

ARSENAL

KS-AR7004 / KS-AR7002

LVT1700-001A
[J]

POWER AMPLIFIER: INSTRUCTIONS AMPLIFICATEUR DE PUISSANCE: MANUEL D'INSTRUCTIONS

ENGLISH



Thank you for purchasing an ARSENAL product. Please read all instructions carefully before operation, to ensure your complete understanding and to obtain the best possible performance from the unit.

For safety....

- Do not raise the volume level too much, as this will block outside sounds, making driving dangerous.
- Stop the car before performing any complicated operations.

CAUTIONS AND NOTES

This unit is designed to operate on **12 V DC, NEGATIVE ground electrical systems**.

- This unit uses BTL (Balanced Transformerless) amplifier circuitry, i.e., floating ground system, so please comply with the following:
 - Do not connect the "⊖" terminals of the speakers to each other.
 - Do not connect the "⊖" terminals of the speakers to the metal body or chassis.
- Cover the unused terminals with insulating tape to prevent them from short circuiting.
- When an extension lead is used, it should be as thick and short as possible; connect it firmly with insulating tape.
- Be sure to leave an appropriate space between the antenna and the wires of this unit.
- When replacing the fuse, only use a 40 A fuse.
- Do not let pebbles, sand or metallic objects get inside the unit.
- To keep the heat dissipation mechanism running effectively, wipe the accumulated dust off periodically.
- Listening to the tape, radio, CD or Digital Audio Player, etc. with the volume set at a high level for a long period of time will exhaust the battery, while the engine is turned off or while the engine is idling.
- This unit becomes very hot. Be careful not to touch the unit not only when using but for a while after using.

DO NOT disassemble the units since there are no user serviceable parts inside.

For Customer Use:

Enter below the Model No. and Serial No. which are located on the top or bottom of the cabinet. Retain this information for future reference.

Model No. _____ Serial No. _____

INSTALLATION

The following illustration shows a typical installation. However, you should make adjustments corresponding to your specific car. If you have any questions or require information regarding installation kits, consult your JVC car audio dealer or a company supplying the kits.

- Ⓐ Mount this unit on a firm surface, such as in the trunk room or under the front seat.
- Since heat is generated in the unit, do not mount it near inflammable objects. In addition, mount it in an area that will not prevent the unit from dissipating the heat.
 - Do not mount the unit in the places subject to heat: near a radiator, in a glove compartment or in insulated areas such as under a car mat that will prevent the unit from dissipating heat.
 - When mounting the unit under the front seat, make sure that adjusting the seat position will not catch any wire of the unit.
- Ⓑ When mounting this unit, be sure to use the provided screws. If any other screws are used, there is a risk of loosening the unit or damaging parts inside it.
- Before drilling holes in the trunk to install the unit, make sure that there is a sufficient space under the trunk so that you do not drill holes in the fuel tank, etc.
 - Detach the control cover on the unit before mounting (see "CONTROLS" on page 3).
 - To detach and rotate the Logo Plate 180 degrees, use the provided hex wrench (3 mm).
- Ⓒ When you use more than one KS-AR7000 series' amplifier, you can pile them up to three with provided brackets, screws and washers in two ways, **X** or **Y**. Be sure to mount the lowest amplifier ① primarily following Ⓑ.
- Before piling amplifiers, attach the provided spacers to "+" on the bottom of the amplifiers ② and ③.
 - Fix the amplifiers on both sides with proper brackets as illustrated. Brackets (L) are used only for the amplifier ③.
 - Before piling amplifiers as **X**, first make the connections for the power supply (see "POWER SUPPLY") and speakers (see "SPEAKER CONNECTIONS" on page 2).
 - It is recommended to pile amplifiers as **X** so that you can easily operate the controllers on each amplifier.

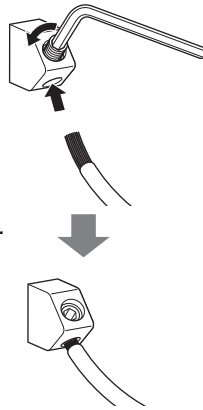
TERMINAL CONNECTIONS

When making the terminal connections...

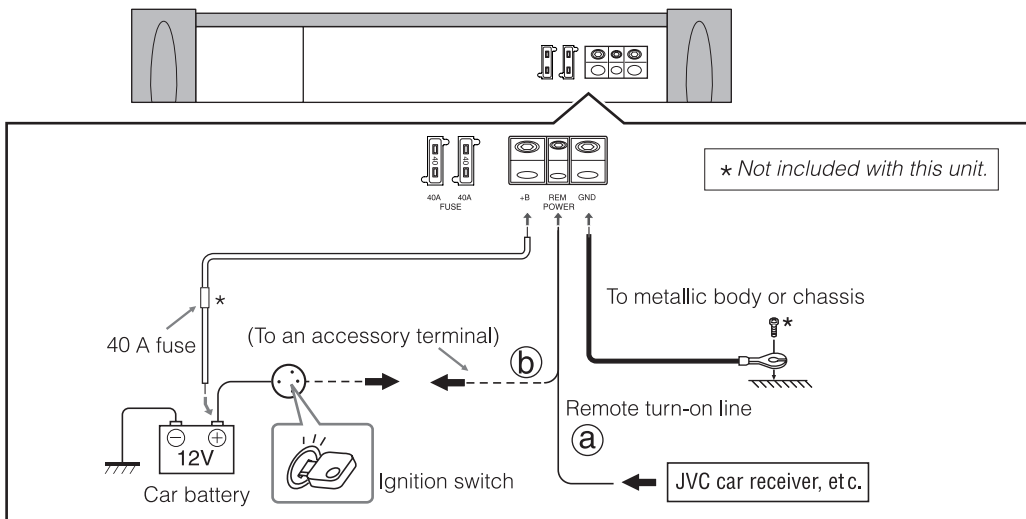
- 1** Peel the insulating vinyl cover of a cord $\frac{5}{16}$ inch (7 mm) to $\frac{7}{16}$ inch (10 mm) long and expose the inside conductor.
- 2** Loosen the hex screw in a terminal with a provided hex wrench and insert the conductor into the terminal. Then fix the hex screw again to secure the conductor.

Note

- The exposed conductor should be $\frac{5}{16}$ inch (7 mm) to $\frac{7}{16}$ inch (10 mm) long.
 - If shorter, it may cause a poor conductivity.
 - If longer, it may cause a short circuit.
- Use a proper hex wrench for each terminal.
 - 4 mm: +B terminal and GND terminal
 - 3 mm: REM terminal and speaker terminals



POWER SUPPLY



CAUTION

To prevent short circuits while making connections, keep the battery's negative terminal disconnected.

- When using a power cord (purchased separately), be sure to place the 40 A fuse near the battery as shown.
- Connect the lead wire (power cord) through which power is supplied directly to the battery's "⊕" terminal only after all the other connections have been made.

The proper lead wire connected to each POWER terminal is as follows.

- **+ B and GND:** AWG 8 to AWG 4 (The cross section is about 8 mm² to 21 mm².)
- **REM:** AWG 18 to AWG 8 (The cross section is about 0.8 mm² to 8 mm².)

- If you have any questions regarding the thickness of the power cord, etc., consult your nearest JVC car audio dealer.

- Ⓐ **When you use JVC car receiver with a remote lead**, connect to the REM terminal on this unit.
- Ⓑ **When you connect a unit without a remote lead**, connect to the accessory circuit of the car which is activated by the ignition switch. In this case, noise may occur when the car receiver is turned on or off. To avoid this noise, do not turn on or off the car receiver itself. You can turn on or off the car receiver along with the on/off operation of the ignition switch.

If the POWER/PROTECTOR lamp lights in red, it indicates incorrect speaker wiring or connections (see "TROUBLESHOOTING" on page 3). Make sure to correct speaker wiring and other connections.

SPEAKER SYSTEMS

Make sure to comply with the following notes:

- Be sure not to connect the "⊖" terminals of the speakers to a common point.
- If the ground wire is common to both left/right and front/rear speaker wirings, this unit cannot be used. Always use the independent lead wires for the speakers to be used. In this case, redo the wirings.
- Use the speakers with an impedance of 2 Ω to 8 Ω (4 Ω to 8 Ω: when used in Bridge Mode).
- Use the speakers which have sufficient capacity to the unit.

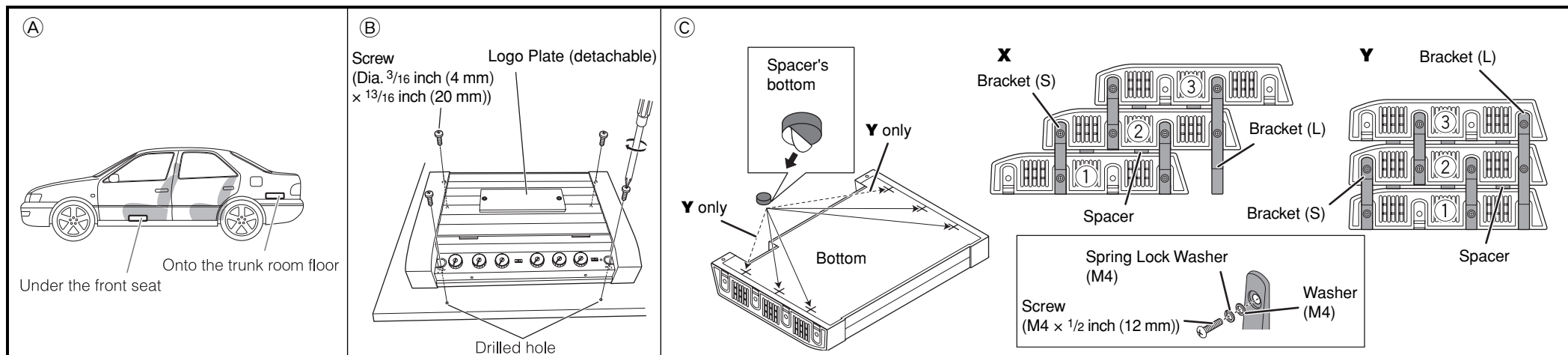
The proper lead wire connected to each SPEAKER OUTPUT terminal is as follows.
AWG 18 to AWG 8 (The cross section is about 0.8 mm² to 8 mm².)

For KS-AR7004:

When you connect 4 speakers to the unit, down mixed signals (front and rear) are emitted through the PRE OUT jacks.

For KS-AR7002:

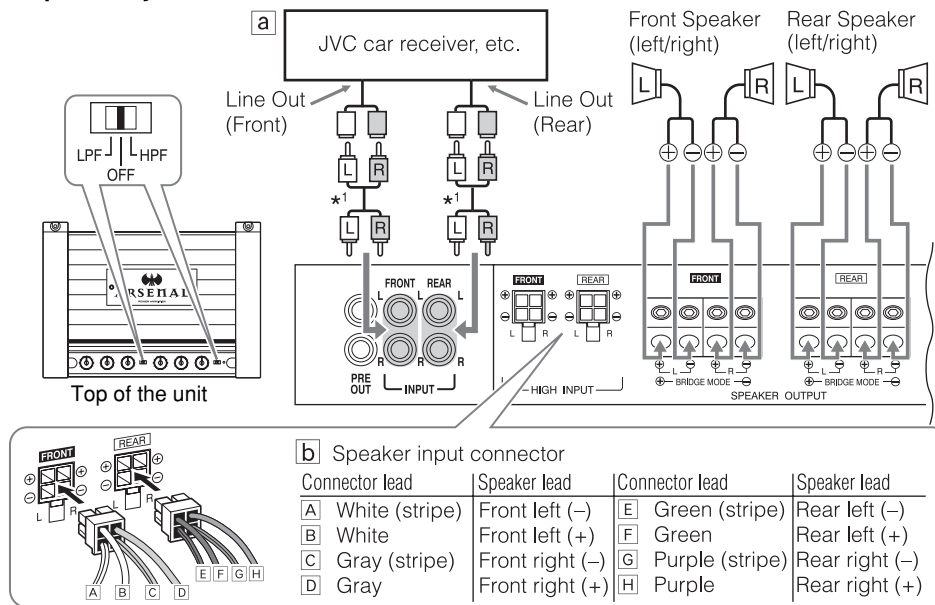
Incoming signals are emitted through the PRE OUT jacks.



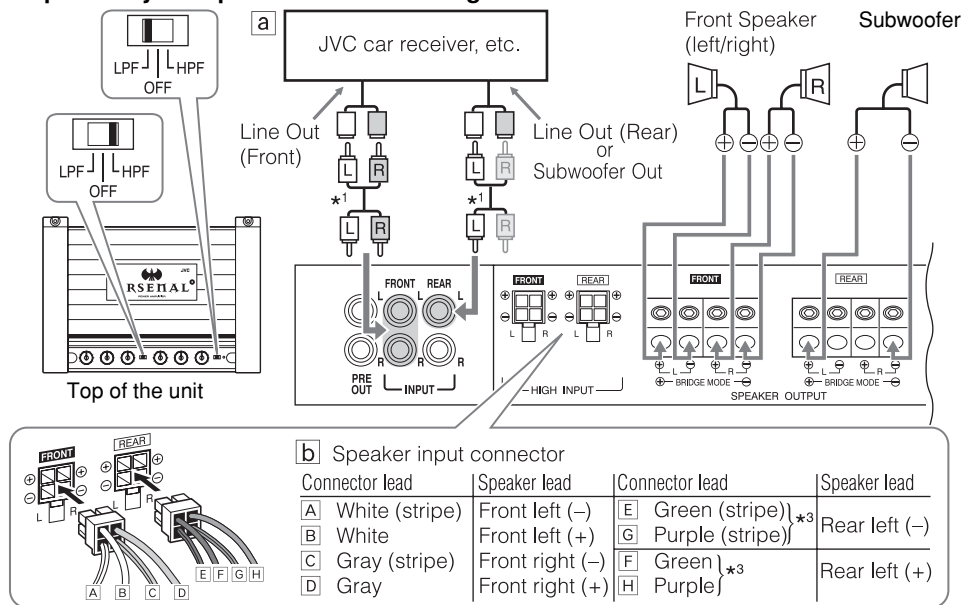
Connection varies depending on the number of the speakers used in your car. Select the appropriate connection referring to the following diagrams.

Before connecting: Securely connect all the parts. If the connections are loose, due to contact resistance etc., heat will break out and may cause an accident. Secure and cover the cords with insulating tape and run them under the car mats.

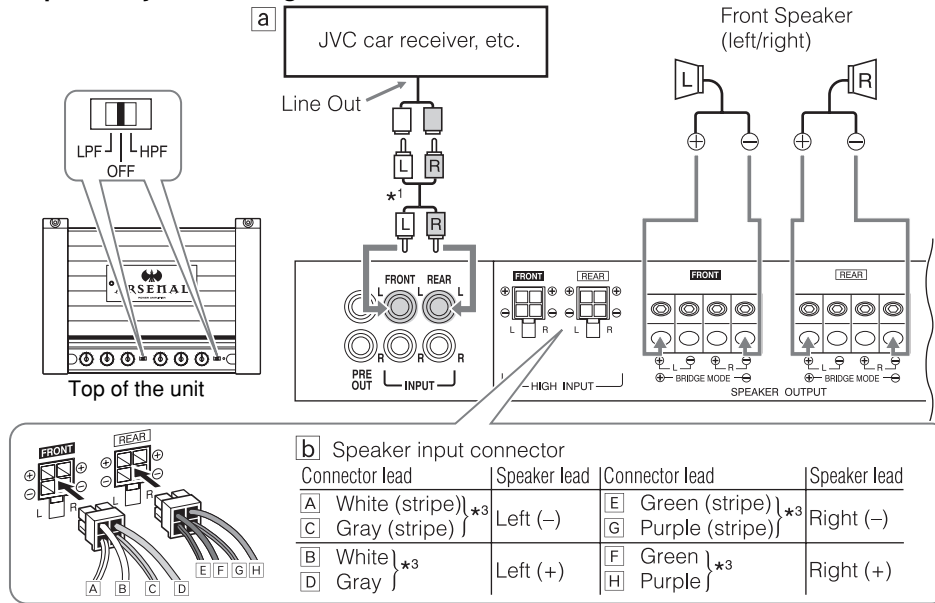
4-speaker system



2-speaker system plus subwoofer—Bridge Mode^{*2}

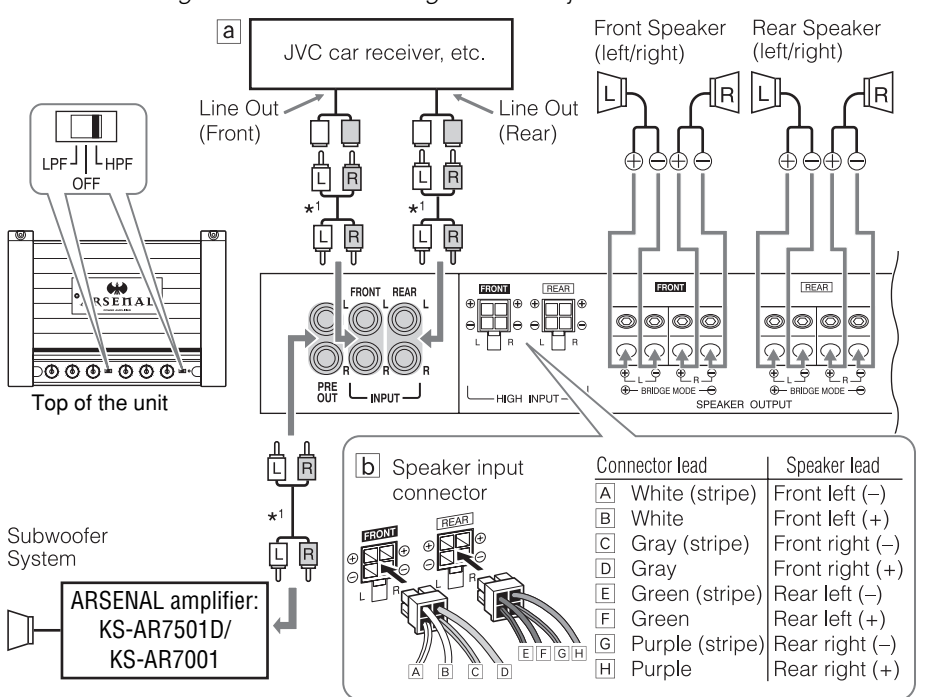


2-speaker system—Bridge Mode*²

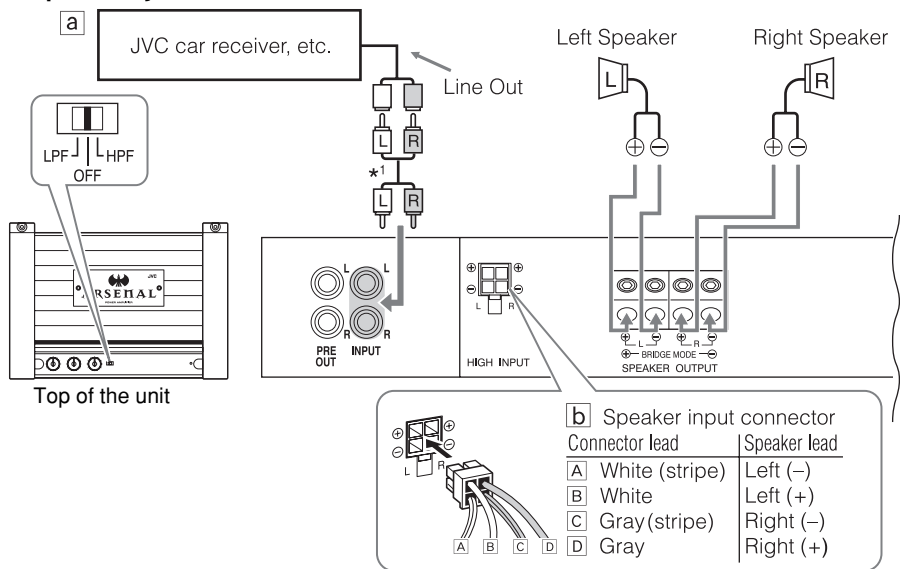


4-speaker system plus subwoofer (PRE OUT)

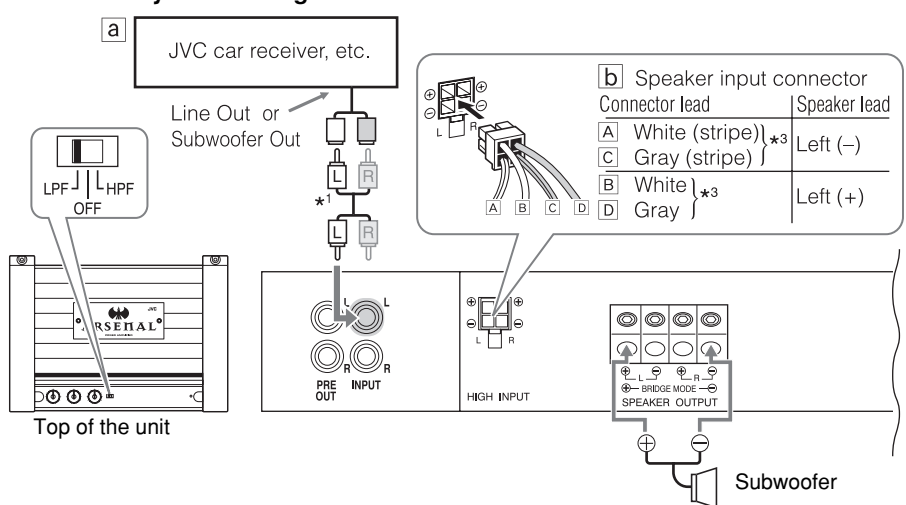
Down mixed signals are emitted through PRE OUT jacks.



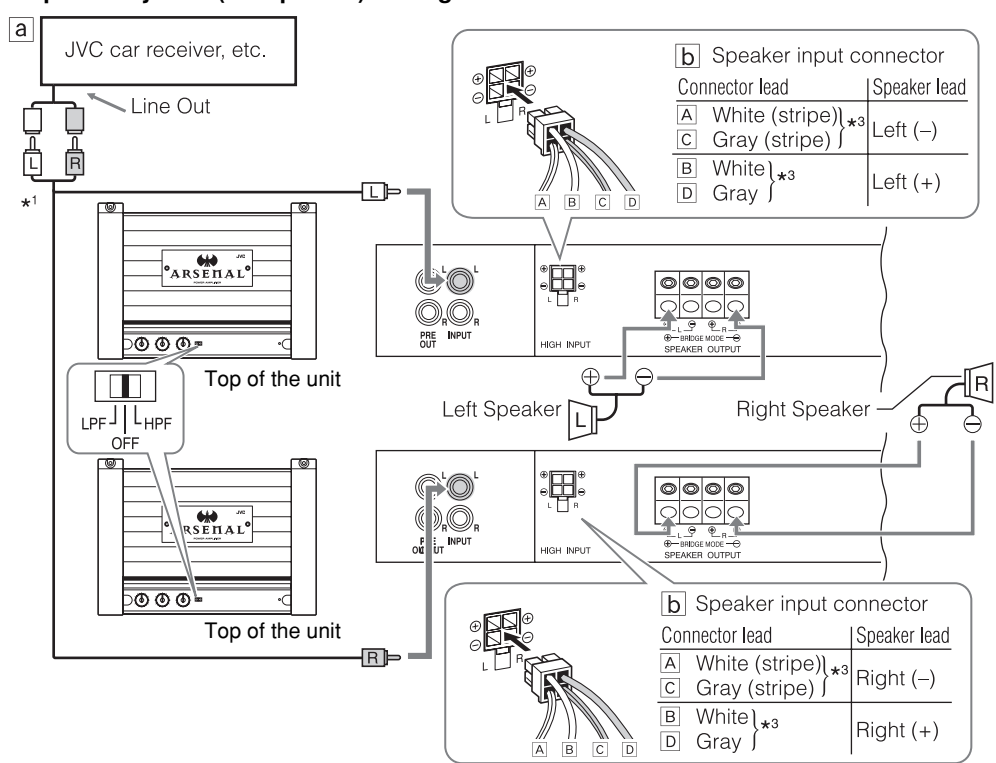
2-speaker system



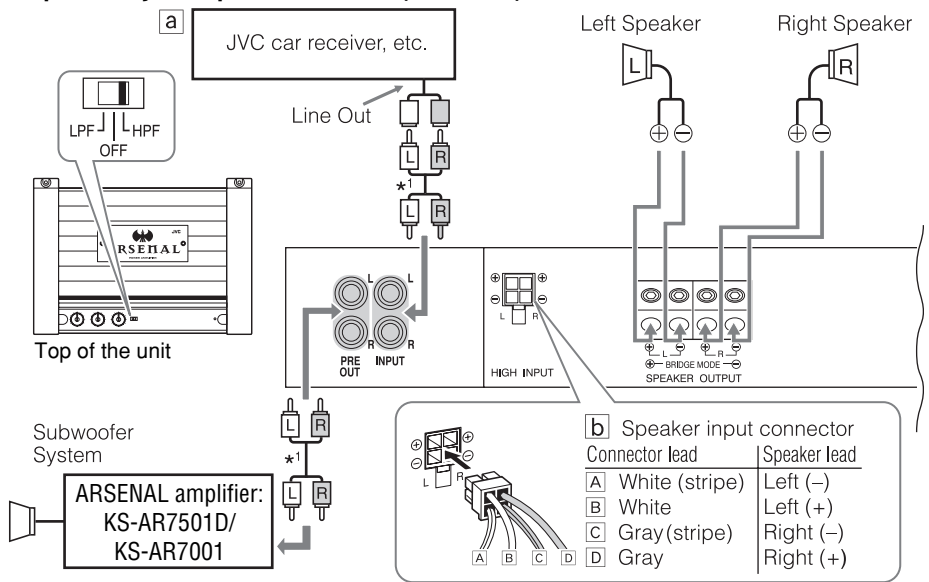
Subwoofer system—Bridge Mode*²



2-speaker system (2 amplifiers)—Bridge Mode*²



2-speaker system plus subwoofer (PRE OUT)

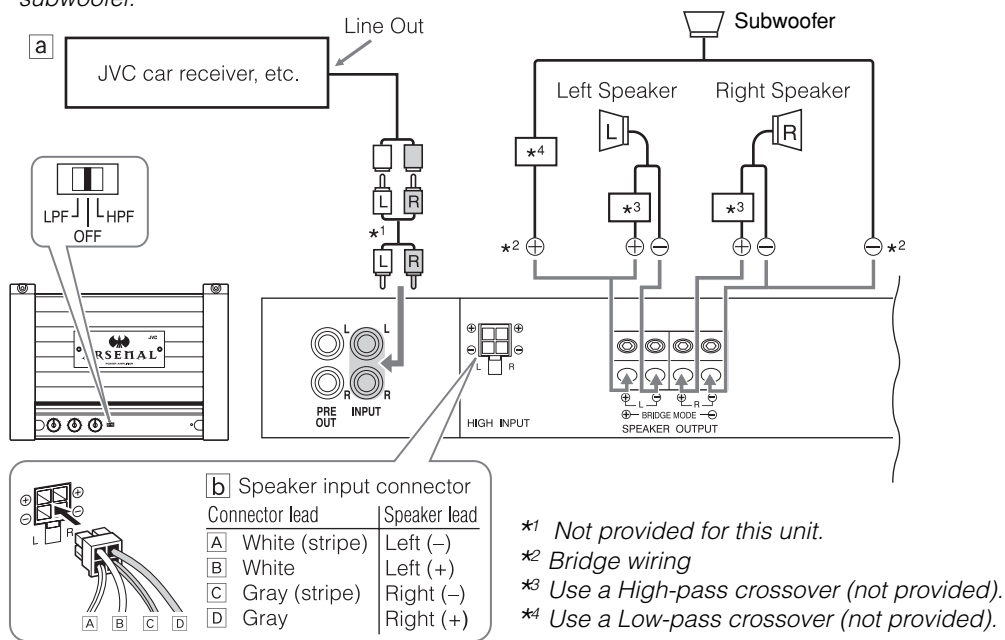


*1 Not provided for this unit.

**2 Bridge Mode: Be sure to connect the line output from the receiver to the left (L) jack on this unit.*

*3 Be sure to connect the both leads to the target speaker lead.

The minimum impedance should be $4\ \Omega$ for each of left and right speakers, and the subwoofer.



A

Hex screw

Hex wrench (3 mm)

To operate the following controls, remove the hex screws with a provided hex wrench (3 mm) and detach the control cover. Attach it again after your operation.

Turning this boosts the 45 Hz frequency within the range of 0 dB to +18 dB. Adjust the level while listening to the sound. This control is preset to MIN when the unit is shipped.

The input level can be adjusted with this control when this unit is connected to other source equipment. Adjust the level while listening to the sound. This control is preset to MIN when the unit is shipped.

- OFF: Normally, set to this position. The switch is preset to this position when the unit is shipped.
- LPF: Set to this position when you want to turn on the LPF (Low-Pass Filter) switch (the Low-Pass Filter transmits frequencies lower than the cutoff frequency).
- HPF: Set to this position when you want to turn on the HPF (High-Pass Filter) switch (the High-Pass Filter transmits frequencies higher than the cutoff frequency).

Turning this adjusts the cutoff frequency within the range of 30 Hz to 500 Hz. Adjust the level while listening to the sound. This control is preset to 30 Hz when the unit is shipped.

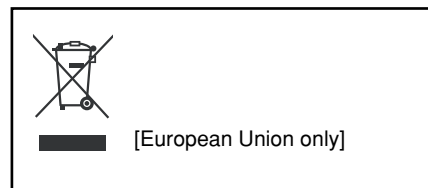
The lamp lights in green while the unit is turned on. When the lamp does not light or lights in red with the unit on, it indicates there may be any trouble (see "TROUBLESHOOTING").

The blue lamp illuminates while the unit is turned on.

- Move the speaker and power cords away from the antenna lead.

Power Output	KS-AR7004: 100 W RMS x 4 channels at 4 Ω and $\leq 1\%$ THD + N
Signal-to-Noise Ratio	KS-AR7002: 150 W RMS x 2 channels at 4 Ω and $\leq 1\%$ THD + N 80 dBA (reference: 1 W into 4 Ω)
Maximum Power Output	800 W
Load Impedance	4 Ω (2 Ω to 8 Ω allowance) 4 Ω (4 Ω to 8 Ω allowance) (Bridge Mode)
Frequency Response	5 Hz to 50 kHz* (+0, -3 dB) * Subsonic filter cuts off extremely low frequency signals less than 20 Hz.
Input Sensitivity/Impedance	2 V/45 k Ω (0.3 V to 6 V, variable)
Distortion	Less than 0.04% (at 1 kHz)
Power Requirement	DC 14.4 V (11 V to 16 V allowance)
Grounding system	Negative ground
Dimensions (WxHxD)	15-3/4 inch x 2-3/8 inch x 11-3/8 inch (400 mm x 60 mm x 288 mm)
Mass (approx.)	KS-AR7004: 11.7 lbs. (5.3 kg) KS-AR7002: 11.5 lbs. (5.2 kg)
Accessories	Speaker input connector KS-AR7004: 4P x 2 KS-AR7002: 4P x 1 Screw (Dia. 3/16 inch (4 mm) x 13/16 inch (20 mm)) x 4 Hex wrench 4 mm x 1 3 mm x 1 Spacer x 6 Bracket L x 1 S x 2 Screw (M4 x 1/2 inch (12 mm)) x 6 Washer (M4) x 6 Spring Lock Washer (M4) x 6

Design and specifications are subject to change without notice.



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