

TA-N1

SERVICE MANUAL

*US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model*



SPECIFICATIONS

Amplifier section

Power Output

200 W + 200 W (8 Ω)
400 W + 400 W (4 Ω)

Speaker Nominal Impedance:

4 Ω ~ 16 Ω

Harmonic distortion

less than 0.005% (at 8 Ω , 10 W, THD)

Dumping factor

150 (at 8 Ω , 1 kHz)

Frequency response

5 Hz ~ 300 kHz + 0/- 1 dB (at 8 Ω , 1 W)

Input sensitivity and Impedance

1.5 V, 20 k Ω (Unbalanced)
1.5 V, 40 k Ω (Balanced)

Gain

28 dB

S/N

more than 115 dB (Input shorted, A-Fil)

General

System

Pure-complementary High Power Legato
Linear SEPP MOS FET power amplifier

Power requirements

USA and Canadian models
120 V AC, 60 Hz
European models
230 V AC, 50/60 Hz

Power consumption

USA and Canadian models
6.0 A
European models
600 W

Dimensions

480 × 245 × 530 mm
(18⁷/₈ × 9⁵/₈ × 20⁷/₈ in.)
including projecting parts and controls

Mass (Approx.)

70 kg (154 lbs. 4 oz.)

Supplied accessories

- AC power cord (1)
- AC power plug adapter (3 to 2 prong polarized type) (1)
(USA/Canada only)

Design and specifications are subject to change without notice.

STEREO POWER AMPLIFIER

SONY®



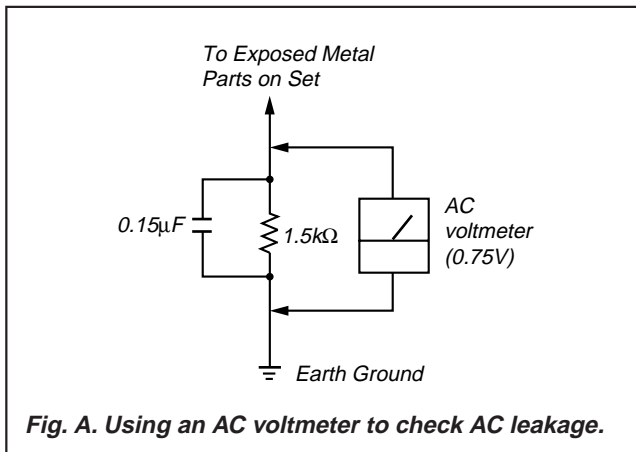
SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer: Check the antenna terminals, metal trim, “metallized” knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE

The AC leakage from any exposed metal part to earth Ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers’ instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The “limit” indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)



SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY MARK \triangle OR DOTTED LINE WITH MARK \triangle ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

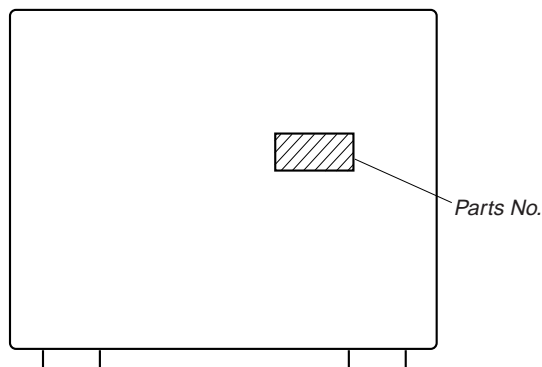
ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE \triangle SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

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MODEL IDENTIFICATION — BACK PANEL —



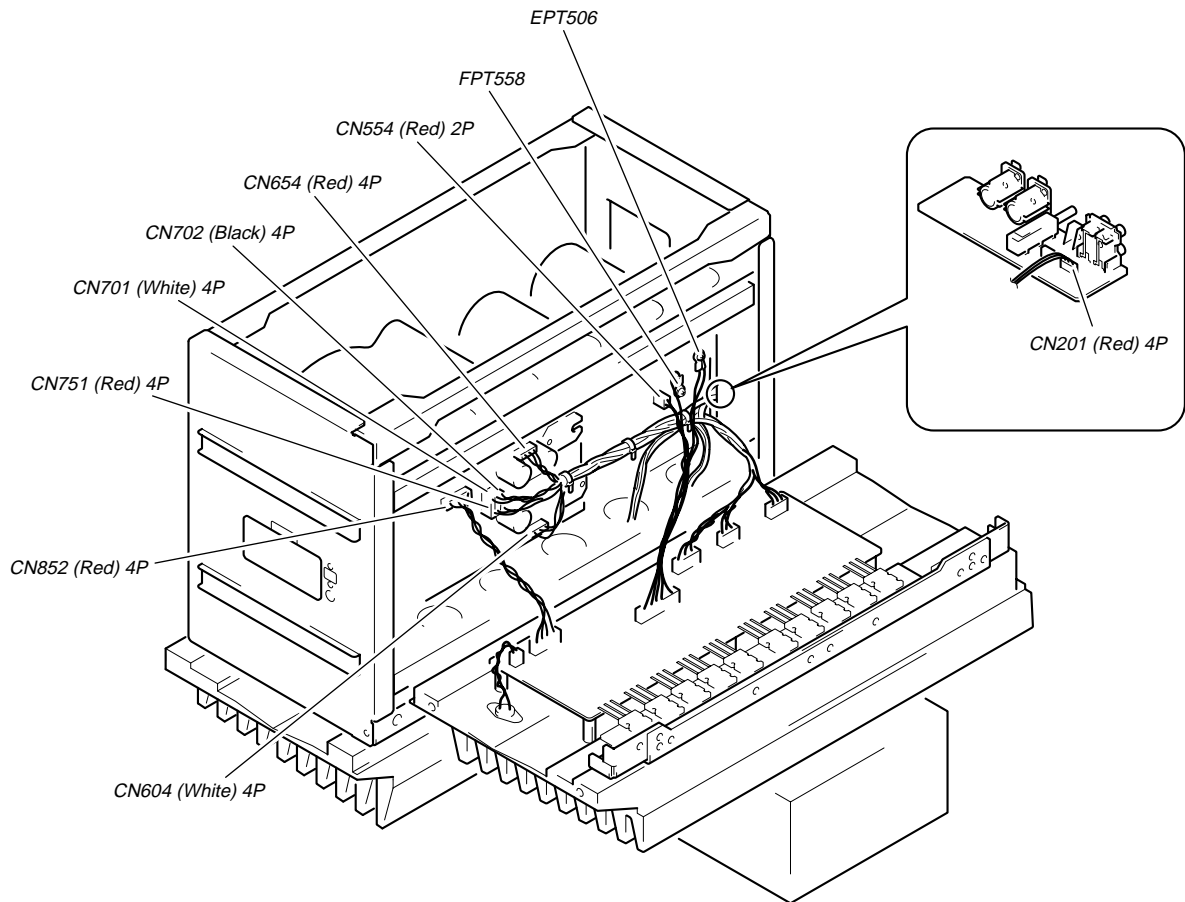
PARTS No.	MODEL
4-217-757-1□	US, CND
4-217-757-2□	AEP, UK, E, AUS

- Abbreviation
CND : Canadian model
AUS : Australian model

SECTION 1 SERVICE NOTE

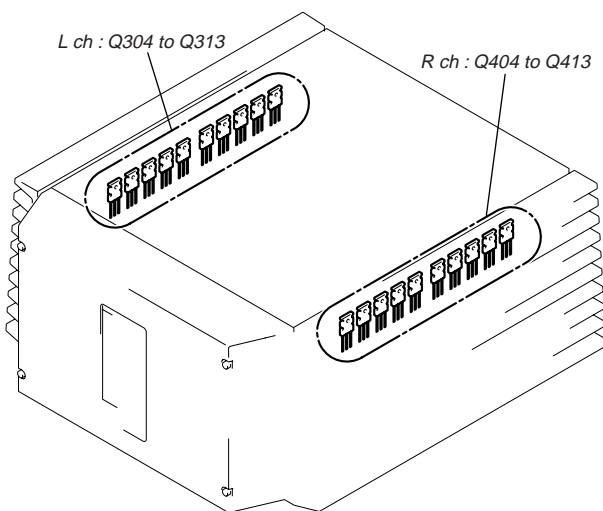
• SERVICE POSITION

When performing servicing, use a table about 15 cm as shown in the figure.



• REPLACING THE POWER TRANSISTOR

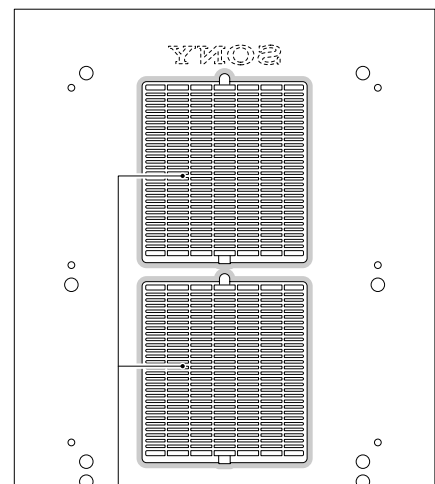
When replacing the power transistors (Q304 to Q313: L-ch, Q404 to Q413: R-ch), replace all ten together.



• SECURING THE GRILL (A)

When securing the grill (A) to the top panel, use the Sony bond SC608LV (7-432-912-48). (■)

Top panel (Bottom side)

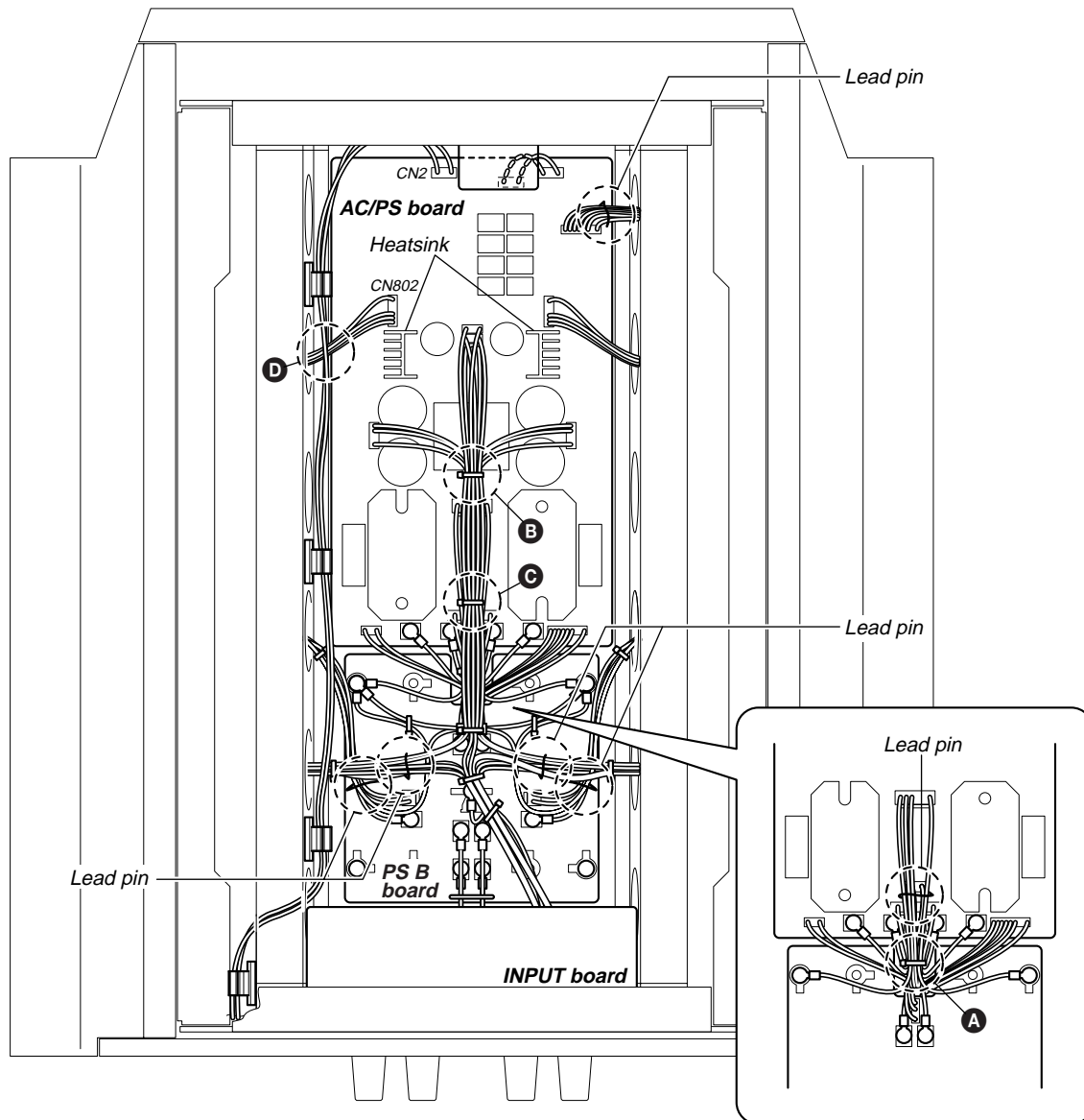


Grille (A)

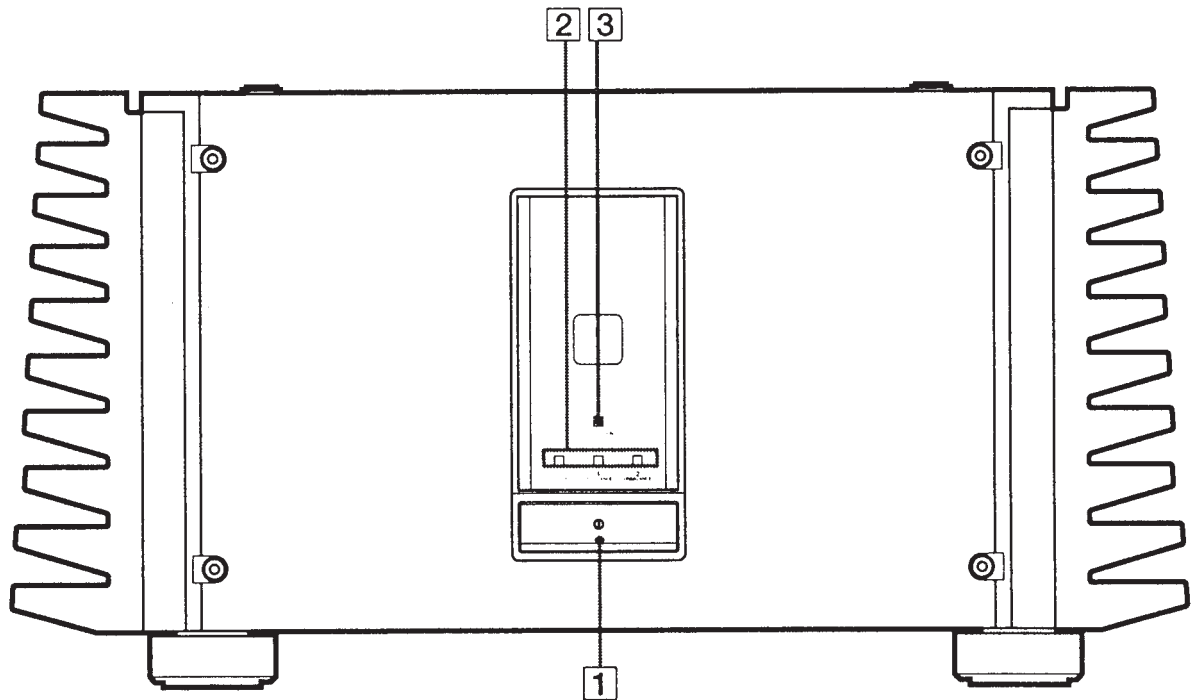
• **NOTE ON ARRANGING WIRES**

As how the wires in this unit are drawn affect the sound quality, note down the positions of wires before beginning servicing. After repairs, arrange the wires as follows.

- Ⓐ : After binding wires, push down.
- Ⓑ : Bind avoiding touching the heatsink.
- Ⓒ : Bind avoiding touching the wires below (binder Ⓐ).
- Ⓓ : Arrange so that the wires from CN802 pass below the wires from CN2.



Front Panel Parts Description



1 **⓪ (power) switch**

Press to turn the power amplifier on and off.

- When turning the power on, turn down the volume on the preamplifier to a minimum, then turn the preamplifier and this unit on respectively. Similarly, when turning the power off, turn down the volume on the preamplifier, then turn the amplifier and preamplifier off respectively. This is done to prevent damage to the speakers.

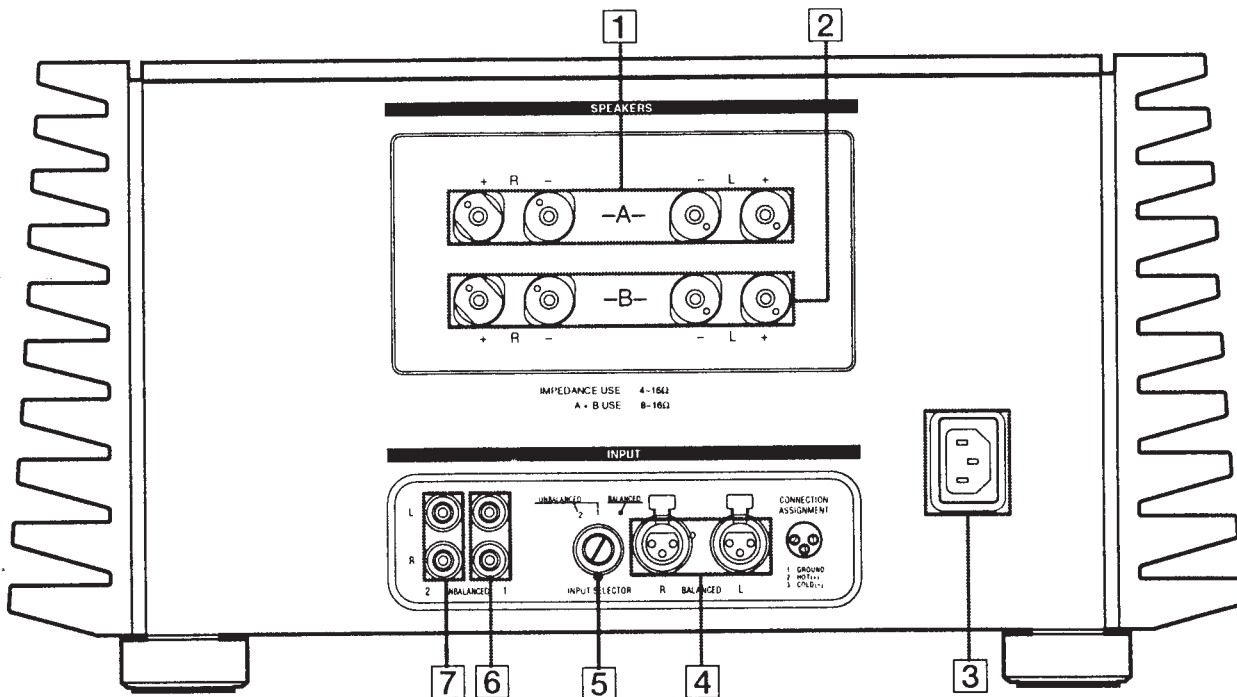
2 **Input indicators (BALANCED/UNBALANCED 1/
UNBALANCED 2)**

Light to indicate the input selected with the INPUT SELECTOR control on the rear panel.

3 **PROTECTION indicator**

Lights for about 16 seconds after the power is turned on. After that, the blue light above the indicator lights. When there is a short circuit in one of the speakers, the protection circuitry in this unit is automatically activated. The PROTECTION indicator lights when the protection circuitry is activated, and sound is not produced from the speakers. Should this occur, turn the power off, and check that the speakers connections are correct.

Rear Panel Parts Description



1 SPEAKERS A jacks

2 SPEAKERS B jacks

Use with SPEAKERS A terminals when bi-wired speaker connections are made .

3 AC IN terminal

Use to connect the supplied power cord to the AC IN terminal to supply power to this unit from a wall outlet.

4 BALANCED input jacks

Use to connect the BALANCED output jacks on a preamplifier to this unit. Select BALANCED with the INPUT SELECTOR knob (**5**).

5 INPUT SELECTOR control

Turn to select the input.

6 UNBALANCED 1 input jack

Use to connect the PRE OUT jacks on a preamplifier to this unit . Select UNBALANCED 1 with the INPUT SELECTOR knob (**5**).

7 UNBALANCED 2 input jack

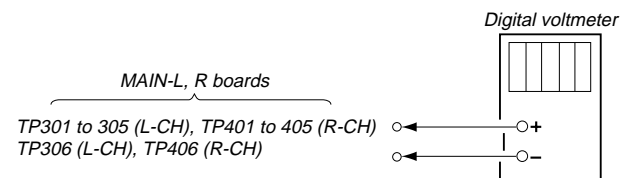
Use to connect the PRE OUT jacks on a preamplifier to this unit . Select UNBALANCED 2 with the INPUT SELECTOR knob (**5**).

SECTION 3 ELECTRICAL ADJUSTMENT

BIAS CURRENT ADJUSTMENT

- As the voltage changes according to the time the power is supplied, adjust correctly according to the following procedure.

Connection:



Procedure:

- Measure the voltage at the five measuring points just after supplying the power, and adjust RV301 (L-CH) and RV401 (R-CH) so that the measuring point with the lowest voltage becomes approx 15 mV.

	Measuring Point	Adjusting Point
L-CH	Between the 5 measuring points (+) TP301, TP302, TP303, TP304, TP305 and TP306 (-)	RV301
R-CH	Between the 5 measuring points (+) TP401, TP402, TP403, TP404, TP405 and TP406 (-)	RV401

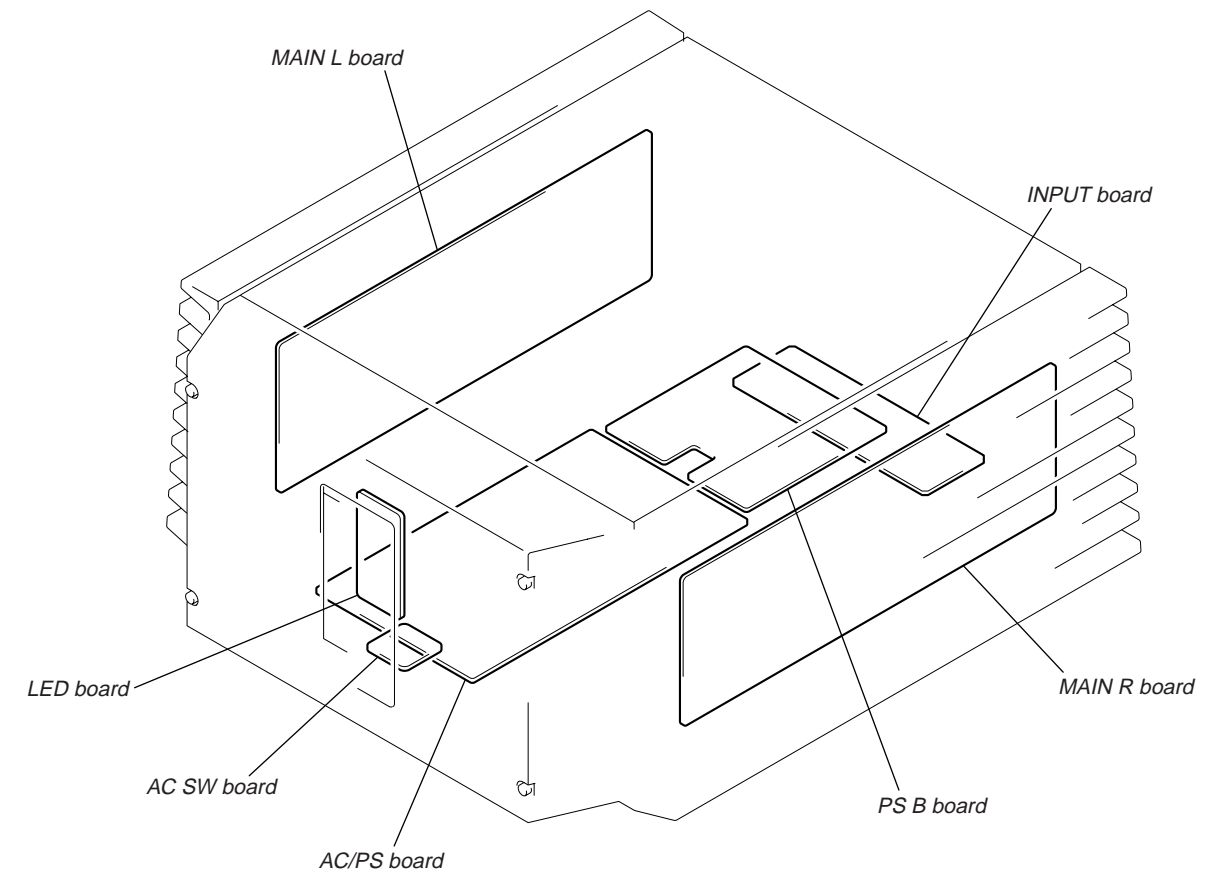
- Leave for one hour with the power supplied. (Aging)
- Measure the voltage at the respective measuring points and adjust RV301 (L-CH) and RV401 (R-CH) so that the voltages become within the ranges shown in the following table. Adjust to the voltage with the highest priority shown in the table as much as possible.

Priority Order	Adjusting Value
1st (Highest priority)	19.8 mV to 22.0 mV
2nd	19.8 mV to 24.2 mV
3rd	18.7 mV to 24.2 mV
4th	18.7 mV to 25.2 mV
5th	15.0 mV to 25.2 mV

- Leave for another 30 minutes if the adjustment control has been rotated.
- Measure the voltage again and check that it is within the adjusting value. If outside, repeat from step 3 again.
- Be sure to perform aging for more than 30 minutes if the adjustment control has been rotated. Finally check the voltage before ending the adjustment.

SECTION 4 DIAGRAMS

4-1. CIRCUIT BOARDS LOCATION



THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For schematic diagrams.

Note:

- All capacitors are in μF unless otherwise noted. pF : μF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4$ W or less unless otherwise specified.
- % : indicates tolerance.
- : nonflammable resistor.
- : fusible resistor.
- : panel designation.

Note:

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Note:

Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

For printed wiring boards.

Note:

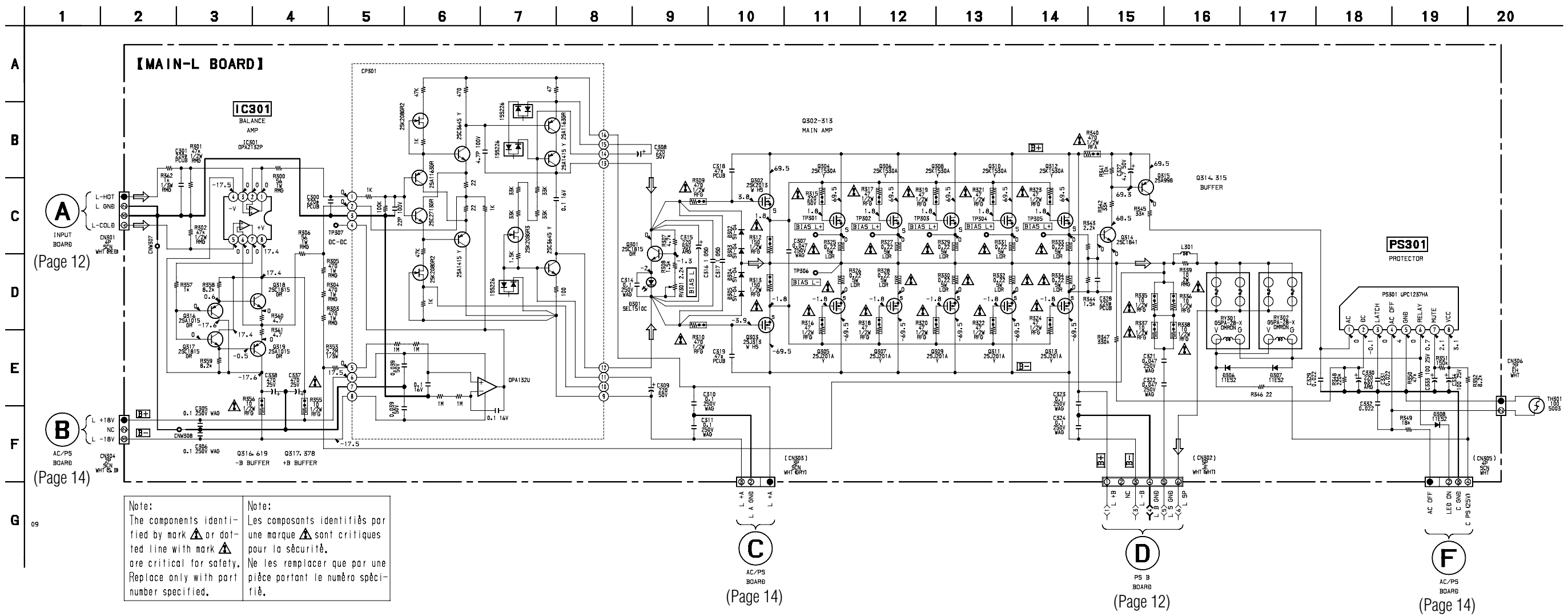
- : parts extracted from the component side.
- : Through hole.
- : Pattern from the side which enables seeing. (The other layers' patterns are not indicated.)

Caution:

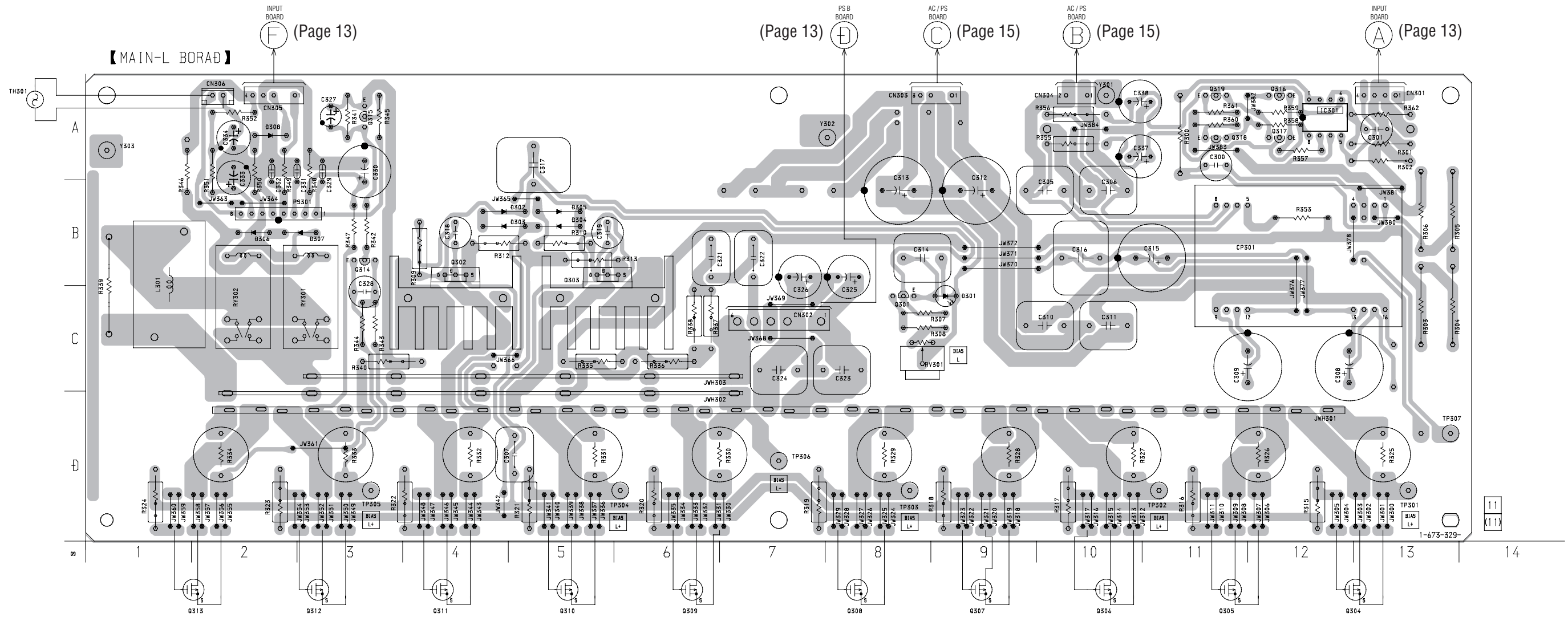
Pattern face side: Parts on the pattern face side seen from the (Side B) pattern face are indicated.
Parts face side: Parts on the parts face side seen from the (Side A) parts face are indicated.

- : B+ Line.
- : B- Line.
- : adjustment for repair.
- Voltages and waveforms are dc with respect to ground in playback mode.
- Voltages are taken with a VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
- Signal path.
- : AUDIO

4-2. SCHEMATIC DIAGRAM – MAIN L SECTION –



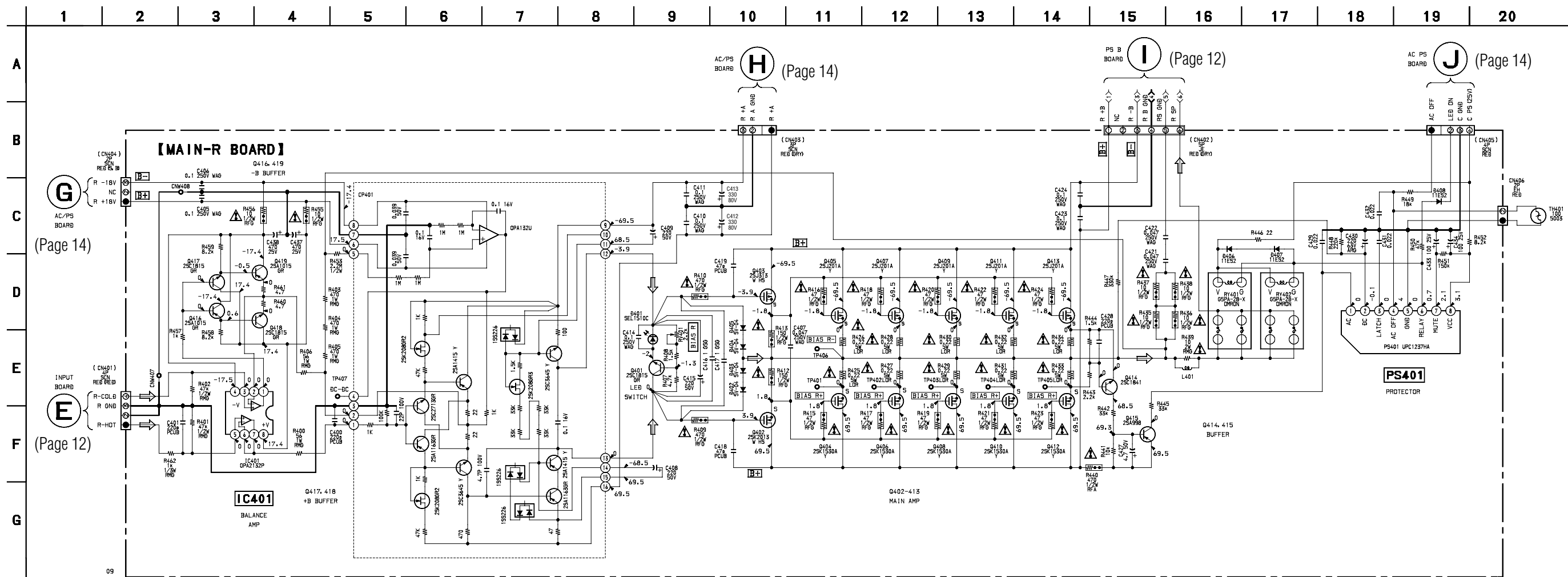
4-3. PRINTED WIRING BOARD – MAIN L SECTION –
 • Refer to page 7 for Circuit Boards Location.



• Semiconductor Location

Ref. No	Location	Ref. No	Location
D301	C-9	Q305	D-11
D302	B-4	Q306	D-10
D303	B-4	Q307	D-9
D304	B-5	Q308	D-8
D305	B-5	Q309	D-6
D306	B-2	Q310	D-5
D307	B-3	Q311	D-4
D308	A-2	Q312	D-3
		Q313	D-1
		Q314	B-3
		Q315	A-3
IC301	A-12	Q316	A-12
Q301	C-8	Q317	A-12
Q302	B-4	Q318	A-11
Q303	B-5	Q319	A-11
Q304	D-13		

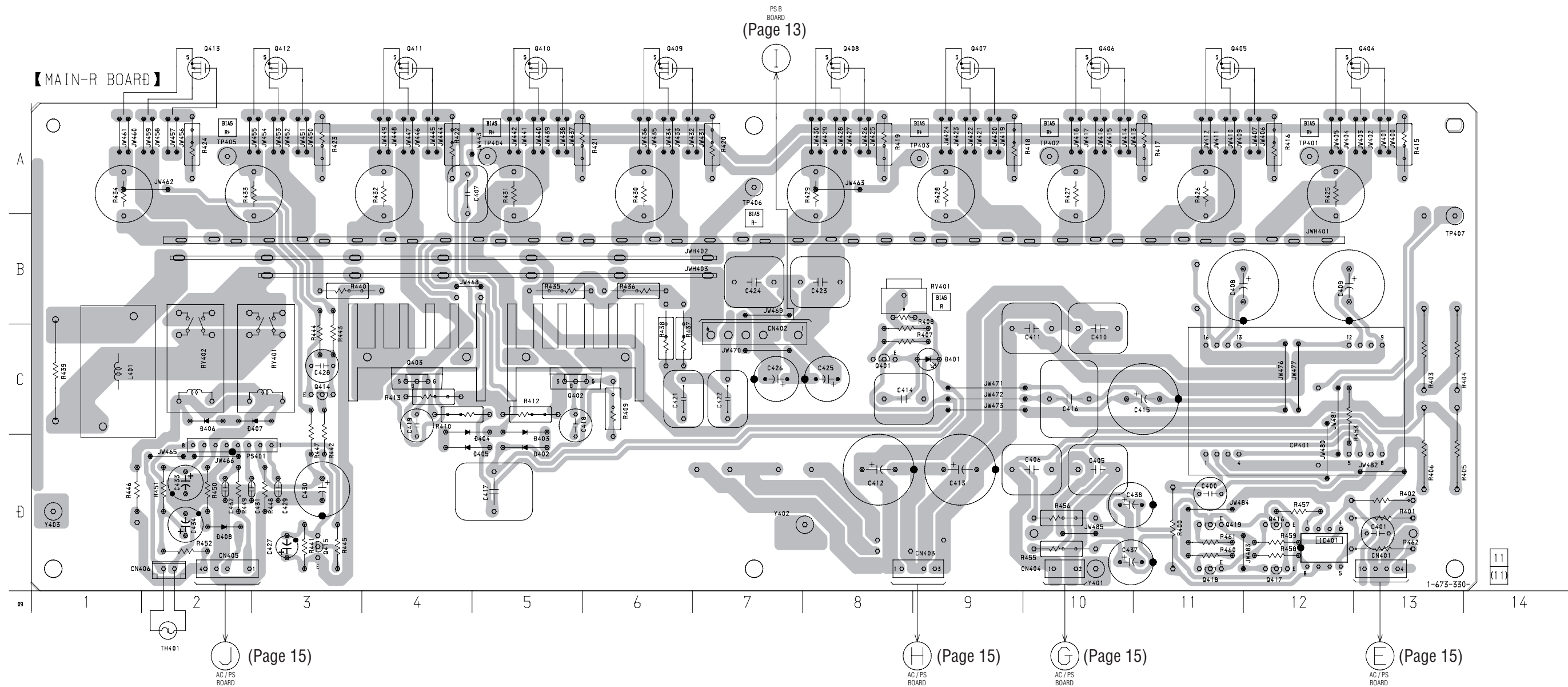
4-4. SCHEMATIC DIAGRAM – MAIN R SECTION –



Note:
The components identified by mark **▲** or dotted line with mark **▲** are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par une marque **▲** sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

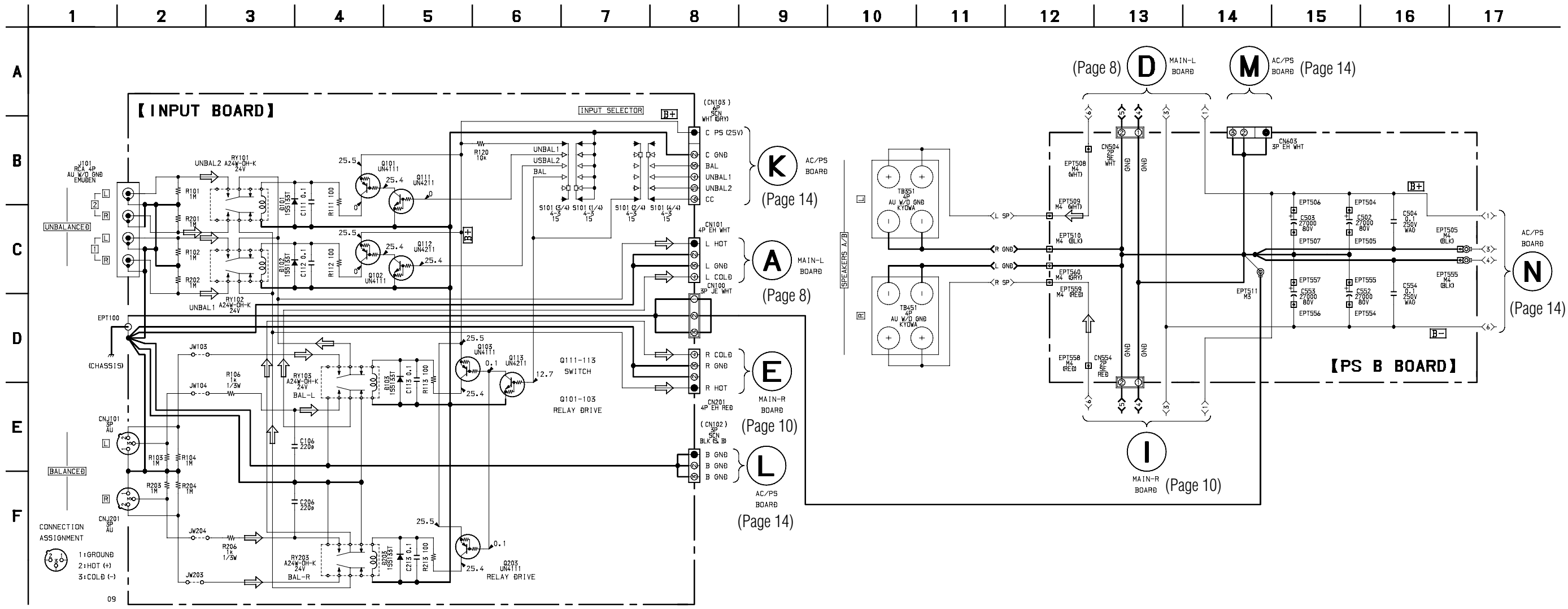
4-5. PRINTED WIRING BOARD – MAIN R SECTION –
 • Refer to page 7 for Circuit Boards Location.



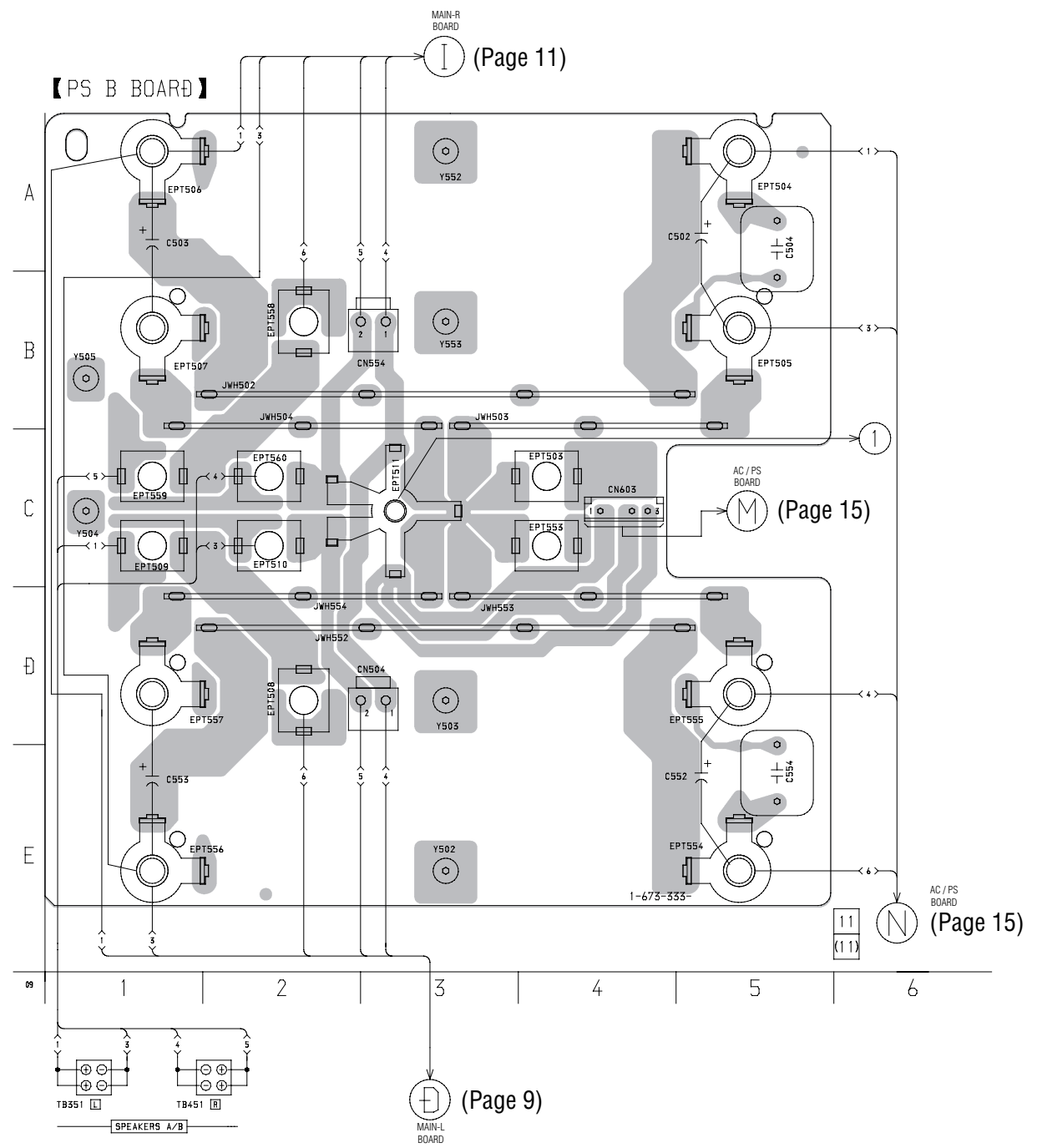
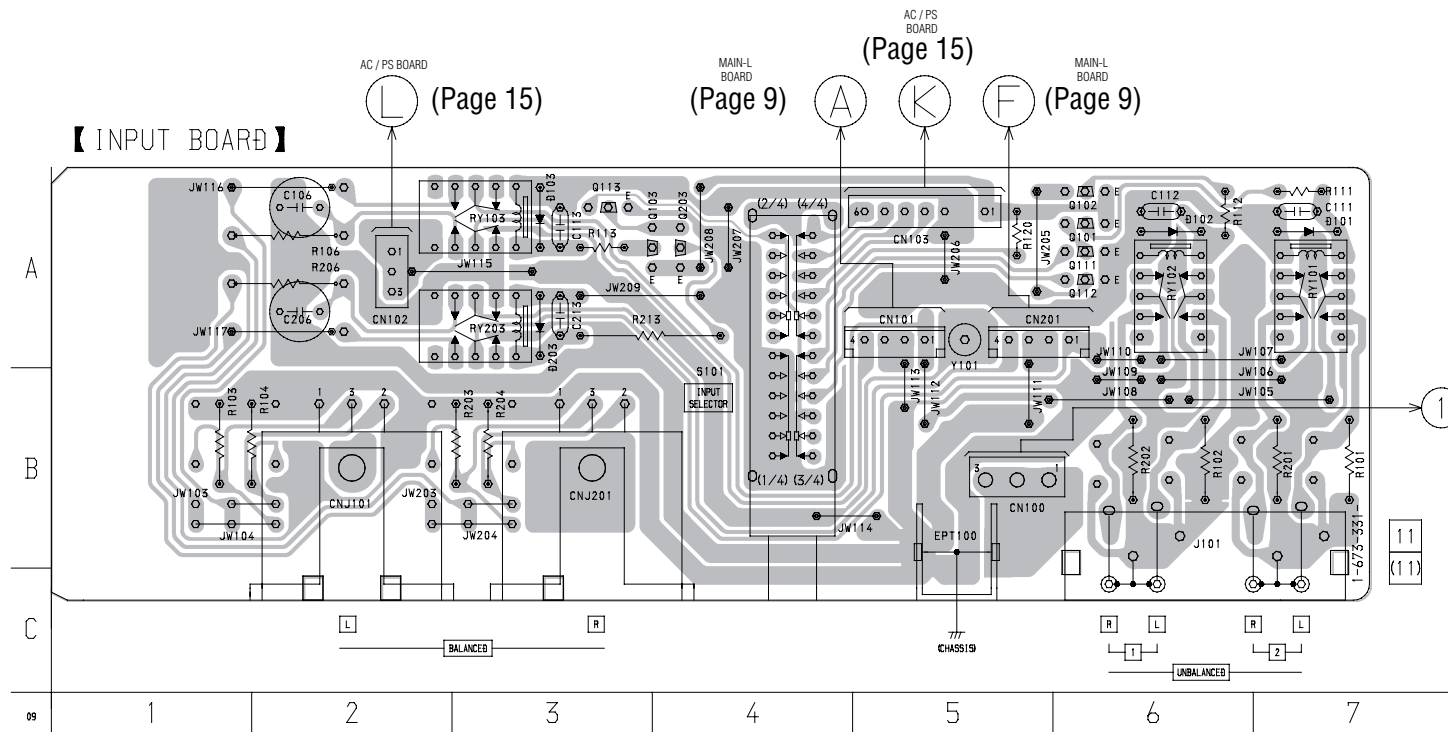
• Semiconductor Location

Ref. No	Location	Ref. No	Location
D401	C-9	Q405	A-11
D402	C-5	Q406	A-11
D403	C-5	Q407	A-9
D404	C-4	Q408	A-8
D405	C-4	Q409	A-6
D406	C-2	Q410	A-5
D407	C-2	Q411	A-4
D408	D-2	Q412	A-3
		Q413	A-2
IC401	D-12	Q414	C-3
		Q415	D-3
Q401	C-8	Q416	D-12
Q402	C-5	Q417	D-12
Q403	C-4	Q418	D-11
Q404	A-13	Q419	D-11

4-6. SCHEMATIC DIAGRAM – INPUT SECTION –



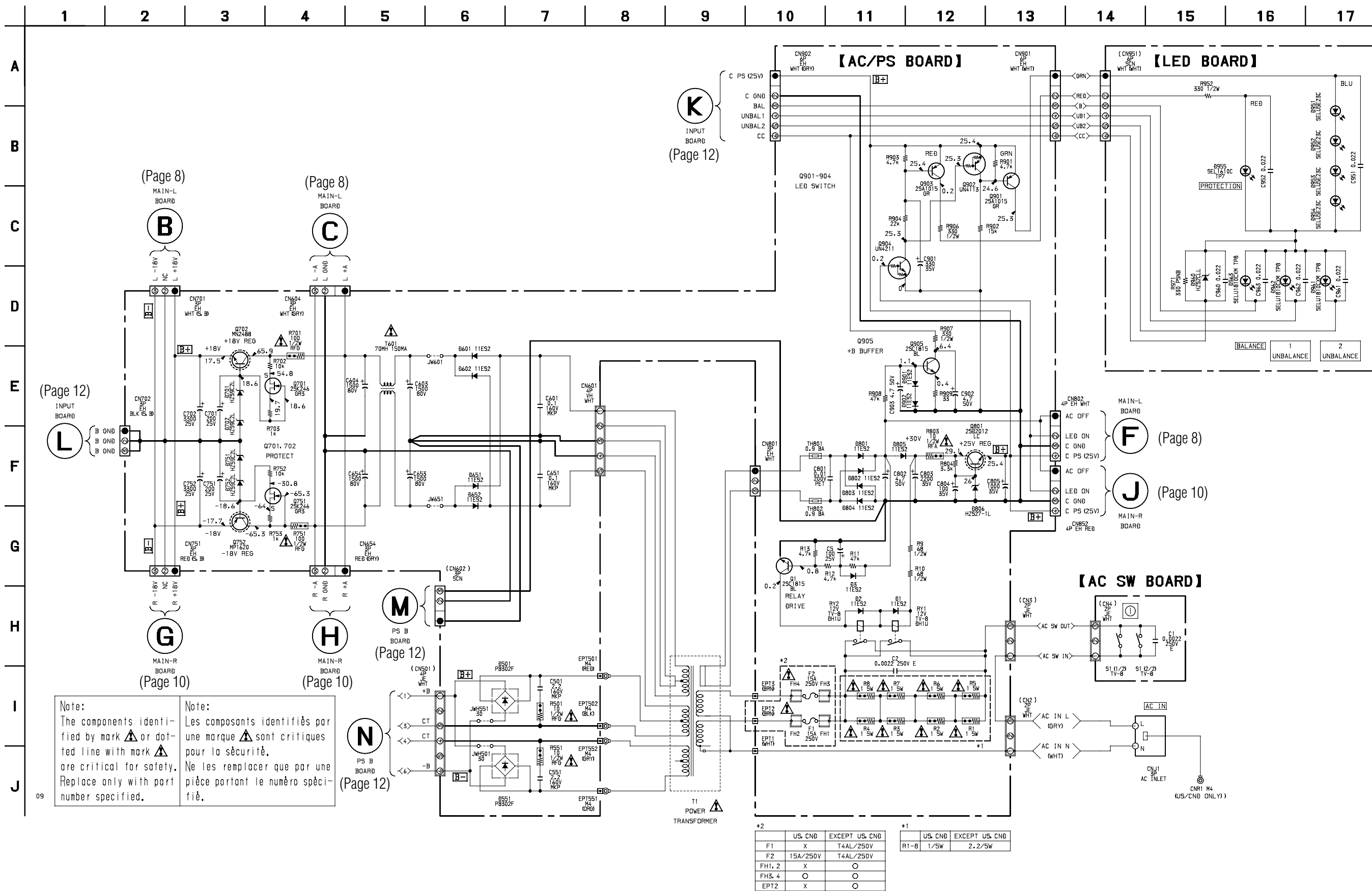
4-7. PRINTED WIRING BOARD – INPUT SECTION –
 • Refer to page 7 for Circuit Boards Location.



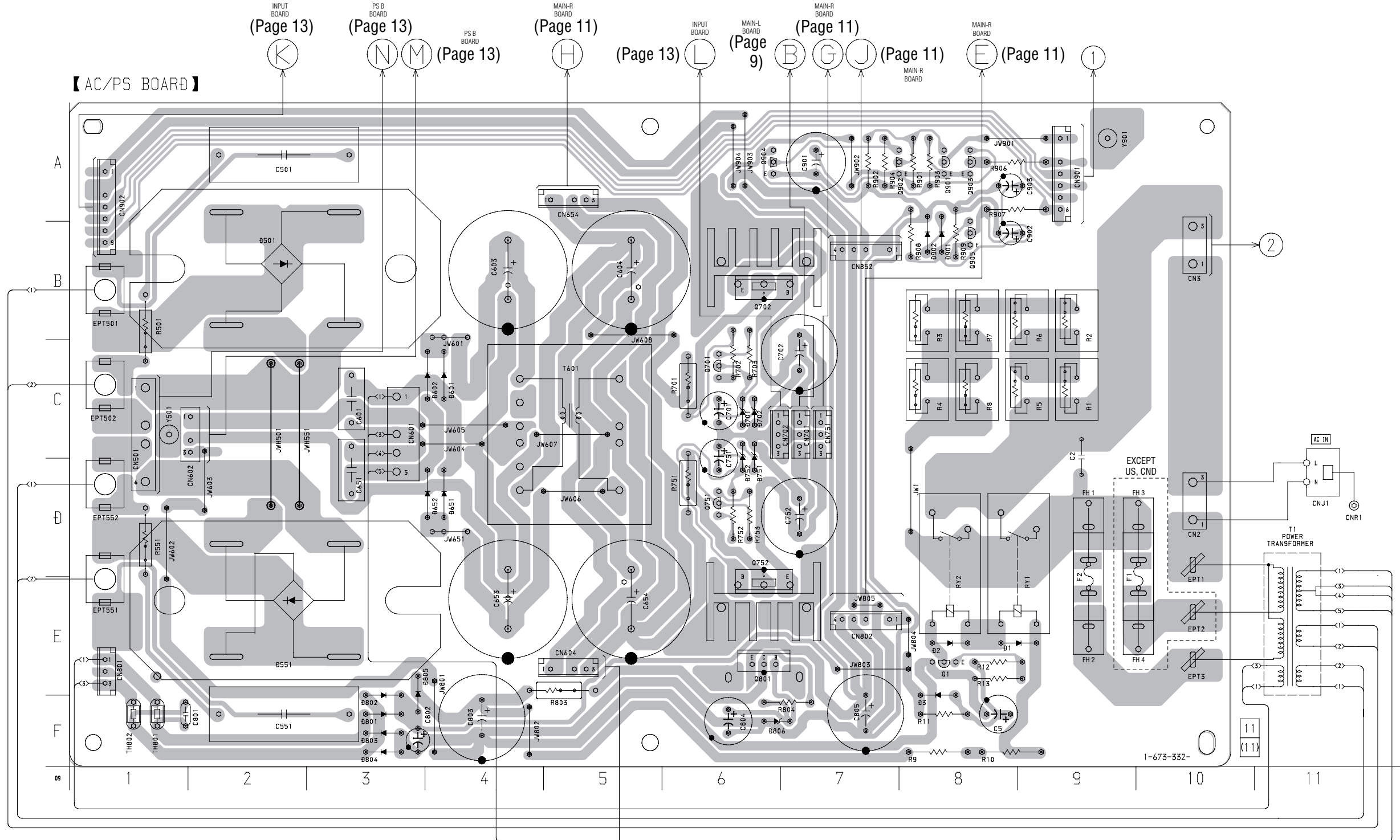
• Semiconductor Location

Ref. No	Location
D101	A-7
D102	A-6
D103	A-3
D203	A-3
Q101	A-6
Q102	A-6
Q103	A-4
Q111	A-6
Q112	A-6
Q113	A-3
Q203	A-4

4-8. SCHEMATIC DIAGRAM – POWER SECTION –

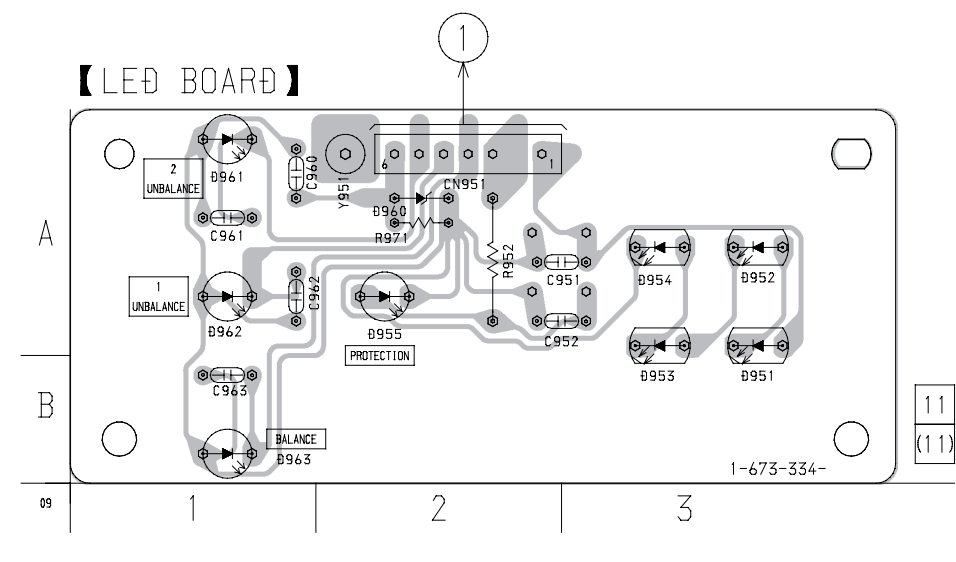
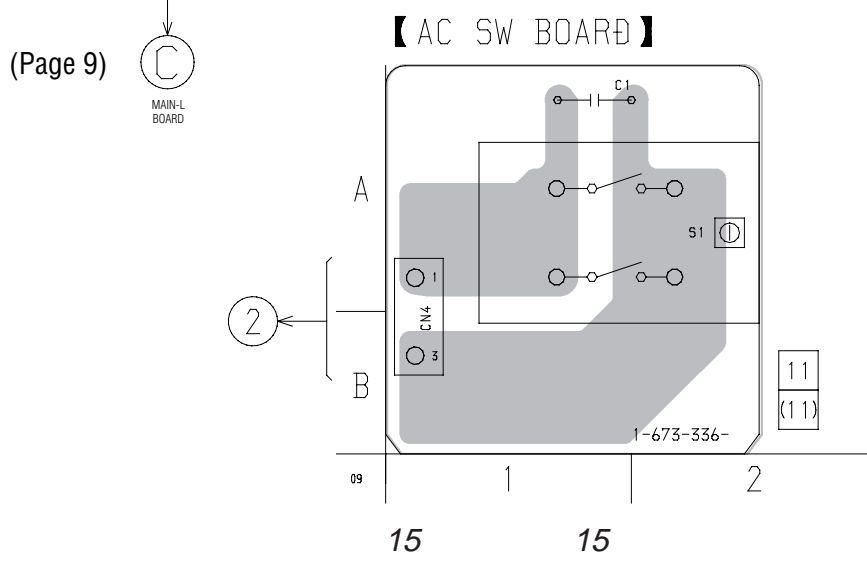


4-9. PRINTED WIRING BOARD – POWER SECTION –
 • Refer to page 7 for Circuit Boards Location.



• Semiconductor Location

Ref. No	Location	Ref. No	Location
D1	E-8	D805	E-3
D2	E-8	D806	F-6
D3	E-8	D901	B-8
D501	B-2	D902	B-8
D551	E-2		
D601	C-4	Q1	E-8
D602	C-3	Q701	C-6
D651	C-4	Q702	B-6
D652	C-3	Q751	D-6
D701	C-6	Q752	E-6
D702	C-6	Q801	E-6
D751	C-6	Q901	A-8
D752	C-6	Q902	A-7
D801	F-3	Q903	A-8
D802	E-3	Q904	A-6
D803	F-3	Q905	B-8
D804	F-3		



SECTION 5 EXPLODED VIEWS

NOTE:

- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Color Indication of Appearance Parts Example:
KNOB, BALANCE (WHITE)

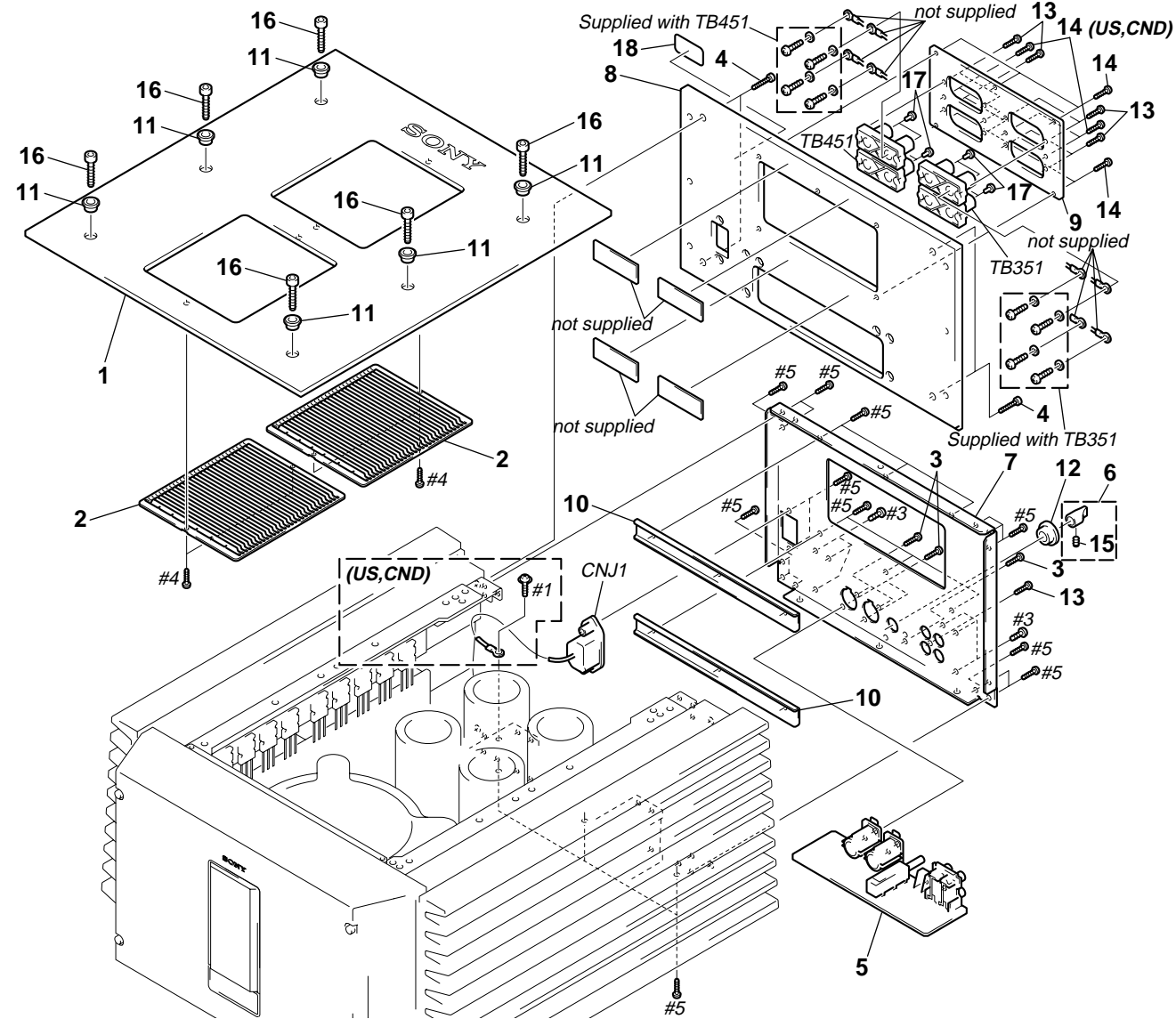
↑
Cabinets color

- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
CND : Canadian model

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

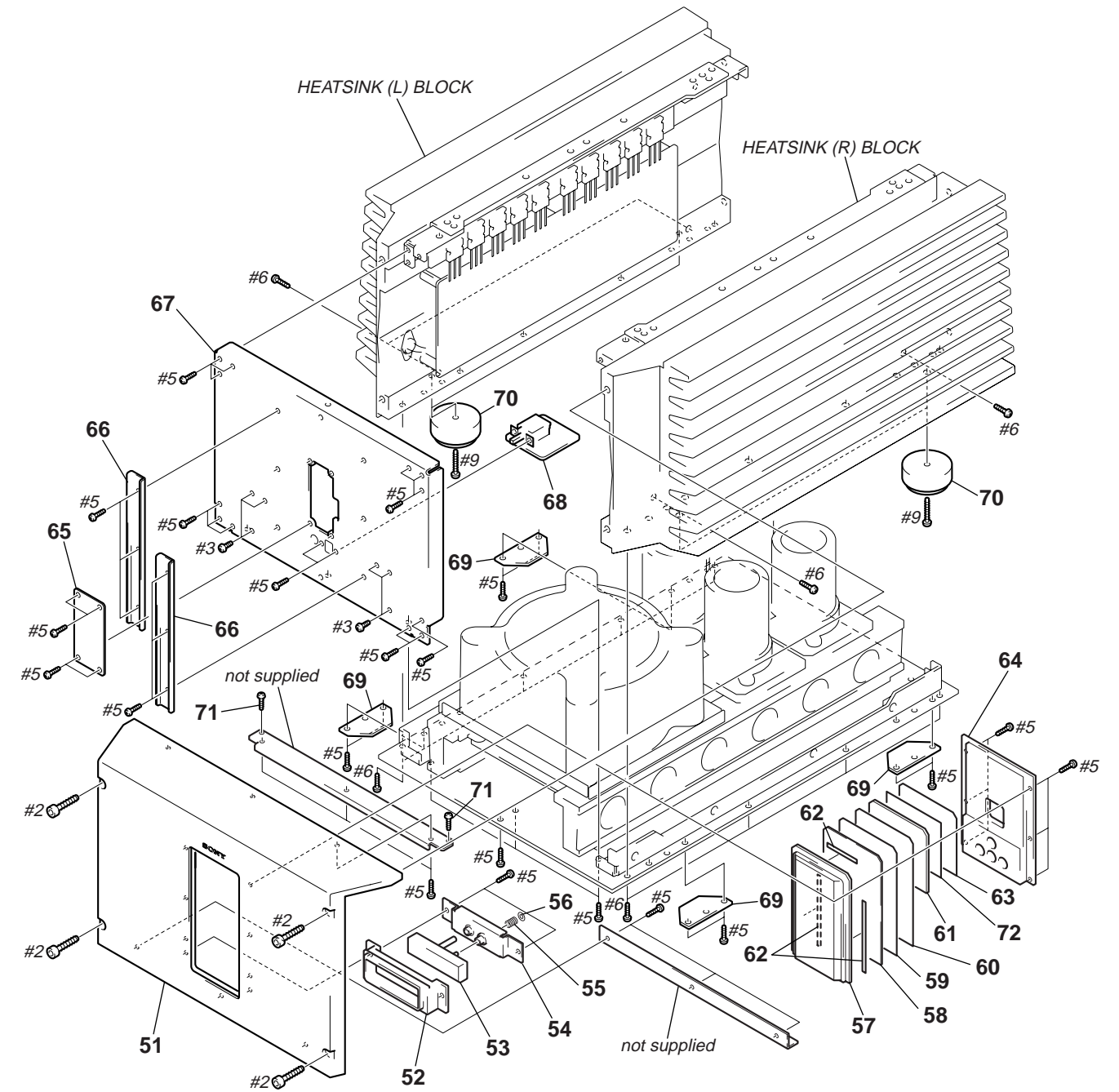
Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

5-1. TOP AND BACK PANEL SECTION



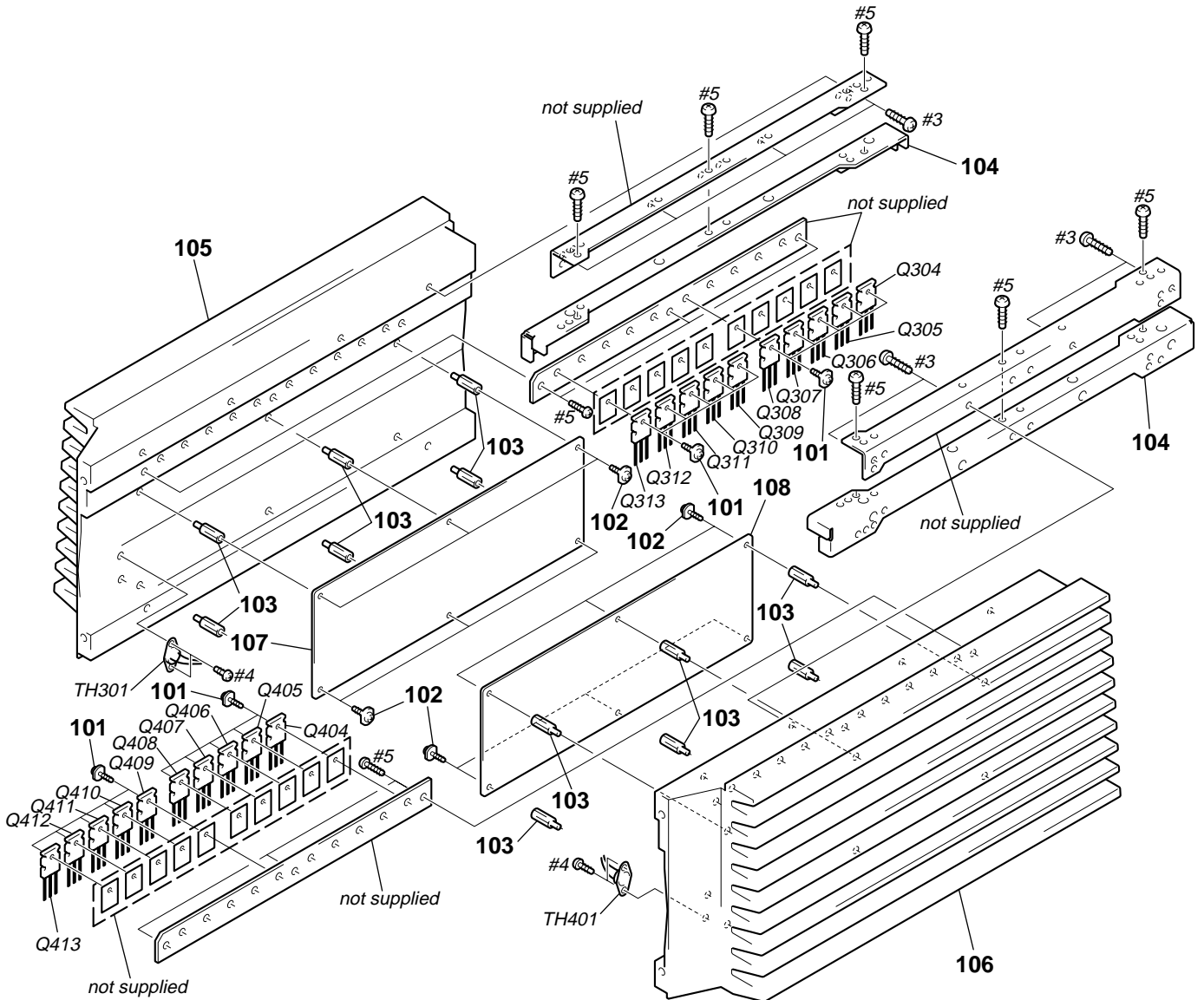
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	4-217-753-01	PANEL, TOP		12	4-219-878-01	ESCUTCHEON (KNOB)	
2	4-935-228-11	GRILLE (A)		13	4-974-510-01	SCREW (+BV 3X8 CU)	
3	3-703-685-41	SCREW (+BV 3X8)		14	4-911-049-21	SCREW (3X8)	
4	4-219-096-01	BOLT (M5X16), 6 SQUARE HOLE		15	3-701-505-00	SET SCREW, DOUBLE POINT 3X3	
5	1-673-331-11	INPUT BOARD		16	4-219-097-01	BOLT (M4X12), 6 SQUARE HOLE	
6	4-987-527-01	KNOB (VOL)		17	3-696-090-11	RIVET, NYLON	
7	4-217-756-11	PANEL (C), BACK		* 18	3-703-044-11	LABEL, CAUTION (US,CND)	
8	4-217-757-11	PANEL (A), BACK (US,CND)		CNJ1	1-580-375-41	INLET 3P	
8	4-217-757-22	PANEL (A), BACK (EXCEPT US,CND)		TB351	1-694-541-11	TERMINAL BOARD (SP)(EXCEPT US,CND)	
9	4-218-397-11	BRACKET (SPEAKER T)(EXCEPT US,CND)		TB351	1-694-541-21	TERMINAL BOARD (SP)(US,CND)	
9	4-218-397-21	BRACKET (SPEAKER T)(US,CND)		TB451	1-694-541-11	TERMINAL BOARD (SP)(EXCEPT US,CND)	
10	4-217-770-01	REINFORCEMENT (R)		TB451	1-694-541-21	TERMINAL BOARD (SP)(US,CND)	
11	4-217-765-01	ESCUTCHEON					

5-2. FRONT PANEL SECTION



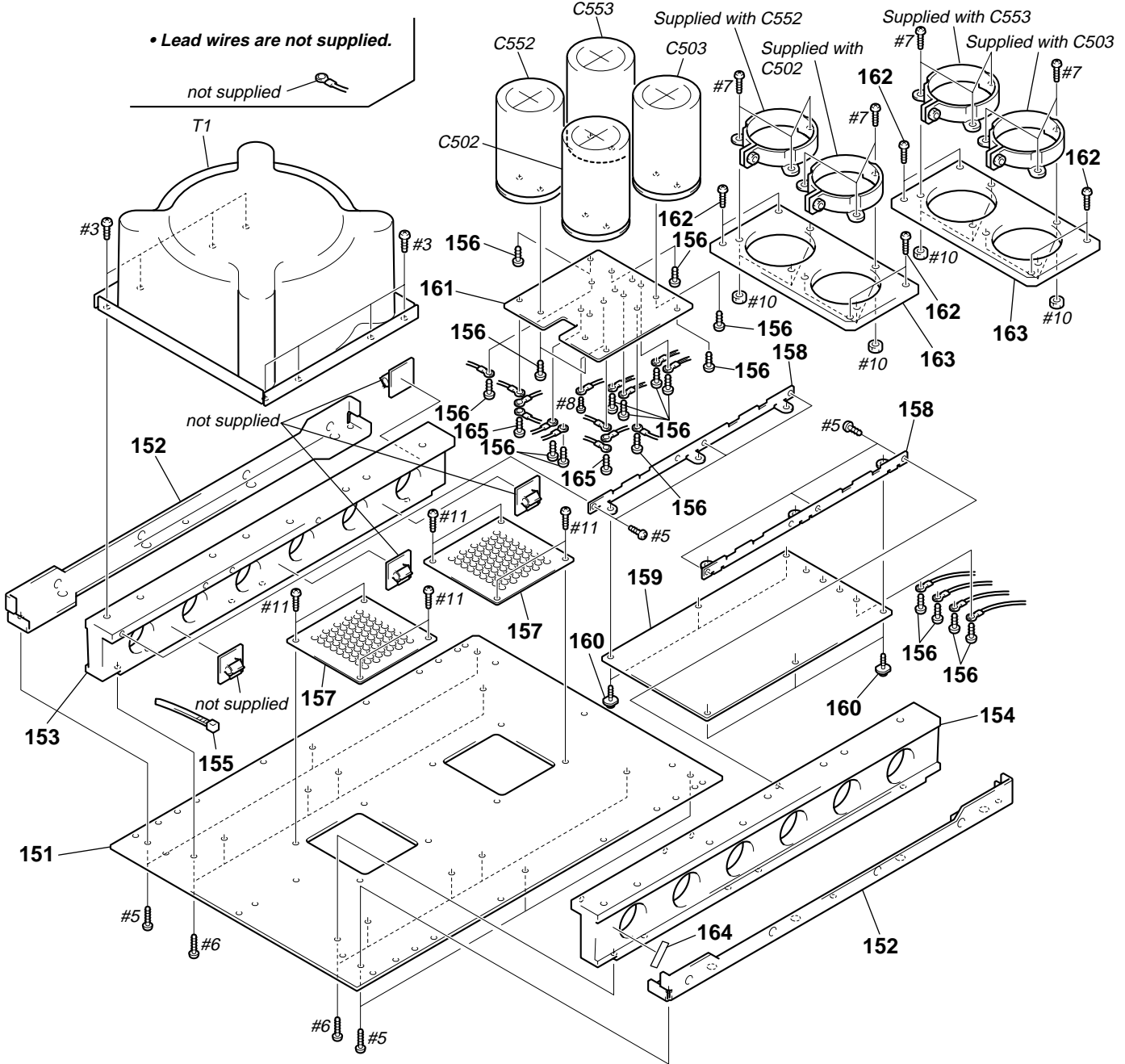
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	4-217-750-01	PANEL, FRONT		62	4-221-068-01	PLATE (SPACER), INDICATION	
52	4-217-782-01	ESCUTCHEON (POWER BUTTON)		63	4-218-441-01	PLATE (FILTER 2), INDICATION (MILKY WHITE)	
53	X-4951-184-1	BUTTON ASSY, POWER		64	4-217-779-01	PLATE (BASE), INDICATION	
54	X-4951-185-1	BRACKET (POWER BUTTON) ASSY		65	1-673-334-11	LED BOARD	
* 55	4-880-426-00	SPRING, COMPRESSION		66	4-217-769-01	REINFORCEMENT (F)	
56	4-862-338-00	RING, STOPPER		67	4-217-755-01	PANEL, SUB	
57	4-217-777-01	PLATE (FRONT), INDICATION		68	1-673-336-11	AC-SW BOARD	
58	4-217-771-01	PLATE (HALF MIRROR),INDICATION		69	4-218-443-01	BRACKET (FOOT)	
59	4-217-772-01	PLATE (MASK), INDICATION (BLACK)		70	X-4942-178-1	FOOT ASSY	
60	4-217-778-01	PLATE (FILTER), INDICATION (MILKY WHITE)		71	4-911-049-21	SCREW (3X8)	
61	4-218-442-01	PLATE (BASE 2), INDICATION (WHITE)		72	4-222-564-01	PLATE (FILTER C), INDICATION (ORANGE)	

5-3. HEAT SINK SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	X-4952-038-1	+B 3X16 (CU) ASSY		Q310	8-729-018-11	TRANSISTOR 2SK1530A-Y	
102	X-4944-262-1	SCREW(3X8) ASSY, BARREL W +BVTT		Q311	8-729-018-13	TRANSISTOR 2SJ201A-Y	
103	4-217-766-01	BOSS		Q312	8-729-018-11	TRANSISTOR 2SK1530A-Y	
104	4-217-760-01	FRAME (F/R)		Q313	8-729-018-13	TRANSISTOR 2SJ201A-Y	
105	4-217-751-01	HEAT SINK (L)		Q404	8-729-018-11	TRANSISTOR 2SK1530A-Y	
106	4-217-752-01	HEAT SINK (R)		Q405	8-729-018-13	TRANSISTOR 2SJ201A-Y	
107	A-4426-211-A	MAIN-L BAORD, COMPLETE (US,CND)		Q406	8-729-018-11	TRANSISTOR 2SK1530A-Y	
107	A-4426-215-A	MAIN-L BOARD, COMPLETE (EXCEPT US,CND)		Q407	8-729-018-13	TRANSISTOR 2SJ201A-Y	
108	A-4426-212-A	MAIN-R BOARD, COMPLETE (US,CND)		Q408	8-729-018-11	TRANSISTOR 2SK1530A-Y	
108	A-4426-216-A	MAIN-R BOARD, COMPLETE (EXCEPT US,CND)		Q409	8-729-018-13	TRANSISTOR 2SJ201A-Y	
Q304	8-729-018-11	TRANSISTOR 2SK1530A-Y		Q410	8-729-018-11	TRANSISTOR 2SK1530A-Y	
Q305	8-729-018-13	TRANSISTOR 2SJ201A-Y		Q411	8-729-018-13	TRANSISTOR 2SJ201A-Y	
Q306	8-729-018-11	TRANSISTOR 2SK1530A-Y		Q412	8-729-018-11	TRANSISTOR 2SK1530A-Y	
Q307	8-729-018-13	TRANSISTOR 2SJ201A-Y		Q413	8-729-018-13	TRANSISTOR 2SJ201A-Y	
Q308	8-729-018-11	TRANSISTOR 2SK1530A-Y		TH301	1-576-080-11	THERMOSTAT	
Q309	8-729-018-13	TRANSISTOR 2SJ201A-Y		TH401	1-576-080-11	THERMOSTAT	

5-4. BOTTOM PLATE AND FRAME SECTION



• Lead wires are not supplied.

not supplied

The components identified by mark Δ or dotted line with mark Δ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque Δ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
151	4-217-754-01	PLATE, BOTTOM	
152	4-217-760-01	FRAME (F/R)	
153	4-217-761-01	FRAME (L)	
154	4-217-762-01	FRAME (R)	
155	3-655-653-21	BAND (TAITON), BINDING	
* 156	4-931-964-01	SCREW (M4X6)	
* 157	1-641-950-11	BOTTOM LID BOARD	
158	4-217-763-01	BRACKET (PC-PS)	
159	A-4426-214-A	AC/PS BOARD, COMPLETE (US,CND)	
159	A-4426-218-A	AC/PS BOARD, COMPLETE (EXCEPT US,CND)	
160	X-4944-262-1	SCREW(3X8)ASSY, BARREL W +BVTT	

Ref. No.	Part No.	Description	Remark
161	1-673-333-11	PS-B BOARD	
162	4-965-658-01	SCREW (4X16)	
163	4-218-396-01	HOLDER (BASE C)	
164	3-831-441-11	CUSHION (F)	
* 165	4-931-964-11	SCREW (M4X8)	
C502	1-128-999-11	CAP, ELECT 27000MF	
C503	1-128-999-11	CAP, ELECT 27000MF	
C552	1-128-999-11	CAP, ELECT 27000MF	
C553	1-128-999-11	CAP, ELECT 27000MF	
Δ T1	1-433-767-11	TRANSFORMER, POWER (US,CND)	
Δ T1	1-433-768-11	TRANSFORMER, POWER (EXCEPT US,CND)	

SECTION 6 ELECTRICAL PARTS LIST

AC-SW

AC/PS

Note:

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
All resistors are in ohms
METAL: Metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F : nonflammable

- SEMICONDUCTORS
In each case, u: μ , for example:
uA...: μ A..., uPA...: μ PA..., uPB...: μ PB...,
uPC...: μ PC..., uPD...: μ PD...
- CAPACITORS
uF : μ F
- COILS
uH : μ H
- Abbreviation
CND : Canadian model

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>				<u>Remark</u>		<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>				<u>Remark</u>
	1-673-336-11	AC-SW BOARD *****						CN604	1-691-765-11	PLUG (MICRO CONNECTOR) 3P				
		< CAPACITOR >						CN654	1-691-765-31	PLUG (MICRO CONNECTOR) 3P				
C1	1-113-920-11	CERAMIC	0.0022uF	20%	250V		* CN701	1-564-506-11	PLUG, CONNECTOR 3P					
		< SWITCH >					* CN702	1-564-506-11	PLUG, CONNECTOR 3P					
S1	1-771-187-11	SWITCH, AC POWER (Ⓢ)					* CN751	1-564-506-11	PLUG, CONNECTOR 3P					

	A-4426-214-A	AC/PS BOARD, COMPLETE (US,CND) *****								< DIODE >				
	A-4426-218-A	AC/PS BOARD, COMPLETE (EXCEPT US, CND) *****					D1	8-719-024-99	DIODE	11ES2-NTA2B				
	1-533-798-11	HOLDER, FUSE					D2	8-719-024-99	DIODE	11ES2-NTA2B				
	1-535-476-11	TERMINAL					D3	8-719-024-99	DIODE	11ES2-NTA2B				
		< CAPACITOR >					D501	8-719-072-90	DIODE	PB302F				
C2	1-113-920-11	CERAMIC	0.0022uF	20%	250V		D551	8-719-072-90	DIODE	PB302F				
C5	1-119-800-11	ELECT	100uF	20%	25V		D601	8-719-024-99	DIODE	11ES2-NTA2B				
C501	1-136-880-11	FILM	2.2uF	10%	160V		D602	8-719-024-99	DIODE	11ES2-NTA2B				
C551	1-136-880-11	FILM	2.2uF	10%	160V		D651	8-719-024-99	DIODE	11ES2-NTA2B				
C601	1-136-960-11	FILM	0.1uF	10%	160V		D652	8-719-024-99	DIODE	11ES2-NTA2B				
		< CAPACITOR >					D701	8-719-934-64	DIODE	HZS9C2LT2				
C603	1-131-657-11	CAPACITOR	1500uF	20%	80V		D702	8-719-934-64	DIODE	HZS9C2LT2				
C604	1-131-657-11	CAPACITOR	1500uF	20%	80V		D751	8-719-934-64	DIODE	HZS9C2LT2				
C651	1-136-960-11	FILM	0.1uF	10%	160V		D752	8-719-934-64	DIODE	HZS9C2LT2				
C653	1-131-657-11	CAPACITOR	1500uF	20%	80V		D801	8-719-024-99	DIODE	11ES2-NTA2B				
C654	1-131-657-11	CAPACITOR	1500uF	20%	80V		D802	8-719-024-99	DIODE	11ES2-NTA2B				
C701	1-126-024-11	ELECT	220uF	20%	25V		D803	8-719-024-99	DIODE	11ES2-NTA2B				
C702	1-126-029-11	ELECT	3200uF	20%	25V		D804	8-719-024-99	DIODE	11ES2-NTA2B				
C751	1-126-024-11	ELECT	220uF	20%	25V		D805	8-719-024-99	DIODE	11ES2-NTA2B				
C752	1-126-029-11	ELECT	3200uF	20%	25V		D806	8-719-935-20	DIODE	HZS27-1LT2				
C801	1-104-993-11	FILM	0.01uF	5%	200V		D901	8-719-024-99	DIODE	11ES2-NTA2B				
C802	1-119-823-11	ELECT	4.7uF	20%	50V		D902	8-719-024-99	DIODE	11ES2-NTA2B				
C803	1-119-815-21	ELECT	2200uF	20%	35V		< FUSE >							
C804	1-119-810-11	ELECT	100uF	20%	35V		Δ F1	1-532-350-11	FUSE, TIME-LAG (T4AL/250V)(EXCEPT US,CND)					
C805	1-119-814-21	ELECT	1000uF	20%	35V		Δ F2	1-576-379-11	FUSE (15A/250V)(US,CND)					
C901	1-119-830-11	ELECT	330uF	20%	35V		Δ F2	1-532-350-11	FUSE, TIME-LAG (T4AL/250V)(EXCEPT US,CND)					
		< CAPACITOR >					< TRANSISTOR >							
C902	1-119-823-11	ELECT	4.7uF	20%	50V		Q1	8-729-281-54	TRANSISTOR	2SC1815-BL				
C903	1-119-823-11	ELECT	4.7uF	20%	50V		Q701	8-729-202-67	TRANSISTOR	2SK246-GR3				
		< CONNECTOR >					Q702	8-749-010-25	IC MN2488-OPY-M					
* CN601	1-766-920-11	PIN, CONNECTOR 4P					Q751	8-729-202-67	TRANSISTOR	2SK246-GR3				
							Q752	8-749-010-26	IC MP1620-OPY-M					

AC/PS	INPUT
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Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
Q801	8-729-018-60	TRANSISTOR	2SD2012-LC	R906	1-259-292-11	CARBON	330 5% 1/2W
Q901	8-729-201-53	TRANSISTOR	2SA1015-GR	R907	1-259-292-11	CARBON	330 5% 1/2W
Q902	8-729-422-96	TRANSISTOR	UN4113-TA	R908	1-259-207-21	CARBON	47K 5% 1/4W
Q903	8-729-201-53	TRANSISTOR	2SA1015-GR	R909	1-249-887-11	CARBON	33 5% 1/4W
Q904	8-729-900-80	TRANSISTOR	UN4211-TA			< RELAY >	
Q905	8-729-281-54	TRANSISTOR	2SC1815-BL	RY1	1-515-999-11	RELAY, POWER	
		< RESISTOR >		RY2	1-515-999-11	RELAY, POWER	
△R1	1-217-780-11	FUSIBLE	1 5% 5W F (US,CND)			< TRANSFORMER >	
△R1	1-217-781-11	FUSIBLE	2.2 5% 5W F (EXCEPT US, CND)	△T601	1-427-648-11	TRANSFORMER (CHOKE)	
△R2	1-217-780-11	FUSIBLE	1 5% 5W F (US,CND)			< THERMISTOR >	
△R2	1-217-781-11	FUSIBLE	2.2 5% 5W F (EXCEPT US, CND)	TH801	1-801-829-11	THERMISTOR, POSITIVE	
△R3	1-217-780-11	FUSIBLE	1 5% 5W F (US,CND)	TH802	1-801-829-11	THERMISTOR, POSITIVE	
△R3	1-217-781-11	FUSIBLE	2.2 5% 5W F (EXCEPT US, CND)	*****			
△R4	1-217-780-11	FUSIBLE	1 5% 5W F (US,CND)		1-673-331-11	INPUT BOARD	*****
△R4	1-217-781-11	FUSIBLE	2.2 5% 5W F (EXCEPT US, CND)		4-946-336-01	BRACKET (GROUND)	
△R5	1-217-780-11	FUSIBLE	1 5% 5W F (US,CND)			< CAPACITOR >	
△R5	1-217-781-11	FUSIBLE	2.2 5% 5W F (EXCEPT US, CND)	C106	1-125-850-21	FILM	220PF 5% 50V
△R6	1-217-780-11	FUSIBLE	1 5% 5W F (US,CND)	C111	1-136-165-00	FILM	0.1uF 5% 50V
△R6	1-217-781-11	FUSIBLE	2.2 5% 5W F (EXCEPT US, CND)	C112	1-136-165-00	FILM	0.1uF 5% 50V
△R7	1-217-780-11	FUSIBLE	1 5% 5W F (US,CND)	C113	1-136-165-00	FILM	0.1uF 5% 50V
△R7	1-217-781-11	FUSIBLE	2.2 5% 5W F (EXCEPT US, CND)	C206	1-125-850-21	FILM	220PF 5% 50V
△R8	1-217-780-11	FUSIBLE	1 5% 5W F (US,CND)	C213	1-136-165-00	FILM	0.1uF 5% 50V
△R8	1-217-781-11	FUSIBLE	2.2 5% 5W F (EXCEPT US, CND)			< CONNECTOR >	
R9	1-249-645-11	CARBON	68 5% 1/2W	* CN101	1-564-507-11	PLUG, CONNECTOR 4P	
R10	1-249-645-11	CARBON	68 5% 1/2W	* CN201	1-564-507-11	PLUG, CONNECTOR 4P	
R11	1-259-207-21	CARBON	47K 5% 1/4W			< JACK >	
R12	1-259-183-11	CARBON	4.7K 5% 1/4W	CNJ101	1-766-803-11	CONNECTOR (CANON)(BALANCE L)	
R13	1-259-183-11	CARBON	4.7K 5% 1/4W	CNJ201	1-766-803-11	CONNECTOR (CANON)(BALANCE R)	
△R501	1-202-937-41	FUSIBLE	10 5% 1/2W			< DIODE >	
△R551	1-202-937-41	FUSIBLE	10 5% 1/2W	D101	8-719-911-19	DIODE 1SS119-25	
△R701	1-219-022-11	FUSIBLE	100 5% 1/2W	D102	8-719-911-19	DIODE 1SS119-25	
R702	1-259-191-21	CARBON	10K 5% 1/4W	D103	8-719-911-19	DIODE 1SS119-25	
R703	1-259-167-21	CARBON	1K 5% 1/4W	D203	8-719-911-19	DIODE 1SS119-25	
△R751	1-219-022-11	FUSIBLE	100 5% 1/2W			< JACK >	
R752	1-259-191-21	CARBON	10K 5% 1/4W	J101	1-785-547-11	JACK, PIN (UNBALANCE 1,2 L/R)	
R753	1-259-167-21	CARBON	1K 5% 1/4W			< TRANSISTOR >	
△R803	1-202-937-31	FUSIBLE	10 5% 1/2W	Q101	8-729-422-57	TRANSISTOR	UN4111
R804	1-259-179-21	CARBON	3.3K 5% 1/4W	Q102	8-729-422-57	TRANSISTOR	UN4111
R901	1-259-183-11	CARBON	4.7K 5% 1/4W	Q103	8-729-422-57	TRANSISTOR	UN4111
R902	1-259-195-11	CARBON	15K 5% 1/4W	Q111	8-729-900-80	TRANSISTOR	UN4211-TA
R903	1-259-183-11	CARBON	4.7K 5% 1/4W	Q112	8-729-900-80	TRANSISTOR	UN4211-TA
R904	1-259-199-11	CARBON	22K 5% 1/4W	Q113	8-729-900-80	TRANSISTOR	UN4211-TA
				Q203	8-729-422-57	TRANSISTOR	UN4111

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.
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Ref. No.	Part No.	Description	Remark
< RESISTOR >			
R101	1-249-995-11	CARBON 1M 5%	1/4W
R102	1-249-995-11	CARBON 1M 5%	1/4W
R103	1-249-995-11	CARBON 1M 5%	1/4W
R104	1-249-995-11	CARBON 1M 5%	1/4W
R106	1-249-210-11	CARBON 1K 5%	1/3W
R111	1-259-404-11	CARBON 100 5%	1/6W
R112	1-259-404-11	CARBON 100 5%	1/6W
R113	1-259-404-11	CARBON 100 5%	1/6W
R120	1-259-452-11	CARBON 10K 5%	1/6W
R201	1-249-995-11	CARBON 1M 5%	1/4W
R202	1-249-995-11	CARBON 1M 5%	1/4W
R203	1-249-995-11	CARBON 1M 5%	1/4W
R204	1-249-995-11	CARBON 1M 5%	1/4W
R206	1-249-210-11	CARBON 1K 5%	1/3W
R213	1-259-404-11	CARBON 100 5%	1/6W
< RELAY >			
RY101	1-755-062-11	RELAY	
RY102	1-755-062-11	RELAY	
RY103	1-755-062-11	RELAY	
RY203	1-755-062-11	RELAY	
< SWITCH >			
S101	1-771-565-11	SWITCH, ROTARY (INPUT SELECTOR)	

	1-673-334-11	LED BOARD	

< CAPACITOR >			
C951	1-136-157-00	FILM 0.022uF 5%	50V
C952	1-136-157-00	FILM 0.022uF 5%	50V
C960	1-136-157-00	FILM 0.022uF 5%	50V
C961	1-136-157-00	FILM 0.022uF 5%	50V
C962	1-136-157-00	FILM 0.022uF 5%	50V
C963	1-136-157-00	FILM 0.022uF 5%	50V
< DIODE >			
D951	8-719-069-45	DIODE SELU5E23C-TP15	
D952	8-719-069-45	DIODE SELU5E23C-TP15	
D953	8-719-069-45	DIODE SELU5E23C-TP15	
D954	8-719-069-45	DIODE SELU5E23C-TP15	
D955	8-719-075-81	DIODE SEL1610C-TP8	
D960	8-719-985-41	DIODE HZS2CLL	
D961	8-719-075-82	DIODE SELU1810CXM-TP8 (UNBALANCE 1)	
D962	8-719-075-82	DIODE SELU1810CXM-TP8 (UNBALANCE 2)	
D963	8-719-075-82	DIODE SELU1810CXM-TP8 (BALANCE)	
< RESISTOR >			
R952	1-259-292-11	CARBON 330 5%	1/2W
R971	1-259-416-11	CARBON 330 5%	1/6W

Ref. No.	Part No.	Description	Remark
	A-4426-211-A	MAIN-L BOARD, COMPLETE (US,CND)	*****
	A-4426-215-A	MAIN-L BOARD, COMPLETE (EXCEPT US, CND)	*****
	7-682-148-15	SCREW, TR	
< CAPACITOR >			
C300	1-125-850-21	FILM 220PF 5%	50V
C301	1-125-850-21	FILM 220PF 5%	50V
C305	1-117-775-31	FILM 0.1uF 10%	250V
C306	1-117-775-31	FILM 0.1uF 10%	250V
C307	1-127-741-41	ELECT 0.047uF 10%	250V
C308	1-128-971-11	ELECT 220uF 20%	50V
C309	1-128-971-11	ELECT 220uF 20%	50V
C310	1-117-775-31	FILM 0.1uF 10%	250V
C311	1-117-775-31	FILM 0.1uF 10%	250V
C314	1-117-775-31	FILM 0.1uF 10%	250V
C315	1-128-971-11	ELECT 220uF 20%	50V
C316	1-110-512-51	FILM 1uF 10%	50V
C317	1-110-512-51	FILM 1uF 10%	50V
C318	1-125-845-21	FILM 47PF 10%	50V
C319	1-125-845-21	FILM 47PF 10%	50V
C321	1-127-741-41	ELECT 0.047uF 10%	250V
C322	1-127-741-41	ELECT 0.047uF 10%	250V
C323	1-117-775-31	FILM 0.1uF 10%	250V
C324	1-117-775-31	FILM 0.1uF 10%	250V
C327	1-119-823-11	ELECT 4.7uF 20%	50V
C328	1-125-850-21	FILM 220PF 5%	50V
C329	1-136-157-00	FILM 0.022uF 5%	50V
C330	1-110-394-21	ELECT 220uF 20%	63V
C331	1-136-157-00	FILM 0.022uF 5%	50V
C332	1-136-157-00	FILM 0.022uF 5%	50V
C333	1-119-800-11	ELECT 100uF 20%	25V
C334	1-119-800-11	ELECT 100uF 20%	25V
C337	1-126-026-11	ELECT 470uF 20%	25V
C338	1-126-026-11	ELECT 470uF 20%	25V
< CONNECTOR >			
* CN306	1-564-505-11	PLUG, CONNECTOR 2P	
< COMPOSITION CIRCUIT BLOCK >			
CP301	1-418-105-11	AMPLIFIER, UNIT	
< DIODE >			
D301	8-719-310-61	DIODE SEL1510C-D	
D302	8-719-300-04	DIODE SV-04	
D303	8-719-300-04	DIODE SV-04	
D304	8-719-300-04	DIODE SV-04	
D305	8-719-300-04	DIODE SV-04	
D306	8-719-024-99	DIODE 11ES2-NTA2B	
D307	8-719-024-99	DIODE 11ES2-NTA2B	
D308	8-719-024-99	DIODE 11ES2-NTA2B	
< IC >			
IC301	8-759-579-36	IC OPA2132P	

MAIN-L

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
		< BUS BAR >		△ R326	1-205-647-11	CEMENTED	0.22 5% 5W
JWH301	1-569-232-11	BAR, BUS		△ R327	1-205-647-11	CEMENTED	0.22 5% 5W
JWH302	1-770-108-11	BAR, BUS 7P		△ R328	1-205-647-11	CEMENTED	0.22 5% 5W
* JWH303	1-566-940-11	BUS BAR 6P		△ R329	1-205-647-11	CEMENTED	0.22 5% 5W
		< COIL >		△ R330	1-205-647-11	CEMENTED	0.22 5% 5W
* L301	1-428-071-11	COIL, AIR-CORE		△ R331	1-205-647-11	CEMENTED	0.22 5% 5W
		< IC LINK >		△ R332	1-205-647-11	CEMENTED	0.22 5% 5W
PS301	8-759-111-68	IC UPC1237HA		△ R333	1-205-647-11	CEMENTED	0.22 5% 5W
		< TRANSISTOR >		△ R334	1-205-647-11	CEMENTED	0.22 5% 5W
Q301	8-729-281-53	TRANSISTOR	2SC1815-GR	△ R335	1-202-937-41	FUSIBLE	10 5% 1/2W
Q302	8-729-018-19	TRANSISTOR	2SK2013-Y	△ R336	1-202-937-41	FUSIBLE	10 5% 1/2W
Q303	8-729-018-21	TRANSISTOR	2SJ313-Y	△ R337	1-202-937-41	FUSIBLE	10 5% 1/2W
Q304	8-729-018-11	TRANSISTOR	2SK1530A-Y	△ R338	1-202-937-41	FUSIBLE	10 5% 1/2W
Q305	8-729-018-13	TRANSISTOR	2SJ201A-Y	R339	1-259-749-61	CARBON	10 2% 2W
Q306	8-729-018-11	TRANSISTOR	2SK1530A-Y	△ R340	1-202-954-11	FUSIBLE	470 5% 1/2W
Q307	8-729-018-13	TRANSISTOR	2SJ201A-Y	R341	1-259-191-21	CARBON	10K 5% 1/4W
Q308	8-729-018-11	TRANSISTOR	2SK1530A-Y	R342	1-249-959-11	CARBON	33K 5% 1/4W
Q309	8-729-018-13	TRANSISTOR	2SJ201A-Y	R343	1-259-175-11	CARBON	2.2K 5% 1/4W
Q310	8-729-018-11	TRANSISTOR	2SK1530A-Y	R344	1-259-171-21	CARBON	1.5K 5% 1/4W
Q311	8-729-018-13	TRANSISTOR	2SJ201A-Y	R345	1-249-959-11	CARBON	33K 5% 1/4W
Q312	8-729-018-11	TRANSISTOR	2SK1530A-Y	R346	1-249-883-11	CARBON	22 5% 1/4W
Q313	8-729-018-13	TRANSISTOR	2SJ201A-Y	R347	1-259-227-11	CARBON	330K 5% 1/4W
Q314	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA	R348	1-259-223-11	CARBON	220K 5% 1/4W
Q315	8-729-140-82	TRANSISTOR	2SA988-PAFAEA	R349	1-249-953-11	CARBON	18K 5% 1/4W
Q316	8-729-201-53	TRANSISTOR	2SA1015-GR	R350	1-259-207-21	CARBON	47K 5% 1/4W
Q317	8-729-281-53	TRANSISTOR	2SC1815-GR	R351	1-259-219-11	CARBON	150K 5% 1/4W
Q318	8-729-281-53	TRANSISTOR	2SC1815-GR	R352	1-249-945-11	CARBON	8.2K 5% 1/4W
Q319	8-729-201-53	TRANSISTOR	2SA1015-GR	R353	1-214-945-00	METAL	2.2M 1% 1/2W
		< RESISTOR >		△ R355	1-202-937-41	FUSIBLE	10 5% 1/2W
R300	1-259-525-11	CARBON	56 2% 1W	△ R356	1-202-937-41	FUSIBLE	10 5% 1/2W
R301	1-259-595-61	CARBON	47K 1% 1/2W	R357	1-259-167-21	CARBON	1K 5% 1/4W
R302	1-259-595-61	CARBON	47K 1% 1/2W	R358	1-249-945-11	CARBON	8.2K 5% 1/4W
R303	1-259-668-61	CARBON	470 2% 1W	R359	1-249-945-11	CARBON	8.2K 5% 1/4W
R304	1-259-668-61	CARBON	470 2% 1W	R360	1-259-111-11	CARBON	4.7 5% 1/4W
R305	1-259-668-61	CARBON	470 2% 1W	R361	1-259-111-11	CARBON	4.7 5% 1/4W
R306	1-259-525-11	CARBON	56 2% 1W	R362	1-249-210-11	CARBON	1K 5% 1/3W
R307	1-259-183-11	CARBON	4.7K 5% 1/4W			< VARIABLE RESISTOR >	
R308	1-259-171-21	CARBON	1.5K 5% 1/4W	RV301	1-224-489-11	RES, ADJ, METAL FILM 2.2K (BIAS L)	
△ R309	1-202-954-41	FUSIBLE	470 5% 1/2W			< RELAY >	
△ R310	1-202-954-41	FUSIBLE	470 5% 1/2W	RY301	1-755-310-11	RELAY	
△ R312	1-202-951-41	FUSIBLE	150 5% 1/2W	RY302	1-755-310-11	RELAY	
△ R313	1-202-951-41	FUSIBLE	150 5% 1/2W			< TEST PIN >	
△ R315	1-219-185-11	FUSIBLE	47 5% 1/2W	* TP301	3-657-235-00	POINT, TEST	
△ R316	1-219-185-11	FUSIBLE	47 5% 1/2W	* TP302	3-657-235-00	POINT, TEST	
△ R317	1-219-185-11	FUSIBLE	47 5% 1/2W	* TP303	3-657-235-00	POINT, TEST	
△ R318	1-219-185-11	FUSIBLE	47 5% 1/2W	* TP304	3-657-235-00	POINT, TEST	
△ R319	1-219-185-11	FUSIBLE	47 5% 1/2W	* TP305	3-657-235-00	POINT, TEST	
△ R320	1-219-185-11	FUSIBLE	47 5% 1/2W	* TP306	3-657-235-00	POINT, TEST	
△ R321	1-219-185-11	FUSIBLE	47 5% 1/2W	* TP307	3-657-235-00	POINT, TEST	
△ R322	1-219-185-11	FUSIBLE	47 5% 1/2W			*****	
△ R323	1-219-185-11	FUSIBLE	47 5% 1/2W				
△ R324	1-219-185-11	FUSIBLE	47 5% 1/2W				
△ R325	1-205-647-11	CEMENTED	0.22 5% 5W				

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Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
	A-4426-212-A	MAIN-R BOARD, COMPLETE (US,CND) *****				< BUS BAR >	
	A-4426-216-A	MAIN-R BOARD, COMPLETE (EXCEPT US, CND) *****		JWH401	1-569-232-11	BAR, BUS	
				JWH402	1-770-108-11	BAR, BUS 7P	
				* JWH403	1-566-940-11	BUS BAR 6P	
*	3-657-235-00	POINT, TEST				< COIL >	
	7-682-148-15	SCREW, TR					
		< CAPACITOR >		* L401	1-428-071-11	COIL, AIR-CORE	
C400	1-125-850-21	FILM	220PF 5% 50V			< IC LINK >	
C401	1-125-850-21	FILM	220PF 5% 50V	PS401	8-759-111-68	IC UPC1237HA	
C405	1-117-775-31	FILM	0.1uF 10% 250V			< TRANSISTOR >	
C406	1-117-775-31	FILM	0.1uF 10% 250V				
C407	1-127-741-41	ELECT	0.047uF 10% 250V	Q401	8-729-281-53	TRANSISTOR	2SC1815-GR
C408	1-128-971-11	ELECT	220uF 20% 50V	Q402	8-729-018-19	TRANSISTOR	2SK2013-Y
C409	1-128-971-11	ELECT	220uF 20% 50V	Q403	8-729-018-21	TRANSISTOR	2SJ313-Y
C410	1-117-775-31	FILM	0.1uF 10% 250V	Q404	8-729-018-11	TRANSISTOR	2SK1530A-Y
C411	1-117-775-31	FILM	0.1uF 10% 250V	Q405	8-729-018-13	TRANSISTOR	2SJ201A-Y
C414	1-117-775-31	FILM	0.1uF 10% 250V	Q406	8-729-018-11	TRANSISTOR	2SK1530A-Y
C415	1-128-971-11	ELECT	220uF 20% 50V	Q407	8-729-018-13	TRANSISTOR	2SJ201A-Y
C416	1-110-512-51	FILM	1uF 10% 50V	Q408	8-729-018-11	TRANSISTOR	2SK1530A-Y
C417	1-110-512-51	FILM	1uF 10% 50V	Q409	8-729-018-13	TRANSISTOR	2SJ201A-Y
C418	1-125-845-21	FILM	47PF 10% 50V	Q410	8-729-018-11	TRANSISTOR	2SK1530A-Y
C419	1-125-845-21	FILM	47PF 10% 50V	Q411	8-729-018-13	TRANSISTOR	2SJ201A-Y
C421	1-127-741-41	ELECT	0.047uF 10% 250V	Q412	8-729-018-11	TRANSISTOR	2SK1530A-Y
C422	1-127-741-41	ELECT	0.047uF 10% 250V	Q413	8-729-018-13	TRANSISTOR	2SJ201A-Y
C423	1-117-775-31	FILM	0.1uF 10% 250V	Q414	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA
C424	1-117-775-31	FILM	0.1uF 10% 250V	Q415	8-729-140-82	TRANSISTOR	2SA988-PAFAEA
C427	1-119-823-11	ELECT	4.7uF 20% 50V	Q416	8-729-201-53	TRANSISTOR	2SA1015-GR
C428	1-125-850-21	FILM	220PF 5% 50V	Q417	8-729-281-53	TRANSISTOR	2SC1815-GR
C429	1-136-157-00	FILM	0.022uF 5% 50V	Q418	8-729-281-53	TRANSISTOR	2SC1815-GR
C430	1-110-394-21	ELECT	220uF 20% 63V	Q419	8-729-201-53	TRANSISTOR	2SA1015TP-GR
C431	1-136-157-00	FILM	0.022uF 5% 50V			< RESISTOR >	
C432	1-136-157-00	FILM	0.022uF 5% 50V	R400	1-259-525-11	CARBON	56 2% 1W
C433	1-119-800-11	ELECT	100uF 20% 25V	R401	1-259-595-61	CARBON	47K 1% 1/2W
C434	1-119-800-11	ELECT	100uF 20% 25V	R402	1-259-595-61	CARBON	47K 1% 1/2W
C437	1-126-026-11	ELECT	470uF 20% 25V	R403	1-259-668-61	CARBON	470 2% 1W
C438	1-126-026-11	ELECT	470uF 20% 25V	R404	1-259-668-61	CARBON	470 2% 1W
		< CONNECTOR >		R405	1-259-668-61	CARBON	470 2% 1W
* CN406	1-564-505-11	PLUG, CONNECTOR 2P		R406	1-259-525-11	CARBON	56 2% 1W
		< COMPOSITION CIRCUIT BLOCK >		R407	1-259-183-11	CARBON	4.7K 5% 1/4W
CP401	1-418-105-11	AMPLIFIER, UNIT		R408	1-259-171-21	CARBON	1.5K 5% 1/4W
		< DIODE >		△ R409	1-202-954-41	FUSIBLE	470 5% 1/2W
D401	8-719-310-61	DIODE SEL1510C-D		△ R410	1-202-954-41	FUSIBLE	470 5% 1/2W
D402	8-719-300-04	DIODE SV-04		△ R412	1-202-951-41	FUSIBLE	150 5% 1/2W
D403	8-719-300-04	DIODE SV-04		△ R413	1-202-951-41	FUSIBLE	150 5% 1/2W
D404	8-719-300-04	DIODE SV-04		△ R415	1-219-185-11	FUSIBLE	47 5% 1/2W
D405	8-719-300-04	DIODE SV-04		△ R416	1-219-185-11	FUSIBLE	47 5% 1/2W
D406	8-719-024-99	DIODE 11ES2-NTA2B		△ R417	1-219-185-11	FUSIBLE	47 5% 1/2W
D407	8-719-024-99	DIODE 11ES2-NTA2B		△ R418	1-219-185-11	FUSIBLE	47 5% 1/2W
D408	8-719-024-99	DIODE 11ES2-NTA2B		△ R419	1-219-185-11	FUSIBLE	47 5% 1/2W
		< IC >		△ R420	1-219-185-11	FUSIBLE	47 5% 1/2W
IC401	8-759-579-36	IC OPA2132P		△ R421	1-219-185-11	FUSIBLE	47 5% 1/2W
				△ R422	1-219-185-11	FUSIBLE	47 5% 1/2W
				△ R423	1-219-185-11	FUSIBLE	47 5% 1/2W
				△ R424	1-219-185-11	FUSIBLE	47 5% 1/2W

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MAIN-R

PS-B

Ref. No.	Part No.	Description			Remark
△ R425	1-205-647-11	CEMENTED	0.22	5%	5W
△ R426	1-205-647-11	CEMENTED	0.22	5%	5W
△ R427	1-205-647-11	CEMENTED	0.22	5%	5W
△ R428	1-205-647-11	CEMENTED	0.22	5%	5W
△ R429	1-205-647-11	CEMENTED	0.22	5%	5W
△ R430	1-205-647-11	CEMENTED	0.22	5%	5W
△ R431	1-205-647-11	CEMENTED	0.22	5%	5W
△ R432	1-205-647-11	CEMENTED	0.22	5%	5W
△ R433	1-205-647-11	CEMENTED	0.22	5%	5W
△ R434	1-205-647-11	CEMENTED	0.22	5%	5W
△ R435	1-202-937-41	FUSIBLE	10	5%	1/2W
△ R436	1-202-937-41	FUSIBLE	10	5%	1/2W
△ R437	1-202-937-41	FUSIBLE	10	5%	1/2W
△ R438	1-202-937-41	FUSIBLE	10	5%	1/2W
△ R439	1-259-749-61	CARBON	10	2%	2W
△ R440	1-202-954-11	FUSIBLE	470	5%	1/2W
R441	1-259-191-21	CARBON	10K	5%	1/4W
R442	1-249-959-11	CARBON	33K	5%	1/4W
R443	1-259-175-11	CARBON	2.2K	5%	1/4W
R444	1-259-171-21	CARBON	1.5K	5%	1/4W
△ R445	1-249-959-11	CARBON	33K	5%	1/4W
△ R446	1-249-883-11	CARBON	22	5%	1/4W
R447	1-259-227-11	CARBON	330K	5%	1/4W
R448	1-259-223-11	CARBON	220K	5%	1/4W
R449	1-249-953-11	CARBON	18K	5%	1/4W
R450	1-259-207-21	CARBON	47K	5%	1/4W
R451	1-259-219-11	CARBON	150K	5%	1/4W
R452	1-249-945-11	CARBON	8.2K	5%	1/4W
R453	1-214-945-00	METAL	2.2M	1%	1/2W
R455	1-202-937-41	FUSIBLE	10	5%	1/2W
R456	1-202-937-41	FUSIBLE	10	5%	1/2W
R457	1-259-167-21	CARBON	1K	5%	1/4W
R458	1-249-945-11	CARBON	8.2K	5%	1/4W
R459	1-249-945-11	CARBON	8.2K	5%	1/4W
R460	1-259-111-11	CARBON	4.7	5%	1/4W
R461	1-259-111-11	CARBON	4.7	5%	1/4W
R462	1-249-210-11	CARBON	1K	5%	1/3W
< VARIABLE RESISTOR >					
RV401	1-224-489-11	RES, ADJ, METAL FILM 2.2K (BIAS R)			
< RELAY >					
RY401	1-755-310-11	RELAY			
RY402	1-755-310-11	RELAY			

	1-673-333-11	PS-B BOARD			

*	3-346-266-21	PLATE, GROUND			
*	4-916-791-01	PLATE, GROUND, 5P			
	7-682-148-15	SCREW, TR			
< CAPACITOR >					
C502	1-128-999-11	CAP, ELECT	27000MF	20%	80V
C503	1-128-999-11	CAP, ELECT	27000MF	20%	80V
C504	1-117-775-31	FILM	0.1uF	10%	250V
C552	1-128-999-11	CAP, ELECT	27000MF		80V

Ref. No.	Part No.	Description			Remark
C553	1-128-999-11	CAP, ELECT	27000MF	20%	80V
C554	1-117-775-31	FILM	0.1uF	10%	250V
< CONNECTOR >					
CN504	1-564-320-00	PIN, CONNECTOR 2P			
CN554	1-564-320-00	PIN, CONNECTOR 2P			
CN603	1-691-765-11	PLUG (MICRO CONNECTOR) 3P			
< BUS BAR >					
* JWH502	1-569-135-11	BAR, BUS 4P			
JWH503	1-566-940-21	BUS BAR 3P			
JWH504	1-566-940-21	BUS BAR 3P			
* JWH552	1-569-135-11	BAR, BUS 4P			
JWH553	1-566-940-21	BUS BAR 3P			
JWH554	1-566-940-21	BUS BAR 3P			

MISCELLANEOUS					

C502	1-128-999-11	CAP, ELECT	27000uF	20%	80V
C503	1-128-999-11	CAP, ELECT	27000uF	20%	80V
C552	1-128-999-11	CAP, ELECT	27000uF	20%	80V
C553	1-128-999-11	CAP, ELECT	27000uF	20%	80V
CNJ1	1-580-375-41	INLET 3P			
Q304	8-729-018-11	TRANSISTOR	2SK1530A-Y		
Q305	8-729-018-13	TRANSISTOR	2SJ201A-Y		
Q306	8-729-018-11	TRANSISTOR	2SK1530A-Y		
Q307	8-729-018-13	TRANSISTOR	2SJ201A-Y		
Q308	8-729-018-11	TRANSISTOR	2SK1530A-Y		
Q309	8-729-018-13	TRANSISTOR	2SJ201A-Y		
Q310	8-729-018-11	TRANSISTOR	2SK1530A-Y		
Q311	8-729-018-13	TRANSISTOR	2SJ201A-Y		
Q312	8-729-018-11	TRANSISTOR	2SK1530A-Y		
Q313	8-729-018-13	TRANSISTOR	2SJ201A-Y		
Q404	8-729-018-11	TRANSISTOR	2SK1530A-Y		
Q405	8-729-018-13	TRANSISTOR	2SJ201A-Y		
Q406	8-729-018-11	TRANSISTOR	2SK1530A-Y		
Q407	8-729-018-13	TRANSISTOR	2SJ201A-Y		
Q408	8-729-018-11	TRANSISTOR	2SK1530A-Y		
Q409	8-729-018-13	TRANSISTOR	2SJ201A-Y		
Q410	8-729-018-11	TRANSISTOR	2SK1530A-Y		
Q411	8-729-018-13	TRANSISTOR	2SJ201A-Y		
Q412	8-729-018-11	TRANSISTOR	2SK1530A-Y		
Q413	8-729-018-13	TRANSISTOR	2SJ201A-Y		
△ T1	1-433-767-11	TRANSFORMER, POWER (US,CND)			
△ T1	1-433-768-11	TRANSFORMER, POWER (EXCEPT US,CND)			
TB351	1-694-541-11	TERMINAL BOARD (SP)(EXCEPT US,CND)			
TB351	1-694-541-21	TERMINAL BOARD (SP)(US,CND)			
TB451	1-694-541-11	TERMINAL BOARD (SP)(EXCEPT US,CND)			
TB451	1-694-541-21	TERMINAL BOARD (SP)(US,CND)			
TH301	1-576-080-11	THERMOSTAT			
TH401	1-576-080-11	THERMOSTAT			

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Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	

△	1-551-631-22	CORD, POWER (EXCEPT US,CND)	
△	1-551-812-11	CORD, POWER (US,CND)	
	3-866-957-11	MANUAL, INSTRUCTION (ENGLISH,FRENCH)	
	3-866-957-21	MANUAL, INSTRUCTION (GERMAN,SPANISH, DUTCH,SWEDISH,ITALIAN,PORTUGUESE)(EXCEPT US,CND)	
*	4-396-077-01	JOINT	

HARDWARE LIST

#1	7-682-962-01	SCREW +PSW4X10
#2	7-683-438-04	BOLT, HEXAGON SOCKET 5X16
#3	7-682-561-09	SCREW +B 4X8
#4	7-682-546-09	SCREW +B 3X5
#5	7-682-548-09	SCREW +B 3X8
#6	7-682-562-09	SCREW +B 4X10
#7	7-682-563-09	SCREW +B 4X12
#8	7-682-148-15	SCREW, TR
#9	7-682-568-09	SCREW +B 4X30
#10	7-684-024-04	N 4, TYPE 2
#11	7-685-870-01	SCREW +BVTT 3X5 (S)

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