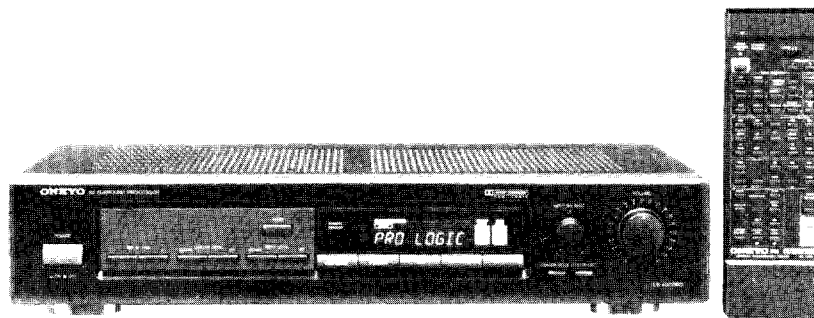



ONKYO® SERVICE MANUAL

AV SURROUND PROCESSOR MODEL ES-600PRO



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

- Specifications2
- Precautions2
- IC block diagram3
- Adjustment procedures8
- Packing parts list8
- Chassis exploded view9
- Exploded view partslist10
- Printed board partslist11
- Front panel facilities14
- Printed circuit boardview15
- Block diagram19
- Schematic diagram21
- System connections23



SPECIFICATIONS

Power Output: 50 watts per channel min. RMS. at 8 ohms, from 20Hz to 20,000Hz with no more than 0.09% total harmonic distortion (CENTER)
 20 watts per channel min. RMS. into 8 ohms, 1000Hz with no more than 1% total harmonic distortion. (REAR)

Total Harmonic Dist.: 0.09% at rated power (CENTER)
 0.09% at 1 watts output (CENTER)

IM Distortion: 0.09% at rated power (CENTER)
 0.09% at 1 watts output (CENTER)

Damping Factor: 50 at 8 ohms (CENTER)

Output (LINE): 150mV (volume max.)

Sensitivity and Imp.: Dolby Pro Logic: 200mV, 50kohms
 Hall: 200mV, 50kohms
 Stadium: 200mV, 50kohms

Frequency Response: 20 to 20,000Hz, +/- 1dB (CENTER)
 40 to 7,000Hz, +0dB, -3dB (REAR)

Delay Time: 15 to 30ms (5ms step) (Dolby Pro Logic Surround)
 5 to 40ms (5ms step) (Hall/Stadium Surround)

Signal to Noise Ratio: 80dB (IHF-A, Shorted) (CENTER)
MUTING: -60dB

Power Supply Rating: USA & Canadian models: AC120V 60Hz
 U.K. & Australian models: AC240V 50Hz
 Worldwide Models: 120 and 220V 50/60Hz switchable.

Dimensions (W x H x D): 455 x 90 x 320 mm
 17-15/16" x 3-9/16" x 12-5/8"
Weight: 6.3kg 13.9lbs.

Specifications and features are subject to change without notice.

PRECAUTIONS

1. Replacing the fuses

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

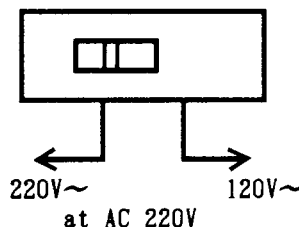
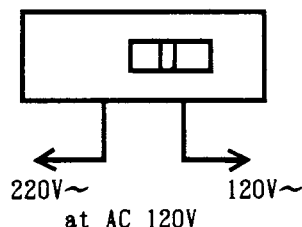
CIRCUIT NO.	PART NO.	DESCRIPTION
F901	252050	5A(ST-6), Primary fuse (120V, 120V/220V model)
F902	252075	2.5A-SE-EAK, Primary fuse or
	252075CC	2.5A-SE-EAK, Primary fuse (240V, 120V/220V model)

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 MΩ at 500V.

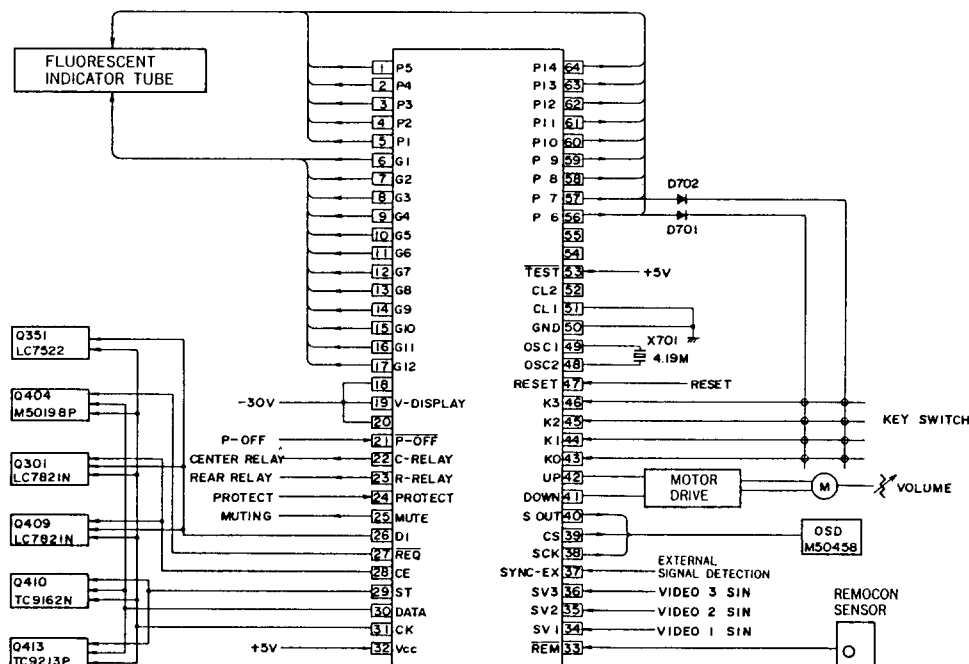
3. Voltage selector (rear panel)

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 returning the power switch on. Voltage is changed by sliding the groove in the switch with a screwdriver to the right or left. Confirm that the switch has been moved all the way to the right or left before turning the power switch on. Models without a voltage selector can only be used in areas where the power supply is the same as that of the unit.



IC BLOCK DIAGRAM

HD4047228A-43S (Microprocessor)



Pin No.	Terminal	Description
1 ~ 5	P5 ~ P1	Segment output for FL tube (Connected to P5 ~ P1 of FL tube)
6 ~ 17	G1 ~ G12	Grde output for FL tube (Connected to G1 ~ G12 of FL tube)
18	NOT USED	Terminal not used.
19	V-DISPLAY	Connected to negative power source for dispaly. (Connected to the built-in pull down resistance of output board for FL)
20	NOT USED	Terminal not used.
21	P-OFF	Input terminal of power off signal.
22	C-RELAY	Output terminal for center relay control.
23	R-RELAY	Output terminal for rear relay control.
24	PROTECT	Input terminal of protect signal
25	MUTE	A terminal which outputs [SEL-MUTE] when switched to input. (Pull up by resistance of several kΩ)
26	NOT USED	Terminal not used.
27	REQ	A terminal which outputs a request signal of dedicated delay (M50198P)
28	CE	A terinal which outputs a tube enable signal for analog switch (LC7821, TC9162N)
29	ST	A strobe signal output terminal of a dedicated electron volume (TC9213P)
30	DATA	A common output terminal which outputs the serial control IC data.
31	CK	A common output terminal which outputs the clock of the serial control C1.
32	Vcc	Power source terminal.
33	REM	An input terminal which takes in the infrared remote control signal.
34 ~ 40	NOT USED	Terminal not used.
41	VOL.DOWN	An output terminal of a signal which controls in lowering the motor volume.
42	VOL.UP	An output terminal of a signal which controls in raising the motor volume.
43 ~46	K0 ~ K3	An input terminal which reads the data from the key matrix.
47	RESET	An input terminal of system reset.
48, 49	OSC1, 2	A connection terminal for clock vibrator.
50	GND	Power source terminal (gland)
51, 52	CL1, 2	Not used. Pin No. 51 used for the gland and pin No. 52 is open. (Connection terminal of sub-clock vibrator)
53	TEST	Used by connecting to Vcc for testing micro-computer internal.
54, 55	NOT USED	Terminal not used.
56, 57	P6, P7	Segment output for FL tube. (Connected to P6, P7 of FL tube)
58, 61	P8 ~ P11	Segment output for FL tube and for select output for keymatrix. (Connected to P8 ~ P11 of FL tube and key matrix)
62 ~ 64	P12 ~ P14	Segment output for FL tube (Connected to P2 ~ P14 of FL tube)

ADJUSTMENT PROCEDURES

1. Preparations

- 1) Place the unit on the workbench.
- 2) Set up the unit as follows.
 - (1) No load
 - (2) No signal
 - (3) Volume turned all the way down
 - (4) Power switch off

2. Adjustment of idling current

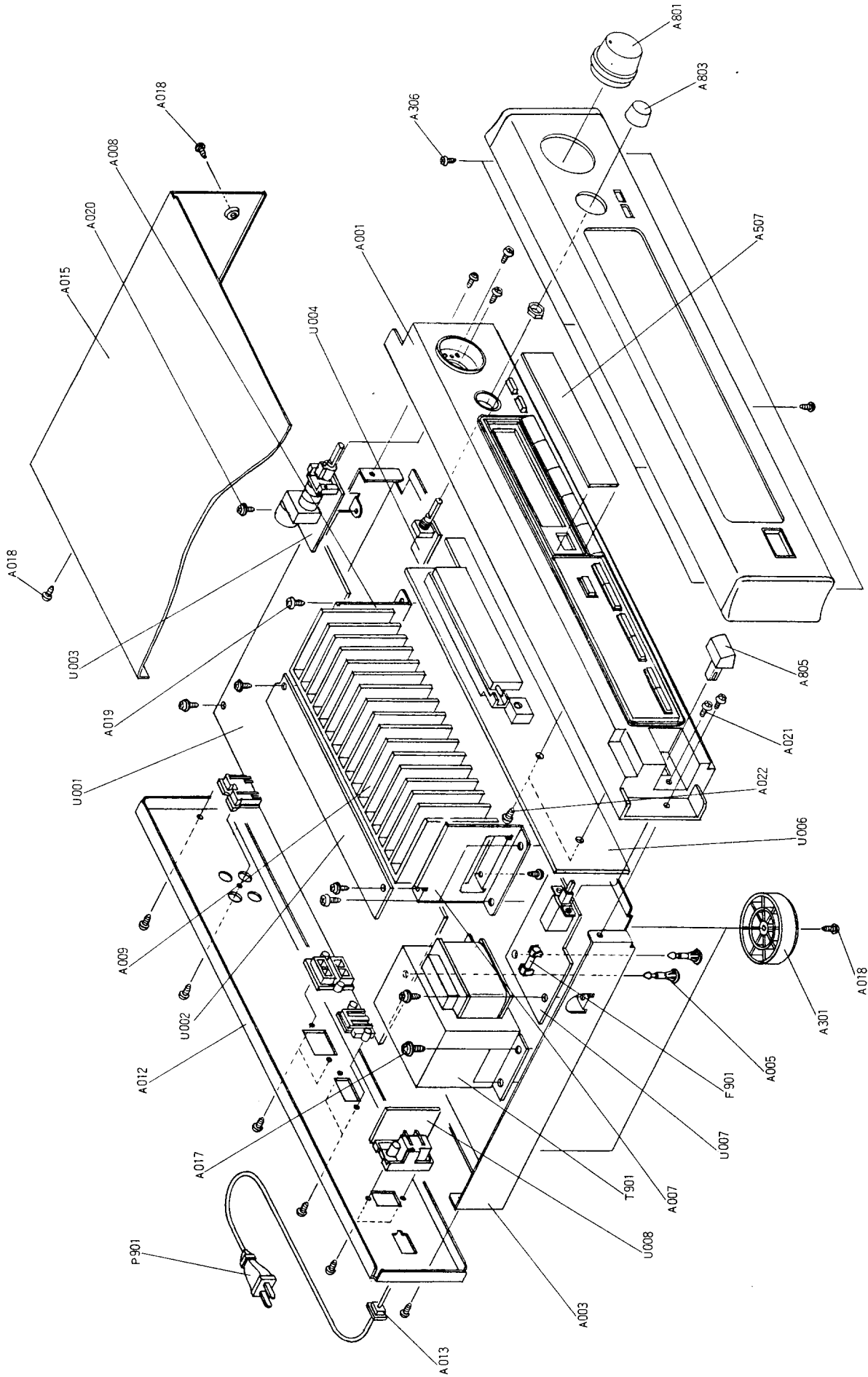
- 1) Turn the power switch ON and allow the unit to warm up for about 10 minutes. Adjust R521 so that the voltage at test point "BIAS" socket on the NAAF-4201-1 circuit board is 7.5 ± 2.5 mV

PACKING PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
A851	29052203	MASTER CARTON BOX
A852	29091490	PAD (LEFT)
A853	29091491	PAD (RIGHT)
A854	261504	W = 30, PAPER TAPE
A855	29100033A	POLY-VINYL BAG
A857	282301	SEALING HOOK
A858	29110071	DAMPLON TAPE
ACCESSORY BAG ASS'Y		
A901	29341632	INSTRUCTION MANUAL
A901	29341635	INSTRUCTION MANUAL [W]
A902	24140199	RC-199M, REMOTE CONTROL UNIT
A903	3010054	UM-3, TOW BATTERIES
A904	2010098A	CONNECTION CABLE
A905	29100097	250 × 350, POLY-VINYL BAG
	29365019	WARRANTY CARD [N]
	29365029	WARRANTY CARD [A]
	29358002J	SERVICE STATION LIST [N]
	25055018	CV-K-1, CONVERSION PLUG [W]

NOTE [D]: ONLY 120V MODEL
 [W]: ONLY 120V/220V MODEL
 [N]: ONLY U.S.A. MODEL
 [A]: ONLY AUSTRALIAN MODEL

CHASSIS-EXPLODED VIEW



CHASSIS-EXPLODED VIEW-PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
A001	27110641A	FRONT BRACKET ASS'Y	▲ F901a	29360626-1	FUSE LABEL
(A001a)	27110637A	GUIDE PANEL	▲ S902	25065123	NSS-1258P, SLIDE SWITCH [W]
(A001b)	28324363	KNOB (CENT)	U001	1W090500-1	NAAF-4200-1, MAIN PC BOARD ASS'Y
(A001c)	28324379	KNOB (DOLBY)	U002	1W090501-1	NAAF-4201-1, POWER AMPLIFIER PC BOARD ASS'Y
(A001d)	27262531	PLATE (LEV)	U003	1W090502-1	NAETC-4202-1, VOLUME CONTROL CIRCUIT PC BOARD ASS'Y
(A001e)	28324362A	KNOB (LEV)	U004	1W090503-1	NAETC-4203-1, INPUT BALANCE CIRCUIT PC BOARD ASS'Y
A003	27100238	CHASSIS	U006	1W090505-1	NADG-4205-1, DISPLAY CIRCUIT PC BOARD ASS'Y
A005	27190266	KGLS-12RT, HOLDER	U007	1W090506-1	NAPS-4206-1, POWER SWITCH PC BOARD ASS'Y [D]
A007	27141476	BRACKET (L)	U007	1W090506-1A	NAPS-4206-1A, POWER SWITCH PC BOARD ASS'Y [W]
A008	27141477	BRACKET (R)	U007	1W090506-1B	NAPS-4206-1B, POWER SWITCH PC BOARD ASS'Y [A]
A009	27160281	HEATSINK	U008	1W090507-1	NAETC-4207-1, AC SOCKET PC BOARD ASS'Y [D]
A010	801433	3SMS8WSW+14B(BC), SPECIAL TAPPING SCREW			
A012	27121453	BACK PANEL [D]			
A012	27121454	BACK PANEL [W]			
A012	27121455	BACK PANEL [Q]			
A013	27300750	BUSHING (CABLE)			
A015	28184489	TOP COVER			
A017	830440089	4TTC+8C(BC), TAPPING SCREW			
A018	834430088	3TTS+8B(BC), TAPPING SCREW			
A019	838440089	4TTB+8C(BC), TAPPING SCREW			
A020	831130088	3TTW+8B, TAPPING SCREW			
A021	82143006	3P+6FN(BC)			
A022	833430080	3TTP+8B(BC), TAPPING SCREW			
A301	27175254	BOTTOM LEG ASS'Y			
A306	833430080	3TTP+8P(BC), TAPPING SCREW			
A500	1W090121	FRONT PANEL ASS'Y			
(A502)	28125240	END CAP (L)			
(A503)	28125241	END CAP (R)			
(A504)	27267736	GUIDE (POW)			
(A505)	28135199	NAME PLATE			
A507	28191597	CLEAR PLATE			
A801	28324380	KNOB ASS'Y (VOL)			
A803	28324381	KNOB (BAL)			
A805	28324140	KNOB (POW)			
Q529	2201703	2SC3855-O OR			
	2201704	2SC3855-Y OR			
	2201706	2SC3855-P, TRANSISTOR			
Q530	2201693	2SA1491-O OR			
	2201694	2SA1491-Y OR			
	2201696	2SA1491-P, TRANSISTOR			
Q557, Q558	2202303	2SC4512-O OR			
	2202304	2SC4512-Y, TRANSISTOR			
Q559, Q560	2202313	2SA1726-O OR			
	2202314	2SA1726-Y, TRANSISTOR			
▲ T901	2300678	NPT-1113D, POWER TRANSFORMER [D]			
▲ T901	2300679	NPT-1113DG, POWER TRANSFORMER [W]			
▲ T901	2300680	NPT-1113Q, POWER TRANSFORMER [Q]			
▲ P901	253123	AS-UC-8 #18 OR			
	253146	AS-UC-8 #18 OR			
	253161	AS-UC-8 #18, POWER SUPPLY CABLE [D]			
▲ P901	253149	AS-CEE, POWER SUPPLY CABLE [W]			
▲ P901	253118	AS-SAA, POWER SUPPLY CABLE [A]			
▲ F901	252050	5A(ST-6), PRIMARY FUSE [D, W]			
▲ F902	252075	2.5A-SE-EAK OR			
	252075CC	2.5A-SE-EAK, PRIMARY FUSE [W, Q]			

NOTE [D]: ONLY 120V MODEL
[W]: ONLY 120V/220V MODEL
[Q]: ONLY 240V MODEL
[A]: ONLY AUSTRALIAN MODEL

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

PRINTED CIRCUIT BOARD PARTS LIST

MAIN CIRCUIT PC BOARD (NAAF-4200-1)

CIRCUIT NO.	PART NO.	DESCRIPTION	CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs		C418 ~ C421	354741009	10 μ F, 16V, Elect.
Q303, Q402	22240273	NJM4565SD	C423, C424		
Q401	22240458	NJM2175L	C422	354744719	470 μ F, 16V, Elect.
Q403	22240131	MPC1271C	C425	374725624	5600 pF, 50V, Film (TF)
Q404	22240370	M50198P	C426	374724734	0.047 μ F, 50V, Film (TF)
Q406 ~ Q408	22240273	NJM4565SD	C427	354744719	470 μ F, 16V, Elect.
Q409	22240280	LC7821N	C428	374724714	470 pF, 50V, Film (TF)
Q410	22240398	TC9162N	C429	374724724	4700 pF, 50V, Film (TF)
Q411, Q412	22240273	NJM4565SD	C430	374725624	5600 pF, 50V, Film (TF)
Q413	22240266	TC9213P	C431	374726844	0.68 μ F, 50V, Film (TF)
Q931	222780055NEC	78M05HF	C432 ~ C434	374722244	0.22 μ F, 50V, Film (TF)
Q932	222780565JRC	78M56	C435	354780479	4.7 μ F, 50V, Elect.
	Transistors		C436	354782299	0.22 μ F, 50V, Elect.
Q501	2213677 or	2SC3067-G or	C437, C438	354741009	10 μ F, 16V, Elect.
	2213678	2SC3067-H	C440, C441		
Q502, Q503	2211455 or	2SA1015-GR or	C443		
	2210803	2SA733-P	C439	354780479	4.7 μ F, 50V, Elect.
Q504	2211732 or	2SC1845-E or	C442	354780229	2.2 μ F, 50V, Elect.
	2211733	2SC1845-F	C444	374725624	5600 pF, 50V, Film (TF)
Q505	2211255 or	2SC1815-GR or	C445	374725614	560 pF, 50V, Film (TF)
	2210746	2SC945A-P	C446	374721044	0.1 μ F, 50V, Film (TF)
Q506	2211353 or	2SA949-O or	C447	354744709	47 μ F, 16V, Elect.
	2211354	2SA949-Y	C448, C449	354781099	0.1 μ F, 50V, Elect.
Q507	2211633 or	2SC2229-O or	C450	374721044	0.1 μ F, 50V, Film (TF)
	2211634	2SC2229-Y	C451	374725614	560 pF, 50V, Film (TF)
Q606, Q607	2213290	DTC114ES	C452	374725624	5600 pF, 50V, Film (TF)
Q911	2202115 or	2SD2061-E or	C453	354780109	1 μ F, 50V, Elect.
	2202116	2SD2061-F	C454	374721034	0.01 μ F, 50V, Film (TF)
Q612	2202175 or	2SB1370-E or	C455	354741009	10 μ F, 16V, Elect.
	2202176	2SB1370-F	C456	354780229	2.2 μ F, 50V, Elect.
Q933	2211353 or	2SA949-O or	C457	354780479	4.7 μ F, 50V, Elect.
	2211354	2SA949-Y	C458, C463	354741009	10 μ F, 16V, Elect.
Q934, Q935	2213640	DTC123JS	C464, C466		
	Diodes		C469, C470		
D325, D326	223163	1SS133	C475, C476		
D401	224450513	MTZ5.1C, Zener	C479, C480		
D601, D602	223163	1SS133	C491, C501		
D912, D913	224451203	MTZ12C, Zener	C462	374724724	4700 pF, 50V, Film (TF)
D921, D922	22380022	RBV402	C471, C472	354780229	2.2 μ F, 50V, Elect.
D931 ~ D937	22380032	1SR139-100	C477, C478		
D939			C492 ~ C495	354780339	3.3 μ F, 50V, Elect.
D941	224453004	MTZ30D, Zener	C498, C499	374721044	0.1 μ F, 50V, Film (TF)
D942 ~ D944	223163	1SS133	C504	354722219	220 μ F, 6.3V, Elect.
D945	224450472	MTZ4.7B, Zener	C507	354780229	2.2 μ F, 50V, Elect.
D961	224450512	MTZ5.1B, Zener	C521, C581	374724734	0.047 μ F, 50V, Film (TF)
D971	224450513	MTZ5.1C, Zener	C582, C601		
D972	223163	1SS133	C531, C532	354781019	100 μ F, 50V, Elect.
	Coils		C914, C915	3504207	6800 μ F, 50V, Elect.
L401	233409K220	NCH-1284	C916, C917	354782219	220 μ F, 50V, Elect.
L521, L551	231176	S-1.3C	C918, C919	354741019	100 μ F, 16V, Elect.
L552			C920, C921	354742219	220 μ F, 16V, Elect.
	Osc. element		C934, C935	3504207	6800 μ F, 50V, Elect.
X401	3010169	CST3.27M3W002	C941	354763329	3300 μ F, 35V, Elect.
	Capacitors		C942, C943	354761019	100 μ F, 35V, Elect.
C331, C332	354741009	10 μ F, 16V, Elect.	C946, C947	354741009	10 μ F, 16V, Elect.
C401	354780479	4.7 μ F, 50V, Elect.	C951	354780339	3.3 μ F, 50V, Elect.
C402	374722244	0.22 μ F, 50V, Film (TF)	C953 ~ C955	354781019	100 μ F, 50V, Elect.
C403 ~ C406	374721044	0.1 μ F, 50V, Film (TF)	C957	354784709	47 μ F, 50V, Elect.
C407, C408	374722234	0.022 μ F, 50V, Film (TF)	C961	354780479	4.7 μ F, 50V, Elect.
C409	374726814	680 pF, 50V, Film (TF)	C962	354780109	1 μ F, 50V, Elect.
C410, C414	374724734	0.047 μ F, 50V, Film (TF)	C971	354763329	3300 μ F, 35V, Elect.
C411 ~ C413	374721044	0.1 μ F, 50V, Film (TF)	C972	354780229	2.2 μ F, 50V, Elect.
C415			Resistors		
C416	374726814	680 pF, 50V, Film (TF)	R448	49163103404	10 k Ω \times 4, R-Network
C417	374723324	3300 pF, 50V, Film (TF)	R512	442524734	47 k Ω , 1/2W, Metal oxide film
			R516	442529104	91 Ω , 1/2W, Metal oxide film

D1114 B: LSW A0043
D1102 B: HGH

CIRCUIT NO.	PART NO.	DESCRIPTION
R517	442522704	27 Ω, 1/2W, Metal oxide film
R528	442520824	8.2 Ω, 1/2W, Metal oxide film
R529	442520474	4.7 Ω, 1/2W, Metal oxide film
R531, R532	442520224	2.2 Ω, 1/2W, Metal oxide film
R591, R592	442520824	8.2 Ω, 1/2W, Metal oxide film
R593, R594	442520474	4.7 Ω, 1/2W, Metal oxide film
R601	442523314	330 Ω, 1/2W, Metal oxide film
R602	441621614	160 Ω, 1W, Metal oxide film
R911	441723314	330 Ω, 2W, Metal oxide film
R912	441623914	390 Ω, 1W, Metal oxide film
R913, R914	442524724	4.7 kΩ, 1/2W, Metal oxide film
R931	441723904	39 Ω, 2W, Metal oxide film
R932	441721014	100 Ω, 2W, Metal oxide film
R941	442522704	27 Ω, 1/2W, Metal oxide film
R952	442520104	1 Ω, 1/2W, Metal oxide film
R971	442521034	10 kΩ, 1/2W, Metal oxide film
Relaies		
RL601	25065275	NRL-2P5A-DC12-38
RL602	25065436	NRL-1P5A-DC12-073
Terminals		
P551	25060143	NTM-2PDML071, (Speaker)
P552	25060144	NTM-4PDML072, (Speaker)
P301	25045303	NPJ-4PDBL 162, (Pin jack)
Plug		
P342	25055042	NPLG-3P32
Jumper sockets		
JL705	25050267	NSCT-3P95
JL751	25050271	NSCT-7P99
JL752	25050272	NSCT-8P100
Earth plate		
	27141059	

POWER AMPLIFIER CIRCUIT PC BOARD (NAAF-4201-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
ICs		
Q551, Q552	22240108	MPC1225H
Transistors		
Q521	2213284	2SC1740S-R
Q522	2212653 or 2212654	2SC3421-O or 2SC3421-Y
Q523	2212643 or 2212644	2SA1358-O or 2SA1358-Y
Q525	2211732 or 2212733	2SC1845-F or 2SC1845-E
Q526	2211792 or 2211793	2SA992-E or 2SA992-F
Q527, Q528	2211732 or 2212733	2SC1845-F or 2SC1845-E
Q553, Q554	2213284	2SC1740S-R
Q555, Q556	2211732 or 2212733	2SC1845-F or 2SC1845-E
Diodes		
D521, D522	223163	ISS133
D523	224450512	MTZ5.1B, Zener
Capacitors		
C523	374722234	0.022 μF, 50V, Film (TF)
C524	374724734	0.047 μF, 50V, Film (TF)
C528	354780479	4.7 μF, 50V, Elect.
C529	354722219	220 μF, 6.3V, Elect.
C551, C552	354780229	2.2 μF, 50V, Elect.
C553, C554	354721024	1000 pF, 50V, Film (TF)
C555, C556	354721019	100 μF, 6.3V, Elect.
C559, C560	374723334	0.033 μF, 50V, Film (TF)
C565, C566	374722234	0.022 μF, 50V, Film (TF)

CIRCUIT NO.	PART NO.	DESCRIPTION
C575, C576	354780229	2.2 μF, 50V, Elect.
Resistors		
R521	5215045	N08HR10KBC, Semi-fixed
R523	442522714	270 Ω, 1/2W, Metal oxide film
R524, R525	442520224	2.2 Ω, 1/2W, Metal oxide film
R526	441720104	1 Ω, 2W, Metal oxide film
R527	4500033	0.47Ω, 5W, Metal plate
R563, R564	4500027	0.22Ω, 2W, Metal plate
R571	442520224	2.2 Ω, 1/2W, Metal oxide film
Socket		
P551	25055494	NPLG-2P949, (IID)

VOLUME CONTROL CIRCUIT PC BOARD (NAETC-4202-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
Transistors		
Q391	2213510	DTA114ES
Q393 ~ Q396	2213631 or 2213632	RN1241-A or RN1241-B
Capacitor		
C395	354741009	10 μF, 16V, Elect.
Resistors		
R391 ~ R394	5144015	N16RQL50KA25F
Sockets ass'y		
P341, P351	2009990182	NSAS-6P0252
P342	2009990184	NSAS-8P0254
P352	2009990183	NPAS-6P0253
Jumper socket		
P703	25050267	NSCT-3P95
Plate		
	27141059	(Ground)

INPUT BALANCE CIRCUIT PC BOARD (NAETC-4203-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
Capacitors		
C333 ~ C336	354741009	10 μF, 16V, Elect.
Sockets		
P331, P332	2009990182	NSAS-6P0252

DISPLAY CIRCUIT PC BOARD (NADG-4205-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
Photo receiving unit		
U701	24130003	GPIU50XS
FL tube		
Q701	212096	BG-927GK
ICs		
Q702	22240459	HD4047228A-43S
Q751	22240372	BA6208
Transistors		
Q704	2213510	DTA114ES
Diodes		
D701 ~ D710	223163	ISS133
Coil		
L701	233409K220	NCH-1284
Osc. element		
X701	3010163	CST4.19MGW
Capacitors		
C703	354781009	10 μF, 50V, Elect.

CIRCUIT NO.	PART NO.	DESCRIPTION
C706	3000057	5R5U104, Super
C707	375524744	0.47 μ F, 50V, Film (MMT)
C751	354741009	10 μ F, 16V, Elect.

Resistors

R709	49163104404	100k \times 4, R-Network
R710	49163103404	10 k \times 4, R-Network

Switches

S701 ~ S714	25035548	NPS-111-S510
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Holder

27190844

POWER SWITCH PC BOARD (NAPS-4206-1, NAPS-4206-1A, NAPS-4206-1B)

CIRCUIT NO.	PART NO.	DESCRIPTION
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Capacitor

Δ C901	3500065A	0.01 μ F, AC400V/125V, Film (IS)
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Switch

Δ S901	25035550	NPS-111-L512P
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Fuse holder

Δ F901a	250113	SN5051 [D, W]
Δ F902a	25050065	YSH4037

AC SOCKET PC BOARD (NAETC-4207-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
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AC socket

Δ P902	25050535	NSCT-2P358T [D]
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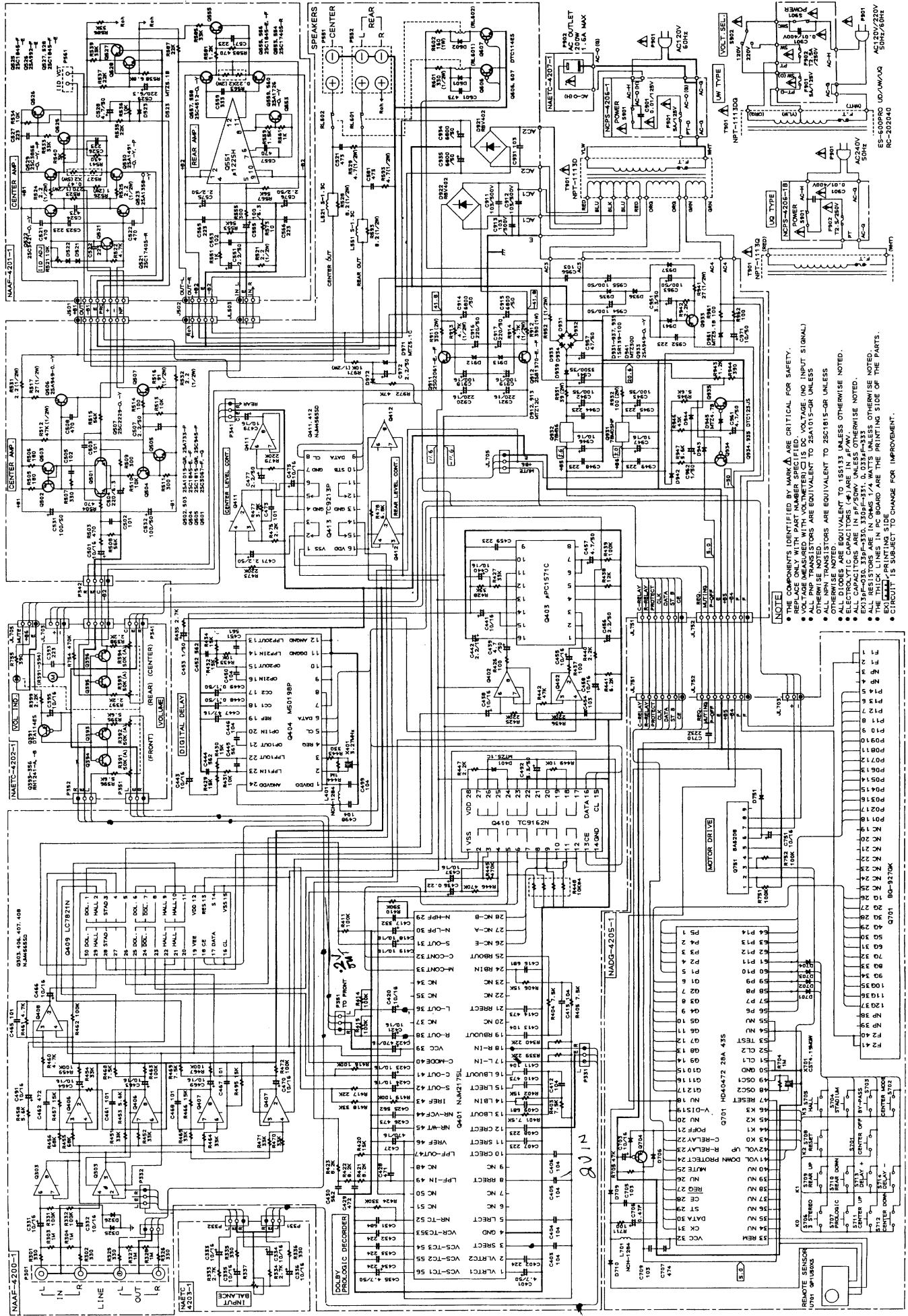
Socket ass'y

	2009990190	NSAS-4P0256 [D]
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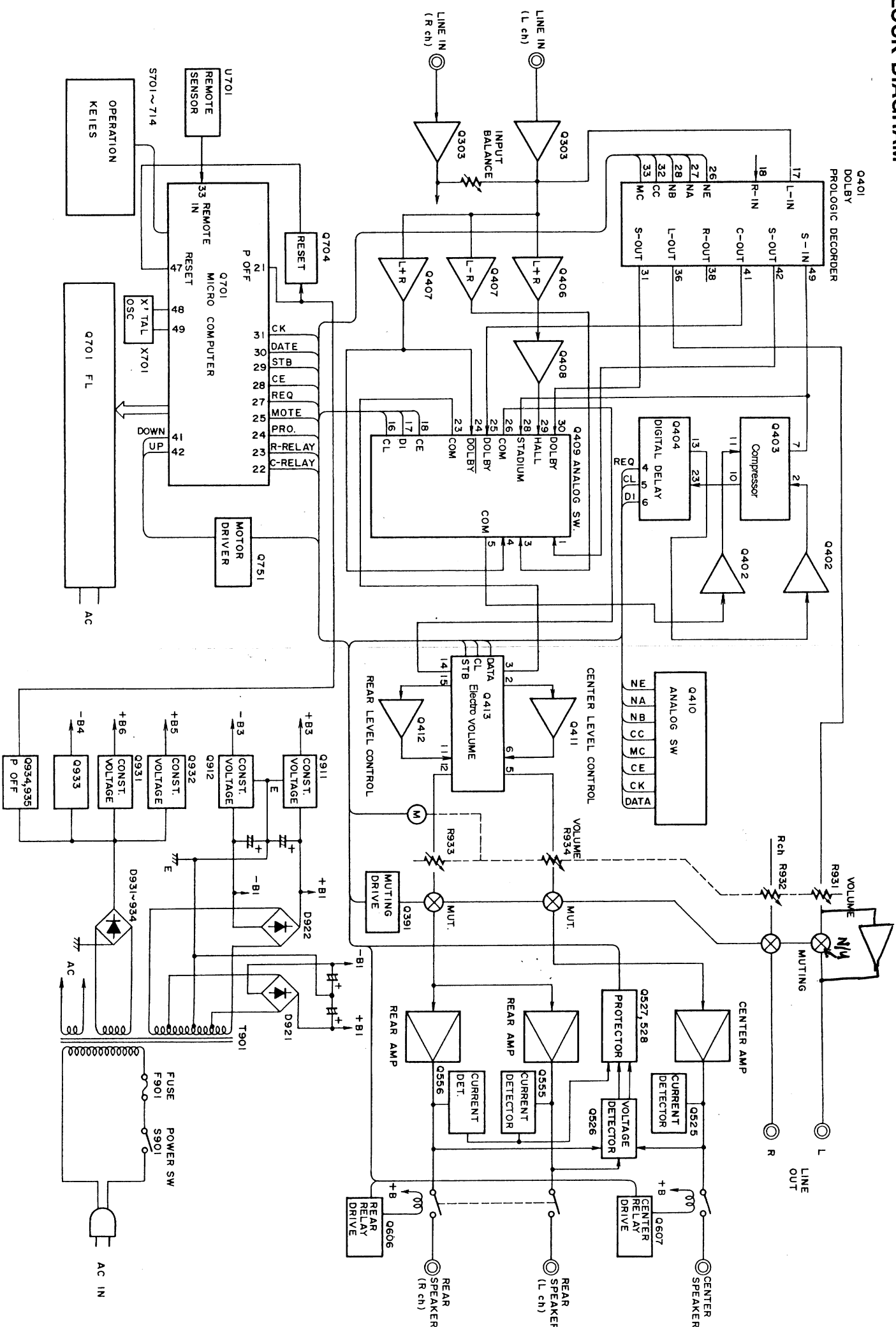
NOTE [D]: Only 120V model
[W]: Only 120V/220V model
[Q]: Only 240V model

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

CHEMATIC DIAGRAM
MODEL ES-600PRO



- NOTE**
- THE COMPONENTS IDENTIFIED BY MARK Δ ARE CRITICAL FOR SAFETY.
 - ALL PNP TRANSISTORS ARE EQUIVALENT TO 2SA1015-GR UNLESS OTHERWISE NOTED.
 - ALL NPN TRANSISTORS ARE EQUIVALENT TO 2SC1815-GR UNLESS OTHERWISE NOTED.
 - ELECTROLYTIC CAPACITORS (E) ARE IN μF/MV.
 - ALL CAPACITORS ARE IN PF/50V UNLESS OTHERWISE NOTED.
 - RESISTOR MARKING: R101=10K, R102=10K, R103=10K, R104=10K, R105=10K, R106=10K, R107=10K, R108=10K, R109=10K, R110=10K, R111=10K, R112=10K, R113=10K, R114=10K, R115=10K, R116=10K, R117=10K, R118=10K, R119=10K, R120=10K, R121=10K, R122=10K, R123=10K, R124=10K, R125=10K, R126=10K, R127=10K, R128=10K, R129=10K, R130=10K, R131=10K, R132=10K, R133=10K, R134=10K, R135=10K, R136=10K, R137=10K, R138=10K, R139=10K, R140=10K, R141=10K, R142=10K, R143=10K, R144=10K, R145=10K, R146=10K, R147=10K, R148=10K, R149=10K, R150=10K, R151=10K, R152=10K, R153=10K, R154=10K, R155=10K, R156=10K, R157=10K, R158=10K, R159=10K, R160=10K, R161=10K, R162=10K, R163=10K, R164=10K, R165=10K, R166=10K, R167=10K, R168=10K, R169=10K, R170=10K, R171=10K, R172=10K, R173=10K, R174=10K, R175=10K, R176=10K, R177=10K, R178=10K, R179=10K, R180=10K, R181=10K, R182=10K, R183=10K, R184=10K, R185=10K, R186=10K, R187=10K, R188=10K, R189=10K, R190=10K, R191=10K, R192=10K, R193=10K, R194=10K, R195=10K, R196=10K, R197=10K, R198=10K, R199=10K, R200=10K.
 - THE THICK LINES IN PCB BOARD ARE THE PRINTING SIDE OF THE PARTS.
 - EXTRACT PRINTING SIDE TO CHANGE FOR IMPROVEMENT.



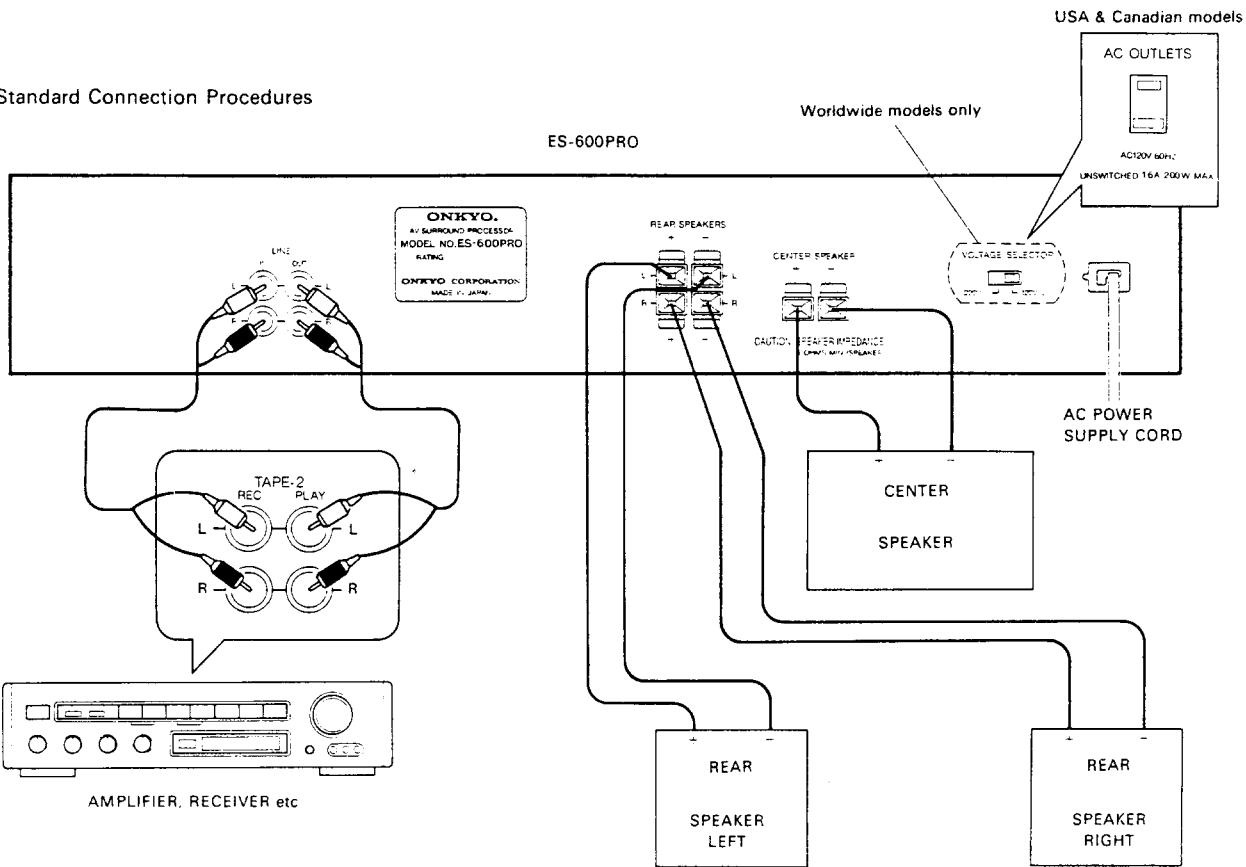
SYSTEM CONNECTIONS

- Standard Connection Procedures

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2

3



- To connect the ES-600PRO to a GRAPHIC EQUALIZER:

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