

# MASSIVE<sup>®</sup>

## BLADE(BP) SERIES AMPLIFIERS

BP 500.2

BP 1 000.2

BP 1 500.2

BP 800.4

BP 1 000.4

BP 1 500.5

BP 600.1

BP 1 000.1

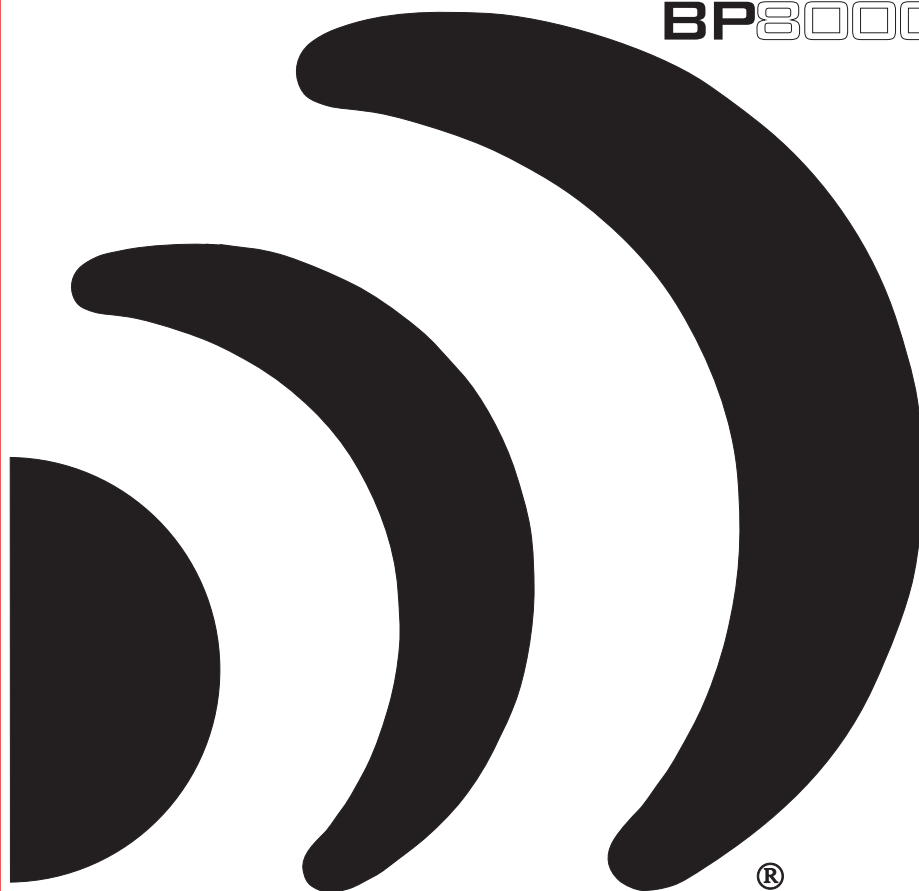
BP 1 200.1

BP 2 000.1

BP 4 000.1

BP 6 000.1

BP 8 000.1



# INTRODUCTION

## **Congratulations!**

And thank you for purchasing a "Massive Audio" BLADE(BP) amplifier for your car audio system. You now own an amplifier of uncompromising design and engineering incorporating the latest advances in technology. This handcrafted amplifier is designed to deliver the demands of serious sound competitors. You will soon discover that "BLADE(BP)" 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 this manual 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

- ✓ 1 OHM STABLE DESIGN (MONO AMPS-BP1200.1, BP2000.1)
- ✓ 2 OHM STABLE DESIGN (CLASS A/B FULL RANGE MONO AMPS-BP600.1, BP1000.1)
- ✓ 2 OHM STABLE DESIGN (CLASS D FULL RANGE MONO AMPS-BP4000.1, BP6000.1, BP8000.1)
- ✓ DUAL COOLING FANS FOR TEMPERATURE CONTROL (BP4000.1, BP6000.1, BP8000.1)
- ✓ MIL SPEC PCB WITH SMD PARTS
- ✓ BUILT-IN NOISE REDUCTION CIRCUITRY
- ✓ FULL MOSFET WITH HIGH GRADE SWITCHING DEVICES
- ✓ BUILT-IN AUTO SENSING TURN ON FUNCTION (HI-INPUTS)
- ✓ 12V REMOTE OUTPUT FOR EXTERNAL DEVICES (HI-INPUTS)
- ✓ 0~12DB VARIABLE BASS BOOST
- ✓ NEXT GENERATION ADVANCED 5 WAY PROTECTION CIRCUITRY
- ✓ WORLD WIDE STANDARDS COMPLIANT.  
(ROHS,E-MARK,CTA-2006,CE)

# BLADE BRUDE



# 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.

## 3. AUTO SENSING TURN ON FUNCTION / REM OUT(HI-INPUTS)

WHEN USE HI-INPUT, THE AMP CAN DETECT THE DC OFFSET FROM THE HIGH LEVEL INPUT SIGNAL TO AUTO TURN ON/OFF. WHEN THE AMP TURNS ON, THE REM TERMINAL WILL OUTPUT +12V DC TO CONTROL THE OTHER DEVICE TURN ON/OFF.

REM IN: WHEN USE LOW LEVEL INPUT, THE AMP REM IN SHOULD BE CONNECTED TO THE REM OUT OF THE SOURCE UNIT. THE HEAD UNIT CONTROLS THE AMP TURN ON/OFF.

## 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 DIRECTLY TO THE VEHICLE BATTERY GROUND TERMINAL OR ANY OTHER FACTORY GROUND POINTS.

## 5. RCA INPUT / AUTO HI-LOW LINE CONVERTOR

THESE RCA INPUT JACKS CONNECT WITH YOUR SOURCE UNIT RCA LOW LEVEL OUTPUTS OR VIA OPTIONAL ADAPTER WITH YOUR SOURCE UNIT SPEAKER HIGH LEVEL OUTPUTS. THE USE OF HIGH QUALITY TWISTED PAIR CAR AUDIO CABLES IS RECOMMENDED TO MIND POSSIBILITY OF DISTURBANCE THE AUDIO SIGNAL.

## 6. REMOTE(MONO BLOCKS)

CONNECT THE REMOTE CONTROLLER TO CONTROL THE SUBWOOFER AMPLIFIER VOLUME FROM THE DRIVER SEAT LOCATION, FOR EASE OF ADJUSTMENT DURING PLAYING.

## 7. GAIN CONTROL

THE GAIN CONTROL WILL MATCH THE AMPLIFIERS SENSITIVITY TO THE SOURCE UNITS SIGNAL VOLTAGE. THE OPERATING RANGE IS 9V TO 200MV(250MV). THIS IS NOT A VOLUME CONTROL!

## 8. LOW PASS FILTER CONTROL

THIS CONTROL IS USED TO SELECT THE DESIRED LOW PASS X-OVER FREQUENCY.

## 9. SUBSONIC FILTER CONTROL

THIS CONTROL CAN FILTER OUT UNWANTED LOW FREQUENCY FROM 15Hz TO 55Hz. THIS FUNCTION WILL INCREASE THE POWER HANDLING OF YOUR WOOFERS.

## 10. BASS BOOST LEVEL KNOB(MONO BLOCK)

THIS CONTROL ADJUST THE BOOST LEVEL OF THE BASSBOOST CENTER FREQUENCY. IT CAN BE ADJUSTED FROM 0 TO 12DB. COMBINING WITH BASSBOOST FREQUENCY, YOU CAN ACCURATELY MATCH THE AMPLIFIER PERFORMANCE TO WOOFER RESPONSE.

## 11. BASS BOOST FREQ KNOB(MONO BLOCK)

THIS CONTROL THE BOOSTED CENTER FREQUENCY. THE FREQUENCY CAN BE ADJUSTED FROM 50Hz TO 750Hz. ACCORDING THE YOUR CAR AUDIO SYSTEM PERFORMANCE. (EG. WHEN YOU ADJUST THIS KNOB TO 50Hz, AMPLIFIER WILL BOOST THE FREQUENCY AROUND 50Hz.) THIS FUNCTION SHOULD BE ADJUSTED COMBINING WITH BASSBOOST LEVEL TUNING.

## 12. X-OVER MODE(FULL RANGE)

THIS SWITCH WORKS TOGETHER WITH THE FREQ TO ADJUST THE OPERATING FREQUENCY RANGE OF THE AMP. WHEN SWITCH TO LPF OR HPF, THE CORRESPONDING FILTER CAN ADJUST THE OPERATING FREQUENCY RANGE BETWEEN 50Hz TO 3KHz. WHEN PUSHING THE SUBWOOFER, PLEASE SWITCH TO LPF MODE; WHEN PUSHING SMALL CALIBER FULL FREQUENCY SPEAKER, MIDDLE AND HIGH FREQUENCY LOUDSPEAKER, PLEASE SWITCH TO HPF MODE. WHEN

PUSHING LARGE CALIBER FULL FREQUENCY SPEAKER, PLEASE SWITCH TO FULL MODE. WHEN SWITCH TO FULL MODE, THE FILTERS WILL NOT FUNCTION.

WARNING: USE BUTTONS AND HPF KNOB CORRECTLY TO PREVENT LOW FREQUENCY DAMAGE TO TWEETERS.

### **13. FREQUENCY CONTROL(FULL RANGE)**

THIS SWITCH WORKS TOGETHER WITH X-OVER FOR HIGH PASS FREQUENCY CROSSOVER

WARNING: USE BUTTONS AND HPF KNOB CORRECTLY TO PREVENT LOW FREQUENCY DAMAGE TO TWEETERS.

### **14. POWER INDICATOR**

THIS LED WILL LIGHT UP WHEN AMPLIFIER WORKS PROPERLY.

### **15. PROTECTION INDICATOR**

THIS RED LED WILL LIGHT UP AND WILL BE FLASHING IF THERE IS A FAULT PRESENTED TO THE AMPLIFIER. PLEASE DISCONNECT THE AMPLIFIER AND RESOLVE THE FAULT BEFORE RECONNECTING THE AMPLIFIER.

### **16. NO INDICATOR**

INDICATOR THE AMPLIFIER IS GROUNDED, AND RECEIVING +12V AND REM POWER.

### **17. CLIP INDICATOR(BP4000.1,BP6000.1,BP8000.1)**

THIS LED INDICATES WHEN CLIPPING IS PRESENT WHILE PLAYING SOURCE MATERIAL. IF THE CLIP LED IS FLASHING IT ALSO INDICATES THE CLIP LIMITER IS ENGAGING. AT THIS POINT IT IS SUGGESTED TO ADJUST THE AMPLIFIERS GAIN LEVEL UNTIL THE CLIP LED IS ONLY FLASHING ON PEAK BASS NOTES. THE CLIP LIMITER PROTECTION CAN BE OVERDRIVEN RESULTING IN POSSIBLE DAMAGE TO YOUR SPEAKERS AND/OR THE AMPLIFIER.

### **18. DUAL INTERNAL COOLING FANS(BP4000.1,BP6000.1,BP8000.1)**

WHEN THE DEVICE IS RUNNING, THE FAN STARTS TO RUN AT A SPEED OF 3500 PER SECOND WHEN THE DEVICE SURFACE TEMPERATURE REACHES 50 DEGREES. IF THE DEVICE TEMPERATURE REACHES 80 DEGREES, INSIDE OF THE THERMAL PROTECTION STARTS AUTOMATICALLY, THE DEVICE WILL STOP WORKING. BUT, THE FAN WILL STILL KEEP THE SAME RUNNING SPEED FOR THE DEVICE COOLING.

# PANEL LAYOUT

FIG 1. 2-CH AMPLIFIER PANEL LAYOUT

BP500.2/BP1000.2/BP1500.2

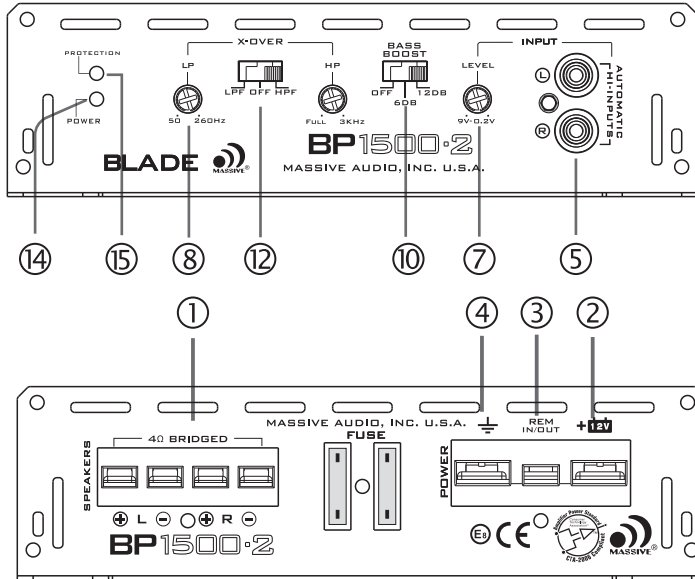
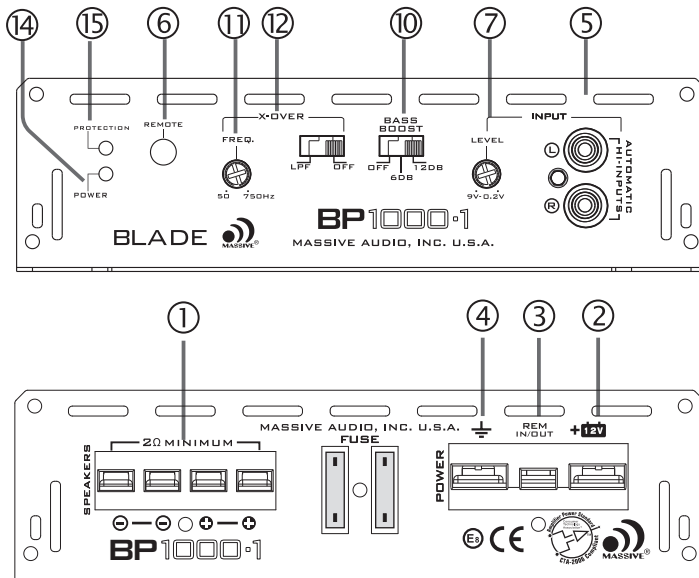


FIG 2. MONO AMPLIFIER PANEL LAYOUT

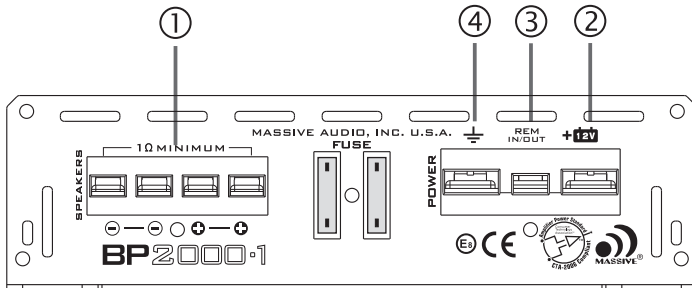
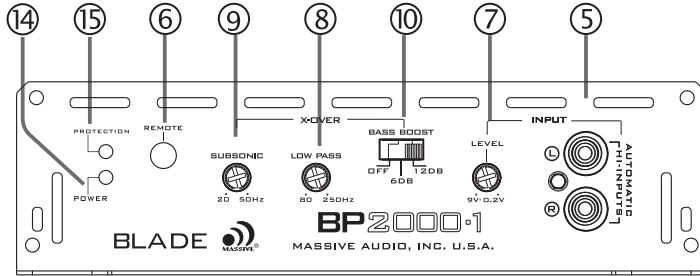
BP600.1/BP1000.1



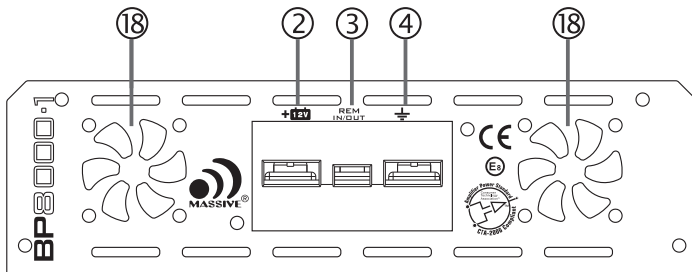
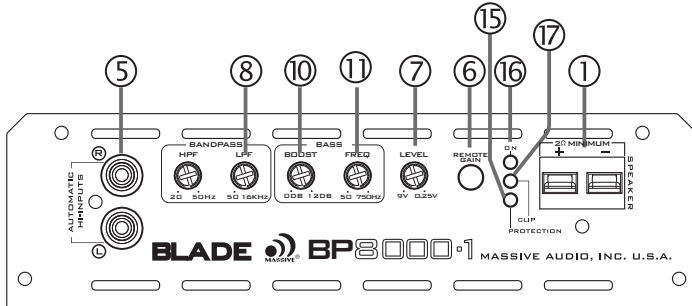
# PANEL LAYOUT

FIG 2. MONO AMPLIFIER PANEL LAYOUT

## BP1200.1/BP2000.1



## BP4000.1/BP6000.1/BP8000.1



# PANEL LAYOUT

FIG 3. 4-CH AMPLIFIER PANEL LAYOUT

BP800.4/BP1000.4

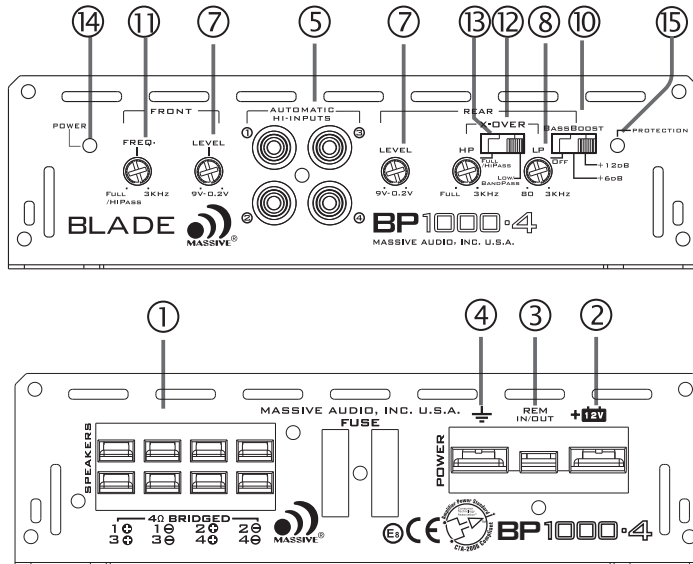
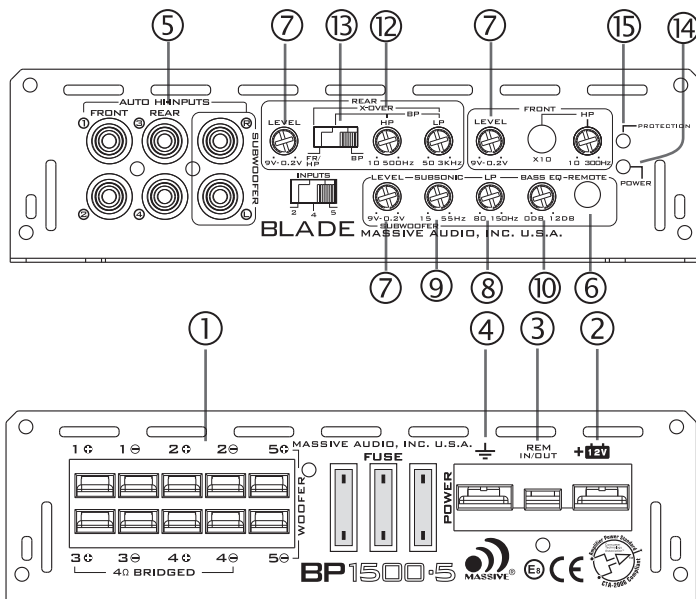


FIG 4. 5-CH AMPLIFIER PANEL LAYOUT

BP1500.5

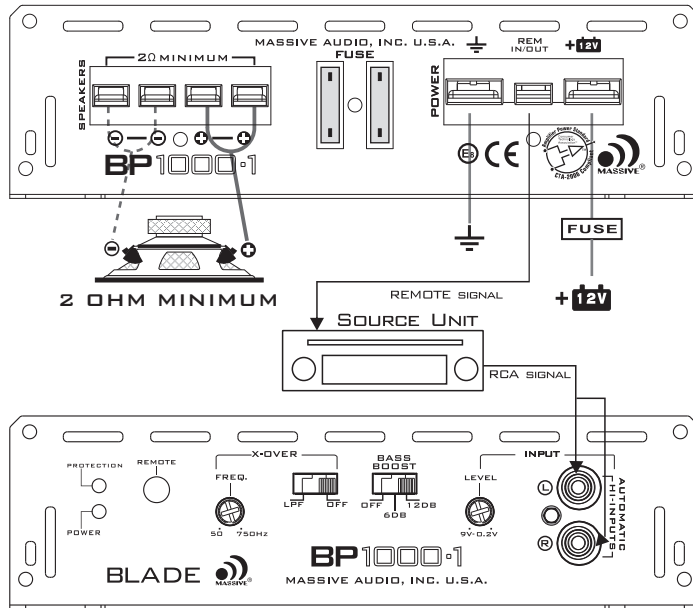




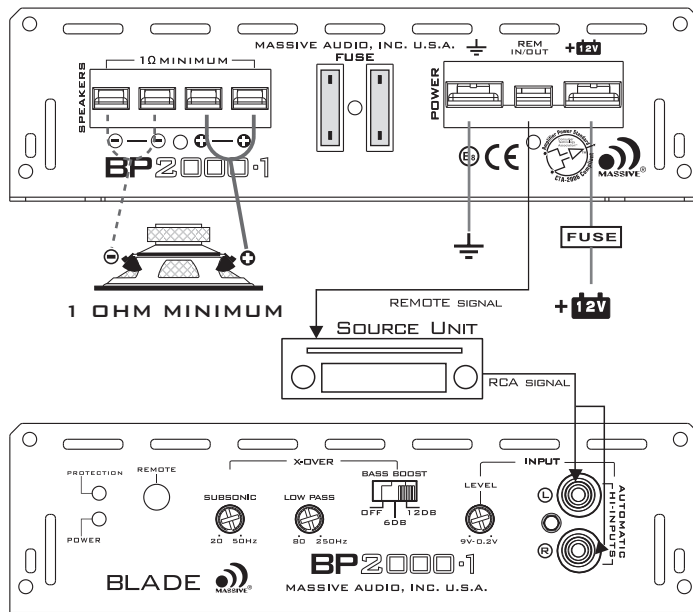
# WIRING DIAGRAM

FIG 5. MONO AMPLIFIER WIRING

## BP600.1/BP1000.1



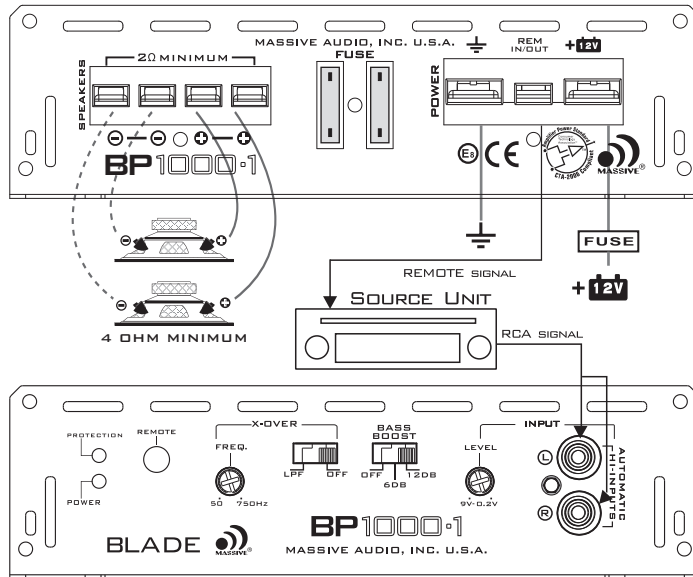
## BP1200.1/BP2000.1



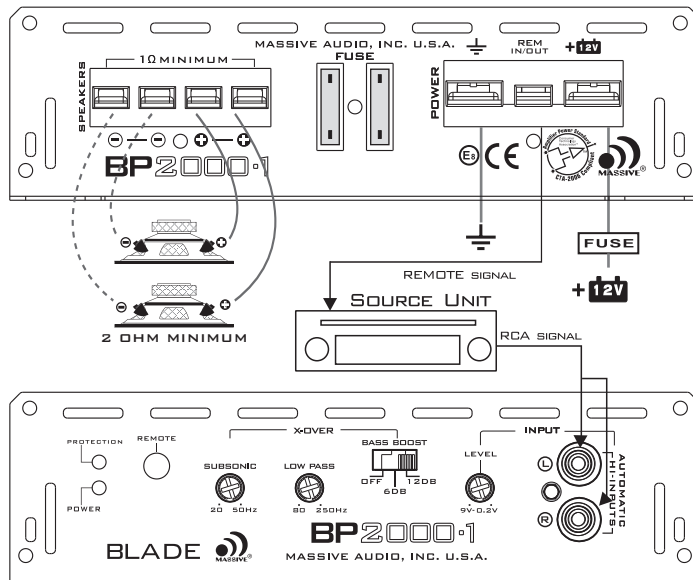
# WIRING DIAGRAM

FIG 6. MONO AMPLIFIER WIRING

## BP600.1/BP1000.1



## BP1200.1/BP2000.1

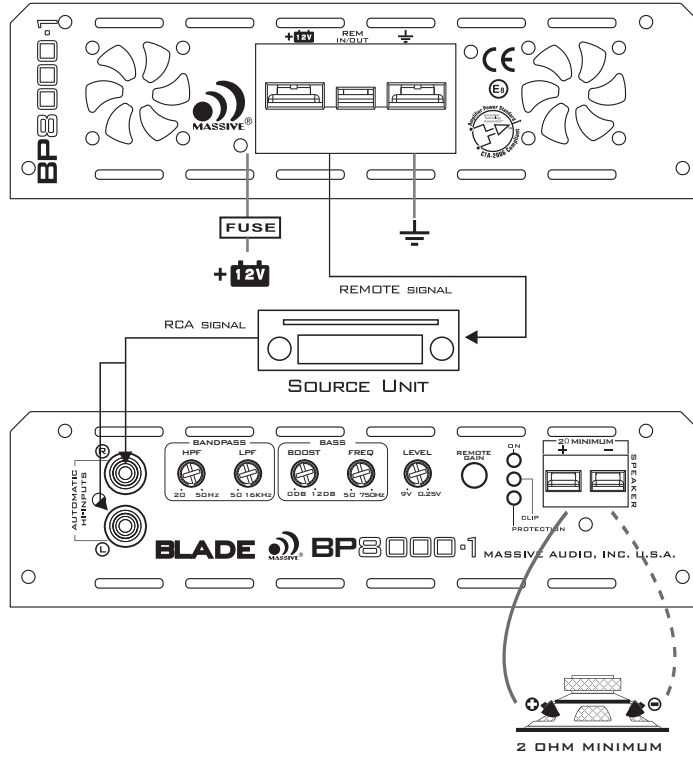


\*SUBWOOFER LOADS CANNOT BE LESS THAN THE MINIMUM STABLE IMPEDANCE RATED IN THIS MANUAL. THE TWO NEGATIVE AND POSITIVE SPEAKER TERMINALS ARE WIRED INTERNALLY. ONLY ONE NEGATIVE AND ONE POSITIVE TERMINALS REQUIRED WHEN WIRING TO BP MONO AMPLIFIERS.

# WIRING DIAGRAM

FIG 7. MONO AMPLIFIER WIRING

BP4000.1/BP6000.1/BP8000.1



# WIRING DIAGRAM

FIG 8. BP500.2/1000.2/1500.2 AMPLIFIER WIRING (1-CHANNEL MODE)

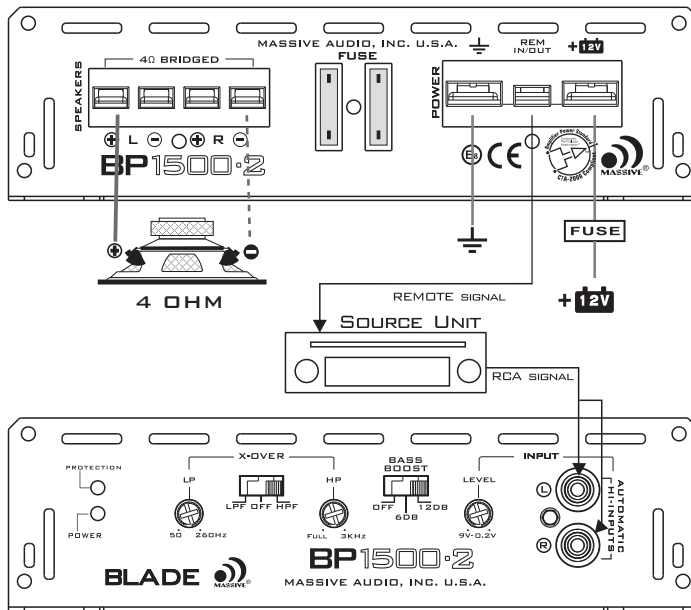
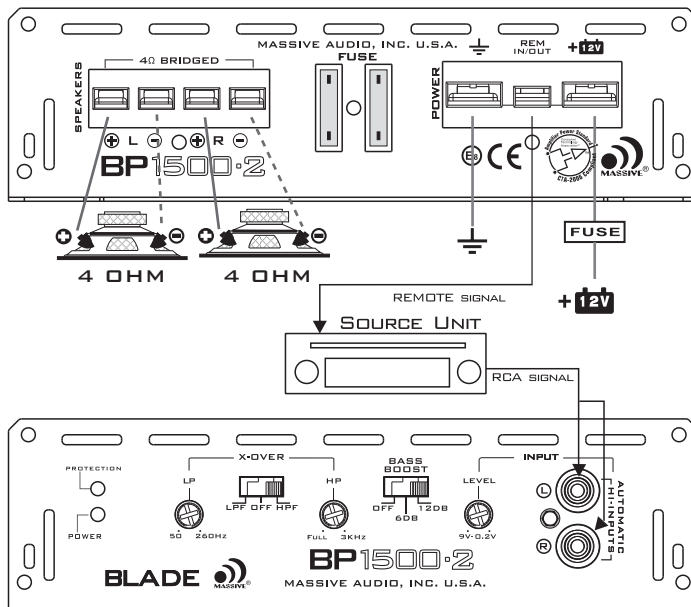


FIG 9. BP500.2/1000.2/1500.2 AMPLIFIER WIRING (2-CHANNEL MODE)



# WIRING DIAGRAM

FIG 10. BP800.4/1000.4 AMPLIFIER WIRING  
(3-CHANNEL MODE)

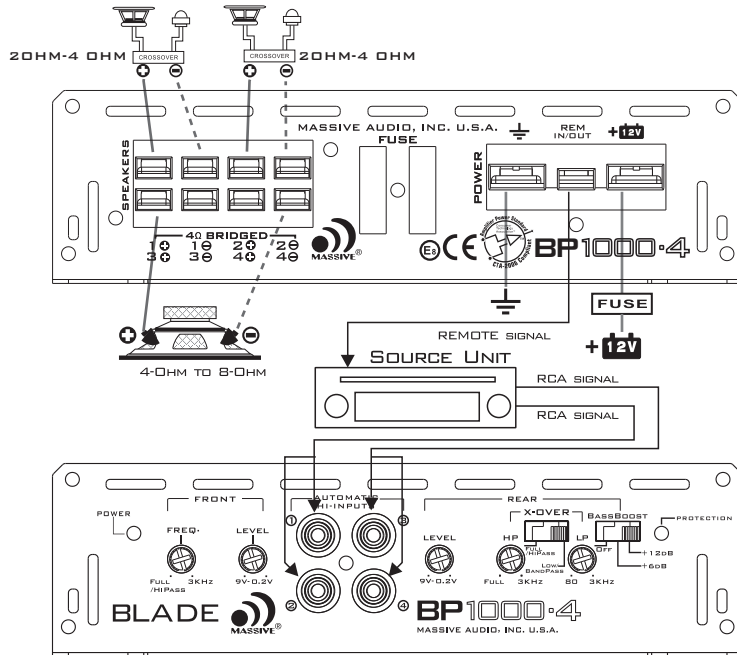
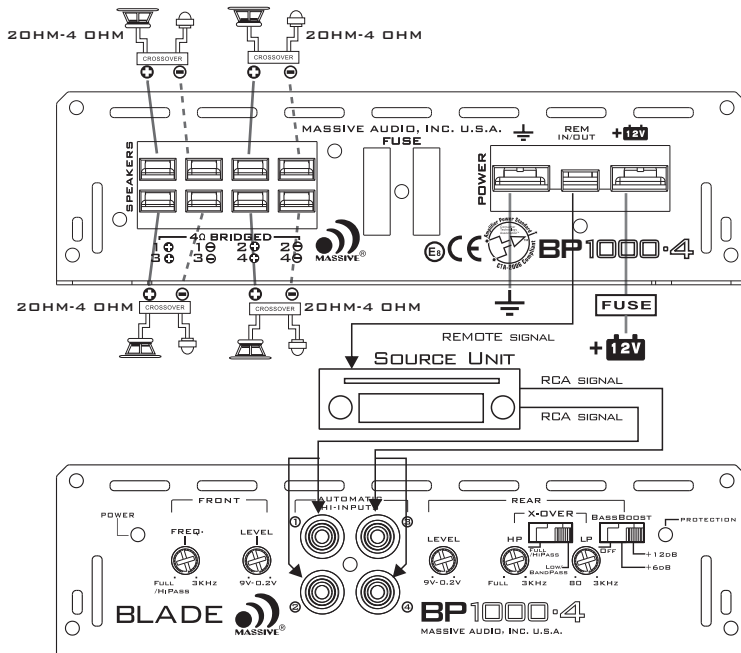
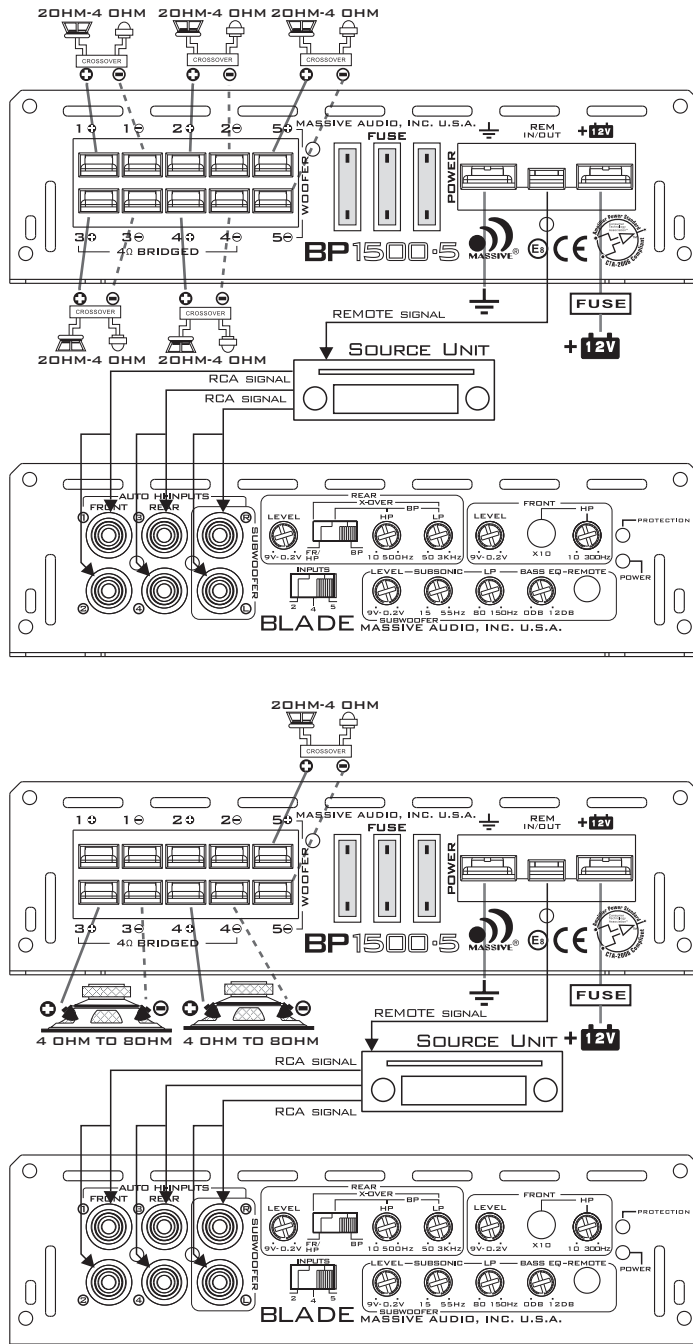


FIG 11. BP800.4/1000.4 AMPLIFIER WIRING  
(4-CHANNEL MODE)



# WIRING DIAGRAM

FIG 12. BP1500.5 AMPLIFIER WIRING  
(4-CHANNEL MODE)



# 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. Do not mount amplifier upside down.

# SPECIFICATIONS

	BP500.2	BP1000.2	BP1500.2	BP800.4	BP1000.4	BP600.1	BP1000.1	BP2000.1	BP4000.1	BP6000.1	BP8000.1	BP1500.5
<b>CHANNELS</b>	2	2	2	4	4	1	1	1	1	1	1	5
<b>PEAK OUTPUT POWER@1.4V</b>	250W X 2	500W X 2	750W X 2	200W X 4	250W X 4	600W X 1	1000W X 1	2000W X 1	4000W X 1	6000W X 1	8000W X 1	250Wx4+500W
<b>RMS @ 4 OHMS</b>	80W X 2	160W X 2	240W X 2	60W X 4	80W X 4	150W X 1	250W X 1	500W X 1	1000W X 1	1500W X 1	2000W X 1	80Wx4+200Wx1
<b>RMS @ 2 OHMS</b>	160W X 2	240W X 2	480W X 2	120W X 4	160W X 4	300W X 1	455W X 1	900W X 1	2000W X 1	3000W X 1	4000W X 1	160Wx4+500Wx1
<b>RMS @ 1 OHMS</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1000W X 1	N/A	N/A	N/A	N/A+N/A
<b>RMS BRIDGED @ 4 OHMS</b>	320W X 1	640W X 1	960W X 1	240W X 2	320W X 2	N/A	N/A	N/A	N/A	N/A	N/A	320Wx2+200Wx1
<b>FREQUENCY RESPONSE</b>	15HZ-30KHZ	15HZ-30KHZ	15HZ-30KHZ	10HZ-35KHZ	10HZ-35KHZ	15HZ-30KHZ	15HZ-250HZ	15HZ-250HZ	20HZ-16KHZ	20HZ-16KHZ	20HZ-16KHZ	15HZ-30KHZ
<b>INPUT SENSITIVITY</b>	0.2-9.0V	0.2-9.0V	0.2-9.0V	0.2-9.0V	0.2-9.0V	0.2-9.0V	0.2-9.0V	0.2-9.0V	0.25-9.0V	0.25-9.0V	0.25-9.0V	0.2-9.0V
<b>SIGNAL TO NOISE RATIO</b>	>90DB	>90DB	>90DB	>90DB	>90DB	>90DB	>95DB	>95DB	>60DB	>60DB	>60DB	>90DB
<b>THD&amp;NOISE</b>	<0.10%	<0.10%	<0.10%	<0.10%	<0.05%	<0.10%	<0.10%	<0.10%	<2.5%	<2.5%	<2.5%	<0.10%
<b>LOW PASS CROSS FREQUENCY</b>	50HZ-260HZ	50HZ-260HZ	50HZ-260HZ	80HZ-3KHZ	80HZ-3KHZ	50HZ-750HZ	80HZ-250HZ	80HZ-250HZ	50HZ-16KHZ	50HZ-16KHZ	50HZ-16KHZ	80HZ-3KHZ+36K4 80HZ-3.5KHZ+3 10HZ-30KHZ+1.5 10HZ-30KHZ+3K4
<b>HIGH PASS CROSS FREQUENCY</b>	FULL-3KHZ	FULL-3KHZ	FULL-3KHZ	FULL-3KHZ	FULL-3KHZ	N/A	N/A	N/A	20HZ-50HZ	20HZ-50HZ	20HZ-50HZ	15HZ-55HZ
<b>SUBSONIC FILTER</b>	N/A	N/A	N/A	N/A	N/A	N/A	20HZ-50HZ	20HZ-50HZ	N/A	N/A	N/A	N/A
<b>BASS EQ</b>	0-60W/20B @45HZ	0-60W/20B @45HZ	0-60W/20B @45HZ	0-60W/20B @45HZ	0-60W/20B @45HZ	0-60W/20B @45HZ	0-60W/20B @45HZ	0-60W/20B @45HZ	0-120B@ (50HZ-750HZ)	0-120B@ (50HZ-750HZ)	0-120B@ (50HZ-750HZ)	0-120B@45HZ
<b>MINIMUM IMPEDANCE</b>	2OHM STEREO	2OHM STEREO	2OHM STEREO	2OHM STEREO	2OHM STEREO	2OHM MONO	1 OHM MONO	1 OHM MONO	2OHM MONO	2OHM MONO	2OHM MONO	2OHM STEREO +2OHM MONO
<b>FUSE SIZE</b>	25A X 1	45A X 1	35A X 2	25A X 2	30A X 2	15A X 2	25A X 2	40A X 2	EXTERNAL (150A)	EXTERNAL (250A)	EXTERNAL (350A)	25A X 3
<b>DIMENSIONS(LXHXW)MM</b>	200X51X180	240X51X180	300X51X180	300X51X180	320X51X180	280X51X180	300X51X180	320X51X180	325X1X55X190	325X1X55X190	325X1X55X190	380X51X180
<b>DIMENSIONS(LXHXW)INCH</b>	7.9X2.0X7.1	9.4X2.0X7.1	11.2X2.0X7.1	11.8X2.0X7.1	12.6X2.0X7.1	11.0X2.0X7.1	11.8X2.0X7.1	13.4X2.0X7.1	9.9X2.2X7.5	12.6X2.2X7.5	12.6X2.2X7.5	15.0X2.0X7.1

SUBJECT TO TECHNICAL CHANGE



# 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.**

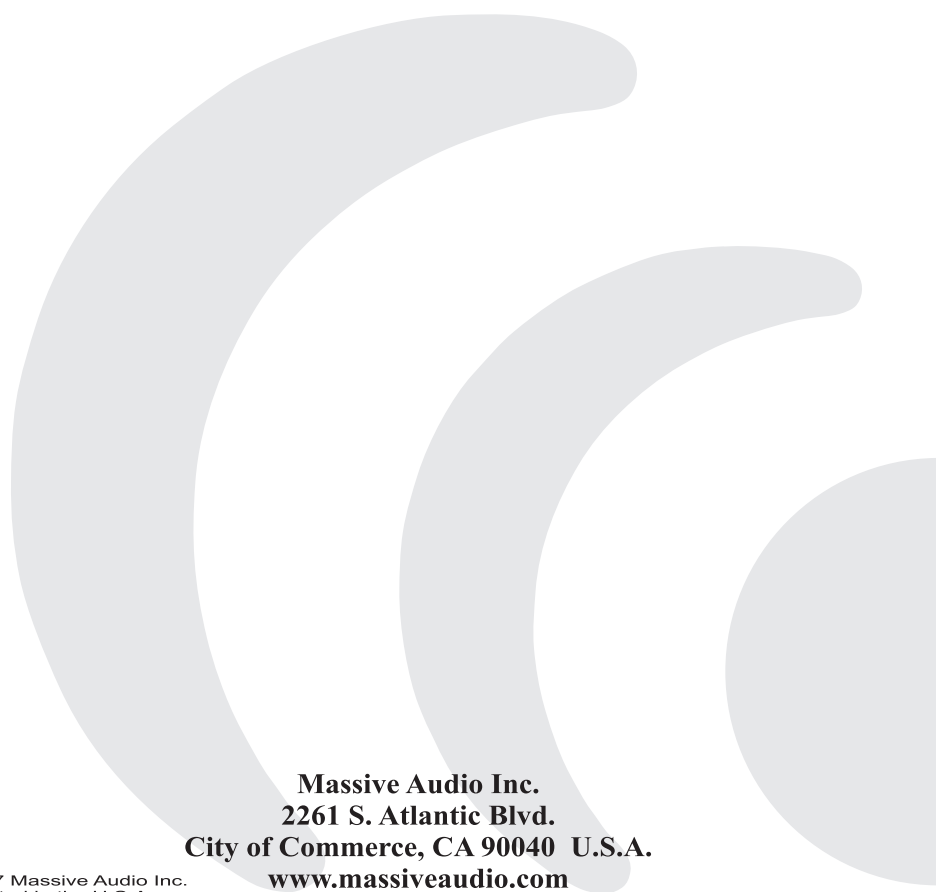
“Massive Audio” obligations under this warranty are limited to repairing or replacing, at its own sole option, any such defective products. This warranty does not apply to equipment that has been damaged by accident, negligence, or misapplication or has been altered or modified in anyway. This warranty 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.







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