

## SPECIFICATIONS 100MS & 200MS

MODEL	100MS	200MS
<b>OUTPUT POWER</b>		
STEREO (@ 4 Ohms)	50W x 2	100W x 2
BRIDGED (@ 8 Ohms)	100W	200W
<b>T.H.D.</b>	0.05%	0.05%
<b>FREQ. RESP.</b>	2Hz-100Khz	2Hz-100Khz
<b>SIGNAL TO NOISE</b>	100dB	100dB
<b>INPUT SENS.</b>	200mV-2V	200mV-2V
<b>OUTPUT IMPEDANCE</b>	2-8 Ohms	2-8 Ohms
<b>VOLTAGE REQUIRED</b>	DC 11-16V	DC 11-16V
<b>STEREO SEPARATION</b>	60dB	60dB
<b>EQUALIZATION</b>		
TREBLE	+18 dB Maximum at 10Khz	
BASS	+18 dB Maximum from 30 - 100Hz	
<b>IDLING CURRENT</b>	0.4A	0.4A
<b>RATED CURRENT (4 Ohms)</b>	15A	30A
<b>SIZE (Inches W x H x D)</b>	7 <sup>1</sup> / <sub>16</sub> x2 <sup>1</sup> / <sub>2</sub> x7 <sup>1</sup> / <sub>4</sub>	12 <sup>1</sup> / <sub>4</sub> x2 <sup>1</sup> / <sub>2</sub> x7 <sup>1</sup> / <sub>4</sub>

## SPECIFICATIONS 50HC & 100HC

MODEL	50HC	100HC
<b>OUTPUT POWER</b>		
STEREO (@ 4 Ohms)	25W x 2	50W x 2
BRIDGED (@ 8 Ohms)	50W	100W
<b>T.H.D.</b>	0.05%	0.05%
<b>FREQ. RESP.</b>	2Hz-100Khz	2Hz-100Khz
<b>SIGNAL TO NOISE</b>	104dB	104dB
<b>INPUT SENS.</b>	200mV-2V	200mV-7V
<b>OUTPUT IMPEDANCE</b>	0.5 - 16 Ohms	0.5 - 16 Ohms
<b>VOLTAGE REQUIRED</b>	DC 11-16V	DC 11-16V
<b>STEREO SEPARATION</b>	60dB	60dB
<b>EQUALIZATION</b>		
TREBLE (0dB-+18dB)	N/A	10Khz
BASS (0dB-18dB)	N/A	30 - 100Hz
<b>IDLING CURRENT</b>	0.5A	1.2A
<b>RATED CURRENT (4 Ohms)</b>	!40A	!*40A + 40A
<b>SIZE (Inches W x H x D)</b>	10 <sup>5</sup> / <sub>8</sub> x2 <sup>1</sup> / <sub>2</sub> x7 <sup>1</sup> / <sub>4</sub>	16 <sup>1</sup> / <sub>8</sub> x2 <sup>1</sup> / <sub>2</sub> x7 <sup>1</sup> / <sub>4</sub>

! Due to the high current design, at low impedance the amplifier could draw up to twice the rated value \* 100HC Requires two fuses for dual power supplies.

Due to continuing product improvements, specifications subject to change without notice.

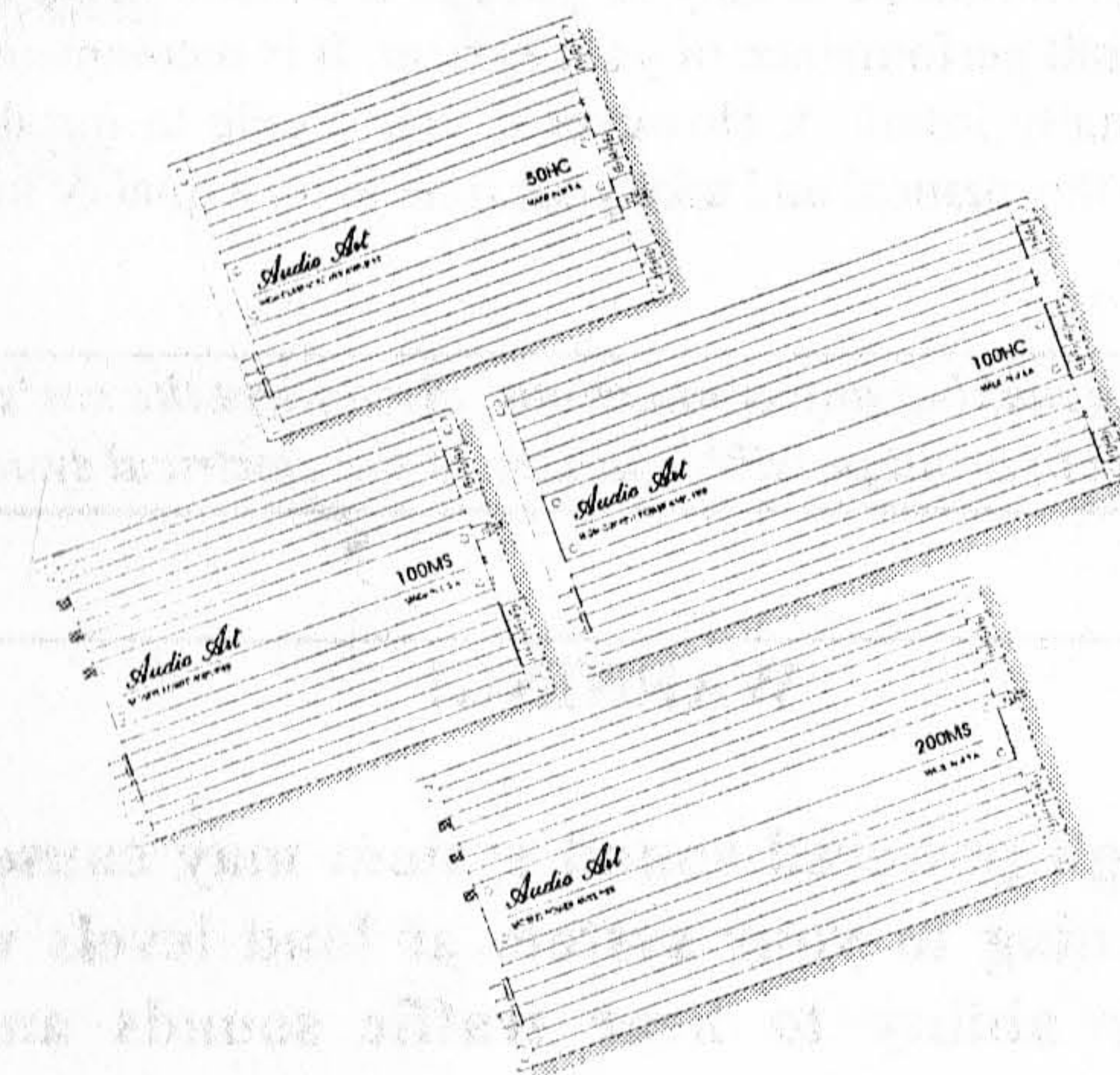
# Audio Art

## CAR AUDIO

### Installation Instructions / Owner's Manual

100MS \* 200MS \* 50HC \* 100HC

Technical Hotline (800) 442-9888



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City of Industry, CA 91789  
(909) 598-0515 Fax (909) 595-4694

## INTRODUCTION

Congratulations on your purchase of an Audio Art state-of-the-art power amplifier. Your selection of an Audio Art car audio product indicates a true appreciation of fine musical reproduction. Whether adding to an existing system or including a Audio Art power amplifier in a new system, you are certain to notice immediate performance benefits.

## KEEP YOUR SALES RECEIPT

Take this time to record the amplifier's serial number at the bottom of this page for future reference. Attach your sales receipt to the manual and put in a safe place so not to misplace it. Your receipt will be necessary in order to establish purchase date for warranty service. For detailed warranty information please refer to the enclosed warranty card.

## RECOMMENDATION

A power amplifier's performance is only as good as it's installation. Proper installation will maximize the overall performance of your system. It is recommended that you have our product professionally installed. However if you decide to install yourself, please carefully read through this manual and take your time to do a quality installation.

**IMPORTANT!** Before making any connections, disconnect the car's battery until the installation is complete to avoid possible damage to the electrical system.

### WARNING!

**Exposure to a high powered sound system may cause hearing loss or damage. Listening to your system at loud levels while driving, will impair your ability to hear traffic sounds and emergency vehicles. Use common sense when listening to your system.**

Serial # \_\_\_\_\_

Model # \_\_\_\_\_

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## SAFETY PRECAUTIONS

**IMPORTANT!** Before making any connections, disconnect the car's battery until the installation is complete to avoid possible damage to the electrical system.

### Fuse amplifiers power wire at the battery.

Be sure to place in-line fuse in the power wire within 6" of the car's battery. This will protect the car's battery in case of a short between the power amplifier and battery. THIS IS A MUST, the amplifier's built-in fuse will only protect the power amplifier not the car's battery!

### Use high grade wire connectors

To ensure maximum power transfer and secure safe connections, it is recommended to use high grade barrier spades (for connection at amplifier) and terminal rings (for connection at battery). Do not make bare wire connections.

### Do not run any wires underneath vehicle.

Exposed wires have a chance of being cut or damaged. It is best to run all wires through the vehicle under the carpet and/or side panels. This lends to a cleaner installation and less risk of damage.

### Use caution when mounting amplifier.

Remember there are many electrical wires, gas lines, vacuum lines, brake lines as well as a gas tank in the automobile. Make sure you know where they are when mounting the amplifier to avoid puncturing lines, shorting wires or drilling holes in the gas tank.

### Run signal wires away from electrical wires.

To avoid possibility of induced noise from the car's electrical system (i.e. popping noises or engine noise), run wires away from the car's electrical wiring.

### Make all ground wires as short as possible and at the same point.

In order to reduce the chance of ground loops (i.e. engine noise), make the grounding wire as short as possible to reduce the wire's resistance. Also, when using multiple components, make sure all units are grounded at the same point.

### Avoid sharp edges when running the wires.

To avoid the possibility of power, signal or speaker shorts, be careful not to allow the amplifiers wires to come in contact with sharp edges. Use a grommet to protect the wire when running through the fire wall

## FEATURES AND BENEFITS

### Instant-on Thermal Protection

An amplifiers worst enemy is heat. To protect the amplifiers circuitry against damage caused by prolonged exposure to high temperatures, a thermal protection circuit is activated if the amplifier reaches 80° Celsius. Once the thermal circuit is activated, the amplifier will shut down to cool off. The circuit will reset automatically once the amp cools down to 50° Celsius. *Models 50HC and 100HC are set at 95° / 65° Celsius* The circuit can be reset manually (instant-on), by turning the head unit off, waiting a few seconds, then back on again. This will allow you to continue to enjoy your system, however, the volume must be reduced to allow the amplifier to cool down.

### DC Offset Protection

This circuit protects the output of the amplifier against DC voltage. If for some reason DC voltage is detected at the output stage, the amplifierit will shut down protecting the speakers from direct current. This is a locking circuit, to resume normal operation, correct the problem and turn the head unit off then back on and then the amplifier will reset and play again.

### Short Circuit Protection

The circuit protects the amplifier from damage due to a short found in the speakers or wiring. If one of the speakers or it's wiring comes in contact with ground, the amplifier will shut down. This is a locking circuit, to resume normal operation, correct the problem and turn the head unit off, then back on. The amplifier will reset and play again.

### Protection Indicator

This green diagnostic L.E.D. indicates that the amplifier has gone in to protection. Once on, the L.E.D. indicates that the amplifier is in protection mode and will have no output. To resume normal operation, turn head unit off and back on again. If the amplifier immediately goes back into protection, check for high temperature, short circuits or low impedance.

### Stereo / Mono Mix Capable

If so desired the amplifier may be run in stereo and mono at the same time. For example, this feature would allow you to run a pair of mid and tweeters in stereo and a sub-woofer mono (See speaker connections on pages 8 and 9).

### Power Fusing

This protects the amplifier against short circuits and excessive current.

### Remote Turn-on

Automatically turns amplifier on when connected to the head units remote output. The amplifier will turn on and off with the head unit to save current consumption when head unit / amplifier(s) are not in use. This control also operates the reset circuit for the amplifiers protection. **It must be connected with the head unit** in order to reset protection circuits.

### Gold Plated Connections

For positive contact and maximum power and signal transfer with minimal resistance.

### Adjustable Input Sensitivity

Allows you to fine tune the level matching between your source and the power amplifier. The controls have been set at the factory to accept average output of most radios, however, fine tuning may be necessary to optimize signal to the amplifiers input stage.

### Soft Start Delay

This circuit causes a delay in the amplifier's turn-on and off in order to reduce the chance of turn-on / turn-off "thump" or "pop".

### Stable To 2 Ohms Stereo Mode (100MS / 200MS)

Stability to 2 Ohms in stereo mode, 4 Ohms bridged.

### Bass and Treble Equalization (100MS / 200MS)

Adjustable bass and treble controls allow compensation for low and high frequencies. The bass may be adjusted to and point between 30-100Hz with up to 18dB boost. The treble control allow for up to 18dB boost @10Khz

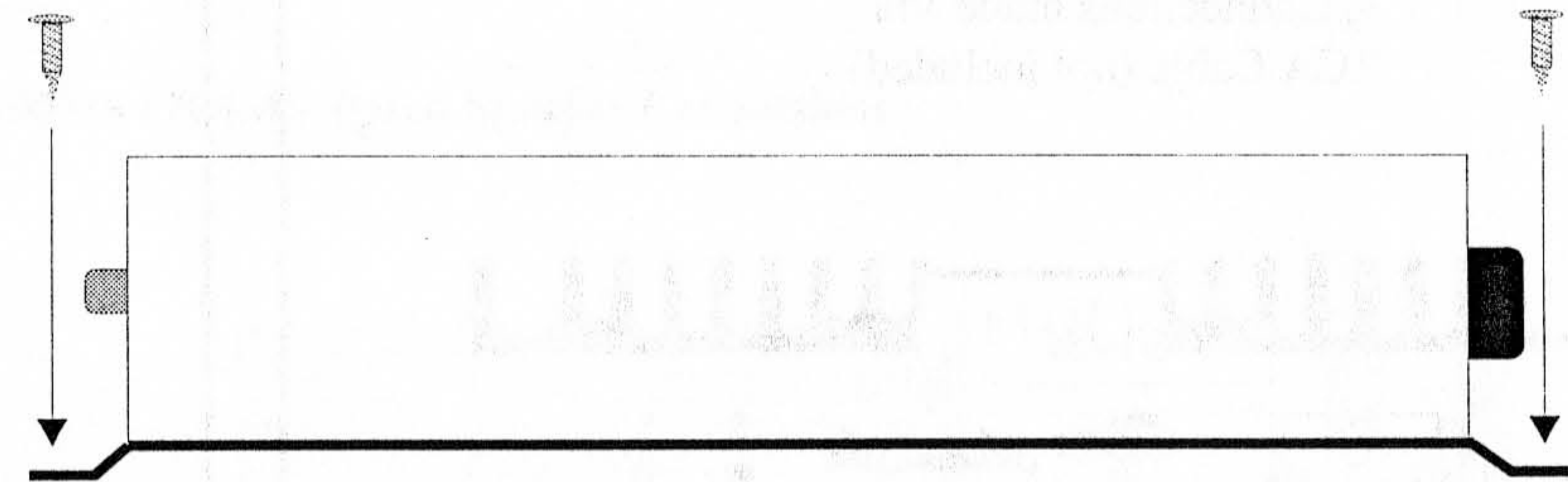
### High Current Design (50HC / 100HC)

High current design allows for high output power into low impedance loads Allows stability down to 0.5 Ohm loads stereo or 1 Ohm bridged.

## MOUNTING LOCATION

Before you start the installation, it will be necessary to find a mounting location for the amplifier. It is necessary to find a location in which the amplifier will receive adequate ventilation in order to dissipate the heat it develops during operation. Two popular mounting locations are in the trunk or under the seat.

Select the location in which you wish to mount the amplifier. **Use caution when mounting amplifier there are many wires, gas lines, vacuum lines, brake lines as well as a gas tank in the automobile. Make sure you know where they are when mounting the amplifier to avoid puncturing lines, shorting wires or drilling holes in the gas tank.** Once you are ready use a pencil to make the three holes in the bottom panel. After you have marked the locations of the holes move amplifier out of the way and drill a small starter holes to make the tapping screws easier to install. Use provided screws to tighten down the amplifier (See figure #1).



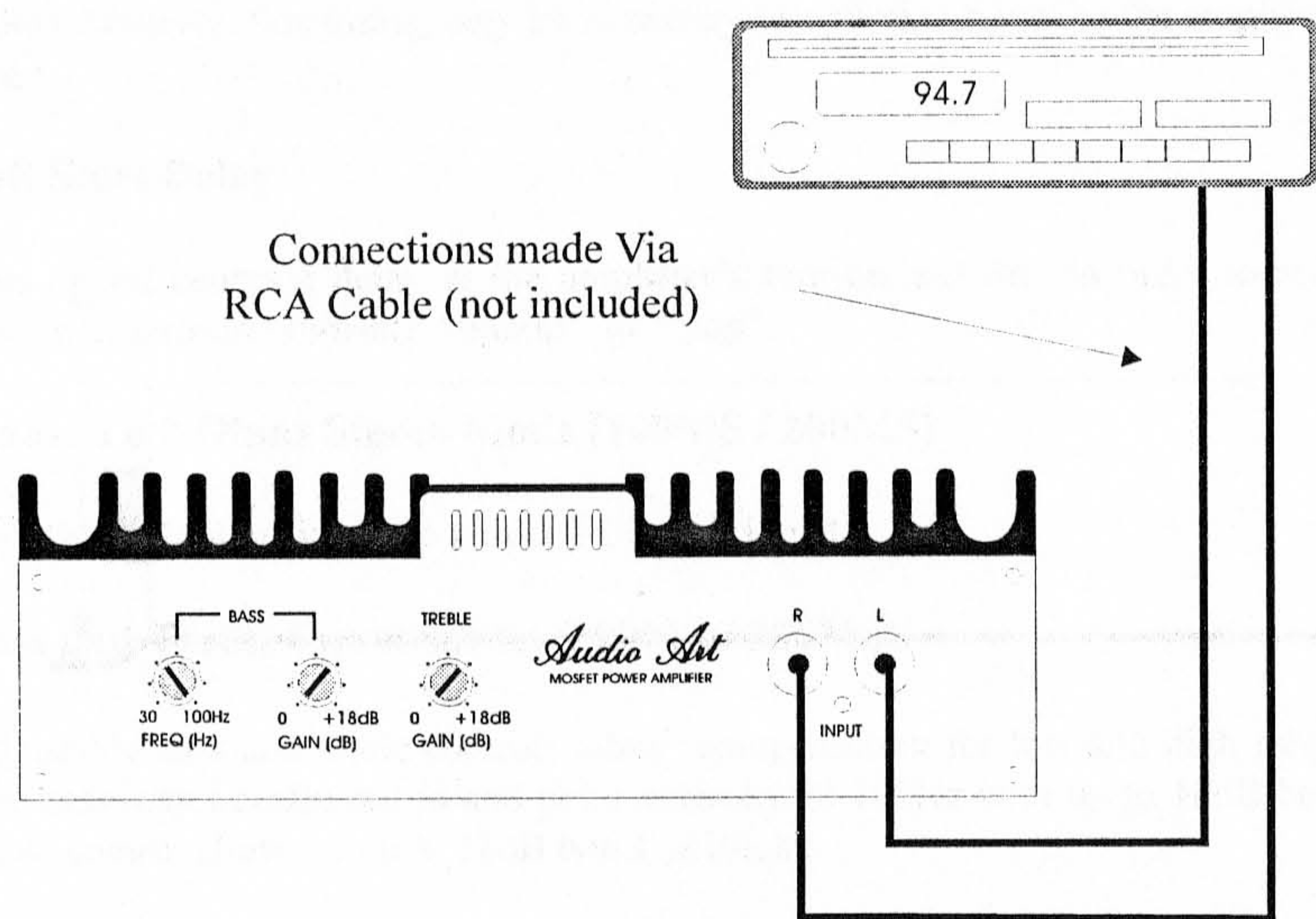
(Figure #1) Mounting amplifier with provided screws.

## SIGNAL AND SPEAKER CONNECTIONS

Before making the following connections, you will need to decide how you wish to configure your system. We have included some suggested systems at the back of this manual for your reference. It is recommended that you run all your wires first and then make the connections.

**Connect the output of the head unit (AM/FM cassette player, CD, or DAT) to the RCA input terminals of the amplifier.**

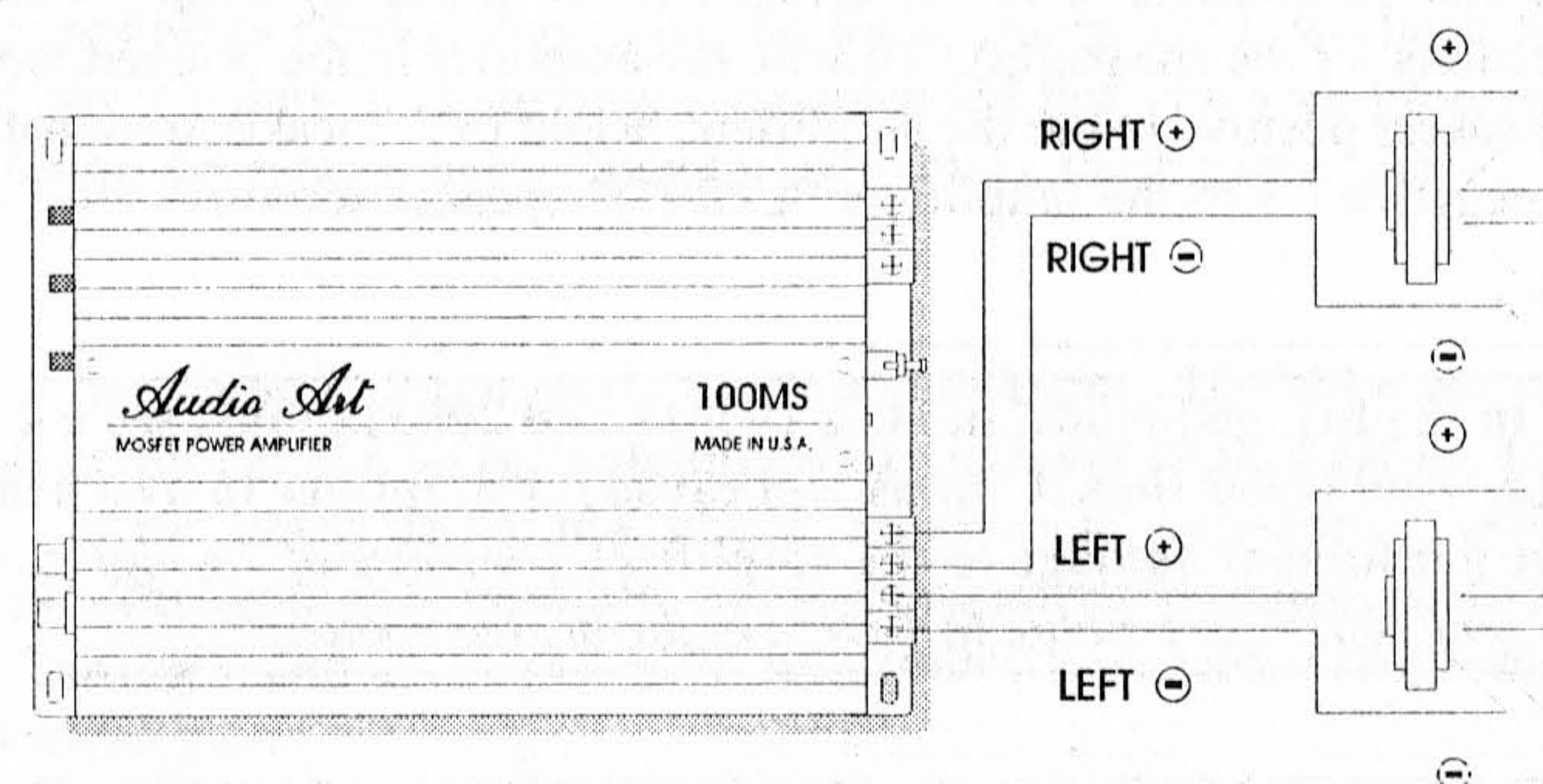
To make these connections, we recommend high quality RCA cables, which are available at your local car audio retailer. Be careful to connect the left channel of the head unit to the left channel of the amplifier, and the right channel to the right channel.



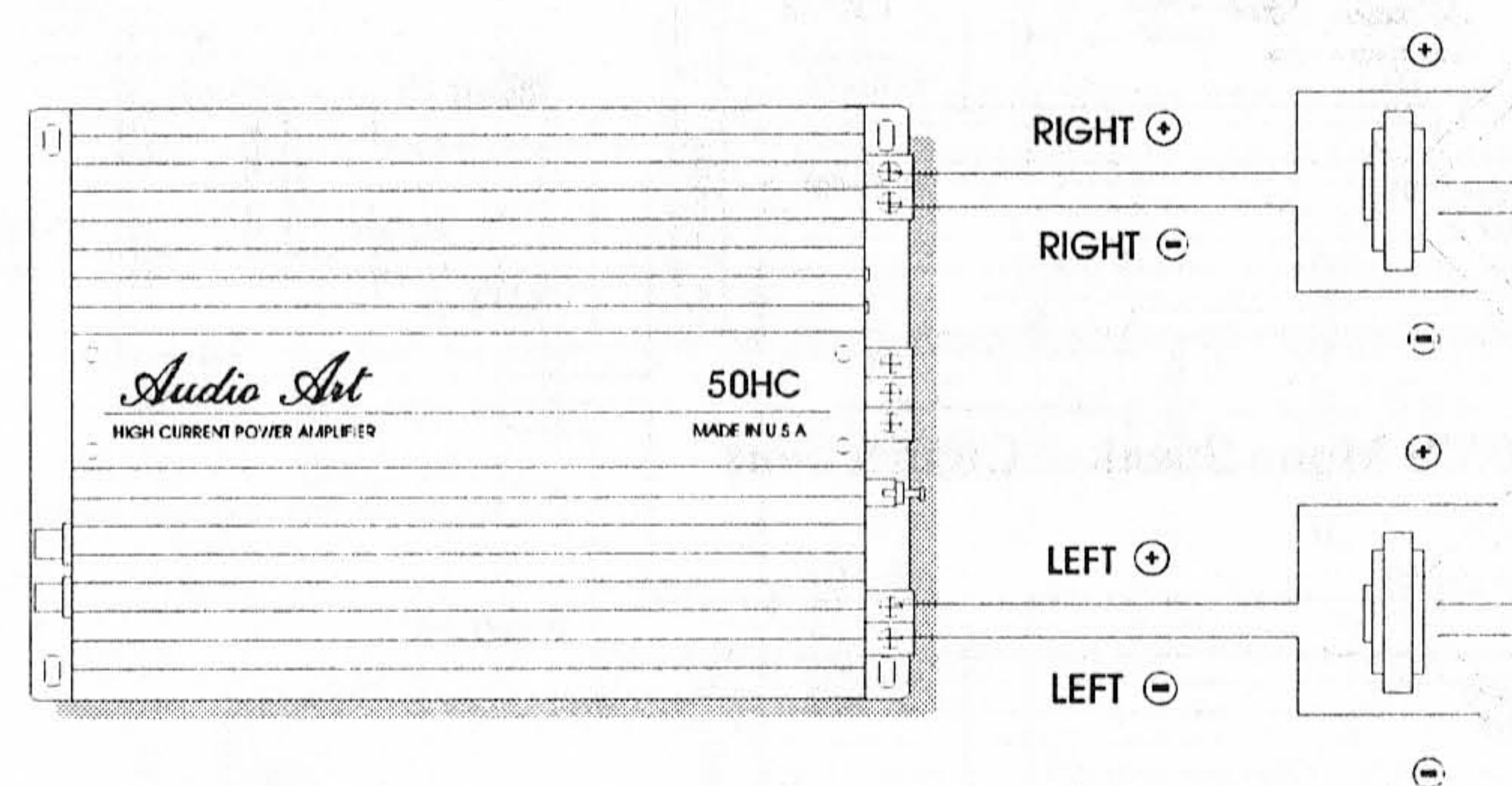
(Figure # 2) Signal Connections

**Make the speaker connections using speaker wire that is at least 16 gauge or heavier.**

As with any audio component, proper phasing of the amplifier and speakers is essential for strong bass response. When connecting, make sure that positive (+) from the amplifier is connected to the positive (+) of the speaker, and the same for negative (-). Also be sure that the left channel is connected to the left speaker and the right channel to the right speaker.



100MS / 200MS Stereo Speaker Connections



50HC / 100HC Stereo Speaker Connections

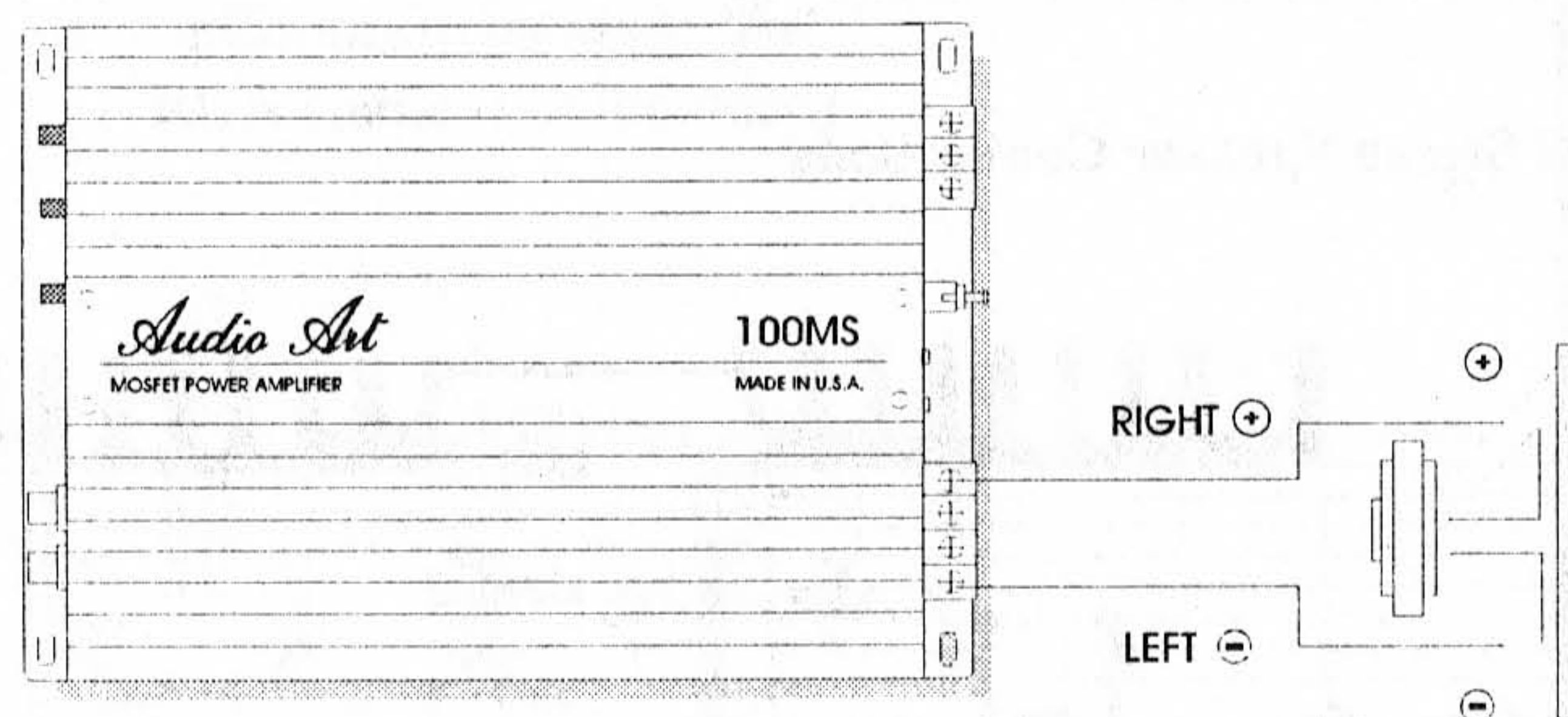
## Bridged Speaker Connections

Audio Art "MS" and "HC Series" amplifiers are capable of being bridged in a mono configuration. This feature allows you the flexibility of using the amplifier to drive a \*\* subwoofer(s) or a center channel. In this configuration the amplifier sums the right and left channel to deliver one channel (mono) output.

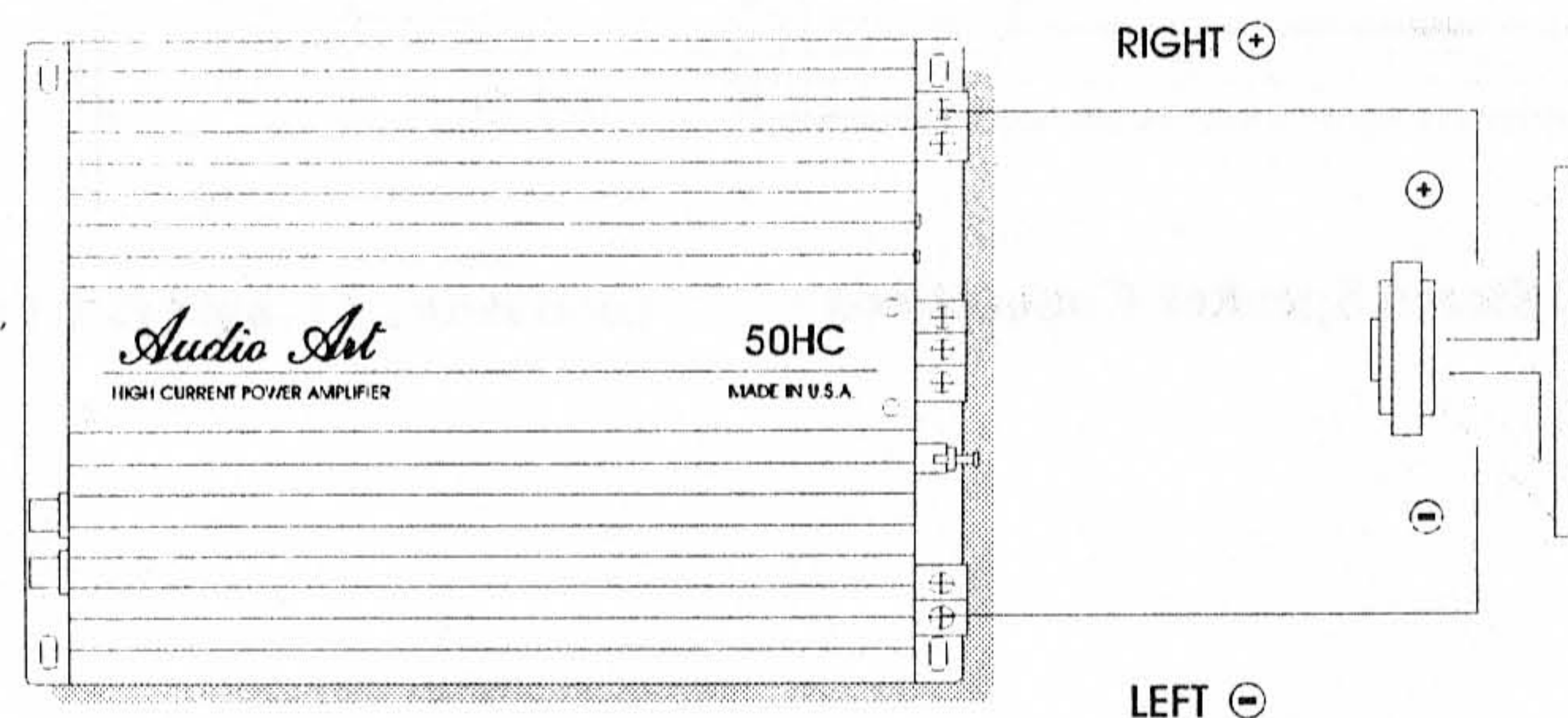
*Please note: in order for the amplifier to sum right and left signal information, both right and left RCA connections must be made.*

The amplifier can be configured in the bridged mono mode by simply changing the wiring connections for the speaker(s). To wire the amplifier in the bridged mono mode, connect the speakers positive (+) to the amplifiers "Right (+)" speaker terminal. Connect the speakers negative (-) to the amplifiers "Left (-)" speaker terminal. (See following diagrams)

**\*\* Caution! In the bridged mode, models 100MS and 200MS must see a 4 Ohm load or higher. Any lower than 4 Ohms will cause the amplifier to overheat and possibly cause permanent damage to the amplifier! (Because of the high current design, 50HC and 100HC are stable to 1 Ohm in the bridged mode)**



100MS / 200MS Mono Speaker Connections



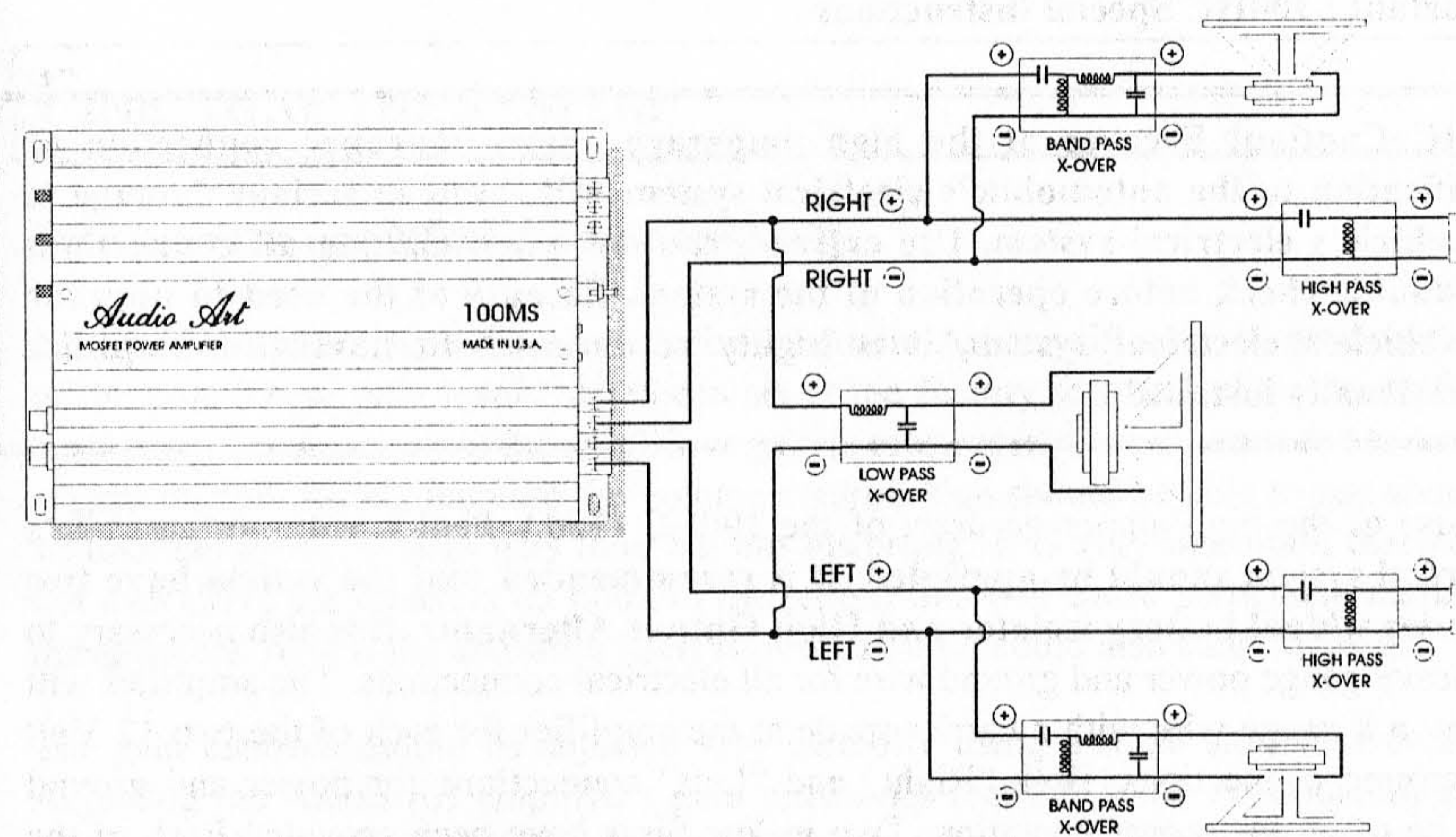
50HC / 100HC Mono Speaker Connections .

## Mono / Stereo Mix Speaker Connections

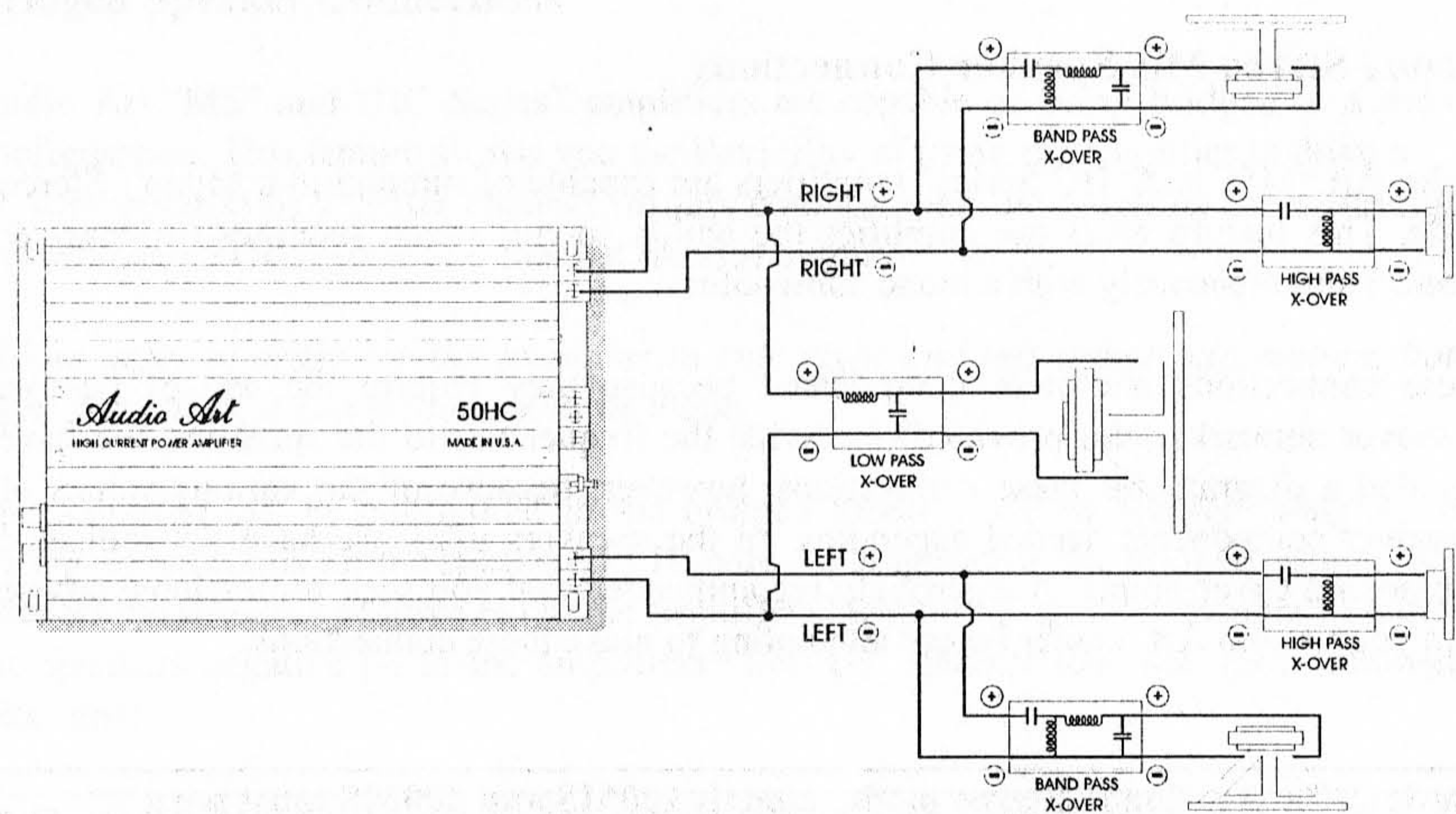
Audio Art "MS" and "HC Series" amplifiers are capable of running in a Mono / Stereo mode. This feature gives the amplifier the ability to run stereo satellites (midbass & tweeter) simultaneously with a mono subwoofer.

These connections are more complicated because they require the use of passive crossover networks (Not provided) to divide the frequencies to the speakers. We have included a diagram for these connections, however, because of the various values of crossover components needed depending on the speakers used, we have not indicated recommend cover points. It is strongly recommended that you seek professional advise from your Audio Art retailer before attempting to make these connections.

**Caution! In the Mono / Stereo mode, models 100MS and 200MS must see a 2 Ohm load or higher for stereo satellites and no lower than 4 Ohms for the mono subwoofer. Any lower than the above mentioned impedance will cause the amplifier to overheat and possibly cause permanent damage to the amplifier! (Because of the high current design, 50HC and 100HC are stable to 0.5 Ohm stereo and 1 Ohm in bridged mono)**



100MS Mono / Stereo Speaker Connections



50HC / 100HC Mono / Stereo Speaker Connections

## POWER CONNECTIONS

### Important ! 100HC Special Instructions

**100HC Caution!** Because of the high amperage draw, improper connection or modification to the automobile's electrical system will result in serious damage to the vehicle's electrical system. Use extreme caution when making all connections and double check before operation of the system. Because of the need to upgrade the vehicle's electrical system, it is highly recommend to have this amplifier professionally installed.

Because of the high amperage draw of the 100HC (150A Peak), your automobile's electrical system should be upgraded. It is recommended that the system have two batteries w/dual battery isolator and High Output Alternator. It is also necessary to use heavy gauge power and ground wire for all electrical connections. The amplifier will accept a 8 gauge wire with a barrier spade at the amplifier for each of the two 12 Volt and ground connections. Both "Right" and "Left" connections for power and ground must be made for proper operation. Two in-line fuses have been provided Each of the 12V power wires need to be fused within 6" of the power amplifier. In addition, The amplifier should also be fused at the battery as well.

**Please note: It is absolutely necessary to fuse each 12V input to the amplifier, THERE ARE NO INTERNAL FUSES !!!**

### Connect the ground terminal of the amplifier to the car's chassis.

For the ground connection, use an 8-10 gauge wire (black) to connect to the terminal marked GND and then connect it to the car's chassis. Try to keep the length of the cable as short as possible, preferably less than 6". Also make sure that the point on the car where the connection is to be made is free of paint and dirt.

### Connect the amplifier to the car's battery. (For 100HC see special instructions)

At times, the amplifier will need to draw very large levels of current which cannot be provided by any circuit in the car's fuse box. Use a 8 gauge power wire to connect to the terminal on the amplifier marked +12V. Run the wire directly to the positive terminal of the car's battery. Make sure to use an in-line fuse to protect the amplifier against short circuits and/or power surges. (See the specification section for correct fuse value).

### Connect the remote terminal of the amplifier to a switchable +12V source.

This connection allows the amplifier to be turned on and off with the power control of the head unit. If the head unit has a REMOTE output terminal, connect it to the amplifier's terminal marked REMOTE (using a 16 gauge wire or heavier). Now when the head unit is turned on, the amplifier will automatically turn on.

## FINE TUNE THE SYSTEM

### Fine tune the amplifier's input sensitivity.

Access to the gain sensitivity controls for the Audio Art amplifier are located on the top of the unit. These gain levels have been set at the factory to match the output of most head units. To determine if the amplifiers gain is set properly, we recommend to turn the system on and, slowly increase the volume control. You should be able to use about 3/4 volume before the system gets loud but not distorting. It is very important that you do not over drive the speakers (at point of distortion) this will cause permanent damage to the speakers. Also if the amplifier itself is over driven it could also cause damage.

The gain controls should be adjusted very carefully using a small slotted screwdriver. Adjusting the Audio Art amplifier's gain sensitivity requires some experimenting with gain controls on the amplifier. You will also need another person to assist you by adjusting the gain controls while you listen for distortion.

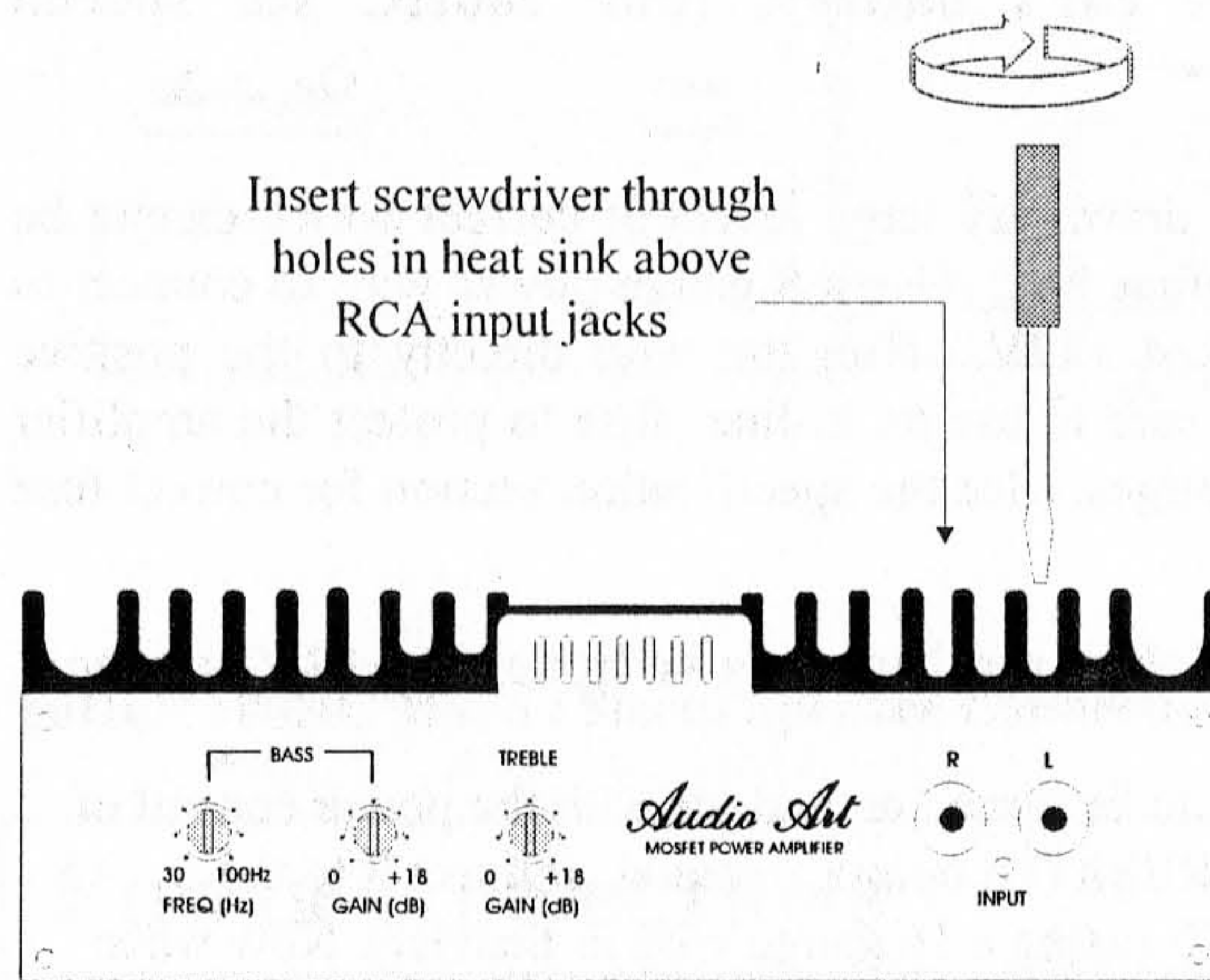
When testing the output volume of the system you find.....:

- A.) The output volume gets very loud when you barely turn the volume up.

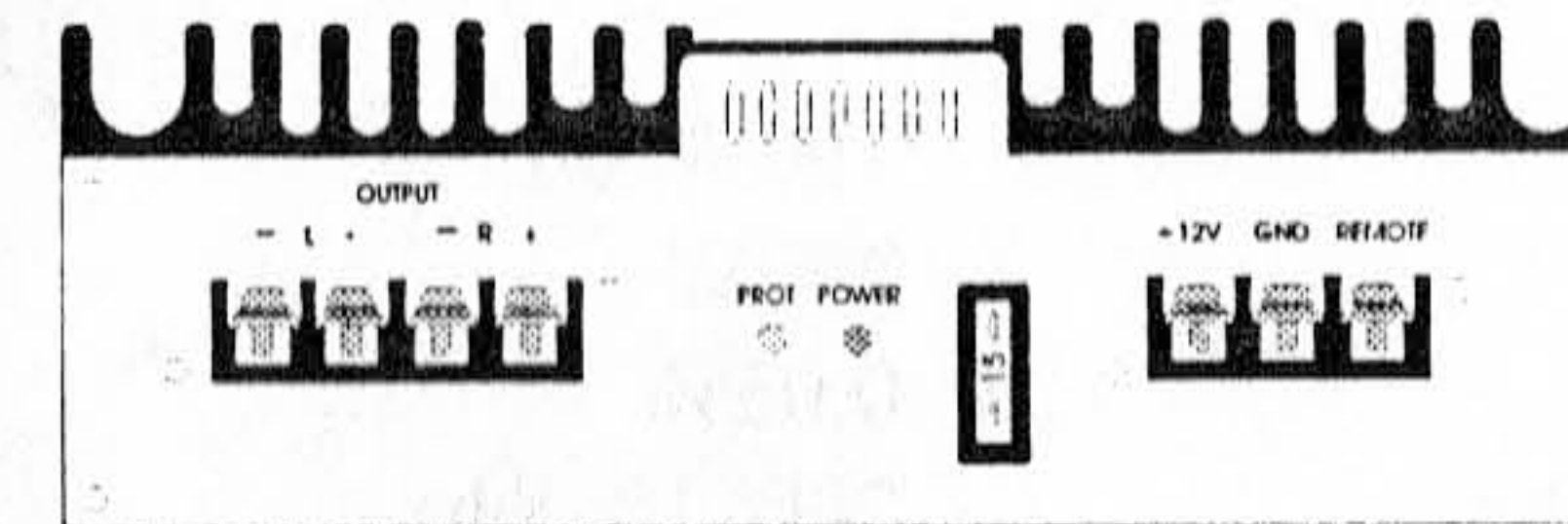
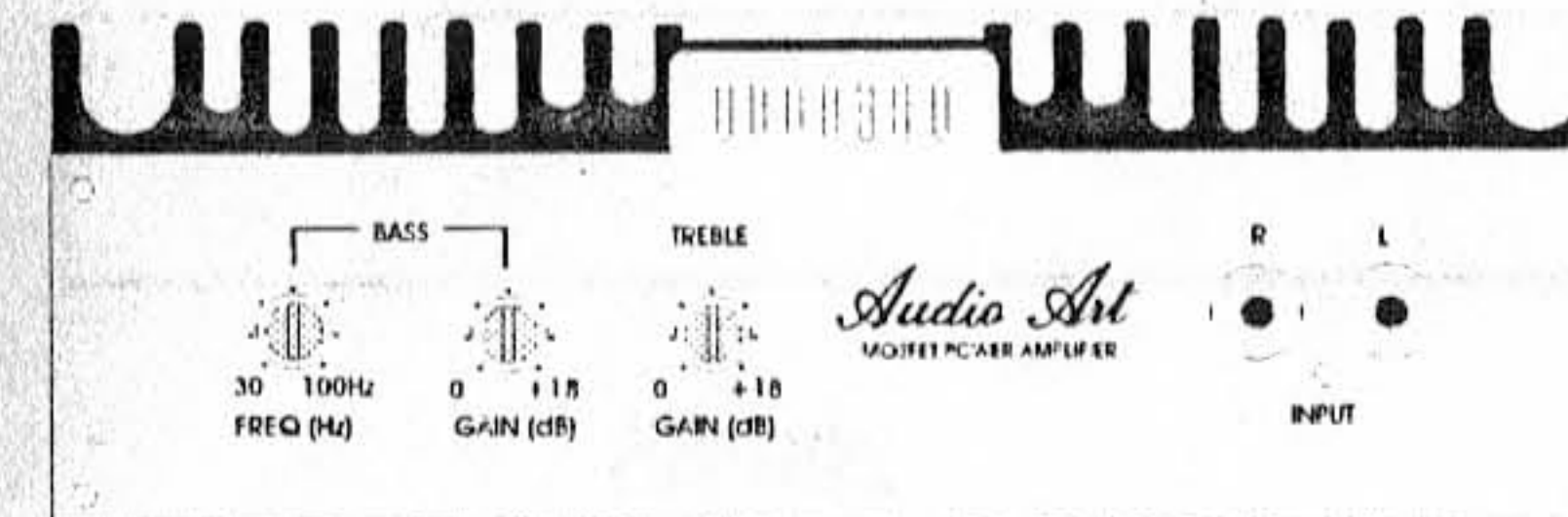
*Reduce the amplifiers input gains by slowly turning the controls in the counter clockwise direction. As explained above you should be able to turn the head units volume control to 3/4 volume before distortion.*

B.) You can increase the head unit volume all the way and still have low output volume.

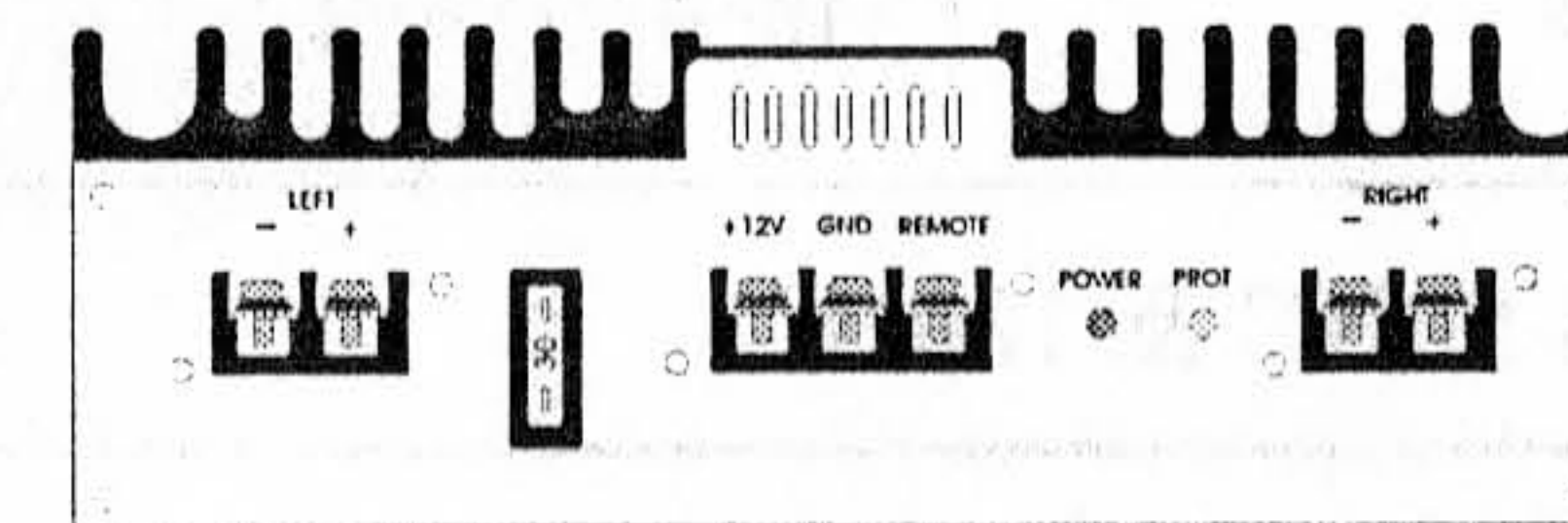
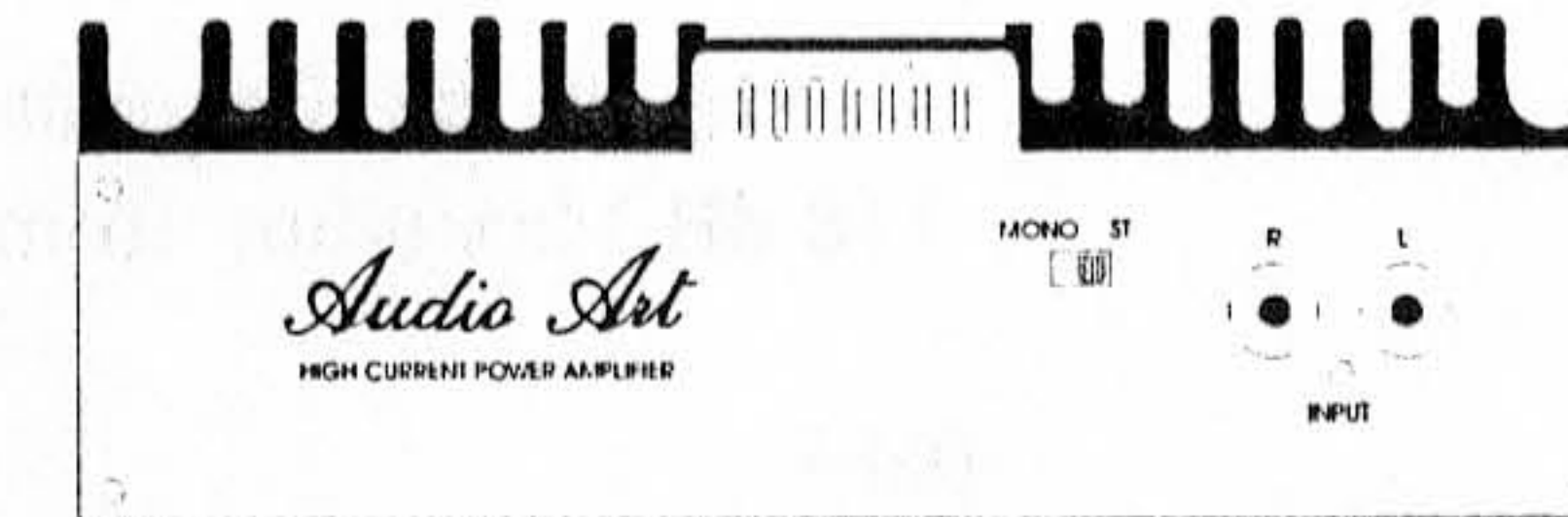
Turn the head units volume to 3/4 output. Very slowly increase the amplifier's input gain until the system gets loud but not distorting.



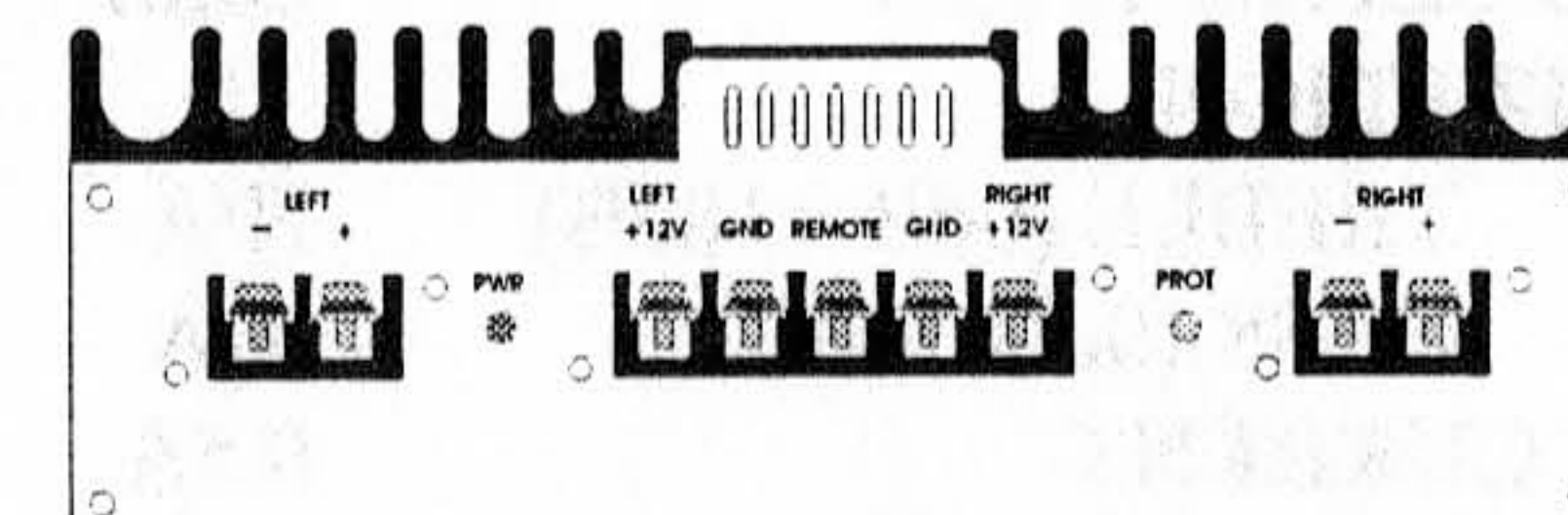
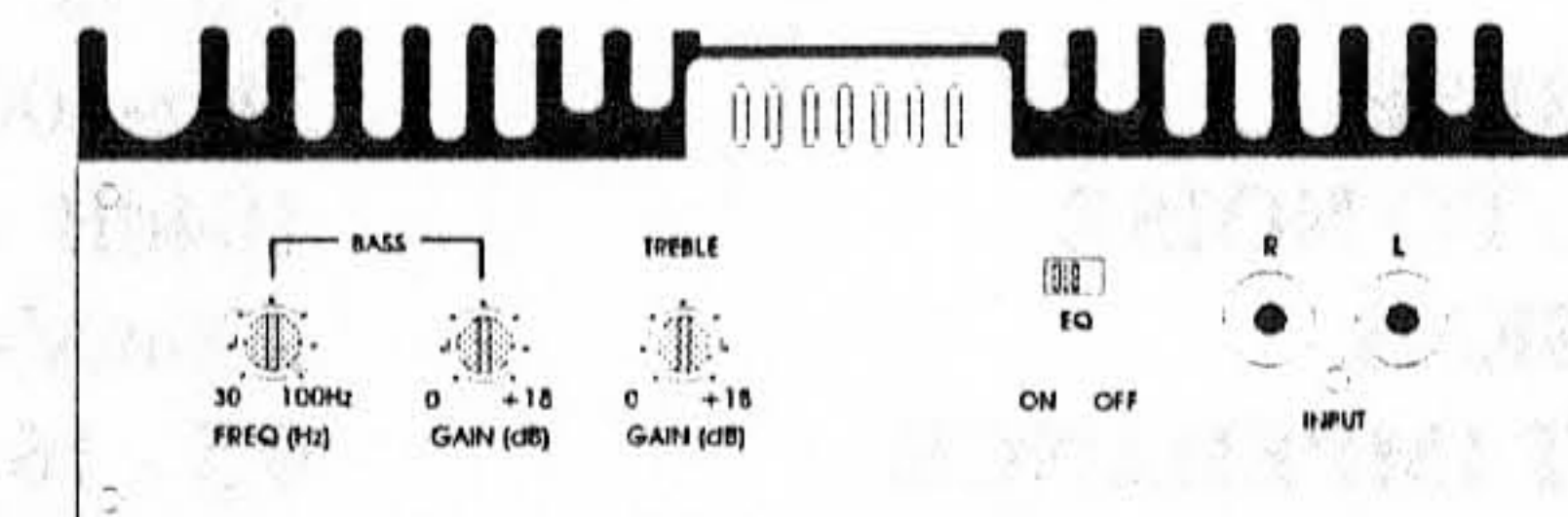
### Fine tuning the amplifiers input sensitivity



### 100MS & 200MS SIDE PANEL



### 50HC SIDE PANELS



### 100HC SIDE PANELS



# Audio Art

CAR AUDIO

## Warranty Registration Card

*(Please complete and mail within 10 days)*

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Date Purchased \_\_\_\_\_

Serial No. \_\_\_\_\_

Dealer's Name \_\_\_\_\_

Model \_\_\_\_\_

Dealer's City \_\_\_\_\_

Purchase Price \_\_\_\_\_

Dealer's State \_\_\_\_\_

Installed by Dealer? Yes No

### Limited Warranty

Audio Art, Inc. warrants any product distributed in the United States (for a period as specified below from the date of purchase) to be free from defects in material and/or workmanship. Repair (or at Audio Art's option replacement) will be made on any unit which proves to be defective, provided that the unit was installed according to the owner's manual provided.

This limited warranty does not extend to units which have been subjected to misuse, abuse, neglect, or accident. Product which in Audio Art's judgement shows evidence of having been altered, modified, or serviced without Audio Art's authorization, or which has had its serial number altered or removed, speakers with burnt voice coils, damage to speakers inflicted upon installation such as holes in the cone or surround will be ineligible under this warranty.

Returned units must be accompanied with proof of purchase, a description of the problem, a return address and phone number along with the unit properly packed with all transportation charges prepaid to Audio Art within the warranty period. Failure to follow these procedures will cause delay in repair turn around time.

#### Warranty Period

**Audio Art Electronics**  
**Audio Art Speakers**

**\*Two (2) years parts and labor**  
**Limited lifetime**

\*If not installed by an Audio Art Authorized Dealer, warranty is one year only.