

SERVICE MANUAL

STEREO AMPLIFIER



DCA 311

(USA)



SPECIFICATIONS (Nominal)

POWER AMPLIFIER SECTION

Power	30 watts per channel RMS minimum continuous power, with maximum total harmonic distortion of 0.08 % at 8 ohms.
Frequency Response	20 Hz – 20 kHz

PRE AMPLIFIER SECTION

Frequency Response	
Phono (20 Hz – 20 kHz)	±0.5 dB
Aux (20 Hz – 20 kHz)	±0.5 dB
Input Sensitivity and Impedance	
Phono	2.5 mV/50k ohms
Tape	150 mV/30k ohms
Tuner	150 mV/30k ohms
Auxiliary	150 mV/30k ohms
Tone Controls	
Bass (100 Hz)	±10 dB
Treble (10 kHz)	±10 dB

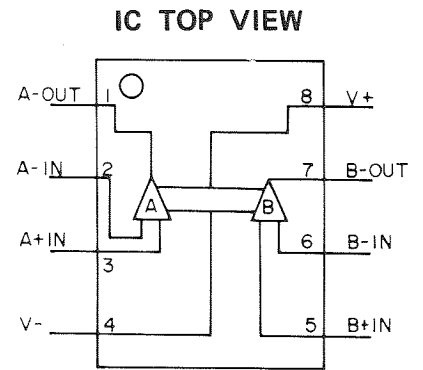
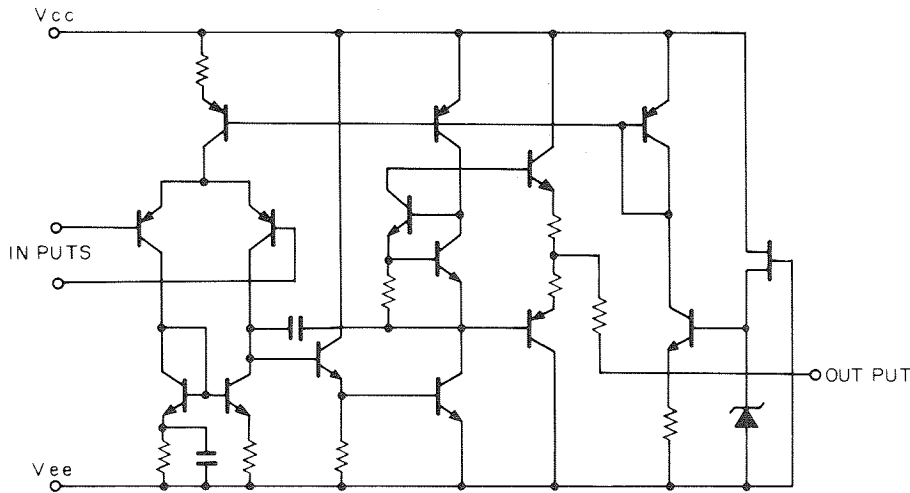
High Filter	at 6 kHz (6 dB/Oct.)	-6 dB
Loudness Cont.	(100 Hz/10 kHz)	+8 dB/+4dB
Hum and Noise	(IHF Short Circuit, A Net Work)	
Phono		70 dB
Tape		100 dB
Tuner		100 dB
Auxiliary		100 dB
Output Level		
Tape		150 mV

GENERAL SECTION

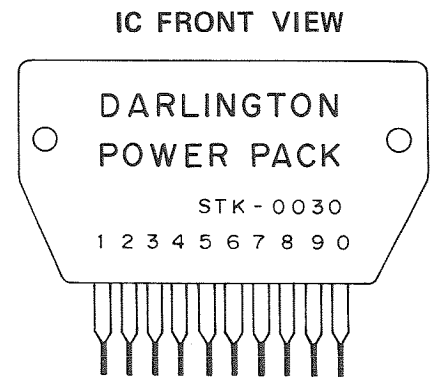
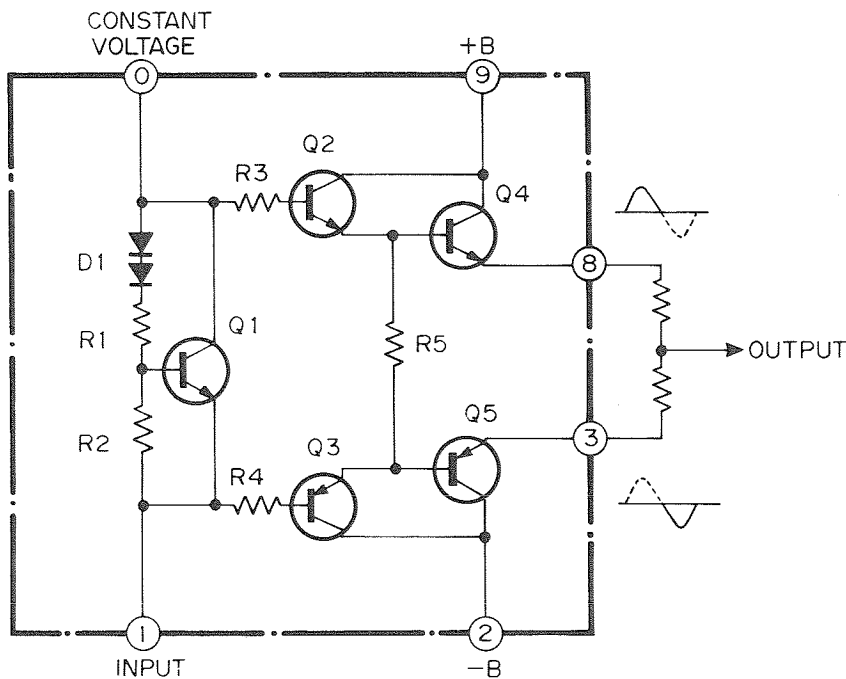
Power Source	AC: 120 V, 60 Hz
Power Consumption	160 W
Dimensions (W) x (D) x (H)	16-1/2" x 13-3/4" x 5-7/8"
Weight	19.9 lbs. (approx.)

* Specifications are subject to change without notice.

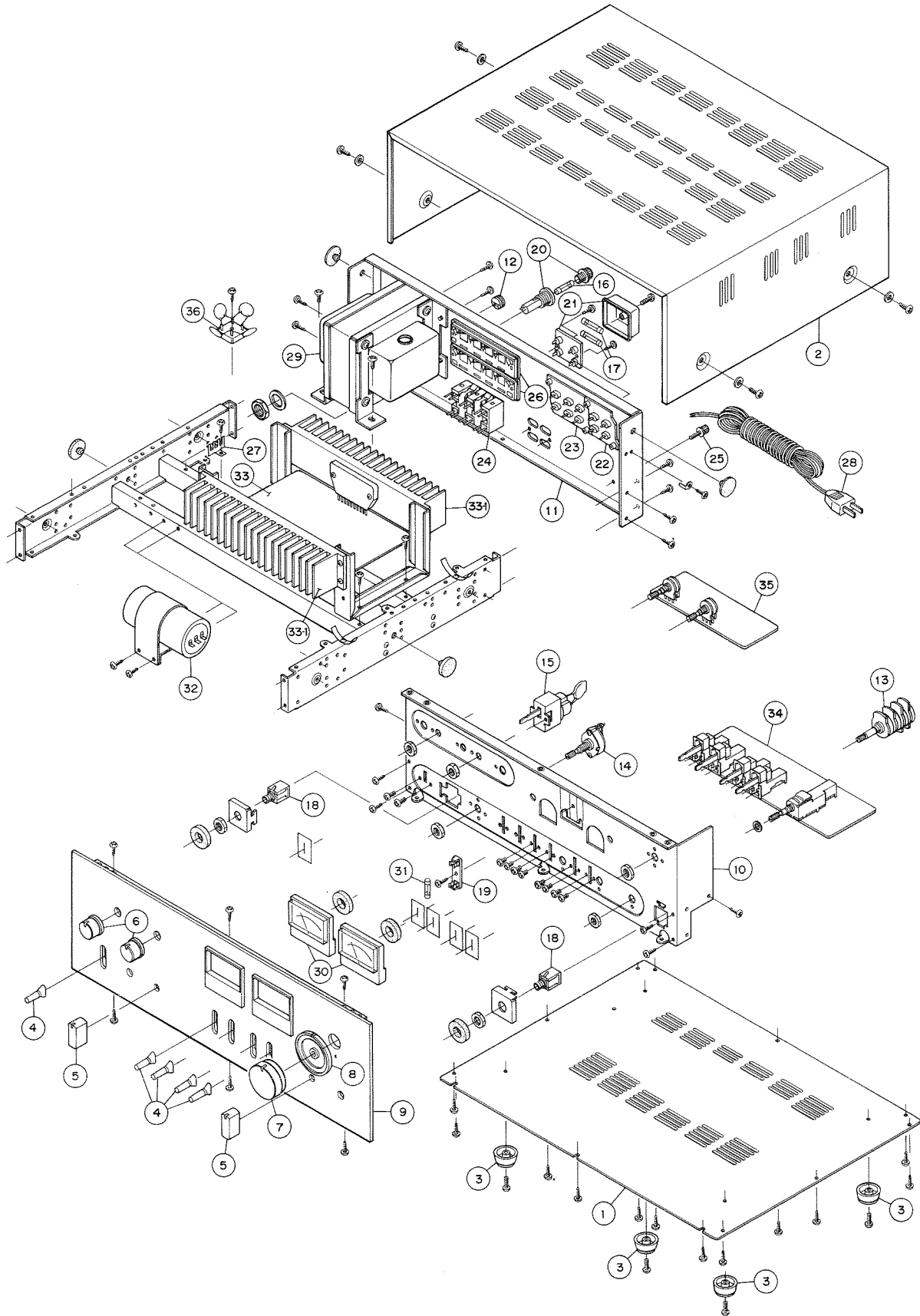
EQ AMP IC NJM 4558D BLOCK DIAGRAM & EQUIVALENT CIRCUIT



MAIN AMP IC STK-0030 EQUIVALENT CIRCUIT



EXPLODED VIEW OF CABINET AND CHASSIS



PARTS LIST

Ref.No.	Parts No.	Description	Q'ty
PACKING PARTS LIST			
	131 6 1139 58025	Box Corrugate-EXP	1
	131 6 2119 01441	Bag Polyethylene-EXP	1
	131 6 3009 20560	Pad (Right & Left)	2
ACCESSORY PARTS LIST			
	131 6 2719 10600	Bag Fan	1
	131 6 4119 66201	Explanatory Booklet	1
CABINET PARTS LIST			
1	131 2 1105 16300	Plate Bottom	1
2	131 2 1410 14502	Cover	1
3	131 2 1801 13200	Leg (Plate Bottom)	4
APPEARANCE PARTS LIST			
4	131 0 1001 37605	Knob Assy, Lever Switches (Power, High, Loudness, Mode, Tape)	5
5	131 0 1001 42501	Knob Assy (Function, Speakers)	2
6	131 0 1001 44401	Knob Assy (Treble, Bass)	2
7	131 0 1001 44501	Knob Assy (Volume)	1
8	131 0 1001 45100	Knob Assy (Balance)	1
9	131 0 1016 26901	Panel Decorate Assy (Dress Panel)	1
CHASSIS PARTS LIST			
10	131 2 3305 23500	Panel Front	1
11	131 2 3306 25903	Panel Rear	1
12	131 2 6111 11300	Bushing	1
ELECTRICAL PARTS LIST			
13	4 2222 00010	Volume, Balance 250k MNx2, 50k Ax2	1
14	4 2312 00670	Switch Rotary	1
15	4 2319 24383	Switch Lever 2P (AC Line)	1
16	4 2349 20720	Fuse 3A (AC Line)	1
17	4 2349 21241	Fuse 2.5A (Protector)	2
18	4 2352 00030	Jack Headphone (Headphone, REC Out)	2
19	4 2359 20160	Lamp Holder (Power IND)	1
20	4 2359 21110	Fuse Holder (AC Line)	1
21	4 2359 22030	Fuse Holder 2P (Protector)	1
22	4 2359 22710	Socket 4P (Accessory Jack)	1
23	4 2359 22920	Socket 6P (Accessory Jack)	1
24	4 2359 23420	Socket (AC Outlet)	1
25	4 2379 21650	Terminal 1P (GND)	1
26	4 2379 21801	Terminal 4P (Speakers)	2
27	4 2379 21840	Terminal (GND)	1
28	4 2439 20600	Power Cord	1
29	4 2512 03310	Power Transformer	1
30	4 5112 00030	Meter VU (Power Level)	2
31	4 6129 20280	Pilot Lamp, Power IND (6.3V 0.25A)	1
32	4 2239 21200	Electrolytic 4700 μ Fx2 50V	1
33	131 0 4001 90403	Main AMP P.C.B. Assy	1
33-1	131 2 6201 24500	Plate Heat Sink	2
34	131 0 4001 90501	EQ AMP Swtiches P.C.B. Assy	1
35	131 0 4001 90600	Tone Control P.C.B. Assy	1
C01,03 04,05 06	C2HYDP103A--	Ceramic 0.01 μ F 500V +100,-0%	5
C08,09	C1HYDZ473A--	Ceramic 0.047 μ F 50V +80,-20%	2
36, D01	DDD-S4VB20---	Bridge Diode S4VB20	1
R01,02	R3DXPK331A	Oxide Metal Film 330 2W \pm 10%	2

NOTES:

1. Part orders must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and/or resistors must be multiple of 10 pcs.

PARTS LIST

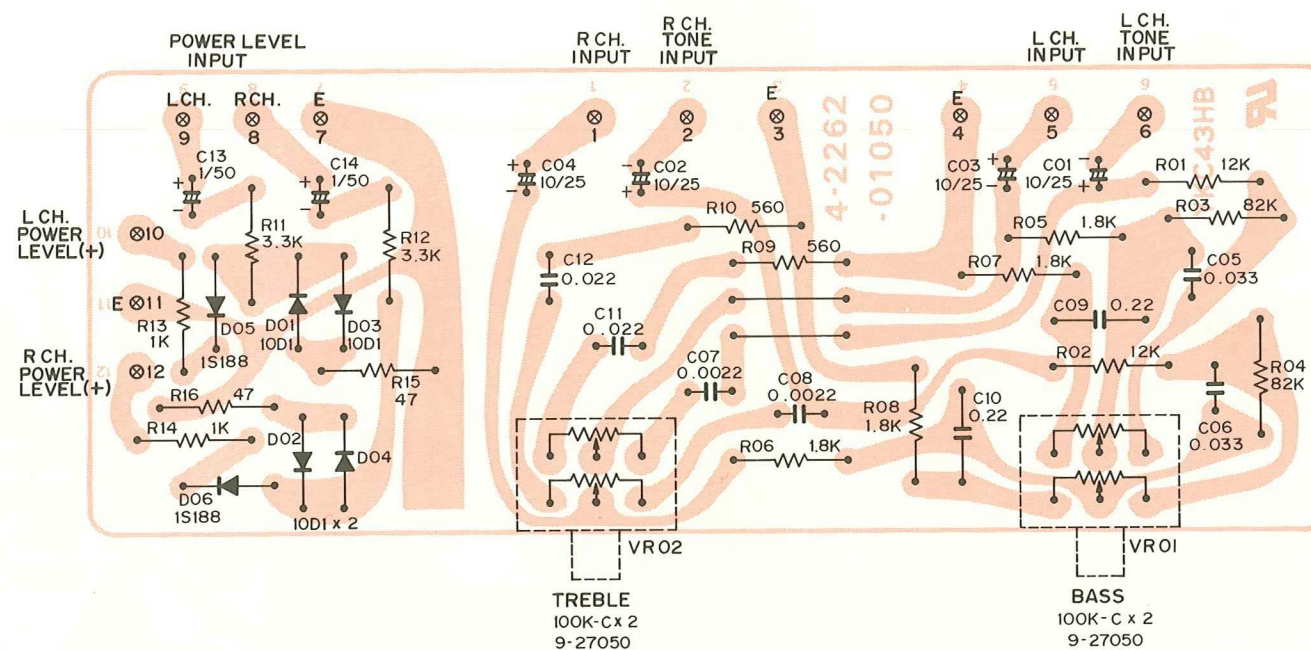
Ref.No.	Parts No.	Description	Q'ty
tone control P.C.B. ASSY			
VR01,02	131 0 4001 90600 4 2229 27050	Tone Control P.C.B. Assy VR 100k Cx2 Bass, Treble	1 2
CAPACITORS			
C01,02 03,04	C1ERB-106A--	Electrolytic 10 μ F 25V	4
C05,06	C1HFAK333A--	Mylar 0.033 μ F 50V \pm 10%	2
C07,08	C1HFAK222A--	Mylar 0.0022 μ F 50V \pm 10%	2
C09,10	C1HFAK224A--	Mylar 0.22 μ F 50V \pm 10%	2
C11,12	C1HFAK223A--	Mylar 0.022 μ F 50V \pm 10%	2
C13,14	C1HRB-105A--	Electrolytic 1 μ F 50V	2
SEMICONDUCTORS			
D01,02 03,04	DCC-10D1----N	Diode 10D1	4
D05,06	202 5 9110 18820	Diode IS188FM1	2
RESISTORS			
R01,02	R2EDZJ123APA	Carbon 12k 1/4W \pm 5%	2
R03,04	R2EDZJ823APA	Carbon 82k 1/4W \pm 5%	2
R05,06 07,08	R2EDZJ182APA	Carbon 1.8k 1/4W \pm 5%	4
R09,10	R2EDZJ561APA	Carbon 560 1/4W \pm 5%	2
R11,12	R2EDZJ332APA	Carbon 3.3k 1/4W \pm 5%	2
R13,14	R2EDZJ102APA	Carbon 1k 1/4W \pm 5%	2
R15,16	R2EDZJ470APA	Carbon 47 1/4W \pm 5%	2
EQ AMP SWITCHES P.C.B. ASSY			
S03	131 0 4001 90501 4 2312 00610	EQ AMP Switches P.C.B. Assy Switch Rotary Slide	1 1
S04,05 06,07	4 2312 00620	Switch Lever	4
CAPACITORS			
C01,02	C1ETRM475A--	Tantalum 4.7 μ F 25V \pm 20%	2
C03,04	C1ARB-476A--	Electrolytic 47 μ F 10V	2
C05,06	C1HFAJ472A--	Mylar 0.0047 μ F 50V \pm 5%	2
C07,08	C1HFAJ183A--	Mylar 0.018 μ F 50V \pm 5%	2
C09,10	C1EUEM105A--	Alisicon 1 μ F 25V \pm 20%	2
C11,12	C1ERB-227A--	Electrolytic 220 μ F 25V	2
C13,14	C1HFAK153A--	Mylar 0.015 μ F 50V \pm 10%	2
C15,16	C1HYSK681R--	Ceramic 680pF 50V \pm 10%	2
C17,18	C1HFAK224A--	Mylar 0.22 μ F 50V \pm 10%	2
SEMICONDUCTORS			
D01,02	DJZ-WZ162----	Diode WZ162 (Zener 16.2V)	2
IC01	IJJ-NM4558D	IC NJM4558D-D	1
RESISTORS			
R01,02	R2EDZJ152APA	Carbon 1.5k 1/4W \pm 5%	2
R03,04 05,06	R2EDZJ104APA	Carbon 100k 1/4W \pm 5%	4
R07,08	R2EDZJ271APA	Carbon 270 1/4W \pm 5%	2
R09,10	R2EDZJ153APA	Carbon 15k 1/4W \pm 5%	2
R11,12	R2EDZJ224APA	Carbon 220k 1/4W \pm 5%	2
R13,14	R2EDZJ272APA	Carbon 2.7k 1/4W \pm 5%	2
R15,16	R2EDZJ102APA	Carbon 1k 1/4W \pm 5%	2
R17,18	R2EDZJ222APA	Carbon 2.2k 1/4W \pm 5%	2
R19,20	R2EDZJ105APA	Carbon 1M 1/4W \pm 5%	2
R21,22	R2EDZJ182APA	Carbon 1.8k 1/4W \pm 5%	2
R25,26	R2EDZJ152APA	Carbon 1.5k 1/4W \pm 5%	2

Ref.No.	Parts No.	Description	Q'ty
MAIN AMP P.C.B. ASSY			
	131 0 4001 90403	Main AMP P.C.B. Assy	1
CAPACITORS			
C01,02	C1ERB-106A--	Electrolytic 10 μ F 25V	2
C03,04	C1HCSK471SL-	Ceramic 470pF 50V \pm 10%	2
C05,06	C1VRB-106A--	Electrolytic 10 μ F 35V	2
C07,08 09,10	C1HRB-107A--	Electrolytic 100 μ F 50V	4
C11,12	C1HCSK470SL-	Ceramic 47pF 50V \pm 10%	2
C13,14	C1ARB-107A--	Electrolytic 100 μ F 10V	2
C15	C1HRB-106A--	Electrolytic 10 μ F 50V	1
C16	C1HRB-476A--	Electrolytic 47 μ F 50V	1
C17	C1HRB-105A--	Electrolytic 1 μ F 50V	1
C25,26	C1HFAK-104A-	Mylar 0.1 μ F 50V \pm 10%	2
C31,32	C1HCDC030SL-	Ceramic 3pF 50V \pm 0.25%	2
SEMICONDUCTORS			
D01,02	DJJ-WZ-210---	Diode WZ-210	2
D03,04 05,06 07,08	205 5 9040 44210	Diode DS-442	6
D09	DCC-10D1----N	Diode 10D1	1
D10	205 5 9020 43011	Diode DS-430	1
D11	DNN-RD12E----	Diode RD12E	1
IC01,02	206 5 6030 03010	IC STK-0030	2
Q01,02	203 5 6870 54540	TR 2SD545D	2
Q03,04	TMM-2SA798--F	TR 2SA798F	2
Q05,06 07,08	203 5 5151 57170	TR 2SC1571G	4
Q09,10	203 5 6920 43840	TR 2SD438	2
Q11,12	203 5 6930 56040	TR 2SB560D	2
Q13,14	203 5 5100 53660	TR 2SC536F	2
RESISTORS			
R01,02	R2EDZJ102APA	Carbon 1k 1/4W \pm 5%	2
R03,04	R2EDZJ154APA	Carbon 150k 1/4W \pm 5%	2
R05,06	R2EDZJ222APA	Carbon 2.2k 1/4W \pm 5%	2
R07,08	R2EDZJ223APA	Carbon 22k 1/4W \pm 5%	2
R09,10 11,12	R2EDZJ102APA	Carbon 1k 1/4W \pm 5%	4
R13,14	R2EDZJ681APA	Carbon 680 1/4W \pm 5%	2
R15,16	R2EDZJ103APA	Carbon 10k 1/4W \pm 5%	2
R17,18	R2EDZJ151APA	Carbon 150 1/4W \pm 5%	2
R19,20	R2EDZJ102APA	Carbon 1k 1/4W \pm 5%	2
R21,22	R2EDZJ820APA	Carbon 82 1/4W \pm 5%	2
R23,24	R2EDZJ563APA	Carbon 56k 1/4W \pm 5%	2
R25,26	R2EDZJ562APA	Carbon 5.6k 1/4W \pm 5%	2
R27,28	R2HZPK100A	Fuse 10 1/2W \pm 10%	4
29,30			
R31,32 33,34	R3WEIKR47A	Cement 0.47 3W	4
R35,36	R2EDZJ472APA	Carbon 4.7k 1/4W \pm 5%	2
R37	R2EDZJ223APA	Carbon 22k 1/4W \pm 5%	1
R38	R2EDZJ103APA	Carbon 10k 1/4W \pm 5%	1
R39	R2EDZJ182APA	Carbon 1.8k 1/4W \pm 5%	1
R40	R2EDZJ563APA	Carbon 56k 1/4W \pm 5%	1
R41	R2EDZJ103APA	Carbon 10k 1/4W \pm 5%	1
R57,58	R3DXBJ100A	Oxide Metal Film 10 2W \pm 5%	2

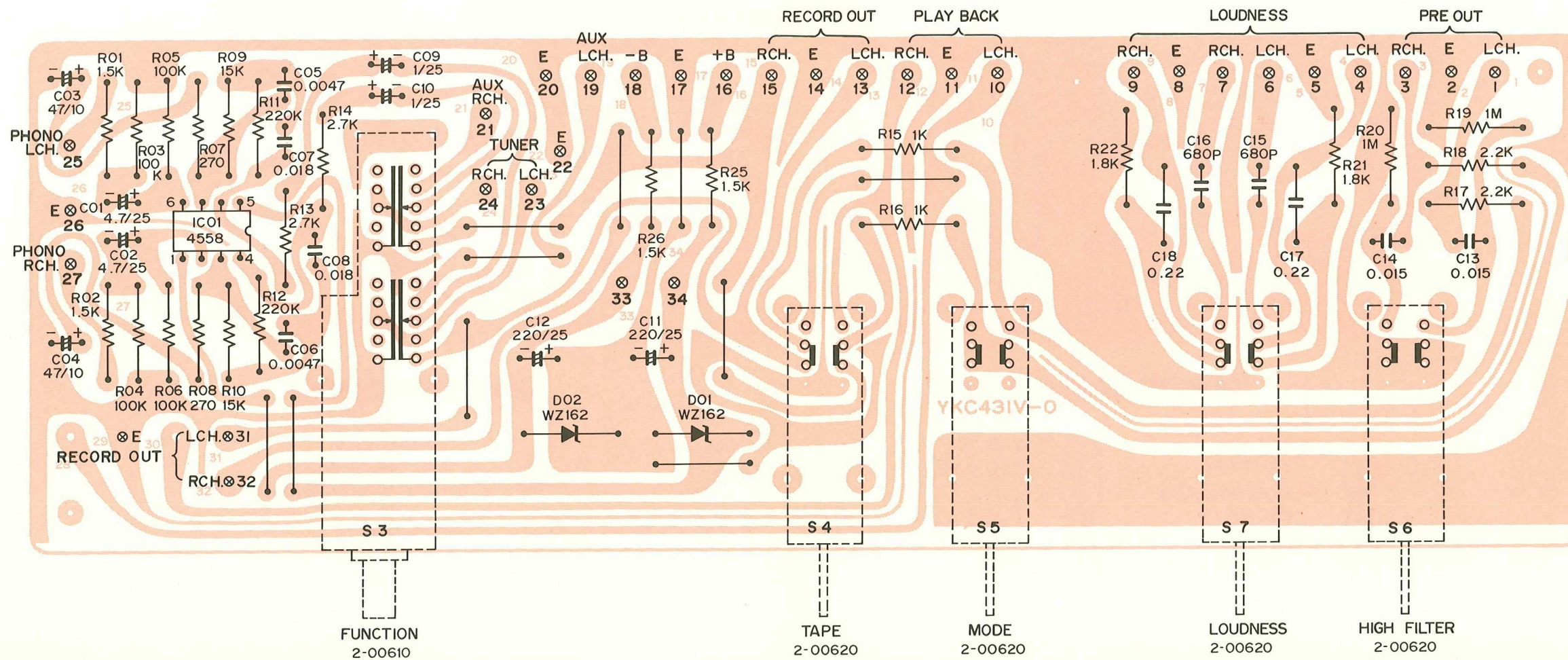
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TONE CONTROL P.C.BOARD (BOTTOM VIEW)

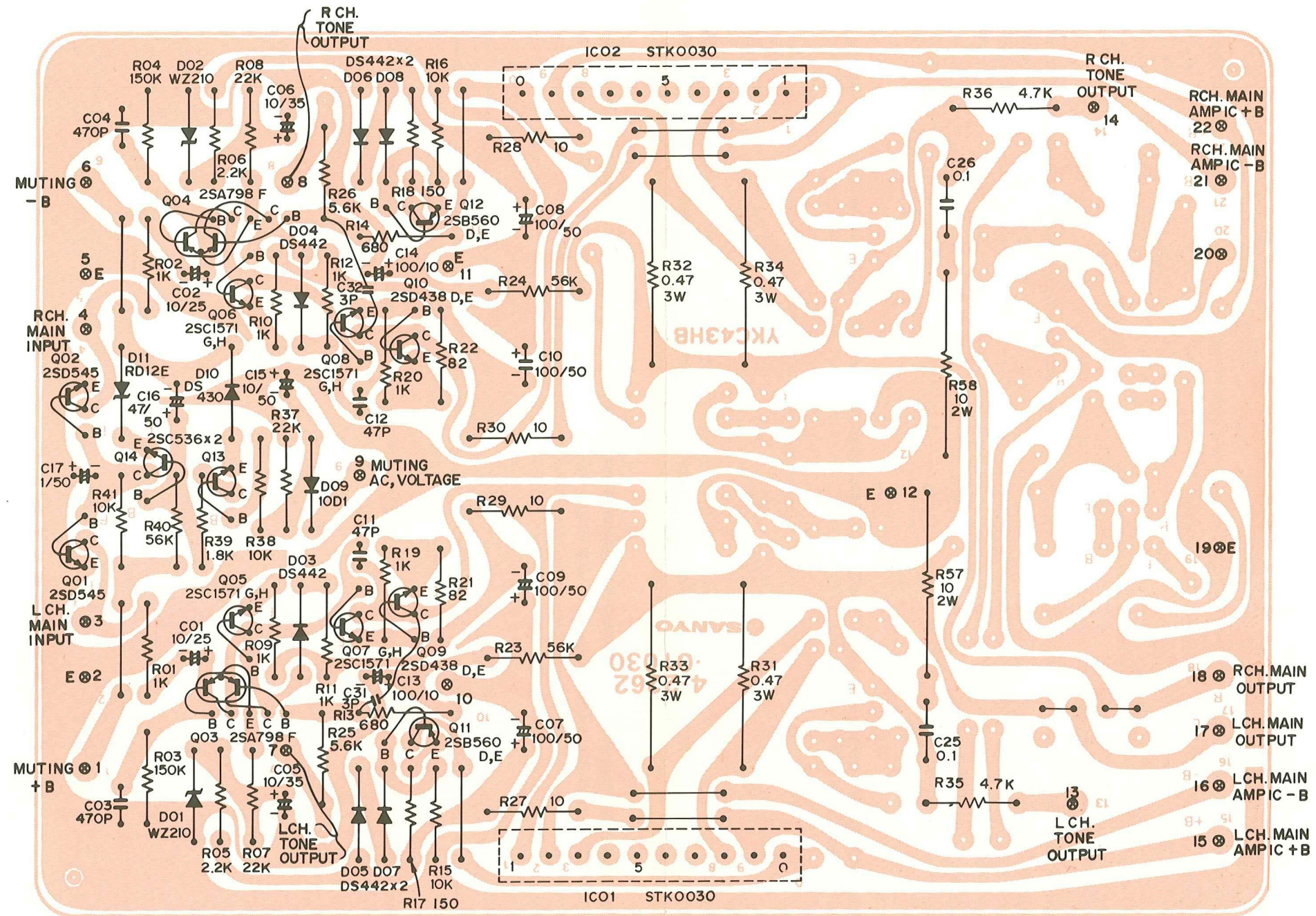


EQ AMP SWITCHES P.C.BOARD (BOTTOM VIEW)



MAIN AMP P.C. BOARD

(BOTTOM VIEW)



TRANSISTOR FRONT VIEW



- Q01, 02
2SD545D
- Q05, 06, 07, 08
2SC1571G
- Q13, 14
2SC536F

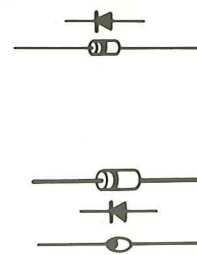


- Q09, 10
2SD438
- Q11, 12
2SB560



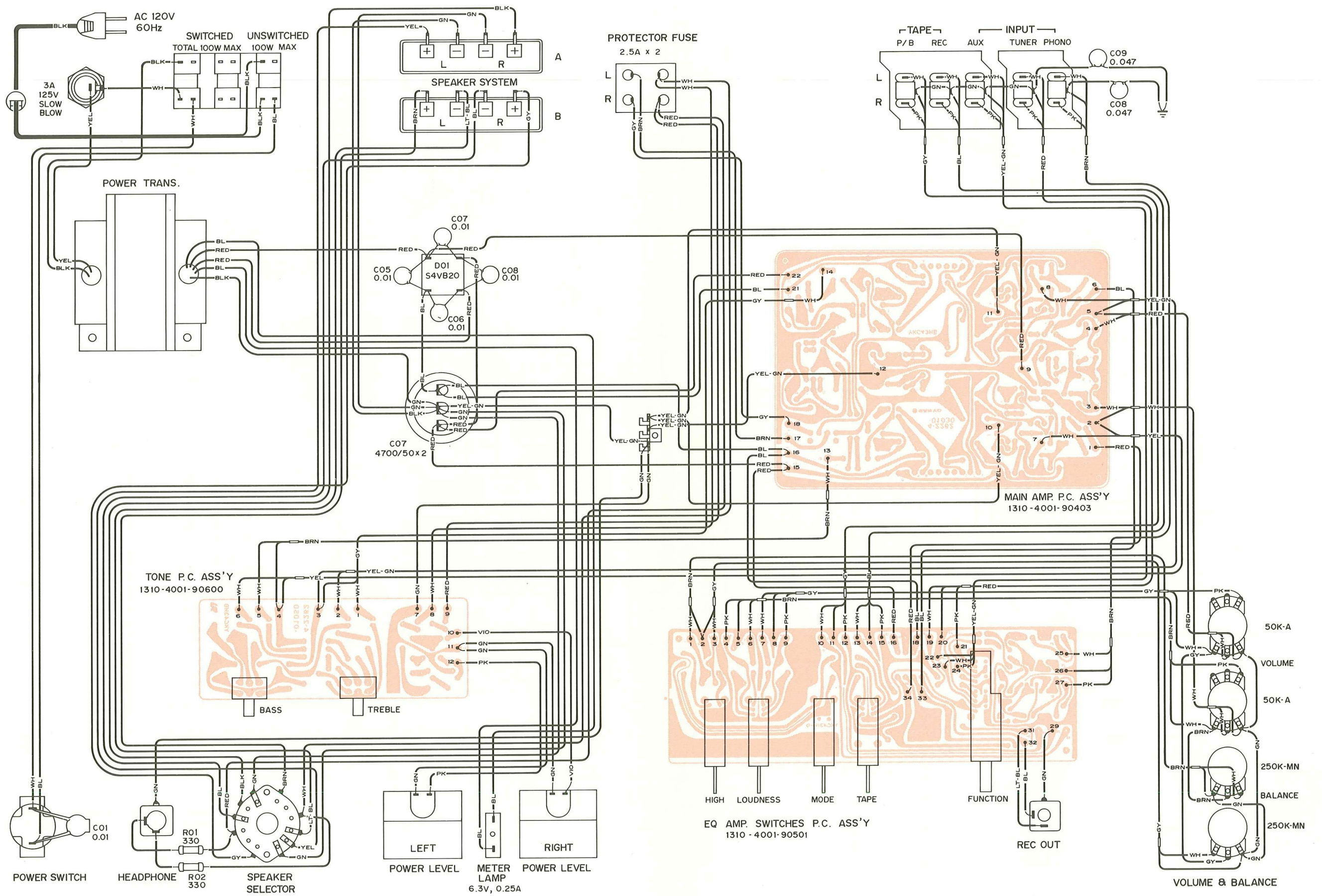
- Q03, 04
2SA798

DIODE FRONT VIEW

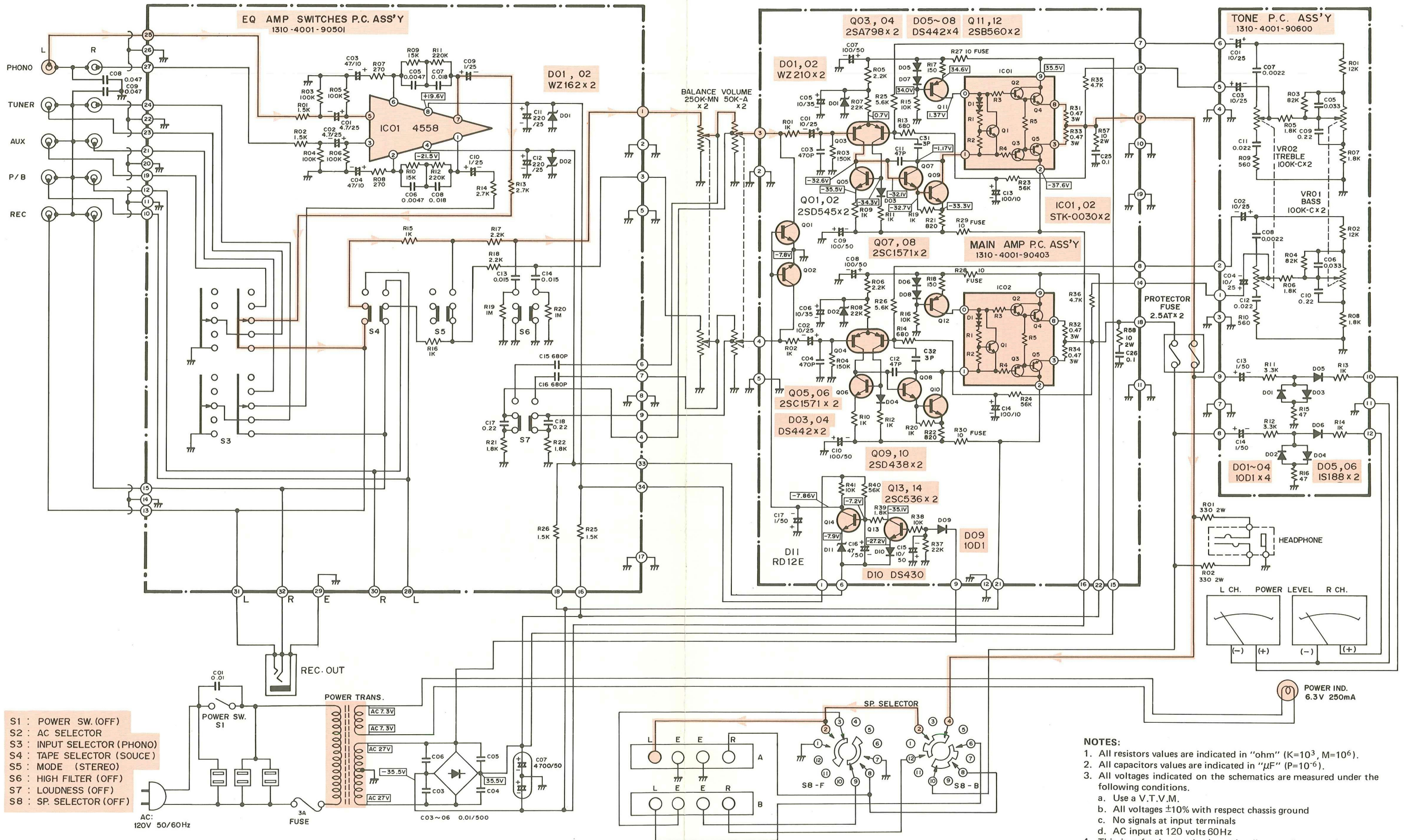


- D01, 02
WZ-210
- D03, 04, 05, 06, 07, 08
DS-442
- D11
RD12E
- D09
10D1
- D10
DS-430

POINT TO POINT WIRING DIAGRAM



SCHEMATIC DIAGRAM



- S1 : POWER SW. (OFF)
- S2 : AC SELECTOR
- S3 : INPUT SELECTOR (PHONO)
- S4 : TAPE SELECTOR (SOURCE)
- S5 : MODE (STEREO)
- S6 : HIGH FILTER (OFF)
- S7 : LOUDNESS (OFF)
- S8 : SP. SELECTOR (OFF)

- NOTES:**
1. All resistors values are indicated in "ohm" (K=10³, M=10⁶).
 2. All capacitors values are indicated in "μF" (P=10⁻⁶).
 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 chassis ground
 - c. No signals at input terminals
 - d. AC input at 120 volts 60Hz
 4. This is a fundamental schematics diagram. Some products may be modified without notice.

NOTES

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