

# JA SERIES

## OWNER'S MANUAL



# POWER AMPLIFIER

## JA1B JA2B JA4B

### INSTALLATION / OWNER'S MANUAL

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### Customer Support

1-888-921-4088

(Monday-Friday, 9AM-5PM EST)

Visit <https://www.jensenmobile.com>

Designed and Engineered in USA



# JENSEN®

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NSA1022-V01

# JENSEN®

## Preparation

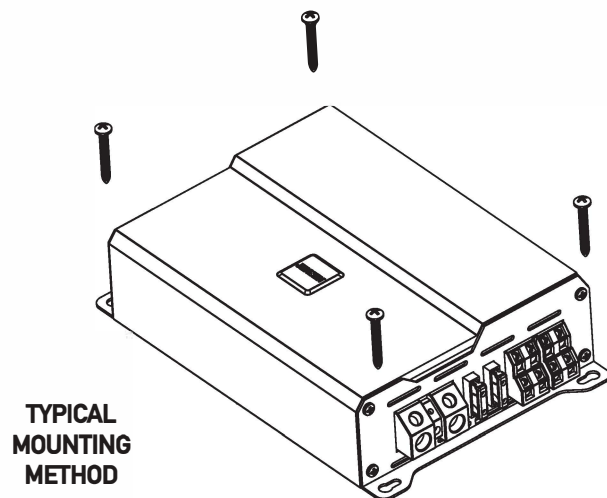
Please read entire manual before installation. Due to the technical nature of amplifiers, it is highly recommended that your amplifier is installed by a professional installer or an authorized dealer.

### Before You Start

- Disconnect negative battery terminal. (consult a qualified technician for instructions)
- Avoid installing the amplifier where it would be subject to high temperatures, such as from direct sunlight, or where it would be subject to dust, dirt or excessive vibration.
- Use extreme caution when drilling holes to avoid damaging fuel lines or existing vehicle wiring.
- All amplifier installations require power, signal and speaker wires (not included).
- An amplifier installation kit (sold separately) is highly recommended to facilitate the installation. Consult your dealer for recommendations.

### Mounting Location

- Choose a mounting location for the amplifier. Suggested locations include under a seat or in the trunk.
- The amplifier can be mounted horizontal (recommended) or vertical. For optimum performance, make sure to provide at least 1" of space around all sides. Do not mount the amplifier under carpets or where airflow is restricted.
- Do not install the amplifier where it may be exposed to moisture.
- The optimum mounting location varies between vehicles. Remember to test all amplifier functions before completing the final mounting procedure.



## Connection Descriptions

### NOTE:

Be sure to follow specific instructions included with your amplifier installation kit (not included with this amplifier). The information below should be used as a general guideline only.

### Power Wire (+12V)

- Disconnect negative battery terminal before proceeding. Consult a qualified technician for instructions if you are unsure.
- Plan wire routing before cutting any wires to length. Begin by routing the power +12V wire from the battery to the amplifier location. Use a grommet when running wires through the firewall or metal openings. Avoid running the power wire near existing vehicle wiring to prevent induced noise from entering the audio system.
- Use extreme caution when drilling holes to avoid damaging fuel lines or existing vehicle wiring.
- The +12V wire **MUST** be fused within 18" of the battery for protection of the vehicle's electrical system.

### Ground Wire (GND)

- The amplifier ground wire should be as short as possible (no more than 36" or 1 meter). Choose a clean unpainted section of metal or the vehicle chassis when attaching the ground connection. Be sure to clean the area of any dirt or grease.

### Remote Turn-on Wire (REM)

- The remote turn-on wire connects to the head unit's amplifier turn-on lead or power antenna output.

### Speaker Wires

- Choose adequate gauge speaker wire depending on your exact amplifier/speaker combination. Be sure to observe polarity when connecting.
- Do not ground any speaker wires or connect any speaker wires together.

### Input Signal

- The amplifier's input signal connects to the head unit's low level (RCA) or high level (speaker wire) outputs.
- Low level input signals deliver the best performance. If unavailable, use the high level inputs - when interfacing with factory head unit for instance.

### Power / Protect Indicators

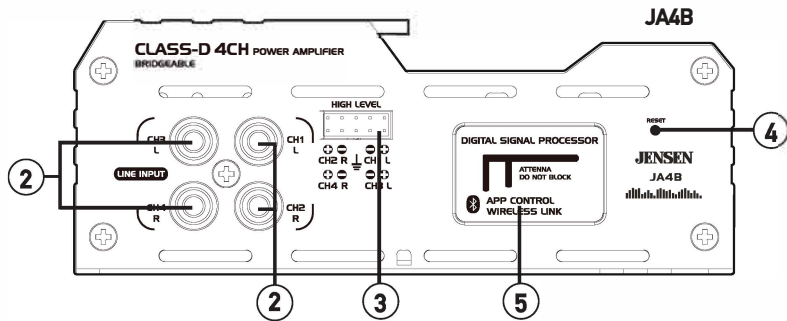
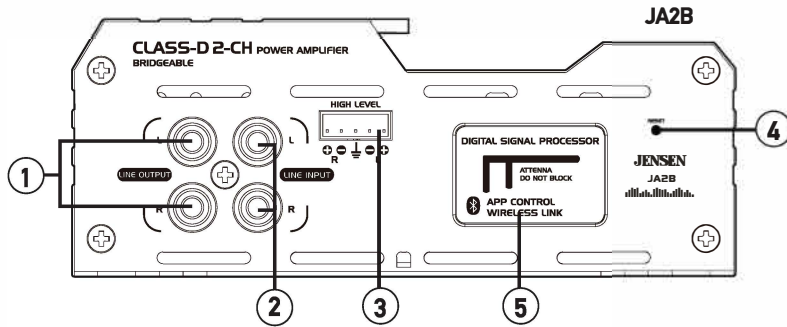
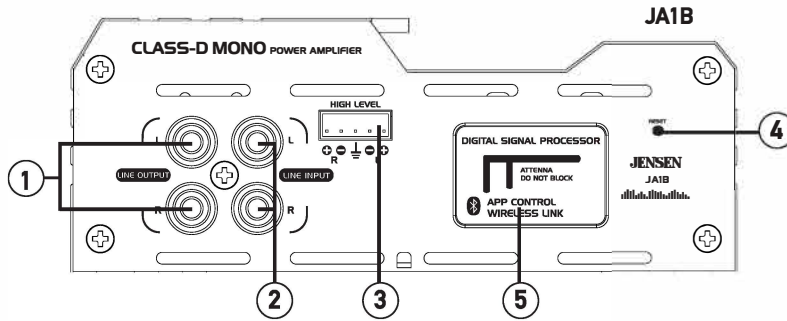
- Colored LED indicators illuminate from the plastic power terminal.
- The blue LED illuminates during normal operation (**POWER**) and the red LED indicator is visible when the amplifier detects a fault (**PROTECT**).

### CAUTION

- Do not use both low and high level inputs at the same time. Connect only one or the other.
- Keep low level inputs away from any power wires to avoid engine noise.
- Never run any wires underneath or outside the vehicle.

# Audio Inputs and Controls

# Notes



- ① Line Output
- ② Line Input
- ③ High Level Input
- ④ Reset
- ⑤ Do not place anything in this area that could block the radio waves, as this may be a problem with your Bluetooth connection.

# FCC Compliance

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

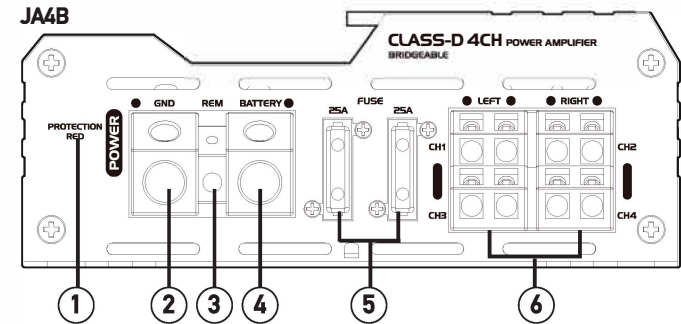
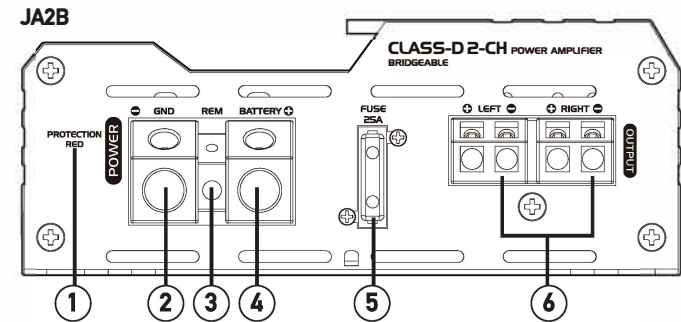
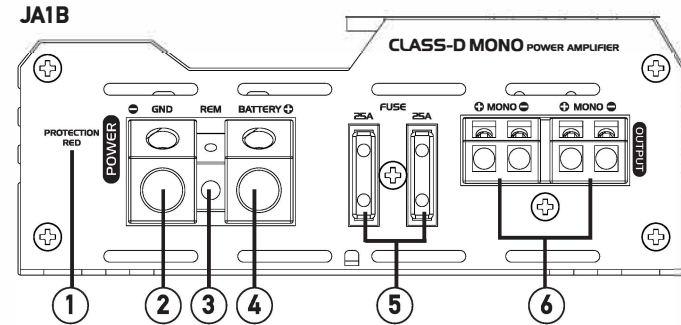
- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

**Warning:** Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**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, 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/amp technician for help.

# Power and Speaker Connections



- |                     |                              |
|---------------------|------------------------------|
| ① Power/Protect LED | ④ +12V DC Battery Connection |
| ② Ground Connection | ⑤ Fuse(s)                    |
| ③ Remote Turn On    | ⑥ Speaker Connections        |

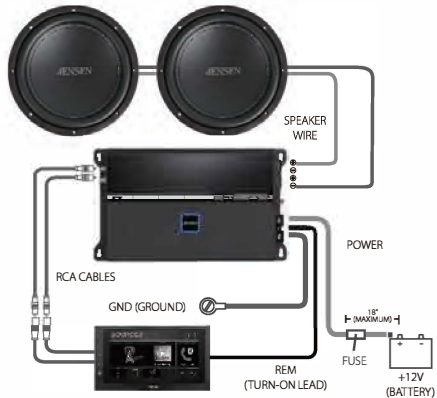
## Typical Wire Routing JA1B



Speakers, head unit, wiring kit, and speaker wire sold separately.



Subwoofer, head unit, wiring kit, and speaker wire sold separately.



Speakers, subwoofer, head unit, wiring kit, and speaker wire sold separately.

## Limited Two Year\* Warranty

This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

Jensen warrants this product to the original purchaser to be free from defects in material and workmanship for a period of two years from the date of the original purchase.

Jensen agrees, at our option, during the warranty period, to repair any defect in material or workmanship or to furnish an equal new, renewed, or comparable product (whichever is deemed necessary) in exchange without charges, subject to verification of the defect or malfunction and proof of the date of purchase. Subsequent replacement products are warranted for the balance of the original warranty period.

**What is covered?** This warranty covers all defects in the material and workmanship in this product. The following are not covered: software, installation/removal costs, damage resulting from accident, misuse, abuse, neglect, product modification, improper installation, incorrect line voltage, unauthorized repair, or failure to follow instructions supplied with the product, or damage occurring during return shipment of the product. Specific license conditions and copyright notices for the software can be found via [www.jensenmobile.com](http://www.jensenmobile.com).

### Warranty Coverage

\* Limited 2-year warranty. (Proof of purchase required)

- **Extended Coverage:** Extend your warranty from 2 years to 4 years when you register online at [www.jensenmobile.com](http://www.jensenmobile.com). Registration must be completed within 60 days of the original purchase date to qualify for this extension.

### What to do?

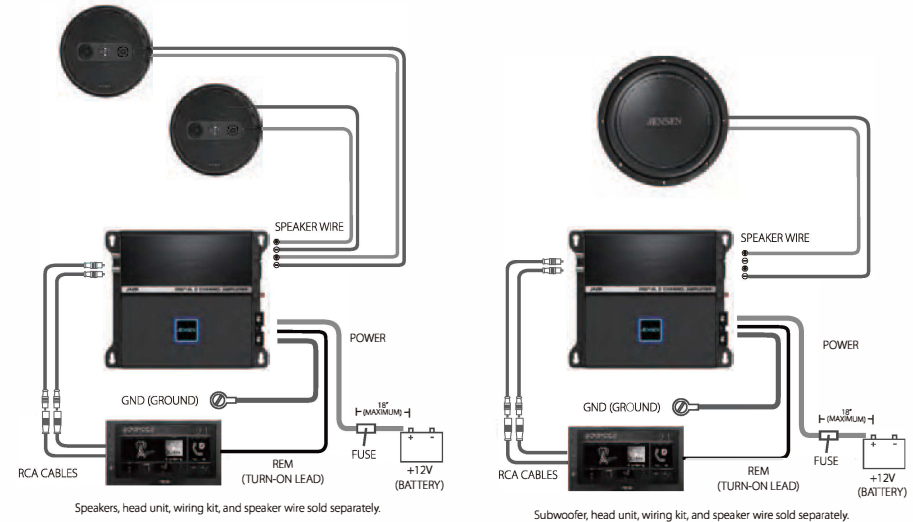
1. Before you call for service, check the troubleshooting guide in your owner's manual. A slight adjustment of any custom controls may save you a service call.
2. If you require service during the warranty period, you must carefully pack the product (preferably in the original package) and ship it by prepaid transportation with a copy of the original receipt from the retailer to an authorized service center.
3. Please describe your problem in writing and include your name, a return UPS shipping address (P.O. Box not acceptable), and a daytime phone number with your shipment.
4. For more information and for the location of the nearest authorized service center please contact us by one of the following methods:
  - a. Call us toll-free at (888) 921-4088 (Monday-Friday, 9:00 am, to 5:00 pm, EST)
  - b. E-mail us at [cs@jensenmobile.com](mailto:cs@jensenmobile.com)

**Exclusion of Certain Damages:** This warranty is exclusive and in lieu of any and all other warranties, expressed or implied, including without limitation the implied warranties of merchantability and fitness for a particular purpose and any obligation, liability, right, claim or remedy in contract or tort, whether or not arising from the company's negligence, actual or imputed. No person or representative is authorized to assume for the company any other liability in connection with the sale of this product. In no event shall the company be liable for indirect, incidental, or consequential damages.

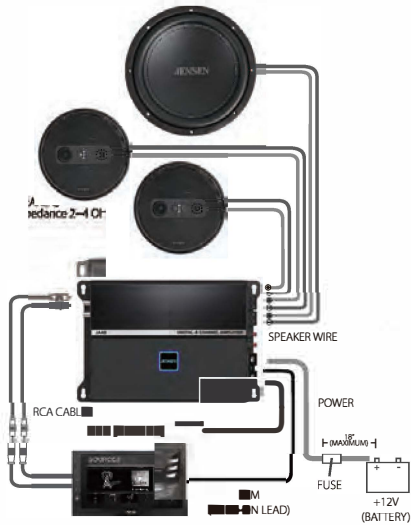
## Troubleshooting

Problem	Cause	Action
Unit will not turn on (no power LED indicator)	+12V wire not connected or incorrect voltage. REM wire not connected or incorrect voltage	Check connections for proper voltage (11~16VDC)
	GND wire not connected	Check connection to ground
	Fuse(s) blown	Replace fuse(s)
Unit has power - LED is green (but no sound)	Speaker wires not connected	Check connections at speakers
	Volume turned all the way down	Increase volume level at head unit
	One or more speaker wires touching each other or touching chassis ground	Insulate all bare speaker wires from each other and chassis ground
	Speaker(s) defective or damaged	Check/replace speaker(s)
Unit blows fuse(s)	Input signal not connected	Check high or low level inputs for proper connection
	Incorrect fuse rating	Use fuse(s) with correct rating
	+12V wire touching chassis ground	Check for pinched wire
Engine noise	Speaker(s) defective or damaged	Check/replace speaker(s)
	Bad ground connection	Make sure amplifier is grounded to clean bare metal
LED illuminates red (protect mode)	Signal ground loop or RFI (radio frequency interference)	Re-route RCA cables from existing high current wiring
	One or more speaker wires touching each other or touching chassis ground	Insulate all bare speaker wires from each other and chassis ground
Distorted audio output	Speaker(s) defective or damaged internally (shorted)	Check/replace speaker(s)
	Speaker load less than 2 ohms (stereo). Speaker load less than 4 ohms (bridged)	Adjust speaker load - amplifier will not operate at less than 4 ohms when bridged
Low audio output	Incorrect input signal type or input level too high	Check connections and reduce/adjust input level
	Incorrect input signal type or input level too low	Check connections and increase/adjust input level

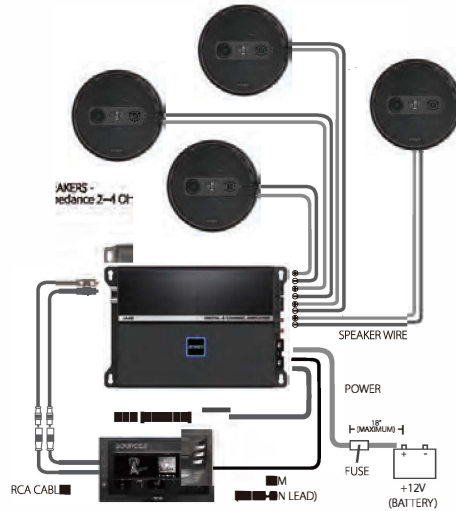
## Typical Wire Routing JA2B



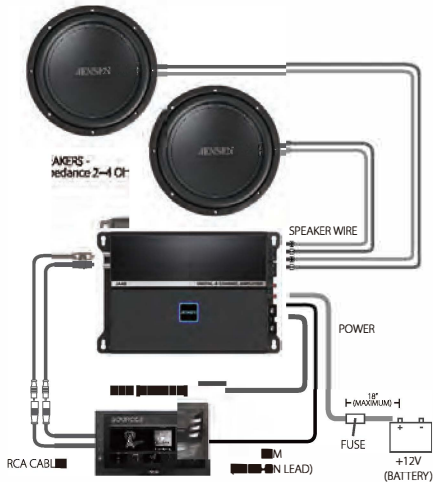
## Typical Wire Routing JA4B



Speakers, head unit, wiring kit, and speaker wire sold separately



Speakers, head unit, wiring kit, and speaker wire sold separately



Speakers, head unit, wiring kit, and speaker wire sold separately.

## Specifications

### JA1B

Continuous Power Output :	290W RMS x 1 Channel at 4Ω 470W RMS x 1 Channel at 2Ω 595W RMS x 1 Channel at 1Ω (50Hz and 1% THD+N)
Dynamic Power :	300W x 1 Channel at 50Hz at 4Ω 545W x 1 Channel at 50Hz at 2Ω 640W x 1 Channel at 50Hz at 1Ω (1% THD+N)
Maximum Dynamic Power :	325W x 1 Channel at 50Hz at 4Ω 565W x 1 Channel at 50Hz at 2Ω 690W x 1 Channel at 50Hz at 1Ω (10% THD+N)
Signal to Noise : THD+N :	68dBA reference 1 Watt RMS <0.09% at 1 Watt RMS from 20Hz to 300Hz
Amplifier dimensions:	2.16" x 9.56" x 5.59" (H x W x D)



### JA2B

Continuous Power Output :	95W RMS x 2 Channels at 4Ω 105W RMS x 2 Channels at 2Ω 225W RMS x 1 Channel at 4Ω BRIDGED (1% THD+N)
Dynamic Power :	100W x 2 Channels at 1kHz at 4Ω 110W x 2 Channels at 1kHz at 2Ω 230W x 1 Channel at 1kHz at 4Ω BRIDGED (1% THD+N) 140W x 2 Channels at 1kHz at 4Ω 170W x 2 Channels at 1kHz at 2Ω 310W x 1 Channel at 1kHz at 4Ω BRIDGED (10% THD+N)
Maximum Dynamic Power :	140W x 2 Channels at 1kHz at 4Ω 170W x 2 Channels at 1kHz at 2Ω 310W x 1 Channel at 1kHz at 4Ω BRIDGED (10% THD+N)
Signal to Noise : THD+N :	72dBA reference 1 Watt RMS <0.14% at 1 Watt RMS from 20Hz to 20kHz
Amplifier dimensions :	2.16" x 6.57" x 5.59" (H x W x D)



### JA4B

Continuous Power Output :	90W RMS x 4 Channels at 4Ω 115W RMS x 4 Channels at 2Ω 230W RMS x 2 Channels at 4Ω BRIDGED (1% THD+N)
Dynamic Power :	100W x 4 Channels at 1kHz at 4Ω 125W x 4 Channels at 1kHz at 2Ω 255W x 2 Channels at 1kHz at 4Ω BRIDGED (1% THD+N)
Maximum Dynamic Power :	125W x 4 Channels at 1kHz at 4Ω 185W x 4 Channels at 1kHz at 2Ω 365W x 2 Channels at 1kHz at 4Ω BRIDGED (10% THD+N)
Signal to Noise : THD+N :	70dBA reference 1 Watt RMS <0.15% at 1 Watt RMS from 20Hz to 20kHz
Amplifier dimensions:	2.16" x 8.38" x 5.59" (H x W x D)



# JENSEN DSP AMP App Operation

## Input level Control (Master Level at HOME Mode)

The input level control (gain) is used to obtain the best possible match between the head unit audio output and the amplifier input. Begin by turning the input level control fully counterclockwise. Next, turn up the head unit volume control around 3/4 of the way up. Adjust the input level control clockwise until audible distortion is heard, then slightly counterclockwise to provide the best match. Repeat for all input level controls.

## X-OVER Mode (JA2B and JA4B)

The crossover is used to filter out frequencies above or below a certain point. Choose **LPF** when using the amplifier with subwoofers, **HPF** when using with midrange/tweeter combinations and **FULL** when using with coaxial-type speakers.

**Note:** Choose **FULL** when using the amplifier in stereo/bridged simultaneous mode. In this mode, passive crossovers are required. Failure to use the correct passive components may damage the amplifier and/or speakers. Consult a qualified professional for recommendations.

## X-OVER Mode (JA1B)

JA1B (Mono) amp works only with LPF.

## X-OVER Control

This control allows precise adjustment of the crossover frequency.

## Bass Boost

This control provides additional boost @ 45Hz when used with subwoofers. Adjust this control with caution - as improper use can damage speakers!

## EQ Presets

Select between the following EQ presets : Classic, Pop, Rock, Jazz, Custom (allows user to enter custom EQ settings).

## Custom EQ

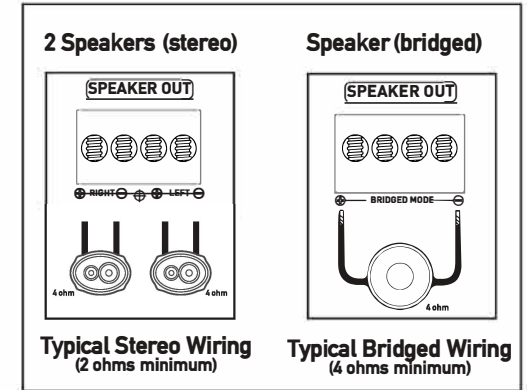
Custom EQ from EQ Presets is selected to make the customized audio settings and each gain per frequency can be adjusted at EQ Mode of the App.

## RGB Color

It allows the amp illumination to be turned off or on at RGB mode of the App. One color or multiple colors can be controlled.

# Amplifier Connections

**Speaker Connections**  
Connect speaker wires observing polarity. The minimum impedance load for the amplifiers is 2 ohms stereo and 4 ohms bridged. Use of loads lower than these is not recommended and may cause amplifier damage. The amplifiers can be wired for stereo, bridged or stereo/bridged simultaneous operation.

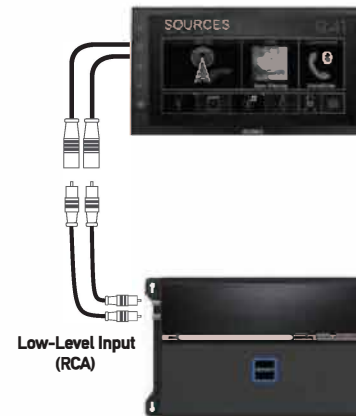


Typical speaker connections shown

## Input Signal Connections

### Low Level Input (RCA)

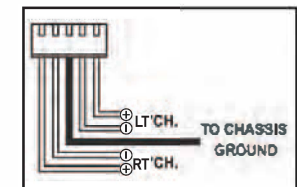
Low level (RCA) input signal is preferred for best performance. Typical trunk-mount amplifier installations require a 17-20 foot RCA cable. Most trucks and under-seat applications require a 6-9 foot RCA cable. Using twisted pair construction RCA cables will minimize noise.



### High Level Input

#### (Speaker Wire)

High level inputs should only be used when RCA outputs are not available from the head unit. Connect the head unit speaker outputs to the high level input connector as shown below. The black wire (signal reference ground) may or may not require a connection to chassis ground - depending on your particular installation.



**Note:** Do not use both low and high level inputs at the same time - connect only one or the other.

## Controller App Download/Installation



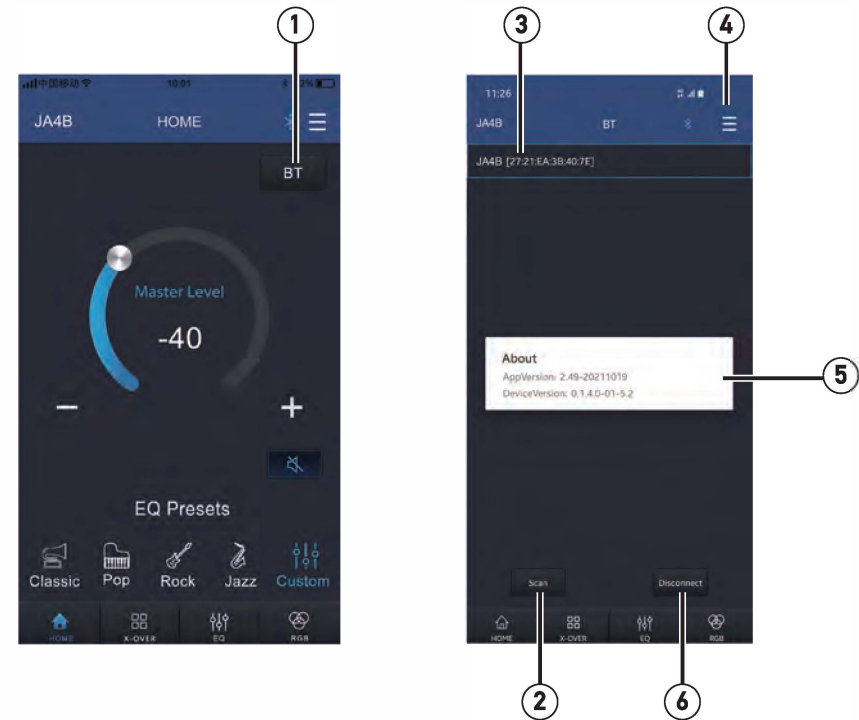
Scan the above QR Code to download the Jensen DSP Amplifier Controller app from the Apple App Store or Google Play Store onto your smartphone or tablet.

Use the app to control features including: X-Over, EQ, RGB Light Customization, Volume and other amp settings directly from your smartphone or tablet via Bluetooth.

**Note:**

JA amp series do not support audio streaming and hands free calls via Bluetooth.

## Bluetooth Pairing with App and AMP



- Step 1 : Touch the BT icon ①
- Step 2 : Touch the Scan icon ② to search the Bluetooth amp.
- Step 3 : Bluetooth amp list ③ to show what amp is paired. (If only one amp is installed, one amp model number is displayed.)
- Step 4 : Select the amp model number you want to install from the device list ③
- Step 5 : Touch the drop down Icon ④ to show the version number of App and amp and to see if the Bluetooth pairing is completed successfully ⑤
- Step 6 : Touch Disconnect ⑥ to disconnect the amp from the App.