

# JVC

# SERVICE MANUAL

## WIRELESS ENTERTAINMENT SYSTEM

### HA-RF100S (J)



## Specifications

### General Specifications

Modulation system : Stereo frequency modulation system  
 Carrier frequency : 911 MHz — 914 MHz  
 Usable area  
 (distance to reach) : Approx. 150 ft (46 m) (using JVC  
 measurements systems)  
 Distortion : Less than 4 % (at 1 kHz)

### Transmitter (J21738-002)

Power requirements : DC 12 V (with the exclusive AC adaptor  
 J46598-001)  
 Audio input terminal : RCA pin jack x 2  
 3.5 mm dia. stereo minijack  
 Input impedance : 20 kOhms  
 Reference input level : 350 mV  
 Dimensions : 140(W) x 128(D) x 230(H) mm  
 (5-9/16" x 5-1/16" x 9-1/16")  
 Weight : 315 g (11.1 oz) (Without connection  
 cord and AC adaptor)

### Headphones (HA-W100RF)

Power requirements : Rechargeable Ni-Cd battery (1.2 V) x 2  
 Battery running time : 13 hours (When charged for 19 hours)  
 Frequency response : 50 Hz — 12,000 Hz  
 Weight : 300 g (10.6 oz) (With provided  
 rechargeable Ni-Cd battery x 2)

## Contents

Specifications .....	Front cover
Safety precautions .....	2
1. Operation manual .....	2
2. Disassembly .....	15
3. Schematic diagrams .....	17
4. Measurement condition .....	19
5. Wiring diagrams .....	19
6. Block diagrams .....	21
7. Electrical parts list.....	22
8. Explode view .....	23
9. Mechanical parts list .....	25
10. Packing method .....	26
11. Packing materials parts list .....	28
12. Accessoriers list .....	29

### Speakers (SP-A100RF)

Power requirements : DC 9 V (with the exclusive AC adaptor  
 J46906-001) or D size battery (1.5 V)  
 x 6 (each channel)  
 Battery running time : 24 hours (when use Alkaline batteries)  
 Frequency response : 65 Hz — 16,000 Hz  
 Dimensions : 150(W) x 175(D) x 280(H) mm  
 (5-15/16" x 6-15/16" x 11-1/16")  
 Weight : 3.0 kg (6.7 lbs) (without batteries and  
 AC adaptor) (each channel)

### Provided Accessories

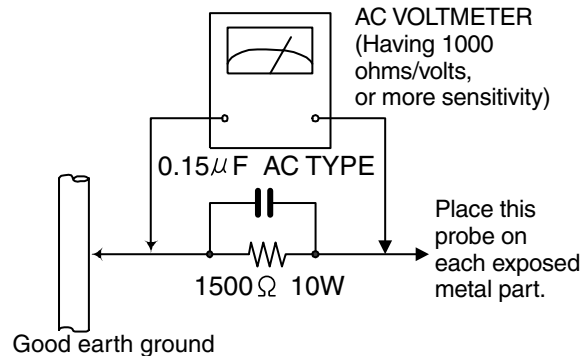
Instructions x 1  
 AC adaptor x 3  
 Connection cord x 1 (3.5 mm dia. stereo miniplug — RCA pin  
 plug x 2 : 1.8 m (5.9 ft))  
 Charging cable x 1 (2.5 mm dia. mono plug — 2.5 mm dia.  
 mono plug)  
 Plug adaptor x 1 (converts 3.5 mm dia. stereo miniplug to a  
 6.3 mm dia. standard stereo phone plug)  
 Exclusive  
 rechargeable  
 Ni-Cd battery x 2 (for headphones)

\* Design and specifications subject to change without notice.

## 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 ( $\Delta$ ) 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  $1,500\Omega$  10W resistor paralleled by a  $0.15\mu\text{F}$  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. 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 performing repair of this system.

JVC



HA-RF100S (J)

WIRELESS ENTERTAINMENT SYSTEM

WIRELESS ENTERTAINMENT SYSTEM

# HA-RF100S (J)



**JVC**  
VICTOR COMPANY OF JAPAN, LIMITED

INSTRUCTIONS

**For Customer Use:**  
Enter below the Model No. and Serial No. which is located on the rear of the cabinet. Retain this information for future reference.

Model No. \_\_\_\_\_

Serial No. \_\_\_\_\_

J5500-103B

Printed in China  
J5500-103B

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**Hearing Comfort and Well-Being**

- Do not play your headphones at a high volume. Hearing experts advise against continuous extended play.
- If you experience a ringing in your ears, reduce volume or discontinue use.

**Traffic Safety**

- Do not use while operating a motorized vehicle. It may create a traffic hazard and is illegal in many areas.
- You should use extreme caution or temporarily discontinue use in potentially hazardous situations.
- Even though your headphones are of the open-air type designed to let you hear outside sounds, don't turn up the volume so high that you can't hear what's around you.

**FCC INFORMATION**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

**CAUTION** — Changes or modifications not approved by JVC could void user's authority to operate the equipment.

**Contact**

Address: JVC AMERICAS CORP.  
JVC COMPANY OF AMERICA  
1700 Valley Road, Wayne, NJ 07470

Telephone: (973) 315-5000

**Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**WARNING:**

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

**CAUTION:**

**CHARGE ONLY WITH PROVIDED NICKEL-CADMIUM TYPE BATTERIES. OTHER TYPES OF BATTERIES MAY BURST CAUSING PERSONAL INJURY AND DAMAGE.**

**AVERTISSEMENT:**

**POUR RÉDUIRE LES RISQUES D'INCENDIE OU DE CHOC ÉLECTRIQUE, NE PAS EXPOSER CET APPAREIL À LA PLUIE NI À L'HUMIDITÉ.**

**ATTENTION:**

**NE RECHARGER QU'AVEC DES BATTERIES DE TYPE CADMIUM-NICKEL FOURNI. D'AUTRES TYPES DE BATTERIES POURRAIENT ÉCLATER CAUSANT DES BLESSURES ET DES DOMMAGES.**

**IMPORTANT****CAUTION:**

TO PREVENT ELECTRIC SHOCK DO NOT USE THIS PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

**ATTENTION:**

POUR PREVENIR LES CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE AVEC UN PROLONGATEUR, UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

- (1) This device may not cause interference.
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

- (1) Ce produit ne cause pas d'interférence.
- (2) Ce produit doit accepter toute interférence, incluant interférence qui peut causer opération non désiré.

**“SOME DO'S AND DON'TS ON THE SAFE USE OF EQUIPMENT”**

This equipment has been designed and manufactured to meet international safety standards but, like any electrical apparatus care must be taken if you are to obtain the best results and safety is to be assured.



- Do** read the operating instructions before you attempt to use the equipment.
- Do** ensure that all electrical connections (including the mains plug, extension leads and inter-connections between pieces of equipment) are properly made and in accordance with the manufacturer's instructions. Switch off and withdraw the main plug when making or changing connections.
- Do** consult your dealer if you are ever in doubt about the installation or operation or safety of your equipment.
- Do** be careful with glass panels or doors on equipment.



- DON'T** continue to operate the equipment if you are in any doubt about it working normally, or if it is damaged in any way—switch off—withdraw the main plug and consult your dealer.
- DON'T** remove any fixed cover as this may expose dangerous voltages.
- DON'T** leave equipment switched on when it is unattended unless it is specifically stated that it is designed for unattended operation or has a standby mode. Switch off using the switch on the equipment and make sure that your family know how to do this. Special arrangements may need to be made for infirm or handicapped people.
- DON'T** use equipment such as personal stereos or radios so that you are distracted from the requirements of road safety. It is illegal to watch television when driving.
- DON'T** listen to headphones at high volume as such use can permanently damage our hearing.
- DON'T** obstruct the ventilation of the equipment, for example with curtains or on soft furnishings. Overheating will cause damage and shorten the life of the equipment.
- DON'T** use makeshift stands and NEVER fix legs with wood screws. TO ensure complete safety always fit the manufacturer's approved stand or legs with the fixing screws supplied according to the instructions.
- DON'T** allow electrical equipment to be exposed to rain or moisture.

**ABOVE ALL**

NEVER let anyone especially children push anything into holes, slots or any other opening in the case. This could result in a fatal electrical shock.  
NEVER guess or make changes with electrical equipment of any kind. It is better to be safe than sorry!

Thank you for purchasing this JVC product. Before you begin operating this unit, please read the instructions carefully to be sure you get the best possible performance. If you have any questions, consult your JVC dealer.



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.

**CAUTION**

To reduce the risk of electrical shocks, fire, etc.:

1. Do not remove screws, cover or cabinet.
2. Do not expose this appliance to rain or moisture.

**IMPORTANT****1. Installation**

- Select a place which is level, dry and neither too hot nor too cold (between 0°C and 35°C /32°F and 95°F).
- Keep away from direct sunlight.
- Do not put it too close to a heater.

**2. Power cord**

- Do not handle the power cord with wet hands!
- Do not bend the power cord sharply.

**3. Malfunctions, etc.**

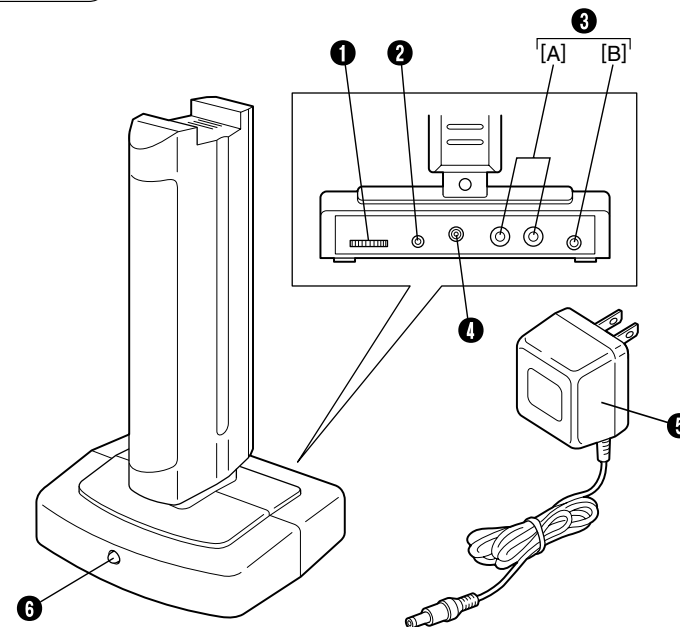
- There are no serviceable parts inside. If anything goes wrong, unplug the power cord and consult your dealer.
- Do not insert any metallic object.
- Do not allow water to get inside.

**4. Handling**

- Be sure to use headphones and/or speakers together with the transmitter.

**FEATURES**

- Frequency modulation system which allows headphones/speakers to be used even in areas where the transmitter cannot be seen
- Extended Reception Range (up to 150 ft (46 m): using JVC measurements system)
- All-in-One package (transmitter, headphones and two speakers included)
- Volume controllable speaker with auto tuning function/bass boost control
- Auto-level control that automatically adjusts signals to the appropriate modulation level (for transmitter)
- Compact speaker design for indoor/outdoor use (not water resistant)
- Rechargeable System with Ni-Cd Batteries Provided (for headphones)
- Soft Comfort-Fit Headband that adjusts easily when put on
- Automatic Power On/Off transmitter
- Large 100 mm dia. woofer drivers and 50 mm dia. tweeter drivers for high quality sound (for speakers)
- Large 40 mm dia. drivers for high quality sound (for headphones)
- Single Volume Control adjusts the volume level of the left and right channels simultaneously (for headphones)
- Adaptable to Any Audio/Visual Equipment

**NAMES OF PARTS AND THEIR FUNCTIONS****Transmitter**

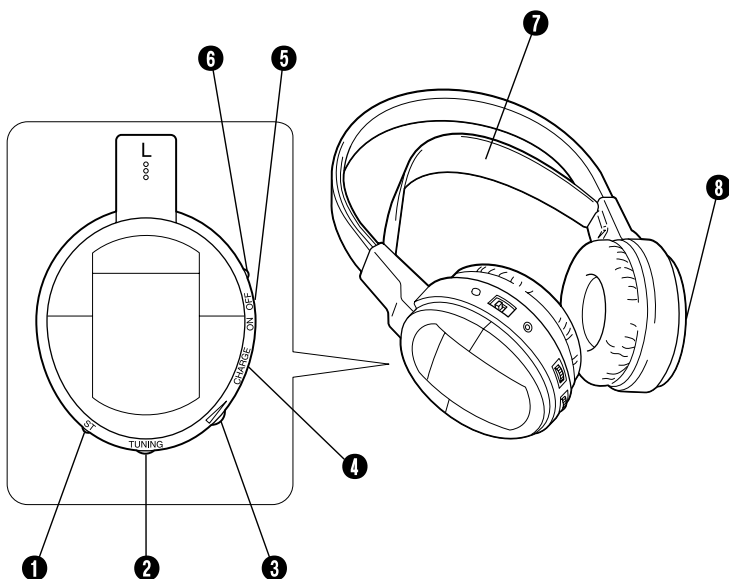
- 1 TUNING (Tuning control)**  
Adjusts the transmission frequency.
- 2 CHG. (Charging output terminal)**
- 3 AUDIO (Audio input terminals)**  
[A] RCA pin jack (L/R)  
[B] 3.5 mm dia. stereo minijack
- 4 DC IN (DC 12 V jack)**
- 5 AC adaptor (J46598-001)**  
Connects to a household AC outlet (AC 120 V, 60 Hz).
- 6 Indicator**  
When an audio signal is input : lights in green  
When charging : lights in red

**Notes:**

- When an audio signal is input while charging, the indicator may light in orange.
- The provided AC adaptor is exclusively for use with this unit. Do not connect to any other equipment.

## NAMES OF PARTS AND THEIR FUNCTIONS

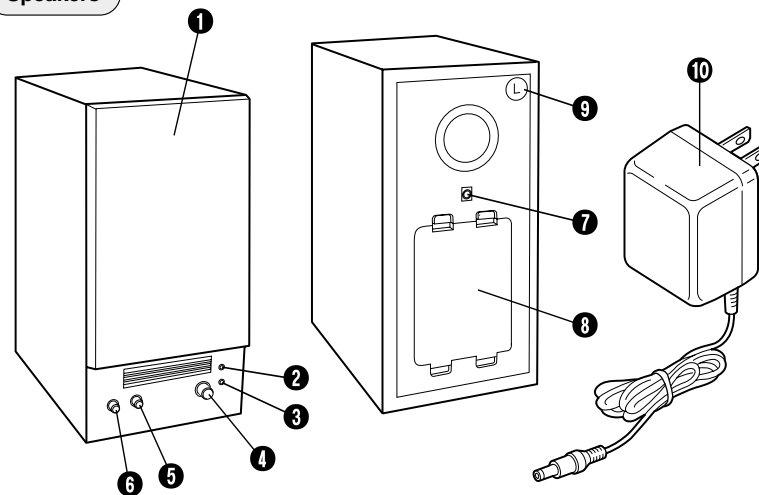
### Headphones



- 1 ST. (Stereo signal indicator)**  
Lights in red when a signal is received from the transmitter.
- 2 TUNING (Tuning control)**  
Adjusts the reception frequency.
- 3 Volume control**  
Adjusts the volume level of the left and right channels simultaneously.
- 4 CHARGE (Charging input terminal)**
- 5 ON/OFF (Power switch)**
- 6 Power indicator**  
Lights in red when the power is turned on.
- 7 Soft Comfort-Fit Headband**
- 8 Battery compartment cover**

## NAMES OF PARTS AND THEIR FUNCTIONS

### Speakers



- 1 SPEAKER COVER**  
Can also be detached.
- 2 POWER (Power indicator)**  
Lights in red when the power is turned on.
- 3 STEREO (Stereo signal indicator)**  
Lights in green when receiving the signal from the transmitter.  
**Note:**  
The indicator also lights in green with signals not originating from the transmitter.
- 4 VOLUME (Volume and power ON/OFF)**  
Turn the knob clockwise to turn the power on and to turn up the volume.
- 5 AUTO TUNING**  
Adjusts the reception frequency. When the button is pressed, frequency tuning starts automatically and it stops when a signal is detected.
- 6 BASS BOOST CONTROL**  
Press this button to emphasize the bass.
- 7 DC IN (DC 9 V jack)**
- 8 Battery compartment cover**
- 9 L/R (Channel marking)**  
Refer to this mark to set the speaker.
- 10 AC adaptor (J46906-001)**  
Connects to a household AC outlet. (AC 120 V, 60 Hz)

**Note:**  
Signals not originating from the transmitter or unexpected signals can also cause the frequency tuning to stop. If this happens, press the button again to resume tuning.

## CONNECTION

### ■ How to connect to AV equipment

#### Connection to HEADPHONES jack

When connecting to a standard stereo phone jack (6.3 mm dia.)  
— Use the provided plug adaptor (Converts a stereo minijack to a standard stereo phone jack)

When connecting to a stereo minijack  
— Use an optional plug adaptor (Converts a stereo minijack to a monaural minijack)

TV, audio amplifier, VCR, tape deck, video disc player, etc.

To HEADPHONES jack

When connecting to a monaural minijack  
— Use an optional plug adaptor (Converts a stereo minijack to a monaural minijack)

Provided connection cord

R-channel (red plug)

L-channel (white plug)

To the audio input terminal [A]

#### Connection to LINE OUT or REC OUT terminals

TV, audio amplifier, VCR, tape deck, video disc player, etc.

To LINE OUT or REC OUT terminals

R-channel (red plug)

L-channel (white plug)

Provided connection cord

To the audio input terminal [B]

## CONNECTION

#### Connection to power supply

**Caution:**  
The AC adaptors for the speakers are also provided in this unit. Be careful not to use them as the power supply for the transmitter. Misuse of the adaptor may result in fire, malfunction, etc., as the voltage and current value differ depending on the adaptor type.

To AC outlet (AC 120 V, 60 Hz)

Provided exclusive AC adaptor (J46598-001)

Plug polarities

To DC IN 12 V jack (+ -)

**Note:**  
Be sure to use the provided exclusive AC adaptor (J46598-001) for connection. Use of any other AC adaptor may cause a malfunction.

## RANGE OF USE

150 ft

The usable area between the transmitter and the headphones is within a radius of approx. 150 ft (based on measurements taken when placed in direct view in a straight line).

**Note:**  
The usable area may differ depending on building structure, etc. The range becomes shorter in the following cases:

In places such as inside an apartment with reinforced concrete walls, or when the transmitter and headphones are separated by obstacles such as steel-reinforced doors.

When items such as metal furniture are situated nearby.

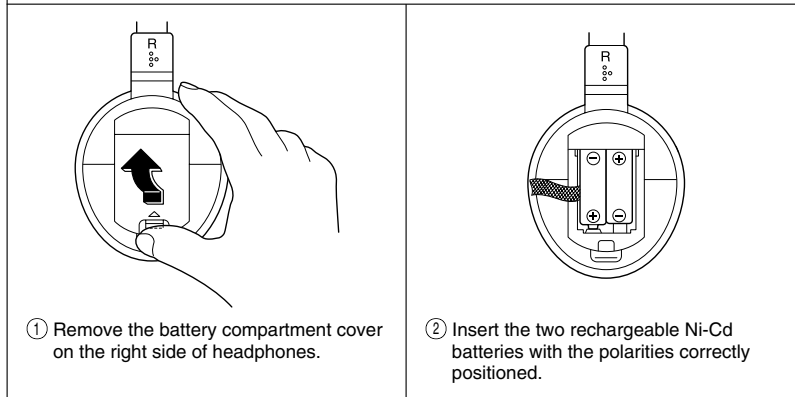
- Be sure to keep this unit more than 50 cm away from concrete walls, metal furniture, etc.



## POWER REQUIREMENTS OF HEADPHONES

Use two exclusive rechargeable Ni-Cd batteries to power the headphones. When you purchase this unit, be sure to charge the provided rechargeable Ni-Cd batteries according to the following procedures before use.

### 1. Insert the rechargeable Ni-Cd batteries



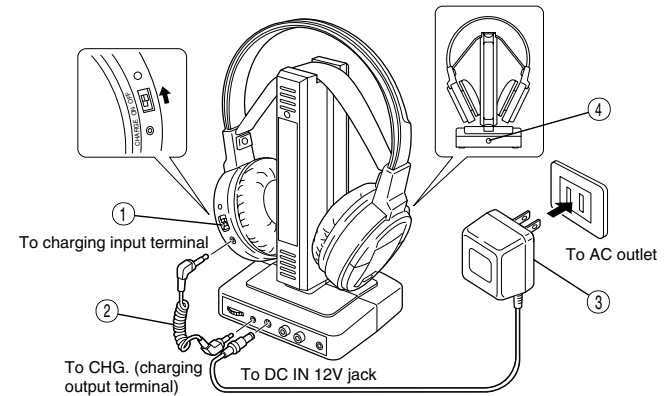
### Cautions about the batteries

If the batteries are used incorrectly, they may leak, heat or explode, and may cause fire, injury or soiling. Make note of the following:

1. Be sure to use the provided exclusive Ni-Cd batteries. Do not use any other rechargeable Ni-Cd battery or dry cell battery.
2. Insert batteries with the (+) and (-) polarities correctly positioned, following the indications on the equipment.
3. Do not use a new battery with an old one, and do not use batteries holding different amounts of charge together.
4. Do not throw batteries in a fire or heat them.
5. Do not short-circuit the positive (+) and negative (-) terminals. Also, do not carry or store them with small metallic objects such as necklaces or coins.
6. Do not deform, take apart, modify or directly solder the batteries.
7. Do not remove or damage the covering tube.
8. If you notice phenomena that has never happened before, such as leakage, color change or deformity, stop using the batteries.
9. If any liquid from the batteries gets into your eyes, it may cause blindness. If battery liquid does get into your eyes, do not rub them, but instead immediately wash them thoroughly with clean water, then consult a doctor at once. Also, should any liquid from the rechargeable batteries get onto your skin or clothes, it may burn your skin. In this case, wash with clean water immediately.
10. Do not immerse or wet the batteries in water.
11. Do not use or leave the batteries in an area where the temperature becomes significantly higher, such as in direct sunlight, inside a car on a hot day or near heat-generating equipment.
12. Do not subject the batteries to strong shocks or throw them.
13. Be sure to read the cautions on the batteries.

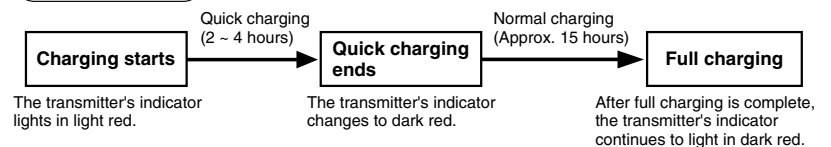
## POWER REQUIREMENTS OF HEADPHONES

### 2. Charging rechargeable Ni-Cd batteries



- ① Set the ON/OFF (power) switch on the headphones to OFF.  
**The batteries cannot be charged when the switch is set to ON.**
- ② Connect the transmitter and the headphones with the provided cord for charging.
- ③ Connect the AC adaptor to the transmitter.
- ④ Plug the AC adaptor into an AC outlet. The charger starts charging the batteries automatically and the transmitter's indicator lights in red.

### Charging time



### Battery running time

After charging is complete, you can use them continuously for the following amounts of time:

- Quick charging (2 ~ 4 hours) : 4 ~ 9 hours  
Full charging (19 hours) : 13 hours

### Tips for better use

- Be sure to charge the batteries within the temperature range of 10° C ~ 35° C (50 °F ~ 95 °F).
- Charging batteries that are not completely exhausted will cause efficiency to decline. Be sure to charge them after they have been completely exhausted.

## CAUTIONS ABOUT CHARGING

1. Be sure to use only this unit for charging.
2. You can charge the rechargeable Ni-Cd batteries approx. 300 times.
3. Charging times differ depending on the temperature range or the amount of charge already in the batteries.
4. Excessive charging doesn't result in malfunction.
5. Battery life will decrease in cold places.
6. If the usable time of fully-charged batteries decreases by about half, replace them with new ones. When purchasing rechargeable Ni-Cd batteries, consult the dealer from whom you bought this product.

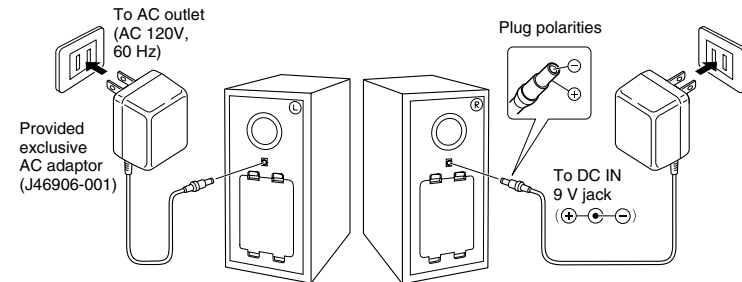
### Exclusive Rechargeable Ni-Cd Batteries : J46514-001 (1.2 V, 550 mAh, 2 pcs/pack)

7. Though the rechargeable batteries may become hot after they have been charged or used, this is not malfunction.
8. Due to characteristics of the batteries, they expend their charge a little even when the power is turned off.
9. If an audio signal is input while charging, it may cause the transmitter's indicator to light in orange.
10. SP-A100RF cannot be used while charging the headphones (HA-W100RF).

## POWER REQUIREMENTS OF SPEAKERS

The speaker power can be supplied from the AC adaptor or the battery. Use the power source that is the most appropriate for your present circumstance.

### When using the AC adaptor



Connect the provided AC adaptor (J46906-001) to each speaker (L/R).

#### Caution:

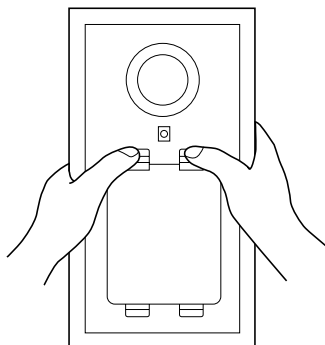
The AC adaptor for the transmitter is also provided in this unit. Be careful not to use it as the power supply for the speaker. Misuse of the adaptor may result in fire, malfunction, etc., as the voltage and current value differ depending on the adaptor type.

#### Note:

1. Be sure to use the provided exclusive AC adaptor (J46906-001) for connection. Use of any other AC adaptor may cause a malfunction.
2. The AC adaptor cord has approx. 2m length. Use the extension cord when the cord length is not enough for proper installation of the speaker.
3. Keep the AC adaptor cord loose when connecting to the speaker. The speaker may fall on the floor if the cord is pulled tightly. Applying strong force may cause damage to the cord.
4. Do not use numerous AC adaptors simultaneously on one AC outlet to avoid fire, malfunction, etc..
5. Locate each speaker at the proper side by following L (left) or R (right) mark shown on their back.

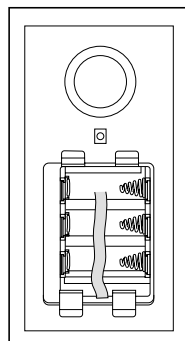
## POWER REQUIREMENTS OF SPEAKERS

### When using the battery



- ① Detach the battery compartment cover on the back of each speaker (L/R).

\*It can be attached upside-down.



- ② First set the string in the battery compartment. (Batteries can be removed by pulling it out.) Then check the polarity and insert six D size batteries (Alkaline or Manganese) in each speaker (L/R).

### How to use the string

Before inserting the battery, set the string inside the battery compartment so that batteries can be removed easily by pulling it out.

### Available battery

- D size Alkaline or Manganese battery
- Six batteries necessary for each speaker (L/R)

## POWER REQUIREMENTS OF SPEAKERS

### Cautions about the batteries

If the batteries are used incorrectly, they may leak, heat or explode, and may cause fire, injury or soiling. Make note of the following:

1. Insert batteries with the (+) and (-) polarities correctly positioned, following the indications on the equipment.
2. Do not use a new battery with an old one.
3. Do not throw batteries in a fire or heat them.
4. Do not short-circuit the positive (+) and negative (-) terminals. Also, do not carry or store them with small metallic objects such as necklaces or coins.
5. Do not deform, take apart, modify or directly solder the batteries.
6. Do not remove or damage the covering tube.
7. If you notice phenomena that has never happened before, such as leakage, color change or deformity, stop using the batteries.
8. If any liquid from the batteries gets into your eyes, it may cause blindness. If battery liquid does get into your eyes, do not rub them, but instead immediately wash them thoroughly with clean water, then consult a doctor at once.
9. Do not immerse or wet the batteries in water.
10. Do not use or leave the batteries in an area where the temperature becomes significantly higher, such as in direct sunlight, inside a car on a hot day or near heat-generating equipment.
11. Do not subject the batteries to strong shocks or throw them.
12. Be sure to read the cautions on the batteries.

### Battery running time

Alkaline battery : approx. 24 hours

Manganese battery : approx. 9 hours

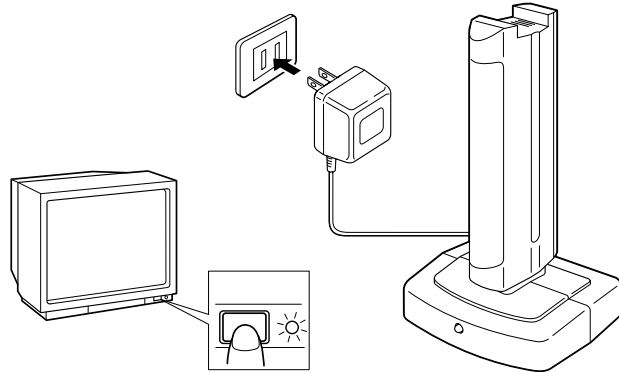
### Note:

Running time may differ depending on the battery condition.

## HOW TO USE

### ■ How to use the headphones

1. Connect the transmitter and AV equipment. (Refer to page 10)
2. Connect the AC adaptor to the transmitter, then plug the AC adaptor into an AC outlet. (Refer to page 11)
3. Turn on the power on the transmitter and the connected AV equipment.

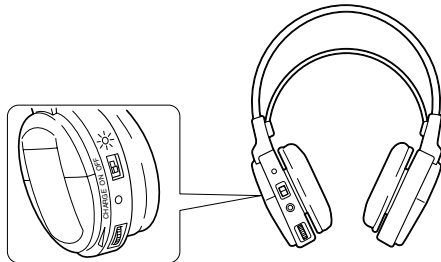


#### Transmitter power

When an audio signal is input, the transmitter's power is turned on automatically, and the indicator lights in green. Also, when no audio signal is input for about a minute, the indicator goes out automatically and the power turns off. (Automatic Power On/Off function)

In some situations, the power may not be turned on automatically by the input sound (e.g. a song with a quiet opening or gradual fade-in). This is not a malfunction.

4. Turn on the headphones' power. To avoid excessive volume, first set the headphones' volume to a low level.

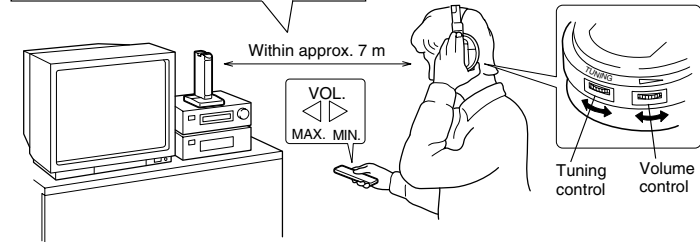


Before using the headphones for the first time, charge the rechargeable Ni-Cd battery.

## HOW TO USE

5. Adjust the volume control of the connected equipment and the headphones, and set them to the desired listening level.
6. Turn the TUNING control to get the best reception in the headphones.

To set optimum signal reception, adjustments should be done within a range of approx. 7 m between the transmitter and the headphones.



#### Tips for better use

For improved sound quality, set the volume level of the connected equipment as high as possible without causing distortion, while setting the volume level of the headphones to a slightly lower level.

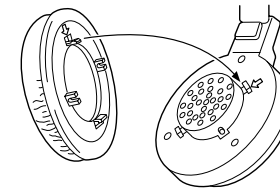
In cases of interference or too much noise, turn the TUNING control on the transmitter to another position, then repeat step 6.

#### After use

Keep the headphones' power off.

#### Notes:

1. If an ear pad falls off, insert the unit into it with the arrow on each part aligned correctly.

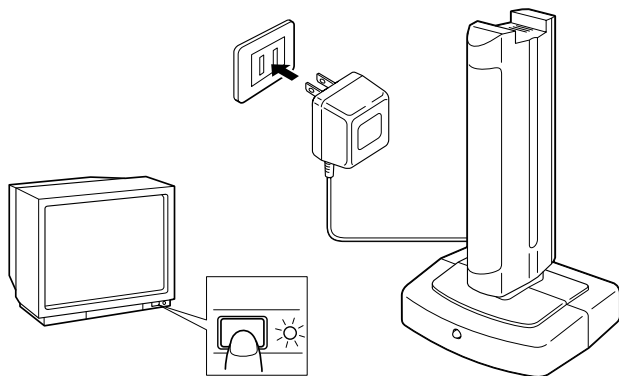


2. When using the headphones, don't raise the volume excessively. Continuous listening for a long time at high volumes may damage your hearing.
3. For safety reasons, do not use the headphones while riding a bicycle or driving a motorcycle, car, etc.

## HOW TO USE

### ■ How to use the speakers

1. Connect the transmitter and AV equipment. (Refer to page 10)
2. Connect the AC adaptor to the transmitter, then plug the AC adaptor into an AC outlet. (Refer to page 11)
3. Turn on the power on the transmitter and the connected AV equipment.

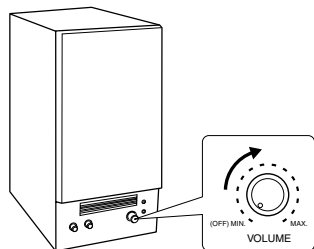


#### **Transmitter power**

When an audio signal is input, the transmitter's power is turned on automatically, and the indicator lights in green. Also, when no audio signal is input for about a minute, the indicator goes out automatically and the power turns off. (Automatic Power On/Off function)

In some situations, the power may not be turned on automatically by the input sound (e.g. a song with a quiet opening or gradual fade-in). This is not a malfunction.

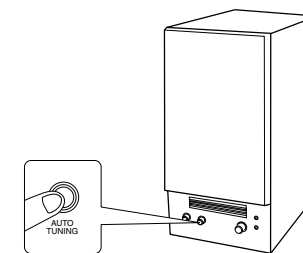
4. Turn the knob clockwise to turn on the speaker power and to control the volume.



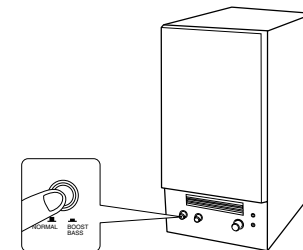
## HOW TO USE

5. Push the AUTO TUNING switch control to get the best reception in the speakers.  
When the button is pressed, frequency tuning starts automatically and it stops when a signal is detected.

In cases of interference or too much noise, turn the TUNING control on the transmitter to another position, then repeat step 5.



6. Press the BASS BOOST (BOOST BASS) button when the bass is not enough. The bass can be emphasized.



#### **After use**

Turn the knob counterclockwise until the click sound is heard to turn off the speaker power. The red light of the power indicator goes out.

## TROUBLESHOOTING

**What appears to be a malfunction may not always be serious. First make sure...**

Symptoms	Cause	Remedy
No sound.	Is the transmitter's power OFF?	Check the connection of the transmitter. Turn the power on the connected AV equipment ON and start playing.
	Is the headphones' or speaker's power OFF?	Turn on the headphones' or speaker's power. (The indicator lights.)
	Are the batteries exhausted?	Charge the Ni-Cd batteries in the headphones. Replace the batteries in the speaker.
	Is the volume set to the minimum level?	Adjust the volume to the appropriate level.
	Is the volume of the connected AV equipment set to the minimum level?	Raise the volume level of the connected AV equipment as high as possible without causing distortion.
No sound from the R-channel.	Is the transmitter connected to equipment with monaural audio output?	Connect them with an optional plug adaptor. (Converts monaural audio output to stereo audio output.)
Distorted sound.	Are the batteries exhausted?	Charge the Ni-Cd batteries in the headphones. Replace the batteries in the speaker.
	Is the volume of the connected AV equipment set too high?	Adjust the volume level of the connected AV equipment as high as possible without causing distortion.
Noisy sound.	Are the batteries exhausted?	Charge the Ni-Cd batteries in the headphones. Replace the batteries in the speaker.
	Are the frequency modulation signals being received correctly? (at the headphones)	Turn the TUNING controls on the transmitter or the headphones and adjust them until the headphones' indicator lights in red.
	Are the frequency modulation signals being received correctly? (at the speakers)	Push the AUTO TUNING switch on the speakers or turn the TUNING controls on the transmitter to adjust them until the speakers' indicator lights in green.
	Is the volume of the connected AV equipment set too low?	Adjust the volume level of the connected AV equipment as high as possible without causing distortion.
	Are the headphones or speakers too far away from the transmitter?	Use them within the range the frequency modulation signal can reach. (Refer to page 11.)
Battery charging is impossible. (at the headphones)	Have the rechargeable Ni-Cd batteries expired?	Replace them with new Ni-Cd batteries.

## SPECIFICATIONS

### General Specifications

Modulation system	: Stereo frequency modulation system
Carrier frequency	: 911 MHz – 914 MHz
Usable area (distance to reach)	: Approx. 150 ft (46 m) (using JVC measurements systems)
Distortion	: Less than 4 % (at 1 kHz)

### Transmitter (J21738-002)

Power requirements	: DC 12 V (with the exclusive AC adaptor J46598 – 001)
Audio input terminal	: RCA pin jack x 2 3.5 mm dia. stereo minijack
Input impedance	: 20 kOhms
Reference input level	: 350 mV
Dimensions	: 140(W) x 128(D) x 230(H) mm (5-9/16" x 5-1/16" x 9-1/16")
Weight	: 315 g (11.1 oz) (Without connection cord and AC adaptor)

### Headphones (HA-W100RF)

Power requirements	: Rechargeable Ni-Cd battery (1.2 V) x 2
Battery running time	: 13 hours (When charged for 19 hours)
Frequency response	: 50 Hz – 12,000 Hz
Weight	: 300 g (10.6 oz) (With provided rechargeable Ni-Cd battery x 2)

### Speakers (SP-A100RF)

Power requirements	: DC 9 V (with the exclusive AC adaptor J46906-001) or D size battery (1.5 V) x 6 (each channel)
Battery running time	: 24 hours (when use Alkaline batteries)
Frequency response	: 65 Hz – 16,000 Hz
Dimensions	: 150(W) x 175(D) x 280(H) mm (5-15/16" x 6-15/16" x 11-1/16")
Weight	: 3.0 kg (6.7 lbs) (without batteries and AC adaptor) (each channel)

### Provided Accessories

Instructions	x 1
AC adaptor	x 3
Connection cord	x 1 (3.5 mm dia. stereo miniplug — RCA pin plug x 2 : 1.8 m (5.9 ft))
Charging cable	x 1 (2.5 mm dia. mono plug — 2.5 mm dia. mono plug)
Plug adaptor	x 1 (converts 3.5 mm dia. stereo miniplug to a 6.3 mm dia. standard stereo phone plug)

Exclusive rechargeable Ni-Cd battery x 2 (for headphones)

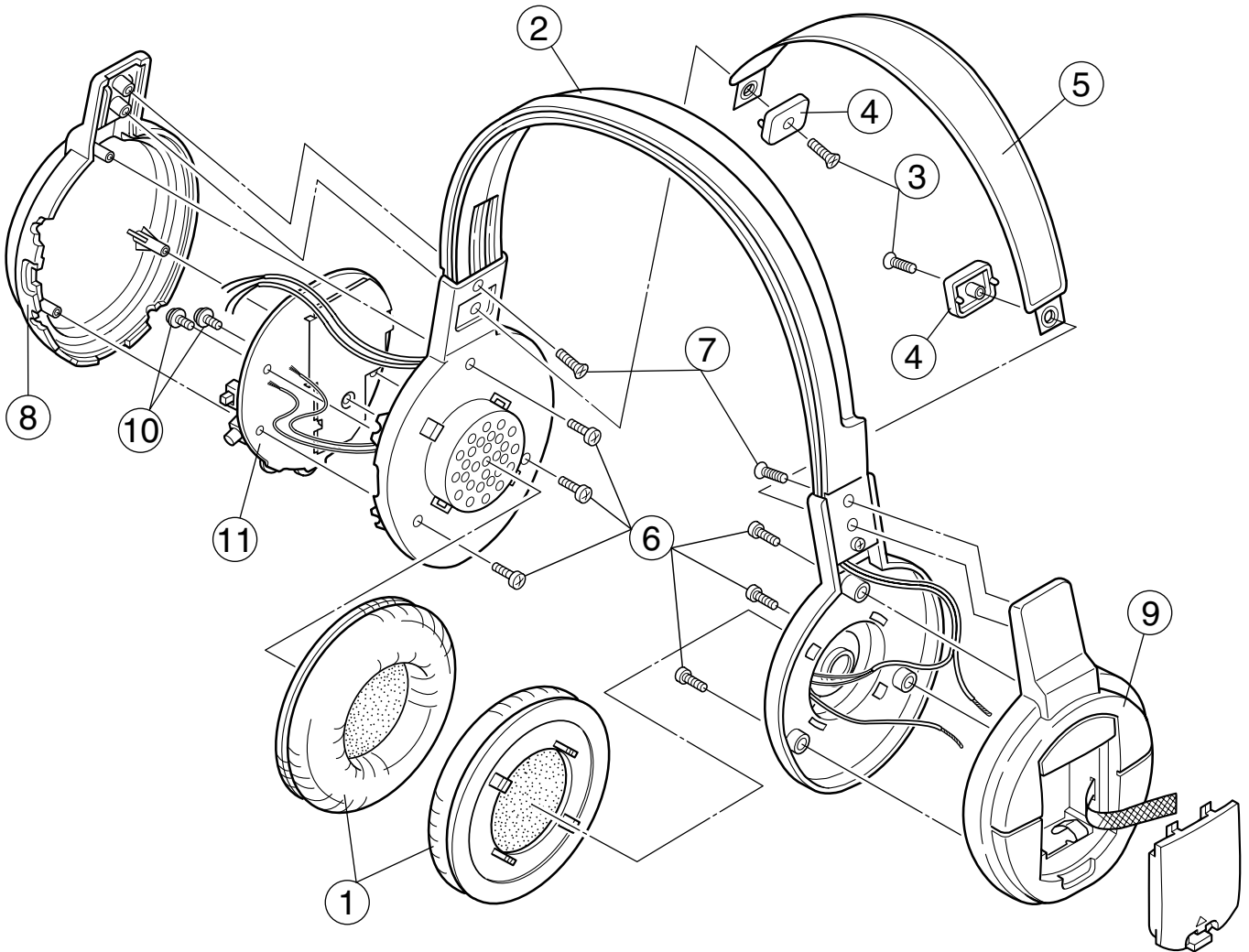
*\* Design and specifications subject to change without notice.*

## 2. Disassembly

### ■ Transmitter

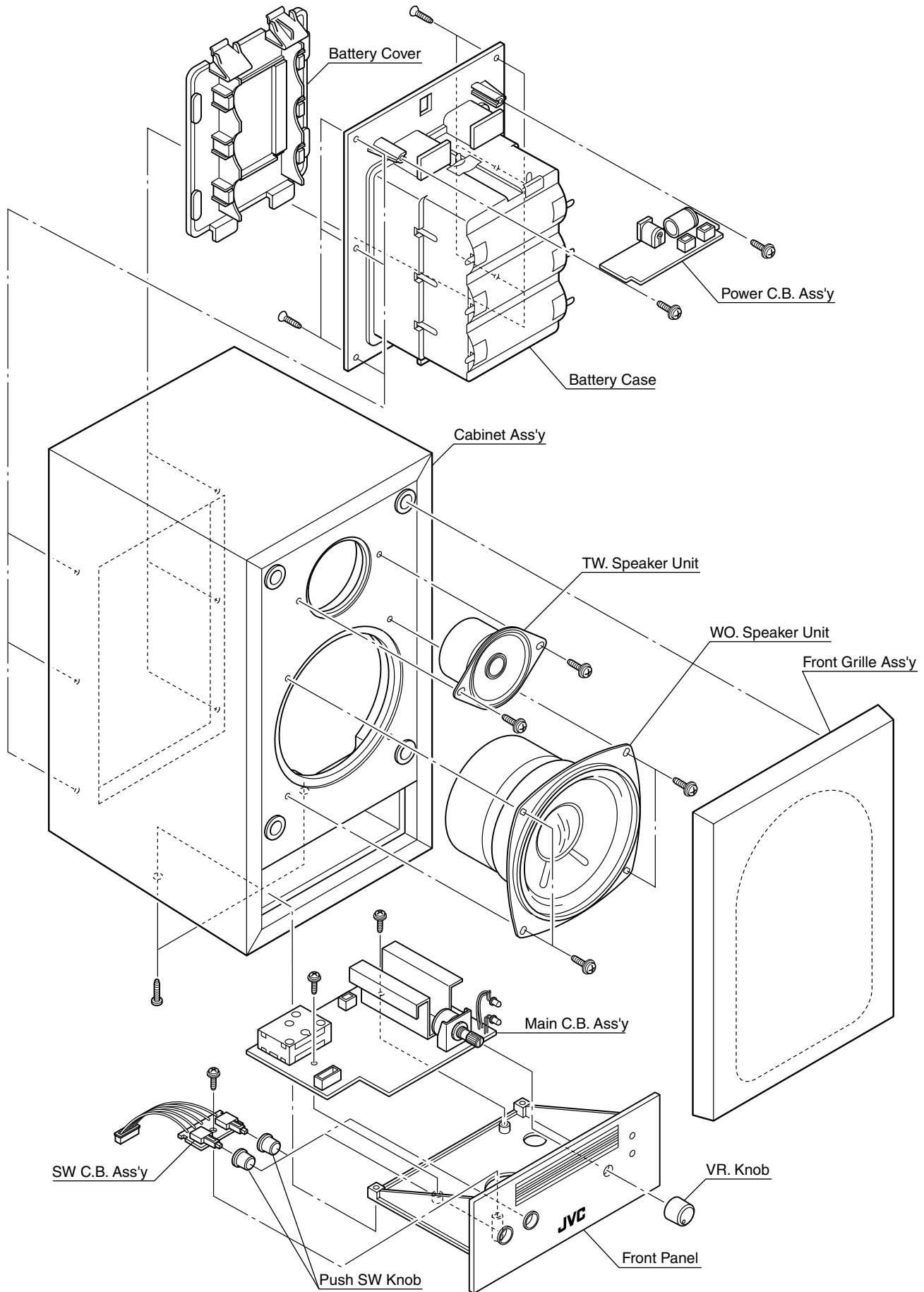
In case of some problems arise in this transmitter unit, have to change the transmitter unit itself, due to avoid the law of radio regulation.

### ■ Receiver (Headphones)



1. Remove the ear pad ass'y ① from the headband ass'y ② .
2. Remove the screw ③ retaining the head pad holder ④ , and remove the head pad ass'y ⑤ .
3. Remove the screw ⑥ and the screw ⑦ , and remove the housing (L) ⑧ and the housing (R) ass'y ⑨ .
4. Remove the screw ⑩ , and remove the print circuit board ⑪ .

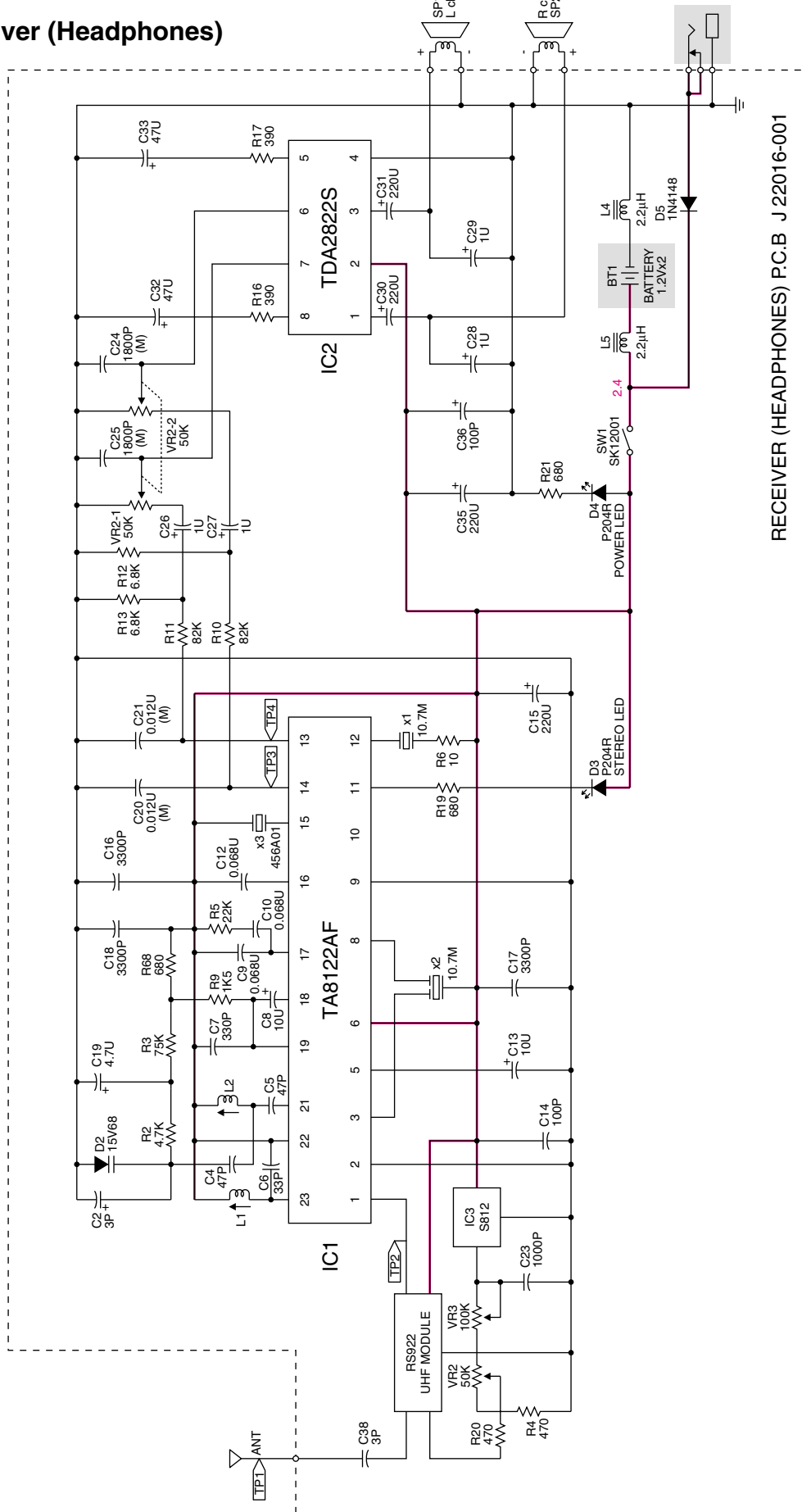
■ Speakers





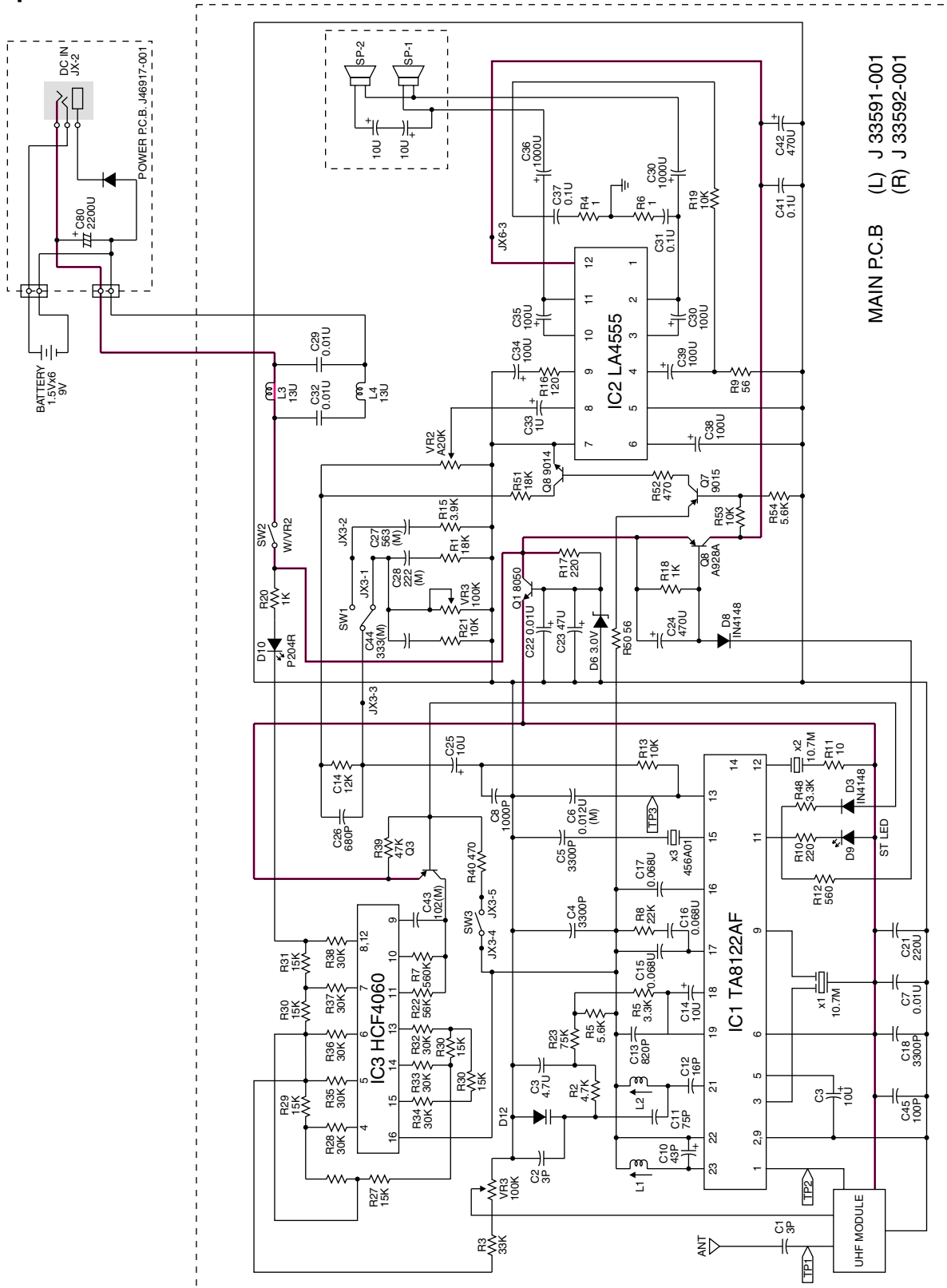
### 3. Schematic diagrams

#### Receiver (Headphones)



- NOTE:
1. ALL RESISTANCE VALUES ARE INDICATED IN OHM
  2. ALL CAPACITANCE VALUES ARE INDICATED IN F
  3. The thick line (—) is the B (+) Power supply
  4. Parts marked with Δ (in the shaded area) are safety parts. When replacing these, be sure to use only the designated parts to ensure safety.

Speakers



Use of circuit diagram

Note:

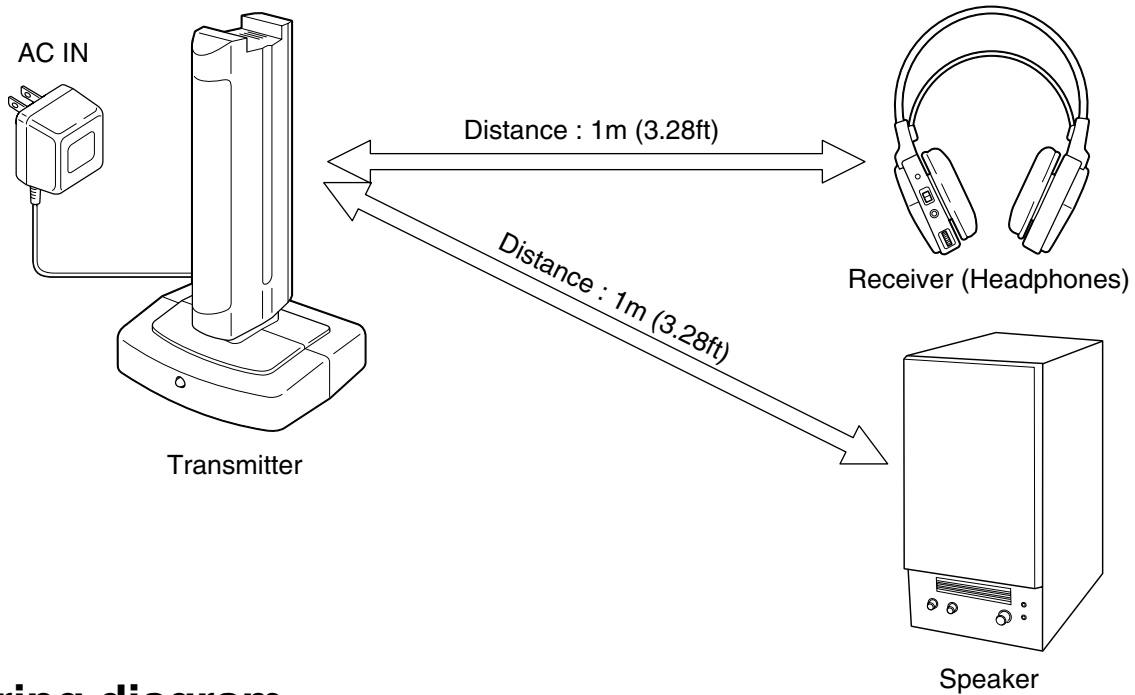
1. The thick line ( — ) is the B (+) power supply.
2. This circuit diagram is the reference diagram. Circuit and constans are subject to change without notice for improvement.
3. Values printed in red show the voltars of each section measured by the tester (internal resistance 20 kOhms/V) with the power switch ON.
4. Parts marked with  $\Delta$  (in the shaded area ) are safety parts. When replacing these, be sure to use only the designated parts to ensure safety.

Note : Speakers Rch  $\rightarrow$  IC1 13Pin use  
Lch  $\rightarrow$  IC1 14Pin use

MAIN P.C.B (L) J 33591-001  
(R) J 33592-001

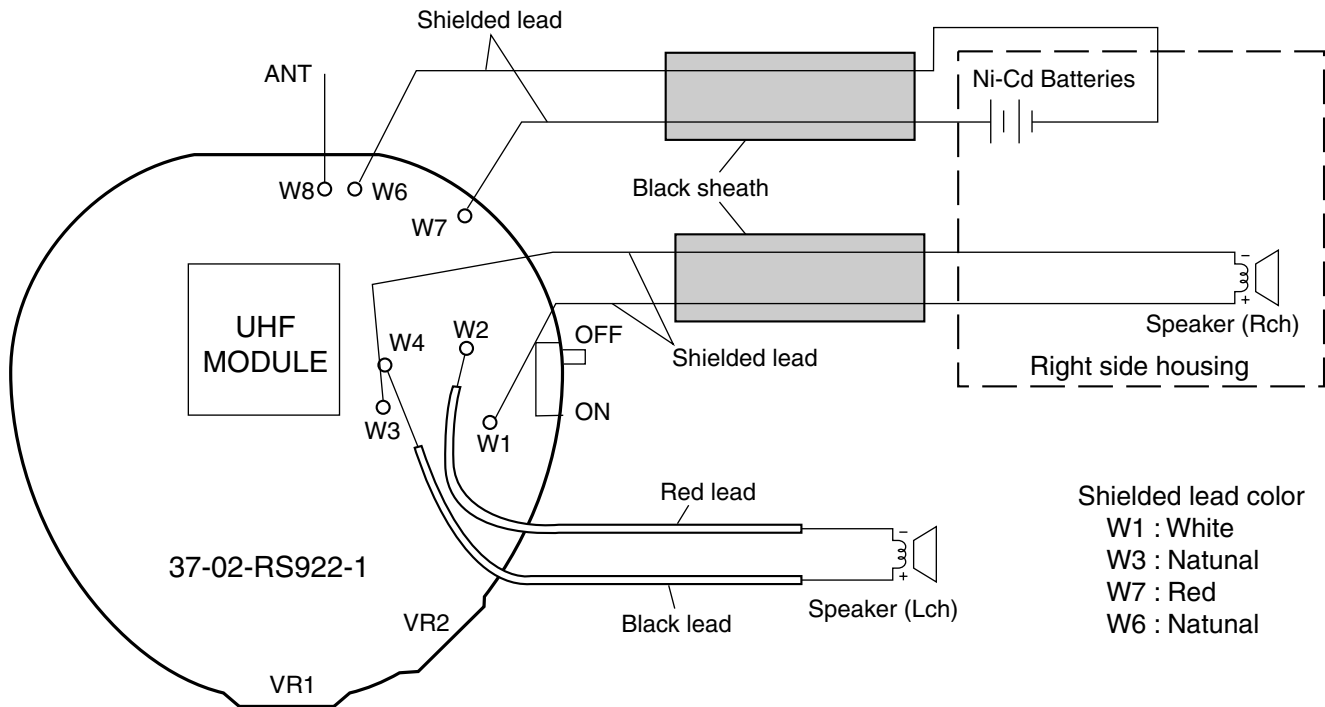
## 4. Measurement condition

- Reference input signal : 1kHz 350mVp-p sine wave
- Headphone volume control : MAX

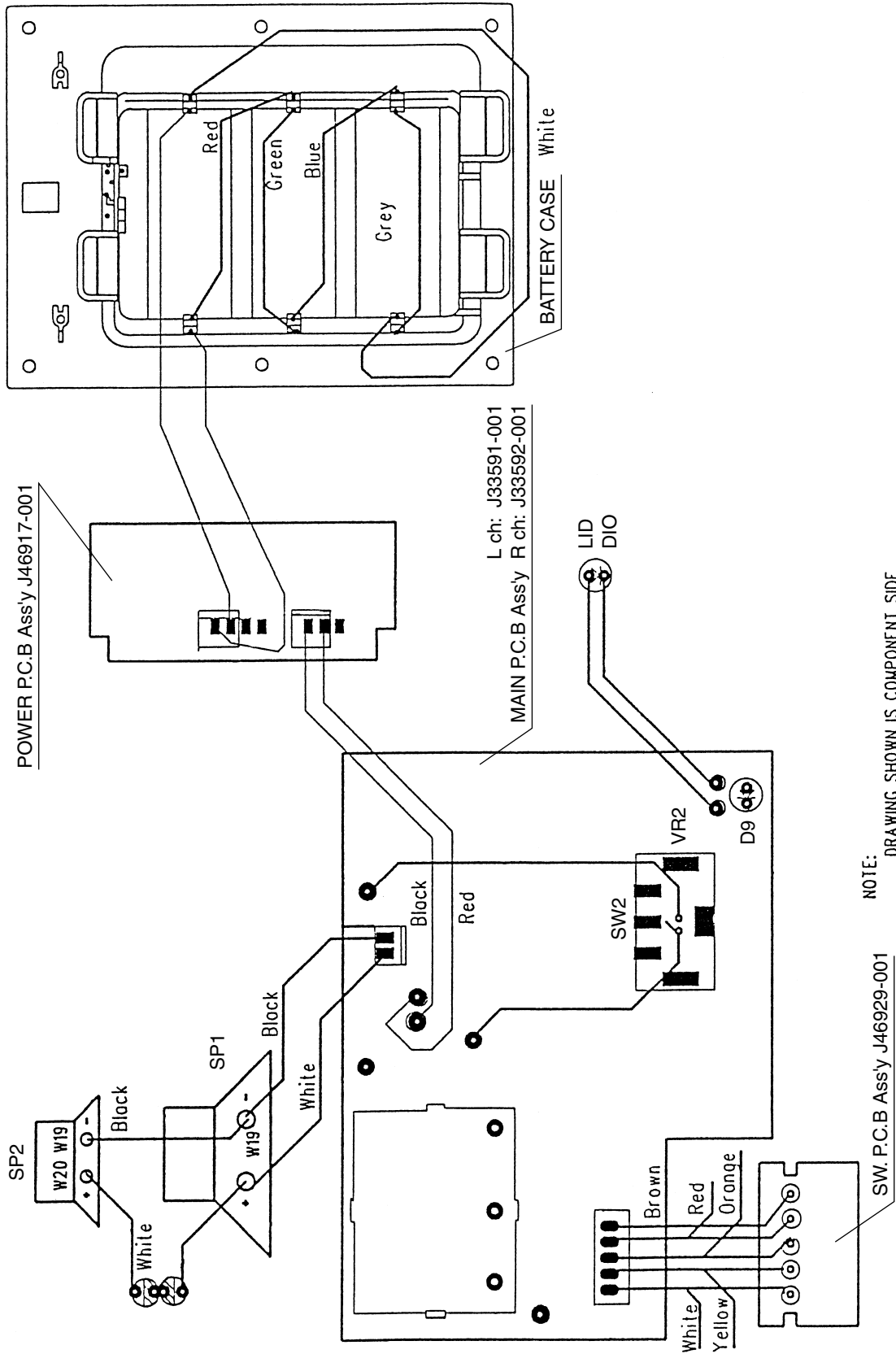


## 5. Wiring diagram

### ■ Receiver (Headphones)



■ Speakers

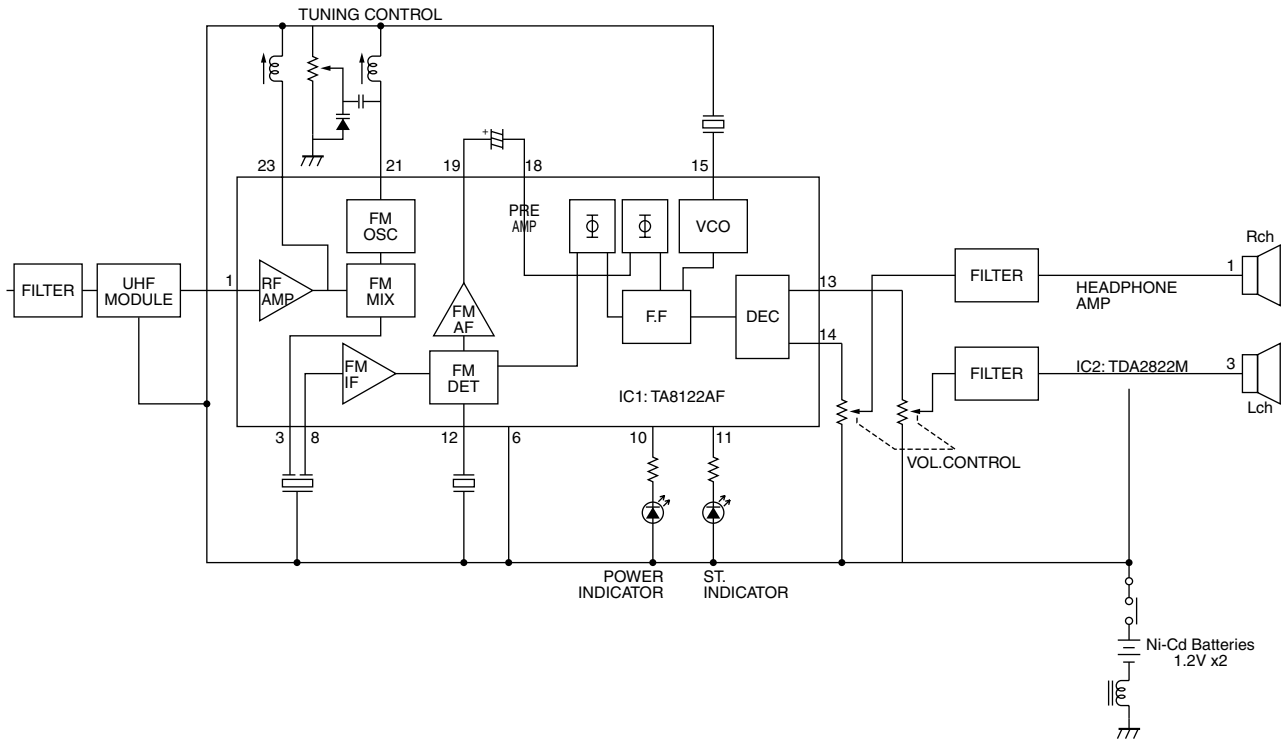


NOTE: DRAWING SHOWN IS COMPONENT SIDE

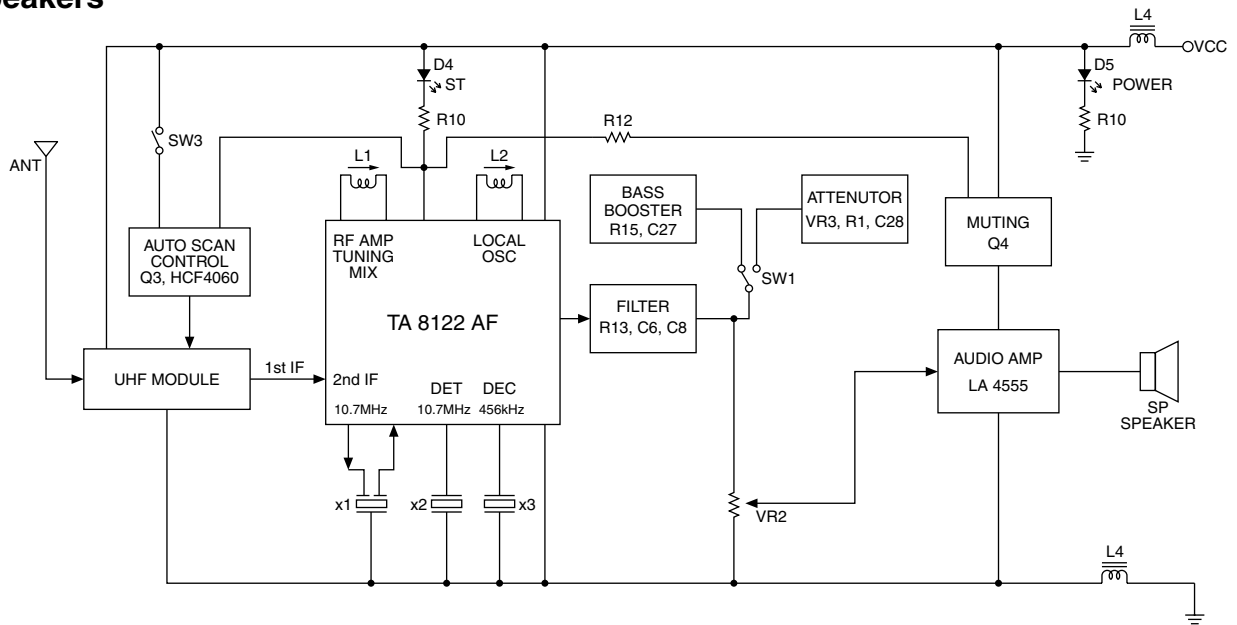
SW. P.C.B. Assy J46929-001

## 6. Block diagrams

### Receiver (Headphones)



### Speakers



## 7. Electrical parts list

### ■ Transmitter

△	Symbol No.	Parts No.	Parts Name	Description
△		J22015-001	Transmitter Unit	Adjusted

In case of some problem arise in this transmitter unit, have to change the transmitter unit itself, due to avoid the law radio regulation.

\* Parts marked (△) ave safety parts. When replacing, be sure to use the specifide one.

### ■ Receiver (Headphones)

△	Symbol No.	Parts No.	Parts Name	Description
△		J22016-001	P.C.B. Ass'y	Adjusted
	D3	J46520-001	LED	ST.Indicator
	D4	J46520-001	LED	Power Indicator
	VR1	J46521-001	Variable Resistor	Tuning control
	VR2	J46522-001	Variable Resistor	Volume control
△	JX1	J46523-001	DC IN Jack	Charging Input Jack
	SW1	J46532-001	Switch	Power switch

\* Parts marked (△) ave safety parts. When replacing, be sure to use the specifide one.

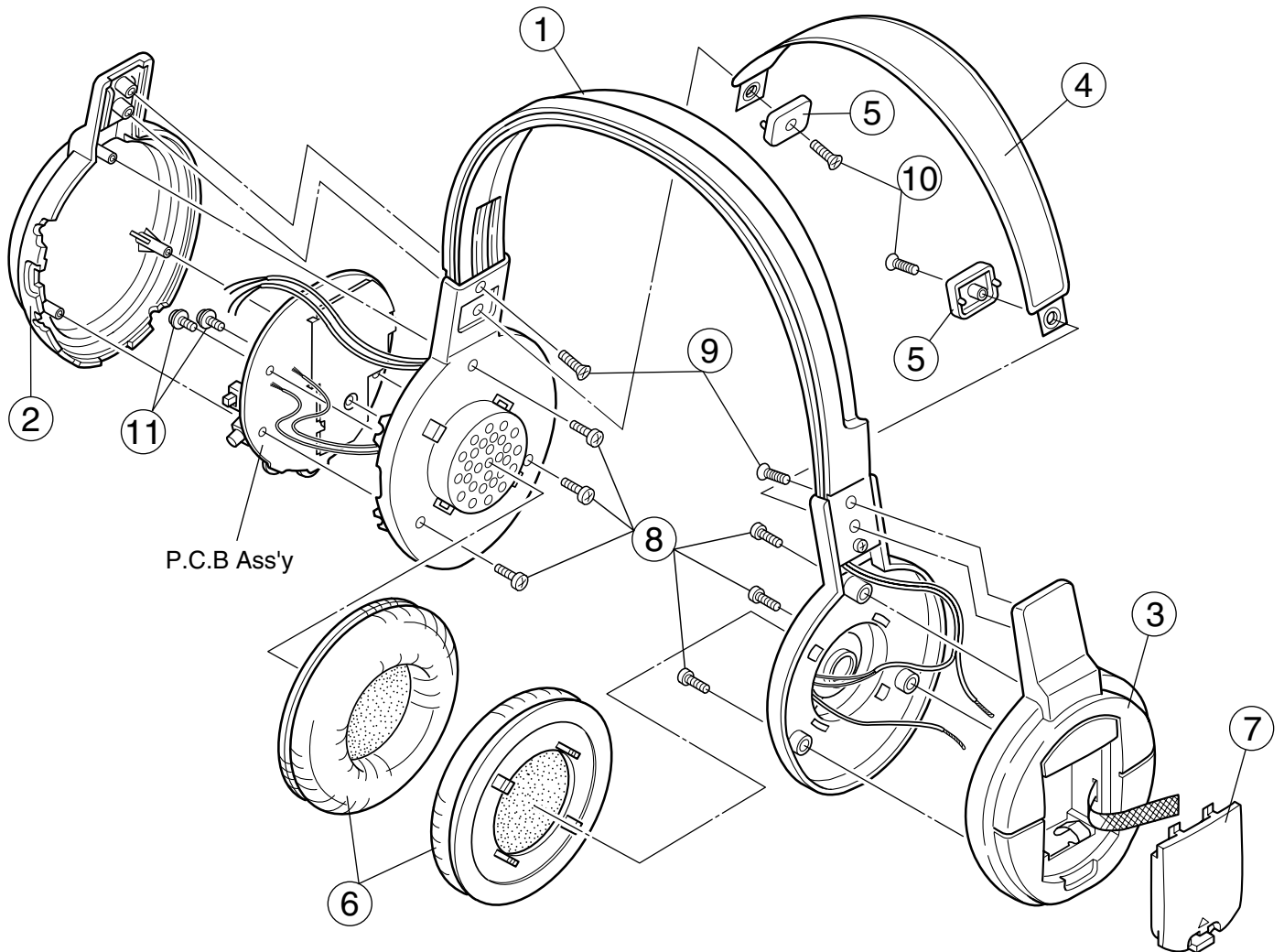
### ■ Speakers

△	Symbol No.	Parts No.	Parts Name	Description
△		J33591-001	Main P.C.B. Ass'y(L)	Adjusted
△		J33592-001	Main P.C.B. Ass'y(R)	Adjusted
△		J46929-001	SW. P.C.B. Ass'y	
△		J46917-001	Power P.C.B. Ass'y	
	VR2	J46925-001	Variable Resistor	Volume control
	SW1	J46926-001	Push Switch	Boost Bass
	SW3	J46927-001	Push Switch	Aute Tuning
△	JX2	J46298-001	DC IN jack	
	SP-1	J33558-001	10cm SPK Unit	Wooter
	SP-2	J33559-001	5cm SPK Unit	Tweeter

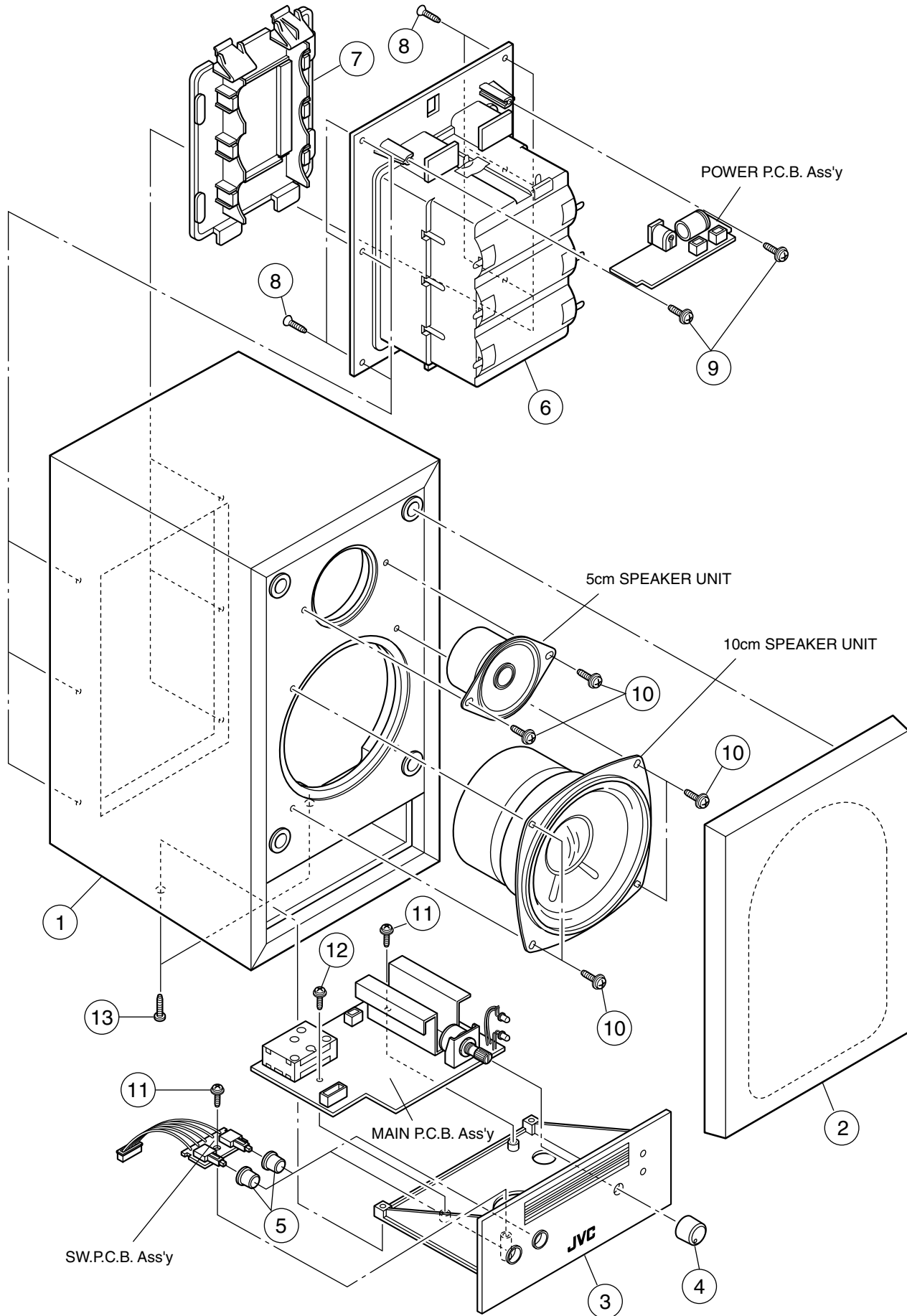
\* Parts marked (△) ave safety parts. When replacing, be sure to use the specifide one.

## 8. Exploded view

### ■ Receiver (Headphone)



■ Speakers





## 9. Mechanical parts list

### ■ Receiver (Headphones)

△	Item No.	Parts No.	Parts Name	Q'ty	Description
	1	J11400-001	Headband Ass'y	1	with driver unit ass'y
	2	J22017-001	Housing(L)	1	
	3	J22018-001	Housing(R) Ass'y	1	with battery terminal
	4	J21747-001	Head Pad Ass'y	1	
	5	J46518-001	Head Pad Holder	2	
	6	J21748-001	Ear Pad Ass'y	2	with ear pad holder
	7	J46934-001	Battery Cover	1	
	8	SPSF2008M	Screw	6	
	9	SSSF2008M	Screw	2	
	10	SSSF2012M	Screw	2	
	11	GPSF2005Z	Screw	2	

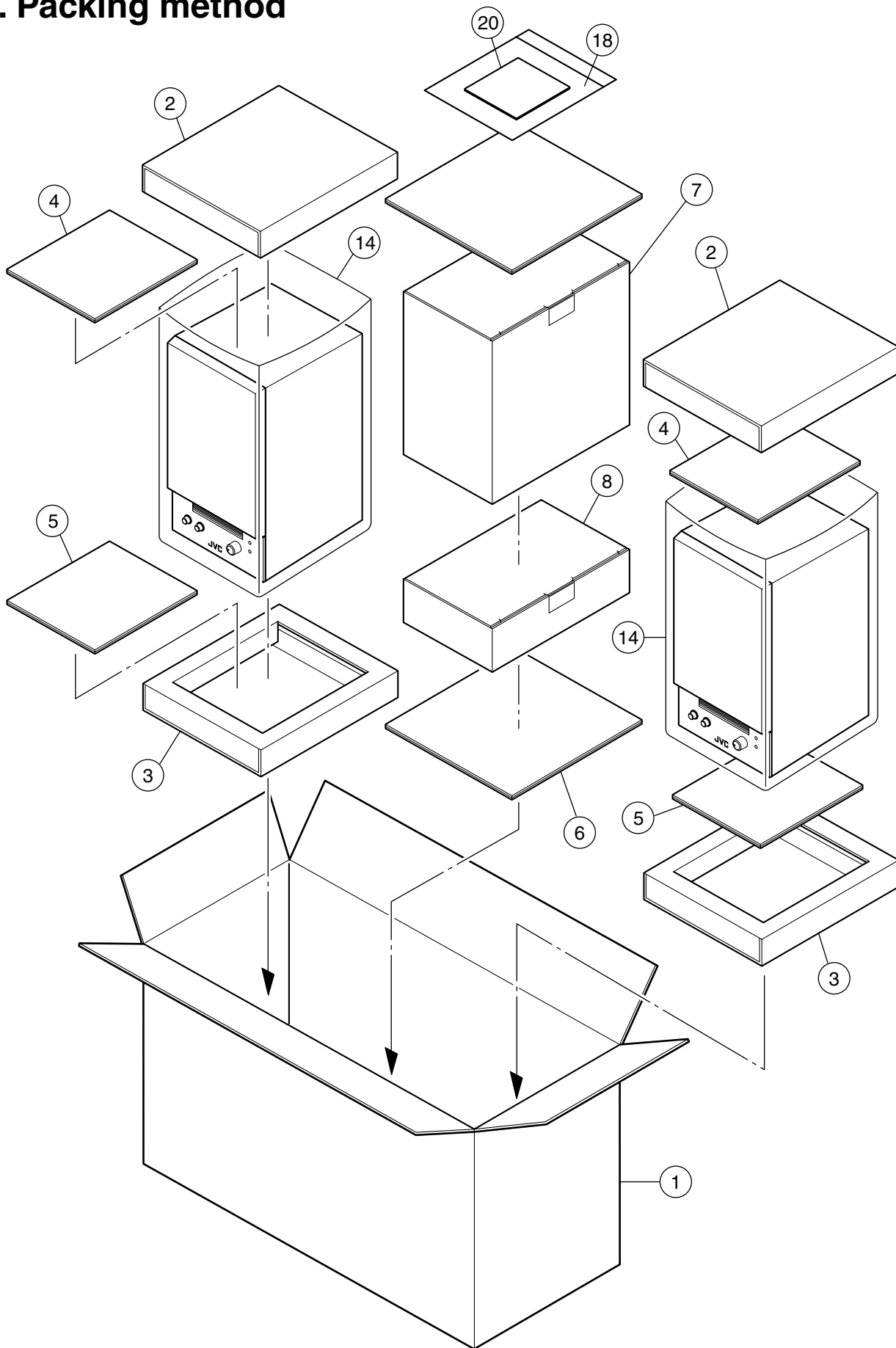
\* Parts marked (△) are safety parts. When replacing, be sure to use the specified one.

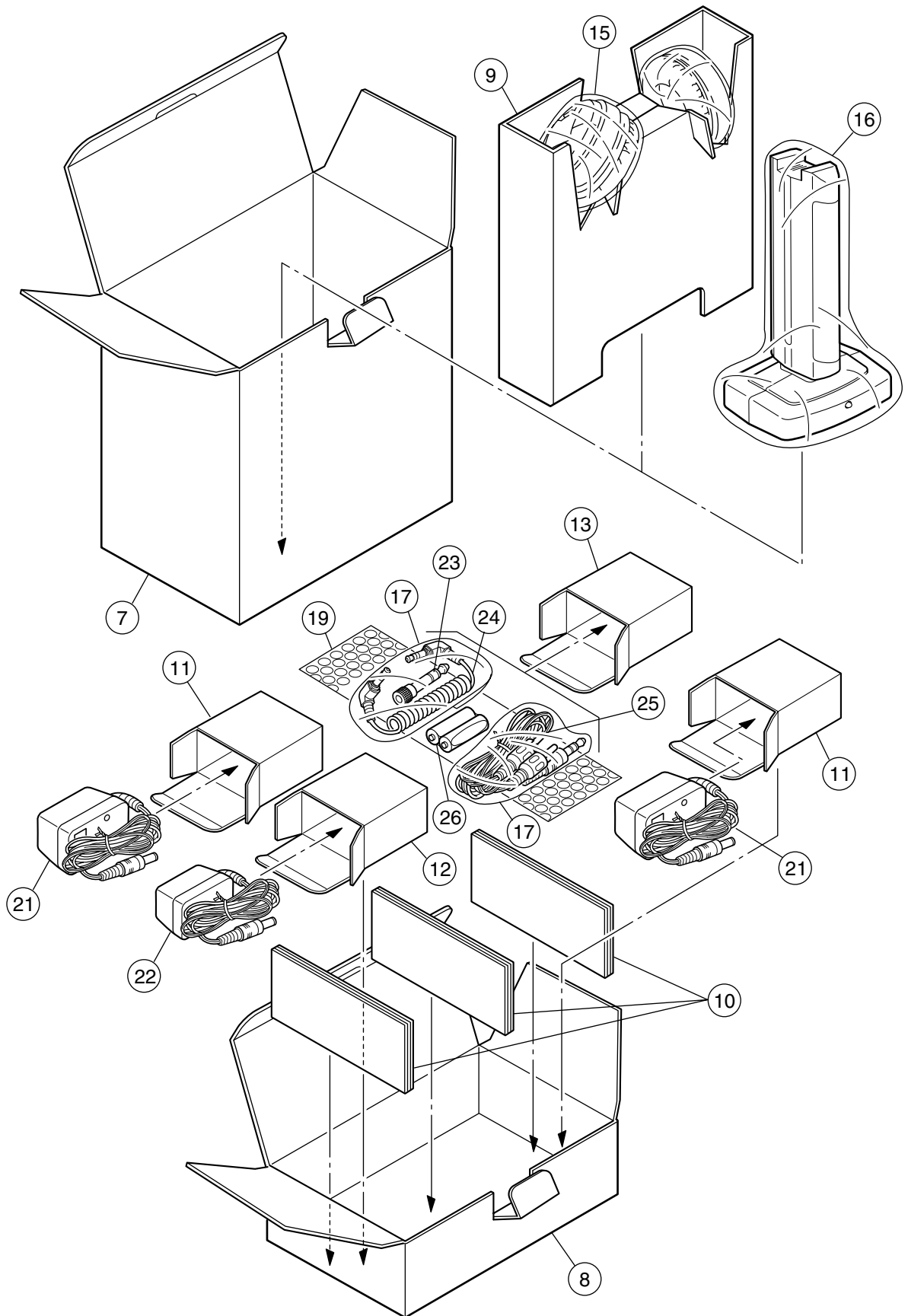
### ■ Speakers

△	Item No.	Parts No.	Parts Name	Q'ty	Description
	1	J11529-001	Cabinet Ass'y	1	
	2	J22005-001	Front Grille Ass'y	1	
	3	J33590-001	Front Panel	1	
	4	J46918-001	Knob	1	For Volume
	5	J46919-001	Knob	2	For Boost base/Auto tuning
	6	J33593-001	Battery Case	1	with battery terminal
	7	J33594-001	Battery Cover	1	
	8	MSSP3010M	Screw	6	For Battery Case
	9	GPSA3012N	Screw	2	For Power P.C.B. Ass'y
	10	GPSA3012M	Screw	6	For Speaker Unit
	11	GPSA2608Z	Screw	2	For Main P.C.B./SW. P.C.B.
	12	SDSF2606Z	Screw	1	For Main P.C.B. Ass'y
	13	SDSA3012N	Screw	2	For Bottom of Cabinet

\* Parts marked (△) are safety parts. When replacing, be sure to use the specified one.

# 10. Packing method





## 11. Packing materials parts list

△	Item No.	Parts No.	Parts Name	Q'ty	Description
	1	J11521-001	Packing Case	1	
	2	J22008-001	Packing Holder	2	
	3	J22009-001	Packing Holder	2	
	4	J33605-001	Packing Holder	2	
	5	J33608-001	Packing Holder	2	
	6	J22007-001	Packing Holder	2	
	7	J33600-001	Sub Packing Case	1	
	8	J33596-001	Sub Packing Case	1	
	9	J33601-001	Packing Holder	1	
	10	J46932-001	Packing Holder	3	
	11	J33597-001	Sub Packing Case	2	For SPK AC Adaptor
	12	J33598-001	Sub Packing Case	1	For Transmitter AC Adaptor
	13	J33599-001	Sub Packing Case	1	
△	14	J33595-001	Poly Bag	2	For Speakers
△	15	QPC02504515P	Poly Bag	1	For Receiver(Headphones)
△	16	QPC02504515P	Poly Bag	1	For Transmitter
	17	QPGA005-02303	Poly Bag	2	For Accessories
△	18	QPA01702505P	Poly Bag	1	For Instructions
	19	J46935-001	Cushion	1	

\* Parts marked (△) are safety parts. When replacing, be sure to use the specific one.

## 12. Accessoriers list

⚠	Item No.	Parts No.	Parts Name	Q'ty	Description
⚠	20	J5500-103B	Instructions	1	
⚠	21	J46906-001	AC Adaptor	2	For Speakers
⚠	22	J46598-001	AC Adaptor	1	For transmitter
	23	J46517-001	Plug Adaptor	1	
⚠	24	J46516-001	Charging Cord	1	
	25	J46515-001	Connection Cord	1	
⚠	26	J46514-001	Rechargeable Ni-Cd battery	1	2pcs/pack

\* Parts marked (⚠) are safety parts. When replacing, be sure to use the specific one.

**JVC**

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