

Pages 31-40 Courtesy of HARMAN-KARDON, INC.

NOTE: For replacement part numbers, refer to schematics.

ALIGNMENT PROCEDURES

Do not attempt alignment unless the following equipment is available.

EQUIPMENT DESCRIPTION

- | | |
|------------------------|-------------------------------|
| 1. FM Signal Generator | 4. Audio Generator |
| 2. Oscilloscope | 5. Multiplex Stereo Generator |
| 3. AC VTVM | 6. AM Signal Generator |

RF AND IF ALIGNMENT

Function Selector In FM STEREO

STEP	CONNECT SIGNAL GENERATOR	GENERATOR FREQUENCY	DIAL SETTING	OUTPUT INDICATOR	ADJUST	ADJUST FOR	NOTES
1	Connect Generator Through a Dummy Antenna 120Ω Resistor On The Hot Side & a 150Ω Res. On The Ground Side) To The Antenna Terminals.	90 MC 400 CPS MOD 75 KC Deviation	90 MC	¹ Scope at Tape Output Jack ² D.C.V.T.V.M. @ Collector of Q401 to Ground.	T101—Antenna Coil L101—2nd RF Coil T102—1st IF Primary & Sec. L301—2nd IF L302—3rd IF Primary & Sec.	Maximum DC Output at Collector of Q401	Adjust Input Level of Generator for approx. 4VDC at the collector of Q401. Adjust Generator Freq. for a max. DC at this point. Readjust Gen. Output for 4 Volts.
2	Same as Above	106 MC 400 CPS MOD 75 KC Deviation	106 MC	Same as Above	C102—Antenna Trimmer C110—RF Trimmer		Maintain low enough Input at the Gen. so that approx. 4V is at collector of Q401.
3	Same as Above	106 MC 400 CPS MOD 75 KC Deviation	106 MC	Same as Above	C116—OSC. Trimmer	Generator Freq. and Dial Setting to be the same. Adjust C116 @ 106 MC and L102 @ 90 MC for correct Dial Calibration	At this point, the Gen. Freq. & the Dial Setting should be the same. If a difference is noted adjust C116 @ 106 MC and L102 @ 90 MC until Dial Calibration & Gen. Freq. agree.
		90 MC 400 CPS MOD 75 KC Deviation	90 MC		Adjust ONLY If Calibration Error is Noted		
					L102—OSC. Coil		
4	Same as Above	No Signal Input	Tune to Noise at Either Extreme of the Band.	Tuning Meter on Front Panel	L303—Ratio Detector	With Secondary (Top Slug) removed, adjust Primary Slug for Maximum Tuning Meter Deflection	After Primary (Bottom Slug) is adjusted for max. Meter Deflection, replace Primary Slug and adjust for Zero Center on Tuning Meter.

MULTIPLEX ALIGNMENT PROCEDURE

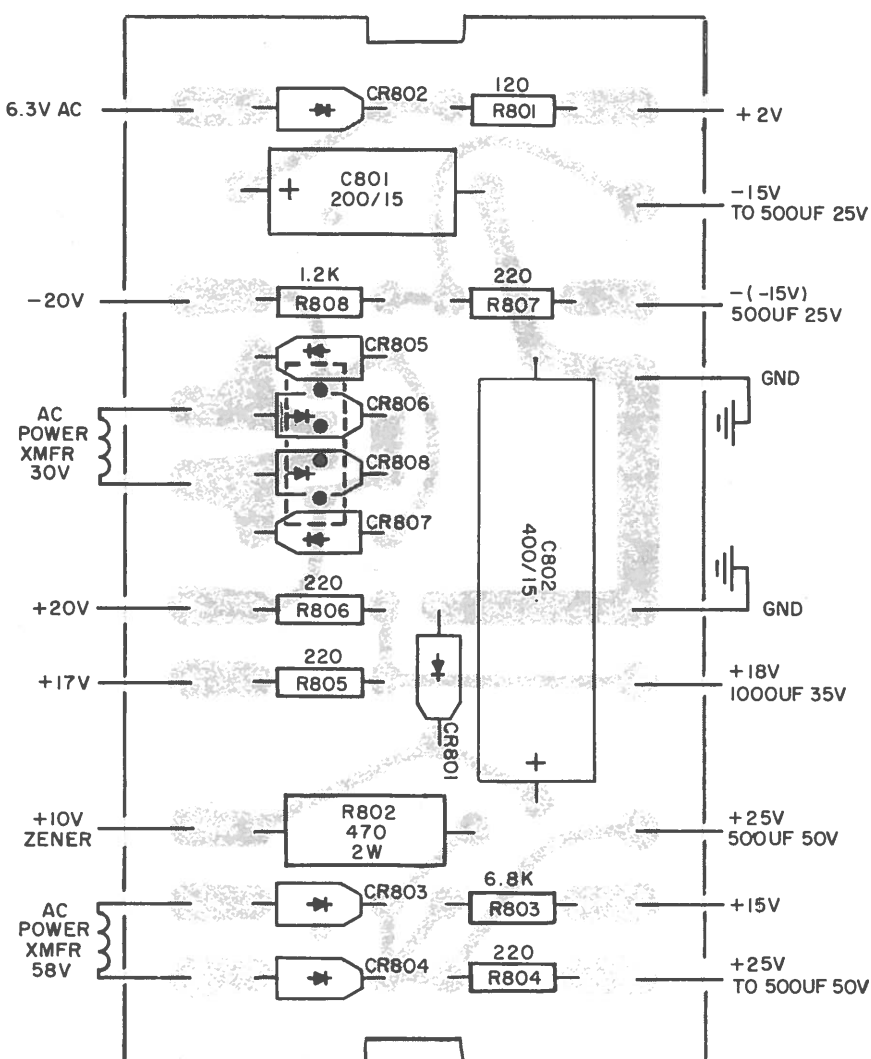
Function Selector In FM STEREO

STEP	CONNECT SIGNAL GENERATOR	GENERATOR FREQUENCY	DIAL SETTING	OUTPUT INDICATOR	ADJUST	ADJUST FOR	NOTES
1	Junction of R403, C401, and L401	Audio Generator 67 KC	—	AC VTVM at junction of C405, R406, C406 and L404	67 KC Coil L401	Minimum	FM Stereomatic Mode
2		Audio Generator 72 KC			72 KC Coil L403	Minimum	Same as Above
3	Antenna Terminals through dummy Resistor	100 MC Modulated 100% by Stereo MPX Generator	100 MC	VTVM at collector of Q401	Stereomatic Bias Adjust R402	10V DC	FM Stereomatic Mode
4	Same as Above	Same as Above	Same as Above	Scope at 38 KC Transformer Secondary Junction of L405 and CR401	Top and bottom of 19 KC Coil, L404 and L405	Maximum Amplitude on Scope	Stereo Indicator should be lit after this adjustment.
5	Same as Above	Same as Above	Same as Above	Scope at Tape Output Jack, Minimum Channel	38 KC Transformer L405	Minimum in Unmodulated Channel	Maximum separation should now be achieved between channels.

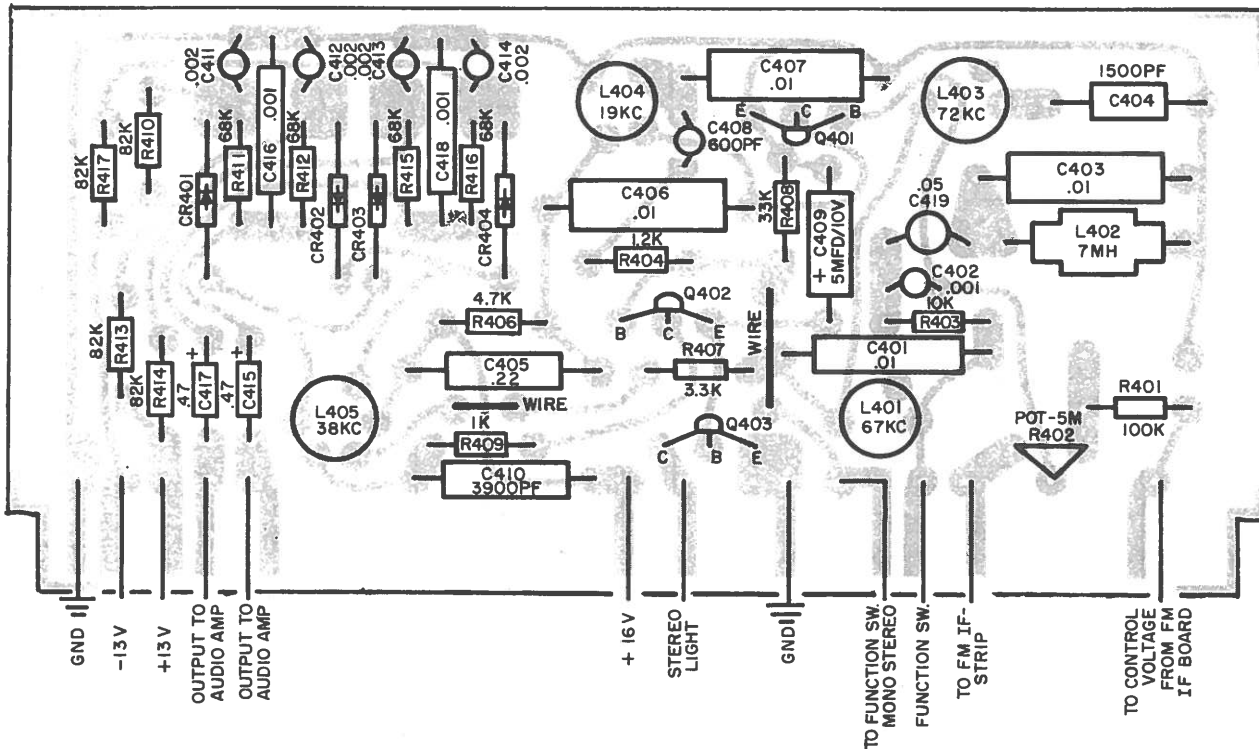
AM ALIGNMENT PROCEDURE

STEP	DIAL SETTING	GENERATOR	INDICATOR	ADJUST	ADJUST FOR
1	Quiet point in band	455 KC 400 Hz Modulation	Scope at Tape Out	L202 (1st IF) L203 (2nd IF)	Maximum
2	600 KC	600 KC 400Hz Modulation	Scope at Tape Out	L204 (Osc. Coil)	Maximum
3	600 KC	600 KC 400 Hz Modulation	Scope at Tape Out	L201 (RF Trans.) Loopstick Ring	Maximum
4	1400 KC	1400 KC 400 Hz Modulation	Scope at Tape Out	C219 (Osc. Trimmer)	Maximum
5	1400 KC	1400 KC 400 Hz Modulation	Scope at Tape Out	C217 (Ant. Trimmer) C218 (RF Trimmer)	Maximum
6	Repeat	Steps 3 & 5	Scope at Tape Out		

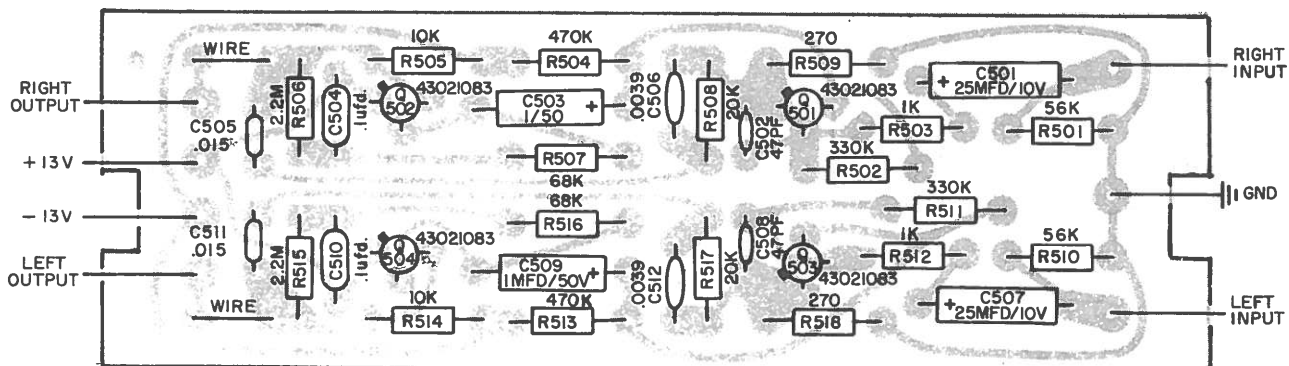
- All frequencies 30% modulated.
- Couple signal loosely by means of one turn loop on generator cable.
- Use lowest signal for useable indication.



MULTIPLEX BOARD

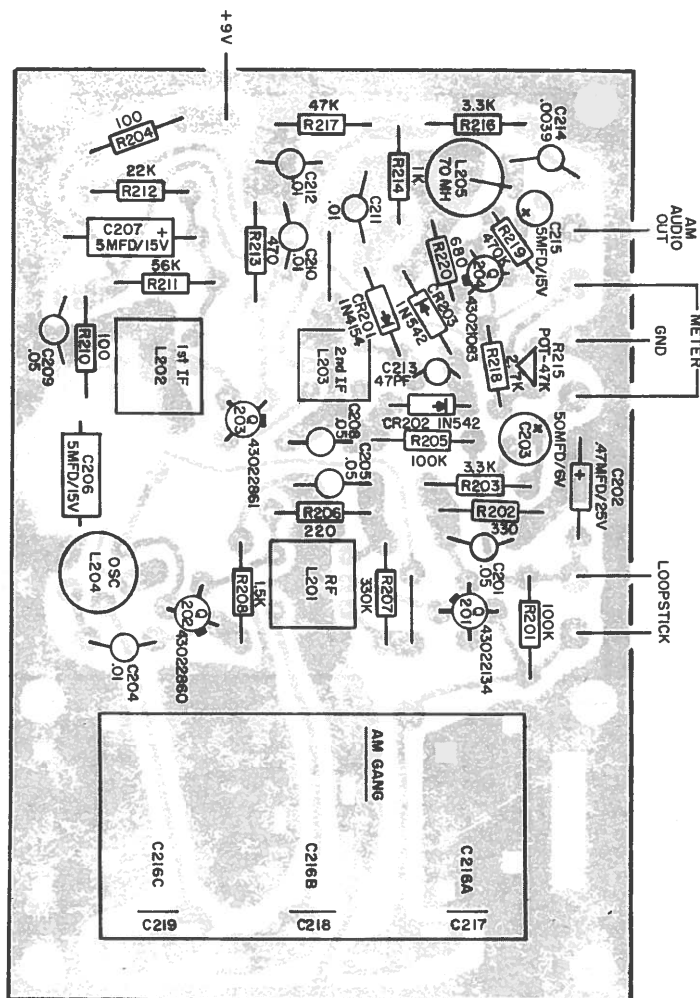
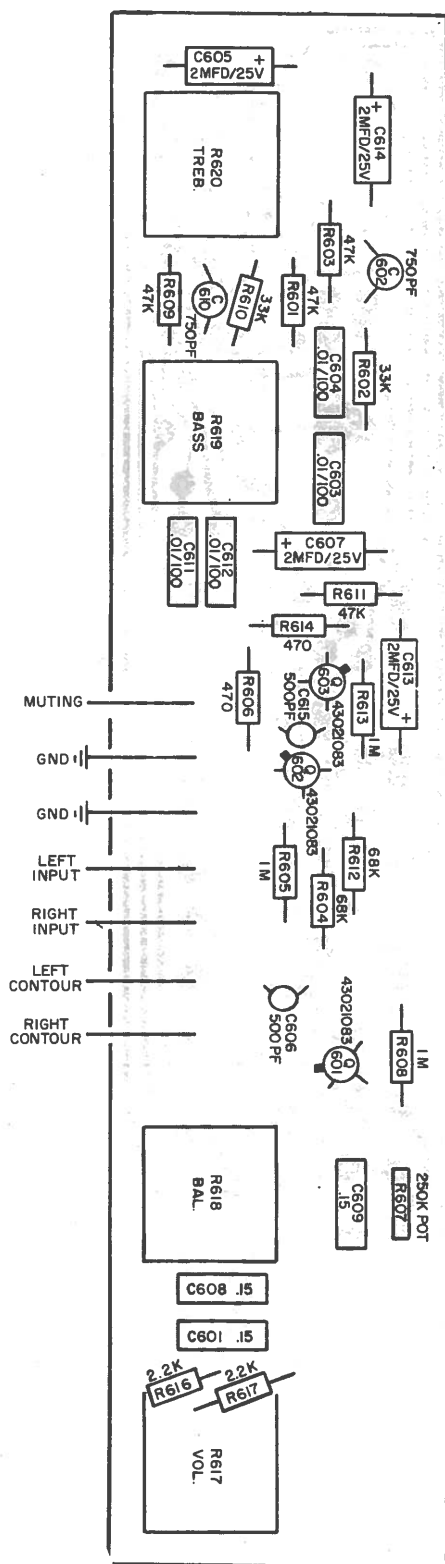


PRE AMP BOARD



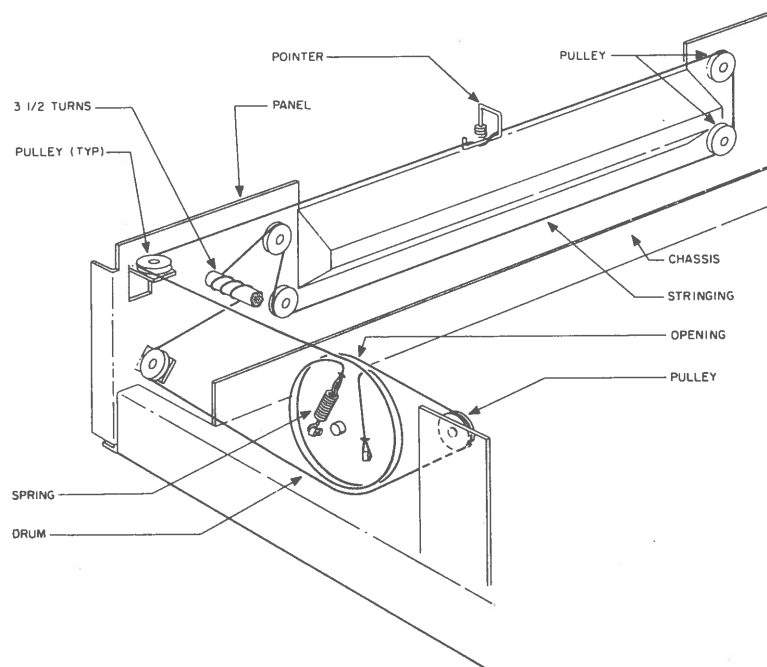
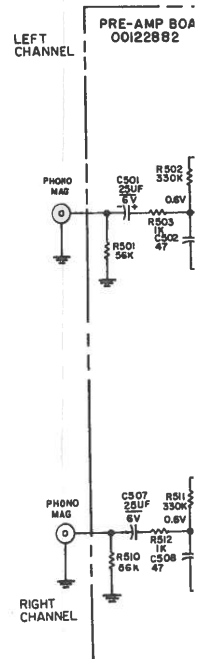
TONE CONTROL BOARD

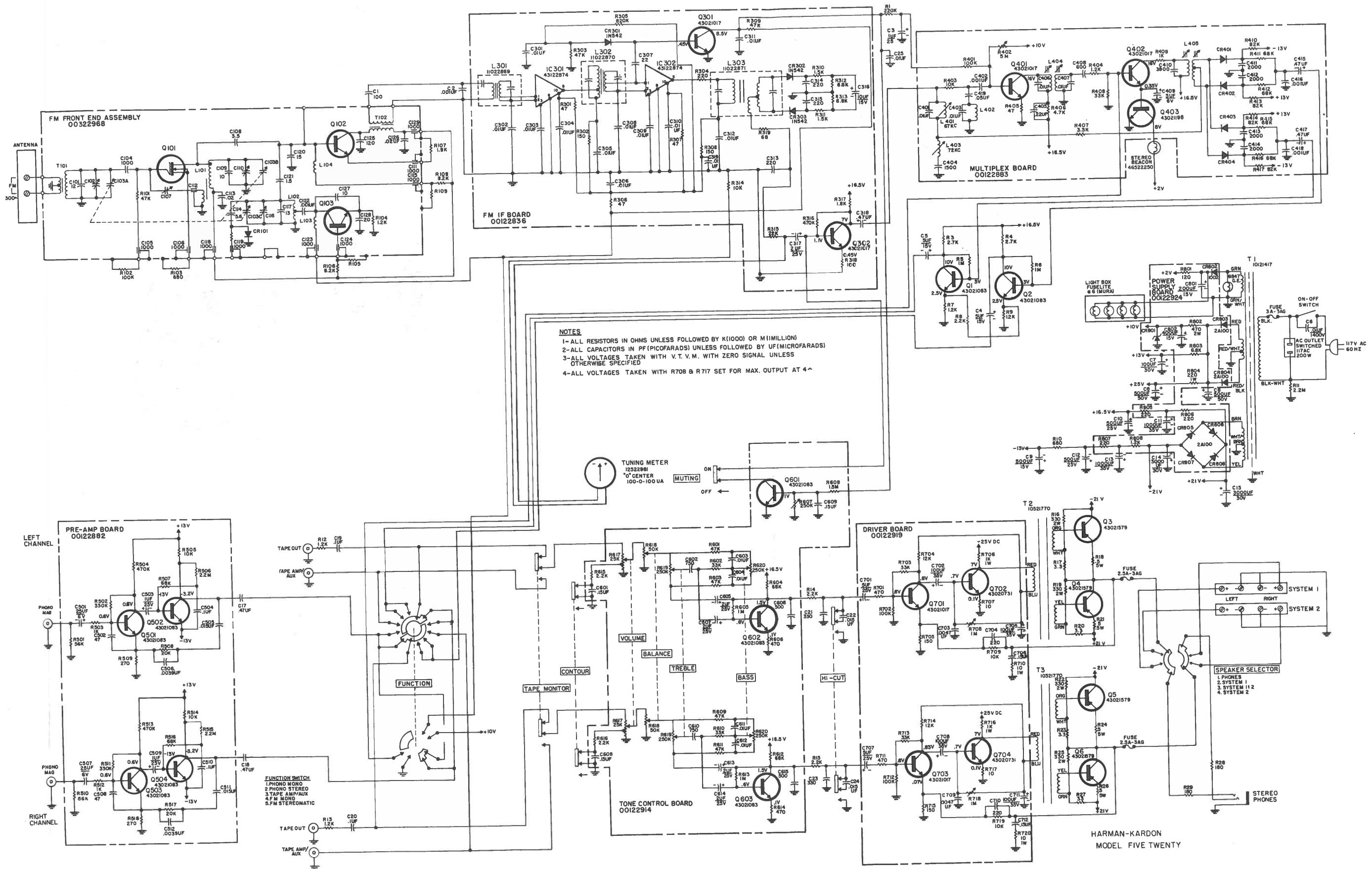
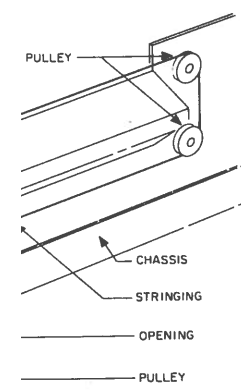
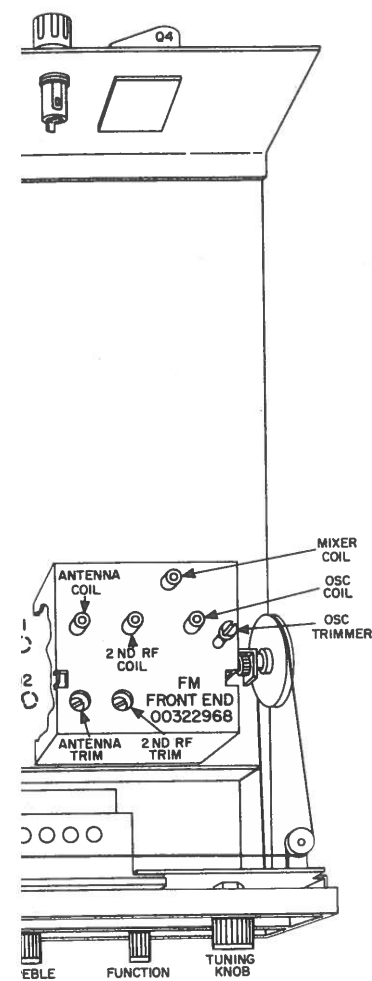
AM BOARD

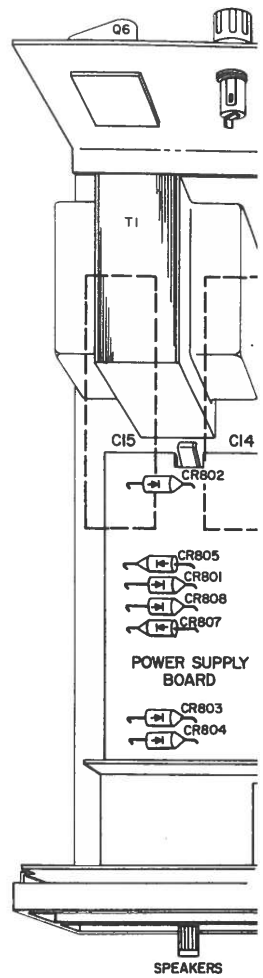
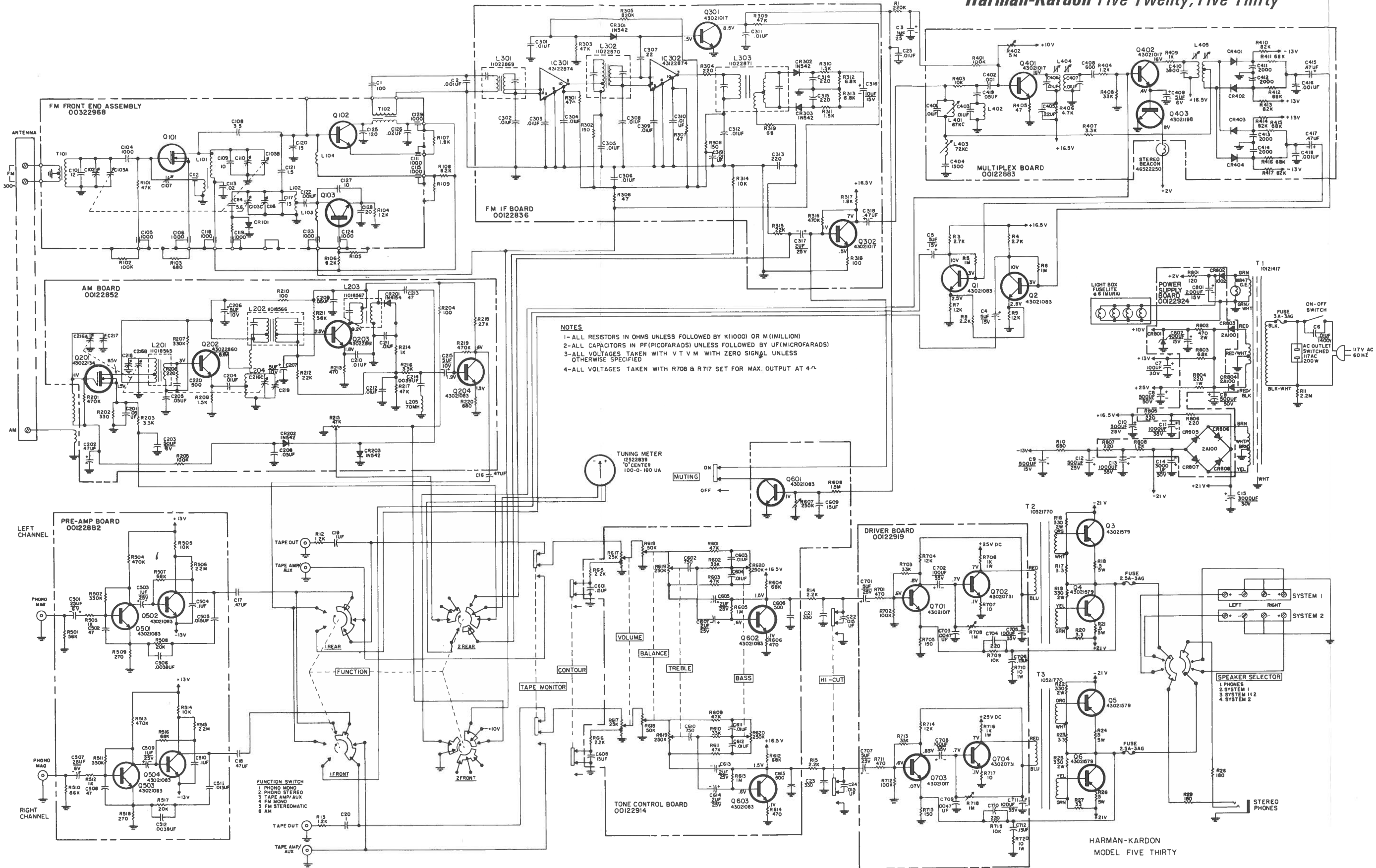


STRINGING DIAGRAM

FIVE-TWENTY

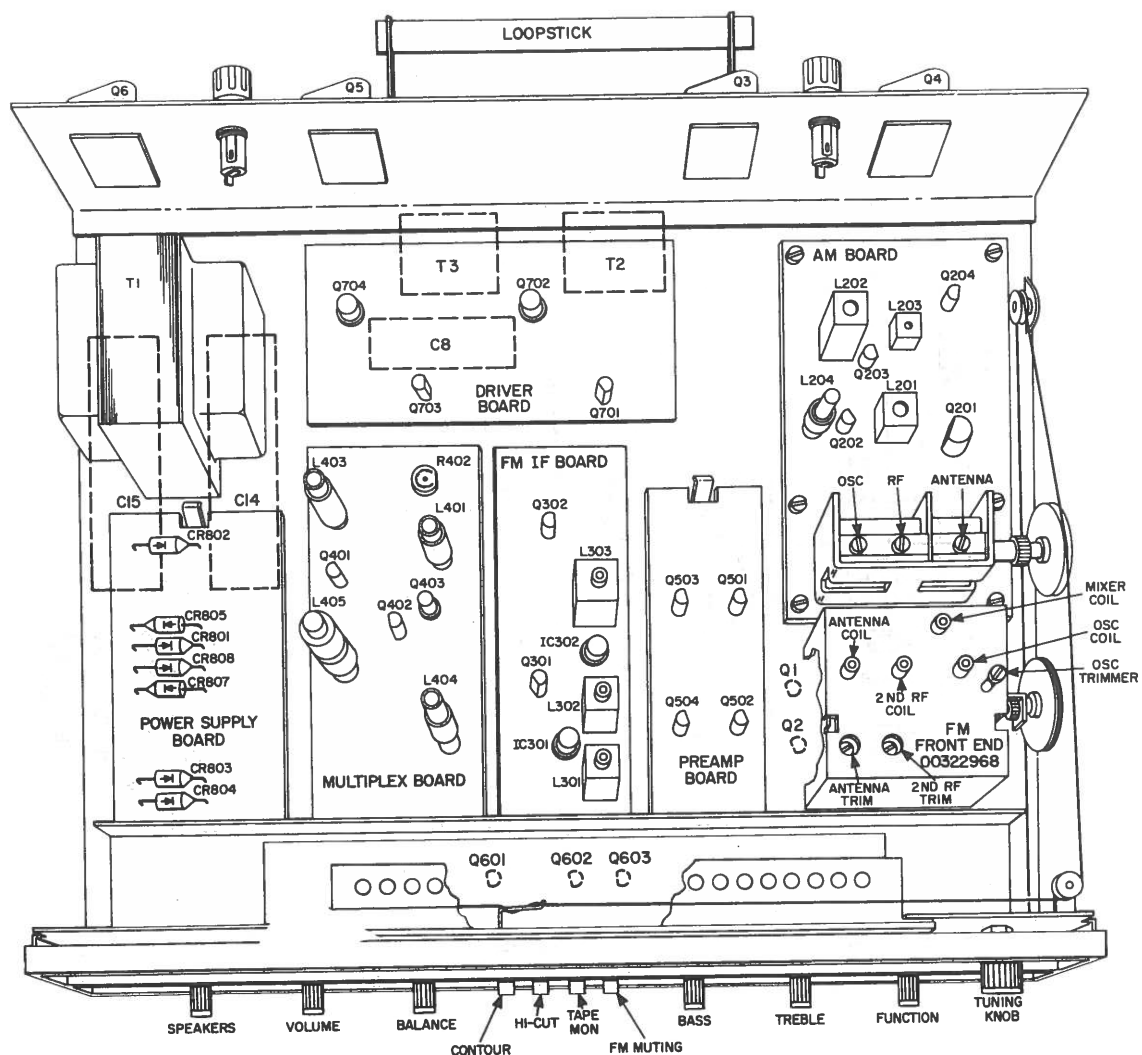






STRINGING DIAGRAM
FIVE-THIRTY

CHASSIS LAYOUT FIVE-THIRTY



STRINGING DIAGRAM

FIVE-THIRTY

