

# SA-WM40

## SERVICE MANUAL

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



### SPECIFICATIONS

#### For the U.S.A. model

#### AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION:

With 8 ohm loads, from 20 – 170 Hz; rated 120 watts, minimum RMS power, with no more than 0.8 % total harmonic distortion from 250 milliwatts to rated output.

#### System

**Type** Active Subwoofer (magnetically shielded design)

#### Speaker unit

Woofer: 30 cm dia. (12 in.), cone type

#### Continuous RMS output

European model (DIN)

120 W

Other models (0.8%)

120 W

#### Reproduction frequency range

20 Hz – 170 Hz

#### High frequency cut-off frequency

50 Hz – 170 Hz

#### Phase selector

NORMAL, REVERSE

#### Inputs

##### Input jacks

LINE IN: input pin jack

SPEAKER IN: input terminals

##### Output jacks

LINE OUT: output pin jack

SPEAKER OUT: output terminals

#### General

##### Power requirements

European model

220 – 230 V AC, 50/60 Hz

Other models

120 V AC, 60 Hz

##### Power consumption

90 W

##### Dimensions

Approx. 360 x 425 x 430 mm

(w/h/d) (14 1/4 x 16 3/4 x 17 in.)

##### Mass

18 kg (36lb 11oz)

##### Supplied accessories

Audio connecting cord

(1 phono plug – 1 phono plug) (1)

Speaker cords (2)

Design and specifications are subject to change without notice.

## ACTIVE SUBWOOFER

# SONY®

### SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check 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 TEST

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 2 V AC range are suitable. (See Fig. A)

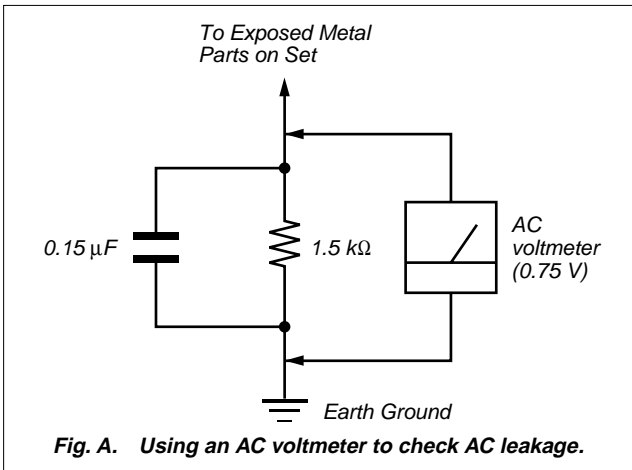
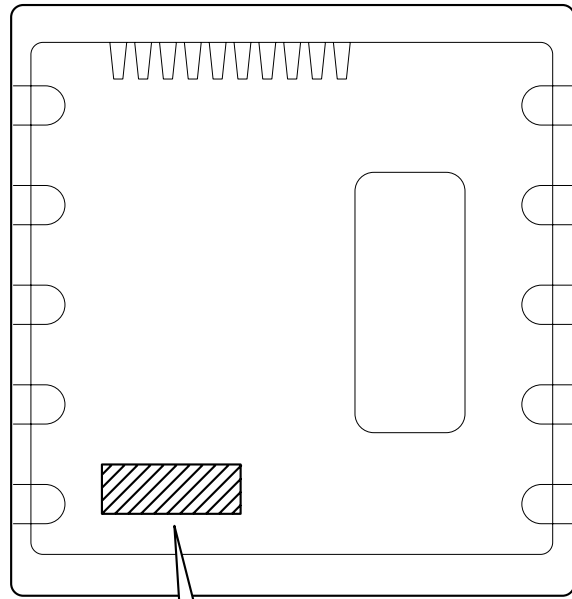


Fig. A. Using an AC voltmeter to check AC leakage.

### MODEL IDENTIFICATION

– Rear View –



with this indication : US, Canadian models  
without this indication : Except US, Canadian models

### 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.

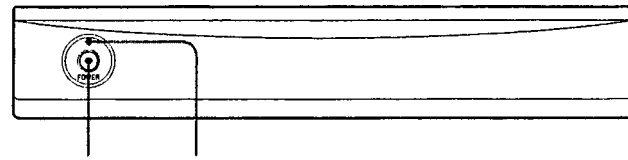
### ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

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

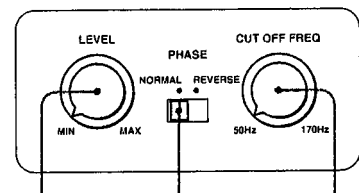
### • Location of controls

#### – Front View (a part) –



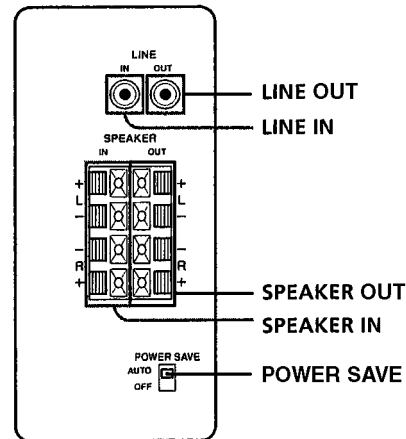
POWER (I/⏻) POWER indicator

#### – Upper View (a part) –



LEVEL PHASE CUT OFF FREQ

#### – Rear View (a part) –



LINE OUT

LINE IN

SPEAKER OUT

SPEAKER IN

POWER SAVE

AUTO OFF

## SECTION 2 DIAGRAMS

### 2-1. NOTE FOR PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM

#### Note on Printed Wiring Boards:

- : parts extracted from the component side.
- : parts extracted from the component side.
- ▨ : Pattern from the side which enables seeing.

#### Note on Schematic Diagram:

- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\mu\text{F}$  50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $1/4\text{W}$  or less unless otherwise specified.
- : panel designation.

#### Note:

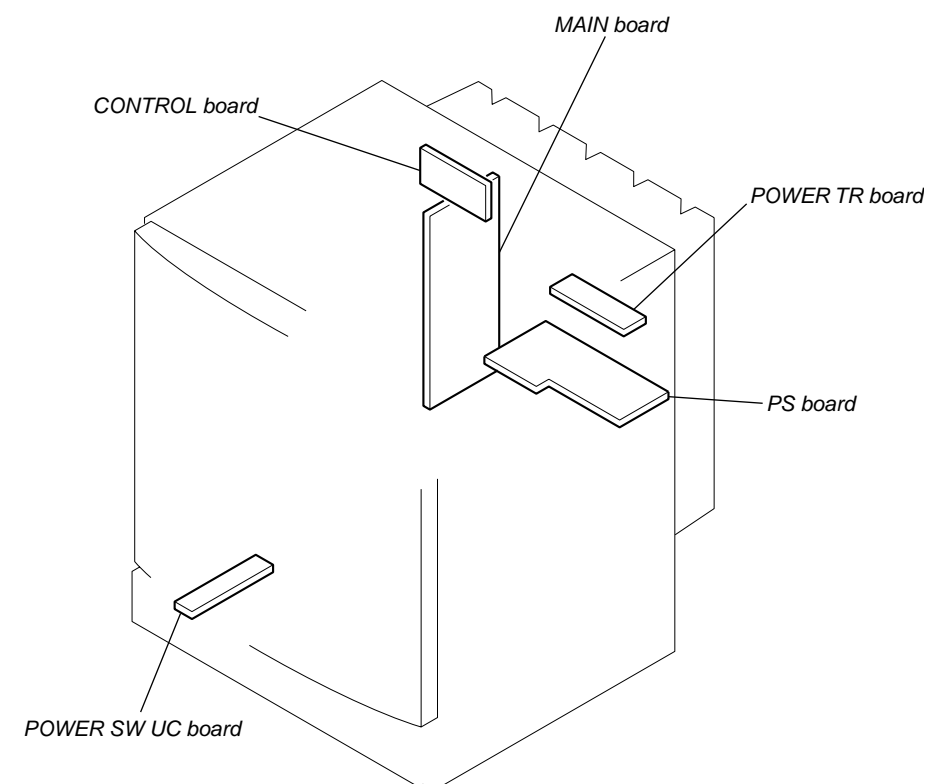
The components identified by mark  $\triangle$  or dotted line with mark  $\triangle$  are critical for safety. Replace only with part number specified.

#### Note:

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

- + : B+ Line.
- : B- Line.
- Voltages are dc with respect to ground under no-signal conditions.
- no mark : Power on
- ( ) : Automatic power off
- \* : Impossible to measure
- Voltages are taken with a VOM (Input impedance  $10\text{M}\Omega$ ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
- ⇒ : AUDIO
- Abbreviation
- AUS : Australian model
- CND : Canadian model

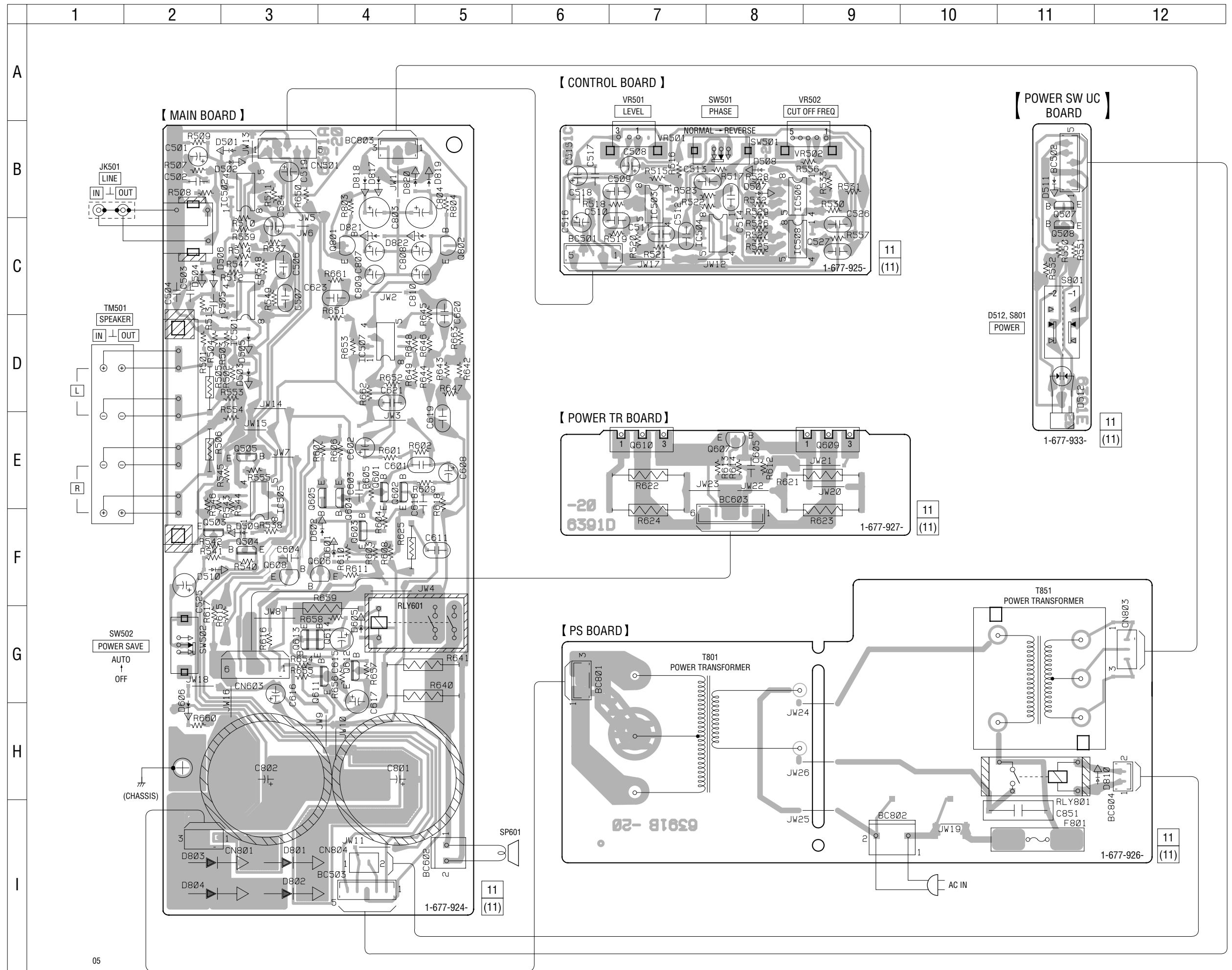
### • Circuit Boards Location



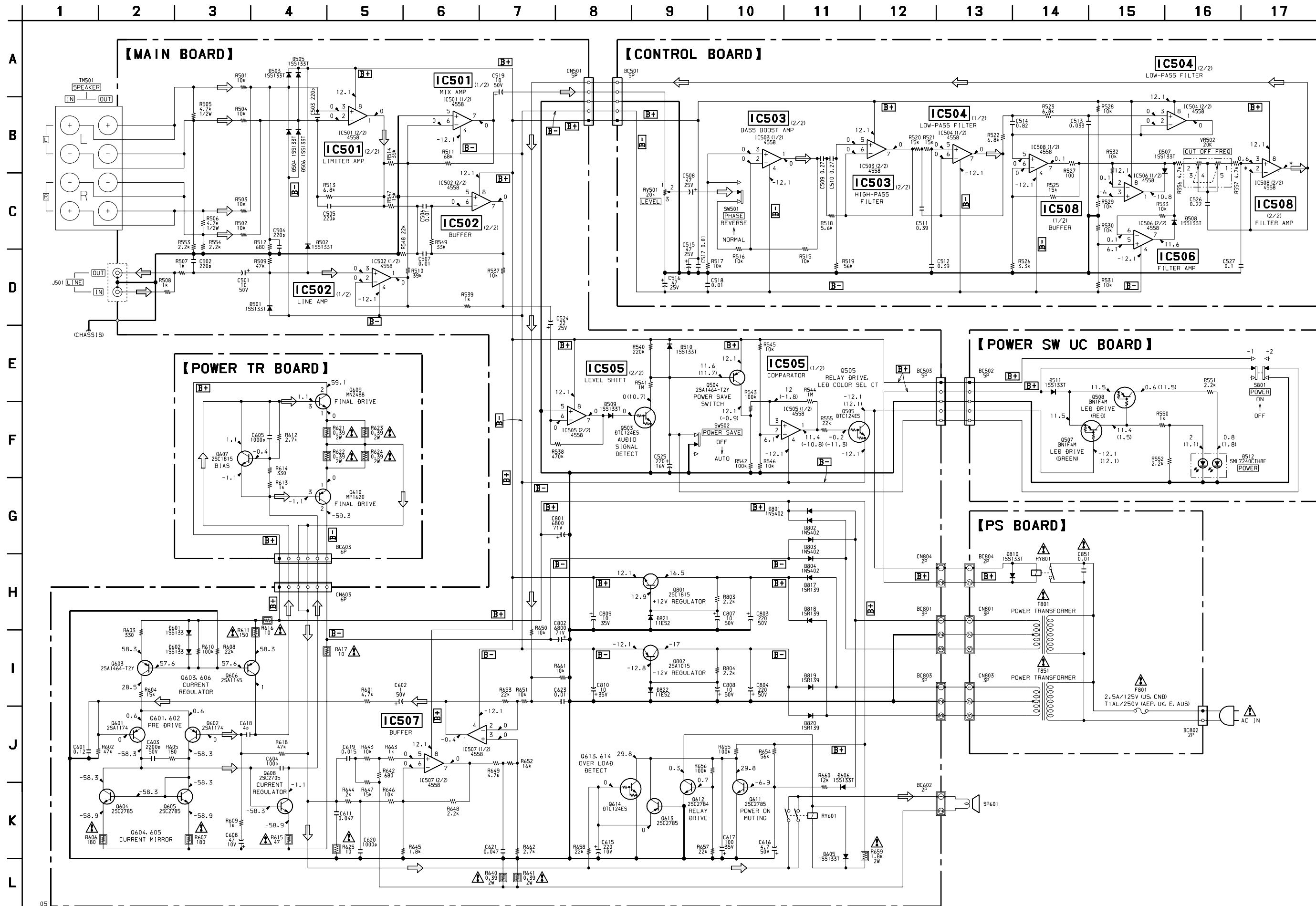
2-2. PRINTED WIRING BOARDS • See page 3 for Note on Printed Wiring Boards. • See page 3 for Circuit Boards Location.

• Semiconductor Location

Ref. No.	Location
D501	B-3
D502	B-3
D503	D-3
D504	D-3
D505	D-3
D506	C-2
D507	B-8
D508	B-8
D509	F-3
D510	F-2
D511	B-11
D512	D-11
D601	F-4
D602	F-4
D605	G-4
D606	H-2
D801	I-3
D802	I-3
D803	I-2
D804	I-2
D810	H-12
D817	B-4
D818	B-4
D819	B-5
D820	B-5
D821	C-4
D822	C-5
IC501	C-3
IC502	B-3
IC503	B-7
IC504	C-8
IC505	F-3
IC506	B-8
IC507	D-4
IC508	C-8
Q503	F-2
Q504	F-3
Q505	F-3
Q507	B-11
Q508	C-11
Q601	E-4
Q602	F-4
Q603	F-4
Q604	E-4
Q605	E-4
Q606	F-4
Q607	E-8
Q608	F-3
Q609	E-9
Q610	E-7
Q611	G-4
Q612	G-4
Q613	G-3
Q614	G-4
Q801	C-4
Q802	C-5



2-3. SCHEMATIC DIAGRAM • See page 3 for Note on Schematic Diagram.



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

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

### SECTION 3 EXPLODED VIEW

**NOTE:**

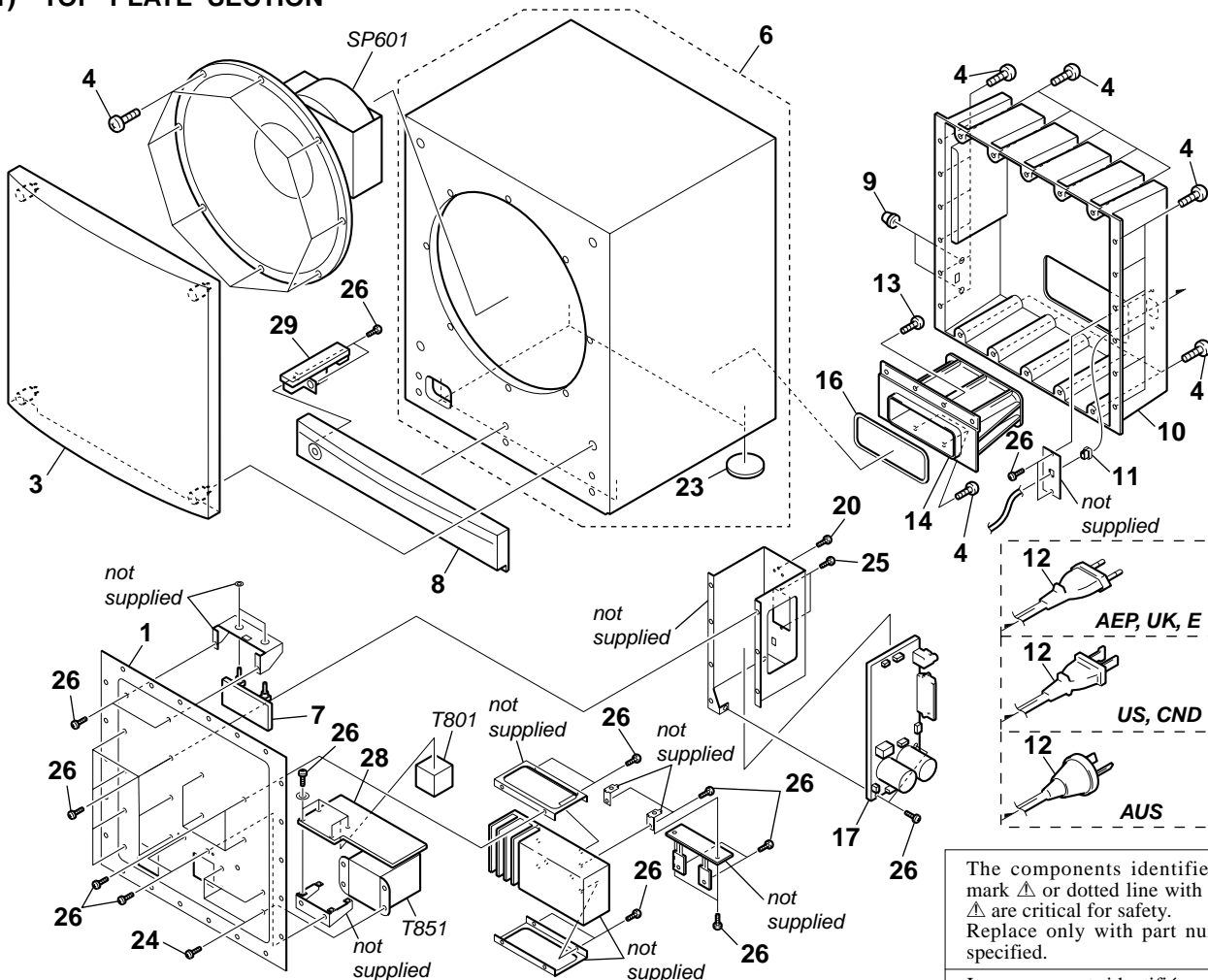
- XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts  
Example:  
KNOB, BALANCE (WHITE) . . . (RED)

Parts Color Cabinet's Color

- 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.
- Accessories and packing materials are given in the last of the electrical parts list.

- Abbreviation  
AUS : Australian model  
CND : Canadian model

**(1) TOP PLATE SECTION**



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

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

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	4-228-132-01	PLATE, REAR		16	4-229-627-01	PACKING	
3	X-4952-847-1	FRAME ASSY, GRILLE		17	A-4473-570-A	MAIN BOARD, COMPLETE	
4	4-914-430-11	SCREW (4X20), TAPPING		20	3-710-901-11	SCREW, TAPPING	
6	A-4412-160-A	CABINET ASSY, SPEAKER		23	4-981-864-01	FOOT	
7	A-4473-571-A	CONTROL BOARD, COMPLETE		24	7-685-660-19	SCREW +BVTP 4X10 TYPE2 N-S	
8	X-4952-848-1	PANEL ASSY, FRONT (US, CND, E, AUS)		25	7-685-647-79	SCREW +P 3X10 TYPE2 NON-SLIT	
8	X-4952-914-1	PANEL ASSY, FRONT (AEP, UK)		26	7-685-648-79	SCREW +P 3X12 TYPE2 NON-SLIT	
9	4-228-138-01	BUTTON		28	1-677-926-11	PS BOARD	
10	4-228-148-01	COVER, REAR (US, CND)		29	1-677-933-11	POWER SW UC BOARD	
10	4-228-148-11	COVER, REAR (EXCEPT US, CND)		SP601	1-529-652-11	SPEAKER (30cm)	
* 11	3-703-244-00	BUSHING (2104), CORD		$\Delta$ T801	1-435-488-11	TRANSFORMER, POWER (US, CND)	
$\Delta$ 12	1-696-571-21	CORD, POWER (AEP, E)		$\Delta$ T801	1-435-489-11	TRANSFORMER, POWER (AEP, UK, AUS)	
$\Delta$ 12	1-696-845-31	CORD, POWER (AUS)		$\Delta$ T801	1-435-491-11	TRANSFORMER, POWER (E)	
$\Delta$ 12	1-751-520-11	CORD, POWER (UK)		$\Delta$ T851	1-435-492-11	TRANSFORMER, POWER (US, CND)	
$\Delta$ 12	1-783-820-11	CORD, POWER (US, CND)		$\Delta$ T851	1-435-493-11	TRANSFORMER, POWER (AEP, UK, AUS)	
13	7-621-846-60	SCREW (4X25), TAPPING		$\Delta$ T851	1-435-495-11	TRANSFORMER, POWER (E)	
14	4-228-141-01	DUCT (A)					

### CONTROL MAIN

**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 and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS**  
All resistors are in ohms.  
METAL: Metal-film resistor.  
METAL OXIDE: Metal oxide-film resistor.  
F: nonflammable
- Abbreviation  
AUS : Australian model  
CND : Canadian model

Ref. No.	Part No.	Description	Remark
	A-4473-571-A	CONTROL BOARD, COMPLETE *****	
		< CONNECTOR >	
* BC501	1-564-508-11	PLUG, CONNECTOR 5P	
		< CAPACITOR >	
C508	1-104-664-11	ELECT 47uF 20% 25V	
C509	1-136-170-00	MYLAR 0.27uF 5% 50V	
C510	1-136-170-00	MYLAR 0.27uF 5% 50V	
C511	1-137-193-11	MYLAR 0.39uF 5% 50V	
C512	1-137-193-11	MYLAR 0.39uF 5% 50V	
C513	1-130-489-00	MYLAR 0.033uF 5% 50V	
C514	1-136-176-00	MYLAR 0.82uF 5% 50V	
C515	1-104-664-11	ELECT 47uF 20% 25V	
C516	1-104-664-11	ELECT 47uF 20% 25V	
C517	1-130-483-00	MYLAR 0.01uF 5% 50V	
C518	1-130-483-00	MYLAR 0.01uF 5% 50V	
C526	1-130-499-00	MYLAR 0.22uF 5% 50V	
C527	1-130-495-00	MYLAR 0.1uF 5% 50V	
		< DIODE >	
D507	8-719-991-33	DIODE 1SS133T-77	
D508	8-719-991-33	DIODE 1SS133T-77	
		< IC >	
IC503	8-759-909-71	IC BA4558F-E2	
IC504	8-759-909-71	IC BA4558F-E2	
IC506	8-759-909-71	IC BA4558F-E2	
IC508	8-759-909-71	IC BA4558F-E2	
		< RESISTOR >	
R515	1-249-429-11	CARBON 10K 5% 1/4W	
R516	1-249-429-11	CARBON 10K 5% 1/4W	
R517	1-249-429-11	CARBON 10K 5% 1/4W	
R518	1-249-426-11	CARBON 5.6K 5% 1/4W	
R519	1-249-438-11	CARBON 56K 5% 1/4W	
R520	1-249-431-11	CARBON 15K 5% 1/4W	
R521	1-249-431-11	CARBON 15K 5% 1/4W	
R522	1-249-427-11	CARBON 6.8K 5% 1/4W	
R523	1-249-427-11	CARBON 6.8K 5% 1/4W	
R525	1-249-431-11	CARBON 15K 5% 1/4W	
R526	1-247-843-11	CARBON 3.3K 5% 1/4W	
R527	1-247-807-31	CARBON 100 5% 1/4W	
R528	1-249-429-11	CARBON 10K 5% 1/4W	

### SECTION 4 ELECTRICAL PARTS LIST

- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS**  
In each case, u:  $\mu$ , for example:  
uA. . . :  $\mu$ A. . . uPA. . . :  $\mu$ PA. . .  
uPB. . . :  $\mu$ PB. . . uPC. . . :  $\mu$ PC. . .  
uPD. . . :  $\mu$ PD. . .
- CAPACITORS**  
uF:  $\mu$ F
- COILS**  
uH:  $\mu$ H

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

Les composants identifiés par une marque  $\Delta$  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.

Ref. No.	Part No.	Description	Remark
R529	1-249-429-11	CARBON 10K 5% 1/4W	
R530	1-249-429-11	CARBON 10K 5% 1/4W	
R531	1-249-429-11	CARBON 10K 5% 1/4W	
R532	1-249-429-11	CARBON 10K 5% 1/4W	
R533	1-249-429-11	CARBON 10K 5% 1/4W	
R556	1-249-425-11	CARBON 4.7K 5% 1/4W	
R557	1-249-425-11	CARBON 4.7K 5% 1/4W	
		< SWITCH >	
SW501	1-571-588-21	SWITCH, SLIDE (PHASE)	
		< VARIABLE RESISTOR >	
VR501	1-225-826-11	RES, VAR, CARBON 20K (LEVEL)	
VR502	1-225-826-11	RES, VAR, CARBON 20K (CUT OFF FREQ)	
		*****	
	A-4473-570-A	MAIN BOARD, COMPLETE *****	
		< CONNECTOR >	
* BC503	1-564-508-11	PLUG, CONNECTOR 5P	
* BC602	1-566-693-11	PIN, CONNECTOR 2P	
* BC803	1-564-506-11	PLUG, CONNECTOR 3P	
		< CAPACITOR >	
C501	1-126-964-11	ELECT 10uF 20% 50V	
C502	1-102-978-00	CERAMIC 220PF 5% 50V	
C503	1-102-978-00	CERAMIC 220PF 5% 50V	
C504	1-102-978-00	CERAMIC 220PF 5% 50V	
C505	1-102-978-00	CERAMIC 220PF 5% 50V	
C506	1-130-483-00	MYLAR 0.01uF 5% 50V	
C507	1-130-483-00	MYLAR 0.01uF 5% 50V	
C519	1-126-964-11	ELECT 10uF 20% 50V	
C524	1-128-551-11	ELECT 22uF 20% 63V	
C525	1-126-934-11	ELECT 220uF 20% 16V	
C601	1-130-496-71	MYLAR 0.12uF 5% 50V	
C602	1-126-960-11	ELECT 1uF 20% 50V	
C603	1-101-002-00	CERAMIC 0.0022uF 50V	
C604	1-102-973-00	CERAMIC 100PF 5% 50V	
C608	1-104-664-11	ELECT 47uF 20% 10V	
C611	1-130-491-00	MYLAR 0.047uF 5% 50V	
C615	1-126-934-11	ELECT 220uF 20% 10V	
C616	1-126-963-11	ELECT 4.7uF 20% 50V	
C617	1-126-948-11	ELECT 100uF 20% 35V	
C618	1-102-937-00	CERAMIC 4.0PF 0.25PF 50V	

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C619	1-130-485-00	MYLAR 0.015uF 5%	50V	Q603	8-729-119-54	TRANSISTOR 2SA1464-T2Y13	
C620	1-101-001-00	CERAMIC 0.001uF	50V	Q604	8-729-119-78	TRANSISTOR 2SC2785-F	
C621	1-130-491-00	MYLAR 0.047uF 5%	50V	Q605	8-729-119-78	TRANSISTOR 2SC2785-F	
C623	1-130-483-00	MYLAR 0.01uF 5%	50V	Q606	8-729-214-51	TRANSISTOR 2SA1145-0	
C801		ELECT 6800uF	71V	Q608	8-729-270-51	TRANSISTOR 2SC2705-0	
C802		ELECT 6800uF	71V	Q611	8-729-119-78	TRANSISTOR 2SC2785-F	
C803	1-104-666-11	ELECT 220uF 20%	25V	Q612	8-729-178-41	TRANSISTOR 2SC2784-P	
C804	1-104-666-11	ELECT 220uF 20%	25V	Q613	8-729-119-78	TRANSISTOR 2SC2785-F	
C807	1-126-964-11	ELECT 10uF 20%	50V	Q614	8-729-029-86	TRANSISTOR DTC124ESA-TP	
C808	1-126-964-11	ELECT 10uF 20%	50V	Q801	8-729-281-53	TRANSISTOR 2SC1815-GR	
C809	1-126-964-11	ELECT 10uF 20%	50V	Q802	8-729-231-12	TRANSISTOR 2SA1015TP-0	
C810	1-126-964-11	ELECT 10uF 20%	50V			< RESISTOR >	
		< CONNECTOR >		R501	1-249-429-11	CARBON 10K 5%	1/4W
* CN501	1-564-508-11	PLUG, CONNECTOR 5P		R502	1-249-429-11	CARBON 10K 5%	1/4W
* CN603	1-564-509-11	PLUG, CONNECTOR 6P		R503	1-249-429-11	CARBON 10K 5%	1/4W
* CN804	1-564-505-11	PLUG, CONNECTOR 2P		R504	1-249-429-11	CARBON 10K 5%	1/4W
		< DIODE >		R505	1-247-760-11	CARBON 4.7K 5%	1/2W
D501	8-719-991-33	DIODE 1SS133T-77		R506	1-247-760-11	CARBON 4.7K 5%	1/2W
D502	8-719-991-33	DIODE 1SS133T-77		R507	1-249-417-11	CARBON 1K 5%	1/4W
D503	8-719-991-33	DIODE 1SS133T-77		R508	1-249-417-11	CARBON 1K 5%	1/4W
D504	8-719-991-33	DIODE 1SS133T-77		R509	1-249-437-11	CARBON 47K 5%	1/4W
D505	8-719-991-33	DIODE 1SS133T-77		R510	1-249-436-11	CARBON 39K 5%	1/4W
D506	8-719-991-33	DIODE 1SS133T-77		R511	1-249-439-11	CARBON 68K 5%	1/4W
D509	8-719-991-33	DIODE 1SS133T-77		R512	1-249-415-11	CARBON 680 5%	1/4W
D510	8-719-991-33	DIODE 1SS133T-77		R513	1-249-427-11	CARBON 6.8K 5%	1/4W
D601	8-719-991-33	DIODE 1SS133T-77		R514	1-249-436-11	CARBON 39K 5%	1/4W
D602	8-719-991-33	DIODE 1SS133T-77		R537	1-249-429-11	CARBON 10K 5%	1/4W
D605	8-719-991-33	DIODE 1SS133T-77		R538	1-247-895-00	CARBON 470K 5%	1/4W
D606	8-719-991-33	DIODE 1SS133T-77		R539	1-249-417-11	CARBON 1K 5%	1/4W
D801	8-719-030-52	DIODE 1N5402		R540	1-247-887-00	CARBON 220K 5%	1/4W
D802	8-719-030-52	DIODE 1N5402		R541	1-247-903-00	CARBON 1M 5%	1/4W
D803	8-719-030-52	DIODE 1N5402		R542	1-249-441-11	CARBON 100K 5%	1/4W
D804	8-719-030-52	DIODE 1N5402		R543	1-249-441-11	CARBON 100K 5%	1/4W
D817	8-719-200-82	DIODE 1SR139-100		R544	1-247-903-00	CARBON 1M 5%	1/4W
D818	8-719-200-82	DIODE 1SR139-100		R545	1-249-429-11	CARBON 10K 5%	1/4W
D819	8-719-200-82	DIODE 1SR139-100		R546	1-249-429-11	CARBON 10K 5%	1/4W
D820	8-719-200-82	DIODE 1SR139-100		R547	1-249-431-11	CARBON 15K 5%	1/4W
D821	8-719-200-82	DIODE 11ES2		R548	1-249-433-11	CARBON 22K 5%	1/4W
D822	8-719-200-82	DIODE 11ES2		R549	1-249-435-11	CARBON 33K 5%	1/4W
		< IC >		R553	1-249-421-11	CARBON 2.2K 5%	1/4W
IC501	8-759-909-71	IC BA4558F-E2		R554	1-249-421-11	CARBON 2.2K 5%	1/4W
IC502	8-759-909-71	IC BA4558F-E2		R555	1-249-433-11	CARBON 22K 5%	1/4W
IC505	8-759-909-71	IC BA4558F-E2		R601	1-249-425-11	CARBON 4.7K 5%	1/4W
IC507	8-759-909-71	IC BA4558F-E2		R602	1-249-437-11	CARBON 47K 5%	1/4W
		< JACK >		R603	1-249-411-11	CARBON 330 5%	1/4W
JK501	1-785-795-11	JACK, PIN 2P (LINE)		R604	1-249-431-11	CARBON 15K 5%	1/4W
		< TRANSISTOR >		R605	1-249-408-11	CARBON 180 5%	1/4W
Q503	8-729-029-86	TRANSISTOR DTC124ESA-TP		△ R606	1-247-703-11	CARBON 180 5%	1/4W F
Q504	8-729-119-54	TRANSISTOR 2SA1464-T2Y13		△ R607	1-247-703-11	CARBON 180 5%	1/4W F
Q505	8-729-029-86	TRANSISTOR DTC124ESA-TP		R608	1-249-433-11	CARBON 22K 5%	1/4W
Q601	8-729-117-41	TRANSISTOR 2SA1174-P		R609	1-249-417-11	CARBON 1K 5%	1/4W
Q602	8-729-117-41	TRANSISTOR 2SA1174-P		R610	1-249-441-11	CARBON 100K 5%	1/4W
				△ R611	1-247-702-11	CARBON 150 5%	1/4W F
				△ R615	1-247-696-11	CARBON 47 5%	1/4W F
				△ R616	1-247-688-11	CARBON 10 5%	1/4W F
				△ R617	1-247-688-11	CARBON 10 5%	1/4W F
				R618	1-249-437-11	CARBON 47K 5%	1/4W

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<b>MAIN</b>	<b>POWER SW UC</b>	<b>PS</b>	<b>POWER TR</b>
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Ref. No.	Part No.	Description	Remark
△ R625	1-247-688-11	CARBON 10	5% 1/4W F
△ R640	1-216-364-11	METAL OXIDE FILM 0.39	5% 2W F
△ R641	1-216-364-11	METAL OXIDE FILM 0.39	5% 2W F
R642	1-249-415-11	CARBON 680	5% 1/4W
R643	1-249-429-11	CARBON 10K	5% 1/4W
R644	1-247-838-00	CARBON 2K	5% 1/4W
R645	1-249-420-11	CARBON 1.8K	5% 1/4W
R646	1-249-429-11	CARBON 10K	5% 1/4W
R647	1-249-431-11	CARBON 15K	5% 1/4W
R648	1-249-421-11	CARBON 2.2K	5% 1/4W
R649	1-249-425-11	CARBON 4.7K	5% 1/4W
R650	1-249-429-11	CARBON 10K	5% 1/4W
R651	1-249-441-11	CARBON 10K	5% 1/4W
R652	1-247-860-11	CARBON 16K	5% 1/4W
R653	1-249-433-11	CARBON 22K	5% 1/4W
R654	1-249-438-11	CARBON 56K	5% 1/4W
R655	1-249-441-11	CARBON 100K	5% 1/4W
R656	1-249-441-11	CARBON 100K	5% 1/4W
R657	1-249-433-11	CARBON 22K	5% 1/4W
R658	1-249-433-11	CARBON 22K	5% 1/4W
△ R659	1-216-458-71	METAL OXIDE 1.8K	5% 2W F
R660	1-249-430-11	CARBON 12K	5% 1/4W
R661	1-249-429-11	CARBON 10K	5% 1/4W
R662	1-249-422-11	CARBON 2.7K	5% 1/4W
R663	1-249-417-11	CARBON 1K	5% 1/4W
R803	1-249-421-11	CARBON 2.2K	5% 1/4W
R804	1-249-421-11	CARBON 2.2K	5% 1/4W
< RELAY >			
RLY601	1-515-920-11	RELAY (24V)	
< SWITCH >			
SW502	1-571-588-21	SWITCH, SLIDE (POWER SAVE)	
< TERMINAL >			
TM501	1-537-737-11	TERMINAL BOARD (SPEAKER)	
*****			
	1-677-933-11	POWER SW UC BOARD	*****
< CONNECTOR >			
* BC502	1-566-693-11	PIN, CONNECTOR 2P	
< DIODE >			
D511	8-719-991-33	DIODE 1SS133T-77	
D512	8-719-061-31	LED SML72420C8F (POWER)	
< TRANSISTOR >			
Q507	8-729-029-40	TRANSISTOR BN1F4M	
Q508	8-729-029-40	TRANSISTOR BN1F4M	
< RESISTOR >			
R550	1-249-417-11	CARBON 1K	5% 1/4W
R551	1-249-421-11	CARBON 2.2K	5% 1/4W
R552	1-249-421-11	CARBON 2.2K	5% 1/4W

Ref. No.	Part No.	Description	Remark
< SWITCH >			
S801	1-554-920-11	SWITCH, PUSH (AC POWER) (1 KEY)	(POWER)
*****			
	1-677-926-11	PS BOARD	*****
< CONNECTOR >			
* BC801	1-564-506-11	PLUG, CONNECTOR 3P	
* BC804	1-564-505-11	PLUG, CONNECTOR 2P	
< CAPACITOR >			
△ C851	1-113-925-11	CERAMIC 0.01uF 20% 250V	
< CONNECTOR >			
* CN801	1-564-104-00	PIN, CONNECTOR (B3P-VH) 3P	
* CN803	1-564-104-00	PIN, CONNECTOR (B3P-VH) 3P	
< DIODE >			
D810	8-719-991-33	DIODE 1SS133T-77	
< FUSE >			
△ F801	1-532-437-11	FUSE, GLASS TUBE (2.5A/125V) (US, CND)	
△ F801	1-532-463-51	FUSE (T1AL/250V) (EXCEPT US, CND)	
< RELAY >			
△ RLY801	1-755-276-11	RELAY, POWER	
< POWER TRANSFORMER >			
△ T801	1-435-488-11	TRANSFORMER, POWER (US, CND)	
△ T801	1-435-489-11	TRANSFORMER, POWER (AEP, UK, AUS)	
△ T801	1-435-491-11	TRANSFORMER, POWER (E)	
△ T851	1-435-492-11	TRANSFORMER, POWER (US, CND)	
△ T851	1-435-493-11	TRANSFORMER, POWER (AEP, UK, AUS)	
△ T851	1-435-495-11	TRANSFORMER, POWER (E)	
*****			
	1-677-927-11	POWER TR BOARD	*****
< CONNECTOR >			
BC603	1-506-947-11	PIN, CONNECTOR 6P	
< CAPACITOR >			
C605	1-101-001-00	CERAMIC 0.001uF 50V	
< TRANSISTOR/IC >			
Q607	8-729-281-53	TRANSISTOR 2SC1815-GR	
Q609	8-749-010-25	IC MN2488-OPY-M	
Q610	8-749-010-26	IC MP1620-OPY-M	
< RESISTOR >			
R612	1-249-422-11	CARBON 2.7K	5% 1/4W
R613	1-249-417-11	CARBON 1K	5% 1/4W
R614	1-249-411-11	CARBON 330	5% 1/4W

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Ref. No.	Part No.	Description	Remark
△ R621	1-216-364-11	METAL OXIDE FILM 0.39 5%	2W F
△ R622	1-216-364-11	METAL OXIDE FILM 0.39 5%	2W F
△ R623	1-216-364-11	METAL OXIDE FILM 0.39 5%	2W F
△ R624	1-216-364-11	METAL OXIDE FILM 0.39 5%	2W F

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**MISCELLANEOUS**

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△ 12	1-696-571-21	CORD, POWER (AEP, E)
△ 12	1-696-845-31	CORD, POWER (AUS)
△ 12	1-751-520-11	CORD, POWER (UK)
△ 12	1-783-820-11	CORD, POWER (US, CND)
SP601	1-529-652-11	SPEAKER (30cm)
△ T801	1-435-488-11	TRANSFORMER, POWER (US, CND)
△ T801	1-435-489-11	TRANSFORMER, POWER (AEP, UK, AUS)
△ T801	1-435-491-11	TRANSFORMER, POWER (E)
△ T851	1-435-492-11	TRANSFORMER, POWER (US, CND)
△ T851	1-435-493-11	TRANSFORMER, POWER (AEP, UK, AUS)
△ T851	1-435-495-11	TRANSFORMER, POWER (E)

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**ACCESSORIES & PACKING MATERIALS**

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△	1-569-008-21	ADAPTOR, CONVERSION 2P (MY, SP, AUS)
	1-769-329-21	CORD, CONNECTION (PIN-PIN)
	1-769-433-21	CORD, SPEAKER
	4-228-525-11	MANUAL, INSTRUCTION (US, UK) (ENGLISH, SPANISH)
	4-228-525-21	MANUAL, INSTRUCTION (CND, AEP, MY, SP, AUS) (ENGLISH, FRENCH)
	4-228-525-31	MANUAL, INSTRUCTION (AEP) (GERMAN, DUTCH, SWEDISH, ITALIAN, PORTUGUESE, FINNISH, DANISH, SPANISH)
	4-228-525-11	MANUAL, INSTRUCTION (MY, SP) (SPANISH, CHINESE)

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