

SERVICE MANUAL

1156

STEREO PREAMPLIFIER



SANYO

PLUS C55

(U.S.A.)



SPECIFICATIONS

Input Sensitivity/Impedance

Phone (MM)	2.5 mV/47 k-ohms
Phone (MC)	100 μ V/100 ohms
Aux, Tape 1, 2	150 mV/47 k-ohms

Frequency Response

Phone (RIAA standard curve)	± 0.2 dB
Aux, Tape	+0dB/-0.3dB (20 Hz - 20 kHz) +0dB/-1dB (10 Hz - 100 kHz)

Signal-to-Noise Ratio (IHF-A weighted)

Phono MM (at 10 mV)	97 dB
(at 2.5 mV)	85 dB
MC (at 100 μ V)	70 dB
Aux, Tape	100 dB

Phone Maximum Input Voltage

(1 kHz) MM	250 mV RMS
MC	10 mV RMS

Tone Controls

Bass (100 Hz)	± 10 dB max.
Treble (10 kHz)	± 10 dB max.
Bass Turnover Frequencies	100/200/400 Hz
Treble Turnover Frequencies	2.5/5.0/10 kHz

Subsonic Filter

Cutoff Frequency	15/30 Hz
Slope	-12 dB/octave

Output Voltage/Impedance

Pre Out	1V/600 ohms
TAPE REC 1, 2	150 mV

Total Harmonic Distortion

(20 Hz-20 kHz, any input to any output, output level 3V or less)

Power Supply	120V AC, 60 Hz
Power consumption	20W

Dimensions (W x D x H)
17-3/8" x 10-11/16" x 1-3/4"
(440 x 270 x 44mm)

Weight (Approx.) 3.9kg

* Specification subject to change without notice.

WM-4429

HOW TO REMOVE THE CABINET AND CHASSIS

(1) How to remove a side panel

Unscrew six screws (Y15) (Flat head, 4 x 10 mm) used to fasten the right and left side panels, and slowly remove these side panels so as not to break the pawl parts (shown inside the circle).

(2) How to detach the top lid

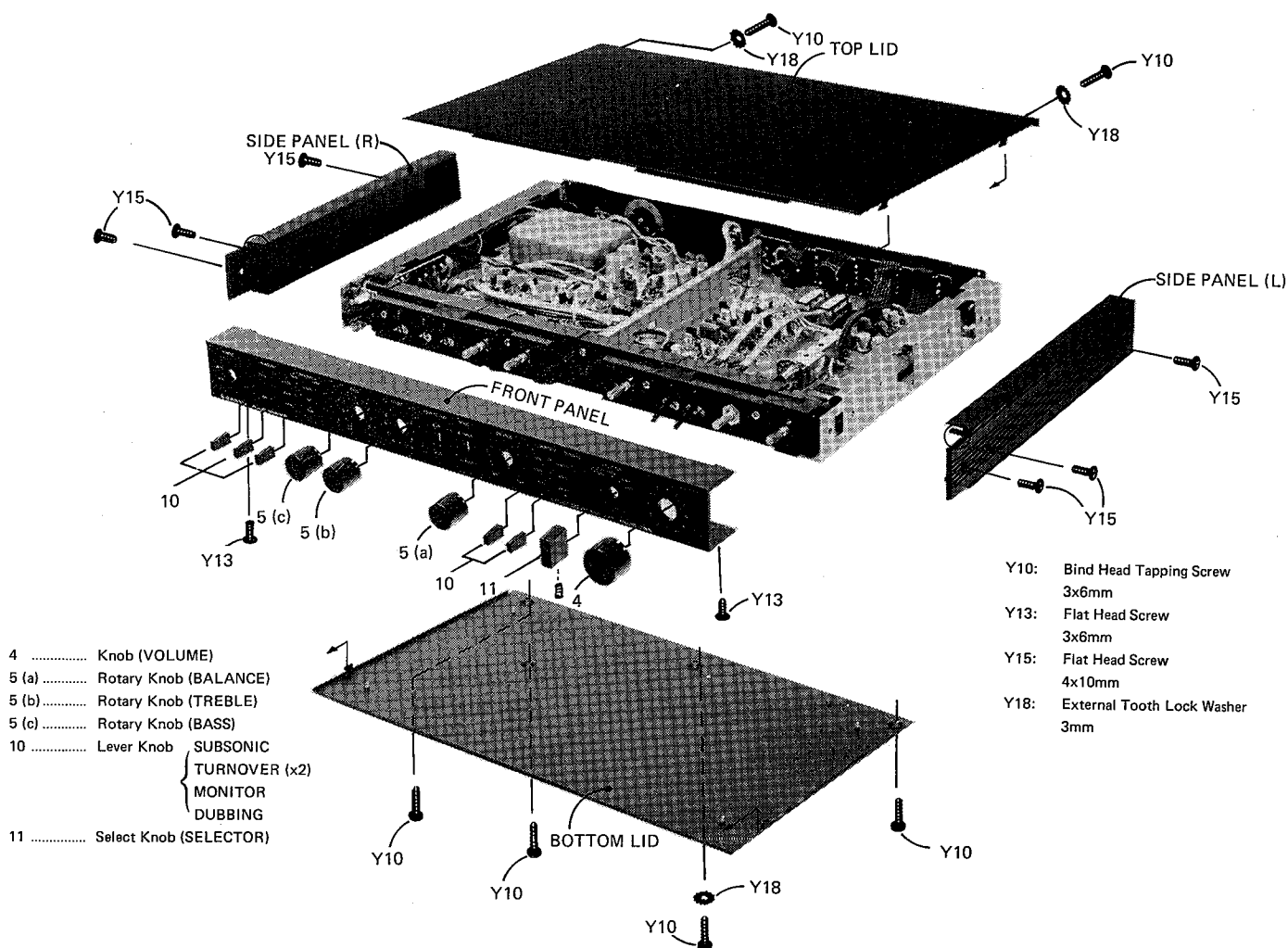
Unscrew two screws (Y10) (Bind head tapping, 3 x 6 mm) used to fasten the top lid, together with washers (Y18) (External tooth lock washer 3 mm), slide the top lid toward the rear about 1 cm, and detach the lid upward.

(3) How to remove the front panel

Remove the knob (4) and rotary knobs (5) four in total, five lever knobs (10), and one select knob (which is to be removed by loosening the Headless screw with Hex. hole) all provided on the front of the set. Then, as screws (Y13) (Flat head, 3 x 6 mm) are unscrewed, the front panel can be removed forward.

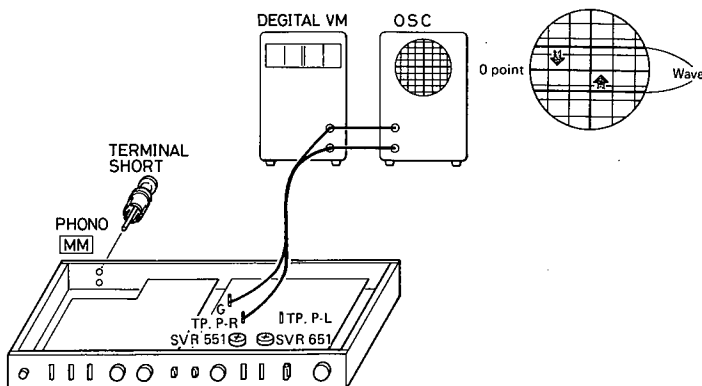
(4) How to detach the bottom lid

Unscrew four screws (Y10) (Bind head tapping, 3 x 6 mm) used to fasten the bottom lid, together with washers (Y18) (External tooth lock washer 3 mm), and detach the bottom lid toward while sliding it toward the rear about 5 mm.



PHONO AMPLIFIER (MM) DC BALANCE ADJUSTMENT

1. Connect the measuring instruments (digital voltmeter and oscilloscope) as shown below:



CONNECTION DIAGRAM

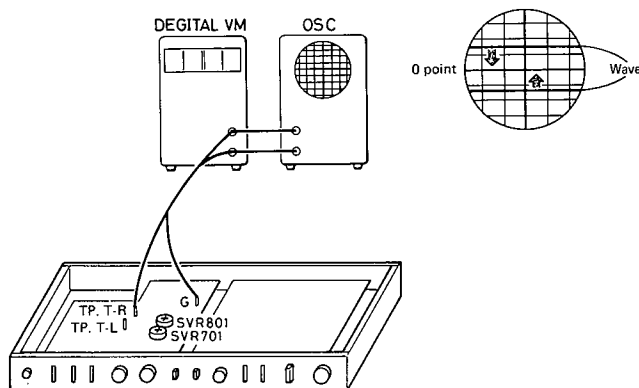
2. Set the switches and knobs of the set as follows:
 - SELECTOR SW.: PHONO MM
 - VOLUME VR.: Max
 - BALANCE VR.: Center
 - DUBBING SW.: Source
 - MONITOR SW.: Source
 - MODE SW.: Stereo
3. Short-circuit the input terminal and terminal PHONO MM as shown in the figure above.
4. Turn on the power, and adjust the SVR551 (250k ohm-N) and SVR651 (250k ohm-M) so that the digital voltmeter indicates less than DC $\pm 0.5V$.

NOTES:

1. When adjusting a semivariable resistor, adjust it so that the zero point of the oscilloscope should be approached as close as possible. (Refer to the direction of arrow inside the circle in the figure above.)
2. Adjust both left and right channels in that order.
 - Left channel \rightarrow input terminal left channel short-circuiting \rightarrow TP P-L connection \rightarrow SVR551.
 - Right channel \rightarrow input terminal right channel short-circuiting \rightarrow TP P-R connection \rightarrow SVR651.

TONE AMPLIFIER DC BALANCE ADJUSTMENT

1. Connect the measuring instruments (digital voltmeter and oscilloscope) as shown below:



CONNECTION DIAGRAM

2. Set the switches and knobs of the set as shown below:
 - TREBLE VR.: Center
 - BASS VR.: Center
 - TREBLE TURNOVER SW.: 5 kHz
 - BASS TURNOVER SW.: 200 Hz
 - SUBSONIC FILTER SW.: OFF
 - TONE DEFEAT SW.: OFF
 - VOLUME: Minimum
3. Turn on the power, and adjust SVR701 and SVR801 (100 ohm B) so that the digital voltmeter indicates less than DC $\pm 3 mV$.

NOTES:

1. When adjusting a semivariable resistor, adjust it so that the zero point of the oscilloscope should be approached as close as possible. (Refer to the direction of arrow inside the circle in the figure above.)
2. Adjust both left and right channels in that order.
 - Left channel \rightarrow TP T-L connection \rightarrow SVR701.
 - Right channel \rightarrow TP T-R connection \rightarrow SVR801.

PARTS LIST

Key No.	Part No.	Description	Q'ty
PACKING			
	141-6-133T-06601	Individual Carton	1
	141-6-144T-58100	Foam Plastic Case	2
	141-6-317T-15200	Pad	1
	141-6-231T-40552	Inner Poly Cover, Set	1
	141-6-231T-25350	Inner Poly Cover, Inst. M.	1
	141-6-231T-10300	Inner Poly Cover, AC Cord	1
	141-6-472T-17100	Caution Label	4
	141-6-231T-10150	Inner Poly Cover, Handle	2
ACCESSORY			
	141-6-410T-34800	Instruction Manual	1
	4-243T-13375	Lead Cord, RCA-RCA	1
	141-0-271T-15100	Bracket, Handle	1
CABINET			
1	141-0-122T-30900	Front Panel Ass'y	1
2	141-0-123T-05100	Side Panel Ass'y	1
3	141-0-123T-05200	Side Panel Ass'y	1
4	141-0-156T-24100	Knob Ass'y, Volume	1
5	141-0-163T-60030	Rotary Knob Ass'y, Bass/Treble/Balance	3
6	141-2-124T-24530	Top Lid	1
7	141-2-125T-18600	Button Lid	1
8	141-2-174T-05100	Stand	4
9	141-2-441T-05000	Felt Cushion	4
10	141-2-162T-16030	Lever Knob	5
11	141-0-163T-63630	Select Knob Ass'y, Selector	1
12	141-2-141T-59200	Rating Plate	1
13	141-2-246T-62500	Sheet	1
14	141-2-447T-46600	Cushion	1
CHASSIS			
21	141-0-156T-23730	Knob Ass'y, Mode	1
22	141-0-253T-19530	Joint Ass'y, Tone Defeat	1
23	141-0-753T-77500	Shaft Ass'y	1
24	141-0-156T-21731	Knob Ass'y, Power Switch	1
25	141-2-126T-31200	Back Lid	1
26	141-2-315T-17901	Reinforcement, R	1
27	141-2-315T-18000	Reinforcement, L	1
28	141-2-315T-20300	Reinforcement, Center	1
29	141-2-210T-15100	Bracket, Front Chassis	1
30	141-2-310T-34900	Bracket, Power Trans	1
31	141-2-365T-44400	Bracket, Switch	1
32	141-2-365T-44500	Bracket, Switch	1
32	141-2-253T-11700	Joint, Selector	1
34	141-2-464T-14400	Fixer	1
35	141-2-447T-02800	Cushion, Back Lid	1
36	141-2-447T-03000	Cushion, Back Lid	2
37	141-2-246T-33300	Sheet, 10x10x1t, Fiber	2
38	141-2-453T-02101	Washer, 3x10x0.3t, Fiber	2
39	141-2-445T-23200	Rubber Cushion, Power Switch	1
40	141-2-246T-33400	Sheet	2
41	141-2-447T-05900	Cushion	3
42	141-2-447T-65400	Cushion	1
43	141-2-472T-01001	Lug	1
44	123-2-472R-00401	Lug	1
45	141-2-464T-20671	Fixer	4
46	141-2-322T-58300	Shield Plate	1
47	141-2-322T-58400	Shield Plate	1

Key No.	Part No.	Description	Q'ty
SCREW MOUNTING			
Y1		Pan Head Screw, 2.6x8mm	2
Y2		Pan Head Screw, 3x4mm	9
Y3		Pan Head Tapping Screw, 3x14mm	1
Y4		Pan Head Tapping W/Washer Screw, 3x6mm	14
Y5		Pan Head Tapping W/Washer Screw, 3x8mm	4
Y6		Bind Head Screw, 3x6mm	2
Y7		Bind Head Screw, 3x8mm	2
Y8		Bind Head Screw, 3x10mm	2
Y9		Bind Head Tapping Screw, 3x4mm	5
Y10		Bind Head Tapping Screw, 3x6mm	15
Y11		Bind Head Tapping Screw, 3x8mm	2
Y12		Bind Head Tapping Screw, 3x10mm	10
Y13		Flat Head Screw, 3x6mm	2
Y14		Flat Head Screw, 3x12mm	2
Y15		Flat Head Screw, 4x10mm	6
Y16		Hexagon Nut, 10mm	1
Y17		Washer, 3mm	2
Y18		External Tooth Lock Washer, 3mm	5
ELECTRICAL PARTS			
51	4-300T-05200	Power Trans.	1
52	4-243T-79800	Power Cord	1
53	4-235T-65800	Socket, AC Outlet	1
54	4-235T-72000	Socket, AC Outlet	1
55	141-4-382T-10600	Terminal, Ground	2
56	4-236T-13300	Plug	2
PHONO AMP PCB ASS'Y			
61	141-4-233T-21371	P.C. Board Ass'y, Phono AMP.	1
	4-222T-80100	Variable Resistor, Volume	1
	4-222T-80200	Variable Resistor, Balance	1
		250K-MN	
	4-238T-06600	Rotary Slide Switch, Selector	1
	4-238T-06800	Push Switch, Mode	1
	4-222T-62071	Semi Fixed Variable Resistor 100 ohm DC Balance	2
	4-238T-10500	Switch, Dubbing/Monitor	2
	4-238T-10600	Switch, Dubbing/Monitor	2
	4-540T-00300	Remote Wire	2
Q554,654		Transistor FET 2SK146	2
Q551,651		Transistor 2SA995	2
Q502,602		Transistor 2SA1083	2
Q501,601		Transistor 2SC2545	2
Q503,603		Transistor 2SA1016	6
556,656			
557,657			
Q504,604		Transistor 2SC2362	6
552,652			
553,653			
Q555,655		Transistor 2SC2362	4
558,658			
Q560,660		Transistor 2SB560	2
Q559,659		Transistor 2SD438	2
Q506,606		Transistor 2SA999	2
Q505,605		Transistor 2SC2320	2
D551,651		Diode DS442	8
552,652			
553,653			
554,654			

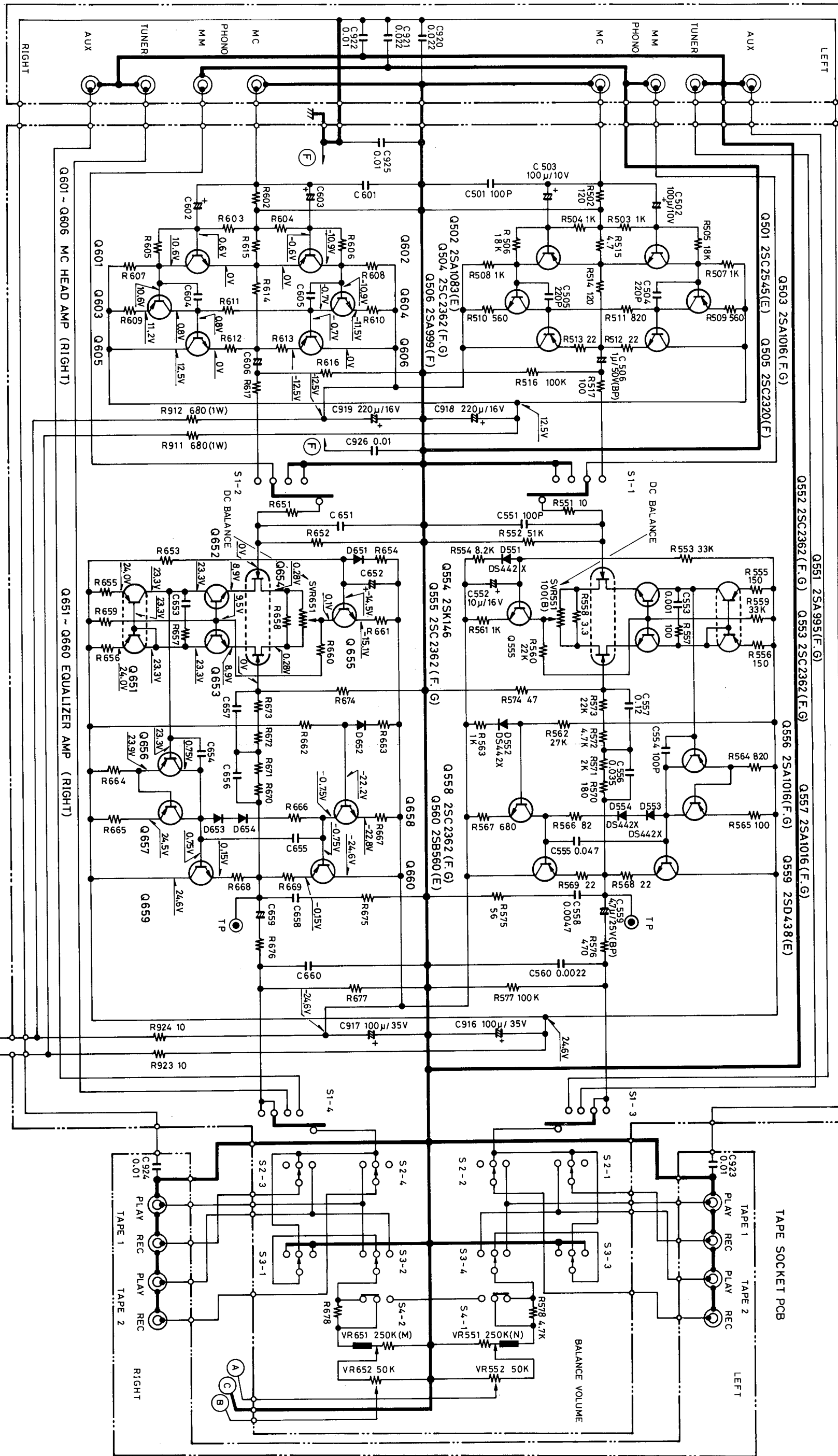
SCHEMATIC DIAGRAM (PHONO AMP)

INPUT SOCKET PCB PHONO AMP PCB

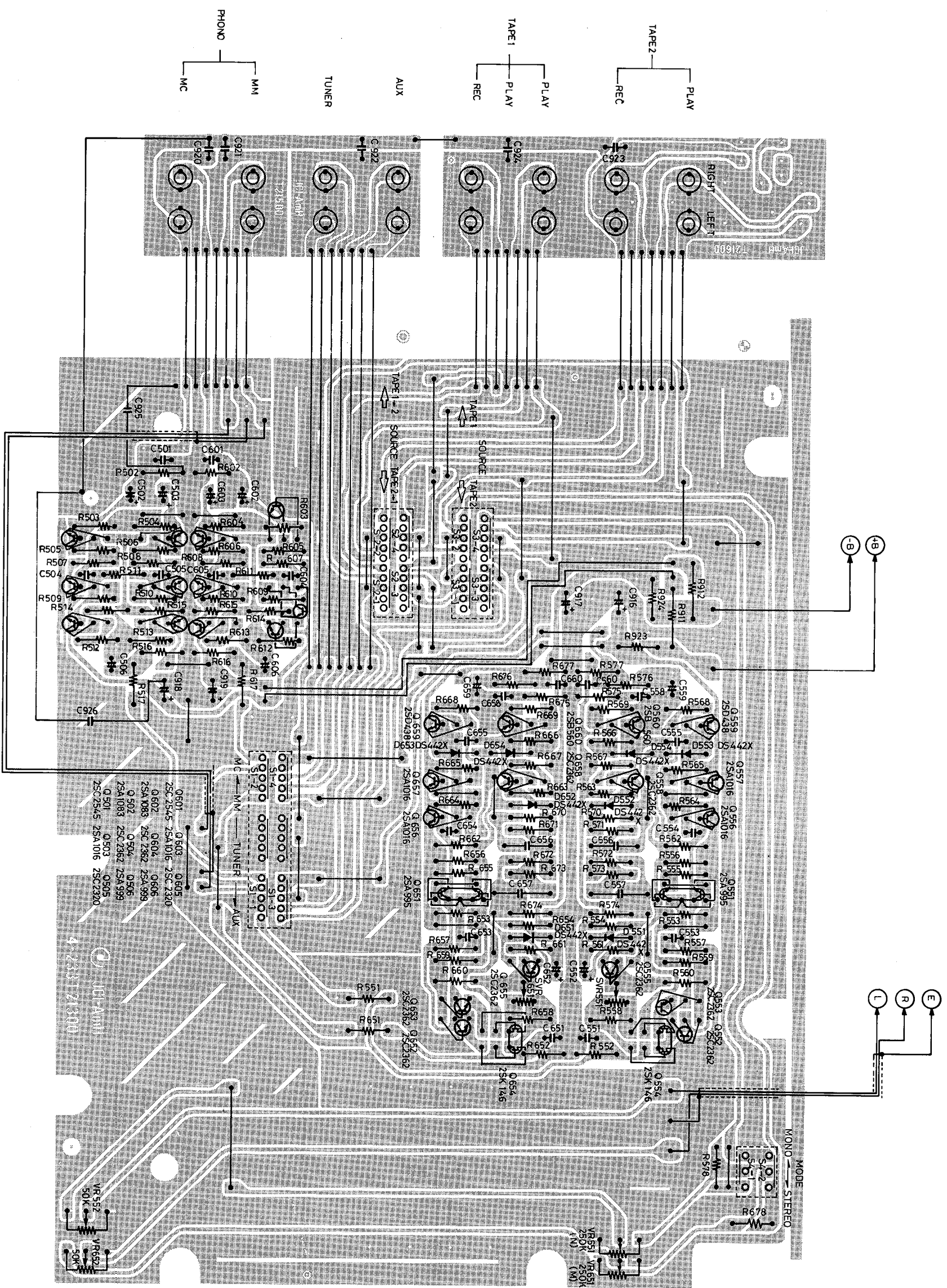
Q501 ~ Q506 MC HEAD AMP (LEFT)









Q551 ~ Q560 EQUALIZER AMP (LEFT)

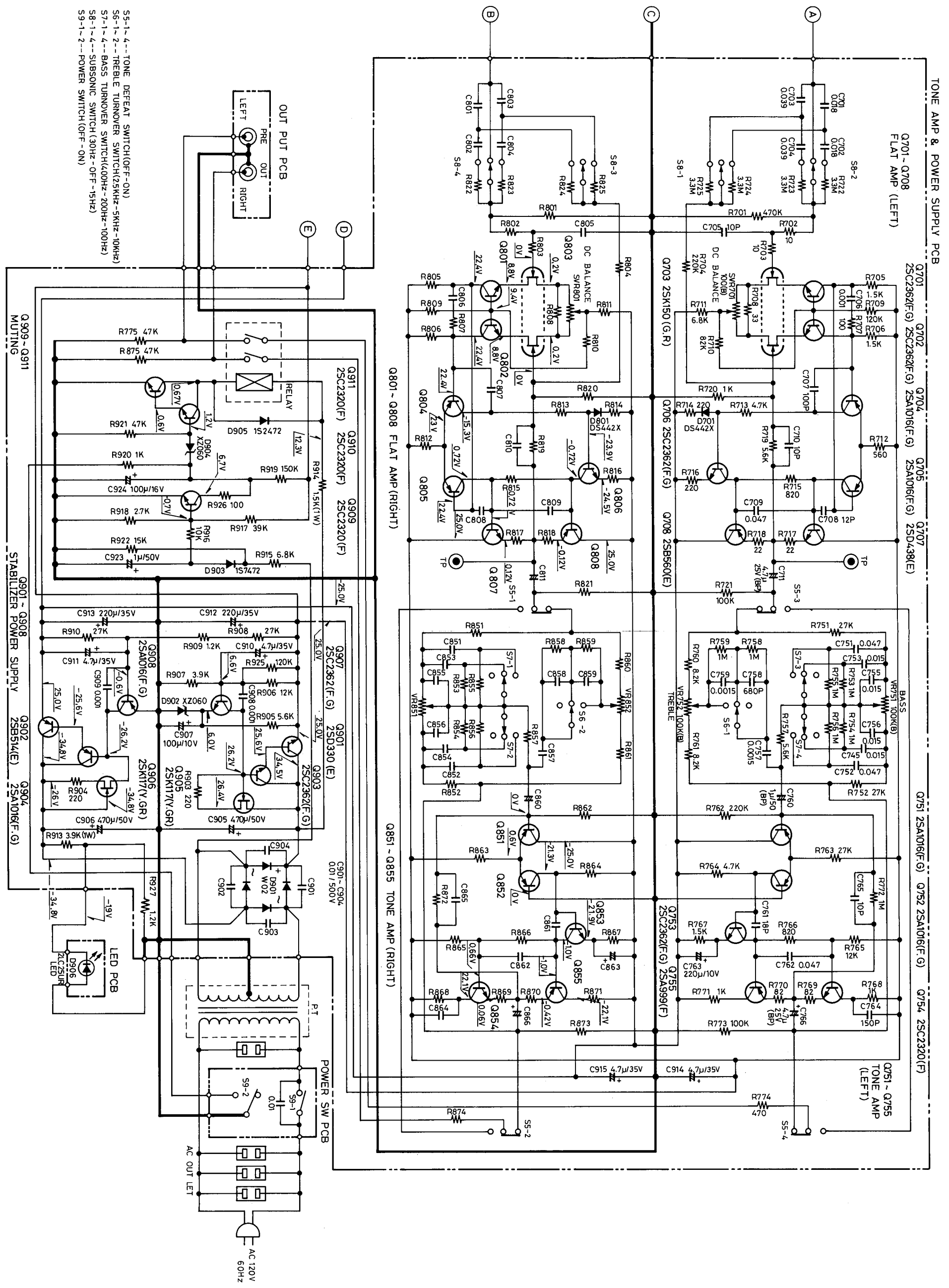
TAPE SOCKET PCB



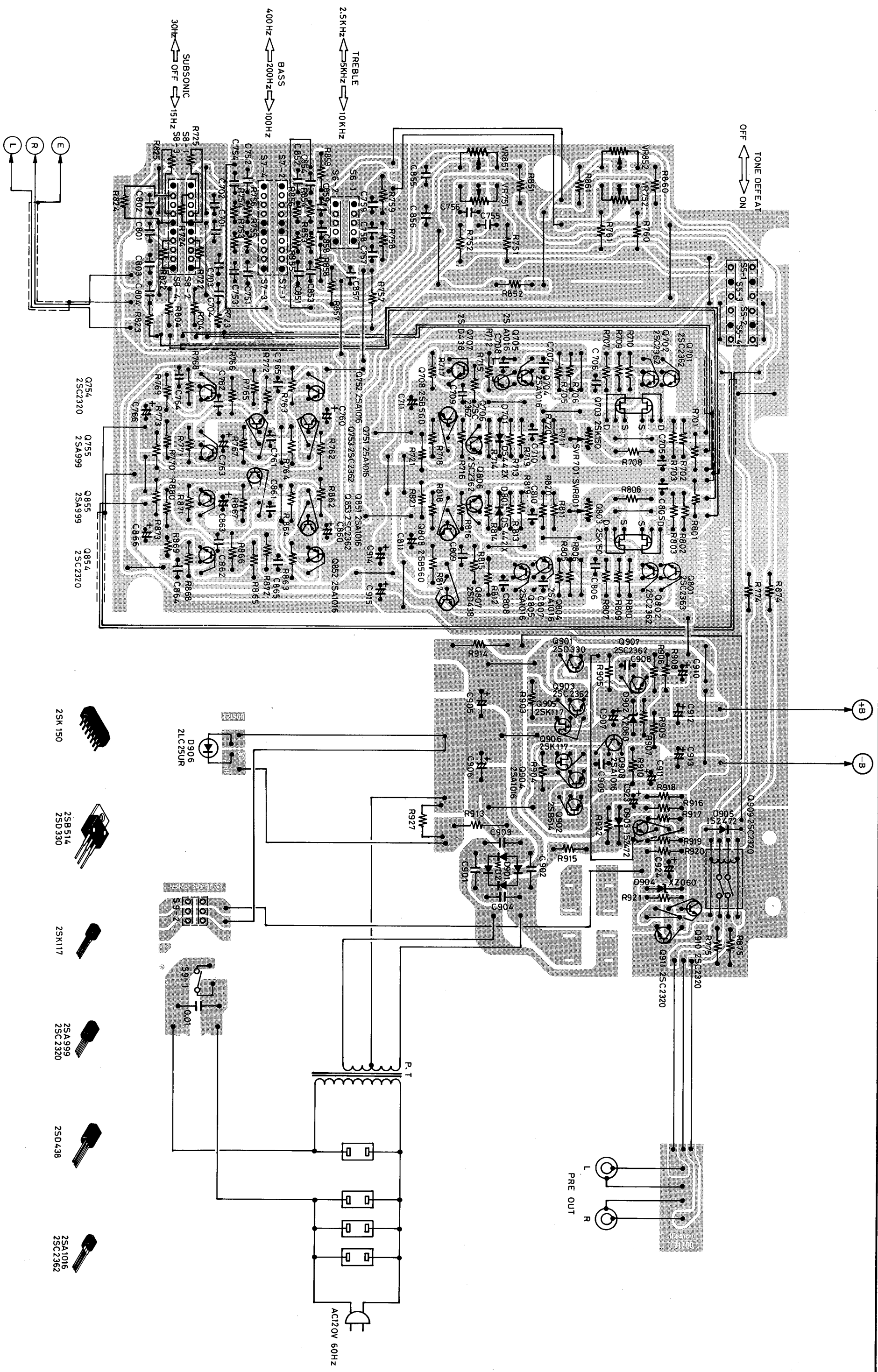
- S1-1 ~ 4.....SELECTER SWITCH (MC-MM-TUNER-AUX)
- S2-1 ~ 4.....DUBBING SWITCH (1-2-SOURCE-2-1)
- S3-1 ~ 4.....MONITOR SWITCH (1-SOURCE-2)
- S4-1 ~ 2.....MODE SWITCH (STEREO-MONO)

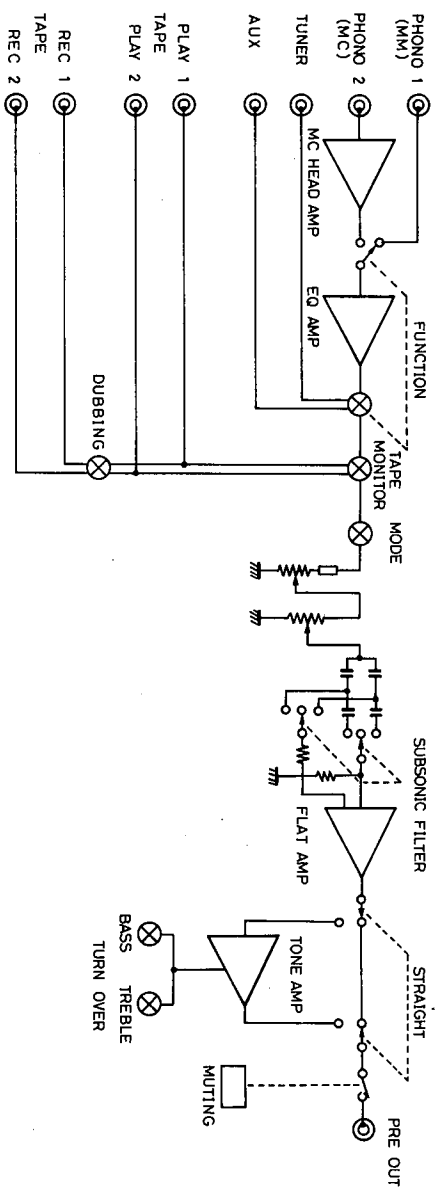


-  2SK146
-  2SA995
-  2SA1083
-  2SA999
-  2SC2320
-  2SD438
-  2SA1016
-  2SC2362



- S5-1-4---TONE DEFEAT SWITCH(OFF-ON)
- S6-1-2---TREBLE TURNOVER SWITCH(25KHZ-5KHZ-10KHZ)
- S7-1-4---BASS TURNOVER SWITCH(400HZ-200HZ-100HZ)
- S8-1-4---SUBSONIC SWITCH(30HZ-OFF-15HZ)
- S9-1-2---POWER SWITCH(OFF-ON)





PARTS LOCATION

