

SERVICE MANUAL

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)

0.003%

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.

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

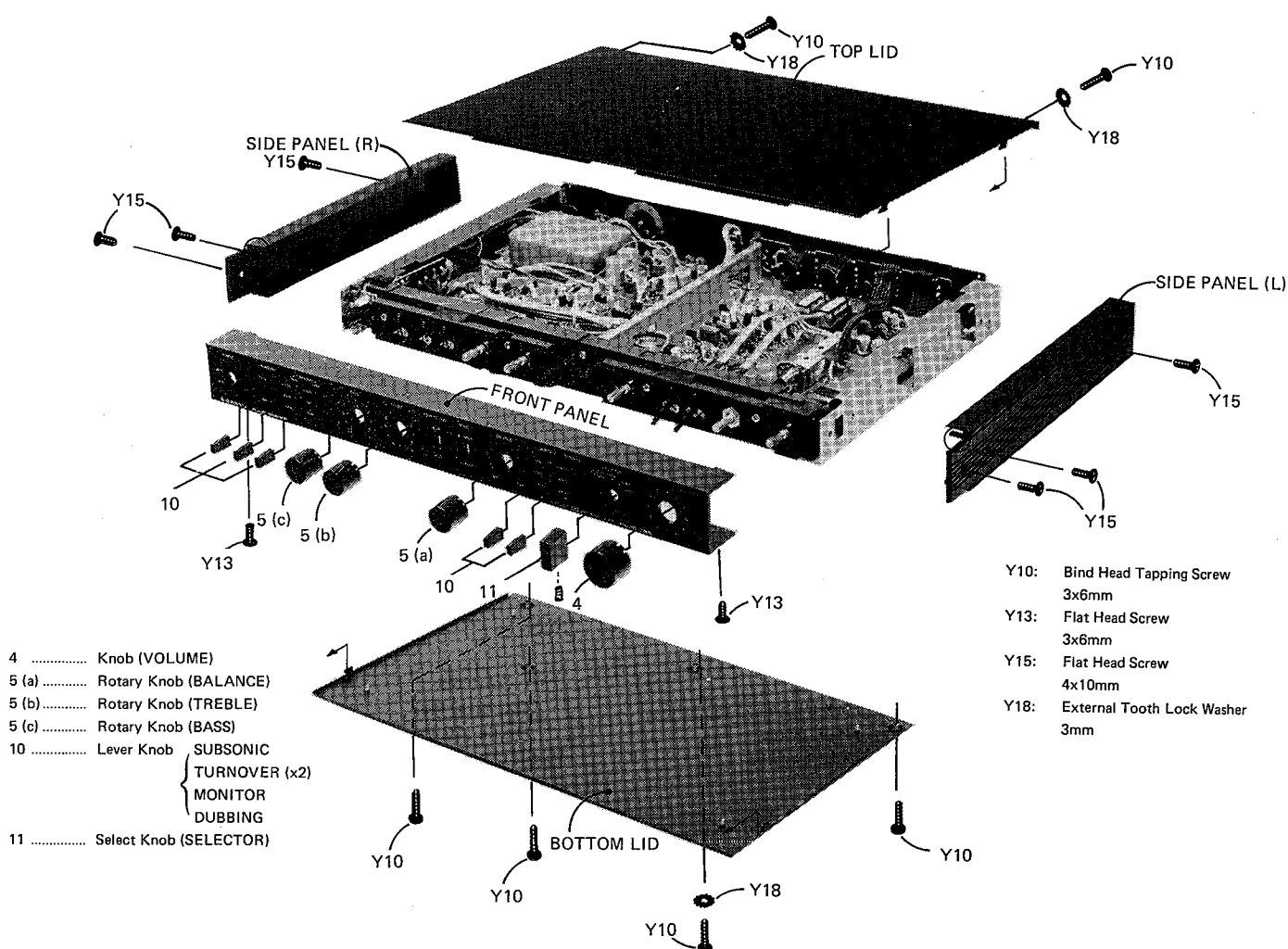
Unscrew two screws (Y10) (Bind head tapping, 3 x 6 mm) used to fasten the top lid, together with washers (Y18) (External tooth lock washer 3 mm), slide the top lid toward the rear about 1 cm, and detach the lid upward.

(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.

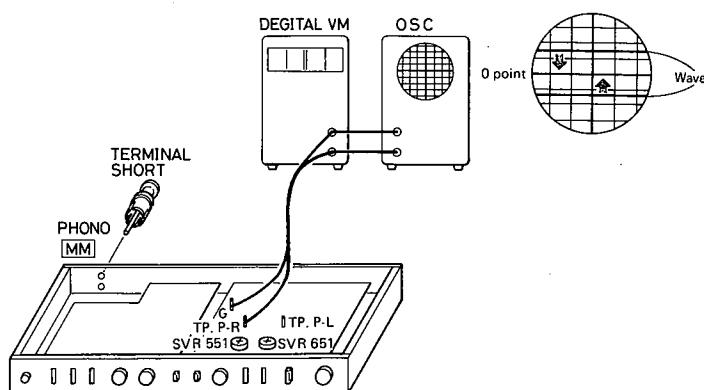
(4) How to detach the bottom lid

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

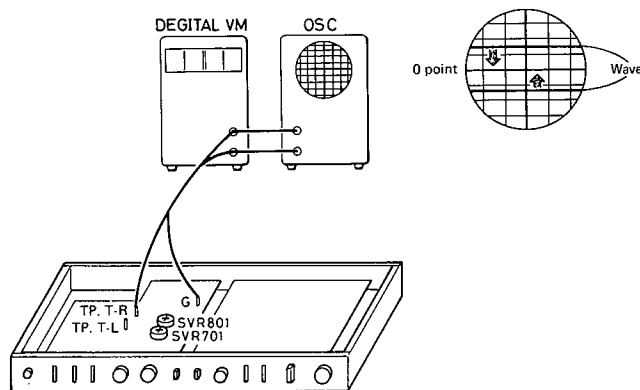
2. Set the switches and knobs of the set as follows:
 SELECTOR SW.: PHONO MM
 VOLUME VR.: Max
 BALANCE VR.: Center
 DUBBING SW.: Source
 MONITOR SW.: Source
 MODE SW.: Stereo
3. Short-circuit the input terminal and terminal PHONO MM as shown in the figure above.
4. Turn on the power, and adjust the SVR551 (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:



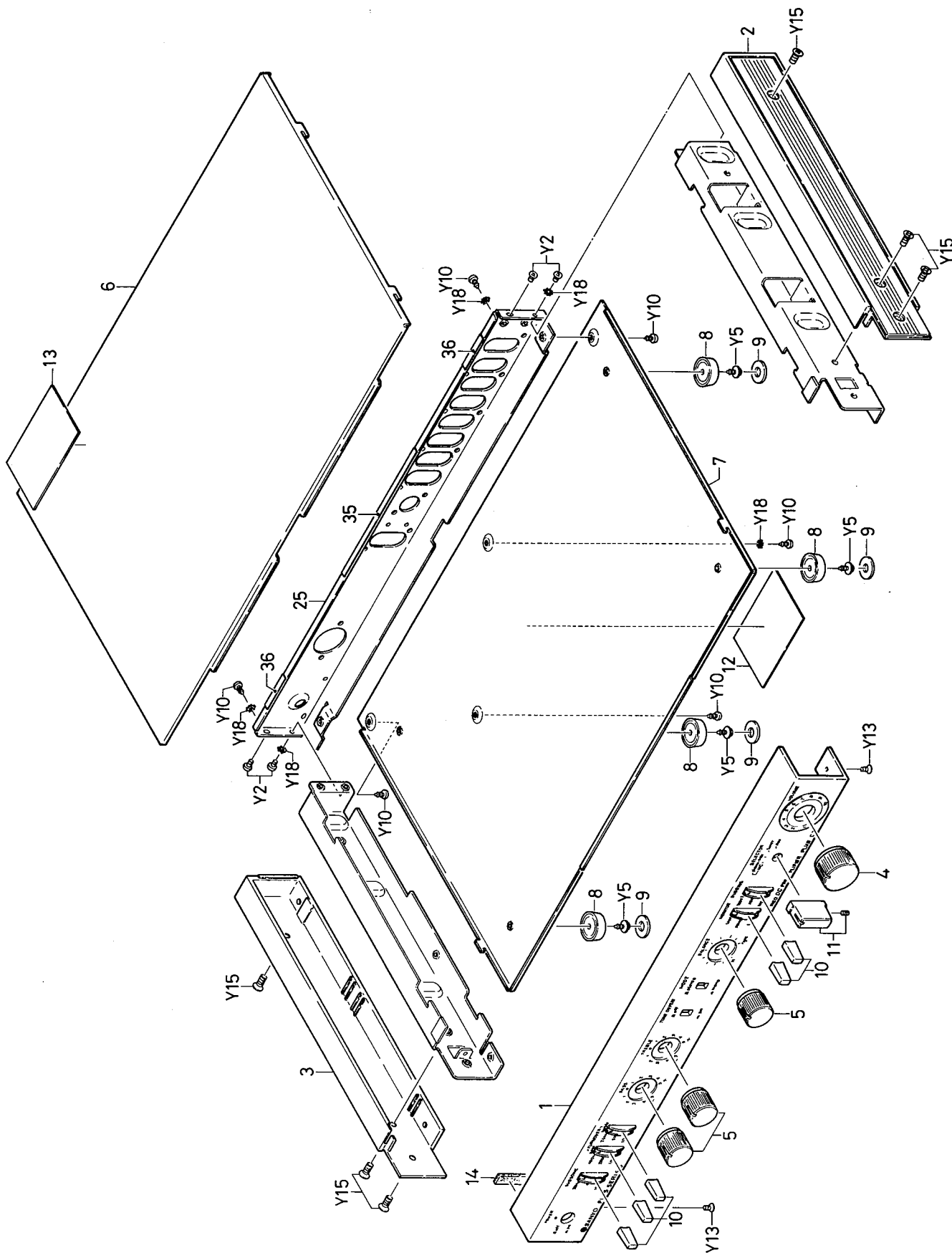
CONNECTION DIAGRAM

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.

EXPLODED (CABINET)



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

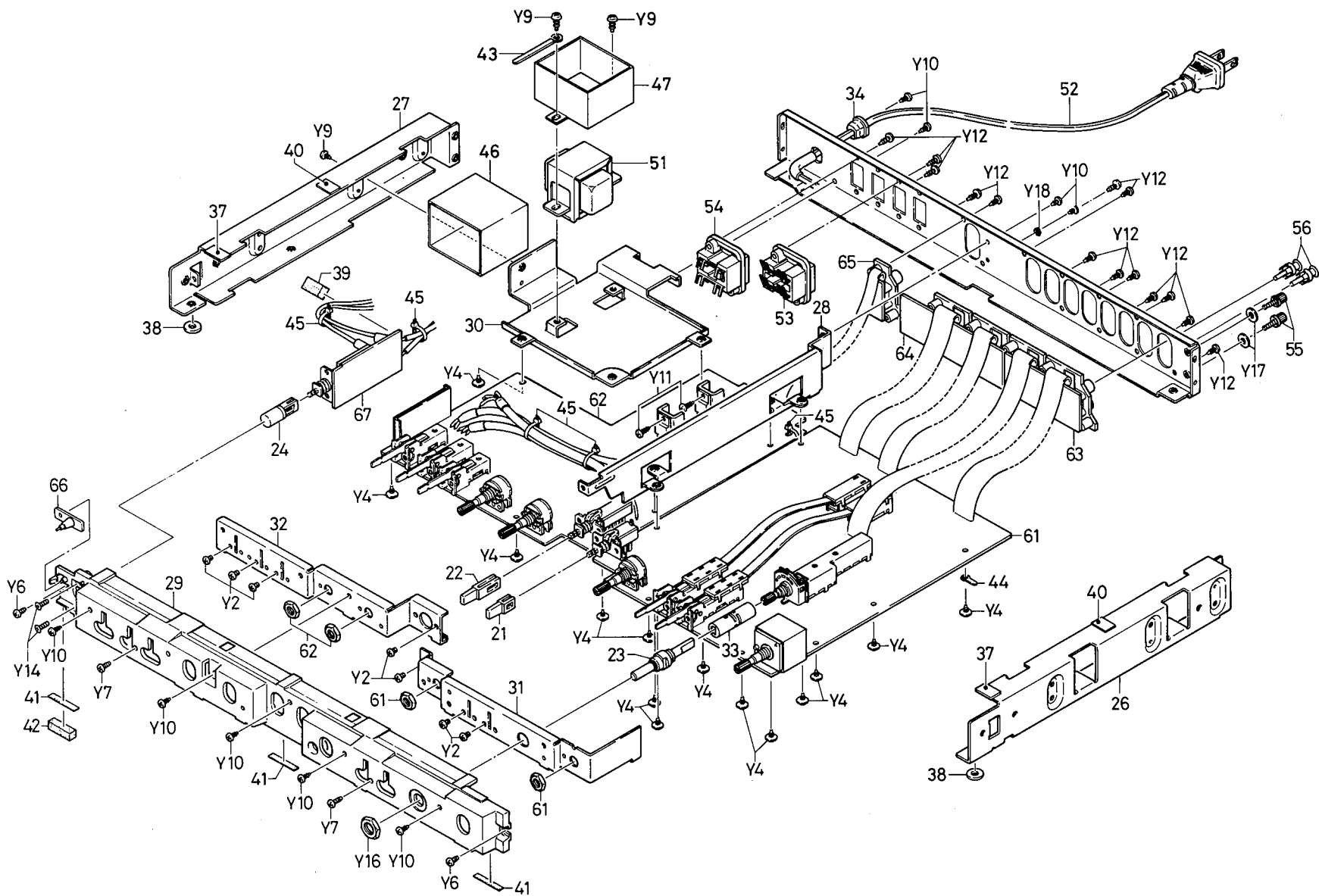
Key No.	Part No.	Description	Q'ty
SCREW MOUNTING			
Y1		Pan Head Screw, 2.6x8mm	2
Y2		Pan Head Screw, 3x4mm	9
Y3		Pan Head Tapping Screw, 3x14mm	1
Y4		Pan Head Tapping W/Washer Screw, 3x6mm	14
Y5		Pan Head Tapping W/Washer Screw, 3x8mm	4
Y6		Bind Head Screw, 3x6mm	2
Y7		Bind Head Screw, 3x8mm	2
Y8		Bind 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	2
		100 ohm DC Balance	
	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			

PARTS LIST

Key No.	Part No.	Description	Q'ty	Key No.	Part No.	Description	Q'ty
PHONO AMP PCB ASS'Y				TONE AMP PCB ASS'Y			
	CAPACITORS			62	141-4-233T-21471	P.C. Board Ass'y, Tone Amp.	1
C916,917		Electrolytic 100μF 35V	2	4-222T-80300	Variable Resistor, 100K-B, Tone		2
C918,919		Electrolytic 220μF 16V	2	4-238T-06900	Push Switch, Tone Defeat		1
C552,652		Electrolytic 10μF 16V	2	4-238T-07000	Lever Switch, Treble Turnover		1
C502,602	4-163T-04400	Electrolytic 100μF 10V	4	4-238T-07100	Lever Switch, Bass Turnover		1
503,603				4-238T-07200	Lever Switch, Subsonic Filter		1
C506,606	4-163T-04500	Electrolytic 1μF 50V	2	4-222T-62071	Semifixed Variable Resistor		2
C559,659	4-163T-04600	Electrolytic 4.7μF 25V	2		100 ohm DC Balance		
C551,651		Styrol 100pF 50V ±5%	4	4-232T-04500	Relay		1
501,601				141-2-322T-54100	Shield Plate		1
C557,657		PP Con 0.12μF 100V ±2%	2	141-2-368T-18700	Heat Sink		2
C556,656		PP Con 0.035μF 100V ±2%	2	141-2-246T-17202	Sheet		1
C555,655		Mylar 0.047μF 50V ±20%	2	Q703,803	Transistor FET 2SK150		2
C558,658		Mylar 0.0047μF 50V ±10%	2	Q905,906	Transistor FET 2SK117		2
C560,660		Mylar 0.0022μF 50V ±5%	2	Q704,804	Transistor 2SA1016		6
C553,653		Mylar 0.001μF 50V ±10%	2	705,805			
C504,604		Ceramic 220pF 50V ±10%	4	751,851			
505,605				Q752,852	Transistor 2SA1016		4
C554,654		Ceramic 100pF 50V ±10%	2	904,908			
C925,926		Ceramic 0.01μF 50V +80-20%	2	Q701,801	Transistor 2SC2362		6
	RESISTORS			702,802			
R516,616		Carbon 100K ohm ±5% ¼W	4	706,806			
577,677				Q753,853	Transistor 2SC2362		4
R553,653		Carbon 33K ohm ±5% ¼W	4	903,907			
559,659				Q708,808	Transistor 2SB560		2
R562,662		Carbon 27K ohm ±5% ¼W	2	Q707,807	Transistor 2SD438		2
R560,660		Carbon 22K ohm ±5% ¼W	2	Q755,855	Transistor 2SA999		2
R554,654		Carbon 8.2K ohm ±5% ¼W	2	Q754,854	Transistor 2SC2320		5
R578,678		Carbon 4.7K ohm ±5% ¼W	2	909,910			
R563,663		Carbon 1K ohm ±5% ¼W	2	911			
R511,611		Carbon 820 ohm ±5% ¼W	4	Q902	Transistor 2SB514		1
564,664				Q901	Transistor 2SD330		1
R509,609		Carbon 560 ohm ±5% ¼W	4	D901	Diode W02		1
510,610				D701,801	Diode DS442 X		2
R567,667		Carbon 470 ohm ±5% ¼W	4	D903,905	Diode 1S2472		2
576,676				D902,904	Zener Diode XZ060		2
R517,617		Carbon 100 ohm ±5% ¼W	6		CAPACITORS		
557,657				C901,902	Ceramic 0.01μF 500V		4
565,665				903,904	+80-20%		
R566,666		Carbon 82 ohm ±5% ¼W	2	C908,909	Ceramic 0.001μF 50V ±10%		2
R575,675		Carbon 56 ohm ±5% ¼W	2	C764,864	Ceramic 150pF 50V ±10%		2
R512,612		Carbon 22 ohm ±5% ¼W	4	C707,807	Ceramic 100pF 50V ±10%		2
513,613				C761,861	Ceramic 18pF 50V ±10%		2
R558,658		Carbon 3.3 ohm ±5% ¼W	2	C708,808	Ceramic 12pF 50V ±10%		2
R567,667		Carbon 680 ohm ±5% ¼W	2	C705,805	Ceramic 10pF 50V ±10%		6
R911,912		Metal 680 ohm ±5% 1W	2	710,810			
R552,652		Metal 51K ohm ±1% ¼W	2	765,865			
R573,673		Metal 22K ohm ±1% ¼W	2	C905,906	Electrolytic 470μF 50V		2
R505,605		Metal 18K ohm ±1% ¼W	4	C923	Electrolytic 2.2μF 50V		1
506,606				C912,913	Electrolytic 220μF 35V		2
R572,672		Metal 4.7K ohm ±1% ¼W	2	C910,911	Electrolytic 4.7μF 35V		4
R571,671		Metal 2K ohm ±1% ¼W	2	914,915			
R503,603		Metal 1K ohm ±1% ¼W	6	C924	Electrolytic 100μF 16V		1
504,604				C907	Electrolytic 100μF 10V		1
507,607				C763,863	Electrolytic 220μF 10V		2
R508,608		Metal 1K ohm ±1% ¼W	4				
561,661				C711,811	Electrolytic Nonpolar		4
R570,670		Metal 180 ohm ±1% ¼W	2	766,866	4.7μF 25V		
R555,655		Metal 150 ohm ±1% ¼W	4	C760,860	Electrolytic Nonpolar		2
556,656					1μF 50V		
R502,602		Metal 120 ohm ±1% ¼W	4	C709,809	Mylar 0.047μF 50V ±20%		4
514,614				762,862			
R574,674		Metal 47 ohm ±1% ¼W	2	C751,851	Mylar 0.047μF 50V ±5%		4
R551,651		Metal 10 ohm ±1% ¼W	2	752,852			
R515,615		Metal 4.7 ohm ±1% ¼W	2	C703,803	Mylar 0.039μF 50V ±5%		4
R568,668		Carbon 22 ohm ±5% ¼W	4	704,804			
569,669				C753,853	Mylar 0.015μF 50V ±5%		2
R923,924		Carbon 10 ohm ±5% ¼W	2	C754,854	Mylar 0.015μF 50V ±5%		6
				755,855			
				756,856			
				C757,857	Mylar 0.0015μF 50V ±5%		4
				759,859			
				C706,806	Mylar 0.001μF 50V ±10%		2

[illegible]

Key No.	Part No.	Description	Q'ty
TONE AMP PCB ASS'Y			
RESISTORS			
R707,807 926		Carbon 100 ohm ±5% ¼W	3
SOCKET PCB ASS'Y			
63	141-4-233T-21571 4-235T-68671	P.C. Board Ass'y, Socket Socket 4P, Phono/Tuner/ AUX	1 2
C920,921		Ceramic Cap. 0.022µF 50V +80-20%	2
C922		Ceramic Cap 0.01µF 50V +80-20%	1
TAPE SOCKET PCB ASS'Y			
64	141-4-233T-21671 4-235T-68671	P.C. Board Ass'y, Tape Socket Socket, 4P, Tape 1,2	1 2
C923,924		Ceramic Cap. 0.01µF 50V +80-20%	2
REC OUT SOCKET PCB ASS'Y			
65	141-4-233T-21771 4-235T-68571	P.C. Board Ass'y, Rec Out Socket Socket 2P, Rec Out	1 1
LED PCB ASS'Y			
66	141-4-233T-21871 141-2-352T-11100	P.C. Board Ass'y, LED Spacer LED SLC-25UR	1 1 1
POWER SWITCH PCB ASS'Y			
67	141-4-233T-21971 4-231T-76500 4-238T-07811 4-233T-10000 4-237T-00171	P.C. Board Ass'y, Power Switch Push Switch) or Push Switch Capacitor 0.01µF Terminal Board	1 1 1 1 4



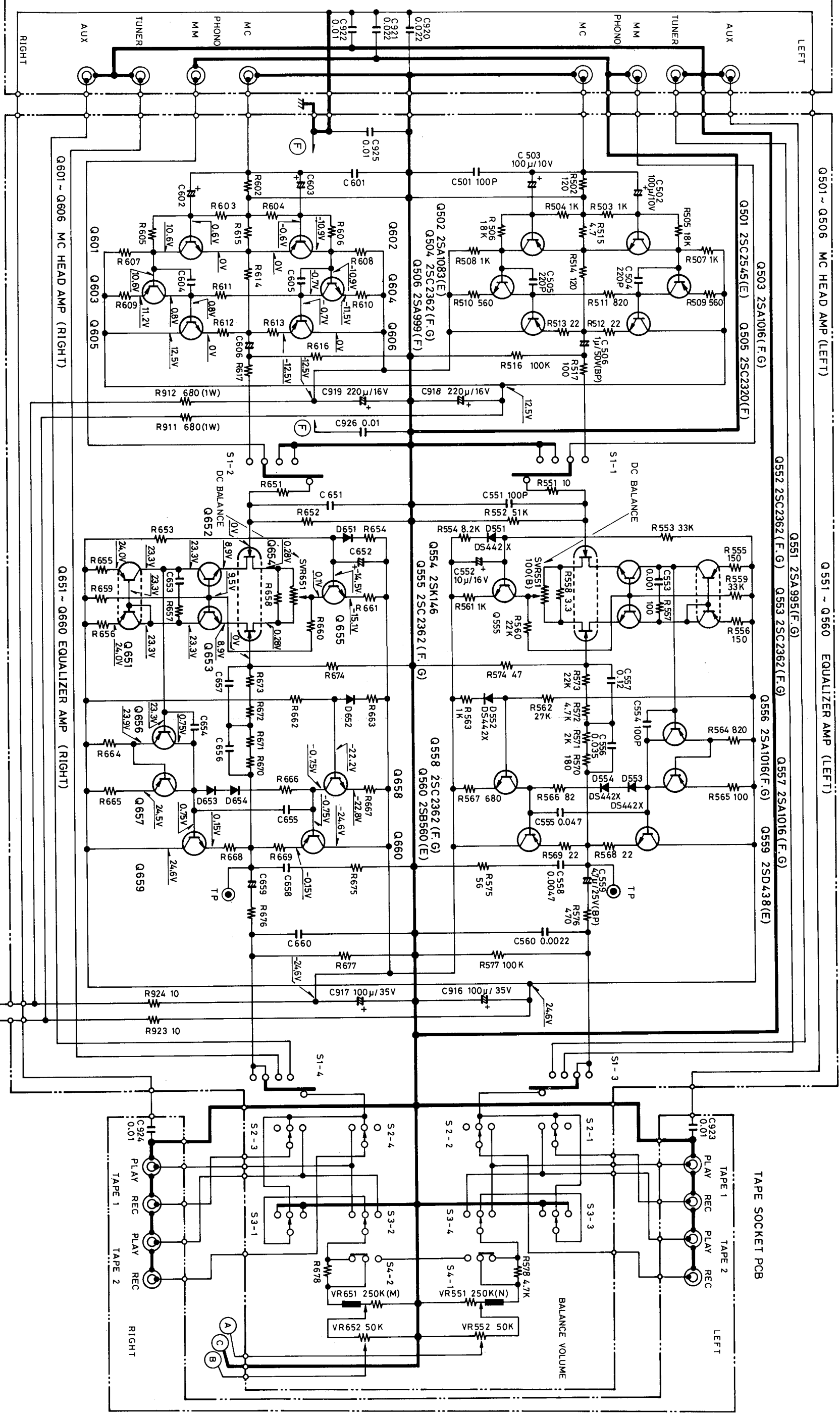
SCHEMATIC DIAGRAM (PHONO AMP)

INPUT SOCKET PCB

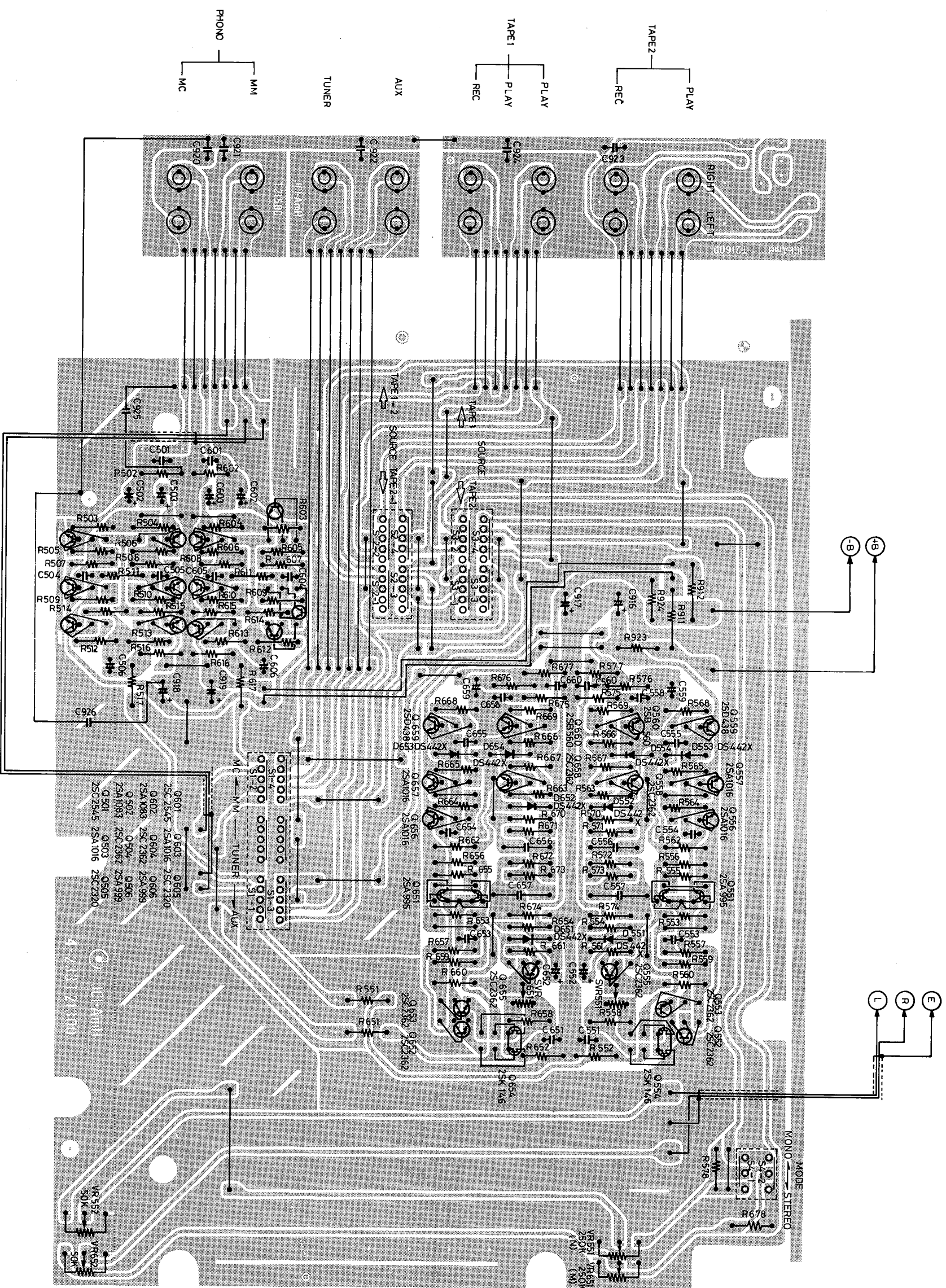
PHONO AMP PCB

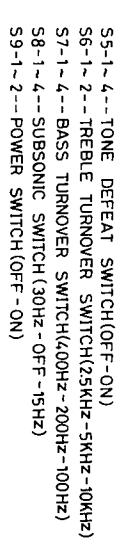
Q501 ~ Q506 MC HEAD AMP (LEFT)

Q551 ~ Q560 EQUALIZER AMP (LEFT)

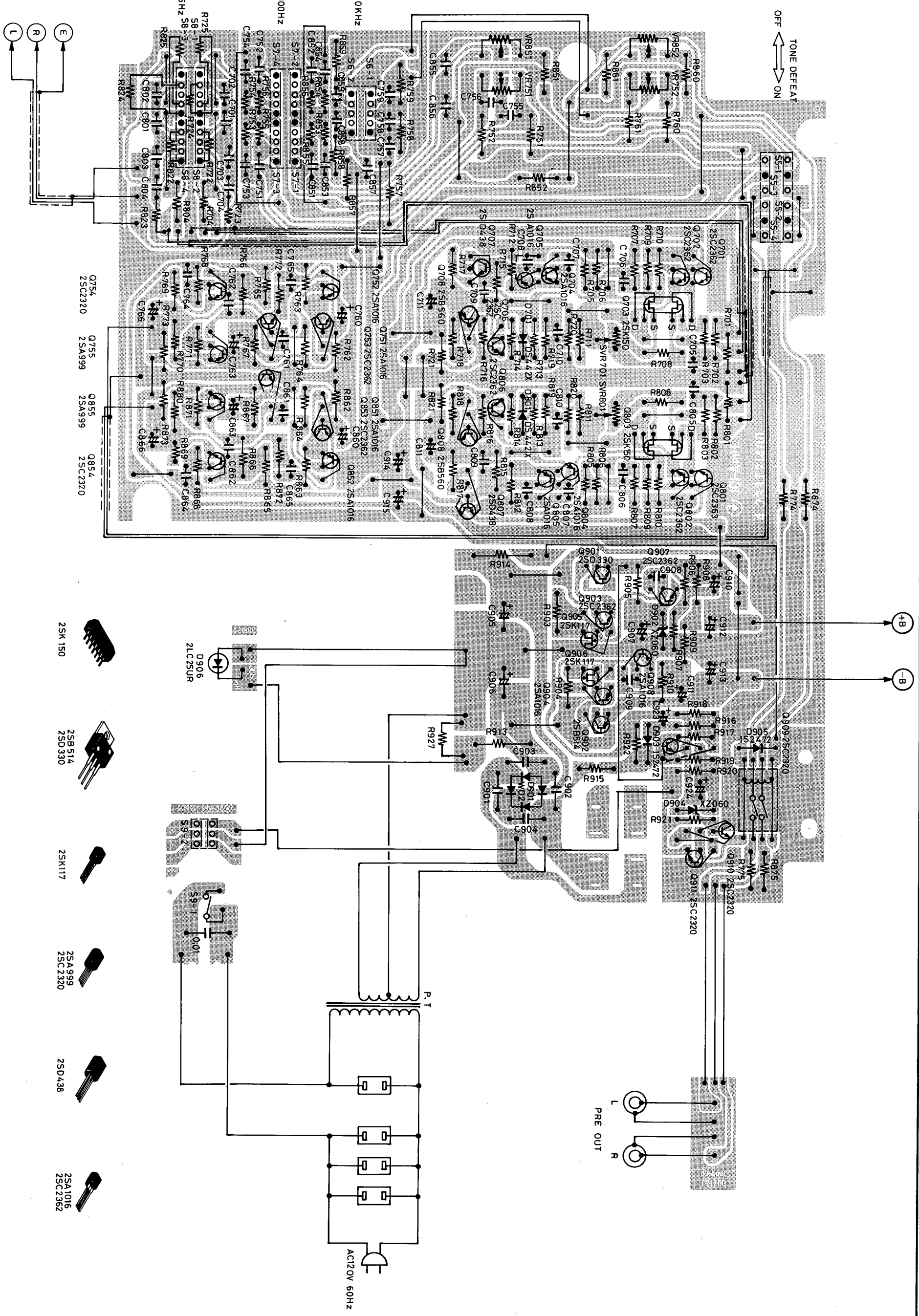


S1-1 ~ 4.....SELECTER SWITCH (MC-MM-TUNER-AUX)
S2-1 ~ 4.....DUBBING SWITCH (1-2-SOURCE-2-1)
S3-1 ~ 4.....MONITOR SWITCH (1-SOURCE-2)
S4-1 ~ 2.....MODE SWITCH (STEREO-MONO)

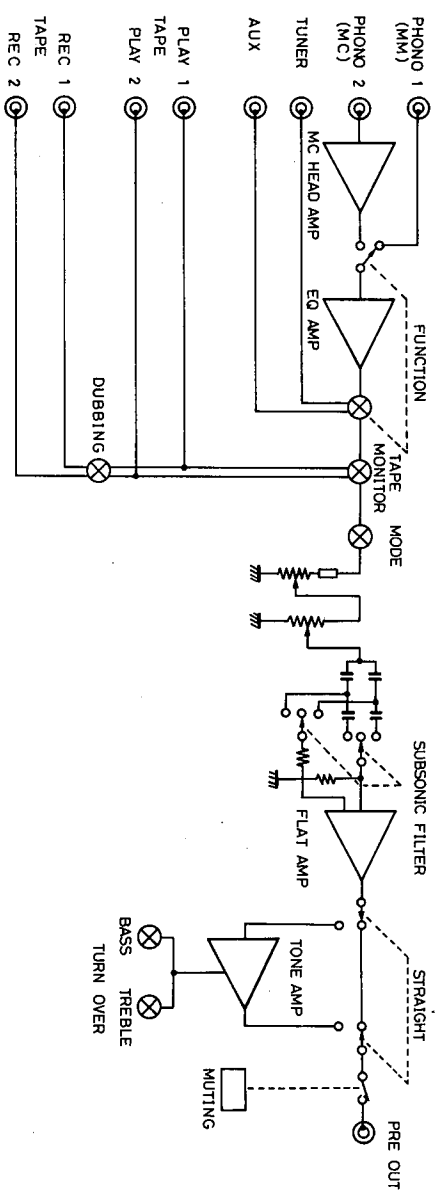




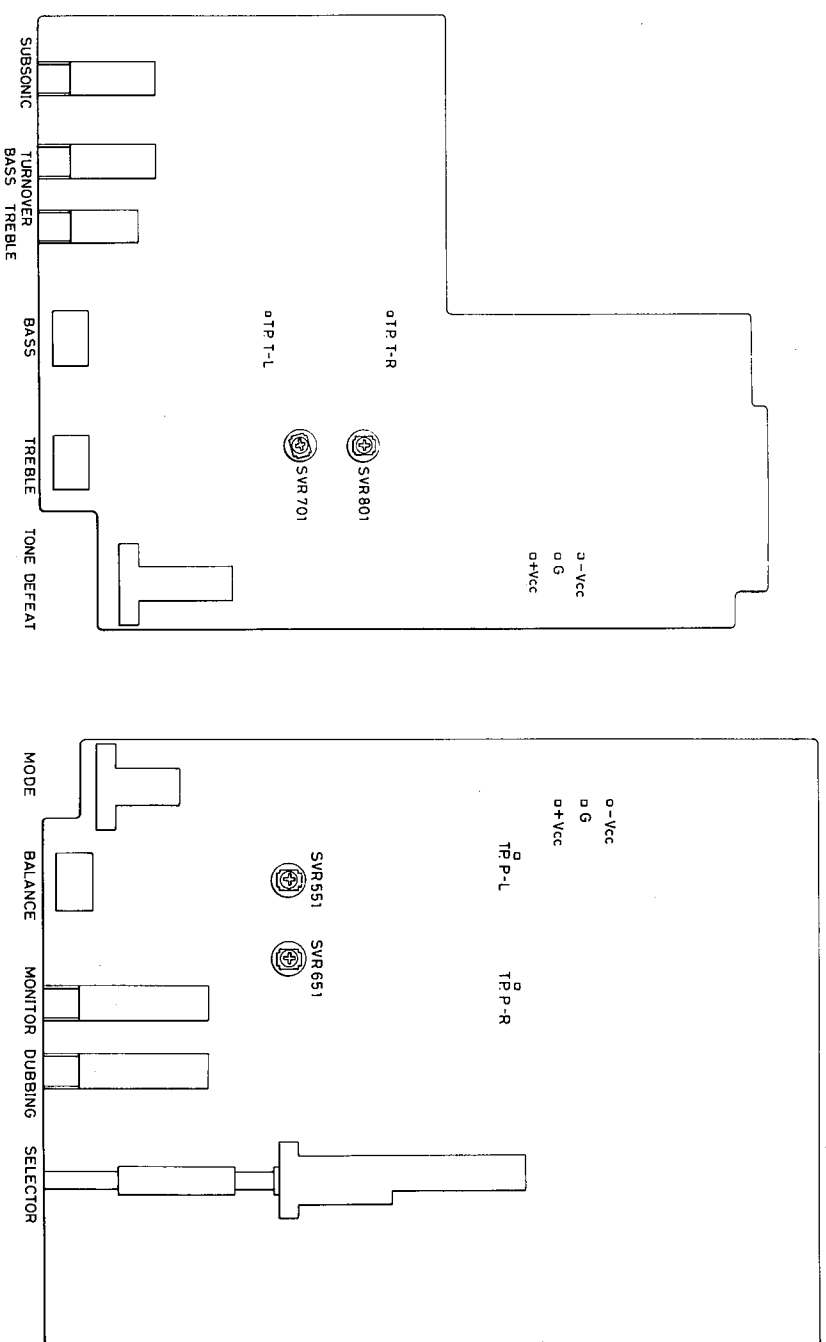
WIRING DIAGRAM (TONE AMP & POWER)



BLOCK DIAGRAM



PARTS LOCATION



SANYO ELECTRIC INC.
1200, West Artesia Blvd.,
P.O. Box 5177
Compton California 90220

Oct./'79/7000 EP Printed in Japan