JVC

SERVICE MANUAL

POWERED SUBWOOFER

SX-DW303

Area Suffix

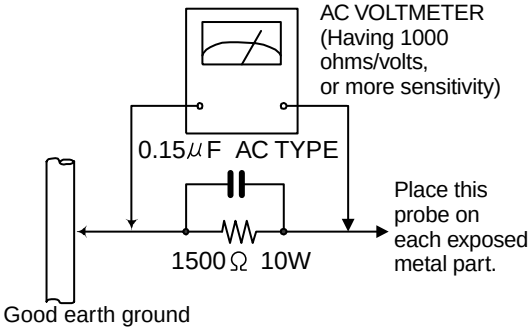
E --- Continental Europe

Contents

No.21177
Oct. 2002

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 (⚠) 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 1,500Ω 10W resistor paralleled by a 0.15μF 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 plug in the AC outlet and repeat each measurement. Voltage measured any 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.

⚠ CAUTION

Burrs formed during molding may be left over on some parts of the chassis. Therefore, pay attention to such burrs in the case of preforming repair of this system.

In regard with component parts appearing on the silk-screen printed side (parts side) of the PWB diagrams, the parts that are printed over with black such as the resistor (▬), diode (▬) and ICP (●) or identified by the "⚠" mark nearby are critical for safety.

(This regulation does not correspond to J and C version.)

Disassembly method

■ Removing the amplifier assembly

(See Fig. 1, 2)

1. Remove the eleven screws **A** attaching the amplifier assembly.
2. Remove the amplifier assembly to the front from the cabinet.
3. Remove the connection of the wire connector at the back side of the amplifier assembly.
4. Remove the connection of the speaker wire from the speaker terminal at the back side of the amplifier assembly.

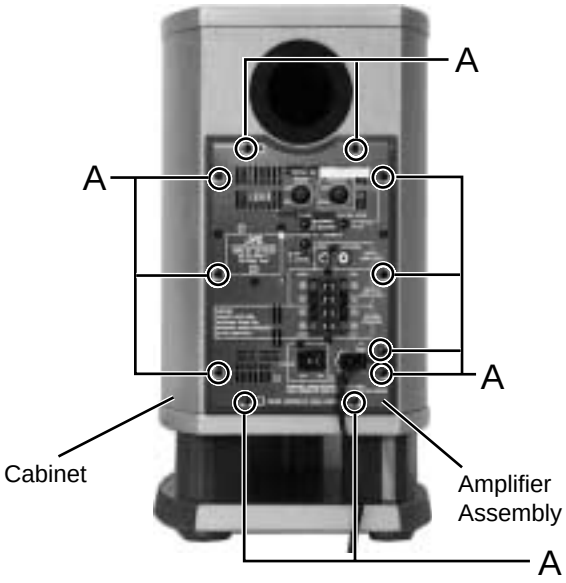


Fig.1

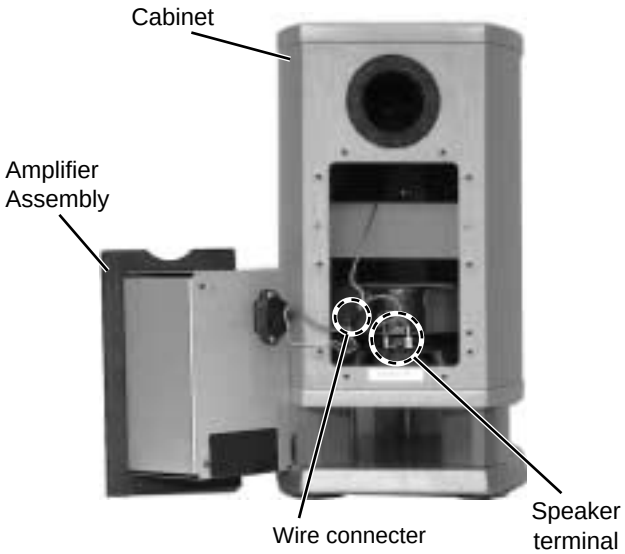


Fig.2

■ Removing the rear panel **(See Fig. 3)**

- Prior to performing the following procedures, remove the amplifier assembly.

1. Remove the volume nob & frequency nob.
2. Remove the seven screws **B** attaching the rear panel.

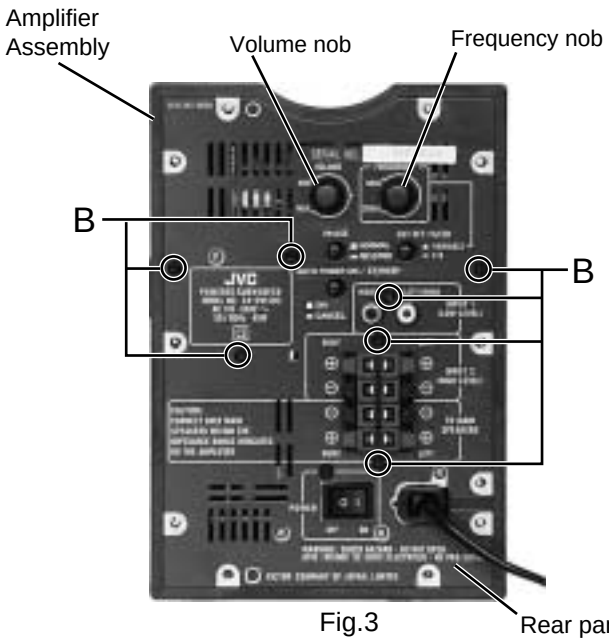


Fig.3

■Removing the power cord (See Fig.4, 5)

・ Prior to performing the following procedures, remove the rear panel.

1. Remove the two screw marked **C** attaching the bracket **a.**
2. Pull out the bracket **a** toward you.
3. Remove the connection of the wire connector

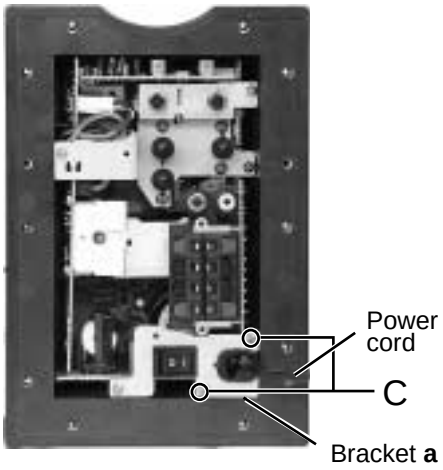


Fig.4

■Removing the amplifier assembly board (See Fig.5, 6)

・ Prior to performing the following procedures, remove the rear panel and the power cord.

1. Remove the screw marked **D** that is fixing the bracket **b.**
2. Remove the three screws marked **E** that are fixing the bracket **c.**
3. Remove the wire connecter CN102 and CN503.
4. Remove the connection of the connector CN951 and CN952.
5. Pull out the amplifier assembly board toward you.

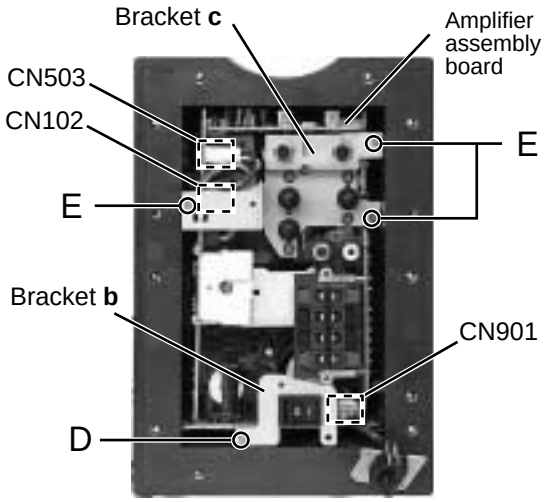


Fig.5

■Removing the power supply assembly bord (See Fig.6)

・ Prior to performing the following procedures, remove the rear panel and remove the power cord.

1. Remove the amplifier board assembly**.**
2. Remove the six screws marked **F** attaching the power board assembly**.**
3. Pull out the power supply board assembly toward you.

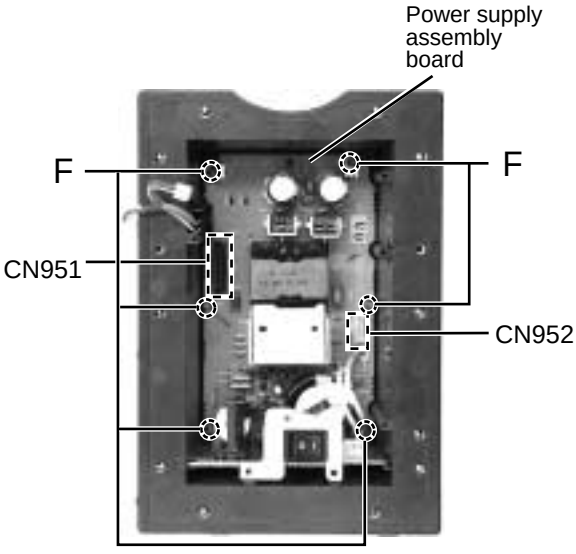


Fig.6

■Removing the Bottom plate

(See Fig.7, 8)

1. Remove the three sheets of the cushion sheet marked **G.**
2. Remove the six screws marked **H** attaching the bottom plate.
3. Remove the two screws marked **I** attaching the bottom plate.
4. Pull out the bottom plate toward you.

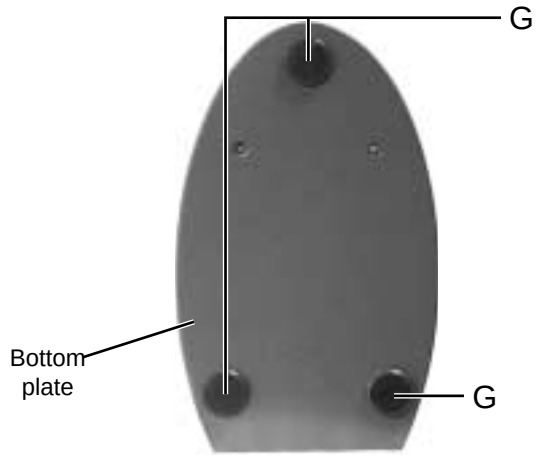


Fig.7

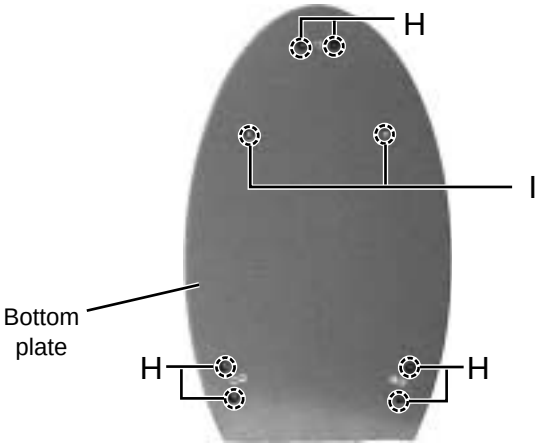


Fig.8

■Removing the woofer (See Fig.9)

・ Prior to performing the following procedures, remove the bottom plate.

1. Remove the four screws **J** attaching the woofer.
2. Pull out the woofer toward you.

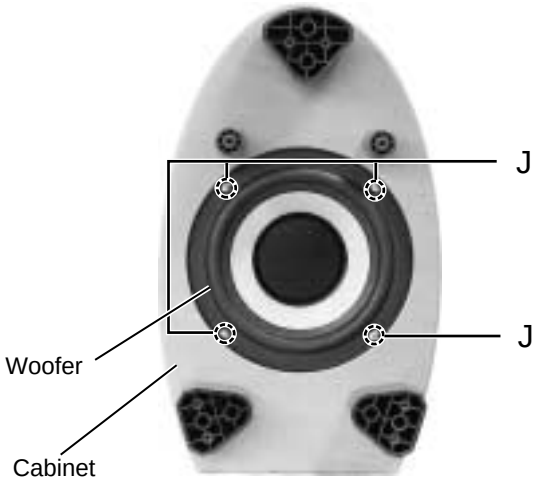
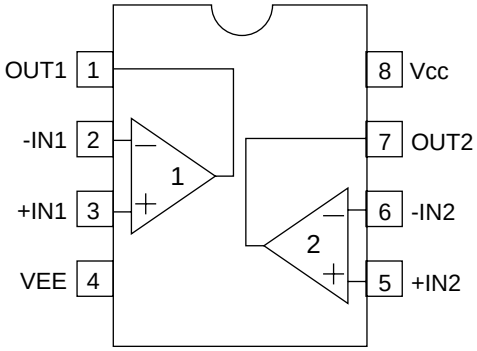


Fig.9

Description of major ICs

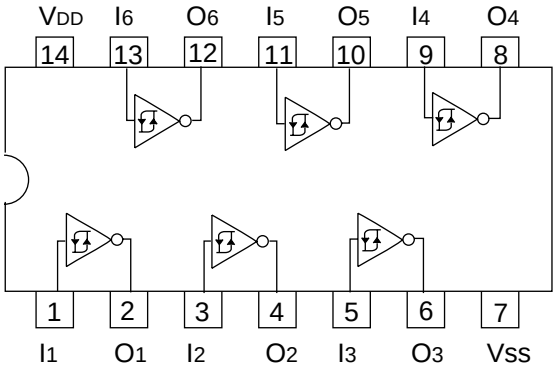
■ BA15218F (IC101, 102, 103, 104, 501) : Dual op. amp.

1. Pin layout / Block diagram



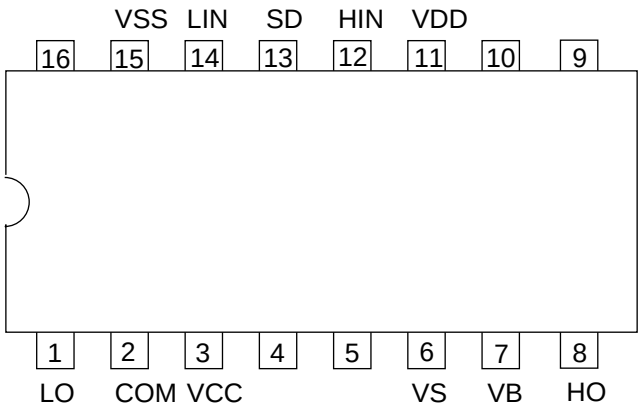
■ BU4584BF (IC505) : CMOS

1. Pin layout / Block diagram

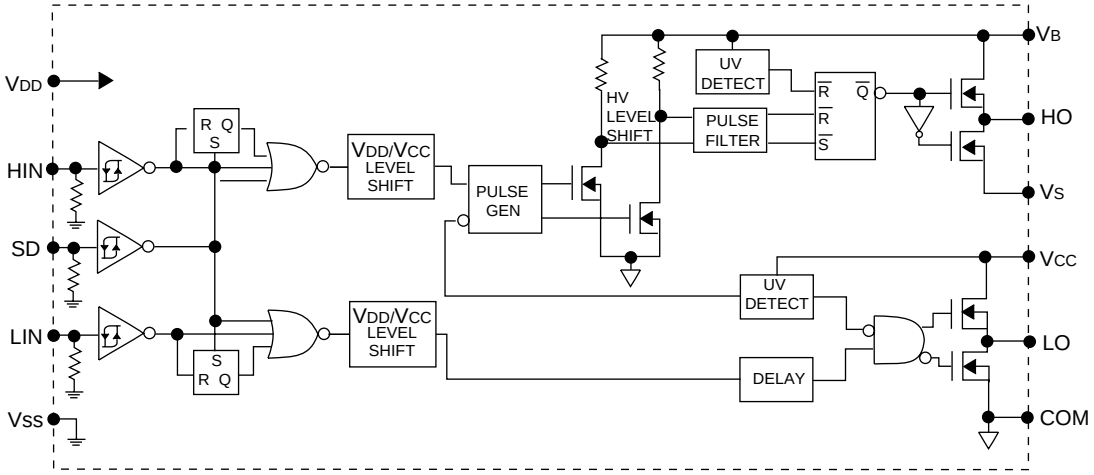


■ IR2113S (IC506) : Gate driver

1. Pin layout

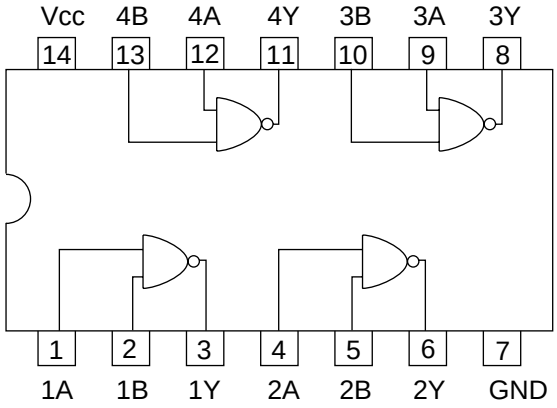


2. Block diagram



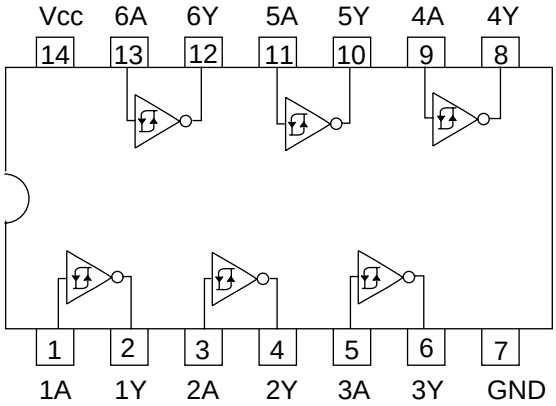
■ TC74HC00AF (IC503) : CMOS

1. Pin layout / Block diagram



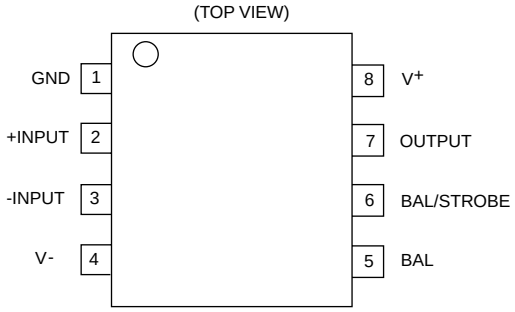
■ TC74HC14AF (IC504, IC571) : CMOS

1. Pin layout / Block diagram



■ NJM311M (IC502) : Comparator

1. Pin layout



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VICTOR COMPANY OF JAPAN, LIMITED
AUDIO & COMMUNICATION BUSINESS DIVISION
PERSONAL & MOBILE NETWORK BUSINESS UNIT. 10-1,1chome,Ohwatari-machi,Maebashi-city,371-8543,Japan

(No.21177)

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