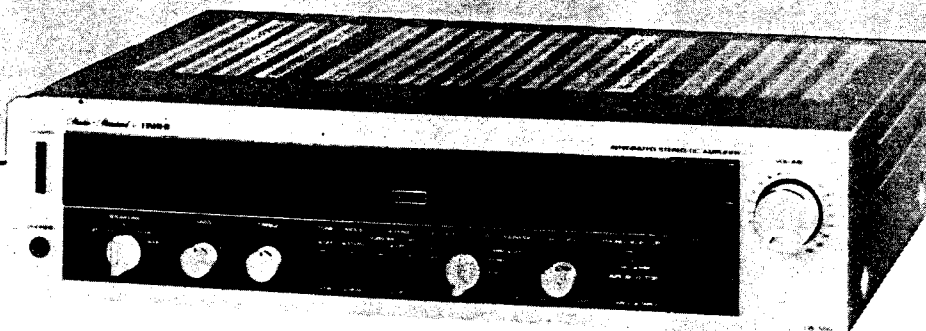


SERVICE MANUAL

FISHER

CA-550

Integrated Stereo
DC Amplifier
(EUROPE)

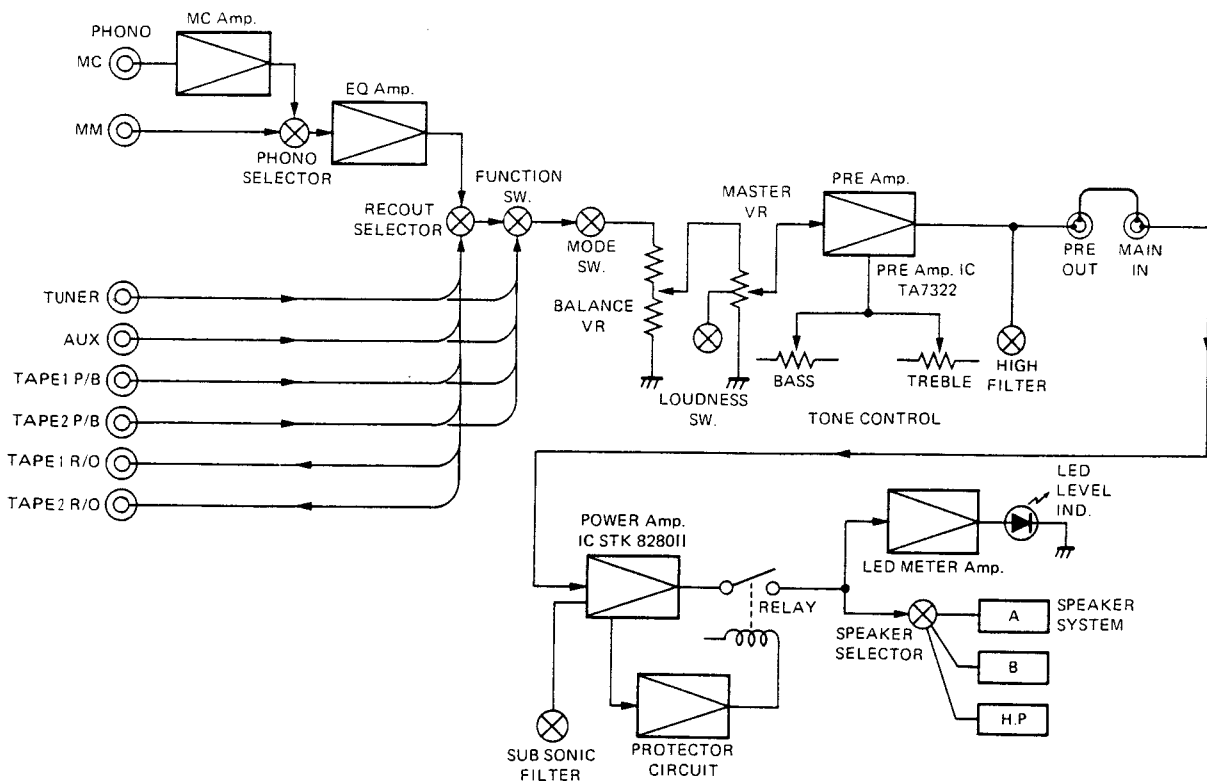


The first name in high fidelity

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FUNCTIONAL BLOCK DIAGRAM

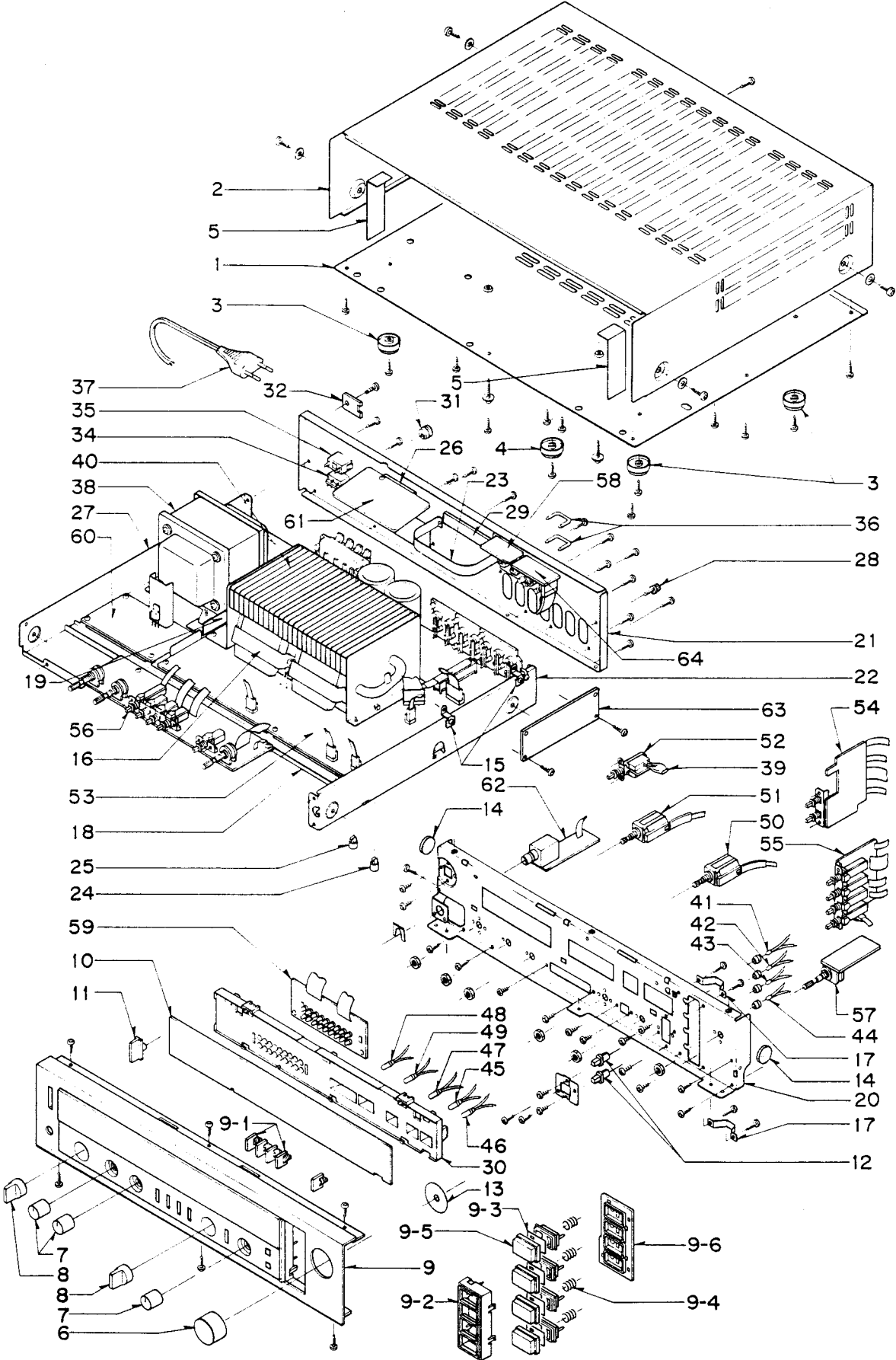


SPECIFICATIONS

AMPLIFIER	CA-550
Sine Wave Power	
at 1000 Hz (8 ohms)	2 x 80 W
20 to 20,000 Hz (8 ohms)	2 x 70 W
Music Power (8 ohms)	2 x 90 W
THD (rated output)	0.009 %
IM (rated output)	0.009 %
Power Bandwidth	20 Hz – 20 kHz
Frequency Response (20 Hz – 20 kHz)	±0.5 dB
Damping Factor (8 ohms)	> 50
Input Sensitivity and Impedance	
Phono (MM)	2.5 mV/50 kohms
Phono (MC)	250 μ V/22 ohms
Tape	150 mV/50 kohms
Tuner	150 mV/50 kohms
Auxiliary	150 mV/50 kohms
Main Amp.	1000 mV/100 kohms
S/N Ratio (DIN)	
Phono (MM)	75 dB
Phono (MC)	65 dB
Tape/Tuner/Aux	95 dB
Main Amp.	100 dB
Treble Control (10 kHz)	±10 dB
Bass Control (100 Hz)	±10 dB
Loudness Control (100 Hz/10 kHz)	+8 dB/+4 dB
Subsonic Filter (below 10 Hz)	12 dB/Oct.
High Filter (above 6 kHz)	6 dB/Oct.
Voltage and Impedance Pre Amp. Out	1000 mV/2.2 kohms
Power Requirements	AC: 110/220 V, 50/60 Hz
Power Consumption	320 W
Dimensions (W x D x H)	440 x 370 x 110 mm
Weight (approx.)	8.1 kg

* Specifications are subject to change without notice.

CABINET & CHASSIS EXPLODED VIEW



PARTS LIST

PACKING PARTS LIST

Ref. No.	Parts Number	Description
	131 6 1139 89703	Box Corrugate-EXP
	131 6 2119 01362	Bag Polyethylene-EXP
	131 6 3009 32190	Pad (Right)
	131 6 3009 32200	Pad (Left)
	131 6 3009 32440	Pad (Bottom)

ACCESSORIES PARTS LIST

Ref. No.	Parts Number	Description
	131 6 2719 10801	Bag Fan
	131 6 4119 87402	Explanatory Booklet
	131 6 4519 15700	Guarantee Certificate

CABINET PARTS LIST

Ref. No.	Parts Number	Description
1	131 2 1105 27600	Plate Bottom
2	131 2 1410 26200	Cover
3	131 2 1801 12900	Leg
4	131 2 1801 13300	Leg
5	131 2 3202 13400	Metal Reinforce (Cover)

APPEARANCE PARTS LIST

Ref. No.	Parts Number	Description
6	131 0 1001 59100	Knob (Volume)
7	131 0 1001 59200	Knob (Balance, Bass, Treble)
8	131 0 1001 59300	Knob, Select (SP, Rec Out)
9	131 0 1016 38605	Panel Decorative Assy
9-1	131 0 1001 60000	Knob
	131 2 6113 42000	Shelter
	131 2 1205 25400	Decorative Plate Dial
9-2	131 2 1116 20200	Frame
	131 2 1601 69900	Knob
9-3	131 2 1310 37810	Name Plate (Tuner)
	131 2 1310 37811	Name Plate (Aux)
	131 2 1310 37812	Name Plate (Phono)
	131 2 1310 37813	Name Plate (Tape)
9-4	131 2 5101 19500	Spring
9-5	131 2 1601 70000	Knob (Base)
9-6	131 2 6110 30000	Shelter Light
10	131 2 1201 36302	Plate Dial
11	131 2 1601 69500	Knob (Power SW)
12	131 2 1601 69600	Knob (Tape, MC)
13	131 2 6113 31800	Shelter (Volume)

CHASSIS PARTS LIST

Ref. No.	Parts Number	Description
14	131 2 1801 13900	Leg
15	* 131 2 3101 54600	Metal Mount (P.C.B.)
16	* 131 2 3101 78000	Metal Mount (IC)
17	* 131 2 3101 78100	Metal Mount (Panel Front)

CHASSIS PARTS LIST

Ref. No.	Parts Number	Description
18	* 131 2 3202 13700	Metal Reinforce
19	* 131 2 3202 13900	Metal Reinforce
20	* 131 2 3305 31200	Panel Front
21	* 131 2 3306 34600	Panel Rear
22	* 131 2 3315 10300	Panel Side
23	* 131 2 3605 10600	Metal Mount
24	* 131 2 3614 20300	Mount P.C.B.
25	* 131 2 3614 22900	Mount P.C.B.
26	* 131 2 3614 24400	Mount P.C.B.
27	* 131 2 3617 18400	Metal Mount Transformer
28	131 2 4201 17800	Screw (GND)
29	131 2 5205 26000	Cushion
30	131 2 6110 30100	Shelter Light
31	131 2 6111 14200	Bushing
32	131 2 7104 00500	Plate Pad Switch

ELECTRICAL PARTS LIST

Ref. No.	Parts Number	Description
34	⚠ 4 2312 01020	Switch Slide
35	⚠ 4 2352 00450	AC Outlet
36	4 2369 21220	Short Plug
37	⚠ 4 2432 00070	Power Cord
38	⚠ 4 2512 14320	Power Transformer
39	131 2 6114 00200	Cover Safety
40	131 2 6203 00100	Heat Pipe
41	4 6122 02500	Pilot Lamp (8 V, 40 mA)
42	4 6122 02600	Pilot Lamp (8 V, 40 mA)
43	4 6122 02500	Pilot Lamp (8 V, 40 mA)
44	4 6122 02600	Pilot Lamp (8 V, 40 mA)
45	4 6122 00100	Pilot Lamp (8 V, 60 mA)
46	4 6122 00200	Pilot Lamp (8 V, 60 mA)
47	4 6122 00300	Pilot Lamp (8 V, 60 mA)
48	4 6122 00130	Pilot Lamp (8 V, 60 mA)
49	4 6122 01310	Pilot Lamp (8 V, 60 mA)
50	4 2312 02570	Switch Rotary/Joint
51	4 2312 02590	Switch Rotary/Joint
52	⚠ 4 2312 02520	Switch Push Power
53	* 131 0 4001 07055	Main, EQ, Power P.C.B. Assy
54	* 131 0 4001 07110	Tape Select P.C.B. Assy
55	* 131 0 4001 07100	Function P.C.B. Assy
56	* 131 0 4001 07090	Pre Amp P.C.B. Assy
57	* 131 0 4001 07161	Volume P.C.B. Assy
58	* 131 0 4001 07063	RCA Pin P.C.B. Assy
59	* 131 0 4001 07130	L.E.D. P.C.B. Assy
60	* 131 0 4001 07124	Level Ind. P.C.B. Assy
61	* 131 0 4001 07140	Fuse P.C.B. Assy
62	* 131 0 4001 07081	Headphone Jack P.C. B. Assy
63	* 131 0 4001 07500	MM/MC Select P.C.B. Assy
64	* 131 0 4001 07150	DIN P.C.B. Assy
C01	⚠ C2GYDP103A-S	Ceramic 0.01 μF 400V +100,-0%

*—Not a service part.

PRODUCT SAFETY NOTICE

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A COMPONENT REPLACEMENT IS MADE IN ANY AREA OF AN UNIT. COMPONENTS INDICATED BY A MARK ⚠ IN THIS PARTS LIST AND THE SCHEMATIC DIAGRAM SHOW COMPONENTS WHOSE VALUE HAS SPECIAL SIGNIFICANCE TO PRODUCT SAFETY. IT IS PARTICULARLY RECOMMENDED THAT ONLY PARTS SPECIFIED ON THE FOLLOWING PARTS LIST BE USED FOR COMPONENT REPLACEMENT POINTED OUT BY THE MARK.

RECOMMENDED TEST EQUIPMENTS

The following test equipments are recommended to completely test and align the Amplifier:

- Line Voltage Isolation Transformer
- AC DC Multimeter.
- Accurately Calibrated AC Voltmeter.
- Oscilloscope (Flat to 100 kHz Minimum)
- Low-Distortion Audio Sine-Wave Generator
- Harmonic Distortion Analyzer
- Two (2) Load Resistors 8-ohms, 250 Watts (Minimum Rating)

HARMONIC DISTORTION TEST

CAUTION: Limit the following tests to no more than ten minutes each. Use 8-ohm resistors, with a minimum power rating of 250 watts when connecting a load across the SPEAKERS terminal.

CONTROL SETTINGS:

Unplug the AC power cord and set the front panel controls as follows:

- BALANCE controls to center positions
- POWER switch to OFF
- SPEAKERS switch to OFF
- FUNCTION switch to AUX
- MODE switch to STEREO
- TAPE MONITOR switch to SOURCE
- TONE CONTROLS switch to OFF
- FILTERS switch to OFF
- LOUDNESS switch to OFF
- VOLUME control to MINIMUM position
- LEFT CHANNEL DRIVEN

ONE CHANNEL DRIVEN:

- 1) Connect a low distortion audio generator to LEFT AUX IN jack. Set generator frequency to 1 kHz and output to minimum.
- 2) Connect an 8-ohm load resistor between SPEAKERS MAIN LEFT and COM terminals. Connect a Harmonic Distortion Analyzer and an AC VTVM in parallel across the 8-ohm load.
- 3) Connect the AC power cord and set SPEAKERS switch to MAIN. Turn VOLUME control to MAX.
- 4) Increase generator output for 70 Watts RMS (23.6 V across the 8-ohm load). Harmonic Distortion Analyzer should measure 0.009% distortion or less.
- 5) Repeat steps 1 through 4 for RIGHT CHANNEL.

BOTH CHANNELS DRIVEN

Connect 8-ohm load resistors across LEFT and RIGHT MAIN SPEAKERS terminals. Set MODE switch to "MONO". Adjust generator output and "BALANCE" control for 70 Watts at Left and Right Channels (23.6 volts across the 8-ohm loads). Harmonic Distortion Analyzer should measure 0.009% distortion or less at each channel.

CAUTION: This precision high-fidelity instrument should be serviced only by qualified personnel, trained in the repair of transistor equipment and printed circuitry.
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ADJUSTMENT OF POWER AMPLIFIER P.C.BOARD

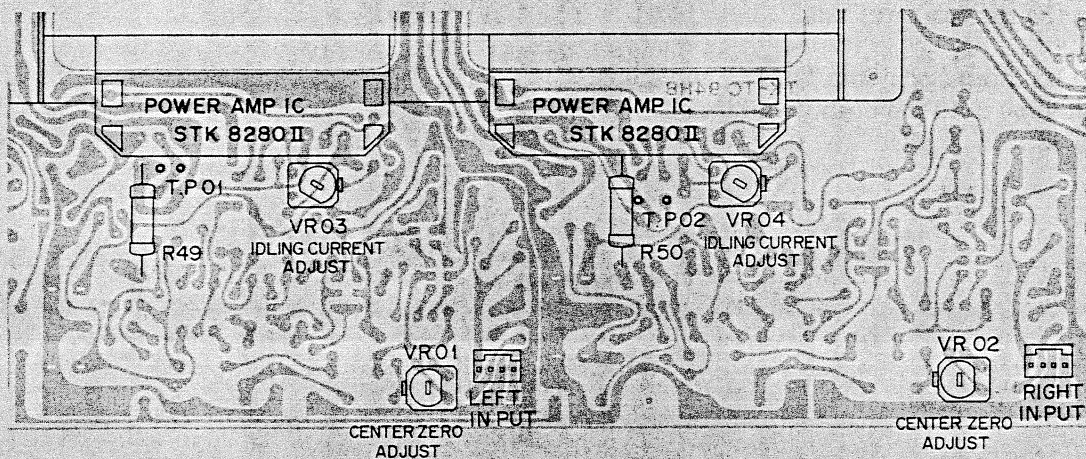
BEFORE ADJUSTMENT

- 1) After the power switch is turned ON, allow a few minutes before making adjustment, to be sure of the most stable operation.
- 2) Connect dummy load resistors (8 ohms) to the SPEAKERS terminals.
- 3) Use a DC V.T.V.M. (input impedance: More than 50k ohms/V).
- 4) Keep VR01 and VR02 in the mechanical center position.
- 5) Set the unit under no-signal condition by turning down the volume control of the unit.

ZERO BALANCE ADJUSTMENT

- Connect DC V.T.V.M. to the Speaker output terminal and turn the volume control fully to the minimum position. Turn VR01 (left), VR02 (right) in P.C.B. under the above condition until the output voltage becomes 0 V.

POWER AMP BOARD LAYOUT (TOP VIEW)



IDLING CURRENT ADJUSTMENT

- 1) Connect the DC Voltmeter to TP01 (left) and TP02 (right) in the Power Amplifier P.C.Board. Then, adjust VR03 (left) and VR04 (right) until the DC Voltmeter indicates 7 mV, so that the idling current is set to 35 mA.
 - 2) Repeat steps (1) for optimum results.
- Note: a. Turn the semi-fixed variable resistor slowly during adjustment.
b. Be careful of the polarity of each measurement point.

EXPLANATION OF PROTECTIVE CIRCUITS

*For about 5 seconds after the power switch is turned on, the speakers remain silent because the power muting circuit operates during this time.

*If the speaker terminals are short-circuited or the ventilation holes at the cabinet top are blocked during long periods of operation, the internal temperature may rise abnormally. At about 90°C, the thermal sensor (temperature detection) circuit becomes activated and will interrupt the signal. If the cause is removed and the internal temperature is back to normal, the unit automatically resets itself to restore normal operation.

ADJUSTMENT OF POWER LEVEL IND. P.C.BOARD

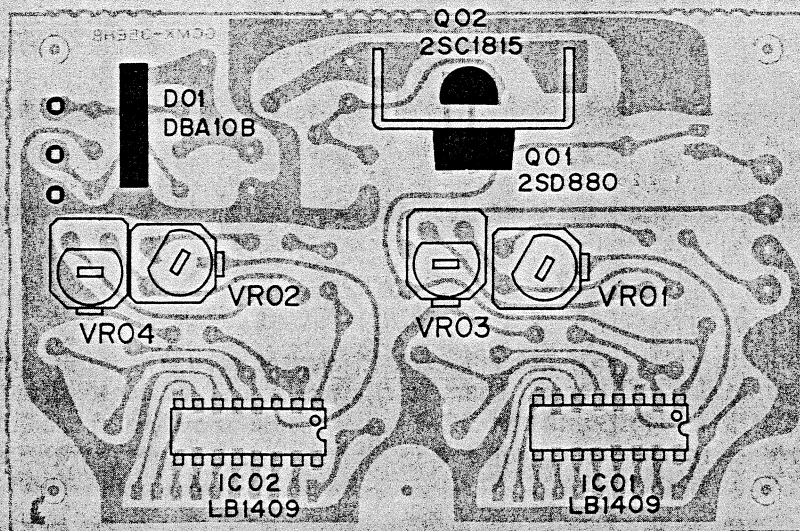
POWER LEVEL INDICATOR ADJUSTMENT

When IC01 (LB1409) and IC02 (LB1409) in the P.C.Board and a component in the Power Amplifier P.C.Board are replaced, perform the readjustment by the following steps.

- 1) Set VR01 and VR02 to the maximum position (fully turned counter-clockwise).
- 2) Connect the low frequency oscillator to "AUX", and the oscilloscope, V.T.V.M., and 8-ohm load resistance to the speaker terminals.
- 3) Feed the 1 kHz input signal into "AUX" and adjust the master volume until the output voltage becomes 0.28 V.

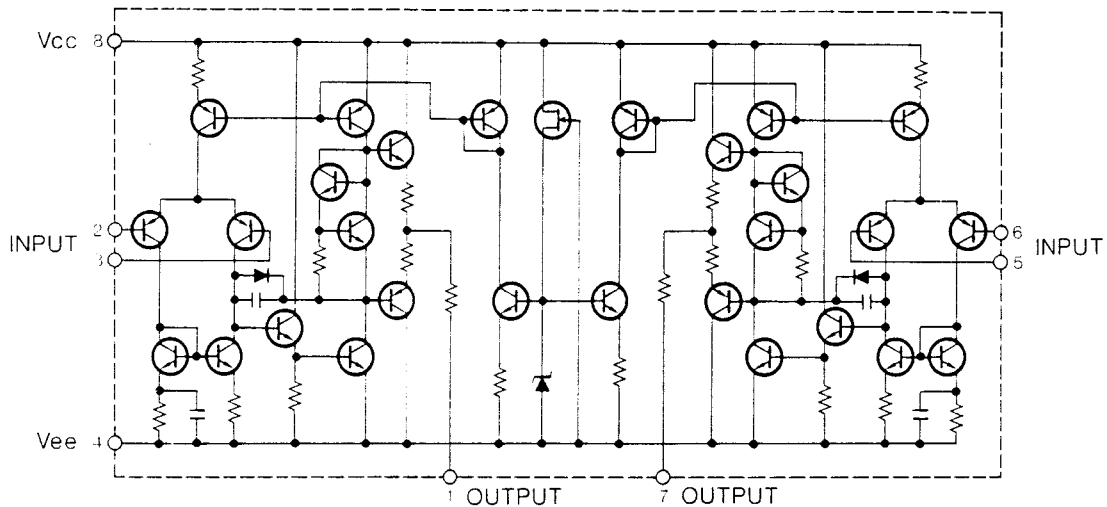
- 4) Adjust VR03 and VR04, so that the first L.E.D. lights up in the L.E.D. P.C.Board.
- 5) Change the input level and adjust the master volume for 23.6 V.
- 6) Adjust VR01 and VR02, so that the ninth L.E.D. lights up in the L.E.D. P.C.Board.

LEVEL IND. P.C.BOARD LAYOUT (TOP VIEW)

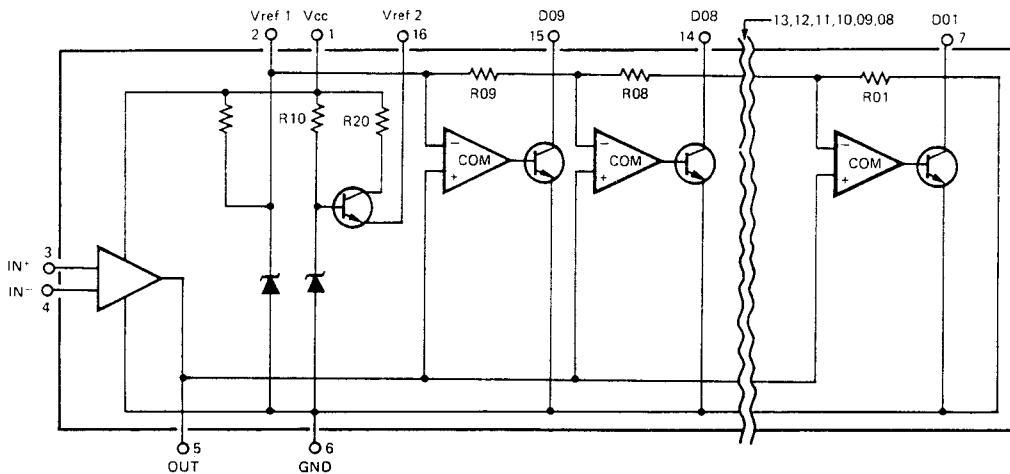


IC EQUIVALENT CIRCUIT & BLOCK DIAGRAM

EQ AMP IC NJM4559DX

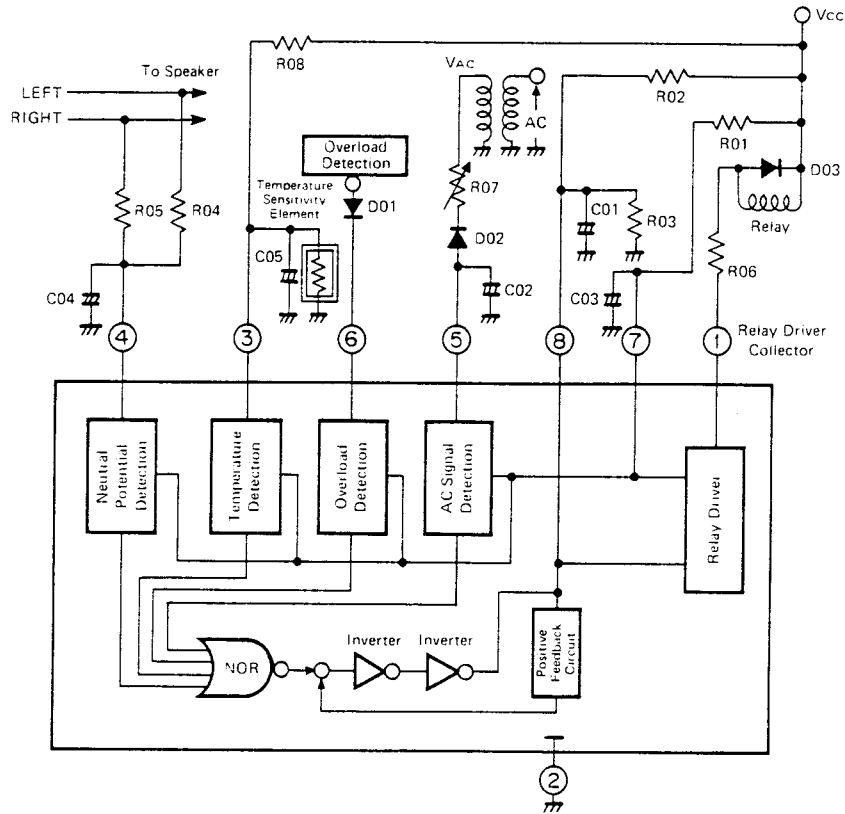


L.E.D. LEVEL METER IC LB1409

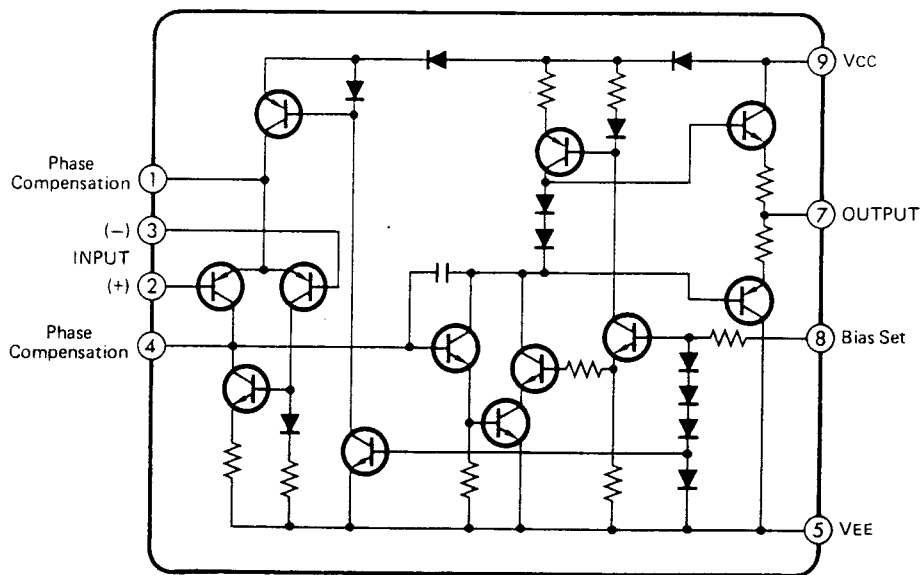


IC EQUIVALENT CIRCUIT & BLOCK DIAGRAM (Continued)

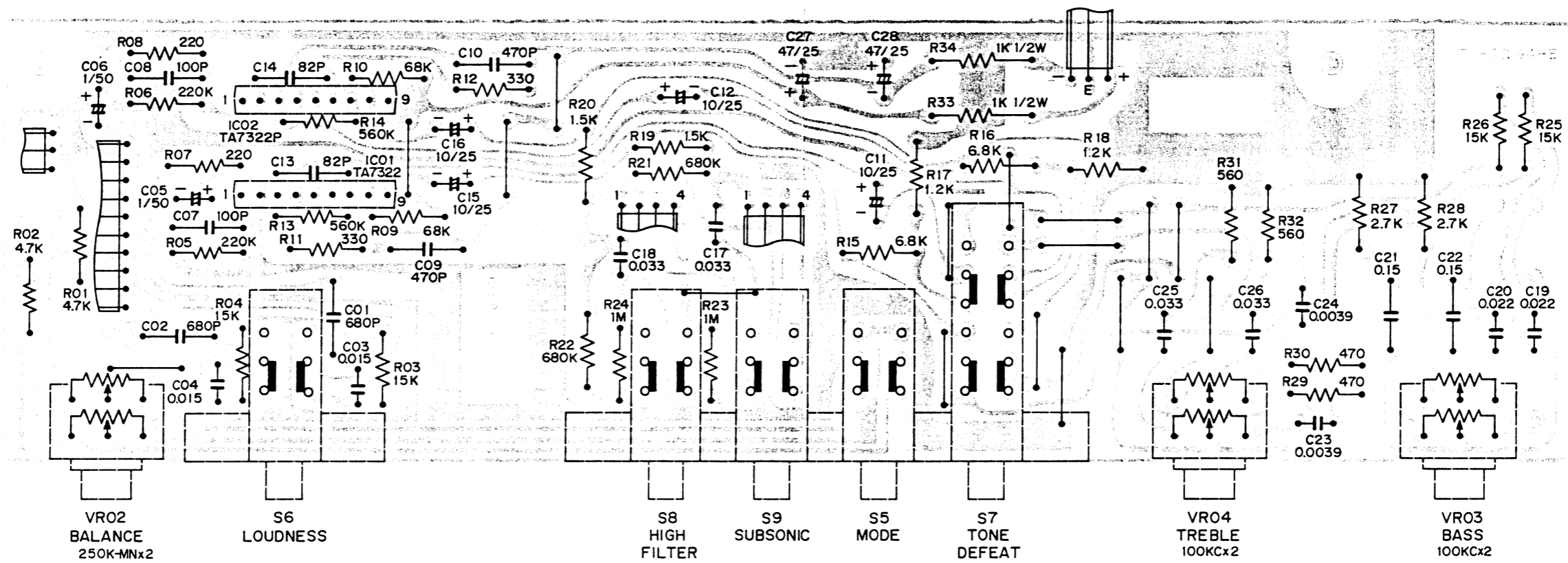
PROTECTOR CIRCUIT MONO AMP IC HA12002



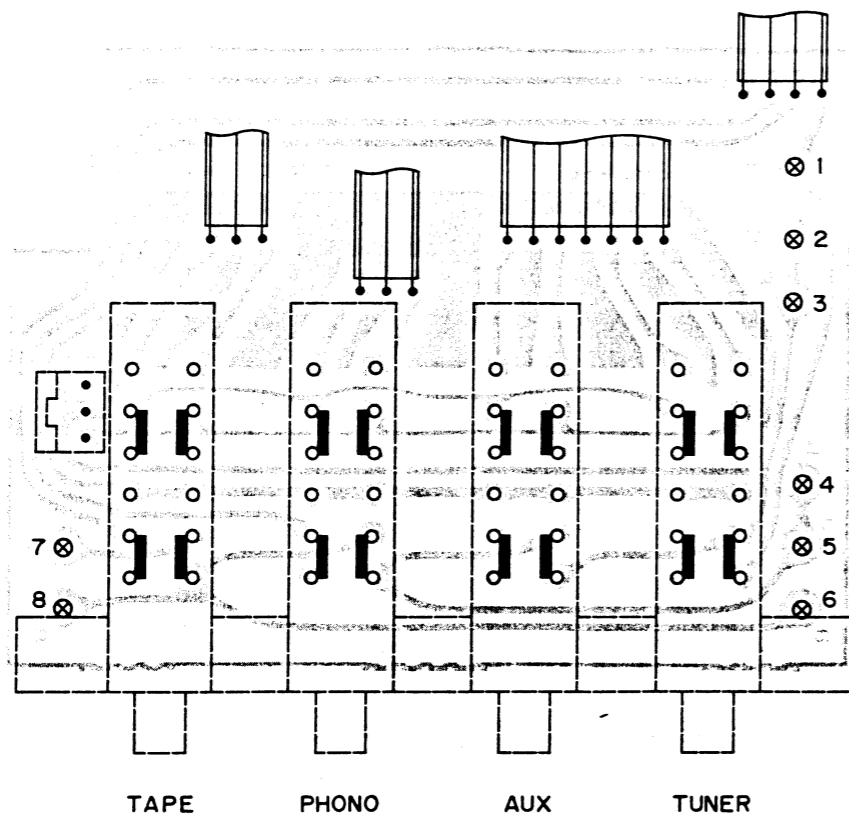
TONE AMP IC TA7322P



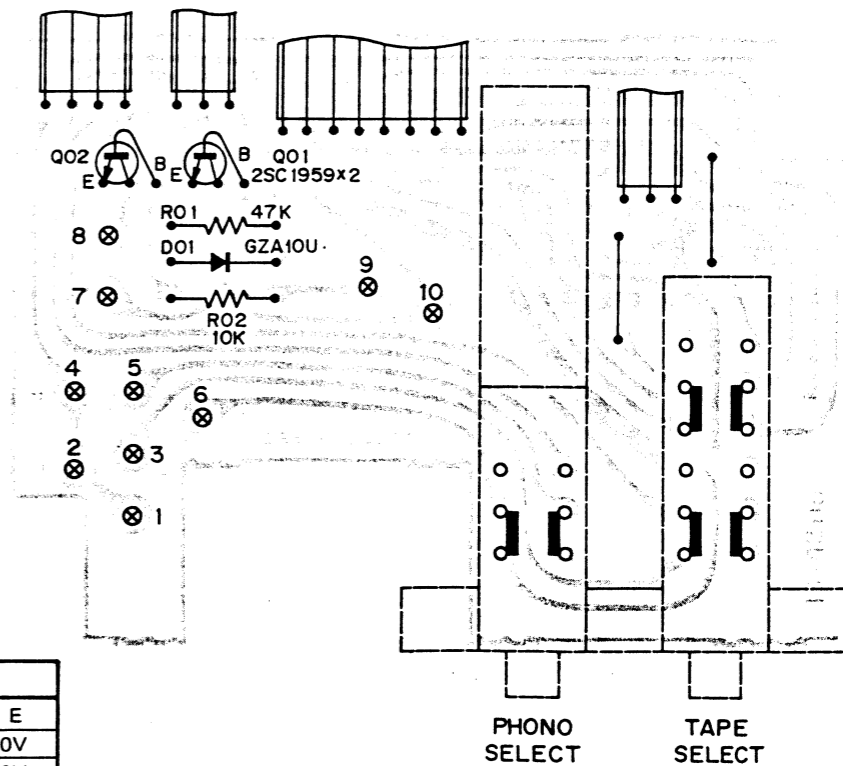
PRE AMPLIFIER P.C.BOARD (BOTTOM VIEW)



FUNCTION P.C.BOARD (BOTTOM VIEW)

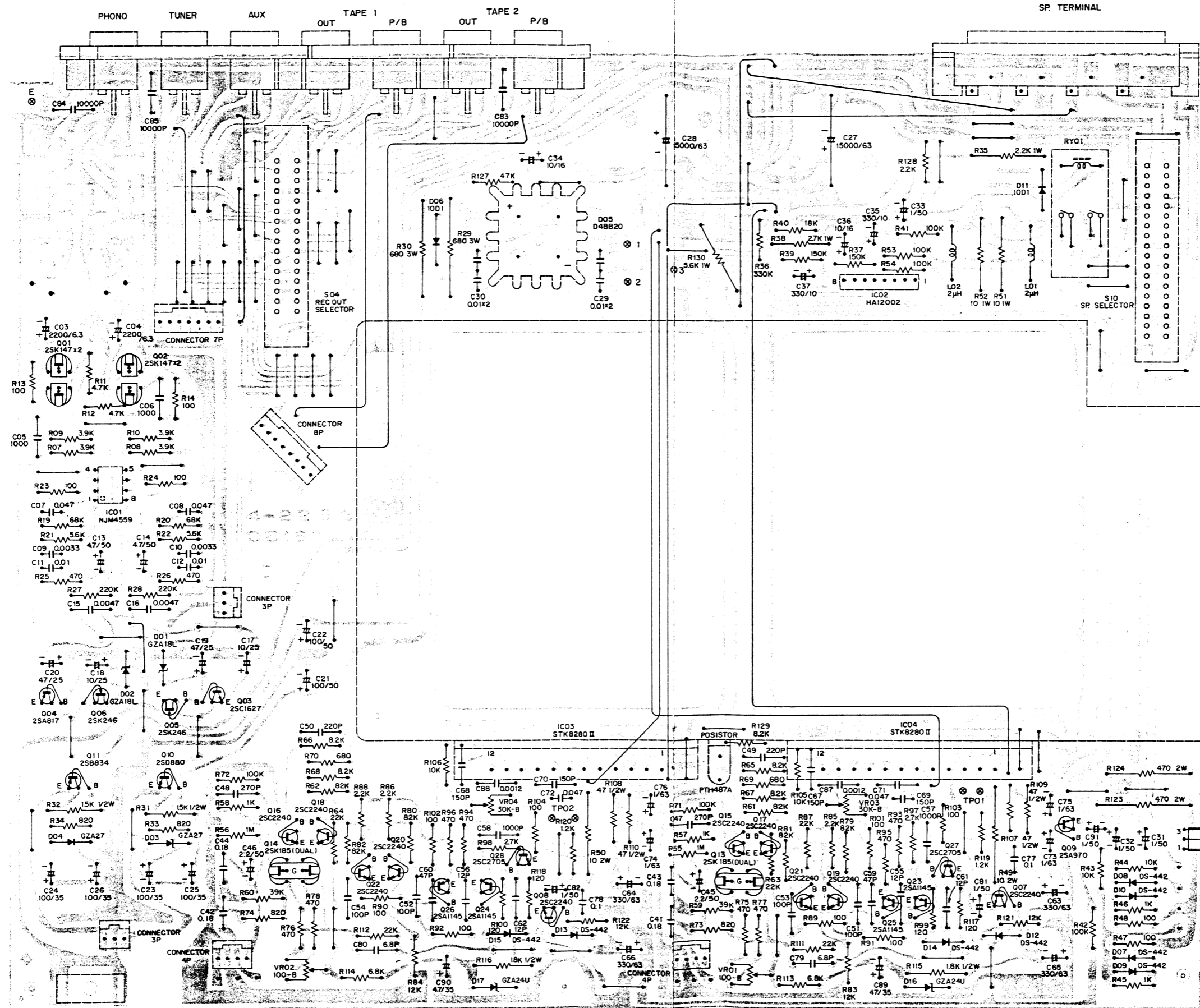


PHONO/TAPE SELECT P.C.BOARD (BOTTOM VIEW)



TRANSISTOR DC VOLTAGES				
SYMBOL No.	DEVICE	B	C	E
Q01	2SC1959	0.4V	7.6V	0V
Q02	2SC1959	0.7V	162 mV	0V

MAIN, EQ, POWER SUPPLY P.C.BOARD (BOTTOM VIEW)



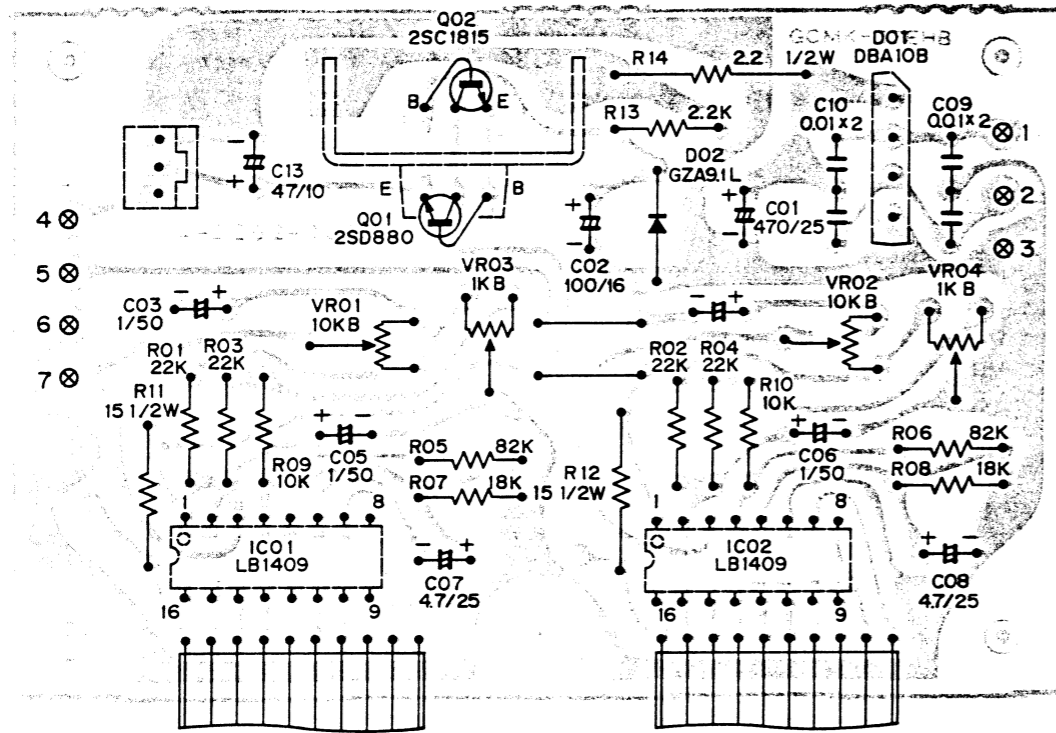
IC PIN NUMBERS DC VOLTAGES

SYMBOL No.	DEVI	1	2	3	4	5	6	7	8	9	10	11	12
IC01	NJM4559	17 mV	10.5V	10.3V	-17.0V	10.3V	10.5V	17 mV	17.3V	-	-	-	-
IC02	HAI2002	0.8V	0V	-7 mV	-4.0V	23 mV	7.1V	4.8V	-	-	-	-	-
IC03,04	STK8280II	48.7V	1.0V	1.0V	1.0V	-	-48.6V	1.2V	48 mV	-180 mV	0.5V	1.3V	1.5

TRANSISTOR DV VOLTAGES

SYMBOL No.	DEVI	B	C	E	SYMBOL No.	DEVI	B	C	E	SYMBOL No.	DEVI	B	C	E
Q03,04	2SC1627	18.0V	26.9V	17.3V	Q11	2SB834	-26.1V	-35.5V	-25.5V	Q23,24	2SA1145	44.7V	-32.1V	44.4V
Q05,06	2SK246	18.0V	26.9V	18.0V	Q15,16	2SC2240	9.9V	34.4V	9.3V	Q25,26	2SA1145	44.4V	1.6V	45.0V
Q07,08	2SC2240	0.8V	-	1.0V	Q17,18	2SC2240	9.9V	34.4V	9.3V	Q27,28	2SC2705	-46.1V	0.3V	-46.7V
Q09	2SA970	-	-	-	Q19,20	2SC2240	34.4V	44.7V	33 mV	-	-	-	-	-
Q10	2SD880	27.5V	35.7V	26.9V	Q21,22	2SC2240	34.4V	44.4V	33 mV	-	-	-	-	-

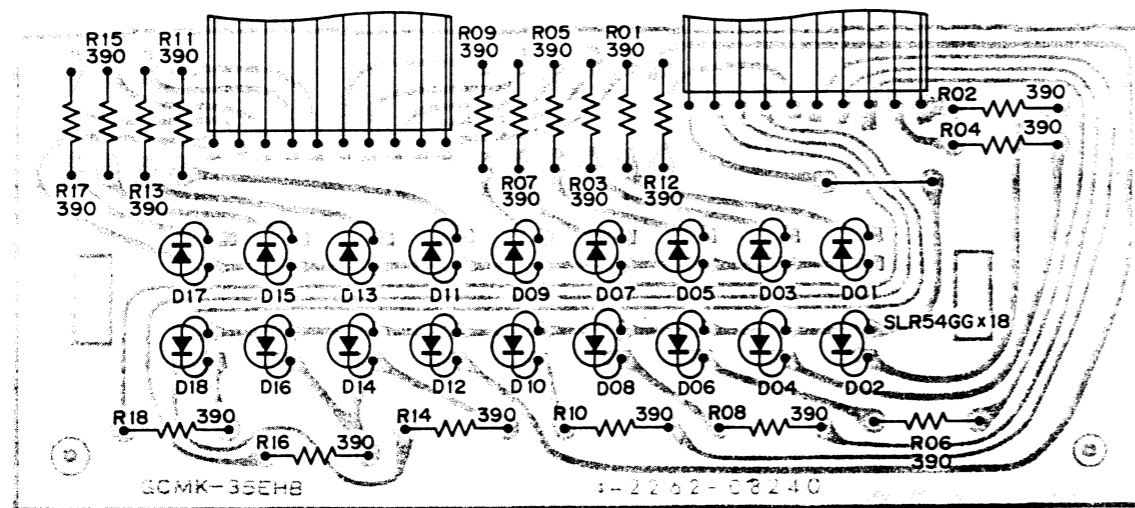
LEVEL IND. P.C.BOARD (BOTTOM VIEW)



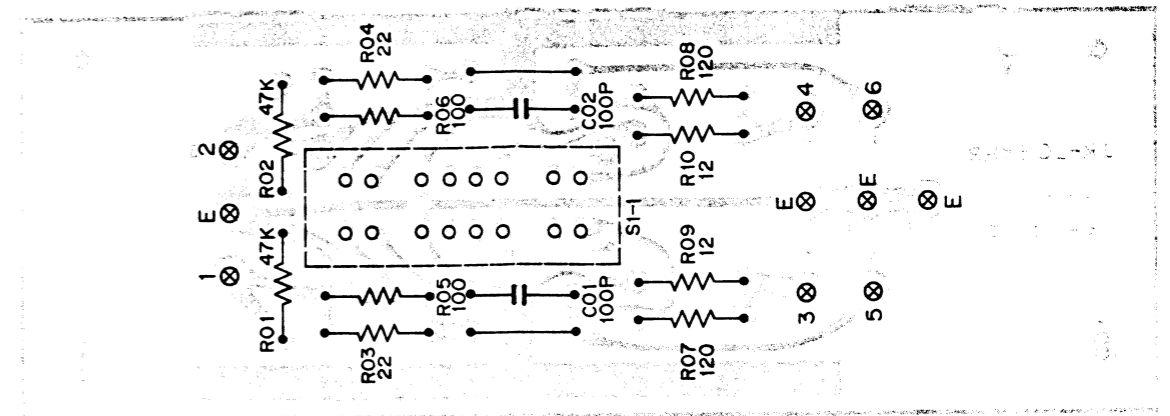
TRANSISTOR DC VOLTAGES				
SYMBOL No.	DEVICE	B	C	E
Q01	2SD880	8.2V	10.9V	7.6V
Q02	2SC1815	8.8V	10.9V	8.2V

IC PIN NUMBERS DC VOLTAGES																	
SYMBOL No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC01,02	LB1409	7.6V	2.7V	56 mV	0.3V	1.9V	0V	0.3V	0.3V	0.3V	0.3V	0.3V	0.3V	0.3V	0.3V	4.8V	-

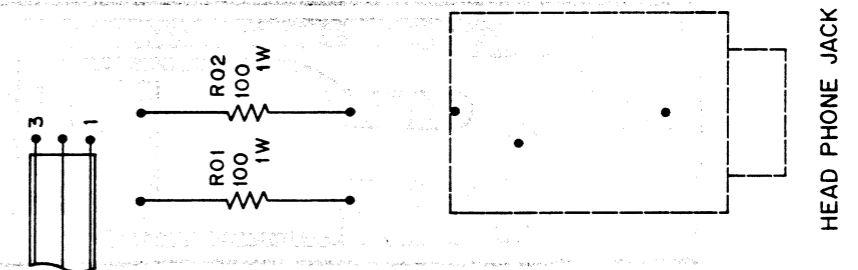
L.E.D. P.C.BOARD (BOTTOM VIEW)



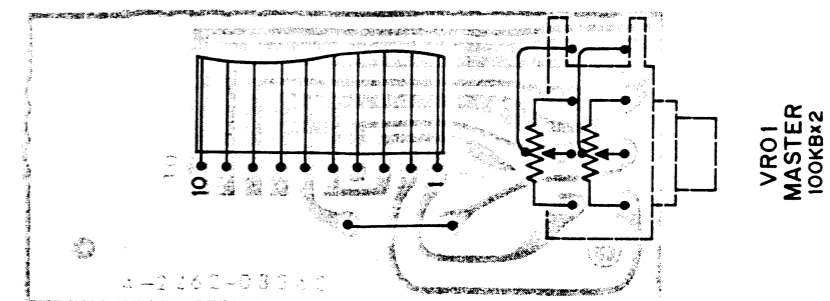
MM/MC SELECT P.C.BOARD (BOTTOM VIEW)



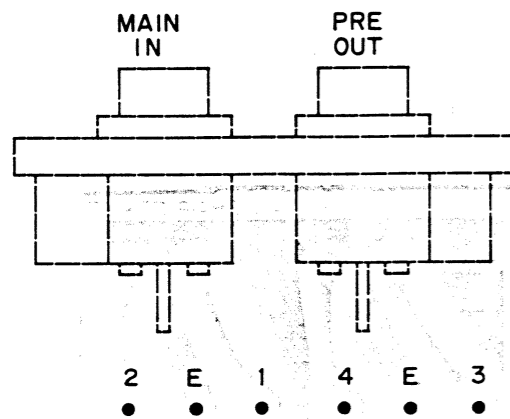
HEADPHONE JACK P.C.BOARD (BOTTOM VIEW)



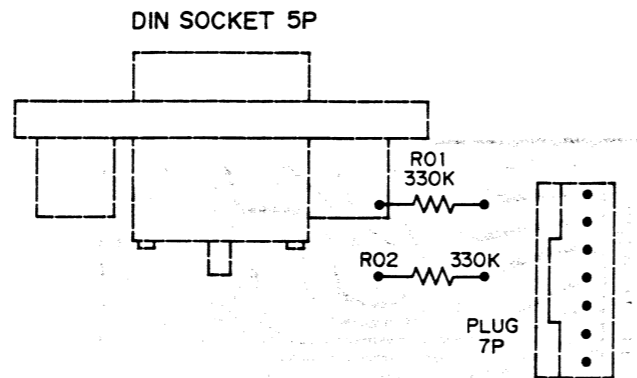
VOLUME CONTROL P.C.BOARD (BOTTOM VIEW)



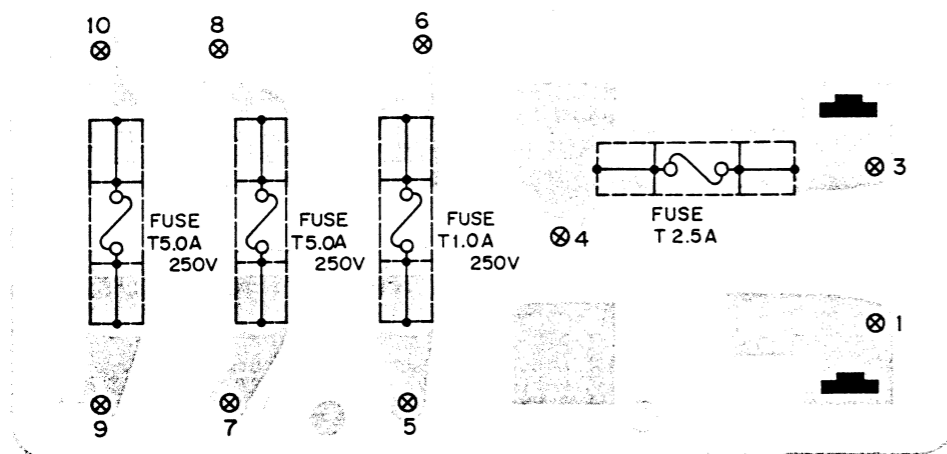
RCA PIN P.C.BOARD
(BOTTOM VIEW)



DIN P.C.BOARD
(BOTTOM VIEW)



FUSE P.C.BOARD
(BOTTOM VIEW)



PARTS LIST

MAIN, EQ, POWER P.C.B. Assy
131 0 4001 07055

Ref. No.	Parts Number	Description
	4 2359 23180	Socket 4P
	4 2359 23220	RCA 6P Jack
	4 2362 00360	Plug 4P
	4 2362 00400	Plug 7P
	4 2362 00410	Plug 8P
	4 2362 00440	Plug 3P
	4 2372 00900	Earth Terminal
	4 2372 00960	Terminal 8P
RY01	4 2322 00170	Relay
S04	4 2312 02580	Switch Slide 4-6
S10	4 2312 02600	Switch Slide 6-4
L01,02	4 2532 00180	RF Filter Coil
VR01	4 2222 01280	VR 100-B (Center Zero Adjust)
VR02	4 2222 01280	VR 100-B (Center Zero Adjust)
VR03	4 2222 02120	VR 30k-B (Idling Current Adjust)
VR04	4 2222 02120	VR 30k-B (Idling Current Adjust)
	HLL-PTH487A-BE	Posistor PTH487A-B

CAPACITORS

C03,04	C0JRE-228A	Electrolytic 2200 μ F 6.3V
C05,06	C1HCZK102BPA	Ceramic 1000 pF 50V \pm 10%
C07,08	C1HFYK473APA	Mylar 0.047 μ F 50V \pm 10%
C09,10	C1HFYK332APA	Mylar 0.0033 μ F 50V \pm 10%
C11,12	C1HFRK103A	Mylar 0.01 μ F 50V \pm 10%
C13,14	C1HRY-475APA	Electrolytic 4.7 μ F 50V
C15,16	C1HCZN472XPA	Ceramic 0.0047 μ F 50V \pm 30%
C17,20	C1ERY-106APA	Electrolytic 10 μ F 25V
C18,19	C1ERY-476APA	Electrolytic 47 μ F 25V
C21,22	C1HRE-107A	Electrolytic 100 μ F 50V
C23,24	C1VRE-107A	Electrolytic 100 μ F 35V
		25,26
C27,28	4 2232 00600	Electrolytic 15000 μ F 63V
C29,30	4 2232 00430	Ceramic 0.01 μ F x 2 250V
C31,32	C1HRY-105APA	Electrolytic 1 μ F 50V
		33
C34	C1CRY-106APA	Electrolytic 10 μ F 16V
C35	C1ARE-337A	Electrolytic 330 μ F 10V
C36	C1CRY-106APA	Electrolytic 10 μ F 16V
C37	C1ARE-337A	Electrolytic 330 μ F 10V
C41,42	C1HFRJ184ML	Mylar 0.18 μ F 50V \pm 5%
		43,44
C45,46	C1HRY-225APA	Electrolytic 2.2 μ F 50V
C47,48	C1HCZK271BPA	Ceramic 270 pF 50V \pm 10%
C49,50	C1HCZK221BPA	Ceramic 220 pF 50V \pm 10%
C51,52	C1HCZJ101SPA	Ceramic 100 pF 50V \pm 5%
		53,54
C55,56	C1HCZJ120CPA	Ceramic 12 pF 50V \pm 5%
C57,58	C1HCZK102BPA	Ceramic 1000 pF 50V \pm 10%
C59,60	C1HCZJ470SPA	Ceramic 47 pF 50V \pm 5%
C61,62	C1HCZJ120CPA	Ceramic 12 pF 50V \pm 5%
C63,64	C1JRE-337A	Electrolytic 330 μ F 63V
		65,66
C67,68	C1HCZK151BPA	Ceramic 150 pF 50V \pm 10%
		69,70
C71,72	C1HFYK473APA	Mylar 0.047 μ F 50V \pm 10%
C73,74	C1JRY-105APA	Electrolytic 1 μ F 63V
C75,76	C1JRE-105A	Electrolytic 1 μ F 63V
C77,78	C1HFRK104A	Mylar 0.1 μ F 50V \pm 10%
C79,80	C1HCZK6R8CPA	Ceramic 6.8 pF 50V \pm 10%

Ref. No. Parts Number Description

CAPACITORS

C81,82	C1HRY-105APA	Electrolytic 1 μ F 50V
C83,84	C1ECZM103XPA	Ceramic 10000 pF 25V \pm 20%
		85
C87,88	C1HCZM122DPA	Ceramic 0.0012 μ F 50V \pm 20%
C89,90	C1VRE-476A	Electrolytic 47 μ F 35V
C91	C1HRE-105A	Electrolytic 1 μ F 50V

SEMICONDUCTORS

D01,02	202 5 3210 18010	Zener Diode, GZA18L
D03,04	202 5 3220 27010	Zener Diode, GZA27
D05	DDD-D48B20	Bridge Diode, D48B20
D06	DCC-10D1	Diode, 10D1
D07,08	205 5 9040 44210	Diode, DS-442
		09,10
D11	DCC-10D1	Diode, 10D1
D12,13	205 5 9040 44210	Diode, DS-442
		14,15
D16,17	202 5 3210 24020	Zener Diode, GZA24U
IC01	IJJ-NJM4559DX	IC, NJM4559DX
IC02	IKK-HA12002	IC, HA12002 (Protector)
IC03,04	206 5 5898 28010	IC, STK8280-II (Power Amp)
Q01,02	TTT-2SK147-B	FET 2SK147
Q03	TTT-2SC1627A Y	TR 2SC1627A Y
Q04	TTT-2SA817-Y	TR 2SA817-Y
Q05,06	TTT-2SK246-GR	FET 2SK246
Q07,08	TTT-2SC2240-BL	TR 2SC2240 BL
Q09	TTT-2SA970-BL	TR 2SA970 BL
Q10	TTT-2SD880-GR	TR 2SD880 GR
Q11	TTT-2SB834-GR	TR 2SB834 GR
Q13,14	TVV-2SK185	FET (Dual) 2SK185
Q15,16	TTT-2SC2240-BL	TR 2SC2240 BL
		17,18,19,20,21,22
Q23,24	TTT-2SA1145-Y	TR 2SA1145 Y
		25,26
Q27,28	TTT-2SC2705-Y	TR 2SC2705 Y

RESISTORS

R07,08	R2EDZJ392APA	Carbon 3.9k 1/4W \pm 5%
		09,10
R11,12	R2EDZJ472APA	Carbon 4.7k 1/4W \pm 5%
R13,14	R2EDZJ101APA	Carbon 100 1/4W \pm 5%
R19,20	R2EDZJ683APA	Carbon 68k 1/4W \pm 5%
R21,22	R2EDZJ562APA	Carbon 5.6k 1/4W \pm 5%
R23,24	R2EDZJ101APA	Carbon 100 1/4W \pm 5%
R25,26	R2EDZJ471APA	Carbon 470 1/4W \pm 5%
R27,28	R2EDZJ224APA	Carbon 220k 1/4W \pm 5%
R29,30	R3WEPK681A	Cemen 680 3W \pm 1 0%
R31,32	R2HXB152A	Oxide Metal Film 1.5k 1/2W \pm 5%
R33,34	R2EDZJ821APA	Carbon 820 1/4W \pm 5%
R35	R3AXB1222A	Oxide Metal Film 2.2k 1W \pm 5%
R36	R2EDZJ334APA	Carbon 330k 1/4W \pm 5%
R37	R2EDZJ154APA	Carbon 150k 1/4W \pm 5%
R38	R3AXB1272A	Oxide Metal Film 2.7k 1W \pm 5%
R39	R2EDZJ154APA	Carbon 150k 1/4W \pm 5%
R40	R2EDZJ183APA	Carbon 18k 1/4W \pm 5%
R41,42	R2EDZJ104APA	Carbon 100k 1/4W \pm 5%
R43,44	R2EDZJ103APA	Carbon 10k 1/4W \pm 5%
R45,46	R2EDZJ102APA	Carbon 1k 1/4W \pm 5%

PARTS LIST (Continued)

FUNCTION P.C.B. Assy 131 0 4001 07100

Ref. No.	Parts Number	Description
RESISTORS		
R47,48	R2EDZJ101APA	Carbon 100 1/4W ±5%
R49,50	R3DXPK100A	Oxide Metal Film 10 2W ±10%
R51,52	R3AXBJ100A	Oxide Metal Film 10 1W ±5%
R53,54	R2EDZJ104APA	Carbon 100k 1/4W ±5%
R55,56	R2EDZJ105APA	Carbon 1M 1/4W ±5%
R57,58	R2EDZJ102APA	Carbon 1k 1/4W ±5%
R59,60	R2EDZJ393APA	Carbon 39k 1/4W ±5%
R61,62	R2EDZJ823APA	Carbon 82k 1/4W ±5%
R63,64	R2EDZJ223APA	Carbon 22k 1/4W ±5%
R65,66	R2EDZJ822APA	Carbon 8.2k 1/4W ±5%
67,68		
R69,70	R2EDZJ681APA	Carbon 680 1/4W ±5%
R71,72	R2EDZJ104APA	Carbon 100k 1/4W ±5%
R73,74	R2EDZJ821APA	Carbon 820 1/4W ±5%
R75,76	R2EDZJ471APA	Carbon 470 1/4W ±5%
77,78		
R79,80	R2EDZJ823APA	Carbon 82k 1/4W ±5%
81,82		
R83,84	R2EDZJ123APA	Carbon 12k 1/4W ±5%
R85,86	R2EDZJ222APA	Carbon 2.2k 1/4W ±5%
87,88		
R89,90	R2EDZJ101APA	Carbon 100 1/4W ±5%
91,92		
R93,94	R2EDZJ471APA	Carbon 470 1/4W ±5%
95,96		
R97,98	R2EDZJ272APA	Carbon 2.7k 1/4W ±5%
R99,100	R2EDZJ121APA	Carbon 120 1/4W ±5%
R101,102	R2EDZJ101APA	Carbon 100 1/4W ±5%
103,104		
R105,106	R2EDZJ103APA	Carbon 10k 1/4W ±5%
R107,108	R2HZPK470A	Fuse 47 1/2W ±10%
109,110		
R111,112	R2EDZJ223APA	Carbon 22k 1/4W ±5%
R113,114	R2EDZJ682APA	Carbon 6.8k 1/4W ±5%
R115,116	R2HXBJ182A	Oxide Metal Film 1.8k 1/2W ±5%
R117,118	R2EDZJ121APA	Carbon 120 1/4W ±5%
R119,120	R2EDPJ122A	Carbon 1.2k 1/4W ±5%
R121,122	R2EDZJ123APA	Carbon 12k 1/4W ±5%
R123,124	R3DXBJ471A	Oxide Metal Film 470 2W ±5%
R127	R2EDZJ472APA	Carbon 4.7k 1/4W ±5%
R128	R2EDZJ222APA	Carbon 2.2k 1/4W ±5%
R129	R2EDZJ822APA	Carbon 8.2k 1/4W ±5%
R130	R3AXBJ562A	Oxide Metal Film 5.6k 1W ±5%

VOLUME P.C.B. Assy 131 0 4001 07161

Ref. No.	Parts Number	Description
VR01	4 2222 02240	VR 100k-Bx2

RCA PIN P.C.B. Assy 131 0 4001 07063

Ref. No.	Parts Number	Description
	4 2359 23180	Socket 4P

Ref. No.	Parts Number	Description
	4 2312 02540	Switch Push 4Key
	4 2362 00440	Plug 3P
	131 0 4006 22231	Cord Assy
	131 0 4006 22244	Cord Assy

PRE AMP P.C.B. Assy 131 0 4001 07090

Ref. No.	Parts Number	Description
	4 2312 02530	Switch Push 4Key
J01	131 0 4006 22237	Cord Assy
J02	131 0 4006 22214	Cord Assy
J03	131 0 4006 22200	Cord Assy
J04	131 0 4006 22213	Cord Assy
S06	4 2312 03910	Switch Push 1Key
VR02	4 2222 01351	VR 250k-MINx2 (Balance)
VR03	4 2222 01341	VR 100k-Cx2 (Bass)
VR04	4 2222 01341	VR 100k-Cx2 (Treble)

CAPACITORS

C01,02	C1HCZK681BPA	Ceramic 680 pF 50V ±10%
C03,04	C1HFKYK153APA	Mylar 0.015 μF 50V ±10%
C05,06	C1HRY-105APA	Electrolytic 1 μF 50V
C07,08	C1HCZJ101SPA	Ceramic 100 pF 50V ±5%
C09,10	C1HCZK471BPA	Ceramic 470 pF 50V ±10%
C11,12	C1ERY-106APA	Electrolytic 10 μF 25V
C13,14	C1HCZJ820SPA	Ceramic 82 pF 50V ±5%
C15,16	C1ERY-106APA	Electrolytic 10 μF 25V
C17,18	C1HFKYK333APA	Mylar 0.033 μF 50V ±10%
C19,20	C1HFKYK223APA	Mylar 0.022 μF 50V ±10%
C21,22	C1HFRK154A	Mylar 0.15 μF 50V ±10%
C23,24	C1HFKYK392APA	Mylar 0.0039 μF 50V ±10%
C25,26	C1HFKYK333APA	Mylar 0.033 μF 50V ±10%
C27,28	C1ERY-476APA	Electrolytic 47 μF 25V

SEMICONDUCTORS

IC01,02	ITT-TA7322P	IC, TA7322P
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RESISTORS

R01,02	R2EDZJ472APA	Carbon 4.7k 1/4W ±5%
R03,04	R2EDZJ153APA	Carbon 15k 1/4W ±5%
R05,06	R2EDZJ224APA	Carbon 220k 1/4W ±5%
R07,08	R2EDZJ221APA	Carbon 220 1/4W ±5%
R09,10	R2EDZJ683APA	Carbon 68k 1/4W ±5%
R11,12	R2EDZJ331APA	Carbon 330 1/4W ±5%
R13,14	R2EDZJ564APA	Carbon 560k 1/4W ±5%
R15,16	R2EDZJ682APA	Carbon 6.8k 1/4W ±5%
R17,18	R2EDZJ122APA	Carbon 1.2k 1/4W ±5%
R19,20	R2EDZJ152APA	Carbon 1.5k 1/4W ±5%
R21,22	R2EDZJ684APA	Carbon 680k 1/4W ±5%
R23,24	R2EDZJ105APA	Carbon 1M 1/4W ±5%
R25,26	R2EDZJ153APA	Carbon 15k 1/4W ±5%
R27,28	R2EDZJ272APA	Carbon 2.7k 1/4W ±5%
R29,30	R2EDZJ471APA	Carbon 470 1/4W ±5%
R31,32	R2EDZJ561APA	Carbon 560 1/4W ±5%
R33,34	R2HXBJ102A	Oxide Metal Film 1k 1/2W ±5%

PARTS LIST (Continued)

FUSE P.C.B. Assy 131 0 4001 07140

Ref. No.	Parts Number	Description
△	4 2349 20380	Fuse T 1.0A
△	4 2349 20570	Fuse T 2.5A
△	4 2349 21470	Fuse T 5.0A
	4 2352 00200	Fuse Clip

HEADPHONE JACK P.C.B. Assy 131 0 4001 07081

Ref. No.	Parts Number	Description
	4 2352 00970	Headphone Jack 3P

RESISTORS

R01,02	R3AXBJ101A	Oxide Metal Film 100 1W ±5%
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MM/MC SELECT P.C.B. Assy 131 0 4001 07500

Ref. No.	Parts Number	Description
S01	4 2312 02560	Switch Slide 4-2

CAPACITORS

C01,02	C1HCZJ101SPA	Ceramic 100 pF 50V ±5%
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RESISTORS

R01,02	R2EDZJ473APA	Carbon 47k 1/4W ±5%
R03,04	R2EDZJ220APA	Carbon 22 1/4W ±5%
R05,06	R2EDZJ101APA	Carbon 100 1/4W ±5%
R07,08	R2EDZJ121APA	Carbon 120 1/4W ±5%
R09,10	R2EDZJ120APA	Carbon 12 1/4W ±5%

L.E.D. P.C.B. Assy 131 0 4001 07130

Ref. No.	Parts Number	Description
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SEMICONDUCTOR

D01,02	DYY-SLR-54GG	L.E.D., SLR-54GG (Green)
	03,04,05,06,07,08,09,10	
	11,12,13,14,15,16,17,18	

RESISTORS

R01,02	R2EDZJ391APA	Carbon 390 1/4W ±5%
	03,04,05,06,07,08,09,10	
	11,12,13,14,15,16,17	
R18	R2EDPJ391A	Carbon 390 1/4W ±5%

TAPE SELECT P.C.B. Assy 131 0 4001 07110

Ref. No.	Parts Number	Description
	4 2312 02551	Switch Joint
	131 0 4006 22229	Cord Assy
	131 0 4006 22237	Cord Assy
S02	4 2312 02550	Switch Push 2Key

Ref. No.	Parts Number	Description
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SEMICONDUCTORS

D01	202 5 3210 10020	Zener Diode, GZA10U
Q01,02	TTT-2SC1959-Y	TR 2SC1959 Y

RESISTORS

R01	R2EDZJ473APA	Carbon 47k 1/4W ±5%
R02	R2EDZJ103APA	Carbon 10k 1/4W ±5%

LEVEL IND. P.C.B. Assy 131 0 4001 07124

Ref. No.	Parts Number	Description
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	4 2362 00440	Plug 3P
VR01	4 2222 01400	VR 10k-B
VR02	4 2222 01400	VR 10k-B
VR03	4 2222 00990	VR 1k-B
VR04	4 2222 00990	VR 1k-B

CAPACITORS

C01	C1ERE-477A	Electrolytic 470 μF 25V
C02	C1CRE-107A	Electrolytic 100 μF 16V
C03,04	C1HRY-105APA	Electrolytic 1 μF 50V
	05,06	
C07,08	C1ERY-475APA	Electrolytic 4.7 μF 25V
C09,10	4 2232 00430	Ceramic 0.01 μF x 2.250V
C13	C1ARY-476APA	Electrolytic 47 μF 10V

SEMICONDUCTORS

D01	202 5 4610 01010	Diode, DBA-10B
D02	202 5 3210 09110	Zener Diode, GZA9.1L
IC01,02	206 5 2441 40910	IC, LB1409
Q01	TTT-2SD880--GR	TR 2SD880 GR
Q02	TTT-2SC1815-BL	TR 2SC1815 BL

RESISTORS

R01,02	R2EDZJ223APA	Carbon 22k 1/4W ±5%
	03,04	
R05,06	R2EDZJ823APA	Carbon 82k 1/4W ±5%
R07,08	R2EDZJ183APA	Carbon 18k 1/4W ±5%
R09,10	R2EDZJ103APA	Carbon 10k 1/4W ±5%
R11,12	R2HXB150A	Oxide Metal Film 15 1/2W ±5%
R13	R2EDZJ222APA	Carbon 2.2k 1/4W ±5%
R14	R2HXB2R2A	Oxide Metal Film 2.2 1/2W ±5%

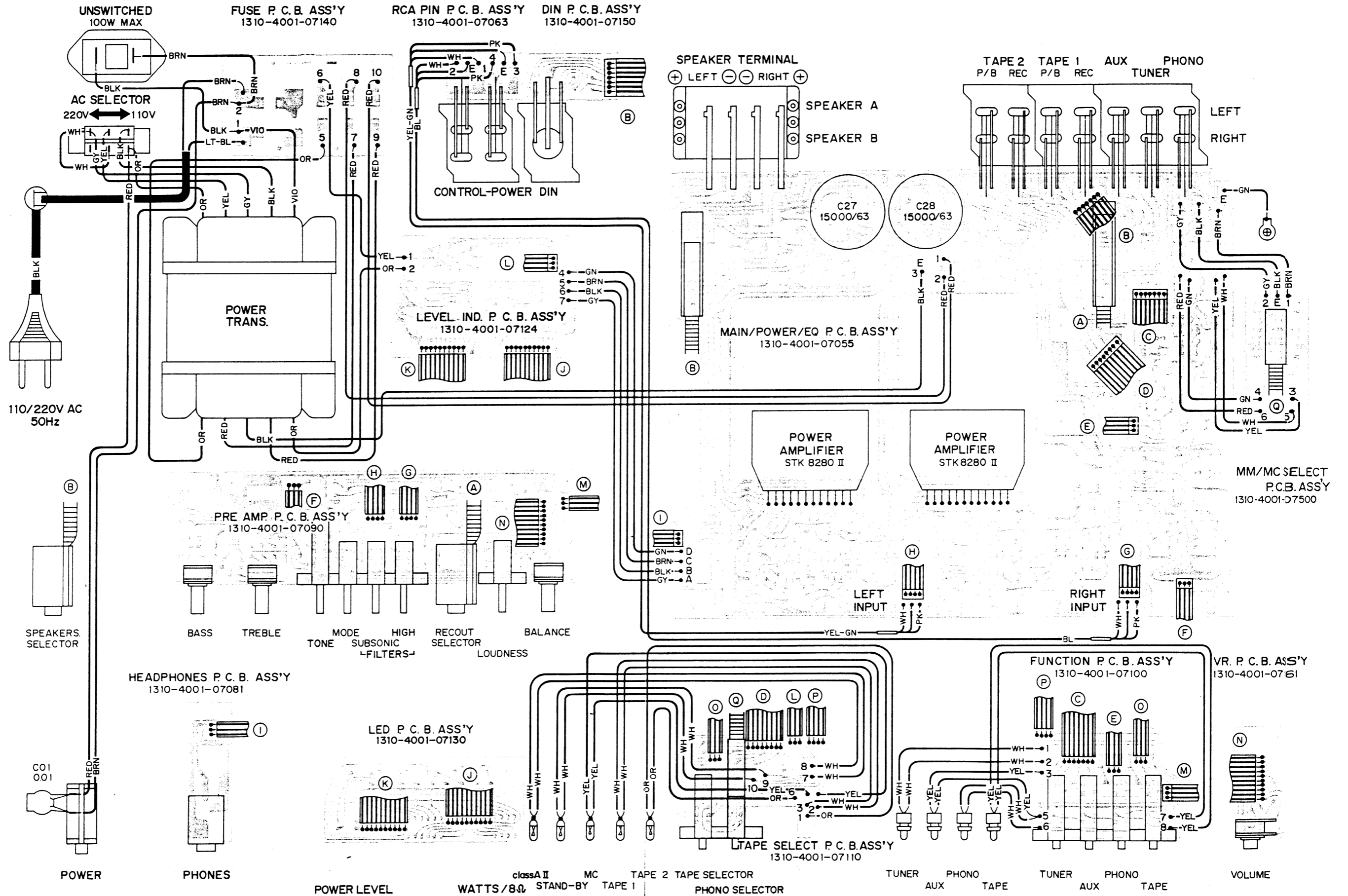
DIN P.C.B. Assy 131 0 4001 07150

Ref. No.	Parts Number	Description
	4 2352 00780	DIN Socket 5P
	4 2362 00400	Plug 7P

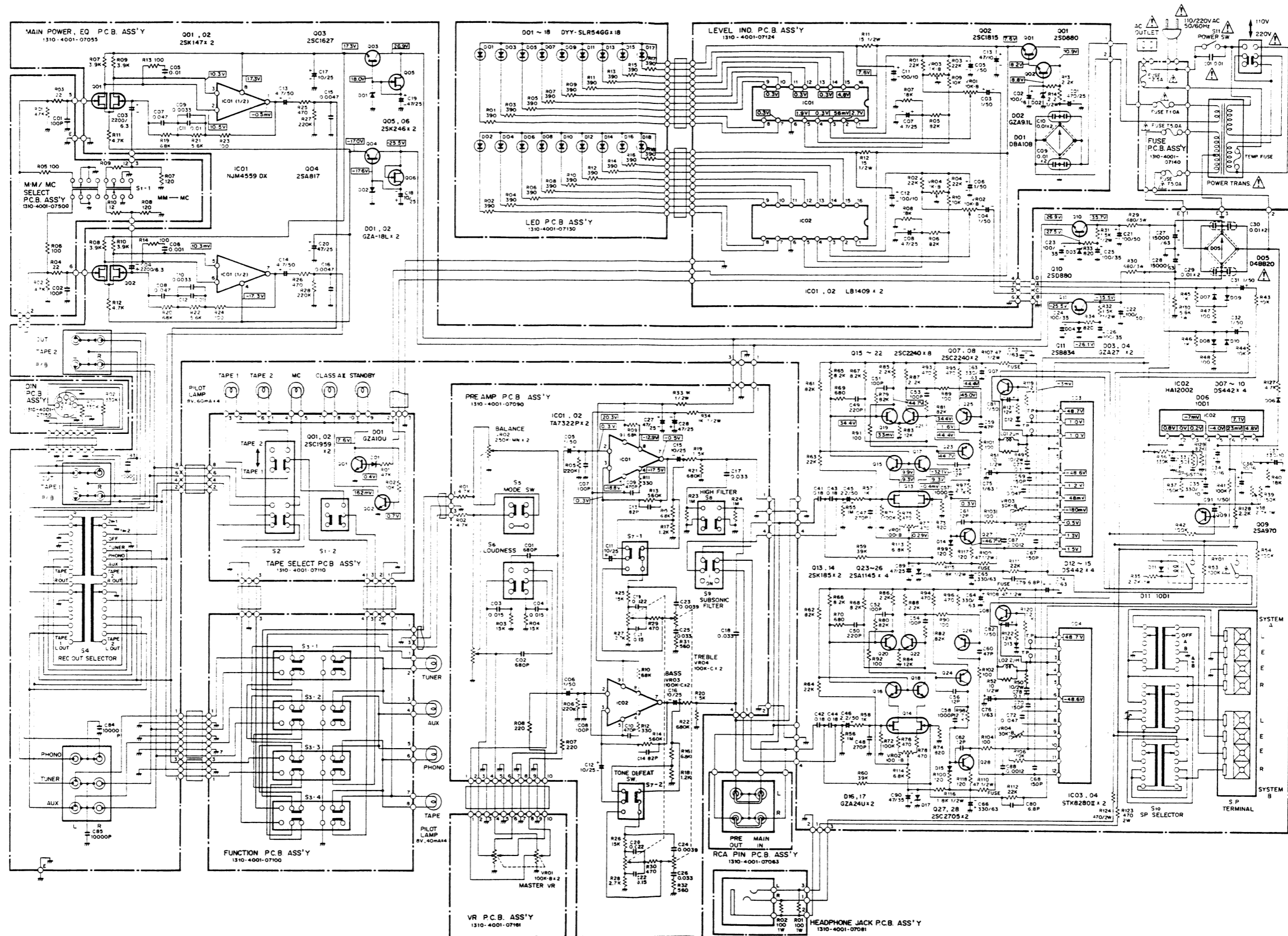
RESISTORS

R01,02	R2EDZJ334APA	Carbon 330k 1/4W ±5%
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POINT TO POINT WIRING DIAGRAM



SCHEMATIC DIAGRAM



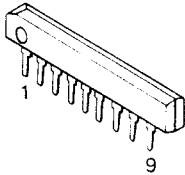
- NOTES:
1. All resistors values are indicated in "ohm" (K=10³, M=10⁶).
 2. All capacitor values are indicated in "μF" (P=10⁻¹²).
 3. All voltages indicated on the schematics are measured under the following conditions.
 - a. Use a V.T.V.M.
 - b. All voltages ±10% with respect to chassis ground
 - c. No signals at input terminals
 - d. AC input at 220 volts 50Hz
 4. This is a basic schematic diagram.

Because Fisher products are subject to continuous improvement, Fisher Corporation reserves the right to make any changes or modifications without notice.

SEMICONDUCTOR LEAD IDENTIFICATION

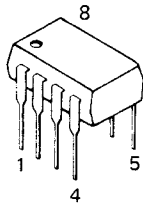
INTEGRATED CIRCUITS

TONE AMP IC



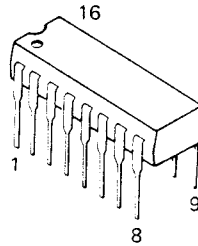
- TA7322P

EQ AMP IC



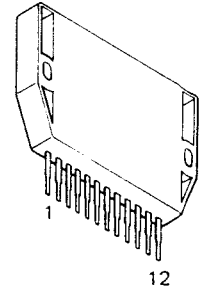
- NJM4559DX

L.E.D. LEVEL METER IC



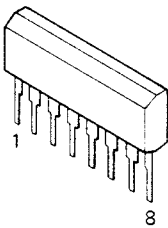
- LB1409

POWER AMP IC



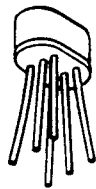
- STK8280II

PROTECTOR CIRCUIT
MONO AMP IC



- HA12002

TRANSISTORS



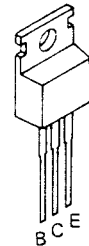
- 2SK185



- 2SA970
- 2SC1815
- 2SC1959
- 2SC2240

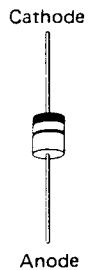


- 2SA817
- 2SA1145
- 2SC1627A
- 2SC2705

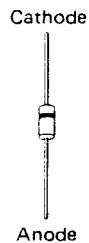


- 2SD880
- 2SB834

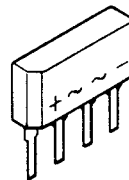
DIODES



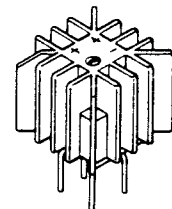
- 10D1



- GZA9.1L
- GZA10U
- GZA18L
- GZA24
- GZA27
- DS-442



- DBA10B



- D4BB20

PRODUCT SAFETY NOTICE

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A COMPONENT REPLACEMENT IS MADE IN ANY AREA OF AN UNIT. COMPONENTS INDICATED BY A MARK Δ IN THIS SCHEMATIC DIAGRAM SHOW COMPONENTS WHOSE VALUE HAS SPECIAL SIGNIFICANCE TO PRODUCT SAFETY. IT IS PARTICULARLY RECOMMENDED THAT ONLY PARTS SPECIFIED ON THE ATTACHED PARTS LIST BE USED FOR COMPONENT REPLACEMENT POINTED OUT BY THE MARK.