

ONKYO® SERVICE MANUAL

Integrated Stereo Amplifier MODEL A-809



Black and silver models

UD	120V AC, 60Hz
UP	230V AC, 50Hz
UQ	240V AC, 50Hz
UW	120V/220V AC, 50Hz/60Hz

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 PART 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.



SPECIFICATIONS

Power Output:	105 watts per channel, min. RMS, at 8 ohms, both channels driven from 20 Hz to 20 kHz, with no more than 0.008% Total harmonic distortion.	
Dynamic Power:	303 watts at 2 ohms, 235 watts at 4 ohms 155 watts at 8 ohms	
Total Harmonic Distortion	0.008% at rated power 0.008% at 1 watt output	
Intermodulation Distortion:	0.005% at rated power	
Damping Factor:	150 at 8 ohms (1 kHz)	
Input Sensitivity/Impedance:	Phono (MM):	2.5 mV/50 kohms
	Phono (MC):	160 μV/130 ohms
	CD:	150 mV/30 kohms
	TUNER:	150 mV/30 kohms
	Tape Play:	150 mV/30 kohms
Output Level/Impedance:	Tape Rec:	150 mV/1.0 kohms (Phono)
Phono Overload:	Phono (MM):	200 mV RMS. at 1 kHz, 0.012% THD.
Tone Control (Vol -20 dB):	BASS:	±8 dB at 100 Hz
	TREBLE:	±8 dB at 10 kHz
High Cut:	6 kHz (6 dB/Octave) (TREBLE min.)	
Frequency Response:	CD, Tuner:	2 Hz-50 kHz (+0, -1 dB)
RIAA Deviation:	Phono (MM):	±0.3 dB, 20 Hz -20 kHz
Subsonic Filter:	20Hz (-3dB, 6dB/Oct)	
Signal to Noise Ratio (IHF-A):	Phono (MM):	94 dB (5.0 mV input)
	Phono (MC):	75 dB (0.5 mV input)
	CD (DIRECT):	107 dB
Attenuator:	-20 dB	
Muting:	-∞	
Power Supply:	European models:	AC230V, 50 Hz
	U.S.A & Canadian models:	AC120V, 60 Hz
	U.K & Australia models:	AC240V, 50 Hz
	Worldwide models:	AC120 and 220V switchable, 50/60 Hz
Dimensions (W × H × D):	455 × 170 × 420 mm 17-15/16" × 6-11/16" × 16-9/16"	
Weight:	16.7 kg, 36.8 lbs.	

PRECAUTIONS

1. Replacing the fuses

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

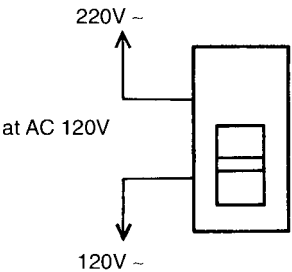
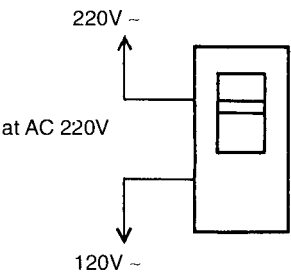
CIRCUIT NO.	PART NO.	DESCRIPTION
F901	252052	7A ST-6, Primary fuse (120V, 120V/220V model)
F901	252075	2.5A-SE-EAK, Primary fuse (230V model)
F902	252077	4A-SE-EAK, Primary fuse (230V, 240V, 120V/220V model)

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 turning the power switch on. Voltage is changed by sliding the groove in the switch with a screwdriver to the up or down. Confirm that the switch has been moved all the way to the up or down 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.



ADJUSTMENT PROCEDURES

Adjustments and Checking the Protection Circuitry

1. Preparations

- 1) Place the unit on the workbench. (There should be about 15 mm of space between the base plate of the unit and the work surface.)
- 2) Set up the unit as follows.
 - (1) No load
 - (2) No signal
 - (3) Volume turned all the way down
 - (4) Speaker switch OFF
 - (5) Power switch OFF

Note) Check the following points before making adjustments

- (1) The power switch should be OFF.
- (2) The interior of the unit should not be warm.

2. Idling current adjustment

- 1) Turn the power switch ON and allow the unit to warm up for about 10 minutes.
 - (1) Adjust R535 (R536) so that the voltage at test point VCT-IID on the NAAF-4209 circuit board is $15\text{mV} \pm 5\text{mV}$.

Note) Semi-fixed resistors enclosed in parentheses () are for the right channel.

3. Check of operation of protection circuitry

- 1) Check of operation of protection relay
 - (1) Confirm that the relay turns ON approximately 5 seconds after the power switch is turned ON.
 - (2) The SERVO indicator LED should light at the same time.
 - (3) The relay should turn OFF approximately 0.5 seconds after the power switch is turned OFF.
- 2) Check of DC detection and servo circuitry operation
 - (1) Turn the power on with no load.
 - (2) After the speaker relay turns ON, apply DC+200mV to the CD input terminals. Confirm that the relay turns OFF.
 - (3) Confirm that operation is the same as (2) above when an input of DC-200mV is applied.

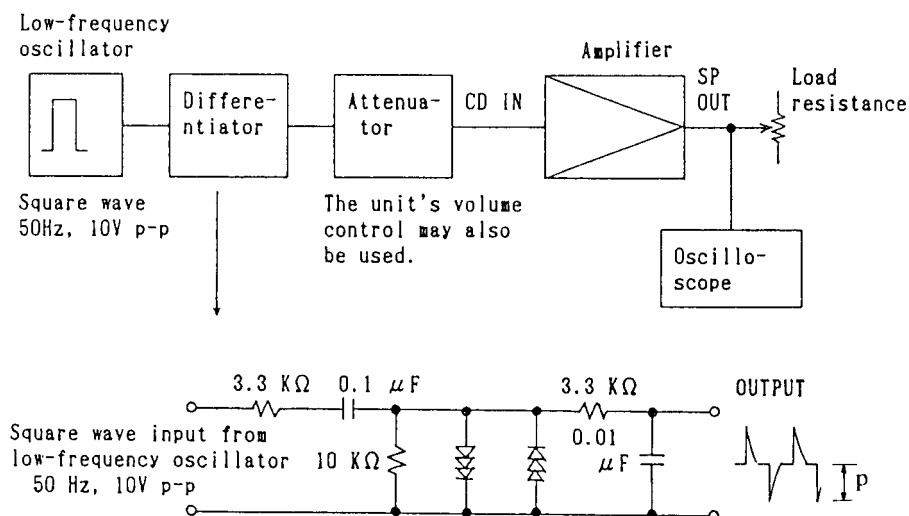
Note) Under no circumstances connect a load or short the speaker terminals when performing the above test.

3) Signal input from the circuit illustrated below with no load.

- (1) Confirm that the speaker relay does not turn OFF even when a 2 ohm load is connected when a peak value of 30VP is output.
- (2) Next, confirm that when a 1 ohm load is connected the speaker relay switchse OFF and ON a couple of times and then stays OFF.

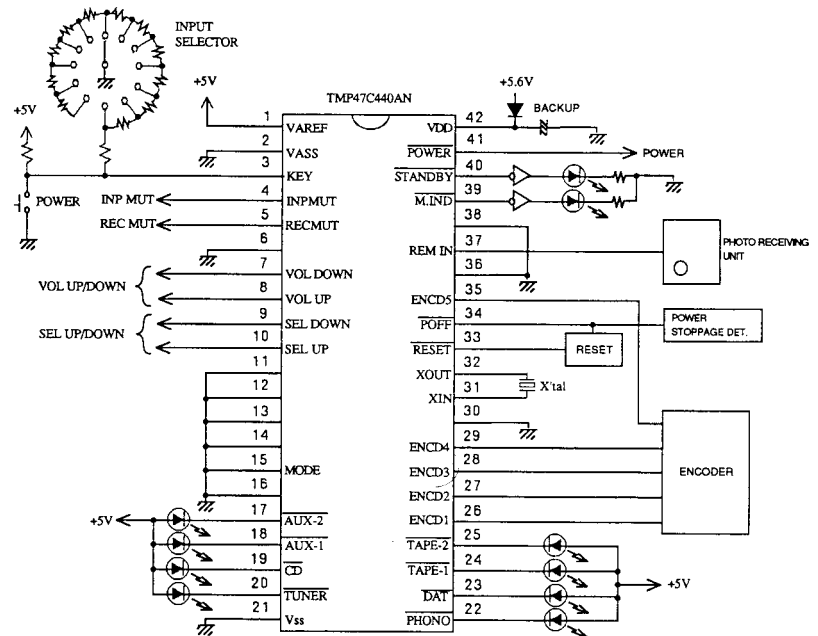
Note) The period before that relay stays OFF should not last for more than 1 minute.

Relay OFF status can be canceled by switching the power OFF.



IC BLOCK DIAGRAM

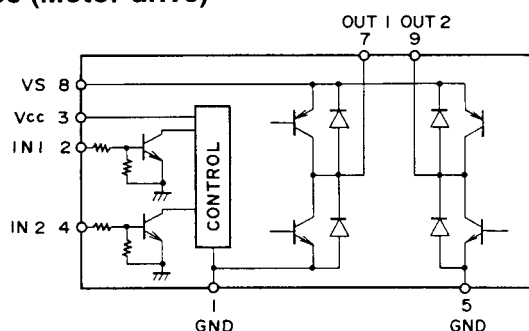
TMP47C440AN (Microprocessor)



Pin No.	Symbol	Description																								
1	VAREF	Analog reference voltage for A/D conversion																								
2	VASS	Analog reference GND for A/D conversion																								
3	KEY	Input Selector, Power key input terminal. To read Input Selector and Power key by means of A/D conversion																								
4	INPUT	Muting output terminal for Main amplifier input. Active “H”																								
5	RECMUT	Muting output terminal for Rec. output. Active “H” To be output when switching Input Selector. To be output continuously in case of Input Selector TAPE-1, TAPE-2, DAT, and DIGITAL-4.																								
6	PLAYER	Control output terminal for PLAYER. “L” will be output for 200ms if input K64 code for remote control and set Input Selector for PHONO.																								
7	VOL DOWN	UP/DOWN output terminal for volume. Active “H”																								
8	VOL UP	In case of UP (DOWN), VOL UP output will be “H” (“L”), while VOL DOWN output will be “L” (“H”). When not moving, both outputs shall be “H” (Brake).																								
9	SEL DOWN	UP/DOWN output terminal for Input Selector. Active “H” In case of UP (DOWN), SEL UP output will be “H” (“L”), While SEL DOWN output will be “L” (“H”).																								
10	SEL UP	When not moving, both outputs shall be “H” (Brake).																								
11	S1	Output terminal for switching digital signal. Switch as follows through the position of Input Selector. <table border="1"><thead><tr><th>Input selector</th><th>Output S3</th><th>Output S2</th><th>Output S1</th></tr></thead><tbody><tr><td>DIGITAL-1</td><td>L</td><td>L</td><td>L</td></tr><tr><td>DIGITAL-2</td><td>L</td><td>L</td><td>H</td></tr><tr><td>DIGITAL-3</td><td>L</td><td>H</td><td>L</td></tr><tr><td>DIGITAL-4</td><td>L</td><td>H</td><td>H</td></tr><tr><td>Others (Analog)</td><td>H</td><td>H</td><td>H</td></tr></tbody></table>	Input selector	Output S3	Output S2	Output S1	DIGITAL-1	L	L	L	DIGITAL-2	L	L	H	DIGITAL-3	L	H	L	DIGITAL-4	L	H	H	Others (Analog)	H	H	H
Input selector	Output S3		Output S2	Output S1																						
DIGITAL-1	L		L	L																						
DIGITAL-2	L	L	H																							
DIGITAL-3	L	H	L																							
DIGITAL-4	L	H	H																							
Others (Analog)	H	H	H																							
12	S2																									
13	S3																									
14	EXP/JPN	Input terminal for remote control initialization when energizing.																								

Pin No.	Symbol	Description									
15	DIG-4/MODE	Output terminal for Input Selector display. Output of the position currently selected will be “L” (lighted). DIG-4/MODE output will be input terminal MODE for initialization of operation switch when energizing. Output DIG-1/AUX-1, DIG-2/AUX-2 will be switched by initializing MODE into;									
16	DIG-3										
17	DIG-2/AUX-2										
18	DIG-1/AUX-1										
19	CD										
20	TUNER	<table border="1"> <tr> <td>MODE</td><td>DIG-1/AUX-1</td><td>DIG-2/AUX-2</td></tr> <tr> <td>L (0)</td><td>AUX-1</td><td>AUX-2</td></tr> <tr> <td>H (1)</td><td>DIG-1</td><td>DIG-2</td></tr> </table>	MODE	DIG-1/AUX-1	DIG-2/AUX-2	L (0)	AUX-1	AUX-2	H (1)	DIG-1	DIG-2
MODE	DIG-1/AUX-1	DIG-2/AUX-2									
L (0)	AUX-1	AUX-2									
H (1)	DIG-1	DIG-2									
21	VSS	GND terminal									
22	PHONO	Output terminal for Input Selector display. The output of the position currently selected will be “L (lighted).									
23	DAT										
24	TAPE-1										
25	TAPE-2	Input terminal for detecting position of rotary sw of input Selector. To be connected with Encoder output for position detecting of Rotary sw.									
26	ENCD1										
27	ENCD2										
28	ENCD3										
29	ENCD4	To be connected with GND.									
30	TEST										
31	XIN	Terminal for connecting with ceramic oscillator (4 MHz)									
32	XOUT										
33	RESET	Input terminal for reset signal. Active “L”									
34	POFF	Input terminal for detecting power suspension. Take a countermeasure as soon as possible against power failure when turned into “L”. Set at HOLD mode.									
35	ENCD5	Input terminal for detecting Rotary sw position of Input Selector. To be connected with Encoder output for position detecting of Rotary sw.									
36	SYS OUT/SYS EN	Output terminal for System code. Active “L” to be turned into SYS EN for initialization input when energizing.									
37	REM IN	Input terminal for remote control signal. Active “L” To be connected with output of photoreceivin unit.									
38	SYS IN	Input terminal for System code. Active “H”.									
39	M. IND	Output terminal for Muting display. Lighted in case of “L” To be set “L” when Muting of remote control is ON.									
40	STANBY	Output terminal for Standby display. Lighted incase of “L” To be turned into “L” when Power is OFF. Except the case of power sususpension, the level inverted of Power output is always output.									
41	POWER	Output terminal for Power control. “L” When Power is ON									
42	VDD	Power (+5V) Conntecting terminal.									

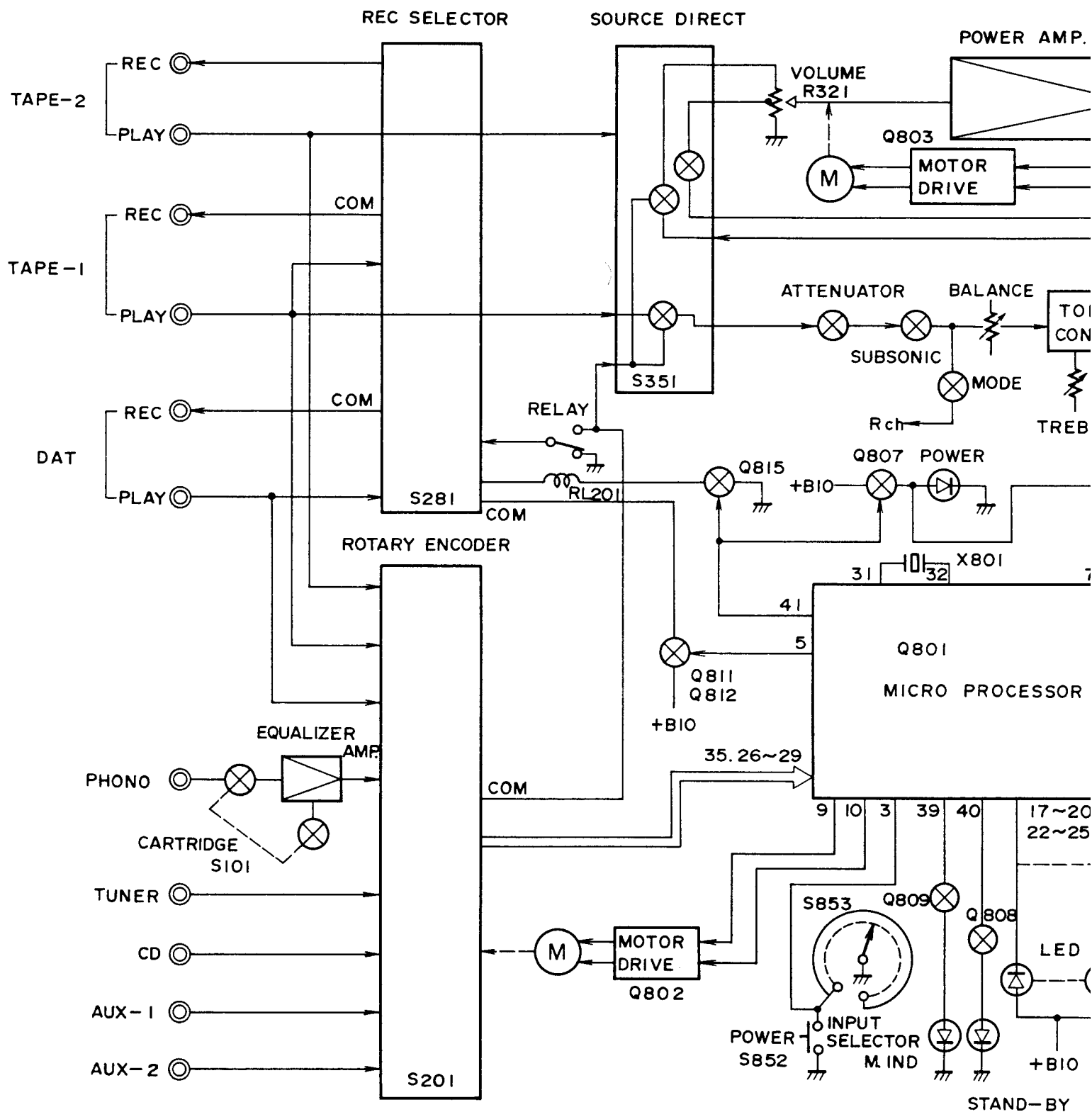
LB1638 (Motor drive)

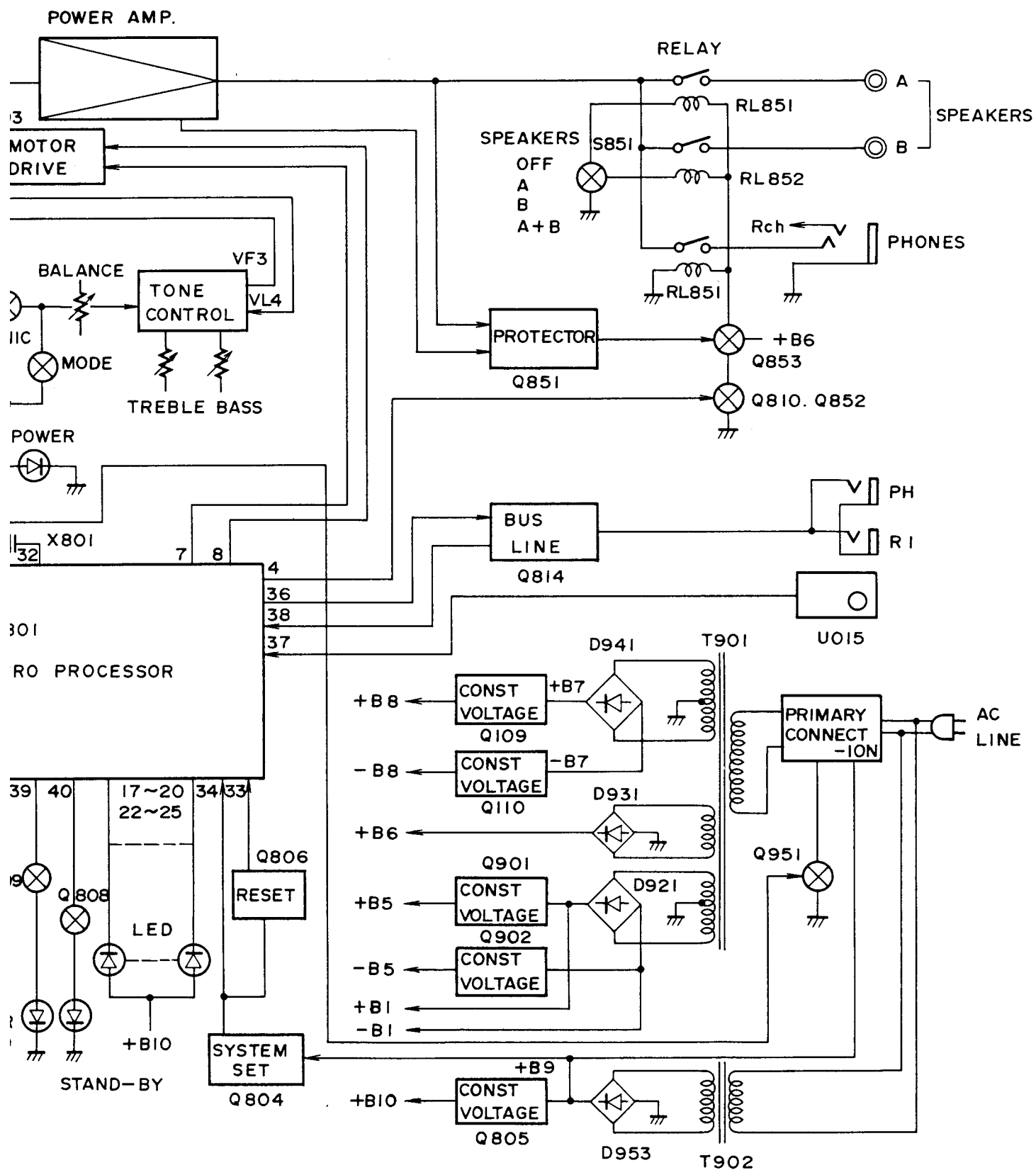


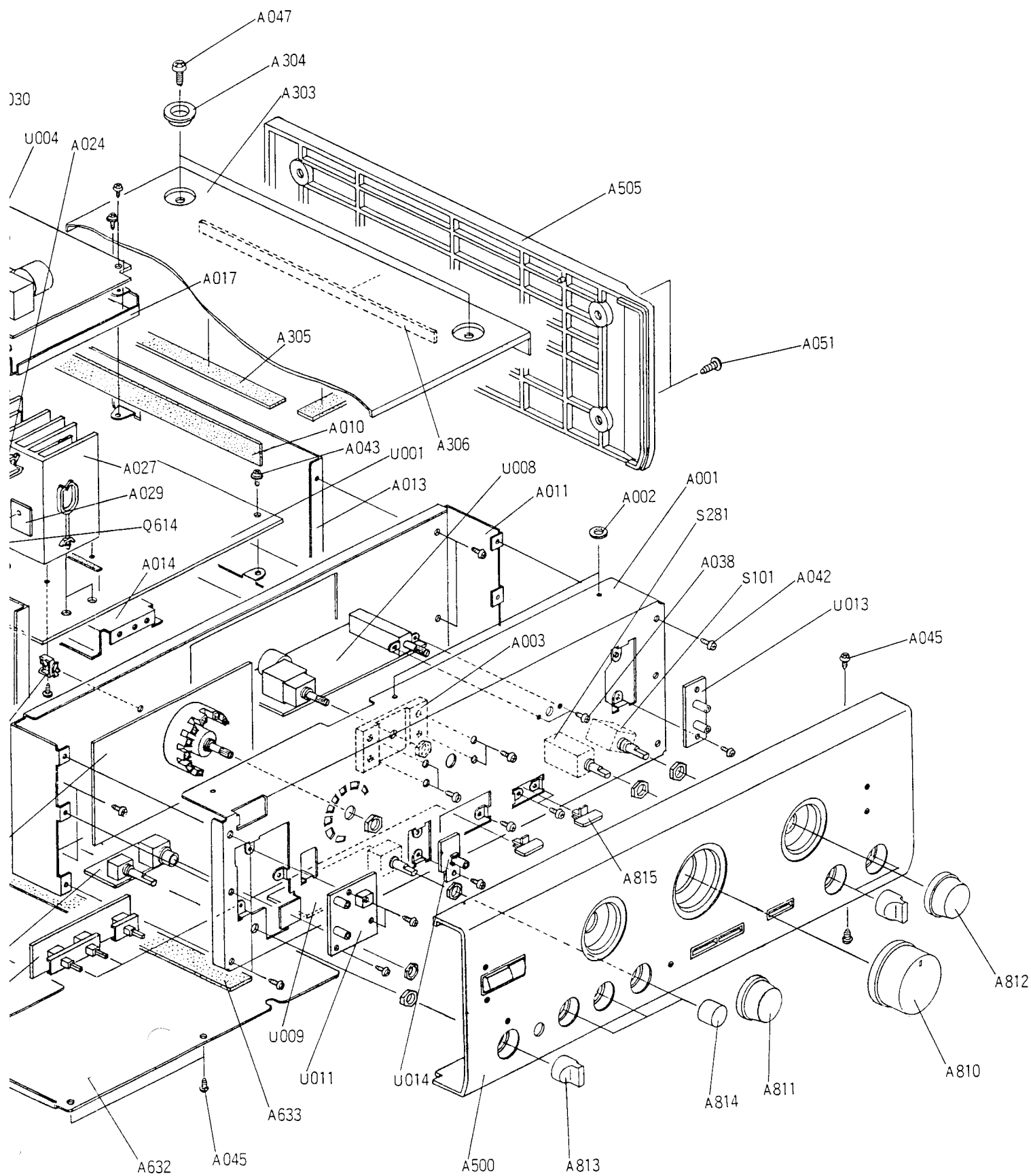
Tauth Table

IN 1	IN 2	OUT 1	OUT 2	モード
H	L	H	L	NORMAL
L	H	L	H	REVERSE
H	H	L	L	BRAKE
L	L	OFF	OFF	WAIT

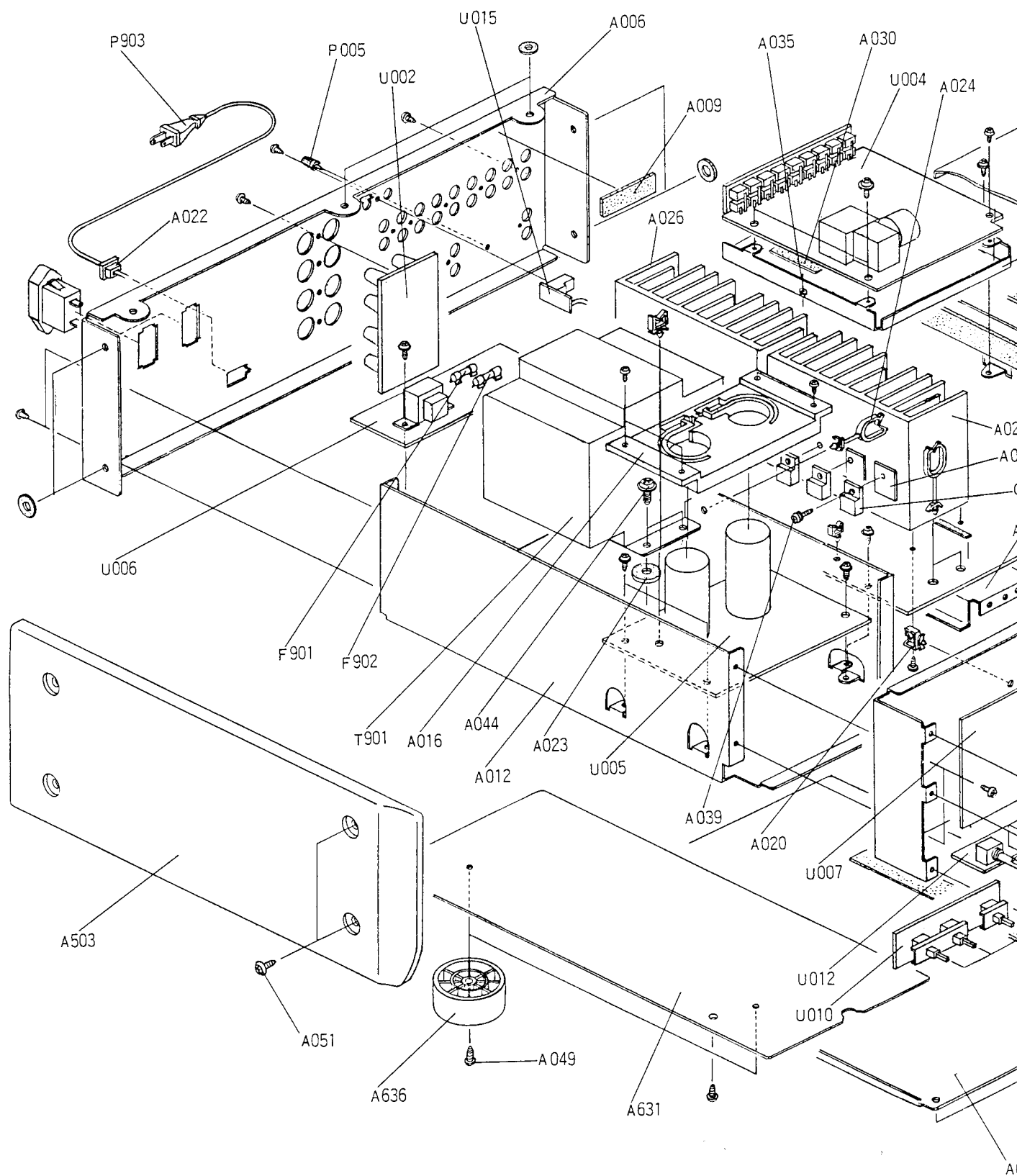
BLOCK DIAGRAM







CHASSIS-EXPLODED VIEW



CHASSIS EXPLODED VIEW PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
A001	27110588-1C	FRONT BRACKET	A632	27170272A	BOTTOM BOARD (R)
A002	27270212	SPACER	A633	28141024	20×240×2.5T, CUSHION
A003	27270326A	SPACER (VOL)	A634	27270212	SPACER
A006	27121477B	BACK PANEL [D]	A636	27175251	LEG ASS'Y
A006	27121478A	BACK PANEL [P]	A810	28324083A	KNOB (VOL) [BLK]
A006	27121480A	BACK PANEL [W]	A810	28324413A	KNOB (VOL) [SIL]
A006	27121525	BACK PANEL [Q]	A811	28324084A	KNOB (SEL) [BLK]
A009	28140859	60×20×1.5T, CUSHION	A811	28324084-2	KNOB (SEL) [SIL]
A010	28140695	25×240×1.5T, CUSHION	A812	28324085B	KNOB (D) [BLK]
A011	27130622A	BRACKET (SHIELD)	A812	28324085-2	KNOB (D) [SIL]
A012	27130623	BRACKET (L)	A813	28324086	KNOB (SP) [BLK]
A013	27130624	BRACKET (R)	A813	28324416	KNOB (SP) [SIL]
A014	27130656A	BRACKET (C)	A814	28324411	KNOB (TONE) [BLK]
A015	28170025	BUSHING	A814	28324412	KNOB (TONE) [SIL]
A016	27190846	HOLDER (CAPACITOR)	A815	28324088A	KNOB (PUSH) [BLK]
A017	27130627	BRACKET (EQ)	A815	28324417	KNOB (PUSH) [SIL]
A020	27300833	WS-2NS, CRAMP	Q609, Q613	2201703	2SC3855-O OR
A022	27300750	#2271, BUSHING (AC CORD)	Q614, Q610	2201706	2SC3855-P OR
A023	27270213	SPACER (PT)		2201704	2SC3855-Y, TRANSISTOR
A024	27301394	HL-18-0, CRAMP	Q611, Q615	2201693	2SA1491-O OR
A026	27160282	RADIATION	Q616, Q612	2201696	2SA1491-P OR
A027	27160283	RADIATION		2201694	2SA1491-Y, TRANSISTOR
A029	27301328	BFG-20, RADIATION SHEET	△ T901	2300706	NPT-1116D, POWER
A030	28140808	50~50~3T, CUSHION	△ T901	2300707	TRANSFORMER [D]
A035	800529	BUSHING (PC)	△ T901	2300708	NPT-1116P, POWER
A038	82143006	3P+6FN(BC), PAN-HEAD SCREW	△ T901	2300709	TRANSFORMER [P]
A039	801433	3SMS8WSW+14B(BC), SPECIAL	△ T901	2300708	NPT-1116DG, POWER
		TAP-TIGHT SCREW	△ T901	2300709	TRANSFORMER [W]
A042	834430088	3TTS+8B(BC), TAP-TIGHT SCREW	S101	25030348	NPT-1116Q, POWER
A043	831130088	3TTW+8B, TAP-TIGHT SCREW	S281	25030349	TRANSFORMER [Q]
A044	830440109	4TTC+10C(BC), TAP-TIGHT			NRSF-102-20BU, SWITCH
		SCREW			OPERATION SECTION
A045	801230	3STS+8BQ(BC), TAP-TIGHT			NRSF-104-20BU, SWITCH
		SCREW			OPERATION SECTION
A047	838440089	4TTB+8C(BC), TAP-TIGHT SCREW	△ S902	25065287	NSS-22113P, SLIDE SWITCH [W]
A049	831430088	3TTW+8B(BC), TAP-TIGHT SCREW	P005	25060044	TERMINAL (GROUND)
A051	837440169	4TTT+16C(BC), TAP-TIGHT	△ P901, P902	25050337	NSCT-2P164, AC SOCKET [P]
		SCREW	△ P901, P902	25050346	NSCT-2P173, AC SOCKET [Q]
A303	28184464	TOP COVER	△ P903	253123	AS-UC-6 #18 OR
A304	27265155A	COSMETIC RING (COVER)		253161	AS-UC-6 #18 OR
A305	28140695	25×240×1.5T, CUSHION		253146	AS-UC-6 #18 OR
A306	28140693	10×180×1.5T, CUSHION		253168	AS-UC-6 #18, POWER SUPPLY
A307	28141009	125×195×1.5T, CUSHION			CABLE [D]
A500	1A293121	FRONT PANEL ASS'Y [BLK]	△ P903	253148 OR	AS-CEE OR
(A511)	27265219	COSMETIC RING (L) [BLK]		253150	AS-CEE, POWER SUPPLY CABLE
(A512)	27265224A	COSMETIC RING ASS'Y (SEL)	△ P903	253092-1A	[P]
		[BLK]	△ P903	253170	AS-CEE-2, POWER SUPPLY
(A516)	28198742	FACET			CABLE [W]
(A518)	27265223	COSMETIC RING (D) [BLK]	△ P903	253170	AS-SAA, POWER SUPPLY CABLE
(A519)	27265220C	COSMETIC RING (R) [BLK]			[A]
(A520)	28198742	FACET	△ F901	252052	7A ST-6, FUSE [D, W]
(A523)	27265221A	COSMETIC RING (VOL) [BLK]	△ F901	252075	2.5A-SE-EAK, FUSE [P]
(A524)	28135199	NAME PLATE	△ F902	252077	4A-SE-EAK, FUSE [P, W, Q]
(A801)	28324082A	KNOB ASS'Y (POW) [BLK]	U001	1A293509-1	NAAF-4209-1 MAIN CIRCUIT PC
(A805)	28191568	CLEAR PLATE (RE)			BOARD ASS'Y
(A806)	28198753	FACET	U002	1A293510-1	NAETC-4210-1 SPEAKER
(A807)	28198742	FACET			TERMINAL PC BOARD ASS'Y
A808	28199190	FILM	U003	1A293511-1	NAETC-4211-1 AC SOCKET PC
A500	1A294121	FRONT PANEL ASS'Y [SIL]			BOARD ASS'Y [D]
(A511)	27265219-2	COSMETIC RING (L) [SIL]	U004	1A293512-1	NASW-4212-1 INPUT CIRCUIT PC
(A512)	27265224-3A	COSMETIC RING ASS'Y (SEL)			BOARD ASS'Y
		[SIL]	U005	1A293513-1	NAPS-4213-1 POWER SUPPLY
(A518)	27265223-3	COSMETIC RING (D) [SIL]			CIRCUIT (1) PC BOARD ASS'Y
(A519)	27265220-2A	COSMETIC RING (R) [SIL]	U006	1A293514-1	NAETC-4214-1 POWER SUPPLY
(A523)	27265221-1	COSMETIC RING (VOL) [SIL]			CIRCUIT (2) PC BOARD ASS'Y [D]
(A801)	28324414	KNOB ASS'Y (POW) [SIL]	U006	1A293514-1A	NAETC-4214-1A, POWER SUPPLY
A503	28185359	SIDE BOARD (L)			CIRCUIT (2) PC BOARD ASS'Y [P]
A505	28185360	SIDE BOARD (R)	U006	1A293514-1B	NAETC-4214-1B, POWER SUPPLY
A631	27170271	BOTTOM BOARD (L)			CIRCUIT (2) PC BOARD ASS'Y [W]

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
U006	1A293514-1C	NAETC-4214-1C, POWER SUPPLY CIRCUIT (2) PC BOARD ASS'Y [Q]	U015	1A293524-1A	NAETC-4224-1A, REMOTE CONTROL TERMINAL PC BOARD ASS'Y [P, W, Q]
U007	1A293515-1	NADG-4215-1 MICROPROCESSOR CIRCUIT PC BOARD ASS'Y [D]	U016	1A293525-1	NAETC-4225-1 TUNER TERMINAL PC BOARD ASS'Y
U007	1A293515-1A	NADG-4215-1A MICROPROCESSOR CIRCUIT PC BOARD ASS'Y [P, W, Q]	NOTE: [D]: ONLY 120V MODEL [P]: ONLY 230V MODEL [W]: ONLY 120V/220V MODEL [Q]: ONLY 240V MODEL [A]: ONLY AUSTRALIAN MODEL [BLK]: ONLY BLACK MODEL [SIL]: ONLY SILVER MODEL		
U008	1A293516-1	NAAF-4216-1 VOLUME & DIRECT SWITCH CIRCUIT PC BOARD ASS'Y			
U009	1A293518-1	NAAF-4218-1 MUTING/SUBSONIC SWITCH PC BOARD ASS'Y			
U010	1A293519-1	NASW-4219-1 TONE CONTROL CIRCUIT PC BOARD ASS'Y			
U011	1A293520-1	NADIS-4220-1 PHOTO RECEIVING CIRCUIT PC BOARD ASS'Y			
U012	1A293521-1	NASW-4221-1 SPEAKER SWITCH CIRCUIT PC BOARD ASS'Y	NOTE: THE COMPONENTS IDENTIFIED BY MARK Δ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PARTS NUMBER SPECIFIED.		
U013	1A293522-1	NADIS-4222-1 LED PC BOARD ASS'Y			
U014	1A293523-1	NADIS-4223-1 LED PC BOARD ASS'Y			
U015	1A293524-1	NAETC-4224-1 REMOTE CONTROL TERMINAL PC BOARD ASS'Y [D]			

PRINTED CIRCUIT BOARD PARTS LIST

MAIN CIRCUIT PC BOARD (NAAF-4209-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
ICs		
Q105, Q106	222902	NJM5532D-D
Q109	222780205MIT	M5F78M20L
Q110	222790205MIT	M5F79M20L
Q519, Q520	222570	NJM4560D-X
Q585	22240040	NJM2902N
Q586	226007	TLP-531
Q851	222584	TA7317P
Transistors		
Q101, Q102	2211535 OR	2SK146-GR OR
	2211536 OR	2SK146-BL OR
	2211537	2SK146-V
Q107, Q108	2211255	2SC1815-GR
Q501, Q502	2212805 OR	2SK389-GR OR
	2212806 OR	2SK389-BL OR
	2212807	2SK389-V
Q503-Q506	2211733 OR	2SC1845-E OR
	2211732	2SC1845-F
Q507, Q508	2213666 OR	2SA1240-F OR
	2213667	2SA1240-G
Q511, Q512	2211455 OR	2SA1015-GR OR
	2211454	2SA1015-Y
Q513, Q514	2211354 OR	2SA949-Y OR
	2211353	2SA949-O
Q517, Q518	2211255 OR	2SC1815-GR OR
	2211256	2SC1815-BL
Q581-Q584	2211634 OR	2SC2229-Y OR
Q589, Q601	2211633	2SC2229-O
Q602		
Q603, Q604	2211354 OR	2SA949-Y OR
	2211353	2SA949-O
Q605, Q606	2202034 OR	2SD1763A-D OR
	2202035	2SD1763A-E
Q607, Q608	2202024 OR	2SB1186A-D OR
	2202025	2SB1186A-E
Q617, Q618	2211634 OR	2SC2229-Y OR
	2211633	2SC2229-O

CIRCUIT NO.	PART NO.	DESCRIPTION
Q619, Q620	2211793 OR	2SA992-E OR
	2211792	2SA992-F
Q852	2212600	DTA124ES
Q853	2211504	2SA950-Y
Q901	2201512 OR	2SD1200-Q OR
	2201513	2SD1200-R
Q902	2201502 OR	2SB889-Q OR
	2201503	2SB889-R
Q903, Q904	2211945	2SK246-GR
Q905	2211255	2SC1815-GR
Q906	2211455	2SA1015-GR
Diodes		
D101-D104	225251	TLR112, LED
D505, Q506		
D511-D516	223163	1SS133
D517-D520	225251	TLR112, LED
D851, D852	223163	1SS133
D853	224450623	MTZ6.2C, Zener
D854	223163	1SS133
D901-D903	224450562	MTZ5.6B, Zener
Coils		
L601, L602	231134	S-0.8E
L201-L203	230905	BL02RN1-R62
Capacitors		
C105, C106	372121214	120 pF, 50V, Styrene
C109, C110	391222217	220 μ F, 6.3V, Elect.(MUSE)
C111, C112	372122024	2000 pF, 50V, Styrene
C113-C116	379122434	0.024 μ F, 50V, Film (DEW)
C117, C118	374724334	0.043 μ F, 50V, Film (TF)
C119-C122	391651017	100 μ F, 25V, Elect.(FS)
C123, C124	374722024	2000 pF, 50V, Film (TF)
C147, C148	354764719	470 μ F, 35V, Elect.
C149, C150	354741019	100 μ F, 16V, Elect.
C151, C152	354761019	100 μ F, 35V, Elect.
C153, C154	391254717	470 μ F, 25V, Elect.(MUSE)
C155, C156	391252217	220 μ F, 25V, Elect.(MUSE)
C157, C158	354761019	100 μ F, 35V, Elect.
C501, C502	372126804	68 pF, 50V, Styrene

CIRCUIT NO.	PART NO.	DESCRIPTION
C509, C510	372121014	100 pF, 50V, Styrene
C511, C512	372123304	33 pF, 50V, Styrene
C513-C516	391252207	22 μ F, 25V, Elect.(MUSE)
C519, C520	354722219	220 μ F, 6.3V, Elect.
C521, C522	374791044	0.1 μ F, 63V, Film (TF)
C523, C524	391242217	220 μ F, 16V, Elect.(MUSE)
C525-C526	373732234	0.022 μ F, 100V, Film (MKT)
C527, C528	373734734	0.047 μ F, 100V, Film (MKT)
C529, C530	354790479	4.7 μ F, 100V, Elect.
C581	391221027	1000 μ F, 6.3V, Elect.(MUSE)
C582	354721019	100 μ F, 6.3V, Elect.
C583	354764709	47 μ F, 35V, Elect.
C605, C606	391241017	100 μ F, 16V, Elect.(MUSE)
C607, C608	373791044	0.1 μ F, 63V, Film (MKT)
C609, C610	374794734	0.047 μ F, 63V, Film (TF)
C611, C612	374722235	0.022 μ F, 50V, Film (TF)
C613, C614	379121035	0.01 μ F, 50V, Film (DEW)
C615-C622	373791044	0.1 μ F, 63V, Film (MKT)
C851	354722219	220 μ F, 6.3V, Elect.
C852	354742209	22 μ F, 16V, Elect.
C853	354784799	0.47 μ F, 50V, Elect.
C855	354743319	330 μ F, 16V, Elect.
C858, C859	374721044	0.1 μ F, 50V, Film (TF)
C901-C903	354774719	470 μ F, 63V, Elect.
C905, C906		
C909, C910	354761009	10 μ F, 35V, Elect.
C911, C912	354724719	470 μ F, 6.3V, Elect.
C913, C914	354751029	1000 μ F, 25V, Elect.
C915, C916	354754719	470 μ F, 25V, Elect.
C917	391221027	1000 μ F, 6.3V, Elect.(MUSE)
C918	374724734	0.047 μ F, 50V, Film (TF)
Resistors		
R151, R152	442523304	33 Ω , 1/2W, Metal oxide film
R527, R528	441622734	27 k Ω , 1W, Metal oxide film
R535, R536	5210062	N06HR4.7KBD, Semi-fixed
R601, R602	442522224	2.2 k Ω , 1/2W, Metal oxide film
R603, R604	442522214	220 Ω , 1/2W, Metal oxide film
R607-R614	442520224	2.2 Ω , 1/2W, Metal oxide film
R615-R618	4000078	0.33 Ω , 5W, Metal plate
R623-R626		
R633, R634	442820824	8.2 Ω , 3W, Metal oxide film
R862	442525114	510 Ω , 1/2W, Metal oxide film
R875, R876	441623914	390 Ω , 1W, Metal oxide film
R901-R903	441620684	6.8 Ω , 1W, Metal oxide film
R905, R906	442524314	430 Ω , 1/2W, Metal oxide film
Switch		
S101	25065439	NSS-62159, Slide switch
Relaies		
RL851, RL852	25065316	NRL-2P7A-DC12-043
Plug		
P104	25055100	NPLG-3P84
P256	25055133	NPLG-3P117
P321	25055137	NPLG-7P121
P852	25055139	NPLG-9P123
Terminal		
P101	25045341	NPJ-2PDBL-192
Socket ass'y		
P103	2009990200	NSAS-06P0282
P752	2009990003	NSAS-06P0007
P753	2009990004	NSAS-06P0008
Jumper sockets		
JL211, JL213	25050268	NSCT-4P96
JL212, JL951	25050267	NSCT-3P95
Bracket		
	27141059	(Ground)
	27301427	(Bus)

CIRCUIT NO.	PART NO.	DESCRIPTION
Cushion		
	28140963	
Holder clamp		
	27301186	MSA-1606
	27301271	MSA-1609

SPEAKER TERMINAL PC BOARD (NAETC-4210-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
Terminals		
P751, P752	25060162	NTM-4PDMN088

AC SOCKET PC BOARD (NAETC-4211-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
AC socket		
 P905	25050388	NSCT-6P215 [D]

INPUT CIRCUIT PC BOARD (NASW-4212-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
Diode		
D201	223163	1SS133
Capacitor		
C201	374721034	0.01 μ F, 50V, Film (TF)
Switches		
S201	25030330	NRS-2211-BA, Rotary
S281	25065438	NSS-84158, Slide
Relay		
RL201	25065397	NRL-2P1A-DC5-068
Input terminals		
P201-P204	25045305	NPJ-4PDBL164
P207	25045304	NPJ-2PDBL163
Plugs		
P205, P206	25055133	NPLG-3P117
P103A		
P211	25055139	NPLG-9P123
Socket ass'y		
P256	2009990090	NSAS-6P0128
Jumper socket		
JL201	25050267	NSCT-3P95

POWER SUPPLY CIRCUIT (1) PC BOARD (NAPS-4213-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
Diodes		
D921	22380040	RBV-602L
D922, D923	22380012	HER303F
D931	22380039	1D4B42
D932	22380032	1SR139-100
D941	22380039	1D4B42
Coils		
L921, L922	230906	BL02RN2-R62
Capacitors		
C921, C922	3504246	18000 μ F, 63V, Elect.
C923-C925	374503345	0.33 μ F, 125V, Film (ME)
C931, C932	374722235	0.022 μ F, 50V, Film (TF)
C933	354741029	1000 μ F, 16V, Elect.
C934	354744719	470 μ F, 16V, Elect.
C941, C942	354761029	1000 μ F, 35V, Elect.
C943, C944	374722235	0.022 μ F, 50V, Film (TF)
C945	374501045	0.1 μ F, 125V, Film (ME)

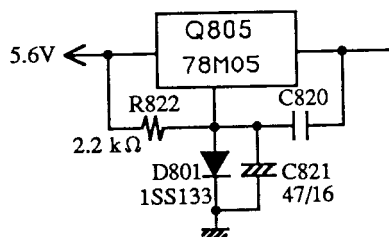
CIRCUIT NO.	PART NO.	DESCRIPTION
	Resistors	
R931	442520104	1 Ω , 1/2W, Metal oxide film
R932	441623314	330 Ω , 1W, Metal oxide film
R941, R942	442522294	0.22 Ω , 1/2W, Metal oxide film

JL941	25050267	NSCT-3P95
	Socket ass'y	
P104	2009990069	NSAS-6P0106
	Plug	
P951a	25055133	NPLG-3P117
	Bracket	
	27301367	(Bus)
	Radiator	
D921a	27160265	RAD-82

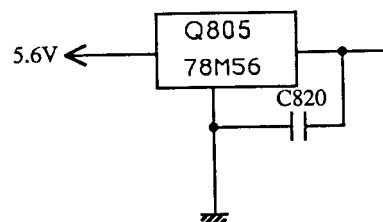
POWER SUPPLY CIRCUIT (2) PC BOARD (NAETC-4214-1, NAETC-4214-1A, NAETC-4214-1B, NAETC-4214-1C)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistor	
Q951	2213650	DTD113ZS
	Diodes	
D951	223163	1SS133
D952	22380039	1D4B42
	Transformer	
 T902	2300710	NPT-1117D [D]
 T902	2300711	NPT-1117P [P]
 T902	2300712	NPT-1117DG [W]
 T902	2300713	NPT-1117Q [Q]
	Capacitors	
C951-C955	374721034	0.01 μ F, 50V, Film (TF)
C956	354752229	2200 μ F, 25V, Elect.
 C971	3500065A	0.01 μ F, AC400V/125V, Film (IS)
 C972	3500065A	0.01 μ F, AC400V/125V, Film (IS) [P, W, Q]
 C973	3500065A	0.01 μ F, AC400V/125V, Film (IS) [D, W]
	Condensor cover	
 C971a, C972a, C973a	27301216	SB1925A [P, W, Q]
	Resistors	
R951	442520104	1 Ω , 1/2W, Metal oxide film
R952	441628214	820 Ω , 1W, Metal oxide film
	Relay	
 RL901	25065248	NRL-1P15A-DC12-29
	Terminals	
	25060092	NTM-1S33
	Socket ass'y	
P951	2009990180	NSAS-6P0250
	Fuse holder	
 F901a	250113	S-N5051 [D, W]
 F901a	25050065	YSH403T [P]
 F902a	25050065	YSH403T [P, W, Q]

NOTE: *



OR



	Fuse label	
F901b	29360486	7A/125V [D]
F902b	29360374	T4A/250V [P, W, Q]

MICROPROCESSOR CIRCUIT PC BOARD (NADG-4215-1, NADG-4215-1A)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q801	22240377	TMP47C440AN-1997
Q802	22240358	LB1638
Q803	22240239	TA7291S
Q804	222951	M51943BSL
Q805	222780055	78M05HF
* (Q805)	222780565	78M56)
	Transistors	
Q806	2213160	DTC124ES
Q807-Q809	2213510	DTA114ES
Q810	2211255	2SC1815-GR
Q811	2213090	DTA114YS
Q812	2213650	DTD113ZS
Q813	2211164	2SC2120-Y
Q814	2213090	DTA114YS
Q815	2211504	2SA950-Y
Q816	221282	DTC144ES [D]
Q817	2213090	DTA114YS [D]
	Diodes	
D801, D816	223163	1SS133
D803-D807		
D802	224450562	MTZ5.6B, Zener
D808-D815	225142DX2	SEL2913K-DX2, LED
D817	224450562	MTZ5.6B, Zener
	Coils	
L801	233409K220	NCH-1284
L802-L807	230906	BL02RN2-R62
	Osc, element	
X801	3010150	CST4.00M3W
	Capacitors	
C803, C807	354744709	47 μ F, 16V, Elect.
C808	375524744	0.47 μ F, 50V, Film (MMT)
C810	3000051	0.047 F, 5.5V, Super
C816	374721044	0.1 μ F, 50V, Film (TF)
C819	354724719	470 μ F, 6.3V, Elect.
C821	354744709	47 μ F, 16V, Elect.
C822	354761009	10 μ F, 35V, Elect.
C824	354744709	47 μ F, 16V, Elect.
C827	353741009	10 μ F, 16V, Elect.
C829, C830	374721035	0.01 μ F, 50V, Film (TF)
	Resistors	
R817, R818	49163103405	RM1/10J10K $\times$ 5, Resistor network
R830	441620564	5.6 Ω , 1W, Metal oxide film
	Socket ass'y	
P211	2009990110	NSAS-18P0167
P801	2000871	NSAS-6P827

CIRCUIT NO	PART NO.	DESCRIPTION
Q805a	Radiator	
	27160145	RAD-51
S853	Switch	
	25030334	NRS-112-25RSM
	Holder	
	27190786	(LED-8)

VOLUME & DIRECT SWITCH CIRCUIT PC BOARD (NAAF-4216-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
R321	Resistor	
	5104294	N27DGL50KT30, Variable
S351	Switch	
	25030336A	NRS-184-25SS, Rotary
P205	Socket ass'y	
	2000809	NSAS-6P765
P206		NSAS-6P586
P321		NSAS-14P0249
JL401A	Jumper socket	
	25050267	NSCT-3P95

MUTING/SUBSONIC SWITCH PC BOARD (NAAF-4218-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
C301~C304	Capacitors	
	374721635	0.016 μ F, 50V, Film (TF)
	374721825	1800 pF, 50V, Film (TF)
	374728234	0.082 μ F, 50V, Film (TF)
R301	Resistors	
	5148107A	N16RGM C250KM N25, Variable
	5142002	N16RGM11C100K25, Variable
	5144011	N16RGM11C70K88K25, Variable

TONE CONTROL CIRCUIT PC BOARD (NASW-4219-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
C331, C332	Capacitors	
	374724744	0.47 μ F, 50V, Film (TF)
S331 (S332)	Switches	
	25035601	NPS-222-L565
S333		NPS-122-L546

PHOTO RECEIVING CIRCUIT PC BOARD (NADIS-4220-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
U015	Photo receiving unit	
	24130003	GPIU50XS
D831~D833	Diodes	
	223163	1SS133
D834~D836		SEL2913K-DX2, LED
C831	Capacitor	
	354744709	47 μ F, 16V, Elect.
S852	Switch	
	25035548	NRS-111-S510
	Holder	
	27190787	(LED-1)

SPEAKER SWITCH CIRCUIT PC BOARD (NASW-4221-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
D855	Diode	
	223163	1SS133
S851	Switch	
	25030335	NRSF-124-20BU, Rotary
P851	Stereo jack	
	25045337	HLJ4317-01-3120
RL853	Relay	
	25065174	NRL-2P1A-DC12-09
P852	Socket ass'y	
	2009990185	NSAS-18P0255
	Shield plate	
	27150208	

LED PC BOARD (NADIS-4222-1)

CIRCUIT NO	PART NO.	DESCRIPTION
D203, D204	Diodes	
	225142DX2	SEL2913K-DX2, LED
JL210	Jumper socket	
	25050267	NSCT-3P95
	Holder	
	27190787	(LED-1)

LED PC BOARD (NADIS-4223-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
D821	Diode	
	225142DX2	SEL2913K-DX2
	Holder	
	27190787	(LED-1)

REMOTE CONTROL TERMINAL PC BOARD (NAETC-4224-1, NAETC-4224-1A)

CIRCUIT NO.	PART NO.	DESCRIPTION
P251	Mini jack	
	25045172	HSJ1003-01-020
P801a	Plug	
	25055133	NPLG-3P117

TUNER TERMINAL PC BOARD (NAETC-4225-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
P221	Terminal	
	25045307	NPJ-2PDBL166

NOTE [D]: Only 120V model
[P]: Only 230V 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.

A

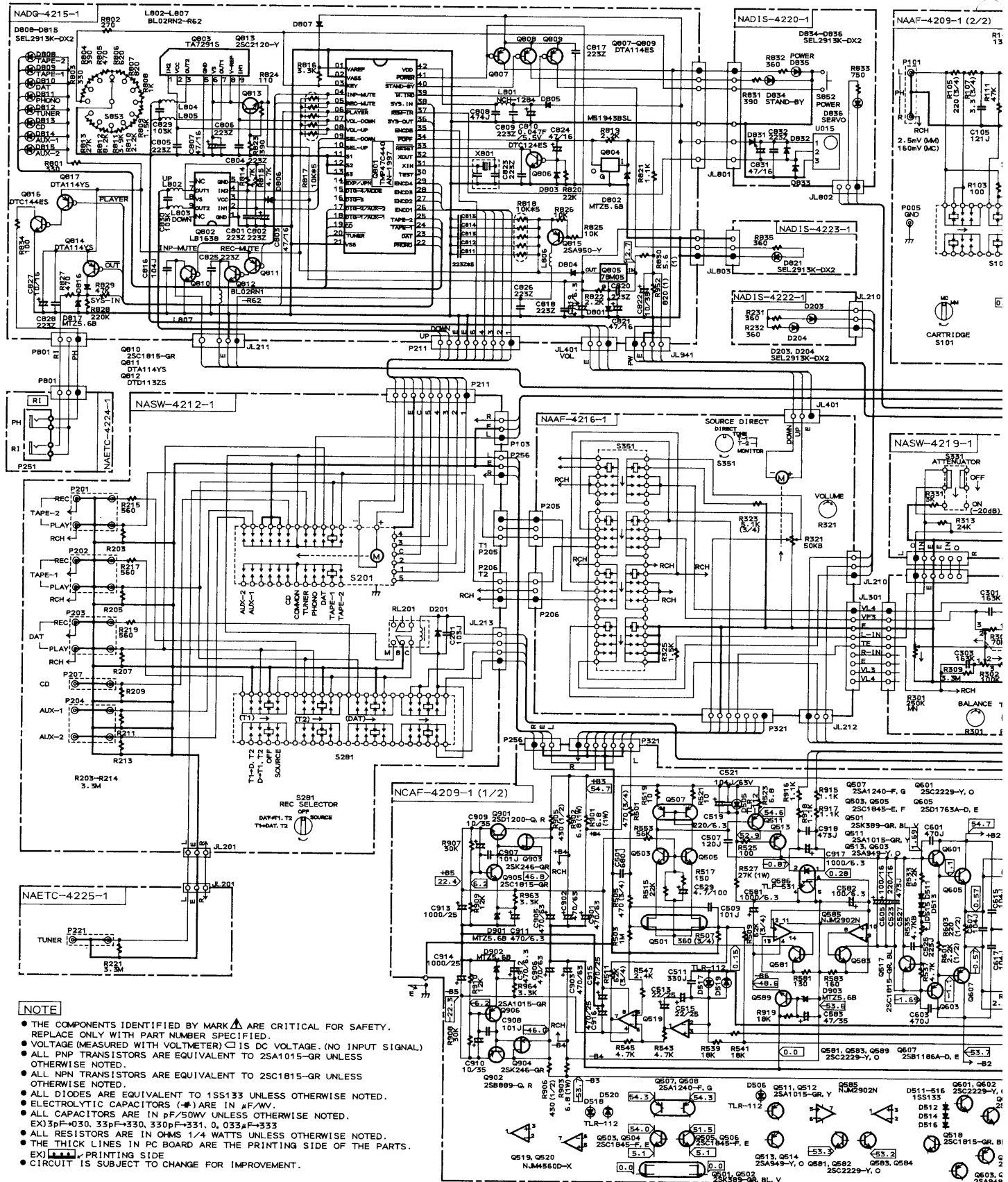
B

C

D

SCHEMATIC DIAGRAM

MODEL A-809 (AC 120V type)





PARTS LIST OF PACKING

REF. NO.	PART NO.	DESCRIPTION
A851	29052258	MASTER CARTON BOX
A852	29091425A	PAD, LEFT
A853	29091426A	PAD, RIGHT
A854	261504	PAPER TAPE
A855	29100035A	1020×720, POLY-VINYL BAG
A857	282320	SEALING HOOK
A858	29110071	DAMPLON TAPE (W=50)
ACCESSARY BAG		
A901	29341648	INSTRUCTION MANUAL [D, N]
A901	29341649	INSTRUCTION MANUAL [P, F, W, Q]
	29365019A	WARRANTYCARD [N]
	29358002J	SERVICE STATION LIST [N]
	29365024	WARRANTYCARD [F]
	29100107	POLY-VINYL BAG [F]
	29365029	WARRANTYCARD [A]
A903	24140206	RC-206S, REMOTE CONTROL TRANSMITTER [D, N]
A903	24140207	RC-207S, REMOTE CONTROL TRANSMITTER [P, F, W, Q]
A904	3010054	UM-3, BATTERY
A905	2010200	3.5 mm, MINI PLUG ASS'Y
	25055018	CV-K-1, CONVERSION PLUG [W]
A906	29100097	350 ~ 250, POLY-VINYL BAG

NOTE [D]: ONLY 120V MODEL
[P]: ONLY 230V MODEL
[W]: ONLY 120V/220V MODEL
[Q]: ONLY 240V MODEL
[N]: ONLY U.S.A. MODEL
[F]: ONLY FRENCH MODEL
[A]: ONLY AUSTRALIAN MODEL