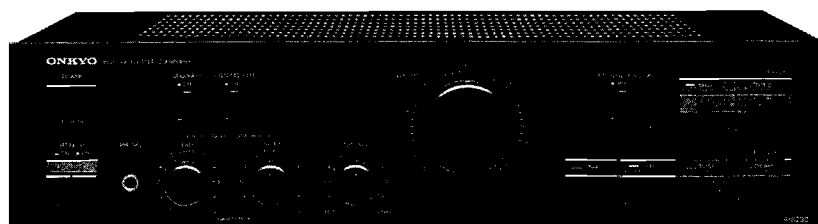


ONKYO® SERVICE MANUAL

Integrated Stereo Amplifier
MODEL A-8230



ONKY -00923



Silver and Black models

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.

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SPECIFICATIONS

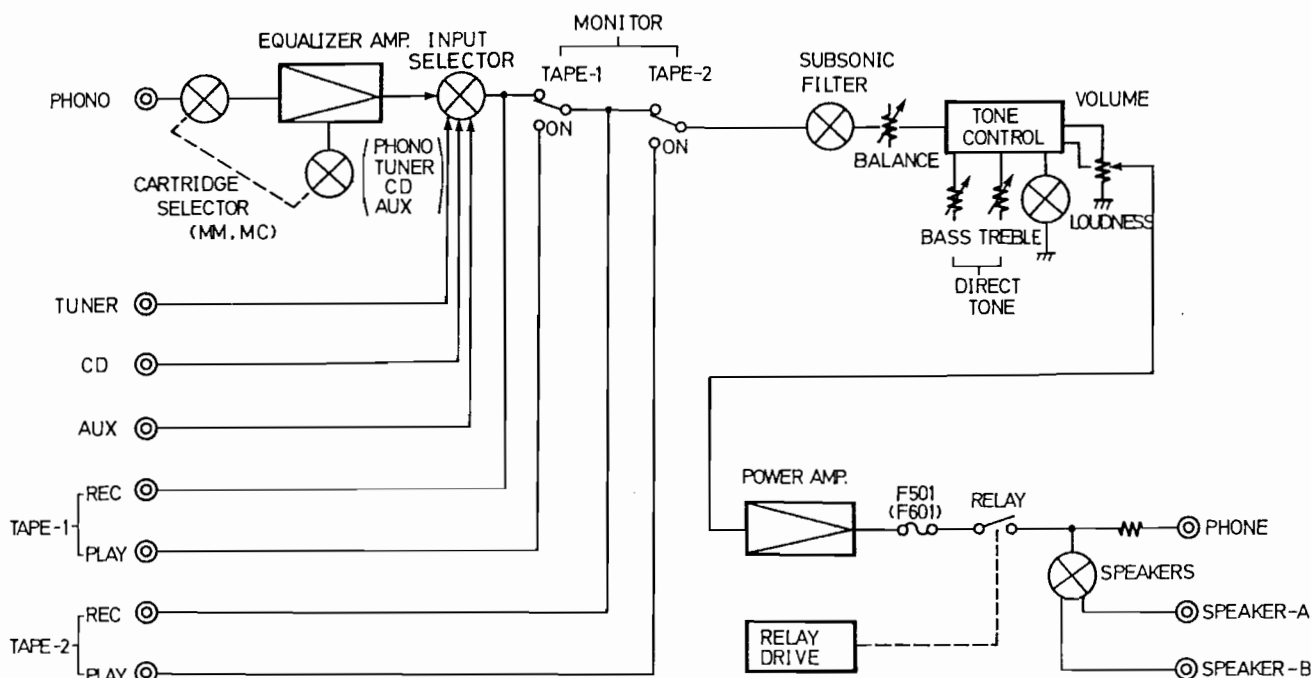
Music Power Output:	2 × 120 watts at 4 ohms, 1kHz (DIN) 2 × 80 watts at 8 ohms, 1kHz (DIN)
Continuous Power Output:	2 × 77 watts at 4 ohms, 1kHz (DIN) 2 × 55 watts at 8 ohms, 1kHz (DIN) 50 watts per channel, min, RMS, at 8 ohms, both channels driven, from 20Hz to 20kHz, with no more than 0.06% THD.
Total Harmonic Distortion:	0.06% at 50 watts
IM Distortion:	0.06% at 50 watts
Damping Factor:	40 at 8 ohms
Frequency Response:	15 – 30,000Hz ± 1dB
Sensitivity and Impedance:	Phono: (MM) 2.5mV/50 kohms (MC) 350μV/330 ohms (European models) Tuner/CD/AUX: 150mV/50 kohms Tape Play: 150mV/50 kohms Tape Rec: 150mV/3.5 kohms (phono)
Phono Overload:	150mV RMS at 1kHz, 0.06% THD (MM)
Bass Control:	±7dB at 100Hz
Treble Control:	±8dB at 10,000Hz
Signal to Noise Ratio:	Phono: (MM) 75dB (IHF A-202, 5mV input, 1 watt output) Tuner & Tape: 80dB (IHF A-202, 0.5V input, 1 watt output)
Loudness Control:	+6dB at 70Hz/+5dB at 10kHz
Subsonic Filter:	15Hz (6dB/Octave)

General

Power Supply:	AC 220V, 50Hz
Semiconductors:	IC: 3 TR: 2 Diode: 19
Dimensions:	435(W) × 112(H) × 278(D)mm 17-1/8" × 4-7/16" × 10-15/16"
Weight:	6.6kg. (14.5lbs.)

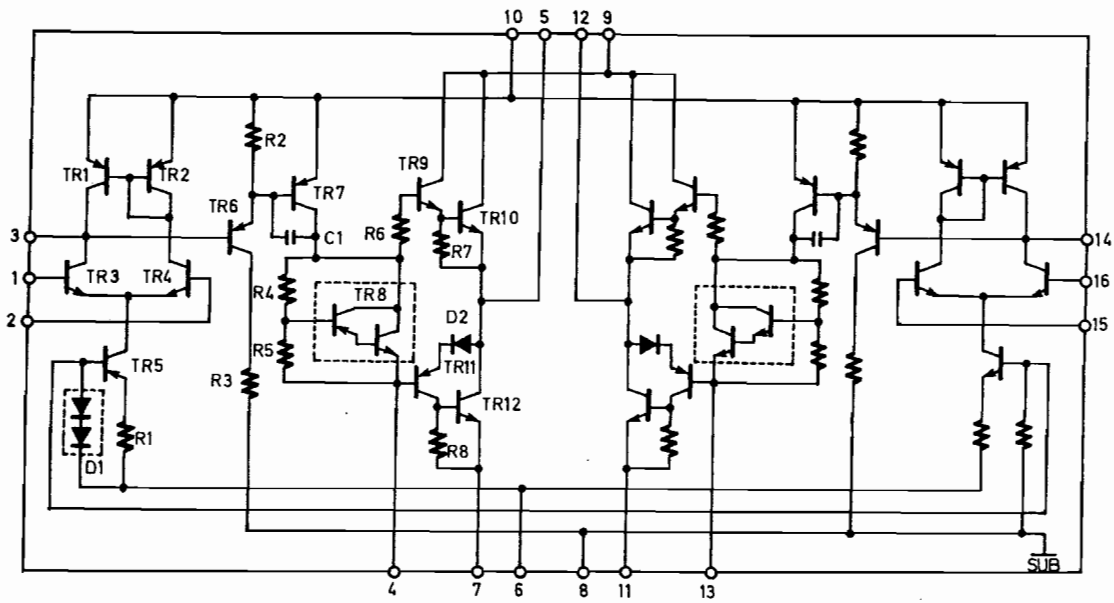
Specifications and features are subject to change without notice.

BLOCK DIAGRAM

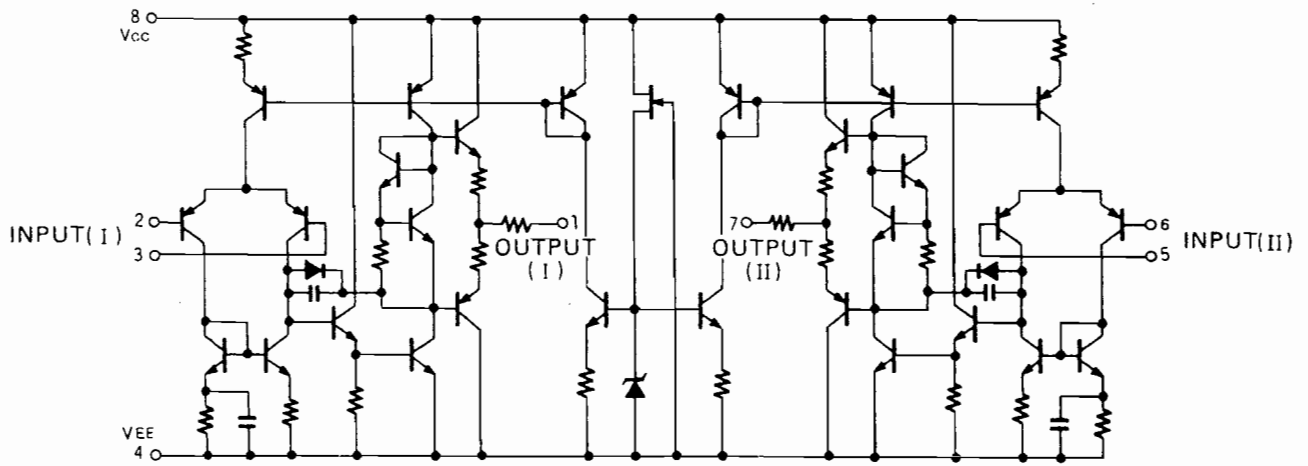


IC BLOCK DIAGRAM

STK-4893



NJM-4559DX



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
F902	252074	2A-SE-EAK, Primary fuse
F905, F906	252078	5A-SE-EAK, Secondary fuse
F501, F601	252077	4A-SE-EAK, Speaker fuse

CHASSIS-EXPLODED VIEW-PARTS LIST

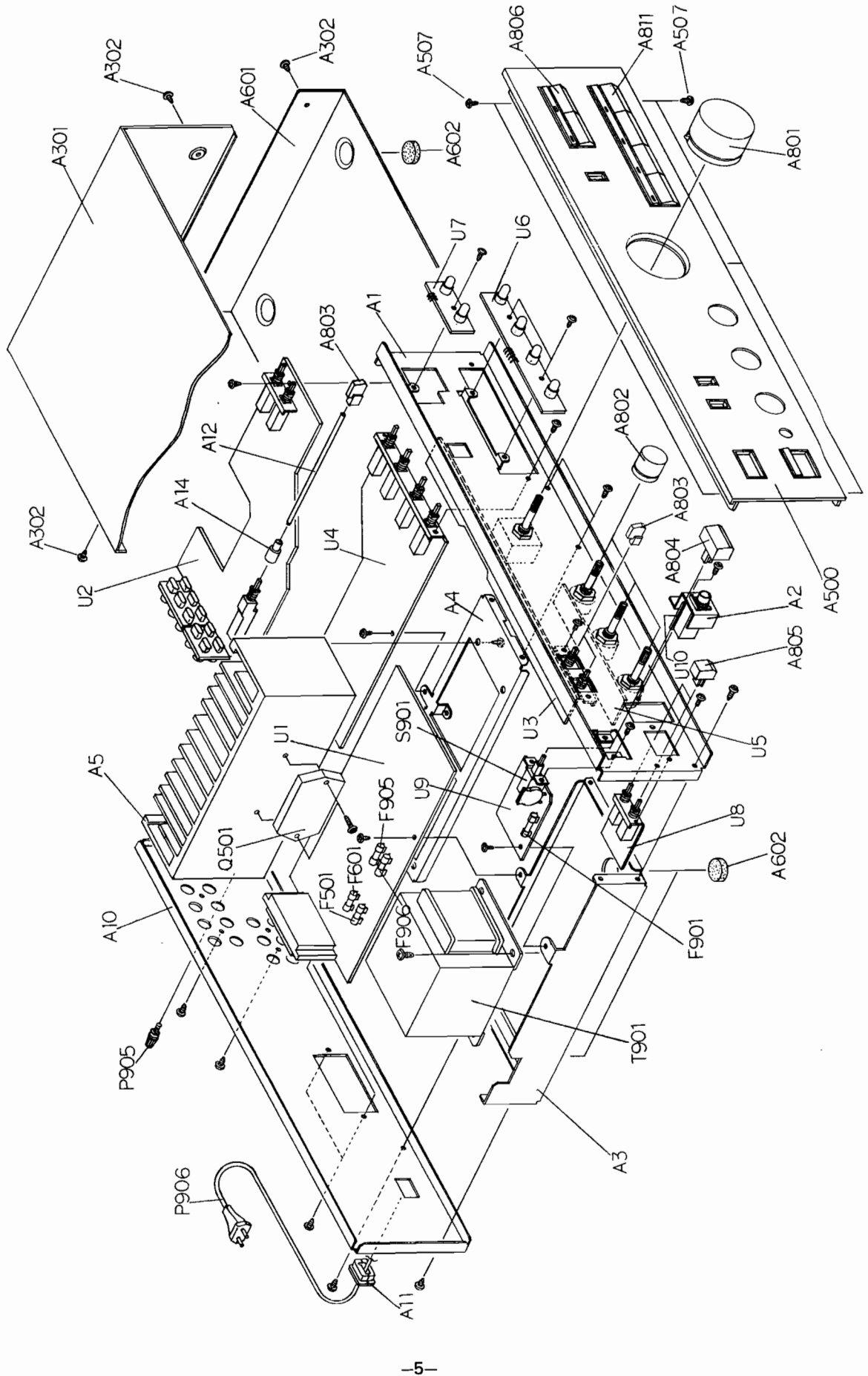
REF. NO.	PART NO.	DESCRIPTION
A1	27110246A	Front bracket
A2	27140995A	Bracket, HP
A3	27130393	Bracket, L
A4	27130394A	Bracket, H
A5	27160171	Radiator
A10	27120703A	Back panel
△ A11	27300750	Strainrelief
A12	27260174A	Shaft
A14	28320135	Joint
A301	28184279	Top cover
	2818428D	Top cover [Black]
A302	834430068	3TTS+6B (BC), Tapping screw
A500	17952121	Front panel ass'y
	17932121	Front panel ass'y [Black]
A507	834430068	3TTS+6B (BC), Tapping screw
A601	27170202A	Bottom board
A602	27175039	Bottom leg
A603	834430068	3TTS+6B (BC), Tapping screw
A801	28322051A	Knob, VOL
	28322058A	Knob, VOL [Black]
A802	28322052	Knob, TONE
	28322059	Knob, TONE [Black]
A803	28322066A	Knob, PUSH
	28322067A	Knob, PUSH [Black]
A804	28321928	Knob, POWER
	28321905A	Knob, POWER [Black]
A805	28322053A	Knob, SP
	28322060A	Knob, SP [Black]
A806	28322054A	Knob ass'y, TAPE
	28322061A	Knob ass'y, TAPE [Black]
A811	28322056A	Knob ass'y, SEL
	28322063A	Knob ass'y, SEL [Black]
Q501 (Q601)	22036	STK-4893, IC
△ T901	230883	NPT-878G, Power transformer

REF. NO.	PART NO.	DESCRIPTION
△ S901	25035398	NPS-111-L362P, Power switch
P905	25060044	Ground terminal
△ P906	253128	AS-CEE, Power supply cable
F501, F601	252077	4A-SE-EAK, Speaker fuse
△ F902	252074	2A-SE-EAK, Primary fuse
F905, F906	252078	5A-SE-EAK, Secondary fuse
U1	17952533B	NAAF-2333B, Power amplifier pc board ass'y
U2	179525334B	NAEQ-2334B, Equalizer amplifier pc board ass'y
U3	17952535A	NAVR-2335A, Subsonic/Loudness switch pc board ass'y
U4	17954536A	NASW-2336A, Input selector switch pc board ass'y
U5	17948537	NATC-2337, Tone controle pc board ass'y
U6	17948538	NALED-2338, LED display pc board ass'y
U7	17948539	NALED-2339, LED display pc board ass'y
U8	17948540	NASW-2340, Speaker switch pc board ass'y
U9	17954541A	NASW-2341A, Power switch pc board ass'y
U10	17948542	NAHP-2342, Headphone jack pc board ass'y

NOTE: [BLACK]: Only Black model

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

CHASSIS-EXPLODED VIEW



PRINTED CIRCUIT BOARD PARTS LIST

POWER AMP. & POWER SUPPLY (NAAF-2333B) — PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q701	2211255	2SC1815GR
Q702	2211254	2SC1815Y
	Diodes	
D701, D703	223150 or	US1040 or
	223145 or	1S2076TD or
	223124	1S2473
D704	2239733 or	RD20EB3 or
	2241212	GZA20Y
D911~D916	223863	GP-30DL
D917, D918	2243273 or	MTZ18C or
	2241191 or	GZA-18X or
	2241192 or	GZA-18Y or
	2239713	RD18EB3
D919, D920	223880	GP101N4003
	Coils	
L501, L601	231001	S-1.3B
	Capacitors	
C501, C601	352780479	4.7μF, 50V, Elect.
C505, C605	3500080	100μF, 10V, Elect.
C508, C608	352784709	47μF, 50V, Elect.
C509, C609	371124735	0.047μF, 50V, MY
C511, C514	352781009	10μF, 50V, Elect.
C512, C515	352781019	100μF, 50V, Elect.
C701	352782209	22μF, 50V, Elect.
C702	352780339	3.3μF, 50V, Elect.
C912, C913	3504178	10000μF, 50V, Elect.
C914, C915	352761019	100μF, 35V, Elect.
C916, C917	352752219	220μF, 25V, Elect.
C921	352782219	220μF, 50V, Elect.
	Resistors	
R506, R606	441523324	3.3kΩ, 1/2W, Metal oxide film
R507, R607	441521024	1kΩ, 1/2W, Metal oxide film
R508, R608	441520824	8.2Ω, 1/2W, Metal oxide film
R509, R609	441520474	4.7Ω, 1/2W, Metal oxide film
R510	441521014	100Ω, 1/2W, Metal oxide film
R511	441525614	560Ω, 1/2W, Metal oxide film
R704	441626814	680Ω, 1W, Metal oxide film
R705	441523004	30Ω, 1/2W, Metal oxide film
R911~R914	441526214	620Ω, 1/2W, Metal oxide film
R921	441623024	3kΩ, 1W, Metal oxide film
	Relay	
RL701	25065134	NRL-2P5A-DC24-05
	Terminal	
P501	25060058	NTM-8PDML25
	Fuse holder	
	25050065	YSH403T

EQUALIZER AMPLIFIER PC BOARD (NAEQ-2334B) — PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	IC	
Q101 (Q201)	222605	TA-7322P
	Coils	
L101, L201	231030	NCH-1070
	Capacitors	
C101, C201	392850477	4.7μF, 25V, Elect.
C103, C203	352723319	330μF, 6.3V, Elect.
C106, C206	371126824	6800pF, 50V, MY
C107, C207	371122034	0.02μF, 50V, MY
C108, C208	392880107	1μF, 50V, Elect.
C111, C112	352751019	100μF, 25V, Elect.
C151	379124735	0.047μF, 50V, DEW
C209, C210	352780339	3.3μF, 50V, Elect.
	Resistors	
R961, R962	441623024	3kΩ, 1W, Metal oxide film
	Switches	
S101	25035475	NPS-162-L437
S102 (S103)	25035478	NPS-242-L440
	Input terminals	
P101	25045143	NPJ-6PDBL56, 6P
P102	25045142	NPJ-4PDBL55, 4P
	Socket	
	25050140	NJPS-3P-S

MUTING SWITCH PC BOARD (NAVR-2335A) — PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
C301, C401	352781599	0.15μF, 50V, Capacitor Elect.
R306 (R406)	5148099	N16RGM100KBTP35, Variable resistor
S302, S303	25035376	NPS-222-L340, Subsonic/Loudness switch

INPUT SELECTOR SWITCH PC BOARD (NASW-2336A) — PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
R951	441630724	3.0kΩ, 1W, Metal oxide film resistor
S111 (S112, S113, S114)	25035476	NPS-442-L438, Selector switch
P111	25045143	NPJ-6PDBL56, Input terminal

TONE CONTROL PC BOARD (NATC-2337) – PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
Capacitors		
C351, C451	371121235	0.012 μ F, 50V, MY
C352, C452	371123935	0.039 μ F, 50V, MY
C353, C453	371121025	1000pF, 50V, MY
C354, C454	371126825	6800pF, 50V, MY
Resistors		
R351 (R451)	5146052	N16RLC250KWTP35, Variable
R352, (R353, R452, R453)	5148104	N16RQMC110K180K35, Variable
R354 (R454)	5148105	N16RGMC219K35, Variable

LED DISPLAY PC BOARD (NALED-2338) – PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
LEDs		
D951 ~ D954	225174 or 225173	SLR55MC3N or SLR55MC3M
Etc.		
	27270071	Spacer, LED

LED DISPLAY PC BOARD (NALED-2339) – PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
LEDs		
D961, D962	225167RB or 225167RC	GL-5HY10-RB or GL-5HY10-RC
Etc.		
	27270071	Spacer, LED

SPEAKER SWITCH PC BOARD (NASW-2340) – PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
Switch		
S501 (S502)	25035477	NPS-222-L439

POWER SWITCH PC BOARD (NASW-2341A) – PARTS LIST

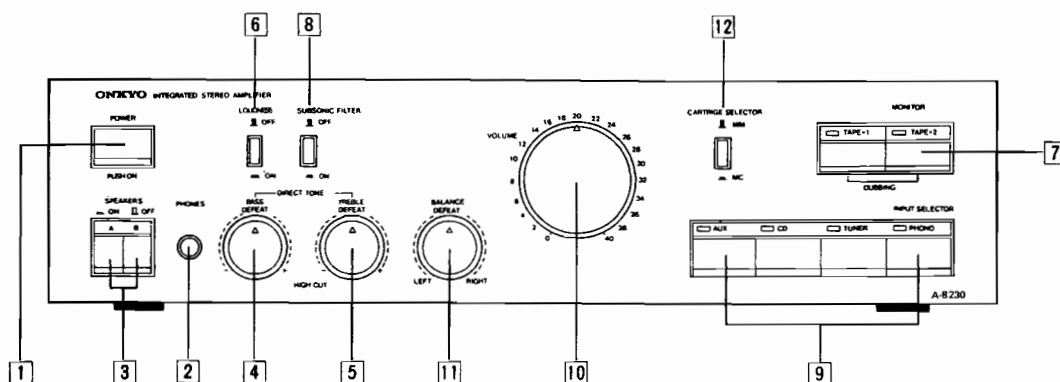
CIRCUIT NO.	PART NO.	DESCRIPTION
 C901	3500065A	0.01 μ F, AC400V, Capacitor
 C901a	27300601	SB-1925, Capacitor cover
 S901	25035398	NPS-111-L362P, Power switch
	25050065	YSH403T, Fuse holder
	25060092	NTM-1533, Terminal

HEADPHONE JACK PC BOARD (NAHP-2342) – PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
R551, R651	441623914	390 Ω , 1W, Metal oxide film resistor
P551	25045139	HLJ0540-01-010, Headphone jack

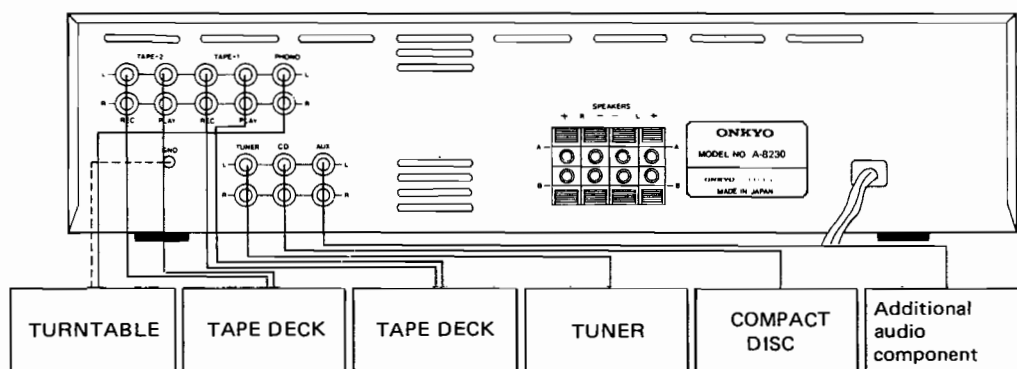
NOTE: THE COMPONENTS IDENTIFIED BY MARK  ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PARTS NUMBER SPECIFIED.

FRONT PANEL FACILITIES



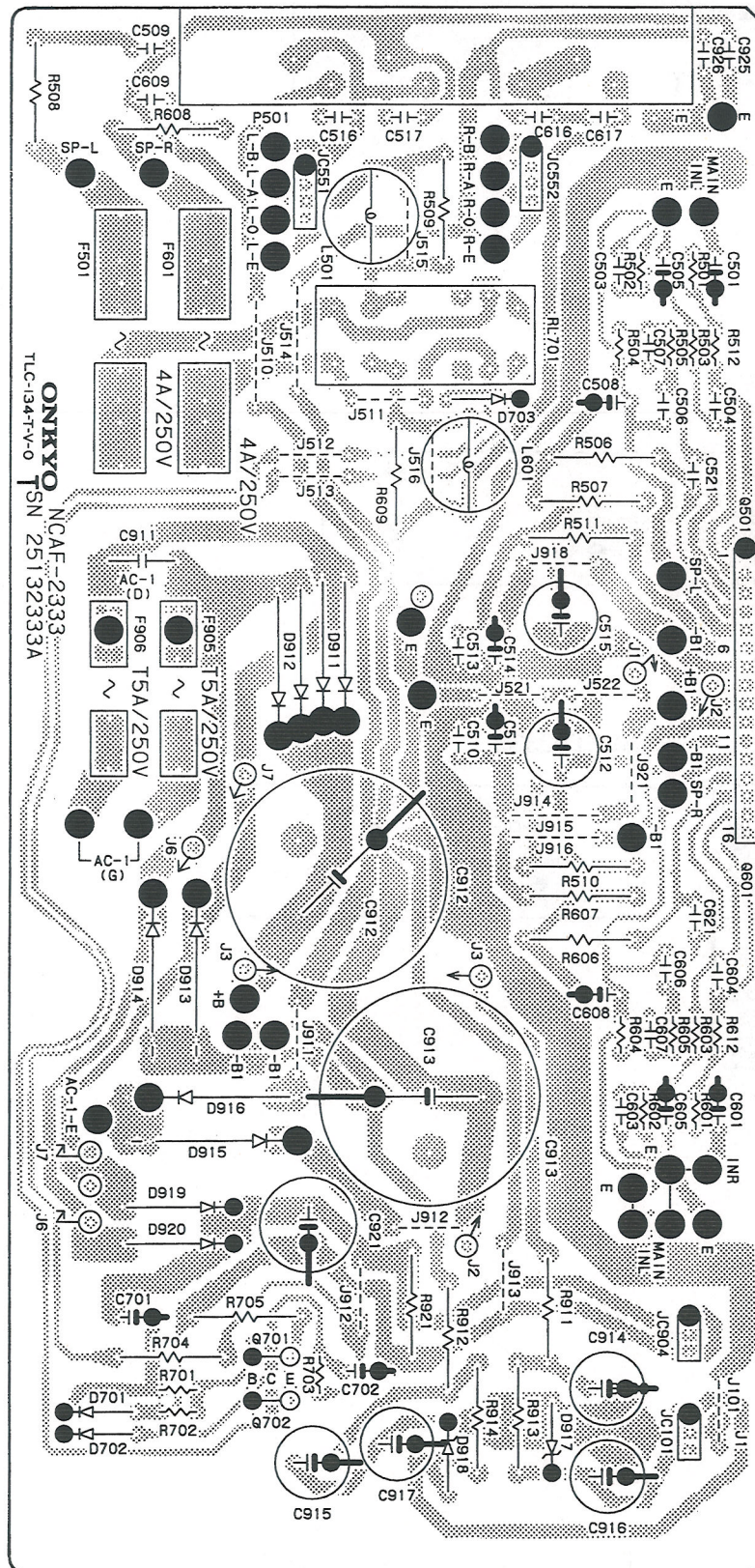
- | | |
|--|--|
| 1. Power switch (POWER) | 8. Subsonic filter (SUBSONIC FILTER) |
| 2. Headphone jack (PHONES) | 9. Input selector switches and indicators (INPUT SELECTOR) |
| 3. Speaker selector (SPEAKERS) | 10. Volume control (VOLUME) |
| 4. Bass control (BASS) | 11. Balance control (BALANCE) |
| 5. Treble control (TREBLE) | 12. Cartridge selector (CARTRIDGE) |
| 6. Loudness control (LOUDNESS) | |
| 7. Tape monitor switch and indicator (MONITOR) | |

SYSTEM CONNECTIONS

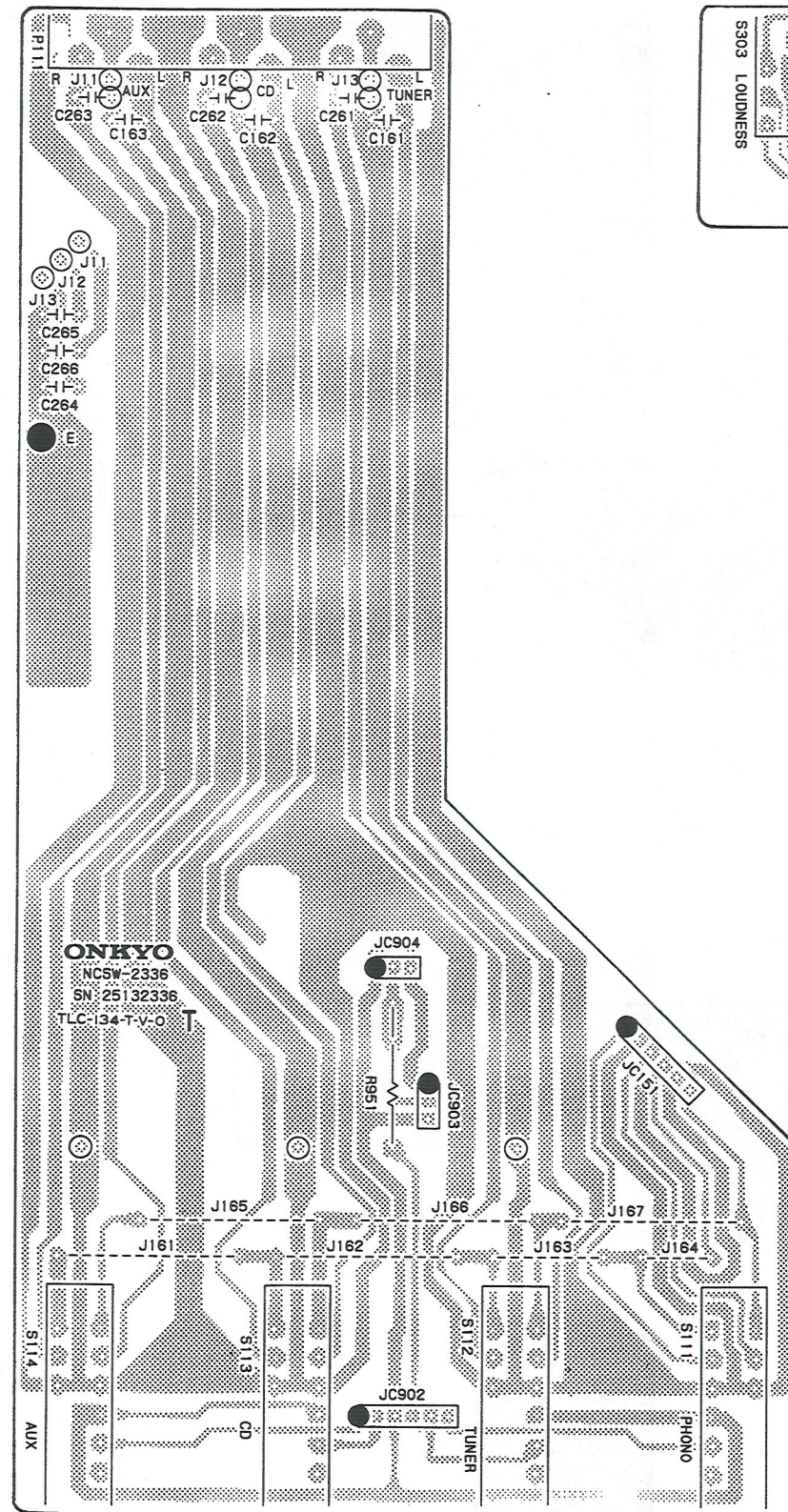


PRINTED CIRCUIT BOARD VIEW FROM COMPONENT SIDE

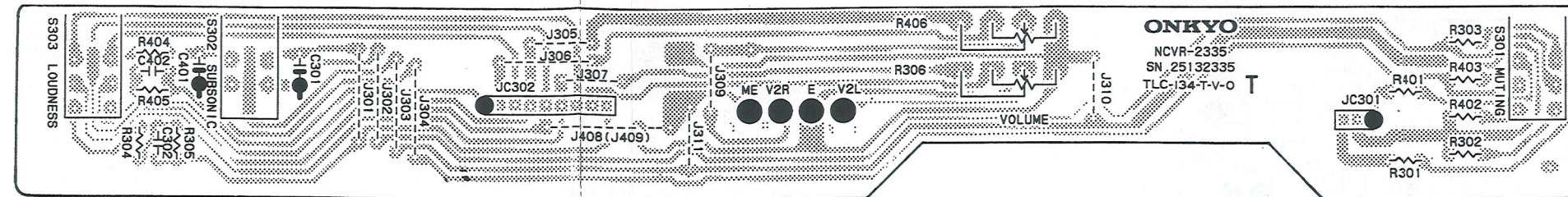
NAAF-2333



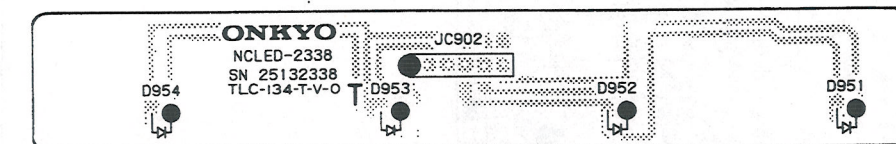
NAAF-2336



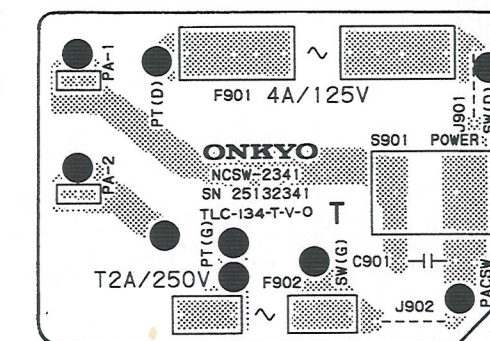
NAVR-2335



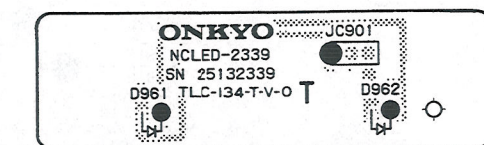
NALED-2338



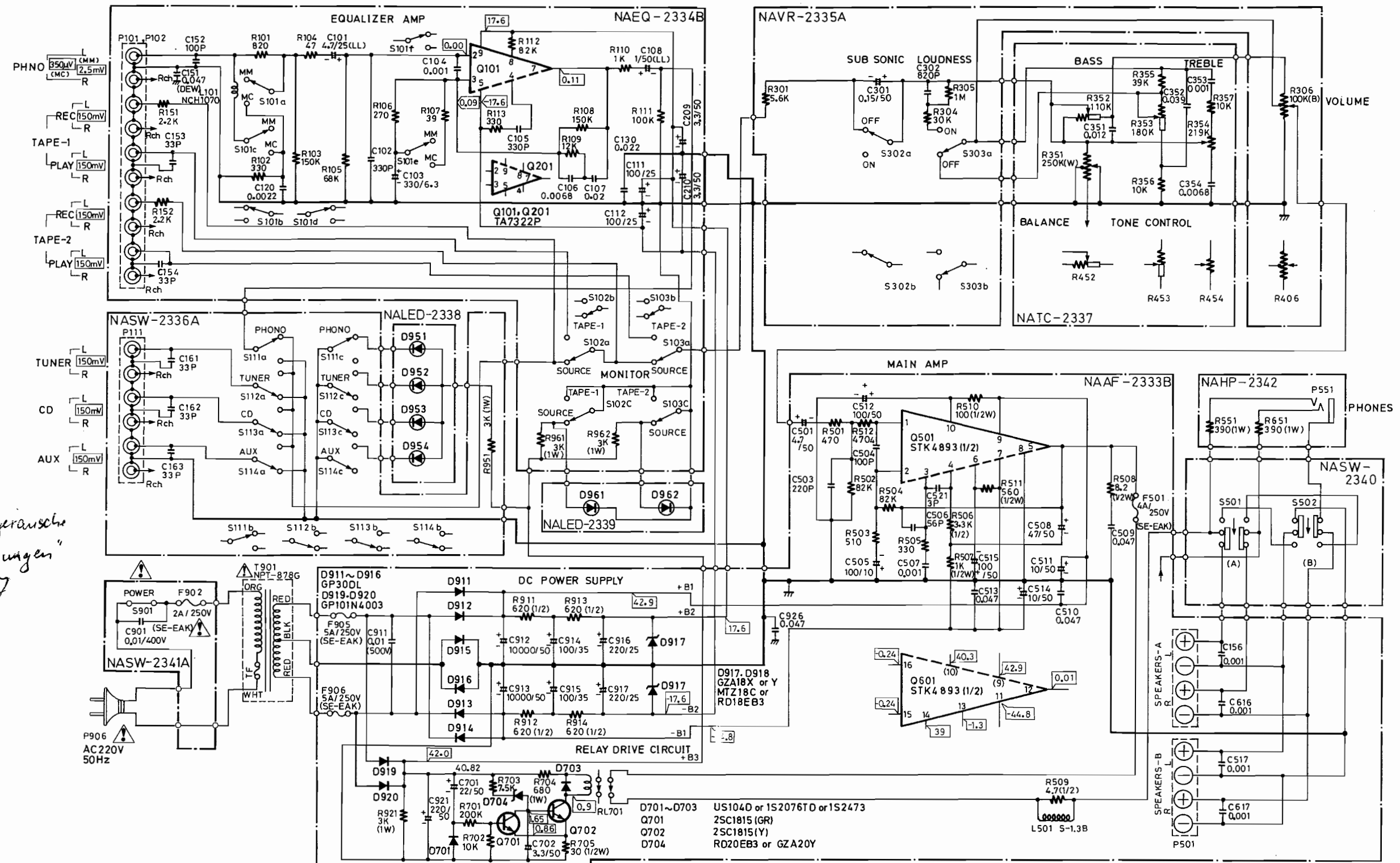
NASW-2341



NALED-2339



SCHEMATIC DIAGRAM



NO	FUNCTION	POSITION	NO	FUNCTION	POSITION
S501	POWER	OFF ON	S503	LOUDNESS	OFF ON
S102	MONITOR	SOURCE TAPE-1	S501	SPEAKERS A	OFF A
S103	MONITOR	SOURCE TAPE-2	S502	SPEAKERS B	OFF B
S101	CARTRIGE	MM MC	S111	SELECTOR	PH TUN CD AL
S302	SUBSONIC	OFF ON	S114		

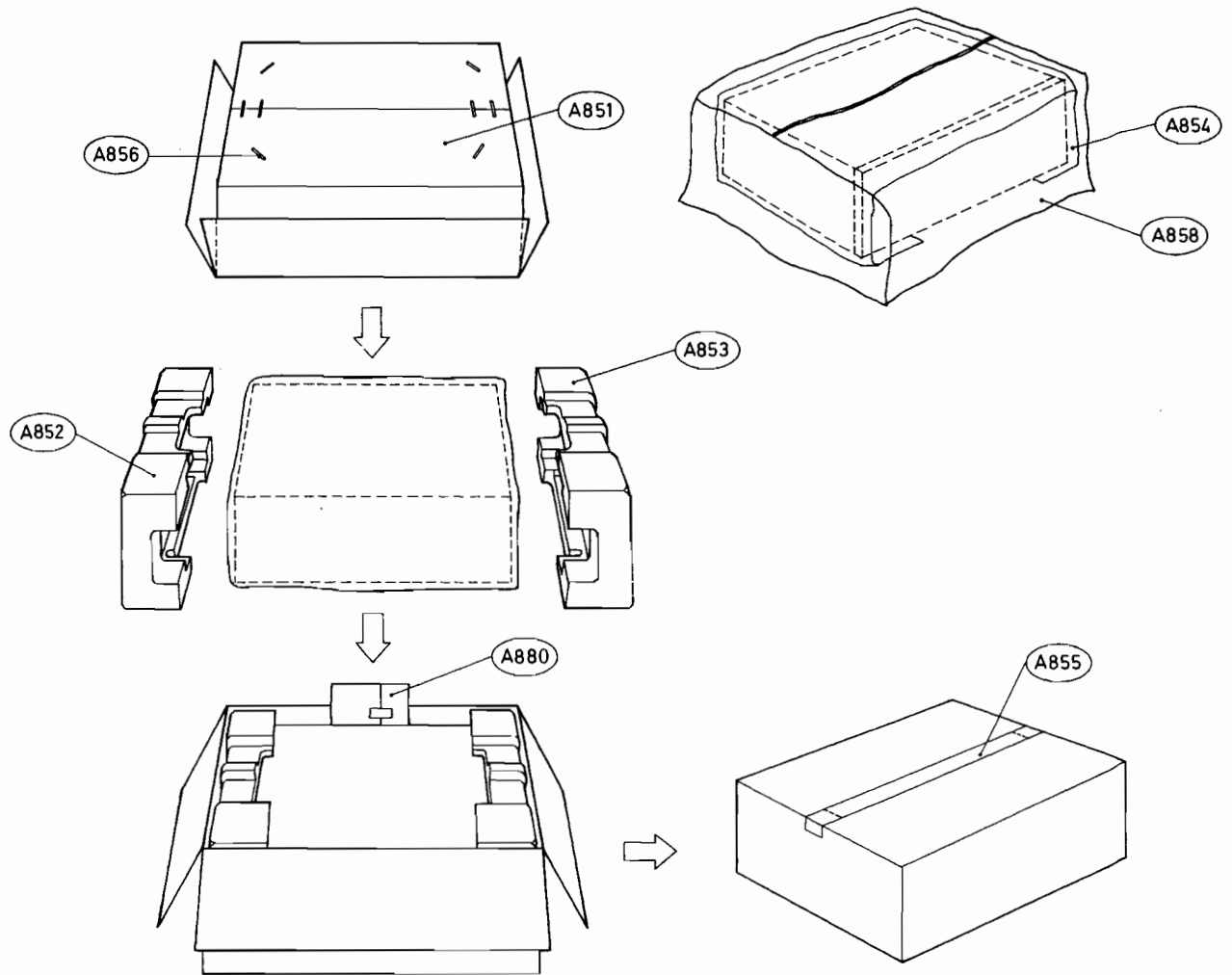
Q701, Q702 Q101, Q201 Q501, Q601

- NOTES**
- ALL RESISTORS ARE IN OHMS 1/4 WATT or 1/6 WATT UNLESS OTHERWISE NOTED.
 - ALL CAPACITORS ARE IN μ F 50WV UNLESS OTHERWISE NOTED.
 - ELECTROLYTIC CAPACITOR $\square$ ARE IN μ F/VV.
 - ALL DIODES ARE 1S2473 or 1S2076 or US1040 UNLESS OTHERWISE NOTED.
 - VOLTAGE (MEASURED WITH V.T.X.M.) $\square$ V IS DC VOLTAGE (STOP MODE).
 - THE COMPONENTS IDENTIFIED BY MARK Δ ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.

ONKYO CORPORATION

PACKING PROCEDURES



REF. NO.	PART NO.	DESCRIPTION
A851	29051108	Master carton box
	29051109	Master carton box [BLACK]
A852	29090746A	Pad, left
A853	29090747C	Pad, right
A854	29095380	800 × 500, Protection sheet
	29095012-1	800 × 500, Protection sheet [BLACK]
A855	260012	Damplon tape
A856	282301	Sealing hook
A858	29100063	750 × 580, Poly bag
A880	Accessory bag ass'y	
	29340874	Instruction manual
	29365016	Warranty card
	29100006	350 × 250, Poly bag
	29355093	FTZ Caution label

NOTE: [BLACK]: Black model

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Telex: 521726 Telefon: (089)-84-9320

Printed by: Schaltungsdienst Lange, Berlin (Germany)