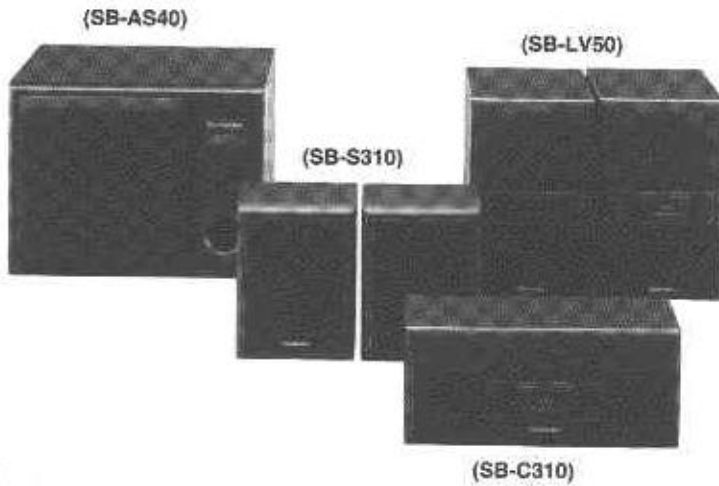


Speaker System SB-HT310

Operating Instructions



Technics®

Before connecting or operating these products,
please read these instructions completely.
Please save this manual.

P

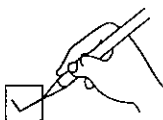
Dear Customer

Thank you for purchasing this product.
For optimum performance and safety, please read these instructions carefully.

Table of contents

Supplied accessories	2
Precautions	3
Notes	3
Positioning the speakers	4
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Supplied accessories



Please check and identify the supplied accessories.

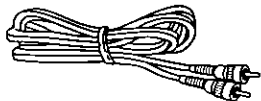
- Speaker cables [short type] (REE0466) 3 pcs.



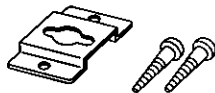
- Speaker cables [long type] (REE0476) 2 pcs.



- Speaker cable [pin plug type] (RJL1P015B50) 1 pc.



- Metal wall mounts and screws (RYQ0115-Y) 1 set



- Speaker feet (RFA0631A-K) 3 sets



Use numbers indicated in parentheses when asking for replacement parts.

To order accessories call PASC Accessory Dept. 1-800-332-5368.

The model number and serial number of this product can be found on either the back or the bottom of the unit.
Please note them in the space provided below and keep for future reference.

MODEL NUMBER	SERIAL NUMBER
Front speaker : SB-LV50	_____
Center speaker : SB-C310	_____
Surround speaker : SB-S310	_____
Subwoofer : SB-AS40	_____

User memo:

DATE OF PURCHASE _____
DEALER NAME _____
DEALER ADDRESS _____
TELEPHONE NUMBER _____

Only for SB-AS40

WARNING:

TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK OR PRODUCT DAMAGE, DO NOT EXPOSE THIS APPLIANCE TO RAIN, SPLASHING, DRIPPING OR MOISTURE.

Only for SB-AS40



CAUTION

**RISK OF ELECTRIC SHOCK
DO NOT OPEN**



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE SCREWS. 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.

Precautions

Before using this unit please read these operating instructions carefully. Take special care to follow the warnings indicated on the unit itself as well as the safety suggestions listed below. Afterwards keep them handy for future reference.

Safety

Only for SB-AS40


- 1. Power Source** -- The unit should be connected to power supply only of the type described in the operating instructions or as marked on the unit.
- 2. Polarization** -- If the unit is equipped with a polarized AC power plug (a plug having one blade wider than the other), that plug will fit into the AC outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
- 3. Power Cord Protection** -- AC power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them. Never take hold of the plug or cord if your hand is wet, and always grasp the plug body when connecting or disconnecting it.
- 4. Nonuse Periods** -- When the unit is not used, turn the power off. When left unused for a long period of time, the unit should be unplugged from the household AC outlet.

Installation

Environment

- 1. Water and Moisture** -- Do not use this unit near water-for example, near a bathtub, washbowl, swimming pool, or the like. Damp basements should also be avoided.
- 2. Heat** -- The unit should be situated away from heat sources such as radiators and the like. It also should not be placed in temperatures less than 5°C (41°F) or greater than 35°C (95°F).

Placement

- 1. Ventilation** -- The unit should be situated so that its location or position does not interfere with its proper ventilation. Allow 10 cm (4") clearance from the rear of the unit.
- 2. Foreign Material** -- Care should be taken so that objects do not fall into and liquids are not spilled into the unit. Do not subject this unit to excessive smoke, dust, mechanical vibration, or shock.
- 3. Magnetism** -- The unit should be situated away from equipment or devices that generate strong magnetic fields.
- 4. Stacking** -- Do not place heavy objects, other than system components, on top of the unit.
- 5. Surface** -- Place the unit on a flat, level surface.
- 6. Carts and Stands** -- The unit should be used only with a cart or stand that is recommended by the manufacturer. The unit and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the unit and cart combination to overturn. 
- 7. Wall or Ceiling Mounting** -- The unit should not be mounted to a wall or ceiling, unless specified in this operating instructions.

Maintenance

Clean the cabinet, panel and controls with a soft cloth lightly moistened with mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzene.

Service

- 1. Damage Requiring Service** -- The unit should be serviced by qualified service personnel when:
 - (a) The AC power supply cord or the plug has been damaged; or
 - (b) Objects have fallen or liquid has been spilled into the unit; or
 - (c) The unit has been exposed to rain; or
 - (d) The unit does not appear to operate normally or exhibits a marked change in performance; or
 - (e) The unit has been dropped, or the enclosure damaged.
- 2. Servicing** -- The user should not attempt to service the unit beyond that described in the operating instructions. All other servicing should be referred to authorized service personnel. (Only for U.S.A.)
Call 1-800-545-2672 for the address of an authorized factory servicenter.

Notes

Speaker impedance and allowed input

	Impedance	Allowed input
SB-LV50	8 Ω	70 W (DIN)
SB-C310	8 Ω	70 W (DIN)
SB-S310	4 Ω	55 W (DIN)

Caution

The only receivers or amplifiers you should connect to these speakers are those whose rated output does not exceed the above figures. Using a receiver or amplifier stronger than that indicated above, you risk blowing either the amp or your speakers, moreover possible fire.

If equipment is damaged in any way or unexpected trouble occurs during playback, unplug the system from its outlet and call a serviceman for help.

Notes with regard to excessive input

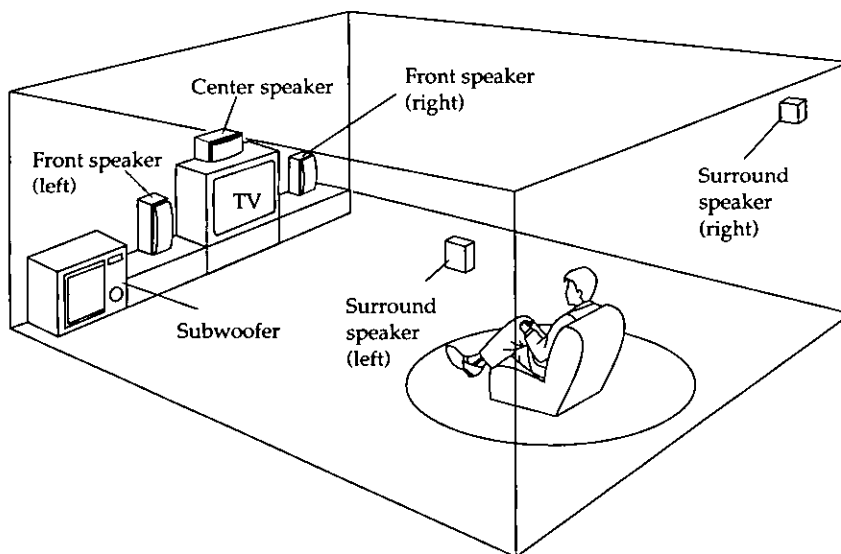
Be sure to reduce the volume level from the receiver when the signal input exceeds the rated allowable input in order to avoid damage to circuitry, or malfunctions.

Other notes

- Avoid locations such as described below.
 - Where exposed to direct sunlight
 - Near heating appliances or other sources of heat
 - Where the humidity is high
- Do not touch the diaphragms. This may cause distortion.

Positioning the speakers

To diagram below shows the basic positioning of each speaker.



- The subwoofer can be placed in any position as long as it is at a reasonable distance from the TV.
- Do not place any object on top of the speakers.

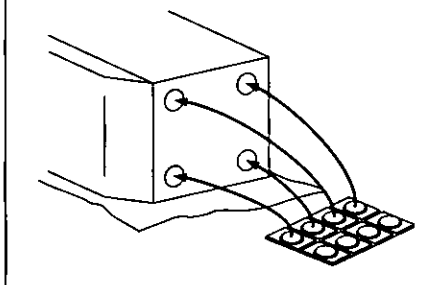
The front speakers, center speaker and subwoofer are made so they can be used in close proximity of a TV, but irregular coloring may result due to how the system is placed. If such distortion occurs, turn off the TV for sometime between 15 and 30 minutes. The demagnetizing function of the TV will eliminate the distortion. If the irregular coloring still visible, then move the speakers further away from the TV.

Please note that if there is a magnetic object near the TV, irregular coloring may result due to the interaction between the TV and the speaker.

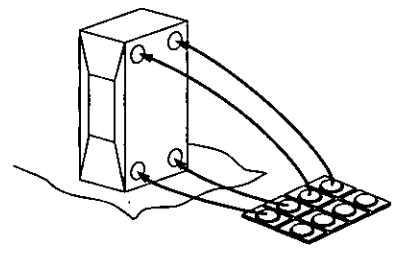
Attaching speaker feet

To prevent damage to the speakers, lay them on top of a soft cloth before attaching the speaker feet.

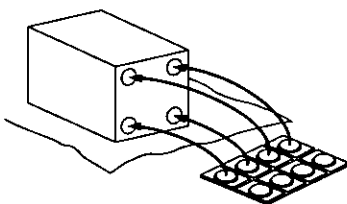
Front speakers



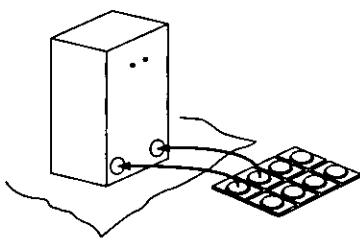
Center speaker



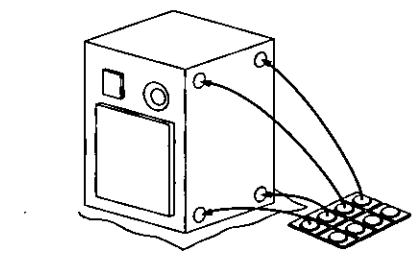
Surround speakers (When stood on a shelf or the floor)



(When mounted on a wall)



Subwoofer



Wall Installation

Only for surround speakers

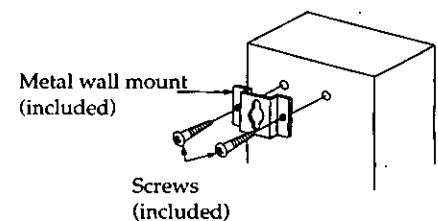
The methods of installation for each speaker are the same.

Caution

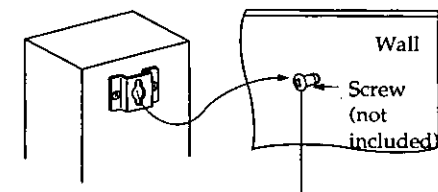
The wall has to be strong enough to hold a speaker, so it is recommended that you consult a constructor.

Please note that if the wall is not strong enough, it may result in a dangerous accident.

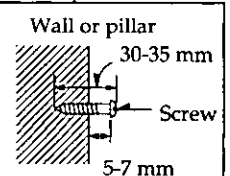
How to install the metal wall mounts



How to install the speakers on the wall



Screw the wood screw into a thick and hard part of the wall. Consult your dealer for details.



Connections

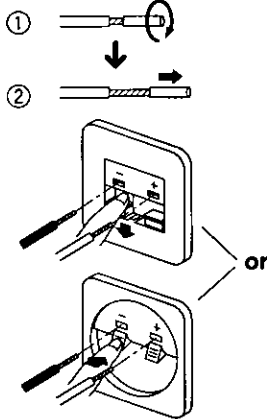
- Before making the connections, switch OFF the power to the receiver.
- Be sure to connect only positive (+) wires to positive (+) terminals, and negative (-) wires to negative (-) terminals.

Speaker cable (included)



Center speaker and Surround speakers

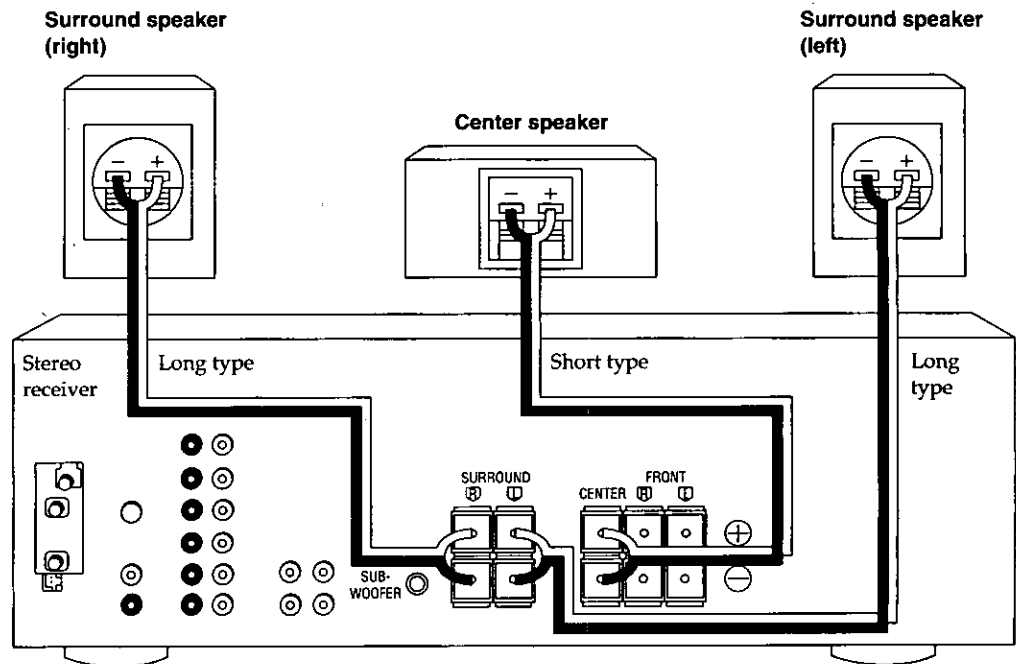
Speaker cable connections (rear panel of speakers)



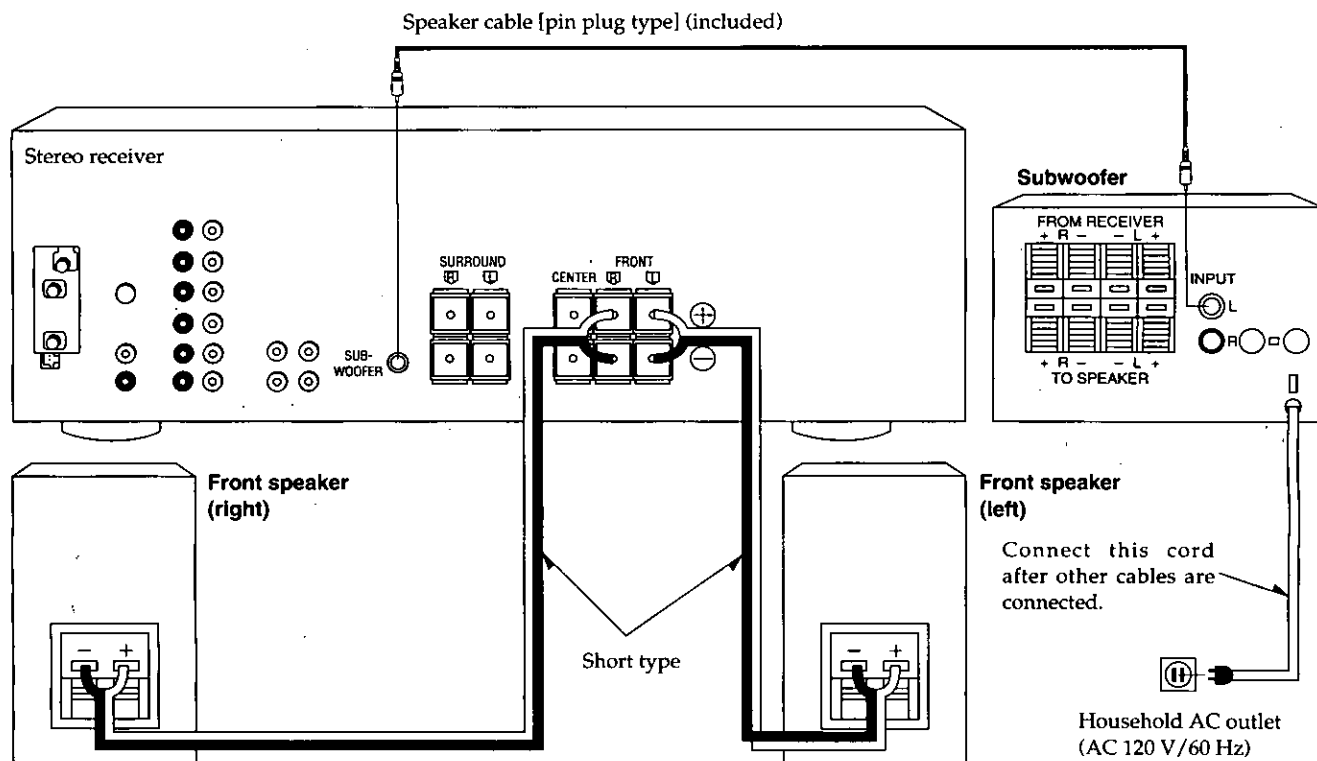
Note

To prevent damage to circuitry, never short-circuit positive (+) and negative (-) speaker wires.

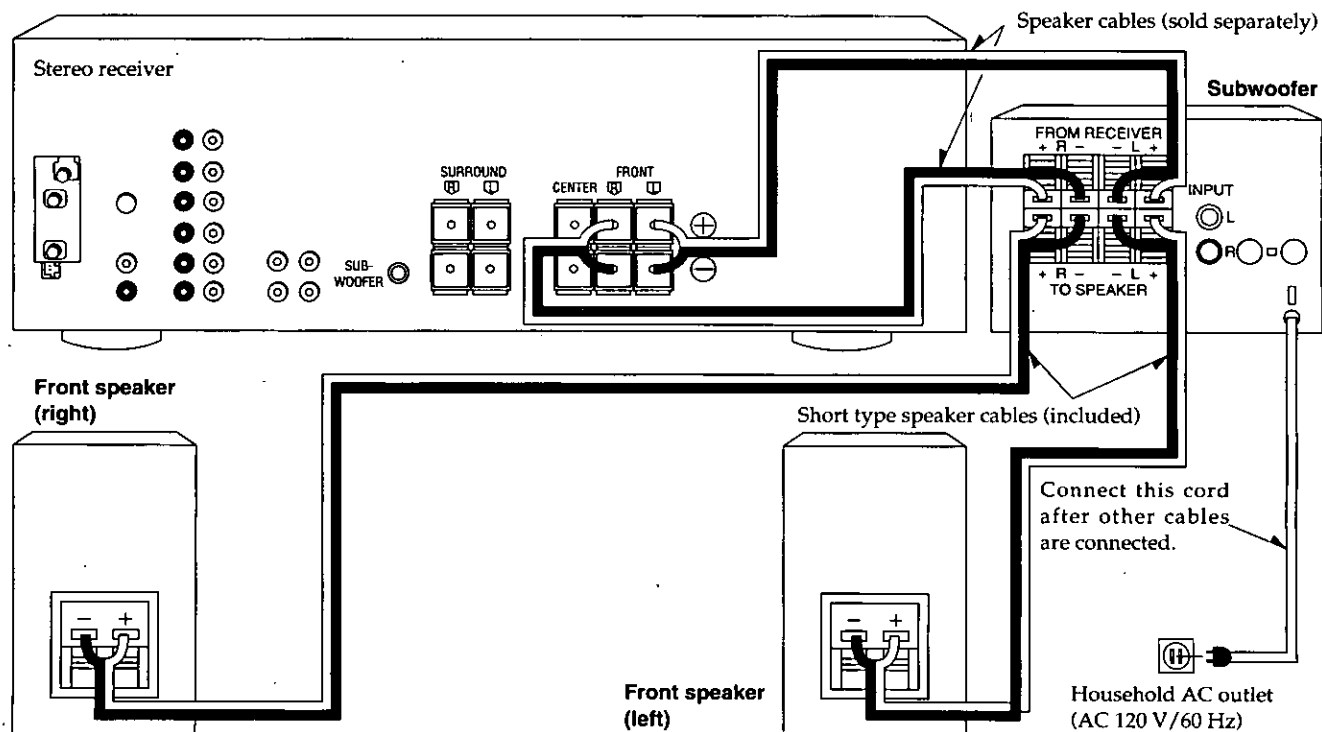
NO!

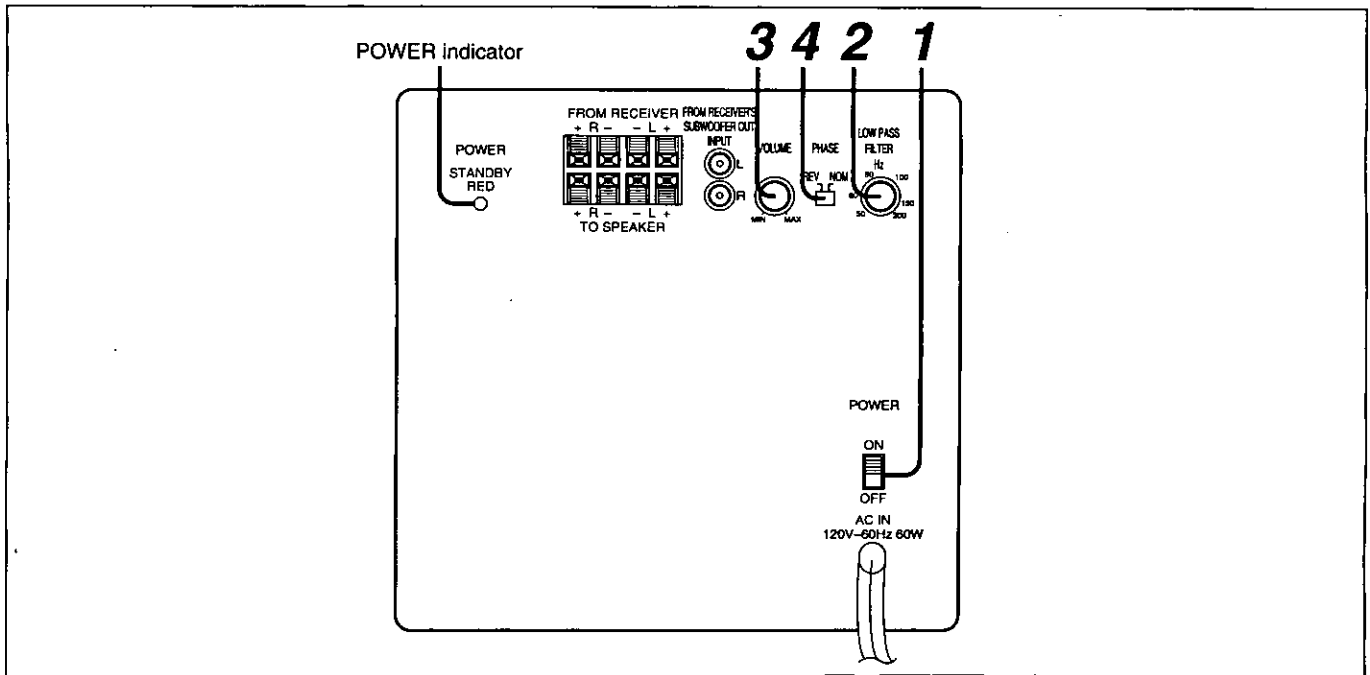


Front speakers and Subwoofer



To connect the front speakers to the subwoofer





Set the low pass filter, volume and phase to suit characteristics of the front speaker and subwoofer combination.

- 1** Set **POWER** to the "ON" position.
(The POWER indicator will light up green.)
- 2** Set **LOW PASS FILTER** to a suitable frequency, referring to the "Frequency response by LOW PASS FILTER setting" on the right.
[Recommended position for this system : 150 Hz]
- 3** Set **VOLUME** to a suitable level, referring to the "Frequency response by VOLUME setting" on the right.
[Recommended position for this system : ○ (Mark is to 10:00.)]
- 4** Listen to some music and set **PHASE** to "NOM" or "REV", whichever makes playback normal.

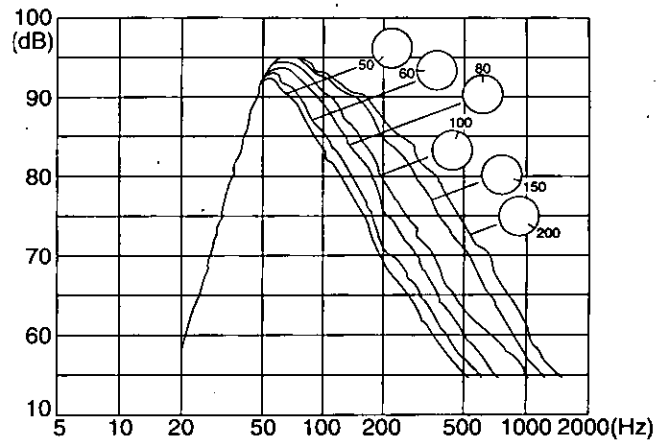
Note

If subwoofer and speaker phase are the inverse of one another, they will tend to rub each other out. Playback will not be normal and sounds will seem muffled.

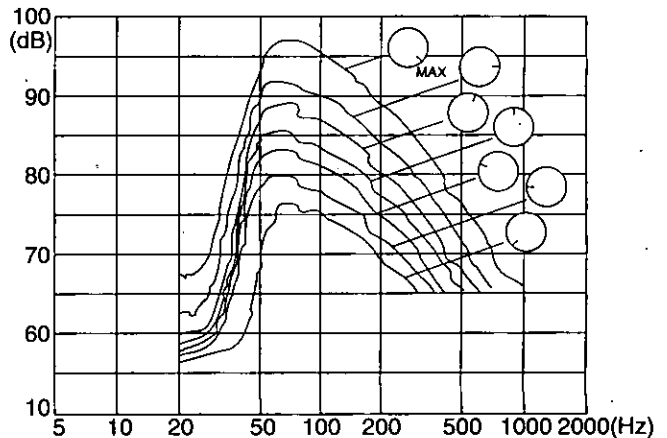
About the POWER indicator

This unit will automatically go on standby (indicator turns red), if no signal is sent within (approximately) 10 minutes from the moment you turn ON the power. Once the signal is received, this unit starts working normally (indicator turns green).

Frequency response by LOW PASS FILTER setting



Frequency response by VOLUME setting



Technical specifications

Front speakers (SB-LV50)

Type	2 way 3 speakers system Closed type
Speaker(s)	
Woofer:	8 cm (3-5/32") cone type×2
Tweeter:	6 cm (2-3/8") cone type×1
Impedance	8 Ω
Input power	140 W (Music), 70 W (DIN)
Sound pressure level	86 dB/W (1.0 m)
Crossover frequency	7 kHz
Frequency response	100 Hz-22 kHz (-16 dB) 125 Hz-20 kHz (-10 dB)

■ GENERAL

Dimensions (W×H×D)	182×290×220 mm (7-3/16"×11-7/16"×8-11/16")
Weight	2.85 kg (6.28 lb.)

Center speaker (SB-C310)

Type	2 way 3 speakers system Closed type
Speaker(s)	
Woofer:	8 cm (3-5/32") cone type×2
Tweeter:	6 cm (2-3/8") cone type×1
Impedance	8 Ω
Input power	140 W (Music), 70 W (DIN)
Sound pressure level	86 dB/W (1.0 m)
Crossover frequency	7 kHz
Frequency response	110 Hz-22 kHz (-16 dB) 140 Hz-20 kHz (-10 dB)

■ GENERAL

Dimensions (W×H×D)	330×140×140 mm (13"×5-1/2"×5-1/2")
Weight	1.85 kg (4.08 lb.)

Surround speakers (SB-S310)

Type	1 way 1 speaker system Bass-reflex type
Speaker	
Full range:	8 cm (3-5/32") cone type×1
Impedance	4 Ω
Input power	110 W (Music), 55 W (DIN)
Sound pressure level	83 dB/W (1.0 m)
Frequency response	130 Hz-20 kHz (-16 dB) 150 Hz-18kHz (-10 dB)

■ GENERAL

Dimensions (W×H×D)	160×205×100 mm (6-5/16"×8-1/16"×3-15/16")
Weight	1.2 kg (2.7 lb.)

Subwoofer (SB-AS40)

■ SPEAKER SECTION

Type	1 way 1 speaker system Bass-reflex type
Speaker	
Woofer:	17 cm (6-11/16") cone type×1
Frequency response	32-350 Hz (-16 dB) 38-250 Hz (-10 dB)

■ AMPLIFIER SECTION

Continuous power output	50 W (4 Ω)
20 Hz-200 Hz (THD 1 %)	Normal/Reverse
Phase switching	
Input sensitivity/impedance	54 mV/10 kΩ
RCA-type pln-plug jack	1.1 V/4.7 kΩ
Push-type terminals	

■ GENERAL

Power supply	AC 120 V, 60 Hz
Power consumption	60 W
Dimensions (W×H×D)	384×284×294 mm (15-1/8"×11-3/16"×11-9/16")
Weight	8.5 kg (18.7 lb.)

Note:

Specifications are subject to change without notice.
Weight and dimensions are approximate.

Protection circuitry **Only for SB-AS40**

The protection circuitry may have operated if either of the following conditions is noticed:

- No sound is heard when the power is turned on.
- Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of this unit are used.

If this occurs, follow the procedure outlined below:

1. Turn off the power.
2. Determine the cause of the problem and correct it.
3. Turn on the power once again.

Note:

When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

Product service

Do not attempt to remove the cover(s) or repair the unit yourself. Refer servicing to qualified personnel only.

Product information

For product service, product information or assistance in product operation, refer to the servicenter directory.

(In U.S.A. consult PASC Authorized Servicenters for detailed instructions or call 1-800-545-2672 for the address of an authorized factory servicenter.)

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