MASSIVE®

NANO BIT AMPLIFIERS

B2
BX2
BX4

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WARRANTY

- Massive Audio, Inc. warrants all manufactured amplifier products to be free from defect in material and workmanship for a period not to exceed ***ONE YEAR**** from the date of original purchase when installed by an authorized "Massive Audio" dealer. Units that are not installed by an authorized "Massive Audio" dealer maintain a warranty not to exceed 90 days from the original purchase date by the original purchaser.

- **Products that display abuse such as power deficiency, over driving the amplifier or clipping the input require purchase of a new PCB for replacement.**

- "Massive Audio" obligations under this warranty are limited to repairing or replacing, at its own sole option, any such defective products. This warranty does not apply to equipment that has been damaged by accident, negligence, or misapplication or has been altered or modified in anyway. This warranty applies only to the original purchaser who must have properly registered the product within 30 days of purchase.

Except as provided herein, Massive Audio, Inc. makes no warranties or representations, express or implied, including any warranty implied by law, whether for merchantability or fitness for a particular purpose and shall be effective only for the period that this express warranty is effective. SEE THE WARRANTY REGISTRATION CARD TO ADDITIONAL INFORMATION.

*DUE TO CONSTANT IMPROVEMENT PRICES AND SPECS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTIFICATION.

INTRODUCTION:

Congratulations!
And thank you for purchasing a "Massive Audio" Nano BiT amplifier for your car audio system. You now own an amplifier of uncompromising design and engineering incorporating the latest advances in micro topology. This handcrafted amplifier is designed to deliver the demands of serious sound competitors. You will soon discover that " Nano BiT " amplifiers display a fine balance between high quality, performance and reliability; all proven qualities of "Massive Audio" products.

"Massive Audio" amplifiers are the result of American Craftsmanship using only the highest quality components and quality control standards. In order to provide you with many years of listening pleasure, we recommend you to have your new amplifier installed by an Authorized "Massive Audio Dealer." This will ensure the proper installation of your product, and will also increase the length of your warranty to **ONE YEAR.**
(Please see the warranty section of for more details.)

Please take a moment to thoroughly read this manual to ensure that you get the maximum benefit from this new addition to your car audio system. When installed properly, this unit will provide years of trouble-free performance.

Should your amplifier ever need service or replacement due to theft, please record the following information, which will help protect your investment.

Model #: _____

Dealer's Name: _____

Date of Purchase: _____

Installation Shop and Date:_____

Design Features

- ☑ Extreme power in a small footprint.
- ☑ 1 Ohm stable design. (Mono Amps)
- ☑ Mill Spec double sided PCB with SMD parts
- ☑ Built-in noise reduction circuitry.
- ☑ Full Mosfet with high grade switching devices.
- ☑ 0-12dB Adjustable Bass Boost
- ☑ Next generation advanced protection circuitry.
- ☑ World Wide standards compliant. (RoSH,E-mark,CEA-2006,CE)
- ☑ High Level Input
- ☑ Auto Sensing Music Turn-On
- ☑ Remote Out to Power 12V Devices
- ☑ 2CH/4CH Mode Switch (BX4)
- ☑ Crossover & Frequency Control (BX2, BX4)

NANO BIT

RoSH

E8

CE

Amplifier Power Standard CEA CEA-2006 Compliant

MASSIVE

Specifications

Model	B2	BX2	BX4
Description	1600W MAX Mono	480W MAX 2 CH	960W MAX 4 CH
RMS power at 14.4V			
1 Ohm RMS	800W x 1	NA	NA
2 Ohm RMS	400W x 1	240W x 2	240W x 4
4 Ohm RMS	200W x 1	120W x 2	120W x 4
4 Ohm Bridged	NA	480W x 1	480W x 2
Features			
Input Level	0.2~6V	0.2~6V	0.2~6V
Frequency Response	20~250Hz	30~45KHz	30~45KHz
LPF	30~250Hz	55~275Hz	55~275Hz
SubSonic Filter(HPF)	20Hz(fixed)	55~275Hz	55~275Hz
THD at 4Ohm load 30% Rated Power	<0.3%	<0.3%	<0.3%
S/N Ratio	>90dB	>90dB	>90dB
BassBoost	0~12dB (40~100Hz)	0~12dB (45Hz)	0~12dB (45Hz)
Best Efficiecy @ 4ohm	>80%	>80%	>80%
Minimum Load	1Ohm	2Ohm	2Ohm
Optional Remote	YES	NA	NA
ShortCircuit Test @ max power	Pass	Pass	Pass
Overheat protect temperature	Protect at 75C / 167F	Protect at 75C / 167F	Protect at 75C / 167F
Components & PCB	SMD parts / double side FR-4 pcb	SMD parts / double side FR-4 pcb	SMD parts / double side FR-4 pcb
DIMENSION(Inches)			
Height	1.6"		
Width	5.0"		
Length	8.3"	6.3"	8.3"

Trouble Shooting

Symptom	Possible Remedy
Amplifier will not power up	Check to make sure you have a good ground connection. Check that there is battery power on the (+)terminal . Check all fuses, replace if necessary . Make sure that the Protection LED is not illuminated.
Protection LED Comes on	Check for short circuits on speaker leads. Check that the speaker load is not beyond the minimum load. Remove speaker lead, and reset the amplifier. If the protection LED still comes on, then the amplifier is faulty and needs servicing .
No output	Check that the RCA audio cables are plugged into the proper inputs. Check all speakers wiring. Check the headunit output and the amplifier level setting.
Low output	Reset the level Control. Check the Crossover Control settings.
High hiss in The speakers	Check the RCA cable is not shorted to power ground at amplifier side. Check the amplifier grounding.
Distorted sound	Check that the Input level control is set to match the signal level of the head unit. Always try to set the Input level as low as possible. Check that all crossover frequencies are properly set. Check for short circuits on the speaker leads
Amplifier gets Very hot	Check that the minimum load impedance for the amplifier model is correct. Check that there is good air circulation around the amplifier. In some applications, It may be necessary to add an external cooling fan.

Amplifier Functions

1. SPEAKERS

Connect speakers/subwoofers to these terminals. Be sure to check wire for proper polarity. Never connect the speaker cables to chassis ground.

2. +12 Volt Power

Connect this terminal through a FUSE or CIRCUIT BREAKER to the positive terminal of the vehicle battery or the positive terminal of an isolated audio system battery.
Warning: Always protect this power cable by installing a fuse or circuit breaker of the appropriate size within 18 inches (45cm) of the battery terminal connection.

3.Remote Turn On

When the ATO switch is set at 'REMOTE IN'

This terminal turns on the amplifier when (+)12 volt is applied to it . Connect it to the remote turn on lead of the head unit or signal source.

When the ATO switch is set at 'HI-INPUT/REMOTE OUT'

If the amplifier gets the input signal by the "Hi-Input" connector and auto turn on by detecting the 'Hi-Input' audio signal, the circuitry of the unit will create a +12V DC at this REMOTE terminal for other amplifier's REMOTE signal.

4.GND

Connect this cable directly to the frame of the vehicle. Make sure the metal frame has been stripped of all paint down to the bare metal. Use the shortest distance possible. It is always a good idea to replace the factory ground at this time with a larger cable equal to the new amplifier power cable or larger. CAUTION: Do not connect this terminal directly to the vehicle battery ground terminal or any other factory ground points.

5. RCA input jacks

These RCA input jacks are for use with source units that have RCA outputs. A source unit with a minimum level of 200mV is required for proper operation. The use of high quality twisted pair cables is recommended to decrease the possibility of radiated noise entering the system.

6. HI-input

High level inputs left and right to connect the amplifier to the headset speaker outputs.

7. Gain Control

The Gain control will match the amplifiers sensitivity to the source units signal voltage. The Operating range is 6V to 200mV. This is NOT a volume control!

8. Low Pass Filter Control (Mono block)

This control is used to select the desired low pass x-over frequency. The frequency can be adjusted from 30Hz to 250Hz for all bass mono block amplifier.

9. BASS EQ (Mono block)

Control the bass boost at the FREQ selected frequency between 0 and +12dB by the BOOST controller. The boost frequency is centered at 40~100Hz.

10. Bass Boost Level control (Full range)

This control can boost bass level between 0 and +12dB. The boost frequency is centered at 45Hz.

11. Hi-pass filter and mode switch (BX4)

Mode switch at 'HPF' position, this knob controls the frequencies played for the 1 / 2 channels.Low frequencies can be cut out from 55Hz to 275Hz. At 'FULL' position, none of the low frequencies cut out, that means full pass. At '2 / 3' position, amplifier operates in 2 channel input mode and you will get 4 channel outputs just by 2 channels inputs at 2 / 3 RCA input jacks.

12. X-over mode and frequency Control (Full range)

These controls allow control over the frequencies played for the 3/4 channels. There is an option for Low Pass, Full Range or High Pass. In LP or HP mode, the crossover frequency can be tuned from 55Hz to 275Hz by the frequency knob.

13. Power Indicator

This LED will light up when amplifier works properly.

14. Protection Indicator

The red LED will light if there is a fault presented to the amplifier. Please disconnect the amplifier and resolve the fault before reconnecting the amplifier.

15. ATO SWITCH(AUTO TURN ON SWITCH)

There are two ways to power up the amplifier.

1)Remote turn on: (ATO switch at 'REMOTE IN' position.) Amplifier will be powered up by remote turn on signal applied to the REM terminal.

2)High-input/Remote out: (ATO switch at 'High-input/Remote out' position.) Connect the 4-pin coupler to the speaker outputs of headset, plug it into the High-input connector on front panel.

In this case, amplifier will be powered up by a DC trigger signal through the 4-pin coupler instead of remote turn on signal applied to the REM terminal. Furthermore, this terminal will create a 12V DC trigger signal and this signal can be used as a 'REMOTE TURN ON' signal for other units.

16. Remote Level connector (Mono block)

Connect the remote controller to this terminal to adjust the subwoofer level from your driver seat.

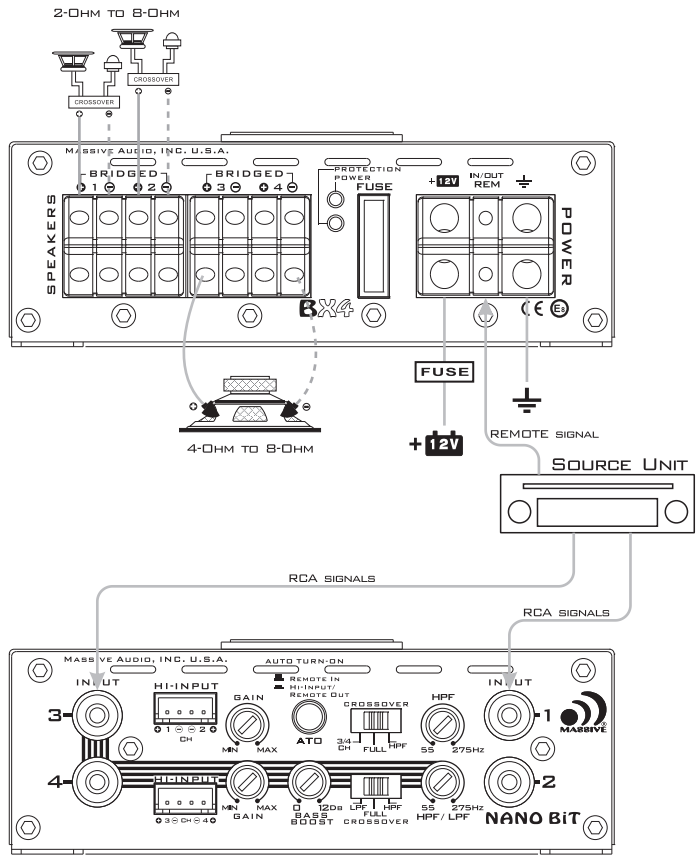
17. Fuses

These fuses protect the amplifier against internal electrical damage. Change them only to other fuses with the same valus.

Wiring Diagram

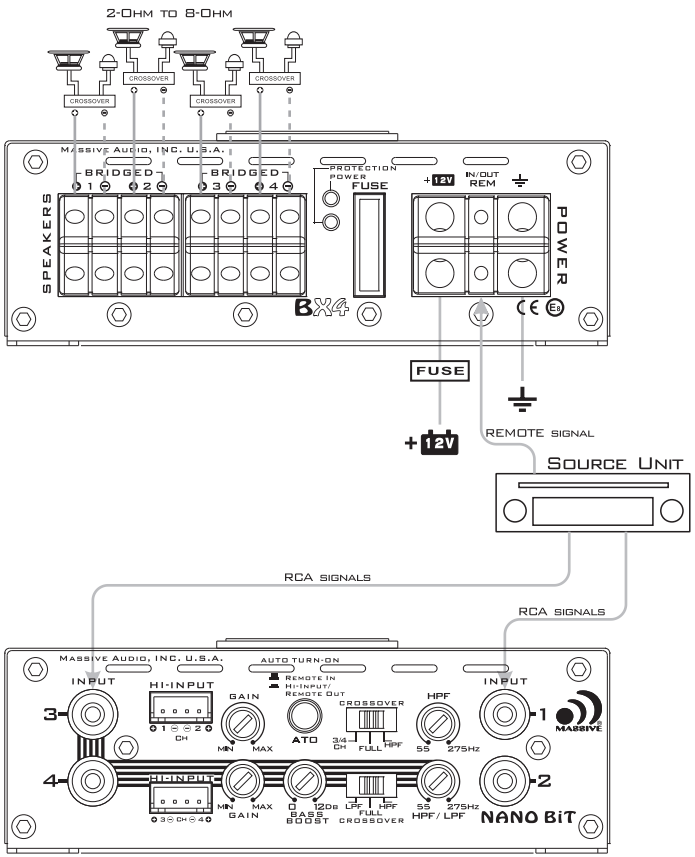
Fig 9. 4 channel amplifier wiring

(3-channel mode)



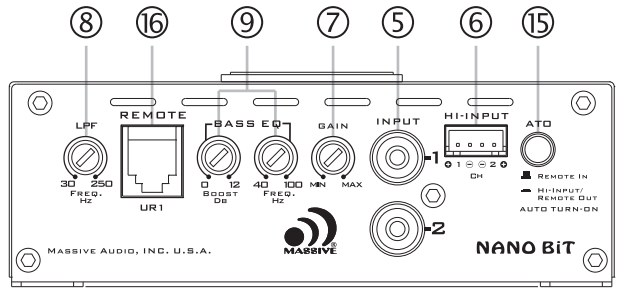
Wiring Diagram

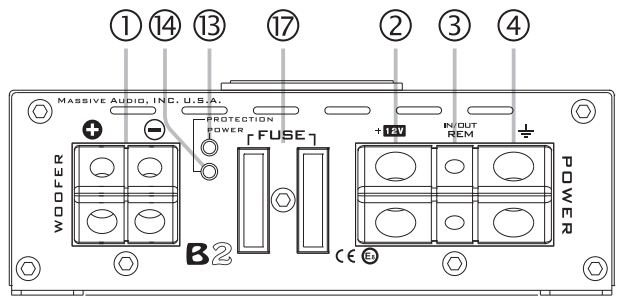
Fig 8. 4 channel amplifier wiring
(4-channel mode)



PANEL LAYOUT

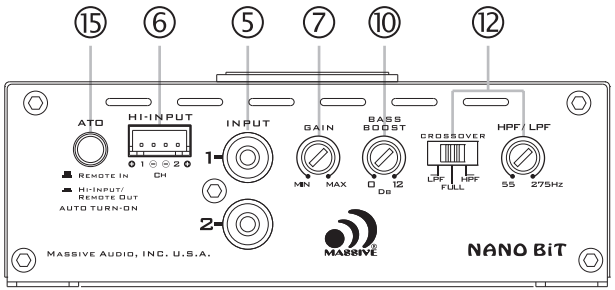
Fig 1. Mono block amplifier panel layout

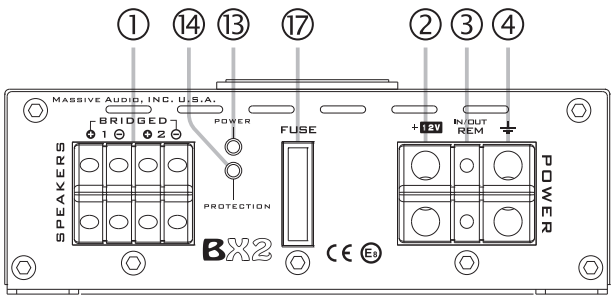




PANEL LAYOUT

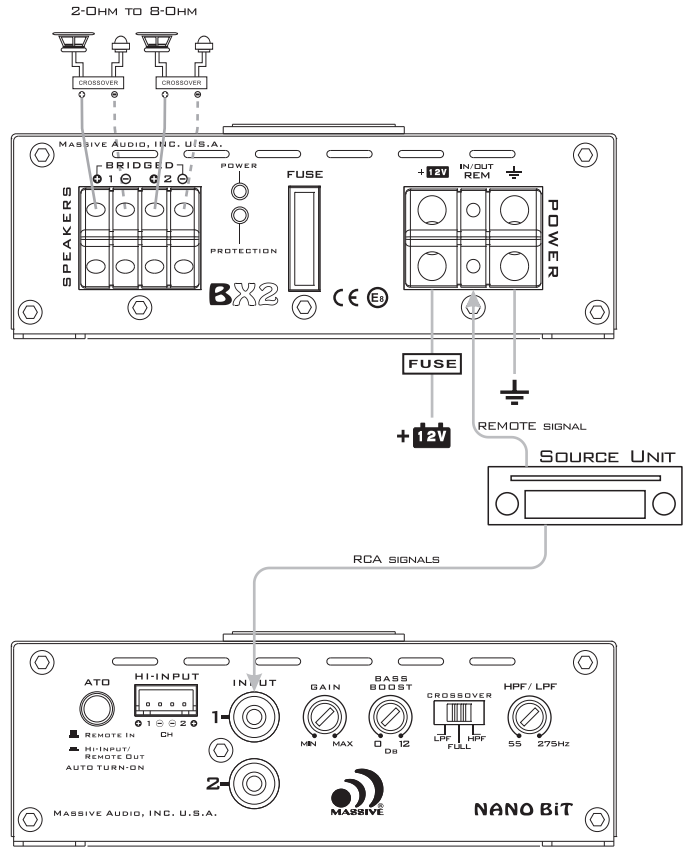
Fig 2. 2 channel amplifier panel layout





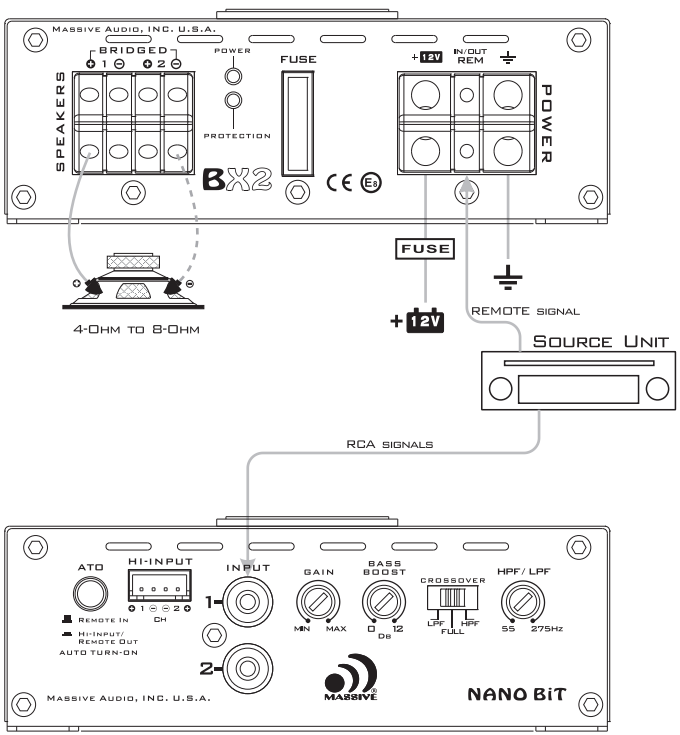
Wiring Diagram

Fig 7. 2 channel amplifier wiring (2-channel mode)



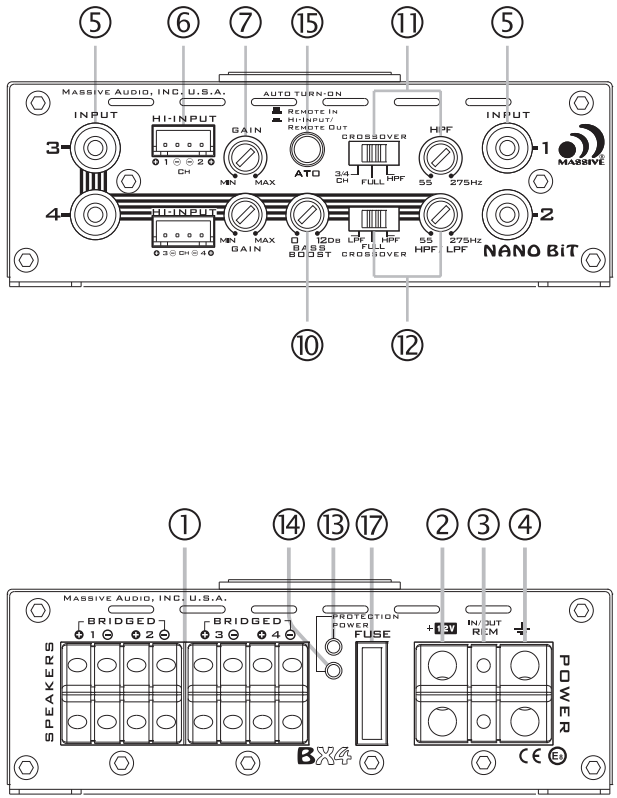
Wiring Diagram

Fig 6. 2 channel amplifier wiring
(1-channel mode)



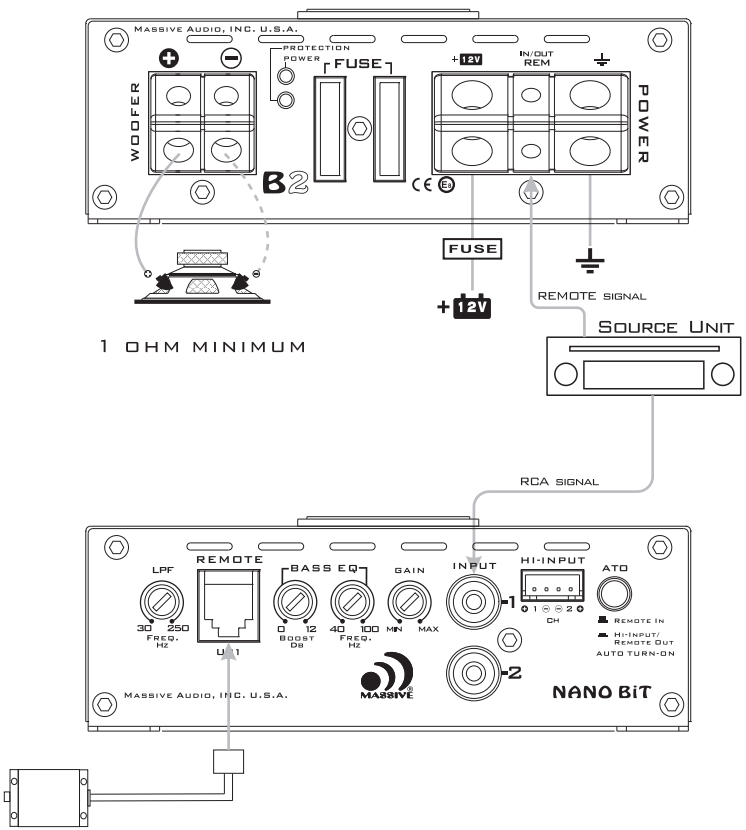
PANEL LAYOUT

Fig 3. 4 channel amplifier panel layout



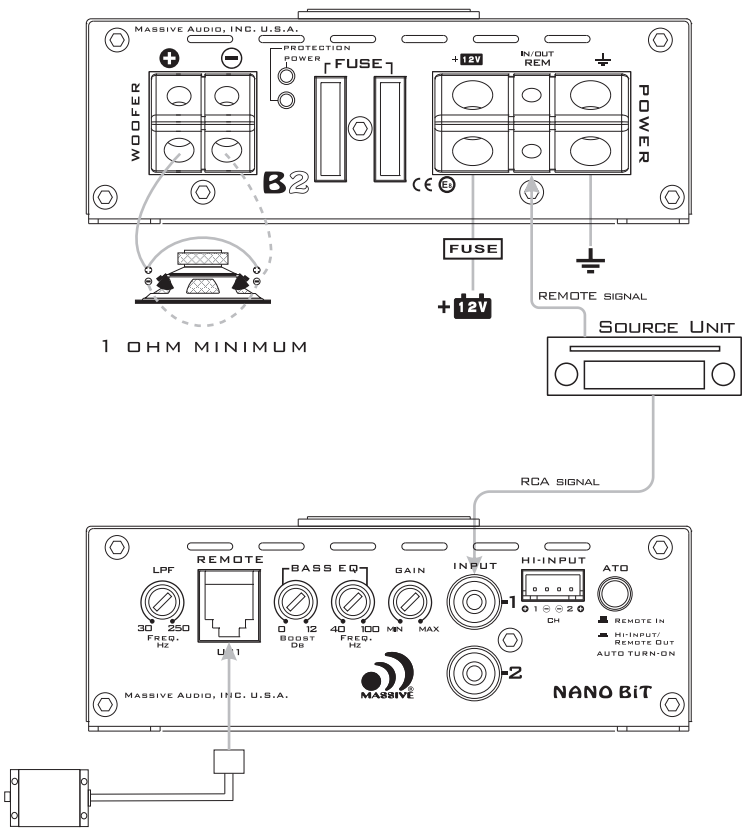
Wiring Diagram

Fig 4. Mono block amplifier wiring
(single woofer load)



Wiring Diagram

Fig 5. Mono block amplifier wiring
(Multi-woofer load)



*Equivalent parallel woofer loads cannot be less than the minimum stable load rated in this manual.
*The two negative and two positive speaker terminals are wired internally inside the amplifier so only one negative and one positive are needed when wiring to the amplifier. (MONO BLOCK)
*Minimum load for all Mono Block amplifiers are one ohm.
*Minimum load for all Full Range amplifiers are two ohm.