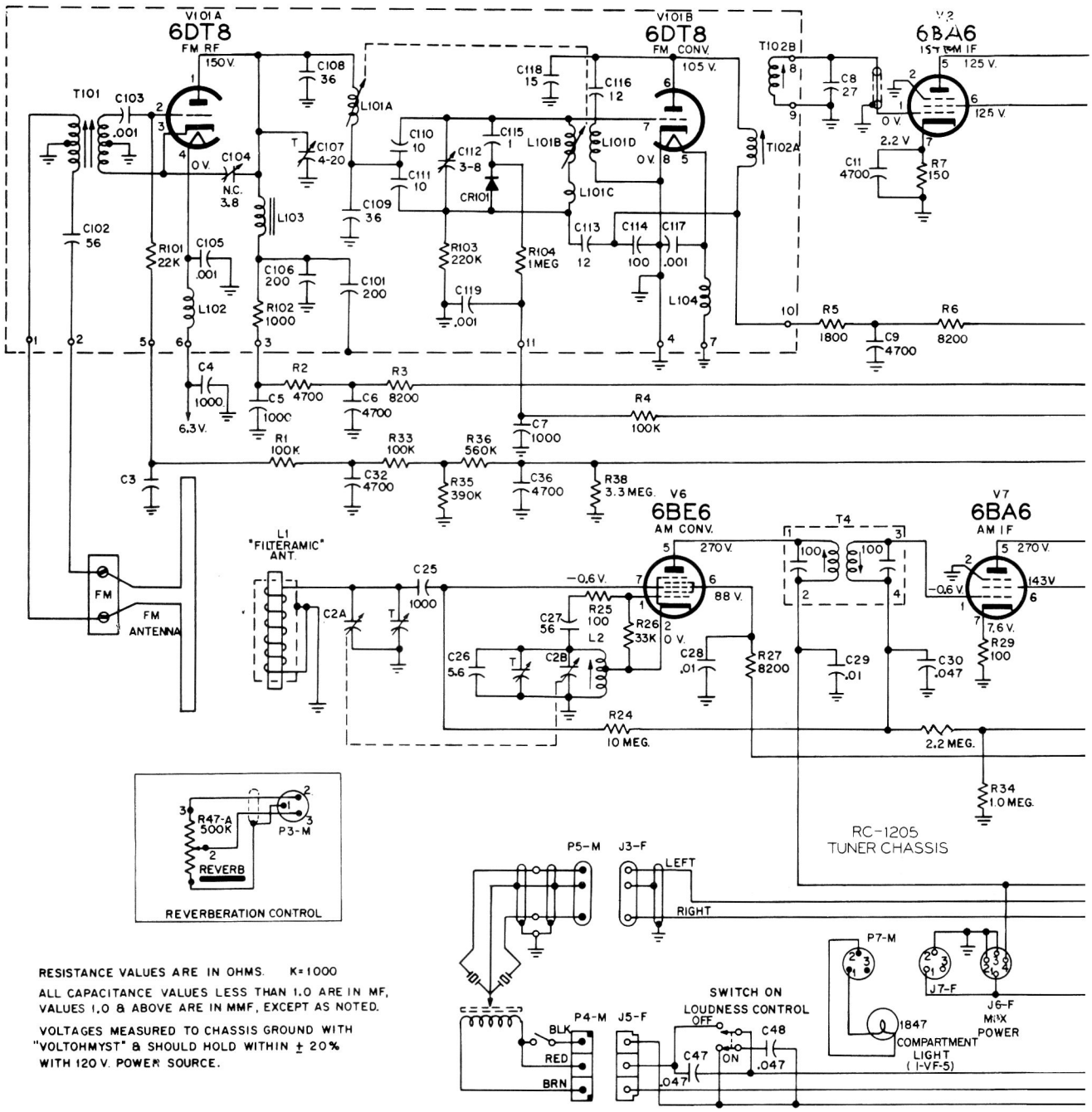
* Adjust output level of signal generator to provide approximately 1 volt indication on "VoltOhmyst®."

† Alternate loading may be required for accurate peaking; the winding not being peaked should be loaded with resistor of 270 ohms in Steps 7, 8, and 9.



Ratio Detector Response

VF-505, VF-506, VF-507, VF-519, VF-619 & VF-646

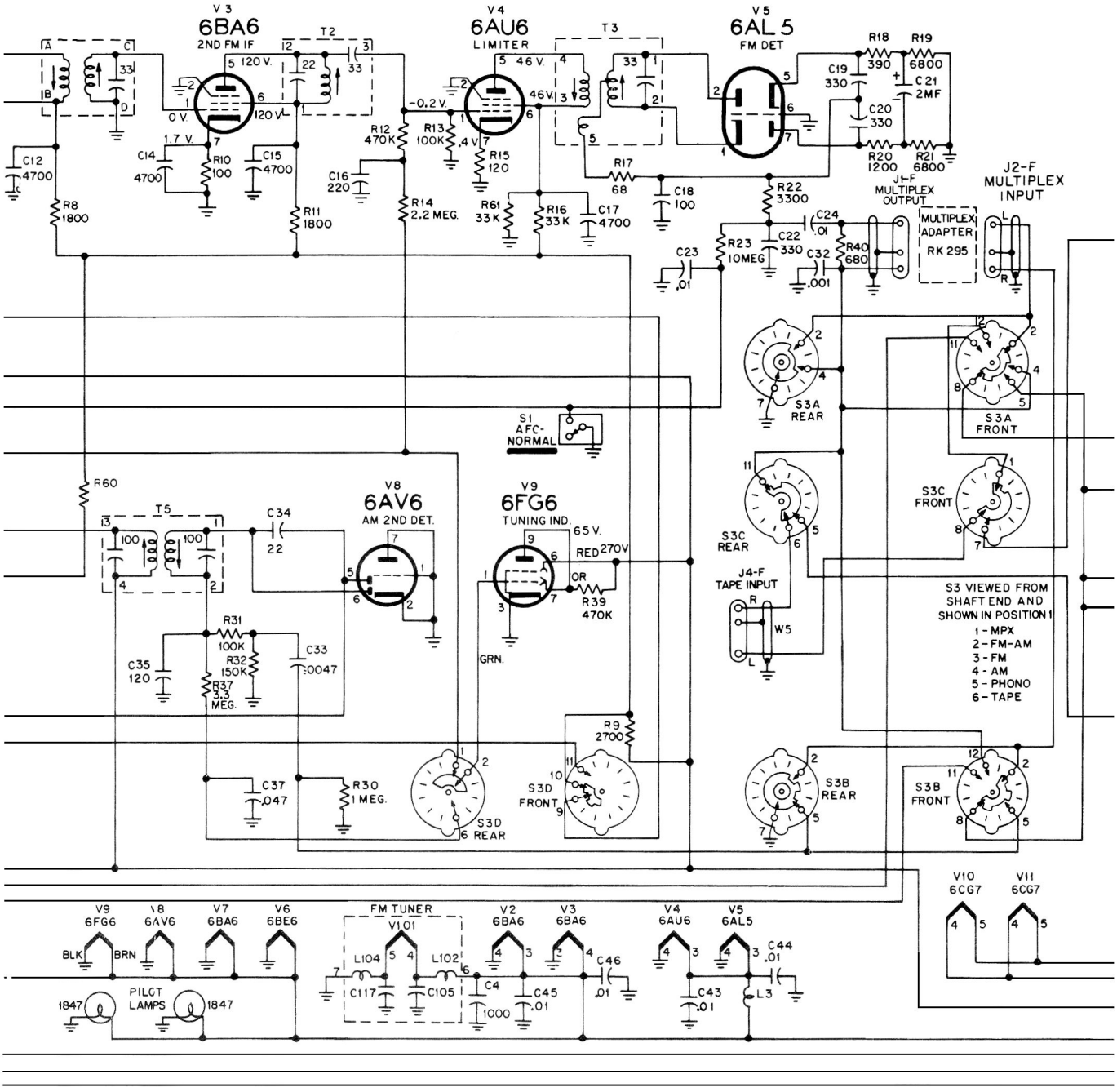


RESISTANCE VALUES ARE IN OHMS. K=1000

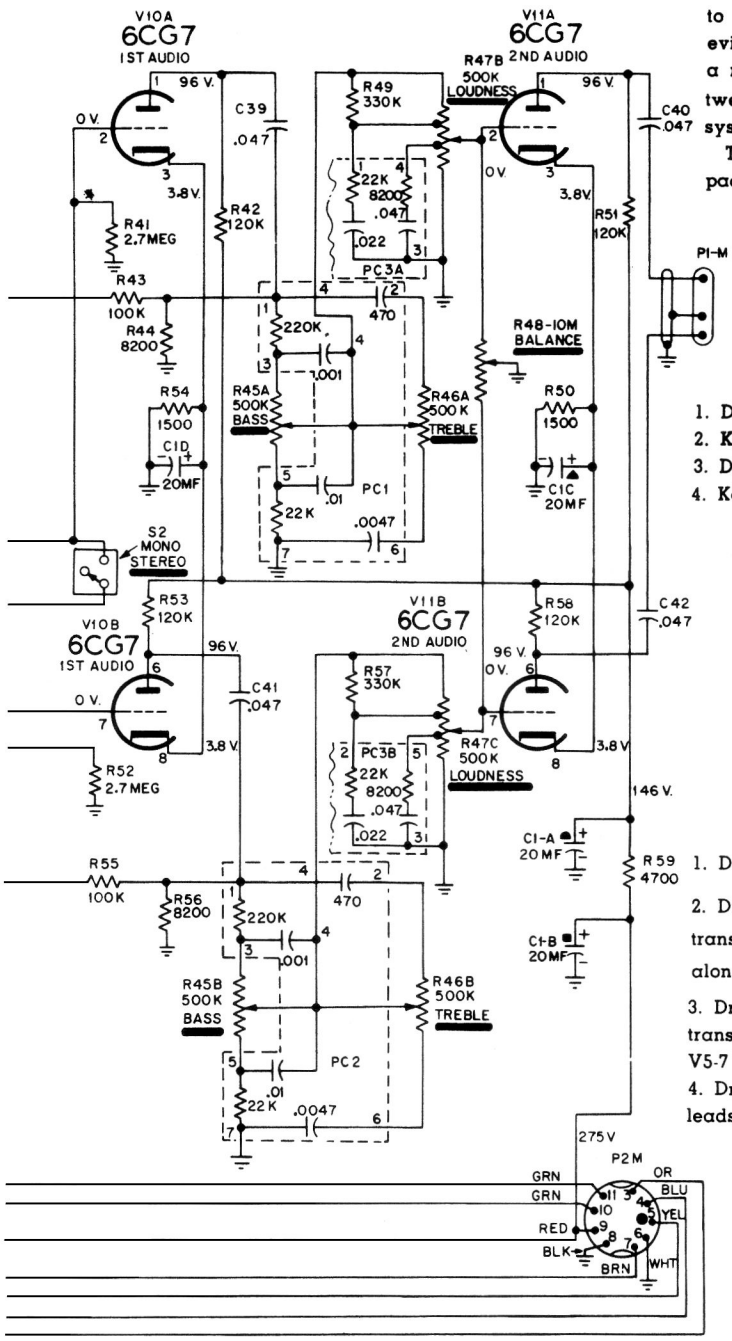
ALL CAPACITANCE VALUES LESS THAN 1.0 ARE IN MF, VALUES 1.0 & ABOVE ARE IN MMF, EXCEPT AS NOTED.

VOLTAGES MEASURED TO CHASSIS GROUND WITH "VOLTOHMYST" & SHOULD HOLD WITHIN ± 20% WITH 120 V. POWER SOURCE.

VF-505, VF-506, VF-507, VF-519, VF-619 & VF-646



VF-505, VF-506, VF-507, VF-519, VF-619 & VF-646



SPEAKER PHASING

The two speaker systems must be properly connected in order to have "in-phase" sound outputs. Incorrect connections will be evidenced by "loss of bass" or distortion in the sound when playing a monophonic recording and listening from a point midway between the two speaker systems. Similarly the speakers in each system must be phased with each other.

To maintain correct phasing, the speaker connections shown on page 8 should be closely followed.

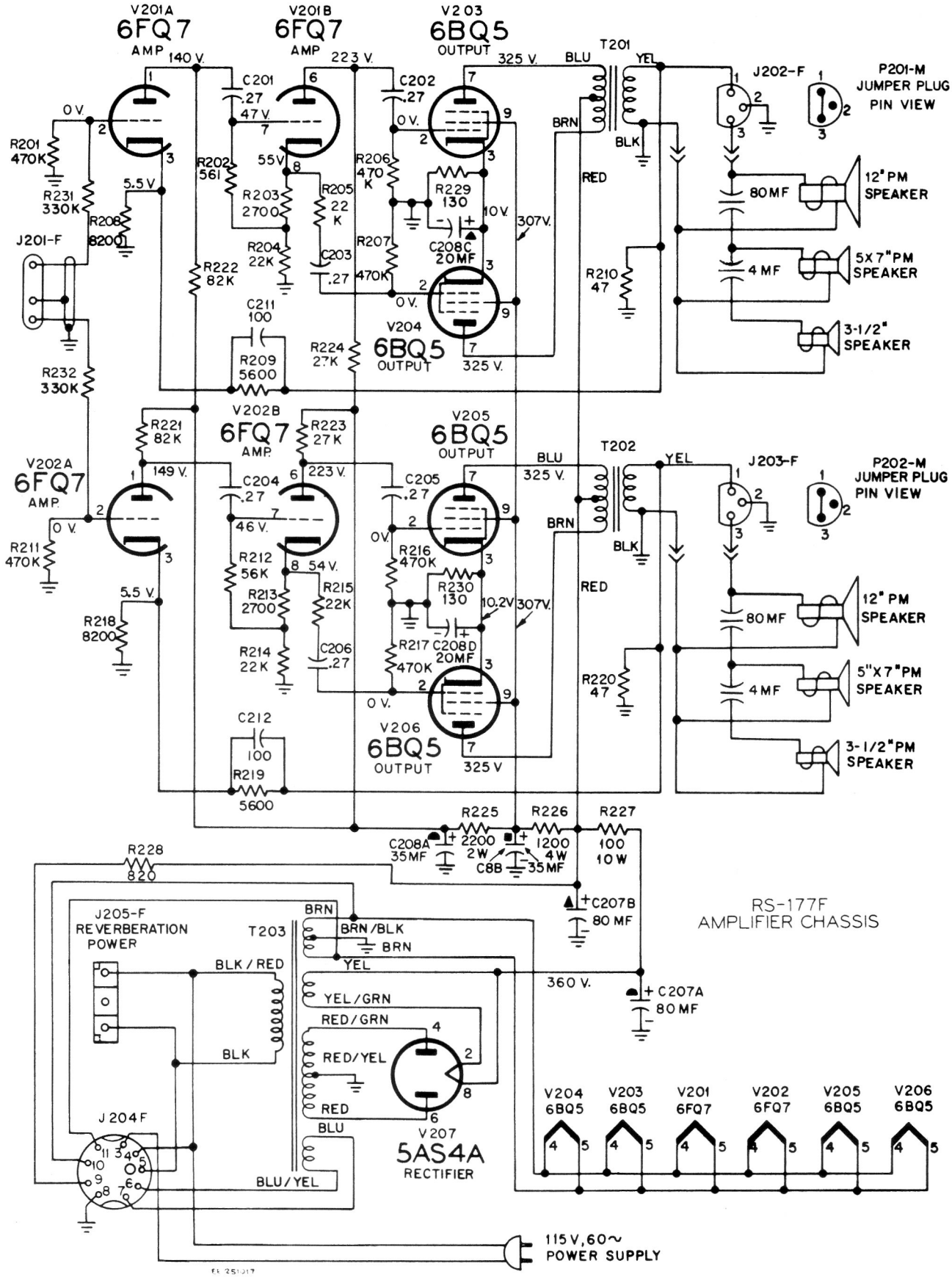
CRITICAL LEAD DRESS (RC-1205)

1. Dress R3 and R9 up and away from all other components.
2. Keep 10.7 MC IF grid and plate wiring short and close to chassis.
3. Dress L3 close to chassis.
4. Keep heater leads away from audio grid circuits

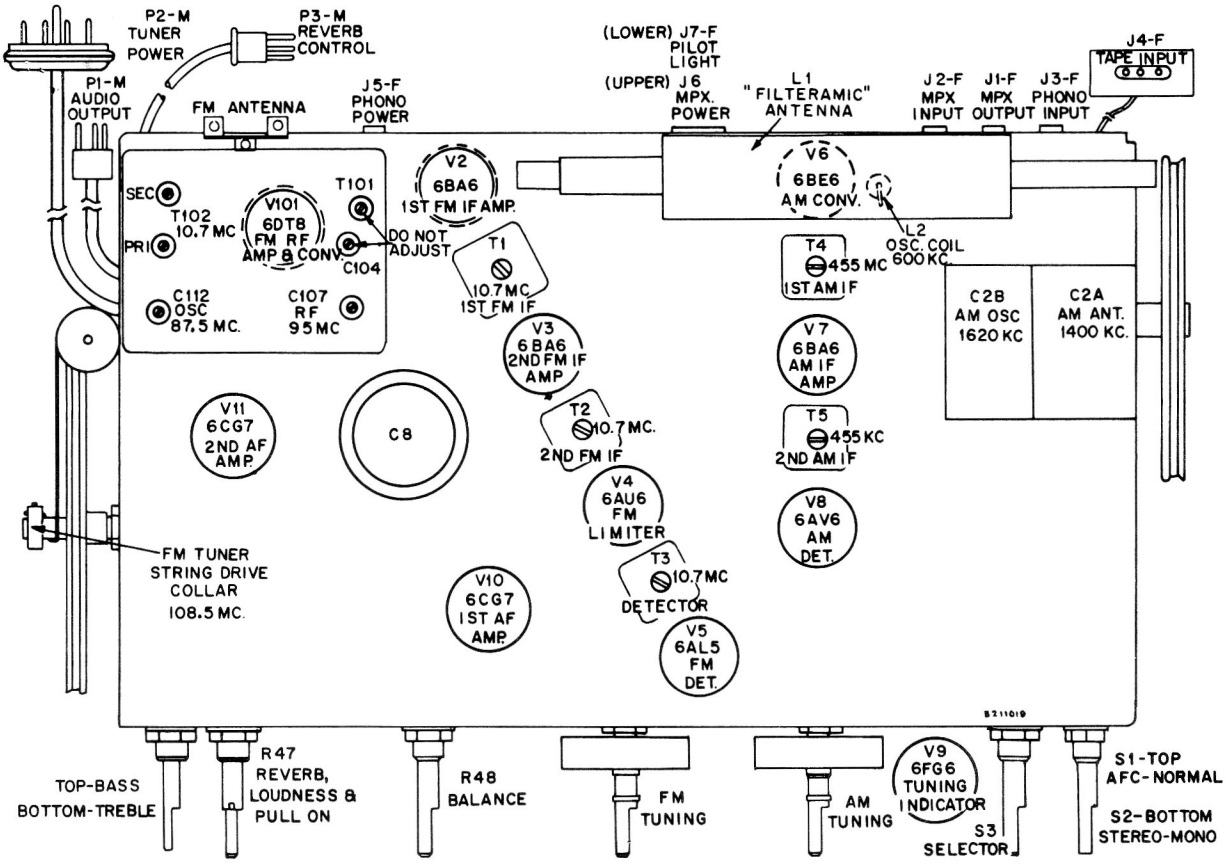
CRITICAL LEAD DRESS (RS-177F)

1. Dress all heater leads flat along bottom of chassis.
2. Dress feedback leads between terminal board TB1 near output transformers and V1 and V2, along inside corner of chassis and along V1, V2 side of terminal board TB2.
3. Dress plate lead from V3-7 to output transformer T1 on power transformer side of V4 and under lance. Dress plate leads from V5-7 and V6-7 clear of feedback leads in corner of chassis.
4. Dress R25, R26, R27, R28, R29 and R30 up and clear of base, leads and other components.

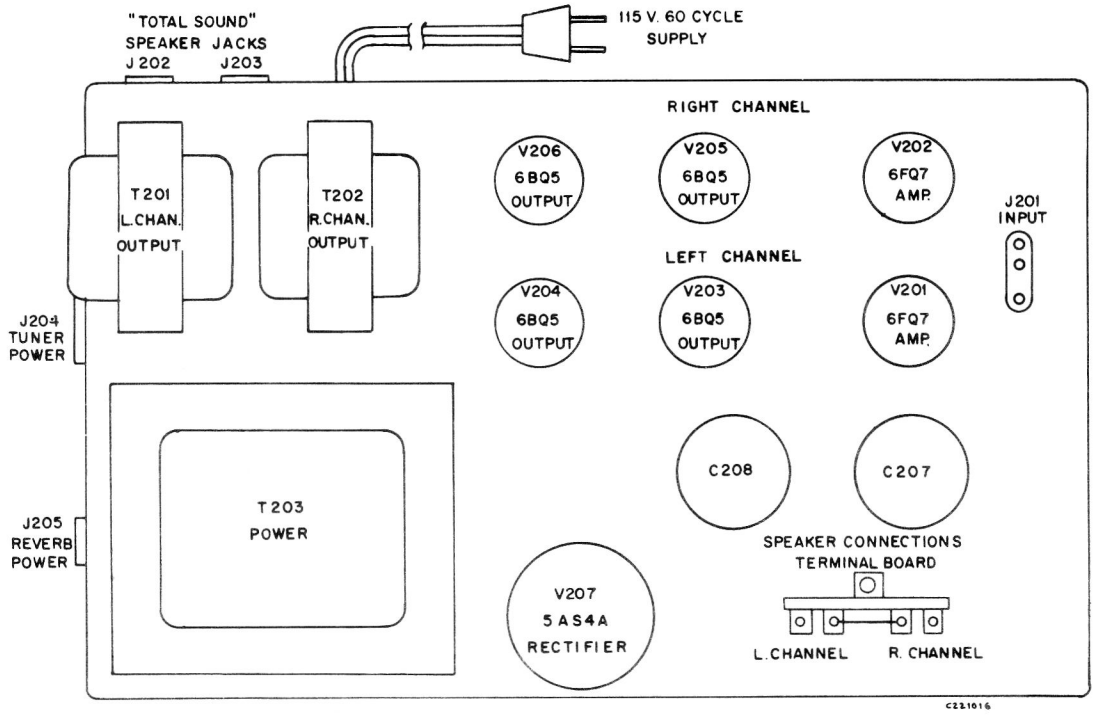
VF-505, VF-506, VF-507, VF-519, VF-619 & VF-646



VF-505, VF-506, VF-507, VF-519, VF-619 & VF-646

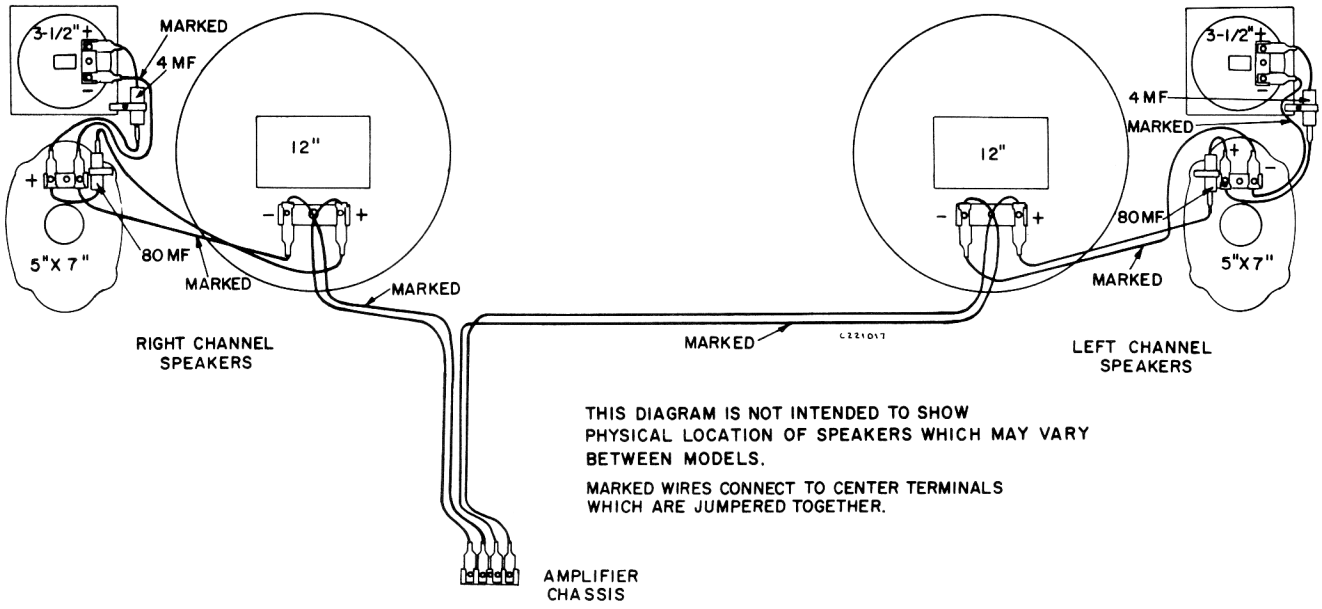


Chassis RC-1205—Location of Major Components

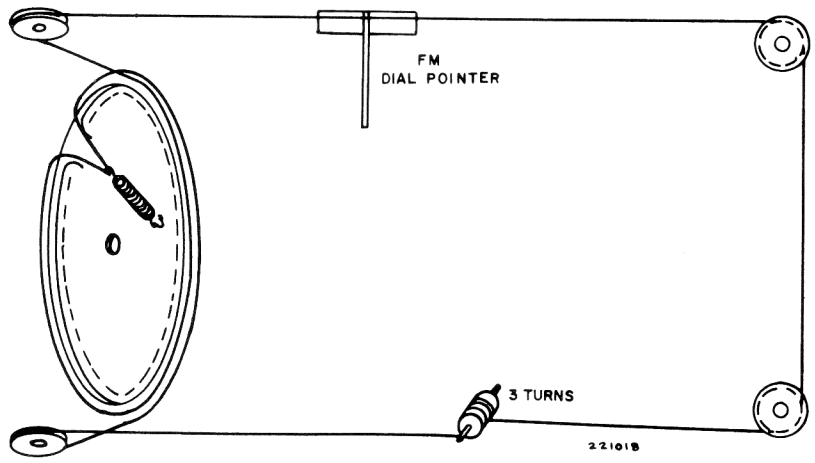


Chassis RS-177F—Location of Major Components

VF-505, VF-506, VF-507, VF-519, VF-619 & VF-646



Speaker Wiring Diagram



AM Dial Cord Arrangement

FM Dial Cord Arrangement