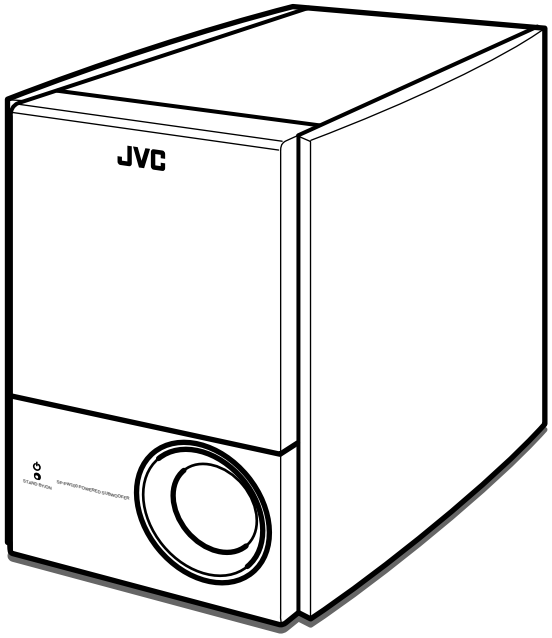
JVC

SERVICE MANUAL

POWERED SUBWOOFER

SP-PW100



Area Suffix

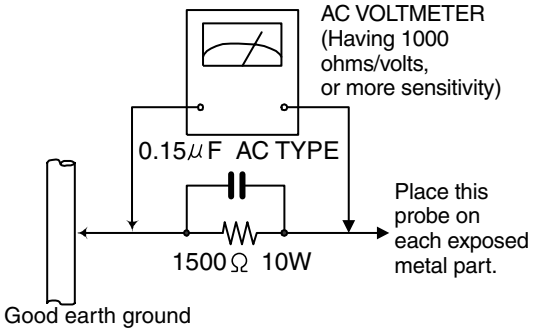
B ---------- U.K.
E ------ Continental Europe
EN ------- Northern Europe

Contents

No.20954
May. 2001

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 currnet 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 meausre the AC voltage across the resistor. Now, reverse the 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.
When replacing them, be sure to use the parts of the same type and rating as specified by the manufacturer. (Except the J and C version)

Safety precautions (U.K only)

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.
2. Any unauthorised design alterations or additions will void the manufacturer's guarantee ; furthermore the manufacturer cannot accept responsibility for personal injury or property damage resulting therefrom.
3. Essential safety critical components are identified by (⚠) on the Parts List and by shading on the schematics, and must never be replaced by parts other than those listed in the manual. Please note however that many electrical and mechanical parts in the product have special safety related characteristics. These characteristics are often not evident from visual inspection. Parts other than specified by the manufacturer may not have the same safety characteristics as the recommended replacement parts shown in the Parts List of the Service Manual and 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.

Warning

1. Service should be performed by qualified personnel only.
2. This equipment has been designed and manufactured to meet international safety standards.
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⚠ ***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.**

Disassembly method

<Main body>

■ Removing the front net (See Fig.1 and 2)

・ Remove the front net from the four holders that are fixing the front net.

Note: When it is hard to remove the front net, insert a minus driver, etc. in the place between the main body and the front net as shown in Fig.2 before removing the front net. Exercise care not to damage the main body and the front net when inserting the minus driver. For this purpose, insert the minus driver together with cloth and the like.

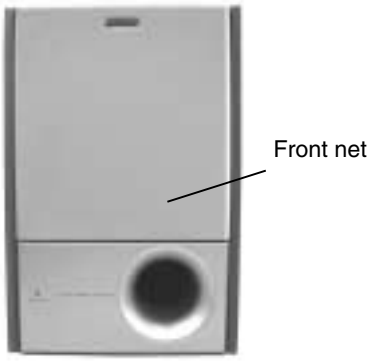


Fig.1

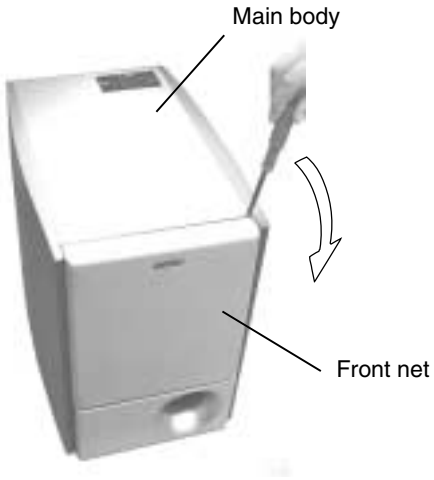


Fig.2

■ Removing the woofer (See Fig.3 and 4)

・ Remove the front net.

1. Remove the six screws **A** attaching the woofer.
2. Pull out the woofer toward you.
3. Remove the speaker cord.

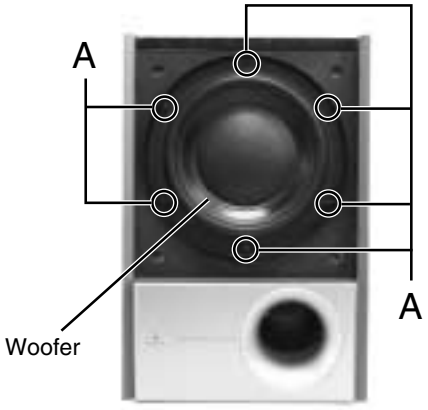


Fig.3

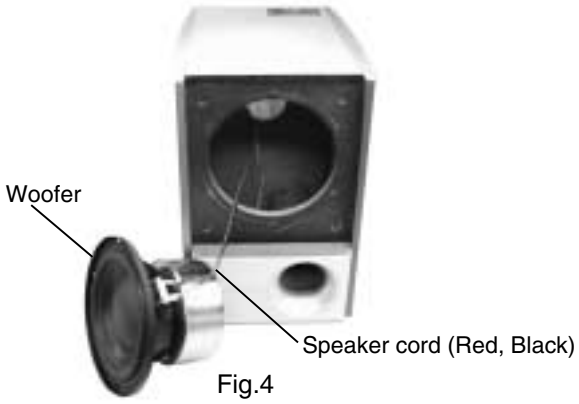


Fig.4

■ Removing the front panel (See Fig.5)

1. Place the bottom of the front panel upward.

2. While inserting a minus driver, etc. in the two grooves, remove the four holders that are fixing the front panel.

   Note: Exercise care not to damage the main body and the front net when inserting the minus driver. For this purpose, insert the minus driver together with cloth and the like.

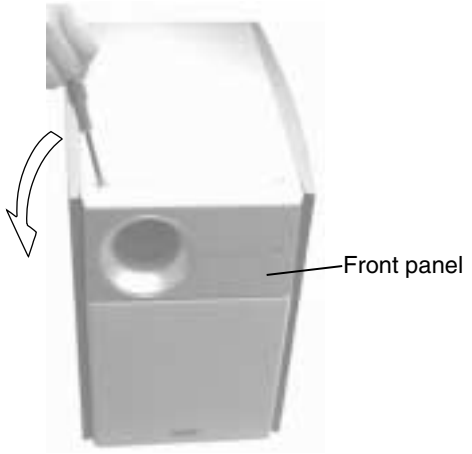


Fig.5

■ Removing the LED PWB (See Fig.6)

・ Remove the front panel.

1. Remove the two screws **B** attaching the LED PWB.

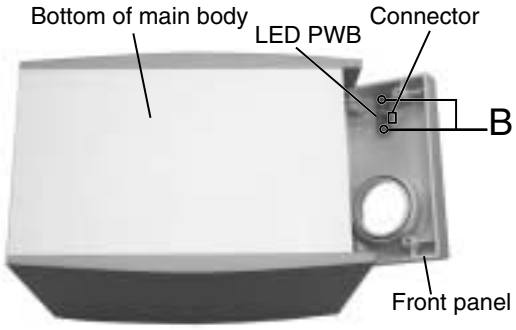


Fig.6

■ Removing the amplifier box (See Fig.7 and 8)

1. Remove the eleven screws **C** attaching the amplifier box on the back side of the main body

2. Remove the speaker cord connector connecting the amplifier box and the speaker.

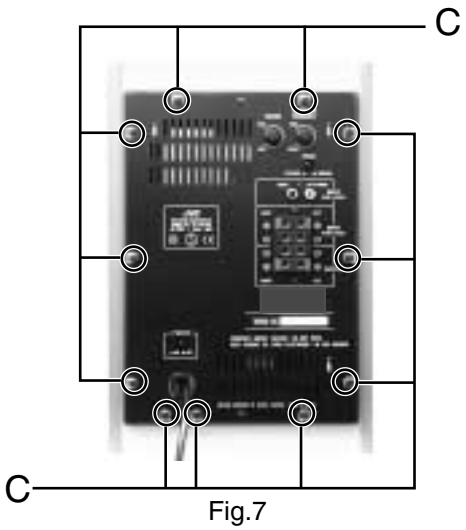


Fig.7

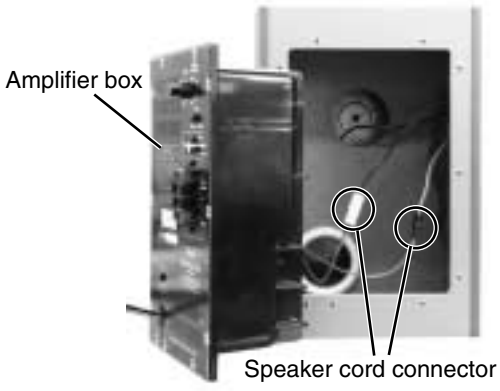


Fig.8

<Amplifier box>

■ Removing the rear panel (See Fig.9)

1. Pull out the volume knob and the crossover frequency knob.
2. Remove the three screws **D** attaching the rear panel.

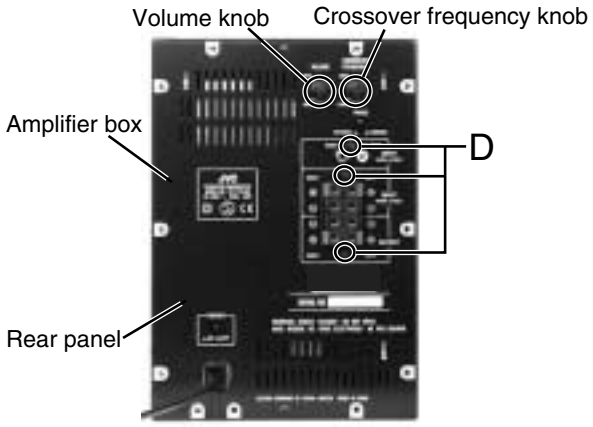


Fig.9

■ Removing the power switch PWB (See Fig.10)

・ Remove the rear panel.

1. Pull out the power switch knob.
2. Remove the three screws **E** and the two screws **F** attaching the bracket **a**.
3. Pull out the power cord clamp from the bracket **a**.
4. Pull out the power switch PWB backward.
5. Remove the connector CN899.

Note: Cut the tie-band, if necessary.

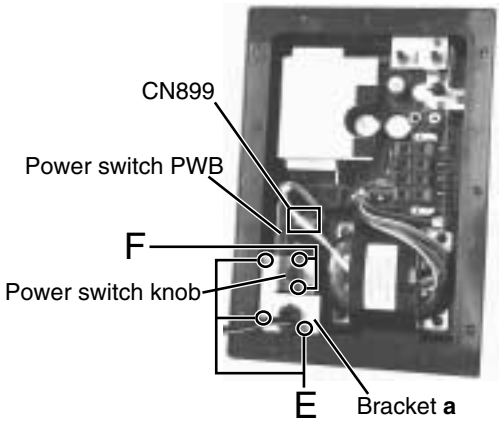


Fig.10

■ Removing the terminal PWB (See Fig.11 and 12)

・ Remove the rear panel.

1. Pull out the phase knob.
2. Remove the two nuts attaching the volume knob.
3. Remove the two screws **G** and the two screws **H** attaching the bracket **b**.
4. After removing the connector CN811, pull out the terminal PWB.
5. Remove the connector CN851.

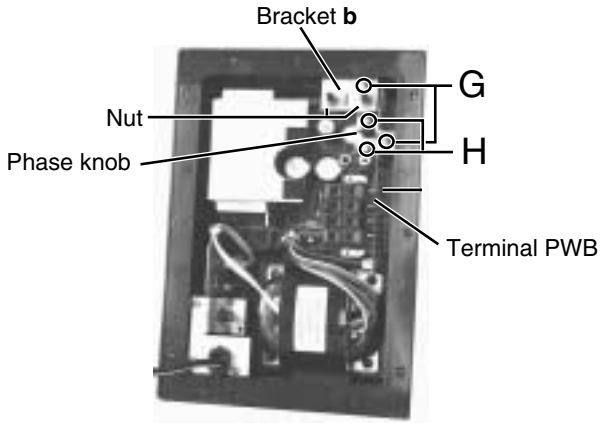


Fig.11

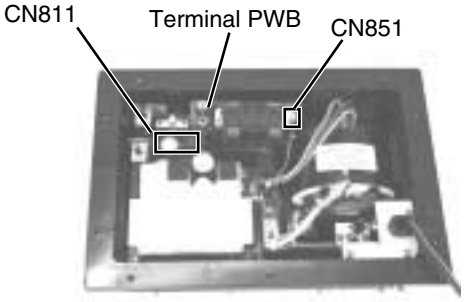


Fig.12

■ Removing the amplifier PWB (See Fig.13)

- Remove the rear panel .
- Remove the terminal PWB.

1. Remove the connectors CN891 and CN881
2. Remove the six screws **I** attaching the amplifier PWB.

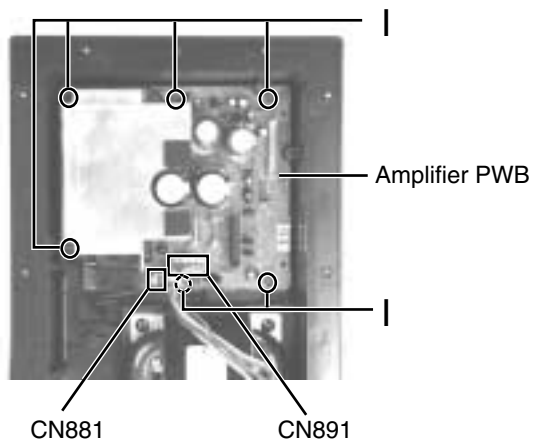


Fig.13

■ Removing the transformer (See Fig.14)

- Remove the rear panel.
- Remove the power switch PWB
- Remove the amplifier PWB

1. Remove the four screws **J** attaching the transformer.

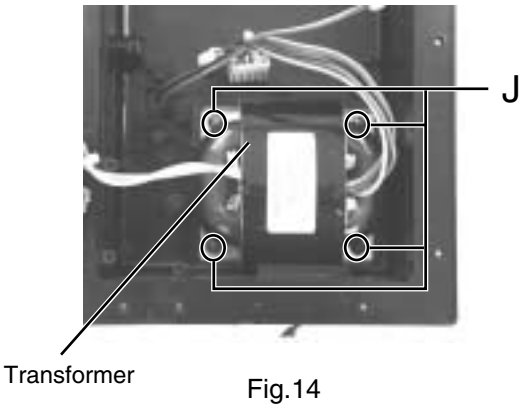
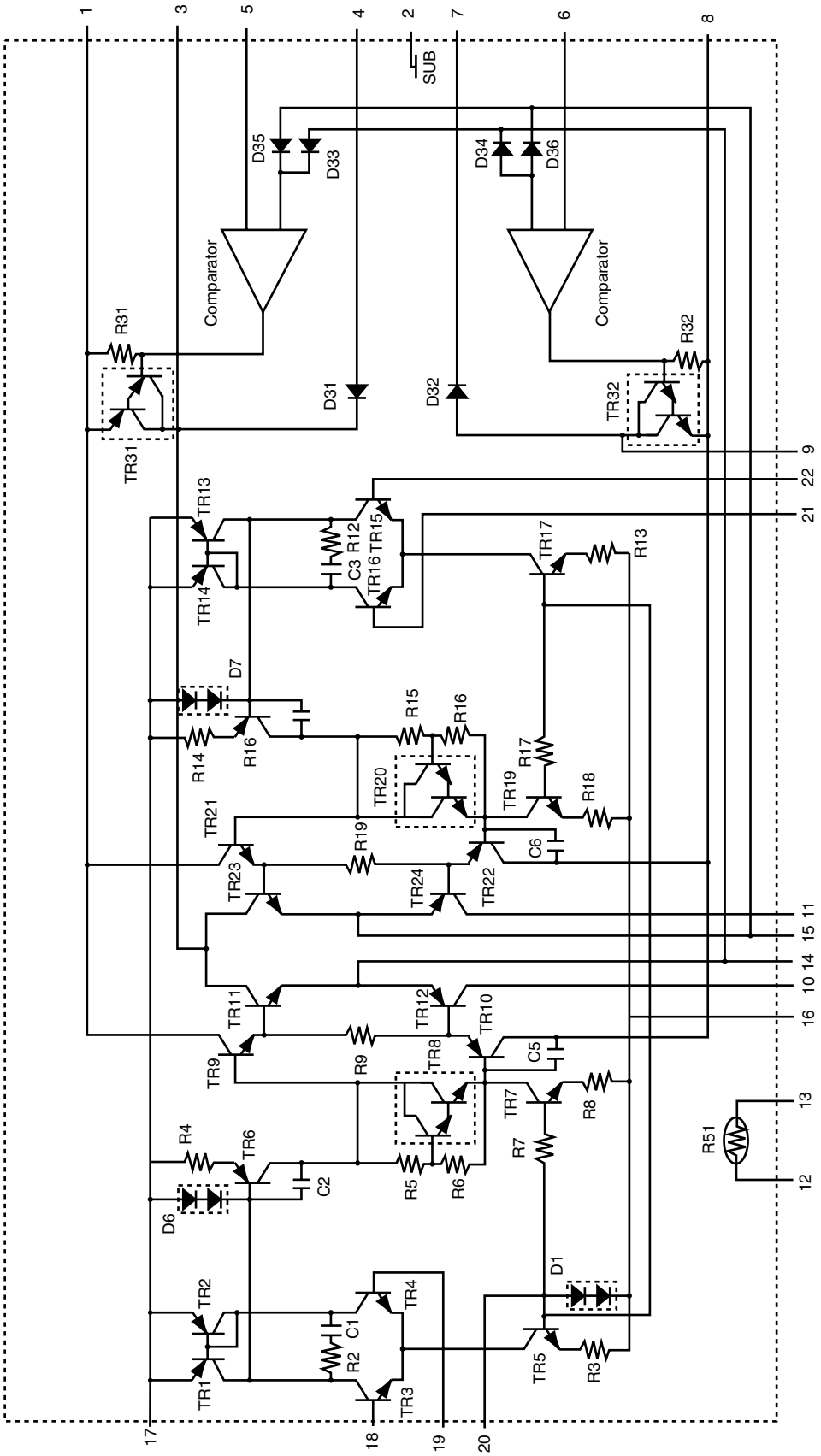


Fig.14

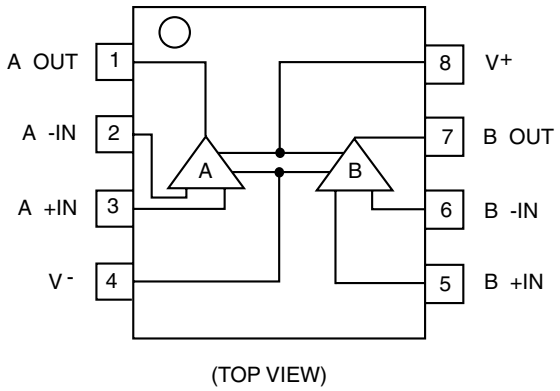
Description of major ICs

■ STK411-290E(IC821) : Front power amp.



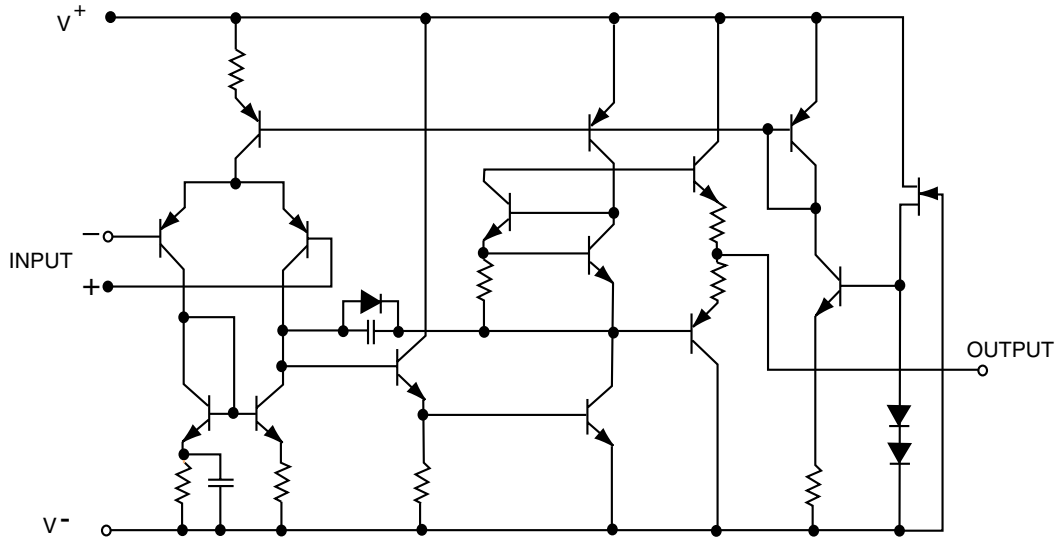
■ NJM4580D(IC811, IC812, IC813) : Dual OP amp.

1. Pin layout



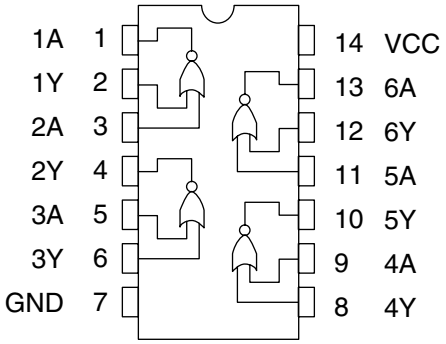
(TOP VIEW)

2. Block diagram



■ TC74HCU04AP(IC851) : 2ch NOR gate

1. Pin layout & block diagram



2. True table

A	Y
L	H
H	L

< MEMO >

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