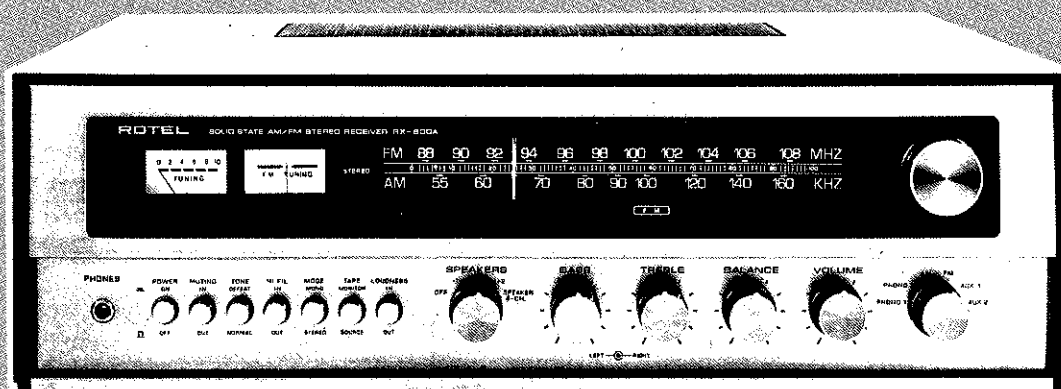




technical manual

TABLE OF CONTENTS

CHASSIS LAYOUT	2	RECTIFIER CIRCUIT BOARD DIAGRAM	12
PRECAUTIONS	3	FM IF CIRCUIT BOARD DIAGRAM	13
DRIVER ADJUSTMENT	3	AM CIRCUIT BOARD DIAGRAM	14
AM ALIGNMENT PROCEDURE	4	FM-STEREO (MPX) CIRCUIT BOARD DIAGRAM	15
FRONT END LAYOUT	4	MUTING CIRCUIT BOARD DIAGRAM	16
FM ALIGNMENT PROCEDURE	5	EQUALIZER AMPLIFIER CIRCUIT BOARD DIAGRAM	16
FM-STEREO (MPX) ALIGNMENT PROCEDURE	6	PRE-AMPLIFIER CIRCUIT BOARD DIAGRAM	17
FM MONO-STEREO AUTOMATIC SWITCHING LEVEL ADJUSTMENT PROCEDURE	7	MAIN AMPLIFIER CIRCUIT BOARD DIAGRAM	18
MUTING ALIGNMENT PROCEDURE	7	STABILIZER CIRCUIT BOARD DIAGRAM	19
TROUBLE SHOOTING	8	FRONT END SCHEMATIC DIAGRAM	19
DIAL STRINGING DIAGRAM	12	ADDENDUM	20
		SCHEMATIC CIRCUIT DIAGRAM	21
		PARTS LIST	24

CHASSIS LAYOUT

1. Tuning

2. T102, FM IFT

3. T103, FM IFT

4. T104, FM IFT

5. VR101, Auto-Switching Level Adj.

6. Dial Pointer

7. VR302, Separation Adj.

8. FM-Stereo Indicator Light

9. L303, MPX Coil, 38KHz Tune

10. L302, MPX Coil, 19KHz Tune

11. VR301, FM-Stereo Light Level Adj.

12. L301, MPX-Coil, 19KHz Tune

13. C913

14. C912

15. FM MPX PCB

16. C914

17. Stabilizer PCB

18. T901, Power Transformer

19. L801, Muting Coil

20. Muting PCB

21. Main Amp. PCB

22. VR603, DC Balance Adj. (L-ch.)

23. VR601, Idling Current Adj. (L-ch.)

24. Speaker Terminals

25. TR901, Power Amp. (L-ch.)

26. VR801, Muting Level Adj.

27. VR902, Idling Current Adj. (R-ch.)

28. TR902, Power Amp. (L-ch.)

29. VR904, DC Balance Adj. (R-ch.)

30. L901, AM Antenna Coil

31. TR904, Power Amp. (R-ch.)

32. TR905, Stabilizer

33. L201, AM OSC Coil

34. TR903, Power Amp. (R-ch.)

35. T201, AM IFT

36. Front End

37. T202, AM IFT

38. T203, AM IFT

39. Equalizer Amp. PCB

40. T204, AM IFT41. AM PCB

42. T101, FM IFT

43. FM IF PCB
44. Phone Jack

45. Power Switch

46. Muting Switch

47. Tone Defeat Switch

48. Hi-Filter Switch

49. Mode Switch

50. Tape Monitor Switch

51. Loudness Switch

52. Speaker Switch

53. Bass Control

54. Treble Control

55. Balance Control

56. Volume Control

57. Function Selector

58. Pre Amp. PCB

59. Antenna Terminals

60. Bracket, Main Amp. PCB

61. Speaker Fuse (R-ch.)

62. Speaker Fuse (L-ch.)

63. AC Fuse

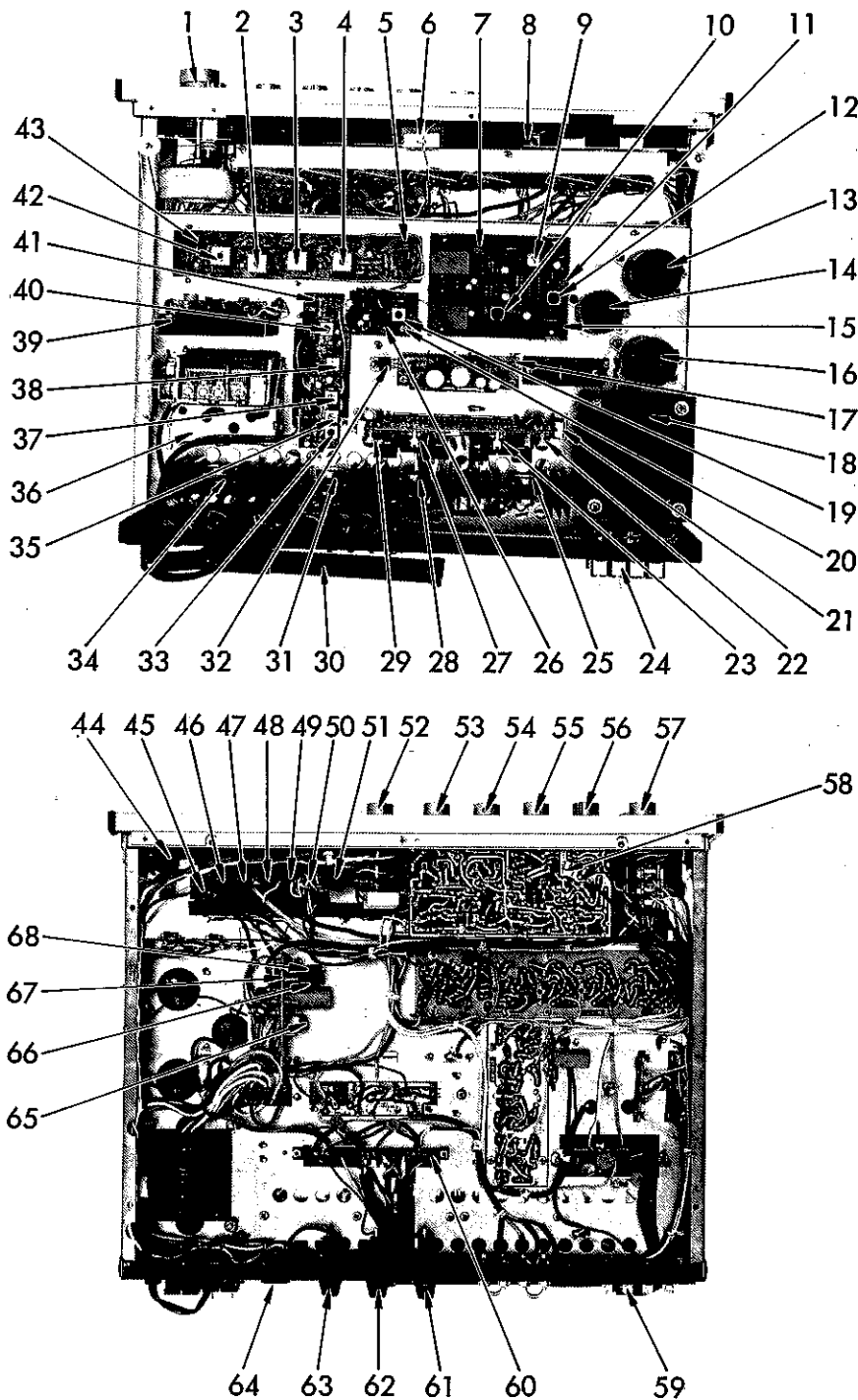
64. AC Outlet

65. D901, 902 Rectifier

66. D903, Rectifier

67. Rectifier PCB

68. D904, Rectifier



PRECAUTIONS

1. Always disconnect the chassis from power line when soldering. Turning the power switch OFF is not enough. Power line leakage passing through the heating element may destroy the transistors.
2. Never attempt to do any work on the transistor amplifiers without first disconnecting the AC line cord and waiting until the power supply filter capacitors have discharged.
3. Replacement for output and driver transistors, if necessary, must be made from the same beta group as the original type.
4. If one output transistor burns out (open or short) always remove all output transistors in that channel and check the bias

- adjustment, the control and other parts in the network with an ohm-meter before inserting a new transistor. All transistors in one channel will be destroyed if the base biasing circuit is open on the emitter end.
5. When mounting a replacement power transistor, be sure the bottom of the flange, the mica insulators and the surface of the heat sink are free of foreign matter, for they may cause transistors failure.
6. Silicon grease must be applied between the transistor and the mica insulator, and between the mica insulator and the heat sink for better heat conduction.

DRIVER ADJUSTMENT

- Set Speaker switch to "1" position.
- Set Volume Control to minimum position.
1. DC Balance Adjustment
- Connect a DC VTVM across Left SPKR-1 terminals, and rotate the potentiometer VR603 (on main amp. circuit board) to obtain a ZERO volt reading on DC VTVM (see Fig. 1).
2. Idling Current Adjustment
- Connect a DC milli-volt meter across resistor R613 (on main amp. circuit board), and rotate the potentiometer VR601 (on main amp. circuit board) to obtain a 15mV reading on DC milli-volt meter (see Fig. 2).
3. Repeat the steps as above for Right channel (use VR604, 602 and R628).

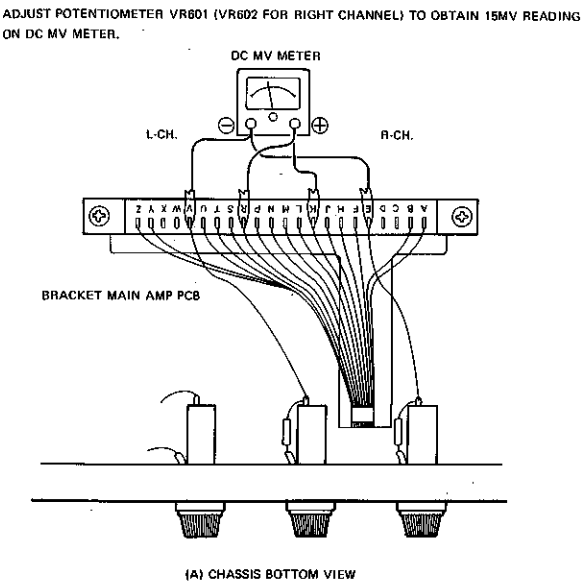


Figure 2 - a

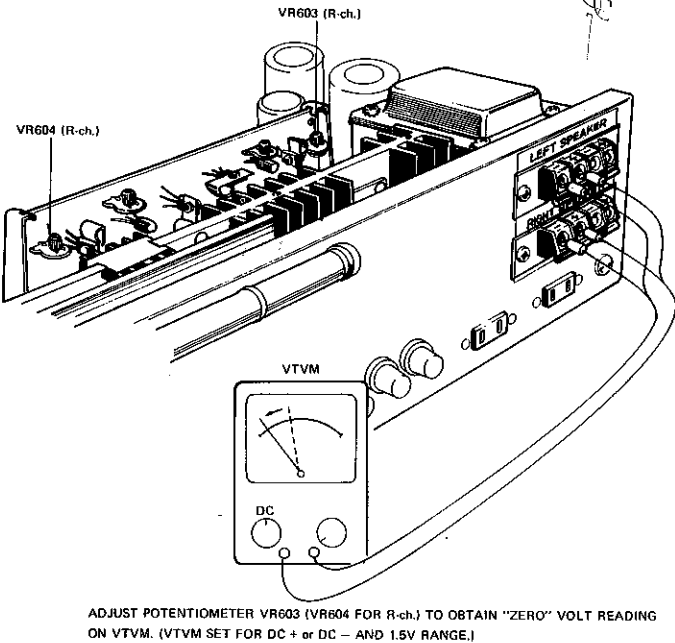


Figure 1

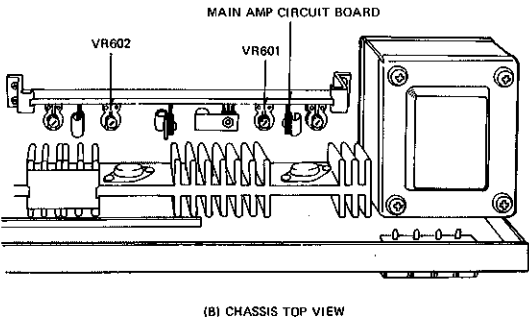


Figure 2 - b

AM ALIGNMENT PROCEDURE

Instruments: AM Signal Generator and AC VTVM.

NOTES: Set Selector switch to AM.

Input signal must be kept as low as possible to avoid AVC action.

Step	Generator		Tuning Dial Setting	Output Indicator Connected to	Adjust	Adjust for
	Coupling	Frequency				
1	Tr201 Base (on AM IF board) through a 0.01 mfd capacitor.	455 KHz (400 Hz 30% mod.)	Non interfering at low end of scale.	AC VTVM to TAPE OUT jack. (Left or Right channel)	T203, 302 and 201 (on AM IF board)	Maximum reading on VTVM.
2	Connect to short loop of wire. Radiate signal into ferrite loop-stick antenna.	600 KHz (400 Hz 30% mod.)	600 KHz		L201 (OSC) (on AM IF board) & L901 (ANT Ring)	
3		1400 KHz (400 Hz 30% mod.)	1400 KHz		CT5 (OSC trim.) & CT4 (ANT trim.) (on Front end)	
4	Repeat steps 2 and 3 until no further improvement is noticed.					

FRONT END LAYOUT

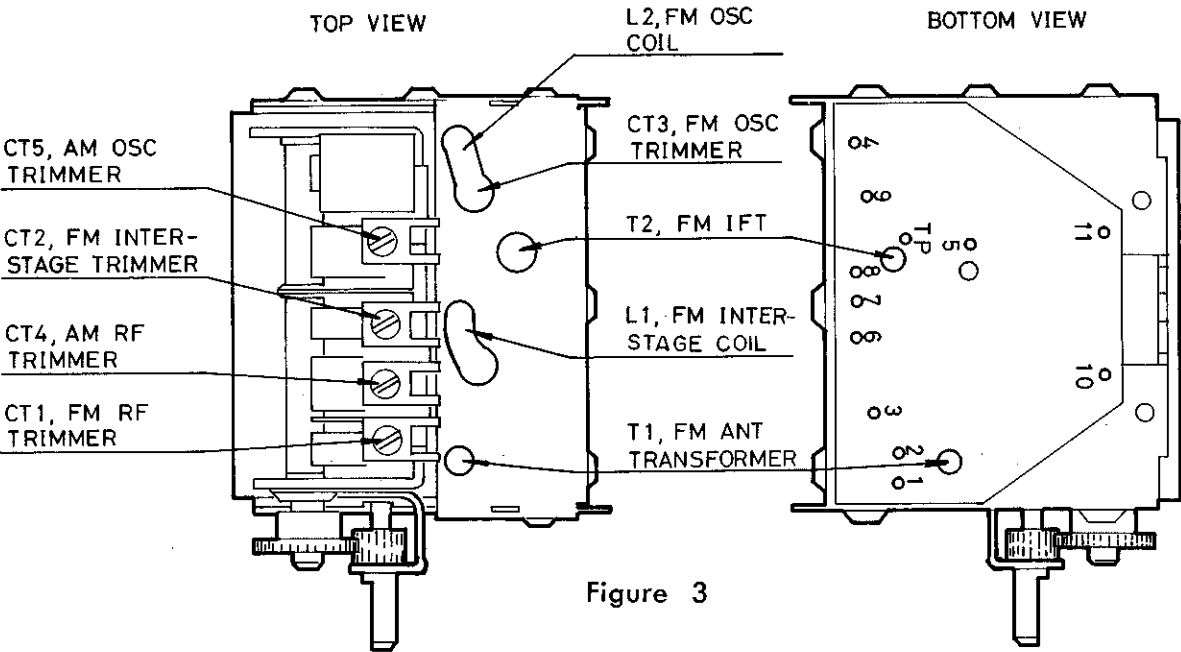


Figure 3

FM ALIGNMENT PROCEDURE

Instruments: FM Sweep Generator, FM Signal Generator, AC VTVM and Oscilloscope.

NOTE: Set Selector Switch to FM.

Step	Generator		Tuning Dial Setting	Output Indicator Connected to	Adjust	Adjust for
	Connected to	Frequency				
1	FM Sweep Generator		Quiet point on band	Oscilloscope to junction of R130 and C123 (on IF board)	T104, 103, 102, 101 (on IF board), & T2 (Front end).	Maximum and Balanced S curve on scope.
	to Test Point (on Front end)	10.7 MHz				
2	Disconnect FM Sweep Generator and connect FM Signal Generator to FM antenna terminals.					
3	FM Signal Generator		Tune for maximum output point.	Oscilloscope and AC VTVM, to TAPE OUT jack.	Touch up T2, 101, 102, 103 and 104 if necessary	Maximum and undistorted amplitude on scope.
	to FM antenna terminals.	98 MHz (400 Hz 100% mod.)				
4	Same as in step 3. Signal strength must be kept -3db of limiter saturation.	90 MHz (400 Hz 100% mod.)	90 MHz		L2 (OSC), L1 (RF) & T1 (ANT) (on Front end).	Maximum reading on VTVM.
5		106 MHz (400 Hz 100% mod.)	106 MHz		CT3 (OSC), CT2 (RE) & CT1 (ANT) (on Front end).	
6	Repeat steps 4 and 5 until no further improvement is noticed.					

FM-STEREO (MPX) ALIGNMENT PROCEDURE

Instruments: FM Signal Generator, AC VTVM and Oscilloscope.

NOTE: The FM IF Amplifier Alignment must be completed before attempting this FM-Stereo Alignment.

Poor IF alignment will result in poor Multiplex Adjustment.

Set Stereo Indicator Light Adj. VR301 (on MPX board) to mid-position.

Set Separation Adj. VR302 (on MPX board) to max-position before starting this procedure.

Set Selector switch to "FM STEREO."

Connect Stereo Generator to FM antenna terminals.

Step	Stereo Generator		Output Indicator Connected to	Adjust	Adjust for
	Modulation	RF Deviation			
1	19 KHz Pilot signal only	2 — 5%	Oscilloscope to Test Point #6 on MPX board	L301, 302 and 303	Maximum Amplitude on scope.
2		5%		VR301	Stereo Beacon Lamp just comes on.
3	Composite 1 KHz signal to Left channel only	Pilot 10% Signal 70%	Oscilloscope and VTVM to Left channel TAPE OUT jack.	L302	Maximum and un- distorted sine wave on scope.
4			Oscilloscope and VTVM to Right channel TAPE OUT jack.		Minimum reading on VTVM.
5			Composite 1 KHz signal to Right channel only		
6	Repeat steps 4 and 5 until no further improvement is noticed. And adjust Separation Adj. VR302, if necessary.				

FM MONO-STEREO AUTOMATIC SWITCHING
LEVEL ADJUSTMENT PROCEDURE

1. Connect a VTVM and Oscilloscope to the TAPE OUT jack (Left or Right).

2. Feed the FM signal whose MPX has been varied into the FM ANT terminals.

MPX VARIATION:

Pilot10%

Modulation Frequency1kHz Left or Right

RF Deviation±45kHz

3. Set the frequency at 98 MHz (when there is disrupting signal, choose another setting).

4. Set the MODE switch to STEREO and FUNCTION switch to FM MANUAL.

5. Turn CCW the MONO - STEREO Auto-switching Level Adj. VR101 (on FM IF board): this is a condition in which Auto-switching does not function.
6. Adjust the FM MPX so that the distortion and separation will be best.

7. Adjust the VR101 so that when the antenna input level is 30μV or more, Stereo will switch in and when the input is below the 30μV level, Mono will switch in.

8. After adjustment, check to make sure that, indeed, when the antenna input level exceeds 30μV, Stereo will switch in.

MUTING ALIGNMENT PROCEDURE

- NOTE: The circuit on FM IF and FM RF should be set in proper way before the following steps of muting adjustment are taken.
- Instruments: FM Signal Generator and Oscilloscope.
- Set selector switch to FM and Muting switch to ON position.
- Connect the FM Signal Generator to the FM antenna terminals and connect the Oscilloscope to the TAPE OUT jack (Left or Right channel).
- Set the frequency at 98MHz (when there is disrupting signal, choose another setting).
1. The Output wave should be set at the point where it vanishes while turning the potentiometer VR801 (on muting circuit board) and setting the antenna input level at 20μV.

2. After the input level on the antenna comes up to 400μV, the Muting coil L801 should be set in the following manners' (see Fig.4).

A. The wave A or B can be found on scope while turning the core of L801 to the Right or Left.

B. And the core should be fixed at the point C half way A and B where the wave A equals B.

3. The step 1 should be taken again.

4. It should be confirmed that the muting is out of work at the input level of 30μV on the antenna, and that the waves appear on the oscilloscope.

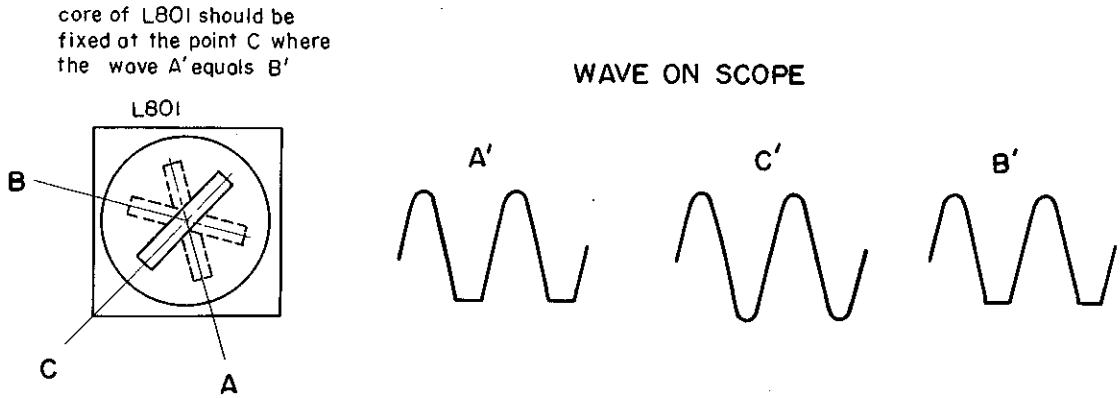


Figure 4

TROUBLE SHOOTING

CHART 1.

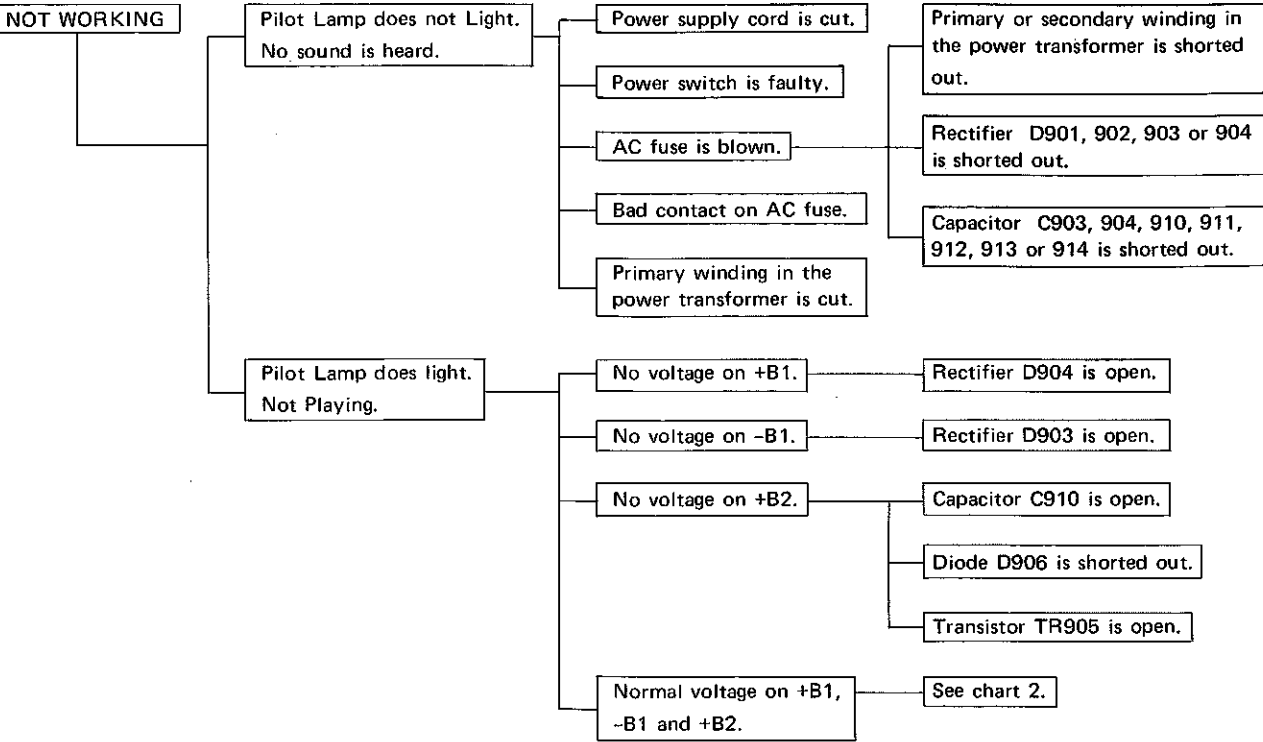


CHART 2.

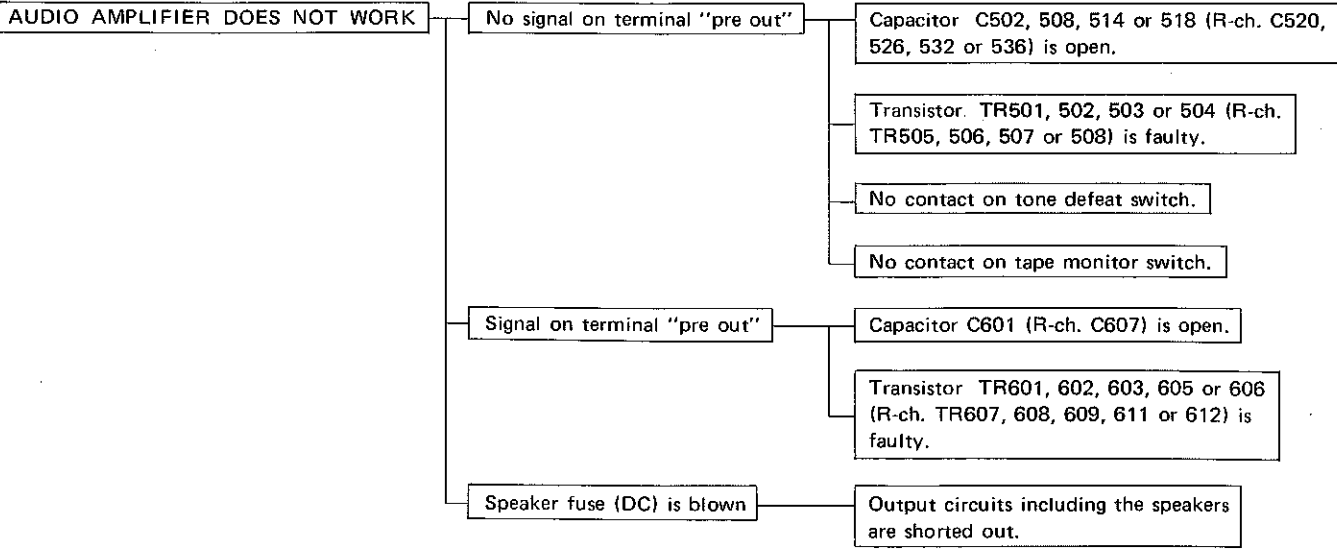


CHART 3.

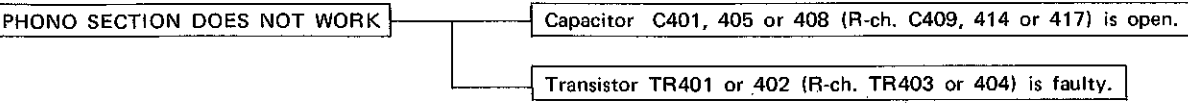


CHART 4.

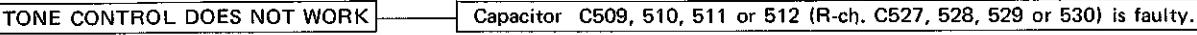


CHART 5.

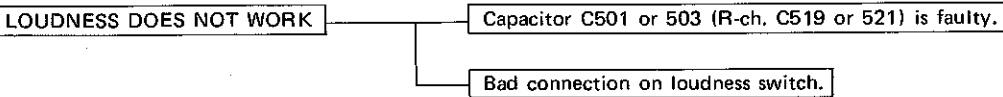


CHART 6.

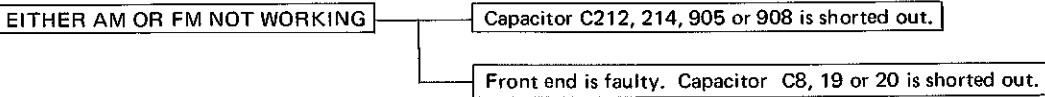


CHART 7.

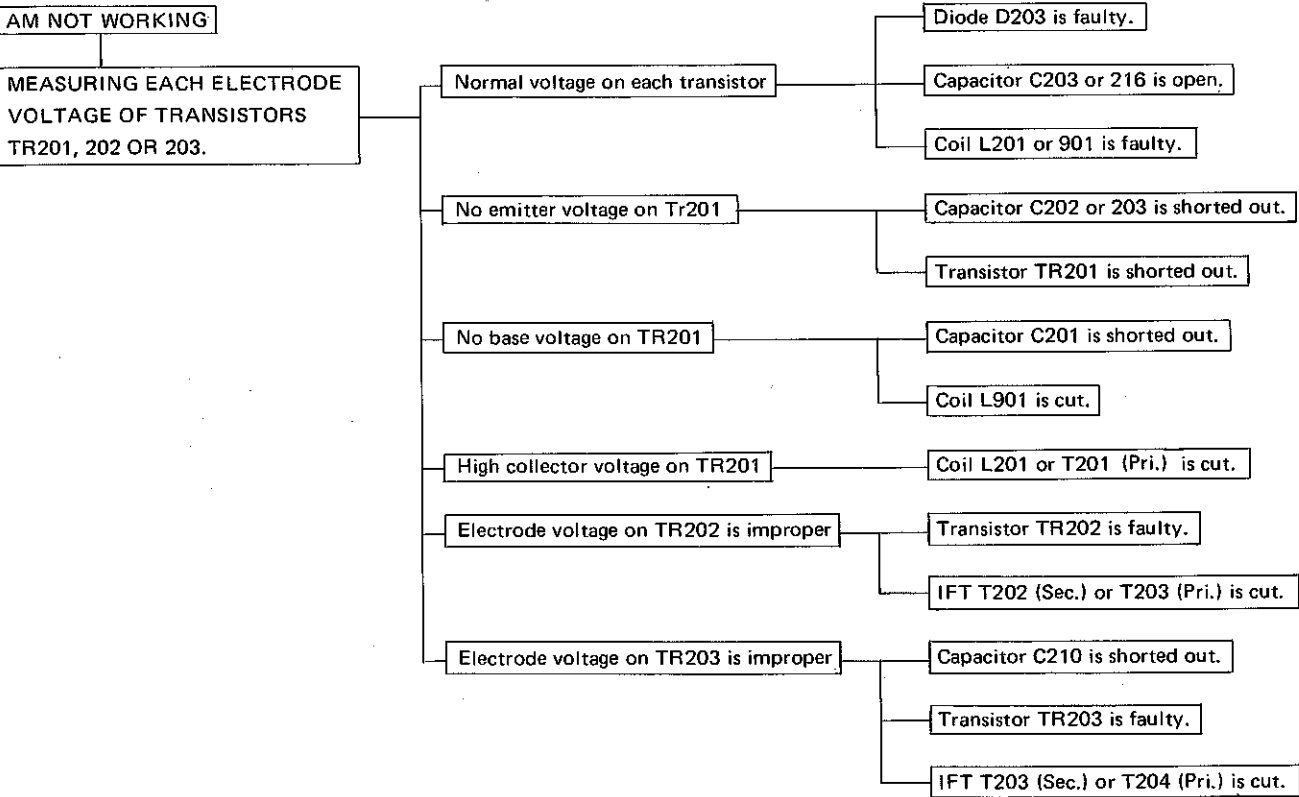


CHART 8.

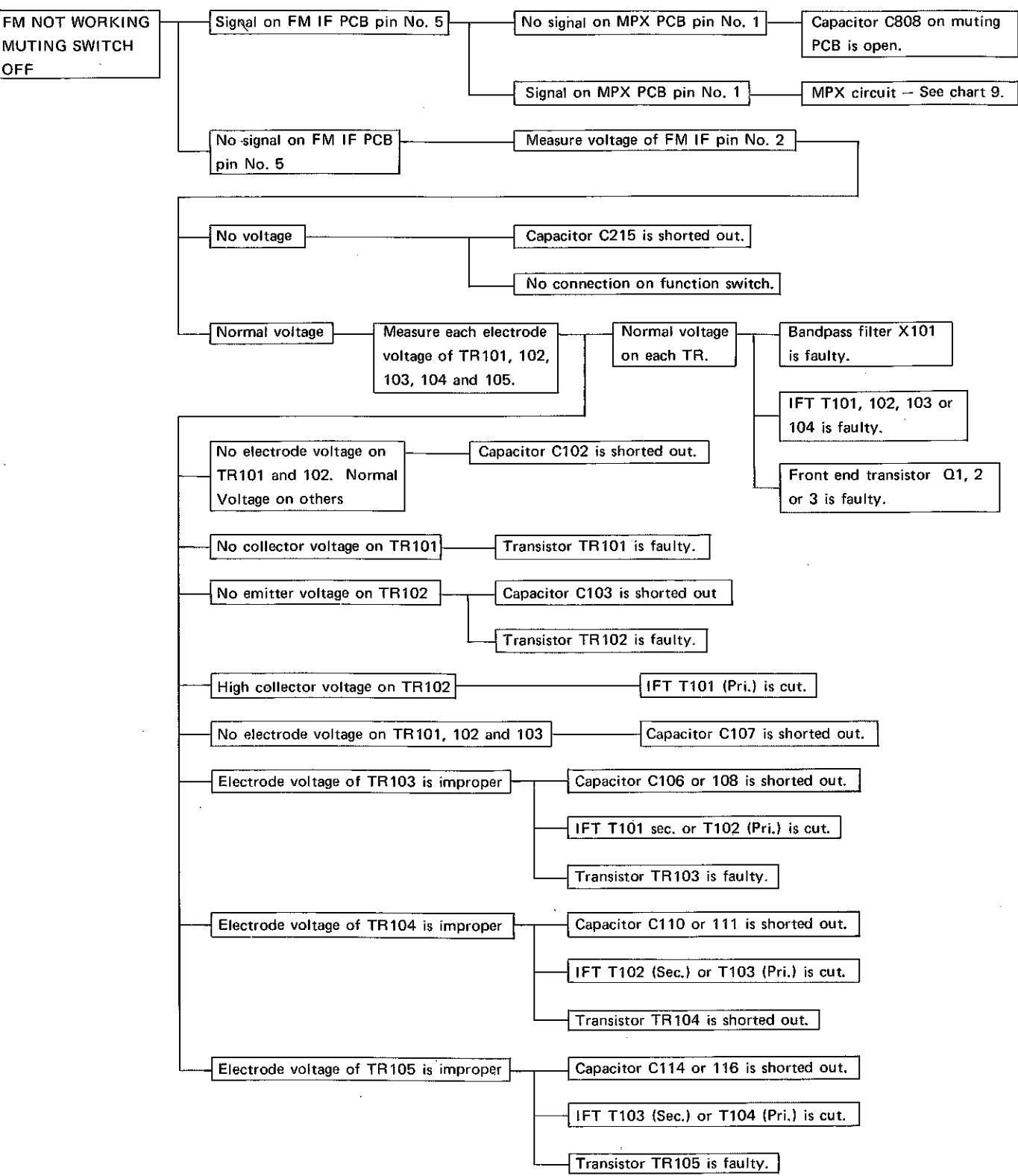


CHART 9.

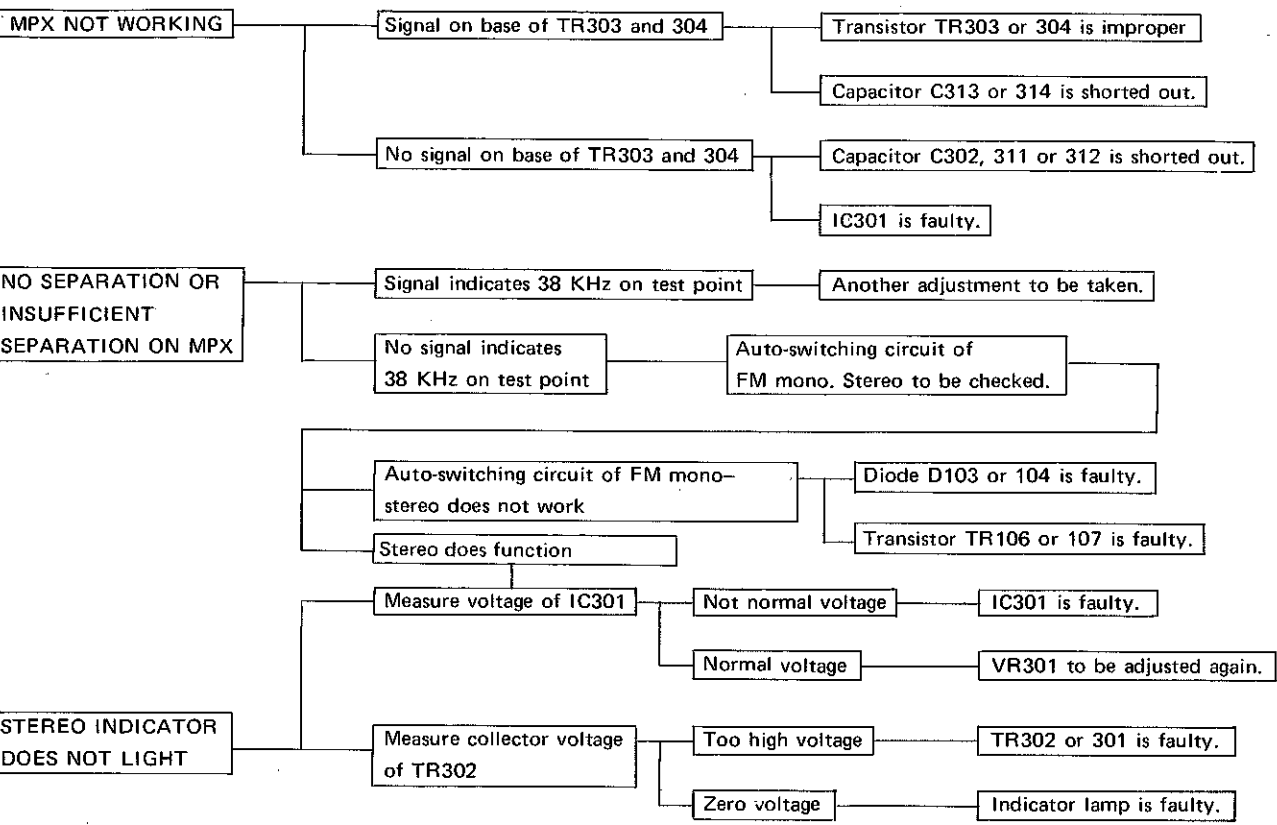
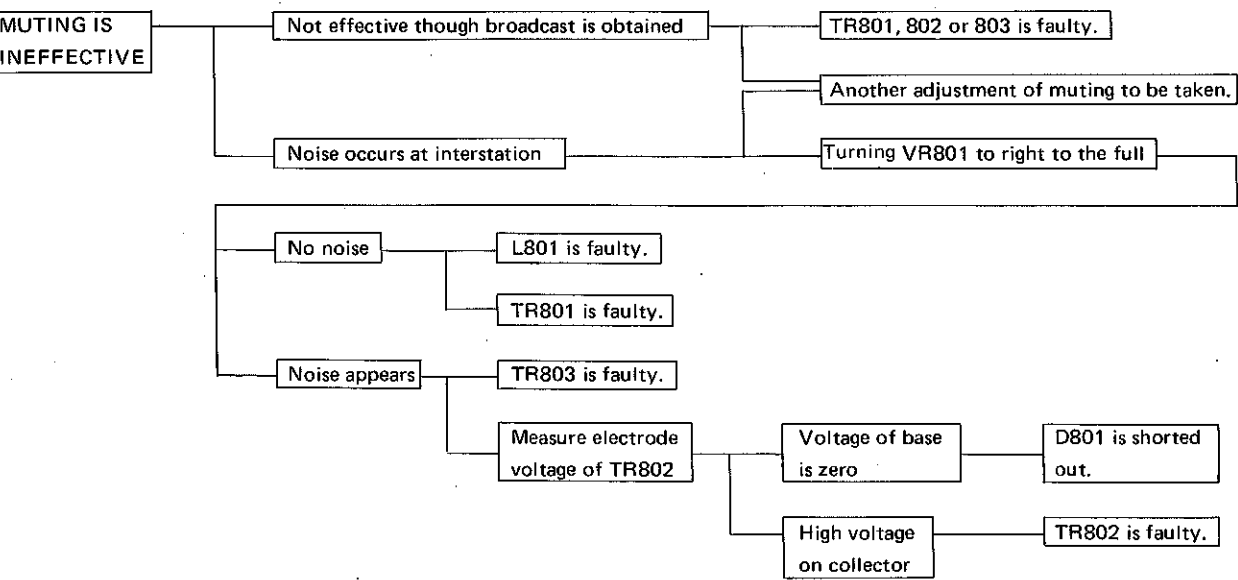
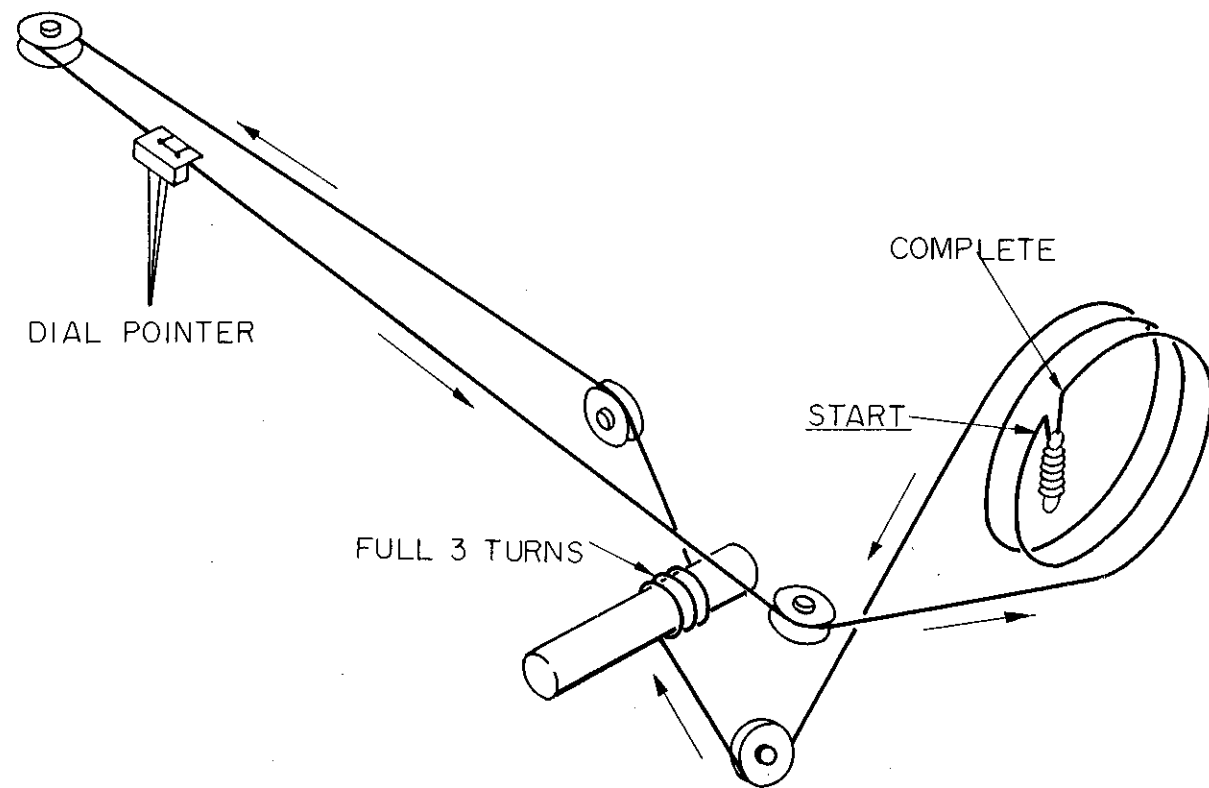


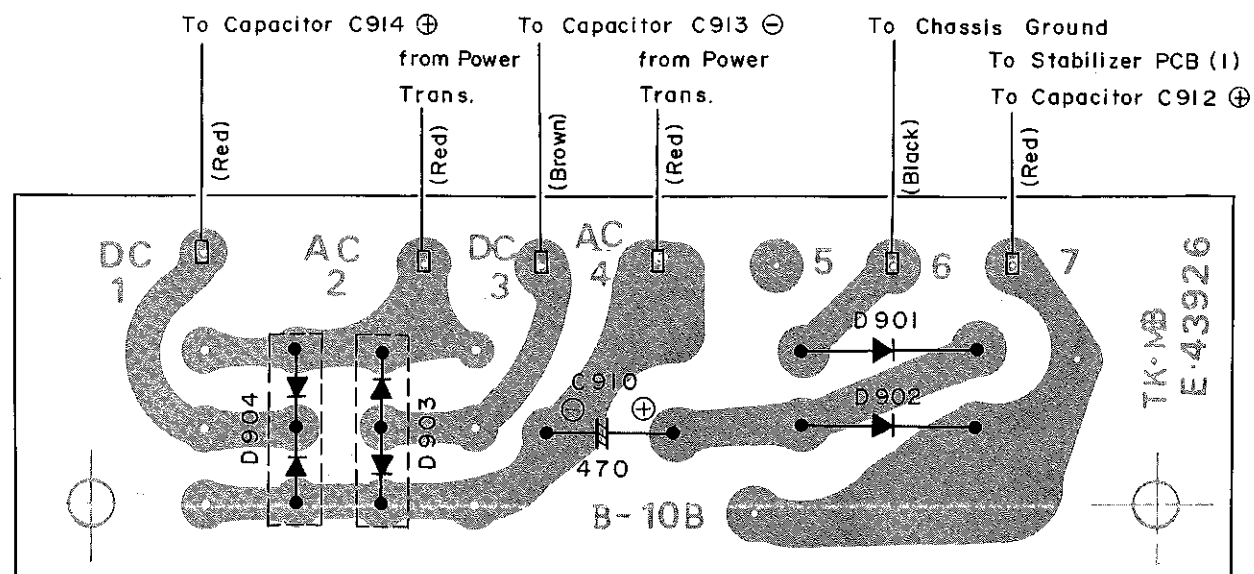
CHART 10.



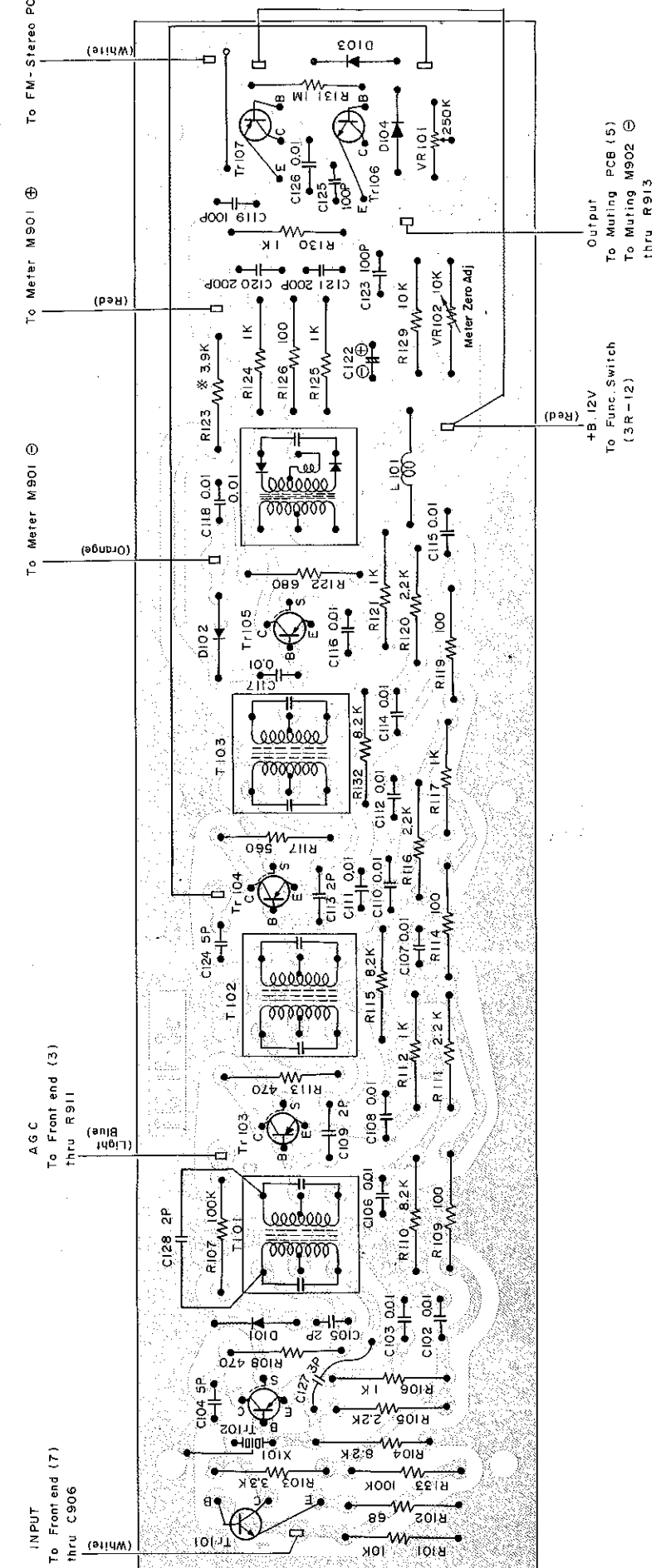
DIAL STRINGING DIAGRAM



RECTIFIER CIRCUIT BOARD DIAGRAM

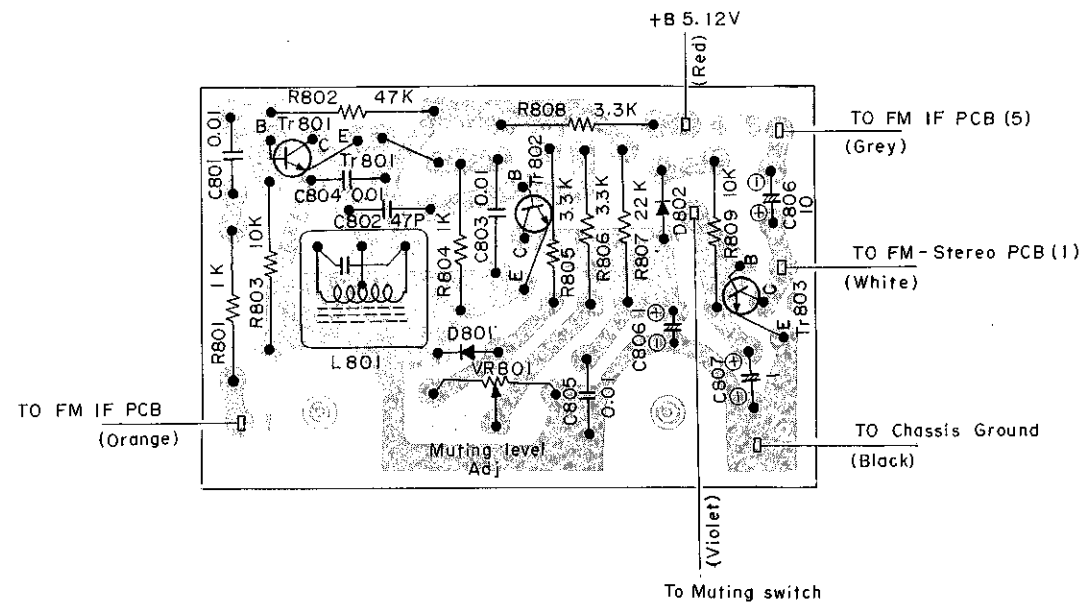


FM IF CIRCUIT BOARD DIAGRAM

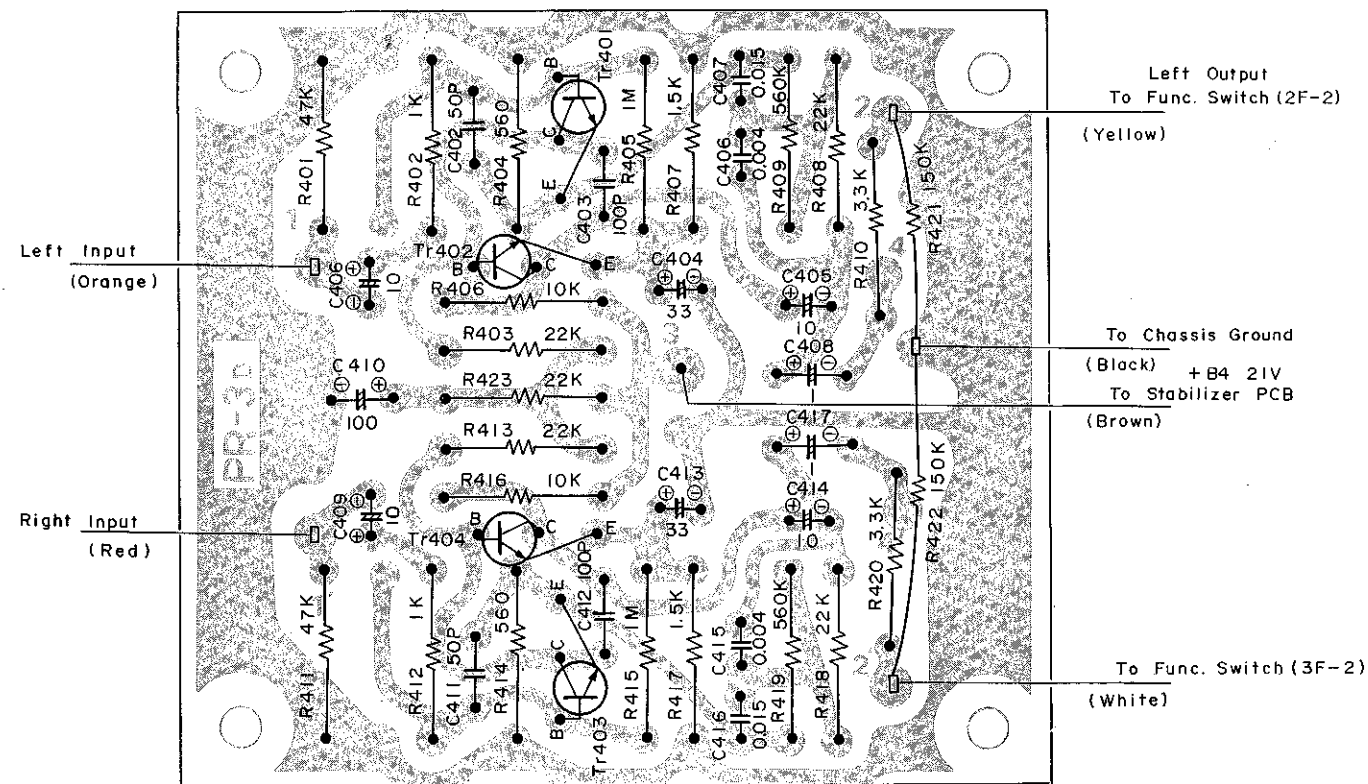


[illegible]

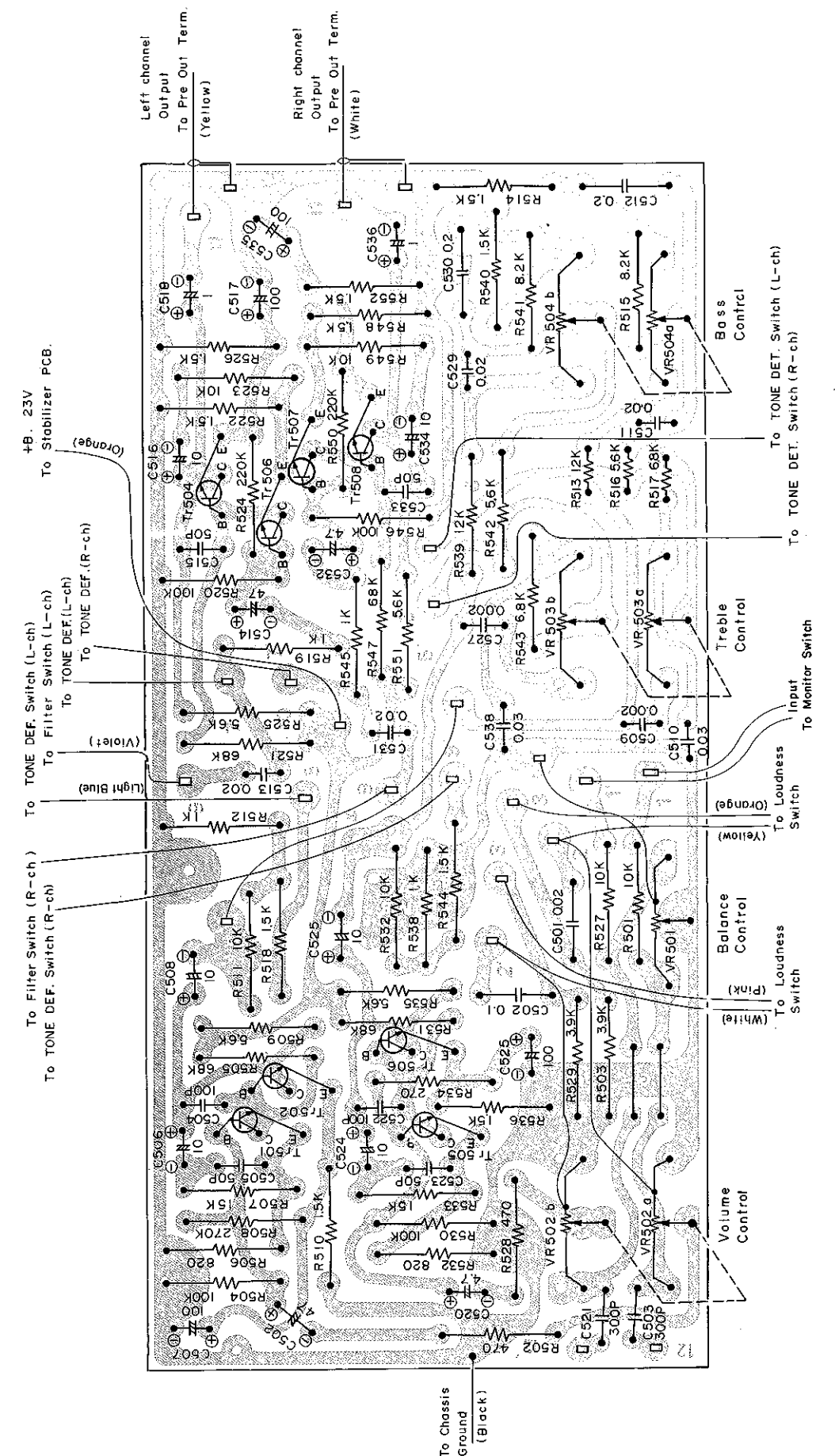
MUTING CIRCUIT BOARD DIAGRAM



EQUALIZER AMPLIFIER CIRCUIT BOARD DIAGRAM

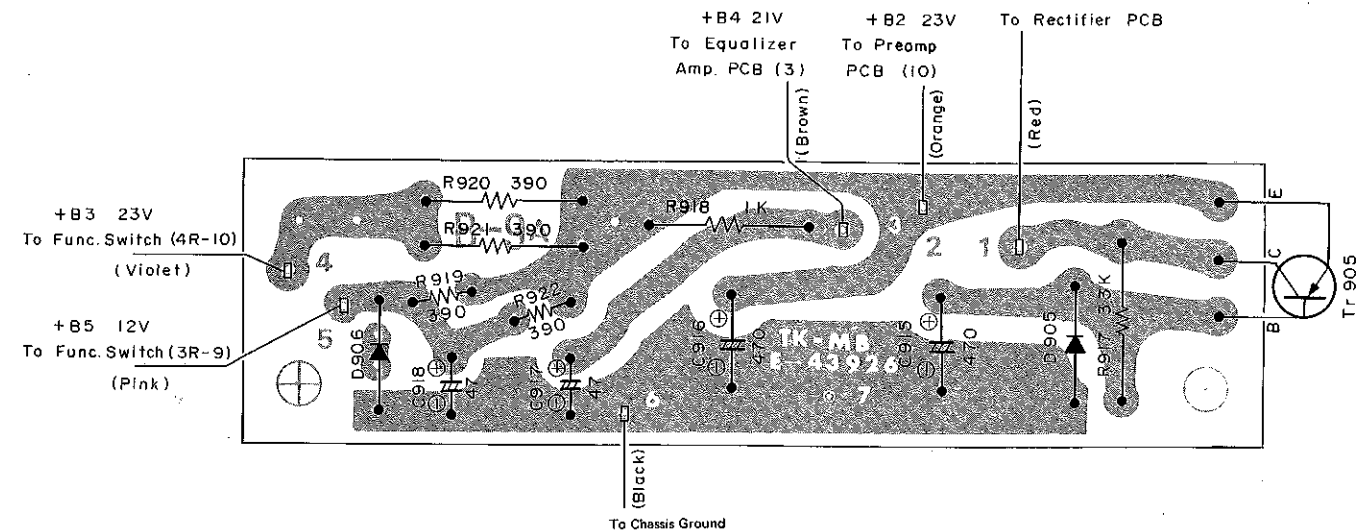
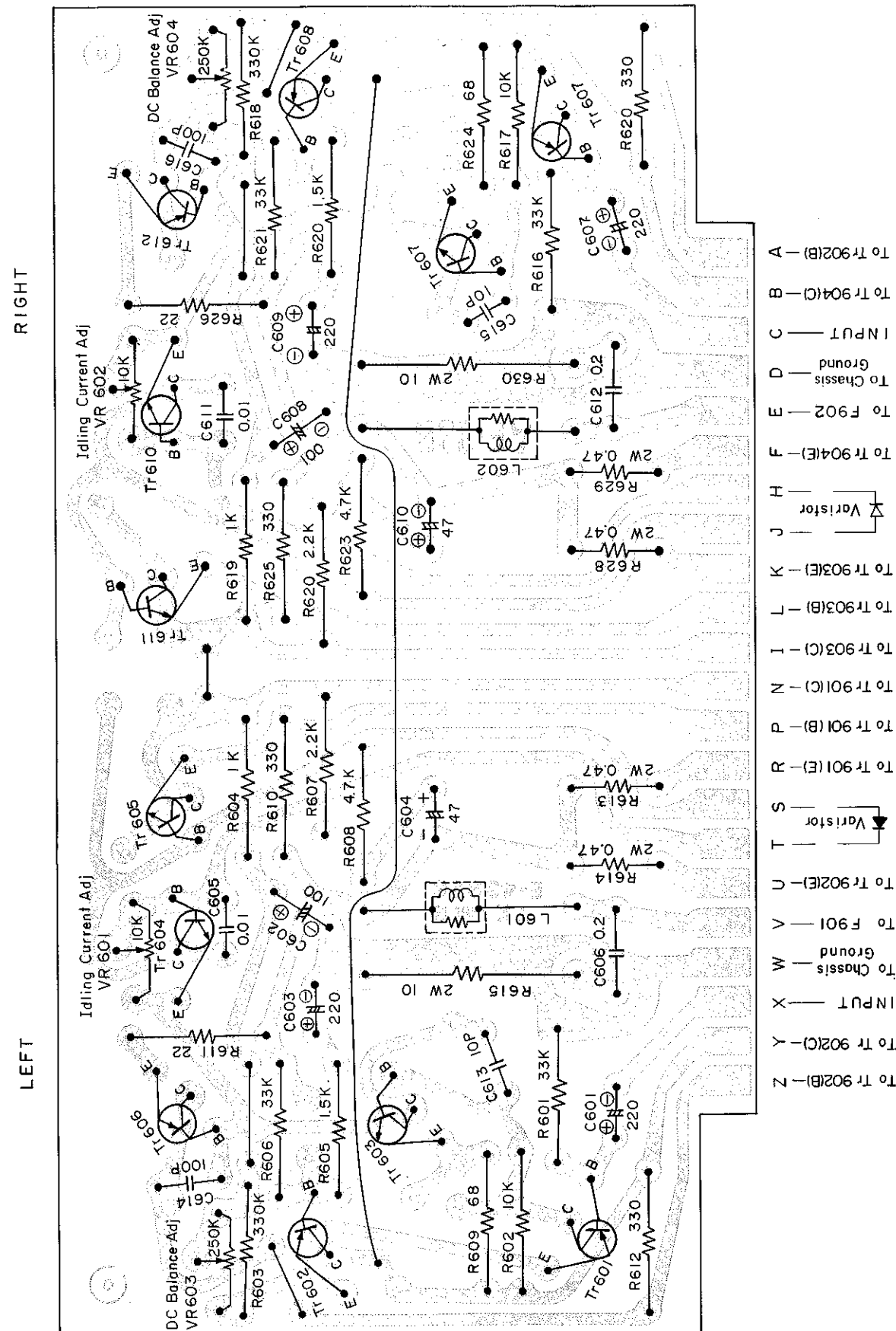


PRE-AMPLIFIER CIRCUIT BOARD DIAGRAM

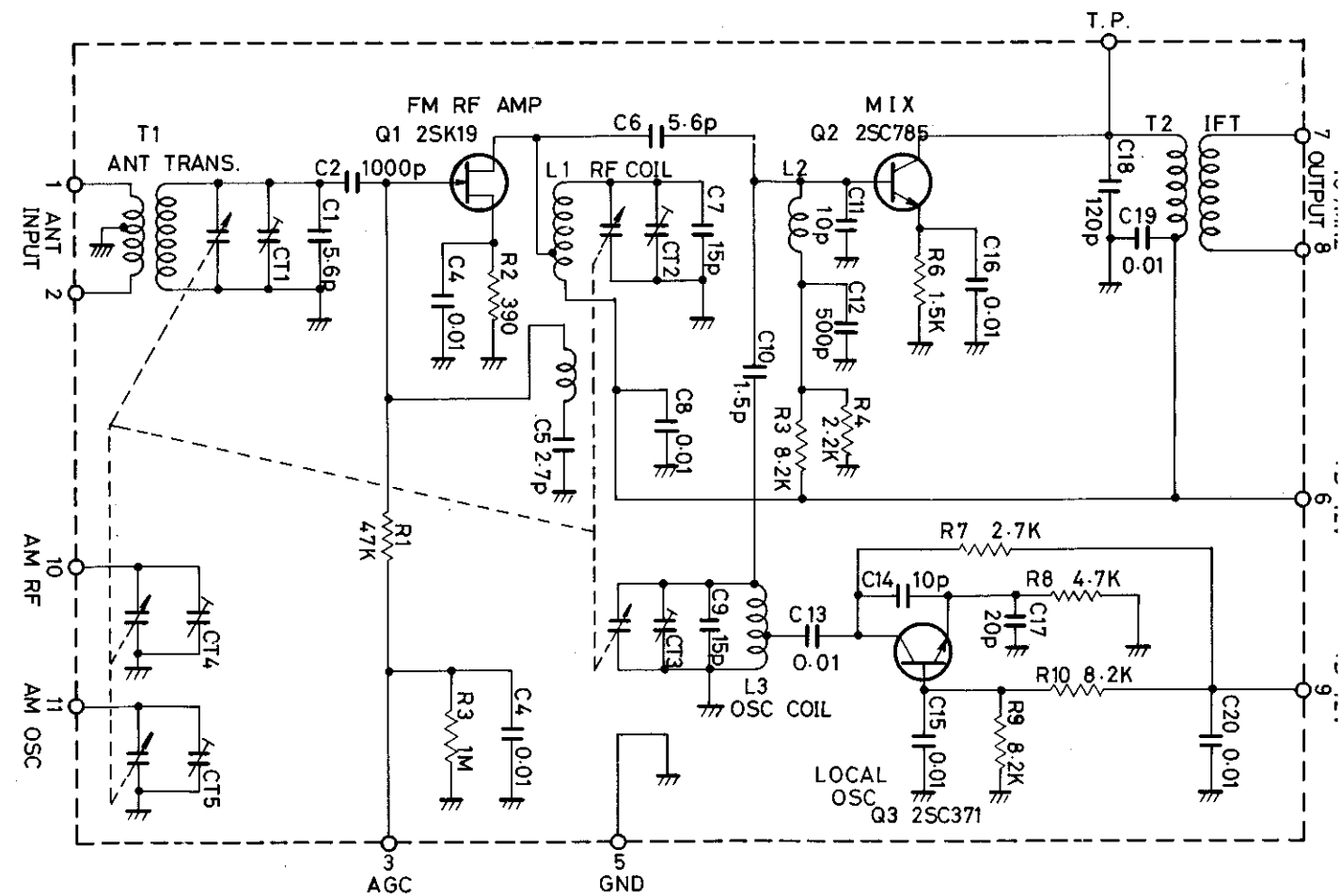


MAIN AMPLIFIER CIRCUIT BOARD DIAGRAM

STABILIZER CIRCUIT BOARD DIAGRAM



FRONT END SCHEMATIC DIAGRAM



ADDENDUM

CIRCUIT CHANGES

The following changes have been made on the Main Amplifier Circuit Board from the production unit of Serial No. E 48901 and on.

PURPOSE: Remove the DC Balance Circuit in order to improve the Power Bandwidth characteristic.

1. VR603, 604 — DC Balance Adj., 250k-ohm Potentiometer (Part No. 510502124) removed.

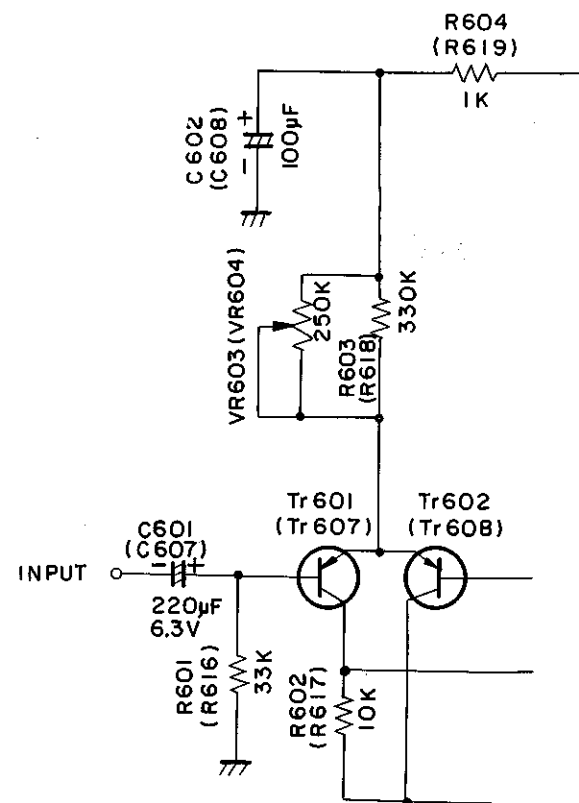
2. R603, 618 — changed from 330k-ohm $\pm 5\%$, 1/4W resistor (Part No. 552033422) to 68k-ohm $\pm 5\%$, 1/4W (Part No. 552068322).

3. R631, 632 — 47k-ohm $\pm 5\%$, 1/4W resistor (Part No. 552047322) added.

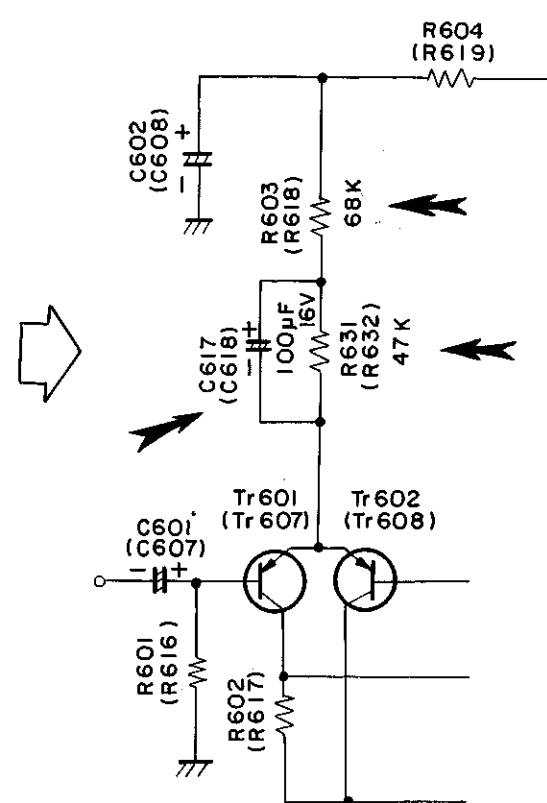
4. C617, 618 — 100 mfd, 16V capacitor (Part No. 402100519) added.

See circuit portion diagram for the above changes.

BEFORE CHANGES

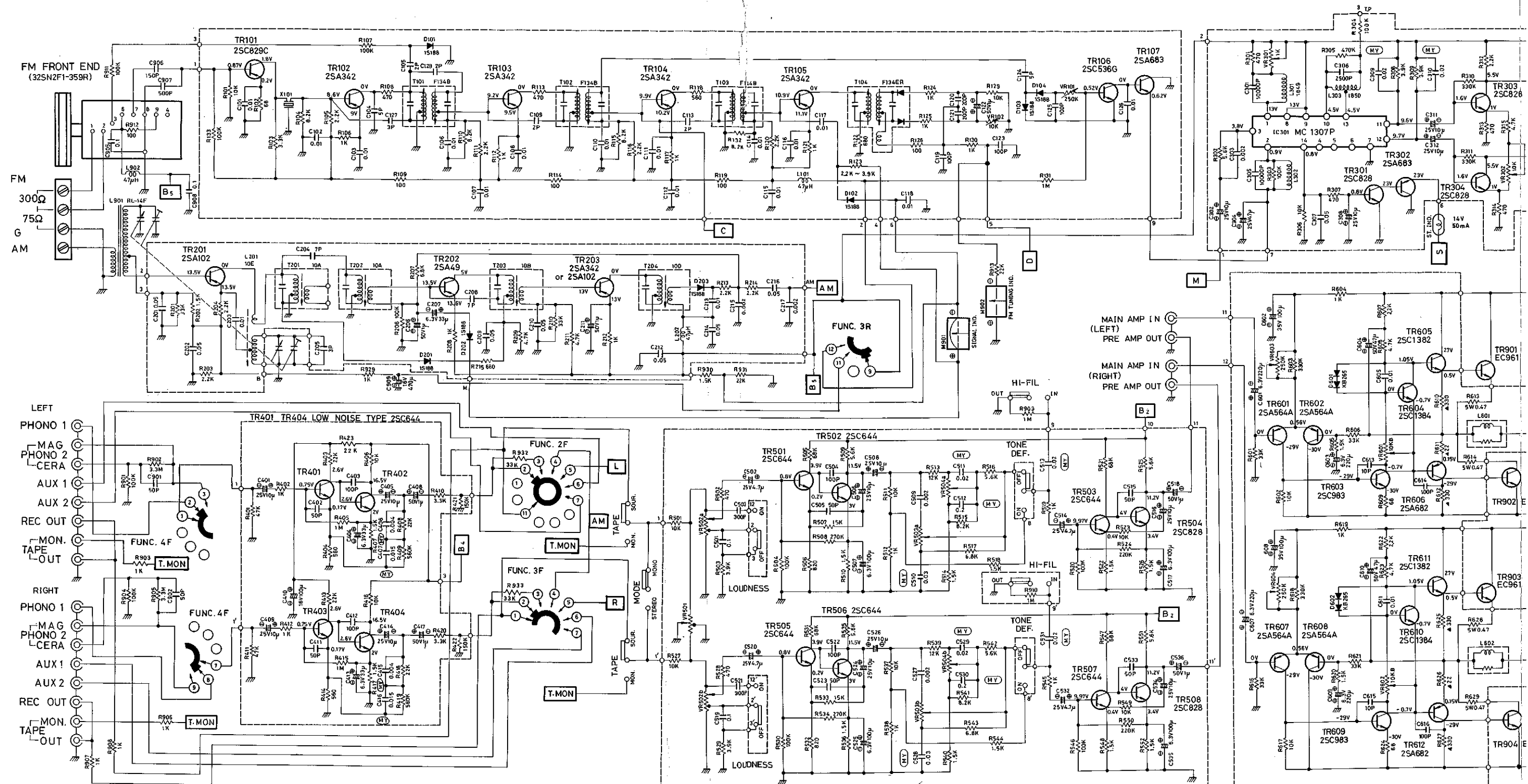


AFTER CHANGES



Symbol number in () indicates Right Channel

SCHEMATIC CIRCUIT DIAGRAM



FUNCTION SWITCH

- (1) - (8) PHONO-1
- (2) - (9) PHONO-2
- (3) - (10) A M
- (4) - (11) F M
- (5) - (12) AUX-1
- (6) - (13) AUX-2

CONTROLS

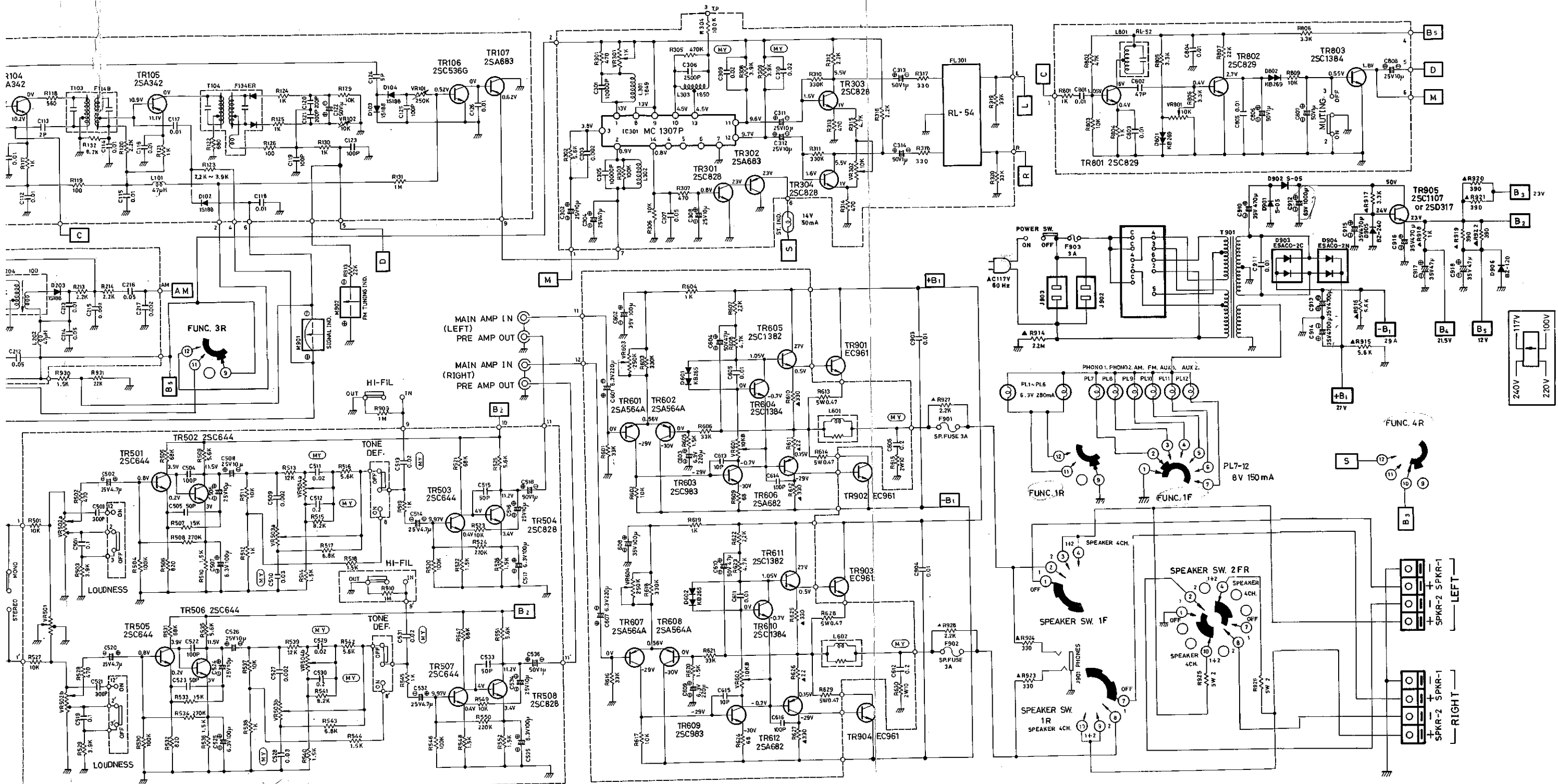
- VR101 FM-AUTO-SWITCHING LEVEL ADJ.
- VR301 FM-STEREO BEACON LEVEL ADJ.
- VR302 FM-STEREO SEPARATION ADJ.
- VR501 BALANCE CONTROL 250K
- VR502(a,b) VOLUME CONTROL 100K
- VR503(a,b) TREBLE CONTROL 50K
- VR504(a,b) BASS CONTROL 50K
- VR601,VR602 IDLING CURRENT ADJ.
- VR603,VR604 CENTER VOLTAGE ADJ.
- VR102 CENTER METER ADJ.

RESISTORS

- 10% TOLERANCE UNLESS OTHERWISE NOTED.
- K---KILO OHM. M---MEGA OHM.
- ▲---COMPOSITION RESISTORS 1/2WATT.
- NON MARK LOW NOISE TYPE CARBON RESISTOR 1/4WATT.

CAPACITORS

- 10% TOLERANCE UNLESS OTHERWISE NOTED.
- Ⓜ---MINERAL CAPACITORS
- MY---MYLAR FILM CAPACITORS
- Ⓢ---POLY STYROL CAPACITORS
- ⓔ---ELECTROLYTIC CAPACITORS
- NON MARK---CERAMIC CAPACITORS



ROLS
 R101 FM-AUTO-SWITCHING LEVEL ADJ.
 R301 FM-STEREO BEACON LEVEL ADJ.
 R302 FM-STEREO SEPARATION ADJ.
 R501 BALANCE CONTROL 250K
 R502(a,b) VOLUME CONTROL 100K
 R503(a,b) TREBLE CONTROL 50K
 R504(a,b) BASS CONTROL 50K
 R601,VR602 IDLING CURRENT ADJ.
 R603,VR604 CENTER VOLTAGE ADJ.
 R102 CENTER METER ADJ.

RESISTORS
 10% TOLERANCE UNLESS OTHERWISE NOTED.
 K---KILO OHM. M---MEGA OHM.
 ▲---COMPOSITION RESISTORS 1/2 WATT.
 NON MARK LOW NOISE TYPE CARBON RESISTOR 1/4 WATT.

CAPACITORS
 10% TOLERANCE UNLESS OTHERWISE NOTED.
 (M)---MINERAL CAPACITORS
 (MY)---MYLAR FILM CAPACITORS
 (S)---POLY STYROL CAPACITORS
 (E)---ELECTROLYTIC CAPACITORS
 NON MARK---CERAMIC CAPACITORS

CERAMIC FILTER

	RED	WHITE
CENTER FREQ.	10.70MHz	10.75MHz
	± 30KHz	± 30KHz

PARTS LIST

FM IF AMPLIFIER CIRCUIT BOARD ASSEMBLY

Schematic			Schematic		
Location	Part No.	Description	Location	Part No.	Description
RESISTORS			C114	440100985	Capacitor, Ceramic, 0.01mfd, 250V
R101	552010322	Resistor, Carbon Film, 10K $\pm$ 5%, 1/4W	C115	440100985	Capacitor, Ceramic, 0.01mfd, 250V
R102	552068022	Resistor, Carbon Film, 68 $\pm$ 5%, 1/4W	C116	440100985	Capacitor, Ceramic, 0.01mfd, 250V
R103	552033222	Resistor, Carbon Film, 3.3K $\pm$ 5%, 1/4W	C117	440100985	Capacitor, Ceramic, 0.01mfd, 250V
R104	552082222	Resistor, Carbon Film, 8.2K $\pm$ 5%, 1/4W	C118	440100985	Capacitor, Ceramic, 0.01mfd, 250V
R105	552022222	Resistor, Carbon Film, 2.2K $\pm$ 5%, 1/4W	C119	440101183	Capacitor, Ceramic, 100pF $\pm$ 10%, 250V
R106	552010222	Resistor, Carbon Film, 1K $\pm$ 5%, 1/4W	C120	440201183	Capacitor, Ceramic, 200pF $\pm$ 10%, 250V
R107	552010422	Resistor, Carbon Film, 100K $\pm$ 5%, 1/4W	C121	440201183	Capacitor, Ceramic, 200pF $\pm$ 10%, 250V
R108	552047122	Resistor, Carbon Film, 470 $\pm$ 5%, 1/4W	C122	402100749	Capacitor, Electrolytic, 1 mfd, 50V
R109	552010122	Resistor, Carbon Film, 100 $\pm$ 5%, 1/4W	C123	440101183	Capacitor, Ceramic, 100pF $\pm$ 10%, 250V
R110	552082222	Resistor, Carbon Film, 8.2K $\pm$ 5%, 1/4W	C124	440501388	Capacitor, Ceramic, 5pF $\pm$ 0.5pF, 250V
R111	552022222	Resistor, Carbon Film, 2.2K $\pm$ 5%, 1/4W	C125	440101183	Capacitor, Ceramic, 100pF $\pm$ 10%, 250V
R112	552010222	Resistor, Carbon Film, 1K $\pm$ 5%, 1/4W	C126	440100985	Capacitor, Ceramic, 0.01mfd, 250V
R113	552047122	Resistor, Carbon Film, 470 $\pm$ 5%, 1/4W	C127	440301388	Capacitor, Ceramic, 3pF $\pm$ 0.5pF, 250V
R114	552010122	Resistor, Carbon Film, 100 $\pm$ 5%, 1/4W	C128	440201388	Capacitor, Ceramic, 2pF $\pm$ 0.5pF, 250V
R115	552082222	Resistor, Carbon Film, 8.2K $\pm$ 5%, 1/4W	TRANSISTORS		
R116	552022222	Resistor, Carbon Film, 2.2K $\pm$ 5%, 1/4W	Tr101	301201117	Transistor, 2SC829, FM IF 1st Amp.
R117	552010222	Resistor, Carbon Film, 1K $\pm$ 5%, 1/4W	Tr102	301001122	Transistor, 2SA342, FM IF 2nd Amp.
R118	552056122	Resistor, Carbon Film, 560 $\pm$ 5%, 1/4W	Tr103	301001122	Transistor, 2SA342, FM IF 3rd Amp.
R119	552010122	Resistor, Carbon Film, 100 $\pm$ 5%, 1/4W	Tr104	301001122	Transistor, 2SA342, FM IF 4th Amp.
R120	552022222	Resistor, Carbon Film, 2.2K $\pm$ 5%, 1/4W	Tr105	301001122	Transistor, 2SA342, FM IF 5th Amp.
R121	552010222	Resistor, Carbon Film, 1K $\pm$ 5%, 1/4W	Tr106	301201112	Transistor, 2SC536G, Auto-switching Amp.
R122	552068122	Resistor, Carbon Film, 680 $\pm$ 5%, 1/4W	Tr107	301001126	Transistor, 2SA683, Auto-switching Driver
R123	552022222	Resistor, Carbon Film, 2.2K $\pm$ 5%, 1/4W	DIODES		
R124	552010222	Resistor, Carbon Film, 1K $\pm$ 5%, 1/4W	D101	300111008	Diode, 1S188, FM AGC Rect.
R125	552010222	Resistor, Carbon Film, 1K $\pm$ 5%, 1/4W	D102	300111008	Diode, 1S188, FM meter Rect.
R126	552010122	Resistor, Carbon Film, 100 $\pm$ 5%, 1/4W	D103	300111008	Diode, 1S188, Auto-switching Rect.
R127	Non used.		D104	300111008	Diode, 1S188, Auto-switching Rect.
R128	Non used.		TRANSFORMERS		
R129	552010322	Resistor, Carbon Film, 10K $\pm$ 5%, 1/4W	T101	225501114	Transformer, FM IF, 10.7MHz
R130	552010222	Resistor, Carbon Film, 1K $\pm$ 5%, 1/4W	T102	225501114	Transformer, FM IF, 10.7MHz
R131	552010522	Resistor, Carbon Film, 1M $\pm$ 5%, 1/4W	T103	225501114	Transformer, FM IF, 10.7MHz
R132	552082222	Resistor, Carbon Film, 8.2K $\pm$ 5%, 1/4W	T104	225501118	Transformer, FM IF, Ratio Det.
R133	552010422	Resistor, Carbon Film, 100K $\pm$ 5%, 1/4W	COILS		
VARIABLE RESISTORS			X101	229101125	Bandpass Filter, 10.7MHz
VR101	510502124	Potentiometer, 250K, Auto-switching Adj.	L101	220001121	Coil, RF choke, 47 microhenry
VR102	510502125	Potentiometer, 10K, Meter "Zero" Adj.	140200121		Printed Circuit Board
CAPACITORS			141210133		FM IF Amplifier Circuit Board Assembly
C101	440100985	Capacitor, Ceramic, 0.01mfd, 250V			
C102	440100985	Capacitor, Ceramic, 0.01mfd, 250V			
C103	440100985	Capacitor, Ceramic, 0.01mfd, 250V			
C104	440501388	Capacitor, Ceramic, 5pF $\pm$ 0.5pF, 250V			
C105	440201388	Capacitor, Ceramic, 2pF $\pm$ 0.5pF, 250V			
C106	440100985	Capacitor, Ceramic, 0.01mfd, 250V			
C107	440100985	Capacitor, Ceramic, 0.01mfd, 250V			
C108	440100985	Capacitor, Ceramic, 0.01mfd, 250V			
C109	440201388	Capacitor, Ceramic, 2pF $\pm$ 0.5pF, 250V			
C110	440100985	Capacitor, Ceramic, 0.01mfd, 250V			
C111	440100985	Capacitor, Ceramic, 0.01mfd, 250V			
C112	440100985	Capacitor, Ceramic, 0.01mfd, 250V			
C113	440201388	Capacitor, Ceramic, 2pF $\pm$ 0.5pF, 250V			

AM CIRCUIT BOARD ASSEMBLY

Schematic			Schematic		
Location	Part No.	Description	Location	Part No.	Description
RESISTORS			C215	440201085	Capacitor, Ceramic, 0.002mfd, 250V
R201	552033322	Resistor, Carbon Film, 33K $\pm$ 5%, 1/4W	C216	440500935	Capacitor, Ceramic, 0.05mfd, 50V
R202	552015222	Resistor, Carbon Film, 1.5K $\pm$ 5%, 1/4W	C217	440201085	Capacitor, Ceramic, 0.002mfd, 250V
R203	552022222	Resistor, Carbon Film, 2.2K $\pm$ 5%, 1/4W	TRANSISTORS		
R204	552022222	Resistor, Carbon Film, 2.2K $\pm$ 5%, 1/4W	Tr201	301001124	Transistor, 2SA102, AM Conv.
R205	Non used.		Tr202	301001111	Transistor, 2SA49, AM IF 1st Amp.
R206	552010422	Resistor, Carbon Film, 100K $\pm$ 5%, 1/4W	Tr203	301001122	Transistor, 2SA342, AM IF 2nd Amp.
R207	552068222	Resistor, Carbon Film, 6.8K $\pm$ 5%, 1/4W	DIODES		
R208	552010222	Resistor, Carbon Film, 1K $\pm$ 5%, 1/4W	D201	300111008	Diode, 1S188, AM Overload protector
R209	552047222	Resistor, Carbon Film, 4.7K $\pm$ 5%, 1/4W	D202	300111008	Diode, 1S188, AM meter rect.
R210	552033322	Resistor, Carbon Film, 33K $\pm$ 5%, 1/4W	D203	300111008	Diode, 1S188, AM Det.
R211	552047222	Resistor, Carbon Film, 4.7K $\pm$ 5%, 1/4W	TRANSFORMERS		
R212	552010222	Resistor, Carbon Film, 1K $\pm$ 5%, 1/4W	T201	225301121	Transformer, AM IF, 455KHz, 1st
R213	552022222	Resistor, Carbon Film, 2.2K $\pm$ 5%, 1/4W	T202	225301121	Transformer, AM IF, 455KHz, 2nd
R214	552022222	Resistor, Carbon Film, 2.2K $\pm$ 5%, 1/4W	T203	225301122	Transformer, AM IF, 455KHz, 3rd
R215	552068122	Resistor, Carbon Film, 680 $\pm$ 5%, 1/4W	T204	225301124	Transformer, AM IF, 455KHz, Det.
CAPACITORS			COILS		
C201	440500935	Capacitor, Ceramic, 0.05mfd, 50V	L201	223301121	Coil, AM local Oscillator
C202	440500935	Capacitor, Ceramic, 0.05mfd, 50V	L202	220001121	Coil, RF choke, 47 microhenry
C203	440100985	Capacitor, Ceramic, 0.01mfd, 250V	140100122		Printed Circuit Board
C204	440701388	Capacitor, Ceramic, 7pF $\pm$ 0.5pF, 250V	141110130		AM Circuit Board Assembly
C205	440301388	Capacitor, Ceramic, 3pF $\pm$ 0.5pF, 250V			
C206	402100749	Capacitor, Electrolytic, 1 mfd, 50V			
C207	402330609	Capacitor, Electrolytic, 33mfd, 6.3V			
C208	440701388	Capacitor, Ceramic, 7pF $\pm$ 0.5pF, 250V			
C209	440500935	Capacitor, Ceramic, 0.05mfd, 50V			
C210	440500935	Capacitor, Ceramic, 0.05mfd, 50V			
C211	402100749	Capacitor, Electrolytic, 1 mfd, 50V			
C212	440500935	Capacitor, Ceramic, 0.05mfd, 50V			
C213	440500935	Capacitor, Ceramic, 0.05mfd, 50V			
C214	440500935	Capacitor, Ceramic, 0.05mfd, 50V			

FM-STEREO CIRCUIT BOARD ASSEMBLY

Schematic			Schematic		
Location	Part No.	Description	Location	Part No.	Description
RESISTORS			R313	552047122	Resistor, Carbon Film, 470 $\pm$ 5%, 1/4W
R301	552047122	Resistor, Carbon Film, 470 $\pm$ 5%, 1/4W	R314	552047122	Resistor, Carbon Film, 470 $\pm$ 5%, 1/4W
R302	552056222	Resistor, Carbon Film, 5.6K $\pm$ 5%, 1/4W	R315	552047222	Resistor, Carbon Film, 4.7K $\pm$ 5%, 1/4W
R303	552010422	Resistor, Carbon Film, 100K $\pm$ 5%, 1/4W	R316	552022222	Resistor, Carbon Film, 2.2K $\pm$ 5%, 1/4W
R304	552010422	Resistor, Carbon Film, 100K $\pm$ 5%, 1/4W	R317	552033122	Resistor, Carbon Film, 330 $\pm$ 5%, 1/4W
R305	552047422	Resistor, Carbon Film, 470K $\pm$ 5%, 1/4W	R318	552033122	Resistor, Carbon Film, 330 $\pm$ 5%, 1/4W
R306	552010322	Resistor, Carbon Film, 10K $\pm$ 5%, 1/4W	R319	552033322	Resistor, Carbon Film, 33K $\pm$ 5%, 1/4W
R307	552047122	Resistor, Carbon Film, 470 $\pm$ 5%, 1/4W	R320	552033322	Resistor, Carbon Film, 33K $\pm$ 5%, 1/4W
R308	552039222	Resistor, Carbon Film, 3.9K $\pm$ 5%, 1/4W	VARIABLE RESISTORS		
R309	552039222	Resistor, Carbon Film, 3.9K $\pm$ 5%, 1/4W	VR301	510502119	Potentiometer, 1K, FM-Stereo Light Adj.
R310	552033422	Resistor, Carbon Film, 330K $\pm$ 5%, 1/4W	VR302	510502125	Potentiometer, 10K, Separation Adj.
R311	552033422	Resistor, Carbon Film, 330K $\pm$ 5%, 1/4W			
R312	552022222	Resistor, Carbon Film, 2.2K $\pm$ 5%, 1/4W			

AM CIRCUIT BOARD ASSEMBLY

Schematic Location	Part No.	Description
RESISTORS		
R201	552033322	Resistor, Carbon Film, 33K ±5%, 1/4W
R202	552015222	Resistor, Carbon Film, 1.5K ±5%, 1/4W
R203	552022222	Resistor, Carbon Film, 2.2K ±5%, 1/4W
R204	552022222	Resistor, Carbon Film, 2.2K ±5%, 1/4W
R205	Non used.	
R206	552010422	Resistor, Carbon Film, 100K ±5%, 1/4W
R207	552068222	Resistor, Carbon Film, 6.8K ±5%, 1/4W
R208	552010222	Resistor, Carbon Film, 1K ±5%, 1/4W
R209	552047222	Resistor, Carbon Film, 4.7K ±5%, 1/4W
R210	552033322	Resistor, Carbon Film, 33K ±5%, 1/4W
R211	552047222	Resistor, Carbon Film, 4.7K ±5%, 1/4W
R212	552010222	Resistor, Carbon Film, 1K ±5%, 1/4W
R213	552022222	Resistor, Carbon Film, 2.2K ±5%, 1/4W
R214	552022222	Resistor, Carbon Film, 2.2K ±5%, 1/4W
R215	552068122	Resistor, Carbon Film, 680 ±5%, 1/4W
CAPACITORS		
C201	440500935	Capacitor, Ceramic, 0.05mfd, 50V
C202	440500935	Capacitor, Ceramic, 0.05mfd, 50V
C203	440100985	Capacitor, Ceramic, 0.01mfd, 250V
C204	440701388	Capacitor, Ceramic, 7pF ±0.5pF, 250V
C205	440301388	Capacitor, Ceramic, 3pF ±0.5pF, 250V
C206	402100749	Capacitor, Electrolytic, 1 mfd, 50V
C207	402330609	Capacitor, Electrolytic, 33mfd, 6.3V
C208	440701388	Capacitor, Ceramic, 7pF ±0.5pF, 250V
C209	440500935	Capacitor, Ceramic, 0.05mfd, 50V
C210	440500935	Capacitor, Ceramic, 0.05mfd, 50V
C211	402100749	Capacitor, Electrolytic, 1 mfd, 50V
C212	440500935	Capacitor, Ceramic, 0.05mfd, 50V
C213	440500935	Capacitor, Ceramic, 0.05mfd, 50V
C214	440500935	Capacitor, Ceramic, 0.05mfd, 50V

Schematic Location	Part No.	Description
C215	440201085	Capacitor, Ceramic, 0.002mfd, 250V
C216	440500935	Capacitor, Ceramic, 0.05mfd, 50V
C217	440201085	Capacitor, Ceramic, 0.002mfd, 250V
TRANSISTORS		
Tr201	301001124	Transistor, 2SA102, AM Conv.
Tr202	301001111	Transistor, 2SA49, AM IF 1st Amp.
Tr203	301001122	Transistor, 2SA342, AM IF 2nd Amp.
DIODES		
D201	300111008	Diode, 1S188, AM Overload protector
D202	300111008	Diode, 1S188, AM meter rect.
D203	300111008	Diode, 1S188, AM Det.
TRANSFORMERS		
T201	225301121	Transformer, AM IF, 455KHz, 1st
T202	225301121	Transformer, AM IF, 455KHz, 2nd
T203	225301122	Transformer, AM IF, 455KHz, 3rd
T204	225301124	Transformer, AM IF, 455KHz, Det.
COILS		
L201	223301121	Coil, AM local Oscillator
L202	220001121	Coil, RF choke, 47 microhenry
140100122 Printed Circuit Board		
141110130 AM Circuit Board Assembly		

Schematic Location	Part No.	Description
CAPACITORS		
C301	454100833	Capacitor, Polystyrene Film, 10,000pF ±10%
C302	402100629	Capacitor, Electrolytic, 10mfd, 25V
C303	442201083	Capacitor, Ceramic, 0.002mfd ±10%, 250V
C304	402470629	Capacitor, Electrolytic, 47mfd, 25V
C305	454100833	Capacitor, Polystyrene Film, 10,000pF ±10%
C306	454251033	Capacitor, Polystyrene Film, 2,500pF ±10%
C307	450500933	Capacitor, Mylar Film, 0.05mfd ±10%, 50V
C308	402100629	Capacitor, Electrolytic, 10mfd, 25V
C309	450200933	Capacitor, Mylar Film, 0.02mfd ±10%, 50V
C310	450200933	Capacitor, Mylar Film, 0.02mfd ±10%, 50V
C311	402100629	Capacitor, Electrolytic, 10mfd, 25V
C312	402100629	Capacitor, Electrolytic, 10mfd, 25V
C313	402100749	Capacitor, Electrolytic, 1 mfd, 50V
C314	402100749	Capacitor, Electrolytic, 1 mfd, 50V
COILS		
L301	225601127	Coil, MPX, 19KHz
L302	225601127	Coil, MPX, 19KHz
L303	225601128	Coil, MPX, 38KHz

Schematic Location	Part No.	Description
FL301	228641113	Filter, 38KHz
TRANSISTORS		
Tr301	301201115	Transistor, 2SC828, FM-Stereo Light Amp.
Tr302	301001123	Transistor, 2SA683, Stereo Light Driver
Tr303	301201115	Transistor, 2SC828, Audio Amp. (L-ch.)
Tr304	301201115	Transistor, 2SC828, Audio Amp. (R-ch.)
IC301	303452144	Integrated Circuit, MC1307P, MPX Decoder
140400443 Printed Circuit Board		
141411426 FM-Stereo Circuit Board Assembly		

EQUALIZER AMPLIFIER CIRCUIT BOARD ASSEMBLY

Schematic Location	Part No.	Description
RESISTORS		
R401	552047322	Resistor, Carbon Film, 47K ±5%, 1/4W
R402	552010222	Resistor, Carbon Film, 1K ±5%, 1/4W
R403	552022322	Resistor, Carbon Film, 22K ±5%, 1/4W
R404	552056122	Resistor, Carbon Film, 560 ±5%, 1/4W
R405	552010522	Resistor, Carbon Film, 1M ±5%, 1/4W
R406	552010322	Resistor, Carbon Film, 10K ±5%, 1/4W
R407	552015222	Resistor, Carbon Film, 1.5K ±5%, 1/4W
R408	552022322	Resistor, Carbon Film, 22K ±5%, 1/4W
R409	552056422	Resistor, Carbon Film, 560K ±5%, 1/4W
R410	552033222	Resistor, Carbon Film, 3.3K ±5%, 1/4W
R411	552047322	Resistor, Carbon Film, 47K ±5%, 1/4W
R412	552010222	Resistor, Carbon Film, 1K ±5%, 1/4W
R413	552022322	Resistor, Carbon Film, 22K ±5%, 1/4W
R414	552056122	Resistor, Carbon Film, 560 ±5%, 1/4W
R415	552010522	Resistor, Carbon Film, 1M ±5%, 1/4W
R416	552010322	Resistor, Carbon Film, 10K ±5%, 1/4W
R417	552015222	Resistor, Carbon Film, 1.5K ±5%, 1/4W
R418	552022322	Resistor, Carbon Film, 22K ±5%, 1/4W
R419	552056422	Resistor, Carbon Film, 560K ±5%, 1/4W
R420	552033222	Resistor, Carbon Film, 3.3K ±5%, 1/4W
R421	552015422	Resistor, Carbon Film, 150K ±5%, 1/4W
R422	552015422	Resistor, Carbon Film, 150K ±5%, 1/4W
R423	552022322	Resistor, Carbon Film, 22K ±5%, 1/4W

Schematic Location	Part No.	Description
CAPACITORS		
C401	402100629	Capacitor, Electrolytic, 10mfd, 25V
C402	440501283	Capacitor, Ceramic, 50pF ±10%, 250V
C403	440101183	Capacitor, Ceramic, 100pF ±10%, 250V
C404	402330609	Capacitor, Electrolytic, 33mfd, 6.3V
C405	402100629	Capacitor, Electrolytic, 10mfd, 25V
C406	450401033	Capacitor, Mylar Film, 0.004mfd ±10%, 50V
C407	450150933	Capacitor, Mylar Film, 0.015mfd ±10%, 50V
C408	402100749	Capacitor, Electrolytic, 1mfd, 50V
C409	402100629	Capacitor, Electrolytic, 10mfd, 25V
C410	402100519	Capacitor, Electrolytic, 100mfd, 16V
C411	440501283	Capacitor, Ceramic, 50pF ±10%, 250V
C412	440101183	Capacitor, Ceramic, 100pF ±10%, 250V
C413	402330609	Capacitor, Electrolytic, 33mfd, 6.3V
C414	402100629	Capacitor, Electrolytic, 10mfd, 25V
C415	450401033	Capacitor, Mylar Film, 0.004mfd ±10%, 50V
C416	450150933	Capacitor, Mylar Film, 0.015mfd ±10%, 50V
C417	402100749	Capacitor, Electrolytic, 1 mfd, 50V
TRANSISTORS		
Tr401	301201114	Transistor, 2SC644, L-ch. 1st Amp.
Tr402	301201114	Transistor, 2SC644, L-ch. 2nd Amp.
Tr403	301201114	Transistor, 2SC644, R-ch. 1st Amp.
Tr404	301201114	Transistor, 2SC644, R-ch. 2nd Amp.
140500524 Printed Circuit Board		
141510122 Equalizer Amplifier Circuit Board Assembly		

FM-STEREO CIRCUIT BOARD ASSEMBLY

Schematic Location	Part No.	Description
RESISTORS		
R301	552047122	Resistor, Carbon Film, 470 ±5%, 1/4W
R302	552056222	Resistor, Carbon Film, 5.6K ±5%, 1/4W
R303	552010422	Resistor, Carbon Film, 100K ±5%, 1/4W
R304	552010422	Resistor, Carbon Film, 100K ±5%, 1/4W
R305	552047422	Resistor, Carbon Film, 470K ±5%, 1/4W
R306	552010322	Resistor, Carbon Film, 10K ±5%, 1/4W
R307	552047122	Resistor, Carbon Film, 470 ±5%, 1/4W
R308	552039222	Resistor, Carbon Film, 3.9K ±5%, 1/4W
R309	552039222	Resistor, Carbon Film, 3.9K ±5%, 1/4W
R310	552033422	Resistor, Carbon Film, 330K ±5%, 1/4W
R311	552033422	Resistor, Carbon Film, 330K ±5%, 1/4W
R312	552022222	Resistor, Carbon Film, 2.2K ±5%, 1/4W

Schematic Location	Part No.	Description
R313	552047122	Resistor, Carbon Film, 470 ±5%, 1/4W
R314	552047122	Resistor, Carbon Film, 470 ±5%, 1/4W
R315	552047222	Resistor, Carbon Film, 4.7K ±5%, 1/4W
R316	552022222	Resistor, Carbon Film, 2.2K ±5%, 1/4W
R317	552033122	Resistor, Carbon Film, 330 ±5%, 1/4W
R318	552033122	Resistor, Carbon Film, 330 ±5%, 1/4W
R319	552033322	Resistor, Carbon Film, 33K ±5%, 1/4W
R320	552033322	Resistor, Carbon Film, 33K ±5%, 1/4W
VARIABLE RESISTORS		
VR301	510502119	Potentiometer, 1K, FM-Stereo Light Adj.
VR302	510502125	Potentiometer, 10K, Separation Adj.

PREAMPLIFIER CIRCUIT BOARD ASSEMBLY

Schematic Location	Part No.	Description
RESISTORS		
R501	552010322	Resistor, Carbon Film, 10K $\pm 5\%$, 1/4W
R502	552047122	Resistor, Carbon Film, 470 $\pm 5\%$, 1/4W
R503	552039222	Resistor, Carbon Film, 3.9K $\pm 5\%$, 1/4W
R504	552010422	Resistor, Carbon Film, 100K $\pm 5\%$, 1/4W
R505	552068322	Resistor, Carbon Film, 68K $\pm 5\%$, 1/4W
R506	552082122	Resistor, Carbon Film, 820 $\pm 5\%$, 1/4W
R507	552015322	Resistor, Carbon Film, 15K $\pm 5\%$, 1/4W
R508	552027422	Resistor, Carbon Film, 270K $\pm 5\%$, 1/4W
R509	552056222	Resistor, Carbon Film, 5.6K $\pm 5\%$, 1/4W
R510	552015222	Resistor, Carbon Film, 1.5K $\pm 5\%$, 1/4W
R511	552010322	Resistor, Carbon Film, 10K $\pm 5\%$, 1/4W
R512	552010222	Resistor, Carbon Film, 1K $\pm 5\%$, 1/4W
R513	552012322	Resistor, Carbon Film, 12K $\pm 5\%$, 1/4W
R514	552015222	Resistor, Carbon Film, 1.5K $\pm 5\%$, 1/4W
R515	552082222	Resistor, Carbon Film, 8.2K $\pm 5\%$, 1/4W
R516	552056222	Resistor, Carbon Film, 5.6K $\pm 5\%$, 1/4W
R517	552068222	Resistor, Carbon Film, 6.8K $\pm 5\%$, 1/4W
R518	552015222	Resistor, Carbon Film, 1.5K $\pm 5\%$, 1/4W
R519	552010222	Resistor, Carbon Film, 1K $\pm 5\%$, 1/4W
R520	552010422	Resistor, Carbon Film, 100K $\pm 5\%$, 1/4W
R521	552068322	Resistor, Carbon Film, 68K $\pm 5\%$, 1/4W
R522	552015222	Resistor, Carbon Film, 1.5K $\pm 5\%$, 1/4W
R523	552010322	Resistor, Carbon Film, 10K $\pm 5\%$, 1/4W
R524	552022422	Resistor, Carbon Film, 220K $\pm 5\%$, 1/4W
R525	552056222	Resistor, Carbon Film, 5.6K $\pm 5\%$, 1/4W
R526	552015222	Resistor, Carbon Film, 1.5K $\pm 5\%$, 1/4W
R527	552010322	Resistor, Carbon Film, 10K $\pm 5\%$, 1/4W
R528	552047122	Resistor, Carbon Film, 470 $\pm 5\%$, 1/4W
R529	552039222	Resistor, Carbon Film, 3.9K $\pm 5\%$, 1/4W
R530	552010422	Resistor, Carbon Film, 100K $\pm 5\%$, 1/4W
R531	552068322	Resistor, Carbon Film, 68K $\pm 5\%$, 1/4W
R532	552082122	Resistor, Carbon Film, 820 $\pm 5\%$, 1/4W
R533	552015322	Resistor, Carbon Film, 15K $\pm 5\%$, 1/4W
R534	552027422	Resistor, Carbon Film, 270K $\pm 5\%$, 1/4W
R535	552056222	Resistor, Carbon Film, 5.6K $\pm 5\%$, 1/4W
R536	552015222	Resistor, Carbon Film, 1.5K $\pm 5\%$, 1/4W
R537	552010322	Resistor, Carbon Film, 10K $\pm 5\%$, 1/4W
R538	552010222	Resistor, Carbon Film, 1K $\pm 5\%$, 1/4W
R539	552012322	Resistor, Carbon Film, 12K $\pm 5\%$, 1/4W
R540	552015222	Resistor, Carbon Film, 1.5K $\pm 5\%$, 1/4W
R541	552082222	Resistor, Carbon Film, 8.2K $\pm 5\%$, 1/4W
R542	552056222	Resistor, Carbon Film, 5.6K $\pm 5\%$, 1/4W
R543	552068222	Resistor, Carbon Film, 6.8K $\pm 5\%$, 1/4W
R544	552015222	Resistor, Carbon Film, 1.5K $\pm 5\%$, 1/4W
R545	552010222	Resistor, Carbon Film, 1K $\pm 5\%$, 1/4W
R546	552010422	Resistor, Carbon Film, 100K $\pm 5\%$, 1/4W
R547	552068322	Resistor, Carbon Film, 68K $\pm 5\%$, 1/4W
R548	552015222	Resistor, Carbon Film, 1.5K $\pm 5\%$, 1/4W
R549	552010322	Resistor, Carbon Film, 10K $\pm 5\%$, 1/4W
R550	552022422	Resistor, Carbon Film, 220K $\pm 5\%$, 1/4W
R551	552056222	Resistor, Carbon Film, 5.6K $\pm 5\%$, 1/4W
R552	552015222	Resistor, Carbon Film, 1.5K $\pm 5\%$, 1/4W

Schematic Location	Part No.	Description
CAPACITORS		
C501	450100833	Capacitor, Mylar Film, 0.1mfd $\pm 10\%$, 50V
C502	402470729	Capacitor, Electrolytic, 4.7mfd, 25V
C503	440301183	Capacitor, Ceramic, 300pF $\pm 10\%$, 250V
C504	440101183	Capacitor, Ceramic, 100pF $\pm 10\%$, 250V
C505	440501283	Capacitor, Ceramic, 50pF $\pm 10\%$, 250V
C506	402100629	Capacitor, Electrolytic, 10mfd, 25V
C507	402100509	Capacitor, Electrolytic, 100mfd, 6.3V
C508	402100629	Capacitor, Electrolytic, 10mfd, 25V
C509	442201083	Capacitor, Ceramic, 0.002mfd $\pm 10\%$, 250V
C510	450300933	Capacitor, Mylar Film, 0.03mfd $\pm 10\%$, 50V
C511	450200933	Capacitor, Mylar Film, 0.02mfd $\pm 10\%$, 50V
C512	450200833	Capacitor, Mylar Film, 0.2mfd $\pm 10\%$, 50V
C513	450200933	Capacitor, Mylar Film, 0.02mfd $\pm 10\%$, 50V
C514	402470729	Capacitor, Electrolytic, 4.7mfd, 25V
C515	440501283	Capacitor, Ceramic, 50pF $\pm 10\%$, 250V
C516	402100629	Capacitor, Electrolytic, 10mfd, 25V
C517	402100509	Capacitor, Electrolytic, 100mfd, 6.3V
C518	402100749	Capacitor, Electrolytic, 1mfd, 50V
C519	450100833	Capacitor, Mylar Film, 0.1mfd $\pm 10\%$, 50V
C520	402470729	Capacitor, Electrolytic, 4.7mfd, 25V
C521	440301183	Capacitor, Ceramic, 300pF $\pm 10\%$, 250V
C522	440101183	Capacitor, Ceramic, 100pF $\pm 10\%$, 250V
C523	440501283	Capacitor, Ceramic, 50pF $\pm 10\%$, 250V
C524	402100629	Capacitor, Electrolytic, 10mfd, 25V
C525	402100509	Capacitor, Electrolytic, 100mfd, 6.3V
C526	402100629	Capacitor, Electrolytic, 10mfd, 25V
C527	442201083	Capacitor, Ceramic, 0.002mfd $\pm 10\%$, 250V
C528	450300933	Capacitor, Mylar Film, 0.03mfd $\pm 10\%$, 50V
C529	450200933	Capacitor, Mylar Film, 0.02mfd $\pm 10\%$, 50V
C530	450200833	Capacitor, Mylar Film, 0.2mfd $\pm 10\%$, 50V
C531	450200933	Capacitor, Mylar Film, 0.02mfd $\pm 10\%$, 50V
C532	402470729	Capacitor, Electrolytic, 4.7mfd, 25V
C533	440501283	Capacitor, Ceramic, 50pF $\pm 10\%$, 250V
C534	402100629	Capacitor, Electrolytic, 10mfd, 25V
C535	402100509	Capacitor, Electrolytic, 100mfd, 6.3V
C536	402100749	Capacitor, Electrolytic, 1 mfd, 50V
VARIABLE RESISTORS		
VR501	515121115	Resistor, Variable, 250K, Balance Cont.
VR502	525121113	Resistor, Variable, 100K, Volume Cont.
VR503	525101115	Resistor, Variable, 50K, Treble Cont.
VR504	525101115	Resistor, Variable, 50K, Bass Cont.
TRANSISTORS		
Tr501	301201114	Transistor, 2SC644, L-ch. 1st Amp.
Tr502	301201114	Transistor, 2SC644, L-ch. 2nd Amp.
Tr503	301201114	Transistor, 2SC644, L-ch. 3rd Amp.
Tr504	301201115	Transistor, 2SC828, L-ch. 4th Amp.
Tr505	301201114	Transistor, 2SC644, R-ch. 1st Amp.
Tr506	301201114	Transistor, 2SC644, R-ch. 2nd Amp.
Tr507	301201114	Transistor, 2SC644, R-ch. 3rd Amp.
Tr508	301201115	Transistor, 2SC828, R-ch. 4th Amp.
	140700731	Printed Circuit Board
	141710222	Preamplifier Circuit Board Assembly

MAIN AMPLIFIER CIRCUIT BOARD ASSEMBLY

Schematic Location	Part No.	Description
RESISTORS		
R601	552033322	Resistor, Carbon Film, 33K $\pm 5\%$, 1/4W
R602	552010322	Resistor, Carbon Film, 10K $\pm 5\%$, 1/4W
R603	552033422	Resistor, Carbon Film, 330K $\pm 5\%$, 1/4W
R604	552010222	Resistor, Carbon Film, 1K $\pm 5\%$, 1/4W
R605	552015222	Resistor, Carbon Film, 1.5K $\pm 5\%$, 1/4W
R606	552033322	Resistor, Carbon Film, 33K $\pm 5\%$, 1/4W
R607	552022222	Resistor, Carbon Film, 2.2K $\pm 5\%$, 1/4W
R608	552047222	Resistor, Carbon Film, 4.7K $\pm 5\%$, 1/4W
R609	552068022	Resistor, Carbon Film, 68 $\pm 5\%$, 1/4W
R610	551033133	Resistor, Composition, 330 $\pm 10\%$, 1/2W
R611	551022033	Resistor, Composition, 22 $\pm 10\%$, 1/2W
R612	551033133	Resistor, Composition, 330 $\pm 10\%$, 1/2W
R613	554147973	Resistor, Bath tub, 0.47 $\pm 10\%$, 5W
R614	554147973	Resistor, Bath tub, 0.47 $\pm 10\%$, 5W
R615	554010053	Resistor, Bath tub, 10 $\pm 10\%$, 2W
R616	552033322	Resistor, Carbon Film, 33K $\pm 5\%$, 1/4W
R617	552010322	Resistor, Carbon Film, 10K $\pm 5\%$, 1/4W
R618	552033422	Resistor, Carbon Film, 330K $\pm 5\%$, 1/4W
R619	552010222	Resistor, Carbon Film, 1K $\pm 5\%$, 1/4W
R620	552015222	Resistor, Carbon Film, 1.5K $\pm 5\%$, 1/4W
R621	552033322	Resistor, Carbon Film, 33K $\pm 5\%$, 1/4W
R622	552022222	Resistor, Carbon Film, 2.2K $\pm 5\%$, 1/4W
R623	552047222	Resistor, Carbon Film, 4.7K $\pm 5\%$, 1/4W
R624	552068022	Resistor, Carbon Film, 68 $\pm 5\%$, 1/4W
R625	551033133	Resistor, Composition, 330 $\pm 10\%$, 1/2W
R626	551022033	Resistor, Composition, 22 $\pm 10\%$, 1/2W
R627	551033133	Resistor, Composition, 330 $\pm 10\%$, 1/2W
R628	554147973	Resistor, Bath tub, 0.47 $\pm 10\%$, 5W
R629	554147973	Resistor, Bath tub, 0.47 $\pm 10\%$, 5W
R630	554010053	Resistor, Bath tub, 10 $\pm 10\%$, 2W
CAPACITORS		
C601	402220509	Capacitor, Electrolytic, 220mfd, 6.3V
C602	402100539	Capacitor, Electrolytic, 100mfd, 35V
C603	402220509	Capacitor, Electrolytic, 220mfd, 6.3V
C604	402470649	Capacitor, Electrolytic, 47mfd, 50V
C605	440100985	Capacitor, Ceramic, 0.01mfd, 250V
C606	450200833	Capacitor, Mylar Film, 0.2mfd $\pm 10\%$, 50V

Schematic Location	Part No.	Description
C607	402220509	Capacitor, Electrolytic, 220mfd, 6.3V
C608	402100539	Capacitor, Electrolytic, 100mfd, 35V
C609	402220509	Capacitor, Electrolytic, 220mfd, 6.3V
C610	402470649	Capacitor, Electrolytic, 47mfd, 50V
C611	440100985	Capacitor, Ceramic, 0.01mfd, 250V
C612	450200833	Capacitor, Mylar Film, 0.2mfd $\pm 10\%$, 50V
C613	440101283	Capacitor, Ceramic, 10pF $\pm 10\%$, 250V
C614	440101183	Capacitor, Ceramic, 100pF $\pm 10\%$, 250V
C615	440101283	Capacitor, Ceramic, 10pF $\pm 10\%$, 250V
C616	440101183	Capacitor, Ceramic, 100pF $\pm 10\%$, 250V
VARIABLE RESISTORS		
VR601	510502125	Potentiometer, 10K, Idling Current Adj.
VR602	510502125	Potentiometer, 10K, Idling Current Adj.
VR603	510502124	Potentiometer, 250K, DC Balance Adj.
VR604	510502124	Potentiometer, 250K, DC Balance Adj.
TRANSISTORS		
Tr601	301001117	Transistor, 2SA564A, Differential Amp.
Tr602	301001117	Transistor, 2SA564A, Differential Amp.
Tr603	301201137	Transistor, 2SC983, Predriver
Tr604	301201132	Transistor, 2SC1384, Bias Stabilizer
Tr605	301201136	Transistor, 2SC1382, Driver
Tr606	301001125	Transistor, 2SA682, Driver
Tr607	301001117	Transistor, 2SA564A, Differential Amp.
Tr608	301001117	Transistor, 2SA564A, Differential Amp.
Tr609	301201137	Transistor, 2SC983, Predriver
Tr610	301201132	Transistor, 2SC1384, Bias Stabilizer
Tr611	301201136	Transistor, 2SC1382, Driver
Tr612	301001125	Transistor, 2SA682, Driver
COILS		
L601	220401120	Coil, Anti-parasitic
L602	220401120	Coil, Anti-parasitic
	127012095	Heat Sink for Driver Transistor
	140600651	Printed Circuit Board
	141610227	Predriver Circuit Board Assembly

Schematic Location	Part No.	Description
VARIABLE RESISTORS		
VR801	510502125	Potentiometer, 10K, Muting Level Adj.
CAPACITORS		
C801	440100985	Capacitor, Ceramic, 0.01mfd, 250V
C802	440471283	Capacitor, Ceramic, 47pF $\pm 10\%$, 250V
C803	440100985	Capacitor, Ceramic, 0.01mfd, 250V
C804	440100985	Capacitor, Ceramic, 0.01mfd, 250V
C805	440100985	Capacitor, Ceramic, 0.01mfd, 250V
C806	402100749	Capacitor, Electrolytic, 1 mfd, 50V
C807	402100749	Capacitor, Electrolytic, 1 mfd, 50V
C808	402100629	Capacitor, Electrolytic, 10mfd, 25V
TRANSISTORS		
Tr801	301201117	Transistor, 2SC829
Tr802	301201117	Transistor, 2SC829
Tr803	301201132	Transistor, 2SC1384

Schematic Location	Part No.	Description
DIODES		
D801	300212004	Diode, KB-269
D802	300212004	Diode, KB-269
COILS		
L801	226501115	Coil, Muting
	140800137	Printed Circuit Board
	141810135	Muting Circuit Board Assembly

CABINET AND CHASSIS PARTS

Schematic Location	Part No.	Description
	131011233	Cabinet
	111911238	Front Panel Assembly
	124011261	Bottom Cover
	122011273	Front Chassis
	123011275	Rear Chassis
	321304359	Front end, AM/FM
	112011245	Dial Board
	151691117	Dial Pointer Assembly
	655311010	Dial Pulley
	658601113	Dial Spring
	654911283	Tuning Shaft w/Flywheel
	116310054	Knob, Tuning
	116310055	Knob, Vol., Bal., Func. and SPKR selector
	116310056	Knob, Bass and Treble (L-ch.)
	116310057	Knob, Bass and Treble (R-ch.)
	116210008	Button, Push switch
	648211115	Bracket, Dial Lamp
	601011237	Switch, Func. selector
	614061201	Switch, Push, 7 keys
M901	231310007	Meter, Signal Strength
M902	231310006	Meter, FM Tuning
J901	626110023	Jack, Headphones
	624100208	Pin Jack, 8P
	624100104	Pin jack, 4P
	642400104	Speaker Terminal
	641201104	Antenna Terminal Strip
	341220030	Fuse, 3A-3AG

Schematic Location	Part No.	Description
	352063028	Lamp, 6.3V, 0.28A, Dial Illumination
	351080015	Lamp, 8V, 0.15A, Func. Indicator
	351140005	Lamp, 14V, 50mA, FM-Stereo Indicator
	120311215	Ring, AM Antenna Coil Alignment
	648211114	Bracket, Fuse
	648211116	AC Outlet
	772101111	Pin, Jumper
	761911119	Screw, GND Terminal
	673501111	Foot, Plastic
	648211117	Socket, Main Amp. Circuit Board
RESISTORS		
R901	552010422	Resistor, Carbon Film, 100K $\pm 5\%$, 1/4W
R902	552033522	Resistor, Carbon Film, 3.3M $\pm 5\%$, 1/4W
R903	552010222	Resistor, Carbon Film, 1K $\pm 5\%$, 1/4W
R904	552010422	Resistor, Carbon Film, 100K $\pm 5\%$, 1/4W
R905	552033522	Resistor, Carbon Film, 3.3M $\pm 5\%$, 1/4W
R906	552010222	Resistor, Carbon Film, 1K $\pm 5\%$, 1/4W
R907	552010222	Resistor, Carbon Film, 1K $\pm 5\%$, 1/4W
R908	552010222	Resistor, Carbon Film, 1K $\pm 5\%$, 1/4W
R909	552010522	Resistor, Carbon Film, 1M $\pm 5\%$, 1/4W
R910	552010522	Resistor, Carbon Film, 1M $\pm 5\%$, 1/4W
R911	552010422	Resistor, Carbon Film, 100K $\pm 5\%$, 1/4W
R912	552010122	Resistor, Carbon Film, 100 $\pm 5\%$, 1/4W
R913	552022322	Resistor, Carbon Film, 22K $\pm 5\%$, 1/4W
R914	551022533	Resistor, Composition, 2.2M $\pm 10\%$, 1/2W
R915	551056233	Resistor, Composition, 5.6K $\pm 10\%$, 1/2W
R916	551056233	Resistor, Composition, 5.6K $\pm 10\%$, 1/2W
R917 - 922		Used on Stabilizer Circuit Board

MUTING CIRCUIT BOARD ASSEMBLY

Schematic Location	Part No.	Description
RESISTORS		
R801	552010222	Resistor, Carbon Film, 1K $\pm 5\%$, 1/4W
R802	552047322	Resistor, Carbon Film, 47K $\pm 5\%$, 1/4W
R803	552010322	Resistor, Carbon Film, 10K $\pm 5\%$, 1/4W
R804	552010222	Resistor, Carbon Film, 1K $\pm 5\%$, 1/4W
R805	552033222	Resistor, Carbon Film, 3.3K $\pm 5\%$, 1/4W

Schematic Location	Part No.	Description
R806	552033222	Resistor, Carbon Film, 3.3K $\pm 5\%$, 1/4W
R807	552022322	Resistor, Carbon Film, 22K $\pm 5\%$, 1/4W
R808	552033222	Resistor, Carbon Film, 3.3K $\pm 5\%$, 1/4W
R809	552010322	Resistor, Carbon Film, 10K $\pm 5\%$, 1/4W

MEMO

Schematic		
Location	Part No.	Description
R923	551033133	Resistor, Composition, 330 ±10%, 1/2W
R924	551033133	Resistor, Composition, 330 ±10%, 1/2W
R925	554020873	Resistor, Bath tub, 2 ±10%, 5W
R926	554020873	Resistor, Bath tub, 2 ±10%, 5W
R927	551022222	Resistor, Composition, 2.2K ±10%, 1/2W
R928	551022222	Resistor, Composition, 2.2K ±10%, 1/2W
R929	552010222	Resistor, Carbon Film, 1K ±5%, 1/4W
R930	552015222	Resistor, Carbon Film, 1.5K ±5%, 1/4W
R931	552022322	Resistor, Carbon Film, 22K ±5%, 1/4W
CAPACITORS		
C901	440501283	Capacitor, Ceramic, 50pF ±10%, 250V
C902	440501283	Capacitor, Ceramic, 50pF ±10%, 250V
C903	440100985	Capacitor, Ceramic, 0.01mfd, 250V
C904	440100985	Capacitor, Ceramic, 0.01mfd, 250V
C905	440100835	Capacitor, Ceramic, 0.1mfd, 50V
C906	440151183	Capacitor, Ceramic, 150pF ±10%, 250V
C907	440501183	Capacitor, Ceramic, 500pF ±10%, 250V
C908	440100835	Capacitor, Ceramic, 0.1mfd, 50V
C909	402470519	Capacitor, Electrolytic, 470mfd, 16V

Schematic		
Location	Part No.	Description
C910 - 911		Used on Rectifier Circuit Board
C912	400100459	Capacitor, Electrolytic, 1,000mfd, 63V
C913	400470439	Capacitor, Electrolytic, 4,700mfd, 35V
C914	400470439	Capacitor, Electrolytic, 4,700mfd, 35V
TRANSISTORS		
Tr901	301901121	Transistor, EC961, Power Amp.
Tr902	301901121	Transistor, EC961, Power Amp.
Tr903	301901121	Transistor, EC961, Power Amp.
Tr904	301901121	Transistor, EC961, Power Amp.
DIODES		
D601	300212002	Diode, Varistor, KB-265
D602	300212002	Diode, Varistor, KB-265
COILS AND TRANSFORMER		
L901	222391118	Coil, AM Antenna, Assembly
L902	220001211	Coil, RF choke, 47 microhenry
T901	205001325	Transformer, Power Supply

STABILIZER CIRCUIT BOARD ASSEMBLY

Schematic		
Location	Part No.	Description
RESISTORS		
R917	551033233	Resistor, Composition, 3.3K ±10%, 1/2W
R918	551010233	Resistor, Composition, 1K ±10%, 1/2W
R919	551039133	Resistor, Composition, 390 ±10%, 1/4W
R920	551039133	Resistor, Composition, 390 ±10%, 1/2W
R921	551039133	Resistor, Composition, 390 ±10%, 1/2W
R922	551039133	Resistor, Composition, 390 ±10%, 1/2W
CAPACITORS		
C915	402470539	Capacitor, Electrolytic, 470mfd, 35V

Schematic		
Location	Part No.	Description
C916	402470539	Capacitor, Electrolytic, 470mfd, 35V
C917	402470639	Capacitor, Electrolytic, 47mfd, 35V
C918	402470639	Capacitor, Electrolytic, 47mfd, 35V
TRANSISTORS AND DIODES		
Tr905	301301122	Transistor, 2SD317
D905	300313009	Diode, Zener, BZ-240
D906	300313004	Diode, Zener, BZ-120
	140800141	Printed Circuit Board
	141810137	Stabilizer Circuit Board Assembly

RECTIFIER CIRCUIT BOARD ASSEMBLY

Schematic		
Location	Part No.	Description
CAPACITORS		
C910	402470539	Capacitor, Electrolytic, 470mfd, 35V
C911	440100985	Capacitor, Ceramic, 0.01mfd, 250V
DIODES		
D901	300919008	Diode, Rectifier, S-05

Schematic		
Location	Part No.	Description
D902	300919008	Diode, Rectifier, S-05
D903	300919010	Diode, Rectifier, ESACO-2N
D904	300919009	Diode, Rectifier, ESACO-2C
	140800140	Printed Circuit Board
	141810136	Rectifier Circuit Board Assembly

Roland Electronics Co., Ltd.	Main Office:	1-36-8 Ohokayama, Meguro-ku, Tokyo, Japan
	Chofu Plant:	3-60-3 Kamiishihara, Chofu-shi, Tokyo, Japan
Rotel Electronics Co., Ltd.	Offices & Plants:	310, Sec. 5, Nanking E. Road, Taipei, Taiwan
Rotel of America Inc.	Main Office:	2642 Central Ave., Yonkers, New York 10710, U.S.A.