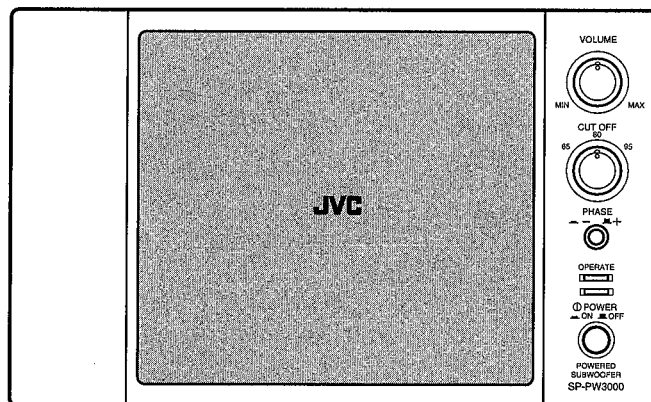


JVC

SERVICE MANUAL

POWERD SUBWOOFER

SP-PW3000



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Safety Precautions

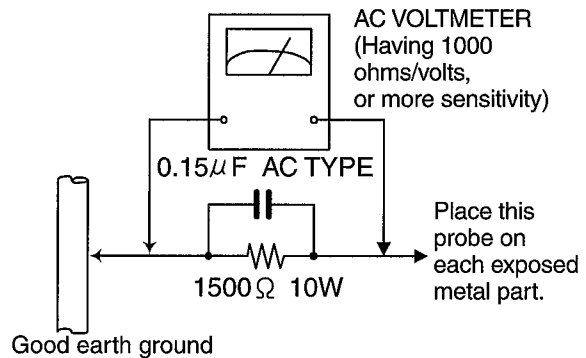
1. This design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (\triangle) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage current check (Electrical shock hazard testing)
After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock. Do not use a line isolation transformer during this check.
 - Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.)

● Alternate check method

Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500 Ω 10W resistor paralleled by a 0.15 μ F AC-type capacitor between an exposed metal part and a known good earth ground.

Measure the AC voltage across the resistor with the AC voltmeter.

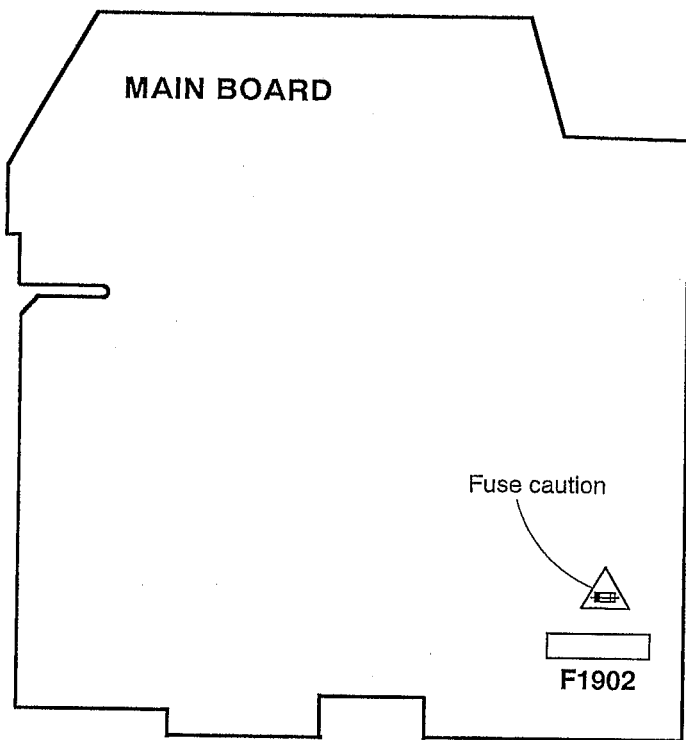
Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



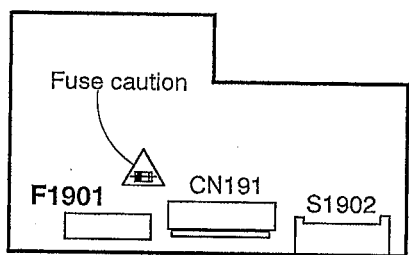
Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

Safety precaution for C version



POWER SUPPLY BOARD



SP – PW3000 C ONLY

Explanation of graphic symbole mark

Graphic symbol mark
(This symbol means fast blow type fuse.)



should be read as follows:

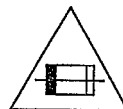
FUSE CAUTION

FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE OF FUSE; F1901 : 1.6A/250V, F1902 : 8A/125V.

SP – PW3000 C SEULEMENT

Explication du symbole graphique

Le symbole graphique
(Ce symbole signifie fusible de type à fusion rapide.)



doit être interété comme suit:

PRECAUTIONS SUR LES FUSIBLES

POUR UNE PROTECTION CONTINUE CONTRE DES RISQUES D'INCENDIE, REMPLASER SEULEMENT PAR UN FUSIBLE DU MEME TYPE ; F1901: 1.6A/250V, F1902 : 8A/125V

■ Major Points for Ensuring Safety

① Make sure the mark on the power transformer reads "VTP09J2-12C"(B/E/EN/G/UF Version),"VTP09A2-12J"(C/J Version),and "VTP09G2-12C"(U/UB/US/UT/UP Version), and check that the screws securing it are not loose.

② Check the marks on the power cord: **E/G/EN version** B/UB version
 ◀VDE▶ BASEC BS6500
 Easy-connect (Quick-connect) plug: KP-419C KD-610

Check that there are no scratches or gouges on the cable.
 Check that the mark on the power cable holder reads "NFCO 2271"

③ Check that the mark on the power switch reads "M7".

④ Check that the mark on the fuse and the fuse holder are both secured.

The fuse sticker must be located nearby.

Fuse mark: F1901 1.6 A/250 V C version
 F1901 T800mA/250 V B/E/EN/G version
 F1901 T1.25 A/250 V U version
 F1902 8 A/125 V

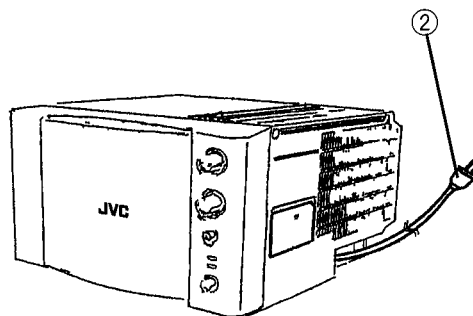
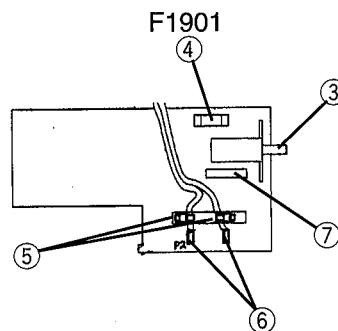
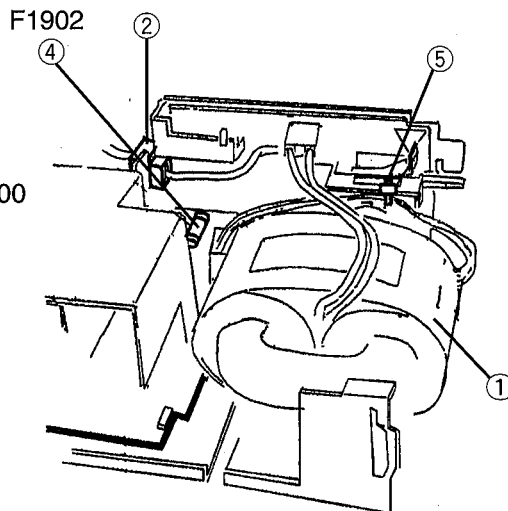
⑤ Wires close to the powered section must be secured with solder,and where they are not close to any movable parts, or heat-generating or sharp-edged sections.

⑥ The following parts generate heat. Be sure to use specified parts, and mount them in the same way as before replacement.

Parts not listed here are not supported by JVC.

IC601, D1901, Heat Sink (VYK3015-002)

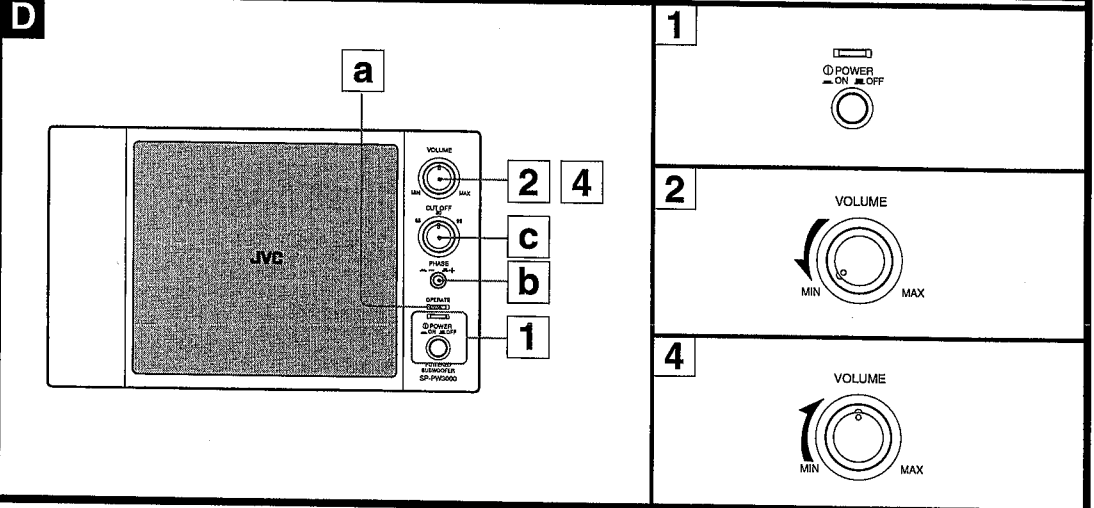
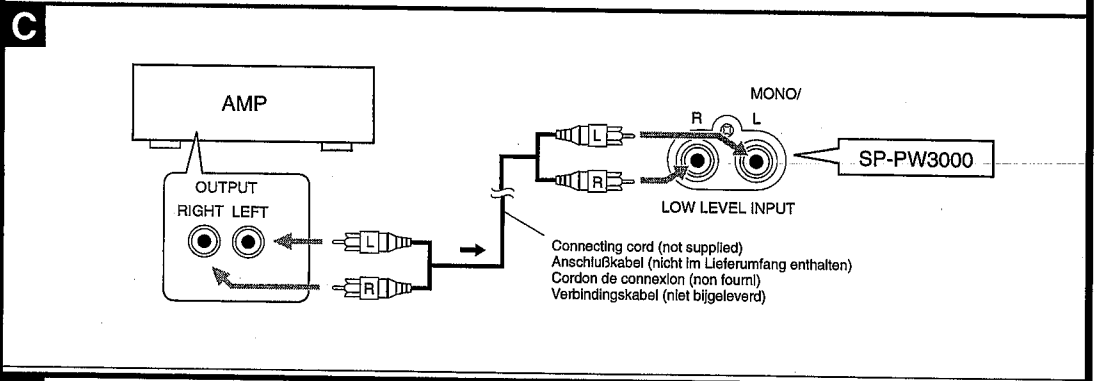
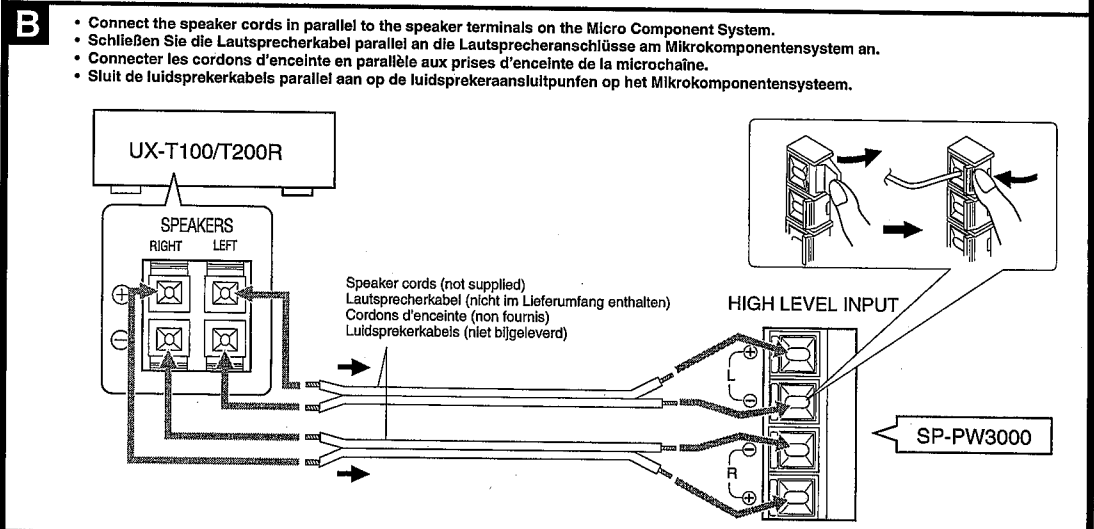
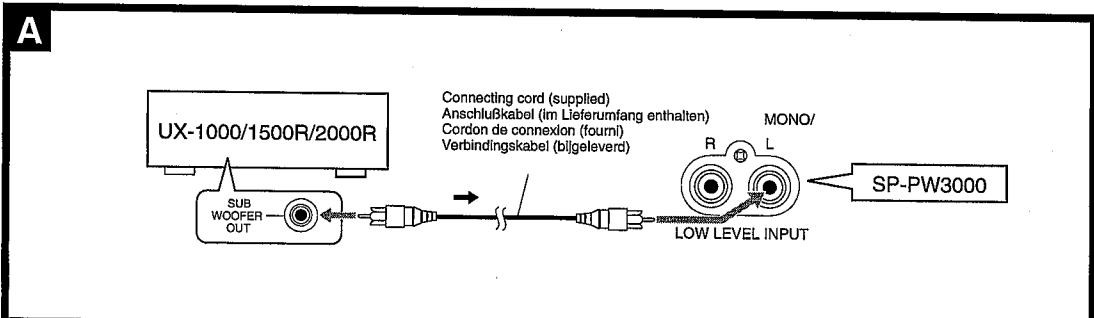
⑦ Check that the mark on the spark-suppressing capacitor is ECQ-UX or ECQ-UV.



⚠ NOTE

Burrs generated during the molding process may remain on some parts of the chassis. Pay attention not to be injured by them when servicing.

Instructions

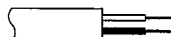


ENGLISH

Thank you for purchasing this JVC product. Please read these instructions carefully before starting operation to be sure to obtain optimum performance and a longer service life from the unit.

IMPORTANT (In the United Kingdom)
Mains Supply (AC 230V[~], 50 Hz only)
 DO NOT cut off the mains plug from this equipment. If the plug fitted is not suitable for the power points in your home or the cable is too short to reach a power point, then obtain an appropriate safety approved extension lead or consult your dealer. BE SURE to replace the fuse only with an identical approved type, as originally fitted, and to replace the fuse cover.
 If nonetheless the mains plug is cut off ensure to remove the fuse and dispose of the plug immediately, to avoid a possible shock hazard by inadvertent connection to the mains supply.

IMPORTANT
 DO NOT make any connection to the terminal which is marked with the letter E or by the safety earth symbol or coloured green or green-and-yellow. The wires in the mains lead on this product are coloured in accordance with the following code:



Blue to N (Neutral) or Black
 Brown to L (Live) or Red

As these colours may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.

The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

IF IN DOUBT - CONSULT A COMPETENT ELECTRICIAN.

WARNING:
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION
 RISK OF ELECTRIC SHOCK
 OPEN PANELS

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

SAFETY PRECAUTIONS

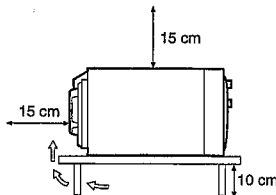
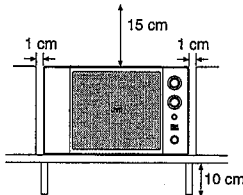
Prevention of Electric Shocks, Fire Hazards and Damage

1. Do not handle the power cord with wet hands.
2. When unplugging from the wall outlet, always grasp and pull the plug, not the power cord.
3. Consult your nearest dealer when damage, disconnection, or contact failure affects the cord.
4. Do not bend the cord severely, or pull or twist it.
5. Do not modify the power cord in any manner.
6. To avoid accidents, do not remove screws to disassemble the unit and do not touch anything inside the unit.
7. Do not insert any metallic objects into the unit.
8. Unplug the power cord when there is a possibility of lightning.
9. If water gets inside the unit, unplug the power cord from the outlet and consult your dealer.
10. Do not block the unit's ventilation holes that allow heat to escape.
11. Do not install the unit in a badly ventilated place.
12. Do not place the unit upside down.
13. Be sure to unplug the power cord from the outlet when going out or when the unit is not in use for an extended period of time.

Caution: Proper Ventilation

To avoid risk of electric shock and fire, and to prevent damage, locate the apparatus as follows:

1. Front:
No obstructions and open spacing.
2. Sides/ Top/ Back:
No obstructions should be placed in the areas shown by the dimensions below.
3. Bottom:
Place on the level surface. Maintain an adequate air path for ventilation by placing on a stand with a height of 10 cm or more.



HANDLING PRECAUTIONS

Do not use this unit in direct sunlight where it would be exposed to high temperatures above 40°C (104°F).

1. **Avoid installing in the following places**
 - Where it could be subject to vibrations.
 - Where it is excessively humid, such as in a bathroom.
 - Where it could be magnetized by a magnet or speaker.
2. **Condensation**
 In the following cases, condensation may occur in the unit, in which case the unit may not operate correctly.
 - In a room where a heater has just been switched on.
 - In a place where there is smoke or high humidity.
 - When the unit is moved directly from a cold to a warm room.
 In these cases, set the **POWER** button to OFF and wait 1 or 2 hours before use.

3. **Volume setting**
 CDs/MDs produce very little noise compared with analogue sources. If the volume level is adjusted for these sources, the speakers may be damaged by the sudden increase of output level. Therefore, lower the volume before operation and adjust it as required during play.

4. **Keep this unit away from your TV**
 When this unit is used near a TV, the TV picture could be distorted. If this happens, move this unit away from the TV. If this does not correct the situation, avoid using this unit when the TV is turned on.

5. **Cleaning the cabinet**
 If the cabinet gets dirty, wipe it with a soft, dry cloth. Never use benzine or thinner as these could damage the surface finish.

CONNECTIONS:

Plug the AC power cord after all connections are complete.

A When connecting JVC Ultra Micro Component System (UX-1000/1500R/2000R)

B When connecting JVC Micro Component System (UX-T100/T200R etc.)

Note: No sound comes out of this speaker if you connect the headphones to your Micro Component System.

C When connecting a Preamplifier of any manufacturers'

CAUTION: DO NOT use the REC OUT jacks of the preamplifier to connect this speaker.

OPERATIONS: D

Presetting the Volume

You need to preset the volume level of this speaker to match those of the other speakers.

Once you preset the volume level, it is stored as your reference level and the volume level of this speaker will be able to automatically change as the volume level of the stereo system changes.

- 1 Turn on the power.
The POWER indicator lights up.
- 2 Set the volume to "MIN."
- 3 Adjust the volume of the connected stereo system to your listening level.
- 4 Adjust the volume to balance it with those of the other speakers.

To turn off this speaker, press the **POWER** button again so that the POWER indicator goes off. (The indicator may not go off immediately.)

About the OPERATE Indicator (E)

The OPERATE indicator lights up while sound signals are coming into this speaker.

Adding the Richness to the Bass (PHASE: F)

Normally set the PHASE button in the "■ +" position. If you want to add the richness more to the bass, press the PHASE button to set it either in the "■ -" position or the "■ +" position, whichever can add the richness to the bass.

Cutting Off the Higher Frequencies (CUT OFF: G)

Set the CUT OFF selector to the position giving you the preferable sound, according to the other speaker system used and to the played back music.

Automatic Operating Status On/Off

To save energy, this speaker enters the standby mode (the OPERATE indicator goes off) if no (or very weak) sound signals come into this unit for a while. When sound signals come in again (the OPERATE indicator comes on), this speaker enters the operating mode and reproduces the sounds.

Specifications

Model: Powered subwoofer
 Speaker unit: Woofer 10 cm (4 Ω) × 2
 Rated impedance: 4 Ω
 Frequency response: 40 - 100 Hz
 Output sound pressure level: 81 dB/W/m
 Input terminals:
 LOW LEVEL: 12 mV/56 kΩ
 HIGH LEVEL: 230 mV/430 Ω
 Output power: 25 W + 25 W (Max.)
 20 W + 20 W (10% THD*)
 Power requirements: AC 230 V[~], 50 Hz
 Power consumptions: 30 W
 Dimensions: Approx. 258 × 158 × 294 mm (W/H/D)
 Mass: Approx. 5.8 kg

* THD: Total Harmonic Distortion

Design and specifications are subject to change without prior notice.

Location of main parts

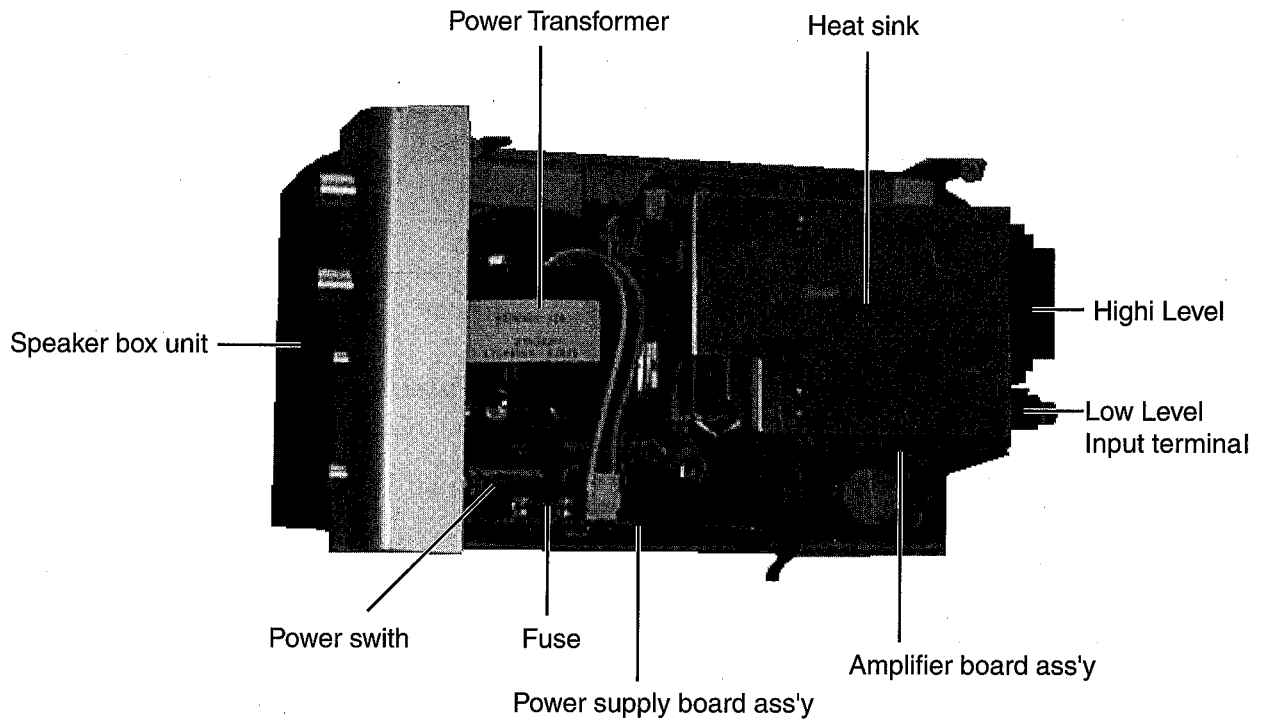
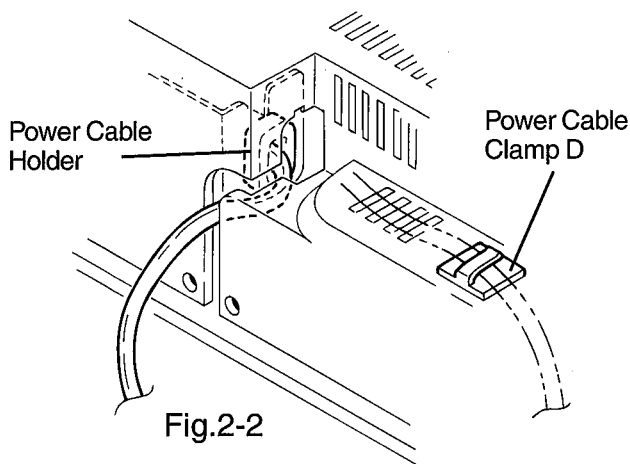
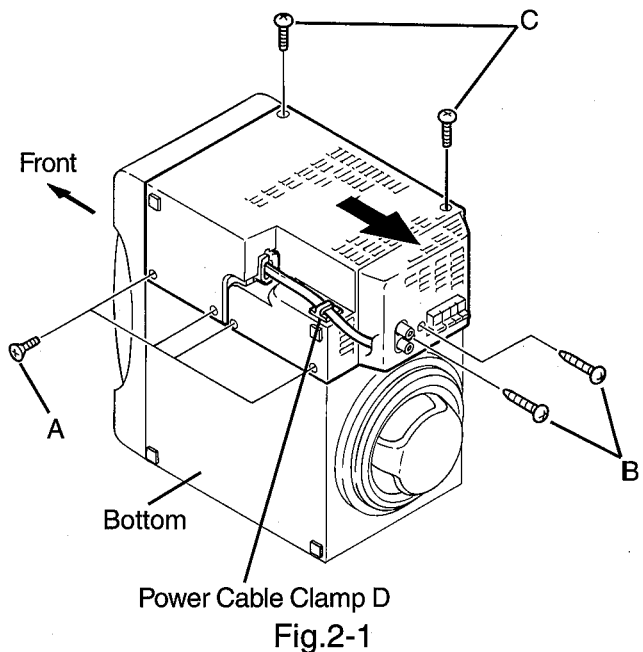


Fig.1-1

Removal of main parts

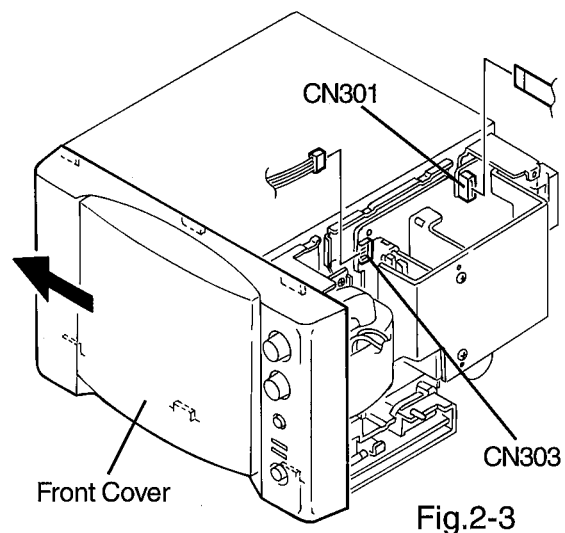
■ Removing the Amp Cover (Refer to Figs. 2-1, 2-2)

1. Remove the four screws (A) securing the cover from the bottom of the main unit. (Refer to Fig. 2-1.)
 2. Remove the speaker terminals (INPUT) and the two screws (B) securing the line-in jack from the rear of the unit.
 3. Remove the two screws (C) securing the cover to the chassis.
- Detach the power cable from the power cable clamp (D) and move it away from the cover by placing the cable in the notch. Pull the cover out towards the rear to remove it.



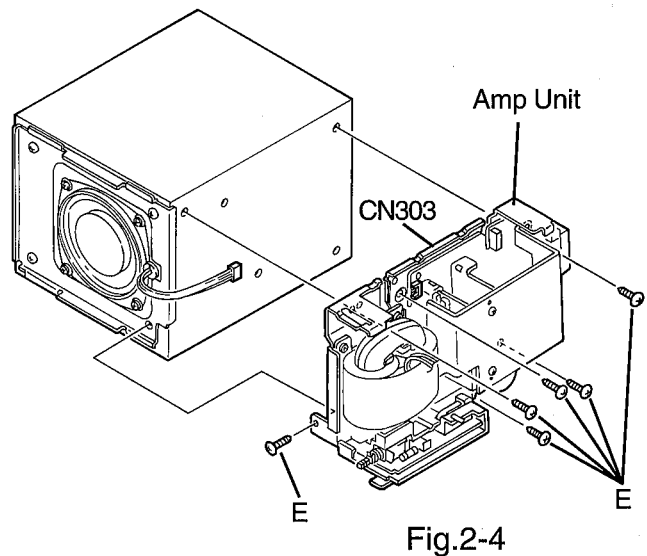
■ Removing the Front Cover (Refer to Fig. 2-3)

1. Remove the CN301 card wire from the control PCB.
2. Pull the front cover out in the direction shown in the diagram to remove it from the main unit.



■ Removing the Amp Unit (Refer to Fig. 2-4)

1. Remove the amp cover.
2. Remove the front cover.
3. Remove the speaker connector wire (CN303).
4. Remove the six screws (E) securing the amp unit.



■ Removing the Amp PCB Ass'y (Refer to Fig. 2-5)

1. Remove the protective cover from the amp section.
2. Unplug the CN92 connector from the power transformer.
3. Remove the three screws (G) securing the heat sink to the amp PCB ass'y.

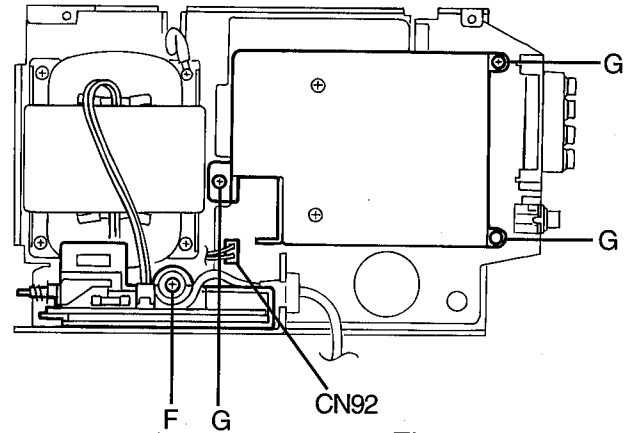


Fig.2-5

■ Removing the Power Supply PCB Ass'y (Refer to Figs. 2-5, 2-6)

1. Remove the protective cover from the amp section.
2. Remove the front cover.
3. Remove the screw (F) securing the power supply PCB holder.
4. Open the catch on the bottom of the power supply PCB holder in the direction of the arrow, then remove the power supply PCB ass'y.

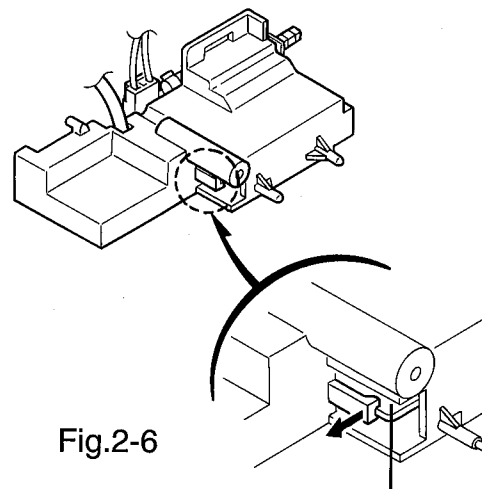


Fig.2-6

Power Supply PCB Ass'y

■ Removing the Control PCB Ass'y (Refer to Figs. 2-7, 2-8)

1. Remove the amp cover.
2. Remove the front cover.
3. Remove the two knobs from the front cover.
4. Remove the three screws (H) securing the control PCB ass'y.

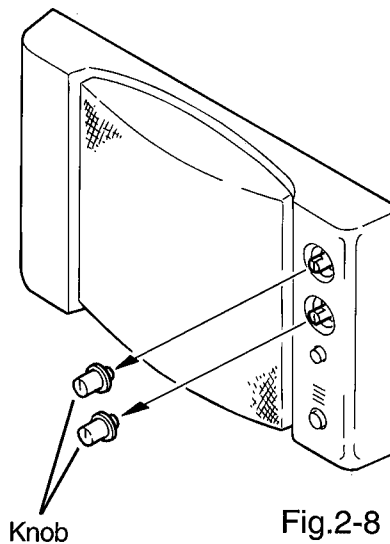


Fig.2-8

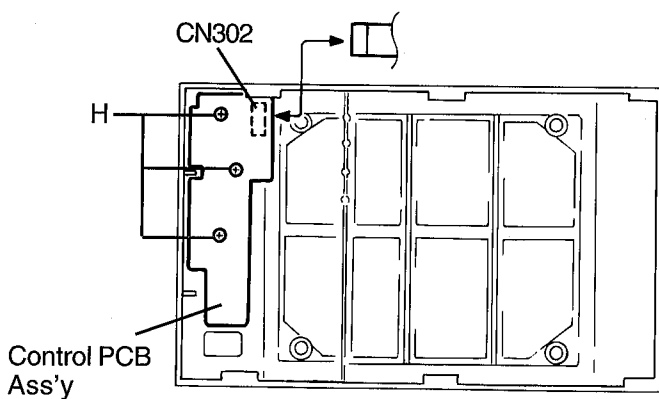


Fig.2-7

Main adjustment

SP-PW1 Adjustments/Measurements

Reference Voltage

: 100 V, 50/60 Hz

Reference Output

: Speaker Output 0 dBs (0.775 V)/4 ohms

Switch Set Position

: Cut-Off: 80

Volume Position

: Max. (Reference output)

Reference Input Level

: Low Level: -57 dBs

: High Level: -30 dBs

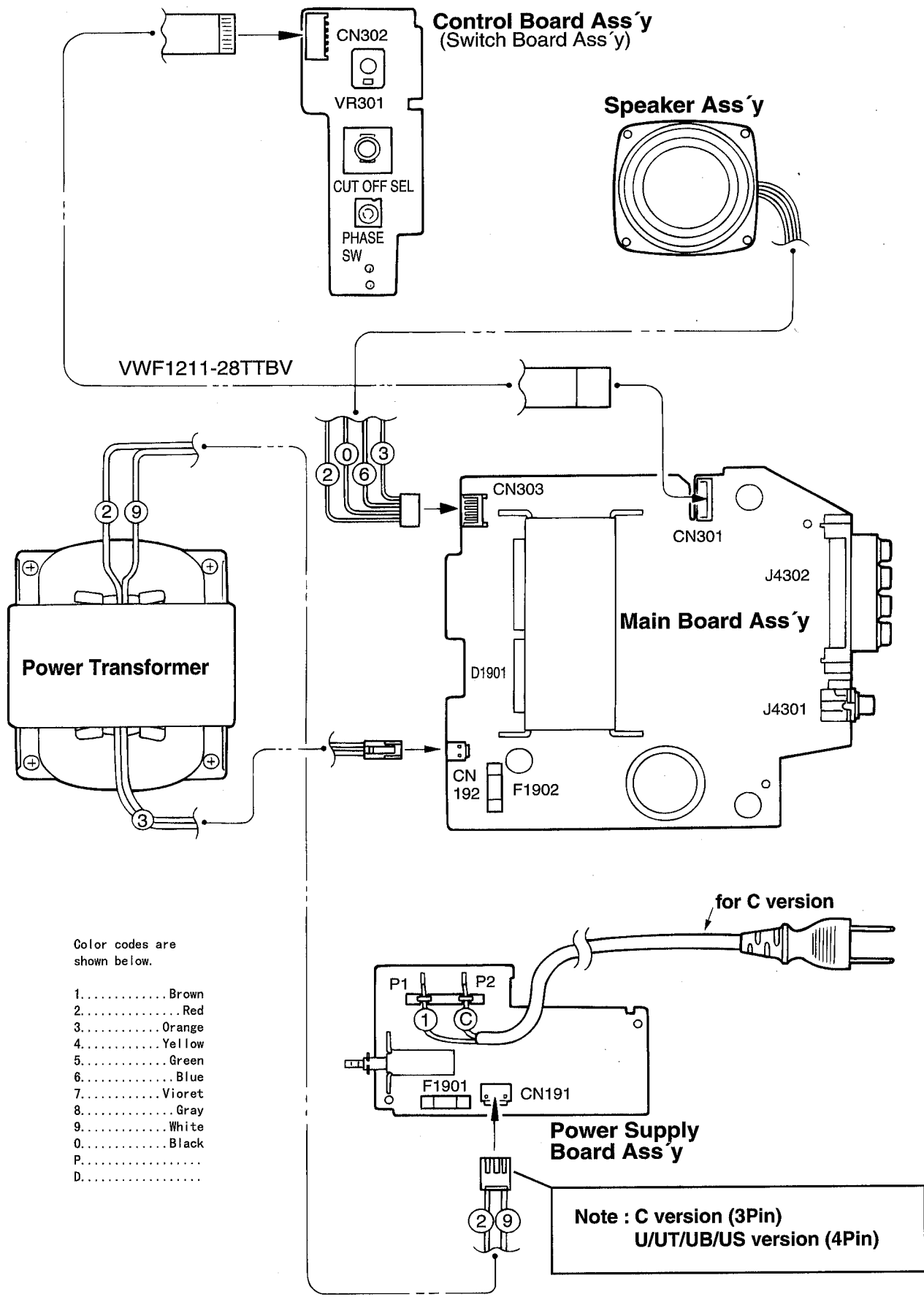
Measuring Terminals

: Speaker Terminals

Note: BTL Circuit. Speakers are not grounded.

Item	Condition	Adjustments & Checks	Standard Value	Adjustment Point
1. Amp Gain Check	Main Volume: Max. Frequency: 50 Hz	1. Check that the 50 Hz, -57 dBs \pm 4 dB signal appears at the Low Level input terminal when the speaker output level is set to 0 dBs. 2. Check that the 50 Hz, -30 dBs \pm 4 dB signal appears at the High Level input terminal when the speaker output level is set to 0 dBs.	Low Level: -57 dBs \pm 4 dB High Level: -30 dBs \pm 4 dB	
2. Noise Level Check	Low Level input terminal: Short-circuited Main Volume: Max.	Check that the non-signal level is less than 6 mV when the input terminals are short-circuited.	Less than 6 mV	
3. Cut-Off Check	Frequency: Cut-off 100 Hz and below Cut-Off Switch: 80	Apply a 100 Hz signal to the input, then read the difference in level between 65 and 95 when the Cut-Off switch is set to "80".	65: -4 \pm 3 dB 95: +4 \pm 3 dB	
4. Low Level Input Frequency Response	Speaker Output: 0 dBs Frequency: 50 Hz	Set the input frequency to 30 Hz and 100 Hz, then read the difference in level when the frequency is alternated between 30 Hz and 100 Hz.	30 Hz: within -15 \pm 3 dB 100 Hz: within -12 \pm 4 dB	
5. Distortion at Low Level Input	Speaker Output: 0 dBs Distortion Meter	Check that the distortion meter reads within 0.5% when the output level is 50 Hz, 0 dBs.	Within 0.5%	
6. S/N Ratio at Low Level Input	Speaker Output: 0 dBs	Check that the difference in output level is more than 50 dB when the input signal is alternated between 50 Hz and no-signal.	More than 50 dB	
7. Maximum Output	CN303 Low Level Input Output Terminals Main Volume: Max.	Check that the level at the CN303 measurement pin is 14 W (7.5 V or more) when a 50 Hz, -30 dB signal is applied.	14(W)/7.5 (V)	

Wiring Connections



5

4

3

2

1

A

B

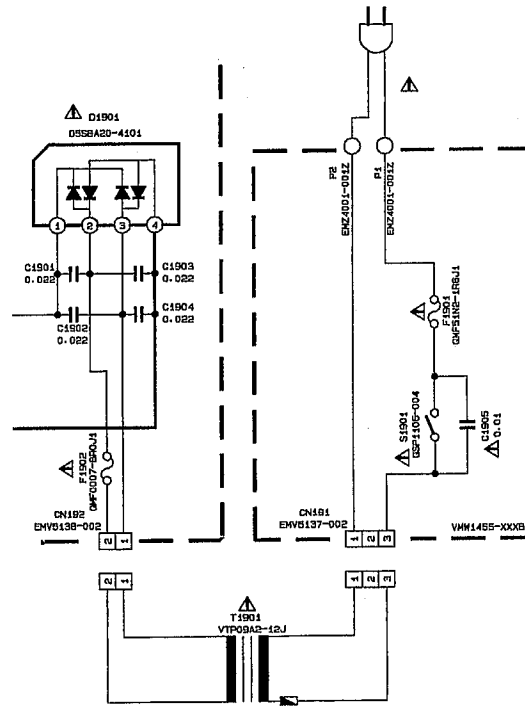
C

D

Standard Schematic Diagrams

C version

5

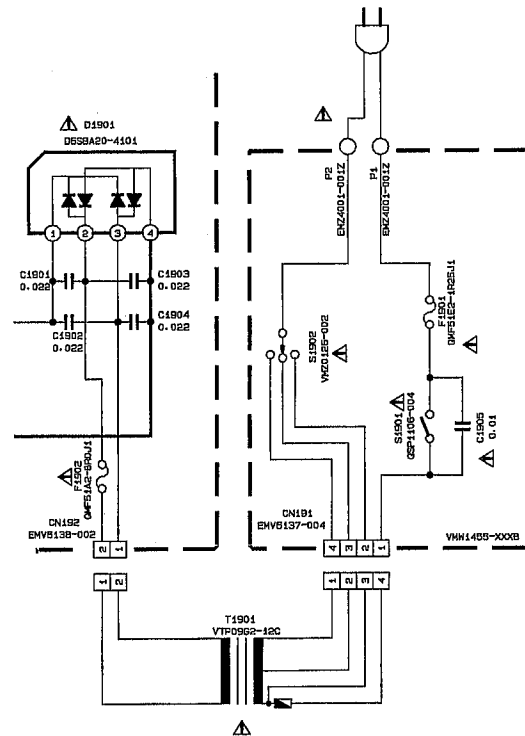


4

3

U/UT/UB/US version

2



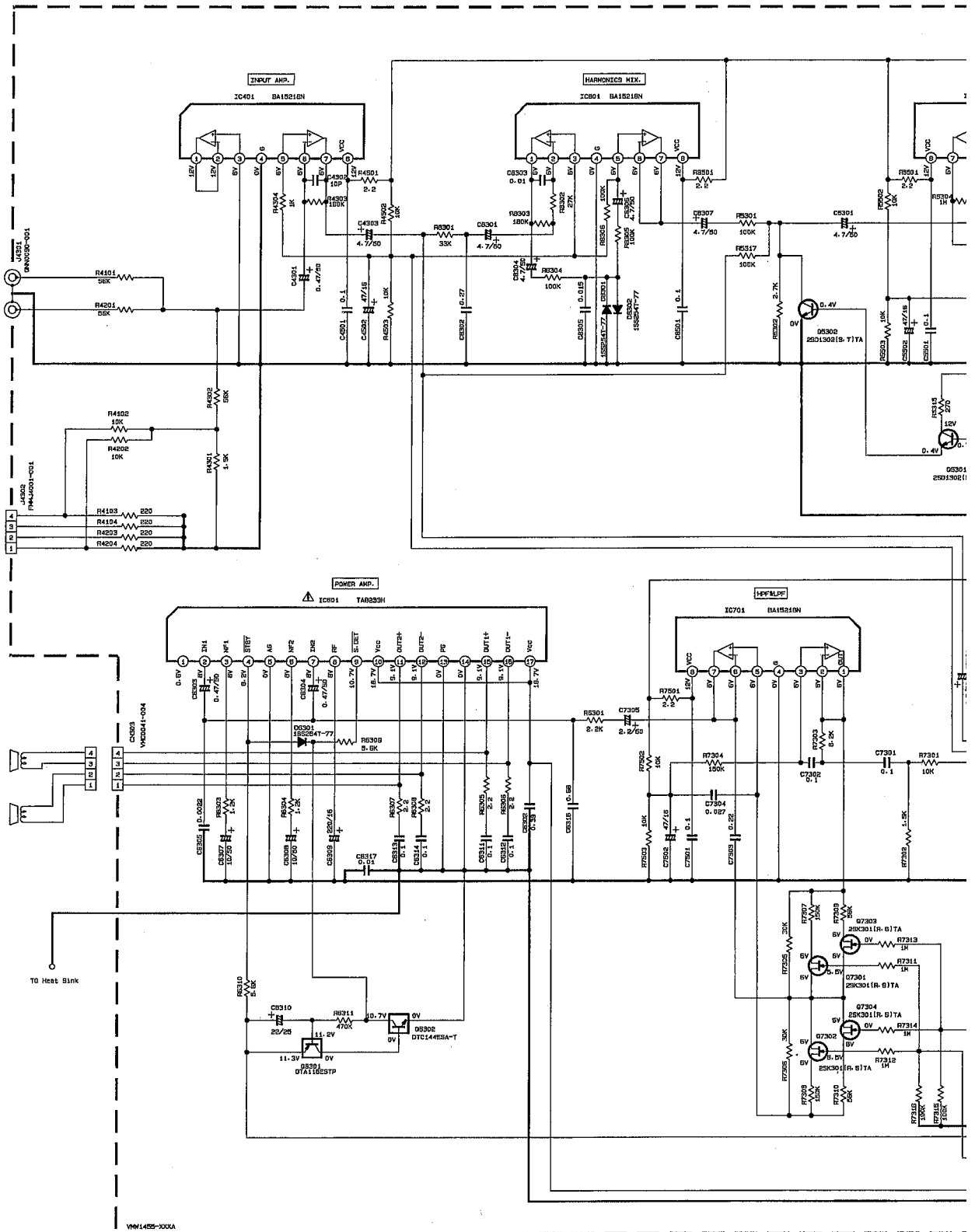
1

A

B

C

E/EN/B/G/V/X/UF version



- NOTES
- VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER OR OSCILLOSCOPE.
CONDITION — POWER-ON OPERATE LED+DN CUT OFF-BO PHASE+
LOW LEVEL MONO INPUT/150HZ 31MV
 - UNLESS OTHERWISE SPECIFIED, RESISTORS ARE 1/8W 5% CARBON RESISTOR.
ALL RESISTANCE VALUES ARE IN OHMS (Ω)
ALL CAPACITORS ARE CERAMIC CAPACITOR OR MYLAR CAPACITOR.
ALL CAPACITANCE VALUES ARE IN nF (nF)
ALL INDUCTANCE VALUES ARE IN μH (μH)
ALL CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE (F) / RATED VOLTAGE (V)
ALL DIODES ARE 1SS254T-77 OR HS104TJ
ALL NPN TRANSISTORS ARE 2SC2705(E,F) OR KTC3191(L)



DTC144E8A-T



DTA144E8A-T



DTA150E8P

5

4

3

2

1

A

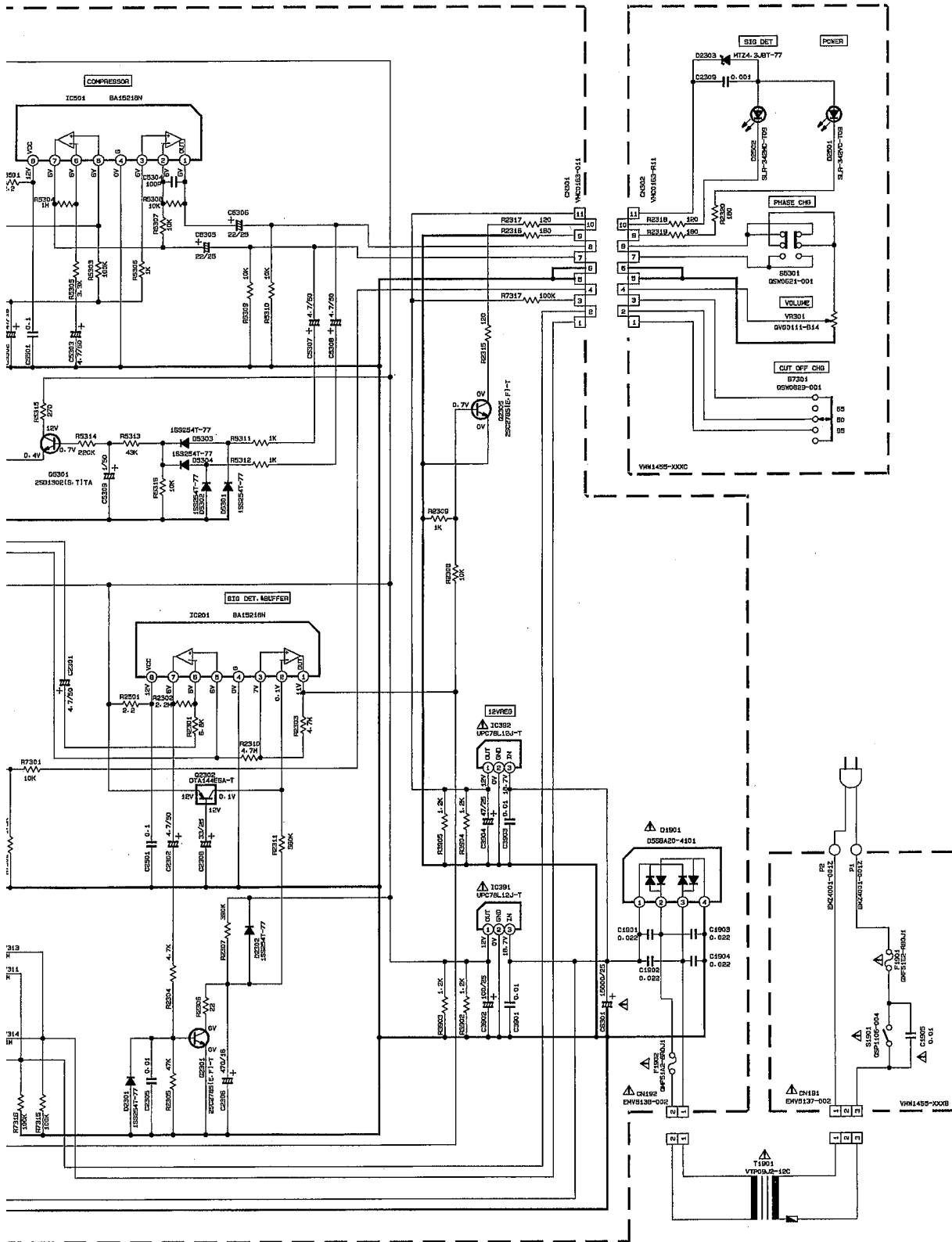
B

C

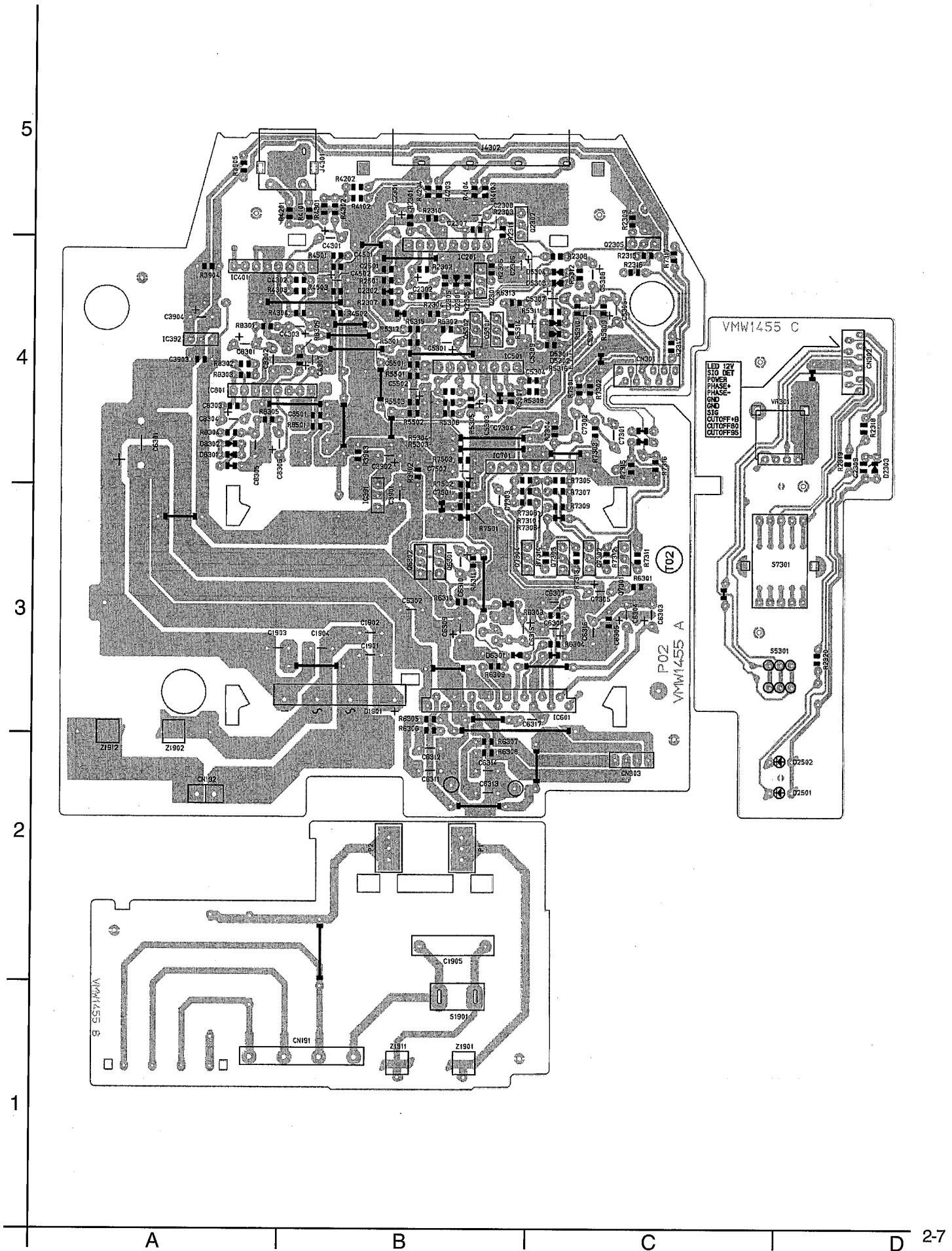
2-6

D

SP-PW3000



Location of P.C.Board Parts



BLOCK NO. 01111111

BLOCK NO. 01111111

A	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C7302	QFN41HJ-104	M.CAPACITOR	.10MF 5% 50V	
	C7303	QFN41HJ-224	FILM CAPACITOR	.22MF 5% 50V	
	C7304	QFN41HJ-273	M.CAPACITOR	.027MF 5% 50V	
	C7305	QETC1HM-225ZM	E.CAPACITOR	2.2MF 20% 50V	
	C7501	QCFB1HZ-104Y	C.CAPACITOR	.10MF +80:-20%	
	C7502	QET41CM-476	E.CAPACITOR	4.7MF 20% 16V	
	C8301	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C8302	QEV41HJ-274ZM	FILM CAPACITOR	.27MF 5% 50V	
	C8303	QCVB1CM-103Y	C.CAPACITOR	.010MF 20% 16V	
	C8304	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C8305	QFN41HJ-153	M.CAPACITOR	.015MF 5% 50V	
	C8306	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C8307	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C8501	QCFB1HZ-104Y	C.CAPACITOR	.10MF +80:-20%	
	D1901	DSSBA20-4101	SI DIODE		
	D2301	1SS133	SI DIODE		
	D2302	1SS133	SI DIODE		
	D2303	MTZ4.3JB	ZENER DIODE		
	D2501	SLR-342VC-T09	LED RED H8.9MM	POWER ON/OFF	
	D2502	SLR-342MC-T09	LED GRN. H8.9MM	AUTO P.OFF DISP	
	D5301	1SS133	SI DIODE		
	D5302	1SS133	SI DIODE		
	D5303	1SS133	SI DIODE		
	D5304	1SS133	SI DIODE		
	D6301	1SS133	SI DIODE		
	D8301	1SS133	SI DIODE		
	D8302	1SS133	SI DIODE		
	IC201	BA15218N	IC		
	IC391	UPC78L12J-T	IC		
	IC392	UPC78L12J-T	IC		
	IC401	BA15218N	IC		
	IC501	BA15218N	IC		
	IC601	TA8233H	IC		
	IC701	BA15218N	IC		
	IC801	BA15218N	IC		
	J4301	QNN090-001	PIN JACK		
	J4302	FHMJ4001-001	SPK TERMINAL		
	P 1	EMZ4001-001	TAB		
	P 2	EMZ4001-001	TAB		
	Q2301	2SC2785	TRANSISTOR		
	Q2302	DTA144ES	D.TRANSISTOR		
	Q2305	2SC2785	TRANSISTOR		
	Q5301	2SD1302	TRANSISTOR		
	Q5302	2SD1302	TRANSISTOR		
	Q6301	DTA115EK	TRANSISTOR		
	Q6302	DTC144ESA-T	TRANSISTOR		
	Q7301	2SK301(P,Q)	TRANSISTOR		
	Q7302	2SK301(P,Q)	TRANSISTOR		
	Q7303	2SK301(P,Q)	TRANSISTOR		
	Q7304	2SK301(P,Q)	TRANSISTOR		
	R2301	QRD167J-682	CARBON RESISTOR	6.8K 5% 1/6W	
	R2302	QRD161J-225	CARBON RESISTOR	2.2M 5% 1/6W	
	R2303	QRD161J-475	CARBON RESISTOR	4.7M 5% 1/6W	
	R2304	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R2305	QRD161J-473	CARBON RESISTOR	4.7K 5% 1/6W	

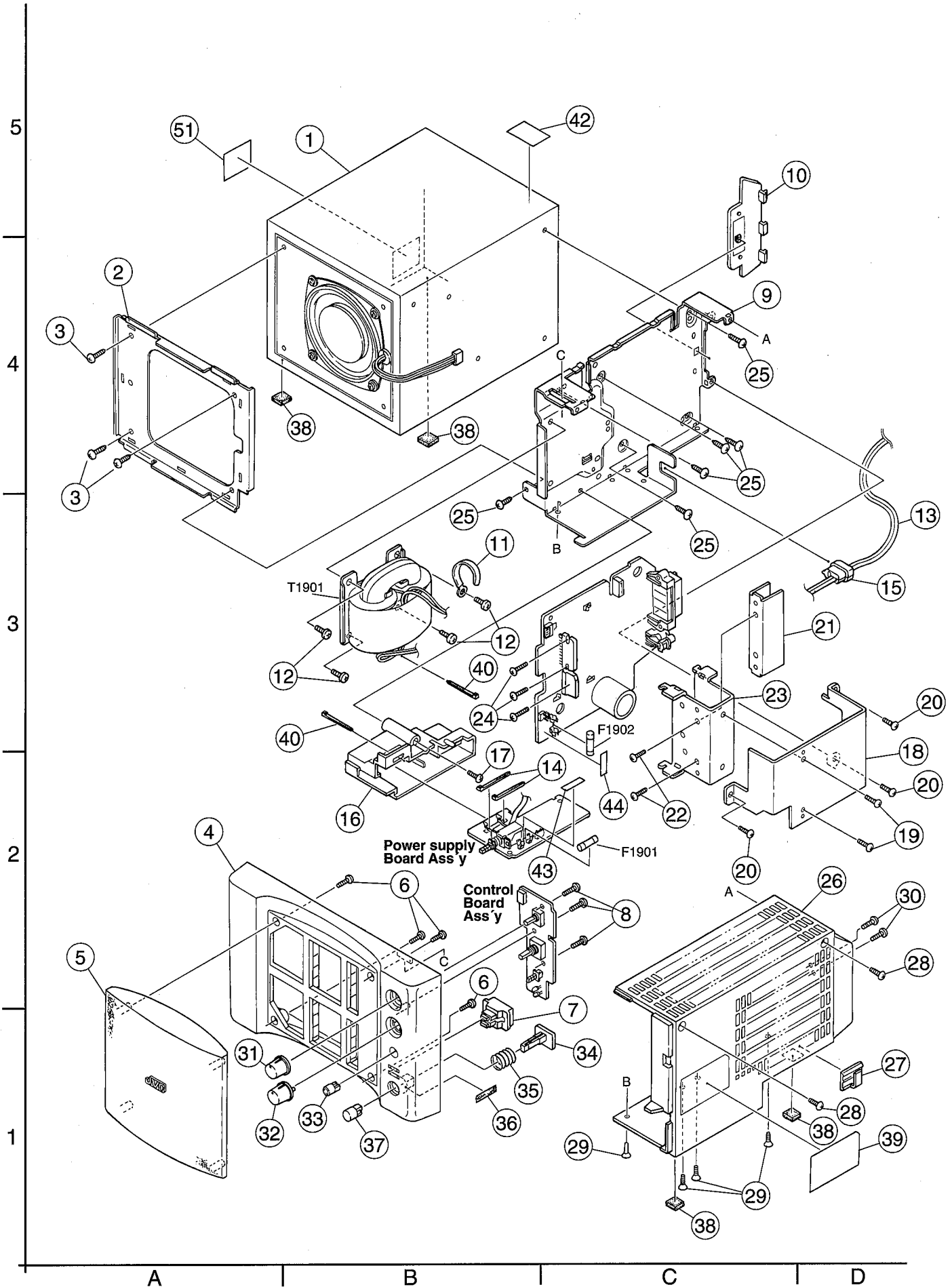
A	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	CN191	EMV5137-002	CONNECTOR		J,VX,UF
	CN191	EMV5137-004	CONNECTOR		UB,UP,US
	CN191	EMV5137-004	CONNECTOR		UT,U
	CN191	EMV5137-002	CONNECTOR		B,E,EN,G
	CN192	EMV5138-002	CONNECTOR		
	CN301	VMC0163-011	CONNECTOR		
	CN302	VMC0163-R11	CONNECTOR		
	CN303	VMC0041-004	CONNECTOR		
	C1901	QFN81HJ-223	M.CAPACITOR	.022MF 5% 50V	
	C1902	QFN81HJ-223	M.CAPACITOR	.022MF 5% 50V	
	C1903	QFN81HJ-223	M.CAPACITOR	.022MF 5% 50V	
	C1904	QFN81HJ-223	M.CAPACITOR	.022MF 5% 50V	
	C1905	QFZ9037-103	M.CAPACITOR	.010MF	
	C2301	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C2302	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C2305	QCVB1CM-103Y	C.CAPACITOR	.010MF 20% 16V	
	C2306	QET41CM-477	E.CAPACITOR	4.70MF 20% 16V	
	C2308	QETC1EM-336ZM	E.CAPACITOR	33MF 20% 25V	
	C2309	QCB1HK-102Y	C.CAPACITOR	1000PF 10% 50V	
	C2501	QCFB1HZ-104Y	C.CAPACITOR	.10MF +80:-20%	
	C3901	QFN81HJ-103	M.CAPACITOR	.010MF 5% 50V	
	C3902	QET41EM-107	E.CAPACITOR	100MF 20% 25V	
	C3903	QCVB1CM-103Y	C.CAPACITOR	.010MF 20% 16V	
	C3904	QET41EM-476	E.CAPACITOR	4.7MF 20% 25V	
	C4301	QET41HM-474	E.CAPACITOR	4.7MF 20% 50V	
	C4302	QCS11HJ-100	C.CAPACITOR	10PF 5% 50V	
	C4303	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C4501	QCFB1HZ-104Y	C.CAPACITOR	.10MF +80:-20%	
	C4502	QET41CM-476	E.CAPACITOR	4.7MF 20% 16V	
	C5301	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C5303	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C5304	QCB1HK-101Y	C.CAPACITOR	100PF 10% 50V	
	C5305	QETC1EM-226ZM	E.CAPACITOR	22MF 20% 25V	
	C5306	QETC1EM-226ZM	E.CAPACITOR	22MF 20% 25V	
	C5307	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C5308	QET41HM-475	E.CAPACITOR	4.7MF 20% 50V	
	C5309	QET41HM-105	E.CAPACITOR	1.0MF 20% 50V	
	C5501	QCFB1HZ-104Y	C.CAPACITOR	.10MF +80:-20%	
	C5502	QET41CM-476	E.CAPACITOR	4.7MF 20% 16V	
	C6301	QET0415-159	E.CAPACITOR	15000MF	
	C6302	QF171HJ-394ZM	FILM CAPACITOR	.39MF 5% 50V	
	C6303	QET41HM-474	E.CAPACITOR	.47MF 20% 50V	
	C6304	QET41HM-474	E.CAPACITOR	.47MF 20% 50V	
	C6305	QCXB1CM-222Y	C.CAPACITOR	2200PF 20% 16V	
	C6307	QETC1HM-106ZM	E.CAPACITOR	10MF 20% 50V	
	C6308	QETC1HM-106ZM	E.CAPACITOR	10MF 20% 50V	
	C6309	QET41CM-227	E.CAPACITOR	220MF 20% 16V	
	C6310	QETC1EM-226ZM	E.CAPACITOR	22MF 20% 25V	
	C6311	QFLC1HJ-104ZM	M.CAPACITOR	.10MF 5% 50V	
	C6312	QFLC1HJ-104ZM	M.CAPACITOR	.10MF 5% 50V	
	C6313	QFLC1HJ-104ZM	M.CAPACITOR	.10MF 5% 50V	
	C6314	QFLC1HJ-104ZM	M.CAPACITOR	.10MF 5% 50V	
	C6316	QFV81HJ-684	M.M.CAPACITOR	.68MF 5% 50V	
	C6317	QFN81HJ-103	M.CAPACITOR	.010MF 5% 50V	
	C7301	QFN41HJ-104	M.CAPACITOR	.10MF 5% 50V	

BLOCK NO. 01

REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
R2306	QRD161J-220	CARBON RESISTOR	22 5% 1/6W	
R2307	QRD161J-394	CARBON RESISTOR	390K 5% 1/6W	
R2308	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R2309	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
R2310	QRD161J-475	CARBON RESISTOR	4.7M 5% 1/6W	
R2311	QRD161J-564	CARBON RESISTOR	560K 5% 1/6W	
R2315	QRD161J-121	CARBON RESISTOR	120 5% 1/6W	
R2316	QRD161J-181	CARBON RESISTOR	180 5% 1/6W	
R2317	QRD161J-121	CARBON RESISTOR	120 5% 1/6W	
R2318	QRD161J-121	CARBON RESISTOR	120 5% 1/6W	
R2319	QRD161J-181	CARBON RESISTOR	180 5% 1/6W	
R2320	QRD161J-181	CARBON RESISTOR	180 5% 1/6W	
R2501	QRD161J-2R2	CARBON RESISTOR	2.2 5% 1/6W	
R3902	QRD161J-122	CARBON RESISTOR	1.2K 5% 1/6W	
R3903	QRD161J-122	CARBON RESISTOR	1.2K 5% 1/6W	
R3904	QRD161J-122	CARBON RESISTOR	1.2K 5% 1/6W	
R3905	QRD161J-122	CARBON RESISTOR	1.2K 5% 1/6W	
R4101	QRD161J-563	CARBON RESISTOR	56K 5% 1/6W	
R4102	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R4103	QRD161J-221	CARBON RESISTOR	220 5% 1/6W	
R4104	QRD161J-221	CARBON RESISTOR	220 5% 1/6W	
R4201	QRD161J-563	CARBON RESISTOR	56K 5% 1/6W	
R4202	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R4203	QRD161J-221	CARBON RESISTOR	220 5% 1/6W	
R4204	QRD161J-221	CARBON RESISTOR	220 5% 1/6W	
R4301	QRD161J-152	CARBON RESISTOR	1.5K 5% 1/6W	
R4302	QRD161J-563	CARBON RESISTOR	56K 5% 1/6W	
R4303	QRD161J-184	CARBON RESISTOR	180K 5% 1/6W	
R4304	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
R4501	QRD161J-2R2	CARBON RESISTOR	2.2 5% 1/6W	
R4502	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R4503	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R5301	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
R5302	QRD161J-272	CARBON RESISTOR	2.7K 5% 1/6W	
R5303	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
R5304	QRD161J-105	CARBON RESISTOR	1.0M 5% 1/6W	
R5305	QRD167J-532	CARBON RESISTOR	3.3K 5% 1/6W	
R5306	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
R5307	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R5308	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R5309	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R5310	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R5311	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
R5312	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
R5313	QRD161J-433	CARBON RESISTOR	43K 5% 1/6W	
R5314	QRD161J-224	CARBON RESISTOR	220K 5% 1/6W	
R5315	QRD161J-271	CARBON RESISTOR	270 5% 1/6W	
R5316	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R5317	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
R5501	QRD161J-2R2	CARBON RESISTOR	2.2 5% 1/6W	
R5502	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R5503	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R6301	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
R6303	QRD161J-122	CARBON RESISTOR	1.2K 5% 1/6W	
R6304	QRD161J-122	CARBON RESISTOR	1.2K 5% 1/6W	

BLOCK NO. 01

REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
R6305	QRD161J-2R2	CARBON RESISTOR	2.2 5% 1/6W	
R6306	QRD161J-2R2	CARBON RESISTOR	2.2 5% 1/6W	
R6307	QRD161J-2R2	CARBON RESISTOR	2.2 5% 1/6W	
R6308	QRD161J-2R2	CARBON RESISTOR	2.2 5% 1/6W	
R6309	QRD161J-562	CARBON RESISTOR	5.6K 5% 1/6W	
R6310	QRD161J-562	CARBON RESISTOR	5.6K 5% 1/6W	
R6311	QRD161J-474	CARBON RESISTOR	470K 5% 1/6W	
R7301	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R7302	QRD161J-152	CARBON RESISTOR	1.5K 5% 1/6W	
R7303	QRD161J-822	CARBON RESISTOR	8.2K 5% 1/6W	
R7304	QRD161J-154	CARBON RESISTOR	150K 5% 1/6W	
R7305	QRD161J-303Y	CARBON RESISTOR	30K 5% 1/6W	
R7306	QRD161J-303Y	CARBON RESISTOR	30K 5% 1/6W	
R7307	QRD161J-154	CARBON RESISTOR	150K 5% 1/6W	
R7308	QRD161J-154	CARBON RESISTOR	150K 5% 1/6W	
R7309	QRD161J-563	CARBON RESISTOR	56K 5% 1/6W	
R7310	QRD161J-563	CARBON RESISTOR	56K 5% 1/6W	
R7311	QRD161J-105	CARBON RESISTOR	1.0M 5% 1/6W	
R7312	QRD161J-105	CARBON RESISTOR	1.0M 5% 1/6W	
R7313	QRD161J-105	CARBON RESISTOR	1.0M 5% 1/6W	
R7314	QRD161J-105	CARBON RESISTOR	1.0M 5% 1/6W	
R7315	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
R7316	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
R7317	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
R7501	QRD161J-2R2	CARBON RESISTOR	2.2 5% 1/6W	
R7502	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R7503	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R8301	QRD161J-333	CARBON RESISTOR	33K 5% 1/6W	
R8302	QRD161J-273	CARBON RESISTOR	27K 5% 1/6W	
R8303	QRD161J-184	CARBON RESISTOR	180K 5% 1/6W	
R8304	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
R8305	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
R8306	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
R8501	QRD161J-2R2	CARBON RESISTOR	2.2 5% 1/6W	
S1901	QSP1106-004	PUSH SWITCH		
S1902	VMZ0126-002	SLIDE SWITCH		
S3301	QSW0621-001	PUSH SWITCH		
S7301	QSW0629-001	ROTARY SWITCH		
VR301	QVQ0111-B14	V RESISTOR		
W	1 VMS580-05NTPW	LUG WIRE		
Z1901	EMG7331-003Z	FUSE CLIP		
Z1902	EMG7331-003Z	FUSE CLIP		
Z1911	EMG7331-003Z	FUSE CLIP		
Z1912	EMG7331-003Z	FUSE CLIP		



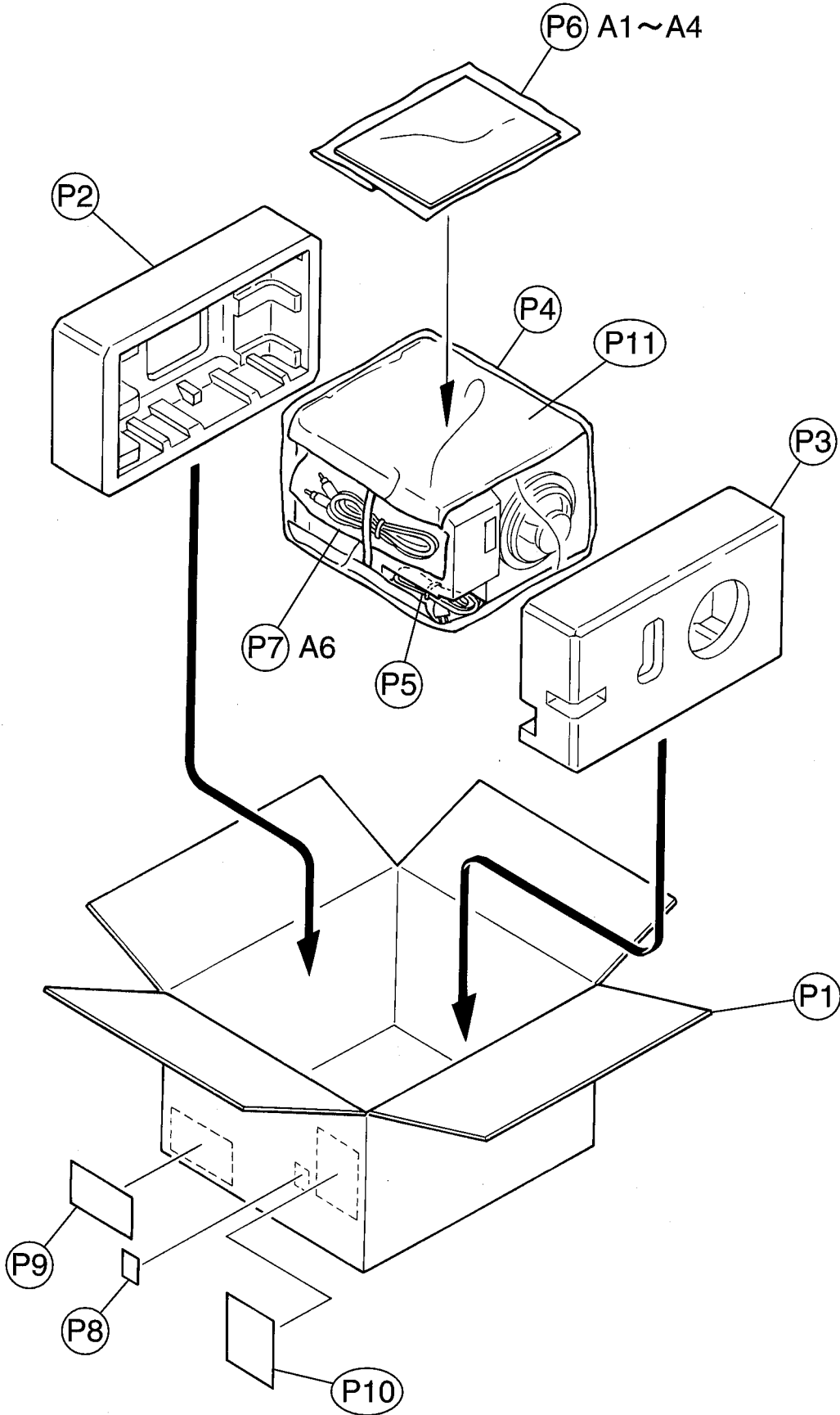
BLOCK NO. M1MM

REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
1	VGSA026-002	SPEAKER		1		
2	VYH2327-001	FRONT BRACKET		1		
3	SBSA4016Z	T.SCREW	F BKT + SP BOX	3		
4	VJG1509-002UL	FRONT PANEL		1	J	
	VJG1509-003	FRONT PANEL		1	B,E,EN,G	
	VJG1509-003	FRONT PANEL		1	VX,UB,UF,UP	
	VJG1509-003	FRONT PANEL		1	US,UT,U	
5	VJE3045-00B	GRILLE ASS'Y		1		
6	SBSF3012Z	SCREW	F PANEL + GRILL	4		
7	VJK4519-001	LED LENS		1		
8	SBSF3012Z	SCREW	F PANEL + PWB	3		
9	VYH2328-001	SIDE BRACKET		1		
10	VJD5511-001	COVER		1		
11	VKZ4001-016	WIRE HOLDER		1		
12	SDST4006Z	SCREW	TRANS + S BKT	4		
13	EMP7000-200	POWER CORD		1	UP	
	QMP1480-200	POWER CORD		1	J	
	QMP3900-200	POWER CORD		1	E,EN,G	
	QMP3900-200	POWER CORD		1	VX,US	
	QMP7380-200	POWER CORD		1	U,UT	
	QMP5530-008BS	POWER CORD		1	B,UB	
14	QHX5080-001	WIRE CLAMP		2		
15	QHS3771-108	CORD STOPPER		1	UB,UF,US,UT	
	QHS3771-108	CORD STOPPER		1	VX,U,UP	
	QHS4077-108	CORD STOPPER		1	J	
	QHS3771-108	CORD STOPPER		1	B,E,EN,G	
16	VYK3016-001	AC HOLDER		1		
17	SBST3008Z	SCREW	AC HOL + S BKT	1		
18	VYK3018-001	HEAT SINK		1		
19	SBSF3012Z	SCREW		2		
20	SBST3008Z	SCREW	AMP + BKT	3		
21	VYH8222-001	HEAT SINK		1		
22	SBSF3012Z	SCREW		2		
23	VYK3015-002	HEAT SINK		1		
24	SBSF3012Z	SCREW		3		
25	SBSA4016Z	T.SCREW	ASS'Y + SP BOX	6		
26	VJG1510-002	SIDE COVER		1	VX,UF,UP	
	VJG1510-002	SIDE COVER		1	B,E,EN,G	
	VJG1510-003	SIDE COVER		1	UB,US,UT,U	
	VJG1510-001UL	SIDE COVER		1	J	
27	VYH8217-001	WIRE HOLDER		1		
28	SBST3008Z	SCREW	COVER (SIDE)	2		
29	SSST3008Z	SCREW	COVER (BOTTOM)	4		
30	SBSF3012Z	SCREW	COVER (JACK)	2		
31	VXL4459-001	KNOB	VOL	1		
32	VXL4460-001	KNOB	FREQ	1		
33	VXP5371-001	BUTTON	PHASE	1		
34	VYH8201-001	ROD		1		
35	VKW5340-002	SPRING		1		
36	VYSA1R4-056	SPACER		1		
37	VXP5372-001	BUTTON	POWER	1		
38	E406855-007SM	SPACER		4		
39	VYN9330-006	NAME PLATE		1	J	
	VYN9330-002	NAME PLATE		1	B	
	VYN9330-005	NAME PLATE		1	E,EN,G	

BLOCK NO. M1MM

REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	VYN9330-007	NAME PLATE		1	U,UB	
	VYN9330-010	NAME PLATE		1	UT	
	VYN9330-012	NAME PLATE		1	VX	
	VYN9330-014	NAME PLATE		1	US	
	VYN9330-022	NAME PLATE		1	UP	
	VYN9330-023	NAME PLATE		1	UF	
40	QHX5080-001	WIRE CLAMP		1		
41	VYH8225-001	SPACER		1		
42	E409396-001	CAUTION LABEL		1	B,E,EN,G,VX	
	E409394-001	CAUTION LABEL		1	J	
	E409396-001	CAUTION LABEL		1	UB,UF,UP	
	E409396-001	CAUTION LABEL		1	US,UT,U	
	E409396-001	CAUTION LABEL		1		
43	VND5129-006	FUSE LABEL	F1902	1	UP	
	VND4003-088	FUSE LABEL	F1902	1	UB,UF,US,UT	
	VND4003-088	FUSE LABEL	F1902	1	U,VX	
	VND4003-088	FUSE LABEL	F1902	1	B,E,EN,G	
44	VND5129-005	FUSE LABEL		1	UP	
	VND4003-029	FUSE LABEL		1	UF	
	VND4003-037	FUSE LABEL		1	US,UT,U,UB	
	VND4003-029	FUSE LABEL		1	B,E,EN,G,VX	
53	LV30093-025A	UT LABEL		1	UT	
△ F1901	QMF51E2-R80SBS	FUSE		1	B,E,EN	
△	QMF51E2-R80SBS	FUSE		1	G,VX,UF	
△	QMF51E2-1R25	FUSE		1	UB,UP	
△	QMF51E2-1R25	FUSE		1	US,UT,U	
△	QMF51N2-1R6J1	FUSE		1	J	
△ F1902	QMF0007-8ROJ1	FUSE		1	J	
△	QMF51A2-8ROJ1	FUSE		1	UB,UF,US,UT	
△	QMF51A2-8ROJ1	FUSE		1	U,VX,UP	
△	QMF51A2-8ROJ1	FUSE		1	B,E,EN,G	
△ T1901	VTP09J2-12C	POWER TRANS		1	B,E,EN	
△	VTP09A2-12J	POWER TRANS		1	J	
△	VTP09G2-12C	POWER TRANS		1	UB,UP,US	
△	VTP09G2-12C	POWER TRANS		1	UT,U	
△	VTP09J2-12C	POWER TRANS		1	G,UF,VX	

Packing



● Packing Parts List

BLOCK NO. M2MM

△	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	P 1	VPC9330-002	CARTON		1	J	
		VPC9330-003	CARTON		1	UB,UP,US	
		VPC9330-003	CARTON		1	UT,U,VX	
		VPC9330-004	CARTON		1	UF	
		VPC9330-003	CARTON		1	B,E,EN,G	
	P 2	VPH2484-001	CUSHION		1		
	P 3	VPH2484-002	CUSHION		1		
	P 4	VPE3026-002	POLY BAG		1		
	P 5	Q04141H	WIRE CLAMP	FOR POWER CORD	1		
	P 6	VPE3026-004	POLY BAG	FOR INST BOOK	1		
	P 7	QPGA012-02505	POLY BAG	FOR SIGNAL CORD	1		
	P 8	E409393-004	GOST LABEL		1	VX	
	P 9	-----	CARTON LABEL		1		
	P 10	LV30093-025A	UT LABEL		1	UT	
	P 11	VPK4002-038	PACKING SHEET		1		

● Accessories

BLOCK NO. M3MM

△	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	A 1	VNN9330-121C	INSTRUCTIONS		1	UF	
		VNN9330-151C	INSTRUCTIONS		1	UP	
		VNN9330-191C	INSTRUCTIONS		1	UB,UT,U,US	
		VNN9330-611C	INSTRUCTIONS		1	J	
		VNN9330-691C	INSTRUCTIONS		1	E,EN,G	
		VNN9330-921C	INSTRUCTIONS		1	VX	
	A 2	E43486-340B	SAFETY INST		1	B	
		BT-20044G	SAFETY INST		1	J	
	A 3	BT-54008-1	WARRANTY CARD		1	B,G,E,EN	
		BT-51009-3	WARRANTY CARD		1	J	
		BT-52001-4	WARRANTY CARD		1	J	
		BT-56004-5	WARRANTY CARD		1	UP	
		BT-59001-1C	WARRANTY CARD		1	UF	
	A 4	BT20071B	SERVICE NETWORK		1	J	
		BT-20066A	SERVICE NIT LIS		1	B	
		BT-20137	SERVICE NETWORK		1	J	
	A 5	ENZ2202-001	SIEMENS PLUG		1	US	
		ENZ2203-001	SIEMENS PLUG		1	U,UT	
	A 6	E409427-001	SIGNAL CORD		1		



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