

ONKYO SERVICE MANUAL

Stereo Preamplifier

MODEL P-3370



SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK Δ 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

Input Sensitivity and Impedance:	PHONO MC: 160 μ V/220 ohms PHONO MM: 2.5mV/47 kohms CD, TUNER, LINE, TAPE PLAY: 150mV/20 kohms	Signal-to-Noise Ratio: PHONO MC: 81dB (IHF A-202, Shorted) PHONO MM: 92dB (IHF A-202, Shorted) CD: 100dB (IHF A-202, Shorted)
Rated Output and Impedance:	TAPE REC: 150mV/1.2 kohms (PHONO) OUTPUT: 1.0V/160 ohms Max. 6V	Tone Control (Vol. -20dB): BASS: $\pm$ 10dB at 20Hz TREBLE: $\pm$ 8dB at 20kHz Filters: HIGH CUT: (TREBLE min.): 6dB/oct, 7 kHz
RIAA Deviation:	$\pm$ 0.2dB, 20-20,000Hz	Inputs: PHONO, CD, TUNER, LINE 1 & 2, TAPE PLAY 1 & 2
Frequency Response (CD, TUNER, LINE, TAPE):	+0, -3dB, 0.8MHz - 170kHz	Outputs: OUTPUT, TAPE REC OUT 1 & 2 PHONES
Phono Overload:	PHONO MM: 210mV RMS at 1 kHz, THD 0.05% PHONO MC: 13mV RMS at 1 kHz, THD 0.05%	Power Supply: AC 220V, 50Hz Dimensions: 435 (W) $\times$ 101 (H) $\times$ 403 (D) mm 17-1/8" $\times$ 3-15/16" $\times$ 15-7/8"
Total Harmonic Distortion:	0.0008% at PHONO MM, 3V output 0.003% at PHONO MC, 3V output 0.0005% at CD, TUNER, LINE and TAPE, 3V output	With side panels: 465 (W) $\times$ 102 (H) $\times$ 403 (D) mm 18-5/16" $\times$ 4" $\times$ 15-7/8"
Intermodulation Distortion (CD):	0.003% (70Hz : 7kHz = 4 : 1)	Weight: 6.9 kg, 15.2 lbs. With side panels: 7.8 kg, 17.2 lbs.

Specifications and features are subject to change without notice.

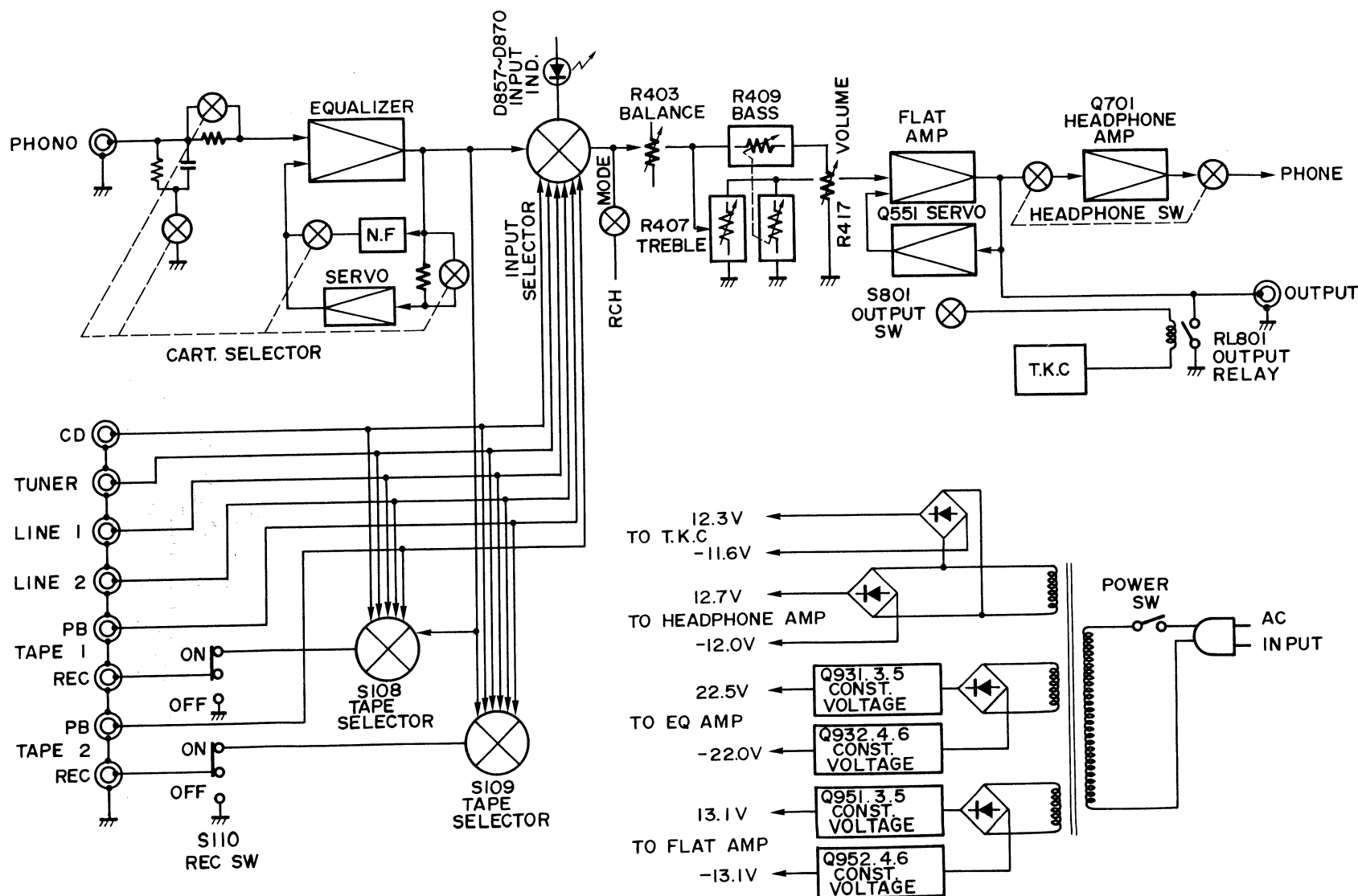
PRECAUTIONS

1. Replacing the fuses

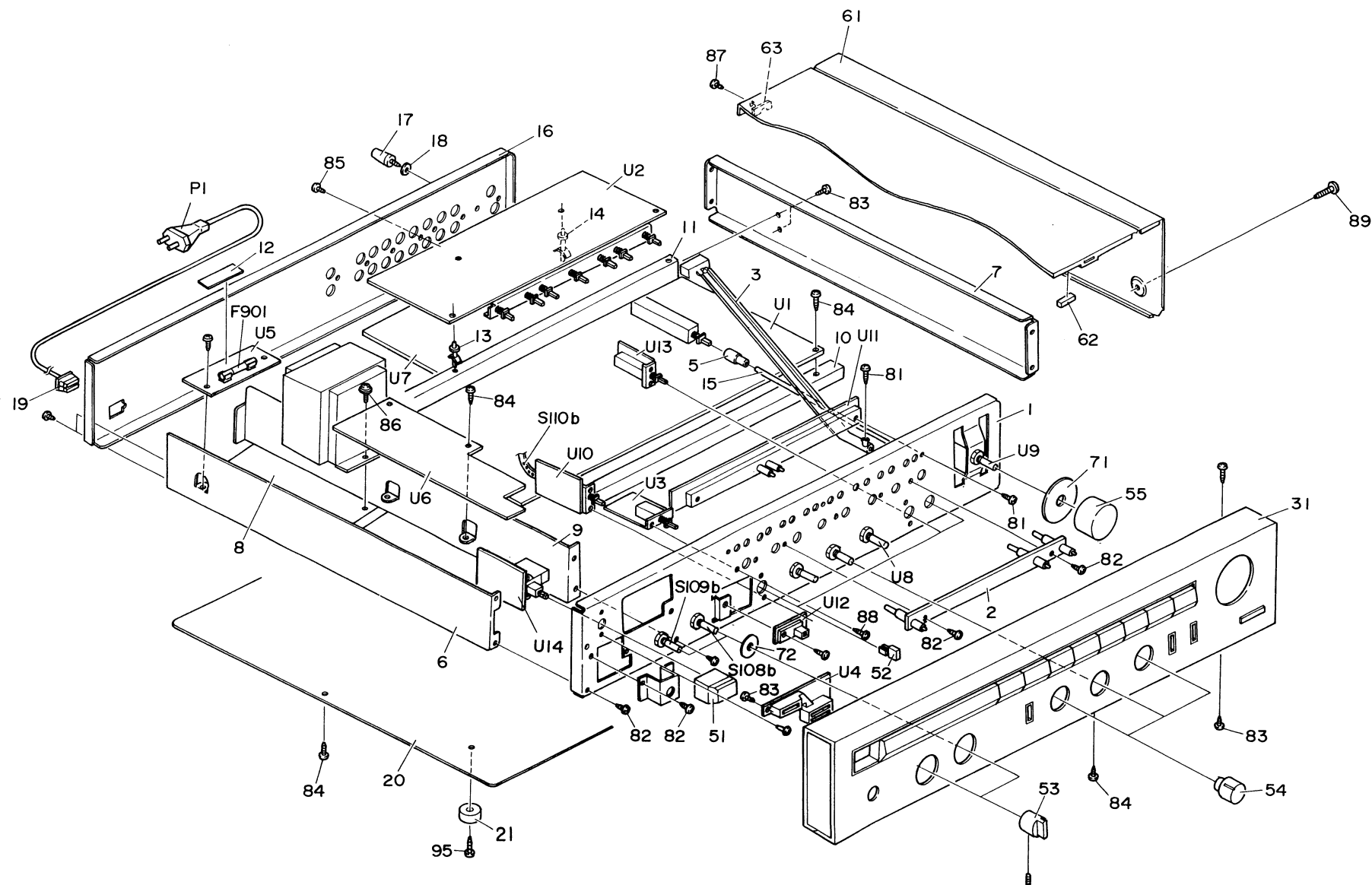
For continued protection against risk of fire, replace only with same type and same rating fuse.

CIRCUIT NO.	PART NO.	DESCRIPTION
F902	252063	0.5A-SE-EAWK, Primary fuse

BLOCK DIAGRAM



EXPLODED VIEW



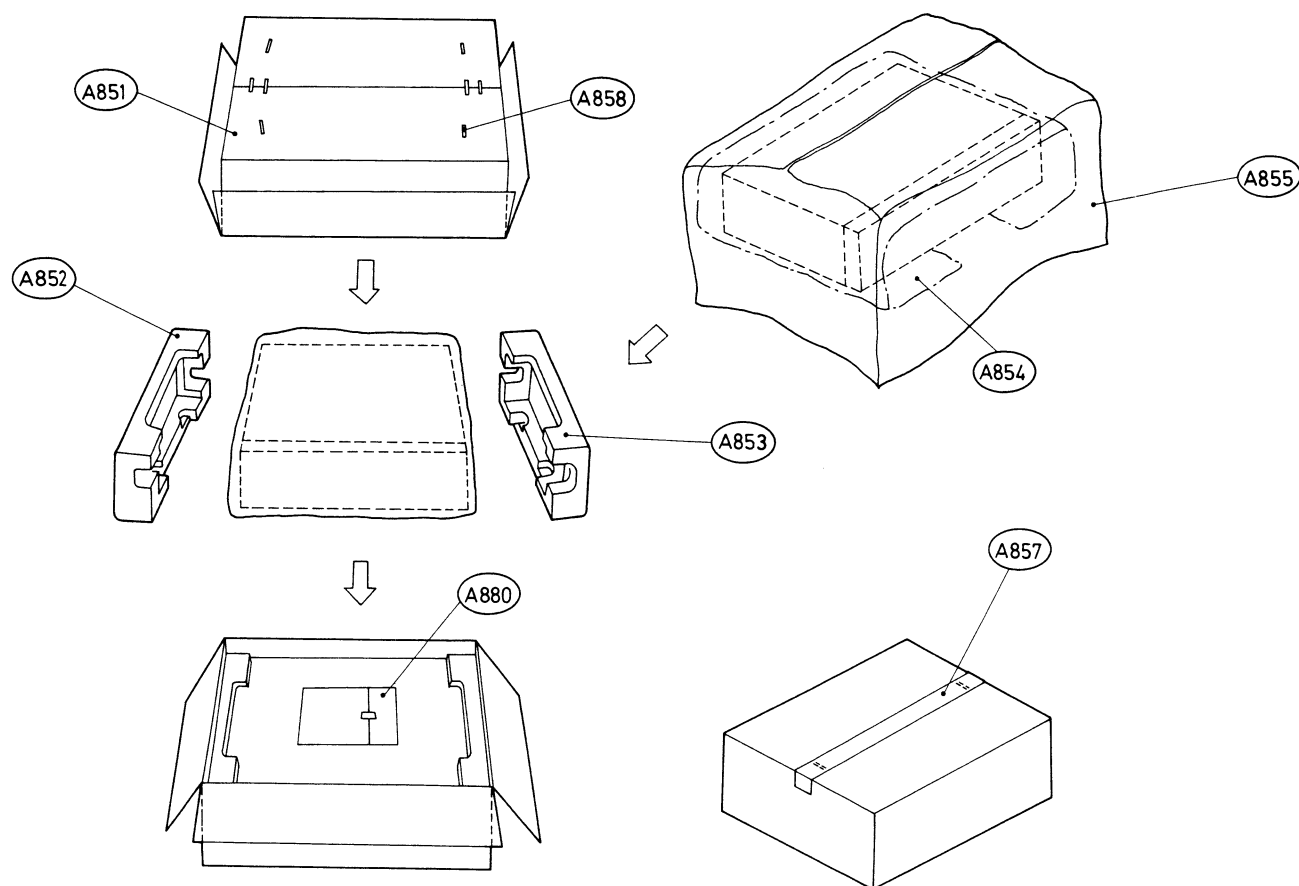
PARTS LIST

REF NO.	PART NO.	DESCRIPTION
1	27110306A	Front bracket
2	27267469B	Guide joint ass'y
3	27273051B	Joint M
5	28320135	Connector
6	27115217A	Side bracket L
7	27115202A	Side bracket R
8	27130451	Bracket,power transformer
9	27130452B	Bracket SUB
10	27130453	Bracket FR
11	27130425	Bracket RE
12	29360626-1	Label,Fuse
13	27190480	KGLS-8S,Holder
14	27190470	KGLS-18S,Holder
15	27260224	Shaft,push
16	27120901A	Back panel
17	25060041	Ground terminal
18	87644010	W4× 10F(BC), Washer
19	27300750	△Strainrelief
20	27170233	Bottom board
21	27175009A	Leg
22	27141085A	Bracket,headphone
23	27225075	Shielded plate
31	17792121	Front panel ass'y
51	28322522A	Knob,power
52	28322703	Knob,push
53	28322705A	Knob,recording
54	28322704	Knob,tone
55	28322529A	Knob,volume
61	28184318A	Top cover
62	28140020	Cushion
63	27270209	Spacer,cover
71	28140126	Φ53mm,Cushion
72	28140127	Φ32mm,Cushion
76	28185255	Side panel L
77	28185256	Side panel R
81	833430080	3TTP+8P(BC),Tapping screw
82	838430068	3TTB+6B(BC), Tapping screw
83	838430088	3TTB+8B(BC),Tapping screw
84	831430088	3TTW + 8B(BC), Tapping screw
85	831430100	3TTW+10P(BC),Tapping screw
86	830440089	4TTC+8C(BC),Tapping screw
87	801230	3TTS+8B(BC),Tapping screw
88	82143006	3P+6FN(BC),Pan head screw
89	838440089	4TTB+8C(BC),Tapping screw
91	87313006	M-3B,Toothed washer
F902	252063	△0.5A-SE-EAWK, Primary fuse

REF NO.	PART NO.	DESCRIPTION
S108b	25030287	NRSM-106-30BU, Wire section, remote switch
S109b	25030288	NRSM-106-30BU, Wire section, remote switch
S110b	25065309A	Wire section, remote switch
T001	2300159	△NPT-941G, Power transformer
U1	17792528-1A	NAEF-2828-1A, Equalizer amplifier pc board ass'y
U2	17792529-1A	NASW-2829-1A, Input selector switch pc board ass'y
U3	17798530-1	NASW-2830-1, Output switch pc board ass'y
U4	17798531-1	NADIS-2831-1, Power indicator pc board ass'y
U5	17794532-1A	NAFU-2832-1A, Fuse terminal pc board ass'y
U6	17798533-1	NAPS-2833-1, Power supply and headphone terminal pc board ass'y
U7	17798534-1	NASW-2834-1, Rec. selector switch pc board ass'y
U8	17798535-1	NATC-2835-1, REC.Selector switch pc board ass'y
U9	17798536-1	NAVR-2836-1, Volume control pc board ass'y
U10	17798537-1	NASW-2837-1, Recording output switch pc board ass'y
U11	17798538-1	NADIS-2838-1, Input display pc board ass'y
U12	17798539-1	NADIS-2839-1, Recording indicator pc board ass'y
U13	17798540-1	NASW-2840-1, Mode switch pc board ass'y
U14	17794541-1	NASW-2841-1, Power switch pc board ass'y

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

PACKING PROCEDURES



REF. NO.	PARTS NO.	DESCRIPTION
A851	29051392	Master carton box
A852	29091079A	Pad (L)
A853	29091080A	Pad (R)
A854	29095012-1	Protection sheet
A855	29100038A	720 × 950mm. Poly-vinyl bag
A857	260012	Damplon tape
A858	282301	Sealing hook
A880	Accessory bag ass'y	
	29341046	Instruction manual
	29365016B	Warranty card
	2910006A	250 × 350mm. Poly-vinyl bag for accessory

PRINTED CIRCUIT BOARD-PARTS LIST

EQUALIZER AMPLIFIER PC BOARD (NAEF-2828-1A)

CIRCUIT NO.	PART NO.	DESCRIPTION	CIRCUIT NO.	PART NO.	DESCRIPTION
Transistors			Capacitors		
Q201~Q204	2211535 or	2SK146(GR) or	C205,C206	379121035	0.01μF,50V,Film (DEW)
	2211536	2SK146(BL)		372121814	180pF, 50V, Styrene
Q205~Q208	2211895 or	2SC1815L(GR) or	C211,C212	372122214	220pF, 50V, Styrene
	2211896	2SC1815L(BL)		379121535	0.015 μF, 50V, Film (DEW)
Q209,Q210	2211414	2SC1627(Y)	C217,C218	379125625	5600pF, 50V, Film (DEW)
	2211515 or	2SA995(F) or		372122214	220pF, 50V, Styrene
Q211,Q212	2211516	2SA995(G)	C221,C222	379127524	7500pF, 50V, Film (DEW)
	2211975	2SA1015L(GR)		379121034	0.01μF, 50V, Film (DEW)
Q213~Q218	2211895 or	2SC1815L(GR) or	C227,C228	379124334	0.043 μF,50V, Film (DEW)
	2211896	2SC1815L(BL)		379123634	0.036 μF, 50V, Film (DEW)
Q219,Q220	2211414	2SC1627(Y)	C231,C232	372126804	68pF, 50V, Styrene
	2211424	2SA817(Y)		391232217	220 μF, 10V, Elect. (MUSE)
Q221,Q222	2211414	2SC1627(Y)	C239,C240	379122725	2700pF, 50V, Film (DEW)
	2211424	2SA817(Y)		C241~ C244	100 μF, 35V, Elect.
Q223,Q224	2212805 or	2SK389(GR) or	C245,C246	354784709	47μF, 50V, Elect.
	2212806	2SK389(BL)		354741009	10μF, 16V, Elect.
Q225,Q226	2211255	2SC1815(GR)	C301,C302	391252217	220 μF, 25V, Elect. (MUSE)
	2211515 or	2SA995(F) or		372123304	33pF,50V, Styrene
Q227,Q228	2211516	2SA995(G)	C501,C502	372121014	100pF, 50V, Styrene
	2211455	2SA1015(GR)		372122214	220pF, 50V, Styrene
Q501,Q502	2211255	2SC1815(GR)	C503,C504	354784799	0.47μF,50V, Elect.
	2211515 or	2SA995(F) or		372122704	27pF, 50V, Styrene
Q503~Q508	2211516	2SA995(G)	C515,C516	391232217	220 μF, 10V, Elect. (MUSE)
	2211455	2SA1015(GR)		C517~ C520	100 μF, 35V, Elect.
Q509,Q510	2211255	2SC1815(GR)	C521,C522	354761019	47μF, 50V, Elect.
	2211515 or	2SA995(F) or		354784709	22μF,35V, Elect.
Q511~Q514	2211455	2SA1015(GR)	C551~ C554	372123304	33pF, 50V, Styrene
	2211255	2SC1815(GR)		C931,C932	220 μF, 50V, Elect.
Q515,Q516	2211164	2SC2120(Y)	C935,C936	354741019	100 μF,16V, Elect.
	2211504	2SA950(Y)		354753319	330 μF, 25V, Elect.
Q517,Q518	2211164	2SC2120(Y)	C951,C952	354762219	220 μF, 35V, Elect.
	2211504	2SA950(Y)		C955,C956	100 μF,16V, Elect.
Q521,Q522	2201404 or	2SD1406(Y) or	C957,C958	354743319	330 μF, 16V, Elect.
	2201403	2SD1406(O)			
Q523,Q524	2201394 or	2SB1015(Y) or	Resistors		
	2201393	2SB1015(O)	R225~ R228	442526804	68Ω, 1/2W, Metal oxide film
Q931	2211254 or	2SC1815(Y) or		442528204	82Ω, 1/2W, Metal oxide film
	2211255	2SC1815(GR)	R239,R240	442524314	430 Ω, 1/2W, Metal oxide film
Q932	2211454 or	2SA1015(Y) or		442523304	33Ω, 1/2W, Metal oxide film
	2211455	2SA1015(GR)	R267~ R274	441625614	560 Ω, 1W, Metal oxide film
Q933	2211254 or	2SC1815(Y) or		442522404	24Ω, 1/2W, Metal oxide film
	2211255	2SC1815(GR)	R275,R276	441622014	200 Ω, 1W, Metal oxide film
Q934	2211454 or	2SA1015(Y) or			
	2211455	2SA1015(GR)	R529~ R536		
Q935	2211254 or	2SC1815(Y) or			
	2211255	2SC1815(GR)	R539,R540		
Q936	2211454 or	2SA1015(Y) or			
	2211455	2SA1015(GR)	Switch		
Q951	2201404 or	2SD1406(Y) or	S201	25035546	NPS-182-L508
	2201403	2SD1406(O)			
Q952	2201394 or	2SB1015(Y) or	Sockets		
	2201393	2SB1015(O)	P456,P851	25050272	NSCT-8P100
Q953	2211254 or	2SC1815(Y) or		25050267	NSCT-3P95
	2211255	2SC1815(GR)	P852		
Q954	2211454 or	2SA1015(Y) or			
	2211455	2SA1015(GR)	Plugs		
Q955	2211254 or	2SC1815(Y) or	P201a,P202a	25055132	NPLG-2P116
	2211255	2SC1815(GR)		25055133	NPLG-3P117
Q956	2211454 or	2SA1015(Y) or	P551a,P552a	25055133	NPLG-3P117
	2211455	2SA1015(GR)		25055133	NPLG-3P117
ICs			Radiators		
Q301,Q302	222585	NJM4558DXB	P931,P932	27160176	RAD-56
	222465	NJM4558D		27160145	RAD-51
Q551,Q552	222465	NJM4558D	P951,P952		
Diodes			Plate		
D201~ D204	223163	1SS133	25060032B		Buss
	225232	LTZ-R15,LED			
D205~ D210	223163	1SS133	Relay	25065282	NRL-2P1.25A-DC12-39
	223163	1SS133			
D501~ D504	225232	LTZ-R15,LED	RL801		
	2239511 or	RD6.8E-B1 or			
D804	2243171	MTZ6.8-A			
D505~ D510					
D931,D932,D951					
D952					

INPUT SELECTOR SWITCH PC BOARD (NASW-2829-1A)

CIRCUIT NO.	PART NO.	DESCRIPTION			
L101 ~ L104 L201,L202 L601,L602	Coils		R409	5144005	N16RQM11C69.6K88K30, Variable, Bass
	231069A	NCH-1119	R801	442521324	1.3kΩ,1/2W,Metal oxide film
	231030	NCH-1070	R807	442526214	620 Ω,1/2W,Metal oxide film
	231069A	NCH-1119	R809	442521324	1.3kΩ,1/2W,Metal oxide film
S101 ~ S107	Switches		R810	442521524	1.5kΩ,1/2W,Metal oxide film
	25035524	NPS-742-L486		Sockets	
			P451,P452	25050267	NSCT-3P95
C151 ~ C158 C201,C202 C161,C162 C165,C166 C171 ~ C175	Capacitors				
	372121014	100pF,50V,Styrene			
	372122214	220pF,50V,Styrene			
	372121014	100pF,50V,Styrene			
	372121014	100pF,50V,Styrene			
	379121035	0.01μF,50V,Film (DEW)			
P101,P102 P103 P104 P105 P601	Terminals				
	25045190	NPJ-2PDBL74		IC	
	25045191	NPJ-6PDBL75	Q701	222957	M-5216L
	25045208	NPJ-4PDBL88			
	25045165	NPJ-4PDBL59		Diodes	
	25045180	NPJ-2PDBL70	D701-D704	223145	1S2076TD
			D901,D902	223867	WL02
P151 ~ P154 P201 P202 P203 P204 P205	Sockets		D903,D904	223890	W01RL
	25050273	NSCT-9P101	D905 ~ D910	223896	1N4003F
	2000631	NSAS-4P587			
	2000632	NSAS-4P588			
VOLUME CONTROL PC BOARD (NAVR-2836-1)					

OUTPUT SWITCH PC BOARD (NASW-2830-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
S801	25035372	NPS-122-L336, Output ON/OFF switch
P853	25050267	NSCT-3P95,Socket

RECORDING OUTPUT SWITCH PC BOARD (NASW-2837-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
S110C	25035227	NPS-122-L191,Switch

FUSE TERMINAL PC BOARD (NAFU-2832-1A)

CIRCUIT NO.	PART NO.	DESCRIPTION
F902a	25050065	YSH-403T Fuse holder
F902	252063	0.5A-SE-EAWK,Fuse

INPUT DISPLAY PC BOARD (NADIS-2838-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
D857~D872	L.E.Ds	
	225137CG or 225137DG or 225137DY	SEL2413CG or SEL2413DG or SEL2413DY
	Resistor	
R854	442521324	1.3kΩ, 1/2W, Metal oxide film
	Holder	
	27190456	Holder (LED)

POWER INDICATOR PC BOARD (NADIS-2831-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
D851,D852	225142	SEL2413K,LED
	27190455	Holder (LED)

POWER SWITCH PC BOARD (NASW-2841-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
C981	3500065A	0.01μF, AC400V, Capacitor (IS)
P901	27300601	SB-1925, Cover (capacitor)
S901	25035398	NPS-111-362P, Power switch

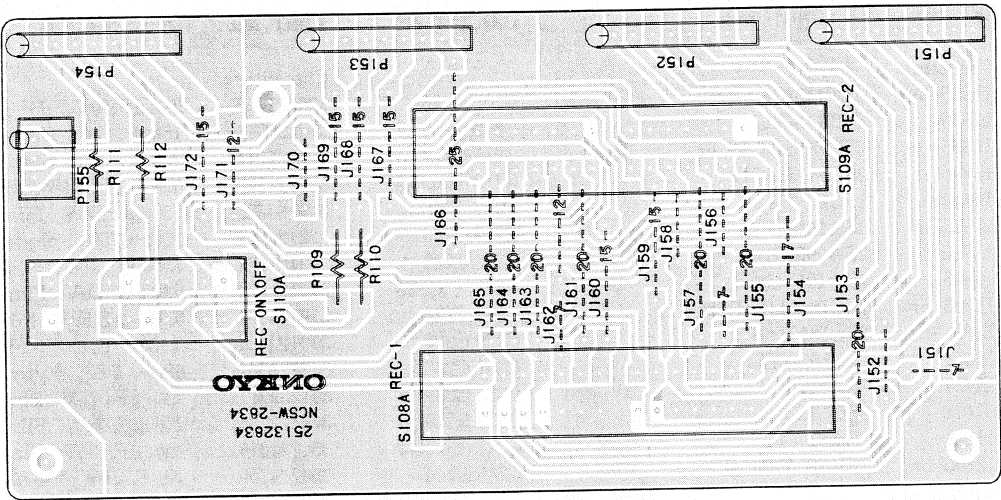
RECORDING INDICATOR PC BOARD (NADIS-2839-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
D856	225233RB or 225233RC	GL5HY40-PB or GL5HY40-RC
	27190319A	Holder (LED)

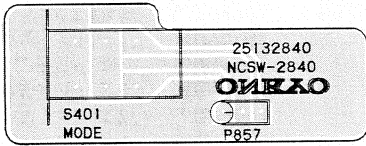
MODE SWITCH PC BOARD (NASW-2840-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
S401	25035372	NPS-122-L336,Push

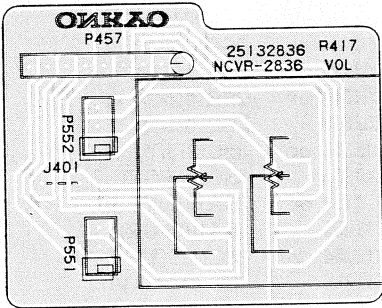
PRINTED CIRCUIT BOARD VIEW FROM BOTTOM SIDE



REC. SELECTOR SWITCH PC BOARD



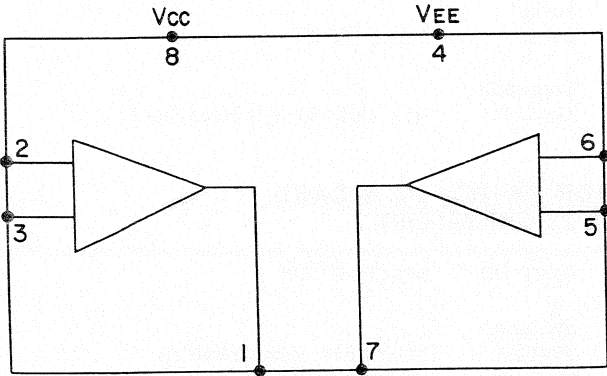
MODE SWITCH PC BOARD



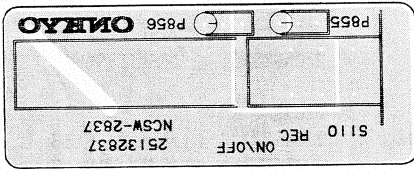
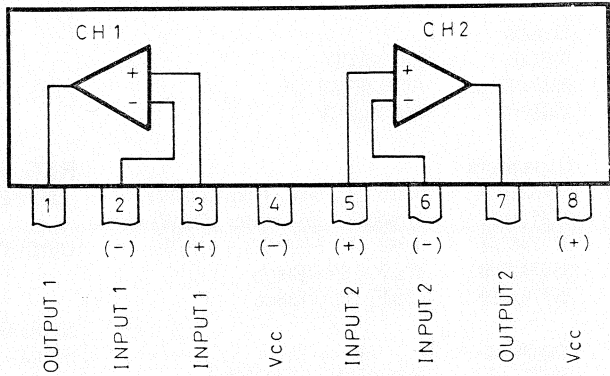
VOLUME CONTROL PC BOARD

IC BLOCK DIAGRAM

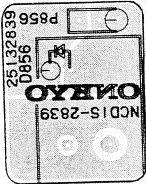
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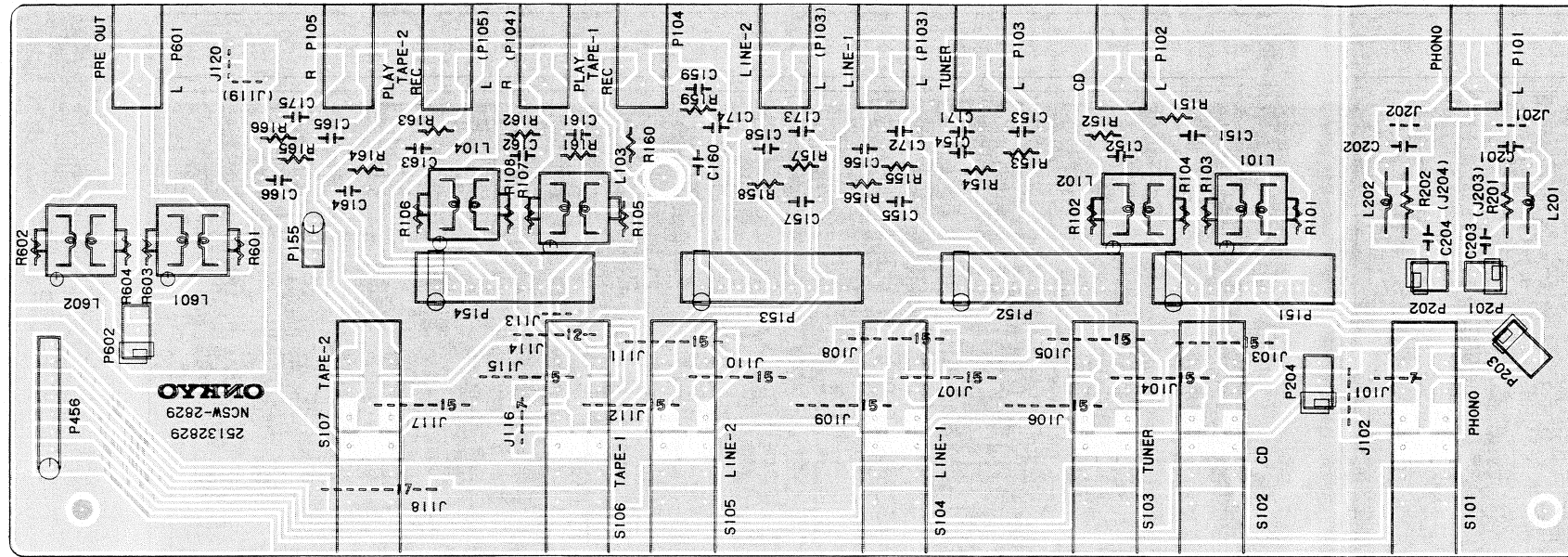
M-5216L



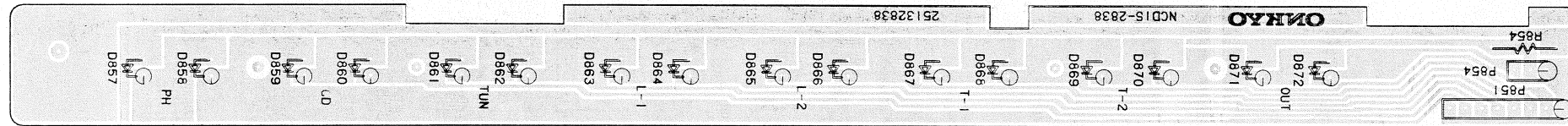
RECORDING OUTPUT SWITCH PC BOARD



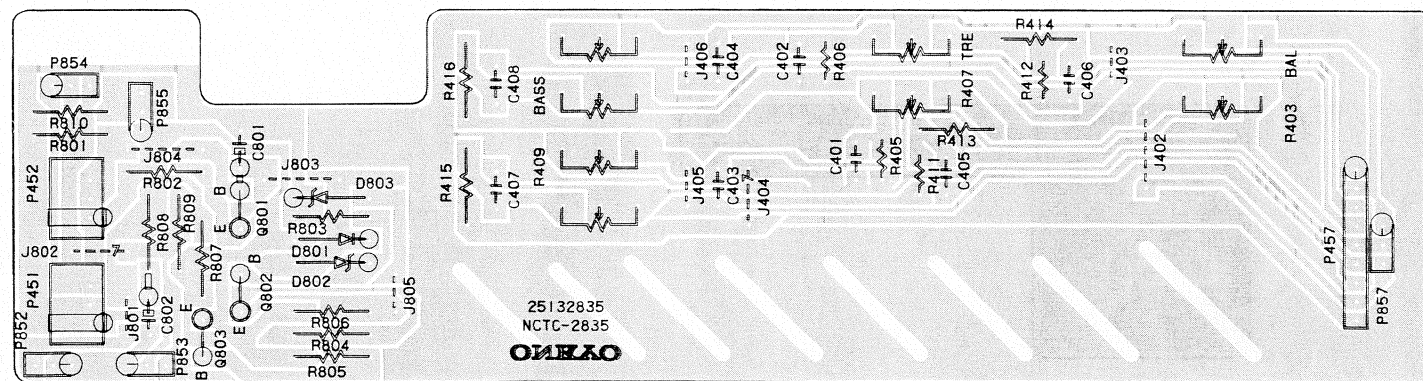
RECORDING INDICATOR PC BOARD



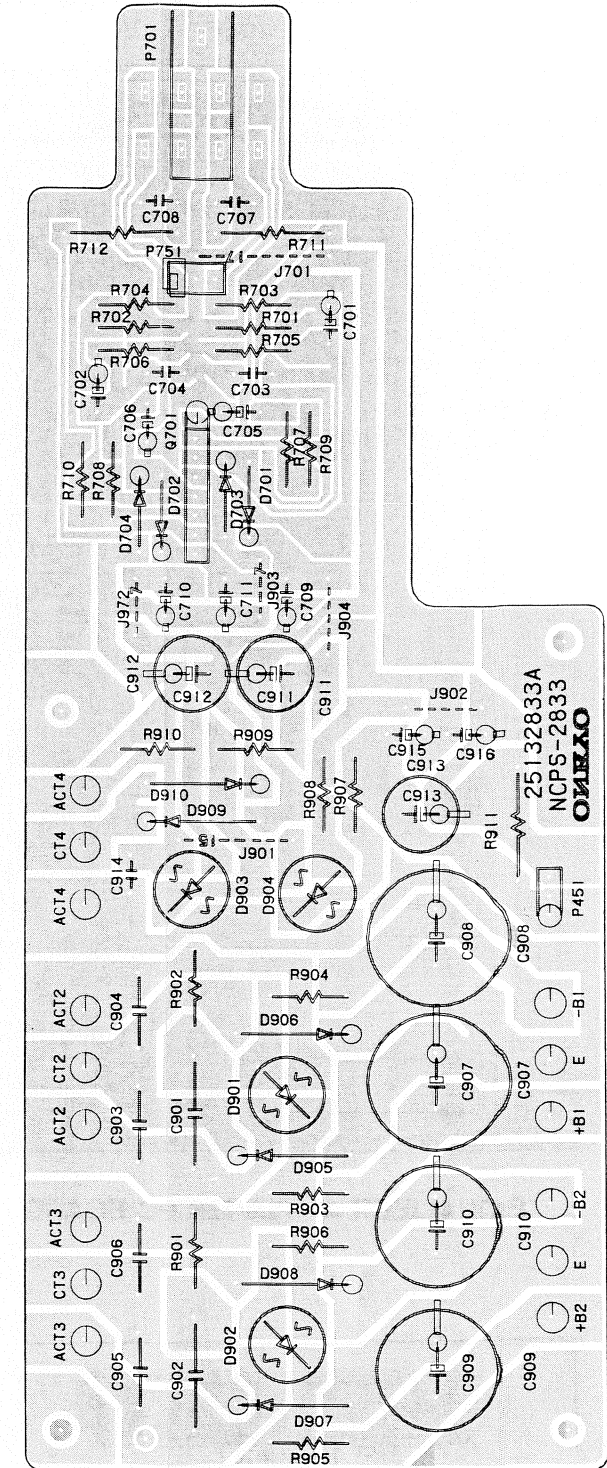
INPUT SELECTOR SWITCH PC BOARD



INPUT DISPLAY PC BOARD

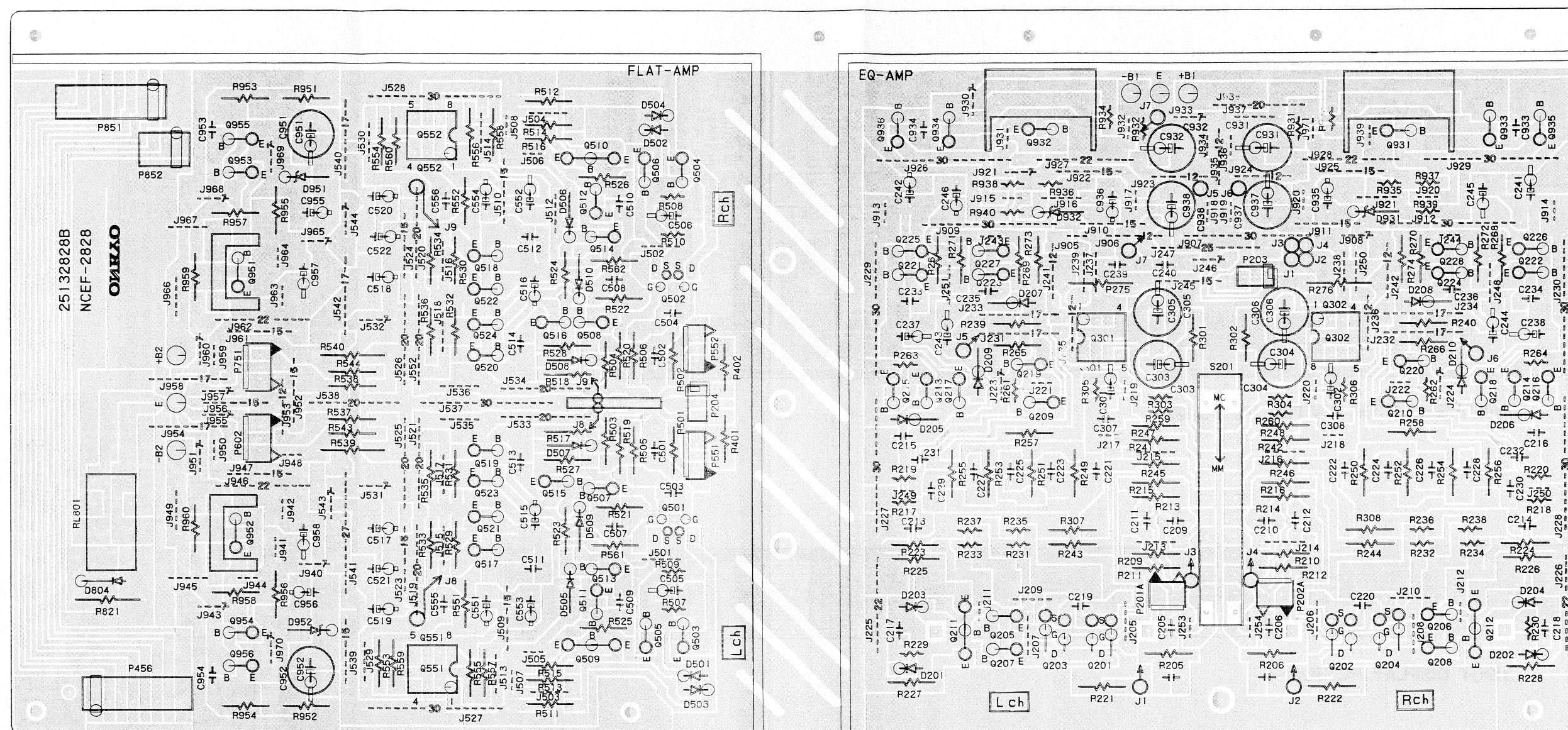


TONE CONTROL PC BOARD

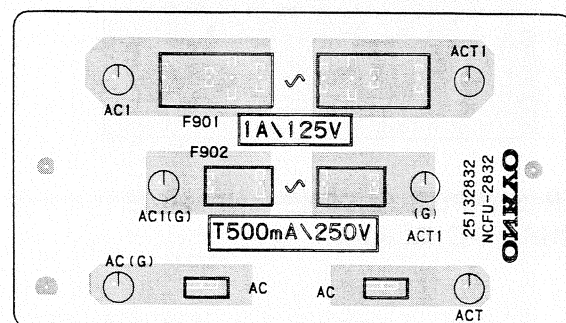


POWER SUPPLY AND HEADPHONE
TERMINAL PC BOARD

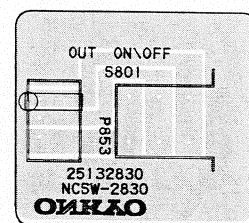
PRINTED CIRCUIT BOARD VIEW FROM BOTTOM SIDE



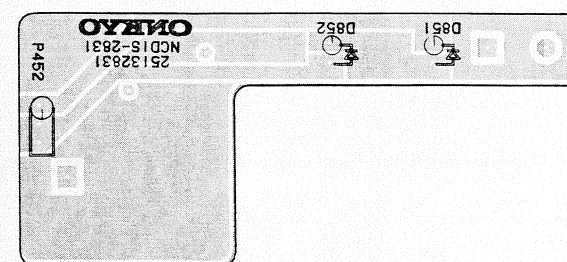
EQUALIZER AMPLIFIER PC BOARD



FUSE TERMINAL PC BOARD

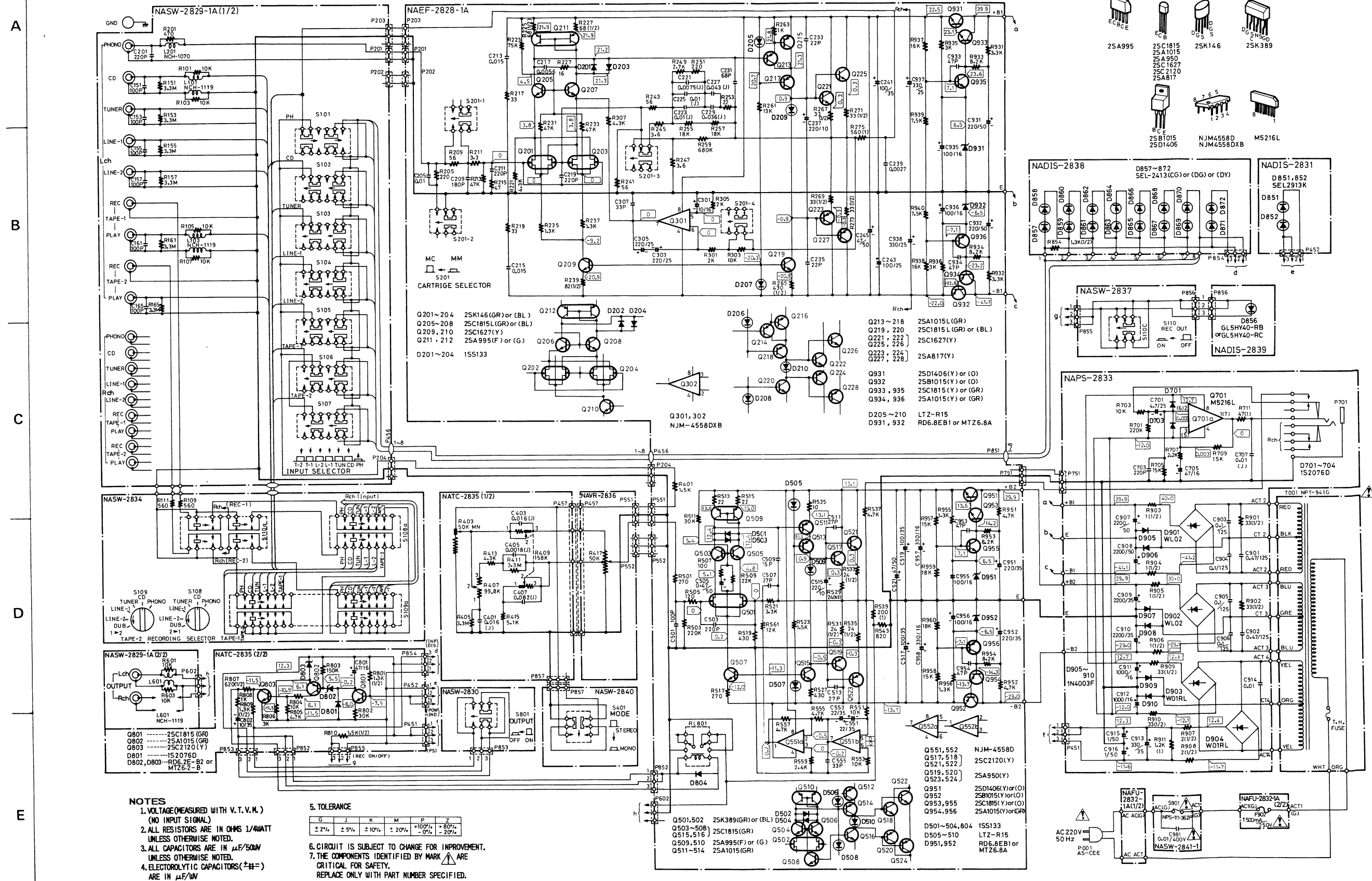


OUTPUT SWITCH PC BOARD



POWER INDICATOR PC BOARD

SCHEMATIC DIAGRAM



ONKYO CORPORATION