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Absolutely State of the Art Mobile Audio.

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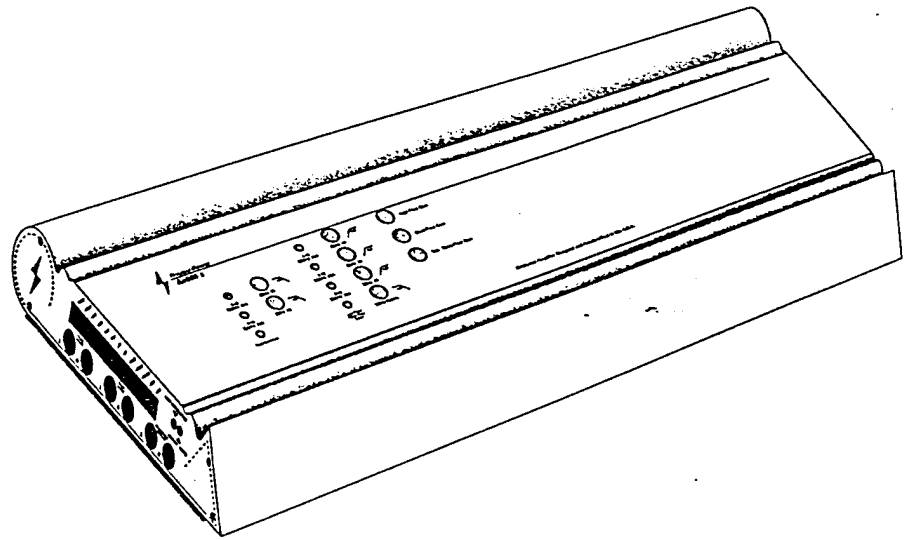
PrecisionPower®

Absolutely State of the Art Mobile Audio™



Owner's Manual

Ax606.2 Six Channel ArtSeries Amplifier

Designed and Handcrafted in the U.S.A.

Important Safeguards

The following list of 'Important Safeguards' has been compiled to help you achieve optimum satisfaction and the highest quality performance from your new mobile audio six channel amplifier. ***Please take the time to review these safeguards before operation and/or installation of your new Ax606.2 ArtSeries Amplifier.***

Read and Follow Instructions

We all have a tendency to read instructions only after something doesn't work as anticipated. This manual provides specific information concerning the operation and installation of your new amplifier. ***Please read this manual thoroughly and retain it for future reference.***

Keep Your Sales Receipt

Your ***PPI*** *ArtSeries Amplifier has a three year limited warranty when it is installed by an Authorized* ***PPI*** *dealer. Non Authorized dealer installed* ***(PPI)*** *amplifiers carry a one-year parts / ninety days labor limited warranty. To establish the starting date of warranty coverage, a copy of your sales receipt must accompany your* ***Ax606.2*** *for all warranty service. Please file your sales receipt away for future reference. For your convenience, a complete limited warranty statement is located at the back of this manual.*

Heed All Wiring Requirements

A high-performance amplifier requires minimum wire gauges be used for the Power, Ground, and Remote Turn-On. To assure proper operation of your ***Ax606.2****, follow all wiring requirements.*

Installation Accessories

The ***Ax606.2*** *ArtSeries Amplifier will require non-supplied installation accessories. Please refer to the Installation Section of this manual for a list of requirements or consult your Authorized* ***PPI*** *dealer before installation.*

Water and Moisture

Never mount your ***Ax606.2*** *in a location which would subject it to immersion or exposure to water.*

Servicing

Do not attempt to service this amplifier yourself. Opening or removing covers will void your warranty. For service information, consult your Authorized ***PPI*** *dealer or call Precision****Power****, Inc. at* ***1-800-62-POWER****. Our customer service representatives are available Monday through Friday from 8am to 6pm Mountain Standard Time.*

Caution!

The use of a high powered audio system may cause hearing loss or damage. While PPI systems are capable of "Concert level" volumes with incredible accuracy, they are designed for you to enjoy the subtleties created by musicians while listening at reasonable sound pressure levels. The use of a high powered audio system may impair your ability to hear traffic sounds, and therefore, may constitute a traffic hazard. We advise lower volume levels while driving.

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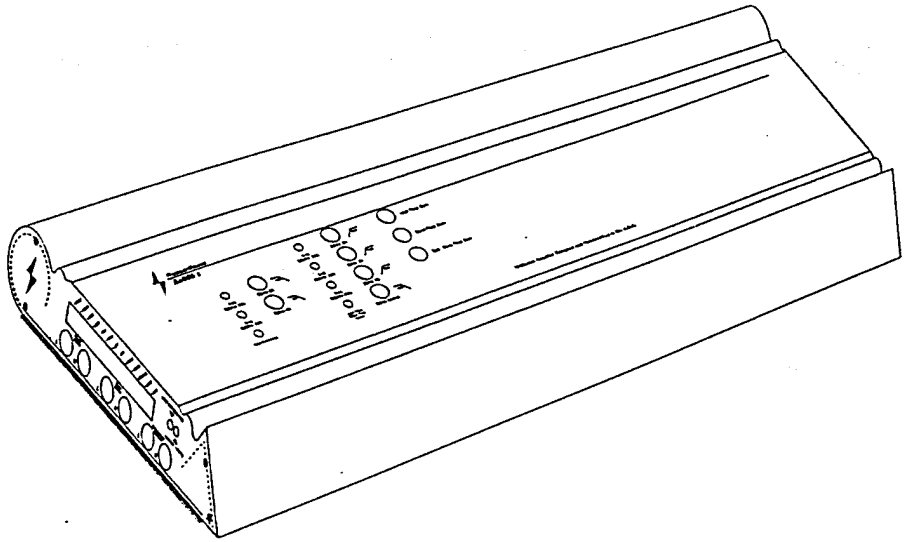
Three Year Limited Warranty

Glossary

AM III	*Adaptive MOSFET III is an advanced protection circuitdesigned to prevent amplifier shut-off due to low load impedance. AM III optimizes output power to maintain uninterrupted operation whenever the amplifier senses a load impedance of less than two Ohms. An L.E.D. signals when AM III is working.*
Bridging:	*Combining two amplifier channels into one channel. Typically used to create a mono output.*
Gain:	*The ratio of output voltage to input voltage. The gain control allows adjustment to the amplifier's output level for varying input levels.*
L.E.D.:	*Light Emitting Diode. Indicates power on / off and muting status (red & green) and when AM III is working (amber).*
Load Impedance:	*Measurement of speaker(s) resistance / reactance that the amplifier must drive.*
Mixed Mono:	*The amplifier's ability to play the Left and Right Stereo channels while playing a third (bridged) mono channel.*
Remote Turn-On:	*Low current automatic switching circuit that turns the amplifier on and off. Typically connected to the remote antenna or amp turn-on lead of most car radios, cassette, or CD players.*
ACM-420	*Amplifier Control Module. Our ACM-420 (optional) controls up to ten PPI amplifiers for synchronized system start and "noise gate" functions to inhibit background noise when low or no music signal is present.*
Input Sensitivity or Gain	*A measure of a device's input signal requirement to produce a desired output. "High" sensitivity implies a low input signal whereas "Low" sensitivity implies a higher input signal requirement.*
.2 Technology	*.2 Technology represents the latest version of the ArtSeries and ProArt Amplifier lines by PrecisionPower. Even greater performance and features have been added to this line.*

Technical Specifications

Output Power Ratings	
High Pass	*2X50W @ 4 stereo* *2X100W @ 2 stereo* *1X200W @ 4 br idged*
Band Pass	*2X50W @ 4 stereo* *2X100W @ 2 stereo* *1X200W @ 4 br idged*
Sub/Band Pass	*2X50W @ 4 stereo* *2X100W @ 2 stereo* *2X200W @ 1 stereo* *1X200W @ 4 br idged* *1X400W @ 2 br idged*
Signal-to-Noise Ratio	*>102 dB*
Total Harmonic Distortion	*0.02%*
Input Impedance	*10K Ohms*
Input/Output Gain	*Unity*
Maximum input Voltage	*2.5VRMS*
Maximum RCA Output (10 K Load)	*2.5VRMS*
Supply Voltage	*11-15 VDC*
Dimensions	*24"L* *9.25"W* *2"H*
Crossover Frequencies	
High Pass (12 dB per/octave Stereo)	*20Hz - 20K Hz*
Band Pass (12 dB per/octave Stereo)	*20 Hz - 20K Hz*
Sub (24 dB per/octave Mono)	*50 Hz - 500 Hz*



About your New ArtSeries Ax606.2 Six Channel Amplifier

*Precision**Power** Inc. is a worldwide industry leader in the design and manufacture of high performance mobile audio amplifiers, signal processors, and loudspeakers. The Precision**Power** name has become synonymous with our desire to produce "Absolutely State of the Art Mobile Audio". A statement as bold as this demands we research and develop each and every **PPI** product with a high degree of attention to reliability and superior sound quality. The unique sonic problems affecting proper performance in the mobile environment require innovative design solutions from an engineering staff encouraged to challenge the status quo.*

*We currently manufacture more than 30 different **PPI** models in amplification and signal processing. Each model is "application specific," in terms of power, number of channels, equalization, integrated accessories, and flexibility. All models have one thing in common: They exist to fulfill a particular sonic need. Your new **Ax606.2** ArtSeries Amplifier was developed in this fashion as well. Necessary ingredients were performance, flexibility, and simplicity. Please take the time to read through this owner's manual and assure yourself the opportunity to get the most out of your **Ax606.2**.*

As you review this section, keep in mind that the features found in the ***Ax606.2*** *ArtSeries amplifier directly influence their performance and, therefore, must be understood before operation and/or installation. Please take a few minutes to review the following information. The user benefit and operational parameters of the 'key' design features are detailed below.*

Pulse-Width Modulated (PWM) Switching Power Supply

The voltage supplied by a vehicle's electrical system will vary depending upon the number of accessories you are using. As you turn on / off various accessories (headlights, air conditioner, rear window defroster, power windows, etc.) the voltage that your vehicle's electrical system is providing will change according to the demand. The ArtSeries fully regulated power supply guarantees rated specifications over a wide range of voltages (11 VDC to 15 VDC).

Our ***PWM*** *supply offers high-efficiency. This efficiency translates into cooler operation. The hostile environment of mobile audio presents a real problem for an amplifier to operate properly. When an amplifier is running, it develops heat. It is the job of the heatsink to pull this heat away from the internal components. If the heatsink gets too hot, the amplifier will modify its operation to protect itself from damage. The amplifier's ability to maintain a proper operating temperature is oftentimes aggravated by the conditions (ambient air temperature, mounting location, playing level, duration of operation, as well as the load impedance) presented by the auto-sound environment. The high-efficiency ArtSeries* ***PWM*** *power supply results in lower operating temperatures and a higher tolerance for thermal control. The temperature protection circuit will engage at 70 degrees Celsius (158 degrees Fahrenheit).*

Heatsink Design

To understand why ***PPI*** *created this unique heatsink design, it's important to understand what purpose a heatsink serves and how it works.*

When an amplifier operates, the internal components develop heat. This heat must be transferred away from the components for them to operate properly. By securing the components to the underside of the heatsink, the process of conduction transfers the heat from the components to the heatsink. The heatsink, in turn, must dissipate this heat or become too hot for the internal components to operate properly. The heat can be transferred from the heatsink by three different processes: Conduction, Radiation, or Convection.

Conduction *is defined as the process by which heat is transferred through matter, without transfer of the matter itself. A practical example of this would be the cooling system in your car which circulates a liquid (matter) in order to transfer the heat away from your engine .*

In the mobile environment, conduction is not the usual process of transferring heat from the heatsink. The use of a circulating liquid or gas is impractical, unless provisions were made in the design of the heatsink to accommodate this type of transfer. The heatsink used in all ArtSeries amplifiers is specifically designed for liquid cooling. Your ArtSeries model can be modified at the factory to operate in a liquid cooled mode. Call your Authorized ***PPI*** *Dealer for complete details.*

Radiation *is defined as the process of giving out light, heat, or other radiant energy. An example of this process would be the sun. It radiates heat, light, and other radiant energy.*

Radiation is the primary process of heat transfer for a heatsink. As the conducted heat builds (from the internal components), it radiates from the surface out into the surrounding environment. The amount of heat radiated by the heatsink is determined by its surface area. The traditional way to add surface area is to use fins, expanding the radiating surface without increasing the overall dimensions of the amplifier.

So why doesn't the ArtSeries heatsink employ the traditional use of fins since it must adhere to the same rules of thermodynamics that all other heatsinks do? We must discuss the third process – convection before the answer will become clear.

Convection *is defined as the transfer of heat from one place to another by the movement of heated particles of a gas or liquid. An example of this process would be warming your hand by holding it in the hot air rising from an oven.*

When an amplifier's heatsink becomes warm, it conducts heat out into the surrounding environment, warming the air. The warm air begins to rise, creating air currents which draw heat away from the heatsink. With a traditional finned heatsink, this process is most effective when the amplifier is mounted on its vertical axis. As with a chimney, the air circulates upward, over the fins, improving the heat transfer process.

Your ability to take advantage of convection is limited by the installation constraints imposed by the mobile environment. Mounting an amplifier on the vertical axis is not always possible and generally, not preferred (by the consumer). The amplifier's heatsink is left with only one primary process for heat transfer – radiation.

Engineers have recognized the importance of radiant surface area, but the constraints of the automotive environment have forced heatsink designs to remain compact. In order to improve radiating efficiency, designers have simply added more fins. With limited space, adding more fins means that they get closer together. What ***PPI****'s engineers observed was that fins in close proximity radiate heat from fin to fin rather than into the environment. If convection is not available to draw the heat out from between the fins, the heat becomes trapped, causing a reduction in radiant heat transfer efficiency.*

The ArtSeries heatsink addresses this problem and improves radiant heat transfer efficiency by providing more effective radiating surface area. Combined with our highly efficient (less wasted energy in the form of heat) ***PWM*** *power supply, the result is an amplifier with improved thermal capabilities.*

As with any amplifier, care must be taken when selecting a mounting location. There must be two inches of air space around the heatsink for proper heat dissipation to take place. If mounting in an enclosed area, a fan may be added to improve heat transfer. Refer to the Section on Installation for more information.

Central Muting and the ***ACM-420***

One of the accessories that we at ***PPI*** *offer the discerning audiophile is the amplifier control module (****ACM****), commonly known as a "noise gate". The* ***ACM*** *eliminates annoying and possibly damaging start-up noise (such as "clicks" and "pops") by sensing signal voltage changes and blocking the signal when there is no music present, such as between CD tracks. We highly recommend the addition of an* ***ACM-420*** *to any high-performance audio system!*

The addition of central muting to the ArtSeries amplifiers allows muting to be controlled throughout the system by the ***ACM****. Upon system start, the muting feature is activated. After a set time interval, the muting is turned off.*

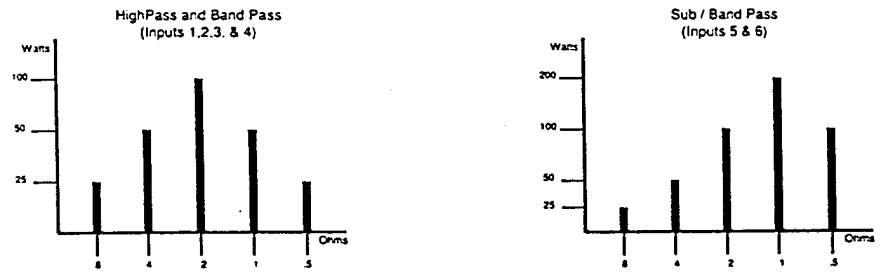
The power ***L.E.D.*** *at the front of the amplifier also shows whether or not the system is muted. When the amplifier is activated, the power lamp will be red to indicate muting. After the muting is turned off, the lamp will turn green to indicate normal operation.*

If an external ***ACM*** *is added to the system, the* ***ACM*** *remote output signal can be connected to the amplifier remote to mute the system during periods of low or no signal to inhibit background noise. The* ***ACM-420*** *may be installed to control up to ten* ***PPI*** *amplifiers, offering the additional benefit of synchronized system start.*

AM III Protection Circuitry

All ArtSeries amplifiers utilize a highly-efficient, Pulse-Width Modulated power supply. This means the amplifier will continue to operate within regulation until the battery voltage drops below 11 volts or the heatsink temperature reaches 70 degrees Celsius (158 degrees Fahrenheit). This new power supply also incorporates the second generation of ***PPI****'s Adaptive MOSFET protection circuitry.*

Figure A.



AMIII Protection Circuitry: Output Power vs Impedance

This advanced protection circuit was developed to prevent shut-off due to the fluctuating impedance loads presented by today's complex speaker systems. The adaptive circuit optimizes output power to maintain uninterrupted operation whenever the amplifier senses an impedance load of less than 2 Ohms. A low impedance indicator (Diagnostic L.E.D.) is provided to let you know when the amplifier is operating in this mode. It is important to note that there is no increase in output power below the 2 Ohm threshold. Maximum power is achieved at 2 Ohms. AM III provides you the satisfaction of knowing that your ArtSeries amplifier will continue to play when momentary impedance dips occur. (Refer to figure A)

In the case of a short circuit, AM III will engage to protect the shorted channel but will continue to play the unaffected channel. When this occurs, audible distortion will be heard. Turn off the system and repair the short. Once the problem has been repaired, the amplifier will return to normal operation.

Differential Inputs

One of the obstacles that must be overcome when designing a mobile audio system is that of external interference caused by alternators, generators, and other electrical subsystems. In other amplifiers, all input grounds are wired directly into the speaker ground. The ArtSeries Amplifiers, on the other hand, have isolation resistors between the input grounds and the speaker ground. This helps to prevent alternator noise from interfering with the signal between this unit and any prior "upstream" units.

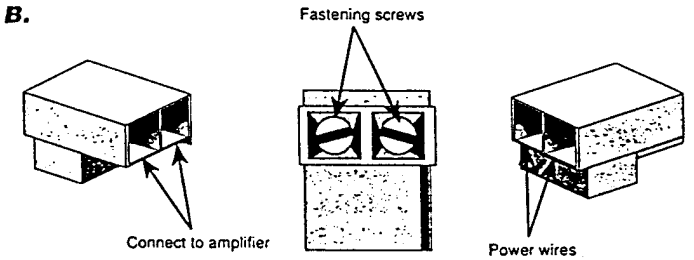
Discrete Power Amp Circuitry

Exclusive use of discrete output transistors results in increased sonic transparency, outstanding dynamic range, and high-instantaneous current capability. We've designed the power bandwidth to be from 10Hz to 50,000Hz +/- 1dB. This ability to produce full power with linear frequency response well beyond the threshold of human hearing insures that the amplifier's performance over the musical spectrum will be flawless.

PPI's Exclusive Wire Connection System

Over the years, advances in mobile audio electronics have changed the demands placed on the type and size of wire needed to create a high-performance mobile audio system. To meet this need, ***PPI*** *has created an exclusive wire connection system. This unique, removable connection system offers the versatility of terminal strips, the convenience of quick connect / disconnect style connectors, and the reliability afforded by direct connection to the circuit board. The power and ground connector will accept cable up to 6 gauge in size. The speaker / remote turn-on connector will accept cables up to 10 gauge in size. Refer to the Section on Installation for more information.*

Figure B.



Fusing

The ArtSeries amplifier is protected from current overload situations by a blade fuse (Maxi - Fuse). This type of fuse has a number of advantages. First, it's available in higher values, and its single element design is more effective than using two fuses of lower value. Second, we could board-mount it. This eliminates the use of 'jumper-wires' (from the end-panel to the circuit board) which improves reliability. Finally, they are readily available from any auto-supply store and are easy to service. The ***Ax606.2*** *requires one - 80 Amp fuse.*

*For safety reasons, **PPI** recommends that the power cable be fused at the positive terminal of the battery. If this fuse (not-supplied) is not installed, and the power wire shorts to ground (between the battery and the amplifier), a fire can result. The fuse at the battery should be of the same value as the fuse supplied with the amplifier. Consult your Authorized **PPI** Dealer for an appropriate in-line fuse that meets the needs of your installation.*

Installation

***PRIOR TO INSTALLATION** of your new **Ax606.2** amplifier it is important to consider the following: In your profession, your abilities and expertise insure a job well done. This is also true of professional car audio installers. It is their chosen profession, and what they do best. **PPI** believes so strongly in its responsibility to you, that we invest heavily in hands-on training of professional installers. Our comprehensive system design and installation seminar provides our authorized dealers with the latest techniques to deal with the complexities of car audio today. There is more than meets the eye to insure that a car stereo reaches its fullest potential. The trained professional, through experience, can approach, recognize, and address all the needs of the mobile audio environment. **PPI** highly recommends that this amplifier and/or any other mobile audio equipment be installed by a trained professional.*

Tools / Parts Needed for Installation (not supplied):

Small flat blade screwdriver
Phillips screwdriver
Wire cutters
Wire strippers
Soldering iron
Solder
Flux cleaner
Grommets
2 - ring connectors
In-line fuse holder and fuse
Heat shrink tubing
5 washers, 4 #6 and 1 #8 sheet metal screws
Speaker wire - 16 gauge or larger
Electrical silicone or similar insulator
Power and Ground wire - 12 gauge or larger

Mounting

To prevent damage to the amplifier while driving, mount it in a secure place. Choosing the appropriate location will depend upon your vehicle and the complexity of your system design. It may be mounted in any compatible space that is convenient to your needs and provides sufficient airflow. Adequate ventilation allows the amplifier to dissipate the heat that develops during operation. Inadequate ventilation may result in overheating. The thermal protection circuit will engage when the heatsink temperature reaches 70 degrees Celsius (158 degrees Fahrenheit). The amplifier will automatically return to normal operation once the heatsink cools.

Typical mounting locations include: trunk and passenger compartment (floor or under seat). Never mount the amplifier in a location which would subject it to immersion or exposure to water.

*The ArtSeries amplifier heatsink is designed for high-efficiency cooling but improper mounting may compromise its ability to cool. When mounting the amplifier in a confined space, care must be taken to insure that at least two inches of clearance is provided around the amplifier. If the amplifier is located in an area which has restricted airflow or is totally enclosed, a fan may be necessary to improve air circulation. Liquid cooling is also available on all ArtSeries amplifiers (Ask your Authorized **PPI** Dealer for details).*

Wiring

Power and Ground

Before beginning, disconnect the negative (-) terminal of the battery prior to working on the positive terminal, to prevent a short to ground. Reconnect the negative terminal only after all connections have been made.

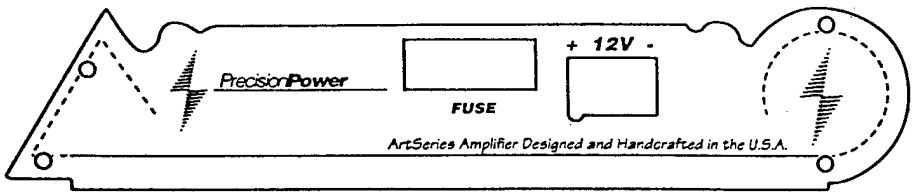
*ArtSeries amplifiers are designed to operate from a car's (+) positive 12 volt, negative ground electrical system. **PPI** recommends that the power and ground cables be a minimum of 6 gauge. Depending upon the complexity of your system, larger gauge wire may be needed. **PPI**'s Exclusive Wire Connection System will accept up to 6 gauge cable.*

The main power cable should run from the amplifier location, through the vehicle to the battery, avoiding sharp corners, creases, and sharp body parts. When passing through any metal wall (i.e. fire wall etc.), a grommet must be used to prevent the wire from chaffing and shorting to ground.

For safety reasons, ***PPI*** *recommends that the power cable be fused at the positive terminal of the battery. If this fuse is not installed, and the power wire shorts to ground (between the battery and the amplifier), a fire can result. The fuse at the battery should be of the same value as the chassis fuse located on the right-hand end panel of the amplifier. Consult your Authorized* ***PPI*** *Dealer for an appropriate in-line fuse holder that meets the needs of your installation. We suggest crimping and soldering all wire connections. Insulate the connection with heat shrink to prevent a short to ground.*

The ground wire should be of the same gauge as the power wire. In systems with over 800 watts of total output power, the ground and power cables should run parallel to each other to avoid unwanted system noise. As a "rule of thumb," use as short a length of wire as possible. Locate an area near the amplifier that is metal (the floor is ideal) and clean an area about the size of a quarter to bare metal. Drill a pilot hole in the middle of this area. ***Be Careful!*** *Inspect the area underneath to be sure you aren't drilling into wires, brake or fuel lines, etc. Terminate the wire with a ring connector and attach it to the bare metal using a # 8 sheet metal screw and washer (not supplied). We suggest crimping and soldering this connection. Insulate the connection with heat shrink. It is important that this connection be solid. After the connection is complete, coat the area with silicone or some similar material to prevent rust from developing.*

Figure C.



Once you have run both the power and ground wires, it's time to connect the cable to the amplifier. Be sure that you have not reconnected the ground cable to the negative post of the battery. Cut off excess wire and, using wire strippers, strip the power and ground cables 1/4 inch. Locate the power and ground connector (supplied - figure B). On the under side of the connector are two slotted screws. With a small flat bladed screw driver, loosen these screws before attempting to insert the cables. After you have inserted the bared end of each cable into the connector, secure it by tightening the associated screw. If inserting larger gauge wire presents a problem, tinning the wire with solder may help. Be sure each connection is tight. Once the wires are secure, the connector may be plugged into the amplifier. Please Note: the power / ground connector is keyed to a slot in the end panel and can only be inserted one way- with the head of the fastening screws pointing down. (Refer to Figure B and C).

Remote Turn-On

In order for the amplifier to turn on, a remote turn-on wire must be connected to a switched 12 volt source. Typically, the source unit provides a power antenna (remote) turn on lead which will turn on the amplifier when the source unit is activated. If this is unavailable, or if voltage drops below 7 volts, a switched 12 volt source must be used. Run a wire from the amplifier location, through the vehicle to the switched 12 Volt source. Observe the same precautions for routing this cable that you followed for running the power cable. Cut off excess wire and, using wire strippers, strip the wire 1/4 inch.

Speaker Connection

Run the speaker wires from the amplifier location, through the vehicle to the speakers. Observe the same precautions for routing these wires that you followed for running the power and remote turn-on cables. It is important to use 16 gauge or larger wire, for proper signal transfer. Cut off excess and, using wire strippers, strip 1/4 inch. Once again, locate the speaker / remote turn-on connector. Loosen the screws on the underside of the connector. Insert the speaker leads, one at a time, into the end of the connector. Check to make sure you've maintained proper polarity before securing each wire. If inserting larger gauge wire presents a problem, tinning the wire with solder may help. Be sure the connection is tight. Repeat this process for the remaining connectors. The connectors may now be plugged into the amplifier (Refer to Figure B & D).

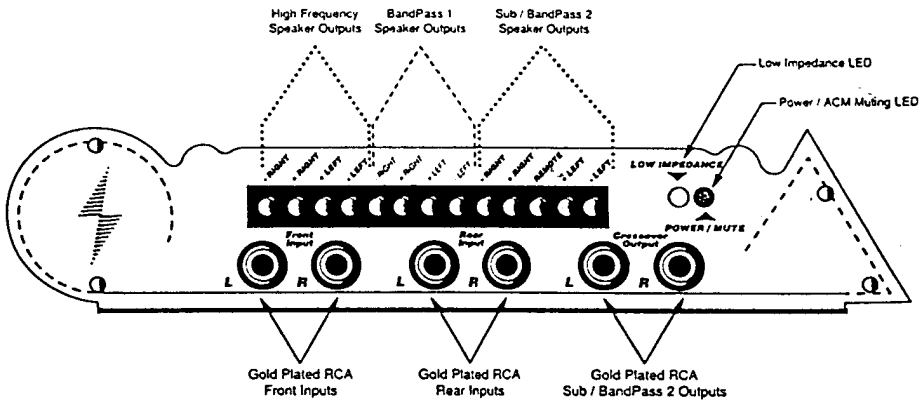
Bridging

All ArtSeries amplifiers are capable of being bridged into a mono output due to the internal design of the amplifier. This feature permits the creation of a mono channel for a subwoofer or center channel. Also, bridging adds flexibility of operation. Deriving the mono channel is accomplished by using the left channel positive wire as the positive speaker wire and the right channel negative wire as the negative speaker wire. It is important that a minimum 4 Ohm impedance is observed for the HighPass and BandPass outputs, and a 2 Ohm impedance is observed on the sub outputs. If the impedance drops below the recommended Ohms while the amplifier is wired in the mono configuration, the AM III protection circuit will engage and output power will be reduced.

Inputs / Outputs

On the end panels of the ***Ax606.2*** *there are six RCA jacks. The cables selected to connect the output of your source unit to the* ***Ax606.2*** *can have an effect on the quality of the musical signal that the* ***Ax606.2*** *receives. Careful selection of a high grade audio preamp cable will insure optimum signal path performance. When routing the preamp cable, care should be taken to avoid areas of possible noise interference such as main vehicle wiring harness and vehicle computers. Also, run the input/output signal cables on the opposite side of the vehicle from the stereo system's power and ground wires. Once routed, connect the cable to the input/output jacks located on the endplate of the* ***Ax606.2****, refer to Figure D and the sample system diagrams.*

Figure D.



Adjusting the Ax606.2

Your new ***PPI Ax606.2*** *six channel amplifier features six fully independent crossovers allowing unparalleled control of your music system. The following is a basic overview of its functions.*

Note:
All control button settings should be made with the amplifier off.

A quick note about crossovers and their important role on board the Ax606.2. *The function of a crossover is to attenuate or decrease the amplitude (volume) of a signal above or below a specified frequency at a specified rate (or slope). This is done to allow drivers to reproduce music in their optimum frequency ranges. If a driver is allowed (or forced) to reproduce music outside of its recommended frequency range, the sound will suffer and/or the driver will be damaged. If correct adjustments of crossover frequencies are made, the frequency response or overall sound of the audio system will be smooth and even.*

LowPass filters allow frequencies below a specified crossover point to pass, while frequencies above that point are attenuated (decreased in volume). The cutoff points are defined by the adjustment of the Sub High Frequency Limit, or the Bandpass High Frequency Limit controls on your ***Ax606.2*** *amplifier.*

HighPass filters allow frequencies above a specified point to pass, while frequencies below that point are attenuated. These cutoff points are determined by the HighPass Low Frequency Limit, or the Bandpass Low Frequency Limit controls on your ***Ax606.2*** *amplifier.*

Bandpass filters allow frequencies below a specified point and frequencies above a second specified point to be attenuated, while frequencies between these two points are allowed to pass. A bandpass filter is a combination of both LowPass and HighPass filters. A LowPass filter is used to stop the frequencies from going too high, and a HighPass filter is used to stop the frequencies from going too low. An example of this would be to take a typical midrange driver with a frequency response of 500Hz to 3500Hz. The LowPass filter would be set at 3500Hz to attenuate all frequencies above that point while the HighPass filter would be set at 500Hz to attenuate all frequencies below that point. These two filters work together to allow the midrange driver to work in its specified frequency range of 500Hz to 3500Hz.

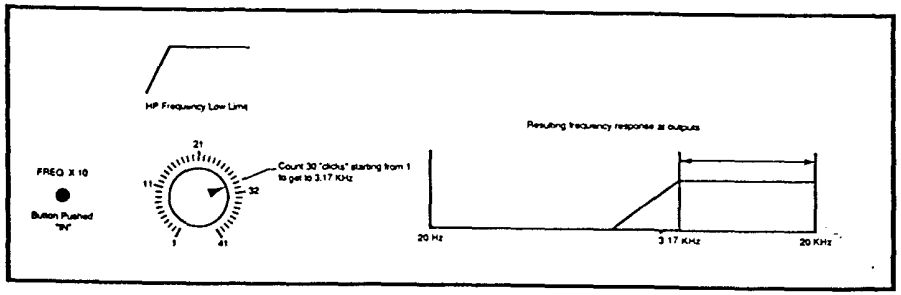
The Bandpass 1 and 2 High and Low Frequency Limit controls on your ***Ax606.2*** *amplifier are used to set the start and stop points of 2 independent and infinitely variable bandpass filters.*

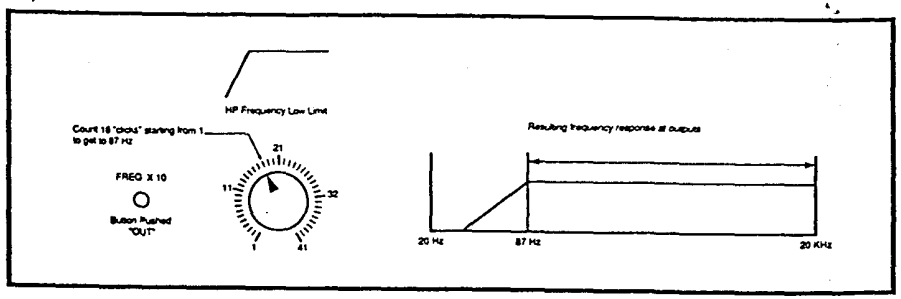
Overlapping or underlapping of crossovers.
Some crossovers can be overlapped or underlapped. An example of underlapping would be to create a dip or gap in the frequency response of a 2 or 3 way system by using a HighPass crossover point of 120Hz and a LowPass crossover point of 60Hz.

The ***Ax606.2*** *is a six channel amplifier and can be configured in many different ways. The following paragraphs provide a basic explanation of control functions as well as illustrates a few of the more conventional setups this amplifier is capable of.*

Channels one and two utilize a High Pass Low Frequency limit control providing the ability to set the starting point of the HighPass filter anywhere from 20Hz to 20kHz. Setting the control to 3500Hz would allow the use of a pair of tweeters on the corresponding outputs. A 90Hz setting would be a good starting point if coaxial speakers were used. Refer to the chart on page 29 and figure E.

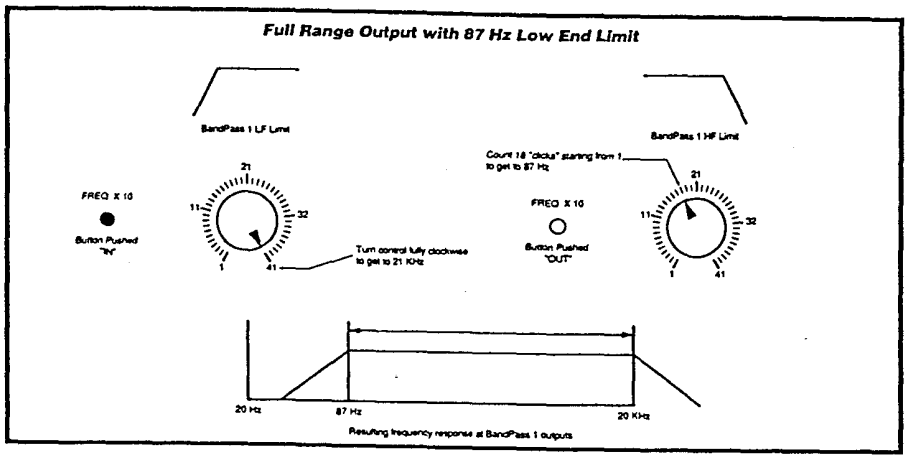
Figure E.

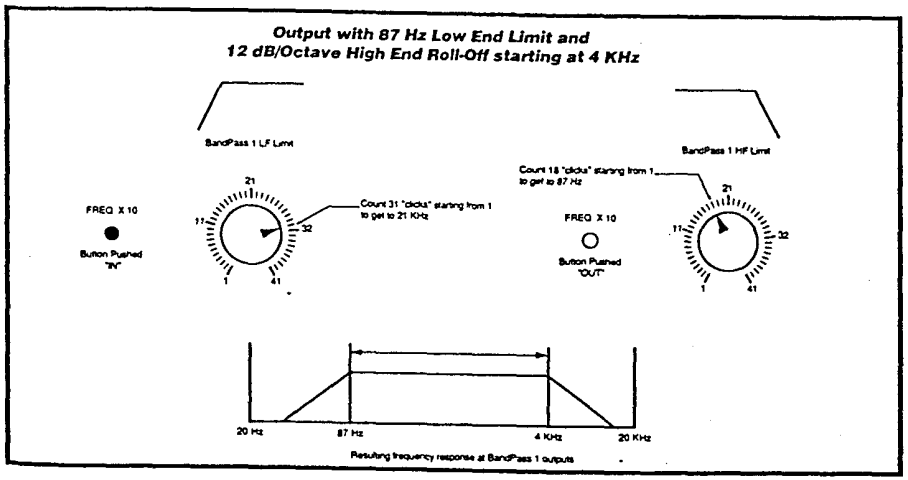




Channels three and four (Bandpass 1) feature an independently adjustable crossover point for both the lowpass and highpass setting points. If the ***Ax606.2*** *is configured for front and rear highpass (example: coax speakers both front and rear), simply set the Bandpass Low Frequency Limit control to the desired crossover point, then set the Bandpass High Frequency Limit control to 20kHz. This allows the full range reproduction of music on the Bandpass 1 outputs. Further, by lowering the setting of the Bandpass High frequency control, a high frequency roll-off can be created for fine tuning rear fill (see Figure F below).*

Figure F.





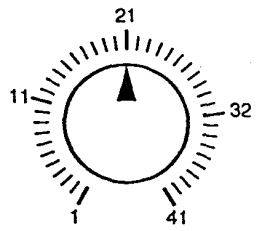
If the Bandpass 1 channels are to be used in a three-way system (tweeter, midrange, subwoofer, or tweeter, midrange, and midbass), set the Bandpass High Frequency Limit control to the desired tweeter/midrange crossover point, set the Bandpass Low Frequency Limit to either the midrange/midbass or the midbass/subwoofer crossover point (see figure G on the next page).

Channels five and six (Sub / Bandpass 2) can be configured as either a bandpass (stereo 12dB / Octave), or as a 24dB / Octave mono lowpass. If BandPass 2 is selected for subwoofer use, the Low Frequency Limit Control will function as a variable subsonic filter. By pushing in the Low Pass Band Pass Select button, the 24dB / Octave crossover is engaged and the use of the Sub High Frequency Limit control sets the starting point of the lowpass (Sub) filter. The RCA outputs will then provide the frequencies set by the Sub / Bandpass high and low frequency limit controls for use by an additional amplifier while the speaker outputs of the ***Ax606.2*** *will provide the sub frequencies.*

Pushing the Low Pass Band Pass Select button to the out position results in the speaker outputs of channels five and six playing the frequencies selected by the Bandpass 2 controls, while the 24dB/ Octave Sub frequencies (set by the Sub Frequency control) become available at the RCA outputs.

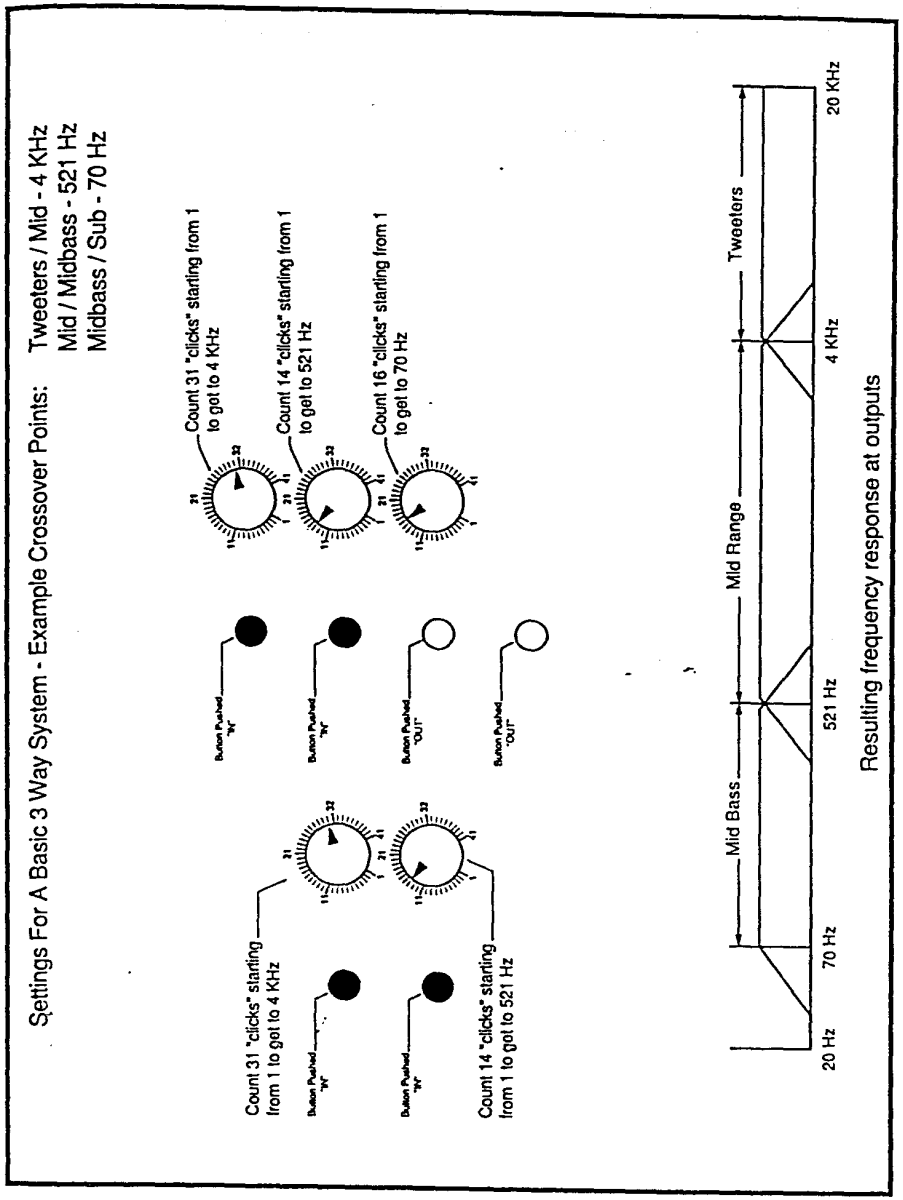
Crossover points can be overlapped or underlapped where desired. All crossovers are independent.

Use of the Input Combine button will allow a single front pair (left and right) of RCA cables to drive the entire amplifier.



Each mark represents a detent. A specific frequency can be dialed in by counting the detents to the appropriate position, refer to the frequency charts on pages 29-30 for selections.

Figure G.



System Gain

In order to achieve maximum signal-to-noise performance from a high quality mobile sound system, it is desirable to use high signal levels wherever possible in the interconnection cables. High signal levels will reduce the effect of induced noise. The peak level of an audio signal is usually determined by the clipping level of electronic components. The following procedure should be used as a guide when the system installation is complete.

Adjusting the Amplifier(s)

1. *Adjust the amplifier's input gain to 1/2 maximum sensitivity.*
2. *Turn the volume knob on the equalizer to a maximum of 3 o'clock.*
3. *Increase the gain (clockwise) of the amplifier until the onset of audible distortion. Then decrease the gain counterclockwise prior to the immediate point of audible distortion. This setting will minimize system background noise and prevents overloading of the ArtSeries amplifier.*

NOTE: *Depending on the sensitivity of the system's pre-amp(s), the gain of the amplifier(s) may not need adjust ments. Also, in many multi-amplifier systems, the gain of some amplifiers may need to be further decreased to achieve proportional balance.*

Troubleshooting

If for some reason your system fails to operate properly, please refer to this guide. If you are unable to resolve the problem, consult your Authorized ***PPI*** *Dealer or call* ***1-800-62-POWER***

NO SOUND

Is the power LED illuminated?

Check fuses in the power wire.

Be sure turn-on lead is connected.

NO SOUND IN ONE CHANNEL

Check signal leads and inspect for a short to ground or an open connection.

Reverse left and right leads to the inputs to see if the problem is before the ***Ax606.2****. Then, do the same for each of the outputs going to other amplifiers. If the problem is in the amplifier unit, have your* ***PPI*** *Dealer inspect the unit.*

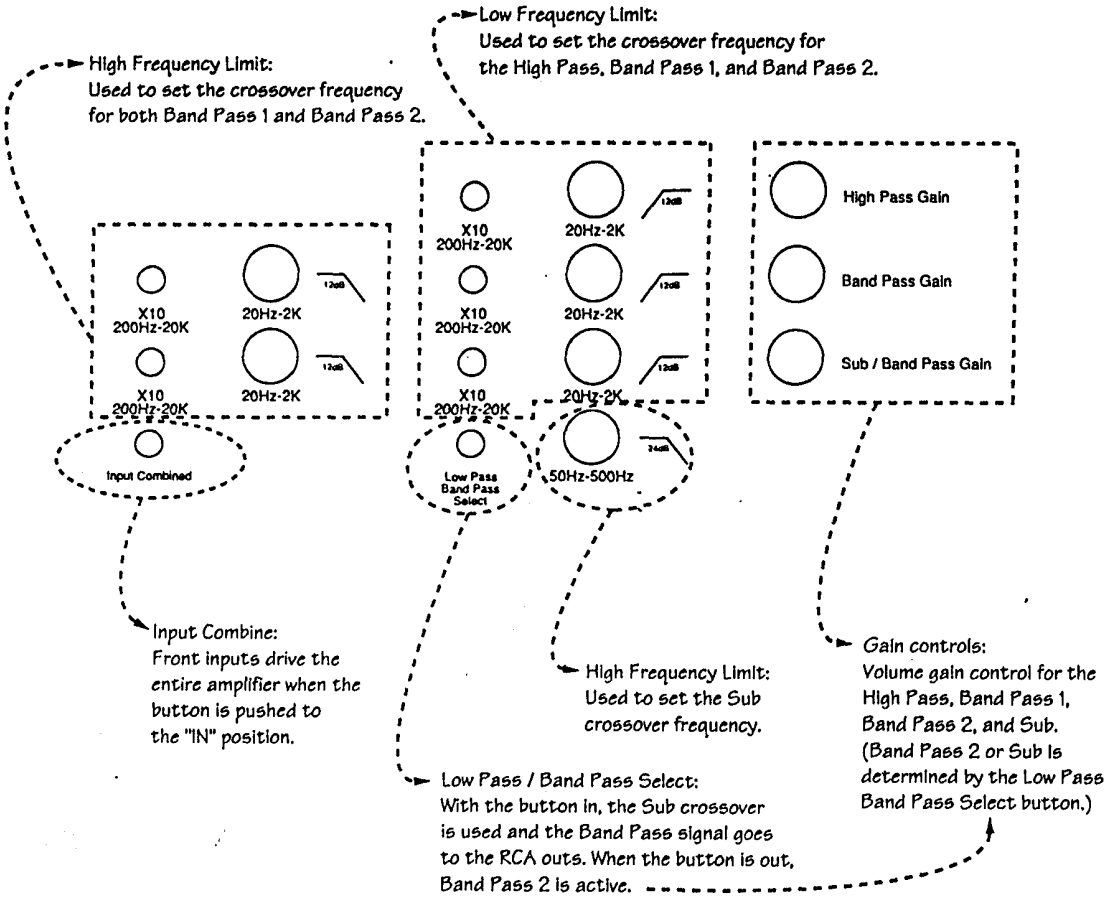
Ax606.2 TURNING OFF

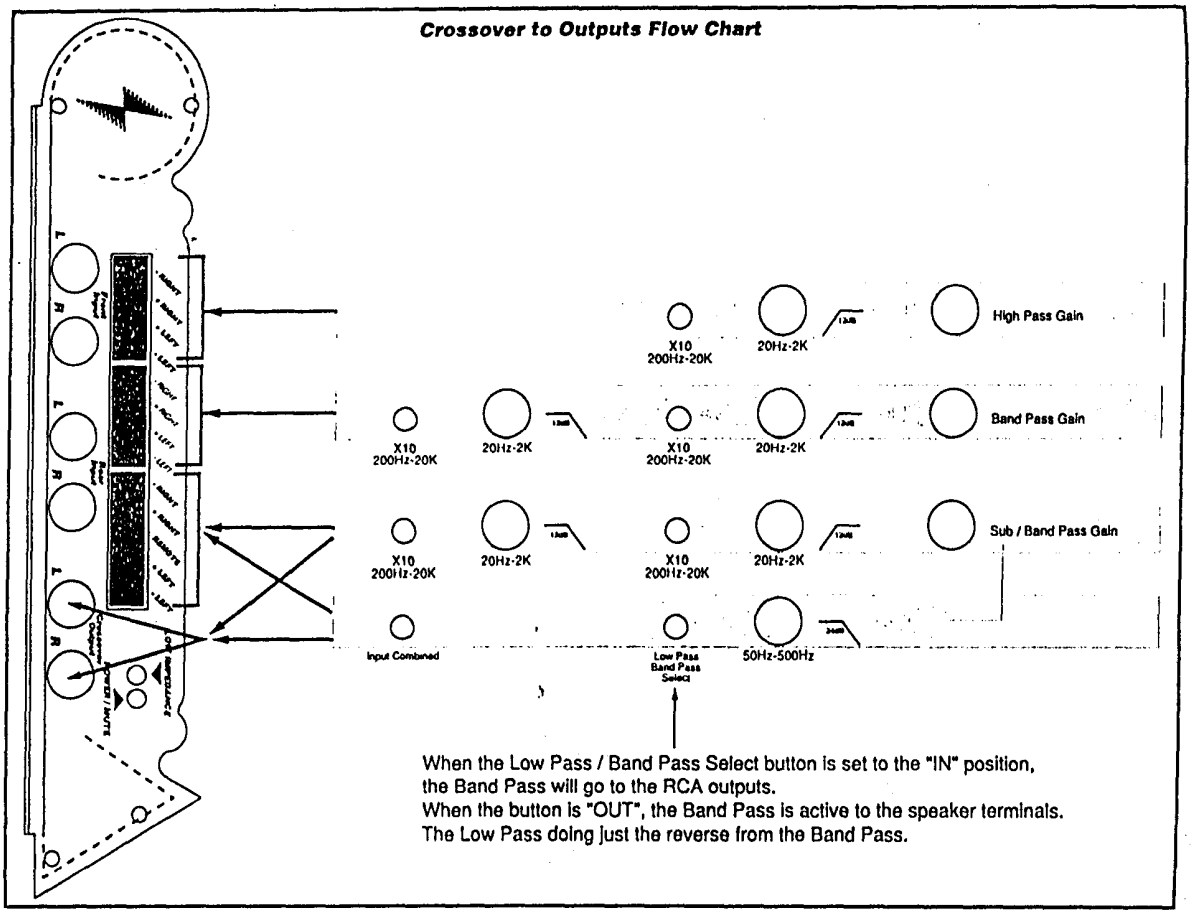
Make sure power and ground wires are secure.

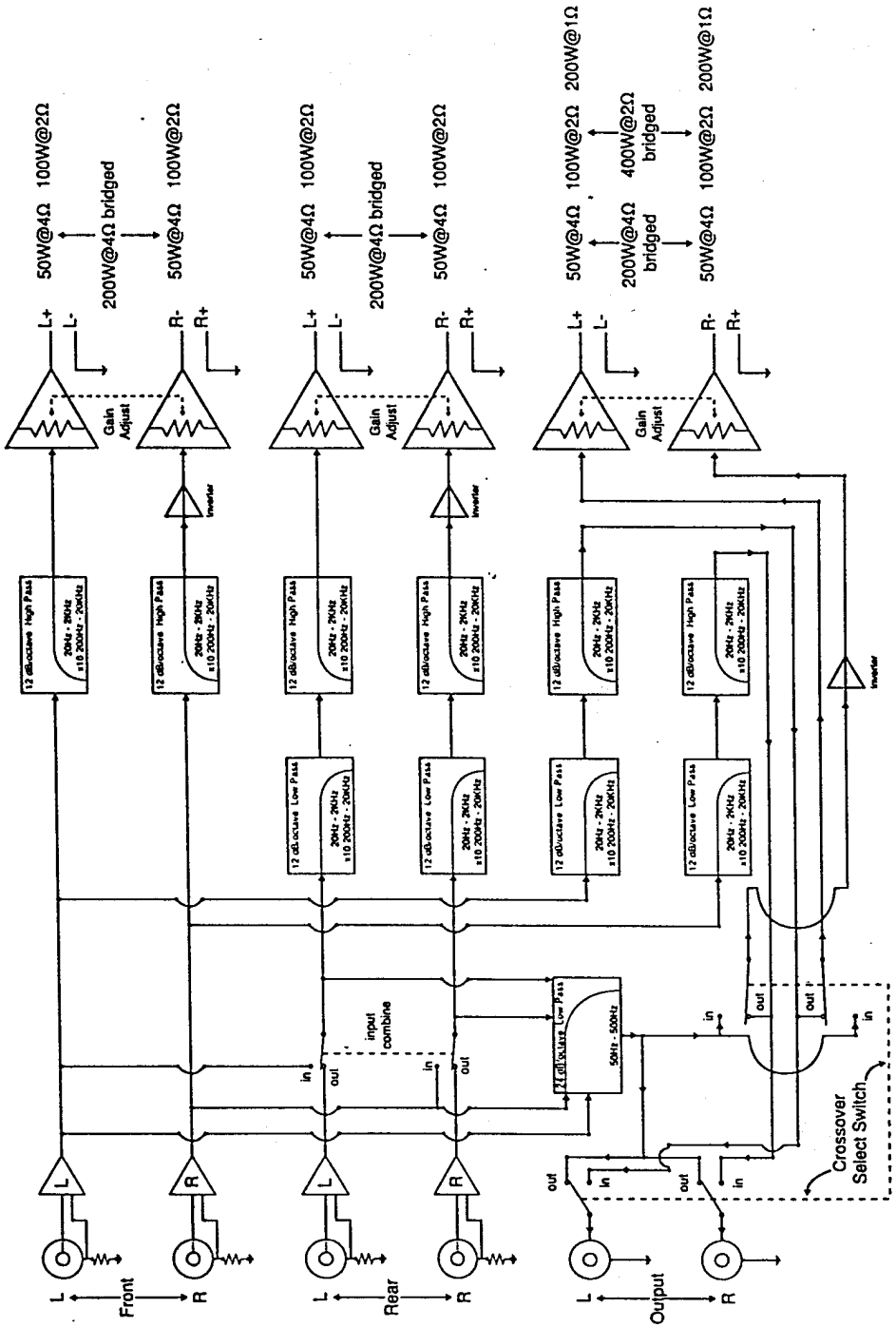
Locate proper ground potential with a meter.

Check that the remote turn-on wire is fastened securely.

Have a ***PPI*** *Dealer inspect the unit.*


Low Frequency Limit:
Used to set the crossover frequency for the High Pass, Band Pass 1, and Band Pass 2.
High Frequency Limit:
Used to set the crossover frequency for both Band Pass 1 and Band Pass 2.
X10
200Hz-20K
20Hz-2K
12dB
High Pass Gain
Band Pass Gain
Sub / Band Pass Gain
Input Combined
Low Pass
Band Pass
Select
50Hz-500Hz
24dB
Input Combine:
Front inputs drive the entire amplifier when the button is pushed to the "IN" position.
High Frequency Limit:
Used to set the Sub crossover frequency.
Gain controls:
Volume gain control for the High Pass, Band Pass 1, Band Pass 2, and Sub.
(Band Pass 2 or Sub is determined by the Low Pass Band Pass Select button.)
Low Pass / Band Pass Select:
With the button in, the Sub crossover is used and the Band Pass signal goes to the RCA outs. When the button is out, Band Pass 2 is active.


Crossover to Outputs Flow Chart
X10
200Hz-20K
20Hz-2K
12dB
High Pass Gain
Band Pass Gain
Sub / Band Pass Gain
Input Combined
Low Pass
Band Pass
Select
50Hz-500Hz
24dB
When the Low Pass / Band Pass Select button is set to the "IN" position,
the Band Pass will go to the RCA outputs.
When the button is "OUT", the Band Pass is active to the speaker terminals.
The Low Pass doing just the reverse from the Band Pass.



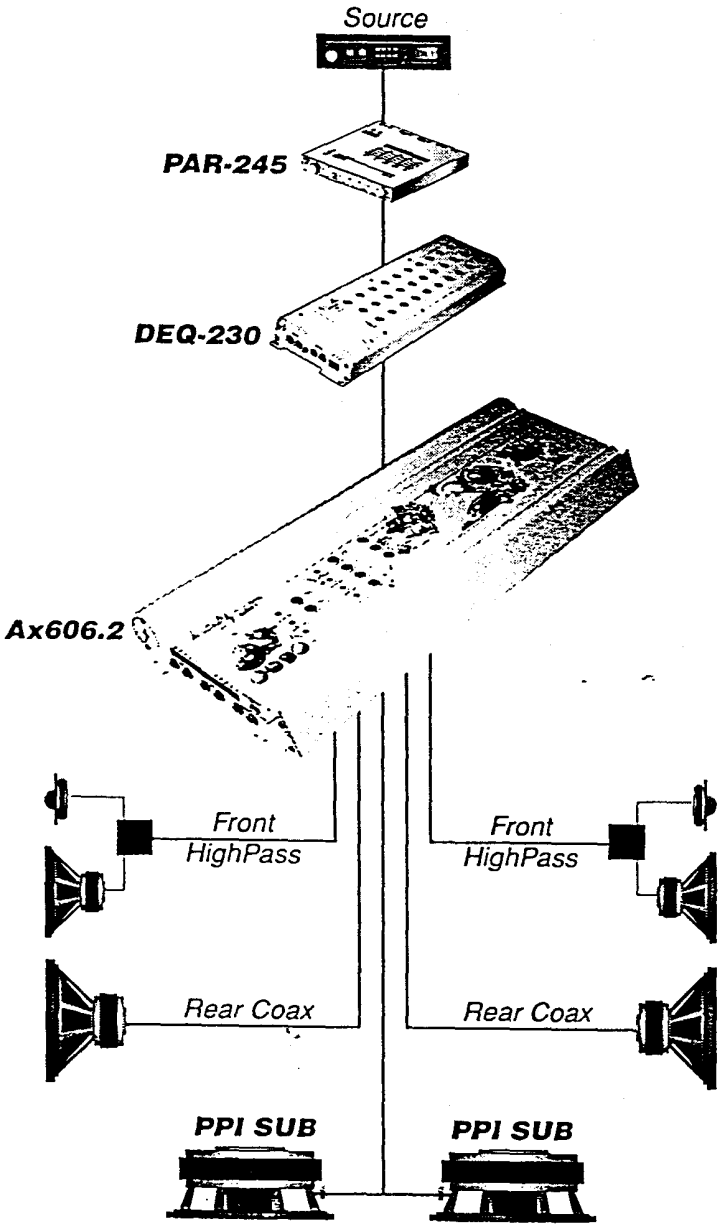
All ***12 dB***/octave *20Hz - 21KHz* ***HighPass*** and ***BandPass***

Position	X1-Out	X10 - In
1	20 Hz	220 Hz
2	20 Hz	220 Hz
3	20 Hz	220 Hz
4	20 Hz	220 Hz
5	21 Hz	222 Hz
6	22 Hz	240 Hz
7	23 Hz	255 Hz
8	25 Hz	276 Hz
9	28 Hz	299 Hz
10	31 Hz	324 Hz
11	34 Hz	360 Hz
12	38 Hz	401 Hz
13	43 Hz	452 Hz
14	50 Hz	521 Hz
15	59 Hz	609 Hz
16	70 Hz	712 Hz
17	80 Hz	836 Hz
18	87 Hz	916 Hz
19	94 Hz	976 Hz
20	99 Hz	1.04 KHz
21	107 Hz	1.12 KHz
22	117 Hz	1.21 KHz
23	128 Hz	1.30 KHz
24	140 Hz	1.42 KHz
25	155 Hz	1.59 KHz
26	173 Hz	1.77 KHz
27	193 Hz	2.00 KHz
28	220 Hz	2.28 KHz
29	255 Hz	2.67 KHz
30	310 Hz	3.17 KHz
31	385 Hz	4.00 KHz
32	492 Hz	5.11 KHz
33	608 Hz	6.50 KHz
34	744 Hz	8.10 KHz
35	936 Hz	10.04 KHz
36	1.19 KHz	12.75 KHz
37	1.45 KHz	15.45 KHz
38	1.77 KHz	18.45 KHz
39	2.08 KHz	20.00 KHz
40	2.10 KHz	21.00 KHz
41	2.10 KHz	21.00 KHz

24 dB/octave *mono* ***LowPass***

Position	Frequency
1	52 Hz
2	52 Hz
3	54 Hz
4	56 Hz
5	56 Hz
6	60 Hz
7	64 Hz
8	68 Hz
9	73 Hz
10	78 Hz
11	85 Hz
12	92 Hz
13	102 Hz
14	113 Hz
15	127 Hz
16	144 Hz
17	158 Hz
18	168 Hz
19	175 Hz
20	183 Hz
21	191 Hz
22	200 Hz
23	210 Hz
24	221 Hz
25	234 Hz
26	246 Hz
27	260 Hz
28	277 Hz
29	295 Hz
30	315 Hz
31	337 Hz
32	362 Hz
33	382 Hz
34	396 Hz
35	410 Hz
36	422 Hz
37	431 Hz
38	438 Hz
39	444 Hz
40	450 Hz
41	450 Hz

System One



Basic System Layout