

SERVICE MANUAL

STEREO AMPLIFIER



SANYO

PLUS A35

(AUSTRALIA)



SPECIFICATIONS

Continuous power	50 watts x 2 (at 8 ohms) (0.02% distortion) 55 watts x 2 (at 4 ohms) (0.03% distortion)	Tone control response	
Total harmonic distortion	0.015% (25W output, 8 ohms)	BASS	±10dB (at 100Hz)
Intermodulation distortion (60Hz:7kHz — 4:1 AUX)	0.015% (25 watts output, 8 ohms)	TREBLE	±10dB (at 10kHz)
Transient response: Slew rate	90V/μsec	Subsonic filter response	30Hz (—12dB/oct.)
Damping factor	50 (at 1kHz 8 ohms)	High filter response	8kHz (—6dB/oct.)
Input sensitivity and impedance		Loudness control response	
PHONO (MM)	2.5mV/47 kohms	at 100Hz	+8dB
PHONO (MC)	0.25mV/100 ohms	at 10kHz	+3dB
AUX/TUNER/TAPE	150mV/47 kohms	Signal to noise ratio	
Phono overload level		PHONO (MM)	85dB (at 2.5mV)
PHONO (MM)	250mV	PHONO (MC)	70dB (at 0.25mV)
PHONO (MC)	25mV	AUX/TAPE	95dB
Output level		Power requirements	AC: 240V, 50Hz
TAPE 1 REC/TAPE 2 REC	150mV	Power consumption	130W
Frequency response		Dimensions	Approx. 440(W) x 270(D) x 88(H)mm (17-3/8" x 10-11/16" x 3-1/2")
PHONO (MM)/PHONO (MC)	±0.2dB (RIAA 20Hz — 20kHz)	Weight	Approx. 8.7kg (19 lbs. 3 ozs.)
AUX/TAPE	±0.5dB (20Hz — 20kHz)		

* Specifications are subject to change without notice.

DISMOUNTING OF CABINET AND CHASSIS

(1) To dismount both side panels

Take out total 12 screws "Y16" (flat head, 4 x 8 mm) from both side panels.

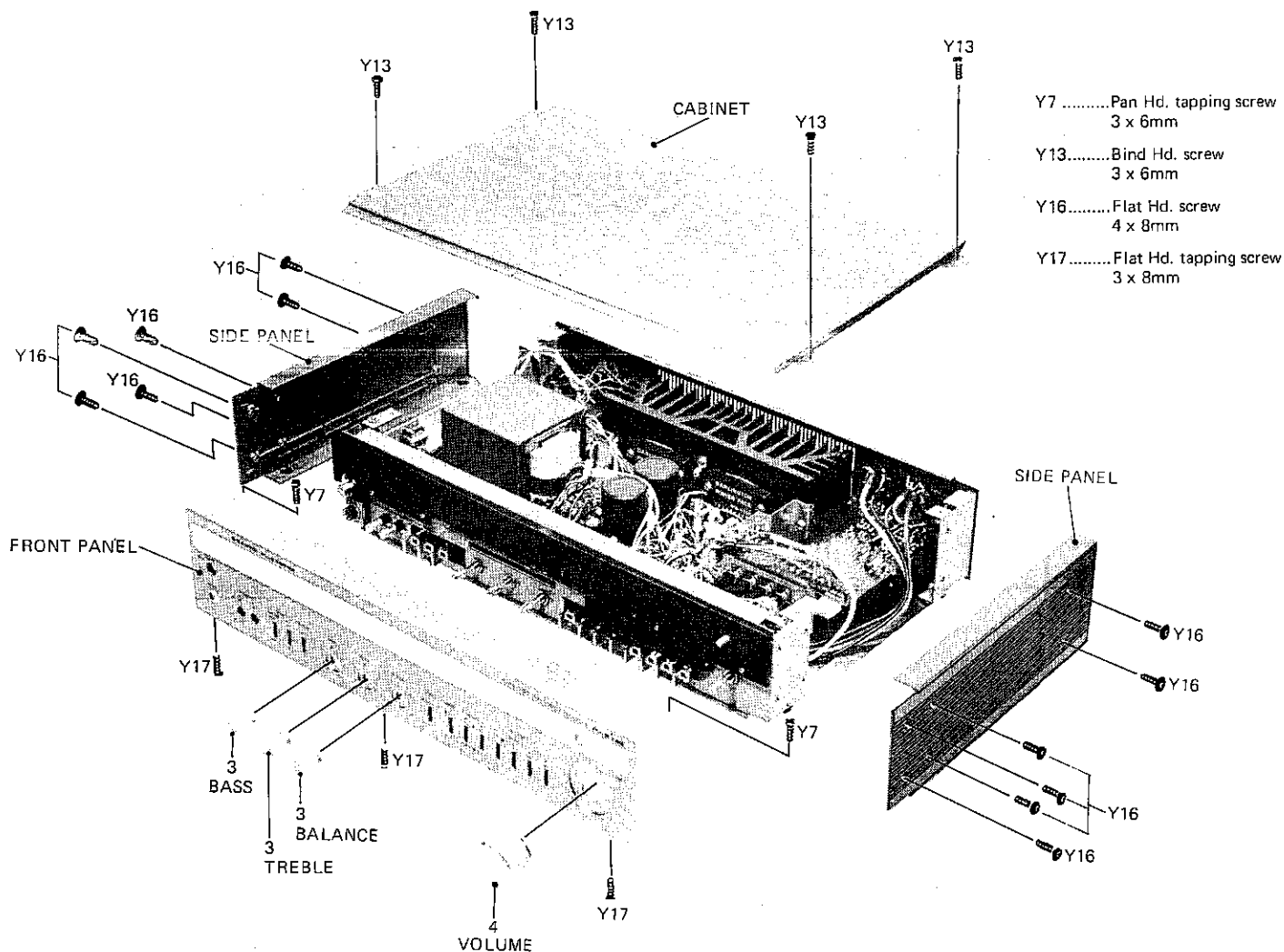
(2) To dismount the cabinet

Take out total 4 screws "Y13" (binding head, 3 x 6 mm) from cabinet.

(3) To dismount the front panel

- a. Remove volume control knob (4), bass and treble knobs (3), and balance control knob (3) — four knobs in all.

b. Take out screws "Y17" (flat head tapping screw, 3 x 8 mm) and "Y7" (pan head tapping screw, 3 x 6 mm) – five pieces in all – from front panel, then the front panel can be dismantled.



POWER LEVEL METER

The power level meter consists of a total of 24 LEDs, 12 each for the left and right channels. Colored "yellow" from 0 to 25W and "red" from 50 to 200W, they indicate peak values in 12 steps of: 0, 0.1, 0.25, 0.5, 1, 2.5, 5, 10, 25, 50, 100 and 200W.

Keep the POWER DISPLAY RANGE switch (S16) depressed when the power level is low. Then, the level meter readings will be: "values on display x 0.1". Push the switch again when the power level rises and any of the red LEDs for each channel goes on. The switch will then pop out and the power level meter readings will be: "Values on display x 1".

***NOTE:** The power level meter displays correct output levels, provided that the impedance of the speaker systems is 8 ohms. At other impedance values, its readings will fail to correspond to the actual output values.

(CIRCUIT OPERATION)

The audio output signal from the power amplifier in the last stage enters the absolute value detector (IC301/IC401), where it is transformed into a DC waveform. (cf. FIG. 1)

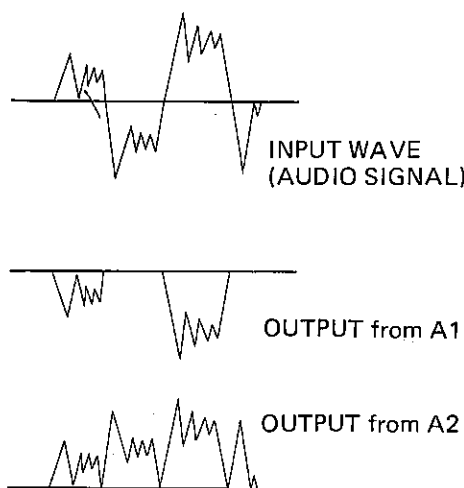


Fig. 1 Waveform after absolute value detection

A1 is the half-wave rectifier circuit which employs an OP amp (operation amplifier). It rectifies and inverts the waveform on the positive side of the voltage that comes in at the input and applies what is thus produced to R307.

Accordingly, the voltage that appears at the output of A2 is proportionate to the input voltage since the amplified waveform goes further through the inversion process. After the above, the output signal of A2 is led to the peak value holder circuit (IC302/IC402) where its peak value is detected and held so as to Keep the corresponding LED glowing sufficiently long for visual observation. Once a peak value is detected, this circuit holds its output voltage at a constant level for a specific length of time (T) unless a higher voltage is applied. The value T is approximately 50 msec. and is determined by the time constant of C301 and R311. (cf. Fig. 2)

This output waveform is impressed upon the negative inputs of the 11 comparators parallel-connected to one another in one group for each of the channels. From the stabilizing power supply, reference voltages for the purpose of comparison (see Table 1) are resistance-divided and impressed upon positive inputs.

When the output waveform exceeds comparator reference voltages, voltages appear at outputs and drive LEDs on. Note in this connection that SVR300/SVR400 is employed for setting the reference voltages.

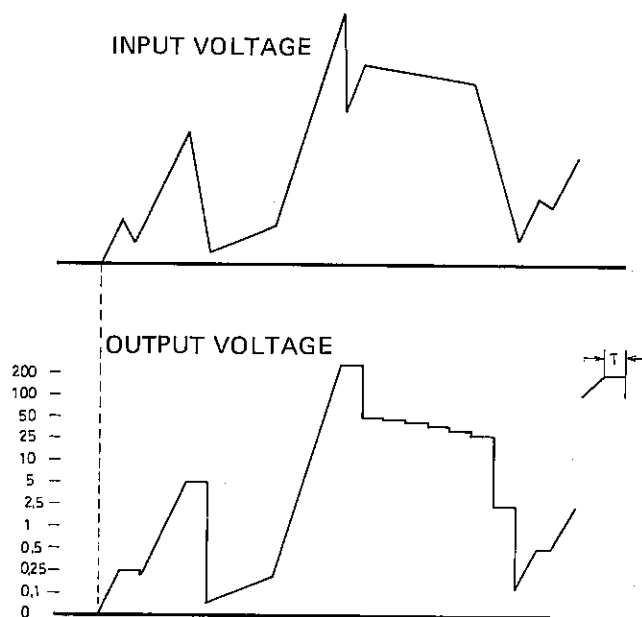


Fig. 2 Waveform for holding peak value

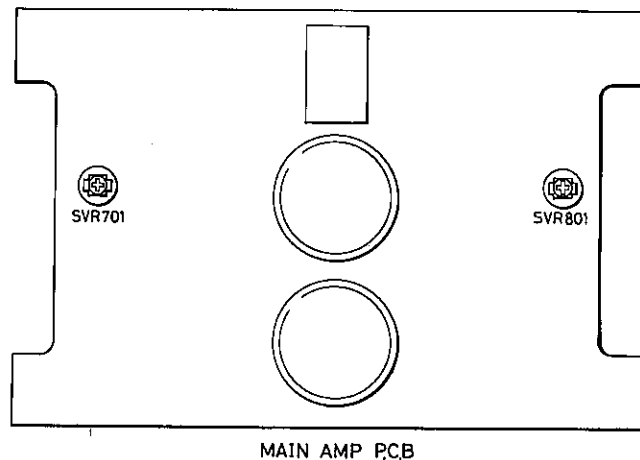
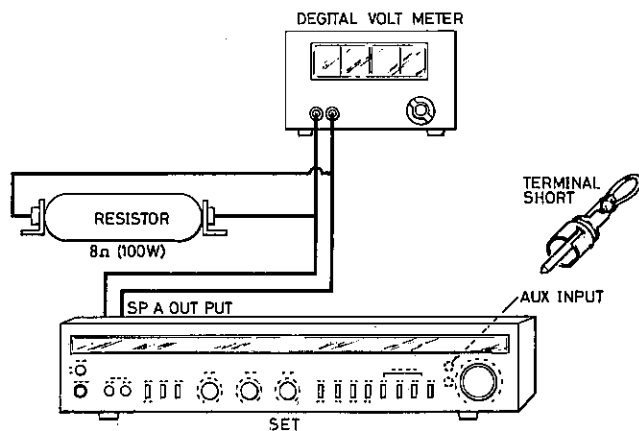
It should be noted that LED 1, which is resistance-coupled to the power supply, functions as the power indicator.

Although $\pm 20V$ is used as power supply to the absolute value detector, voltages on the primary and secondary sides differ from each other in rising time (when switching on power supply). This is because the time constant is varied in the power supply circuit.

In actual operation, the positive voltage is impressed earlier than the negative voltage, so that all LEDs go on (for 1 to 2 seconds) as power is switched on at the source.

LED No.	1	2	3	4	5	6	7	8	9	10	11	12
Power Display Range (W)	0	0.1	0.25	0.5	1	2.5	5	10	25	50	100	200
Reference Voltage	0	mv 150	mv 250	mv 350	mv 500	mv 770	v 1.1	v 1.6	v 2.6	v 3.8	v 5.3	v 7.5

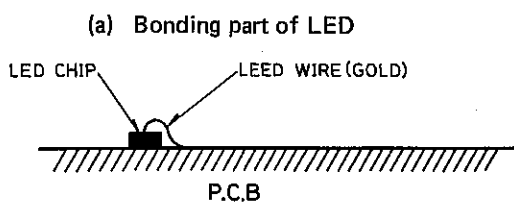
Table 1 Reference voltage for comparison



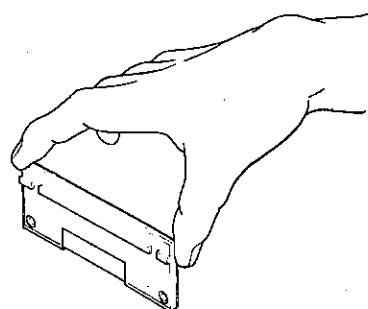
HANDLING INSTRUCTIONS OF LED

(1) Cautions for carrying and storing

LED (55) is bonded to LED chip with ultra-thin wire in the printed circuit board. The wire may be easily broken by a slight mechanical force (touching, dropping, etc.). It is a very delicate and fragile part. So handle with greatest care.



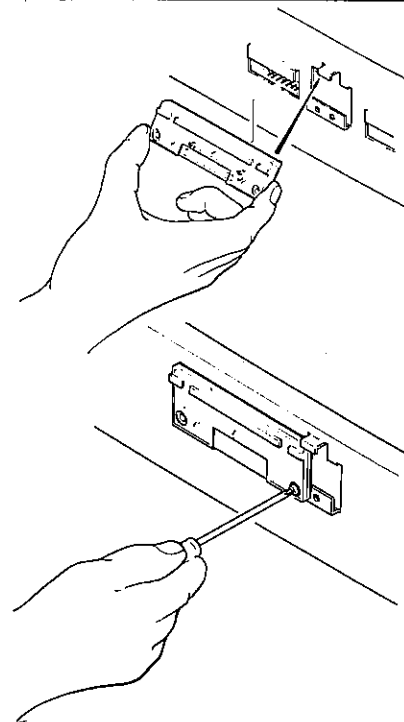
(a) Bonding part of LED



A protective cover is furnished to LED. But never touch the chip. Also, do not remove cover except when mounting.

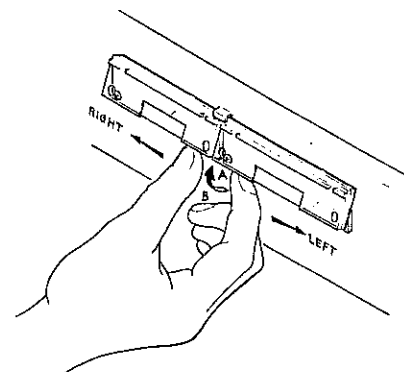
(2) Cautions for repairing (mounting)

- 1) Hold the ends of LED with both hands, catch on the upper hook (sketch), and connect plug socket.
- 2) When connecting, push in the plug part of meter PCB (84) and the socket part of LED. (Do not apply force to other parts.)
- 3) Tighten screw (Y7 pan head tapping screw, 3 x 6 mm). Use care not to squeeze the cover with the screw head.



(3) Removal of cover

- 1) Remove the cover just before fitting the bracket (20, smoked cover).
- 2) Hold part A with fingers, lift in the direction of arrow B, and slide out to the right or left with care not to be caught by the LED chip.
- 3) Since the cover is fastened with adhesive tape, cut it off before removing the cover.

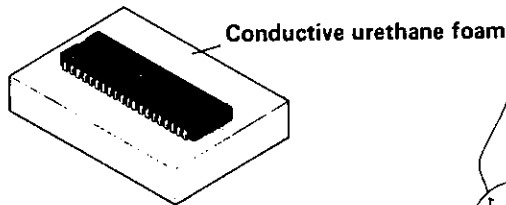


SUGGESTIONS FOR HANDLING LSI AND C MOS

1. In the case of transit or storage

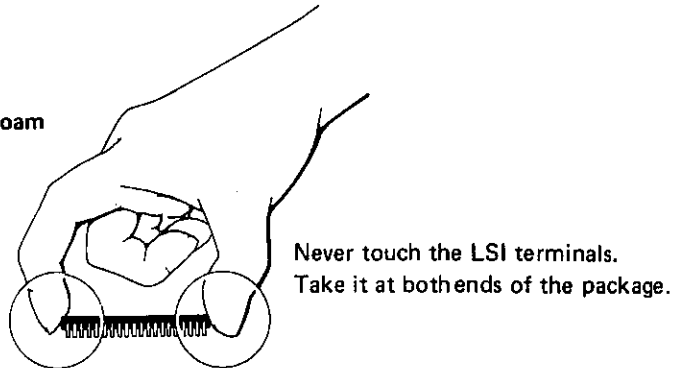
LSI (large-scale integrated circuit) is extremely sensitive and vulnerable to static electricity, and may be damaged if it is exposed to a strong electrostatic field. So, be careful to avoid such a possibility when carrying or storing LSI's. Similar care is necessary in handling C MOS's.

(a) To store the LSI



Be sure to keep the LSI inserted in the conductive urethane foam until it is put to use. (This is for keeping the potential at each terminal equal.)

(b) How to handle the LSI

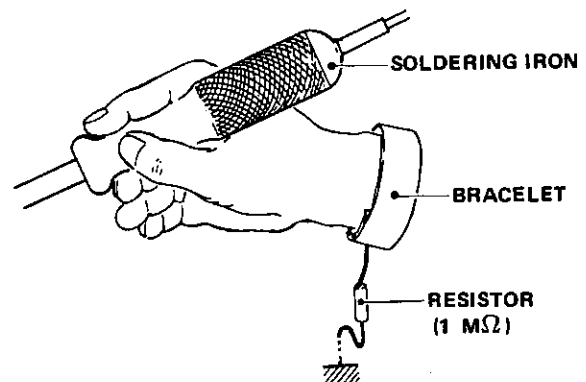
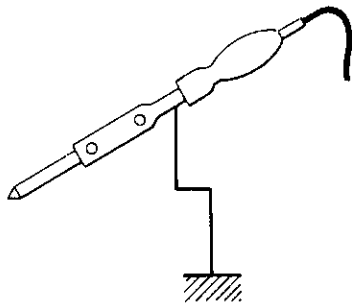


(c) To store the LSI, avoid places where temperature or humidity is high, or where there is a strong magnetic field.

2. Suggestions for repairing

(a) Before replacing the LSI, be sure to pull out the power plug.

(b) All the equipment, measuring instruments, and tools should be grounded.
Ground the work table by covering it a conductive sheet.



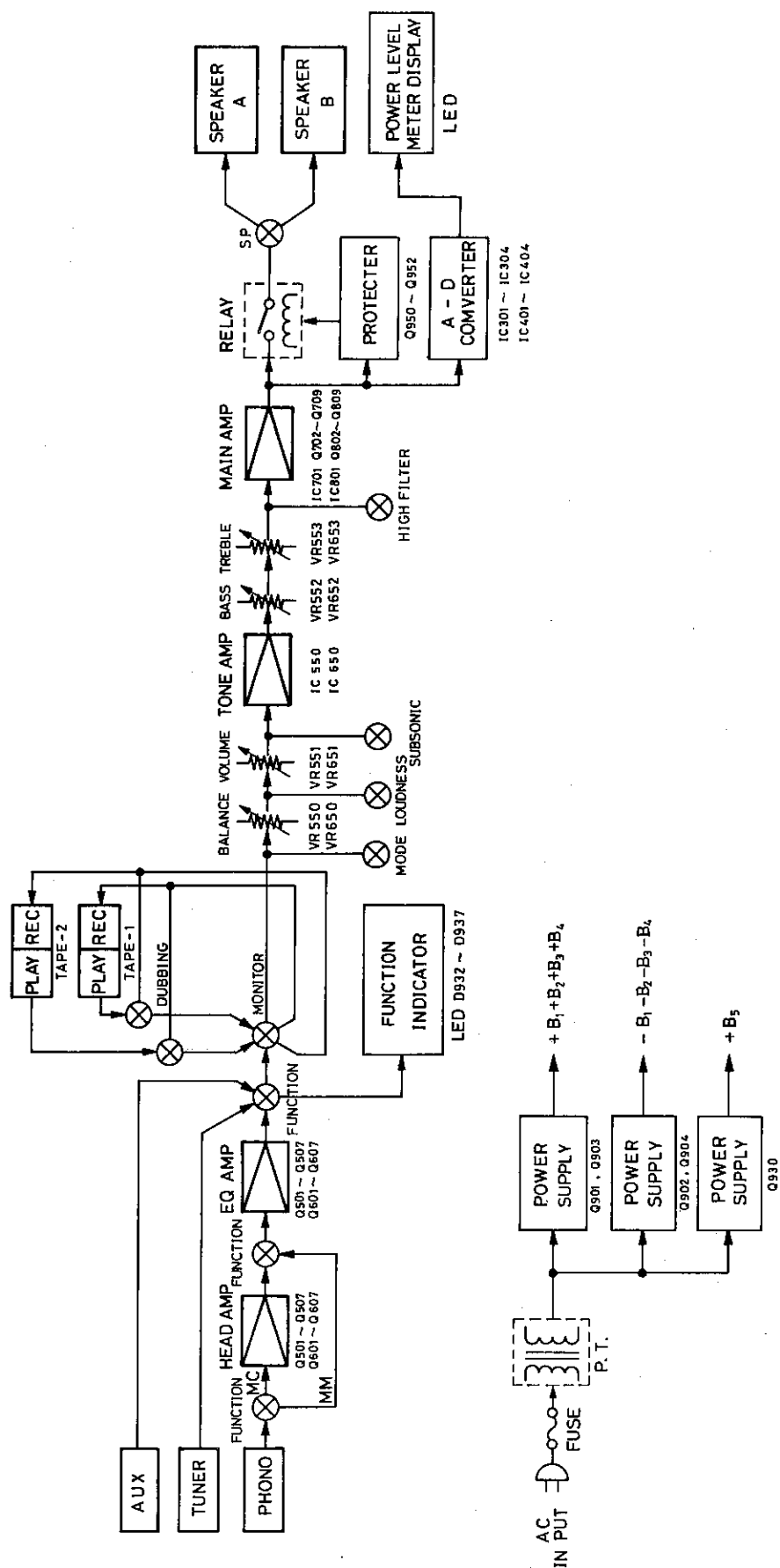
The repairman should ground his body electrically by touching the ground line with his hand before he handles the LSI.

3. Suggestions for replacement of LSI

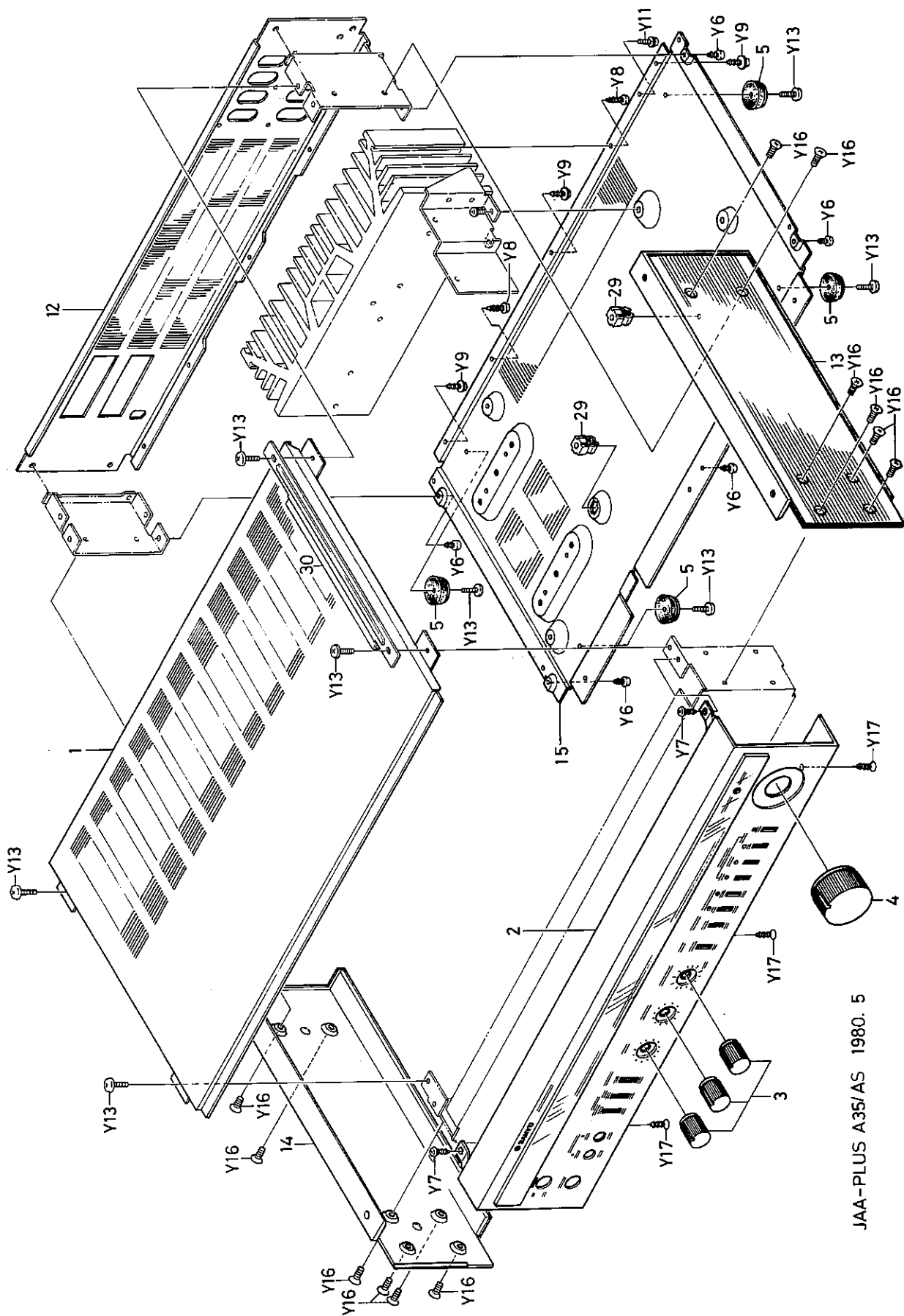
(a) There is a mark on one side of the LSI. This is for preventing you from inserting the LSI in a wrong way.

(b) If power is supplied to the unit with the LSI inserted in a wrong way, the LSI must be discarded. (The LSI may still be good immediately after, but it will break down in the course of use.)

BLOCK DIAGRAM



EXPLODED VIEW (CABINET)



JAA-PLUS A35/AS 1980. 5

PARTS LIST

Key No.	Part No.	Description	Q'ty
PACKING			
	141-6-133T-02905	Individual Carton	1
	141-6-144T-59900	Foam Plastic Case	2
	141-6-231T-45600	Inner Poly Cover, Set	1
	141-6-231T-10250	Inner Poly Cover, Power Cord	1
	141-6-231T-25350	Inner Poly Cover, Inst. Book	1
	141-6-231T-06100	Inner Poly Cover, Screw	1
	141-6-231T-15250	Inner Poly Cover, Screw	1
	141-6-410T-51300	Instruction Manual	1
	141-6-317T-19500	Pad	1
	123-6-453R-00100	Inspection Sheet	2
	141-6-331T-05500	Protector Sheet	2
	141-2-246T-37100	Sheet	1
	141-6-479T-26000	Label	2
	141-6-479T-24704	Label	1
ACCESSORY			
	4-243T-13375	Lead Cord RCA-RCA	2
		Flat Hd. Screw 4x12mm	8
		Flat Hd. Tapping Screw 3x4mm	4
	141-0-271T-16400	Bracket Ass'y, Handle	2
	141-2-171T-16500	Handle	2
CABINET			
1	141-2-111T-40030	Cabinet	1
2	141-0-122T-30002	Front Panel Ass'y	1
3	141-0-156T-21630	Knob Ass'y	3
4	141-0-156T-21530	Knob Ass'y	1
5	141-0-174T-05101	Stand Ass'y	4
CHASSIS			
11	141-2-221T-08800	Bracket, Panel	1
12	141-2-126T-29909	Back Lid	1
13	141-0-123T-04032	Side Panel Ass'y	1
14	141-0-123T-04132	Side Panel Ass'y	1
15	141-2-311T-32100	Chassis	1
16	141-2-161T-65530	Push Button	7
17	141-0-156T-21730	Knob Ass'y, Power Switch	1
18	141-0-156T-21830	Knob Ass'y, Speaker	2
19	141-0-156T-21930	Knob Ass'y, Power Level	1
20	141-2-210T-12400	Bracket, Level Meter	1
21	141-2-210T-12500	Bracket, Function Indicator	1
22	141-0-253T-17330	Joint Ass'y	4
23	141-2-310T-22700	Bracket, Phone PCB	1
24	141-2-310T-22800	Bracket, Main PCB Heatsink, L	1
25	141-2-310T-22900	Bracket, Main PCB Heatsink, R	1
26	141-2-310T-23000	Bracket, Back Lid	2
27	141-2-310T-28500	Bracket, SP Switch	1
28	141-2-310T-29500	Bracket, Fuse PCB	1
29	141-2-210T-08900	Bracket, Main PCB	2
30	141-2-310T-36700	Bracket	1
31	141-2-464T-14400	Fixer, Power Cord	1
32	141-2-453T-01000	Fiber Washer	2
33	141-2-246T-78400	Sheet 20x15x0.5mm	2
34	141-2-472T-01001	Lug	3
35	141-2-472T-01201	Lug	1
36	123-2-472R-10700	Lug	1
37	123-2-472R-00401	Lug	3
38	141-2-464T-08700	Fixer	2
39	141-2-464T-20671	Fixer	15
ELECTRICAL PARTS			
51	4-300T-13600	Power Trans	1
52	4-243T-84200	Power Cord	1
53	4-235T-44871	Socket, Headphone	1
54	141-2-382T-10600	Terminal, Earth	1
55	4-207T-00601	L.E.D. Ass'y	2
56	4-237T-08471	Terminal Board, Speaker	2
57	4-235T-39671	Socket, Tape 1, 2	2
58	4-231T-89800	Push Switch	1
59	4-222T-77200	Variable Resistor (VR 551, 651) Main VR	1

Key No.	Part No.	Description	Q'ty
MAIN AMP. & POWER SUPPLY PCB ASS'Y			
81	141-4-233T-03200	P.C.Board Ass'y, Main Amp. & Power Supply	1
VR701, 801	4-222T-62077	Semifixed Variable Resistor 1K ohm	2
	4-232T-05300	Relay 24V	1
L701,801	4-265T-05800	VHF Coil	2
	4-234T-01971	Fuse 800mA	1
	141-2-381T-04200	Bracket, Fuse	2
	141-2-368T-17500	Heatsink	1
	4-209T-01172	Pozistor 90°C	1
IC701, 801	4-206T-02800	I.C STK-0050	2
Q703,704		Transistor 2SA1019	4
803,804			
Q705,706		Transistor 2SC2375	6
707,805			
806,807			
Q709,809		Transistor 2SC2320	2
Q708,808		Transistor 2SA999	2
Q903,952		Transistor 2SD438	2
Q904		Transistor 2SB560	1
Q950,951		Transistor 2SC2320	2
Q901,930		Transistor 2SD330	2
Q902		Transistor 2SB514	1
Q702,802		Transistor 2SA798	2
D903,931		Diode GZA13A2	2
D930,954		Diode 1N4003	2
D803,703		Diode DS 442X	2
D704,804		Diode DS442X	6
705,805			
706,806			
D950,951		Diode DS442X	4
952,953			
D907,904		Diode GP 30D	4
905,906			
D901		Diode WO2	1
D955		Diode GZA6.2L	1
CAPACITORS			
C920,921	4-163T-00400	Electrolytic 10000µF 50V	2
C710,711	4-223T-06400	Capacitor 0.047µF 150V	2
C709,809		Electrolytic 1µF 50V	2
C701,801		Electrolytic 2.2µF 50V	2
C911		Electrolytic 47µF 50V	1
C931		Electrolytic 470µF 25V	1
C932		Electrolytic 47µF 25V	1
C917		Electrolytic 47µF 16V	1
C909,910		Electrolytic 100µF 63V	2
C951		Electrolytic 220µF 10V	1
C912		Electrolytic 220µF 50V	1
C950		Electrolytic 100µF 25V (Non Polar)	1
C712,713		Electrolytic 0.47µF 50V	4
714,715			
C702,802		Mylar 470pF 50V ±20%	4
703,803			
C706,707		Mylar 0.0082µF 50V ±20%	4
806,807			
C708,808		Mylar 0.047µF 50V ±20%	2
C913,914		Mylar 0.001µF 50V ±20%	2
C901,902		Ceramic 0.01µF 500V	4
903,904		+100-0%	

PARTS LIST

Key No.	Part No.	Description	Q'ty
MAIN AMP. & POWER SUPPLY PCB ASS'Y			
	CAPACITORS		
C905,906 907,908 C930		Ceramic 0.01 μ F 500V +100-0%	4
		Ceramic 0.01 μ F 50V +100-0%	1
C705,805		Ceramic 10pF 50V $\pm$ 10%	2
C704,804		Ceramic 5pF 50V $\pm$ 10%	2
C717,817		Ceramic 10pF 50V $\pm$ 10%	2
C716,816		Ceramic 22pF 50V $\pm$ 10%	2
C922,923		Electrolytic 1 μ F 50V +150-10%	2
	RESISTORS		
R723,823		Metal 5.6 ohm $\pm$ 5% 1W	2
R722,822		Metal 10 ohm $\pm$ 5% 1W	2
R724,824		Metal 390 ohm $\pm$ 5% 2W	2
R960		Metal 470 ohm $\pm$ 5% 1W	1
R914,915		Metal 390 ohm $\pm$ 5% 2W	2
R912,913		Metal 1.5K ohm $\pm$ 5% 1W	2
R901,906		Metal 5.6 ohm $\pm$ 5% $\frac{1}{4}$ W	2
R931		Metal 4.7 ohm $\pm$ 5% $\frac{1}{4}$ W	1
R717,721 817,821		Metal 0.33 ohm $\pm$ 5% 2W	4
R920,921		Metal 4.7K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R701,801 712,812		Carbon 2.2K ohm $\pm$ 5% $\frac{1}{4}$ W	4
R702,703 802,803		Carbon 100 ohm $\pm$ 5% $\frac{1}{4}$ W	4
R704,705 804,805		Carbon 47K ohm $\pm$ 5% $\frac{1}{4}$ W	4
R706,806		Carbon 39K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R902,932		Carbon 6.8K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R708,808		Carbon 27K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R910		Carbon 560 ohm $\pm$ 5% $\frac{1}{4}$ W	1
R709,710 809,810		Carbon 4.7K ohm $\pm$ 5% $\frac{1}{4}$ W	4
R713,714 813,814		Carbon 100 ohm $\pm$ 5% $\frac{1}{4}$ W	4
R715,815		Carbon 47K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R716,816		Carbon 270 ohm $\pm$ 5% $\frac{1}{4}$ W	2
R718,720 818,820		Carbon 10K ohm $\pm$ 5% $\frac{1}{4}$ W	4
R725,825		Carbon 33K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R907		Carbon 10K ohm $\pm$ 10% $\frac{1}{4}$ W	1
R904		Carbon 4.7K ohm $\pm$ 5% $\frac{1}{4}$ W	1
R906		Carbon 22K ohm $\pm$ 5% $\frac{1}{4}$ W	1
R953		Carbon 15K ohm $\pm$ 5% $\frac{1}{4}$ W	1
R909,911		Carbon 33K ohm $\pm$ 5% $\frac{1}{4}$ W	3
R950,952 955,961		Carbon 18K ohm $\pm$ 5% $\frac{1}{4}$ W	3
R951,959 954		Carbon 47K ohm $\pm$ 5% $\frac{1}{4}$ W	3
R958		Carbon 27K ohm $\pm$ 5% $\frac{1}{4}$ W	1
R711,811		Carbon 470 ohm $\pm$ 5% $\frac{1}{4}$ W	2
R725,726 825,826		Carbon 56 ohm $\pm$ 5% $\frac{1}{4}$ W	4
R819		Carbon 100K ohm $\pm$ 5% $\frac{1}{4}$ W	1
R957		Carbon 1K ohm $\pm$ 5% $\frac{1}{4}$ W	1
R903,908 933		Carbon 1K ohm $\pm$ 5% $\frac{1}{4}$ W	3
R905		Carbon 12K ohm $\pm$ 5% $\frac{1}{4}$ W	1
R956		Carbon 18K ohm $\pm$ 5% $\frac{1}{4}$ W	1

Key No.	Part No.	Description	Q'ty
MC & MM, PHONO AMP PCB ASS'Y			
82	141-4-233T-03300	P.C Board Ass'y, MC & MM, Phone Amp.	1
	4-235T-45700	Socket, Phone, Tuner, AUX	1
	4-231T-89900	Push Switch	1
	4-236T-10573	Plug	1
	141-2-322T-54200	Shield Plate	1
	141-2-246T-67700	Sheet	2
	141-2-447T-68000	Cushion	1
	141-2-322T-59000	Shield Plate	1
Q501,601 502,602		Transistor 2SA1083	4
Q503,603 505,605		Transistor 2SC2362	4
Q504,604		Transistor 2SA1016	2
Q506,606		Transistor 2SD438	2
Q507,607		Transistor 2SB560	2
D501,601 502,602		Diode DS442 X	4
	CAPACITORS		
C513,514		Electrolytic 220 μ F 25V	2
C507,607		Electrolytic 2200 μ F 6.3V	2
C511,611		Electrolytic 1.0 μ F 50V (Nonpolar)	2
C505,605		Mylar 0.015 μ F 50V $\pm$ 5%	2
C506,606 504,604		Mylar 0.001 μ F 50V $\pm$ 5%	4
C510,610		Mylar 0.047 μ F 50V $\pm$ 20%	2
C502,602 512,612		Mylar 0.001 μ F 50V $\pm$ 20%	4
C516,515		Ceramic 0.01 μ F 50V +80-20%	2
C503,603		Ceramic 100pF 50V $\pm$ 10%	2
C509,609 C517		Ceramic 33pF 50V $\pm$ 10%	2
		Ceramic 0.047 μ F 50V +80-20%	1
	RESISTORS		
R523,623		Carbon 100K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R513,613		Carbon 22K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R505,605		Carbon 10K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R512,612		Carbon 1K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R517,617		Carbon 820 ohm $\pm$ 5% $\frac{1}{4}$ W	2
R522,622		Carbon 560 ohm $\pm$ 5% $\frac{1}{4}$ W	2
R507,607 508,608		Carbon 330 ohm $\pm$ 5% $\frac{1}{4}$ W	4
R503,603 510,610		Carbon 100 ohm $\pm$ 5% $\frac{1}{4}$ W	4
R506,606		Carbon 82 ohm $\pm$ 5% $\frac{1}{4}$ W	2
R520,521 620,621		Carbon 22 ohm $\pm$ 5% $\frac{1}{4}$ W	4
R501,601 511,611		Carbon 10 ohm $\pm$ 5% $\frac{1}{4}$ W	4
R525,526		Carbon 1.5K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R518,618		Carbon 180 ohm $\pm$ 5% $\frac{1}{4}$ W	2
R516,616		Carbon 1K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R508,608		Carbon 330 ohm $\pm$ 5% $\frac{1}{4}$ W	2
R502,602		Carbon 330K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R504,604		Carbon 56K ohm $\pm$ 5% $\frac{1}{4}$ W	2

PARTS LIST

Key No.	Part No.	Description	Q'ty
SWITCH/VOLUME PCB ASS'Y			
83	141-4-233T-03400	P.C Board Ass'y, SW/VR	1
	4-238T-00200	Push Switch	1
	4-238T-00300	Push Switch, Filter	1
	4-222T-77300	Variable Resistor, Balance	1
	4-222T-77400	Variable Resistor, Tone	2
IC550,650		I.C M5213L	2
	4-233T-03500	P.C. Board	1
CAPACITORS			
C564,664		Mylar 0.047 μ F 50V $\pm$ 5%	4
566,666			
C551,651		Mylar 0.033 μ F 50V $\pm$ 5%	4
565,665			
C562,662		Mylar 0.027 μ F 50V $\pm$ 5%	2
C552,553		Mylar 0.039 μ F 50V $\pm$ 5%	4
652,653			
C556,656		Ceramic 150pF 50V $\pm$ 10%	2
C550,554		Ceramic 330pF 50V $\pm$ 10%	4
650,654			
RESISTORS			
R550,650		Carbon 3.3K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R558,658		Carbon 1M ohm $\pm$ 5% $\frac{1}{4}$ W	2
R552,652		Carbon 12K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R553,653		Carbon 56K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R556,656		Carbon 390K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R559,659		Carbon 330 ohm $\pm$ 5% $\frac{1}{4}$ W	2
R560,660		Carbon 15K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R561,661		Carbon 2.2K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R566,666		Carbon 47K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R562,662		Carbon 1.5K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R563,663		Carbon 560 ohm $\pm$ 5% $\frac{1}{4}$ W	2
R564,664		Carbon 3.9K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R565,665		Carbon 1M ohm $\pm$ 5% $\frac{1}{4}$ W	4
551,651			
R557,657		Carbon 390K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R555,655		Carbon 2.2K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R554,654		Carbon 1K ohm $\pm$ 5% $\frac{1}{4}$ W	2
LEVEL METER PCB ASS'Y			
84	141-4-233T-03600	P.C Board Ass'y, Level Meter	1
VR300	4-236T-15400	Plug	2
400			2
IC301,		I.C NJM4558 or RC4558P	2
401			
IC302,		I.C LM324N	5
303,304			
402,403			
IC404		I.C LM324N	1
D401,402		Diode DS442X	6
403,301			
302,303			
CAPACITORS			
C410,301		Electrolytic 1 μ F 50V	3
303			
C402,301		Ceramic 100pF 50V $\pm$ 10%	2

Key No.	Part No.	Description	Q'ty
LEVEL METER PCB ASS'Y			
RESISTORS			
R301,401		Carbon 47K ohm $\pm$ 5% $\frac{1}{4}$ W	6
310,311			
410,411			
R408,405		Carbon 10K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R312,412		Carbon 2.2K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R424,425		Carbon 1.8K ohm $\pm$ 5% $\frac{1}{4}$ W	4
325,326			
R429,327		Carbon 1.8K ohm $\pm$ 5% $\frac{1}{4}$ W	4
328,329			
R430,431		Carbon 1.8K ohm $\pm$ 5% $\frac{1}{4}$ W	4
432,330			
R303,403		Carbon 15K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R305,308		Carbon 10K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R409,309		Carbon 150K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R300,400		Carbon 47K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R413,313		Carbon 2.2K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R414,314		Carbon 1.5K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R415,315		Carbon 1.2K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R416,316		Carbon 1K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R417,317		Carbon 470 ohm $\pm$ 5% $\frac{1}{4}$ W	2
R418,318		Carbon 330 ohm $\pm$ 5% $\frac{1}{4}$ W	2
R419,319		Carbon 270 ohm $\pm$ 5% $\frac{1}{4}$ W	2
R420,320		Carbon 150 ohm $\pm$ 5% $\frac{1}{4}$ W	2
R421,321		Carbon 100 ohm $\pm$ 5% $\frac{1}{4}$ W	2
R422,322		Carbon 100 ohm $\pm$ 5% $\frac{1}{4}$ W	2
R423,323		Carbon 150 ohm $\pm$ 5% $\frac{1}{4}$ W	2
R426,324		Carbon 1.8K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R427,428		Carbon 1.8K ohm $\pm$ 5% $\frac{1}{4}$ W	2
R331,332		Carbon 1.8K ohm $\pm$ 5% $\frac{1}{4}$ W	2
SPEAKER CHANGE PCB ASS'Y			
85	141-4-233T-03700	P.C. Board Ass'y, SP Change	1
	4-238T-00100	Push Switch	1
POWER SWITCH PCB ASS'Y			
86	141-4-233T-03800	P.C Board Ass'y, Power Switch	1
S14,15	4-231T-76472	Switch	1
	4-223T-11700	Capacitor	1
FUSE PCB ASS'Y			
87	141-4-233T-03903	P.C Board Ass'y, FUSE	1
	4-234T-03671	Fuse, 2A	1
	141-2-381T-04200	Bracket Fuse	2
	141-6-476T-09100	Indication Label	1
LED PCB ASS'Y			
88	141-4-233T-04000	P.C Board Ass'y, LED	1
	4-235T-70100	LED AR2132D Red	6
		Socket	1

PARTS LIST

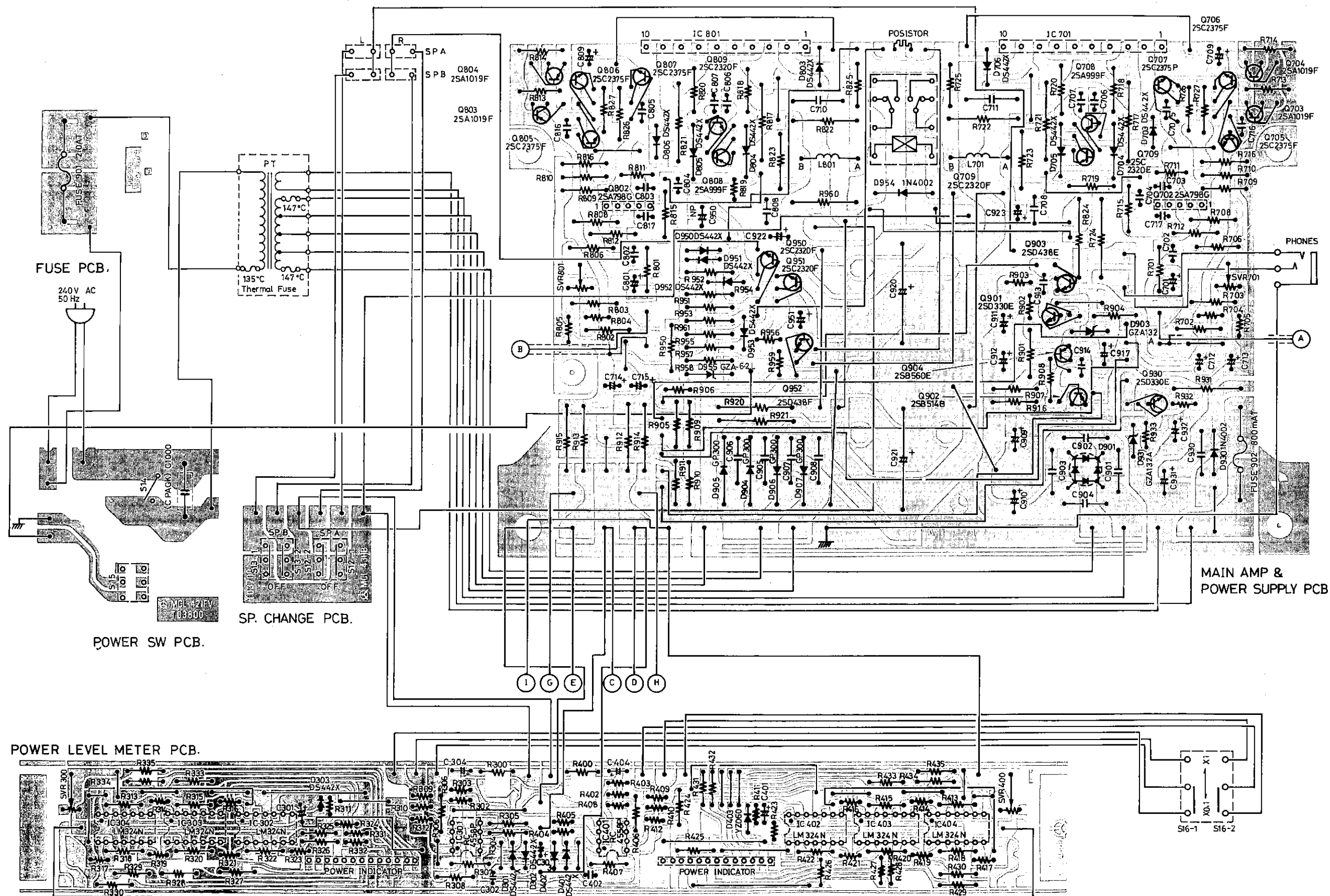
Key No.	Part No.	Description	Q'ty
HARDWARE			
Y2		Pan Head Screw 3x4mm	4
Y3		Pan Head Screw 3x6mm	2
Y4		Pan Head Screw 3x8mm	2
Y5		Pan Head Tapping Screw 2.3x6mm	4
Y6		Pan Head Tapping Screw 3x4mm	4
Y7		Pan Head Tapping Screw 3x6mm	13
Y8		Pan Head Tapping Screw 3x8mm	6
Y9		Pan Head Tapping Screw with Washer 3x6mm	5
Y10		Pan Head Tapping Screw with Washer 3x14mm	4

Key No.	Part No.	Description	Q'ty
Y11		Pan Head Screw with Spring Washer 3x6mm	15
Y12		Pan Head Screw with Spring Washer 4x10mm	6
Y13		Bind Head Screw 3x6mm	9
Y14		Bind Head Tapping Screw 3x6mm	7
Y15		Bind Head Tapping Screw 3x8mm	6
Y16		Fiat Head Screw 4x8mm	12
Y17		Fiat Head Tapping Screw 3x8mm	3
Y18		Washer 3.3x10x0.5t mm	1
Y19		Washer 4x13x1.2t mm	6
Y20		External Tooth Lock Washer 3mm	2
Y22		Pan Head Tapping Screw 3x10mm	2

SANYO ELECTRIC TRADING CO., LTD.

33, Hiyoshi-cho 2-chome, Moriguchi-shi,
Osaka-fu, 570 Japan

May/'80/500 EP Printed in Japan



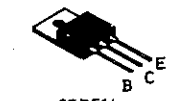
IC, TRANSISTOR CONNECTION



2SA1019
2SB560
2SC2375
2SD438



STC2320



2SD330



RC4558



LM324N



STK-0050

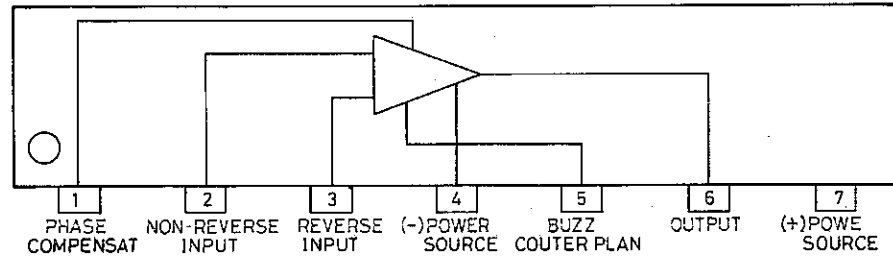
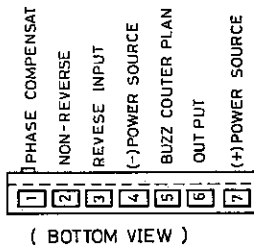
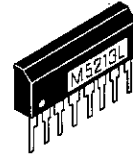
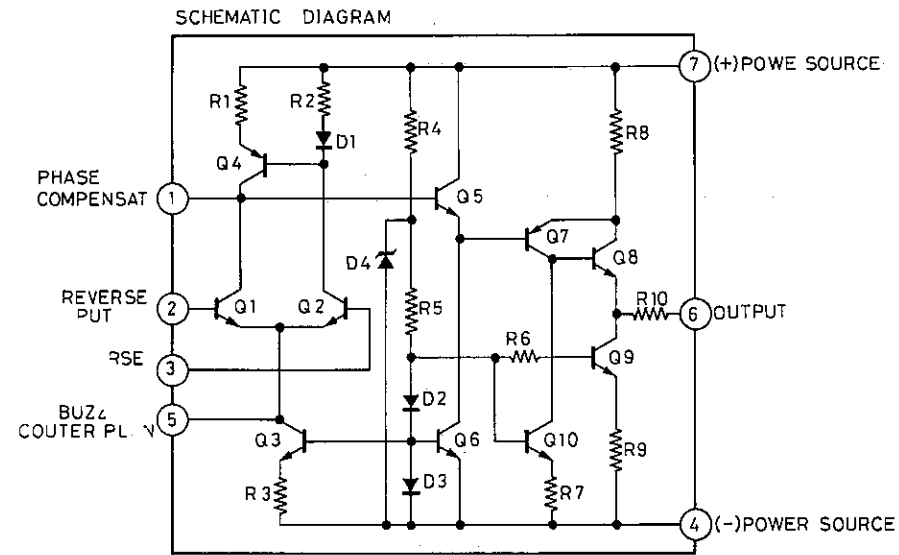


L701

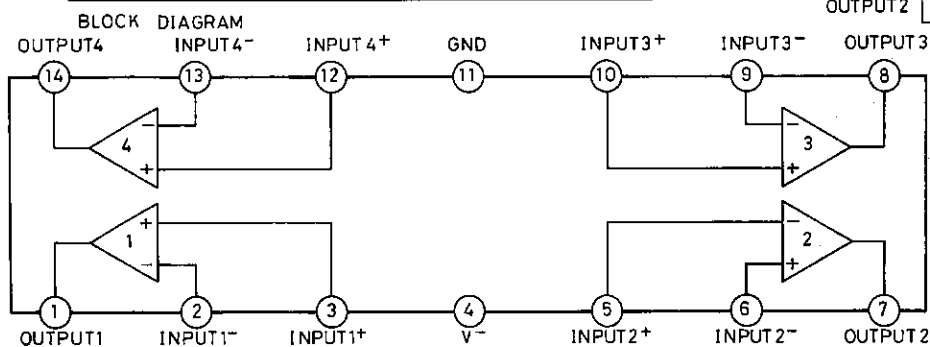
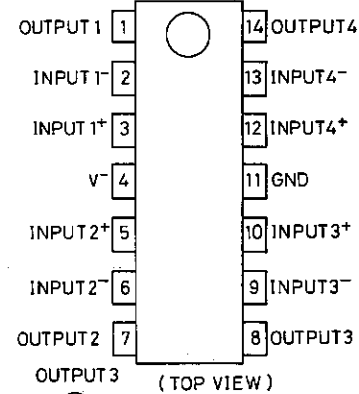
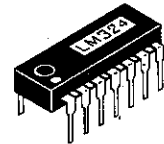
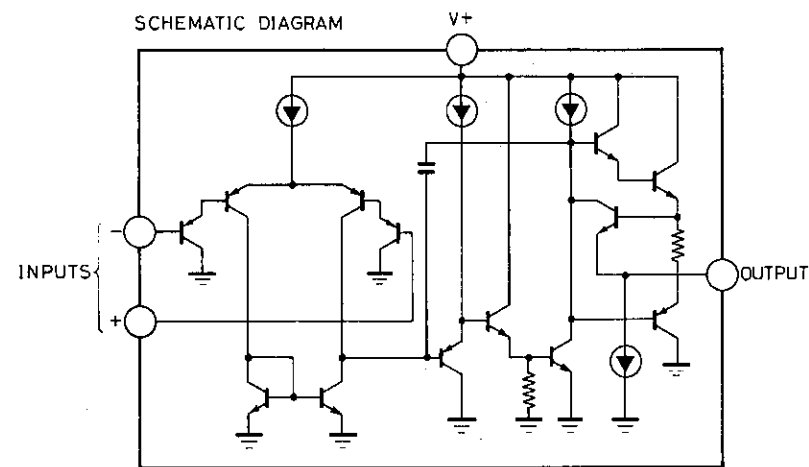


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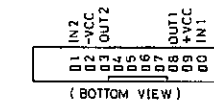
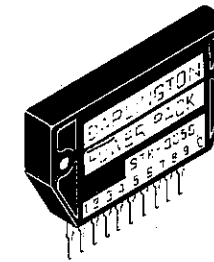
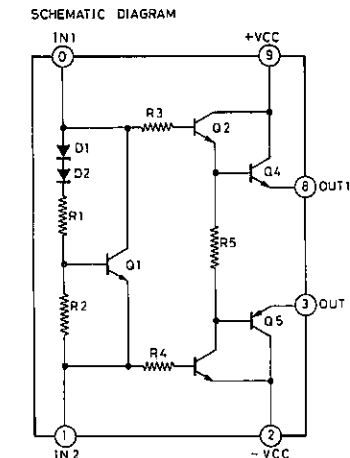
M5213L (LOW FREQUENCY LOW NOISE VOLTAGE AMPLIFIER)



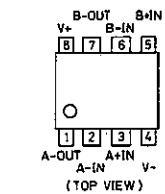
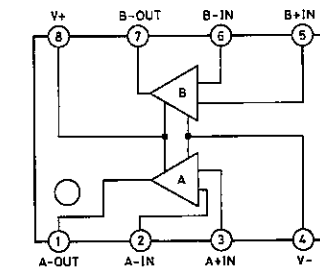
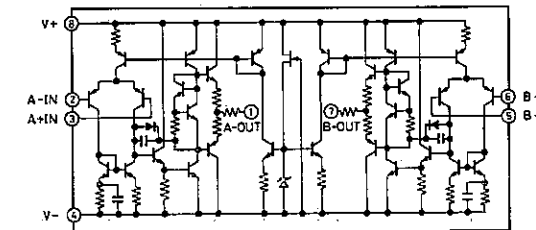
LM324 (OPERATIONAL AMPLIFIERS)



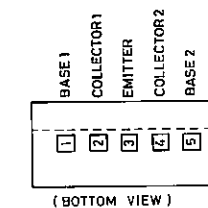
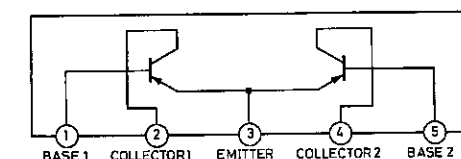
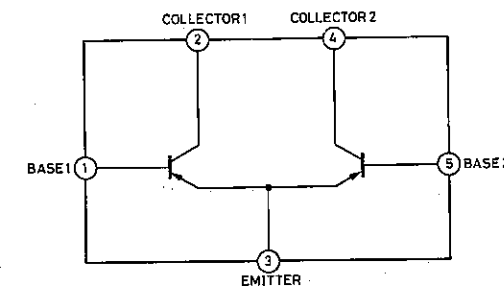
STK-0050 (DARLINGTON POWER AMPLIFIER)



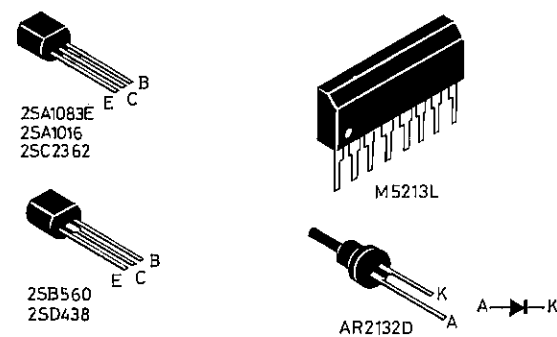
NJM4558, RC4558 (DUAL HIGH-PERFORMANCE OPERATIONAL AMPLIFIERS)



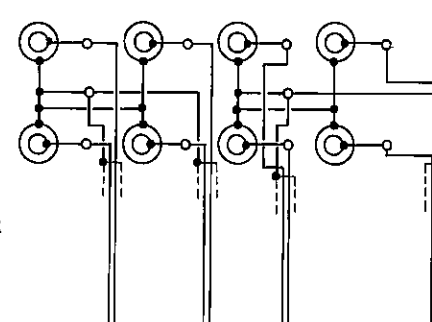
2SA798 (DUAL TRANSISTOR)



IC, TRANSISTOR CONNECTION

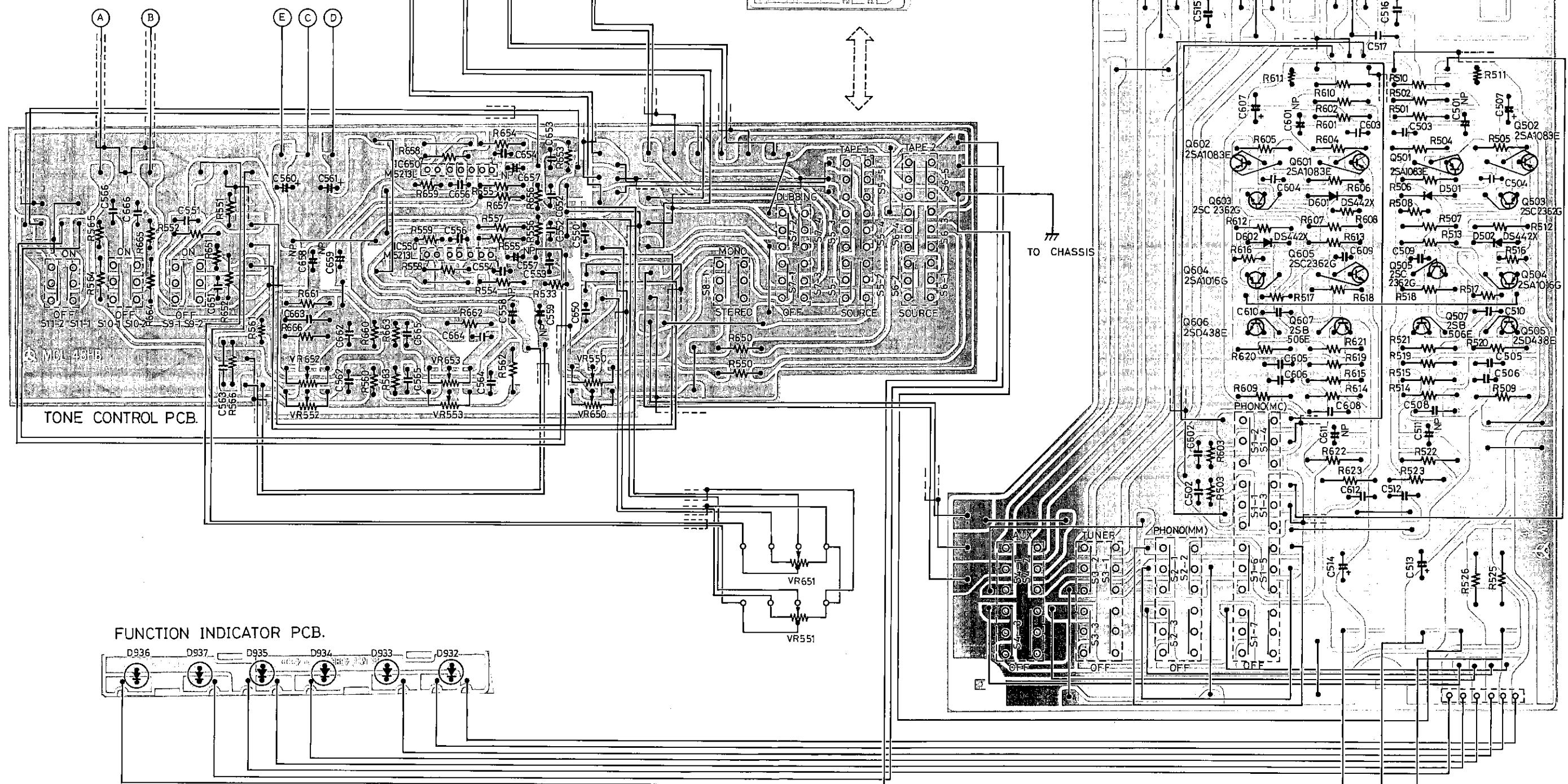


TAPE 1
PLAY REC
TAPE 2
PLAY REC



AUX
L-CH
R-CH
TUNER
PHONO

MC & MM
PHONO AMP PCB



FUNCTION INDICATOR PCB.

