



## XXK SERIES AMPS

Assembled in USA

[WWW.Arcaudio.com](http://WWW.Arcaudio.com)

2050 XXK      2100 XXK  
4050 XXK      4150 XXK  
5150 XXK      1500 XXK  
                 2500 XXK

## OWNER'S MANUAL

High Performance Audio Amplifier

Microprocessor Controlled  
Audio Amplifier  
With Internal Crossover



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## Congratulations!

Thank you for purchasing an ARC Audio Hi-Performance Amplifier.

ARC Audio amplifiers are conservatively rated and produce more power per channel than others in their class. Manufactured to the highest standards of quality and reliability to deliver years of listening enjoyment.

**ARC Audio...SOLID CONSTRUCTION for SOUND Car Audio Systems.**

## Features

- Built-in variable 12 db per octave Crossover
- Crossover Range 55Hz-5.5kHz
- Stereo / Bridged / Mono Input mode selector switch
- Bass Boost 0-18 dB @ 45Hz
- Short circuit, thermal, reverse voltage, over-voltage and DC offset protection.
- Very high damping factors.
- Optically Isolated Mosfet Power Supply.



## Features Continued

- Fully regulated power supplies produce full power output with battery voltages as low as 12 volts.
- Symmetrical, discrete power amplifier circuitry.
- Engineered to drive highly reactive loads.
- Built-in variable crossovers- 12 db per octave crossover.
- 12db / 24db per octave sub woofer crossover.
- Remote Bass Boost 0-18 dB @ 45Hz.
- Microprocessor controlled power supply and protection circuits.
- Designed, Engineered and Assembled in the USA.



## Installation Instructions

ARC Audio Amplifiers are designed for easy installation in your vehicle. To ensure proper operation of your new purchase, please follow the suggestions we have listed below:

### **Locating the Amplifier**

The amplifiers must be securely mounted to a solid surface. Please select a dry location in the trunk or passenger compartment only. Do not mount the amplifier to any area that may have excess vibration (like the subwoofer box).

Position the amplifier in an area that receives sufficient airflow for proper heat dissipation.

### **Running the Cables**

Carefully run the power and signal cables through the passenger compartment of the vehicle. Always use a rubber grommet to prevent the power wire from shorting and to reduce the risk of fire.

An 8 gauge or larger wire (4 gauge on the 1500XXK, 2500XXK, and 4150XXK) should be used for power and ground connections. We recommend a fuse be installed on the power wire within 18 inches of the battery for safety.

### **The Ground!!!**

### **Warning: Read this Carefully**

The ground wire should be connected directly to the chassis of your vehicle. Find a clear location close to the amplifier and remove all the paint and sound deadener. Use a #10 or larger screw to secure it. Never use seatbelt bolts for grounding.

**Remember, the ground must carry the same high current as the positive power wire.**



## Installation Instructions

To reduce the risk of noise, run all signal cables away from any vehicle or power supply wiring.

### **Supplying Enough Power**

#### **The Laws of Nature**

Your amplifier Does NOT make power. It converts power, or current, from your cars electrical system and turns it into a high power musical energy.

If the amp can't get all the power it needs it will not produce its full output.

Regulated power supplies will draw more current (amps) when the voltage drops. What does this mean to you?

Your ARC Audio amplifier will produce Full output for longer then other amps on the market today.

If the Voltage or Current drops too low even our amplifiers will drop below their rated output.

Make sure your vehicle charging system is in good working order. Any Hi-Performance audio amplifier will increase the demand on your alternator and battery. If you are unsure have your charging system tested by a professional technician.

### **Setting the Gains**

So you're worried that your 4 Volt output head unit will be too much for the ARC Audio's 2.5 Volt input stage.

### **Don't Be**

ARC Audio Amplifiers input stage is rated to 2.5 volts RMS @ 1KHz without clipping.



Music is very dynamic. Nothing like a 1KHz test tone. It would be rare to see a peak as high as a test tone. Furthermore, your head unit produces its output at full volume but when you tune your system you always set the head unit to 70% of maximum volume.

Because of part tolerance, most amplifier's left and right gain may not be the same. One channel may have higher output than the other. By using this 2.5 volt input stage we eliminate this problem.

## Crossovers

Arc Audio XXK amplifiers have very advanced crossovers. Here is an overview of their features.

### **4050XXK / 4150XXK**

All 4 Arc Audio channel amplifiers share these features.

By moving the **Source Select** switch to **2 CH**. Or **2CH. W/BASS** you can direct all the signal to come from the front channel inputs. In **2 CH. W/BASS** all 4 channels will receive bass boost.

By selecting **Bridged** on both the **Input Mode** switches your right front channel input will drive the front outputs. The left front channel will drive the rear outputs. All the channels will use the front crossover.

**Note:** The **4150XXK** front channel crossover is optimized to run a subwoofer. This channel has the **Bass Boost** control. If you select 24db mode on the front channels the output will be in **mono** not stereo. **Don't Forget the Crossover Switches are on the Bottom** of the amp and must be set **Before** you mount it.



### **2500XXK**

The **2500XXK** has our most advanced 2-channel crossover. 12db / 24db stereo highpass / lowpass 55Hz – 5.5Khz. Please see the configuration pages for more information.

### **5150XXK**

The **5150XXK** is the most complicated amplifier to setup. Please take time to study the crossovers carefully.

The **Front Channels** can be ran **High** of **Full range**.

The **Rear Channels** can be configured **highpass / lowpass/ bandpass/ or full range**. Frequency adjustments on the endplate can be made from 55Hz – 5.5KHz.

The sub channel is **Lowpass** only 55Hz- 550Hz 12db / 24db slopes. The **Bass Boost** works on the **Sub** channel only

If, after reading our Instructions, you have additional questions, please contact our technical department for assistance.

ARC Audio Technical Assistance

Phone: (209) 543-8706

Fax: (209) 543-9269

Or visit our Website.

[WWW.Arcaudio.com](http://WWW.Arcaudio.com)



## Specifications

	2050XXK	2100XXK	4050XXK	2500XXK
Stereo @ 4 ohms	2 X50 watts	2 X100watts	4 X 50 watts	2 X 270watts
Stereo @ 2 ohms	2 X95 watts	2 X 180 watts	4 X 90 watts	2 X 525 watts
Bridged @ 4 ohms	1 X190 watts	1 X 360 watts	2 X 180 watts	1 X1050 watts
Bridged @ 2 ohms	Not Recommended	Not Recommended	Not Recommended	Not Recommended
THD %	<.05%	<.05%	<.07%	
Frequency Response	20 Hz – 20KHz	20 Hz – 20KHz	20 Hz – 20KHz	20 Hz – 20KHz
Signal to noise ratio	100db	98db	95 db	105db
Separation	>75db	>72db	>65db	
Transient Dist.	<.01	<.01	<.01	
Input Sensitivity	250 mv – 2.5v	250 mv – 2.5v	250 mv – 2.5v	250 mv – 2.5v
Bass Boost	+18 db @ 45Hz	+18 db @ 45Hz	+18 db @ 45Hz	+18 db @ 45Hz
Crossover (Butterworth)	55Hz-5.5KHz 12db stereo	55Hz-5.5KHz 12db stereo	55Hz-5.5KHz 12db stereo	55Hz-5.5KHz 12db / 24db
Max Current Draw	28 amps	42 amps	46 amps	135 amps
Damping Factor	>300 @ 1Khz	>300 @ 1Khz	>300 @ 1Khz	>2000@1Khz
Dimensions	8.75x8x3.35"	12x8x3.35"	13x8x3.35"	18x8x3.35"



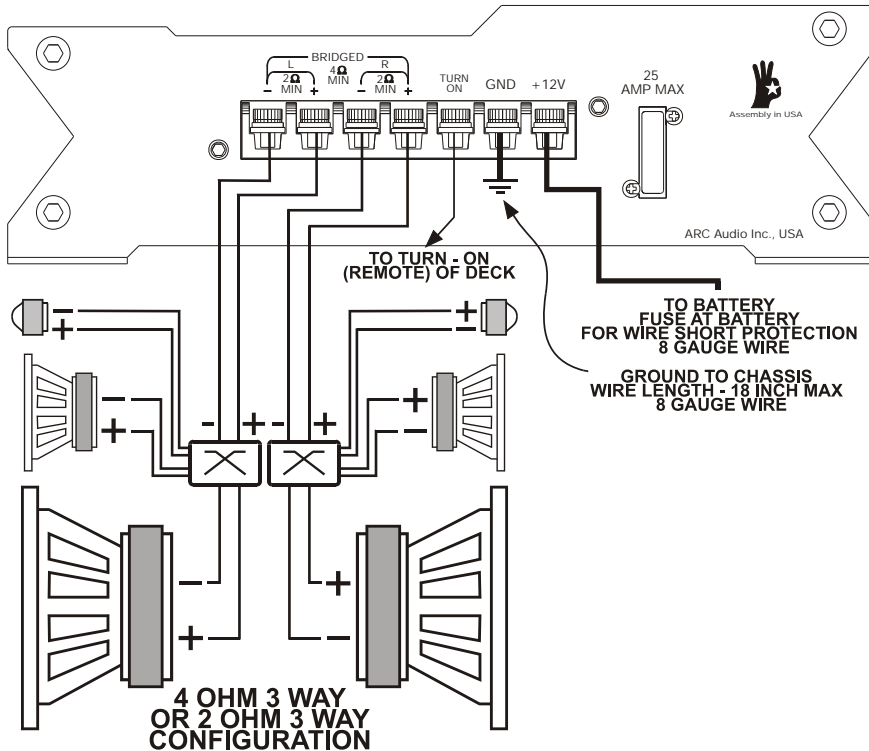
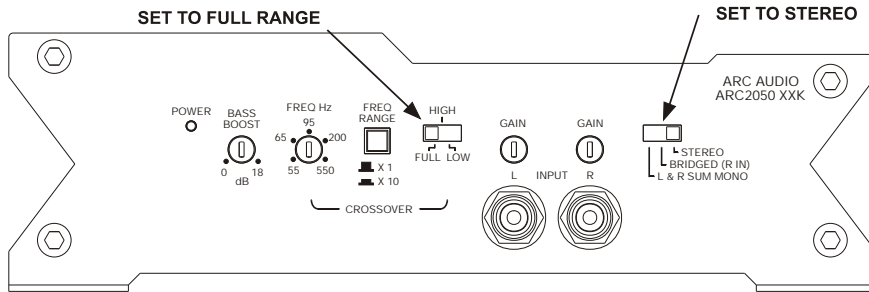
## Specifications

	1500XXK	4150XXK	5150XXK
Stereo @ 4 ohms	2 X240 watts	4 X80watts	4 X 45 watts
Stereo @ 2 ohms	2 X450 watts	4 X 160 watts	4 X 75 watts
Bridged @ 4 ohms	1 X900 watts	2 X 320 watts	2 X 150 watts
Bridged @ 2 ohm	1 X 1000 watts	Not Recommended	Not Recommended
Sub Channel	N/A	N/A	1 X190 watts
THD %	<.07%	<.03%	<.07%
Frequency Response	20 Hz – 20KHz	20 Hz – 20KHz	20 Hz – 20KHz
Signal to noise ratio A wtg.	98db	105db	107 db
Separation	>65db	>75db	>65db
Transient Dist.	<.055	<.005	<.01
Input Sensitivity	250 mv – 2.8v	250 mv – 2.5v	250 mv – 2.5v
Bass Boost	+18 db @ 45Hz	+18 db @ 45Hz	+18 db @ 45Hz
Crossover (Butterworth)	55Hz-550Hz 12db/24db	55Hz-5.5KHz 12db stereo/24 mono	55Hz-5.5KHz 12db stereo w/bandpass
Max Current Draw	120 amps	82 amps	80 amps
Damping Factor	>300 @ 1Khz	>2000 @ 1Khz	>300 @ 1Khz
Dimensions	15.25x8x3.35"	16.5x8x3.35"	16x8x3.35"



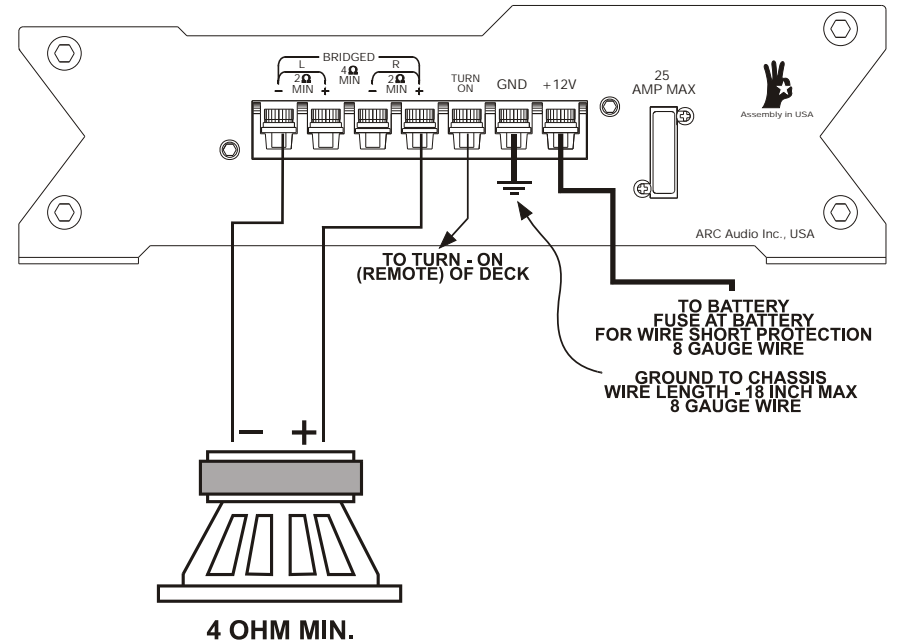
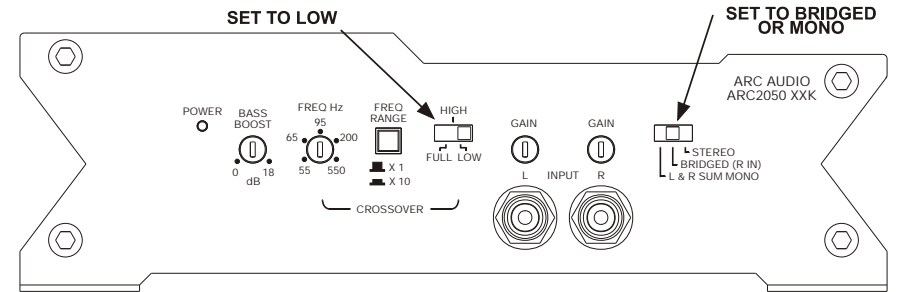
## Configuration

2050XXK / 2100XXK



## Configuration

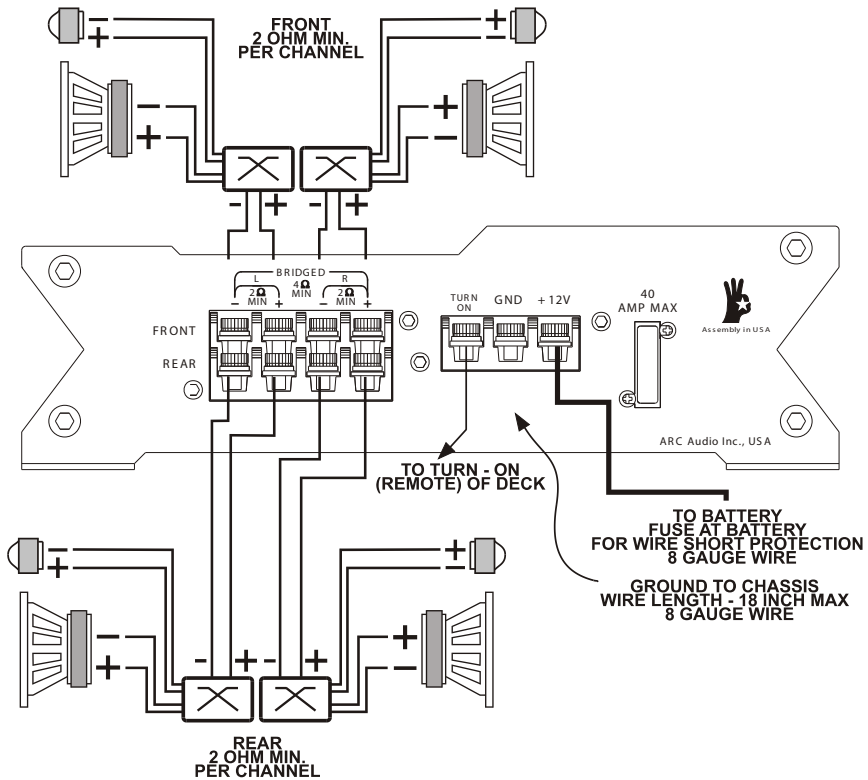
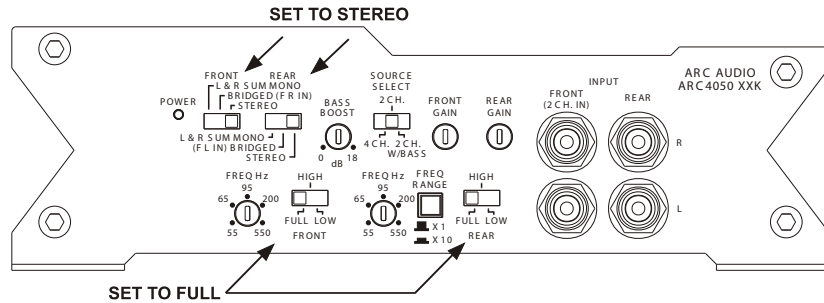
2050XXK / 2100XXK





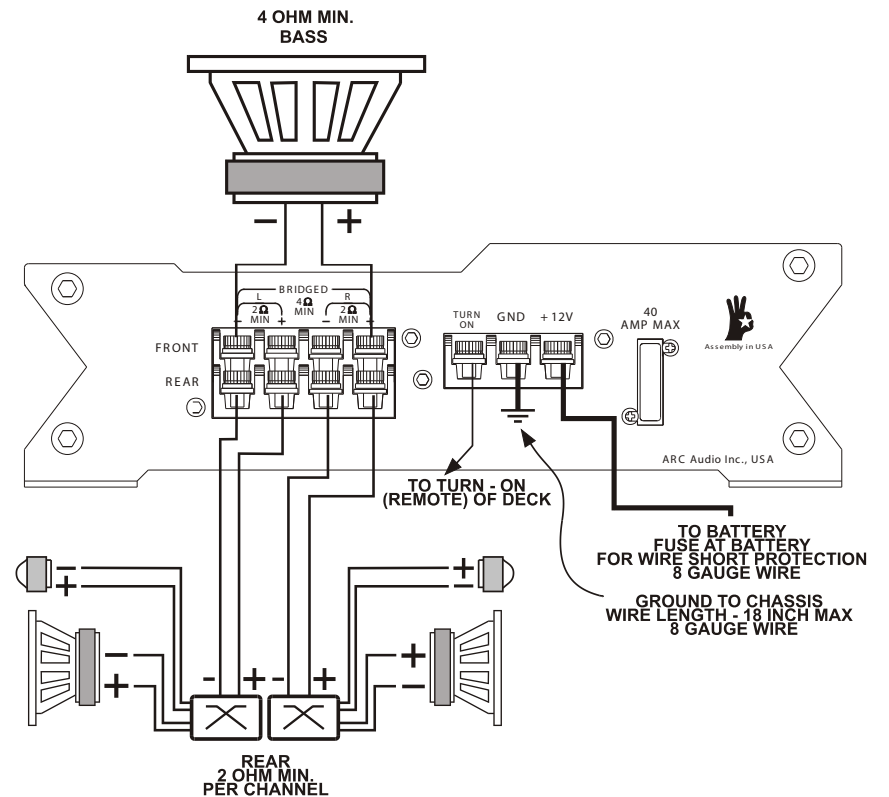
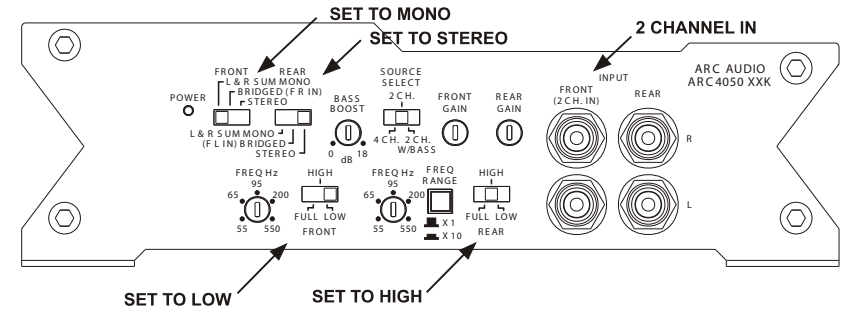
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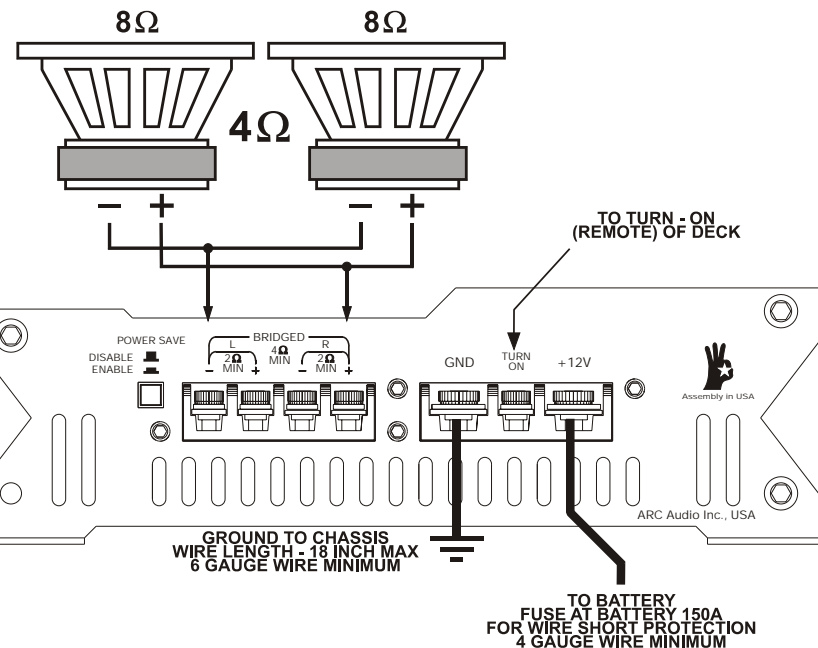
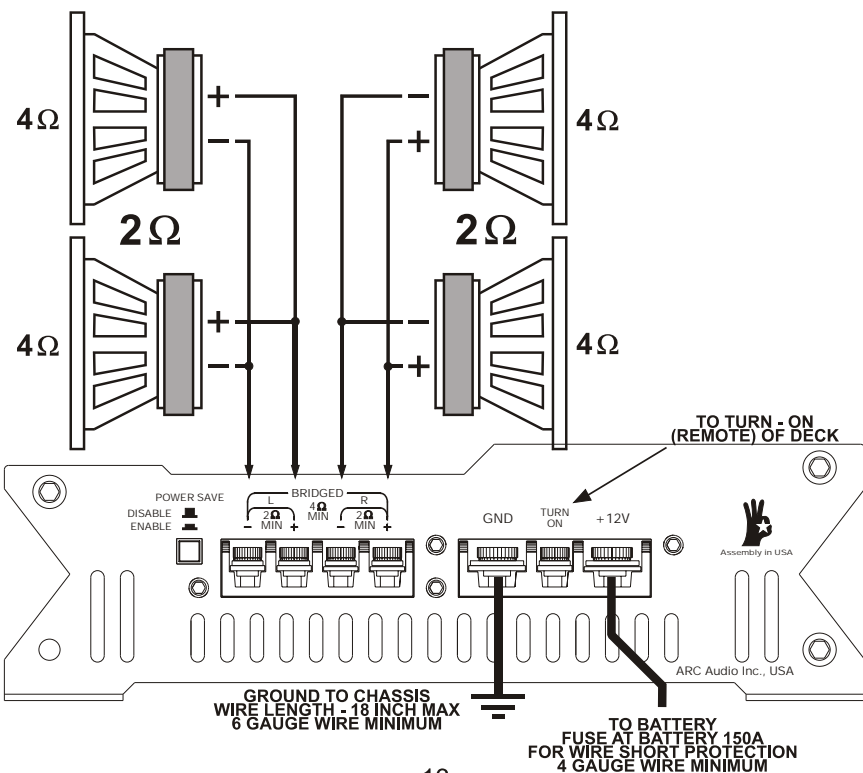
4050XXK



## Configuration

4050XXK



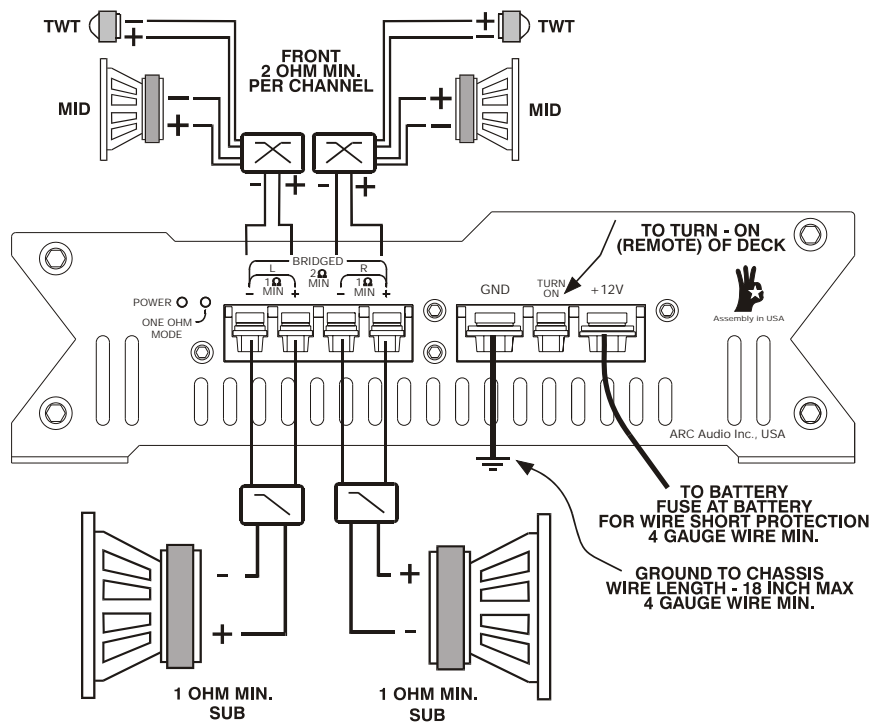
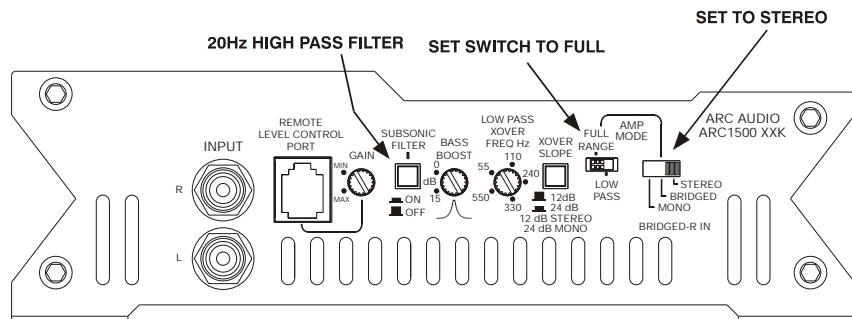






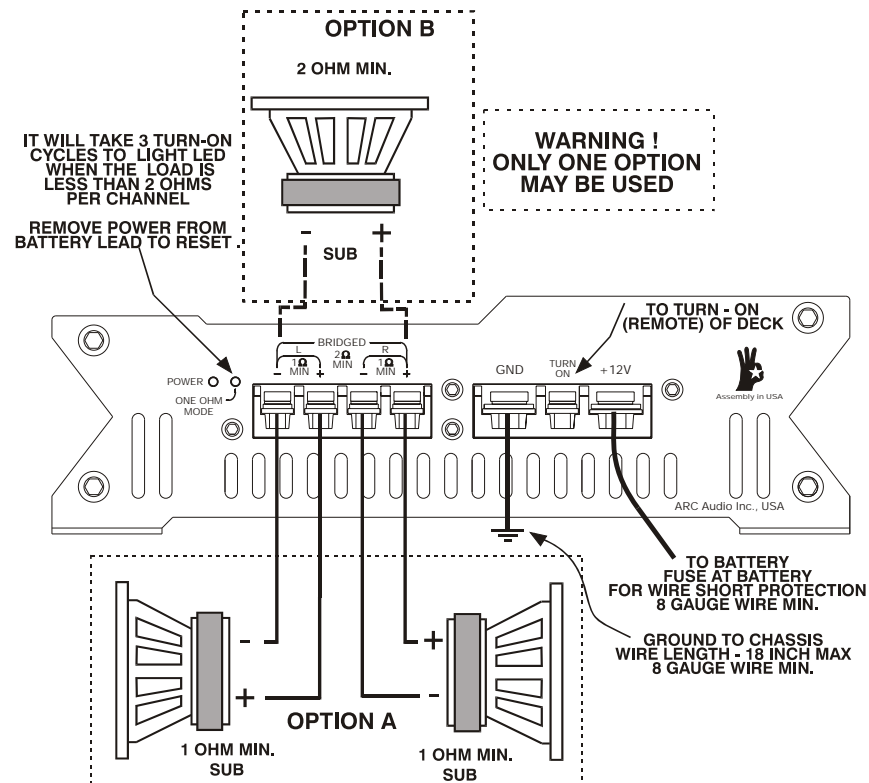
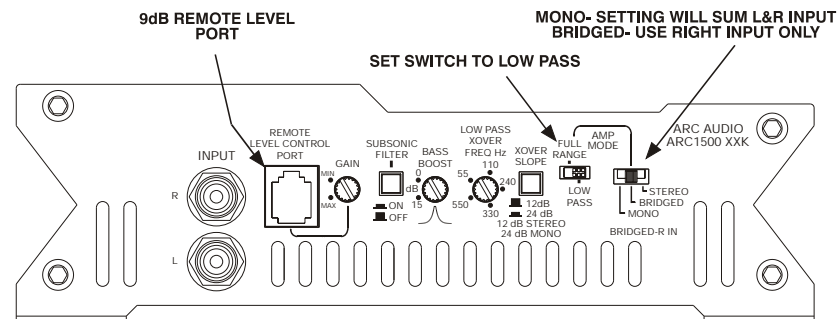
## Configuration

1500XXK



## Configuration

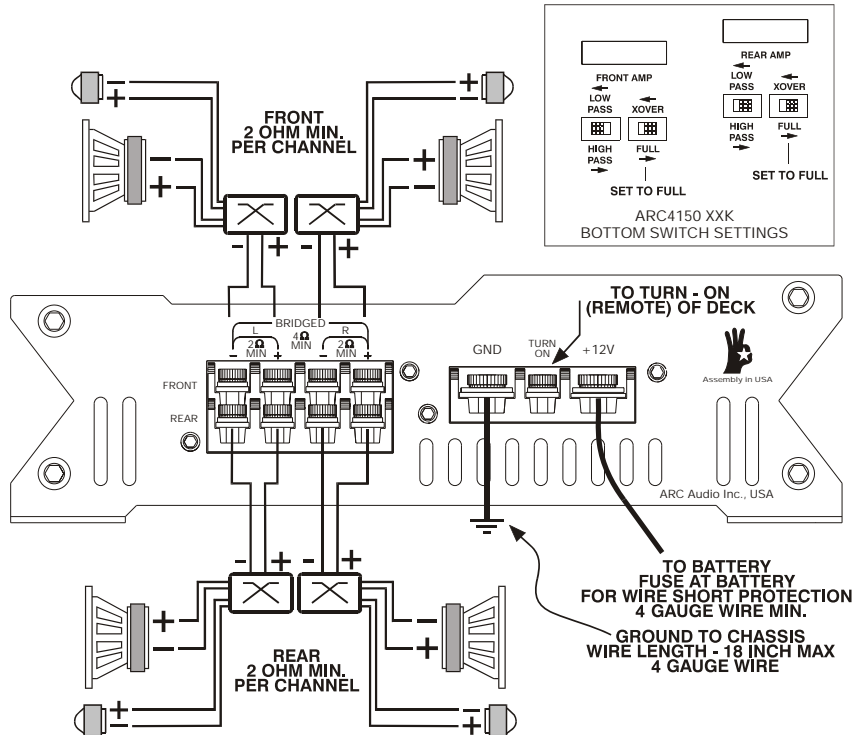
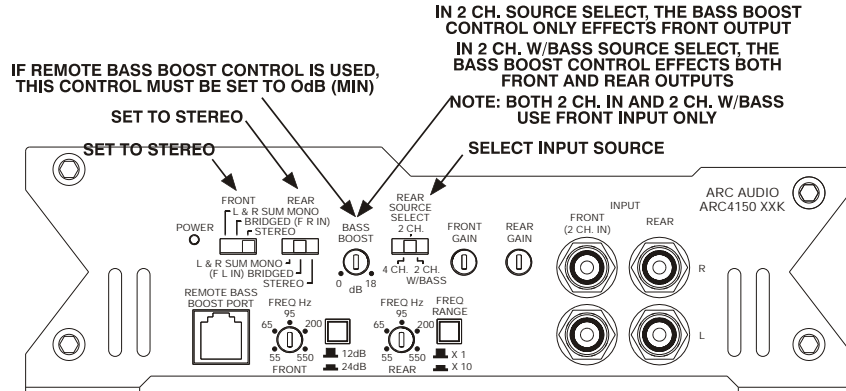
1500XXK





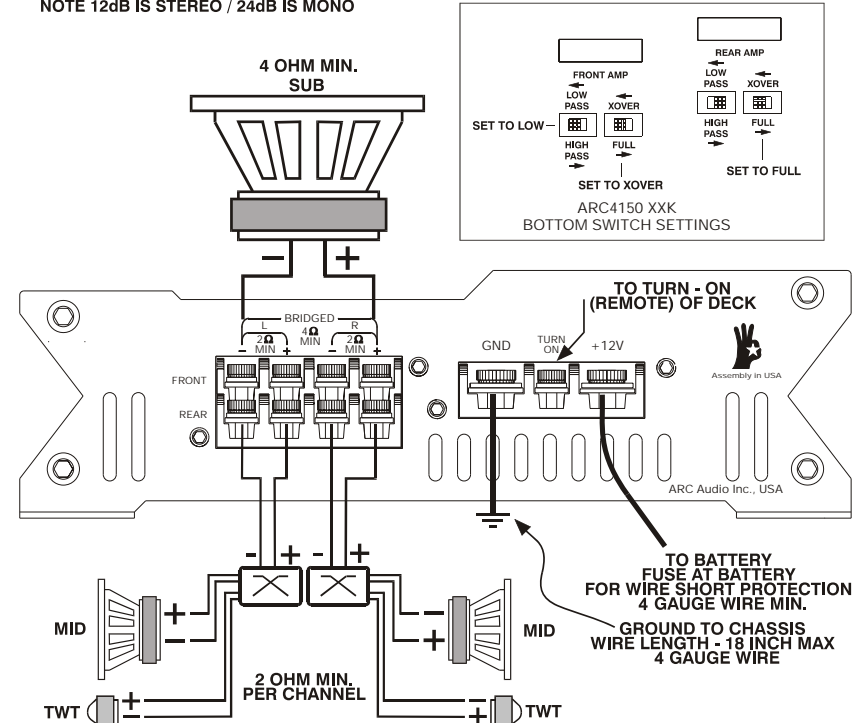
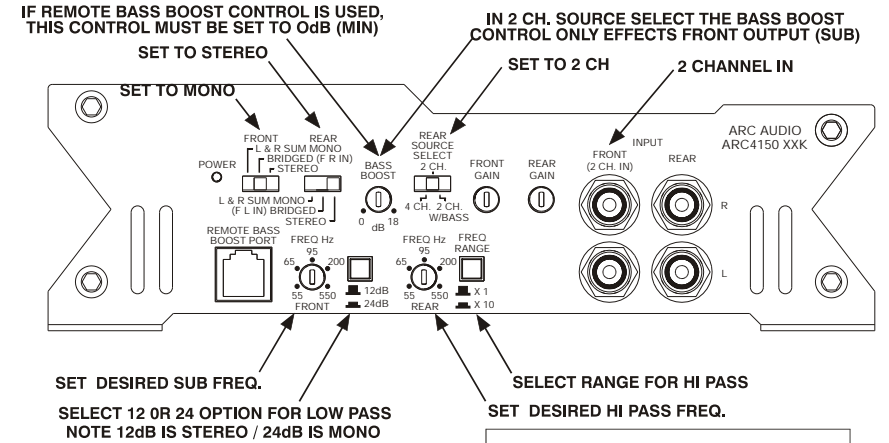
## Configuration

4150XXK



## Configuration

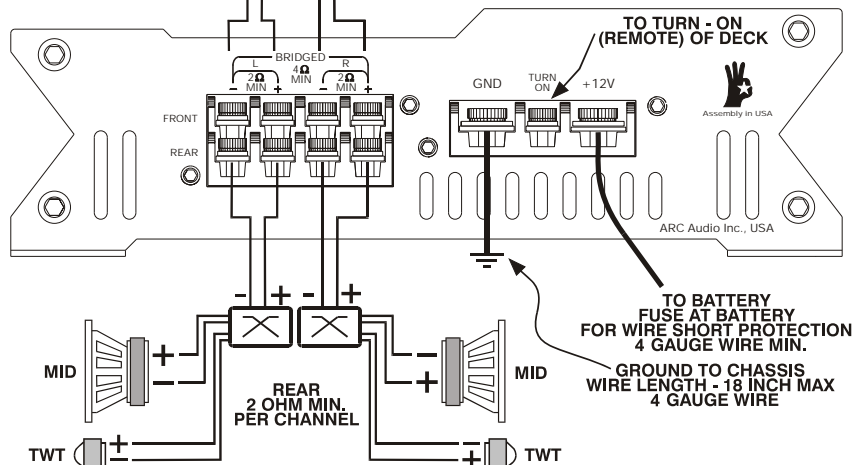
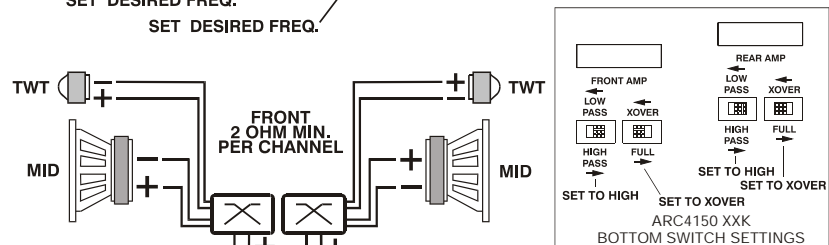
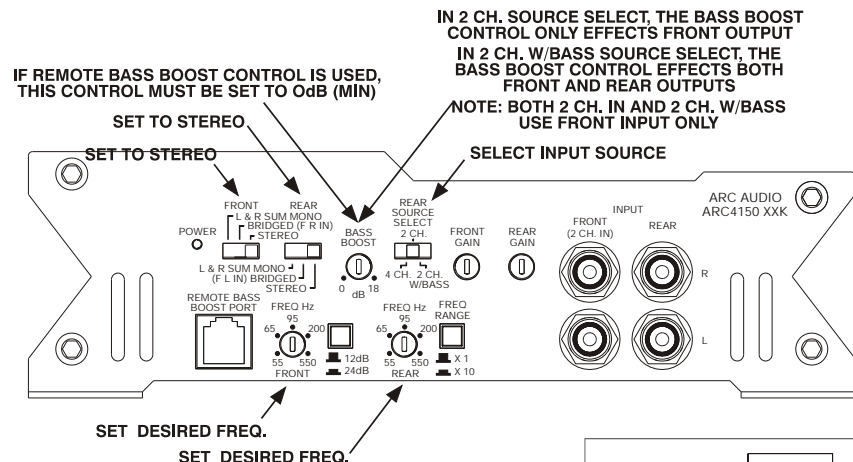
4150XXK





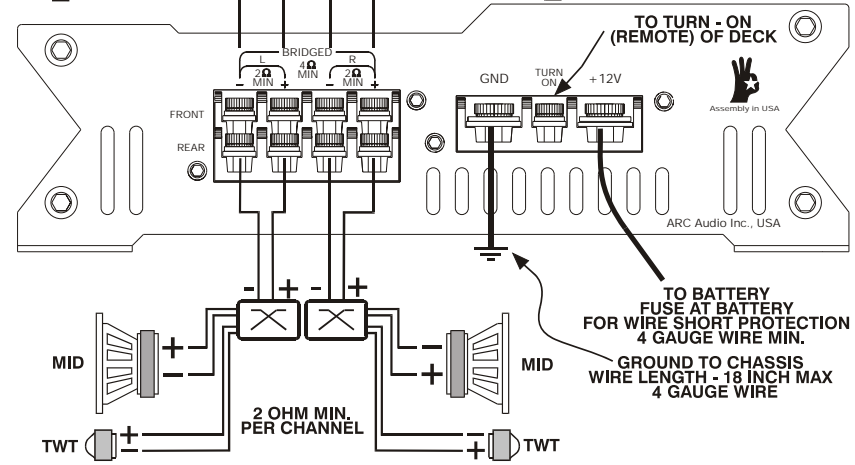
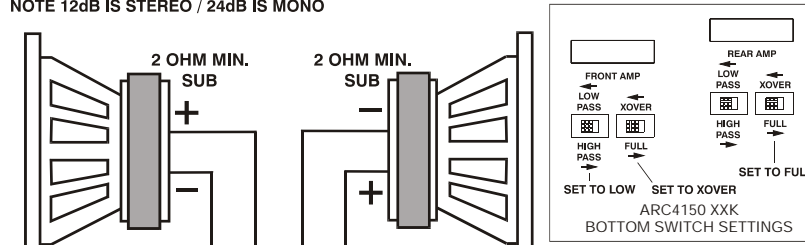
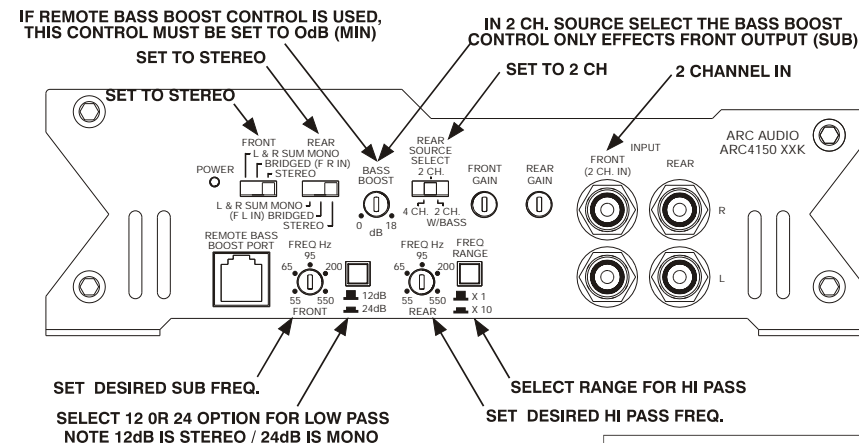
## Configuration

4150XXK



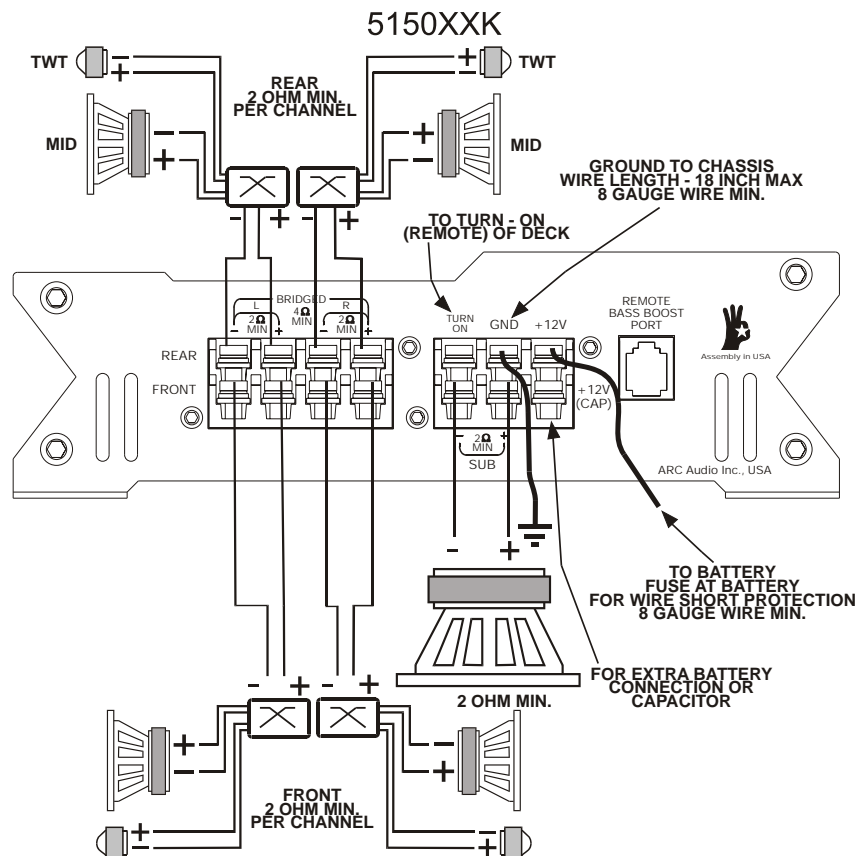
## Configuration

4150XXK





## Configuration



## LIMITED WARRANTY

Before shipping this product back for service call for a Return Authorization number. This number must be clearly marked on the outside of the box.

Terms & Conditions: ARC Audio warranties the unit to be free of any material defects or defects in workmanship for a period of one year and will repair this unit or any part thereof only if it proves to be defective as a result of normal use. In order to receive warranty service on this product, the owner must promptly register by filling in and mailing the Warranty Registration Card.

Our obligation under this warranty is limited to repairing only the defective components of the unit thereof when it is returned, shipping prepaid, to ARC Audio.

This warranty is to be considered void if the unit has been tampered with, connected contrary to the installation instructions in the owner's manual, altered, damaged by improper input voltages or polarity, defaced, or treated in a negligent manner.

All returns must be sent freight prepaid, along with \$10.00 to cover return shipping and handling.

Out of warranty service is available after the warranty expires. Cost of repair is based on current repair labor rates, plus the cost of shipping and handling. When returning for repair, pack the unit securely and send prepaid and insured to the address below. ARC Audio is not responsible for damage incurred during shipping.

**For warranty and non-warranty repairs, send to:**

**ARC Audio  
4719 Green Leaf Cr. #4  
Modesto CA, 95356**



[WWW.Arcaudio.com](http://WWW.Arcaudio.com)