

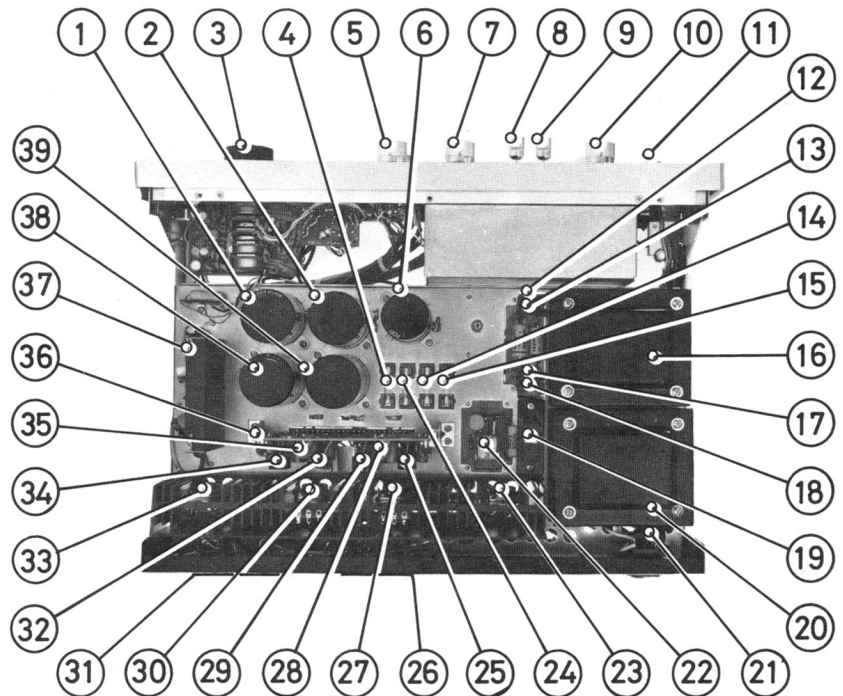
technical manual

TABLE OF CONTENTS

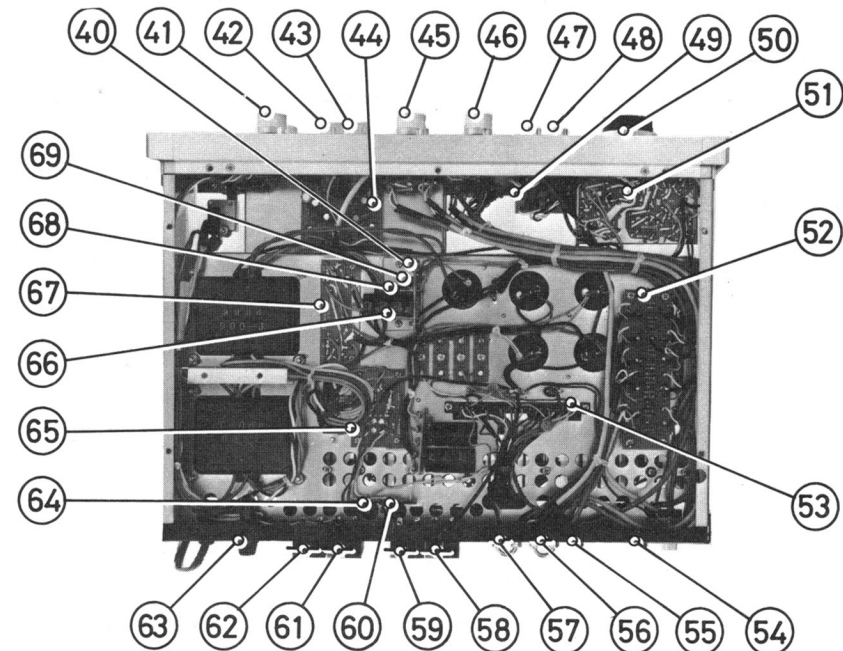
CHASSIS LAYOUT	2	PRE-AMPLIFIER CIRCUIT BOARD DIAGRAM	7
PRECAUTIONS	3	AUXILIARY INPUT CIRCUIT BOARD DIAGRAM	7
BIAS (IDLING CURRENT) ADJUSTMENT	3	TONE AMPLIFIER CIRCUIT BOARD DIAGRAM	8
TROUBLE SHOOTING	4	EQUALIZER AMPLIFIER CIRCUIT BOARD DIAGRAM	8
STABILIZER CIRCUIT BOARD DIAGRAM	5	RECTIFIER CIRCUIT BOARD DIAGRAM	9
LOUDNESS AND MUTING CIRCUIT BOARD DIAGRAM	5	RELAY CIRCUIT BOARD DIAGRAM	9
PHONO INPUT CIRCUIT BOARD DIAGRAM	5	SCHEMATIC DIAGRAM	10
MAIN AMPLIFIER CIRCUIT BOARD DIAGRAM	6	ADDENDUM	12
FILTER CIRCUIT BOARD DIAGRAM	6	PARTS LIST	12

CHASSIS LAYOUT

1. C003, Ripple Filter
2. C006, Ripple Filter
3. Volume Control
4. F003, DC Fuse, +B, R-ch.
5. Function Selector
6. C007, Ripple Filter
7. Treble Control
8. Switch, Treble Turn-over, Roll-off
9. Switch, Bass Turn-over, Roll-off
10. Bass Control
11. Switch, Power Supply
12. D903, Rectifier
13. D905, Rectifier
14. F001, DC Fuse, +B L-ch.
15. F002, DC Fuse, -B, L-ch.
16. T001, Power Transformer
17. D906, Rectifier
18. D904, Rectifier
19. Voltage Selector
20. T002, Power Transformer
21. J001, AC Outlet
22. RY901, Delay Relay
23. Q003, Power Transistor, R-ch.
24. F004, DC Fuse, -B, R-ch.
25. Q612, Driver Transistor, R-ch.
26. Terminal, Tape Monitor
27. Q004, Power Transistor, R-ch.
28. VR602, Idling Current Adj., R-ch.
29. Q611, Driver Transistor, R-ch.
30. Q002, Power Transistor, L-ch.
31. Terminal, Phono, Aux Input
32. Q605, Driver Transistor, L-ch.
33. Q001, Power Transistor, L-ch.
34. Q606, Driver Transistor, L-ch.
35. VR601, Idling Current Adj., L-ch.
36. Main Amp. Circuit Board
37. Equalizer Amp. Circuit Board
38. C004, Ripple Filter
39. C005, Ripple Filter



40. Stabilizer Circuit Board
41. Speakers Selector
42. Switch, Low Filter
43. Switch, High Filter
44. Filter Switch Circuit Board
45. Switch, Monitor
46. Switch, Mode
47. Switch, Loudness
48. Switch, Muting
49. Loudness Switch Circuit Board
50. Balance Control
51. Volume Control
52. Aux Input Circuit Board
53. Bracket, Main Amp. Circuit Board
54. Switch, Phono Input Impedance
55. Switch, Phono Input Sensitivity



56. Terminal, Pre OUT, Main IN, R-ch.
57. Terminal, Pre OUT, Main IN, L-ch.
58. Terminal, Speaker-1, R-ch.
59. Terminal, Speaker-2, R-ch.
60. Circuit Breaker, R-ch.
61. Terminal, Speaker-1, L-ch.
62. Terminal, Speaker-2, L-ch.

63. F005, AC Fuse
64. Circuit Breaker, L-ch.
65. Relay Circuit Board
66. D902, Zener Diode
67. Rectifier Circuit Board
68. Q901, Stabilizer Transistor
69. D901, 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

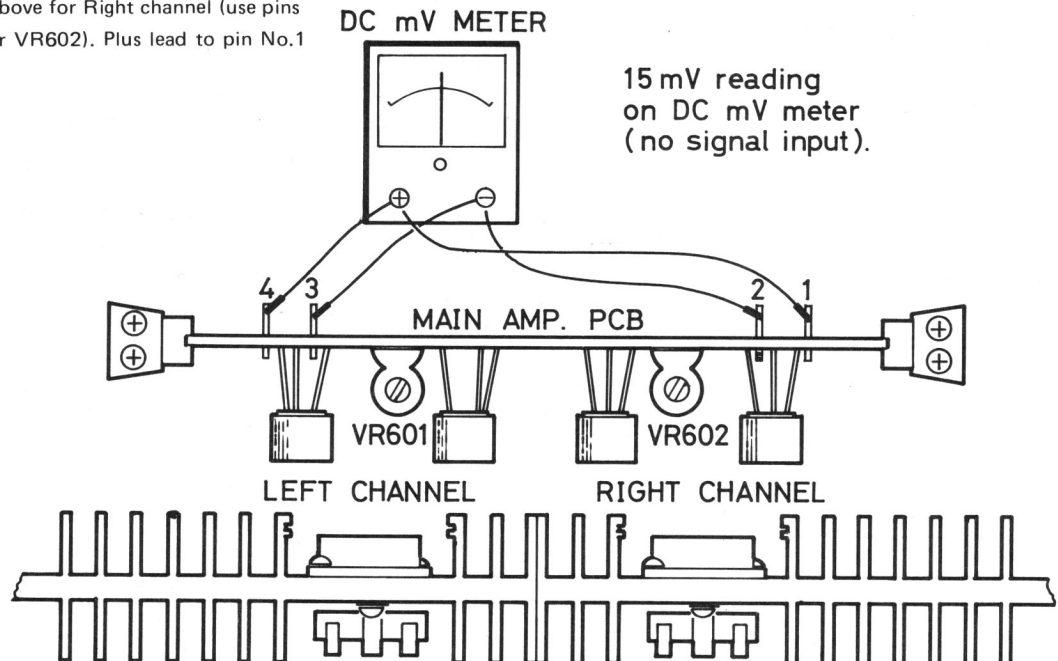
adjustment, the control and other parts in the network with an ohm-meter before inserting a new transistor. All transistors in one channel will be destroyed if the base biasing circuit is open on the emitter end.

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.

BIAS (IDLING CURRENT) ADJUSTMENT

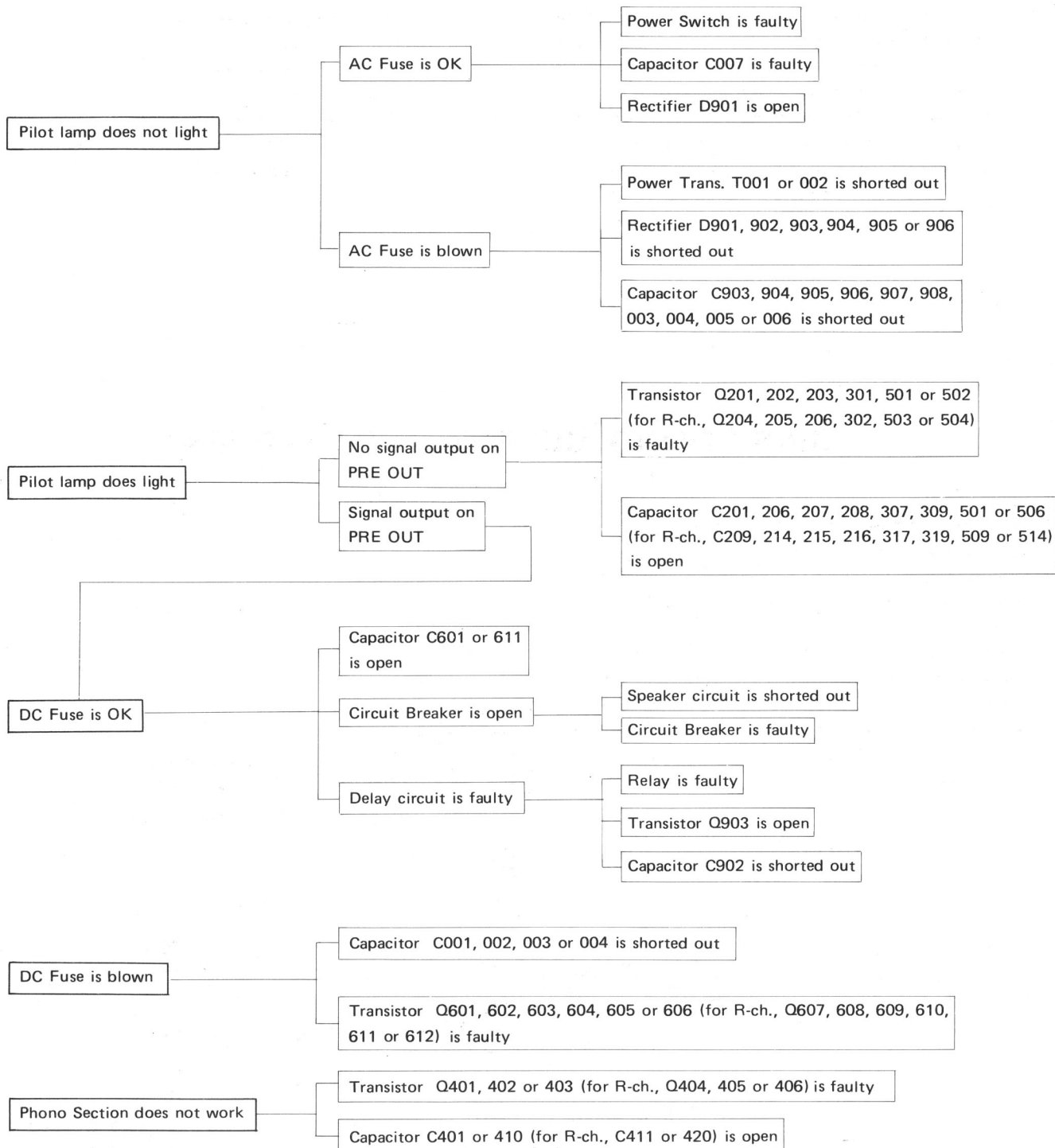
Adjust Idling Current using a DC milli-volt meter.

1. Set Volume Control to minimum position = no signal input.
2. Connect the plus lead of a DC mV meter to pin No.4 (on Main Amp. PCB) and the minus lead of a DC mV meter to pin No.3 (see below).
3. Rotate VR601 potentiometer (on Main Amp. PCB) to obtain a 15mV reading on DC mV meter.
4. Repeat the steps 2 and 3 as above for Right channel (use pins No.1, No.2 and potentiometer VR602). Plus lead to pin No.1 and Minus lead to pin No.2.

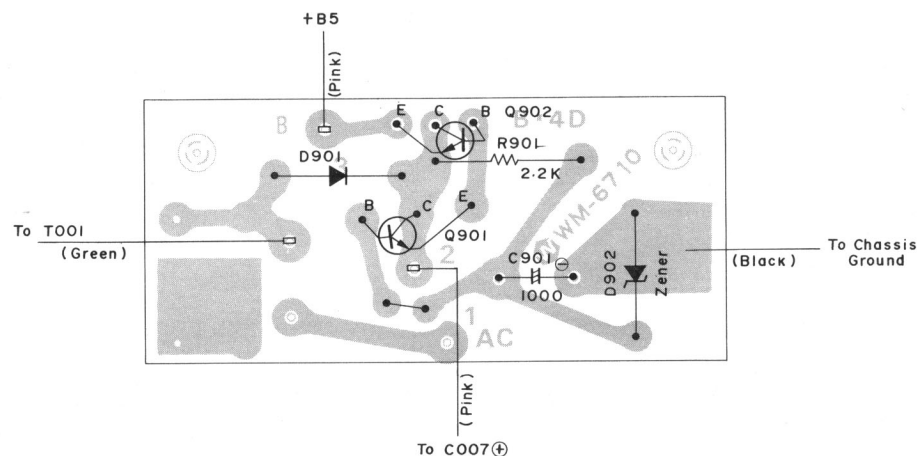


TROUBLE SHOOTING

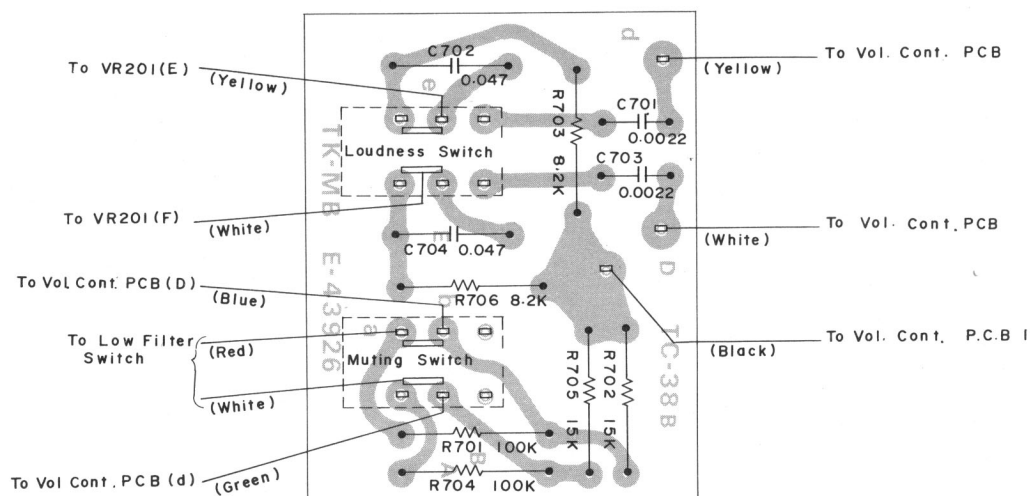
NOT WORKING



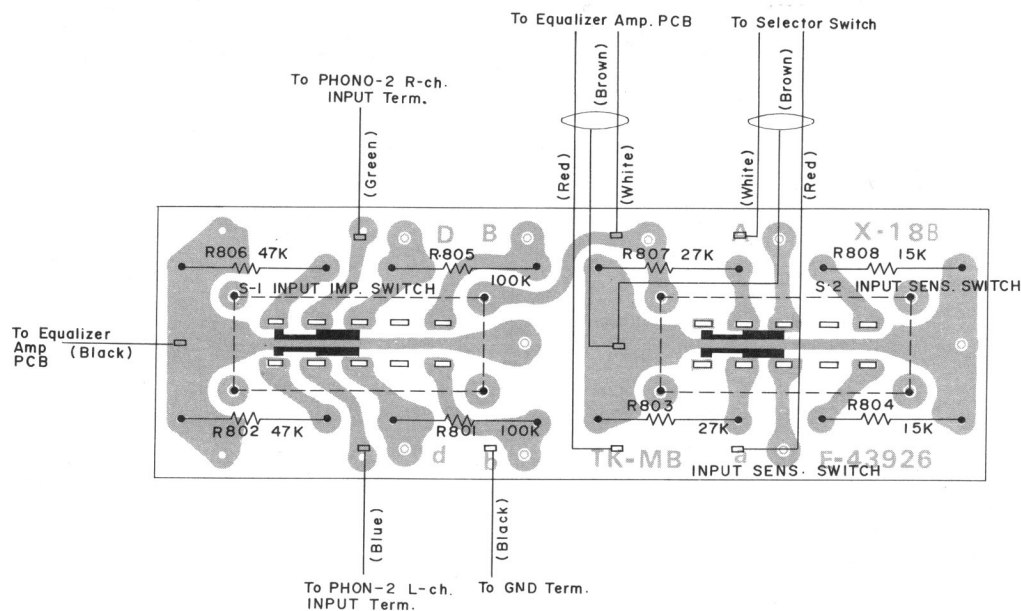
STABILIZER CIRCUIT BOARD DIAGRAM



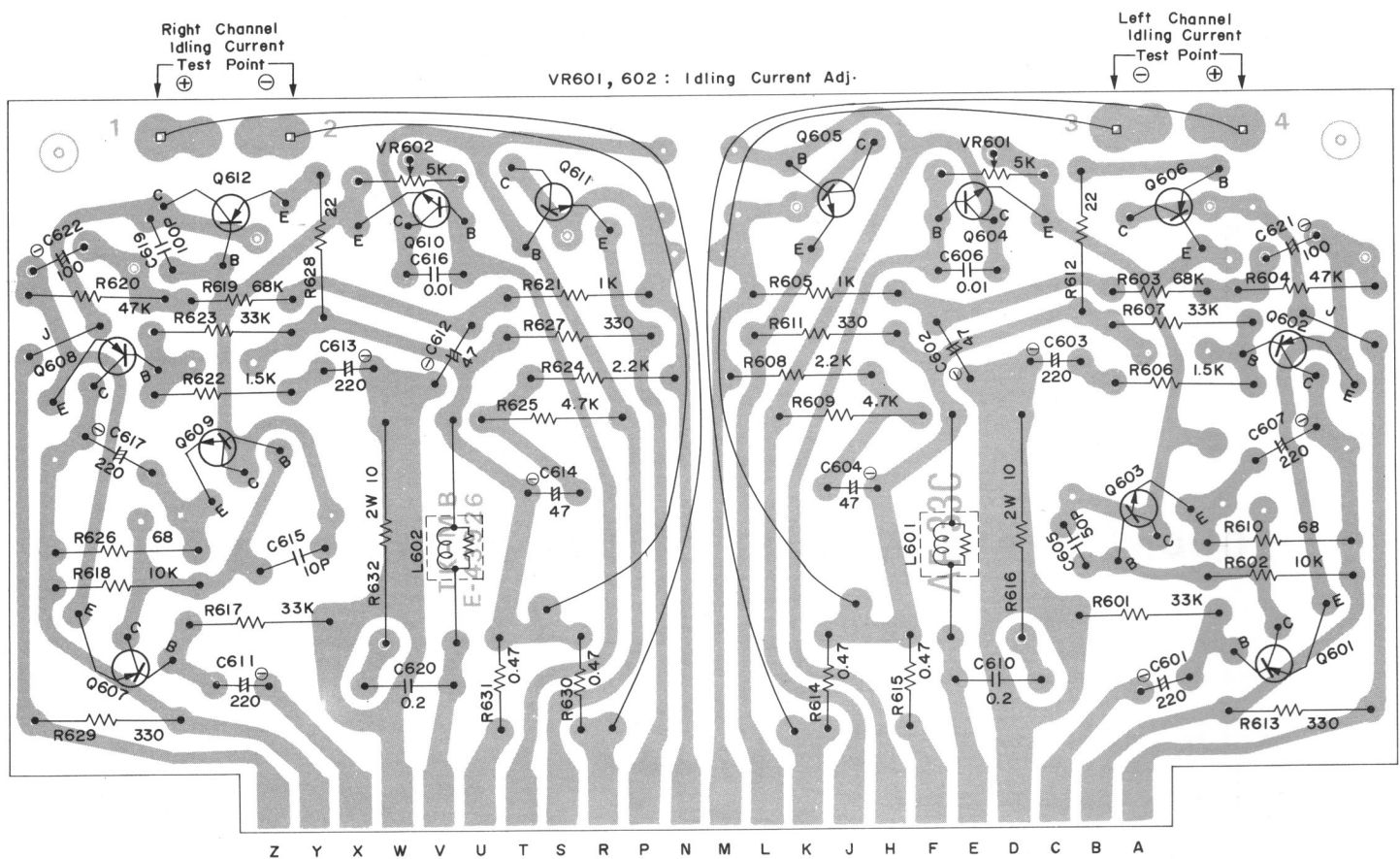
LOUDNESS AND MUTING CIRCUIT BOARD DIAGRAM



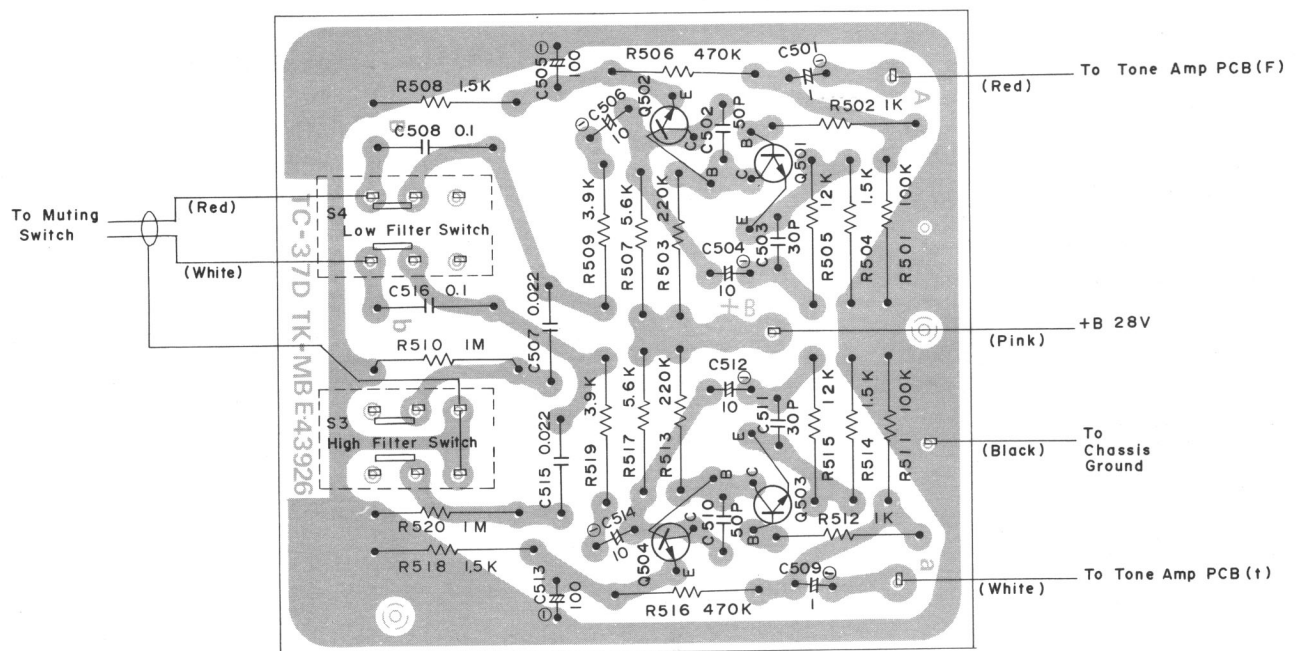
PHONO INPUT CIRCUIT BOARD DIAGRAM



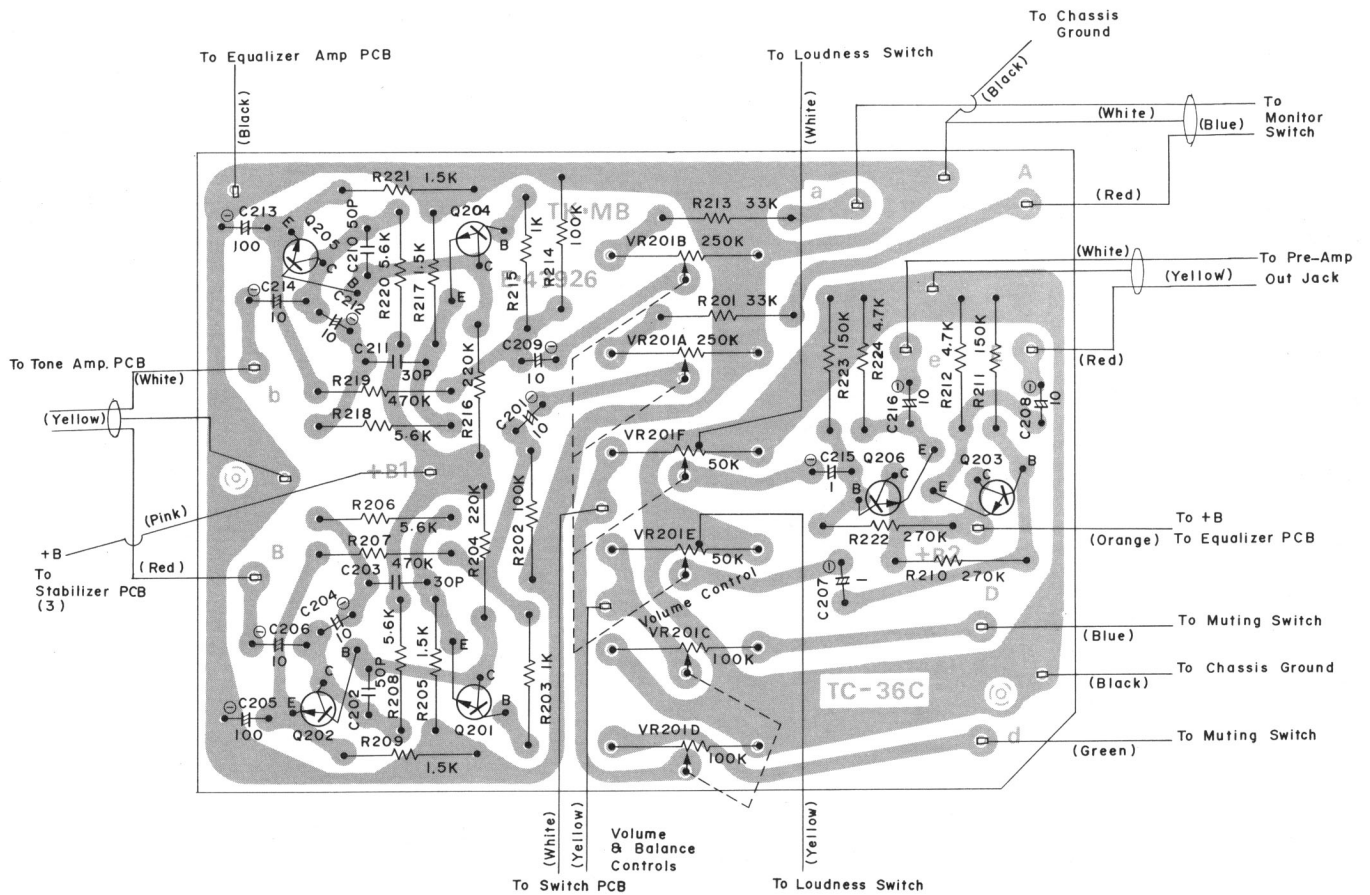
MAIN AMPLIFIER CIRCUIT BOARD DIAGRAM



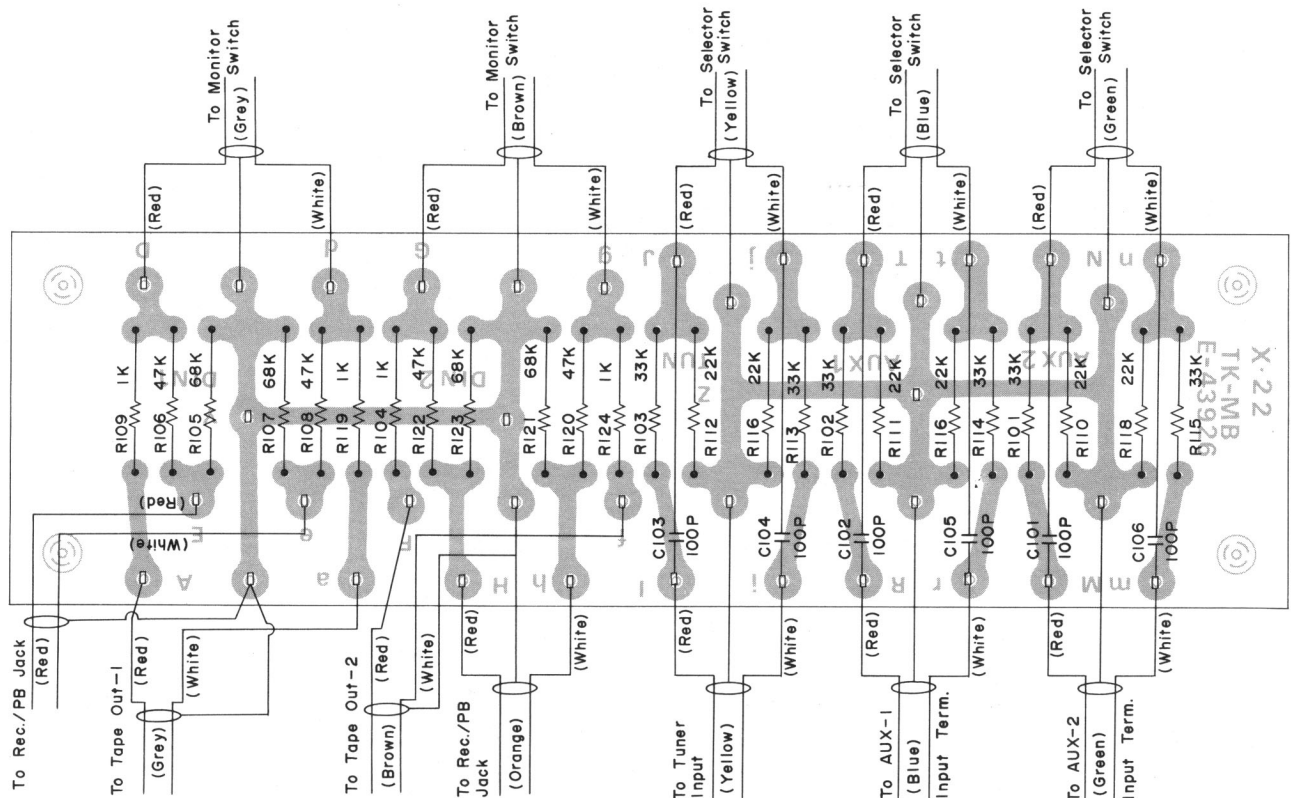
FILTER CIRCUIT BOARD DIAGRAM



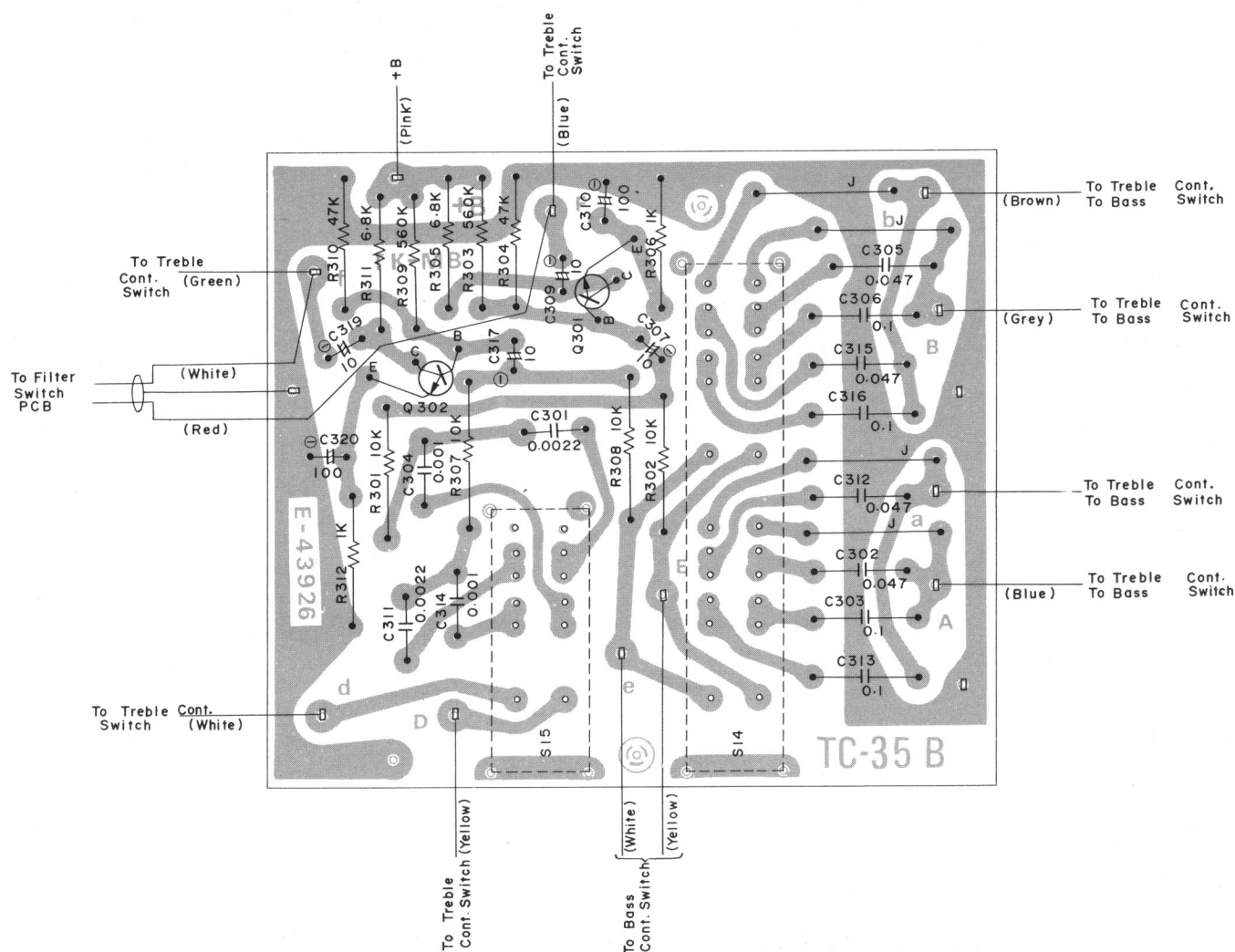
PRE-AMPLIFIER CIRCUIT BOARD DIAGRAM



AUXILIARY INPUT CIRCUIT BOARD DIAGRAM



TONE AMPLIFIER CIRCUIT BOARD DIAGRAM



EQUALIZER AMPLIFIER CIRCUIT BOARD DIAGRAM

