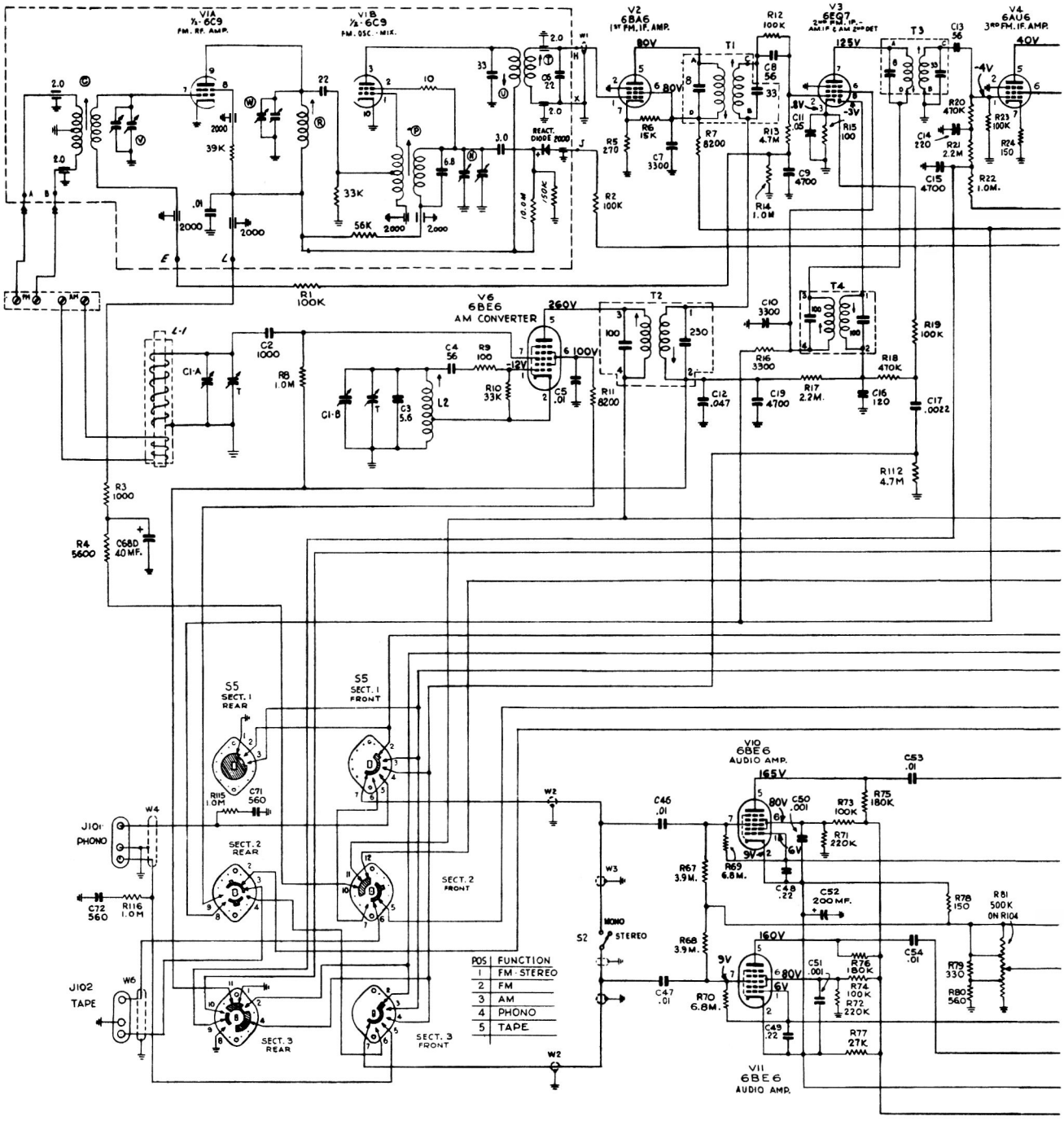
RCA SHC-865, SHC-866, SHC-889 Tuner



RCA SHC-865, SHC-866, SHC-889 Tuner

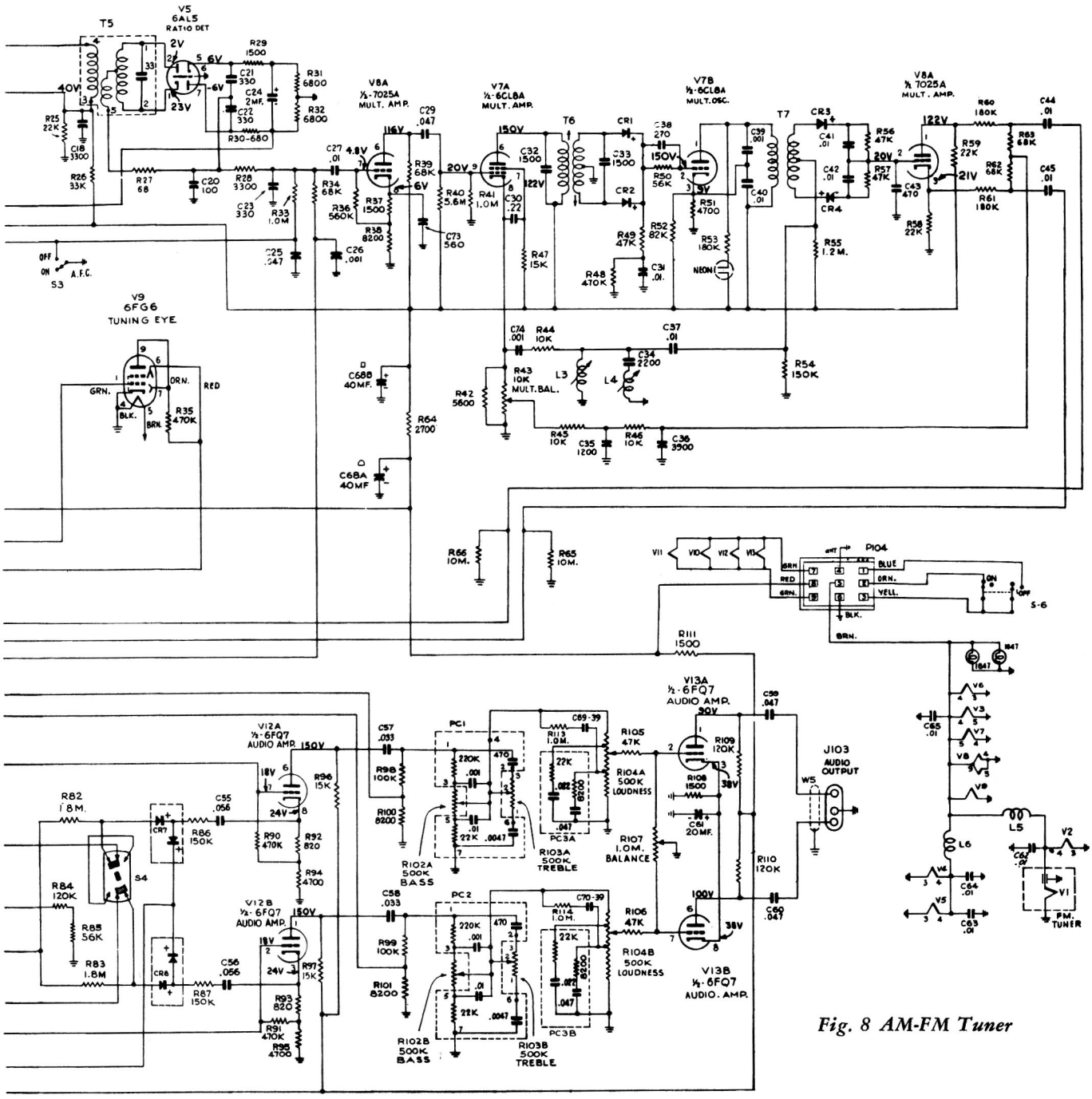


Fig. 8 AM-FM Tuner

RCA SHC-865, SHC-866, SHC-889 Power Amplifier

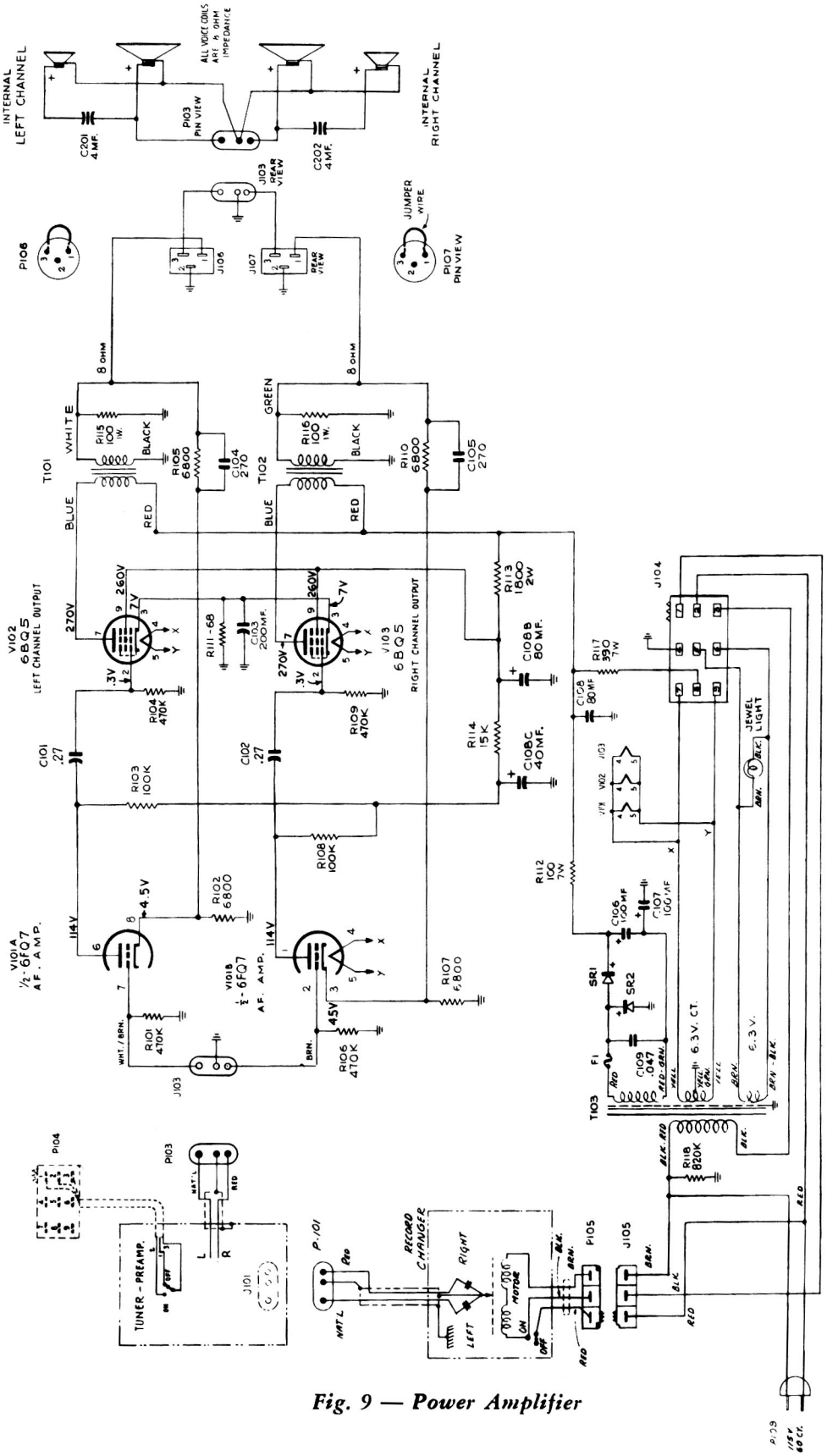


Fig. 9 — Power Amplifier

RCA SHC-865, SHC-866, SHC-889 Chassis Layouts

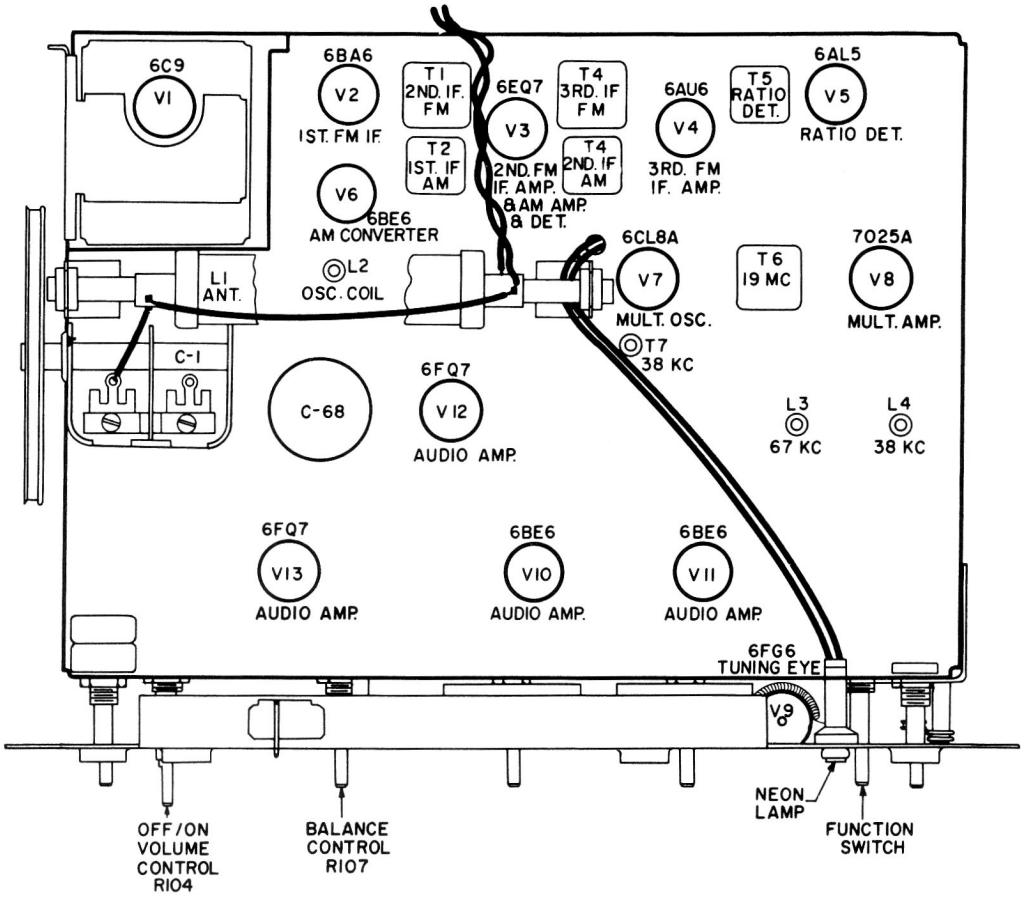


Fig. 1 — Tuner Chassis Layout Showing Major Components

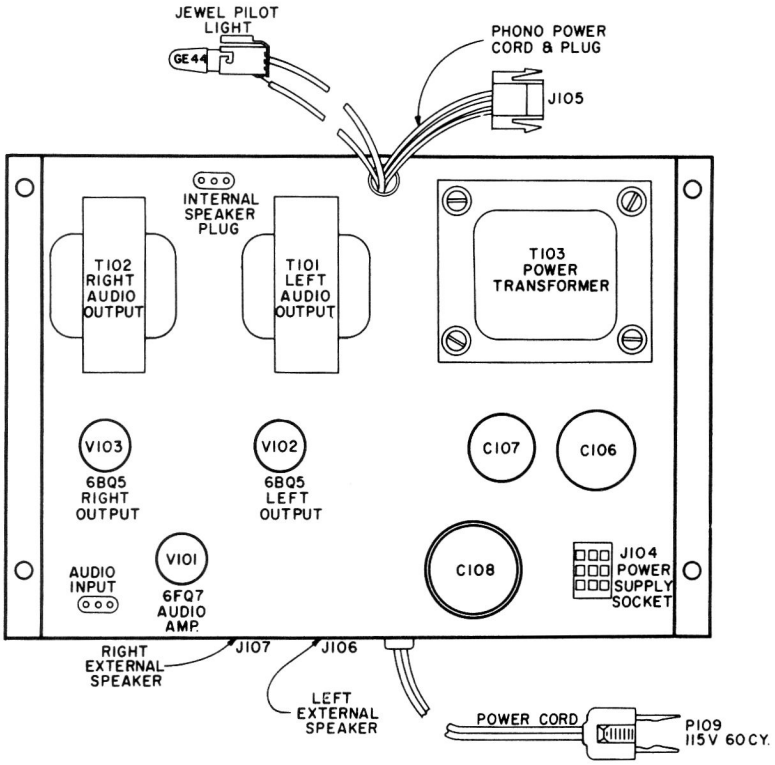


Fig. 2 — Power Amplifier Chassis Showing Location of Tubes and Major Components

RCA SHC-865, SHC-866, SHC-889 Chassis Layout & Dial Cord Stringing

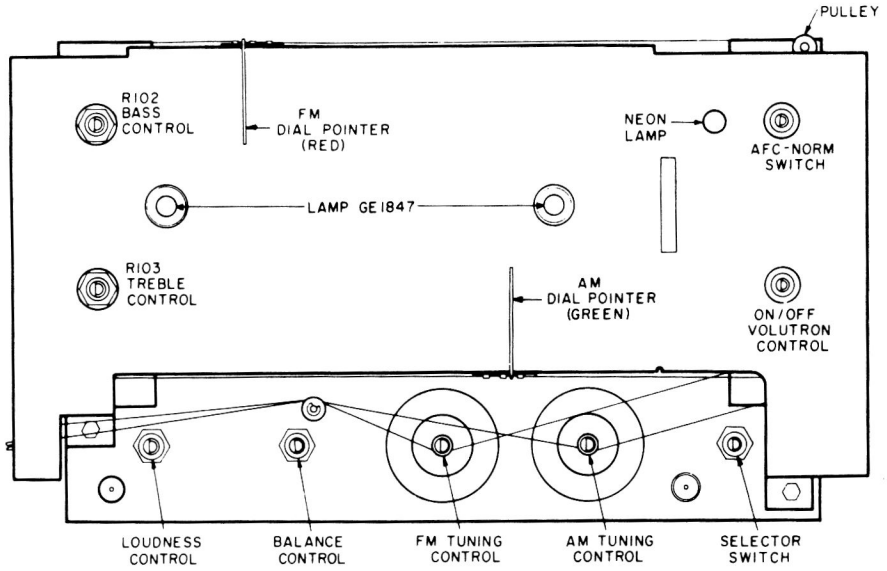


Fig. 10 — Front View of Chassis Showing Stringing and Control Knobs

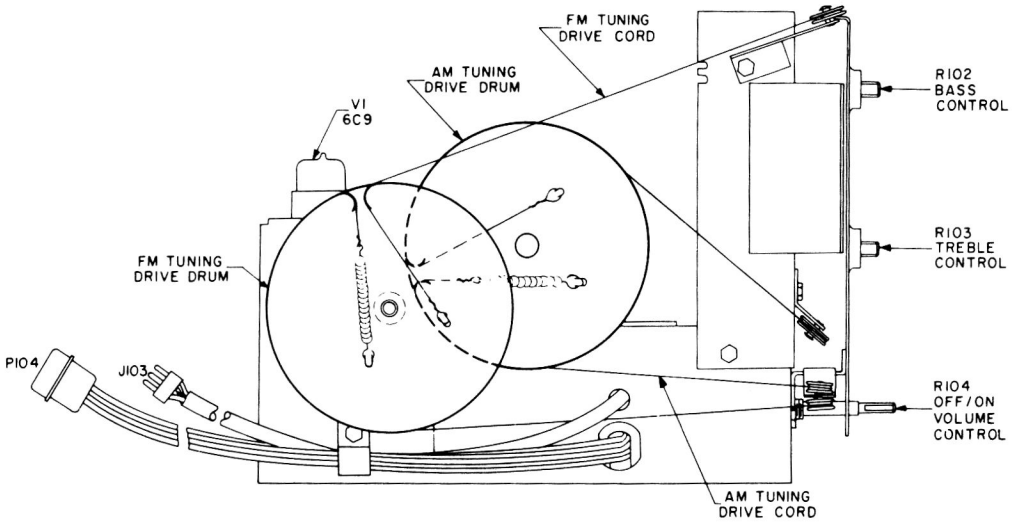


Fig. 11 — Left Side View of Chassis Showing Drive Drums

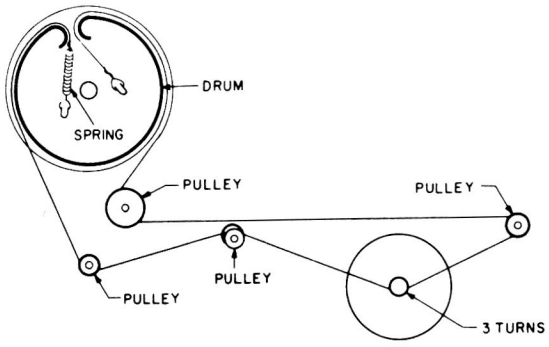


Fig. 12 — AM Dial Cord Arrangement

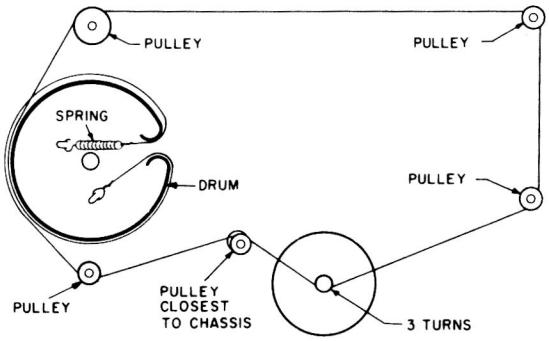


Fig. 13 — FM Dial Cord Arrangement

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 Function Switch to AM position.
Turn Volution to OFF position.

Step	Connect high side of signal generator to—	Set Signal Generator to—	Set Radio to—	Adjust for Maximum
1		Connect Oscilloscope to Junction of R-18 and R-19		
2	Pin #2 V-3 6EQ7	455KC	Quiet spot near 1620KC	Align T-4 top and bottom for symmetrical overcoupled curve with max. gain (marker located at center of curve)
3	Pin #7 V-6 6BE6	455KC	Quiet spot near 1620KC	Align T-2 for max. symmetrical curve with marker in the center
4		Connect Output Meter across voice coils		
5	Pin #7 V-6 6BE6	1605KC	Open gang fully	Adjust C-3 Oscillator Trimmer for maximum
6		1500KC	1500KC	Peak Antenna Trimmer
7		600KC	600KC	Adjust Oscillator Core L-2 for maximum output while rocking gang
Repeat Steps #6 and # 7				

FM ALIGNMENT

Set FUNCTION SWITCH in FM mono position, turn VOLUME control to minimum, and set AFC to OFF.

Step	Connect high side of signal generator to—	Set signal generator to—	Set radio dial to—	Adjust for maximum
1		Connect "VoltOhmyst" to junction of R-30, R-32.		
2	Pin #1 of V-4 (6AU6) thru .01 mfd. capacitor	10.7 mc	Quiet point on dial near 108 mc	Peak T-5 bottom for maximum output
3		Connect "VoltOhmyst" to junction of R-27 and R-28		
4		10.7 mc	Quiet point on dial near 108 mc	T-5 top for zero voltage
5		Repeat steps #2 and #4.		
6		Relocate "VoltOhmyst"; connect Oscilloscope to junction of R-20 and C-14.		
7	Pin #2 of V-3 (6EQ7)	10.7 mc	Quiet point on dial	Peak top and bottom T-3 for maximum symmetrical curve with a 10.7 marker in the center. Oscilloscope set for maximum gain. See figure 3.
8	Pin #1 of V-2 (6BA6)	10.7 mc	Quiet point on dial	T-1 align for symmetrical overcoupled curve with 10.7 marker in the center. See figure 4.
9	Antenna Terminal Bd. (through matching network) Balanced 300 ohms	91 mc	91 mc	Peak Tuner IF for symmetrical overcoupled curve of maximum gain. See figure 5.
11		Repeat steps #8 and #9.		
12		Disconnect Marker and Oscilloscope		
13		10.6 mc	10.6 mc	Adjust oscillator trimmer RF and antenna trimmer for maximum output.
14		89 mc	89 mc	Adjust oscillator trimmer RF and antenna trimmer for maximum output.
15	Repeat steps #13 and #14.			

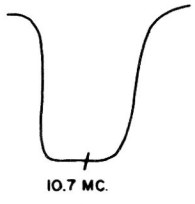


Fig. 3

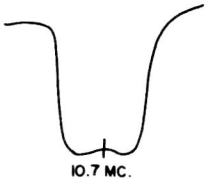


Fig. 4

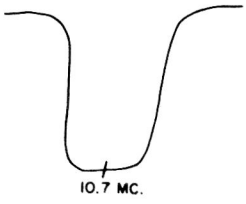


Fig. 5

FM STEREO ALIGNMENT

Set the selector switch to FM Stereo.

Step	Connect high side of generator to	Set signal generator to	Adjust for
1		Short out primary of T-7 connect oscilloscope through low capacity probe to junction of R44 & C34	
2	Audio generator to the junction of R34 and C27	67KC	Adjust for minimum deflection
3	Remove audio gen. connect signal generator to antenna terminals.	97MC left channel modulated at 1000 cycles	Adjust L2 until waveform tips just appear to touch. See figure #6.
4		Place voltohmyst to junction of R49 and R48	
5			Using outside peaks figure 6 adjust T-6 top and bottom cores for maximum reading on voltohmyst.
6		Remove short across T-7. Connect oscilloscope at the junction of pin #2 V8	
7	Signal generator to antenna terminals.	97MC modulated at 1000 cycles	Locate mechanical location of two outbreaks when core of T7 is adjusted. Set core mechanically midway between the breakout.
8			Retouch top and bottom cores; by backing the cores out to give an undistorted waveform with No 38KC showing on curve. Do not adjust only one core, but take equal amounts on each.
9			Recheck mechanical setting of the core of T-7. Step #7.
10		Remove oscilloscope	
11		97MC modulated at 1000 cycles	Adjust R43 multiplex balance for minimum output across right speaker. Separation between channels must be better than 20 db.
12	Signal generator antenna terminals.	97MC modulated at 1000 cycles	38KC oscillator must remain locked with stereo signal of 9 microvolts.
13		97MC modulated at 1000 cycles	The stereo indicator light must go out with a monaural signal of 5 microvolts.

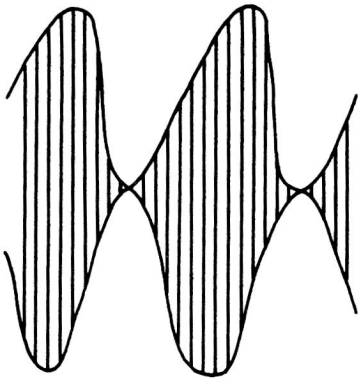
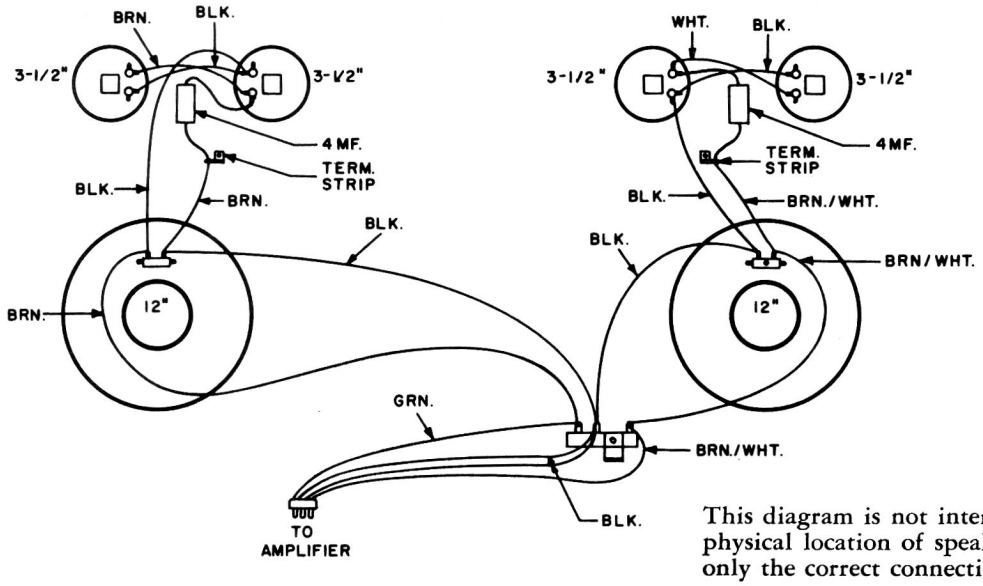


Fig. 6



This diagram is not intended to show physical location of speakers, but only the correct connections of leads.

Fig. 7 — Speaker Wiring Diagram