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ONKYO SERVICE MANUAL

Integrated Stereo Amplifier MODEL A-8150

UD	120V AC, 60Hz
UG	220V AC, 50Hz
UQ	240V AC, 50Hz
UW	120V/220V AC, 50/60Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PARTS NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

TABLE OF CONTENTS

Item	Page
Specifications	2
Precautions	2
Block diagram	3
Adjustment procedures	4
Front panel facilities	4
Chassis exploded view	5
Exploded view parts list	6
System connections	6
Printed circuit board parts list	7
Schematic diagram	9, 13
Packing procedures	11
Printed circuit board view	12

ONKYO
AUDIO COMPONENTS

SPECIFICATIONS

Power Output:	60 watts per channel, min, RMS, at 8 ohms, both channels driven from 20 Hz to 20 kHz, with no more than 0.06% THD.
Total Harmonic Distortion	0.06% at 60 watts
IM Distortion	0.06% at 60 watts
Damping Factor:	40 at 8 ohms
Frequency and Response:	15 – 30,000 Hz \pm 1 dB
Sensitivity and Impedance	Phono (MM): 2.5 mV/50 kohms Phono (MC): 350 μ V/330 ohms Tuner/CD/AUX: 150 mV/50 kohms Tape/Play: 150 mV/50 kohms Tape/Rec: 150 mV/4.5 kohms (phono)
Phono Overload:	150 mV RMS at 1 kHz, 0.06% THD (MM)
Bass Control:	\pm 10 dB at 100 Hz
Treble Control:	\pm 10 dB at 10,000 Hz
Signal to Noise Ratio:	Phono: 83 dB (IHF A), 5 mV input CD & Tape: 95 dB (IHF A)
Loudness Control:	+7 dB at 70 Hz/+5 dB at 10 kHz
Muting:	-20 dB
Selective Tone Control	\pm 15 dB at 50 Hz/ \pm 6 dB at 10 kHz
General	
Power Supply:	European models: AC220V, 50Hz Canadian models: AC120V, 60Hz British & Australian models: AC240V, 50Hz Worldwide models: AC120V and 220V switchable, 50/60 Hz
Dimensions (W x H x D):	435 x 110 x 272 mm 17-1/8" x 4-5/16" x 10-11/16"
Weight:	7.0 kg, 15.4 lbs.

PRECAUTIONS

1. Replacing the fuses

For continued protection against risk fire, replace only with same type and same rating fuse.

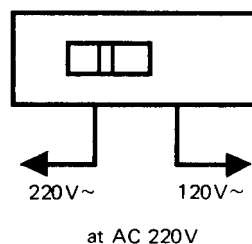
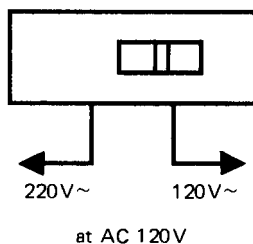
CIRCUIT NO.	PART NO.	DESCRIPTION
F901	252050	5A(ST-6), Primary fuse (120V model)
F902	252075 or 252075CC	2.5A-SE-EAK Primary fuse (220V, 240V, 120V/220V model)
F911, F912	252078 or 252078CC	5A-SE-EAK, Secondary fuse (220V, 240V model)
		5A-SE-EAK, Secondary fuse (220V, 240V model)

2. Insulation resistance measurement (Only U.S.A. model)

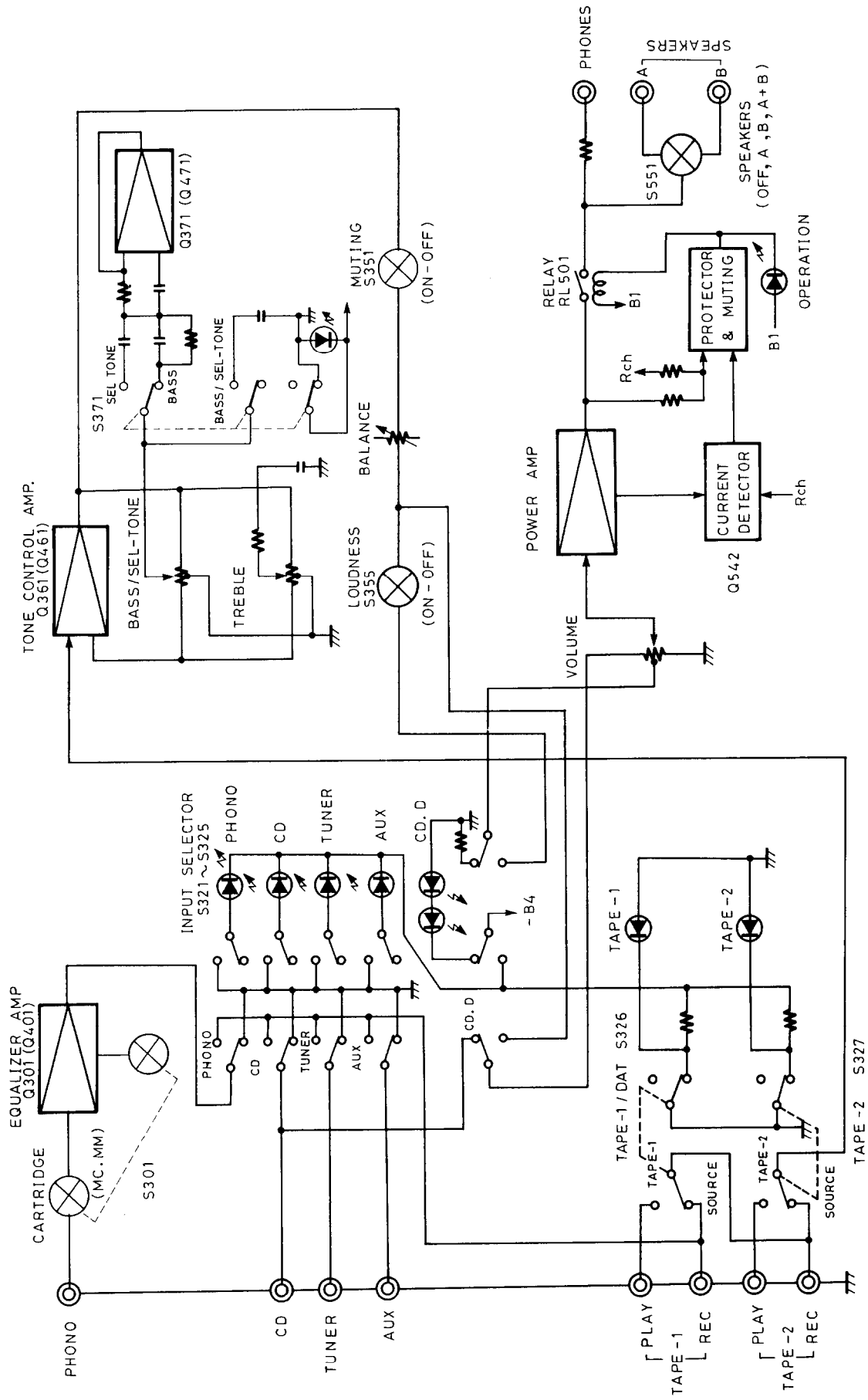
Connect the insulating-resistance tester between the plug of power supply cable and the terminal GND on the back panel. Specifications; More than 10 M Ω at 500V.

3. Voltage selector (rear panel)

Worldwide models are equipped with a voltage selector to conform with local power supplies. Be sure to set this switch to match the voltage of the power supply in your area before turning the power switch on. Voltage is changed by sliding the groove in the switch with a screwdriver or similar instrument to the right or left position. Confirm that the switch has been moved all the way to the right or left before turning the power switch on. If there is no voltage selector switch on the unit you have purchased, it can only be used in areas where the power supply voltage is the same as that of the unit.

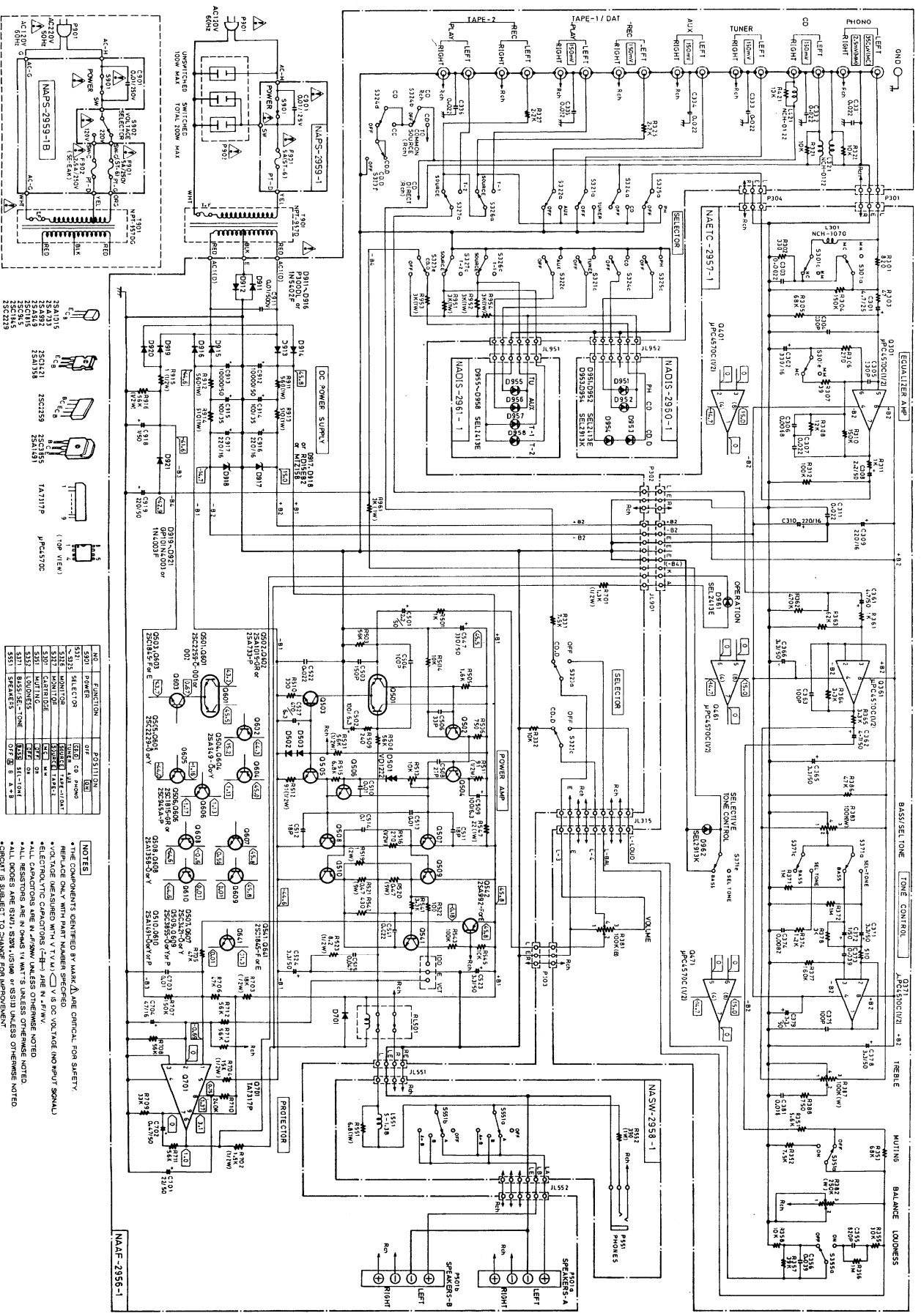


BLOCK DIAGRAM



SCHEMATIC DIAGRAM

(120V, 120V/220V Model)



DC POWER SUPPLY

0911, 0916	0917, 0918	0919, 0920	0921, 0922	0923, 0924	0925, 0926	0927, 0928	0929, 0930	0931, 0932	0933, 0934	0935, 0936	0937, 0938	0939, 0940	0941, 0942	0943, 0944	0945, 0946	0947, 0948	0949, 0950
100W MAX	100W MAX	100W MAX	100W MAX	100W MAX	100W MAX	100W MAX	100W MAX	100W MAX	100W MAX	100W MAX	100W MAX	100W MAX	100W MAX	100W MAX	100W MAX	100W MAX	100W MAX

NO.	FUNCTION	POSITION
28A1315	AVC	AVC
28A1316	SELECTOR	SELECTOR
28A1317	POWER	POWER
28A1318	RECALL	RECALL
28A1319	STOP	STOP
28A1320	START	START
28A1321	STOP	STOP
28A1322	START	START
28A1323	STOP	STOP
28A1324	START	START
28A1325	STOP	STOP
28A1326	START	START
28A1327	STOP	STOP
28A1328	START	START
28A1329	STOP	STOP
28A1330	START	START
28A1331	STOP	STOP
28A1332	START	START
28A1333	STOP	STOP
28A1334	START	START
28A1335	STOP	STOP
28A1336	START	START
28A1337	STOP	STOP
28A1338	START	START
28A1339	STOP	STOP
28A1340	START	START
28A1341	STOP	STOP
28A1342	START	START
28A1343	STOP	STOP
28A1344	START	START
28A1345	STOP	STOP
28A1346	START	START
28A1347	STOP	STOP
28A1348	START	START
28A1349	STOP	STOP
28A1350	START	START
28A1351	STOP	STOP
28A1352	START	START
28A1353	STOP	STOP
28A1354	START	START
28A1355	STOP	STOP
28A1356	START	START
28A1357	STOP	STOP
28A1358	START	START
28A1359	STOP	STOP
28A1360	START	START
28A1361	STOP	STOP
28A1362	START	START
28A1363	STOP	STOP
28A1364	START	START
28A1365	STOP	STOP
28A1366	START	START
28A1367	STOP	STOP
28A1368	START	START
28A1369	STOP	STOP
28A1370	START	START
28A1371	STOP	STOP
28A1372	START	START
28A1373	STOP	STOP
28A1374	START	START
28A1375	STOP	STOP
28A1376	START	START
28A1377	STOP	STOP
28A1378	START	START
28A1379	STOP	STOP
28A1380	START	START
28A1381	STOP	STOP
28A1382	START	START
28A1383	STOP	STOP
28A1384	START	START
28A1385	STOP	STOP
28A1386	START	START
28A1387	STOP	STOP
28A1388	START	START
28A1389	STOP	STOP
28A1390	START	START
28A1391	STOP	STOP
28A1392	START	START
28A1393	STOP	STOP
28A1394	START	START
28A1395	STOP	STOP
28A1396	START	START
28A1397	STOP	STOP
28A1398	START	START
28A1399	STOP	STOP
28A1400	START	START

- NOTES
- * THE COMPONENTS IDENTIFIED BY MARKED ARE CRITICAL FOR SAFETY.
 - * WAVELENGTH INDICATED BY (W) IS IN DC VOLTAGE (NO INPUT SIGNAL).
 - * ELECTROLYTIC CAPACITORS (C-E) ARE IN P.P.W. UNLESS OTHERWISE NOTED.
 - * ALL RESISTORS ARE IN OHMS UNLESS OTHERWISE NOTED.
 - * ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
 - * DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
 - * CHANGES ARE SUBJECT TO CHANGE FOR IMPROVEMENT.

ADJUSTMENT PROCEDURES

1. Preparations

- 1) Leave the machine in a normal condition parallel to the work bench, maintaining a clearance of 15mm from the bottom for air circulation.
- 2) Set the level to minimum with no load and no signal.
- 3) When making the adjustment, there must be no breeze blowing from the outside.

2. Adjustment of idling current

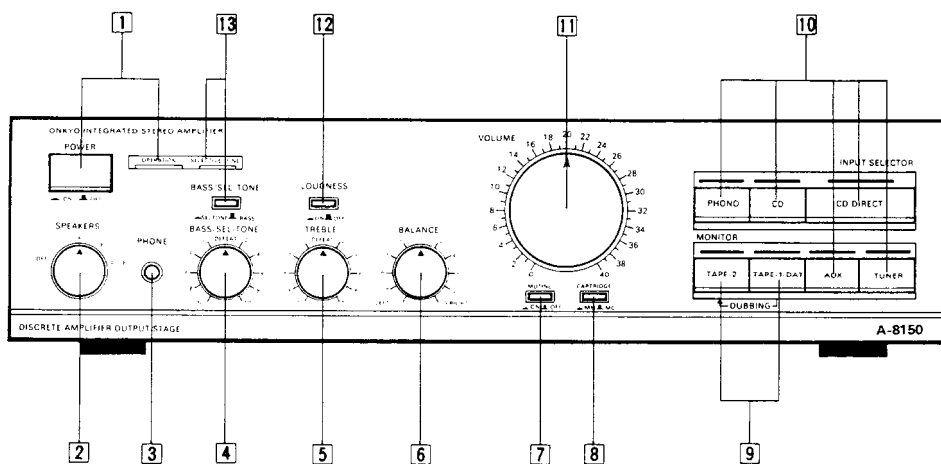
- 1) Turn ON the power switch, and leave the unit as is for about 5 minutes.
- 2) Adjust the semi-fixed resistor R513 (R613) so that the voltage between the terminals V_{CT} and I_{ID} of the printed circuit board NAAF-2956 is 7.5mV.

3. Operating check of protection circuit

- 1) When the power switch is turned ON.
 - After about 6 second, relay RL501 of the NAAF-2956 printed circuit board go ON.
 - Operation indicator lights.
- 2) When the power is turned OFF.
 - Immediately a relay go OFF.
- 3) With no load, when 1.5V DC is input, the speaker relay go OFF.

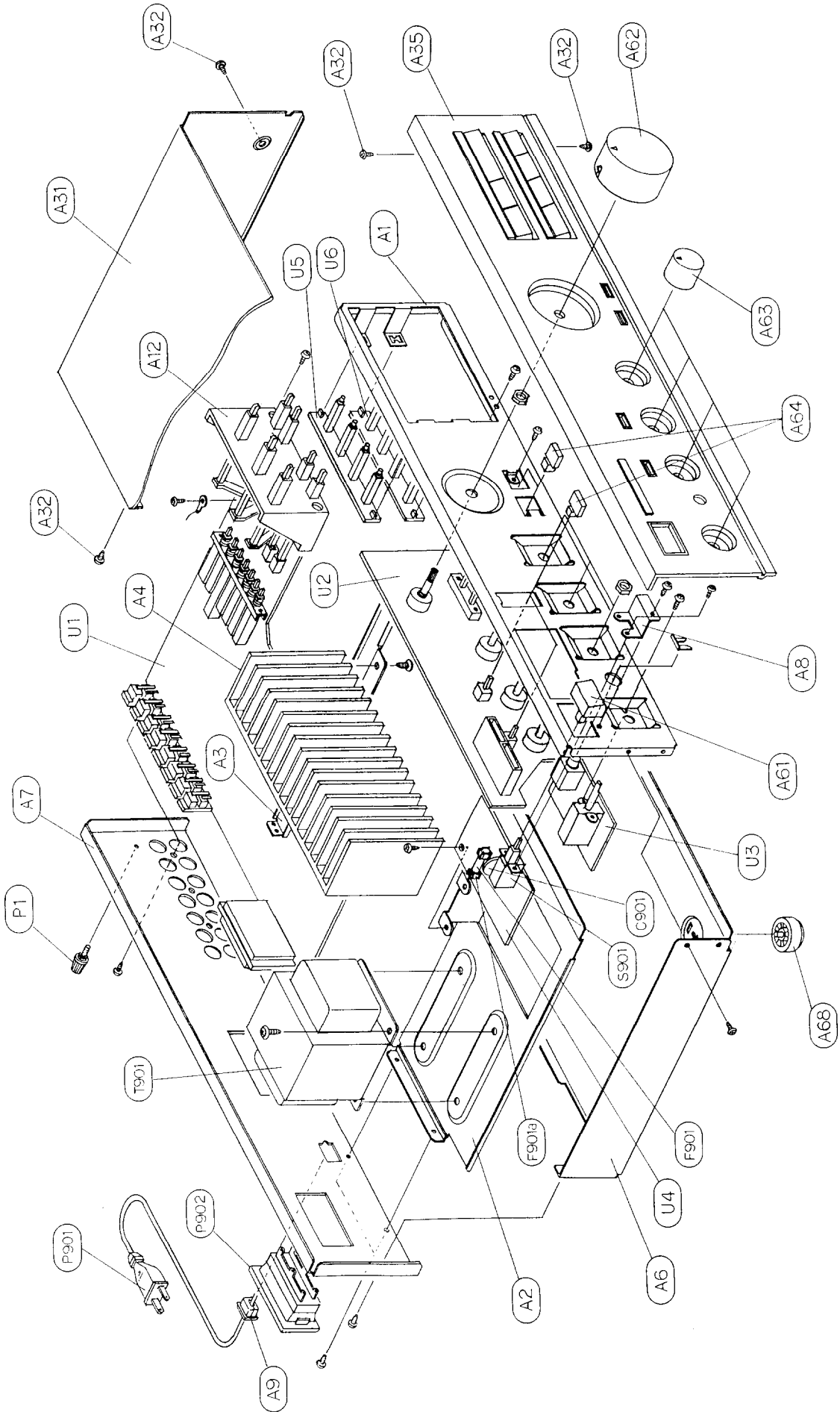
Caution: During this test, there should be absolutely no load connected and the load terminals must not be shorted.

FRONT PANEL FACILITIES



1. Power switch and Operation indicator (POWER and OPERATION)
2. Speaker selector (SPEAKERS) OFF, A, B, A+B
3. Headphone jack (PHONES)
4. Bass control/Selective Tone control (BASS/SEL-TONE)
5. Treble control (TREBLE)
6. Balance control (BALANCE)
7. Audio muting (MUTING)
8. Cartridge selector (CARTRIDGE) MM, MC
9. Tape monitor switches and indicators (MONITOR) TAPE-1/DAT, TAPE-2
10. Input selector switches and indicators (INPUT SELECTOR) CD DIRECT, CD, PHONO, TUNER, AUX, TAPE-1/DAT, TAPE-2
11. Volume control (VOLUME)
12. Loudness control (LOUDNESS) ON/OFF
13. Selective tone switch (BASS/SEL-TONE) and Selective tone indicator (SELECTIVE TONE) BASS, SEL-TONE

CHASSIS-EXPLODED VIEW



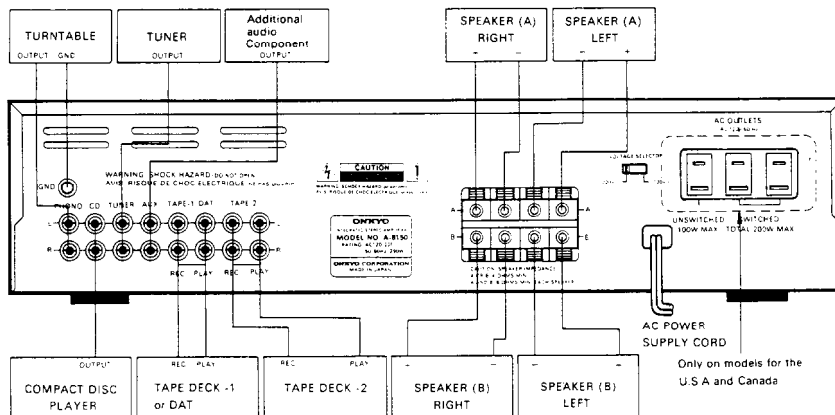
CHASSIS-EXPLODED VIEW PARTS LIST

REF. NO.	PART NO.	DESCRIPTION			
A1	27110360A	FRONT BRACKET		F901a	250113
A2	27130471	BRACKET (PT)		F902a	25050065
A3	27130472	BRACKET (H)			
A4	27160204	HEATSINK		P1	25060044
A6	27100130A	CHASSIS	⚠	P2	25060092
A7	27120989	BACK PANEL			
A7	27120990	BACK PANEL [G]	⚠	T901	2300211
A7	27120992	BACK PANEL [W]	⚠	T901	2300212
A7	27121013	BACK PANEL [A][B]			
A8	27141124	BRACKET (POW)	⚠	T901	2300213
A9	27300750	BUSHING (CORD)			
A12	27273070B	JOINT AS	⚠	T901	2300238
A31	28184361A	TOP COVER			
A32	834430088	TAP-TIGHT SCREW 3TTS+8BBC		U1	1A022556-1
A35	1A021121	FRONT PANEL			
A61	28322795A	KNOB (POW)		U1	1A022556-1A
A62	28323022	KNOB (VOL)			
A63	28323024	KNOB (TONE)		U2	1A022557-1
A64	28323026A	KNOB (PUSH)			
A68	27175142	LEG			
Q509, Q609	2201703 or 2201704 or 2201706	2SC3855-O or 2SC3855-Y or 2SC3855-P		U2	1A022557-1A
Q510, Q610	2201693 or 2201694 or 2201696	2SA1491-O or 2SA1491-Y or 2SA1491-P		U3	1A022558-1
⚠ S901	25035398	POWER SWITCH, NPS-111-L362P		U4	1A022559-1
⚠ S902	25065123	SLIDE SWITCH, NSS-1258P [W]		U4	1A022559-1A
⚠ C901	3500065A	0.01μF, AC400V/125V			
⚠ P901	253123 or 253136 or 253140 or 253146	AC CORD AS-UC6-#18 AC CORD AS-UC6-#18 AC CORD AS-UC6-#18 AC CORD AS-UC6-#18		U4	1A022559-1B
⚠ P901	253130A or 253128B	AC CORD AS-CEE or [G] [W] AC CORD AS-CEE [G] [W]		U5	1A022560-1
⚠ P901	253118	AC CORD AS-SAA [A]		U6	1A022561-1
⚠ P901	253104 or 253105 or 728320 or 728328	AC CORD C.2.5BS2 or [B] AC CORD C.2.5BS2 or [B] 2-0.75BS16 BLK/GRY or [B] 2-0.75BS16 BLK/GRY [B]			
⚠ P902	25050293	AC OUTLET NSCT-6P120			
⚠ F901	252050	FUSE 5A ST-6			
⚠ F902	252075 or 252075CC	FUSE 2.5A-SE-EAK or [G][W][A][B] FUSE 2.5A-SE-EAK [G][W][A][B]			
F911, F912	252078 or	FUSE 5A-SE-EAK or [G][A][B]			

NOTE: [N]: Only U.S.A. model
 [A]: Only Australian model
 [B]: Only British model
 [G]: Only 220V model
 [W]: Only 120V/220V model

NOTE: THE COMPONENT IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PARTS NUMBER SPECIFIED.

SYSTEM CONNECTIONS



Only on models for the U.S.A and Canada

DISPLAY LED PC BOARD (NADIS-2961-1) PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
Resistors		
R381, (R481)	5104174	N16RGH100KBT20, Variable
R382	5104192	N16RHC250KW25Z, Variable
R383, (R483)	5104196	N16RGHC100KWT25Z, Variable
R387, (R487)		
Switch		
S301, (S351)	25035561	NPS-122-162-L523
S352	25035537	NPS-122-L499
S371	25035560	NPS-162-L522
Sockets		
P301, P304	2000557	NSAS-6P513
Holder		
	27190529	(LED-2)
Diodes		
D955~D958	225137CG or 225137DG or 225137DY	SEL2413ECG or SEL2413EDG or SEL2413EDY
Holder		
	27190530	(LED-4)
NOTE	[G]: Only 220V Model [Q]: Only 240V Model [W]: Only 120V/220V Model	

SPEAKER SWITCH CIRCUIT PC BOARD (NASW-2958-1) PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
Coils		
L551, L651	231001S	S-1.3B
Resistors		
R551, R651	441620684F	6.8 Ω , 1W, Metal oxide film
R552, R652	441623914F	390 Ω , 1W, Metal oxide film
Switch		
S551	25030290	NRSF-144-25SS
Terminal		
P551	25045164	HLJ-4317-01-3020, Phones

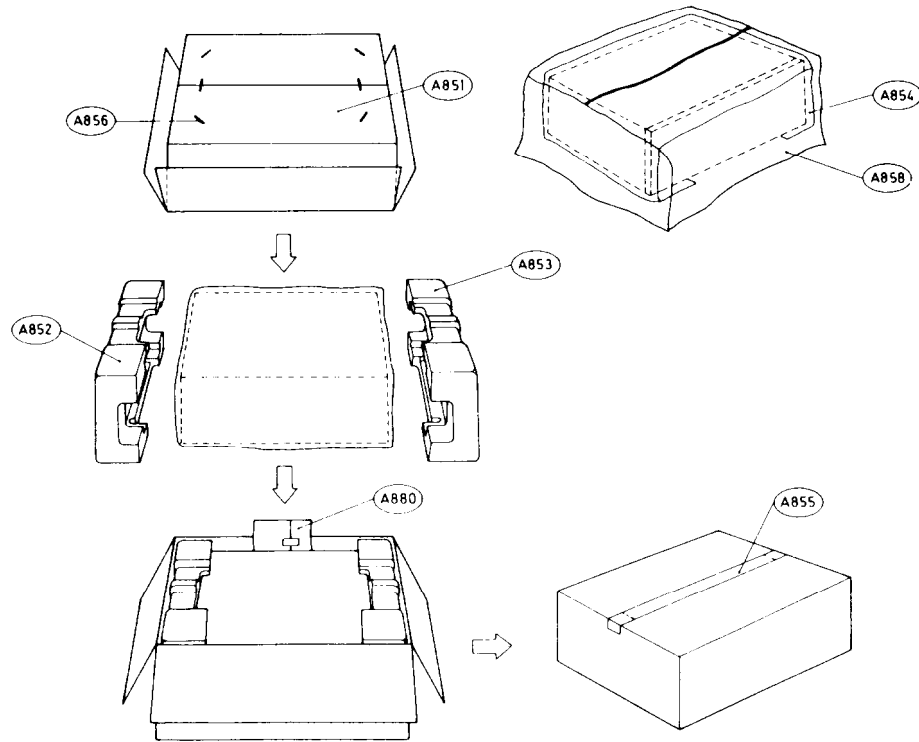
POWER SWITCH PC BOARD (NAPS-2959-1, NAPS-2959-1A, NAPS-2959-1B) PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
Capacitor		
C901	3500065A	0.01 μ F, AC400V/125V
Terminal		
P2	25060092	NTM-1S33 [G] [Q] [W]
Switch		
S901	25035398	NPS-111-L362P
Fuse holder		
F901a	250113	SN5051
F902a	25050065	YSH403T [G] [Q] [W]
Label		
	29360626-1	(Fuse)

DISPLAY LED PC BOARD (NADIS-2960-1) PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
Diodes		
D951, D952	225137CG or 225137DG or 225137DY	SEL2413ECG or SEL2413EDG or SEL2413EDY
D953, D954	225142	SEL2913K
Holder		
	27190530	(LED-4)

PACKING PROCEDURES



REF. NO.	PART NO.	DESCRIPTION
A851	29051521	MASTER CARTON BOX
A852	29090987	PAD, LEFT
A853	29090988	PAD, RIGHT
A854	29095012-1	PROTECTION SHEET
A855	260012	DAMPLON TAPE
A856	282301	SEALING HOOK
A858	29100063	750X580, POLY BAG
A880	ACCESSORY BAG ASS'Y	
	29341148	INSTRUCTION MANUAL
	29341149	INSTRUCTION MANUAL [G] [W] [Q]
	29341158	INSTRUCTION MANUAL, 1 [G] [W]
	29365019	WARRANTY CARD [U]
	29358002E	SERVICE STATION LIST [U]
	29100006A	350X250, POLY BAG
	25055018	CV-K-1, CONVERSION PLUG [W]

NOTE [U]: ONLY U.S.A. MODEL
 [G]: ONLY 220V MODEL
 [Q]: ONLY 240V MODEL
 [W]: ONLY 120V/220V MODEL