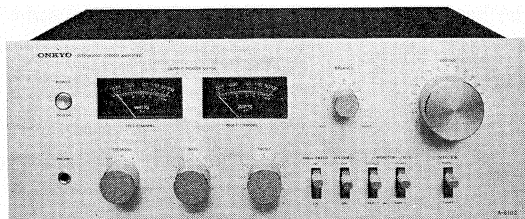


**ONKYO® SERVICE MANUAL**

**INTEGRATED STEREO  
AMPLIFIER  
Model A-5100**

**SPECIFICATIONS**

Power Output		Tone Control	
Dynamic:	140 watts total at 4 ohms 0.1% THD. 100 watts total at 8 ohms 0.1% THD.	BASS:	±8 dB at 100 Hz
Continuous:	39 watts per channel, min. RMS at 8 ohms both channels driven, 1 kHz, 0.1% THD. 35 watts per channel, min. RMS, at 8 ohms both channels driven, from 20 Hz to 20 kHz, 0.1% THD.	TREBLE:	±9 dB at 10 kHz
Total Harmonic		High Cut Filter:	6 kHz (6 dB/oct.)
Distortion:	0.1% at rated power 0.07% at 1 watt output	Loudness:	+6 dB at 70 Hz +5 dB at 10 kHz
IM Distortion:	0.1% at rated power	Signal to noise ratio:	PHONO: 81 dB (IHF A Network, 10 mV input) 73 dB (IHF A Network) 70 dB (IHF C Network)
Frequency Response:	20 ~ 25,000 Hz (±1 dB)	TUNER:	96 dB (IHF A Network) 94 dB (IHF C Network)
RIAA Deviation:	20 ~ 20,000 Hz (±1 dB)	<b>GENERAL</b>	
Damping Factor:	40 at 8 ohms	Power Supply Rating:	AC 110/120/220/240V, 50/60 Hz
Input Sensitivity and		Outputs:	SPEAKER A & B, PHONES TAPE REC 1 & 2
Impedance:	PHONO: 3.5 mV, 50 kohms TUNER: 150 mV, 50 kohms TAPE PLAY 1 & 2: 150 mV, 50 kohms TAPE REC 1 & 2: 150 mV, 2.2 kohms (PHONO)	Inputs:	PHONO TUNER TAPE PLAY 1 & 2
Phono Overload:	200 mV RMS. at 1 kHz, 0.1% THD.	Semiconductors:	4 Transistors, 4 ICs, 15 Diodes
		Dimensions:	418(W) × 149(H) × 306(D) mm 16-1/2" × 5-7/8" × 12-1/16"
		Weight:	7.5 kg (16.5 lbs.)

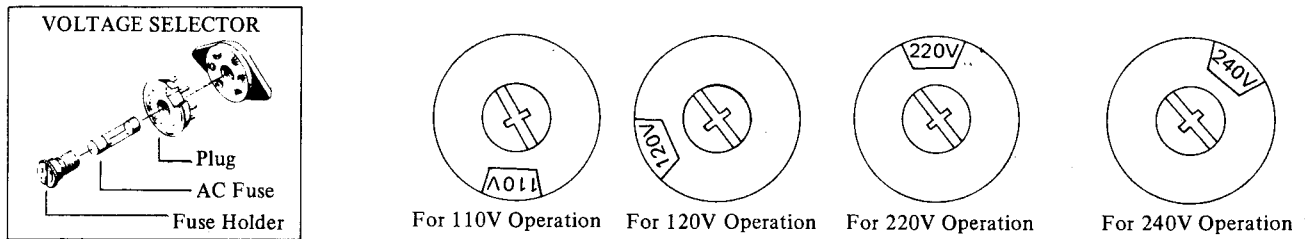
Specifications and features are subject to change without notice for improvement.

**ONKYO®  
AUDIO COMPONENTS**

## VOLTAGE CONVERSION

This model is equipped with a universal power transformer to permit operation at either power source of 110, 120, 220 or 240V AC 50/60Hz.

To convert the unit to a different power source voltage, change the plug as illustrated in the drawing below.



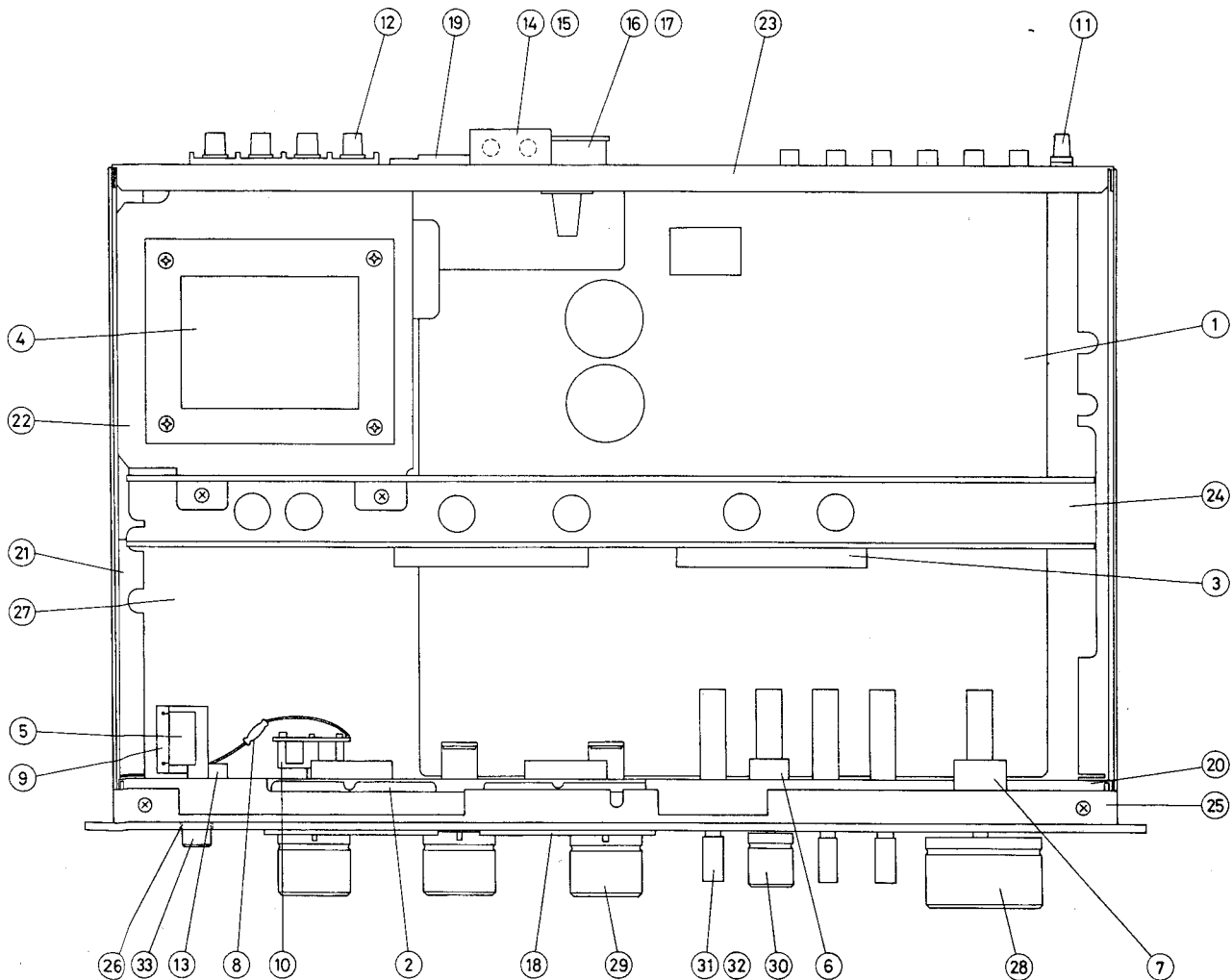
- Cautions:**
1. Disconnect power supply cord from AC outlet before converting voltage.
  2. For continued protection against fire hazard, replace only with same type and same rating fuse.

AC fuse    110/120V model    5A-T (P.N. 252020)    Speaker protection fuse    4A-T (P.N. 252014)  
               220/240V model    3A-T (P.N. 252003)

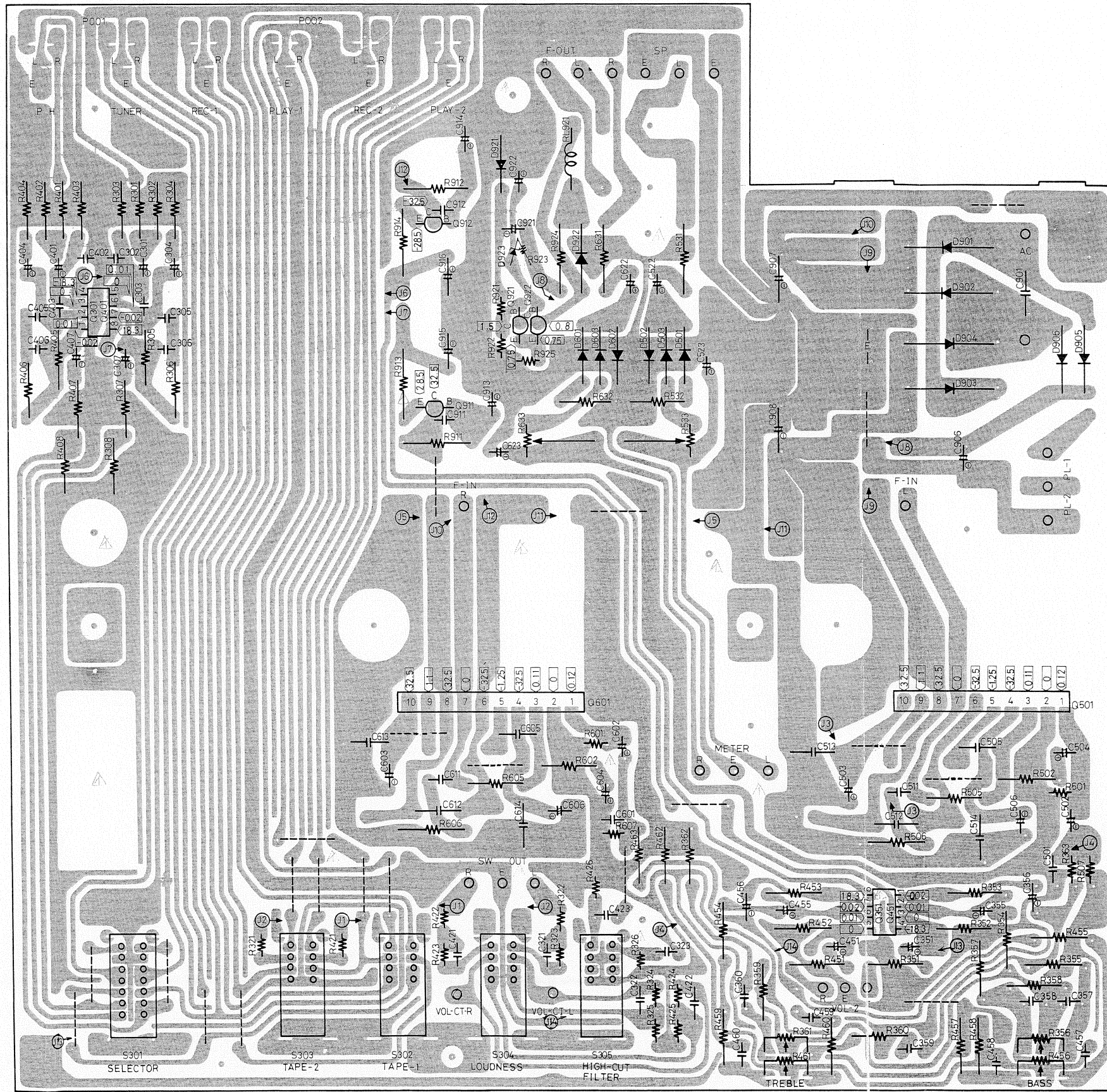
## METER CIRCUIT ADJUSTMENT

1. Connect the hollow resistor of 8 ohms to the speaker terminal and the CR oscillator to the TAPE-1 terminal. Set the CR oscillator to 1kHz, 100mV.
2. Connect the AC VTVM to the speaker terminal.
3. Adjust the voltage to 2.8V with the volume control variable resistor.
4. Adjust R533 (R633) until the output meter pointer deflects the 1W mark on the meter.

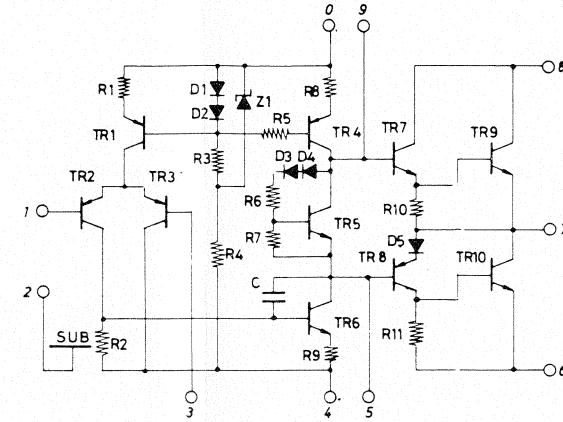
## COMPONENT LOCATION



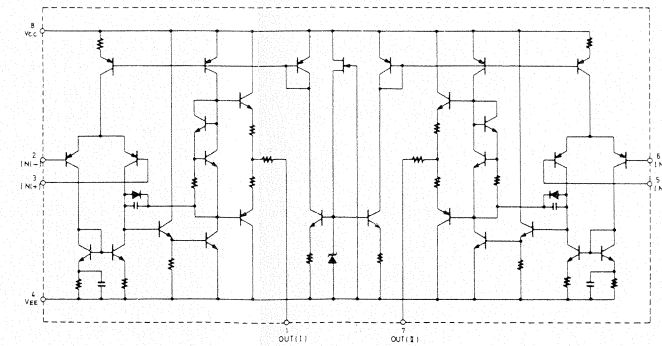
PRINTED CIRCUIT BOARD VIEW FROM BOTTOM SIDE



STK - 082 (POWER AMPLIFIER)

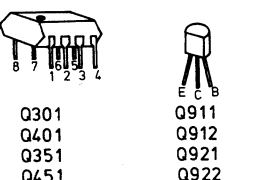
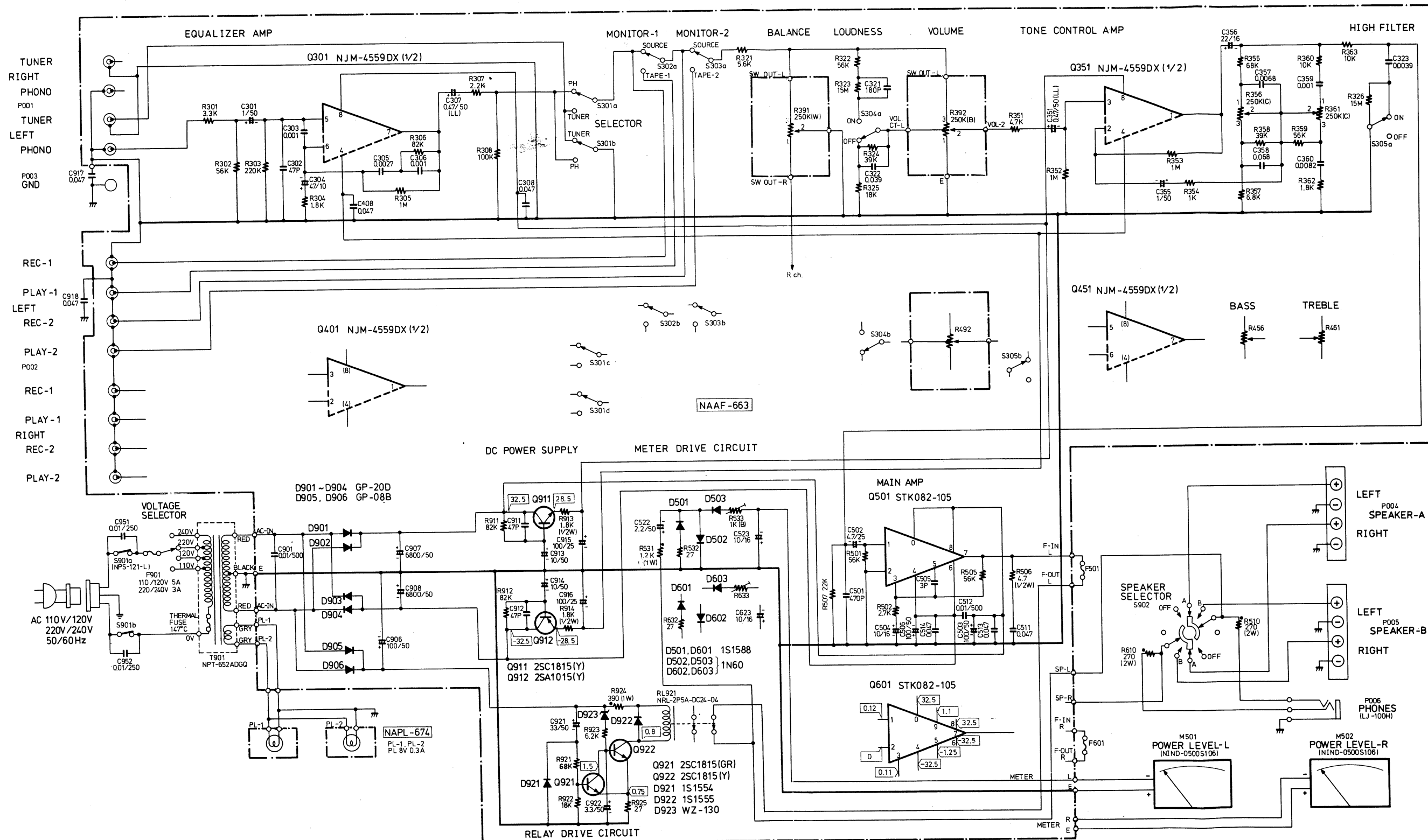


NJM - 4559DX (EQUALIZER / PRE. AMPLI.)





SCHEMATIC DIAGRAM



NOTES  
 • ALL RESISTORS ARE IN OHMS 1/4 WATTS UNLESS OTHERWISE NOTED.  
 • ALL CAPACITORS ARE IN μF 50WV UNLESS OTHERWISE NOTED.  
 • ELECTROLYTIC CAPACITORS (—|—) ARE IN μF/WV.  
 • VOLTAGE (MEASURED WITH V.T.V.M.) (NO INPUT SIGNAL).  
 • CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

S301	SELECTOR	PH TUNER
S302	MONITOR - 1	SOURCE TAPE-1
S303	MONITOR - 2	SOURCE TAPE-2
S304	LOUDNESS	OFF ON
S305	HIGH FILTER	ON OFF
S902	SPEAKERS SELECTOR	OFF A B

## PRINTED CIRCUIT BOARD - PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
<b>ICs</b>		
Q301, Q401, Q351, Q451	222534	NJM-4559DX, Equalizer and preampli.
Q501, Q601	222019	STK-082, Power ampli.
<b>Transistors</b>		
Q911, Q922	2211254	2SC1815 (Y)
Q912	2211454	2SA1015 (Y)
Q921	2211255	2SC1815 (GR)
<b>Diodes</b>		
D501, D601	223119	1S1588
D502, D503	223103	1N60
D602, D603	223845	GP-20D
D901-D904	223848	GP-08B
D905, D906	223106	1S1554
D921	223105	1S1555
D922	223924	WZ-130
D923		
<b>Capacitors</b>		
C301, C401	352780101	1 $\mu$ F, 50V, Elect.
C304, C404	352734701	47 $\mu$ F, 10V, Elect.
C307, C407	392884797	0.47 $\mu$ F, 50V, LL
C351, C451	392884797	0.47 $\mu$ F, 50V, LL
C355, C455	352780101	1 $\mu$ F, 50V, Elect.
C356, C456	352742201	22 $\mu$ F, 16V, Elect.
C502, C602	352750471	4.7 $\mu$ F, 25V, Elect.
C503, C603	352781011	100 $\mu$ F, 50V, Elect.
C504, C604	352741001	10 $\mu$ F, 16V, Elect.
C506, C606	352781011	100 $\mu$ F, 50V, Elect.
C522, C622	352780221	2.2 $\mu$ F, 50V, Elect.
C523, C623	352741001	10 $\mu$ F, 16V, Elect.
C906	352781011	100 $\mu$ F, 50V, Elect.
C907, C908	3504120	6,800 $\mu$ F, 50V, Elect.
C913, C914	352781001	10 $\mu$ F, 50V, Elect.
C915, C916	352751011	100 $\mu$ F, 25V, Elect.
C921	352783301	33 $\mu$ F, 50V, Elect.
C922	352780331	3.3 $\mu$ F, 50V, Elect.
<b>Resistors</b>		
R356, R456	5148027	N16RGM21C250KC35, Bass control variable
R361, R461	5148027	N16RGM21C250KC35, Treble control variable
R533, R633	5225018	N10HR1KBC, Semi-fixed
R924	441623914	390 $\Omega$ , 1W, Metal oxide film
<b>Switches</b>		
S301	25040027	NLS-142-2715-L05, Source selector
S302	25040026	NLS-122-2715-L04, Tape monitor 1
S303	25040026	NLS-122-2715-L04, Tape monitor 2
S304	25040026	NLS-122-2715-L04, Loudness
S305	25040026	NLS-122-2715-L04, High-cut filter
<b>Terminals</b>		
P001	25045041	NPJ-6PDBL18, Phono, tuner input and rec. output
P002	25045041	NPJ-6PDBL18, Tape input/output
<b>Relay</b>		
RL921	25065052	NRL-2P5A-DC24-04

## COMPONENT LOCATION - PARTS LIST

REF. NO.	CIRCUIT NO.	PARTS NO.	DESCRIPTION
1	U1	12640563	NAAF-663, Pre. and main ampli. p.c.b. complete
2	U2	12640574	NAPL-674, Meter illumination p.c.b. complete
3	PL1	210060	PL8V, 0.3A, Pilot lamp
3	Q501, Q601	222019	STK-082, Power ampli. IC
4	T901	230297	NPT-652ADGQ, Power transformer (U)
	T901	230324	NPT-652Q, Power transformer (A)
5	C951, C952	3500052	PME271Y510CEE, IS capacitor
6	R391	5104083	N16R250KWTP35, Balance control variable
7	R392, R492	5177021	N24RG41C250KBT30, Volume control variable resistor
8	R510, R610	441722714	270 $\Omega$ , 2W, Metal oxide film resistor
9	S901	25035034	NPS-121-L, Power switch
10	S902	25030079	NRS-123-35Y, Speaker selector switch
11	P003	25060008	Ground terminal
12	P004, P005	25060026	NTM-4PRMN03, Speaker terminal
13	P006	25045018	LJ-100H, Stereo headphone jack
14	P007	25050004	Fuseholder with cover
15	F501, F601	252014	4A-T, Speaker protection fuse
16		25050021	X-I7240, Voltage selector (U)
17	F901	252003	3A-T, AC fuse
18	M501, M502	243106	NIND-0500S106, Output indicator meter
19		25050018	PA-125, 3P inlet
20	A001	27110087	Front bracket
21	A002	27115001G	Side bracket
22	A003	27130156	Bracket, power transformer
23	A005	27120173	Back panel
24	A007	27160055	Radiator
25		12640121	Front panel ass'y
		27210133	Front panel
26		27267021A	Power switch guide
27		27170060	Bottom board
28		28320323	Knob, volume
29		28320324	Knob, selector
30		28320325	Knob, mic.
31		28330031	Cap, lever
32		28335006	Lever
33		28320326	Knob, power
		28184057	Top cover

## NOTES:

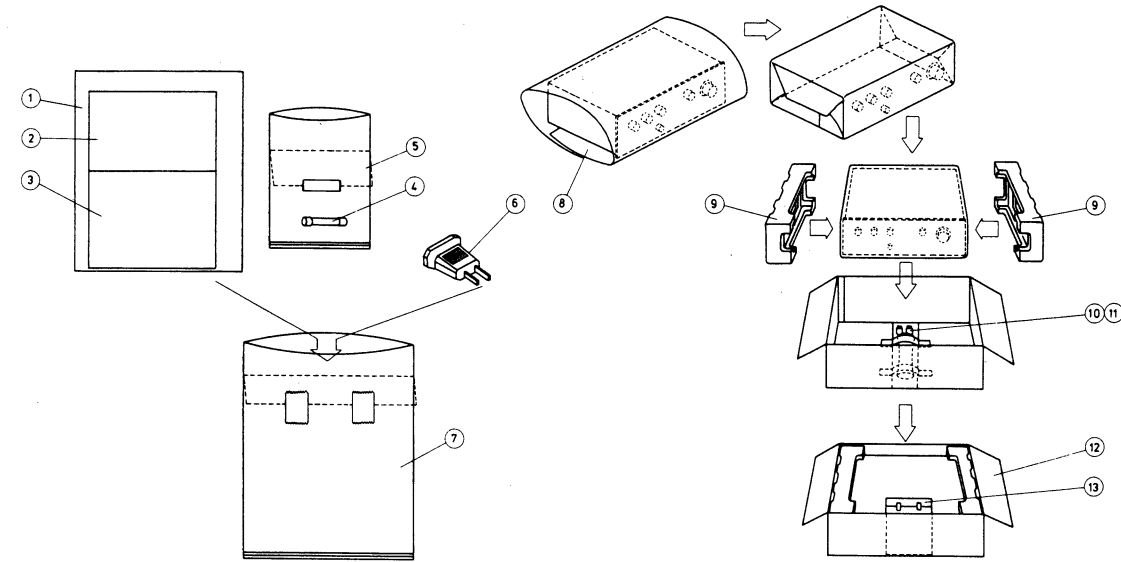
Capacitor

LL: Low Leakage current type electrolytic capacitor

(U): Only Universal model

(Q): Only 240V model

## PACKING PROCEDURES



## PACKING PROCEDURES - PARTS LIST

REF. NO.	PARTS NO.	DESCRIPTION
1	29340340	Instruction manual
2	29345018	Schematic diagram
3	29365005-2	Warranty card (G)
4	252020	5A-T, Fuse (U)
5	29100002	150 x 80mm, Poly bag (U)
6	25055018	CV-K-1, Conversion plug (U)
7	29100006	350 x 250mm, Poly bag
8	29095-16	670 x 1,000mm, Protection sheet
9	29090124B	Pad
10	13710703	Power supply cord (U)
	253089	Power supply cord (G)
11	29380038	Voltage tag (U) (G)
12	29050272	Carton box
13		Accessory bag complete

Note: (U): Only Universal model  
(G): Only Germany model

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