

SA-VE702/VE705/ WMS7/SS-MS7

SERVICE MANUAL

*US Model
Canadian Model*

SA-VE705/WMS7/SS-MS7

*AEP Model
UK Model
E Model*



Photo : SA-WMS7

Photo : SS-MS7

The SA-VE702 system consists of one unit of SA-WMS5 and two units of SS-MS7.
The SA-VE705 system consists of one unit of SA-WMS7 and five units of SS-MS7.

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS:

US model

POWER OUTPUT AND TOTAL

HARMONIC DISTORTION :

with 8 Ω loads, both channels driven, from 20 - 150Hz; rates
120 W per channel minimum RMS power, with no more
than 0.8% total harmonic distortion from 250 mW to rated
output.

SS-MS7 (front, center, and rear speakers)

Speaker system	2 way, magnetically shielded
Speaker units	
Tweeter :	1.9 cm ($3/4$ in.), dome type
Woofer :	5 cm (2 in.) $\times$ 2, balanced drive type
Enclosure type	Bass reflex
Rated impedance	8 Ω
Power handling capacity	
Maximum input power:	140 W
Sensitivity level	87 dB (1W, 1m)
Frequency range	120 Hz - 40,000 Hz
Dimensions (w/h/d)	
When attached speaker grilles:	Approx. 86 $\times$ 169 $\times$ 130 mm ($3\frac{1}{2}$ $\times$ 6 $\frac{3}{4}$ $\times$ 5 $\frac{1}{8}$ in.) each
When attached to supplied speaker stand:	Approx. 96 $\times$ 207 $\times$ 141 mm ($3\frac{7}{8}$ $\times$ 8 $\frac{1}{4}$ $\times$ 5 $\frac{5}{8}$ in.) each (Front (and rear) speakers) Approx. 169 $\times$ 131 $\times$ 144 mm ($6\frac{3}{4}$ $\times$ 5 $\frac{1}{4}$ $\times$ 5 $\frac{3}{4}$ in.), (Center speaker: pointed upwards) Approx. 169 $\times$ 118 $\times$ 141 mm ($6\frac{3}{4}$ $\times$ 4 $\frac{3}{4}$ $\times$ 5 $\frac{5}{8}$ in.), (Center speaker: pointed downwards):

Mass

When attached speaker grilles:

Approx. 1.3 kg (2lb 14oz) each

When attached to supplied speaker stand:

Approx. 1.4 kg (3lb 1oz) each,
(Front (and rear) speakers)

Approx. 1.4 kg (3lb 1oz)(Center speaker)

SS-WMS7 (subwoofer)

System

Speaker system	Active subwoofer, magnetically shielded
Speaker unit	Woofer : 20 cm (8 in.), cone type
Enclosure type	Advanced SAW type
Practical maximum output	120 W
Reproduction frequency range	24 Hz - 150 Hz

Inputs

LINE IN (input pin jack)
SPEAKER IN (input terminals)

Outputs

LINE OUT (output pin jack)
SPEAKER OUT (output terminals)

General

Power requirements	
USA and Canada :	120 V AC, 60 Hz
Europe :	220 - 230 V AC, 50/60 Hz
Others :	220 - 240 V AC, 50/60 Hz
Power consumptions	80 W
Dimensions (w/h/d)	Approx. 230 $\times$ 380 $\times$ 470 mm (9 $\frac{1}{8}$ $\times$ 15 $\times$ 18 $\frac{5}{8}$ in.), including front grille
Mass	Approx. 17 kg (37 lb 8oz)

Supplied accessories

SA-VE705

Speaker stands (for the front and rear speakers) (4)
Speaker stand (for the center speaker) (1)
Screws (for the speaker stands) (10)
Washers (for the speaker stands) (10)
Brackets (for the front and rear speaker stands) (4)
Speaker grilles (5)
Audio connecting cord (1)
Speaker connecting cords, 2.5 m(8 ft2 $\frac{1}{2}$ in.) (5)
Speaker connecting cords, 10 m(32 ft9 $\frac{3}{4}$ in.) (2)

SA-VE702

Speaker stands (for the front speakers) (2)
Screws (for the speaker stands) (4)
Washers (for the speaker stands) (4)
Brackets (for the front speaker stands) (2)
Speaker grilles (2)
Audio connecting cord (1)
Speaker connecting cords, 2.5 m(8 ft2 $\frac{1}{2}$ in.) (4)

Design and specifications are subject to change without notice

MICRO SATELLITE SYSTEM



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)

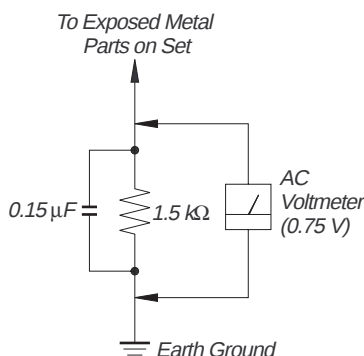


Fig. A. Using an AC voltmeter to check AC leakage.

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.

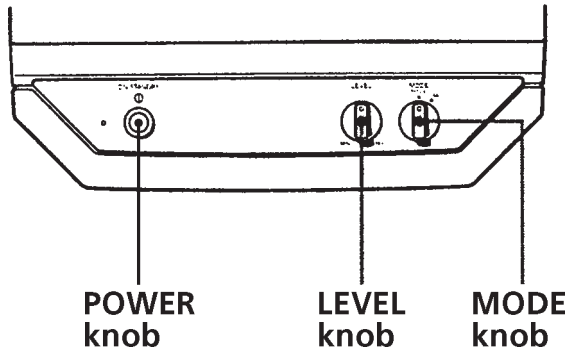
ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

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.

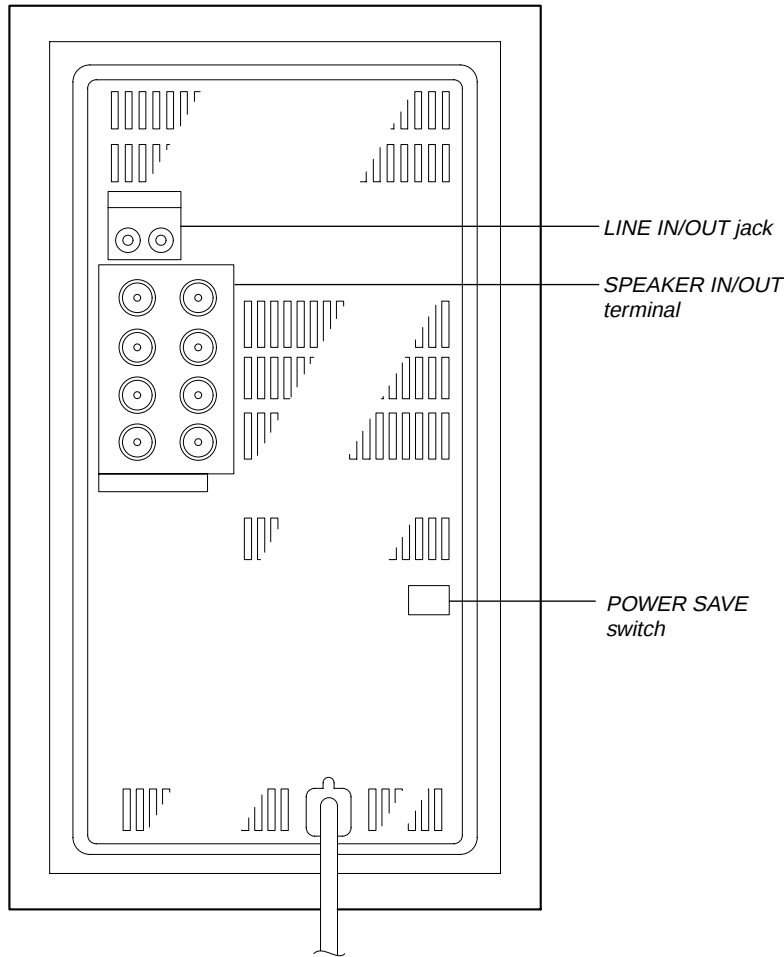
SECTION 1
GENERAL

• Location of Controls

SA-WMS7
– Front view –



– Rear view –

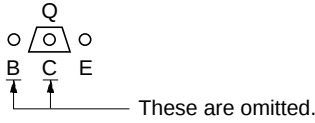


SECTION 2
DIAGRAMS

2-1. NOTE FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

Note on Printed Wiring Board:

- : parts extracted from the component side.
- ▨ : Pattern from the side which enables seeing. (The other layers' patterns are not indicated.)
- Indication of transistor.



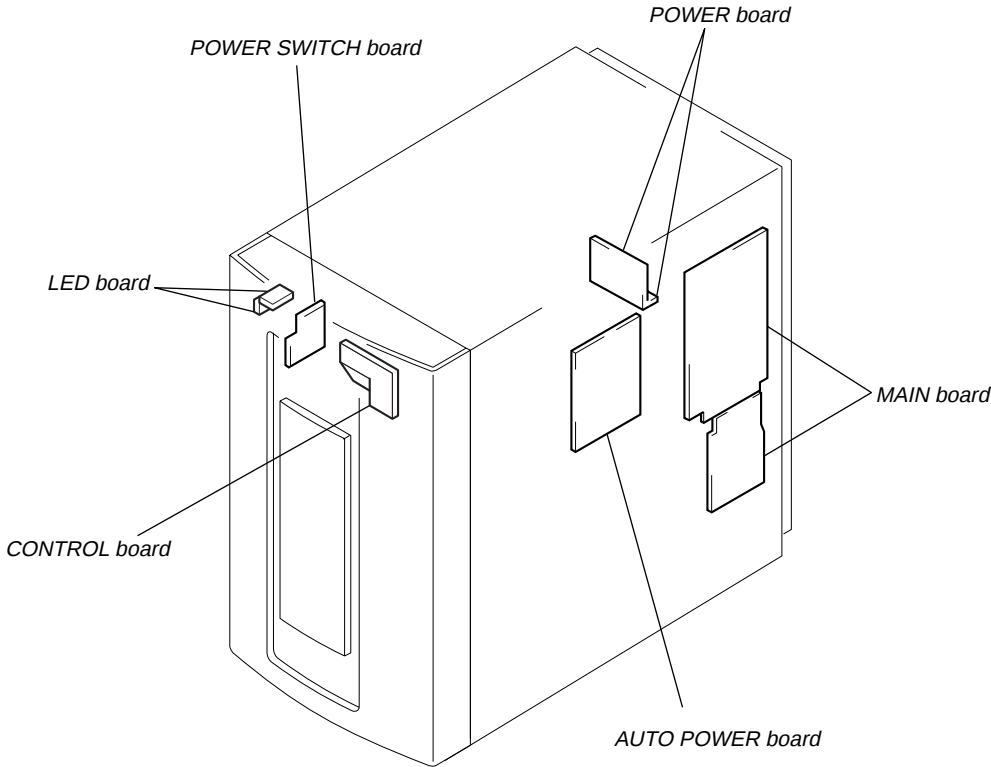
Note on Schematic Diagram:

- 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 $\frac{1}{4}\text{W}$ or less unless otherwise specified.
- ▨ : nonflammable resistor.
- ▭ : panel designation.

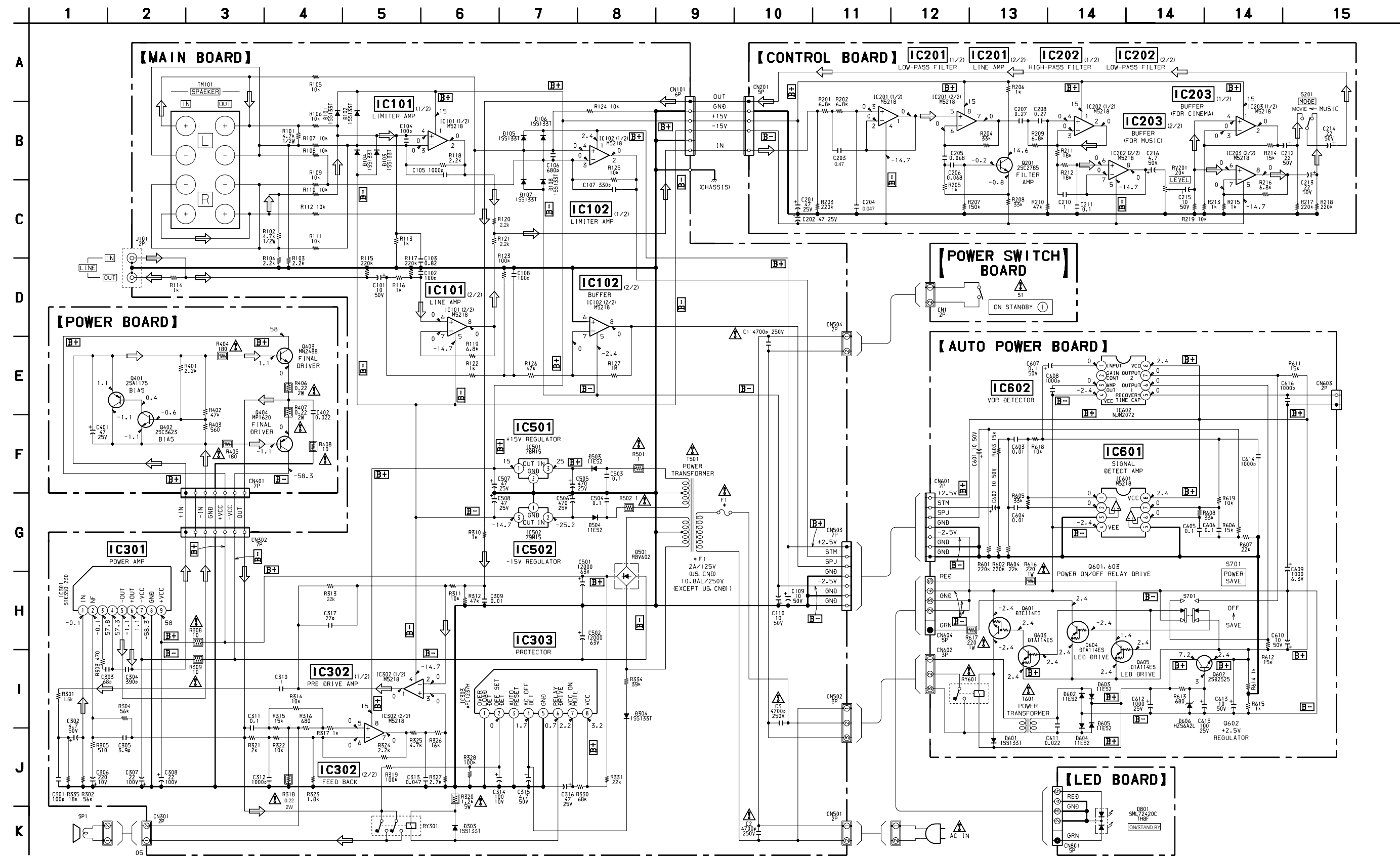
Note: The components identified by mark $\triangle$ or dotted line with mark $\triangle$ are critical for safety. Replace only with part number specified.	Note: Les composants identifiés par une marque $\triangle$ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.
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- $\boxed{B+}$: B+ Line.
- $\boxed{B-}$: B- Line.
- Voltages are dc with respect to ground under no-signal conditions.
no mark : AUDIO
- Voltages are taken with a VOM (input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
- Signal path.
 $\Rightarrow$: AUDIO
- Abbreviation
CND : Canadian

• Circuit Boards Location
SA-WMS7



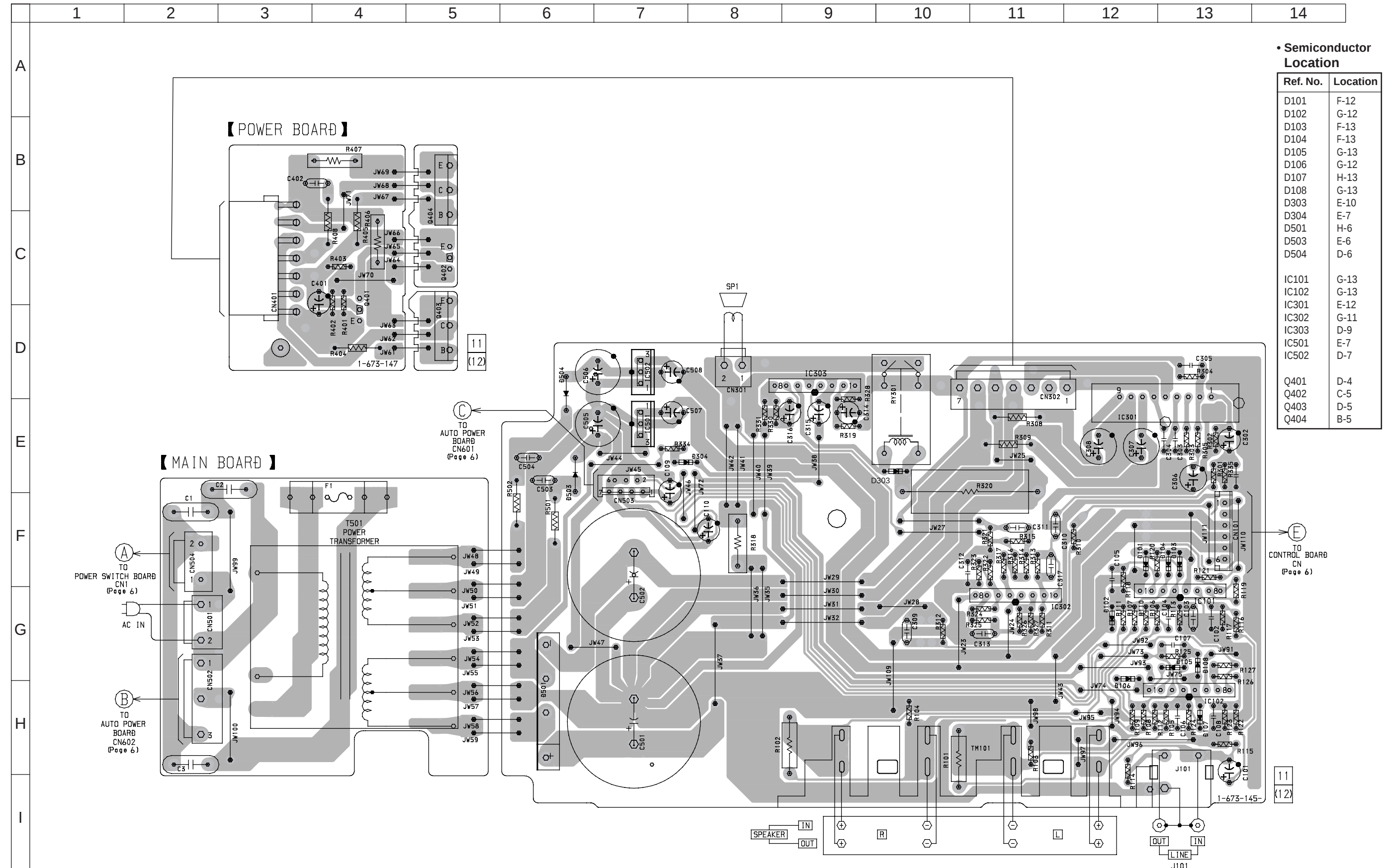
2-2. SCHEMATIC DIAGRAM • See page 7 for IC Block Diagrams.



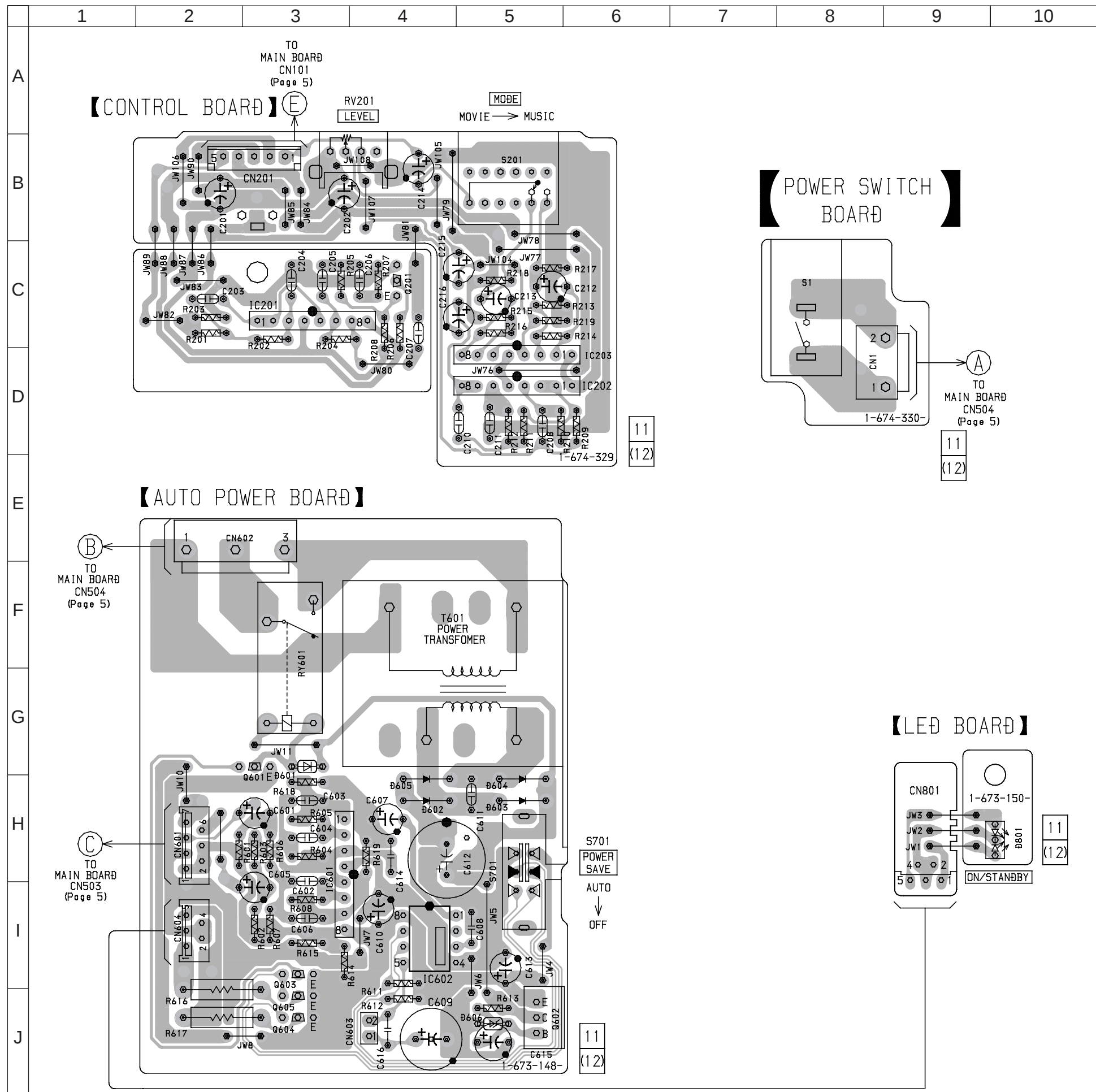
The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

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

2-3. PRINTED WIRING BOARD MAIN SECTION • See page 3 for Circuit Boards Location.



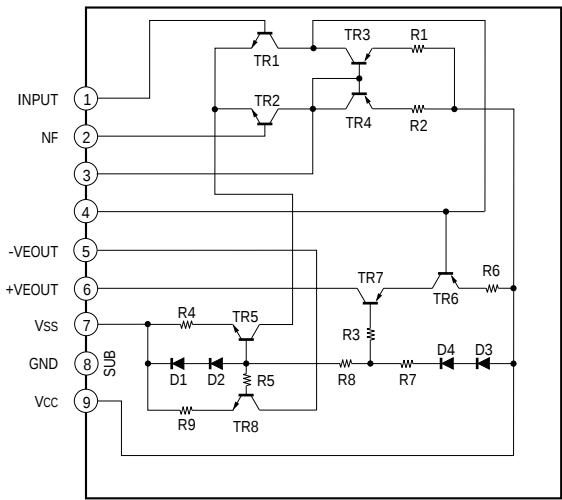
2-4. PRINTED WIRING BOARD CONTROL SECTION • See page 3 for Circuit Boards Location. • See page 4 for Schematic Diagram.



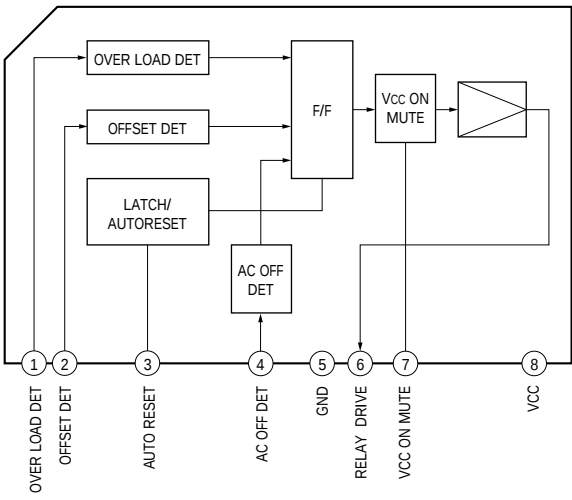
Ref. No.	Location
D601	G-3
D602	H-4
D603	H-5
D604	H-5
D605	H-4
D606	J-5
D801	H-10
IC201	C-3
IC202	D-5
IC203	D-5
IC601	H-3
IC602	I-4
Q201	C-4
Q601	G-3
Q602	J-5
Q603	I-3
Q604	J-3
Q605	J-3

• IC Block Diagrams

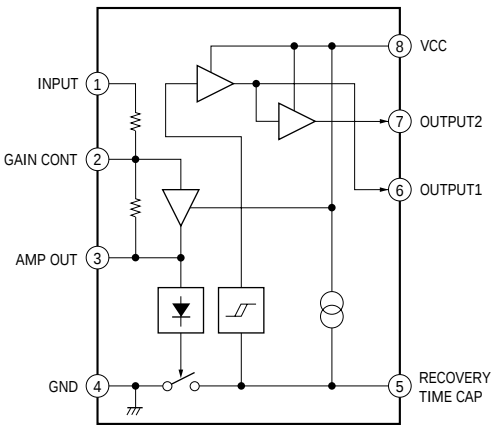
IC301 STK350-230 (MAIN Board)



IC303 μ PC1237HA (MAIN Board)



IC602 NJM2072D (AUTO POWER Board)



SECTION 3 EXPLODED VIEWS

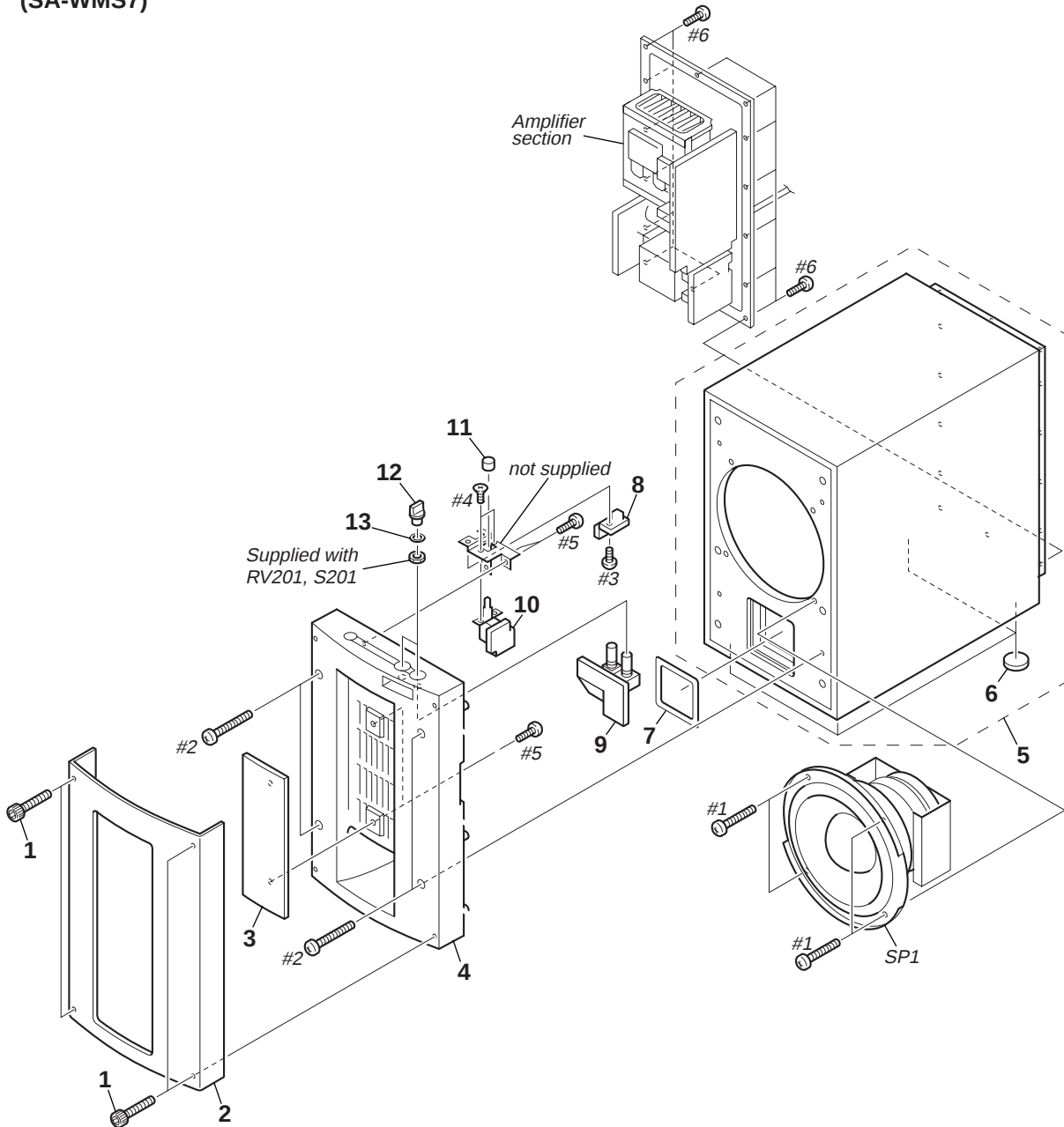
NOTE:

- XX, -X mean standardized parts, so they may have some differences 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.
- 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
G : German model
MY : Malaysia model
SP : Singapore model

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

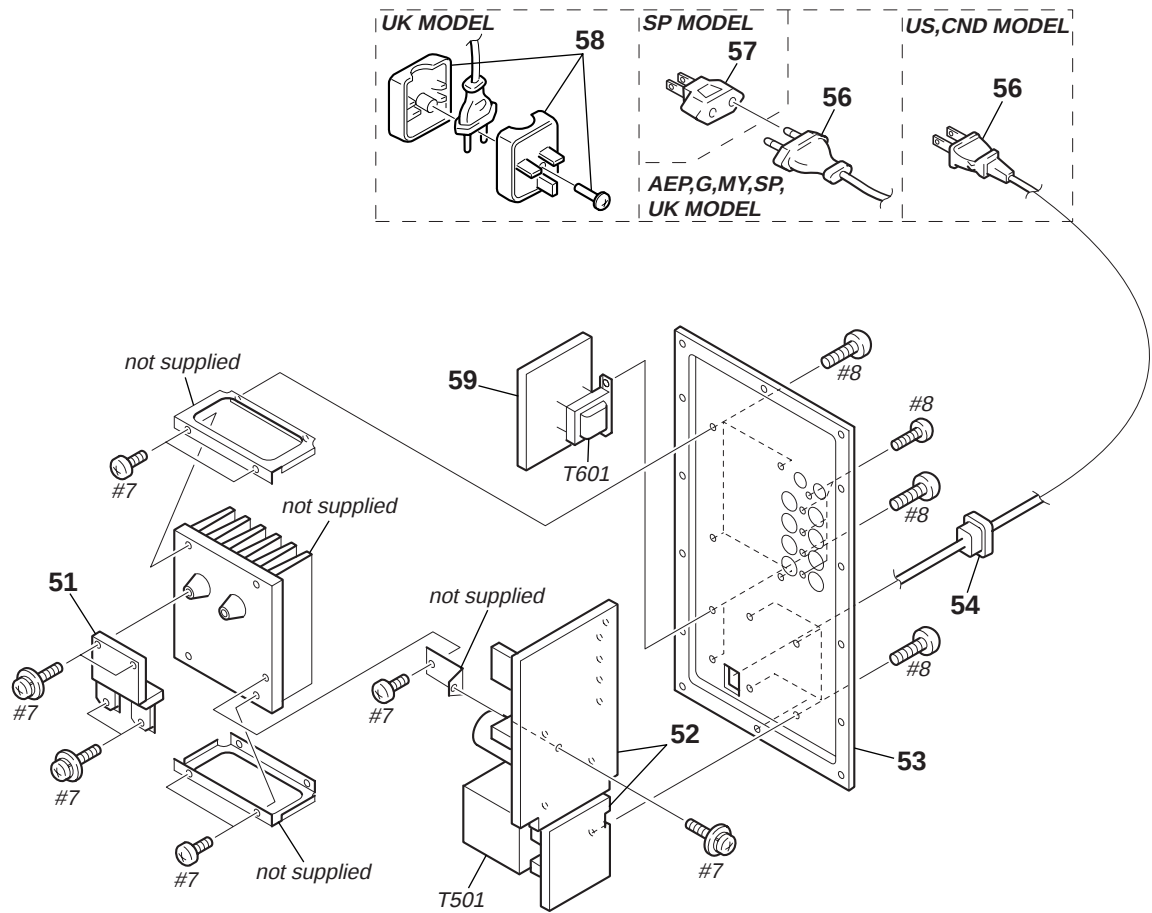
Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

(1) FRONT PANEL SECTION (SA-WMS7)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	4-222-422-01	SCREW (4 × 16)		8	1-673-150-11	LED BOARD	
2	4-220-858-01	PANEL(A), ORNAMENTAL		9	1-674-329-11	CONTROL BOARD	
3	4-220-859-01	PANEL(B), ORNAMENTAL		10	1-674-330-11	POWER SWITCH BOARD	
4	X-4951-887-1	PANEL ASSY, FRONT		11	4-973-938-31	KNOB(A), PUSH	
5	A-4411-710-A	CABINET ASSY, SPEAKER		12	4-999-482-11	KNOB(VOL)	
6	4-981-864-01	FOOT		13	4-217-642-01	SHEET	
7	4-222-467-01	PACKING		SP1	1-529-513-11	SPEAKER	

(2) AMPLIFIER SECTION
(SA-WMS7)

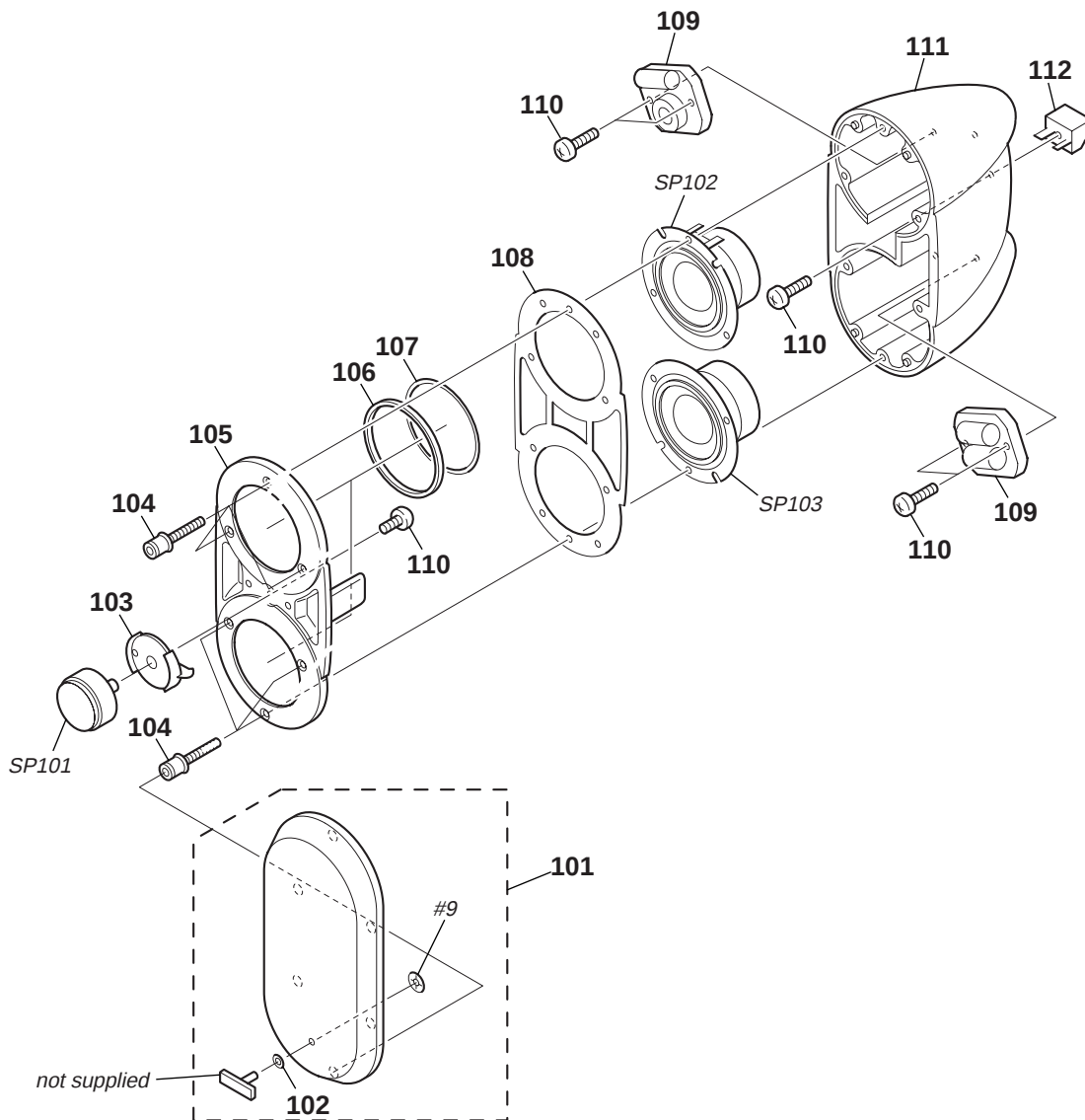


Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	1-673-147-11	POWER BOARD		▲ 57	1-569-008-21	ADAPTOR, CONVERSION 2P (SP)	
52	A-4426-644-A	MAIN BOARD, COMPLETE		▲ 58	1-770-019-21	ADAPTOR, CONVERSION PLUG 3P (UK)	
53	4-222-939-11	PANEL, REAR (US,CND)		59	A-4419-290-A	AUTO POWER BOARD, COMPLETE	
53	4-222-939-21	PANEL, REAR (AEP,G,UK,MY,SP)		▲ T501	1-433-726-11	TRANSFORMER, POWER (US,CND)	
* 54	3-703-244-00	BUSHING (2104), CORD		▲ T501	1-433-728-12	TRANSFORMER, POWER (AEP,G,UK,MY,SP)	
55	3-710-901-11	SCREW, TAPPING		▲ T601	1-433-731-11	TRANSFORMER, POWER (US,CND)	
▲ 56	1-769-744-11	CORD, POWER (AEP,G,UK,MY,SP)		▲ T601	1-433-732-11	TRANSFORMER, POWER (AEP,G,UK,MY,SP)	
▲ 56	1-783-531-11	CORD, POWER (US,CND)					

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.

(3) SS-MS7



<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>
101	X-4951-883-1	FRAME ASSY, GRILLE		109	1-761-265-11	MOUNTED PC BOARD (NETWORK)	
102	3-701-436-21	WASHER POLYETHYLENE		110	4-986-971-11	SCREW (3.5)	
103	4-220-786-01	BASE, TW		111	4-220-780-01	CABINET	
104	4-220-784-01	SCREW, ORNAMENTAL		112	1-694-516-11	TERMINAL, SPEAKER	
105	4-220-779-01	PANEL, FRONT		SP101	1-529-291-11	SPEAKER (2.5cm)	
106	4-220-781-01	RING		SP102	1-529-290-11	SPEAKER (5cm)	
107	4-222-663-01	PACKING		SP103	1-529-290-11	SPEAKER (5cm)	
108	4-220-785-01	PACKING					

SECTION 4 ELECTRICAL PARTS LIST

AUTO POWER

CONTROL

NOTE:

- 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.
- Abbreviation
CND : Canadian model
SP : Singapore model
G : German model
MY : Malaysia model

- CAPACITORS:
uF: μ F
- RESISTORS
All resistors are in ohms.
METAL: metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F: nonflammable
- COILS
uH: μ H

- SEMICONDUCTORS
In each case, u: μ , for example:
uA...: μ A..., uPA..., μ PA...,
uPB..., μ PB..., uPC..., μ PC...,
uPD..., μ PD...

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.

Ref. No.	Part No.	Description				Remarks	Ref. No.	Part No.	Description				Remarks
	A-4419-290-A	AUTO POWER BOARD, COMPLETE							< TRANSISTOR >				

		< CAPACITOR >					Q601	8-729-029-66	TRANSISTOR	DTC114ES			
							Q602	8-729-026-68	TRANSISTOR	2SD2525			
C601	1-126-964-11	ELECT	10uF	20%	50V		Q603	8-729-422-57	TRANSISTOR	DTA114ES			
C602	1-126-964-11	ELECT	10uF	20%	50V		Q604	8-729-422-57	TRANSISTOR	DTA114ES			
C603	1-162-306-11	CERAMIC	0.01uF	20%	16V		Q605	8-729-422-57	TRANSISTOR	DTA114ES			
C604	1-162-306-11	CERAMIC	0.01uF	20%	16V				< RESISTOR >				
C605	1-164-159-11	CERAMIC	0.1uF		50V								
							R601	1-247-887-00	CARBON	220K	5%	1/4W	
C606	1-164-159-11	CERAMIC	0.1uF		50V		R602	1-247-887-00	CARBON	220K	5%	1/4W	
C607	1-126-956-91	ELECT	0.1uF	20%	50V		R603	1-249-431-11	CARBON	15K	5%	1/4W	
C608	1-162-294-31	CERAMIC	0.001uF	10%	50V		R604	1-249-433-11	CARBON	22K	5%	1/4W	
C609	1-126-916-11	ELECT	1000uF	20%	6.3V		R605	1-249-435-11	CARBON	33K	5%	1/4W	
C610	1-126-964-11	ELECT	10uF	20%	50V								
							R606	1-249-431-11	CARBON	15K	5%	1/4W	
C611	1-161-494-00	CERAMIC	0.022uF		25V		R607	1-249-433-11	CARBON	22K	5%	1/4W	
C612	1-126-942-61	ELECT	1000uF	20%	25V		R608	1-249-435-11	CARBON	33K	5%	1/4W	
C613	1-126-964-11	ELECT	10uF	20%	50V		R611	1-249-431-11	CARBON	15K	5%	1/4W	
C614	1-162-294-31	CERAMIC	0.001uF	10%	50V		R612	1-249-431-11	CARBON	15K	5%	1/4W	
C615	1-104-665-11	ELECT	100uF	20%	25V								
							R613	1-249-415-11	CARBON	680	5%	1/4W	F
C616	1-162-294-31	CERAMIC	0.001uF	10%	50V		R614	1-249-417-11	CARBON	1K	5%	1/4W	F
		< CONNECTOR >					R615	1-249-417-11	CARBON	1K	5%	1/4W	F
CN601	1-568-439-11	SOCKET, CONNECTOR 7P					△ R616	1-215-865-81	METAL OXIDE	220	5%	1W	
* CN602	1-564-687-11	PIN, CONNECTOR 3P					△ R617	1-215-865-81	METAL OXIDE	220	5%	1W	
* CN603	1-565-513-11	PIN, CONNECTOR 2P											
CN604	1-569-315-11	SOCKET, CONNECTOR 5P					R618	1-249-429-11	CARBON	10K	5%	1/4W	
* CN605	1-565-514-11	SOCKET, CONNECTOR 2P					R619	1-249-429-11	CARBON	10K	5%	1/4W	
									< RELAY >				
		< DIODE >					RY601	1-755-276-11	RELAY, POWER				
									< SWITCH >				
D601	8-719-991-33	DIODE	1SS133T-77										
D602	8-719-200-82	DIODE	11ES2										
D603	8-719-200-82	DIODE	11ES2				S701	1-570-707-31	SWITCH, SLIDE (POWER SAVE)				
D604	8-719-200-82	DIODE	11ES2				*****						
D605	8-719-200-82	DIODE	11ES2										
D606	8-719-985-85	DIODE	HZS6A2L					1-674-329-11	CONTROL BOARD				

		< IC >							< CAPACITOR >				
IC601	8-759-634-50	IC	M5218AL				C201	1-104-664-11	ELECT	47uF	20%	25V	
IC602	8-759-701-55	IC	NJM2072D				C202	1-104-664-11	ELECT	47uF	20%	25V	
							C203	1-136-173-00	FILM	0.47uF	5%	50V	
							C204	1-136-161-00	FILM	0.047uF	5%	50V	
							C205	1-136-163-00	FILM	0.068uF	5%	50V	

CONTROL

LED

MAIN

Ref. No.	Part No.	Description	Remarks
C206	1-136-163-00	FILM 0.068uF 5%	50V
C207	1-136-170-00	FILM 0.27uF 5%	50V
C208	1-136-170-00	FILM 0.27uF 5%	50V
C210	1-136-177-00	FILM 1uF 5%	50V
C211	1-136-165-00	FILM 0.1uF 5%	50V
C212	1-126-965-11	ELECT 22uF 20%	50V
C213	1-126-965-11	ELECT 22uF 20%	50V
C214	1-126-965-11	ELECT 22uF 20%	50V
C215	1-126-964-11	ELECT 10uF 20%	50V
C216	1-126-963-11	ELECT 4.7uF 20%	50V

< CONNECTOR >

* CN201 1-564-520-11 PLUG, CONNECTOR 5P

< IC >

IC201	8-759-634-50	IC M5218AL
IC202	8-759-634-50	IC M5218AL
IC203	8-759-634-50	IC M5218AL

< TRANSISTOR >

Q201 8-729-178-55 TRANSISTOR 2SC2785-E

< RESISTOR >

R201	1-249-427-11	CARBON 6.8K 5%	1/4W F
R202	1-249-427-11	CARBON 6.8K 5%	1/4W F
R203	1-247-887-00	CARBON 220K 5%	1/4W
R204	1-249-435-11	CARBON 33K 5%	1/4W
R205	1-249-417-11	CARBON 1K 5%	1/4W F
R206	1-249-417-11	CARBON 1K 5%	1/4W F
R207	1-247-883-00	CARBON 150K 5%	1/4W
R208	1-249-435-11	CARBON 33K 5%	1/4W
R209	1-249-427-11	CARBON 6.8K 5%	1/4W F
R210	1-249-437-11	CARBON 47K 5%	1/4W
R211	1-249-432-11	CARBON 18K 5%	1/4W
R212	1-249-432-11	CARBON 18K 5%	1/4W
R213	1-249-417-11	CARBON 1K 5%	1/4W F
R214	1-249-431-11	CARBON 15K 5%	1/4W
R215	1-249-417-11	CARBON 1K 5%	1/4W F
R216	1-249-427-11	CARBON 6.8K 5%	1/4W F
R217	1-247-887-00	CARBON 220K 5%	1/4W
R218	1-247-887-00	CARBON 220K 5%	1/4W
R219	1-249-429-11	CARBON 10K 5%	1/4W

< VARIABLE RESISTOR >

RV201 1-225-826-11 RES, VAR, CARBON 20K (LEVEL)

< SWITCH >

S201 1-771-632-11 SWITCH, ROTARY (MODE)

Ref. No.	Part No.	Description	Remarks
	1-673-150-11	LED BOARD *****	
		< CONNECTOR >	
CN801	1-569-299-11	SOCKET, CONNECTOR (L TYPE) 5P	
		< LED >	
D801	8-719-061-31	LED SML72420CTH8F (POWER ON/SAVE)	*****

A-4426-644-A MAIN BOARD, COMPLETE

1-533-233-11 HOLDER, FUSE

< CAPACITOR >

△ C1	1-113-924-11	CERAMIC 0.0047uF 20%	250V
△ C2	1-113-924-11	CERAMIC 0.0047uF 20%	250V
△ C3	1-113-924-11	CERAMIC 0.0047uF 20%	250V
C101	1-126-964-11	ELECT 10uF 20%	50V
C102	1-162-282-31	CERAMIC 100PF 10%	50V
C103	1-136-176-00	FILM 0.82uF 5%	50V
C104	1-162-282-31	CERAMIC 100PF 10%	50V
C105	1-162-294-31	CERAMIC 0.001uF 10%	50V
C106	1-162-292-31	CERAMIC 680PF 10%	50V
C107	1-162-288-31	CERAMIC 330PF 10%	50V
C108	1-162-282-31	CERAMIC 100PF 10%	50V
C109	1-126-964-11	ELECT 10uF 20%	50V
C110	1-126-964-11	ELECT 10uF 20%	50V
C301	1-162-282-31	CERAMIC 100PF 10%	50V
C302	1-126-963-11	ELECT 4.7uF 20%	50V
C303	1-162-219-31	CERAMIC 68PF 5%	50V
C304	1-162-289-31	CERAMIC 390PF 10%	50V
C305	1-162-194-31	CERAMIC 3.9PF 10%	50V
C306	1-126-934-11	ELECT 220uF 20%	10V
C307	1-128-560-11	ELECT 22uF 20%	100V
C308	1-128-560-11	ELECT 22uF 20%	100V
C309	1-130-483-00	MYLAR 0.01uF 5%	50V
C310	1-136-177-00	FILM 1uF 5%	50V
C311	1-130-495-00	MYLAR 0.1uF 5%	50V
C312	1-162-294-31	CERAMIC 0.001uF 10%	50V
C313	1-130-491-00	MYLAR 0.047uF 5%	50V
C314	1-104-665-11	ELECT 100uF 20%	10V
C315	1-126-963-11	ELECT 4.7uF 20%	50V
C316	1-104-664-11	ELECT 47uF 20%	25V
C501	1-127-891-11	ELECT 12000uF 20%	63V
C502	1-127-891-11	ELECT 12000uF 20%	63V
C503	1-136-165-00	FILM 0.1uF 5%	50V
C504	1-136-165-00	FILM 0.1uF 5%	50V
C505	1-126-941-11	ELECT 470uF 20%	25V
C506	1-126-941-11	ELECT 470uF 20%	25V
C507	1-104-664-11	ELECT 47uF 20%	25V
C508	1-104-664-11	ELECT 47uF 20%	25V

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Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
< CONNECTOR >				R116	1-249-417-11	CARBON 1K 5%	1/4W F
* CN101	1-564-521-11	PLUG, CONNECTOR 6P		R117	1-247-887-00	CARBON 220K 5%	1/4W
* CN301	1-565-792-11	PIN, CONNECTOR 2P		R118	1-249-421-11	CARBON 2.2K 5%	1/4W F
* CN302	1-564-242-00	PIN, CONNECTOR 5P		R119	1-249-427-11	CARBON 6.8K 5%	1/4W F
CN501	1-564-321-00	PIN, CONNECTOR 2P		R120	1-249-421-11	CARBON 2.2K 5%	1/4W F
* CN502	1-564-687-11	PIN, CONNECTOR 3P		R121	1-249-421-11	CARBON 2.2K 5%	1/4W F
CN503	1-568-439-11	SOCKET, CONNECTOR 7P		R122	1-249-417-11	CARBON 1K 5%	1/4W F
* CN504	1-580-230-11	PIN, CONNECTOR (PC BOARD) 2P		R123	1-249-441-11	CARBON 100K 5%	1/4W
< DIODE >				R124	1-249-429-11	CARBON 10K 5%	1/4W
D101	8-719-991-33	DIODE 1SS133T-77		R125	1-249-429-11	CARBON 10K 5%	1/4W
D102	8-719-991-33	DIODE 1SS133T-77		R126	1-249-437-11	CARBON 47K 5%	1/4W
D103	8-719-991-33	DIODE 1SS133T-77		R127	1-247-903-00	CARBON 1M 5%	1/4W
D104	8-719-991-33	DIODE 1SS133T-77		R301	1-249-419-11	CARBON 1.5K 5%	1/4W F
D105	8-719-991-33	DIODE 1SS133T-77		R302	1-249-438-11	CARBON 56K 5%	1/4W
D106	8-719-991-33	DIODE 1SS133T-77		R303	1-249-413-11	CARBON 470 5%	1/4W F
D107	8-719-991-33	DIODE 1SS133T-77		R304	1-249-438-11	CARBON 56K 5%	1/4W
D108	8-719-991-33	DIODE 1SS133T-77		R305	1-249-442-11	CARBON 510 5%	1/4W
D303	8-719-991-33	DIODE 1SS133T-77		△ R308	1-247-688-11	CARBON 10 5%	1/4W F
D304	8-719-991-33	DIODE 1SS133T-77		△ R309	1-247-688-11	CARBON 10 5%	1/4W F
D501	8-719-302-37	DIODE RBV-602		R310	1-249-417-11	CARBON 1K 5%	1/4W F
D503	8-719-200-82	DIODE 11ES2		R311	1-249-429-11	CARBON 10K 5%	1/4W
D504	8-719-200-82	DIODE 11ES2		R312	1-249-437-11	CARBON 47K 5%	1/4W
< FUSE >				R313	1-249-433-11	CARBON 22K 5%	1/4W
△ F1	1-532-501-31	FUSE (T0.8AL/250V)(AEP,G,UK,MY,SP)		R314	1-249-429-11	CARBON 10K 5%	1/4W
△ F1	1-533-296-11	FUSE, GLASS CYLINDRICAL (DIA.5)(2A/125V) (US,CND)		R315	1-249-431-11	CARBON 15K 5%	1/4W
< IC >				R316	1-249-415-11	CARBON 680 5%	1/4W F
IC101	8-759-634-50	IC M5218AL		R317	1-249-417-11	CARBON 1K 5%	1/4W F
IC102	8-759-634-50	IC M5218AL		△ R318	1-217-151-00	METAL 0.22 10%	2W
IC301	8-749-011-16	IC STK350-230		R319	1-249-441-11	CARBON 100K 5%	1/4W
IC302	8-759-634-50	IC M5218AL		R320	1-216-505-51	METAL OXIDE 1.2K 5%	5W F
IC303	8-759-111-68	IC uPC1237HA		R321	1-247-838-00	CARBON 2K 5%	1/4W
IC501	8-759-604-40	IC M5F78M15L		R322	1-249-429-11	CARBON 10K 5%	1/4W
IC502	8-759-604-46	IC M5F79M15L		R323	1-249-420-11	CARBON 1.8K 5%	1/4W F
< JACK >				R324	1-249-421-11	CARBON 2.2K 5%	1/4W F
J101	1-785-795-11	JACK, PIN 2P (LINE IN/OUT)		R325	1-249-425-11	CARBON 4.7K 5%	1/4W F
< RESISTOR >				R326	1-247-860-11	CARBON 16K 5%	1/4W
R101	1-260-107-11	CARBON 4.7K 5%	1/2W	R327	1-249-422-11	CARBON 2.7K 5%	1/4W F
R102	1-260-107-11	CARBON 4.7K 5%	1/2W	R328	1-249-441-11	CARBON 100K 5%	1/4W
R103	1-249-421-11	CARBON 2.2K 5%	1/4W F	R330	1-249-439-11	CARBON 68K 5%	1/4W
R104	1-249-421-11	CARBON 2.2K 5%	1/4W F	R331	1-249-433-11	CARBON 22K 5%	1/4W
R105	1-249-429-11	CARBON 10K 5%	1/4W	R334	1-249-436-11	CARBON 39K 5%	1/4W
R106	1-249-429-11	CARBON 10K 5%	1/4W	R335	1-249-432-11	CARBON 18K 5%	1/4W
R107	1-249-429-11	CARBON 10K 5%	1/4W	△ R501	1-249-381-11	CARBON 1 5%	1/4W F
R108	1-249-429-11	CARBON 10K 5%	1/4W	△ R502	1-249-381-11	CARBON 1 5%	1/4W F
R109	1-249-429-11	CARBON 10K 5%	1/4W	< RELAY >			
R110	1-249-429-11	CARBON 10K 5%	1/4W	RY301	1-515-920-11	RELAY (24V)	
R111	1-249-429-11	CARBON 10K 5%	1/4W	< TERMINAL >			
R112	1-249-429-11	CARBON 10K 5%	1/4W	TM101	1-537-737-11	TERMINAL BOARD (SPEAKER)	
R113	1-249-417-11	CARBON 1K 5%	1/4W F	*****			
R114	1-249-417-11	CARBON 1K 5%	1/4W F				
R115	1-247-887-00	CARBON 220K 5%	1/4W				

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POWER

POWER SWITCH

Ref. No.	Part No.	Description	Remarks			
	1-673-147-11	POWER BOARD	*****			
		< CAPACITOR >				
C401	1-104-664-11	ELECT	47uF	20%	25V	
C402	1-137-372-11	FILM	0.022uF	5%	50V	
		< CONNECTOR >				
* CN401	1-770-318-11	PIN, CONNECTOR 7P				
		< TRANSISTOR >				
Q401	8-729-119-76	TRANSISTOR	2SA1175-F			
Q402	8-729-141-30	TRANSISTOR	2SC3623ATP-LK			
Q403	8-749-010-25	IC MN2488-OPY-M				
Q404	8-749-010-26	IC MP1620-OPY-M				
		< RESISTOR >				
R401	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R402	1-249-437-11	CARBON	47K	5%	1/4W	
R403	1-249-414-11	CARBON	560	5%	1/4W	F
△ R404	1-249-408-11	CARBON	180	5%	1/4W	F
△ R405	1-249-408-11	CARBON	180	5%	1/4W	F
△ R406	1-217-151-00	METAL	0.22	10%	2W	
△ R407	1-217-151-00	METAL	0.22	10%	2W	
△ R408	1-249-393-11	CARBON	10	5%	1/4W	F

	1-674-330-11	POWER SWITCH BOARD	*****			
		< SWITCH >				
△ S1	1-554-920-11	SWITCH, PUSH (AC POWER)(1 KEY)	(ON/STANDBY)			
		< CONNECTOR >				
CN1	1-564-321-00	PIN, CONNECTOR 2P	*****			

Ref. No.	Part No.	Description	Remarks
		MISCELLANEOUS	*****
△ 56	1-769-744-11	CORD, POWER (AEP,G,UK,MY,SP)	
△ 56	1-783-531-11	CORD, POWER (US,CND)	
△ 57	1-569-008-21	ADAPTOR, CONVERSION 2P (SP)	
△ 58	1-770-019-21	ADAPTOR, CONVERSION PLUG 3P (UK)	
112	1-694-516-11	TERMINAL, SPEAKER	
SP1	1-529-513-11	SPEAKER	
SP101	1-529-291-11	SPEAKER (2.5cm)	
SP102	1-529-290-11	SPEAKER (5cm)	
SP103	1-529-290-11	SPEAKER (5cm)	
△ T501	1-433-726-11	TRANSFORMER, POWER (US,CND)	
△ T501	1-433-728-12	TRANSFORMER, POWER (AEP,G,UK,MY,SP)	
△ T601	1-433-731-11	TRANSFORMER, POWER (US,CND)	
△ T601	1-433-732-11	TRANSFORMER, POWER (AEP,G,UK,MY,SP)	*****
		ACCESSORIES & PACKING MATERIALS	*****
	1-769-329-21	CORD, CONNECTION (PIN-PIN)	
	1-791-467-11	CORD, SPEAKER (10m)(VE705)	
	1-791-467-21	CORD, SPEAKER (2.5m)	
	3-867-384-11	MANUAL, INSTRUCTION (ENGLISH,FRENCH)	
	3-867-384-21	MANUAL, INSTRUCTION (GERMAN,SPANISH,DUTCH,SWEDISH,ITALIAN, PORTUGUESE,POLISH,RUSSIAN,DANISH, FINNISH,CHINESE)(AEP,G,UK,MY,SP)	
	4-222-421-01	SCREW (5 × 18), HEXAGON SOCKET	
*	4-985-459-01	WRENCH, HEXAGON SHAFT	
	X-4951-969-1	FRAME ASSY, GRILLE	
	X-4952-023-1	STAND (V) ASSY	
	X-4952-024-1	STAND (H) ASSY (VE705)	*****

		HARDWARE LIST	*****
#1	7-685-664-79	SCREW +P 4 × 20 TYPE1	
#2	7-685-165-01	SCREW +PTP 4 × 25 TYPE1	
#3	7-685-645-79	SCREW +P 3 × 6 TYPE2 SLIT	
#4	7-682-147-01	SCREW +P 3 × 6	
#5	7-685-146-29	SCREW +P 3 × 8 TYPE2 SLIT	
#6	7-685-648-79	SCREW +P 3 × 12 TYPE2 NON-SLIT	
#7	7-685-647-79	SCREW +P 3 × 10 TYPE2 NON-SLIT	
#8	7-685-660-19	SCREW +BVTP 4 × 10 TYPE2 N-S	
#9	7-624-200-01	NUT, PUSH 1.5	

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